How to choose your drill



1 Define your hole diameter and drill depth

Find diameter ranges and drill depths for drills listed in the table.

2 Select the type of drill

Choose a drill for roughing or finishing holes.

Check that the drill is suitable for your workpiece material.



3 Select the shank style

Many drills are available with different mounting options.

Find the style compatible with your machine.

4 Order your drill

When you have found the drill that suits your needs, choose a drill that covers the hole diameter range you need.



5 Choose the insert, if applicable

If you have selected an indexable short hole drill, you must order the inserts separately.

Find the inserts for your drill diameter and choose geometries grades recommended for the workpiece material.

Symbols for page references:


Indexable drills

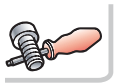

Solid drills


Tooling systems


Inserts



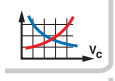
Tailor Made options


Spare parts/accessories

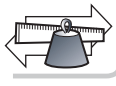

How to choose tool, overview



Grade descriptions



Cutting data


Conversion table, formulas and definitions



For more technical information, see our Metalcutting Technical guide

DRILLING

Applications
Tool guide and selection E4

Products

Exchangeable tip drills

CoroDrill® 870
Cylindrical with flat E88
Drill tips E90

Indexable insert drills

CoroDrill® 880, spiral flute
Cylindrical with flat E93
Coromant Capto® E106
Eccentric sleeve E112
Inserts E123

CoroDrill® 881, spiral flute
Cylindrical with flat E117
Coromant Capto® E123
Inserts E123

Coromant U, straight flute
Drill for socket head cap screw E124
Plunge drill E124
Inserts E125

Adjustable drill holder
Holder for drills with cylindrical shanks E128

Solid carbide drills
CoroDrill® 860, for drilling in steel E7
CoroDrill® 861, for deep holes E27
CoroDrill® 862, for micro holes E34
CoroDrill® Delta-C 840, general drilling in all materials E38
CoroDrill® Delta-C 841, for threaded holes E55
CoroDrill® Delta-C 842, cast iron drilling E56
CoroDrill® Delta-C 846, for heat resistant super alloys E60
CoroDrill® Delta-C 850, for aluminium E63
CoroDrill® 854/856, for composite materials E67
CoroDrill® 452, for composite materials E70

Brazed carbide drills
Coromant Delta, for close tolerance holes E76

Hard cut drills
Drill for removal of broken taps E85

Cutting data E134

Grade information E184

DEEP HOLE DRILLING E191

Tool guide and selection

	CoroDrill® Delta-C **Solid carbide drill**					CoroDrill® 854 and 856	Coromant Delta **Brazed carbide drill**
Page	E38	E56	E60	E63	E55	E68	E83
D_c mm	0.30-20.00	3.00-16.00	3.00-12.00	5.00-14.00	3.35-17.50	4.00-12.70	9.50-30.40
D_c inch	.0118-.787	.118-.630	.118-.472	.197-.551	.132-.689	.157-.500	.3740-1.197
	 R840	 R842	 R846	 R850	 R841	 854.1  856.1	 R411.5
Drill depth	**2 - 7 x D_c**	**2 - 5 x D_c**	**2 - 5 x D_c**	**2 - 7 x D_c**	**2 - 3 x D_c**	4 - 5 x D_c	**3.5 - 5 x D_c**
Material	P M K N S H	K	S	N	P M K N S H	N	P M K N H
Hole tolerance	IT8-10				IT8-9	IT 8-9	IT8-10
Surface finish Ra	1-2 µm 40-75 µ inch				1-2 µm 40-75 µ inch	1-5 µm 40-200 µ inch	1-4 µm 40-160 µ inch
 **General drilling**	•••						•••
 **Step & chamfer**					 •••  ••• Tailor Made		 ••
Versatility	 •  •  ••					 •  •  ••	 •  •  ••

••• = Very good
•• = Good
• = Fair

 Surface with angle
 Radial adjustment
 Plunge drilling
 Cross hole
 Stackdrilling
 Trepanning

Tool guide and selection

CoroDrill® 860		CoroDrill® 861	CoroDrill® 862	CoroDrill® 452			
Solid carbide drill		Solid carbide drill	Solid carbide drill	Solid carbide drills for composite			
				Drill	Pilot	Reamer	Countersink
E7		E27	E34	E70			
3.0-20.0	3.35-17.50	3.0-14.0	1.85-2.95	2.50-12.70	4.17-12.70	4.17-12.70	10.00-26.00
.1181-.7874	.1319-.6890	.1181-.5512	.0728-.1161	.0984-.5000	.1642-.5000	.1642-.5000	.3937-1.0236
							
860.1	860.2	861.1	862.1	452.1	452.4	452.R	452.C1
2 - 8 x D_c	3 x D_c	**12 - 30 x D_c**	**8 - 12 x D_c**				
P		P M K N	P M K N S	N S		N S	N
IT8 - IT9		IT8 - IT9	IT8 - IT9	IT11		IT8	-
1-2 µm 40-75 µ inch		1-2 µm 40-75 µ inch	1-2 µm 40-75 µ inch	1-2 µm 40-75 µ inch		0.5 µm 20 µ inch	-
•••		•••	•••	•••		•••	
	•••						
••		••	•	•		•	
•••		•••	••				
•••		••					

••• = Very good
•• = Good
• = Fair

Chamfer drilling

Step drilling

Boring

Broken taps

Tool guide and selection

CoroDrill® 870	CoroDrill® 880		CoroDrill® 881	Coromant U	Hard Cut
Exchangeable tip drill	**Indexable insert drill**		**Indexable insert drill**	**Indexable insert drill**	
		Step & chamfer		**Plunge drill**	
E86	E93	J4	E116	E124	E85
12.00-20.99	12.00-63.50	12.00-63.50	14.00-23.50	12.70-35.00	2.00-6.00
.4724-.8264	.492-2.500	.422-2.480	.562-.937	.500-1.378	.079-.236
		Tailor Made 			
870	880		881	R416.22	HC
3 - 5 x Dc	**2 - 5 x D_c**	**<=3.0 x D_c**	**2 - 5 x D_c**	**4 x D_c**	**5 x D_c**
P	P M K N S H	P M K N S H	P M K N S H	P M K N S H	H
IT9 - IT10	IT13 IT11 *)	IT13 IT11 *)	IT13 IT11 *)	IT13 IT11 *)	—
1-2 µm 40-75 µ inch	1-5 µm 40-200 µ inch	1-5 µm 40-200 µ inch	1-5 µm 40-200 µ inch	1-5 µm 40-200 µ inch	1-5 µm 40-200 µ inch
•••	•••				
		•••  ••• 			
••  ••  ••• 	•••  •••  •••  •••  ••• 		•••  •••  ••• 	••• 	••• 

*) By presetting.

 Surface with angle

 Stack drilling

 Radial adjustment

 Cross hole

 Plunge drilling

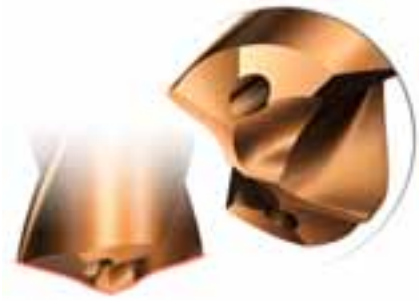
SANDVIK Coromant

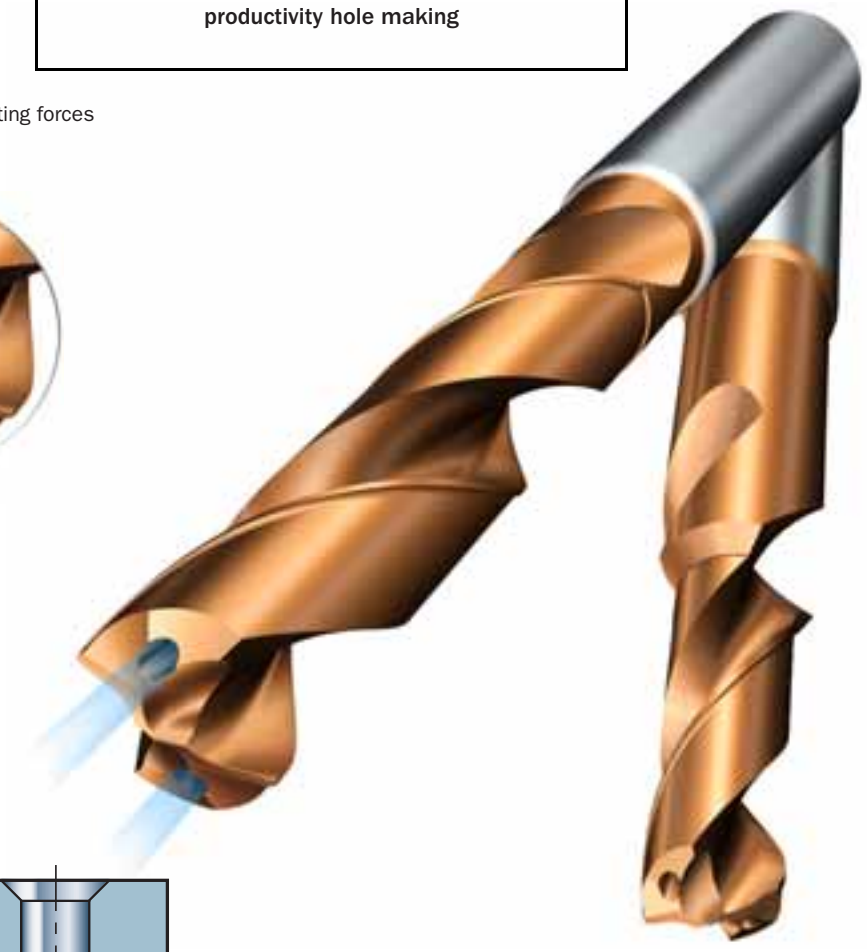
CoroDrill® 860

Solid carbide drills

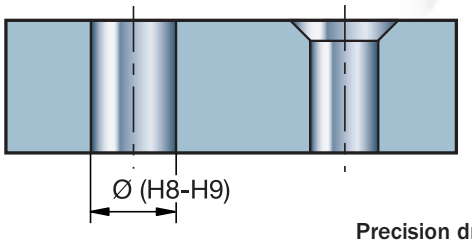
Material optimized solid carbide drills for high productivity hole making

Unique new cutting edge lowers cutting forces and improves chip control.

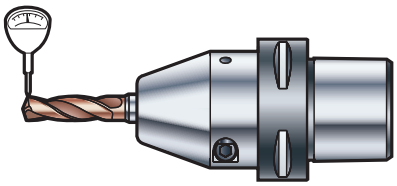




The fastest drill for steel

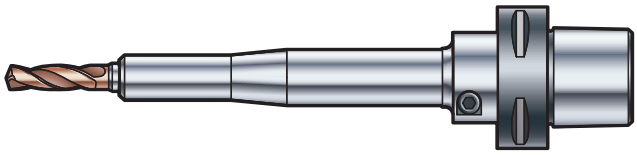


Precision drills clamped in precision chucks



Hydro-Grip®

For highest clamping force and minimum run out



Hydro-Grip® pencil type

for improved accessibility

ISO application areas:

Optimized P

Tailor Made

Tool options designed to individual customer requirements are available. For information on our Tailor Made programme see page J4.

Code key for CoroDrill® 860

860	.	1	–	0635	–	024	A	1	–	PM
1		2		3		4	5	6		7

1 Family name

2 Type of tool
1 = Straight drill, 1 diameter
2 = Straight drill, 1 diameter with chamfer

3 Main diameter in mm

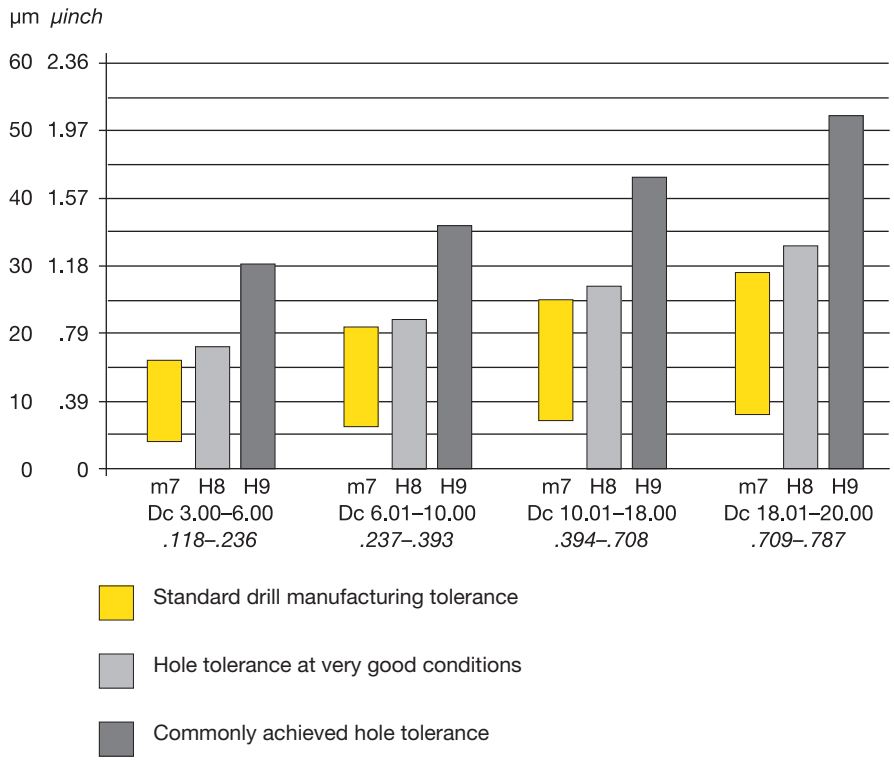
4 Max. recommended drilling depth in mm (new tool before reconditioning)

5 Coupling type
A = Cylindrical shank

6 Coolant
1 = With coolant hole
0 = Without coolant hole

7 Material group
P = ISO-P
M = Medium conditions

Drill and hole tolerances



CoroDrill® 860 2 – 3 x D_c with internal coolant supply

Cylindrical shank

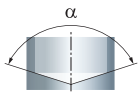


Drill diameter: 3.00-20.00 mm (.118-.787 inch)
Max hole depth: 2 - 3 × D_c

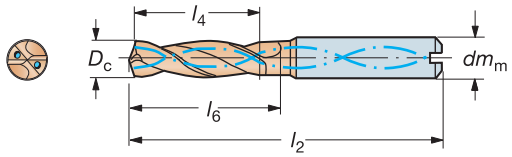
Hole tolerance: H8 - H9 / IT8 - IT9[1)]
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

D_c	α
4.00	139°
8.00	143°
16.00	144°



Internal coolant supply



[1)] IT = International Tolerance. Definition of tolerance width, not position.

l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	Internal coolant supply Ordering code	P GC 4234	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
3.00	.1181		860.1-0300-016A1-PM	☆	6.00	62	2.441	16	.630	21	.827
3.10	.1220		860.1-0310-016A1-PM	☆	6.00	62	2.441	16	.630	21	.827
3.17	.1248		860.1-0317-016A1-PM	☆	6.00	62	2.441	16	.630	21	.827
3.20	.1260		860.1-0320-016A1-PM	☆	6.00	62	2.441	16	.630	21	.827
3.30	.1299		860.1-0330-016A1-PM	☆	6.00	62	2.441	16	.630	22	.866
3.40	.1339	M4 65%	860.1-0340-016A1-PM	☆	6.00	62	2.441	16	.630	22	.866
3.45	.1358	8-32 UNC	860.1-0345-016A1-PM	☆	6.00	62	2.441	16	.630	22	.866
3.50	.1378		860.1-0350-016A1-PM	☆	6.00	62	2.441	16	.630	22	.866
3.55	.1398		860.1-0355-016A1-PM	☆	6.00	62	2.441	16	.630	22	.866
3.57	.1406		860.1-0357-016A1-PM	☆	6.00	62	2.441	16	.630	22	.866
3.60	.1417		860.1-0360-016A1-PM	☆	6.00	62	2.441	16	.630	22	.866
3.70	.1457		860.1-0370-016A1-PM	☆	6.00	62	2.441	16	.630	23	.906
3.80	.1496		860.1-0380-018A1-PM	☆	6.00	66	2.598	18	.709	25	.984
3.90	.1535	10-24 UNC	860.1-0390-018A1-PM	☆	6.00	66	2.598	18	.709	25	.984
3.97	.1563		860.1-0397-018A1-PM	☆	6.00	66	2.598	18	.709	25	.984
4.00	.1575		860.1-0400-018A1-PM	☆	6.00	66	2.598	18	.709	25	.984
4.10	.1614	10-32 UNF	860.1-0410-018A1-PM	☆	6.00	66	2.598	18	.709	26	1.024
4.20	.1654		860.1-0420-018A1-PM	☆	6.00	66	2.598	18	.709	26	1.024
4.30	.1693		860.1-0430-018A1-PM	☆	6.00	66	2.598	18	.709	26	1.024
4.36	.1717		860.1-0436-018A1-PM	☆	6.00	66	2.598	18	.709	26	1.024
4.40	.1732		860.1-0440-018A1-PM	☆	6.00	66	2.598	18	.709	26	1.024
4.50	.1772	M5 65%	860.1-0450-018A1-PM	☆	6.00	66	2.598	18	.709	27	1.063
4.55	.1791		860.1-0455-018A1-PM	☆	6.00	66	2.598	18	.709	27	1.063
4.60	.1811		860.1-0460-018A1-PM	☆	6.00	66	2.598	18	.709	27	1.063
4.70	.1850		860.1-0470-018A1-PM	☆	6.00	66	2.598	18	.709	27	1.063
4.76	.1874		860.1-0476-019A1-PM	☆	6.00	74	2.913	19	.748	28	1.102
4.80	.1890	12-32 UNF	860.1-0480-019A1-PM	☆	6.00	74	2.913	19	.748	28	1.102
4.90	.1929		860.1-0490-019A1-PM	☆	6.00	74	2.913	19	.748	28	1.102
5.00	.1969	M6 75%	860.1-0500-019A1-PM	☆	6.00	74	2.913	19	.748	29	1.142
5.10	.2008	M6 65%	860.1-0510-019A1-PM	☆	6.00	74	2.913	19	.748	29	1.142
5.16	.2031		860.1-0516-019A1-PM	☆	6.00	74	2.913	19	.748	29	1.142
5.20	.2047		860.1-0520-019A1-PM	☆	6.00	74	2.913	19	.748	29	1.142
5.30	.2087		860.1-0530-019A1-PM	☆	6.00	74	2.913	19	.748	29	1.142
5.40	.2126		860.1-0540-019A1-PM	☆	6.00	74	2.913	19	.748	29	1.142
5.50	.2165		860.1-0550-019A1-PM	☆	6.00	74	2.913	19	.748	29	1.142
5.56	.2189		860.1-0556-019A1-PM	☆	6.00	74	2.913	19	.748	30	1.181
5.60	.2205		860.1-0560-019A1-PM	☆	6.00	74	2.913	19	.748	30	1.181
5.70	.2244		860.1-0570-019A1-PM	☆	6.00	74	2.913	19	.748	30	1.181
5.80	.2283		860.1-0580-019A1-PM	☆	6.00	74	2.913	19	.748	30	1.181
5.90	.2323		860.1-0590-019A1-PM	☆	6.00	74	2.913	19	.748	30	1.181
5.95	.2343		860.1-0595-019A1-PM	☆	6.00	74	2.913	19	.748	30	1.181

E136 J4

CoroDrill® 860 2 – 3 x D_c with internal coolant supply

Cylindrical shank

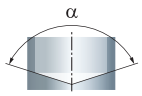


Drill diameter: 3.00-20.00 mm (.118-.787 inch)
Max hole depth: 2 - 3 × D_c

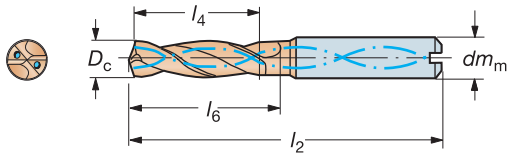
Hole tolerance: H8 - H9 / IT8 - IT9[1)]
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

D_c	α
4.00	139°
8.00	143°
16.00	144°



Internal coolant supply



[1)] IT = International Tolerance. Definition of tolerance width, not position.

l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	**Internal coolant supply** **Ordering code**	P GC 4234	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
6.00	.2362		860.1-0600-019A1-PM	☆	6.00	74	2.913	19	.748	30	1.181
6.10	.2402		860.1-0610-024A1-PM	☆	8.00	79	3.110	24	.945	35	1.378
6.20	.2441		860.1-0620-024A1-PM	☆	8.00	79	3.110	24	.945	36	1.417
6.30	.2480		860.1-0630-024A1-PM	☆	8.00	79	3.110	24	.945	36	1.417
6.35	.2500		860.1-0635-024A1-PM	☆	8.00	79	3.110	24	.945	36	1.417
6.40	.2520		860.1-0640-024A1-PM	☆	8.00	79	3.110	24	.945	36	1.417
6.50	.2559		860.1-0650-024A1-PM	☆	8.00	79	3.110	24	.945	36	1.417
6.60	.2598		860.1-0660-024A1-PM	☆	8.00	79	3.110	24	.945	36	1.417
6.70	.2638	5/16-18 UNC	860.1-0670-024A1-PM	☆	8.00	79	3.110	24	.945	36	1.417
6.75	.2657		860.1-0675-024A1-PM	☆	8.00	79	3.110	24	.945	36	1.417
6.80	.2677		860.1-0680-024A1-PM	☆	8.00	79	3.110	24	.945	36	1.417
6.90	.2717	M8 65%	860.1-0690-024A1-PM	☆	8.00	79	3.110	24	.945	37	1.457
7.00	.2756	5/18-16 UNF	860.1-0700-024A1-PM	☆	8.00	79	3.110	24	.945	37	1.457
7.10	.2795	MF8x1	860.1-0710-028A1-PM	☆	8.00	79	3.110	28	1.102	41	1.614
7.14	.2811		860.1-0714-028A1-PM	☆	8.00	79	3.110	28	1.102	41	1.614
7.20	.2835		860.1-0720-028A1-PM	☆	8.00	79	3.110	28	1.102	41	1.614
7.30	.2874		860.1-0730-028A1-PM	☆	8.00	79	3.110	28	1.102	41	1.614
7.40	.2913		860.1-0740-028A1-PM	☆	8.00	79	3.110	28	1.102	41	1.614
7.50	.2953		860.1-0750-028A1-PM	☆	8.00	79	3.110	28	1.102	41	1.614
7.54	.2969		860.1-0754-028A1-PM	☆	8.00	79	3.110	28	1.102	41	1.614
7.60	.2992		860.1-0760-028A1-PM	☆	8.00	79	3.110	28	1.102	41	1.614
7.70	.3031		860.1-0770-028A1-PM	☆	8.00	79	3.110	28	1.102	42	1.654
7.80	.3071		860.1-0780-028A1-PM	☆	8.00	79	3.110	28	1.102	42	1.654
7.90	.3110		860.1-0790-028A1-PM	☆	8.00	79	3.110	28	1.102	42	1.654
7.94	.3126		860.1-0794-028A1-PM	☆	8.00	79	3.110	28	1.102	42	1.654
8.00	.3150		860.1-0800-028A1-PM	☆	8.00	79	3.110	28	1.102	42	1.654
8.10	.3189		860.1-0810-031A1-PM	☆	10.00	89	3.504	31	1.220	45	1.772
8.20	.3228		860.1-0820-031A1-PM	☆	10.00	89	3.504	31	1.220	45	1.772
8.30	.3268		860.1-0830-031A1-PM	☆	10.00	89	3.504	31	1.220	45	1.772
8.40	.3307		860.1-0840-031A1-PM	☆	10.00	89	3.504	31	1.220	45	1.772
8.50	.3346		860.1-0850-031A1-PM	☆	10.00	89	3.504	31	1.220	46	1.811
8.60	.3386	M10 70%	860.1-0860-031A1-PM	☆	10.00	89	3.504	31	1.220	46	1.811
8.70	.3425	M10 65%	860.1-0870-031A1-PM	☆	10.00	89	3.504	31	1.220	46	1.811
8.73	.3437		860.1-0873-031A1-PM	☆	10.00	89	3.504	31	1.220	46	1.811
8.80	.3465		860.1-0880-031A1-PM	☆	10.00	89	3.504	31	1.220	46	1.811
8.90	.3504	MF10x1,25	860.1-0890-031A1-PM	☆	10.00	89	3.504	31	1.220	46	1.811
9.00	.3543		860.1-0900-031A1-PM	☆	10.00	89	3.504	31	1.220	46	1.811
9.10	.3583		860.1-0910-031A1-PM	☆	10.00	89	3.504	31	1.220	46	1.811
9.13	.3594		860.1-0913-031A1-PM	☆	10.00	89	3.504	31	1.220	46	1.811
9.20	.3622		860.1-0920-031A1-PM	☆	10.00	89	3.504	31	1.220	46	1.811
9.30	.3661		860.1-0930-031A1-PM	☆	10.00	89	3.504	31	1.220	46	1.811
9.40	.3701		860.1-0940-031A1-PM	☆	10.00	89	3.504	31	1.220	47	1.850

E136 J4

SANDVIK Coromant

CoroDrill® 860 2 – 3 x D_c with internal coolant supply

Cylindrical shank

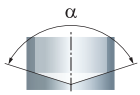


Drill diameter: 3.00-20.00 mm (.118-.787 inch)
Max hole depth: 2 - 3 × D_c

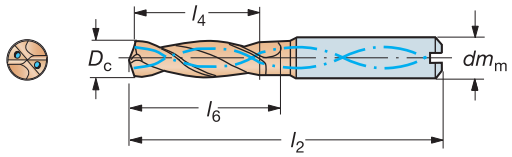
Hole tolerance: H8 - H9 / IT8 - IT9[1)]
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

D_c	α
4.00	139°
8.00	143°
16.00	144°



Internal coolant supply



[1)] IT = International Tolerance. Definition of tolerance width, not position.

l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	Internal coolant supply Ordering code	P GC 4234	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
9.50	.3740		860.1-0950-031A1-PM	☆	10.00	89	3.504	31	1.220	47	1.850
9.52	.3748		860.1-0952-031A1-PM	☆	10.00	89	3.504	31	1.220	47	1.850
9.60	.3780		860.1-0960-031A1-PM	☆	10.00	89	3.504	31	1.220	47	1.850
9.70	.3819		860.1-0970-031A1-PM	☆	10.00	89	3.504	31	1.220	47	1.850
9.80	.3858		860.1-0980-031A1-PM	☆	10.00	89	3.504	31	1.220	47	1.850
9.90	.3898		860.1-0990-031A1-PM	☆	10.00	89	3.504	31	1.220	47	1.850
9.92	.3906		860.1-0992-031A1-PM	☆	10.00	89	3.504	31	1.220	47	1.850
10.00	.3937	7/16-20 UNF	860.1-1000-031A1-PM	☆	10.00	89	3.504	31	1.220	47	1.850
10.10	.3976		860.1-1010-037A1-PM	☆	12.00	102	4.016	37	1.457	53	2.087
10.20	.4016		860.1-1020-037A1-PM	☆	12.00	102	4.016	37	1.457	53	2.087
10.30	.4055	M12 75%	860.1-1030-037A1-PM	☆	12.00	102	4.016	37	1.457	53	2.087
10.32	.4063	M12	860.1-1032-037A1-PM	☆	12.00	102	4.016	37	1.457	53	2.087
10.40	.4094	M12 70%	860.1-1040-037A1-PM	☆	12.00	102	4.016	37	1.457	54	2.126
10.50	.4134		860.1-1050-037A1-PM	☆	12.00	102	4.016	37	1.457	54	2.126
10.60	.4173		860.1-1060-037A1-PM	☆	12.00	102	4.016	37	1.457	54	2.126
10.70	.4213	MF12x1,5	860.1-1070-037A1-PM	☆	12.00	102	4.016	37	1.457	54	2.126
10.71	.4217		860.1-1071-037A1-PM	☆	12.00	102	4.016	37	1.457	54	2.126
10.80	.4252		860.1-1080-037A1-PM	☆	12.00	102	4.016	37	1.457	54	2.126
10.90	.4291		860.1-1090-037A1-PM	☆	12.00	102	4.016	37	1.457	54	2.126
11.00	.4331	1/2-13 UNC	860.1-1100-037A1-PM	☆	12.00	102	4.016	37	1.457	54	2.126
11.10	.4370		860.1-1110-037A1-PM	☆	12.00	102	4.016	37	1.457	54	2.126
11.11	.4374		860.1-1111-037A1-PM	☆	12.00	102	4.016	37	1.457	54	2.126
11.20	.4409		860.1-1120-037A1-PM	☆	12.00	102	4.016	37	1.457	54	2.126
11.30	.4449		860.1-1130-037A1-PM	☆	12.00	102	4.016	37	1.457	54	2.126
11.40	.4488		860.1-1140-037A1-PM	☆	12.00	102	4.016	37	1.457	54	2.126
11.50	.4528		860.1-1150-037A1-PM	☆	12.00	102	4.016	37	1.457	55	2.165
11.51	.4531		860.1-1151-037A1-PM	☆	12.00	102	4.016	37	1.457	55	2.165
11.60	.4567	1/2-20 UNF	860.1-1160-037A1-PM	☆	12.00	102	4.016	37	1.457	55	2.165
11.70	.4606		860.1-1170-037A1-PM	☆	12.00	102	4.016	37	1.457	55	2.165
11.80	.4646		860.1-1180-037A1-PM	☆	12.00	102	4.016	37	1.457	55	2.165
11.90	.4685		860.1-1190-037A1-PM	☆	12.00	102	4.016	37	1.457	55	2.165
12.00	.4724		860.1-1200-037A1-PM	☆	12.00	102	4.016	37	1.457	55	2.165
12.10	.4764	M14 72%	860.1-1210-040A1-PM	☆	14.00	107	4.213	40	1.575	58	2.284
12.20	.4803	M14 65%	860.1-1220-040A1-PM	☆	14.00	107	4.213	40	1.575	58	2.284
12.30	.4843		860.1-1230-040A1-PM	☆	14.00	107	4.213	40	1.575	58	2.284
12.50	.4921		860.1-1250-040A1-PM	☆	14.00	107	4.213	40	1.575	58	2.284
12.60	.4961		860.1-1260-040A1-PM	☆	14.00	107	4.213	40	1.575	59	2.323
12.70	.5000		860.1-1270-040A1-PM	☆	14.00	107	4.213	40	1.575	59	2.323
12.80	.5039		860.1-1280-040A1-PM	☆	14.00	107	4.213	40	1.575	59	2.323
13.00	.5118		860.1-1300-040A1-PM	☆	14.00	107	4.213	40	1.575	59	2.323
13.10	.5157		860.1-1310-040A1-PM	☆	14.00	107	4.213	40	1.575	59	2.323
13.25	.5217		860.1-1325-040A1-PM	☆	14.00	107	4.213	40	1.575	59	2.323

E136 J4

CoroDrill® 860 2 – 3 x D_c with internal coolant supply

Cylindrical shank

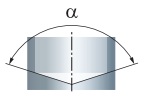


Drill diameter: 3.00-20.00 mm (.118-.787 inch)
Max hole depth: 2 - 3 × D_c

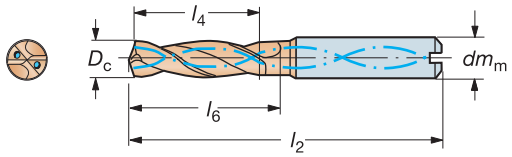
Hole tolerance: H8 - H9 / IT8 - IT9[1)]
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

D_c	α
4.00	139°
8.00	143°
16.00	144°



Internal coolant supply



[1)] IT = International Tolerance. Definition of tolerance width, not position.

l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	Internal coolant supply Ordering code	P GC 4234	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
13.50	.5315	5/8-11 UNC	**860.1-1350-040A1-PM**	☆	14.00	107	4.213	40	1.575	59	2.323
13.75	.5413		**860.1-1375-040A1-PM**	☆	14.00	107	4.213	40	1.575	59	2.323
13.80	.5433		**860.1-1380-040A1-PM**	☆	14.00	107	4.213	40	1.575	59	2.323
14.00	.5512		**860.1-1400-040A1-PM**	☆	14.00	107	4.213	40	1.575	59	2.323
14.25	.5610	M16 66%	**860.1-1425-044A1-PM**	☆	16.00	115	4.528	44	1.732	64	2.520
14.29	.5626		**860.1-1429-044A1-PM**	☆	16.00	115	4.528	44	1.732	64	2.520
14.50	.5709		**860.1-1450-044A1-PM**	☆	16.00	115	4.528	44	1.732	64	2.520
14.69	.5783		**860.1-1469-044A1-PM**	☆	16.00	115	4.528	44	1.732	64	2.520
15.00	.5906		**860.1-1500-044A1-PM**	☆	16.00	115	4.528	44	1.732	64	2.520
15.50	.6102	M18 76%	**860.1-1550-044A1-PM**	☆	16.00	115	4.528	44	1.732	65	2.559
15.80	.6220		**860.1-1580-044A1-PM**	☆	16.00	115	4.528	44	1.732	65	2.559
15.87	.6248		**860.1-1587-044A1-PM**	☆	16.00	115	4.528	44	1.732	65	2.559
16.00	.6299		**860.1-1600-044A1-PM**	☆	16.00	115	4.528	44	1.732	65	2.559
16.10	.6339		**860.1-1610-050A1-PM**	☆	18.00	123	4.842	50	1.968	71	2.795
16.50	.6496		**860.1-1650-050A1-PM**	☆	18.00	123	4.842	50	1.968	71	2.795
16.67	.6563		**860.1-1667-050A1-PM**	☆	18.00	123	4.842	50	1.968	71	2.795
16.80	.6614		**860.1-1680-050A1-PM**	☆	18.00	123	4.842	50	1.968	72	2.835
17.00	.6693		**860.1-1700-050A1-PM**	☆	18.00	123	4.842	50	1.968	72	2.835
17.50	.6890	M20 76%	**860.1-1750-050A1-PM**	☆	18.00	123	4.842	50	1.968	72	2.835
18.00	.7087		**860.1-1800-050A1-PM**	☆	18.00	123	4.842	50	1.968	72	2.835
18.50	.7283		**860.1-1850-055A1-PM**	☆	20.00	131	5.158	55	2.165	78	3.071
18.80	.7402		**860.1-1880-055A1-PM**	☆	20.00	131	5.158	55	2.165	78	3.071
19.00	.7480		**860.1-1900-055A1-PM**	☆	20.00	131	5.158	55	2.165	78	3.071
19.05	.7500		**860.1-1905-055A1-PM**	☆	20.00	131	5.158	55	2.165	78	3.071
19.80	.7795		**860.1-1980-055A1-PM**	☆	20.00	131	5.158	55	2.165	78	3.071
20.00	.7874		**860.1-2000-055A1-PM**	☆	20.00	131	5.158	55	2.165	78	3.071

E136 J4

CoroDrill® 860 4 – 5 x D_c with internal coolant supply

Cylindrical shank

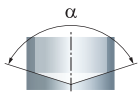


Drill diameter: 3.00-20.00 mm (.118-.787 inch)
Max hole depth: 4 - 5 × D_c

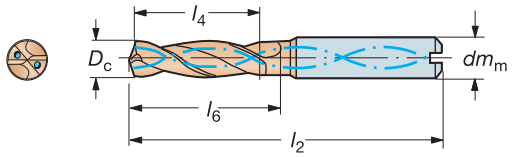
Hole tolerance: H8 - H9 / IT8 - IT9[1)]
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

D_c	α
4.00	139°
8.00	143°
16.00	144°



Internal coolant supply



[1)] IT = International Tolerance. Definition of tolerance width, not position.

l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	Internal coolant supply Ordering code	P GC 4234	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
3.00	.1181		860.1-0300-021A1-PM	☆	6.00	66	2.598	21	.827	26	1.024
3.10	.1220		860.1-0310-021A1-PM	☆	6.00	66	2.598	21	.827	26	1.024
3.17	.1248		860.1-0317-021A1-PM	☆	6.00	66	2.598	21	.827	26	1.024
3.20	.1260		860.1-0320-021A1-PM	☆	6.00	66	2.598	21	.827	26	1.024
3.30	.1299		860.1-0330-021A1-PM	☆	6.00	66	2.598	21	.827	27	1.063
3.40	.1339	M4 65%	860.1-0340-021A1-PM	☆	6.00	66	2.598	21	.827	27	1.063
3.45	.1358		860.1-0345-021A1-PM	☆	6.00	66	2.598	21	.827	27	1.063
3.50	.1378	8-32 UNC	860.1-0350-021A1-PM	☆	6.00	66	2.598	21	.827	27	1.063
3.57	.1406		860.1-0357-021A1-PM	☆	6.00	66	2.598	21	.827	27	1.063
3.60	.1417		860.1-0360-021A1-PM	☆	6.00	66	2.598	21	.827	27	1.063
3.70	.1457		860.1-0370-021A1-PM	☆	6.00	66	2.598	21	.827	28	1.102
3.80	.1496		860.1-0380-027A1-PM	☆	6.00	74	2.913	27	1.063	34	1.339
3.90	.1535	10-24 UNC	860.1-0390-027A1-PM	☆	6.00	74	2.913	27	1.063	34	1.339
3.97	.1563		860.1-0397-027A1-PM	☆	6.00	74	2.913	27	1.063	34	1.339
4.00	.1575		860.1-0400-027A1-PM	☆	6.00	74	2.913	27	1.063	34	1.339
4.10	.1614	10-32 UNF	860.1-0410-027A1-PM	☆	6.00	74	2.913	27	1.063	35	1.378
4.20	.1654		860.1-0420-027A1-PM	☆	6.00	74	2.913	27	1.063	35	1.378
4.30	.1693	M5 65%	860.1-0430-027A1-PM	☆	6.00	74	2.913	27	1.063	35	1.378
4.36	.1717		860.1-0436-027A1-PM	☆	6.00	74	2.913	27	1.063	35	1.378
4.40	.1732		860.1-0440-027A1-PM	☆	6.00	74	2.913	27	1.063	35	1.378
4.50	.1772		860.1-0450-027A1-PM	☆	6.00	74	2.913	27	1.063	36	1.417
4.55	.1791	12-24 UNC	860.1-0455-027A1-PM	☆	6.00	74	2.913	27	1.063	36	1.417
4.60	.1811		860.1-0460-027A1-PM	☆	6.00	74	2.913	27	1.063	36	1.417
4.70	.1850		860.1-0470-027A1-PM	☆	6.00	74	2.913	27	1.063	36	1.417
4.76	.1874		860.1-0476-037A1-PM	☆	6.00	87	3.425	37	1.457	46	1.811
4.80	.1890	12-32 UNF	860.1-0480-037A1-PM	☆	6.00	87	3.425	37	1.457	46	1.811
4.90	.1929		860.1-0490-037A1-PM	☆	6.00	87	3.425	37	1.457	46	1.811
5.00	.1969	M6 75%	860.1-0500-037A1-PM	☆	6.00	87	3.425	37	1.457	47	1.850
5.10	.2008	M6 65%	860.1-0510-037A1-PM	☆	6.00	87	3.425	37	1.457	47	1.850
5.16	.2031		860.1-0516-037A1-PM	☆	6.00	87	3.425	37	1.457	47	1.850
5.20	.2047		860.1-0520-037A1-PM	☆	6.00	87	3.425	37	1.457	47	1.850
5.25	.2067		860.1-0525-037A1-PM	☆	6.00	87	3.425	37	1.457	47	1.850
5.30	.2087		860.1-0530-037A1-PM	☆	6.00	87	3.425	37	1.457	47	1.850
5.40	.2126		860.1-0540-037A1-PM	☆	6.00	87	3.425	37	1.457	47	1.850
5.50	.2165		860.1-0550-037A1-PM	☆	6.00	87	3.425	37	1.457	47	1.850
5.55	.2185		860.1-0555-037A1-PM	☆	6.00	87	3.425	37	1.457	48	1.890
5.56	.2189		860.1-0556-037A1-PM	☆	6.00	87	3.425	37	1.457	48	1.890
5.60	.2205		860.1-0560-037A1-PM	☆	6.00	87	3.425	37	1.457	48	1.890
5.70	.2244		860.1-0570-037A1-PM	☆	6.00	87	3.425	37	1.457	48	1.890
5.80	.2283		860.1-0580-037A1-PM	☆	6.00	87	3.425	37	1.457	48	1.890
5.90	.2323		860.1-0590-037A1-PM	☆	6.00	87	3.425	37	1.457	48	1.890

E136 J4

CoroDrill® 860 4 – 5 x D_c with internal coolant supply

Cylindrical shank

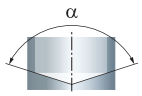


Drill diameter: 3.00-20.00 mm (.118-.787 inch)
Max hole depth: 4 - 5 × D_c

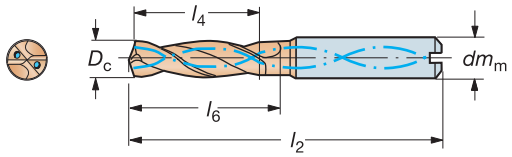
Hole tolerance: H8 - H9 / IT8 - IT9[1)]
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

D_c	α
4.00	139°
8.00	143°
16.00	144°



Internal coolant supply



[1)] IT = International Tolerance. Definition of tolerance width, not position.

l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	Internal coolant supply Ordering code	P GC 4234	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
5.95	.2343		860.1-0595-037A1-PM	☆	6.00	87	3.425	37	1.457	48	1.890
6.00	.2362		860.1-0600-037A1-PM	☆	6.00	87	3.425	37	1.457	48	1.890
6.10	.2402		860.1-0610-040A1-PM	☆	8.00	91	3.583	40	1.575	51	2.008
6.20	.2441		860.1-0620-040A1-PM	☆	8.00	91	3.583	40	1.575	52	2.047
6.30	.2480		860.1-0630-040A1-PM	☆	8.00	91	3.583	40	1.575	52	2.047
6.35	.2500		860.1-0635-040A1-PM	☆	8.00	91	3.583	40	1.575	52	2.047
6.40	.2520		860.1-0640-040A1-PM	☆	8.00	91	3.583	40	1.575	52	2.047
6.50	.2559		860.1-0650-040A1-PM	☆	8.00	91	3.583	40	1.575	52	2.047
6.60	.2598		860.1-0660-040A1-PM	☆	8.00	91	3.583	40	1.575	52	2.047
6.70	.2638	5/16-18 UNC	860.1-0670-040A1-PM	☆	8.00	91	3.583	40	1.575	52	2.047
6.75	.2657		860.1-0675-040A1-PM	☆	8.00	91	3.583	40	1.575	52	2.047
6.80	.2677		860.1-0680-040A1-PM	☆	8.00	91	3.583	40	1.575	52	2.047
6.90	.2717	M8 65%	860.1-0690-040A1-PM	☆	8.00	91	3.583	40	1.575	53	2.087
7.00	.2756	5/18-16 UNF	860.1-0700-040A1-PM	☆	8.00	91	3.583	40	1.575	53	2.087
7.10	.2795	MF8x1	860.1-0710-040A1-PM	☆	8.00	91	3.583	40	1.575	53	2.087
7.14	.2811		860.1-0714-040A1-PM	☆	8.00	91	3.583	40	1.575	53	2.087
7.20	.2835		860.1-0720-040A1-PM	☆	8.00	91	3.583	40	1.575	53	2.087
7.30	.2874		860.1-0730-040A1-PM	☆	8.00	91	3.583	40	1.575	53	2.087
7.40	.2913		860.1-0740-040A1-PM	☆	8.00	91	3.583	40	1.575	53	2.087
7.50	.2953		860.1-0750-040A1-PM	☆	8.00	91	3.583	40	1.575	53	2.087
7.54	.2969		860.1-0754-040A1-PM	☆	8.00	91	3.583	40	1.575	53	2.087
7.60	.2992		860.1-0760-040A1-PM	☆	8.00	91	3.583	40	1.575	53	2.087
7.70	.3031		860.1-0770-040A1-PM	☆	8.00	91	3.583	40	1.575	54	2.126
7.80	.3071		860.1-0780-040A1-PM	☆	8.00	91	3.583	40	1.575	54	2.126
7.90	.3110		860.1-0790-040A1-PM	☆	8.00	91	3.583	40	1.575	54	2.126
7.94	.3126		860.1-0794-040A1-PM	☆	8.00	91	3.583	40	1.575	54	2.126
8.00	.3150		860.1-0800-040A1-PM	☆	8.00	91	3.583	40	1.575	54	2.126
8.10	.3189		860.1-0810-045A1-PM	☆	10.00	103	4.055	45	1.772	59	2.323
8.15	.3209		860.1-0815-045A1-PM	☆	10.00	103	4.055	45	1.772	59	2.323
8.20	.3228		860.1-0820-045A1-PM	☆	10.00	103	4.055	45	1.772	59	2.323
8.30	.3268		860.1-0830-045A1-PM	☆	10.00	103	4.055	45	1.772	59	2.323
8.33	.3280		860.1-0833-045A1-PM	☆	10.00	103	4.055	45	1.772	59	2.323
8.40	.3307		860.1-0840-045A1-PM	☆	10.00	103	4.055	45	1.772	59	2.323
8.50	.3346		860.1-0850-045A1-PM	☆	10.00	103	4.055	45	1.772	60	2.362
8.60	.3386	M10 70%	860.1-0860-045A1-PM	☆	10.00	103	4.055	45	1.772	60	2.362
8.70	.3425	M10 65%	860.1-0870-045A1-PM	☆	10.00	103	4.055	45	1.772	60	2.362
8.73	.3437		860.1-0873-045A1-PM	☆	10.00	103	4.055	45	1.772	60	2.362
8.80	.3465		860.1-0880-045A1-PM	☆	10.00	103	4.055	45	1.772	60	2.362
8.90	.3504		860.1-0890-045A1-PM	☆	10.00	103	4.055	45	1.772	60	2.362
9.00	.3543		860.1-0900-045A1-PM	☆	10.00	103	4.055	45	1.772	60	2.362
9.10	.3583		860.1-0910-045A1-PM	☆	10.00	103	4.055	45	1.772	60	2.362
9.20	.3622		860.1-0920-045A1-PM	☆	10.00	103	4.055	45	1.772	60	2.362

E136 J4

SANDVIK Coromant

CoroDrill® 860 4 – 5 x D_c with internal coolant supply

Cylindrical shank

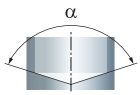


Drill diameter: 3.00-20.00 mm (.118-.787 inch)
Max hole depth: 4 - 5 × D_c

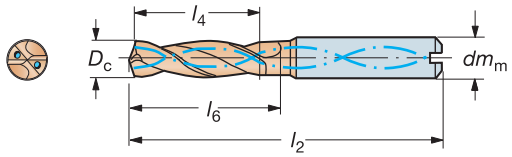
Hole tolerance: H8 - H9 / IT8 - IT9[1)]
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

D_c	α
4.00	139°
8.00	143°
16.00	144°



Internal coolant supply



[1)] IT = International Tolerance. Definition of tolerance width, not position.

l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	Internal coolant supply Ordering code	P GC 4234	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
9.30	.3661		860.1-0930-045A1-PM	☆	10.00	103	4.055	45	1.772	60	2.362
9.40	.3701		860.1-0940-045A1-PM	☆	10.00	103	4.055	45	1.772	61	2.402
9.50	.3740		860.1-0950-045A1-PM	☆	10.00	103	4.055	45	1.772	61	2.402
9.52	.3748		860.1-0952-045A1-PM	☆	10.00	103	4.055	45	1.772	61	2.402
9.55	.3760		860.1-0955-045A1-PM	☆	10.00	103	4.055	45	1.772	61	2.402
9.60	.3780		860.1-0960-045A1-PM	☆	10.00	103	4.055	45	1.772	61	2.402
9.70	.3819		860.1-0970-045A1-PM	☆	10.00	103	4.055	45	1.772	61	2.402
9.80	.3858		860.1-0980-045A1-PM	☆	10.00	103	4.055	45	1.772	61	2.402
9.90	.3898		860.1-0990-045A1-PM	☆	10.00	103	4.055	45	1.772	61	2.402
9.92	.3906		860.1-0992-045A1-PM	☆	10.00	103	4.055	45	1.772	61	2.402
10.00	.3937	7/16-20 UNF	860.1-1000-045A1-PM	☆	10.00	103	4.055	45	1.772	60	2.362
10.10	.3976		860.1-1010-053A1-PM	☆	12.00	118	4.646	53	2.087	69	2.716
10.20	.4016		860.1-1020-053A1-PM	☆	12.00	118	4.646	53	2.087	69	2.716
10.30	.4055	M12 75%	860.1-1030-053A1-PM	☆	12.00	118	4.646	53	2.087	69	2.716
10.32	.4063	M12	860.1-1032-053A1-PM	☆	12.00	118	4.646	53	2.087	69	2.716
10.40	.4094	M12 70%	860.1-1040-053A1-PM	☆	12.00	118	4.646	53	2.087	70	2.756
10.45	.4114		860.1-1045-053A1-PM	☆	12.00	118	4.646	53	2.087	70	2.756
10.50	.4134		860.1-1050-053A1-PM	☆	12.00	118	4.646	53	2.087	70	2.756
10.60	.4173		860.1-1060-053A1-PM	☆	12.00	118	4.646	53	2.087	70	2.756
10.70	.4213	MF12x1,5	860.1-1070-053A1-PM	☆	12.00	118	4.646	53	2.087	70	2.756
10.71	.4217		860.1-1071-053A1-PM	☆	12.00	118	4.646	53	2.087	70	2.756
10.80	.4252		860.1-1080-053A1-PM	☆	12.00	118	4.646	53	2.087	70	2.756
10.90	.4291		860.1-1090-053A1-PM	☆	12.00	118	4.646	53	2.087	70	2.756
11.00	.4331	1/2-13 UNC	860.1-1100-053A1-PM	☆	12.00	118	4.646	53	2.087	70	2.756
11.10	.4370		860.1-1110-053A1-PM	☆	12.00	118	4.646	53	2.087	70	2.756
11.10	.4370		860.1-1130-053A1-PM	☆	12.00	118	4.646	53	2.087	70	2.756
11.11	.4374		860.1-1111-053A1-PM	☆	12.00	118	4.646	53	2.087	70	2.756
11.20	.4409		860.1-1120-053A1-PM	☆	12.00	118	4.646	53	2.087	70	2.756
11.40	.4488		860.1-1140-053A1-PM	☆	12.00	118	4.646	53	2.087	70	2.756
11.50	.4528		860.1-1150-053A1-PM	☆	12.00	118	4.646	53	2.087	71	2.795
11.51	.4531		860.1-1151-053A1-PM	☆	12.00	118	4.646	53	2.087	71	2.795
11.60	.4567		860.1-1160-053A1-PM	☆	12.00	118	4.646	53	2.087	71	2.795
11.70	.4606		860.1-1170-053A1-PM	☆	12.00	118	4.646	53	2.087	71	2.795
11.80	.4646		860.1-1180-053A1-PM	☆	12.00	118	4.646	53	2.087	71	2.795
11.90	.4685		860.1-1190-053A1-PM	☆	12.00	118	4.646	53	2.087	71	2.795
12.00	.4724		860.1-1200-053A1-PM	☆	12.00	118	4.646	53	2.087	71	2.795
12.10	.4764	M14 72%	860.1-1210-057A1-PM	☆	14.00	124	4.882	57	2.244	75	2.953
12.20	.4803	M14 65%	860.1-1220-057A1-PM	☆	14.00	124	4.882	57	2.244	75	2.953
12.30	.4843		860.1-1230-057A1-PM	☆	14.00	124	4.882	57	2.244	75	2.953
12.40	.4882		860.1-1240-057A1-PM	☆	14.00	124	4.882	57	2.244	75	2.953
12.50	.4921		860.1-1250-057A1-PM	☆	14.00	124	4.882	57	2.244	75	2.953
12.70	.5000		860.1-1270-057A1-PM	☆	14.00	124	4.882	57	2.244	76	2.992

E136 J4

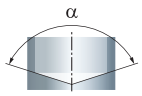
CoroDrill® 860 4 – 5 x D_c with internal coolant supply

Cylindrical shank



Drill diameter: 3.00-20.00 mm (.118-.787 inch)
Max hole depth: 4 - 5 × D_c

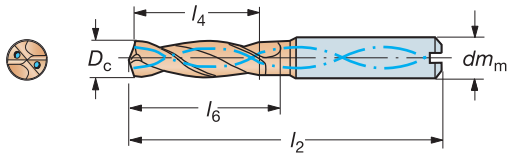
D_c	α
4.00	139°
8.00	143°
16.00	144°



Hole tolerance: H8 - H9 / IT8 - IT9[1)]
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

Internal coolant supply



[1)] IT = International Tolerance. Definition of tolerance width, not position.

l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	Internal coolant supply Ordering code	P GC 4234	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
12.80	.5039		860.1-1280-057A1-PM	☆	14.00	124	4.882	57	2.244	76	2.992
13.00	.5118		860.1-1300-057A1-PM	☆	14.00	124	4.882	57	2.244	76	2.992
13.10	.5157		860.1-1310-057A1-PM	☆	14.00	124	4.882	57	2.244	76	2.992
13.25	.5217		860.1-1325-057A1-PM	☆	14.00	124	4.882	57	2.244	76	2.992
13.50	.5315	5/8-11 UNC	860.1-1350-057A1-PM	☆	14.00	124	4.882	57	2.244	76	2.992
13.75	.5413		860.1-1375-057A1-PM	☆	14.00	124	4.882	57	2.244	76	2.992
13.80	.5433		860.1-1380-057A1-PM	☆	14.00	124	4.882	57	2.244	76	2.992
13.89	.5469		860.1-1389-057A1-PM	☆	14.00	124	4.882	57	2.244	77	3.032
14.00	.5512		860.1-1400-057A1-PM	☆	14.00	124	4.882	57	2.244	77	3.032
14.25	.5610	M16 66%	860.1-1425-062A1-PM	☆	16.00	133	5.236	62	2.441	82	3.228
14.29	.5626		860.1-1429-062A1-PM	☆	16.00	133	5.236	62	2.441	82	3.228
14.50	.5709		860.1-1450-062A1-PM	☆	16.00	133	5.236	62	2.441	82	3.228
14.69	.5783		860.1-1469-062A1-PM	☆	16.00	133	5.236	62	2.441	82	3.228
14.75	.5807		860.1-1475-062A1-PM	☆	16.00	133	5.236	62	2.441	82	3.228
14.80	.5827		860.1-1480-062A1-PM	☆	16.00	133	5.236	62	2.441	82	3.228
15.00	.5906		860.1-1500-062A1-PM	☆	16.00	133	5.236	62	2.441	82	3.228
15.50	.6102		860.1-1550-062A1-PM	☆	16.00	133	5.236	62	2.441	83	3.268
15.80	.6220		860.1-1580-062A1-PM	☆	16.00	133	5.236	62	2.441	83	3.268
15.87	.6248		860.1-1587-062A1-PM	☆	16.00	133	5.236	62	2.441	83	3.268
16.00	.6299		860.1-1600-062A1-PM	☆	16.00	133	5.236	62	2.441	83	3.268
16.10	.6339		860.1-1610-070A1-PM	☆	18.00	143	5.630	70	2.756	91	3.583
16.50	.6496		860.1-1650-070A1-PM	☆	18.00	143	5.630	70	2.756	91	3.583
16.67	.6563		860.1-1667-070A1-PM	☆	18.00	143	5.630	70	2.756	91	3.583
16.80	.6614		860.1-1680-070A1-PM	☆	18.00	143	5.630	70	2.756	92	3.622
17.00	.6693		860.1-1700-070A1-PM	☆	18.00	143	5.630	70	2.756	92	3.622
17.50	.6890	M20 76%	860.1-1750-070A1-PM	☆	18.00	143	5.630	70	2.756	92	3.622
17.80	.7008		860.1-1780-070A1-PM	☆	18.00	143	5.630	70	2.756	91	3.583
18.00	.7087		860.1-1800-070A1-PM	☆	18.00	143	5.630	70	2.756	91	3.583
18.80	.7402		860.1-1880-077A1-PM	☆	20.00	153	6.024	77	3.032	100	3.937
19.00	.7480		860.1-1900-077A1-PM	☆	20.00	153	6.024	77	3.032	100	3.937
19.05	.7500		860.1-1905-077A1-PM	☆	20.00	153	6.024	77	3.032	100	3.937
20.00	.7874		860.1-2000-077A1-PM	☆	20.00	153	6.024	77	3.032	100	3.937

E136 J4

SANDVIK Coromant

CoroDrill® 860 7 – 8 x D_c with internal coolant supply

Cylindrical shank

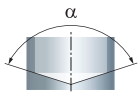


Drill diameter: 3.00-16.00 mm (.118-.630 inch)
Max hole depth: 7 - 8 × D_c

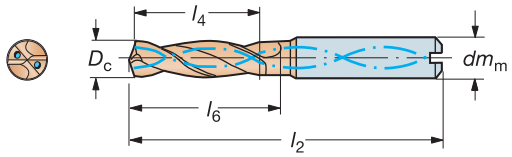
Hole tolerance: H8 - H9 / IT8 - IT9[1)]
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

D_c	α
4.00	139°
8.00	143°
16.00	144°



Internal coolant supply



[1)] IT = International Tolerance. Definition of tolerance width, not position.

l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	Internal coolant supply Ordering code	P GC 4234	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
3.00	.1181		860.1-0300-029A1-PM	☆	6.00	74	2.913	29	1.142	34	1.339
3.10	.1220		860.1-0310-029A1-PM	☆	6.00	74	2.913	29	1.142	34	1.339
3.17	.1248		860.1-0317-029A1-PM	☆	6.00	74	2.913	29	1.142	34	1.339
3.20	.1260		860.1-0320-029A1-PM	☆	6.00	74	2.913	29	1.142	34	1.339
3.30	.1299		860.1-0330-029A1-PM	☆	6.00	74	2.913	29	1.142	35	1.378
3.40	.1339	M4 65%	860.1-0340-029A1-PM	☆	6.00	74	2.913	29	1.142	35	1.378
3.45	.1358		860.1-0345-029A1-PM	☆	6.00	74	2.913	29	1.142	35	1.378
3.50	.1378	8-32UNC	860.1-0350-029A1-PM	☆	6.00	74	2.913	29	1.142	35	1.378
3.57	.1406		860.1-0357-029A1-PM	☆	6.00	74	2.913	29	1.142	35	1.378
3.60	.1417		860.1-0360-029A1-PM	☆	6.00	74	2.913	29	1.142	35	1.378
3.70	.1457		860.1-0370-029A1-PM	☆	6.00	74	2.913	29	1.142	36	1.417
3.80	.1496		860.1-0380-037A1-PM	☆	6.00	85	3.346	37	1.457	44	1.732
3.90	.1535	10-24 UNC	860.1-0390-037A1-PM	☆	6.00	85	3.346	37	1.457	44	1.732
3.97	.1563		860.1-0397-037A1-PM	☆	6.00	85	3.346	37	1.457	44	1.732
4.00	.1575		860.1-0400-037A1-PM	☆	6.00	85	3.346	37	1.457	44	1.732
4.10	.1614	10-32 UNF	860.1-0410-037A1-PM	☆	6.00	85	3.346	37	1.457	45	1.772
4.20	.1654		860.1-0420-037A1-PM	☆	6.00	85	3.346	37	1.457	45	1.772
4.30	.1693	M5 65%	860.1-0430-037A1-PM	☆	6.00	85	3.346	37	1.457	45	1.772
4.36	.1717		860.1-0436-037A1-PM	☆	6.00	85	3.346	37	1.457	45	1.772
4.40	.1732		860.1-0440-037A1-PM	☆	6.00	85	3.346	37	1.457	45	1.772
4.50	.1772		860.1-0450-037A1-PM	☆	6.00	85	3.346	37	1.457	46	1.811
4.60	.1811		860.1-0460-037A1-PM	☆	6.00	85	3.346	37	1.457	46	1.811
4.70	.1850		860.1-0470-037A1-PM	☆	6.00	85	3.346	37	1.457	46	1.811
4.76	.1874		860.1-0476-047A1-PM	☆	6.00	97	3.819	47	1.850	56	2.205
4.80	.1890	12-32 UNF	860.1-0480-047A1-PM	☆	6.00	97	3.819	47	1.850	56	2.205
4.90	.1929		860.1-0490-047A1-PM	☆	6.00	97	3.819	47	1.850	56	2.205
5.00	.1969	M6 75%	860.1-0500-047A1-PM	☆	6.00	97	3.819	47	1.850	57	2.244
5.10	.2008	M6 65%	860.1-0510-047A1-PM	☆	6.00	97	3.819	47	1.850	57	2.244
5.16	.2031		860.1-0516-047A1-PM	☆	6.00	97	3.819	47	1.850	57	2.244
5.20	.2047		860.1-0520-047A1-PM	☆	6.00	97	3.819	47	1.850	57	2.244
5.30	.2087		860.1-0530-047A1-PM	☆	6.00	97	3.819	47	1.850	57	2.244
5.40	.2126		860.1-0540-047A1-PM	☆	6.00	97	3.819	47	1.850	57	2.244
5.50	.2165		860.1-0550-047A1-PM	☆	6.00	97	3.819	47	1.850	57	2.244
5.56	.2189		860.1-0556-047A1-PM	☆	6.00	97	3.819	47	1.850	58	2.284
5.60	.2205		860.1-0560-047A1-PM	☆	6.00	97	3.819	47	1.850	58	2.284
5.70	.2244		860.1-0570-047A1-PM	☆	6.00	97	3.819	47	1.850	58	2.284
5.80	.2283		860.1-0580-047A1-PM	☆	6.00	97	3.819	47	1.850	58	2.284
5.90	.2323		860.1-0590-047A1-PM	☆	6.00	97	3.819	47	1.850	58	2.284
5.95	.2343		860.1-0595-047A1-PM	☆	6.00	97	3.819	47	1.850	58	2.284
6.00	.2362		860.1-0600-047A1-PM	☆	6.00	97	3.819	47	1.850	58	2.284
6.10	.2402		860.1-0610-055A1-PM	☆	8.00	106	4.173	55	2.165	66	2.598

E136 J4

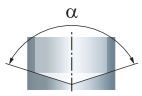
CoroDrill® 860 7 – 8 x D_c with internal coolant supply

Cylindrical shank



Drill diameter: 3.00-16.00 mm (.118-.630 inch)
Max hole depth: 7 - 8 × D_c

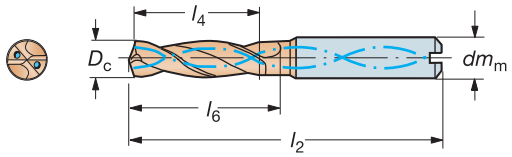
D_c	α
4.00	139°
8.00	143°
16.00	144°



Hole tolerance: H8 - H9 / IT8 - IT9[1)]
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

Internal coolant supply



[1)] IT = International Tolerance. Definition of tolerance width, not position.

l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	Internal coolant supply Ordering code	P GC 4234	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
6.20	.2441		860.1-0620-055A1-PM	☆	8.00	106	4.173	55	2.165	67	2.638
6.30	.2480		860.1-0630-055A1-PM	☆	8.00	106	4.173	55	2.165	67	2.638
6.35	.2500		860.1-0635-055A1-PM	☆	8.00	106	4.173	55	2.165	67	2.638
6.40	.2520		860.1-0640-055A1-PM	☆	8.00	106	4.173	55	2.165	67	2.638
6.50	.2559		860.1-0650-055A1-PM	☆	8.00	106	4.173	55	2.165	67	2.638
6.60	.2598		860.1-0660-055A1-PM	☆	8.00	106	4.173	55	2.165	67	2.638
6.70	.2638	5/16-18 UNC	860.1-0670-055A1-PM	☆	8.00	106	4.173	55	2.165	67	2.638
6.75	.2657		860.1-0675-055A1-PM	☆	8.00	106	4.173	55	2.165	67	2.638
6.80	.2677		860.1-0680-055A1-PM	☆	8.00	106	4.173	55	2.165	67	2.638
6.90	.2717	M8 65%	860.1-0690-055A1-PM	☆	8.00	106	4.173	55	2.165	68	2.677
7.00	.2756	5/18-16 UNF	860.1-0700-055A1-PM	☆	8.00	106	4.173	55	2.165	68	2.677
7.10	.2795	MF8x1	860.1-0710-064A1-PM	☆	8.00	116	4.567	64	2.520	77	3.032
7.14	.2811		860.1-0714-064A1-PM	☆	8.00	116	4.567	64	2.520	77	3.032
7.20	.2835		860.1-0720-064A1-PM	☆	8.00	116	4.567	64	2.520	77	3.032
7.30	.2874		860.1-0730-064A1-PM	☆	8.00	116	4.567	64	2.520	77	3.032
7.40	.2913		860.1-0740-064A1-PM	☆	8.00	116	4.567	64	2.520	77	3.032
7.50	.2953		860.1-0750-064A1-PM	☆	8.00	116	4.567	64	2.520	77	3.032
7.60	.2992		860.1-0760-064A1-PM	☆	8.00	116	4.567	64	2.520	77	3.032
7.70	.3031		860.1-0770-064A1-PM	☆	8.00	116	4.567	64	2.520	78	3.071
7.80	.3071		860.1-0780-064A1-PM	☆	8.00	116	4.567	64	2.520	78	3.071
7.94	.3126		860.1-0794-064A1-PM	☆	8.00	116	4.567	64	2.520	78	3.071
8.00	.3150		860.1-0800-064A1-PM	☆	8.00	116	4.567	64	2.520	78	3.071
8.10	.3189		860.1-0810-080A1-PM	☆	10.00	139	5.472	80	3.150	94	3.701
8.20	.3228		860.1-0820-080A1-PM	☆	10.00	139	5.472	80	3.150	94	3.701
8.30	.3268		860.1-0830-080A1-PM	☆	10.00	139	5.472	80	3.150	94	3.701
8.40	.3307		860.1-0840-080A1-PM	☆	10.00	139	5.472	80	3.150	94	3.701
8.50	.3346		860.1-0850-080A1-PM	☆	10.00	139	5.472	80	3.150	95	3.740
8.60	.3386	M10 70%	860.1-0860-080A1-PM	☆	10.00	139	5.472	80	3.150	95	3.740
8.70	.3425	M10 65%	860.1-0870-080A1-PM	☆	10.00	139	5.472	80	3.150	95	3.740
8.73	.3437		860.1-0873-080A1-PM	☆	10.00	139	5.472	80	3.150	95	3.740
8.80	.3465		860.1-0880-080A1-PM	☆	10.00	139	5.472	80	3.150	95	3.740
8.90	.3504		860.1-0890-080A1-PM	☆	10.00	139	5.472	80	3.150	95	3.740
9.00	.3543		860.1-0900-080A1-PM	☆	10.00	139	5.472	80	3.150	95	3.740
9.10	.3583		860.1-0910-080A1-PM	☆	10.00	139	5.472	80	3.150	95	3.740
9.20	.3622		860.1-0920-080A1-PM	☆	10.00	139	5.472	80	3.150	95	3.740
9.30	.3661		860.1-0930-080A1-PM	☆	10.00	139	5.472	80	3.150	95	3.740
9.40	.3701		860.1-0940-080A1-PM	☆	10.00	139	5.472	80	3.150	96	3.780
9.50	.3740		860.1-0950-080A1-PM	☆	10.00	139	5.472	80	3.150	96	3.780
9.52	.3748		860.1-0952-080A1-PM	☆	10.00	139	5.472	80	3.150	96	3.780
9.60	.3780		860.1-0960-080A1-PM	☆	10.00	139	5.472	80	3.150	96	3.780
9.70	.3819		860.1-0970-080A1-PM	☆	10.00	139	5.472	80	3.150	96	3.780
9.80	.3858		860.1-0980-080A1-PM	☆	10.00	139	5.472	80	3.150	96	3.780

E136 J4

CoroDrill® 860 7 – 8 x D_c with internal coolant supply

Cylindrical shank

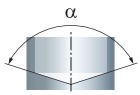


Drill diameter: 3.00-16.00 mm (.118-.630 inch)
Max hole depth: 7 - 8 × D_c

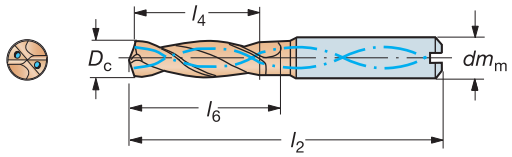
Hole tolerance: H8 - H9 / IT8 - IT9[1)]
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

D_c	α
4.00	139°
8.00	143°
16.00	144°



Internal coolant supply



[1)] IT = International Tolerance. Definition of tolerance width, not position.

l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	Internal coolant supply Ordering code	P GC 4234	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
9.90	.3898		860.1-0990-080A1-PM	☆	10.00	139	5.472	80	3.150	96	3.780
9.92	.3906		860.1-0992-080A1-PM	☆	10.00	139	5.472	80	3.150	96	3.780
10.00	.3937	7/16-20 UNF	860.1-1000-080A1-PM	☆	10.00	139	5.472	80	3.150	96	3.780
10.10	.3976		860.1-1010-098A1-PM	☆	12.00	163	6.417	98	3.858	114	4.488
10.20	.4016		860.1-1020-098A1-PM	☆	12.00	163	6.417	98	3.858	114	4.488
10.30	.4055	M12 75%	860.1-1030-098A1-PM	☆	12.00	163	6.417	98	3.858	114	4.488
10.32	.4063	M12	860.1-1032-098A1-PM	☆	12.00	163	6.417	98	3.858	114	4.488
10.40	.4094	M12 70%	860.1-1040-098A1-PM	☆	12.00	163	6.417	98	3.858	115	4.528
10.50	.4134		860.1-1050-098A1-PM	☆	12.00	163	6.417	98	3.858	115	4.528
10.70	.4213	MF12x1.5	860.1-1070-098A1-PM	☆	12.00	163	6.417	98	3.858	115	4.528
10.80	.4252		860.1-1080-098A1-PM	☆	12.00	163	6.417	98	3.858	115	4.528
11.00	.4331	1/2-13 UNC	860.1-1100-098A1-PM	☆	12.00	163	6.417	98	3.858	115	4.528
11.10	.4370		860.1-1110-098A1-PM	☆	12.00	163	6.417	98	3.858	115	4.528
11.11	.4374		860.1-1111-098A1-PM	☆	12.00	163	6.417	98	3.858	115	4.528
11.20	.4409		860.1-1120-098A1-PM	☆	12.00	163	6.417	98	3.858	115	4.528
11.30	.4449		860.1-1130-098A1-PM	☆	12.00	163	6.417	98	3.858	115	4.528
11.40	.4488		860.1-1140-098A1-PM	☆	12.00	163	6.417	98	3.858	115	4.528
11.50	.4528		860.1-1150-098A1-PM	☆	12.00	163	6.417	98	3.858	116	4.567
11.70	.4606		860.1-1170-098A1-PM	☆	12.00	163	6.417	98	3.858	116	4.567
11.80	.4646		860.1-1180-098A1-PM	☆	12.00	163	6.417	98	3.858	116	4.567
11.90	.4685		860.1-1190-098A1-PM	☆	12.00	163	6.417	98	3.858	116	4.567
12.00	.4724		860.1-1200-098A1-PM	☆	12.00	163	6.417	98	3.858	116	4.567
12.10	.4764	M14 72%	860.1-1210-115A1-PM	☆	14.00	182	7.165	115	4.528	133	5.236
12.20	.4803	M14 65%	860.1-1220-115A1-PM	☆	14.00	182	7.165	115	4.528	133	5.236
12.30	.4843		860.1-1230-115A1-PM	☆	14.00	182	7.165	115	4.528	133	5.236
12.40	.4882		860.1-1240-115A1-PM	☆	14.00	182	7.165	115	4.528	133	5.236
12.50	.4921		860.1-1250-115A1-PM	☆	14.00	182	7.165	115	4.528	133	5.236
12.70	.5000		860.1-1270-115A1-PM	☆	14.00	182	7.165	115	4.528	134	5.276
12.80	.5039		860.1-1280-115A1-PM	☆	14.00	182	7.165	115	4.528	134	5.276
13.00	.5118		860.1-1300-115A1-PM	☆	14.00	182	7.165	115	4.528	134	5.276
13.10	.5157		860.1-1310-115A1-PM	☆	14.00	182	7.165	115	4.528	134	5.276
13.25	.5217		860.1-1325-115A1-PM	☆	14.00	182	7.165	115	4.528	134	5.276
13.50	.5315	5/8-11 UNC	860.1-1350-115A1-PM	☆	14.00	182	7.165	115	4.528	134	5.276
13.80	.5433		860.1-1380-115A1-PM	☆	14.00	182	7.165	115	4.528	134	5.276
14.00	.5512		860.1-1400-115A1-PM	☆	14.00	182	7.165	115	4.528	134	5.276
16.00	.6299		860.1-1600-133A1-PM	☆	16.00	204	8.031	133	5.236	154	6.063

E136 J4

CoroDrill® 860 3 x D_c Chamfer drill for tap-size holes

Cylindrical shank



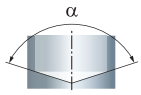
Drill diameter: 3.35-17.50 mm (.132-.689 inch)

Max hole depth: 3 × D_c

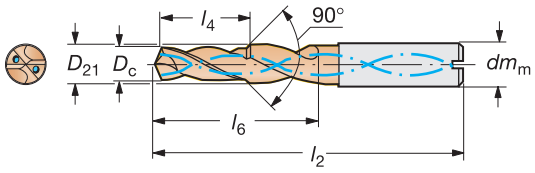
Hole tolerance: H8 - H9 / IT8 - IT9[3)]
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m = h6
D_c = m7

D_c	α
4.00	139°
8.00	143°
16.00	144°



Internal coolant supply



[3)] IT = International Tolerance. Definition of tolerance width, not position.

l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	Internal coolant supply Ordering code	P GC 4234	Dimensions, millimeter, inch (mm, in.) dm_m mm	D_{21} max	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
3.35	.1319	M4 75%	860.2-0335-011A1-PM	☆	6.00	4.5	74	2.913	11	.433	17.0	.669
3.40	.1339	M4 65%	860.2-0340-011A1-PM	☆	6.00	4.6	74	2.913	11	.433	17.0	.669
3.70	.1457	M4x0.7[1)]	860.2-0370-012A1-PM	☆	6.00	5.0	74	2.913	12	.472	19.0	.748
4.25	.1673	M5 75%	860.2-0425-013A1-PM	☆	6.00	5.7	74	2.913	13	.512	21.0	.827
4.30	.1693		860.2-0430-013A1-PM	☆	6.00	5.8	74	2.913	13	.512	21.0	.827
4.65	.1831	M5x0.8[1)]	860.2-0465-014A1-PM	☆	6.00	5.9	74	2.913	14	.551	23.0	.906
5.00	.1969	M6 75%	860.2-0500-015A1-PM	☆	8.00	6.8	79	3.110	15	.591	25.0	.984
5.10	.2008	M6 & 1/4-20 UNC	860.2-0510-016A1-PM	☆	8.00	6.9	79	3.110	16	.630	26.0	1.024
5.30	.2087	MF6x0.75	860.2-0530-016A1-PM	☆	8.00	7.2	79	3.110	16	.630	26.0	1.024
5.50	.2165	MF6x0.5[2)]	860.2-0550-017A1-PM	☆	8.00	7.4	79	3.110	17	.669	27.0	1.063
5.55	.2185	M6x1.0[2)]	860.2-0555-017A1-PM	☆	8.00	7.5	79	3.110	17	.669	28.0	1.102
6.60	.2598	5/16-18 UNC	860.2-0660-020A1-PM	☆	10.00	8.9	89	3.504	20	.787	32.0	1.260
6.75	.2657	M8x1.25[2)]	860.2-0675-021A1-PM	☆	10.00	9.1	89	3.504	21	.827	33.0	1.299
6.85	.2697	M8 70%	860.2-0685-021A1-PM	☆	10.00	9.2	89	3.504	21	.827	33.0	1.299
6.90	.2717	M8 65%	860.2-0690-021A1-PM	☆	10.00	9.3	89	3.504	21	.827	34.0	1.339
7.00	.2756	MF8x1.0	860.2-0700-021A1-PM	☆	10.00	9.5	89	3.504	21	.827	34.0	1.339
7.25	.2854	MF8x0.75[2)]	860.2-0725-022A1-PM	☆	10.00	9.5	89	3.504	22	.866	35.0	1.378
7.40	.2913	M8x1.25[1)]	860.2-0740-022A1-PM	☆	10.00	9.8	89	3.504	22	.866	35.0	1.378
8.00	.3150	3/8-16 UNC	860.2-0800-024A1-PM	☆	12.00	10.8	102	4.016	24	.945	38.0	1.496
8.50	.3346	M10[2)]	860.2-0850-026A1-PM	☆	12.00	11.5	102	4.016	26	1.024	41.0	1.614
8.60	.3386	M10 70%	860.2-0860-026A1-PM	☆	12.00	11.6	102	4.016	26	1.024	41.0	1.614
8.70	.3425	M10 65%	860.2-0870-026A1-PM	☆	12.00	11.7	102	4.016	26	1.024	41.0	1.614
9.00	.3543	MF10x1.0	860.2-0900-027A1-PM	☆	12.00	11.8	102	4.016	27	1.063	42.0	1.654
9.25	.3642	M10x0.75	860.2-0925-028A1-PM	☆	14.00	12.5	112	4.409	28	1.102	43.0	1.693
9.30	.3661	M10x1.5[1)]	860.2-0930-028A1-PM	☆	14.00	12.6	112	4.409	28	1.102	43.0	1.693
10.25	.4035	M12x0.75[2)]	860.2-1025-031A1-PM	☆	14.00	13.8	112	4.409	31	1.220	47.0	1.850
10.30	.4055	M12 75%	860.2-1030-031A1-PM	☆	14.00	13.8	112	4.409	31	1.220	47.0	1.850
10.40	.4094	M12 65%	860.2-1040-031A1-PM	☆	14.00	13.8	112	4.409	31	1.220	48.0	1.890
10.50	.4134	MF12x1.5	860.2-1050-032A1-PM	☆	14.00	13.8	112	4.409	32	1.260	49.0	1.929
10.80	.4252	MF12x1.25	860.2-1080-033A1-PM	☆	16.00	14.6	124	4.882	33	1.299	50.0	1.968
11.00	.4331	MF12x1.0[2)]	860.2-1100-033A1-PM	☆	16.00	14.9	124	4.882	33	1.299	50.0	1.968
11.20	.4409	M12x0.75[1)]	860.2-1120-034A1-PM	☆	16.00	15.1	124	4.882	34	1.339	51.0	2.008
11.50	.4528	1/2-20 UNF	860.2-1150-035A1-PM	☆	16.00	15.1	124	4.882	35	1.378	53.0	2.087
12.00	.4724	M14x2.0[2)]	860.2-1200-036A1-PM	☆	16.00	15.8	124	4.882	36	1.417	54.0	2.126
12.10	.4764	M14 72%	860.2-1210-037A1-PM	☆	18.00	16.3	124	4.882	37	1.457	55.0	2.165
12.25	.4823	M14 & 9/16-12 UNC	860.2-1225-037A1-PM	☆	18.00	16.3	124	4.882	37	1.457	55.0	2.165
12.50	.4921	MF14x1.5	860.2-1250-038A1-PM	☆	18.00	16.9	124	4.882	38	1.496	56.0	2.205
13.50	.5315	5/8-11 UNC	860.2-1350-041A1-PM	☆	18.00	17.8	131	5.158	41	1.614	60.0	2.362
14.00	.5512	M16x2.0[2)]	860.2-1400-042A1-PM	☆	20.00	18.9	142	5.591	42	1.654	62.0	2.441
14.10	.5551	M16 75%	860.2-1410-043A1-PM	☆	20.00	19.0	142	5.591	43	1.693	63.0	2.480
14.25	.5610	M16 66%	860.2-1425-043A1-PM	☆	20.00	19.2	142	5.591	43	1.693	63.0	2.480
14.50	.5709	MF16x1.5	860.2-1450-044A1-PM	☆	20.00	19.6	142	5.591	44	1.732	64.0	2.520
15.00	.5906	MF16x1.0	860.2-1500-045A1-PM	☆	20.00	19.6	142	5.591	45	1.772	65.0	2.559
15.10	.5945	M16x2.0[1)]	860.2-1510-046A1-PM	☆	20.00	19.6	142	5.591	46	1.811	66.0	2.598
15.50	.6102	M18 75%	860.2-1550-047A1-PM	☆	20.00	19.6	142	5.591	47	1.850	68.0	2.677
16.50	.6496	3/4-10 UNC	860.2-1650-050A1-PM	☆	20.00	19.6	153	6.024	50	1.968	71.0	2.795
17.50	.6890	3/4-16 UNC	860.2-1750-053A1-PM	☆	20.00	19.6	153	6.024	53	2.087	75.0	2.953

[1)] Rolled
[2)] Thread milling

E136 J4

SANDVIK Coromant

CoroDrill® 860 2 – 3 x D_c with external coolant supply

Cylindrical shank

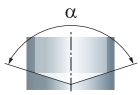


Drill diameter: 3.00-20.00 mm (.118-.787 inch)
Max hole depth: 2 - 3 × D_c

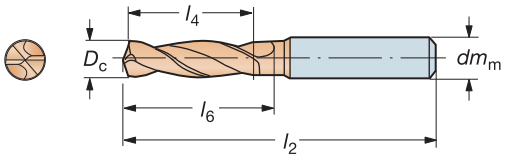
Hole tolerance: H8 - H9 / IT8 - IT9[1)]
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

D_c	α
4.00	139°
8.00	143°
16.00	144°



External coolant supply



[1)] IT = International Tolerance. Definition of tolerance width, not position.

l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	External coolant supply Ordering code	P GC 4234	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
3.00	.1181		860.1-0300-016A0-PM	☆	6.00	62	2.441	16	.630	21	.827
3.10	.1220		860.1-0310-016A0-PM	☆	6.00	62	2.441	16	.630	21	.827
3.20	.1260		860.1-0320-016A0-PM	☆	6.00	62	2.441	16	.630	21	.827
3.30	.1299		860.1-0330-016A0-PM	☆	6.00	62	2.441	16	.630	22	.866
3.40	.1339	M4 65%	860.1-0340-016A0-PM	☆	6.00	62	2.441	16	.630	22	.866
3.50	.1378		860.1-0350-016A0-PM	☆	6.00	62	2.441	16	.630	22	.866
3.60	.1417		860.1-0360-016A0-PM	☆	6.00	62	2.441	16	.630	22	.866
3.70	.1457		860.1-0370-016A0-PM	☆	6.00	62	2.441	16	.630	23	.906
3.80	.1496		860.1-0380-018A0-PM	☆	6.00	66	2.598	18	.709	25	.984
3.90	.1535	10-24 UNC	860.1-0390-018A0-PM	☆	6.00	66	2.598	18	.709	25	.984
4.00	.1575		860.1-0400-018A0-PM	☆	6.00	66	2.598	18	.709	25	.984
4.10	.1614	10-32 UNF	860.1-0410-018A0-PM	☆	6.00	66	2.598	18	.709	26	1.024
4.20	.1654		860.1-0420-018A0-PM	☆	6.00	66	2.598	18	.709	26	1.024
4.30	.1693	M5 65%	860.1-0430-018A0-PM	☆	6.00	66	2.598	18	.709	26	1.024
4.40	.1732		860.1-0440-018A0-PM	☆	6.00	66	2.598	18	.709	26	1.024
4.50	.1772		860.1-0450-018A0-PM	☆	6.00	66	2.598	18	.709	27	1.063
4.60	.1811		860.1-0460-018A0-PM	☆	6.00	66	2.598	18	.709	27	1.063
4.70	.1850		860.1-0470-018A0-PM	☆	6.00	66	2.598	18	.709	27	1.063
4.80	.1890	12-32 UNF	860.1-0480-019A0-PM	☆	6.00	74	2.913	19	.748	28	1.102
4.90	.1929		860.1-0490-019A0-PM	☆	6.00	74	2.913	19	.748	28	1.102
5.00	.1969	M6 75%	860.1-0500-019A0-PM	☆	6.00	74	2.913	19	.748	29	1.142
5.10	.2008	M6 65%	860.1-0510-019A0-PM	☆	6.00	74	2.913	19	.748	29	1.142
5.20	.2047		860.1-0520-019A0-PM	☆	6.00	74	2.913	19	.748	29	1.142
5.30	.2087		860.1-0530-019A0-PM	☆	6.00	74	2.913	19	.748	29	1.142
5.40	.2126		860.1-0540-019A0-PM	☆	6.00	74	2.913	19	.748	29	1.142
5.50	.2165		860.1-0550-019A0-PM	☆	6.00	74	2.913	19	.748	29	1.142
5.60	.2205		860.1-0560-019A0-PM	☆	6.00	74	2.913	19	.748	30	1.181
5.70	.2244		860.1-0570-019A0-PM	☆	6.00	74	2.913	19	.748	30	1.181
5.80	.2283		860.1-0580-019A0-PM	☆	6.00	74	2.913	19	.748	30	1.181
5.90	.2323		860.1-0590-019A0-PM	☆	6.00	74	2.913	19	.748	30	1.181
6.00	.2362		860.1-0600-019A0-PM	☆	6.00	74	2.913	19	.748	30	1.181
6.10	.2402		860.1-0610-024A0-PM	☆	8.00	79	3.110	24	.945	35	1.378
6.20	.2441		860.1-0620-024A0-PM	☆	8.00	79	3.110	24	.945	36	1.417
6.30	.2480		860.1-0630-024A0-PM	☆	8.00	79	3.110	24	.945	36	1.417
6.40	.2520		860.1-0640-024A0-PM	☆	8.00	79	3.110	24	.945	36	1.417
6.50	.2559		860.1-0650-024A0-PM	☆	8.00	79	3.110	24	.945	36	1.417
6.60	.2598		860.1-0660-024A0-PM	☆	8.00	79	3.110	24	.945	36	1.417
6.70	.2638	5/16-18 UNC	860.1-0670-024A0-PM	☆	8.00	79	3.110	24	.945	36	1.417
6.80	.2677		860.1-0680-024A0-PM	☆	8.00	79	3.110	24	.945	36	1.417
6.90	.2717	M8 65%	860.1-0690-024A0-PM	☆	8.00	79	3.110	24	.945	37	1.457
7.00	.2756	5/18-16 UNF	860.1-0700-024A0-PM	☆	8.00	79	3.110	24	.945	37	1.457

E136 J4

CoroDrill® 860 2 – 3 x D_c with external coolant supply

Cylindrical shank

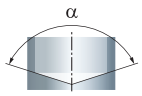


Drill diameter: 3.00-20.00 mm (.118-.787 inch)
Max hole depth: 2 - 3 × D_c

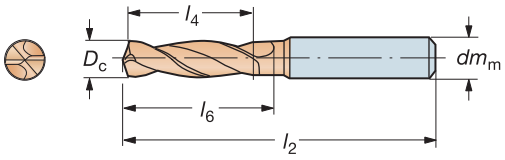
Hole tolerance: H8 - H9 / IT8 - IT9[1)]
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

D_c	α
4.00	139°
8.00	143°
16.00	144°



External coolant supply



[1)] IT = International Tolerance. Definition of tolerance width, not position.

l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	External coolant supply Ordering code	P GC 4234	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
7.10	.2795	MF8x1	860.1-0710-028A0-PM	☆	8.00	79	3.110	28	1.102	41	1.614
7.20	.2835		860.1-0720-028A0-PM	☆	8.00	79	3.110	28	1.102	41	1.614
7.30	.2874		860.1-0730-028A0-PM	☆	8.00	79	3.110	28	1.102	41	1.614
7.40	.2913		860.1-0740-028A0-PM	☆	8.00	79	3.110	28	1.102	41	1.614
7.50	.2953		860.1-0750-028A0-PM	☆	8.00	79	3.110	28	1.102	41	1.614
7.60	.2992		860.1-0760-028A0-PM	☆	8.00	79	3.110	28	1.102	41	1.614
7.70	.3031		860.1-0770-028A0-PM	☆	8.00	79	3.110	28	1.102	42	1.654
7.80	.3071		860.1-0780-028A0-PM	☆	8.00	79	3.110	28	1.102	42	1.654
7.90	.3110		860.1-0790-028A0-PM	☆	8.00	79	3.110	28	1.102	42	1.654
8.00	.3150		860.1-0800-028A0-PM	☆	8.00	79	3.110	28	1.102	42	1.654
8.10	.3189		860.1-0810-031A0-PM	☆	10.00	89	3.504	31	1.220	45	1.772
8.20	.3228		860.1-0820-031A0-PM	☆	10.00	89	3.504	31	1.220	45	1.772
8.30	.3268		860.1-0830-031A0-PM	☆	10.00	89	3.504	31	1.220	45	1.772
8.40	.3307		860.1-0840-031A0-PM	☆	10.00	89	3.504	31	1.220	45	1.772
8.50	.3346		860.1-0850-031A0-PM	☆	10.00	89	3.504	31	1.220	46	1.811
8.60	.3386	M10 70%	860.1-0860-031A0-PM	☆	10.00	89	3.504	31	1.220	46	1.811
8.70	.3425	M10 65%	860.1-0870-031A0-PM	☆	10.00	89	3.504	31	1.220	46	1.811
8.80	.3465		860.1-0880-031A0-PM	☆	10.00	89	3.504	31	1.220	46	1.811
9.00	.3543		860.1-0900-031A0-PM	☆	10.00	89	3.504	31	1.220	46	1.811
9.10	.3583		860.1-0910-031A0-PM	☆	10.00	89	3.504	31	1.220	46	1.811
9.20	.3622		860.1-0920-031A0-PM	☆	10.00	89	3.504	31	1.220	46	1.811
9.30	.3661		860.1-0930-031A0-PM	☆	10.00	89	3.504	31	1.220	46	1.811
9.40	.3701		860.1-0940-031A0-PM	☆	10.00	89	3.504	31	1.220	47	1.850
9.50	.3740		860.1-0950-031A0-PM	☆	10.00	89	3.504	31	1.220	47	1.850
9.60	.3780		860.1-0960-031A0-PM	☆	10.00	89	3.504	31	1.220	47	1.850
9.70	.3819		860.1-0970-031A0-PM	☆	10.00	89	3.504	31	1.220	47	1.850
9.80	.3858		860.1-0980-031A0-PM	☆	10.00	89	3.504	31	1.220	47	1.850
9.90	.3898		860.1-0990-031A0-PM	☆	10.00	89	3.504	31	1.220	47	1.850
10.00	.3937	7/16-20 UNF	860.1-1000-031A0-PM	☆	10.00	89	3.504	31	1.220	47	1.850
10.10	.3976		860.1-1010-037A0-PM	☆	12.00	102	4.016	37	1.457	53	2.087
10.20	.4016		860.1-1020-037A0-PM	☆	12.00	102	4.016	37	1.457	53	2.087
10.30	.4055	M12 75%	860.1-1030-037A0-PM	☆	12.00	102	4.016	37	1.457	53	2.087
10.40	.4094	M12 70%	860.1-1040-037A0-PM	☆	12.00	102	4.016	37	1.457	54	2.126
10.50	.4134		860.1-1050-037A0-PM	☆	12.00	102	4.016	37	1.457	54	2.126
10.60	.4173		860.1-1060-037A0-PM	☆	12.00	102	4.016	37	1.457	54	2.126
10.70	.4213	MF12x1.5	860.1-1070-037A0-PM	☆	12.00	102	4.016	37	1.457	54	2.126
10.80	.4252		860.1-1080-037A0-PM	☆	12.00	102	4.016	37	1.457	54	2.126
10.90	.4291		860.1-1090-037A0-PM	☆	12.00	102	4.016	37	1.457	54	2.126
11.00	.4331	1/2-13 UNC	860.1-1100-037A0-PM	☆	12.00	102	4.016	37	1.457	54	2.126
11.10	.4370		860.1-1110-037A0-PM	☆	12.00	102	4.016	37	1.457	54	2.126
11.20	.4409		860.1-1120-037A0-PM	☆	12.00	102	4.016	37	1.457	54	2.126
11.50	.4528		860.1-1150-037A0-PM	☆	12.00	102	4.016	37	1.457	55	2.165

E136 J4

CoroDrill® 860 2 – 3 x D_c with external coolant supply

Cylindrical shank

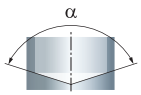


Drill diameter: 3.00-20.00 mm (.118-.787 inch)
Max hole depth: 2 - 3 × D_c

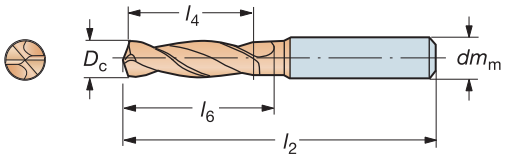
Hole tolerance: H8 - H9 / IT8 - IT9[1)]
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

D_c	α
4.00	139°
8.00	143°
16.00	144°



External coolant supply



[1)] IT = International Tolerance. Definition of tolerance width, not position.

l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	External coolant supply Ordering code	P GC 4234	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
11.60	.4567	1/2-20 UNF	860.1-1160-037A0-PM	☆	12.00	102	4.016	37	1.457	55	2.165
11.70	.4606		860.1-1170-037A0-PM	☆	12.00	102	4.016	37	1.457	55	2.165
11.80	.4646		860.1-1180-037A0-PM	☆	12.00	102	4.016	37	1.457	55	2.165
12.00	.4724		860.1-1200-037A0-PM	☆	12.00	102	4.016	37	1.457	55	2.165
12.10	.4764	M14 72%	860.1-1210-040A0-PM	☆	14.00	107	4.213	40	1.575	58	2.284
12.20	.4803	M14 65%	860.1-1220-040A0-PM	☆	14.00	107	4.213	40	1.575	58	2.284
12.30	.4843		860.1-1230-040A0-PM	☆	14.00	107	4.213	40	1.575	58	2.284
12.40	.4882		860.1-1240-040A0-PM	☆	14.00	107	4.213	40	1.575	58	2.284
12.50	.4921		860.1-1250-040A0-PM	☆	14.00	107	4.213	40	1.575	58	2.284
12.60	.4961		860.1-1260-040A0-PM	☆	14.00	107	4.213	40	1.575	59	2.323
12.70	.5000		860.1-1270-040A0-PM	☆	14.00	107	4.213	40	1.575	59	2.323
12.80	.5039		860.1-1280-040A0-PM	☆	14.00	107	4.213	40	1.575	59	2.323
13.00	.5118		860.1-1300-040A0-PM	☆	14.00	107	4.213	40	1.575	59	2.323
13.50	.5315	5/8-11 UNC	860.1-1350-040A0-PM	☆	14.00	107	4.213	40	1.575	59	2.323
13.80	.5433		860.1-1380-040A0-PM	☆	14.00	107	4.213	40	1.575	59	2.323
14.00	.5512		860.1-1400-040A0-PM	☆	14.00	107	4.213	40	1.575	60	2.362
14.25	.5610	M16 66%	860.1-1425-044A0-PM	☆	16.00	115	4.528	44	1.732	64	2.520
14.50	.5709		860.1-1450-044A0-PM	☆	16.00	115	4.528	44	1.732	64	2.520
15.00	.5906		860.1-1500-044A0-PM	☆	16.00	115	4.528	44	1.732	64	2.520
15.50	.6102	M18 76%	860.1-1550-044A0-PM	☆	16.00	115	4.528	44	1.732	65	2.559
15.80	.6220		860.1-1580-044A0-PM	☆	16.00	115	4.528	44	1.732	65	2.559
16.00	.6299		860.1-1600-044A0-PM	☆	16.00	115	4.528	44	1.732	65	2.559
16.50	.6496		860.1-1650-050A0-PM	☆	18.00	123	4.842	50	1.968	71	2.795
17.00	.6693		860.1-1700-050A0-PM	☆	18.00	123	4.842	50	1.968	72	2.835
17.50	.6890	M20 76%	860.1-1750-050A0-PM	☆	18.00	123	4.842	50	1.968	72	2.835
18.00	.7087		860.1-1800-050A0-PM	☆	18.00	123	4.842	50	1.968	72	2.835
18.50	.7283		860.1-1850-055A0-PM	☆	20.00	131	5.158	55	2.165	78	3.071
19.00	.7480		860.1-1900-055A0-PM	☆	20.00	131	5.158	55	2.165	78	3.071
20.00	.7874		860.1-2000-055A0-PM	☆	20.00	131	5.158	55	2.165	78	3.071

E136 J4

CoroDrill® 860 4 – 5 x D_c with external coolant supply

Cylindrical shank

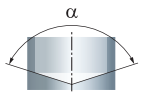


Drill diameter: 3.00-20.00 mm (.118-.787 inch)
Max hole depth: 4 - 5 × D_c

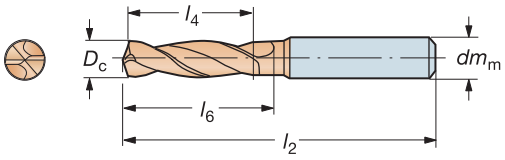
Hole tolerance: H8 - H9 / IT8 - IT9[1)]
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

D_c	α
4.00	139°
8.00	143°
16.00	144°



External coolant supply



[1)] IT = International Tolerance. Definition of tolerance width, not position.

l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	External coolant supply Ordering code	P GC 4234	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
3.00	.1181		860.1-0300-021A0-PM	☆	6.00	66	2.598	21	.827	26	1.024
3.10	.1220		860.1-0310-021A0-PM	☆	6.00	66	2.598	21	.827	26	1.024
3.20	.1260		860.1-0320-021A0-PM	☆	6.00	66	2.598	21	.827	26	1.024
3.30	.1299		860.1-0330-021A0-PM	☆	6.00	66	2.598	21	.827	27	1.063
3.38	.1331	M5	860.1-0338-021A0-PM	☆	6.00	66	2.598	21	.827	27	1.063
3.40	.1339	M4 65%	860.1-0340-021A0-PM	☆	6.00	66	2.598	21	.827	27	1.063
3.50	.1378	8-32 UNC	860.1-0350-021A0-PM	☆	6.00	66	2.598	21	.827	27	1.063
3.60	.1417		860.1-0360-021A0-PM	☆	6.00	66	2.598	21	.827	27	1.063
3.70	.1457		860.1-0370-021A0-PM	☆	6.00	66	2.598	21	.827	28	1.102
3.80	.1496		860.1-0380-027A0-PM	☆	6.00	74	2.913	27	1.063	34	1.339
3.90	.1535	10-24 UNC	860.1-0390-027A0-PM	☆	6.00	74	2.913	27	1.063	34	1.339
4.00	.1575		860.1-0400-027A0-PM	☆	6.00	74	2.913	27	1.063	34	1.339
4.10	.1614	10-32 UNF	860.1-0410-027A0-PM	☆	6.00	74	2.913	27	1.063	35	1.378
4.20	.1654		860.1-0420-027A0-PM	☆	6.00	74	2.913	27	1.063	35	1.378
4.30	.1693	M5 65%	860.1-0430-027A0-PM	☆	6.00	74	2.913	27	1.063	35	1.378
4.40	.1732		860.1-0440-027A0-PM	☆	6.00	74	2.913	27	1.063	35	1.378
4.50	.1772		860.1-0450-027A0-PM	☆	6.00	74	2.913	27	1.063	36	1.417
4.55	.1791	12-24 UNC	860.1-0455-027A0-PM	☆	6.00	74	2.913	27	1.063	36	1.417
4.60	.1811		860.1-0460-027A0-PM	☆	6.00	74	2.913	27	1.063	36	1.417
4.70	.1850		860.1-0470-027A0-PM	☆	6.00	74	2.913	27	1.063	36	1.417
4.80	.1890	12-32 UNF	860.1-0480-037A0-PM	☆	6.00	87	3.425	37	1.457	46	1.811
4.90	.1929		860.1-0490-037A0-PM	☆	6.00	87	3.425	37	1.457	46	1.811
5.00	.1969	M6 75%	860.1-0500-037A0-PM	☆	6.00	87	3.425	37	1.457	47	1.850
5.10	.2008	M6 65%	860.1-0510-037A0-PM	☆	6.00	87	3.425	37	1.457	47	1.850
5.20	.2047		860.1-0520-037A0-PM	☆	6.00	87	3.425	37	1.457	47	1.850
5.30	.2087		860.1-0530-037A0-PM	☆	6.00	87	3.425	37	1.457	47	1.850
5.40	.2126		860.1-0540-037A0-PM	☆	6.00	87	3.425	37	1.457	47	1.850
5.50	.2165		860.1-0550-037A0-PM	☆	6.00	87	3.425	37	1.457	47	1.850
5.60	.2205		860.1-0560-037A0-PM	☆	6.00	87	3.425	37	1.457	48	1.890
5.70	.2244		860.1-0570-037A0-PM	☆	6.00	87	3.425	37	1.457	48	1.890
5.80	.2283		860.1-0580-037A0-PM	☆	6.00	87	3.425	37	1.457	48	1.890
5.90	.2323		860.1-0590-037A0-PM	☆	6.00	87	3.425	37	1.457	48	1.890
6.00	.2362		860.1-0600-037A0-PM	☆	6.00	87	3.425	37	1.457	48	1.890
6.10	.2402		860.1-0610-040A0-PM	☆	8.00	91	3.583	40	1.575	51	2.008
6.20	.2441		860.1-0620-040A0-PM	☆	8.00	91	3.583	40	1.575	52	2.047
6.30	.2480		860.1-0630-040A0-PM	☆	8.00	91	3.583	40	1.575	52	2.047
6.40	.2520		860.1-0640-040A0-PM	☆	8.00	91	3.583	40	1.575	52	2.047
6.50	.2559		860.1-0650-040A0-PM	☆	8.00	91	3.583	40	1.575	52	2.047
6.60	.2598		860.1-0660-040A0-PM	☆	8.00	91	3.583	40	1.575	52	2.047
6.70	.2638	5/16-18 UNF	860.1-0670-040A0-PM	☆	8.00	91	3.583	40	1.575	52	2.047
6.80	.2677		860.1-0680-040A0-PM	☆	8.00	91	3.583	40	1.575	52	2.047

E136 J4

SANDVIK Coromant

CoroDrill® 860 4 – 5 x D_c with external coolant supply

Cylindrical shank

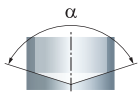


Drill diameter: 3.00-20.00 mm (.118-.787 inch)
Max hole depth: 4 - 5 × D_c

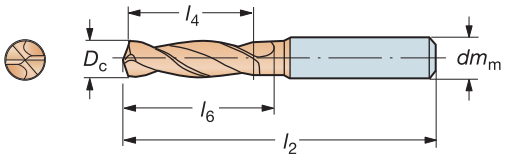
Hole tolerance: H8 - H9 / IT8 - IT9[1)]
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

D_c	α
4.00	139°
8.00	143°
16.00	144°



External coolant supply



[1)] IT = International Tolerance. Definition of tolerance width, not position.

l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	External coolant supply Ordering code	P GC 4234	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
6.90	.2717	M8 65%	860.1-0690-040A0-PM	☆	8.00	91	3.583	40	1.575	53	2.087
7.00	.2756	5/18-16 UNF	860.1-0700-040A0-PM	☆	8.00	91	3.583	40	1.575	53	2.087
7.10	.2795	MF8x1	860.1-0710-040A0-PM	☆	8.00	91	3.583	40	1.575	53	2.087
7.20	.2835		860.1-0720-040A0-PM	☆	8.00	91	3.583	40	1.575	53	2.087
7.30	.2874		860.1-0730-040A0-PM	☆	8.00	91	3.583	40	1.575	53	2.087
7.40	.2913		860.1-0740-040A0-PM	☆	8.00	91	3.583	40	1.575	53	2.087
7.50	.2953		860.1-0750-040A0-PM	☆	8.00	91	3.583	40	1.575	53	2.087
7.70	.3031		860.1-0770-040A0-PM	☆	8.00	91	3.583	40	1.575	54	2.126
7.80	.3071		860.1-0780-040A0-PM	☆	8.00	91	3.583	40	1.575	54	2.126
7.90	.3110		860.1-0790-040A0-PM	☆	8.00	91	3.583	40	1.575	54	2.126
8.00	.3150		860.1-0800-040A0-PM	☆	8.00	91	3.583	40	1.575	54	2.126
8.10	.3189		860.1-0810-045A0-PM	☆	10.00	103	4.055	45	1.772	59	2.323
8.10	.3189		860.1-0820-045A0-PM	☆	10.00	103	4.055	45	1.772	59	2.323
8.30	.3268		860.1-0830-045A0-PM	☆	10.00	103	4.055	45	1.772	59	2.323
8.40	.3307		860.1-0840-045A0-PM	☆	10.00	103	4.055	45	1.772	59	2.323
8.50	.3346		860.1-0850-045A0-PM	☆	10.00	103	4.055	45	1.772	60	2.362
8.60	.3386	M10 70%	860.1-0860-045A0-PM	☆	10.00	103	4.055	45	1.772	60	2.362
8.70	.3425	M10 65%	860.1-0870-045A0-PM	☆	10.00	103	4.055	45	1.772	60	2.362
8.80	.3465		860.1-0880-045A0-PM	☆	10.00	103	4.055	45	1.772	60	2.362
9.00	.3543		860.1-0900-045A0-PM	☆	10.00	103	4.055	45	1.772	60	2.362
9.20	.3622		860.1-0920-045A0-PM	☆	10.00	103	4.055	45	1.772	60	2.362
9.30	.3661		860.1-0930-045A0-PM	☆	10.00	103	4.055	45	1.772	60	2.362
9.50	.3740		860.1-0950-045A0-PM	☆	10.00	103	4.055	45	1.772	61	2.402
9.60	.3780		860.1-0960-045A0-PM	☆	10.00	103	4.055	45	1.772	61	2.402
9.70	.3819		860.1-0970-045A0-PM	☆	10.00	103	4.055	45	1.772	61	2.402
9.80	.3858		860.1-0980-045A0-PM	☆	10.00	103	4.055	45	1.772	61	2.402
9.90	.3898		860.1-0990-045A0-PM	☆	10.00	103	4.055	45	1.772	61	2.402
10.00	.3937	7/16-20 UNF	860.1-1000-045A0-PM	☆	10.00	103	4.055	45	1.772	61	2.402
10.10	.3976		860.1-1010-053A0-PM	☆	12.00	118	4.646	53	2.087	69	2.716
10.20	.4016		860.1-1020-053A0-PM	☆	12.00	118	4.646	53	2.087	69	2.716
10.30	.4055	M12 75%	860.1-1030-053A0-PM	☆	12.00	118	4.646	53	2.087	69	2.716
10.40	.4094	M12 70%	860.1-1040-053A0-PM	☆	12.00	118	4.646	53	2.087	70	2.756
10.50	.4134		860.1-1050-053A0-PM	☆	12.00	118	4.646	53	2.087	70	2.756
10.60	.4173		860.1-1060-053A0-PM	☆	12.00	118	4.646	53	2.087	70	2.756
10.70	.4213	MF12x1,5	860.1-1070-053A0-PM	☆	12.00	118	4.646	53	2.087	70	2.756
10.80	.4252		860.1-1080-053A0-PM	☆	12.00	118	4.646	53	2.087	70	2.756
11.00	.4331	1/2-13 UNC	860.1-1100-053A0-PM	☆	12.00	118	4.646	53	2.087	70	2.756
11.10	.4370		860.1-1110-053A0-PM	☆	12.00	118	4.646	53	2.087	70	2.756
11.20	.4409		860.1-1120-053A0-PM	☆	12.00	118	4.646	53	2.087	70	2.756
11.50	.4528		860.1-1150-053A0-PM	☆	12.00	118	4.646	53	2.087	71	2.795
11.70	.4606		860.1-1170-053A0-PM	☆	12.00	118	4.646	53	2.087	71	2.795
11.80	.4646		860.1-1180-053A0-PM	☆	12.00	118	4.646	53	2.087	71	2.795

E136 J4

CoroDrill® 860 4 – 5 x D_c with external coolant supply

Cylindrical shank

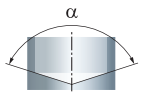


Drill diameter: 3.00-20.00 mm (.118-.787 inch)
Max hole depth: 4 - 5 × D_c

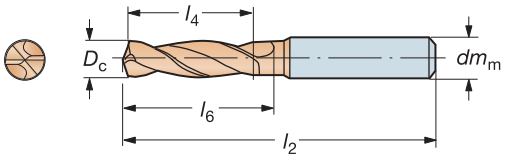
Hole tolerance: H8 - H9 / IT8 - IT9[1)]
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

D_c	α
4.00	139°
8.00	143°
16.00	144°



External coolant supply



[1)] IT = International Tolerance. Definition of tolerance width, not position.

l_4 = recommended drilling depth

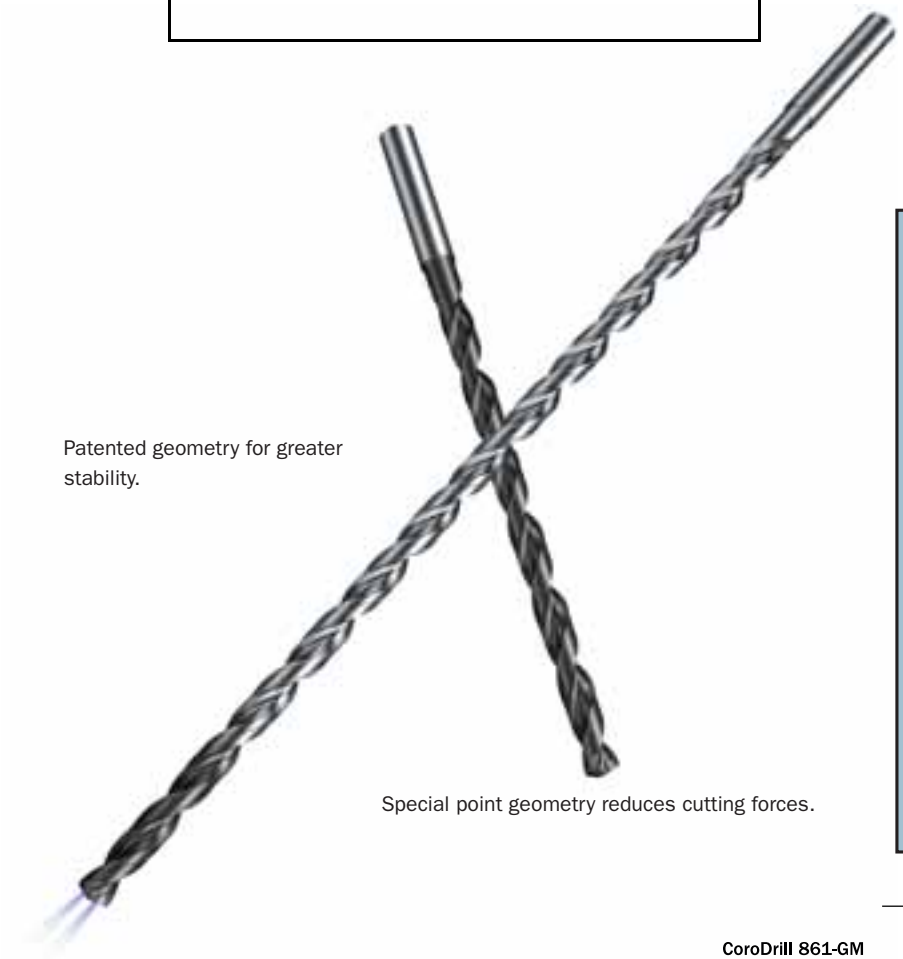
D_c mm	D_c inch	Thread size	External coolant supply Ordering code	P GC 4234	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
12.00	.4724		860.1-1200-053A0-PM	☆	12.00	118	4.646	53	2.087	71	2.795
12.10	.4764	M14 72%	860.1-1210-057A0-PM	☆	14.00	124	4.882	57	2.244	75	2.953
12.20	.4803	M14 65%	860.1-1220-057A0-PM	☆	14.00	124	4.882	57	2.244	75	2.953
12.30	.4843		860.1-1230-057A0-PM	☆	14.00	124	4.882	57	2.244	75	2.953
12.50	.4921		860.1-1250-057A0-PM	☆	14.00	124	4.882	57	2.244	75	2.953
12.60	.4961		860.1-1260-057A0-PM	☆	14.00	124	4.882	57	2.244	76	2.992
12.70	.5000		860.1-1270-057A0-PM	☆	14.00	124	4.882	57	2.244	76	2.992
13.00	.5118		860.1-1300-057A0-PM	☆	14.00	124	4.882	57	2.244	76	2.992
13.50	.5315	5/8-11 UNC	860.1-1350-057A0-PM	☆	14.00	124	4.882	57	2.244	76	2.992
13.80	.5433		860.1-1380-057A0-PM	☆	14.00	124	4.882	57	2.244	76	2.992
14.00	.5512		860.1-1400-057A0-PM	☆	14.00	124	4.882	57	2.244	77	3.032
14.25	.5610	M16 66%	860.1-1425-062A0-PM	☆	16.00	133	5.236	62	2.441	82	3.228
14.50	.5709		860.1-1450-062A0-PM	☆	16.00	133	5.236	62	2.441	82	3.228
15.00	.5906		860.1-1500-062A0-PM	☆	16.00	133	5.236	62	2.441	82	3.228
15.80	.6220		860.1-1580-062A0-PM	☆	16.00	133	5.236	62	2.441	83	3.268
16.00	.6299		860.1-1600-062A0-PM	☆	16.00	133	5.236	62	2.441	83	3.268
16.50	.6496		860.1-1650-070A0-PM	☆	18.00	143	5.630	70	2.756	91	3.583
17.00	.6693		860.1-1700-070A0-PM	☆	18.00	143	5.630	70	2.756	92	3.622
17.50	.6890	M20 76%	860.1-1750-070A0-PM	☆	18.00	143	5.630	70	2.756	92	3.622
18.00	.7087		860.1-1800-070A0-PM	☆	18.00	143	5.630	70	2.756	92	3.622
20.00	.7874		860.1-2000-077A0-PM	☆	20.00	153	6.024	77	3.032	100	3.937

E136 J4

CoroDrill® 861

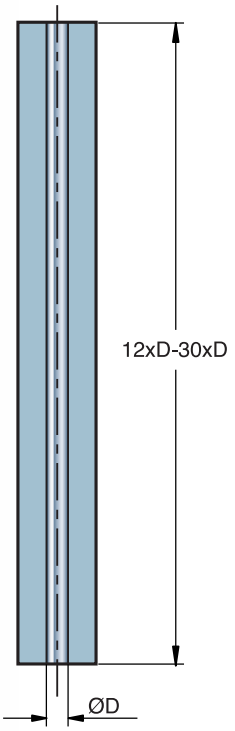
Solid carbide drills

For deep holes 12 – 30 x D_c



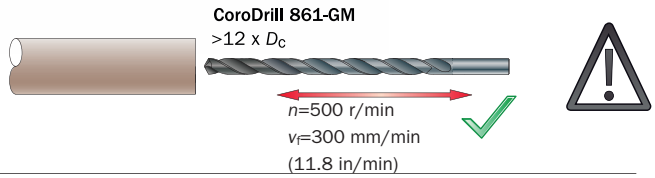
Patented geometry for greater stability.

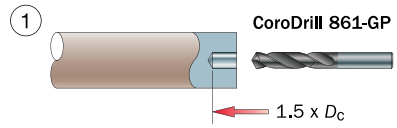
Special point geometry reduces cutting forces.

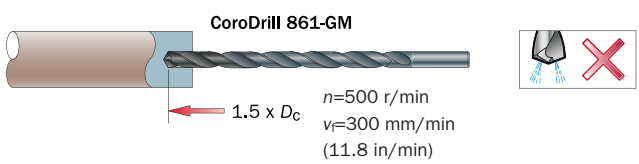


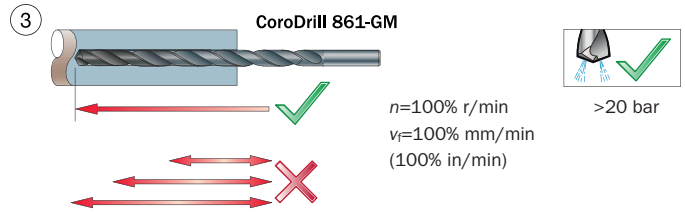
Highly accurate deep holes.

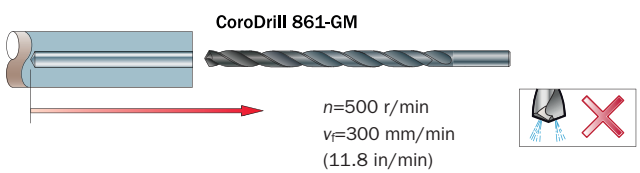
Drilling strategy for applying CoroDrill® 861 longer than 12 x D_c.











Grades: ISO application areas:

Optimized P M K N

CoroDrill® 861 3 x D_c

Pilot



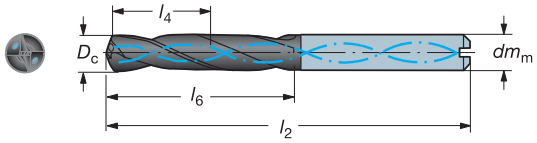
Drill diameter: 3.00-12.00 mm (.118-.472 inch)
Max hole depth: 3 × D_c

Coating: TiAlN multilayer
Hole tolerance: H8 - H9

Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = p7

Internal coolant supply



CoroDrill 861 pilot drill to be applied before drilling with CoroDrill 861 longer than 12 x D_c.

l_4 = recommended drilling depth

D_c mm	D_c inch	Internal coolant supply Ordering code	P GC GC34	M GC GC34	K GC GC34	N GC GC34	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
3.00	.1181	861.1-0300-009A1-GP	☆	☆	☆	☆	6.00	62	2.441	9	.354	20	.787
3.18	.1252	861.1-0318-010A1-GP	☆	☆	☆	☆	6.00	62	2.441	10	.394	20	.787
3.30	.1299	861.1-0330-010A1-GP	☆	☆	☆	☆	6.00	62	2.441	10	.394	20	.787
3.50	.1378	861.1-0350-011A1-GP	☆	☆	☆	☆	6.00	62	2.441	11	.433	20	.787
3.57	.1406	861.1-0357-011A1-GP	☆	☆	☆	☆	6.00	62	2.441	11	.433	20	.787
3.80	.1496	861.1-0380-011A1-GP	☆	☆	☆	☆	6.00	66	2.598	11	.433	24	.945
3.97	.1563	861.1-0397-012A1-GP	☆	☆	☆	☆	6.00	66	2.598	12	.472	24	.945
4.00	.1575	861.1-0400-012A1-GP	☆	☆	☆	☆	6.00	66	2.598	12	.472	24	.945
4.20	.1654	861.1-0420-013A1-GP	☆	☆	☆	☆	6.00	66	2.598	13	.512	24	.945
4.36	.1717	861.1-0436-013A1-GP	☆	☆	☆	☆	6.00	66	2.598	13	.512	24	.945
4.50	.1772	861.1-0450-014A1-GP	☆	☆	☆	☆	6.00	66	2.598	14	.551	24	.945
4.76	.1874	861.1-0476-014A1-GP	☆	☆	☆	☆	6.00	66	2.598	14	.551	28	1.102
4.80	.1890	861.1-0480-014A1-GP	☆	☆	☆	☆	6.00	66	2.598	14	.551	28	1.102
5.00	.1969	861.1-0500-015A1-GP	☆	☆	☆	☆	6.00	66	2.598	15	.591	28	1.102
5.16	.2031	861.1-0516-015A1-GP	☆	☆	☆	☆	6.00	66	2.598	15	.591	28	1.102
5.50	.2165	861.1-0550-017A1-GP	☆	☆	☆	☆	6.00	66	2.598	17	.669	28	1.102
5.56	.2189	861.1-0556-017A1-GP	☆	☆	☆	☆	6.00	66	2.598	17	.669	28	1.102
5.80	.2283	861.1-0580-017A1-GP	☆	☆	☆	☆	6.00	66	2.598	17	.669	28	1.102
6.00	.2362	861.1-0600-018A1-GP	☆	☆	☆	☆	6.00	66	2.598	18	.709	28	1.102
6.35	.2500	861.1-0635-019A1-GP	☆	☆	☆	☆	8.00	79	3.110	19	.748	34	1.339
6.50	.2559	861.1-0650-020A1-GP	☆	☆	☆	☆	8.00	79	3.110	20	.787	34	1.339
6.75	.2657	861.1-0675-020A1-GP	☆	☆	☆	☆	8.00	79	3.110	20	.787	34	1.339
6.80	.2677	861.1-0680-020A1-GP	☆	☆	☆	☆	8.00	79	3.110	20	.787	34	1.339
7.00	.2756	861.1-0700-021A1-GP	☆	☆	☆	☆	8.00	79	3.110	21	.827	34	1.339
7.14	.2811	861.1-0714-021A1-GP	☆	☆	☆	☆	8.00	79	3.110	21	.827	41	1.614
7.50	.2953	861.1-0750-023A1-GP	☆	☆	☆	☆	8.00	79	3.110	23	.906	41	1.614
7.94	.3126	861.1-0794-024A1-GP	☆	☆	☆	☆	8.00	79	3.110	24	.945	41	1.614
8.00	.3150	861.1-0800-024A1-GP	☆	☆	☆	☆	8.00	79	3.110	24	.945	41	1.614
8.50	.3346	861.1-0850-026A1-GP	☆	☆	☆	☆	10.00	89	3.504	26	1.024	47	1.850
9.00	.3543	861.1-0900-027A1-GP	☆	☆	☆	☆	10.00	89	3.504	27	1.063	47	1.850
9.50	.3740	861.1-0950-029A1-GP	☆	☆	☆	☆	10.00	89	3.504	29	1.142	47	1.850
9.53	.3752	861.1-0953-029A1-GP	☆	☆	☆	☆	10.00	89	3.504	29	1.142	47	1.850
10.00	.3937	861.1-1000-030A1-GP	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
10.50	.4134	861.1-1050-032A1-GP	☆	☆	☆	☆	12.00	102	4.016	32	1.260	55	2.165
11.00	.4331	861.1-1100-033A1-GP	☆	☆	☆	☆	12.00	102	4.016	33	1.299	55	2.165
11.11	.4374	861.1-1111-033A1-GP	☆	☆	☆	☆	12.00	102	4.016	33	1.299	55	2.165
11.50	.4528	861.1-1150-035A1-GP	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
12.00	.4724	861.1-1200-036A1-GP	☆	☆	☆	☆	12.00	102	4.016	36	1.417	55	2.165

E138 J4

CoroDrill® 861 12 x D_c

Cylindrical shank



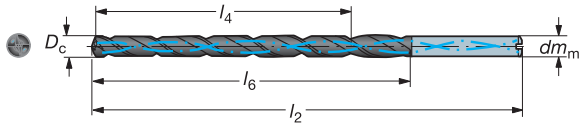
Drill diameter: 3.00-14.00 mm (.118-.551 inch)
Max hole depth: 12 × D_c

Coating: TiAlN multilayer
Hole tolerance: H8 - H9

Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

Internal coolant supply



l_4 = recommended drilling depth

		Internal coolant supply	P	M	K	N	Dimensions, millimeter, inch (mm, in.)						
			GC	GC	GC	GC							
D_c mm	D_c inch	Ordering code	GC34	GC34	GC34	GC34	dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
3.00	.1181	861.1-0300-036A1-GM	☆	☆	☆	☆	6.00	94	3.701	36	1.417	52	2.047
3.10	.1220	861.1-0310-037A1-GM	☆	☆	☆	☆	6.00	94	3.701	37	1.457	52	2.047
3.18	.1252	861.1-0318-038A1-GM	☆	☆	☆	☆	6.00	94	3.701	38	1.496	52	2.047
3.20	.1260	861.1-0320-038A1-GM	☆	☆	☆	☆	6.00	94	3.701	38	1.496	52	2.047
3.30	.1299	861.1-0330-040A1-GM	☆	☆	☆	☆	6.00	94	3.701	40	1.575	52	2.047
3.40	.1339	861.1-0340-041A1-GM	☆	☆	☆	☆	6.00	94	3.701	41	1.614	52	2.047
3.50	.1378	861.1-0350-042A1-GM	☆	☆	☆	☆	6.00	94	3.701	42	1.654	52	2.047
3.57	.1406	861.1-0357-043A1-GM	☆	☆	☆	☆	6.00	94	3.701	43	1.693	52	2.047
3.70	.1457	861.1-0370-044A1-GM	☆	☆	☆	☆	6.00	94	3.701	44	1.732	52	2.047
3.80	.1496	861.1-0380-046A1-GM	☆	☆	☆	☆	6.00	109	4.291	46	1.811	67	2.638
3.97	.1563	861.1-0397-048A1-GM	☆	☆	☆	☆	6.00	109	4.291	48	1.890	67	2.638
4.00	.1575	861.1-0400-048A1-GM	☆	☆	☆	☆	6.00	109	4.291	48	1.890	67	2.638
4.10	.1614	861.1-0410-049A1-GM	☆	☆	☆	☆	6.00	109	4.291	49	1.929	67	2.638
4.20	.1654	861.1-0420-050A1-GM	☆	☆	☆	☆	6.00	109	4.291	50	1.968	67	2.638
4.30	.1693	861.1-0430-052A1-GM	☆	☆	☆	☆	6.00	109	4.291	52	2.047	67	2.638
4.37	.1720	861.1-0437-052A1-GM	☆	☆	☆	☆	6.00	109	4.291	52	2.047	67	2.638
4.50	.1772	861.1-0450-054A1-GM	☆	☆	☆	☆	6.00	109	4.291	54	2.126	67	2.638
4.60	.1811	861.1-0460-055A1-GM	☆	☆	☆	☆	6.00	109	4.291	55	2.165	67	2.638
4.76	.1874	861.1-0476-057A1-GM	☆	☆	☆	☆	6.00	128	5.039	57	2.244	86	3.386
4.80	.1890	861.1-0480-058A1-GM	☆	☆	☆	☆	6.00	128	5.039	58	2.284	86	3.386
5.00	.1969	861.1-0500-060A1-GM	☆	☆	☆	☆	6.00	128	5.039	60	2.362	86	3.386
5.10	.2008	861.1-0510-061A1-GM	☆	☆	☆	☆	6.00	128	5.039	61	2.402	86	3.386
5.16	.2031	861.1-0516-062A1-GM	☆	☆	☆	☆	6.00	128	5.039	62	2.441	86	3.386
5.20	.2047	861.1-0520-062A1-GM	☆	☆	☆	☆	6.00	128	5.039	62	2.441	86	3.386
5.50	.2165	861.1-0550-066A1-GM	☆	☆	☆	☆	6.00	128	5.039	66	2.598	86	3.386
5.56	.2189	861.1-0556-067A1-GM	☆	☆	☆	☆	6.00	128	5.039	67	2.638	86	3.386
5.80	.2283	861.1-0580-070A1-GM	☆	☆	☆	☆	6.00	128	5.039	70	2.756	86	3.386
5.95	.2343	861.1-0595-071A1-GM	☆	☆	☆	☆	6.00	128	5.039	71	2.795	86	3.386
6.00	.2362	861.1-0600-072A1-GM	☆	☆	☆	☆	6.00	128	5.039	72	2.835	86	3.386
6.10	.2402	861.1-0610-073A1-GM	☆	☆	☆	☆	8.00	158	6.220	73	2.874	116	4.567
6.20	.2441	861.1-0620-074A1-GM	☆	☆	☆	☆	8.00	158	6.220	74	2.913	116	4.567
6.30	.2480	861.1-0630-076A1-GM	☆	☆	☆	☆	8.00	158	6.220	76	2.992	116	4.567
6.35	.2500	861.1-0635-076A1-GM	☆	☆	☆	☆	8.00	158	6.220	76	2.992	116	4.567
6.50	.2559	861.1-0650-078A1-GM	☆	☆	☆	☆	8.00	158	6.220	78	3.071	116	4.567
6.60	.2598	861.1-0660-079A1-GM	☆	☆	☆	☆	8.00	158	6.220	79	3.110	116	4.567
6.70	.2638	861.1-0670-080A1-GM	☆	☆	☆	☆	8.00	158	6.220	80	3.150	116	4.567
6.75	.2657	861.1-0675-081A1-GM	☆	☆	☆	☆	8.00	158	6.220	81	3.189	116	4.567
6.80	.2677	861.1-0680-082A1-GM	☆	☆	☆	☆	8.00	158	6.220	82	3.228	116	4.567
6.90	.2717	861.1-0690-083A1-GM	☆	☆	☆	☆	8.00	158	6.220	83	3.268	116	4.567
7.00	.2756	861.1-0700-084A1-GM	☆	☆	☆	☆	8.00	158	6.220	84	3.307	116	4.567
7.14	.2811	861.1-0714-086A1-GM	☆	☆	☆	☆	8.00	158	6.220	86	3.386	116	4.567
7.40	.2913	861.1-0740-089A1-GM	☆	☆	☆	☆	8.00	158	6.220	89	3.504	116	4.567
7.50	.2953	861.1-0750-090A1-GM	☆	☆	☆	☆	8.00	158	6.220	90	3.543	116	4.567
7.54	.2969	861.1-0754-090A1-GM	☆	☆	☆	☆	8.00	158	6.220	90	3.543	116	4.567
7.60	.2992	861.1-0760-091A1-GM	☆	☆	☆	☆	8.00	158	6.220	91	3.583	116	4.567

E142 J4

CoroDrill® 861 12 x D_c

Cylindrical shank



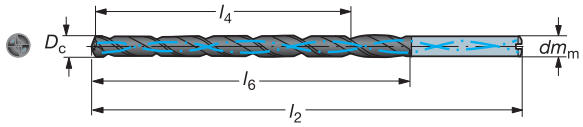
Drill diameter: 3.00-14.00 mm (.118-.551 inch)
Max hole depth: 12 × D_c

Coating: TiAlN multilayer
Hole tolerance: H8 - H9

Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

Internal coolant supply



l_4 = recommended drilling depth

		Internal coolant supply	P	M	K	N	Dimensions, millimeter, inch (mm, in.)						
			GC	GC	GC	GC							
D_c mm	D_c inch	Ordering code	GC34	GC34	GC34	GC34	dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
7.70	.3031	861.1-0770-092A1-GM	☆	☆	☆	☆	8.00	158	6.220	92	3.622	116	4.567
7.80	.3071	861.1-0780-094A1-GM	☆	☆	☆	☆	8.00	158	6.220	94	3.701	116	4.567
7.94	.3126	861.1-0794-095A1-GM	☆	☆	☆	☆	8.00	158	6.220	95	3.740	116	4.567
8.00	.3150	861.1-0800-096A1-GM	☆	☆	☆	☆	8.00	158	6.220	96	3.780	116	4.567
8.10	.3189	861.1-0810-097A1-GM	☆	☆	☆	☆	10.00	192	7.559	97	3.819	146	5.748
8.20	.3228	861.1-0820-098A1-GM	☆	☆	☆	☆	10.00	192	7.559	98	3.858	146	5.748
8.33	.3280	861.1-0833-100A1-GM	☆	☆	☆	☆	10.00	192	7.559	100	3.937	146	5.748
8.40	.3307	861.1-0840-101A1-GM	☆	☆	☆	☆	10.00	192	7.559	101	3.976	146	5.748
8.50	.3346	861.1-0850-102A1-GM	☆	☆	☆	☆	10.00	192	7.559	102	4.016	146	5.748
8.60	.3386	861.1-0860-103A1-GM	☆	☆	☆	☆	10.00	192	7.559	103	4.055	146	5.748
8.70	.3425	861.1-0870-104A1-GM	☆	☆	☆	☆	10.00	192	7.559	104	4.094	146	5.748
8.73	.3437	861.1-0873-105A1-GM	☆	☆	☆	☆	10.00	192	7.559	105	4.134	146	5.748
8.80	.3465	861.1-0880-106A1-GM	☆	☆	☆	☆	10.00	192	7.559	106	4.173	146	5.748
9.00	.3543	861.1-0900-108A1-GM	☆	☆	☆	☆	10.00	192	7.559	108	4.252	146	5.748
9.13	.3594	861.1-0913-110A1-GM	☆	☆	☆	☆	10.00	192	7.559	110	4.331	146	5.748
9.30	.3661	861.1-0930-112A1-GM	☆	☆	☆	☆	10.00	192	7.559	112	4.409	146	5.748
9.50	.3740	861.1-0950-114A1-GM	☆	☆	☆	☆	10.00	192	7.559	114	4.488	146	5.748
9.53	.3752	861.1-0953-114A1-GM	☆	☆	☆	☆	10.00	192	7.559	114	4.488	146	5.748
9.80	.3858	861.1-0980-118A1-GM	☆	☆	☆	☆	10.00	192	7.559	118	4.646	146	5.748
9.92	.3906	861.1-0992-119A1-GM	☆	☆	☆	☆	10.00	192	7.559	119	4.685	146	5.748
10.00	.3937	861.1-1000-120A1-GM	☆	☆	☆	☆	10.00	192	7.559	120	4.724	146	5.748
10.20	.4016	861.1-1020-122A1-GM	☆	☆	☆	☆	12.00	228	8.976	122	4.803	176	6.929
10.30	.4055	861.1-1030-124A1-GM	☆	☆	☆	☆	12.00	228	8.976	124	4.882	176	6.929
10.32	.4063	861.1-1032-124A1-GM	☆	☆	☆	☆	12.00	228	8.976	124	4.882	176	6.929
10.40	.4094	861.1-1040-125A1-GM	☆	☆	☆	☆	12.00	228	8.976	125	4.921	176	6.929
10.50	.4134	861.1-1050-126A1-GM	☆	☆	☆	☆	12.00	228	8.976	126	4.961	176	6.929
10.72	.4220	861.1-1072-129A1-GM	☆	☆	☆	☆	12.00	228	8.976	129	5.079	176	6.929
11.00	.4331	861.1-1100-132A1-GM	☆	☆	☆	☆	12.00	228	8.976	132	5.197	176	6.929
11.11	.4374	861.1-1111-133A1-GM	☆	☆	☆	☆	12.00	228	8.976	133	5.236	176	6.929
11.20	.4409	861.1-1120-134A1-GM	☆	☆	☆	☆	12.00	228	8.976	134	5.276	176	6.929
11.50	.4528	861.1-1150-138A1-GM	☆	☆	☆	☆	12.00	228	8.976	138	5.433	176	6.929
11.51	.4531	861.1-1151-138A1-GM	☆	☆	☆	☆	12.00	228	8.976	138	5.433	176	6.929
11.80	.4646	861.1-1180-142A1-GM	☆	☆	☆	☆	12.00	228	8.976	142	5.591	176	6.929
11.91	.4689	861.1-1191-143A1-GM	☆	☆	☆	☆	12.00	228	8.976	143	5.630	176	6.929
12.00	.4724	861.1-1200-144A1-GM	☆	☆	☆	☆	12.00	228	8.976	144	5.669	176	6.929
12.30	.4843	861.1-1230-148A1-GM	☆	☆	☆	☆	14.00	258	10.158	148	5.827	207	8.150
12.50	.4921	861.1-1250-150A1-GM	☆	☆	☆	☆	14.00	258	10.158	150	5.906	207	8.150
12.70	.5000	861.1-1270-152A1-GM	☆	☆	☆	☆	14.00	258	10.158	152	5.984	207	8.150
12.80	.5039	861.1-1280-154A1-GM	☆	☆	☆	☆	14.00	258	10.158	154	6.063	207	8.150
13.00	.5118	861.1-1300-156A1-GM	☆	☆	☆	☆	14.00	258	10.158	156	6.142	207	8.150
13.10	.5157	861.1-1310-157A1-GM	☆	☆	☆	☆	14.00	258	10.158	157	6.181	207	8.150
13.49	.5311	861.1-1349-162A1-GM	☆	☆	☆	☆	14.00	258	10.158	162	6.378	207	8.150
13.50	.5315	861.1-1350-162A1-GM	☆	☆	☆	☆	14.00	258	10.158	162	6.378	207	8.150
13.89	.5469	861.1-1389-167A1-GM	☆	☆	☆	☆	14.00	258	10.158	167	6.575	207	8.150
14.00	.5512	861.1-1400-168A1-GM	☆	☆	☆	☆	14.00	258	10.158	168	6.614	207	8.150

E142 J4

CoroDrill® 861 15 x D_c

Cylindrical shank



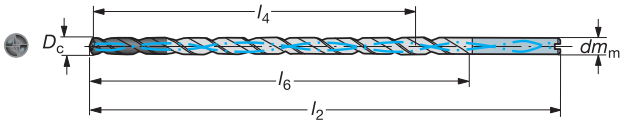
Drill diameter: 3.00-12.00 mm (.118-.472 inch)
Max hole depth: 15 × D_c

Coating: TiAlN multilayer
Hole tolerance: H8 - H9

Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

Internal coolant supply



CoroDrill 861 pilot drill to be applied before drilling with CoroDrill 861 longer than 12 x D_c.

l_4 = recommended drilling depth

		Internal coolant supply	P	M	K	N	Dimensions, millimeter, inch (mm, in.)						
			GC	GC	GC	GC							
D_c mm	D_c inch	Ordering code	GC34	GC34	GC34	GC34	dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
3.00	.1181	861.1-0300-045A1-GM	☆	☆	☆	☆	6.00	96	3.780	45	1.772	54	2.126
3.18	.1252	861.1-0318-048A1-GM	☆	☆	☆	☆	6.00	99	3.898	48	1.890	57	2.244
3.30	.1299	861.1-0330-050A1-GM	☆	☆	☆	☆	6.00	101	3.976	50	1.968	59	2.323
3.50	.1378	861.1-0350-053A1-GM	☆	☆	☆	☆	6.00	105	4.134	53	2.087	63	2.480
3.57	.1406	861.1-0357-054A1-GM	☆	☆	☆	☆	6.00	106	4.173	54	2.126	64	2.520
3.80	.1496	861.1-0380-057A1-GM	☆	☆	☆	☆	6.00	110	4.331	57	2.244	68	2.677
3.97	.1563	861.1-0397-060A1-GM	☆	☆	☆	☆	6.00	113	4.449	60	2.362	71	2.795
4.00	.1575	861.1-0400-060A1-GM	☆	☆	☆	☆	6.00	114	4.488	60	2.362	72	2.835
4.20	.1654	861.1-0420-063A1-GM	☆	☆	☆	☆	6.00	118	4.646	63	2.480	76	2.992
4.37	.1720	861.1-0437-065A1-GM	☆	☆	☆	☆	6.00	121	4.764	65	2.559	79	3.110
4.50	.1772	861.1-0450-068A1-GM	☆	☆	☆	☆	6.00	123	4.842	68	2.677	81	3.189
4.76	.1874	861.1-0476-071A1-GM	☆	☆	☆	☆	6.00	128	5.039	71	2.795	86	3.386
4.80	.1890	861.1-0480-072A1-GM	☆	☆	☆	☆	6.00	128	5.039	72	2.835	86	3.386
5.00	.1969	861.1-0500-075A1-GM	☆	☆	☆	☆	6.00	132	5.197	75	2.953	90	3.543
5.16	.2031	861.1-0516-077A1-GM	☆	☆	☆	☆	6.00	135	5.315	77	3.032	93	3.661
5.50	.2165	861.1-0550-083A1-GM	☆	☆	☆	☆	6.00	141	5.551	83	3.268	99	3.898
5.56	.2189	861.1-0556-083A1-GM	☆	☆	☆	☆	6.00	142	5.591	83	3.268	100	3.937
5.80	.2283	861.1-0580-087A1-GM	☆	☆	☆	☆	6.00	146	5.748	87	3.425	104	4.094
6.00	.2362	861.1-0600-090A1-GM	☆	☆	☆	☆	6.00	150	5.906	90	3.543	108	4.252
6.35	.2500	861.1-0635-095A1-GM	☆	☆	☆	☆	8.00	156	6.142	95	3.740	114	4.488
6.50	.2559	861.1-0650-098A1-GM	☆	☆	☆	☆	8.00	159	6.260	98	3.858	117	4.606
6.75	.2657	861.1-0675-101A1-GM	☆	☆	☆	☆	8.00	163	6.417	101	3.976	121	4.764
6.80	.2677	861.1-0680-102A1-GM	☆	☆	☆	☆	8.00	164	6.457	102	4.016	122	4.803
7.00	.2756	861.1-0700-105A1-GM	☆	☆	☆	☆	8.00	168	6.614	105	4.134	126	4.961
7.14	.2811	861.1-0714-107A1-GM	☆	☆	☆	☆	8.00	171	6.732	107	4.213	129	5.079
7.50	.2953	861.1-0750-113A1-GM	☆	☆	☆	☆	8.00	177	6.968	113	4.449	135	5.315
7.94	.3126	861.1-0794-119A1-GM	☆	☆	☆	☆	8.00	185	7.284	119	4.685	143	5.630
8.00	.3150	861.1-0800-120A1-GM	☆	☆	☆	☆	8.00	186	7.323	120	4.724	144	5.669
8.50	.3346	861.1-0850-128A1-GM	☆	☆	☆	☆	10.00	205	8.071	128	5.039	153	6.024
9.00	.3543	861.1-0900-135A1-GM	☆	☆	☆	☆	10.00	214	8.425	135	5.315	162	6.378
9.50	.3740	861.1-0950-143A1-GM	☆	☆	☆	☆	10.00	223	8.780	143	5.630	171	6.732
9.53	.3752	861.1-0953-143A1-GM	☆	☆	☆	☆	10.00	223	8.780	143	5.630	171	6.732
10.00	.3937	861.1-1000-150A1-GM	☆	☆	☆	☆	10.00	232	9.134	150	5.906	180	7.087
10.50	.4134	861.1-1050-158A1-GM	☆	☆	☆	☆	12.00	241	9.488	158	6.220	189	7.441
11.00	.4331	861.1-1100-165A1-GM	☆	☆	☆	☆	12.00	250	9.842	165	6.496	198	7.795
11.11	.4374	861.1-1111-167A1-GM	☆	☆	☆	☆	12.00	252	9.921	167	6.575	200	7.874
11.50	.4528	861.1-1150-173A1-GM	☆	☆	☆	☆	12.00	259	10.197	173	6.811	207	8.150
12.00	.4724	861.1-1200-180A1-GM	☆	☆	☆	☆	12.00	268	10.551	180	7.087	216	8.504

E142 J4

CoroDrill® 861 20 x D_c

Cylindrical shank



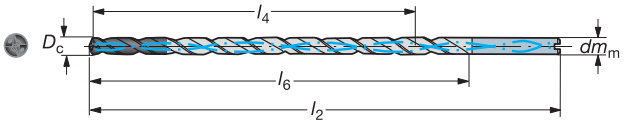
Drill diameter: 3.00-12.00 mm (.118-.472 inch)
Max hole depth: 20 × D_c

Coating: TiAlN multilayer
Hole tolerance: H8 - H9

Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

Internal coolant supply



CoroDrill 861 pilot drill to be applied before drilling with CoroDrill 861 longer than 12 x D_c.

l_4 = recommended drilling depth

D_c mm	D_c inch	Internal coolant supply Ordering code	P GC GC34	M GC GC34	K GC GC34	N GC GC34	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
3.00	.1181	**861.1-0300-060A1-GM**	☆	☆	☆	☆	6.00	111	4.370	60	2.362	69	2.716
3.18	.1252	**861.1-0318-064A1-GM**	☆	☆	☆	☆	6.00	115	4.528	64	2.520	73	2.874
3.30	.1299	**861.1-0330-066A1-GM**	☆	☆	☆	☆	6.00	118	4.646	66	2.598	76	2.992
3.50	.1378	**861.1-0350-070A1-GM**	☆	☆	☆	☆	6.00	122	4.803	70	2.756	80	3.150
3.57	.1406	**861.1-0357-071A1-GM**	☆	☆	☆	☆	6.00	124	4.882	71	2.795	82	3.228
3.80	.1496	**861.1-0380-076A1-GM**	☆	☆	☆	☆	6.00	129	5.079	76	2.992	87	3.425
3.97	.1563	**861.1-0397-079A1-GM**	☆	☆	☆	☆	6.00	133	5.236	79	3.110	91	3.583
4.00	.1575	**861.1-0400-080A1-GM**	☆	☆	☆	☆	6.00	134	5.276	80	3.150	92	3.622
4.20	.1654	**861.1-0420-084A1-GM**	☆	☆	☆	☆	6.00	139	5.472	84	3.307	97	3.819
4.37	.1720	**861.1-0437-087A1-GM**	☆	☆	☆	☆	6.00	142	5.591	87	3.425	100	3.937
4.50	.1772	**861.1-0450-090A1-GM**	☆	☆	☆	☆	6.00	145	5.709	90	3.543	103	4.055
4.76	.1874	**861.1-0476-095A1-GM**	☆	☆	☆	☆	6.00	152	5.984	95	3.740	110	4.331
4.80	.1890	**861.1-0480-096A1-GM**	☆	☆	☆	☆	6.00	152	5.984	96	3.780	110	4.331
5.00	.1969	**861.1-0500-100A1-GM**	☆	☆	☆	☆	6.00	157	6.181	100	3.937	115	4.528
5.16	.2031	**861.1-0516-103A1-GM**	☆	☆	☆	☆	6.00	161	6.339	103	4.055	119	4.685
5.50	.2165	**861.1-0550-110A1-GM**	☆	☆	☆	☆	6.00	168	6.614	110	4.331	126	4.961
5.56	.2189	**861.1-0556-111A1-GM**	☆	☆	☆	☆	6.00	170	6.693	111	4.370	128	5.039
5.80	.2283	**861.1-0580-116A1-GM**	☆	☆	☆	☆	6.00	175	6.890	116	4.567	133	5.236
6.00	.2362	**861.1-0600-120A1-GM**	☆	☆	☆	☆	6.00	180	7.087	120	4.724	138	5.433
6.35	.2500	**861.1-0635-127A1-GM**	☆	☆	☆	☆	8.00	188	7.402	127	5.000	146	5.748
6.50	.2559	**861.1-0650-130A1-GM**	☆	☆	☆	☆	8.00	191	7.520	130	5.118	149	5.866
6.75	.2657	**861.1-0675-135A1-GM**	☆	☆	☆	☆	8.00	197	7.756	135	5.315	155	6.102
6.80	.2677	**861.1-0680-136A1-GM**	☆	☆	☆	☆	8.00	198	7.795	136	5.354	156	6.142
7.00	.2756	**861.1-0700-140A1-GM**	☆	☆	☆	☆	8.00	203	7.992	140	5.512	161	6.339
7.14	.2811	**861.1-0714-143A1-GM**	☆	☆	☆	☆	8.00	206	8.110	143	5.630	164	6.457
7.50	.2953	**861.1-0750-150A1-GM**	☆	☆	☆	☆	8.00	214	8.425	150	5.906	172	6.772
7.94	.3126	**861.1-0794-159A1-GM**	☆	☆	☆	☆	8.00	225	8.858	159	6.260	183	7.205
8.00	.3150	**861.1-0800-160A1-GM**	☆	☆	☆	☆	8.00	226	8.898	160	6.299	184	7.244
8.50	.3346	**861.1-0850-170A1-GM**	☆	☆	☆	☆	10.00	241	9.488	170	6.693	195	7.677
9.00	.3543	**861.1-0900-180A1-GM**	☆	☆	☆	☆	10.00	253	9.961	180	7.087	207	8.150
9.50	.3740	**861.1-0950-190A1-GM**	☆	☆	☆	☆	10.00	264	10.394	190	7.480	218	8.583
9.53	.3752	**861.1-0953-191A1-GM**	☆	☆	☆	☆	10.00	265	10.433	191	7.520	219	8.622
10.00	.3937	**861.1-1000-200A1-GM**	☆	☆	☆	☆	10.00	276	10.866	200	7.874	230	9.055
10.50	.4134	**861.1-1050-210A1-GM**	☆	☆	☆	☆	12.00	295	11.614	210	8.268	241	9.488
11.00	.4331	**861.1-1100-220A1-GM**	☆	☆	☆	☆	12.00	307	12.087	220	8.661	253	9.961
11.11	.4374	**861.1-1111-222A1-GM**	☆	☆	☆	☆	12.00	310	12.205	222	8.740	256	10.079
11.50	.4528	**861.1-1150-230A1-GM**	☆	☆	☆	☆	12.00	318	12.520	230	9.055	264	10.394
12.00	.4724	**861.1-1200-240A1-GM**	☆	☆	☆	☆	12.00	330	12.992	240	9.449	276	10.866

E142 J4

CoroDrill® 861 30 x D_c

Cylindrical shank



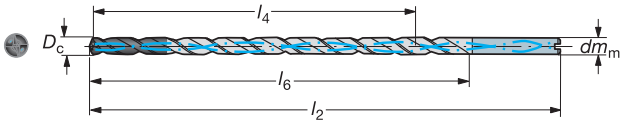
Drill diameter: 3.00 - 8.00 mm (.118-.315 inch)
Max hole depth: 30 × D_c

Coating: TiAlN multilayer
Hole tolerance: H8 - H9

Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

Internal coolant supply



CoroDrill 861 pilot drill to be applied before drilling with CoroDrill 861 longer than 12 x D_c.

l_4 = recommended drilling depth

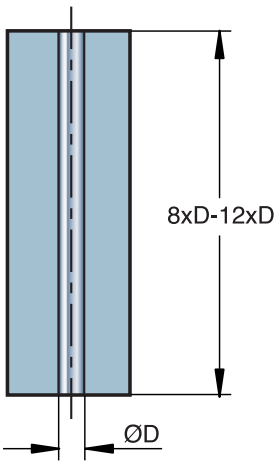
D_c mm	D_c inch	**Internal coolant supply** Ordering code	P GC34	M GC34	K GC34	N GC34	dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
			Dimensions, millimeter, inch (mm, in.)										
3.00	.1181	**861.1-0300-090A1-GM**	☆	☆	☆	☆	6.00	141	5.551	90	3.543	99	3.898
3.18	.1252	**861.1-0318-095A1-GM**	☆	☆	☆	☆	6.00	147	5.787	95	3.740	105	4.134
3.50	.1378	**861.1-0350-105A1-GM**	☆	☆	☆	☆	6.00	157	6.181	105	4.134	115	4.528
3.57	.1406	**861.1-0357-107A1-GM**	☆	☆	☆	☆	6.00	160	6.299	107	4.213	118	4.646
3.97	.1563	**861.1-0397-119A1-GM**	☆	☆	☆	☆	6.00	173	6.811	119	4.685	131	5.158
4.00	.1575	**861.1-0400-120A1-GM**	☆	☆	☆	☆	6.00	174	6.850	120	4.724	132	5.197
4.37	.1720	**861.1-0437-131A1-GM**	☆	☆	☆	☆	6.00	186	7.323	131	5.158	144	5.669
4.50	.1772	**861.1-0450-135A1-GM**	☆	☆	☆	☆	6.00	190	7.480	135	5.315	148	5.827
4.76	.1874	**861.1-0476-143A1-GM**	☆	☆	☆	☆	6.00	199	7.835	143	5.630	157	6.181
5.00	.1969	**861.1-0500-150A1-GM**	☆	☆	☆	☆	6.00	207	8.150	150	5.906	165	6.496
5.16	.2031	**861.1-0516-155A1-GM**	☆	☆	☆	☆	6.00	212	8.346	155	6.102	170	6.693
5.50	.2165	**861.1-0550-165A1-GM**	☆	☆	☆	☆	6.00	223	8.780	165	6.496	181	7.126
5.56	.2189	**861.1-0556-167A1-GM**	☆	☆	☆	☆	6.00	225	8.858	167	6.575	183	7.205
6.00	.2362	**861.1-0600-180A1-GM**	☆	☆	☆	☆	6.00	240	9.449	180	7.087	198	7.795
6.35	.2500	**861.1-0635-191A1-GM**	☆	☆	☆	☆	8.00	252	9.921	191	7.520	210	8.268
6.50	.2559	**861.1-0650-195A1-GM**	☆	☆	☆	☆	8.00	256	10.079	195	7.677	214	8.425
6.75	.2657	**861.1-0675-202A1-GM**	☆	☆	☆	☆	8.00	265	10.433	202	7.953	223	8.780
7.00	.2756	**861.1-0700-210A1-GM**	☆	☆	☆	☆	8.00	273	10.748	210	8.268	231	9.094
7.14	.2811	**861.1-0714-214A1-GM**	☆	☆	☆	☆	8.00	278	10.945	214	8.425	236	9.291
7.50	.2953	**861.1-0750-225A1-GM**	☆	☆	☆	☆	8.00	289	11.378	225	8.858	247	9.724
7.94	.3126	**861.1-0794-238A1-GM**	☆	☆	☆	☆	8.00	304	11.968	238	9.370	262	10.315
8.00	.3150	**861.1-0800-240A1-GM**	☆	☆	☆	☆	8.00	306	12.047	240	9.449	264	10.394

E142 J4

CoroDrill® 862

Solid carbide drills

For micro holes below 3 mm



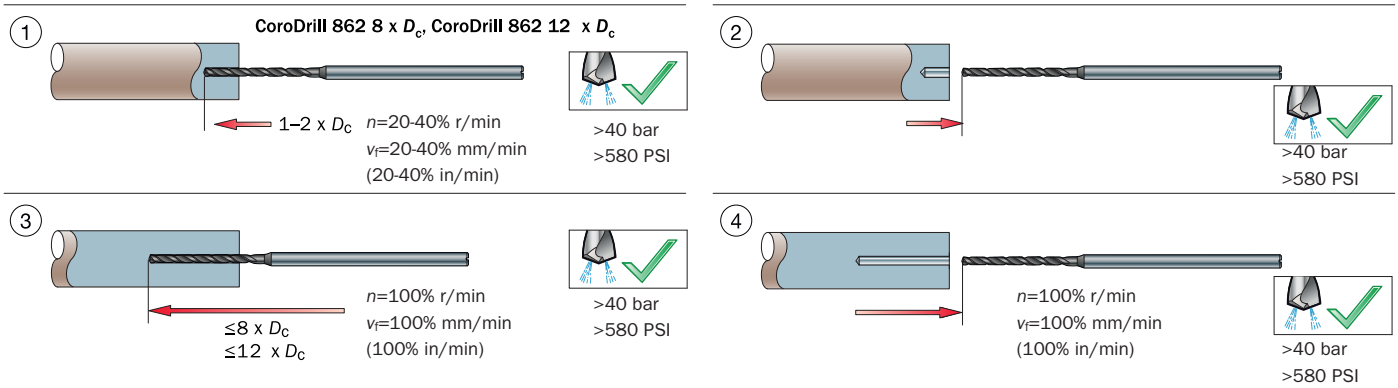
Highly stable cutting edges.



Optimized flute geometry for small, manageable chips.

Special point geometry reduces thrust forces.

Drilling strategy for applying CoroDrill 862



Grades: ISO application areas:

Optimized P M K N S

CoroDrill® 862 8 x D_c

Cylindrical shank

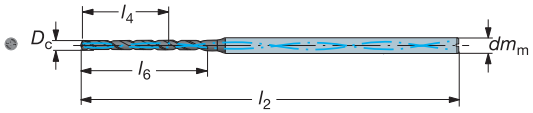


Drill diameter: 1.85-2.95 mm (.073-.116 inch)
Max hole depth: 8 × D_c

Coating: TiAlN light multilayer
Hole tolerance: H8 - H9
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

Internal coolant supply



l_4 = recommended drilling depth

D_c mm	D_c inch	Internal coolant supply Ordering code	P GC GC34	M GC GC34	K GC GC34	N GC GC34	S GC GC34	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
1.85	.0728	**862.1-0185-015A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	15	.591	22	.866
1.90	.0748	**862.1-0190-015A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	15	.591	24	.945
1.98	.0780	**862.1-0198-016A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	16	.630	24	.945
2.00	.0787	**862.1-0200-016A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	16	.630	24	.945
2.05	.0807	**862.1-0205-016A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	16	.630	24	.945
2.08	.0819	**862.1-0208-017A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	17	.669	24	.945
2.10	.0827	**862.1-0210-017A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	17	.669	24	.945
2.15	.0846	**862.1-0215-017A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	17	.669	26	1.024
2.18	.0858	**862.1-0218-017A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	17	.669	26	1.024
2.20	.0866	**862.1-0220-018A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	18	.709	26	1.024
2.25	.0886	**862.1-0225-018A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	18	.709	26	1.024
2.26	.0890	**862.1-0226-018A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	18	.709	26	1.024
2.30	.0906	**862.1-0230-018A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	18	.709	26	1.024
2.38	.0937	**862.1-0238-019A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	19	.748	26	1.024
2.40	.0945	**862.1-0240-019A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	19	.748	26	1.024
2.44	.0961	**862.1-0244-020A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	20	.787	26	1.024
2.50	.0984	**862.1-0250-020A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	20	.787	26	1.024
2.58	.1016	**862.1-0258-021A1-GM**	☆	☆	☆	☆	☆	3.00	80	3.150	21	.827	28	1.102
2.60	.1024	**862.1-0260-021A1-GM**	☆	☆	☆	☆	☆	3.00	80	3.150	21	.827	28	1.102
2.64	.1039	**862.1-0264-021A1-GM**	☆	☆	☆	☆	☆	3.00	80	3.150	21	.827	28	1.102
2.70	.1063	**862.1-0270-022A1-GM**	☆	☆	☆	☆	☆	3.00	80	3.150	22	.866	30	1.181
2.71	.1067	**862.1-0271-022A1-GM**	☆	☆	☆	☆	☆	3.00	80	3.150	22	.866	30	1.181
2.80	.1102	**862.1-0280-022A1-GM**	☆	☆	☆	☆	☆	3.00	80	3.150	22	.866	30	1.181
2.82	.1110	**862.1-0282-023A1-GM**	☆	☆	☆	☆	☆	3.00	80	3.150	23	.906	30	1.181
2.87	.1130	**862.1-0287-023A1-GM**	☆	☆	☆	☆	☆	3.00	80	3.150	23	.906	30	1.181
2.90	.1142	**862.1-0290-023A1-GM**	☆	☆	☆	☆	☆	3.00	80	3.150	23	.906	30	1.181
2.95	.1161	**862.1-0295-024A1-GM**	☆	☆	☆	☆	☆	3.00	80	3.150	24	.945	30	1.181

E150 J4

CoroDrill® 862 12 x D_c

Cylindrical shank

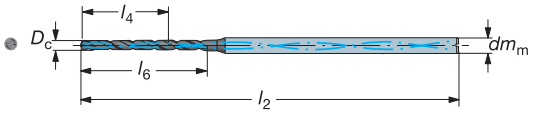


Drill diameter: 1.85-2.95 mm (.073-.116 inch)
Max hole depth: 12 × D_c

Coating: TiAlN light multilayer
Hole tolerance: H8 - H9
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Tolerances: dm_m= h6
D_c = m7

Internal coolant supply



l_4 = recommended drilling depth

D_c mm	D_c inch	Internal coolant supply Ordering code	P GC GC34	M GC GC34	K GC GC34	N GC GC34	S GC GC34	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
1.85	.0728	**862.1-0185-022A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	22	.866	30	1.181
1.90	.0748	**862.1-0190-023A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	23	.906	32	1.260
1.98	.0780	**862.1-0198-024A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	24	.945	32	1.260
2.00	.0787	**862.1-0200-024A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	24	.945	32	1.260
2.05	.0807	**862.1-0205-025A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	25	.984	32	1.260
2.08	.0819	**862.1-0208-025A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	25	.984	32	1.260
2.10	.0827	**862.1-0210-025A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	25	.984	32	1.260
2.15	.0846	**862.1-0215-026A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	26	1.024	36	1.417
2.18	.0858	**862.1-0218-026A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	26	1.024	36	1.417
2.20	.0866	**862.1-0220-026A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	26	1.024	36	1.417
2.25	.0886	**862.1-0225-027A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	27	1.063	36	1.417
2.26	.0890	**862.1-0226-027A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	27	1.063	36	1.417
2.30	.0906	**862.1-0230-028A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	28	1.102	36	1.417
2.38	.0937	**862.1-0238-029A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	29	1.142	36	1.417
2.40	.0945	**862.1-0240-029A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	29	1.142	36	1.417
2.44	.0961	**862.1-0244-029A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	29	1.142	36	1.417
2.50	.0984	**862.1-0250-030A1-GM**	☆	☆	☆	☆	☆	3.00	72	2.835	30	1.181	36	1.417
2.58	.1016	**862.1-0258-031A1-GM**	☆	☆	☆	☆	☆	3.00	80	3.150	31	1.220	36	1.417
2.60	.1024	**862.1-0260-031A1-GM**	☆	☆	☆	☆	☆	3.00	80	3.150	31	1.220	36	1.417
2.64	.1039	**862.1-0264-032A1-GM**	☆	☆	☆	☆	☆	3.00	80	3.150	32	1.260	36	1.417
2.70	.1063	**862.1-0270-032A1-GM**	☆	☆	☆	☆	☆	3.00	80	3.150	32	1.260	42	1.654
2.71	.1067	**862.1-0271-033A1-GM**	☆	☆	☆	☆	☆	3.00	80	3.150	33	1.299	42	1.654
2.80	.1102	**862.1-0280-034A1-GM**	☆	☆	☆	☆	☆	3.00	80	3.150	34	1.339	42	1.654
2.82	.1110	**862.1-0282-034A1-GM**	☆	☆	☆	☆	☆	3.00	80	3.150	34	1.339	42	1.654
2.87	.1130	**862.1-0287-034A1-GM**	☆	☆	☆	☆	☆	3.00	80	3.150	34	1.339	42	1.654
2.90	.1142	**862.1-0290-035A1-GM**	☆	☆	☆	☆	☆	3.00	80	3.150	35	1.378	42	1.654
2.95	.1161	**862.1-0295-035A1-GM**	☆	☆	☆	☆	☆	3.00	80	3.150	35	1.378	42	1.654

E150 J4

CoroDrill® Delta-C

Solid carbide drills R840/R841, R842 and R846

For high productivity hole making

CoroDrill® Delta-C R840

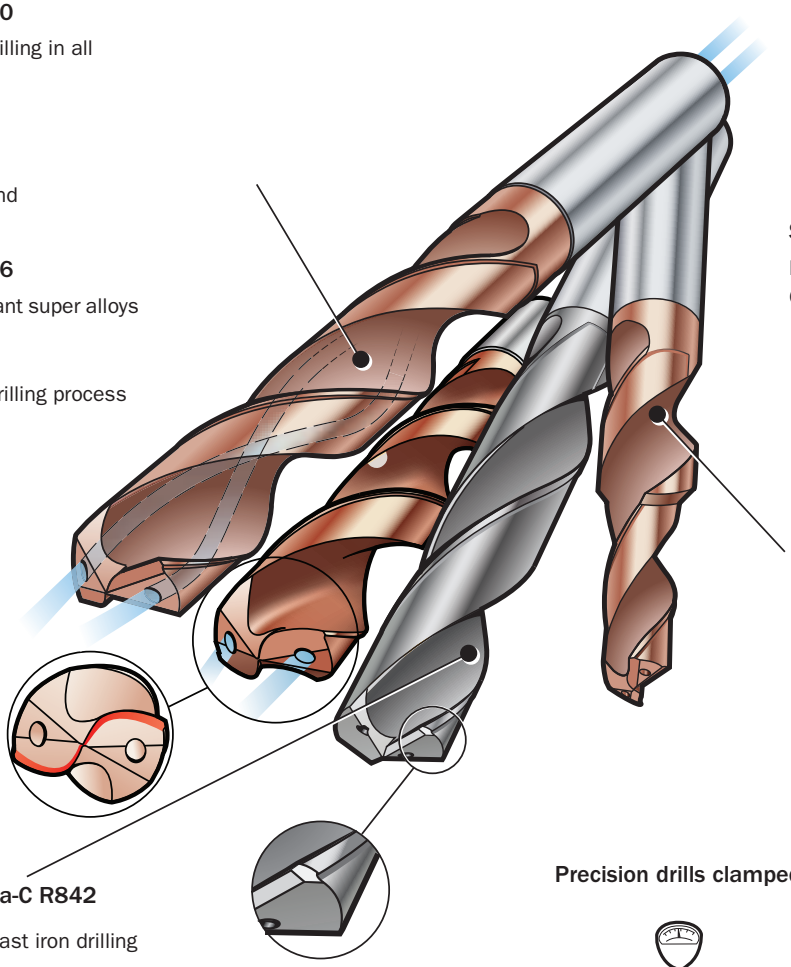
First choice for general drilling in all materials

- Short: 2-3 x D_c
- Long: 4-5 x D_c
- Extra long: 6-7 x D_c
- Geometry easy to regrind

CoroDrill® Delta-C R846

First choice in heat resistant super alloys

- Short: 2-3 x D_c
- Long: 4-5 x D_c
- Geometry for reliable drilling process



Shanks:

First choice Cylindrical (DIN 6535HA)
Option Whistle Notch (DIN 6535 HE)

CoroDrill® Delta-C R841 chamfer drill

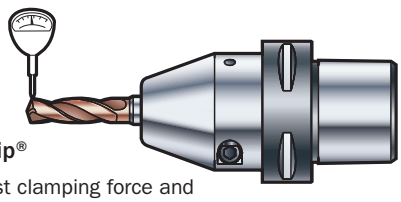
For thread holes

CoroDrill® Delta-C R842

First choice for cast iron drilling

- Short: 2-3 x D_c
- Long: 4-5 x D_c
- Geometry easy to regrind

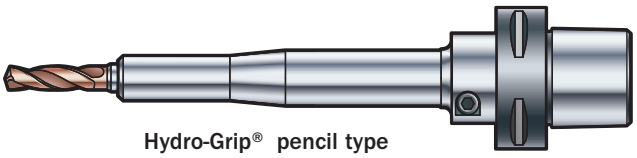
Precision drills clamped in precision chucks



Hydro-Grip®

For highest clamping force and minimum run out

Grades:	ISO application areas:
GC 1220 General	P M K N S H
GC 1210 Optimized	K P Tailor Made



Hydro-Grip® pencil type

for improved accessibility

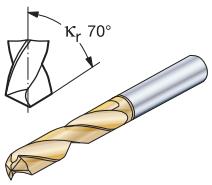
Tailor Made

Tool options designed to individual customer requirements are available. For information on our Tailor Made programme see page J4.

CoroDrill® Delta-C 4 – 5 × D_c for small part machining

R840

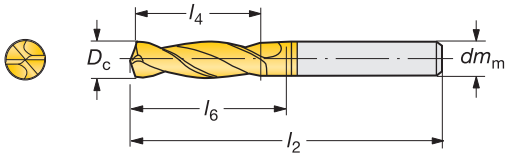
Cylindrical shank



Drill diameter:	1.50-2.90 mm (.059-.114 inch)
Max hole depth:	4 - 5 × D_c
Coating:	TiN
Hole tolerance:	IT8-10
Surface finish:	R_a 1-2 µm (40-75 µ inch)
Cutting fluid:	Emulsion or cutting oil
Drill standard 4-5 x D_c:	DIN 1899
Tolerances:	dm_m = h6 Dc = h7

External coolant supply

GC1020



l_4 = recommended drilling depth

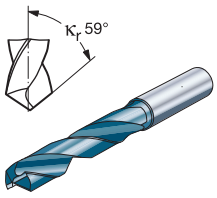
D_c mm	D_c inch	Thread size	External coolant supply Ordering code	P GC 1020	P GC 1220	M GC 1220	K GC 1020	K GC 1220	N GC 1020	N GC 1220	S GC 1020	S GC 1220	H GC 1020	H GC 1220	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
1.50	.0591		R840-0150-50-A0B	☆			☆		☆		☆		☆		1.50	32	1.260	7	.276	9	.354
1.59	.0626		R840-0159-50-A0B	☆			☆		☆		☆		☆		1.59	34	1.339	8	.315	10	.394
1.60	.0630		R840-0160-50-A0B	☆			☆		☆		☆		☆		1.60	34	1.339	8	.315	10	.394
1.70	.0669		R840-0170-50-A0B	☆			☆		☆		☆		☆		1.70	34	1.339	8	.315	10	.394
1.80	.0709		R840-0180-50-A0B	☆			☆		☆		☆		☆		1.80	36	1.417	9	.354	11	.433
1.90	.0748		R840-0190-50-A0B	☆			☆		☆		☆		☆		1.90	36	1.417	9	.354	11	.433
1.98	.0780		R840-0198-50-A0B	☆			☆		☆		☆		☆		1.98	38	1.496	9	.354	12	.472
2.00	.0787		R840-0200-50-A0B	☆			☆		☆		☆		☆		2.00	38	1.496	9	.354	12	.472
2.10	.0827		R840-0210-50-A0B	☆			☆		☆		☆		☆		2.10	38	1.496	9	.354	12	.472
2.20	.0866		R840-0220-50-A0B	☆			☆		☆		☆		☆		2.20	40	1.575	10	.394	13	.512
2.30	.0906		R840-0230-50-A0B	☆			☆		☆		☆		☆		2.30	40	1.575	10	.394	13	.512
2.38	.0937		R840-0238-50-A0B	☆			☆		☆		☆		☆		2.38	43	1.693	11	.433	14	.551
2.40	.0945		R840-0240-50-A0B	☆			☆		☆		☆		☆		2.40	43	1.693	11	.433	14	.551
2.50	.0984		R840-0250-50-A0B	☆			☆		☆		☆		☆		2.50	43	1.693	11	.433	14	.551
2.60	.1024		R840-0260-50-A0B	☆			☆		☆		☆		☆		2.60	43	1.693	11	.433	14	.551
2.70	.1063		R840-0270-50-A0B	☆			☆		☆		☆		☆		2.70	46	1.811	12	.472	16	.630
2.78	.1094		R840-0278-50-A0B	☆			☆		☆		☆		☆		2.78	46	1.811	12	.472	16	.630
2.80	.1102		R840-0280-50-A0B	☆			☆		☆		☆		☆		2.80	46	1.811	12	.472	16	.630
2.90	.1142		R840-0290-50-A0B	☆			☆		☆		☆		☆		2.90	46	1.811	12	.472	16	.630

E132 E184 E4 G6 E2 J4

CoroDrill® Delta-C 6 – 7 × D_c for small part machining

R840

Cylindrical shank



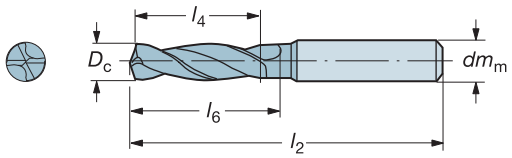
Drill diameter: 0.30-1.40 mm (.0118-.055 inch)
Max hole depth: 6 - 7 × D_c

Coating: -
Hole tolerance: IT8-10
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Drill standard 6-7 x D_c: DIN 1897 (dia. 1.5-1.8 mm (.059-.071 inch))
DIN 6539 (dia. 1.9-2.9 mm (.075-.114 inch))
Tolerances: dm_m = h6
Dc = h7

External coolant supply

H10F



l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	**External coolant supply** **Ordering code**[1]	P GC 1220	P - H10F	M GC 1220	K GC 1220	K - H10F	N GC 1220	N - H10F	S GC 1220	S - H10F	H GC 1220	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
0.30	.0118		**R840-0030-70-A0B**		☆			☆		☆		☆		1.00	25	.984	1.5	.059	1.9	.075
0.40	.0157		**R840-0040-70-A0B**		☆			☆		☆		☆		1.00	25	.984	2.2	.087	3.0	.118
0.50	.0197		**R840-0050-70-A0B**		☆			☆		☆		☆		1.00	25	.984	2.7	.106	3.4	.134
0.60	.0236		**R840-0060-70-A0B**		☆			☆		☆		☆		1.00	25	.984	3.1	.122	3.9	.154
0.70	.0276		**R840-0070-70-A0B**		☆			☆		☆		☆		1.00	25	.984	3.8	.150	4.8	.189
0.80	.0315		**R840-0080-70-A0B**		☆			☆		☆		☆		1.50	25	.984	4.2	.165	5.3	.209
0.90	.0354		**R840-0090-70-A0B**		☆			☆		☆		☆		1.50	25	.984	4.8	.189	6.0	.236
1.00	.0394		**R840-0100-70-A0B**		☆			☆		☆		☆		1.50	25	.984	5.4	.213	6.8	.268
1.10	.0433		**R840-0110-70-A0B**		☆			☆		☆		☆		1.50	25	.984	6	.236	7.6	.299
1.20	.0472		**R840-0120-70-A0B**		☆			☆		☆		☆		1.50	25	.984	6.8	.268	8.5	.335
1.30	.0512		**R840-0130-70-A0B**		☆			☆		☆		☆		1.50	25	.984	6.8	.268	8.5	.335
1.40	.0551		**R840-0140-70-A0B**		☆			☆		☆		☆		1.50	25	.984	7.6	.299	9.5	.374

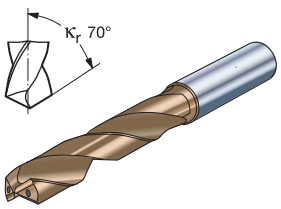
[1] 5 pieces

E132 E184 E4 G6 E2 J4

CoroDrill® Delta-C 2 – 3 × D_c

R840

Cylindrical shank



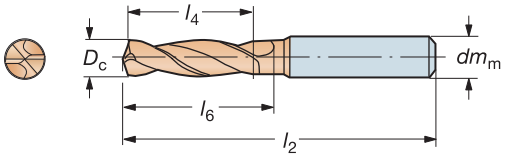
Drill diameter: 3.00-20.00 mm (.118-.787 inch)
Max hole depth: 2 - 3 × D_c

Coating: TiN/TiAlN multilayer
Hole tolerance: IT8-9
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

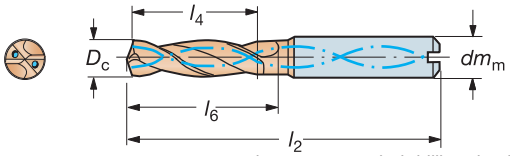
Drill standard: DIN 6537

Tolerances: dm_m= h6
D_c = m7

External coolant supply



Internal coolant supply



l_4 = recommended drilling depth

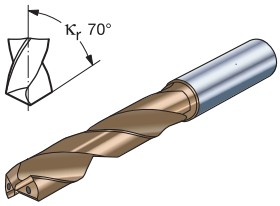
D_c mm	D_c inch	Thread size	External coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Internal coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
3.00	.1181		R840-0300-30-A0A	☆	☆	☆	☆	☆	☆	R840-0300-30-A1A	☆	☆	☆	☆	☆	☆	6.00	62	2.441	13	.512	20	.787
3.10	.1220		R840-0310-30-A0A	☆	☆	☆	☆	☆	☆	R840-0310-30-A1A	☆	☆	☆	☆	☆	☆	6.00	62	2.441	13	.512	20	.787
3.17	.1248									R840-0317-30-A1A	☆	☆	☆	☆	☆	☆	6.00	62	2.441	13	.512	20	.787
3.20	.1260		R840-0320-30-A0A	☆	☆	☆	☆	☆	☆	R840-0320-30-A1A	☆	☆	☆	☆	☆	☆	6.00	62	2.441	13	.512	20	.787
3.30	.1299		R840-0330-30-A0A	☆	☆	☆	☆	☆	☆	R840-0330-30-A1A	☆	☆	☆	☆	☆	☆	6.00	62	2.441	13	.512	20	.787
3.40	.1339	M4 65%	R840-0340-30-A0A	☆	☆	☆	☆	☆	☆	R840-0340-30-A1A	☆	☆	☆	☆	☆	☆	6.00	62	2.441	13	.512	20	.787
3.45	.1358	8-32 UNC								R840-0345-30-A1A	☆	☆	☆	☆	☆	☆	6.00	62	2.441	14	.551	20	.787
3.50	.1378		R840-0350-30-A0A	☆	☆	☆	☆	☆	☆	R840-0350-30-A1A	☆	☆	☆	☆	☆	☆	6.00	62	2.441	14	.551	20	.787
3.55	.1398	8-36 UNF								R840-0355-30-A1A	☆	☆	☆	☆	☆	☆	6.00	62	2.441	14	.551	20	.787
3.57	.1406									R840-0357-30-A1A	☆	☆	☆	☆	☆	☆	6.00	62	2.441	14	.551	20	.787
3.60	.1417		R840-0360-30-A0A	☆	☆	☆	☆	☆	☆	R840-0360-30-A1A	☆	☆	☆	☆	☆	☆	6.00	62	2.441	14	.551	20	.787
3.70	.1457		R840-0370-30-A0A	☆	☆	☆	☆	☆	☆	R840-0370-30-A1A	☆	☆	☆	☆	☆	☆	6.00	62	2.441	14	.551	20	.787
3.80	.1496		R840-0380-30-A0A	☆	☆	☆	☆	☆	☆	R840-0380-30-A1A	☆	☆	☆	☆	☆	☆	6.00	62	2.441	14	.551	20	.787
3.90	.1535	10-24 UNC	R840-0390-30-A0A	☆	☆	☆	☆	☆	☆	R840-0390-30-A1A	☆	☆	☆	☆	☆	☆	6.00	62	2.441	14	.551	20	.787
3.97	.1563									R840-0397-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	17	.669	24	.945
4.00	.1575		R840-0400-30-A0A	☆	☆	☆	☆	☆	☆	R840-0400-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	17	.669	24	.945
4.10	.1614	10-32 UNF	R840-0410-30-A0A	☆	☆	☆	☆	☆	☆	R840-0410-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	17	.669	24	.945
4.20	.1654		R840-0420-30-A0A	☆	☆	☆	☆	☆	☆	R840-0420-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	17	.669	24	.945
4.30	.1693	M5 65%	R840-0430-30-A0A	☆	☆	☆	☆	☆	☆	R840-0430-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	17	.669	24	.945
4.36	.1717									R840-0436-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	17	.669	24	.945
4.40	.1732		R840-0440-30-A0A	☆	☆	☆	☆	☆	☆	R840-0440-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	17	.669	24	.945
4.50	.1772		R840-0450-30-A0A	☆	☆	☆	☆	☆	☆	R840-0450-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	17	.669	24	.945
4.55	.1791	12-24 UNC								R840-0455-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	17	.669	24	.945
4.60	.1811		R840-0460-30-A0A	☆	☆	☆	☆	☆	☆	R840-0460-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	17	.669	24	.945
4.70	.1850		R840-0470-30-A0A	☆	☆	☆	☆	☆	☆	R840-0470-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	17	.669	24	.945
4.76	.1874									R840-0476-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	18	.709	28	1.102
4.80	.1890	12-32 UNF	R840-0480-30-A0A	☆	☆	☆	☆	☆	☆	R840-0480-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	18	.709	28	1.102
4.90	.1929		R840-0490-30-A0A	☆	☆	☆	☆	☆	☆	R840-0490-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	18	.709	28	1.102
5.00	.1969	M6 75%	R840-0500-30-A0A	☆	☆	☆	☆	☆	☆	R840-0500-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	18	.709	28	1.102
5.10	.2008	M6 65%	R840-0510-30-A0A	☆	☆	☆	☆	☆	☆	R840-0510-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	18	.709	28	1.102
5.16	.2031									R840-0516-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	18	.709	28	1.102
5.20	.2047		R840-0520-30-A0A	☆	☆	☆	☆	☆	☆	R840-0520-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	18	.709	28	1.102
5.30	.2087		R840-0530-30-A0A	☆	☆	☆	☆	☆	☆	R840-0530-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	18	.709	28	1.102
5.40	.2126		R840-0540-30-A0A	☆	☆	☆	☆	☆	☆	R840-0540-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	18	.709	28	1.102
5.50	.2165		R840-0550-30-A0A	☆	☆	☆	☆	☆	☆	R840-0550-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	19	.748	28	1.102
5.56	.2189									R840-0556-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	19	.748	28	1.102
5.60	.2205		R840-0560-30-A0A	☆	☆	☆	☆	☆	☆	R840-0560-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	19	.748	28	1.102
5.70	.2244		R840-0570-30-A0A	☆	☆	☆	☆	☆	☆	R840-0570-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	19	.748	28	1.102
5.80	.2283		R840-0580-30-A0A	☆	☆	☆	☆	☆	☆	R840-0580-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	19	.748	28	1.102
5.90	.2323		R840-0590-30-A0A	☆	☆	☆	☆	☆	☆	R840-0590-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	19	.748	28	1.102
5.95	.2343									R840-0595-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	19	.748	28	1.102
6.00	.2362		R840-0600-30-A0A	☆	☆	☆	☆	☆	☆	R840-0600-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	19	.748	28	1.102

E133 E184 E4 G6 E2 J4

CoroDrill® Delta-C 2 – 3 × D_c

R840

Cylindrical shank



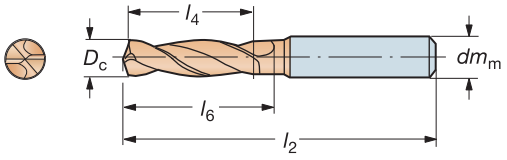
Drill diameter: 3.00-20.00 mm (.118-.787 inch)
Max hole depth: 2 - 3 × D_c

Coating: TiN/TiAlN multilayer
Hole tolerance: IT8-9
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

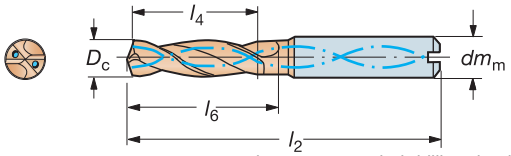
Drill standard: DIN 6537

Tolerances: dm_m= h6
D_C = m7

External coolant supply



Internal coolant supply



l_4 = recommended drilling depth

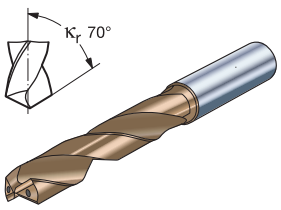
			External coolant supply	P	M	K	N	S	H	Internal coolant supply	P	M	K	N	S	H	Dimensions, millimeter, inch (mm, in.)						
				GC	GC	GC	GC	GC	GC		GC	GC	GC	GC	GC	GC							
				1220	1220	1220	1220	1220	1220		1220	1220	1220	1220	1220	1220							
D_c mm	D_c inch	Thread size	Ordering code							Ordering code							dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
6.10	.2402		R840-0610-30-A0A	☆	☆	☆	☆	☆	☆	R840-0610-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.20	.2441		R840-0620-30-A0A	☆	☆	☆	☆	☆	☆	R840-0620-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.30	.2480		R840-0630-30-A0A	☆	☆	☆	☆	☆	☆	R840-0630-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.35	.2500									R840-0635-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.40	.2520		R840-0640-30-A0A	☆	☆	☆	☆	☆	☆	R840-0640-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.50	.2559		R840-0650-30-A0A	☆	☆	☆	☆	☆	☆	R840-0650-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.60	.2598		R840-0660-30-A0A	☆	☆	☆	☆	☆	☆	R840-0660-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.70	.2638	5/16-18 UNC	R840-0670-30-A0A	☆	☆	☆	☆	☆	☆	R840-0670-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.75	.2657									R840-0675-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.80	.2677		R840-0680-30-A0A	☆	☆	☆	☆	☆	☆	R840-0680-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.90	.2717	M8 65%	R840-0690-30-A0A	☆	☆	☆	☆	☆	☆	R840-0690-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
7.00	.2756	5/16-24 UNF	R840-0700-30-A0A	☆	☆	☆	☆	☆	☆	R840-0700-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
7.10	.2795	MF8 x 1	R840-0710-30-A0A	☆	☆	☆	☆	☆	☆	R840-0710-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.14	.2811									R840-0714-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.20	.2835		R840-0720-30-A0A	☆	☆	☆	☆	☆	☆	R840-0720-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.30	.2874		R840-0730-30-A0A	☆	☆	☆	☆	☆	☆	R840-0730-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.40	.2913		R840-0740-30-A0A	☆	☆	☆	☆	☆	☆	R840-0740-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.50	.2953		R840-0750-30-A0A	☆	☆	☆	☆	☆	☆	R840-0750-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.54	.2969									R840-0754-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.60	.2992		R840-0760-30-A0A	☆	☆	☆	☆	☆	☆	R840-0760-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.70	.3031		R840-0770-30-A0A	☆	☆	☆	☆	☆	☆	R840-0770-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.80	.3071		R840-0780-30-A0A	☆	☆	☆	☆	☆	☆	R840-0780-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.90	.3110		R840-0790-30-A0A	☆	☆	☆	☆	☆	☆	R840-0790-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.94	.3126									R840-0794-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
8.00	.3150		R840-0800-30-A0A	☆	☆	☆	☆	☆	☆	R840-0800-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
8.10	.3189		R840-0810-30-A0A	☆	☆	☆	☆	☆	☆	R840-0810-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.20	.3228		R840-0820-30-A0A	☆	☆	☆	☆	☆	☆	R840-0820-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.30	.3268		R840-0830-30-A0A	☆	☆	☆	☆	☆	☆	R840-0830-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.33	.3280									R840-0833-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.40	.3307		R840-0840-30-A0A	☆	☆	☆	☆	☆	☆	R840-0840-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.50	.3346		R840-0850-30-A0A	☆	☆	☆	☆	☆	☆	R840-0850-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.60	.3386	M10 70%	R840-0860-30-A0A	☆	☆	☆	☆	☆	☆	R840-0860-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.70	.3425	M10 65%	R840-0870-30-A0A	☆	☆	☆	☆	☆	☆	R840-0870-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.73	.3437									R840-0873-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.80	.3465		R840-0880-30-A0A	☆	☆	☆	☆	☆	☆	R840-0880-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.90	.3504	MF10 x 1.25	R840-0890-30-A0A	☆	☆	☆	☆	☆	☆	R840-0890-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850

E133 E184 E4 G6 E2 J4

CoroDrill® Delta-C 2 – 3 × D_c

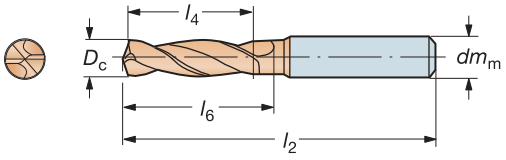
R840

Cylindrical shank

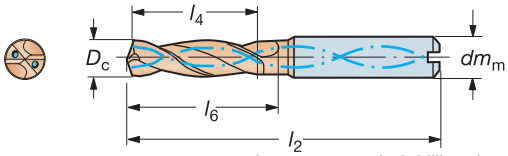


Drill diameter:	3.00-20.00 mm (.118-.787 inch)
Max hole depth:	2 - 3 × D_c
Coating:	TiN/TiAlN multilayer
Hole tolerance:	IT8-9
Surface finish:	R_a 1-2 µm (40-75 µ inch)
Cutting fluid:	Emulsion or cutting oil
Drill standard:	DIN 6537
Tolerances:	dm_m= h6 D_C = m7

External coolant supply



Internal coolant supply



l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	External coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Internal coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
9.00	.3543		R840-0900-30-A0A	☆	☆	☆	☆	☆	☆	R840-0900-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.10	.3583		R840-0910-30-A0A	☆	☆	☆	☆	☆	☆	R840-0910-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.13	.3594									R840-0913-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.20	.3622		R840-0920-30-A0A	☆	☆	☆	☆	☆	☆	R840-0920-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.30	.3661		R840-0930-30-A0A	☆	☆	☆	☆	☆	☆	R840-0930-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.40	.3701		R840-0940-30-A0A	☆	☆	☆	☆	☆	☆	R840-0940-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.50	.3740		R840-0950-30-A0A	☆	☆	☆	☆	☆	☆	R840-0950-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.52	.3748									R840-0952-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.60	.3780		R840-0960-30-A0A	☆	☆	☆	☆	☆	☆	R840-0960-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.70	.3819		R840-0970-30-A0A	☆	☆	☆	☆	☆	☆	R840-0970-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.80	.3858		R840-0980-30-A0A	☆	☆	☆	☆	☆	☆	R840-0980-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.90	.3898		R840-0990-30-A0A	☆	☆	☆	☆	☆	☆	R840-0990-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.92	.3906									R840-0992-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
10.00	.3937	7/16-20 UNF	R840-1000-30-A0A	☆	☆	☆	☆	☆	☆	R840-1000-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
10.10	.3976		R840-1010-30-A0A	☆	☆	☆	☆	☆	☆	R840-1010-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
10.20	.4016		R840-1020-30-A0A	☆	☆	☆	☆	☆	☆	R840-1020-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
10.30	.4055	M12 75%	R840-1030-30-A0A	☆	☆	☆	☆	☆	☆	R840-1030-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
10.32	.4063	M12								R840-1032-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
10.40	.4094	M12 70%	R840-1040-30-A0A	☆	☆	☆	☆	☆	☆	R840-1040-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
10.50	.4134		R840-1050-30-A0A	☆	☆	☆	☆	☆	☆	R840-1050-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
10.60	.4173		R840-1060-30-A0A	☆	☆	☆	☆	☆	☆	R840-1060-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
10.70	.4213	MF12 x 1,5	R840-1070-30-A0A	☆	☆	☆	☆	☆	☆	R840-1070-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
10.71	.4217									R840-1071-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
10.80	.4252		R840-1080-30-A0A	☆	☆	☆	☆	☆	☆	R840-1080-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
10.90	.4291		R840-1090-30-A0A	☆	☆	☆	☆	☆	☆	R840-1090-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
11.00	.4331	1/2-13 UNC	R840-1100-30-A0A	☆	☆	☆	☆	☆	☆	R840-1100-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
11.10	.4370		R840-1110-30-A0A	☆	☆	☆	☆	☆	☆	R840-1110-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
11.11	.4374									R840-1111-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
11.20	.4409		R840-1120-30-A0A	☆	☆	☆	☆	☆	☆	R840-1120-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
11.30	.4449		R840-1130-30-A0A	☆	☆	☆	☆	☆	☆	R840-1130-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
11.40	.4488		R840-1140-30-A0A	☆	☆	☆	☆	☆	☆	R840-1140-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
11.50	.4528		R840-1150-30-A0A	☆	☆	☆	☆	☆	☆	R840-1150-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
11.51	.4531									R840-1151-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
11.60	.4567	1/2-20 UNF	R840-1160-30-A0A	☆	☆	☆	☆	☆	☆	R840-1160-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
11.70	.4606		R840-1170-30-A0A	☆	☆	☆	☆	☆	☆	R840-1170-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
11.80	.4646		R840-1180-30-A0A	☆	☆	☆	☆	☆	☆	R840-1180-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
11.90	.4685		R840-1190-30-A0A	☆	☆	☆	☆	☆	☆	R840-1190-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
12.00	.4724		R840-1200-30-A0A	☆	☆	☆	☆	☆	☆	R840-1200-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
12.10	.4764	M14 72%	R840-1210-30-A0A	☆	☆	☆	☆	☆	☆	R840-1210-30-A1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	38	1.496	60	2.362
12.20	.4803	M14 65%	R840-1220-30-A0A	☆	☆	☆	☆	☆	☆	R840-1220-30-A1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	38	1.496	60	2.362
12.30	.4843		R840-1230-30-A0A	☆	☆	☆	☆	☆	☆	R840-1230-30-A1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	38	1.496	60	2.362
12.40	.4882		R840-1240-30-A0A	☆	☆	☆	☆	☆	☆	R840-1240-30-A1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	38	1.496	60	2.362
12.50	.4921		R840-1250-30-A0A	☆	☆	☆	☆	☆	☆	R840-1250-30-A1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	38	1.496	60	2.362
12.60	.4961		R840-1260-30-A0A	☆	☆	☆	☆	☆	☆	R840-1260-30-A1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	38	1.496	60	2.362
12.70	.5000		R840-1270-30-A0A	☆	☆	☆	☆	☆	☆	R840-1270-30-A1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	38	1.496	60	2.362
12.80	.5039		R840-1280-30-A0A	☆	☆	☆	☆	☆	☆	R840-1280-30-A1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	38	1.496	60	2.362

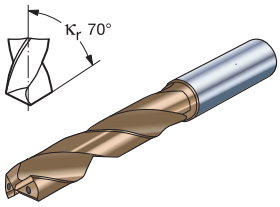
E133 E184 E4 G6 E2 J4

SANDVIK Coromant

CoroDrill® Delta-C 2 – 3 × D_c

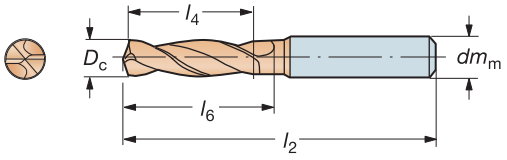
R840

Cylindrical shank

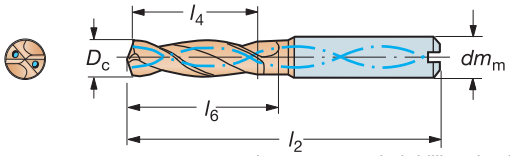


Drill diameter:	3.00-20.00 mm (.118-.787 inch)
Max hole depth:	2 - 3 × D_c
Coating:	TiN/TiAlN multilayer
Hole tolerance:	IT8-9
Surface finish:	R_a 1-2 µm (40-75 µ inch)
Cutting fluid:	Emulsion or cutting oil
Drill standard:	DIN 6537
Tolerances:	dm_m= h6 D_C = m7

External coolant supply



Internal coolant supply



1) Tube sheet

l_4 = recommended drilling depth

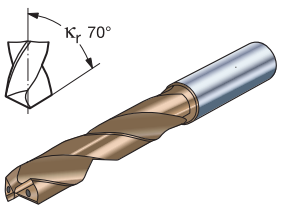
D_c mm	D_c inch	Thread size	External coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Internal coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
13.00	.5118		R840-1300-30-A0A	☆	☆	☆	☆	☆	☆	R840-1300-30-A1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	39	1.535	60	2.362
13.10	.5157									R840-1310-30-A1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	39	1.535	60	2.362
13.25	.5217		R840-1325-30-A0A	☆	☆	☆	☆	☆	☆	R840-1325-30-A1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	39	1.535	60	2.362
13.50	.5315	5/8-11UNC	R840-1350-30-A0A	☆	☆	☆	☆	☆	☆	R840-1350-30-A1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	39	1.535	60	2.362
13.75	.5413		R840-1375-30-A0A	☆	☆	☆	☆	☆	☆	R840-1375-30-A1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	39	1.535	60	2.362
13.80	.5433		R840-1380-30-A0A	☆	☆	☆	☆	☆	☆	R840-1380-30-A1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	39	1.535	60	2.362
13.89	.5469									R840-1389-30-A1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	39	1.535	60	2.362
14.00	.5512		R840-1400-30-A0A	☆	☆	☆	☆	☆	☆	R840-1400-30-A1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	39	1.535	60	2.362
14.10	.5551									R840-1410-30-A1A	☆	☆	☆	☆	☆	☆	16.00	115	4.528	41	1.614	65	2.559
14.25	.5610	M16 66%	R840-1425-30-A0A	☆	☆	☆	☆	☆	☆	R840-1425-30-A1A	☆	☆	☆	☆	☆	☆	16.00	115	4.528	41	1.614	65	2.559
14.29	.5626									R840-1429-30-A1A	☆	☆	☆	☆	☆	☆	16.00	115	4.528	41	1.614	65	2.559
14.50	.5709		R840-1450-30-A0A	☆	☆	☆	☆	☆	☆	R840-1450-30-A1A	☆	☆	☆	☆	☆	☆	16.00	115	4.528	41	1.614	65	2.559
14.69	.5783									R840-1469-30-A1A	☆	☆	☆	☆	☆	☆	16.00	115	4.528	41	1.614	65	2.559
14.75	.5807		R840-1475-30-A0A	☆	☆	☆	☆	☆	☆	R840-1475-30-A1A	☆	☆	☆	☆	☆	☆	16.00	115	4.528	41	1.614	65	2.559
14.80	.5827	M15 75%	R840-1480-30-A0A	☆	☆	☆	☆	☆	☆	R840-1480-30-A1A	☆	☆	☆	☆	☆	☆	16.00	115	4.528	41	1.614	65	2.559
15.00	.5906		R840-1500-30-A0A	☆	☆	☆	☆	☆	☆	R840-1500-30-A1A	☆	☆	☆	☆	☆	☆	16.00	115	4.528	42	1.654	65	2.559
15.50	.6102	M18 76%	R840-1550-30-A0A	☆	☆	☆	☆	☆	☆	R840-1550-30-A1A	☆	☆	☆	☆	☆	☆	16.00	115	4.528	42	1.654	65	2.559
15.80	.6220		R840-1580-30-A0A	☆	☆	☆	☆	☆	☆	R840-1580-30-A1A	☆	☆	☆	☆	☆	☆	16.00	115	4.528	42	1.654	65	2.559
15.87	.6248									R840-1587-30-A1A	☆	☆	☆	☆	☆	☆	16.00	115	4.528	42	1.654	65	2.559
16.00	.6299		R840-1600-30-A0A	☆	☆	☆	☆	☆	☆	R840-1600-30-A1A	☆	☆	☆	☆	☆	☆	16.00	115	4.528	42	1.654	65	2.559
16.08	.6331	1)								R840-1608-30-A1A	☆	☆	☆	☆	☆	☆	18.00	123	4.842	46	1.811	73	2.874
16.10	.6339									R840-1610-30-A1A	☆	☆	☆	☆	☆	☆	18.00	123	4.842	46	1.811	73	2.874
16.50	.6496		R840-1650-30-A0A	☆	☆	☆	☆	☆	☆	R840-1650-30-A1A	☆	☆	☆	☆	☆	☆	18.00	123	4.842	46	1.811	73	2.874
16.67	.6563									R840-1667-30-A1A	☆	☆	☆	☆	☆	☆	18.00	123	4.842	46	1.811	73	2.874
16.80	.6614		R840-1680-30-A0A	☆	☆	☆	☆	☆	☆	R840-1680-30-A1A	☆	☆	☆	☆	☆	☆	18.00	123	4.842	46	1.811	73	2.874
17.00	.6693		R840-1700-30-A0A	☆	☆	☆	☆	☆	☆	R840-1700-30-A1A	☆	☆	☆	☆	☆	☆	18.00	123	4.842	47	1.850	73	2.874
17.46	.6874									R840-1746-30-A1A	☆	☆	☆	☆	☆	☆	18.00	123	4.842	47	1.850	73	2.874
17.50	.6890	M20 76%	R840-1750-30-A0A	☆	☆	☆	☆	☆	☆	R840-1750-30-A1A	☆	☆	☆	☆	☆	☆	18.00	123	4.842	47	1.850	73	2.874
17.80	.7008		R840-1780-30-A0A	☆	☆	☆	☆	☆	☆	R840-1780-30-A1A	☆	☆	☆	☆	☆	☆	18.00	123	4.842	47	1.850	73	2.874
18.00	.7087		R840-1800-30-A0A	☆	☆	☆	☆	☆	☆	R840-1800-30-A1A	☆	☆	☆	☆	☆	☆	18.00	123	4.842	47	1.850	73	2.874
18.50	.7283		R840-1850-30-A0A	☆	☆	☆	☆	☆	☆	R840-1850-30-A1A	☆	☆	☆	☆	☆	☆	20.00	131	5.158	49	1.929	79	3.110
18.80	.7402		R840-1880-30-A0A	☆	☆	☆	☆	☆	☆	R840-1880-30-A1A	☆	☆	☆	☆	☆	☆	20.00	131	5.158	49	1.929	79	3.110
19.00	.7480		R840-1900-30-A0A	☆	☆	☆	☆	☆	☆	R840-1900-30-A1A	☆	☆	☆	☆	☆	☆	20.00	131	5.158	50	1.968	79	3.110
19.05	.7500									R840-1905-30-A1A	☆	☆	☆	☆	☆	☆	20.00	131	5.158	50	1.968	79	3.110
19.25	.7579	1)								R840-1925-30-A1A	☆	☆	☆	☆	☆	☆	20.00	131	5.158	50	1.968	79	3.110
19.50	.7677		R840-1950-30-A0A	☆	☆	☆	☆	☆	☆	R840-1950-30-A1A	☆	☆	☆	☆	☆	☆	20.00	131	5.158	50	1.968	79	3.110
19.80	.7795		R840-1980-30-A0A	☆	☆	☆	☆	☆	☆	R840-1980-30-A1A	☆	☆	☆	☆	☆	☆	20.00	131	5.158	50	1.968	79	3.110
20.00	.7874		R840-2000-30-A0A	☆	☆	☆	☆	☆	☆	R840-2000-30-A1A	☆	☆	☆	☆	☆	☆	20.00	131	5.158	50	1.968	79	3.110

E133 E184 E4 G6 E2 J4

CoroDrill® Delta-C 4 – 5 × D_c

R840

Cylindrical shank



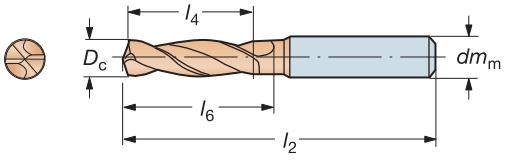
Drill diameter: 3.00-20.00 mm (.118-.787 inch)
Max hole depth: 4 - 5 × D_c

Coating: TiN/TiAlN multilayer
Hole tolerance: IT8-9-10
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

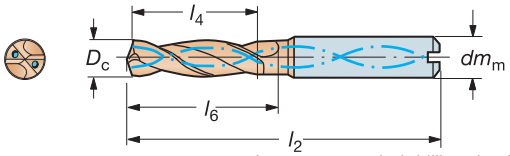
Drill standard: DIN 6537

Tolerances: dm_m= h6
D_c = m7

External coolant supply



Internal coolant supply



l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	External coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Internal coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
3.00	.1181		R840-0300-50-A0A	☆	☆	☆	☆	☆	☆	R840-0300-50-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	20	.787	28	1.102
3.10	.1220		R840-0310-50-A0A	☆	☆	☆	☆	☆	☆	R840-0310-50-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	20	.787	28	1.102
3.17	.1248									R840-0317-50-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	20	.787	28	1.102
3.20	.1260		R840-0320-50-A0A	☆	☆	☆	☆	☆	☆	R840-0320-50-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	20	.787	28	1.102
3.30	.1299		R840-0330-50-A0A	☆	☆	☆	☆	☆	☆	R840-0330-50-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	20	.787	28	1.102
3.38	.1331	M5	R840-0338-50-A0A	☆	☆	☆	☆	☆	☆								6.00	66	2.598	20	.787	28	1.102
3.40	.1339	M4 65%	R840-0340-50-A0A	☆	☆	☆	☆	☆	☆	R840-0340-50-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	20	.787	28	1.102
3.45	.1358	8-32 UNC	R840-0345-50-A0A	☆	☆	☆	☆	☆	☆	R840-0345-50-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	20	.787	28	1.102
3.50	.1378		R840-0350-50-A0A	☆	☆	☆	☆	☆	☆	R840-0350-50-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	20	.787	28	1.102
3.55	.1398	8-36 UNF	R840-0355-50-A0A	☆	☆	☆	☆	☆	☆	R840-0355-50-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	20	.787	28	1.102
3.57	.1406									R840-0357-50-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	20	.787	28	1.102
3.60	.1417		R840-0360-50-A0A	☆	☆	☆	☆	☆	☆	R840-0360-50-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	20	.787	28	1.102
3.70	.1457		R840-0370-50-A0A	☆	☆	☆	☆	☆	☆	R840-0370-50-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	20	.787	28	1.102
3.80	.1496		R840-0380-50-A0A	☆	☆	☆	☆	☆	☆	R840-0380-50-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	20	.787	28	1.102
3.90	.1535	10-24 UNC	R840-0390-50-A0A	☆	☆	☆	☆	☆	☆	R840-0390-50-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	20	.787	28	1.102
3.97	.1563									R840-0397-50-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	20	.787	28	1.102
4.00	.1575		R840-0400-50-A0A	☆	☆	☆	☆	☆	☆	R840-0400-50-A1A	☆	☆	☆	☆	☆	☆	6.00	74	2.913	27	1.063	36	1.417
4.10	.1614	10-32 UNF	R840-0410-50-A0A	☆	☆	☆	☆	☆	☆	R840-0410-50-A1A	☆	☆	☆	☆	☆	☆	6.00	74	2.913	27	1.063	36	1.417
4.20	.1654		R840-0420-50-A0A	☆	☆	☆	☆	☆	☆	R840-0420-50-A1A	☆	☆	☆	☆	☆	☆	6.00	74	2.913	27	1.063	36	1.417
4.30	.1693	M5 65%	R840-0430-50-A0A	☆	☆	☆	☆	☆	☆	R840-0430-50-A1A	☆	☆	☆	☆	☆	☆	6.00	74	2.913	27	1.063	36	1.417
4.36	.1717									R840-0436-50-A1A	☆	☆	☆	☆	☆	☆	6.00	74	2.913	27	1.063	36	1.417
4.40	.1732		R840-0440-50-A0A	☆	☆	☆	☆	☆	☆	R840-0440-50-A1A	☆	☆	☆	☆	☆	☆	6.00	74	2.913	27	1.063	36	1.417
4.50	.1772		R840-0450-50-A0A	☆	☆	☆	☆	☆	☆	R840-0450-50-A1A	☆	☆	☆	☆	☆	☆	6.00	74	2.913	27	1.063	36	1.417
4.55	.1791	12-24 UNC	R840-0455-50-A0A	☆	☆	☆	☆	☆	☆	R840-0455-50-A1A	☆	☆	☆	☆	☆	☆	6.00	74	2.913	27	1.063	36	1.417
4.60	.1811		R840-0460-50-A0A	☆	☆	☆	☆	☆	☆	R840-0460-50-A1A	☆	☆	☆	☆	☆	☆	6.00	74	2.913	27	1.063	36	1.417
4.70	.1850		R840-0470-50-A0A	☆	☆	☆	☆	☆	☆	R840-0470-50-A1A	☆	☆	☆	☆	☆	☆	6.00	74	2.913	27	1.063	36	1.417
4.76	.1874									R840-0476-50-A1A	☆	☆	☆	☆	☆	☆	6.00	74	2.913	27	1.063	36	1.417
4.80	.1890	12-32 UNF	R840-0480-50-A0A	☆	☆	☆	☆	☆	☆	R840-0480-50-A1A	☆	☆	☆	☆	☆	☆	6.00	74	2.913	27	1.063	36	1.417
4.90	.1929		R840-0490-50-A0A	☆	☆	☆	☆	☆	☆	R840-0490-50-A1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	34	1.339	44	1.732
5.00	.1969	M6 75%	R840-0500-50-A0A	☆	☆	☆	☆	☆	☆	R840-0500-50-A1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.10	.2008	M6 65%	R840-0510-50-A0A	☆	☆	☆	☆	☆	☆	R840-0510-50-A1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.16	.2031									R840-0516-50-A1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.20	.2047		R840-0520-50-A0A	☆	☆	☆	☆	☆	☆	R840-0520-50-A1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.25	.2067	1/4-20 UNC								R840-0525-50-A1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.30	.2087		R840-0530-50-A0A	☆	☆	☆	☆	☆	☆	R840-0530-50-A1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.40	.2126		R840-0540-50-A0A	☆	☆	☆	☆	☆	☆	R840-0540-50-A1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.50	.2165		R840-0550-50-A0A	☆	☆	☆	☆	☆	☆	R840-0550-50-A1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.55	.2185	1/4-28 UNF								R840-0555-50-A1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.56	.2189									R840-0556-50-A1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.60	.2205		R840-0560-50-A0A	☆	☆	☆	☆	☆	☆	R840-0560-50-A1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.70	.2244		R840-0570-50-A0A	☆	☆	☆	☆	☆	☆	R840-0570-50-A1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.80	.2283		R840-0580-50-A0A	☆	☆	☆	☆	☆	☆	R840-0580-50-A1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.90	.2323		R840-0590-50-A0A	☆	☆	☆	☆	☆	☆	R840-0590-50-A1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.95	.2343									R840-0595-50-A1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
6.00	.2362		R840-0600-50-A0A	☆	☆	☆	☆	☆	☆	R840-0600-50-A1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
6.10	.2402		R840-0610-50-A0A	☆	☆	☆	☆	☆	☆	R840-0610-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087

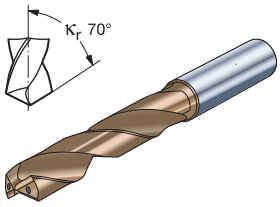
E133 E184 E4 G6 E2 J4

SANDVIK Coromant

CoroDrill® Delta-C 4 – 5 × D_c

R840

Cylindrical shank



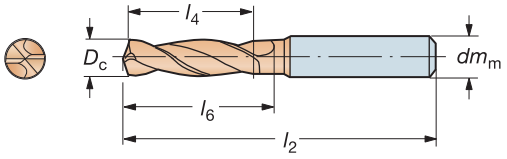
Drill diameter: 3.00-20.00 mm (.118-.787 inch)
Max hole depth: 4 - 5 × D_c

Coating: TiN/TiAlN multilayer
Hole tolerance: IT8-9-10
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

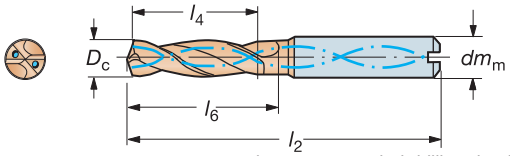
Drill standard: DIN 6537

Tolerances: dm_m= h6
D_c = m7

External coolant supply



Internal coolant supply



l_4 = recommended drilling depth

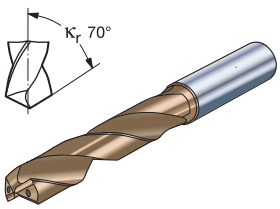
D_c mm	D_c inch	Thread size	External coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Internal coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
6.20	.2441		R840-0620-50-A0A	☆	☆	☆	☆	☆	☆	R840-0620-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
6.30	.2480		R840-0630-50-A0A	☆	☆	☆	☆	☆	☆	R840-0630-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
6.35	.2500									R840-0635-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
6.40	.2520		R840-0640-50-A0A	☆	☆	☆	☆	☆	☆	R840-0640-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
6.50	.2559		R840-0650-50-A0A	☆	☆	☆	☆	☆	☆	R840-0650-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
6.60	.2598		R840-0660-50-A0A	☆	☆	☆	☆	☆	☆	R840-0660-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
6.70	.2638	5/16-18 UNC	R840-0670-50-A0A	☆	☆	☆	☆	☆	☆	R840-0670-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
6.75	.2657									R840-0675-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
6.80	.2677		R840-0680-50-A0A	☆	☆	☆	☆	☆	☆	R840-0680-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
6.90	.2717	M8 65%	R840-0690-50-A0A	☆	☆	☆	☆	☆	☆	R840-0690-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
7.00	.2756	5/18-16 UNF	R840-0700-50-A0A	☆	☆	☆	☆	☆	☆	R840-0700-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
7.10	.2795	MF8 x 1	R840-0710-50-A0A	☆	☆	☆	☆	☆	☆	R840-0710-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
7.14	.2811									R840-0714-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
7.20	.2835		R840-0720-50-A0A	☆	☆	☆	☆	☆	☆	R840-0720-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
7.30	.2874		R840-0730-50-A0A	☆	☆	☆	☆	☆	☆	R840-0730-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
7.40	.2913		R840-0740-50-A0A	☆	☆	☆	☆	☆	☆	R840-0740-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
7.50	.2953		R840-0750-50-A0A	☆	☆	☆	☆	☆	☆	R840-0750-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
7.54	.2969									R840-0754-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
7.60	.2992		R840-0760-50-A0A	☆	☆	☆	☆	☆	☆	R840-0760-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
7.70	.3031		R840-0770-50-A0A	☆	☆	☆	☆	☆	☆	R840-0770-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
7.80	.3071		R840-0780-50-A0A	☆	☆	☆	☆	☆	☆	R840-0780-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
7.90	.3110		R840-0790-50-A0A	☆	☆	☆	☆	☆	☆	R840-0790-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
7.94	.3126									R840-0794-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
8.00	.3150		R840-0800-50-A0A	☆	☆	☆	☆	☆	☆	R840-0800-50-A1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
8.10	.3189		R840-0810-50-A0A	☆	☆	☆	☆	☆	☆	R840-0810-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
8.15	.3209	3/8-16 UNC								R840-0815-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
8.20	.3228		R840-0820-50-A0A	☆	☆	☆	☆	☆	☆	R840-0820-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
8.30	.3268		R840-0830-50-A0A	☆	☆	☆	☆	☆	☆	R840-0830-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
8.33	.3280									R840-0833-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
8.40	.3307		R840-0840-50-A0A	☆	☆	☆	☆	☆	☆	R840-0840-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
8.50	.3346		R840-0850-50-A0A	☆	☆	☆	☆	☆	☆	R840-0850-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
8.60	.3386	M10 70%	R840-0860-50-A0A	☆	☆	☆	☆	☆	☆	R840-0860-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
8.70	.3425	M10 65%	R840-0870-50-A0A	☆	☆	☆	☆	☆	☆	R840-0870-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
8.73	.3437									R840-0873-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
8.80	.3465		R840-0880-50-A0A	☆	☆	☆	☆	☆	☆	R840-0880-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
8.90	.3504	MF10 x 1.25	R840-0890-50-A0A	☆	☆	☆	☆	☆	☆	R840-0890-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
9.00	.3543		R840-0900-50-A0A	☆	☆	☆	☆	☆	☆	R840-0900-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.10	.3583		R840-0910-50-A0A	☆	☆	☆	☆	☆	☆	R840-0910-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.13	.3594									R840-0913-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.20	.3622		R840-0920-50-A0A	☆	☆	☆	☆	☆	☆	R840-0920-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.30	.3661		R840-0930-50-A0A	☆	☆	☆	☆	☆	☆	R840-0930-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.40	.3701		R840-0940-50-A0A	☆	☆	☆	☆	☆	☆	R840-0940-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.50	.3740		R840-0950-50-A0A	☆	☆	☆	☆	☆	☆	R840-0950-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.52	.3748									R840-0952-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.55	.3760	7/16-14 UNC								R840-0955-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402

E133 E184 E4 G6 E2 J4

CoroDrill® Delta-C 4 – 5 × D_c

R840

Cylindrical shank



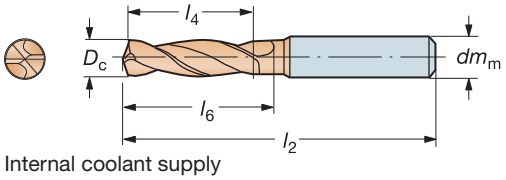
Drill diameter: 3.00-20.00 mm (.118-.787 inch)
Max hole depth: 4 - 5 × D_c

Coating: TiN/TiAlN multilayer
Hole tolerance: IT8-9-10
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

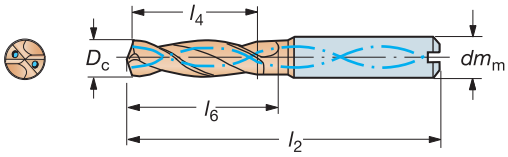
Drill standard: DIN 6537

Tolerances: dm_m= h6
D_c = m7

External coolant supply



Internal coolant supply



l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	External coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Internal coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
9.60	.3780		R840-0960-50-A0A	☆	☆	☆	☆	☆	☆	R840-0960-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.70	.3819		R840-0970-50-A0A	☆	☆	☆	☆	☆	☆	R840-0970-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.80	.3858		R840-0980-50-A0A	☆	☆	☆	☆	☆	☆	R840-0980-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.90	.3898		R840-0990-50-A0A	☆	☆	☆	☆	☆	☆	R840-0990-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.92	.3906									R840-0992-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
10.00	.3937	7/16-20 UNF	R840-1000-50-A0A	☆	☆	☆	☆	☆	☆	R840-1000-50-A1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
10.10	.3976		R840-1010-50-A0A	☆	☆	☆	☆	☆	☆	R840-1010-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
10.20	.4016		R840-1020-50-A0A	☆	☆	☆	☆	☆	☆	R840-1020-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
10.30	.4055	M12 75%	R840-1030-50-A0A	☆	☆	☆	☆	☆	☆	R840-1030-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
10.32	.4063	M12								R840-1032-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
10.40	.4094	M12 70%	R840-1040-50-A0A	☆	☆	☆	☆	☆	☆	R840-1040-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
10.45	.4114	M12								R840-1045-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
10.50	.4134		R840-1050-50-A0A	☆	☆	☆	☆	☆	☆	R840-1050-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
10.60	.4173		R840-1060-50-A0A	☆	☆	☆	☆	☆	☆	R840-1060-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
10.70	.4213	MF12 x 1.5	R840-1070-50-A0A	☆	☆	☆	☆	☆	☆	R840-1070-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
10.71	.4217									R840-1071-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
10.80	.4252		R840-1080-50-A0A	☆	☆	☆	☆	☆	☆	R840-1080-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
10.90	.4291									R840-1090-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
11.00	.4331	1/2-13 UNC	R840-1100-50-A0A	☆	☆	☆	☆	☆	☆	R840-1100-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
11.10	.4370		R840-1110-50-A0A	☆	☆	☆	☆	☆	☆	R840-1110-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
11.11	.4374									R840-1111-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
11.20	.4409		R840-1120-50-A0A	☆	☆	☆	☆	☆	☆	R840-1120-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
11.30	.4449		R840-1130-50-A0A	☆	☆	☆	☆	☆	☆	R840-1130-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
11.40	.4488									R840-1140-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
11.50	.4528		R840-1150-50-A0A	☆	☆	☆	☆	☆	☆	R840-1150-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
11.51	.4531									R840-1151-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
11.60	.4567	1/2-20 UNF	R840-1160-50-A0A	☆	☆	☆	☆	☆	☆	R840-1160-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
11.70	.4606		R840-1170-50-A0A	☆	☆	☆	☆	☆	☆	R840-1170-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
11.80	.4646		R840-1180-50-A0A	☆	☆	☆	☆	☆	☆	R840-1180-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
11.90	.4685		R840-1190-50-A0A	☆	☆	☆	☆	☆	☆	R840-1190-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
12.00	.4724		R840-1200-50-A0A	☆	☆	☆	☆	☆	☆	R840-1200-50-A1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
12.10	.4764	M14 72%	R840-1210-50-A0A	☆	☆	☆	☆	☆	☆	R840-1210-50-A1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	55	2.165	77	3.032
12.20	.4803	M14 65%	R840-1220-50-A0A	☆	☆	☆	☆	☆	☆	R840-1220-50-A1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	55	2.165	77	3.032
12.30	.4843		R840-1230-50-A0A	☆	☆	☆	☆	☆	☆	R840-1230-50-A1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	55	2.165	77	3.032
12.40	.4882		R840-1240-50-A0A	☆	☆	☆	☆	☆	☆	R840-1240-50-A1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	55	2.165	77	3.032
12.50	.4921		R840-1250-50-A0A	☆	☆	☆	☆	☆	☆	R840-1250-50-A1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	55	2.165	77	3.032
12.60	.4961		R840-1260-50-A0A	☆	☆	☆	☆	☆	☆	R840-1260-50-A1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	55	2.165	77	3.032
12.70	.5000		R840-1270-50-A0A	☆	☆	☆	☆	☆	☆	R840-1270-50-A1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	55	2.165	77	3.032
12.80	.5039		R840-1280-50-A0A	☆	☆	☆	☆	☆	☆	R840-1280-50-A1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	55	2.165	77	3.032
13.00	.5118		R840-1300-50-A0A	☆	☆	☆	☆	☆	☆	R840-1300-50-A1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	56	2.205	77	3.032
13.10	.5157									R840-1310-50-A1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	56	2.205	77	3.032
13.25	.5217		R840-1325-50-A0A	☆	☆	☆	☆	☆	☆	R840-1325-50-A1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	56	2.205	77	3.032
13.50	.5315	5/8-11 UNC	R840-1350-50-A0A	☆	☆	☆	☆	☆	☆	R840-1350-50-A1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	56	2.205	77	3.032
13.75	.5413		R840-1375-50-A0A	☆	☆	☆	☆	☆	☆	R840-1375-50-A1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	56	2.205	77	3.032

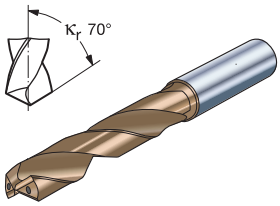
E133 E184 E4 G6 E2 J4

SANDVIK Coromant

CoroDrill® Delta-C 4 – 5 × D_c

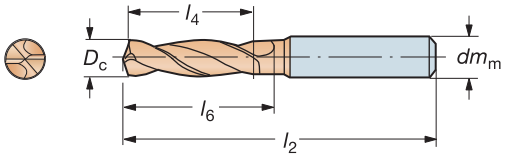
R840

Cylindrical shank

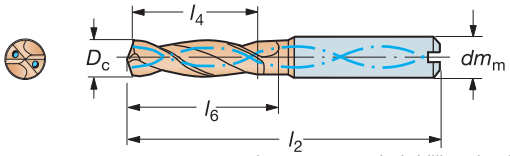


Drill diameter:	3.00-20.00 mm (.118-.787 inch)
Max hole depth:	4 - 5 × D_c
Coating:	TiN/TiAlN multilayer
Hole tolerance:	IT8-9-10
Surface finish:	R_a 1-2 µm (40-75 µ inch)
Cutting fluid:	Emulsion or cutting oil
Drill standard:	DIN 6537
Tolerances:	dm_m= h6 D_c = m7

External coolant supply



Internal coolant supply



l_4 = recommended drilling depth

1) Tube sheet

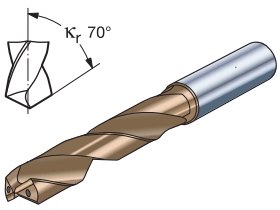
D_c mm	D_c inch	Thread size	External coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Internal coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
13.80	.5433		R840-1380-50-A0A	☆	☆	☆	☆	☆	☆	R840-1380-50-A1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	56	2.205	77	3.032
13.89	.5469									R840-1389-50-A1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	56	2.205	77	3.032
14.00	.5512		R840-1400-50-A0A	☆	☆	☆	☆	☆	☆	R840-1400-50-A1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	56	2.205	77	3.032
14.10	.5551									R840-1410-50-A1A	☆	☆	☆	☆	☆	☆	16.00	133	5.236	59	2.323	83	3.268
14.25	.5610	M16 66%	R840-1425-50-A0A	☆	☆	☆	☆	☆	☆	R840-1425-50-A1A	☆	☆	☆	☆	☆	☆	16.00	133	5.236	59	2.323	83	3.268
14.29	.5626									R840-1429-50-A1A	☆	☆	☆	☆	☆	☆	16.00	133	5.236	59	2.323	83	3.268
14.50	.5709		R840-1450-50-A0A	☆	☆	☆	☆	☆	☆	R840-1450-50-A1A	☆	☆	☆	☆	☆	☆	16.00	133	5.236	59	2.323	83	3.268
14.69	.5783									R840-1469-50-A1A	☆	☆	☆	☆	☆	☆	16.00	133	5.236	59	2.323	83	3.268
14.75	.5807		R840-1475-50-A0A	☆	☆	☆	☆	☆	☆	R840-1475-50-A1A	☆	☆	☆	☆	☆	☆	16.00	133	5.236	59	2.323	83	3.268
14.80	.5827	M15 75%	R840-1480-50-A0A	☆	☆	☆	☆	☆	☆	R840-1480-50-A1A	☆	☆	☆	☆	☆	☆	16.00	133	5.236	59	2.323	83	3.268
15.00	.5906		R840-1500-50-A0A	☆	☆	☆	☆	☆	☆	R840-1500-50-A1A	☆	☆	☆	☆	☆	☆	16.00	133	5.236	60	2.362	83	3.268
15.50	.6102	M18 76%	R840-1550-50-A0A	☆	☆	☆	☆	☆	☆	R840-1550-50-A1A	☆	☆	☆	☆	☆	☆	16.00	133	5.236	60	2.362	83	3.268
15.80	.6220		R840-1580-50-A0A	☆	☆	☆	☆	☆	☆	R840-1580-50-A1A	☆	☆	☆	☆	☆	☆	16.00	133	5.236	60	2.362	83	3.268
15.87	.6248									R840-1587-50-A1A	☆	☆	☆	☆	☆	☆	16.00	133	5.236	60	2.362	83	3.268
16.00	.6299		R840-1600-50-A0A	☆	☆	☆	☆	☆	☆	R840-1600-50-A1A	☆	☆	☆	☆	☆	☆	16.00	133	5.236	60	2.362	83	3.268
16.10	.6339	1)								R840-1610-50-A1A	☆	☆	☆	☆	☆	☆	18.00	143	5.630	66	2.598	93	3.661
16.50	.6496		R840-1650-50-A0A	☆	☆	☆	☆	☆	☆	R840-1650-50-A1A	☆	☆	☆	☆	☆	☆	18.00	143	5.630	66	2.598	93	3.661
16.67	.6563									R840-1667-50-A1A	☆	☆	☆	☆	☆	☆	18.00	143	5.630	66	2.598	93	3.661
16.80	.6614		R840-1680-50-A0A	☆	☆	☆	☆	☆	☆	R840-1680-50-A1A	☆	☆	☆	☆	☆	☆	18.00	143	5.630	66	2.598	93	3.661
17.00	.6693		R840-1700-50-A0A	☆	☆	☆	☆	☆	☆	R840-1700-50-A1A	☆	☆	☆	☆	☆	☆	18.00	143	5.630	67	2.638	93	3.661
17.46	.6874									R840-1746-50-A1A	☆	☆	☆	☆	☆	☆	18.00	143	5.630	67	2.638	93	3.661
17.50	.6890	M20 76%	R840-1750-50-A0A	☆	☆	☆	☆	☆	☆	R840-1750-50-A1A	☆	☆	☆	☆	☆	☆	18.00	143	5.630	67	2.638	93	3.661
17.80	.7008		R840-1780-50-A0A	☆	☆	☆	☆	☆	☆	R840-1780-50-A1A	☆	☆	☆	☆	☆	☆	18.00	143	5.630	67	2.638	93	3.661
18.00	.7087		R840-1800-50-A0A	☆	☆	☆	☆	☆	☆	R840-1800-50-A1A	☆	☆	☆	☆	☆	☆	18.00	143	5.630	67	2.638	93	3.661
18.50	.7283		R840-1850-50-A0A	☆	☆	☆	☆	☆	☆	R840-1850-50-A1A	☆	☆	☆	☆	☆	☆	20.00	153	6.024	71	2.795	101	3.976
18.80	.7402		R840-1880-50-A0A	☆	☆	☆	☆	☆	☆	R840-1880-50-A1A	☆	☆	☆	☆	☆	☆	20.00	153	6.024	71	2.795	101	3.976
19.00	.7480		R840-1900-50-A0A	☆	☆	☆	☆	☆	☆	R840-1900-50-A1A	☆	☆	☆	☆	☆	☆	20.00	153	6.024	72	2.835	101	3.976
19.05	.7500									R840-1905-50-A1A	☆	☆	☆	☆	☆	☆	20.00	153	6.024	72	2.835	101	3.976
19.25	.7579	1)								R840-1925-50-A1A	☆	☆	☆	☆	☆	☆	20.00	153	6.024	72	2.835	101	3.976
19.30	.7598									R840-1930-50-A1A	☆	☆	☆	☆	☆	☆	20.00	153	6.024	72	2.835	101	3.976
19.50	.7677									R840-1950-50-A1A	☆	☆	☆	☆	☆	☆	20.00	153	6.024	72	2.835	101	3.976
19.80	.7795		R840-1980-50-A0A	☆	☆	☆	☆	☆	☆	R840-1980-50-A1A	☆	☆	☆	☆	☆	☆	20.00	153	6.024	72	2.835	101	3.976
20.00	.7874		R840-2000-50-A0A	☆	☆	☆	☆	☆	☆	R840-2000-50-A1A	☆	☆	☆	☆	☆	☆	20.00	153	6.024	72	2.835	101	3.976

E133 E184 E4 G6 E2 J4

CoroDrill® Delta-C 6 – 7 × D_c

R840

Cylindrical shank

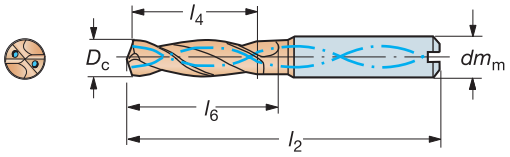


Drill diameter: 5.00-16.30 mm (.197-.642 inch)

Max hole depth: 6 - 7 × D_c
Coating: TiN/TiAlN multilayer
Hole tolerance: IT8-9-10
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Drill standard: DIN 6537
Tolerances: dm_m = h6
Dc = m7

Internal coolant supply



l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	Internal coolant supply Ordering code	P GC 1220	P - H10F	M GC 1220	K GC 1220	K - H10F	N GC 1220	N - H10F	S GC 1220	S - H10F	H GC 1220	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
5.00	.1969	M6 75%	R840-0500-70-A1A	☆		☆	☆		☆		☆		☆	6.00	93	3.661	42	1.654	50	1.968
5.10	.2008	M6 65%	R840-0510-70-A1A	☆		☆	☆		☆		☆		☆	6.00	93	3.661	42	1.654	50	1.968
5.16	.2031		R840-0516-70-A1A	☆		☆	☆		☆		☆		☆	6.00	93	3.661	42	1.654	50	1.968
5.20	.2047		R840-0520-70-A1A	☆		☆	☆		☆		☆		☆	6.00	93	3.661	42	1.654	50	1.968
5.30	.2087		R840-0530-70-A1A	☆		☆	☆		☆		☆		☆	6.00	93	3.661	42	1.654	50	1.968
5.40	.2126		R840-0540-70-A1A	☆		☆	☆		☆		☆		☆	6.00	93	3.661	42	1.654	50	1.968
5.50	.2165		R840-0550-70-A1A	☆		☆	☆		☆		☆		☆	6.00	93	3.661	42	1.654	50	1.968
5.56	.2189		R840-0556-70-A1A	☆		☆	☆		☆		☆		☆	6.00	93	3.661	42	1.654	50	1.968
5.60	.2205		R840-0560-70-A1A	☆		☆	☆		☆		☆		☆	6.00	93	3.661	42	1.654	50	1.968
5.70	.2244		R840-0570-70-A1A	☆		☆	☆		☆		☆		☆	6.00	93	3.661	42	1.654	50	1.968
5.80	.2283		R840-0580-70-A1A	☆		☆	☆		☆		☆		☆	6.00	93	3.661	42	1.654	50	1.968
5.90	.2323		R840-0590-70-A1A	☆		☆	☆		☆		☆		☆	6.00	93	3.661	42	1.654	50	1.968
5.95	.2343		R840-0595-70-A1A	☆		☆	☆		☆		☆		☆	6.00	93	3.661	42	1.654	50	1.968
6.00	.2362		R840-0600-70-A1A	☆		☆	☆		☆		☆		☆	6.00	93	3.661	42	1.654	50	1.968
6.10	.2402		R840-0610-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	49	1.929	59	2.323
6.20	.2441		R840-0620-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	49	1.929	59	2.323
6.30	.2480		R840-0630-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	49	1.929	59	2.323
6.35	.2500		R840-0635-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	49	1.929	59	2.323
6.40	.2520		R840-0640-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	49	1.929	59	2.323
6.50	.2559		R840-0650-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	49	1.929	59	2.323
6.60	.2598		R840-0660-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	49	1.929	59	2.323
6.70	.2638	5/16-18 UNC	R840-0670-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	49	1.929	59	2.323
6.75	.2657		R840-0675-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	49	1.929	59	2.323
6.80	.2677		R840-0680-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	49	1.929	59	2.323
6.90	.2717	M8 65%	R840-0690-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	49	1.929	59	2.323
7.00	.2756	5/16-24 UNF	R840-0700-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	49	1.929	59	2.323
7.10	.2795	MF8 x 1	R840-0710-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	56	2.205	67	2.638
7.14	.2811		R840-0714-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	56	2.205	67	2.638
7.20	.2835		R840-0720-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	56	2.205	67	2.638
7.30	.2874		R840-0730-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	56	2.205	67	2.638
7.40	.2913		R840-0740-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	56	2.205	67	2.638
7.50	.2953		R840-0750-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	56	2.205	67	2.638
7.54	.2969		R840-0754-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	56	2.205	67	2.638
7.60	.2992		R840-0760-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	56	2.205	67	2.638
7.70	.3031		R840-0770-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	56	2.205	67	2.638
7.80	.3071		R840-0780-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	56	2.205	67	2.638
7.90	.3110		R840-0790-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	56	2.205	67	2.638
7.94	.3126		R840-0794-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	56	2.205	67	2.638
8.00	.3150		R840-0800-70-A1A	☆		☆	☆		☆		☆		☆	8.00	105	4.134	56	2.205	67	2.638
8.10	.3189		R840-0810-70-A1A	☆		☆	☆		☆		☆		☆	10.00	120	4.724	62	2.441	75	2.953
8.20	.3228		R840-0820-70-A1A	☆		☆	☆		☆		☆		☆	10.00	120	4.724	62	2.441	75	2.953
8.30	.3268		R840-0830-70-A1A	☆		☆	☆		☆		☆		☆	10.00	120	4.724	62	2.441	75	2.953
8.33	.3280		R840-0833-70-A1A	☆		☆	☆		☆		☆		☆	10.00	120	4.724	62	2.441	75	2.953
8.40	.3307		R840-0840-70-A1A	☆		☆	☆		☆		☆		☆	10.00	120	4.724	62	2.441	75	2.953
8.50	.3346		R840-0850-70-A1A	☆		☆	☆		☆		☆		☆	10.00	120	4.724	62	2.441	75	2.953
8.60	.3386	M10 70%	R840-0860-70-A1A	☆		☆	☆		☆		☆		☆	10.00	120	4.724	62	2.441	75	2.953
8.70	.3425	M10 65%	R840-0870-70-A1A	☆		☆	☆		☆		☆		☆	10.00	120	4.724	62	2.441	75	2.953
8.73	.3437		R840-0873-70-A1A	☆		☆	☆		☆		☆		☆	10.00	120	4.724	62	2.441	75	2.953
8.80	.3465		R840-0880-70-A1A	☆		☆	☆		☆		☆		☆	10.00	120	4.724	62	2.441	75	2.953
8.90	.3504	MF10 x 1.25	R840-0890-70-A1A	☆		☆	☆		☆		☆		☆	10.00	120	4.724	62	2.441	75	2.953
9.00	.3543		R840-0900-70-A1A	☆		☆	☆		☆		☆		☆	10.00	133	5.236	70	2.756	84	3.307
9.10	.3583		R840-0910-70-A1A	☆		☆	☆		☆		☆		☆	10.00	133	5.236	70	2.756	84	3.307
9.13	.3594		R840-0913-70-A1A	☆		☆	☆		☆		☆		☆	10.00	133	5.236	70	2.756	84	3.307

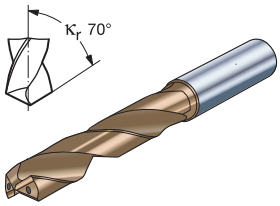
E133 E184 E4 G6 E2 J4

SANDVIK Coromant

CoroDrill® Delta-C 6 – 7 × D_c

R840

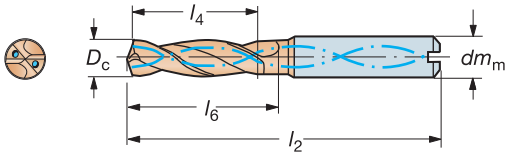
Cylindrical shank



Drill diameter: 5.00-16.30 mm (.197-.642 inch)

Max hole depth: 6 - 7 × D_c
Coating: TiN/TiAlN multilayer
Hole tolerance: IT8-9-10
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Internal coolant supply



Drill standard: DIN 6537
Tolerances: dm_m = h6
Dc = m7

l_4 = recommended drilling depth

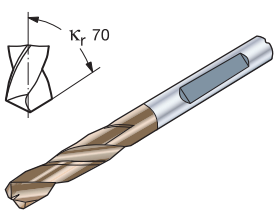
D_c mm	D_c inch	Thread size	Internal coolant supply Ordering code	P GC 1220	P - H10F	M GC 1220	K GC 1220	K - H10F	N GC 1220	N - H10F	S GC 1220	S - H10F	H GC 1220	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
9.20	.3622		R840-0920-70-A1A	☆		☆	☆		☆		☆		☆	10.00	133	5.236	70	2.756	84	3.307
9.30	.3661		R840-0930-70-A1A	☆		☆	☆		☆		☆		☆	10.00	133	5.236	70	2.756	84	3.307
9.40	.3701		R840-0940-70-A1A	☆		☆	☆		☆		☆		☆	10.00	133	5.236	70	2.756	84	3.307
9.50	.3740		R840-0950-70-A1A	☆		☆	☆		☆		☆		☆	10.00	133	5.236	70	2.756	84	3.307
9.52	.3748		R840-0952-70-A1A	☆		☆	☆		☆		☆		☆	10.00	133	5.236	70	2.756	84	3.307
9.60	.3780		R840-0960-70-A1A	☆		☆	☆		☆		☆		☆	10.00	133	5.236	70	2.756	84	3.307
9.70	.3819		R840-0970-70-A1A	☆		☆	☆		☆		☆		☆	10.00	133	5.236	70	2.756	84	3.307
9.80	.3858		R840-0980-70-A1A	☆		☆	☆		☆		☆		☆	10.00	133	5.236	70	2.756	84	3.307
9.90	.3898		R840-0990-70-A1A	☆		☆	☆		☆		☆		☆	10.00	133	5.236	70	2.756	84	3.307
9.92	.3906		R840-0992-70-A1A	☆		☆	☆		☆		☆		☆	10.00	133	5.236	70	2.756	84	3.307
10.00	.3937	7/16-20 UNF	R840-1000-70-A1A	☆		☆	☆		☆		☆		☆	10.00	133	5.236	70	2.756	84	3.307
10.10	.3976		R840-1010-70-A1A	☆		☆	☆		☆		☆		☆	12.00	140	5.512	76	2.992	91	3.583
10.20	.4016		R840-1020-70-A1A	☆		☆	☆		☆		☆		☆	12.00	140	5.512	76	2.992	91	3.583
10.30	.4055	M12 75%	R840-1030-70-A1A	☆		☆	☆		☆		☆		☆	12.00	140	5.512	76	2.992	91	3.583
10.32	.4063	M12	R840-1032-70-A1A	☆		☆	☆		☆		☆		☆	12.00	140	5.512	76	2.992	91	3.583
10.40	.4094	M12 70%	R840-1040-70-A1A	☆		☆	☆		☆		☆		☆	12.00	140	5.512	76	2.992	91	3.583
10.45	.4114		R840-1045-70-A1A	☆		☆	☆		☆		☆		☆	12.00	140	5.512	76	2.992	91	3.583
10.50	.4134		R840-1050-70-A1A	☆		☆	☆		☆		☆		☆	12.00	140	5.512	76	2.992	91	3.583
10.60	.4173		R840-1060-70-A1A	☆		☆	☆		☆		☆		☆	12.00	140	5.512	76	2.992	91	3.583
10.70	.4213	MF12 x 1,5	R840-1070-70-A1A	☆		☆	☆		☆		☆		☆	12.00	140	5.512	76	2.992	91	3.583
10.71	.4217		R840-1071-70-A1A	☆		☆	☆		☆		☆		☆	12.00	140	5.512	76	2.992	91	3.583
10.80	.4252		R840-1080-70-A1A	☆		☆	☆		☆		☆		☆	12.00	140	5.512	76	2.992	91	3.583
10.90	.4291		R840-1090-70-A1A	☆		☆	☆		☆		☆		☆	12.00	140	5.512	76	2.992	91	3.583
11.00	.4331	1/2-13 UNC	R840-1100-70-A1A	☆		☆	☆		☆		☆		☆	12.00	151	5.945	84	3.307	101	3.976
11.10	.4370		R840-1110-70-A1A	☆		☆	☆		☆		☆		☆	12.00	151	5.945	84	3.307	101	3.976
11.11	.4374		R840-1111-70-A1A	☆		☆	☆		☆		☆		☆	12.00	151	5.945	84	3.307	101	3.976
11.20	.4409		R840-1120-70-A1A	☆		☆	☆		☆		☆		☆	12.00	151	5.945	84	3.307	101	3.976
11.30	.4449		R840-1130-70-A1A	☆		☆	☆		☆		☆		☆	12.00	151	5.945	84	3.307	101	3.976
11.40	.4488		R840-1140-70-A1A	☆		☆	☆		☆		☆		☆	12.00	151	5.945	84	3.307	101	3.976
11.50	.4528		R840-1150-70-A1A	☆		☆	☆		☆		☆		☆	12.00	151	5.945	84	3.307	101	3.976
11.60	.4567	1/2-20 UNF	R840-1160-70-A1A	☆		☆	☆		☆		☆		☆	12.00	151	5.945	84	3.307	101	3.976
11.70	.4606		R840-1170-70-A1A	☆		☆	☆		☆		☆		☆	12.00	151	5.945	84	3.307	101	3.976
11.80	.4646		R840-1180-70-A1A	☆		☆	☆		☆		☆		☆	12.00	151	5.945	84	3.307	101	3.976
11.90	.4685		R840-1190-70-A1A	☆		☆	☆		☆		☆		☆	12.00	151	5.945	84	3.307	101	3.976
12.00	.4724		R840-1200-70-A1A	☆		☆	☆		☆		☆		☆	12.00	151	5.945	84	3.307	101	3.976
12.10	.4764	M14 72%	R840-1210-70-A1A	☆		☆	☆		☆		☆		☆	14.00	160	6.299	89	3.504	107	4.213
12.20	.4803	M14 65%	R840-1220-70-A1A	☆		☆	☆		☆		☆		☆	14.00	160	6.299	89	3.504	107	4.213
12.30	.4843		R840-1230-70-A1A	☆		☆	☆		☆		☆		☆	14.00	160	6.299	89	3.504	107	4.213
12.40	.4882		R840-1240-70-A1A	☆		☆	☆		☆		☆		☆	14.00	160	6.299	89	3.504	107	4.213
12.50	.4921		R840-1250-70-A1A	☆		☆	☆		☆		☆		☆	14.00	160	6.299	89	3.504	107	4.213
12.60	.4961		R840-1260-70-A1A	☆		☆	☆		☆		☆		☆	14.00	160	6.299	89	3.504	107	4.213
12.70	.5000		R840-1270-70-A1A	☆		☆	☆		☆		☆		☆	14.00	160	6.299	89	3.504	107	4.213
12.80	.5039		R840-1280-70-A1A	☆		☆	☆		☆		☆		☆	14.00	160	6.299	89	3.504	107	4.213
13.00	.5118		R840-1300-70-A1A	☆		☆	☆		☆		☆		☆	14.00	160	6.299	89	3.504	107	4.213
13.10	.5157		R840-1310-70-A1A	☆		☆	☆		☆		☆		☆	14.00	160	6.299	89	3.504	107	4.213
13.25	.5217		R840-1325-70-A1A	☆		☆	☆		☆		☆		☆	14.00	160	6.299	89	3.504	107	4.213
13.50	.5315	5/8-11 UNC	R840-1350-70-A1A	☆		☆	☆		☆		☆		☆	14.00	160	6.299	89	3.504	107	4.213
13.75	.5413		R840-1375-70-A1A	☆		☆	☆		☆		☆		☆	14.00	160	6.299	89	3.504	107	4.213
13.80	.5433		R840-1380-70-A1A	☆		☆	☆		☆		☆		☆	14.00	160	6.299	89	3.504	107	4.213
13.89	.5469		R840-1389-70-A1A	☆		☆	☆		☆		☆		☆	14.00	160	6.299	89	3.504	107	4.213
14.00	.5512		R840-1400-70-A1A	☆		☆	☆		☆		☆		☆	14.00	160	6.299	89	3.504	107	4.213
16.00	.6299		R840-1600-70-A1A	☆		☆	☆		☆		☆		☆	16.00	178	7.008	105	4.134	128	5.039
16.30	.6417		R840-1630-70-A1A	☆		☆	☆		☆		☆		☆	18.00	187	7.362	114	4.488	137	5.394

E133 E184 E4 G6 E2 J4

CoroDrill® Delta-C 2 – 3 × D_c

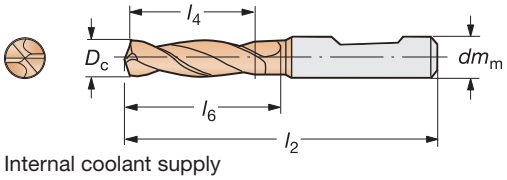
R840

Whistle Notch shank

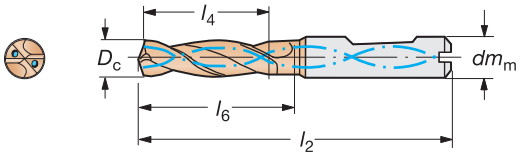


Drill diameter:	3.00-20.00 mm (.118-.787 inch)
Max hole depth:	2 - 3 × D_c
Coating:	TiN/TiAlN multilayer
Hole tolerance:	IT8-9-10
Surface finish:	R_a 1-2 µm (40-75 µ inch)
Cutting fluid:	Emulsion or cutting oil
Drill standard:	DIN 6537
Tolerances:	dm_m= h6
	D_C = m7

External coolant supply



Internal coolant supply



l_4 = recommended drilling depth

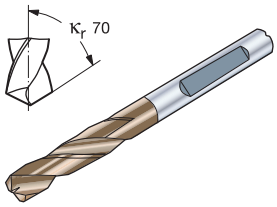
D_c mm	D_c inch	External coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Internal coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
3.00	.1181	R840-0300-30-W0A	☆	☆	☆	☆	☆	☆								6.00	62	2.441	13	.512	20	.787
3.10	.1220	R840-0310-30-W0A	☆	☆	☆	☆	☆	☆								6.00	62	2.441	13	.512	20	.787
3.20	.1260	R840-0320-30-W0A	☆	☆	☆	☆	☆	☆								6.00	62	2.441	13	.512	20	.787
3.30	.1299	R840-0330-30-W0A	☆	☆	☆	☆	☆	☆								6.00	62	2.441	13	.512	20	.787
3.40	.1339	R840-0340-30-W0A	☆	☆	☆	☆	☆	☆								6.00	62	2.441	13	.512	20	.787
3.50	.1378	R840-0350-30-W0A	☆	☆	☆	☆	☆	☆								6.00	62	2.441	14	.551	20	.787
3.60	.1417	R840-0360-30-W0A	☆	☆	☆	☆	☆	☆								6.00	62	2.441	14	.551	20	.787
3.70	.1457	R840-0370-30-W0A	☆	☆	☆	☆	☆	☆								6.00	62	2.441	14	.551	20	.787
3.80	.1496	R840-0380-30-W0A	☆	☆	☆	☆	☆	☆								6.00	62	2.441	14	.551	20	.787
4.00	.1575	R840-0400-30-W0A	☆	☆	☆	☆	☆	☆								6.00	66	2.598	17	.669	24	.945
4.10	.1614	R840-0410-30-W0A	☆	☆	☆	☆	☆	☆								6.00	66	2.598	17	.669	24	.945
4.20	.1654	R840-0420-30-W0A	☆	☆	☆	☆	☆	☆								6.00	66	2.598	17	.669	24	.945
4.30	.1693	R840-0430-30-W0A	☆	☆	☆	☆	☆	☆								6.00	66	2.598	17	.669	24	.945
4.40	.1732	R840-0440-30-W0A	☆	☆	☆	☆	☆	☆								6.00	66	2.598	17	.669	24	.945
4.50	.1772	R840-0450-30-W0A	☆	☆	☆	☆	☆	☆								6.00	66	2.598	17	.669	24	.945
4.70	.1850	R840-0470-30-W0A	☆	☆	☆	☆	☆	☆								6.00	66	2.598	17	.669	24	.945
4.80	.1890	R840-0480-30-W0A	☆	☆	☆	☆	☆	☆								6.00	66	2.598	18	.709	28	1.102
5.00	.1969	R840-0500-30-W0A	☆	☆	☆	☆	☆	☆	R840-0500-30-W1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	18	.709	28	1.102
5.10	.2008	R840-0510-30-W0A	☆	☆	☆	☆	☆	☆	R840-0510-30-W1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	18	.709	28	1.102
5.20	.2047	R840-0520-30-W0A	☆	☆	☆	☆	☆	☆	R840-0520-30-W1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	18	.709	28	1.102
5.30	.2087	R840-0530-30-W0A	☆	☆	☆	☆	☆	☆	R840-0530-30-W1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	18	.709	28	1.102
5.40	.2126	R840-0540-30-W0A	☆	☆	☆	☆	☆	☆								6.00	66	2.598	18	.709	28	1.102
5.50	.2165	R840-0550-30-W0A	☆	☆	☆	☆	☆	☆	R840-0550-30-W1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	19	.748	28	1.102
5.60	.2205								R840-0560-30-W1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	19	.748	28	1.102
5.70	.2244								R840-0570-30-W1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	19	.748	28	1.102
5.80	.2283	R840-0580-30-W0A	☆	☆	☆	☆	☆	☆	R840-0580-30-W1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	19	.748	28	1.102
5.90	.2323								R840-0590-30-W1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	19	.748	28	1.102
6.00	.2362	R840-0600-30-W0A	☆	☆	☆	☆	☆	☆	R840-0600-30-W1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	19	.748	28	1.102
6.10	.2402								R840-0610-30-W1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.20	.2441	R840-0620-30-W0A	☆	☆	☆	☆	☆	☆	R840-0620-30-W1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.30	.2480	R840-0630-30-W0A	☆	☆	☆	☆	☆	☆	R840-0630-30-W1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.40	.2520	R840-0640-30-W0A	☆	☆	☆	☆	☆	☆	R840-0640-30-W1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.50	.2559	R840-0650-30-W0A	☆	☆	☆	☆	☆	☆	R840-0650-30-W1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.60	.2598	R840-0660-30-W0A	☆	☆	☆	☆	☆	☆	R840-0660-30-W1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.70	.2638								R840-0670-30-W1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.80	.2677	R840-0680-30-W0A	☆	☆	☆	☆	☆	☆	R840-0680-30-W1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.90	.2717	R840-0690-30-W0A	☆	☆	☆	☆	☆	☆	R840-0690-30-W1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
7.00	.2756	R840-0700-30-W0A	☆	☆	☆	☆	☆	☆	R840-0700-30-W1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
7.10	.2795	R840-0710-30-W0A	☆	☆	☆	☆	☆	☆	R840-0710-30-W1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.20	.2835	R840-0720-30-W0A	☆	☆	☆	☆	☆	☆	R840-0720-30-W1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614

E133 E184 E4 G6 E2 J4

CoroDrill® Delta-C 2 – 3 × D_c

R840

Whistle Notch shank

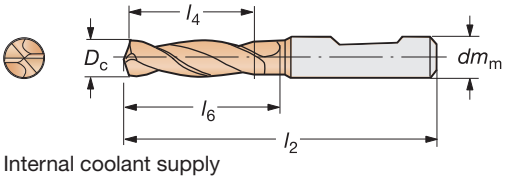


Drill diameter: 3.00-20.00 mm (.118-.787 inch)

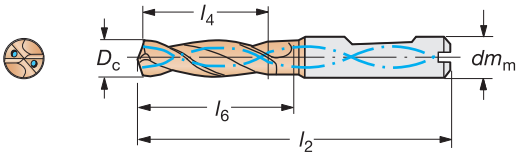
Max hole depth: 2 - 3 × D_c
Coating: TiN/TiAlN multilayer
Hole tolerance: IT8-9-10
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Drill standard: DIN 6537
Tolerances: dm_m= h6
D_c = m7

External coolant supply



Internal coolant supply



l_4 = recommended drilling depth

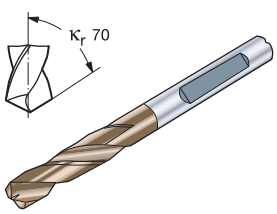
D_c mm	D_c inch	External coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Internal coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
7.30	.2874	R840-0730-30-W0A	☆	☆	☆	☆	☆	☆	R840-0730-30-W1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.40	.2913	R840-0740-30-W0A	☆	☆	☆	☆	☆	☆	R840-0740-30-W1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.50	.2953	R840-0750-30-W0A	☆	☆	☆	☆	☆	☆	R840-0750-30-W1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.60	.2992								R840-0760-30-W1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.70	.3031								R840-0770-30-W1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.80	.3071	R840-0780-30-W0A	☆	☆	☆	☆	☆	☆	R840-0780-30-W1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.90	.3110	R840-0790-30-W0A	☆	☆	☆	☆	☆	☆	R840-0790-30-W1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
8.00	.3150	R840-0800-30-W0A	☆	☆	☆	☆	☆	☆	R840-0800-30-W1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
8.10	.3189	R840-0810-30-W0A	☆	☆	☆	☆	☆	☆	R840-0810-30-W1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.20	.3228	R840-0820-30-W0A	☆	☆	☆	☆	☆	☆	R840-0820-30-W1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.30	.3268								R840-0830-30-W1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.40	.3307								R840-0840-30-W1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.50	.3346	R840-0850-30-W0A	☆	☆	☆	☆	☆	☆	R840-0850-30-W1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.60	.3386	R840-0860-30-W0A	☆	☆	☆	☆	☆	☆	R840-0860-30-W1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.70	.3425	R840-0870-30-W0A	☆	☆	☆	☆	☆	☆	R840-0870-30-W1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.80	.3465	R840-0880-30-W0A	☆	☆	☆	☆	☆	☆	R840-0880-30-W1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.90	.3504	R840-0890-30-W0A	☆	☆	☆	☆	☆									10.00	89	3.504	30	1.181	47	1.850
9.00	.3543	R840-0900-30-W0A	☆	☆	☆	☆	☆	☆	R840-0900-30-W1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.20	.3622	R840-0920-30-W0A	☆	☆	☆	☆	☆	☆	R840-0920-30-W1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.30	.3661	R840-0930-30-W0A	☆	☆	☆	☆	☆	☆	R840-0930-30-W1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.40	.3701	R840-0940-30-W0A	☆	☆	☆	☆	☆	☆								10.00	89	3.504	31	1.220	47	1.850
9.50	.3740	R840-0950-30-W0A	☆	☆	☆	☆	☆	☆	R840-0950-30-W1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.60	.3780								R840-0960-30-W1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.70	.3819								R840-0970-30-W1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.80	.3858								R840-0980-30-W1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.90	.3898								R840-0990-30-W1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
10.00	.3937	R840-1000-30-W0A	☆	☆	☆	☆	☆	☆	R840-1000-30-W1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
10.10	.3976	R840-1010-30-W0A	☆	☆	☆	☆	☆	☆	R840-1010-30-W1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
10.20	.4016	R840-1020-30-W0A	☆	☆	☆	☆	☆	☆	R840-1020-30-W1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
10.30	.4055	R840-1030-30-W0A	☆	☆	☆	☆	☆	☆	R840-1030-30-W1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
10.40	.4094	R840-1040-30-W0A	☆	☆	☆	☆	☆	☆	R840-1040-30-W1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
10.50	.4134	R840-1050-30-W0A	☆	☆	☆	☆	☆	☆	R840-1050-30-W1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
10.60	.4173	R840-1060-30-W0A	☆	☆	☆	☆	☆	☆	R840-1060-30-W1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
10.70	.4213	R840-1070-30-W0A	☆	☆	☆	☆	☆	☆	R840-1070-30-W1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
10.80	.4252	R840-1080-30-W0A	☆	☆	☆	☆	☆	☆	R840-1080-30-W1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
11.00	.4331	R840-1100-30-W0A	☆	☆	☆	☆	☆	☆	R840-1100-30-W1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
11.10	.4370								R840-1110-30-W1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
11.20	.4409	R840-1120-30-W0A	☆	☆	☆	☆	☆	☆	R840-1120-30-W1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
11.50	.4528	R840-1150-30-W0A	☆	☆	☆	☆	☆	☆	R840-1150-30-W1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
11.60	.4567								R840-1160-30-W1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165

E133 E184 E4 G6 E2 J4

CoroDrill® Delta-C 2 – 3 × D_c

R840

Whistle Notch shank

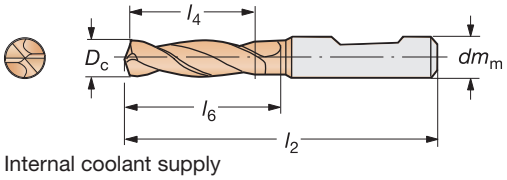


Drill diameter: 3.00-20.00 mm (.118-.787 inch)

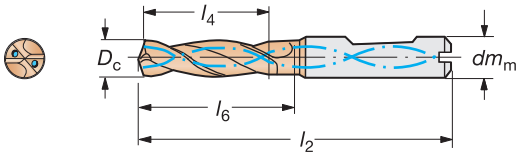
Max hole depth: 2 - 3 × D_c
Coating: TiN/TiAlN multilayer
Hole tolerance: IT8-9-10
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Drill standard: DIN 6537
Tolerances, mm: dm_m = h6
D_c = m7

External coolant supply



Internal coolant supply



l_4 = recommended drilling depth

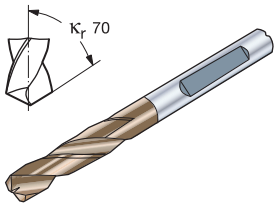
D_c mm	D_c inch	External coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Internal coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
11.70	.4606								R840-1170-30-W1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
11.80	.4646	R840-1180-30-W0A	☆	☆	☆	☆	☆	☆	R840-1180-30-W1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
12.00	.4724	R840-1200-30-W0A	☆	☆	☆	☆	☆	☆	R840-1200-30-W1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
12.10	.4764	R840-1210-30-W0A	☆	☆	☆	☆	☆	☆	R840-1210-30-W1A	☆	☆	☆	☆	☆	☆	14.00	107	4.016	38	1.496	60	2.362
12.20	.4803	R840-1220-30-W0A	☆	☆	☆	☆	☆	☆	R840-1220-30-W1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	38	1.496	60	2.362
12.30	.4843	R840-1230-30-W0A	☆	☆	☆	☆	☆	☆	R840-1230-30-W1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	38	1.496	60	2.362
12.40	.4882								R840-1240-30-W1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	38	1.496	60	2.362
12.50	.4921	R840-1250-30-W0A	☆	☆	☆	☆	☆	☆	R840-1250-30-W1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	38	1.496	60	2.362
12.60	.4961								R840-1260-30-W1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	38	1.496	60	2.362
12.70	.5000								R840-1270-30-W1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	38	1.496	60	2.362
12.80	.5039								R840-1280-30-W1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	38	1.496	60	2.362
13.00	.5118	R840-1300-30-W0A	☆	☆	☆	☆	☆	☆	R840-1300-30-W1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	39	1.535	60	2.362
13.25	.5217								R840-1325-30-W1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	39	1.535	60	2.362
13.50	.5315	R840-1350-30-W0A	☆	☆	☆	☆	☆	☆	R840-1350-30-W1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	39	1.535	60	2.362
13.75	.5413	R840-1375-30-W0A	☆	☆	☆	☆	☆	☆	R840-1375-30-W1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	39	1.535	60	2.362
13.80	.5433								R840-1380-30-W1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	39	1.535	60	2.362
14.00	.5512	R840-1400-30-W0A	☆	☆	☆	☆	☆	☆	R840-1400-30-W1A	☆	☆	☆	☆	☆	☆	14.00	107	4.213	39	1.535	60	2.362
14.25	.5610	R840-1425-30-W0A	☆	☆	☆	☆	☆	☆	R840-1425-30-W1A	☆	☆	☆	☆	☆	☆	16.00	115	4.528	41	1.614	65	2.559
14.50	.5709	R840-1450-30-W0A	☆	☆	☆	☆	☆	☆	R840-1450-30-W1A	☆	☆	☆	☆	☆	☆	16.00	115	4.528	41	1.614	65	2.559
14.75	.5807	R840-1475-30-W0A	☆	☆	☆	☆	☆	☆								16.00	115	4.528	41	1.614	65	2.559
14.80	.5827								R840-1480-30-W1A	☆	☆	☆	☆	☆	☆	16.00	115	4.528	41	1.614	65	2.559
15.00	.5906	R840-1500-30-W0A	☆	☆	☆	☆	☆	☆	R840-1500-30-W1A	☆	☆	☆	☆	☆	☆	16.00	115	4.528	42	1.654	65	2.559
15.50	.6102	R840-1550-30-W0A	☆	☆	☆	☆	☆	☆	R840-1550-30-W1A	☆	☆	☆	☆	☆	☆	16.00	115	4.528	42	1.654	65	2.559
15.80	.6220	R840-1580-30-W0A	☆	☆	☆	☆	☆	☆	R840-1580-30-W1A	☆	☆	☆	☆	☆	☆	16.00	115	4.528	42	1.654	65	2.559
16.00	.6299	R840-1600-30-W0A	☆	☆	☆	☆	☆	☆	R840-1600-30-W1A	☆	☆	☆	☆	☆	☆	16.00	115	4.528	42	1.654	65	2.559
16.50	.6496	R840-1650-30-W0A	☆	☆	☆	☆	☆	☆	R840-1650-30-W1A	☆	☆	☆	☆	☆	☆	18.00	123	4.842	46	1.811	73	2.874
16.80	.6614								R840-1680-30-W1A	☆	☆	☆	☆	☆	☆	18.00	123	4.842	46	1.811	73	2.874
17.00	.6693	R840-1700-30-W0A	☆	☆	☆	☆	☆	☆	R840-1700-30-W1A	☆	☆	☆	☆	☆	☆	18.00	123	4.842	47	1.850	73	2.874
17.50	.6890	R840-1750-30-W0A	☆	☆	☆	☆	☆	☆	R840-1750-30-W1A	☆	☆	☆	☆	☆	☆	18.00	123	4.842	47	1.850	73	2.874
17.80	.7008								R840-1780-30-W1A	☆	☆	☆	☆	☆	☆	18.00	123	4.842	47	1.850	73	2.874
18.00	.7087	R840-1800-30-W0A	☆	☆	☆	☆	☆	☆	R840-1800-30-W1A	☆	☆	☆	☆	☆	☆	18.00	123	4.842	47	1.850	73	2.874
18.50	.7283								R840-1850-30-W1A	☆	☆	☆	☆	☆	☆	20.00	131	5.158	49	1.929	79	3.110
18.80	.7402								R840-1880-30-W1A	☆	☆	☆	☆	☆	☆	20.00	131	5.158	49	1.929	79	3.110
19.00	.7480								R840-1900-30-W1A	☆	☆	☆	☆	☆	☆	20.00	131	5.158	50	1.968	79	3.110
19.50	.7677								R840-1950-30-W1A	☆	☆	☆	☆	☆	☆	20.00	131	5.158	50	1.968	79	3.110
20.00	.7874	R840-2000-30-W0A	☆	☆	☆	☆	☆	☆	R840-2000-30-W1A	☆	☆	☆	☆	☆	☆	20.00	131	5.158	50	1.968	79	3.110

E133 E184 E4 G6 E2 J4

CoroDrill® Delta-C 4 – 5 × D_c

R840

Whistle Notch shank

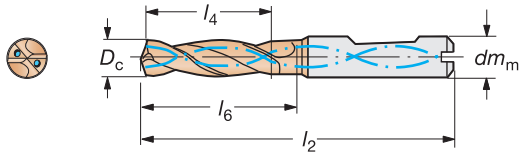


Drill diameter: 5.00-20.00 mm (.197-.787 inch)

Max hole depth: 4 - 5 × D_c
Coating: TiN/TiAlN multilayer
Hole tolerance: IT8-9-10
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Drill standard: DIN 6537
Tolerances: dm_m = h6
D_c = m7

Internal coolant supply



l_4 = recommended drilling depth

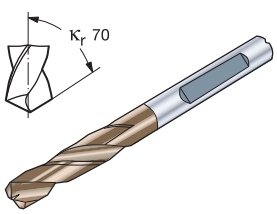
D_c mm	D_c inch	Thread size	Internal coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
5.00	.1969		R840-0500-50-W1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.10	.2008		R840-0510-50-W1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.20	.2047		R840-0520-50-W1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.30	.2087		R840-0530-50-W1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.50	.2165		R840-0550-50-W1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.60	.2205		R840-0560-50-W1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.70	.2244		R840-0570-50-W1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.80	.2283		R840-0580-50-W1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.90	.2323		R840-0590-50-W1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
6.00	.2362		R840-0600-50-W1A	☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
6.10	.2402		R840-0610-50-W1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
6.20	.2441		R840-0620-50-W1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
6.30	.2480		R840-0630-50-W1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
6.40	.2520		R840-0640-50-W1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
6.50	.2559		R840-0650-50-W1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
6.60	.2598		R840-0660-50-W1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
6.70	.2638		R840-0670-50-W1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
6.80	.2677		R840-0680-50-W1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
6.90	.2717		R840-0690-50-W1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
7.00	.2756		R840-0700-50-W1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
7.10	.2795		R840-0710-50-W1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
7.20	.2835		R840-0720-50-W1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
7.30	.2874		R840-0730-50-W1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
7.40	.2913		R840-0740-50-W1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
7.50	.2953		R840-0750-50-W1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
7.60	.2992		R840-0760-50-W1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
7.70	.3031		R840-0770-50-W1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
7.80	.3071		R840-0780-50-W1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
7.90	.3110		R840-0790-50-W1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
8.00	.3150		R840-0800-50-W1A	☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
8.10	.3189		R840-0810-50-W1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
8.20	.3228		R840-0820-50-W1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
8.30	.3268		R840-0830-50-W1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
8.40	.3307		R840-0840-50-W1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
8.50	.3346		R840-0850-50-W1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
8.60	.3386		R840-0860-50-W1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
8.70	.3425		R840-0870-50-W1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
8.80	.3465		R840-0880-50-W1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
8.90	.3504		R840-0890-50-W1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
9.00	.3543		R840-0900-50-W1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.10	.3583		R840-0910-50-W1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.20	.3622		R840-0920-50-W1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.30	.3661		R840-0930-50-W1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.40	.3701		R840-0940-50-W1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.50	.3740		R840-0950-50-W1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.60	.3780		R840-0960-50-W1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.70	.3819		R840-0970-50-W1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.80	.3858		R840-0980-50-W1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
10.00	.3937		R840-1000-50-W1A	☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402

E133 E184 E4 G6 E2 J4

CoroDrill® Delta-C 4 – 5 × D_c

R840

Whistle Notch shank

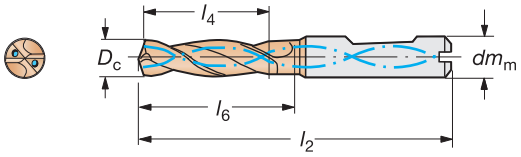


Drill diameter: 5.00-20.00 mm (.197-.787 inch)

Max hole depth: 4 -5 × D_c
Coating: TiN/TiAlN multilayer
Hole tolerance: IT8-9-10
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Drill standard: DIN 6537
Tolerances: dm_m = h6
D_c = m7

Internal coolant supply



l_4 = recommended drilling depth

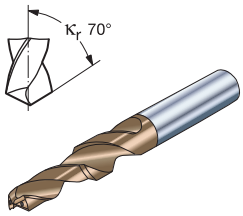
D_c mm	D_c inch	Thread size	Internal coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
10.10	.3976		R840-1010-50-W1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
10.20	.4016		R840-1020-50-W1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
10.30	.4055		R840-1030-50-W1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
10.40	.4094	M12 70%	R840-1040-50-W1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
10.50	.4134		R840-1050-50-W1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
10.60	.4173		R840-1060-50-W1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
10.70	.4213		R840-1070-50-W1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
10.80	.4252		R840-1080-50-W1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
10.90	.4291		R840-1090-50-W1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
11.00	.4331		R840-1100-50-W1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
11.10	.4370		R840-1110-50-W1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
11.20	.4409		R840-1120-50-W1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
11.30	.4449		R840-1130-50-W1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
11.50	.4528		R840-1150-50-W1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
11.80	.4646		R840-1180-50-W1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
11.90	.4685		R840-1190-50-W1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
12.00	.4724		R840-1200-50-W1A	☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
12.10	.4764		R840-1210-50-W1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	55	2.165	77	3.032
12.20	.4803	M14 65%	R840-1220-50-W1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	55	2.165	77	3.032
12.30	.4843		R840-1230-50-W1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	55	2.165	77	3.032
12.50	.4921		R840-1250-50-W1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	55	2.165	77	3.032
12.70	.5000		R840-1270-50-W1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	55	2.165	77	3.032
13.00	.5118		R840-1300-50-W1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	56	2.205	77	3.032
13.25	.5217		R840-1325-50-W1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	56	2.205	77	3.032
13.50	.5315		R840-1350-50-W1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	56	2.205	77	3.032
13.75	.5413		R840-1375-50-W1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	56	2.205	77	3.032
13.80	.5433		R840-1380-50-W1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	56	2.205	77	3.032
14.00	.5512		R840-1400-50-W1A	☆	☆	☆	☆	☆	☆	14.00	124	4.882	56	2.205	77	3.032
14.25	.5610		R840-1425-50-W1A	☆	☆	☆	☆	☆	☆	16.00	133	5.236	59	2.323	83	3.268
14.50	.5709		R840-1450-50-W1A	☆	☆	☆	☆	☆	☆	16.00	133	5.236	59	2.323	83	3.268
14.75	.5807		R840-1475-50-W1A	☆	☆	☆	☆	☆	☆	16.00	133	5.236	59	2.323	83	3.268
14.80	.5827		R840-1480-50-W1A	☆	☆	☆	☆	☆	☆	16.00	133	5.236	59	2.323	83	3.268
15.00	.5906		R840-1500-50-W1A	☆	☆	☆	☆	☆	☆	16.00	133	5.236	60	2.362	83	3.268
15.50	.6102		R840-1550-50-W1A	☆	☆	☆	☆	☆	☆	16.00	133	5.236	60	2.362	83	3.268
15.80	.6220		R840-1580-50-W1A	☆	☆	☆	☆	☆	☆	16.00	133	5.236	60	2.362	83	3.268
16.00	.6299		R840-1600-50-W1A	☆	☆	☆	☆	☆	☆	16.00	133	5.236	60	2.362	83	3.268
16.50	.6496		R840-1650-50-W1A	☆	☆	☆	☆	☆	☆	18.00	143	5.630	66	2.598	93	3.661
16.80	.6614		R840-1680-50-W1A	☆	☆	☆	☆	☆	☆	18.00	143	5.630	66	2.598	93	3.661
17.00	.6693		R840-1700-50-W1A	☆	☆	☆	☆	☆	☆	18.00	143	5.630	67	2.638	93	3.661
17.50	.6890		R840-1750-50-W1A	☆	☆	☆	☆	☆	☆	18.00	143	5.630	67	2.638	93	3.661
17.80	.7008		R840-1780-50-W1A	☆	☆	☆	☆	☆	☆	18.00	143	5.630	67	2.638	93	3.661
18.00	.7087		R840-1800-50-W1A	☆	☆	☆	☆	☆	☆	18.00	143	5.630	67	2.638	93	3.661
18.50	.7283		R840-1850-50-W1A	☆	☆	☆	☆	☆	☆	20.00	153	6.024	71	2.795	101	3.976
19.00	.7480		R840-1900-50-W1A	☆	☆	☆	☆	☆	☆	20.00	153	6.024	72	2.835	101	3.976
19.50	.7677		R840-1950-50-W1A	☆	☆	☆	☆	☆	☆	20.00	153	6.024	72	2.835	101	3.976
19.80	.7795		R840-1980-50-W1A	☆	☆	☆	☆	☆	☆	20.00	153	6.024	72	2.835	101	3.976
20.00	.7874		R840-2000-50-W1A	☆	☆	☆	☆	☆	☆	20.00	153	6.024	72	2.835	101	3.976

E133 E184 E4 G6 E2 J4

CoroDrill® Delta-C 2 – 3 × D_c Chamfer drill for tap-size holes

R841

Cylindrical shank

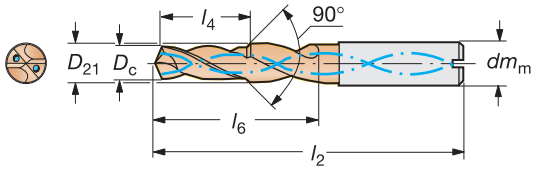


Drill diameter: 3.35-17.50 mm (.132-.689 inch)

Max hole depth: 2 - 3 × D_c
Coating: TiN/TiAlN multilayer
Hole tolerance: IT8-9
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Drill standard: DIN 6537
Tolerances: dm_m = h6
D_c = m8

Internal coolant supply



1) Rolled
2) Thread milling

l_4 = recommended drilling depth

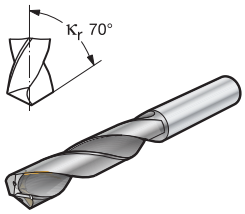
D_c mm	D_c inch	Thread size	Internal coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Dimensions, millimeter, inch (mm, in.) dm_m mm	D_{21} max	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
3.35	.1319	M4 75%	R841-0335-30-A1A	☆	☆	☆	☆	☆	☆	6.00	4.5	62	2.441	10.7	.421	19	.748
3.40	.1339	M4 65%	R841-0340-30-A1A	☆	☆	☆	☆	☆	☆	6.00	4.6	62	2.441	10.8	.425	19	.748
3.70	.1457	M4x0,7[1]	R841-0370-30-A1A	☆	☆	☆	☆	☆	☆	6.00	5.0	62	2.441	11.8	.465	19	.748
4.25	.1673	M5 75%	R841-0425-30-A1A	☆	☆	☆	☆	☆	☆	6.00	5.7	66	2.598	13.5	.532	23	.906
4.30	.1693	M5 75%	R841-0430-30-A1A	☆	☆	☆	☆	☆	☆	6.00	5.8	66	2.598	13.7	.539	23	.906
4.65	.1831	M5x0,8[1]	R841-0465-30-A1A	☆	☆	☆	☆	☆	☆	6.00	5.9	66	2.598	14.6	.575	23	.906
5.00	.1969	M6 75%	R841-0500-30-A1A	☆	☆	☆	☆	☆	☆	8.00	6.8	79	3.110	15.9	.626	28	1.102
5.10	.2008	M6 & 1/4-20 UNC	R841-0510-30-A1A	☆	☆	☆	☆	☆	☆	8.00	6.9	79	3.110	16.2	.638	28	1.102
5.30	.2087	MF6x0,75	R841-0530-30-A1A	☆	☆	☆	☆	☆	☆	8.00	7.2	79	3.110	16.9	.665	28	1.102
5.50	.2165	MF6x0,50[2]	R841-0550-30-A1A	☆	☆	☆	☆	☆	☆	8.00	7.4	79	3.110	17.5	.689	28	1.102
5.55	.2185	M6x1,0[2]	R841-0555-30-A1A	☆	☆	☆	☆	☆	☆	8.00	7.5	79	3.110	17.7	.697	28	1.102
6.60	.2598	5/16-18 UNC	R841-0660-30-A1A	☆	☆	☆	☆	☆	☆	10.00	8.9	89	3.504	21	.827	37	1.457
6.75	.2657	M8x1,25[2]	R841-0675-30-A1A	☆	☆	☆	☆	☆	☆	10.00	9.1	89	3.504	21.5	.846	37	1.457
6.85	.2697	M8 70%	R841-0685-30-A1A	☆	☆	☆	☆	☆	☆	10.00	9.2	89	3.504	21.8	.858	37	1.457
6.90	.2717	M8 65%	R841-0690-30-A1A	☆	☆	☆	☆	☆	☆	10.00	9.3	89	3.504	21.9	.862	37	1.457
7.00	.2756	MF8x1,0	R841-0700-30-A1A	☆	☆	☆	☆	☆	☆	10.00	9.5	89	3.504	22.3	.878	37	1.457
7.25	.2854	MF8x0,75[2]	R841-0725-30-A1A	☆	☆	☆	☆	☆	☆	10.00	9.8	89	3.504	23.1	.909	37	1.457
7.30	.2874	MF8x0,75	R841-0730-30-A1A	☆	☆	☆	☆	☆	☆	10.00	9.8	89	3.504	23.2	.913	37	1.457
7.40	.2913	M8x1,25[1]	R841-0740-30-A1A	☆	☆	☆	☆	☆	☆	10.00	9.8	89	3.504	23.4	.921	37	1.457
8.00	.3150	3/8-16 UNC	R841-0800-30-A1A	☆	☆	☆	☆	☆	☆	12.00	10.8	102	4.016	25.4	1.000	42	1.654
8.50	.3346	M10[2]	R841-0850-30-A1A	☆	☆	☆	☆	☆	☆	12.00	11.5	102	4.016	27	1.063	42	1.654
8.60	.3386	M10 70%	R841-0860-30-A1A	☆	☆	☆	☆	☆	☆	12.00	11.6	102	4.016	27.3	1.075	42	1.654
8.70	.3425	M10 65%	R841-0870-30-A1A	☆	☆	☆	☆	☆	☆	12.00	11.7	102	4.016	27.6	1.087	42	1.654
9.00	.3543	MF10x1,0	R841-0900-30-A1A	☆	☆	☆	☆	☆	☆	12.00	11.8	102	4.016	28.4	1.118	42	1.654
9.25	.3642	M10x0,75	R841-0925-30-A1A	☆	☆	☆	☆	☆	☆	14.00	12.5	107	4.213	29.4	1.158	52	2.047
9.30	.3661	M10x1,5[1]	R841-0930-30-A1A	☆	☆	☆	☆	☆	☆	14.00	12.6	107	4.213	29.6	1.165	52	2.047
10.25	.4035	M12x1,75[2]	R841-1025-30-A1A	☆	☆	☆	☆	☆	☆	14.00	13.8	107	4.213	32.6	1.284	52	2.047
10.30	.4055	M12 75%	R841-1030-30-A1A	☆	☆	☆	☆	☆	☆	14.00	13.8	107	4.213	32.7	1.287	52	2.047
10.40	.4094	M12 65%	R841-1040-30-A1A	☆	☆	☆	☆	☆	☆	14.00	13.8	107	4.213	32.9	1.295	52	2.047
10.50	.4134	MF12x1,5	R841-1050-30-A1A	☆	☆	☆	☆	☆	☆	14.00	13.8	107	4.213	33.2	1.307	52	2.047
10.80	.4252	MF12x1,25 & 1/2-13	R841-1080-30-A1A	☆	☆	☆	☆	☆	☆	16.00	14.6	115	4.528	34.3	1.350	59	2.323
11.00	.4331	MF12x1,0[2]	R841-1100-30-A1A	☆	☆	☆	☆	☆	☆	16.00	14.9	115	4.528	35	1.378	59	2.323
11.20	.4409	M12x1,75[1]	R841-1120-30-A1A	☆	☆	☆	☆	☆	☆	16.00	15.1	115	4.528	35.6	1.402	59	2.323
11.50	.4528	1/2-20 UNF	R841-1150-30-A1A	☆	☆	☆	☆	☆	☆	16.00	15.5	115	4.528	36.5	1.437	59	2.323
12.00	.4724	M14x2,0[2]	R841-1200-30-A1A	☆	☆	☆	☆	☆	☆	16.00	15.8	115	4.528	37.9	1.492	59	2.323
12.10	.4764	M14 72%	R841-1210-30-A1A	☆	☆	☆	☆	☆	☆	18.00	16.3	123	4.842	38.4	1.512	67	2.638
12.25	.4823	M14 & 9/16-12 UNC	R841-1225-30-A1A	☆	☆	☆	☆	☆	☆	18.00	16.5	123	4.842	38.9	1.532	67	2.638
12.50	.4921	MF14x1,5	R841-1250-30-A1A	☆	☆	☆	☆	☆	☆	18.00	16.9	123	4.842	39.7	1.563	67	2.638
13.10	.5157	M14x2,0[1]	R841-1310-30-A1A	☆	☆	☆	☆	☆	☆	18.00	17.7	123	4.842	41.6	1.638	67	2.638
13.50	.5315	5/8-11 UNC	R841-1350-30-A1A	☆	☆	☆	☆	☆	☆	18.00	17.8	123	4.842	42.7	1.681	67	2.638
14.00	.5512	M16x2,0[2]	R841-1400-30-A1A	☆	☆	☆	☆	☆	☆	20.00	18.9	131	5.158	44.5	1.752	78	3.071
14.10	.5551	M16 75%	R841-1410-30-A1A	☆	☆	☆	☆	☆	☆	20.00	19.0	131	5.158	44.8	1.764	78	3.071
14.25	.5610	M16 66%	R841-1425-30-A1A	☆	☆	☆	☆	☆	☆	20.00	19.2	131	5.158	45.3	1.784	78	3.071
14.50	.5709	MF16x1,5	R841-1450-30-A1A	☆	☆	☆	☆	☆	☆	20.00	19.6	131	5.158	46.1	1.815	78	3.071
15.00	.5906	MF16x1,0	R841-1500-30-A1A	☆	☆	☆	☆	☆	☆	20.00	19.8	131	5.158	47.4	1.866	78	3.071
15.10	.5945	M16x2,0[1]	R841-1510-30-A1A	☆	☆	☆	☆	☆	☆	20.00	19.8	131	5.158	47.7	1.878	78	3.071
15.50	.6102	M18 75%	R841-1550-30-A1A	☆	☆	☆	☆	☆	☆	20.00	19.8	131	5.158	48.7	1.917	78	3.071
16.50	.6496	3/4-10 UNC	R841-1650-30-A1A	☆	☆	☆	☆	☆	☆	20.00	19.8	131	5.158	49.2	1.937	78	3.071
17.50	.6890	3/4-16 UNF	R841-1750-30-A1A	☆	☆	☆	☆	☆	☆	20.00	19.8	131	5.158	49.7	1.957	78	3.071

E133 E184 E4 G6 E2 J4

CoroDrill® Delta-C 2 – 3 × D_c

R842

Cylindrical shank

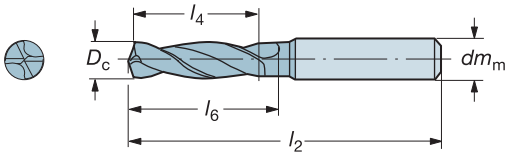


Drill diameter: 3.00 - 16.00 mm (.118-.630 inch)

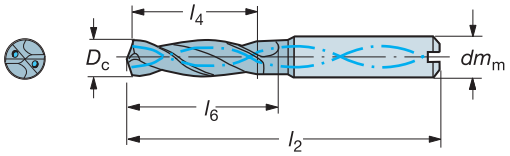
Max hole depth: 2 - 3 × D_c
Coating: AlCrN (Alcrona)
Hole tolerance: IT8-9
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Drill standard: DIN 6537
Tolerances: dm_m = h6
D_c = m7

External coolant supply



Internal coolant supply



l_4 = recommended drilling depth

P Without corner chamfer (Tailor Made)

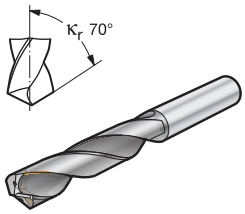
D_c mm	D_c inch	Thread size	External coolant supply Ordering code	K GC 1210	Internal coolant supply Ordering code	K GC 1210	dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
					Dimensions, millimeter, inch (mm, in.)								
3.00	.1181		R842-0300-30-A0A	☆			6.00	62	2.441	13	.512	20	.787
3.20	.1260		R842-0320-30-A0A	☆			6.00	62	2.441	13	.512	20	.787
3.30	.1299		R842-0330-30-A0A	☆			6.00	62	2.441	13	.512	20	.787
3.38	.1331	M4 65%	R842-0338-30-A0A	☆			6.00	62	2.441	13	.512	20	.787
3.50	.1378		R842-0350-30-A0A	☆			6.00	62	2.441	14	.551	20	.787
4.00	.1575		R842-0400-30-A0A	☆			6.00	66	2.598	17	.669	24	.945
4.10	.1614	10-32 UNF	R842-0410-30-A0A	☆			6.00	66	2.598	17	.669	24	.945
4.20	.1654		R842-0420-30-A0A	☆			6.00	66	2.598	17	.669	24	.945
4.30	.1693	M5 65%	R842-0430-30-A0A	☆			6.00	66	2.598	17	.669	24	.945
4.50	.1772		R842-0450-30-A0A	☆			6.00	66	2.598	17	.669	24	.945
4.80	.1890	12-28 UNF	R842-0480-30-A0A	☆			6.00	66	2.598	18	.709	28	1.102
5.00	.1969	M6 75%	R842-0500-30-A0A	☆			6.00	66	2.598	18	.709	28	1.102
5.10	.2008	M6 65%	R842-0510-30-A0A	☆			6.00	66	2.598	18	.709	28	1.102
5.20	.2047		R842-0520-30-A0A	☆			6.00	66	2.598	18	.709	28	1.102
5.30	.2087		R842-0530-30-A0A	☆			6.00	66	2.598	18	.709	28	1.102
5.50	.2165		R842-0550-30-A0A	☆			6.00	66	2.598	19	.748	28	1.102
5.56	.2189		R842-0556-30-A0A	☆			6.00	66	2.598	19	.748	28	1.102
6.00	.2362		R842-0600-30-A0A	☆			6.00	66	2.598	19	.748	28	1.102
6.30	.2480				R842-0630-30-A1A	☆	8.00	79	3.110	22	.866	34	1.339
6.50	.2559				R842-0650-30-A1A	☆	8.00	79	3.110	22	.866	34	1.339
6.70	.2638	5/16-18 UNF			R842-0670-30-A1A	☆	8.00	79	3.110	22	.866	34	1.339
6.80	.2677				R842-0680-30-A1A	☆	8.00	79	3.110	22	.866	34	1.339
6.90	.2717	M8 65%			R842-0690-30-A1A	☆	8.00	79	3.110	22	.866	34	1.339
7.00	.2756	5/16-24 UNF			R842-0700-30-A1A	☆	8.00	79	3.110	22	.866	34	1.339
7.50	.2953				R842-0750-30-A1A	☆	8.00	79	3.110	28	1.102	41	1.614
7.94	.3126				R842-0794-30-A1A	☆	8.00	79	3.110	28	1.102	41	1.614
8.00	.3150	3/8-16 UNC			R842-0800-30-A1A	☆	8.00	79	3.110	28	1.102	41	1.614
8.20	.3228				R842-0820-30-A1A	☆	10.00	89	3.504	30	1.181	47	1.850
8.30	.3268				R842-0830-30-A1A	☆	10.00	89	3.504	30	1.181	47	1.850
8.40	.3307				R842-0840-30-A1A	☆	10.00	89	3.504	30	1.181	47	1.850
8.50	.3346	3/8-24 UNF			R842-0850-30-A1A	☆	10.00	89	3.504	30	1.181	47	1.850
8.60	.3386	M10 70%			R842-0860-30-A1A	☆	10.00	89	3.504	30	1.181	47	1.850
8.70	.3425	M10 65%			R842-0870-30-A1A	☆	10.00	89	3.504	30	1.181	47	1.850
8.90	.3504	MF10x1.25			R842-0890-30-A1A	☆	10.00	89	3.504	30	1.181	47	1.850

E133 E184 E4 G6 E2 J4

CoroDrill® Delta-C 2 – 3 × D_c

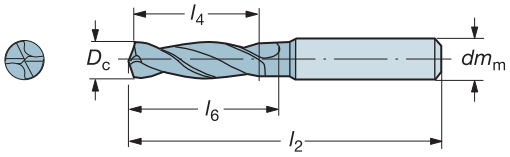
R842

Cylindrical shank

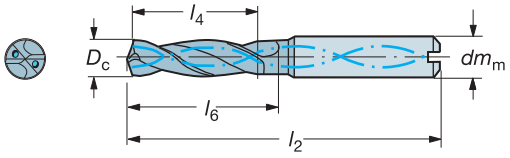


Drill diameter:	3.00 - 16.00 mm (.118-.630 inch)
Max hole depth:	2 - 3 × D_c
Coating:	AlCrN (Alcrona)
Hole tolerance:	IT8-9
Surface finish:	R_a 1-2 µm (40-75 µ inch)
Cutting fluid:	Emulsion or cutting oil
Drill standard:	DIN 6537
Tolerances:	dm_m = h6 D_c = m7

External coolant supply



Internal coolant supply



l_4 = recommended drilling depth

P Without corner chamfer (Tailor Made)

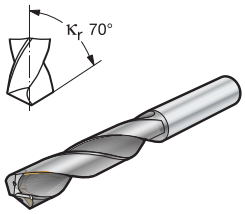
D_c mm	D_c inch	Thread size	External coolant supply Ordering code	K GC 1210	Internal coolant supply Ordering code	K GC 1210	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
9.00	.3543				R842-0900-30-A1A	☆	10.00	89	3.504	31	1.220	47	1.850
9.50	.3740	7/16-14 UNC			R842-0950-30-A1A	☆	10.00	89	3.504	31	1.220	47	1.850
9.80	.3858				R842-0980-30-A1A	☆	10.00	89	3.504	31	1.220	47	1.850
10.00	.3937	7/16-20 UNF			R842-1000-30-A1A	☆	10.00	89	3.504	31	1.220	47	1.850
10.10	.3976				R842-1010-30-A1A	☆	12.00	102	4.016	34	1.339	55	2.165
10.20	.4016				R842-1020-30-A1A	☆	12.00	102	4.016	34	1.339	55	2.165
10.30	.4055	M12 75%			R842-1030-30-A1A	☆	12.00	102	4.016	34	1.339	55	2.165
10.40	.4094	M12 70%			R842-1040-30-A1A	☆	12.00	102	4.016	34	1.339	55	2.165
10.50	.4134	MF12x1.5			R842-1050-30-A1A	☆	12.00	102	4.016	34	1.339	55	2.165
10.70	.4213				R842-1070-30-A1A	☆	12.00	102	4.016	34	1.339	55	2.165
10.80	.4252	1/2-13 UNC			R842-1080-30-A1A	☆	12.00	102	4.016	34	1.339	55	2.165
11.00	.4331				R842-1100-30-A1A	☆	12.00	102	4.016	35	1.378	55	2.165
11.50	.4528	1/2-20 UNF			R842-1150-30-A1A	☆	12.00	102	4.016	35	1.378	55	2.165
12.00	.4724				R842-1200-30-A1A	☆	12.00	102	4.016	35	1.378	55	2.165
12.10	.4764	M14 72%			R842-1210-30-A1A	☆	14.00	107	4.213	38	1.496	60	2.362
12.20	.4803	9/16-12 UNC			R842-1220-30-A1A	☆	14.00	107	4.213	38	1.496	60	2.362
12.30	.4843				R842-1230-30-A1A	☆	14.00	107	4.213	38	1.496	60	2.362
12.50	.4921				R842-1250-30-A1A	☆	14.00	107	4.213	38	1.496	60	2.362
12.70	.5000				R842-1270-30-A1A	☆	14.00	107	4.213	38	1.496	60	2.362
13.00	.5118				R842-1300-30-A1A	☆	14.00	107	4.213	39	1.535	60	2.362
13.10	.5157				R842-1310-30-A1A	☆	14.00	107	4.213	39	1.535	60	2.362
13.50	.5315	5/8-11 UNC			R842-1350-30-A1A	☆	14.00	107	4.213	39	1.535	60	2.362
14.00	.5512				R842-1400-30-A1A	☆	14.00	107	4.213	39	1.535	60	2.362
14.10	.5551	M16			R842-1410-30-A1A	☆	16.00	115	4.528	41	1.614	65	2.559
14.50	.5709	5/8-18 UNF			R842-1450-30-A1A	☆	16.00	115	4.528	41	1.614	65	2.559
15.00	.5906				R842-1500-30-A1A	☆	16.00	115	4.528	42	1.654	65	2.559
15.50	.6102	M18 75%			R842-1550-30-A1A	☆	16.00	115	4.528	42	1.654	65	2.559
15.87	.6248				R842-1587-30-A1A	☆	16.00	115	4.528	42	1.654	65	2.559
16.00	.6299				R842-1600-30-A1A	☆	16.00	115	4.528	42	1.654	65	2.559

E133 E184 E4 G6 E2 J4

CoroDrill® Delta-C 4 – 5 × D_c

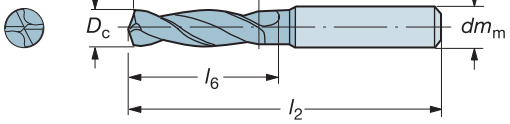
R842

Cylindrical shank

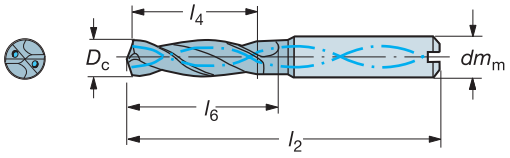


Drill diameter:	3.00 - 16.00 mm (.118-.630 inch)
Max hole depth:	4 - 5 × D_c
Coating:	AlCrN (Alcrona)
Hole tolerance:	IT8-9
Surface finish:	R_a 1-2 µm (40-75 µ inch)
Cutting fluid:	Emulsion or cutting oil
Drill standard:	DIN 6537
Tolerances:	dm_m = h6 D_c = m7

External coolant supply



Internal coolant supply



l_4 = recommended drilling depth

P Without corner chamfer (Tailor Made)

D_c mm	D_c inch	Thread size	External coolant supply Ordering code	K GC 1210	Internal coolant supply Ordering code	K GC 1210	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
3.00	.1181		R842-0300-50-A0A	☆			6.00	66	2.598	20	.787	28	1.102
3.20	.1260		R842-0320-50-A0A	☆			6.00	66	2.598	20	.787	28	1.102
3.30	.1299		R842-0330-50-A0A	☆			6.00	66	2.598	20	.787	28	1.102
3.38	.1331	M4 65%	R842-0338-50-A0A	☆			6.00	66	2.598	20	.787	28	1.102
3.50	.1378		R842-0350-50-A0A	☆			6.00	66	2.598	20	.787	28	1.102
4.00	.1575		R842-0400-50-A0A	☆			6.00	74	2.913	27	1.063	36	1.417
4.10	.1614	10-32 UNF	R842-0410-50-A0A	☆			6.00	74	2.913	27	1.063	36	1.417
4.20	.1654		R842-0420-50-A0A	☆			6.00	74	2.913	27	1.063	36	1.417
4.30	.1693	M5 65%	R842-0430-50-A0A	☆			6.00	74	2.913	27	1.063	36	1.417
4.50	.1772		R842-0450-50-A0A	☆			6.00	74	2.913	27	1.063	36	1.417
4.80	.1890	12-28 UNF	R842-0480-50-A0A	☆			6.00	74	2.913	27	1.063	36	1.417
5.00	.1969	M6 75%	R842-0500-50-A0A	☆			6.00	82	3.228	35	1.378	44	1.732
5.10	.2008	M6 65%	R842-0510-50-A0A	☆			6.00	82	3.228	35	1.378	44	1.732
5.20	.2047		R842-0520-50-A0A	☆			6.00	82	3.228	35	1.378	44	1.732
5.30	.2087		R842-0530-50-A0A	☆			6.00	82	3.228	35	1.378	44	1.732
5.50	.2165		R842-0550-50-A0A	☆			6.00	82	3.228	35	1.378	44	1.732
5.56	.2189		R842-0556-50-A0A	☆			6.00	82	3.228	35	1.378	44	1.732
6.00	.2362		R842-0600-50-A0A	☆			6.00	82	3.228	35	1.378	44	1.732
6.10	.2402				R842-0610-50-A1A	☆	8.00	91	3.583	39	1.535	53	2.087
6.20	.2441				R842-0620-50-A1A	☆	8.00	91	3.583	39	1.535	53	2.087
6.30	.2480				R842-0630-50-A1A	☆	8.00	91	3.583	39	1.535	53	2.087
6.35	.2500				R842-0635-50-A1A	☆	8.00	91	3.583	39	1.535	53	2.087
6.50	.2559				R842-0650-50-A1A	☆	8.00	91	3.583	39	1.535	53	2.087
6.60	.2598				R842-0660-50-A1A	☆	8.00	91	3.583	39	1.535	53	2.087
6.70	.2638	5/16-18 UNF			R842-0670-50-A1A	☆	8.00	91	3.583	39	1.535	53	2.087
6.80	.2677				R842-0680-50-A1A	☆	8.00	91	3.583	39	1.535	53	2.087
6.90	.2717	M8 65%			R842-0690-50-A1A	☆	8.00	91	3.583	40	1.575	53	2.087
7.00	.2756	5/16-24 UNC			R842-0700-50-A1A	☆	8.00	91	3.583	40	1.575	53	2.087
7.10	.2795	MF8x1			R842-0710-50-A1A	☆	8.00	91	3.583	40	1.575	53	2.087
7.14	.2811				R842-0714-50-A1A	☆	8.00	91	3.583	40	1.575	53	2.087
7.40	.2913				R842-0740-50-A1A	☆	8.00	91	3.583	40	1.575	53	2.087
7.50	.2953				R842-0750-50-A1A	☆	8.00	91	3.583	40	1.575	53	2.087
7.80	.3071				R842-0780-50-A1A	☆	8.00	91	3.583	40	1.575	53	2.087
7.94	.3126				R842-0794-50-A1A	☆	8.00	91	3.583	44	1.732	53	2.087
8.00	.3150	3/8-16 UNC			R842-0800-50-A1A	☆	8.00	91	3.583	44	1.732	53	2.087
8.10	.3189				R842-0810-50-A1A	☆	10.00	103	4.055	44	1.732	61	2.402
8.20	.3228				R842-0820-50-A1A	☆	10.00	103	4.055	44	1.732	61	2.402
8.30	.3268				R842-0830-50-A1A	☆	10.00	103	4.055	44	1.732	61	2.402
8.40	.3307				R842-0840-50-A1A	☆	10.00	103	4.055	44	1.732	61	2.402
8.50	.3346	3/8-24 UNF			R842-0850-50-A1A	☆	10.00	103	4.055	44	1.732	61	2.402
8.60	.3386	M10 70%			R842-0860-50-A1A	☆	10.00	103	4.055	44	1.732	61	2.402
8.70	.3425	M10 65%			R842-0870-50-A1A	☆	10.00	103	4.055	44	1.732	61	2.402
8.80	.3465				R842-0880-50-A1A	☆	10.00	103	4.055	45	1.772	61	2.402
8.90	.3504	MF10x1,25			R842-0890-50-A1A	☆	10.00	103	4.055	45	1.772	61	2.402

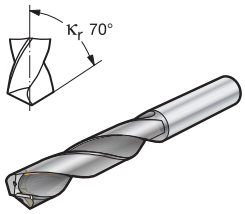
E133 E184 E4 G6 E2 J4

SANDVIK Coromant

CoroDrill® Delta-C 4 – 5 × D_c

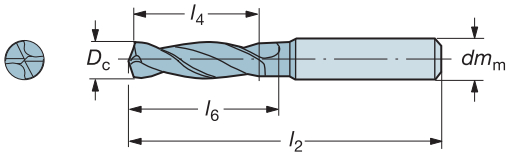
R842

Cylindrical shank

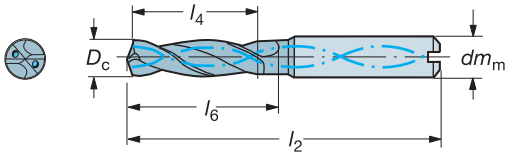


Drill diameter:	3.00 - 16.00 mm (.118-.630 inch)
Max hole depth:	4 - 5 × D_c
Coating:	AlCrN (Alcrona)
Hole tolerance:	IT8-9
Surface finish:	R_a 1-2 µm (40-75 µ inch)
Cutting fluid:	Emulsion or cutting oil
Drill standard:	DIN 6537
Tolerances:	dm_m = h6 D_c = m7

External coolant supply



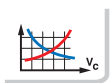
Internal coolant supply



l_4 = recommended drilling depth

P Without corner chamfer (Tailor Made)

D_c mm	D_c inch	Thread size	External coolant supply Ordering code	K GC 1210	Internal coolant supply Ordering code	K GC 1210	dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
9.00	.3543				R842-0900-50-A1A	☆	10.00	103	4.055	45	1.772	61	2.402
9.10	.3583				R842-0910-50-A1A	☆	10.00	103	4.055	45	1.772	61	2.402
9.30	.3661				R842-0930-50-A1A	☆	10.00	103	4.055	45	1.772	61	2.402
9.40	.3701	7/16-14 UNC			R842-0940-50-A1A	☆	10.00	103	4.055	45	1.772	61	2.402
9.50	.3740				R842-0950-50-A1A	☆	10.00	103	4.055	45	1.772	61	2.402
9.52	.3748				R842-0952-50-A1A	☆	10.00	103	4.055	45	1.772	61	2.402
9.60	.3780				R842-0960-50-A1A	☆	10.00	103	4.055	45	1.772	61	2.402
9.80	.3858				R842-0980-50-A1A	☆	10.00	103	4.055	45	1.772	61	2.402
10.00	.3937	7/16-20 UNF			R842-1000-50-A1A	☆	10.00	103	4.055	45	1.772	61	2.402
10.10	.3976				R842-1010-50-A1A	☆	12.00	118	4.646	50	1.968	71	2.795
10.20	.4016				R842-1020-50-A1A	☆	12.00	118	4.646	50	1.968	71	2.795
10.30	.4055	M 12 75%			R842-1030-50-A1A	☆	12.00	118	4.646	50	1.968	71	2.795
10.40	.4094	M10 70%			R842-1040-50-A1A	☆	12.00	118	4.646	50	1.968	71	2.795
10.50	.4134	MF 12x1,5			R842-1050-50-A1A	☆	12.00	118	4.646	50	1.968	71	2.795
10.60	.4173				R842-1060-50-A1A	☆	12.00	118	4.646	50	1.968	71	2.795
10.70	.4213				R842-1070-50-A1A	☆	12.00	118	4.646	50	1.968	71	2.795
10.80	.4252	1/2-13 UNC			R842-1080-50-A1A	☆	12.00	118	4.646	50	1.968	71	2.795
11.00	.4331				R842-1100-50-A1A	☆	12.00	118	4.646	51	2.008	71	2.795
11.10	.4370				R842-1110-50-A1A	☆	12.00	118	4.646	51	2.008	71	2.795
11.20	.4409				R842-1120-50-A1A	☆	12.00	118	4.646	51	2.008	71	2.795
11.50	.4528	1/2-20 UNF			R842-1150-50-A1A	☆	12.00	118	4.646	51	2.008	71	2.795
11.70	.4606				R842-1170-50-A1A	☆	12.00	118	4.646	51	2.008	71	2.795
11.80	.4646				R842-1180-50-A1A	☆	12.00	118	4.646	51	2.008	71	2.795
12.00	.4724				R842-1200-50-A1A	☆	12.00	118	4.646	51	2.008	71	2.795
12.10	.4764	M14 72%			R842-1210-50-A1A	☆	14.00	124	4.882	55	2.165	77	3.032
12.20	.4803	9/16-12 UNC			R842-1220-50-A1A	☆	14.00	124	4.882	55	2.165	77	3.032
12.30	.4843				R842-1230-50-A1A	☆	14.00	124	4.882	55	2.165	77	3.032
12.50	.4921				R842-1250-50-A1A	☆	14.00	124	4.882	55	2.165	77	3.032
12.70	.5000				R842-1270-50-A1A	☆	14.00	124	4.882	55	2.165	77	3.032
13.00	.5118				R842-1300-50-A1A	☆	14.00	124	4.882	56	2.205	77	3.032
13.10	.5157				R842-1310-50-A1A	☆	14.00	124	4.882	56	2.205	77	3.032
13.25	.5217				R842-1325-50-A1A	☆	14.00	124	4.882	56	2.205	77	3.032
13.50	.5315	5/8-11 UNC			R842-1350-50-A1A	☆	14.00	124	4.882	56	2.205	77	3.032
14.00	.5512				R842-1400-50-A1A	☆	14.00	124	4.882	56	2.205	77	3.032
14.10	.5551	M16 75%			R842-1410-50-A1A	☆	16.00	133	5.236	59	2.323	83	3.268
14.25	.5610	M16 66%			R842-1425-50-A1A	☆	16.00	133	5.236	59	2.323	83	3.268
14.29	.5626				R842-1429-50-A1A	☆	16.00	133	5.236	59	2.323	83	3.268
14.50	.5709	5/8-18 UNF			R842-1450-50-A1A	☆	16.00	133	5.236	59	2.323	83	3.268
15.00	.5906				R842-1500-50-A1A	☆	16.00	133	5.236	60	2.362	83	3.268
15.50	.6102	M18 76%			R842-1550-50-A1A	☆	16.00	133	5.236	60	2.362	83	3.268
15.87	.6248				R842-1587-50-A1A	☆	16.00	133	5.236	60	2.362	83	3.268
16.00	.6299				R842-1600-50-A1A	☆	16.00	133	5.236	60	2.362	83	3.268


E133

E184

E4

G6

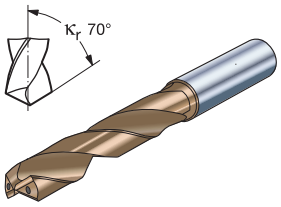
E2

J4

CoroDrill® Delta-C 2 – 3 × D_c

R846

Cylindrical shank

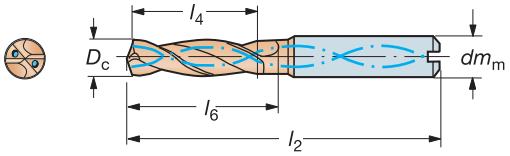


Drill diameter: 3.00-12.00 mm (.118-.472 inch)
Max hole depth: 2 - 3 × D_c

Coating: TiN/TiAlN multilayer
Hole tolerance: IT8-9
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Drill standard: DIN 6537
Tolerances: dm_m= h6
D_c = m7

Internal coolant supply



l_4 = recommended drilling depth

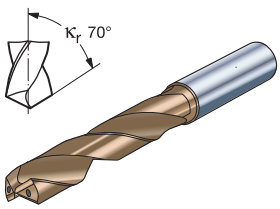
D_c mm	D_c inch	Internal coolant supply Ordering code	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
3.00	.1181	R846-0300-30-A1A	☆	☆	☆	☆	☆	☆	6.00	62	2.441	13	.512	20	.787
4.00	.1575	R846-0400-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	17	.669	24	.945
4.30	.1693	R846-0430-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	17	.669	24	.945
4.50	.1772	R846-0450-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	17	.669	24	.945
4.80	.1890	R846-0480-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	18	.709	28	1.102
5.00	.1969	R846-0500-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	18	.709	28	1.102
5.10	.2008	R846-0510-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	18	.709	28	1.102
5.50	.2165	R846-0550-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	19	.748	28	1.102
5.55	.2185	R846-0555-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	19	.748	28	1.102
5.60	.2205	R846-0560-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	19	.748	28	1.102
5.80	.2283	R846-0580-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	19	.748	28	1.102
6.00	.2362	R846-0600-30-A1A	☆	☆	☆	☆	☆	☆	6.00	66	2.598	19	.748	28	1.102
6.50	.2559	R846-0650-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.60	.2598	R846-0660-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.70	.2638	R846-0670-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
6.90	.2717	R846-0690-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
7.00	.2756	R846-0700-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	22	.866	34	1.339
7.10	.2795	R846-0710-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.30	.2874	R846-0730-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.40	.2913	R846-0740-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
7.50	.2953	R846-0750-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
8.00	.3150	R846-0800-30-A1A	☆	☆	☆	☆	☆	☆	8.00	79	3.110	28	1.102	41	1.614
8.10	.3189	R846-0810-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.20	.3228	R846-0820-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.50	.3346	R846-0850-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.60	.3386	R846-0860-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
8.70	.3425	R846-0870-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	30	1.181	47	1.850
9.00	.3543	R846-0900-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.50	.3740	R846-0920-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.50	.3740	R846-0950-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
9.60	.3780	R846-0960-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
10.00	.3937	R846-1000-30-A1A	☆	☆	☆	☆	☆	☆	10.00	89	3.504	31	1.220	47	1.850
10.20	.4016	R846-1020-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
10.50	.4134	R846-1050-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	34	1.339	55	2.165
11.00	.4331	R846-1100-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165
12.00	.4724	R846-1200-30-A1A	☆	☆	☆	☆	☆	☆	12.00	102	4.016	35	1.378	55	2.165

E133 E184 E4 G6 E2 J4

CoroDrill® Delta-C 4 – 5 × D_c

R846

Cylindrical shank

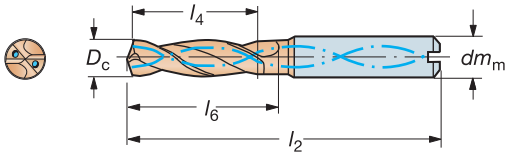


Drill diameter: 3.00-12.00 mm (.118-.472 inch)
Max hole depth: 4 - 5 × D_c

Coating: TiN/TiAlN multilayer
Hole tolerance: IT8-9-10
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Drill standard: DIN 6537
Tolerances: dm_m= h6
D_c = m7

Internal coolant supply



l_4 = recommended drilling depth

D_c mm	D_c inch	Ordering code	Internal coolant supply	P GC 1220	M GC 1220	K GC 1220	N GC 1220	S GC 1220	H GC 1220	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
3.00	.1181	R846-0300-50-A1A		☆	☆	☆	☆	☆	☆	6.00	66	2.598	20	.787	28	1.102
4.00	.1575	R846-0400-50-A1A		☆	☆	☆	☆	☆	☆	6.00	74	2.913	27	1.063	36	1.417
4.30	.1693	R846-0430-50-A1A		☆	☆	☆	☆	☆	☆	6.00	74	2.913	27	1.063	36	1.417
4.50	.1772	R846-0450-50-A1A		☆	☆	☆	☆	☆	☆	6.00	74	2.913	27	1.063	36	1.417
4.80	.1890	R846-0480-50-A1A		☆	☆	☆	☆	☆	☆	6.00	74	2.913	27	1.063	36	1.417
5.00	.1969	R846-0500-50-A1A		☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
5.80	.2283	R846-0580-50-A1A		☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
6.00	.2362	R846-0600-50-A1A		☆	☆	☆	☆	☆	☆	6.00	82	3.228	35	1.378	44	1.732
6.80	.2677	R846-0680-50-A1A		☆	☆	☆	☆	☆	☆	8.00	91	3.583	39	1.535	53	2.087
7.00	.2756	R846-0700-50-A1A		☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
8.00	.3150	R846-0800-50-A1A		☆	☆	☆	☆	☆	☆	8.00	91	3.583	40	1.575	53	2.087
8.50	.3346	R846-0850-50-A1A		☆	☆	☆	☆	☆	☆	10.00	103	4.055	44	1.732	61	2.402
9.00	.3543	R846-0900-50-A1A		☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.30	.3661	R846-0930-50-A1A		☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.60	.3780	R846-0960-50-A1A		☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
9.80	.3858	R846-0980-50-A1A		☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
10.00	.3937	R846-1000-50-A1A		☆	☆	☆	☆	☆	☆	10.00	103	4.055	45	1.772	61	2.402
10.20	.4016	R846-1020-50-A1A		☆	☆	☆	☆	☆	☆	12.00	118	4.646	50	1.968	71	2.795
11.00	.4331	R846-1100-50-A1A		☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795
12.00	.4724	R846-1200-50-A1A		☆	☆	☆	☆	☆	☆	12.00	118	4.646	51	2.008	71	2.795

Diameter recommendations when using CoroDrill Delta-C drills

Many tables containing recommended tapping drill sizes are not valid for modern drills such as CoroDrill Delta-C. These drills normally produce a slightly smaller but more accurate hole than conventional HSS drills. If these tables are used therefore, tap breakages may occur.

Recommended drill type	Thread	Drill dia.	Pitch mm
CoroDrill® Delta-C	M4	3.35 - 3.4	0.7
	M5	4.25 - 4.3	0.8
	M6	5.0 - 5.1	1
	M7	6.9 - 7.55	1
	M8	8.55 - 8.7	1.25
	M10	10.32 - 10.4	1.5
	M12	12.1 - 12.2	1.75
	M14	12.25	2
	M16	14.25	2
	M18	15.5	
	M20	17.5	

The drill diameters are choosen for a depth of thread engagement of 75 - 66 %.

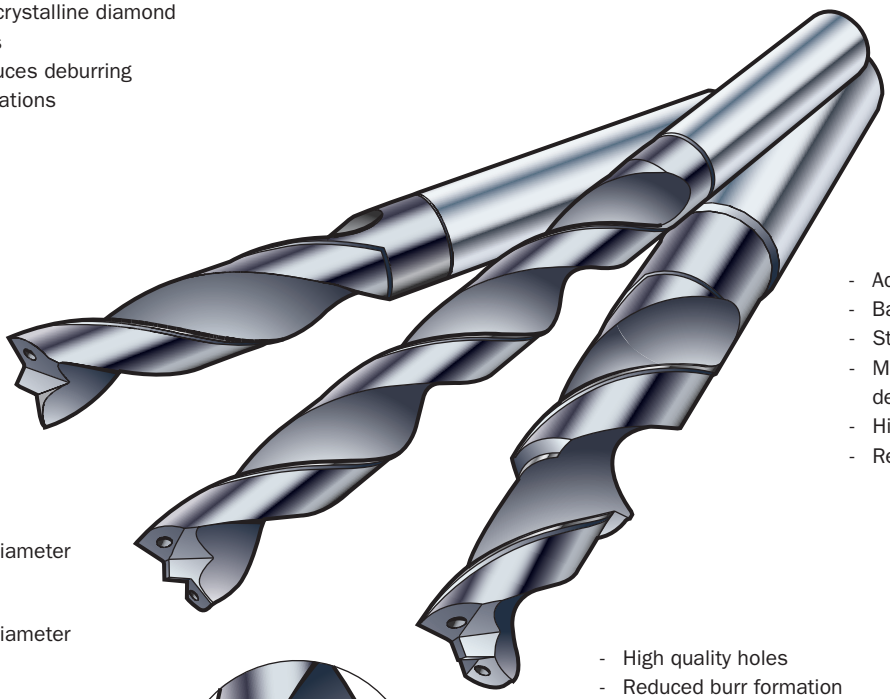
E133 E184 E4 G6 E2 J4

CoroDrill® Delta-C R850

Solid carbide drills for aluminium

High quality holemaking with high feed

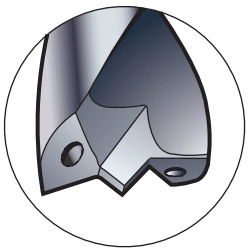
- Good total economy
- High productivity
- Low cost alternative to polycrystalline diamond drills
- Reduces deburring operations



- Advanced geometry
- Balanced cutting forces
- Stabilized cutting action
- Minimized run out and deflection
- High penetration rate
- Regrindable

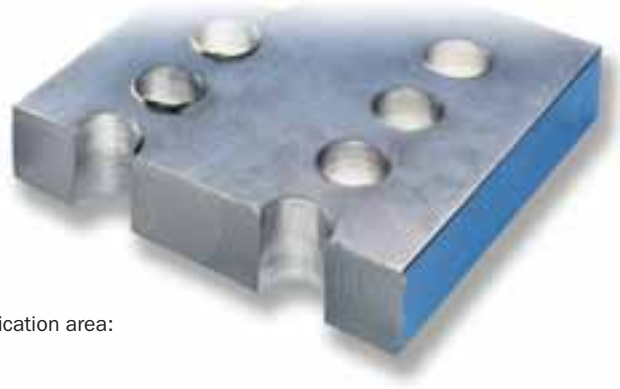
Short design:
Max hole depth: 2 – 3 x diameter

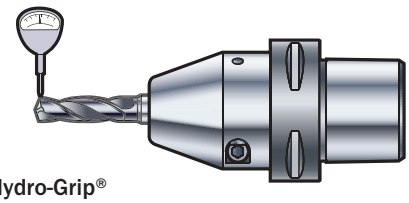
Extra long design:
Max hole depth: 6 – 7 x diameter



- High quality holes
- Reduced burr formation
- High surface finish

Conventional drill Delta-C R850





Hydro-Grip®
For highest clamping force and minimum run out

ISO application area:

N

Tailor Made

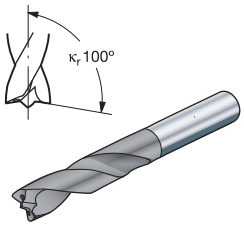
Tool options designed to individual customer requirements are available. For information on our Tailor Made programme see page J9.

SANDVIK Coromant

CoroDrill® Delta-C 2 – 3 × D_c

R850

Aluminium

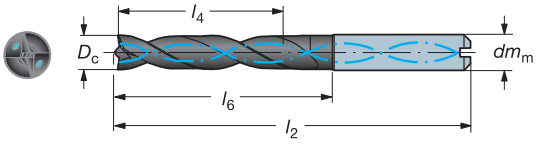


Drill diameter: 5.0-14.00 mm (.197-.551 inch)
Max hole depth: 2 - 3 × D_c

Coating: TiAlN extra surface finish
Hole tolerance: IT8-9-10
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

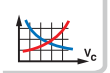
Drill standard: DIN 6537
Tolerances, mm: dm_m = h6
D_c = m7

Internal coolant supply



l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	Internal coolant supply Ordering code	N - N20D	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
5.00	.1969	M6 75%	R850-0500-30-A1A	☆	6.00	66	2.598	18	.709	28	1.102
5.10	.2008	M6 65%	R850-0510-30-A1A	☆	6.00	66	2.598	18	.709	28	1.102
5.16	.2031		R850-0516-30-A1A	☆	6.00	66	2.598	18	.709	28	1.102
5.20	.2047		R850-0520-30-A1A	☆	6.00	66	2.598	18	.709	28	1.102
5.30	.2087		R850-0530-30-A1A	☆	6.00	66	2.598	18	.709	28	1.102
5.40	.2126		R850-0540-30-A1A	☆	6.00	66	2.598	18	.709	28	1.102
5.50	.2165		R850-0550-30-A1A	☆	6.00	66	2.598	19	.748	28	1.102
5.56	.2189		R850-0556-30-A1A	☆	6.00	66	2.598	19	.748	28	1.102
5.60	.2205		R850-0560-30-A1A	☆	6.00	66	2.598	19	.748	28	1.102
5.70	.2244		R850-0570-30-A1A	☆	6.00	66	2.598	19	.748	28	1.102
5.80	.2283		R850-0580-30-A1A	☆	6.00	66	2.598	19	.748	28	1.102
5.90	.2323		R850-0590-30-A1A	☆	6.00	66	2.598	19	.748	28	1.102
5.95	.2343		R850-0595-30-A1A	☆	6.00	66	2.598	19	.748	28	1.102
6.00	.2362		R850-0600-30-A1A	☆	6.00	66	2.598	19	.748	28	1.102
6.10	.2402		R850-0610-30-A1A	☆	8.00	79	3.110	22	.866	34	1.339
6.20	.2441		R850-0620-30-A1A	☆	8.00	79	3.110	22	.866	34	1.339
6.30	.2480		R850-0630-30-A1A	☆	8.00	79	3.110	22	.866	34	1.339
6.35	.2500		R850-0635-30-A1A	☆	8.00	79	3.110	22	.866	34	1.339
6.40	.2520		R850-0640-30-A1A	☆	8.00	79	3.110	22	.866	34	1.339
6.50	.2559		R850-0650-30-A1A	☆	8.00	79	3.110	22	.866	34	1.339
6.60	.2598		R850-0660-30-A1A	☆	8.00	79	3.110	22	.866	34	1.339
6.70	.2638	5/16-18 UNC	R850-0670-30-A1A	☆	8.00	79	3.110	22	.866	34	1.339
6.75	.2657		R850-0675-30-A1A	☆	8.00	79	3.110	22	.866	34	1.339
6.80	.2677		R850-0680-30-A1A	☆	8.00	79	3.110	22	.866	34	1.339
6.90	.2717	M8 65%	R850-0690-30-A1A	☆	8.00	79	3.110	22	.866	34	1.339
7.00	.2756	5/16-24 UNF	R850-0700-30-A1A	☆	8.00	79	3.110	22	.866	34	1.339
7.10	.2795		R850-0710-30-A1A	☆	8.00	79	3.110	28	1.102	41	1.614
7.14	.2811		R850-0714-30-A1A	☆	8.00	79	3.110	28	1.102	41	1.614
7.20	.2835		R850-0720-30-A1A	☆	8.00	79	3.110	28	1.102	41	1.614
7.30	.2874		R850-0730-30-A1A	☆	8.00	79	3.110	28	1.102	41	1.614
7.40	.2913		R850-0740-30-A1A	☆	8.00	79	3.110	28	1.102	41	1.614
7.50	.2953		R850-0750-30-A1A	☆	8.00	79	3.110	28	1.102	41	1.614
7.60	.2992		R850-0760-30-A1A	☆	8.00	79	3.110	28	1.102	41	1.614
7.70	.3031		R850-0770-30-A1A	☆	8.00	79	3.110	28	1.102	41	1.614
7.80	.3071		R850-0780-30-A1A	☆	8.00	79	3.110	28	1.102	41	1.614
7.90	.3110		R850-0790-30-A1A	☆	8.00	79	3.110	28	1.102	41	1.614
7.94	.3126		R850-0794-30-A1A	☆	8.00	79	3.110	28	1.102	41	1.614
8.00	.3150		R850-0800-30-A1A	☆	8.00	79	3.110	28	1.102	41	1.614
8.10	.3189		R850-0810-30-A1A	☆	10.00	89	3.504	30	1.181	47	1.850
8.20	.3228		R850-0820-30-A1A	☆	10.00	89	3.504	30	1.181	47	1.850
8.30	.3268		R850-0830-30-A1A	☆	10.00	89	3.504	30	1.181	47	1.850
8.33	.3280		R850-0833-30-A1A	☆	10.00	89	3.504	30	1.181	47	1.850
8.40	.3307		R850-0840-30-A1A	☆	10.00	89	3.504	30	1.181	47	1.850
8.50	.3346		R850-0850-30-A1A	☆	10.00	89	3.504	30	1.181	47	1.850
8.60	.3386	3/8-24 UNF	R850-0860-30-A1A	☆	10.00	89	3.504	30	1.181	47	1.850
8.70	.3425	M10 65%	R850-0870-30-A1A	☆	10.00	89	3.504	30	1.181	47	1.850
8.73	.3437		R850-0873-30-A1A	☆	10.00	89	3.504	30	1.181	47	1.850
8.80	.3465		R850-0880-30-A1A	☆	10.00	89	3.504	30	1.181	47	1.850


E133

E184

E4

G6

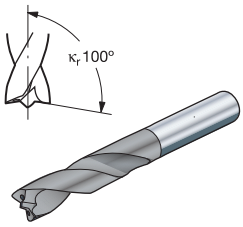
E2

J4

CoroDrill® Delta-C 2 – 3 × D_c

R850

Aluminium

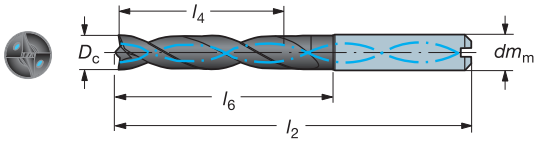


Drill diameter: 5.0-14.00 mm (.197-.551 inch)
Max hole depth: 2 - 3 × D_c

Coating: TiAlN extra surface finish
Hole tolerance: IT8-9-10
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Drill standard: DIN 6537
Tolerances, mm: dm_m = h6
D_c = m7

Internal coolant supply



l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	Internal coolant supply Ordering code	N N20D	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
9.00	.3543		R850-0900-30-A1A	☆	10.00	89	3.504	31	1.220	47	1.850
9.10	.3583		R850-0910-30-A1A	☆	10.00	89	3.504	31	1.220	47	1.850
9.13	.3594		R850-0913-30-A1A	☆	10.00	89	3.504	31	1.220	47	1.850
9.20	.3622		R850-0920-30-A1A	☆	10.00	89	3.504	31	1.220	47	1.850
9.30	.3661		R850-0930-30-A1A	☆	10.00	89	3.504	31	1.220	47	1.850
9.40	.3701		R850-0940-30-A1A	☆	10.00	89	3.504	31	1.220	47	1.850
9.50	.3740		R850-0950-30-A1A	☆	10.00	89	3.504	31	1.220	47	1.850
9.52	.3748		R850-0952-30-A1A	☆	10.00	89	3.504	31	1.220	47	1.850
9.60	.3780		R850-0960-30-A1A	☆	10.00	89	3.504	31	1.220	47	1.850
9.70	.3819		R850-0970-30-A1A	☆	10.00	89	3.504	31	1.220	47	1.850
9.80	.3858		R850-0980-30-A1A	☆	10.00	89	3.504	31	1.220	47	1.850
9.90	.3898		R850-0990-30-A1A	☆	10.00	89	3.504	31	1.220	47	1.850
10.00	.3937	7/16-20 UNF	R850-1000-30-A1A	☆	10.00	89	3.504	31	1.220	47	1.850
10.10	.3976		R850-1010-30-A1A	☆	12.00	102	4.016	34	1.339	55	2.165
10.20	.4016		R850-1020-30-A1A	☆	12.00	102	4.016	34	1.339	55	2.165
10.30	.4055	M12 75%	R850-1030-30-A1A	☆	12.00	102	4.016	34	1.339	55	2.165
10.32	.4063		R850-1032-30-A1A	☆	12.00	102	4.016	34	1.339	55	2.165
10.40	.4094	M12 70%	R850-1040-30-A1A	☆	12.00	102	4.016	34	1.339	55	2.165
10.45	.4114		R850-1045-30-A1A	☆	12.00	102	4.016	34	1.339	55	2.165
10.50	.4134		R850-1050-30-A1A	☆	12.00	102	4.016	34	1.339	55	2.165
10.60	.4173		R850-1060-30-A1A	☆	12.00	102	4.016	34	1.339	55	2.165
10.70	.4213		R850-1070-30-A1A	☆	12.00	102	4.016	34	1.339	55	2.165
10.71	.4217		R850-1071-30-A1A	☆	12.00	102	4.016	34	1.339	55	2.165
10.90	.4291		R850-1090-30-A1A	☆	12.00	102	4.016	34	1.339	55	2.165
11.00	.4331	1/2-13 UNC	R850-1100-30-A1A	☆	12.00	102	4.016	35	1.378	55	2.165
11.10	.4370		R850-1110-30-A1A	☆	12.00	102	4.016	35	1.378	55	2.165
11.11	.4374		R850-1111-30-A1A	☆	12.00	102	4.016	35	1.378	55	2.165
11.20	.4409		R850-1120-30-A1A	☆	12.00	102	4.016	35	1.378	55	2.165
11.50	.4528		R850-1150-30-A1A	☆	12.00	102	4.016	35	1.378	55	2.165
11.60	.4567	1/2-20 UNF	R850-1160-30-A1A	☆	12.00	102	4.016	35	1.378	55	2.165
11.80	.4646		R850-1180-30-A1A	☆	12.00	102	4.016	35	1.378	55	2.165
11.90	.4685		R850-1190-30-A1A	☆	12.00	102	4.016	35	1.378	55	2.165
12.00	.4724		R850-1200-30-A1A	☆	12.00	102	4.016	35	1.378	55	2.165
12.10	.4764	M14 72%	R850-1210-30-A1A	☆	14.00	107	4.213	38	1.496	60	2.362
12.20	.4803	M14	R850-1220-30-A1A	☆	14.00	107	4.213	38	1.496	60	2.362
12.30	.4843		R850-1230-30-A1A	☆	14.00	107	4.213	38	1.496	60	2.362
12.40	.4882		R850-1240-30-A1A	☆	14.00	107	4.213	38	1.496	60	2.362
12.50	.4921		R850-1250-30-A1A	☆	14.00	107	4.213	38	1.496	60	2.362
12.60	.4961		R850-1260-30-A1A	☆	14.00	107	4.213	38	1.496	60	2.362
12.70	.5000		R850-1270-30-A1A	☆	14.00	107	4.213	38	1.496	60	2.362
12.80	.5039		R850-1280-30-A1A	☆	14.00	107	4.213	38	1.496	60	2.362
13.00	.5118		R850-1300-30-A1A	☆	14.00	107	4.213	39	1.535	60	2.362
13.10	.5157		R850-1310-30-A1A	☆	14.00	107	4.213	39	1.535	60	2.362
13.25	.5217		R850-1325-30-A1A	☆	14.00	107	4.213	39	1.535	60	2.362
13.50	.5315		R850-1350-30-A1A	☆	14.00	107	4.213	39	1.535	60	2.362
13.80	.5433		R850-1380-30-A1A	☆	14.00	107	4.213	39	1.535	60	2.362
14.00	.5512		R850-1400-30-A1A	☆	14.00	107	4.213	39	1.535	60	2.362

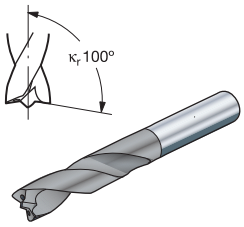
E133 E184 E4 G6 E2 J4

SANDVIK Coromant

CoroDrill® Delta-C 6 – 7 × D_c

R850

Aluminium



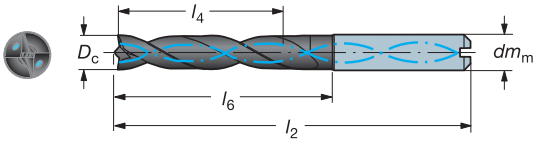
Drill diameter: 5.0-14.00 mm (.197-.551 inch)
Max hole depth: 6 - 7 × D_c

Coating: TiAlN extra surface finish

Hole tolerance: IT8-9-10
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

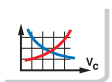
Drill standard: DIN 6537
Tolerances, mm: dm_m = h6
D_c = m7

Internal coolant supply



l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	Internal coolant supply Ordering code	N N20D	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
5.00	.1969	M6 75%	R850-0500-70-A1A	☆	6.00	93	3.661	42	1.654	50	1.968
5.10	.2008	M6 65%	R850-0510-70-A1A	☆	6.00	93	3.661	42	1.654	50	1.968
5.16	.2031		R850-0516-70-A1A	☆	6.00	93	3.661	42	1.654	50	1.968
5.20	.2047		R850-0520-70-A1A	☆	6.00	93	3.661	42	1.654	50	1.968
5.30	.2087		R850-0530-70-A1A	☆	6.00	93	3.661	42	1.654	50	1.968
5.40	.2126		R850-0540-70-A1A	☆	6.00	93	3.661	42	1.654	50	1.968
5.50	.2165		R850-0550-70-A1A	☆	6.00	93	3.661	42	1.654	50	1.968
5.56	.2189		R850-0556-70-A1A	☆	6.00	93	3.661	42	1.654	50	1.968
5.60	.2205		R850-0560-70-A1A	☆	6.00	93	3.661	42	1.654	50	1.968
5.70	.2244		R850-0570-70-A1A	☆	6.00	93	3.661	42	1.654	50	1.968
5.80	.2283		R850-0580-70-A1A	☆	6.00	93	3.661	42	1.654	50	1.968
5.90	.2323		R850-0590-70-A1A	☆	6.00	93	3.661	42	1.654	50	1.968
5.95	.2343		R850-0595-70-A1A	☆	6.00	93	3.661	42	1.654	50	1.968
6.00	.2362		R850-0600-70-A1A	☆	6.00	93	3.661	42	1.654	50	1.968
6.10	.2402		R850-0610-70-A1A	☆	8.00	105	4.134	49	1.929	59	2.323
6.20	.2441		R850-0620-70-A1A	☆	8.00	105	4.134	49	1.929	59	2.323
6.30	.2480		R850-0630-70-A1A	☆	8.00	105	4.134	49	1.929	59	2.323
6.35	.2500		R850-0635-70-A1A	☆	8.00	105	4.134	49	1.929	59	2.323
6.40	.2520		R850-0640-70-A1A	☆	8.00	105	4.134	49	1.929	59	2.323
6.50	.2559		R850-0650-70-A1A	☆	8.00	105	4.134	49	1.929	59	2.323
6.60	.2598		R850-0660-70-A1A	☆	8.00	105	4.134	49	1.929	59	2.323
6.70	.2638	5/16-18 UNC	R850-0670-70-A1A	☆	8.00	105	4.134	49	1.929	59	2.323
6.75	.2657		R850-0675-70-A1A	☆	8.00	105	4.134	49	1.929	59	2.323
6.80	.2677		R850-0680-70-A1A	☆	8.00	105	4.134	49	1.929	59	2.323
6.90	.2717	M8 65%	R850-0690-70-A1A	☆	8.00	105	4.134	49	1.929	59	2.323
7.00	.2756	5/16-24 UNF	R850-0700-70-A1A	☆	8.00	105	4.134	49	1.929	59	2.323
7.10	.2795		R850-0710-70-A1A	☆	8.00	105	4.134	56	2.205	67	2.638
7.14	.2811		R850-0714-70-A1A	☆	8.00	105	4.134	56	2.205	67	2.638
7.20	.2835		R850-0720-70-A1A	☆	8.00	105	4.134	56	2.205	67	2.638
7.30	.2874		R850-0730-70-A1A	☆	8.00	105	4.134	56	2.205	67	2.638
7.40	.2913		R850-0740-70-A1A	☆	8.00	105	4.134	56	2.205	67	2.638
7.50	.2953		R850-0750-70-A1A	☆	8.00	105	4.134	56	2.205	67	2.638
7.60	.2992		R850-0760-70-A1A	☆	8.00	105	4.134	56	2.205	67	2.638
7.80	.3071		R850-0780-70-A1A	☆	8.00	105	4.134	56	2.205	67	2.638
7.90	.3110		R850-0790-70-A1A	☆	8.00	105	4.134	56	2.205	67	2.638
7.94	.3126		R850-0794-70-A1A	☆	8.00	105	4.134	56	2.205	67	2.638
8.00	.3150		R850-0800-70-A1A	☆	8.00	105	4.134	56	2.205	67	2.638
8.10	.3189		R850-0810-70-A1A	☆	10.00	120	4.724	62	2.441	75	2.953
8.20	.3228		R850-0820-70-A1A	☆	10.00	120	4.724	62	2.441	75	2.953
8.30	.3268		R850-0830-70-A1A	☆	10.00	120	4.724	62	2.441	75	2.953
8.40	.3307		R850-0840-70-A1A	☆	10.00	120	4.724	62	2.441	75	2.953
8.50	.3346		R850-0850-70-A1A	☆	10.00	120	4.724	62	2.441	75	2.953
8.60	.3386	M10 70% & 3/8-24 UNF	R850-0860-70-A1A	☆	10.00	120	4.724	62	2.441	75	2.953
8.70	.3425	M10 65%	R850-0870-70-A1A	☆	10.00	120	4.724	62	2.441	75	2.953
8.73	.3437		R850-0873-70-A1A	☆	10.00	120	4.724	62	2.441	75	2.953
8.80	.3465		R850-0880-70-A1A	☆	10.00	120	4.724	62	2.441	75	2.953
8.90	.3504		R850-0890-70-A1A	☆	10.00	120	4.724	62	2.441	75	2.953
9.00	.3543		R850-0900-70-A1A	☆	10.00	133	5.236	70	2.756	84	3.307


E133

E184

E4

G6

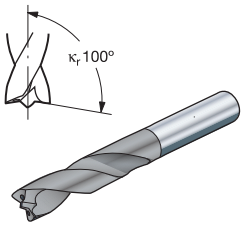
E2

J4

CoroDrill® Delta-C 6 – 7 × D_c

R850

Aluminium



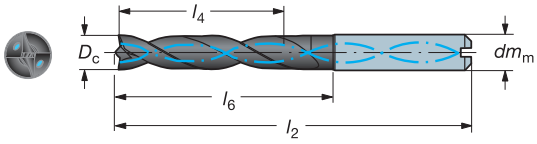
Drill diameter: 5.0-14.00 mm (.197-.551 inch)
Max hole depth: 6 - 7 × D_c

Coating: TiAlN extra surface finish

Hole tolerance: IT8-9-10
Surface finish: R_a 1-2 µm (40-75 µ inch)
Cutting fluid: Emulsion or cutting oil

Drill standard: DIN 6537
Tolerances, mm: dm_m = h6
D_c = m7

Internal coolant supply



l_4 = recommended drilling depth

D_c mm	D_c inch	Thread size	**Internal coolant supply** **Ordering code**	N - N20D	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
9.10	.3583		**R850-0910-70-A1A**	☆	10.00	133	5.236	70	2.756	84	3.307
9.13	.3594		**R850-0913-70-A1A**	☆	10.00	133	5.236	70	2.756	84	3.307
9.20	.3622		**R850-0920-70-A1A**	☆	10.00	133	5.236	70	2.756	84	3.307
9.30	.3661		**R850-0930-70-A1A**	☆	10.00	133	5.236	70	2.756	84	3.307
9.40	.3701		**R850-0940-70-A1A**	☆	10.00	133	5.236	70	2.756	84	3.307
9.50	.3740		**R850-0950-70-A1A**	☆	10.00	133	5.236	70	2.756	84	3.307
9.52	.3748		**R850-0952-70-A1A**	☆	10.00	133	5.236	70	2.756	84	3.307
9.60	.3780		**R850-0960-70-A1A**	☆	10.00	133	5.236	70	2.756	84	3.307
9.70	.3819		**R850-0970-70-A1A**	☆	10.00	133	5.236	70	2.756	84	3.307
9.80	.3858		**R850-0980-70-A1A**	☆	10.00	133	5.236	70	2.756	84	3.307
9.90	.3898		**R850-0990-70-A1A**	☆	10.00	133	5.236	70	2.756	84	3.307
9.92	.3906		**R850-0992-70-A1A**	☆	10.00	133	5.236	70	2.756	84	3.307
10.00	.3937	7/16-20 UNF	**R850-1000-70-A1A**	☆	10.00	133	5.236	70	2.756	84	3.307
10.10	.3976		**R850-1010-70-A1A**	☆	12.00	140	5.512	76	2.992	91	3.583
10.20	.4016		**R850-1020-70-A1A**	☆	12.00	140	5.512	76	2.992	91	3.583
10.30	.4055	M12 75%	**R850-1030-70-A1A**	☆	12.00	140	5.512	76	2.992	91	3.583
10.32	.4063		**R850-1032-70-A1A**	☆	12.00	140	5.512	76	2.992	91	3.583
10.40	.4094	M12 70%	**R850-1040-70-A1A**	☆	12.00	140	5.512	76	2.992	91	3.583
10.50	.4134		**R850-1050-70-A1A**	☆	12.00	140	5.512	76	2.992	91	3.583
10.60	.4173		**R850-1060-70-A1A**	☆	12.00	140	5.512	76	2.992	91	3.583
10.70	.4213		**R850-1070-70-A1A**	☆	12.00	140	5.512	76	2.992	91	3.583
10.71	.4217		**R850-1071-70-A1A**	☆	12.00	140	5.512	76	2.992	91	3.583
10.80	.4252		**R850-1080-70-A1A**	☆	12.00	140	5.512	76	2.992	91	3.583
11.00	.4331	1/2-13 UNC	**R850-1100-70-A1A**	☆	12.00	151	5.945	84	3.307	101	3.976
11.10	.4370		**R850-1110-70-A1A**	☆	12.00	151	5.945	84	3.307	101	3.976
11.11	.4374		**R850-1111-70-A1A**	☆	12.00	151	5.945	84	3.307	101	3.976
11.20	.4409		**R850-1120-70-A1A**	☆	12.00	151	5.945	84	3.307	101	3.976
11.50	.4528		**R850-1150-70-A1A**	☆	12.00	151	5.945	84	3.307	101	3.976
11.60	.4567	1/2-20 UNF	**R850-1160-70-A1A**	☆	12.00	151	5.945	84	3.307	101	3.976
11.70	.4606		**R850-1170-70-A1A**	☆	12.00	151	5.945	84	3.307	101	3.976
11.80	.4646		**R850-1180-70-A1A**	☆	12.00	151	5.945	84	3.307	101	3.976
11.90	.4685		**R850-1190-70-A1A**	☆	12.00	151	5.945	84	3.307	101	3.976
12.00	.4724		**R850-1200-70-A1A**	☆	12.00	151	5.945	84	3.307	101	3.976
12.10	.4764	M14 72%	**R850-1210-70-A1A**	☆	14.00	160	6.299	89	3.504	107	4.213
12.20	.4803	M14	**R850-1220-70-A1A**	☆	14.00	160	6.299	89	3.504	107	4.213
12.30	.4843		**R850-1230-70-A1A**	☆	14.00	160	6.299	89	3.504	107	4.213
12.50	.4921		**R850-1250-70-A1A**	☆	14.00	160	6.299	89	3.504	107	4.213
12.70	.5000		**R850-1270-70-A1A**	☆	14.00	160	6.299	89	3.504	107	4.213
13.00	.5118		**R850-1300-70-A1A**	☆	14.00	160	6.299	89	3.504	107	4.213
13.25	.5217		**R850-1325-70-A1A**	☆	14.00	160	6.299	89	3.504	107	4.213
13.50	.5315		**R850-1350-70-A1A**	☆	14.00	160	6.299	89	3.504	107	4.213
14.00	.5512		**R850-1400-70-A1A**	☆	14.00	160	6.299	89	3.504	107	4.213

E133 E184 E4 G6 E2 J4

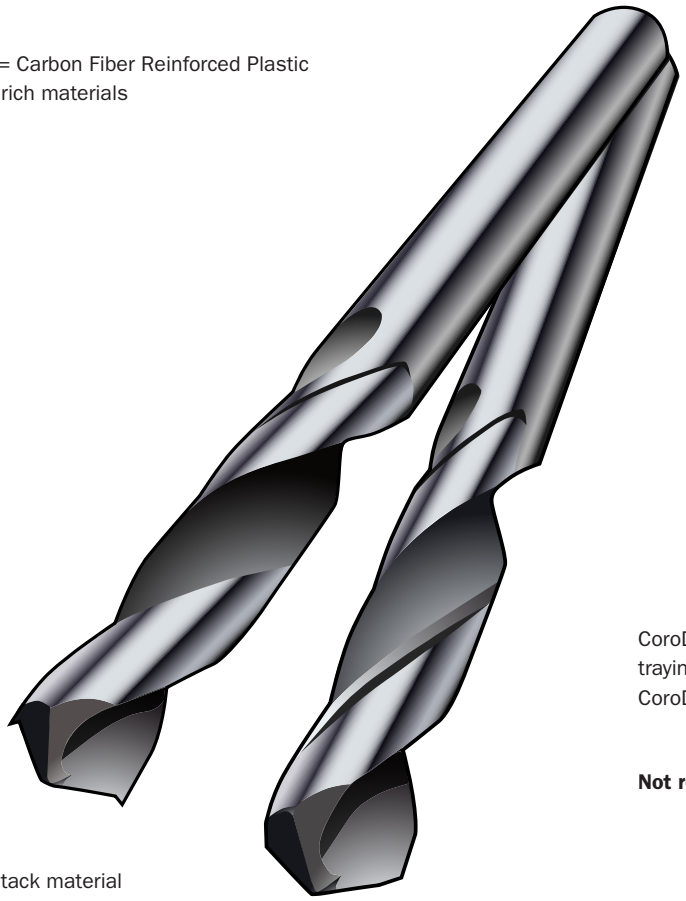
SANDVIK Coromant

CoroDrill® 854/856

Solid carbide drills for composite

High quality holemaking in composite

CFRP = Carbon Fiber Reinforced Plastic
Resin rich materials



Stack material

Grade N20C







CoroDrill 854



CoroDrill 856

CoroDrill 854: Point geometry designed to prevent splintering and traying
CoroDrill 856: Designed to reduce delamination problems

Not recommended for handheld machines



CoroDrill 854



CoroDrill 855



CoroDrill 856

ISO application area:

N

Composite materials

Tailor Made

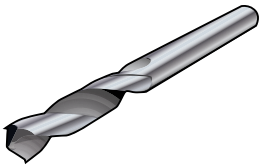
Tool options designed to individual customer requirements are available. For information on our Tailor Made programme see page J4.

CoroDrill® 854

4 – 5 × D_c

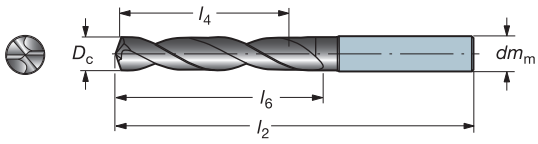
854.1

Cylindrical shank according to DIN 6535 HA



Drill diameter:	4.0-12.7 mm (.157-.500 inch)
Max hole depth:	4 - 5 × D_c
Coating:	Diamond
Hole tolerance:	IT 8-9
Surface finish:	R_a 1-5 µm (40-200 µ inch)
Cutting fluid:	Emulsion or cutting oil
Drill standard:	DIN 6537
Tolerances, mm:	dm_m = h6
	D_c = m7

External coolant supply



l_4 = Recommended max drilling depth

D_c mm	D_c inch	External coolant supply Ordering code	N - N20C	dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 [1] mm	l_6 [1] in.
				Dimensions, millimeter, inch (mm, in.)						
4.00	.1575	**854.1-0400-05-A0**	☆	6.00	74	2.913	27	1.063	36	1.417
4.76	.1874	**854.1-0476-05-A0**	☆	6.00	74	2.913	27	1.063	36	1.417
5.00	.1969	**854.1-0500-05-A0**	☆	6.00	82	3.228	35	1.378	44	1.732
6.00	.2362	**854.1-0600-05-A0**	☆	6.00	82	3.228	35	1.378	44	1.732
6.35	.2500	**854.1-0635-05-A0**	☆	8.00	91	3.583	39	1.535	53	2.087
7.00	.2756	**854.1-0700-05-A0**	☆	8.00	91	3.583	40	1.575	53	2.087
7.94	.3126	**854.1-0794-05-A0**	☆	8.00	91	3.583	40	1.575	53	2.087
8.00	.3150	**854.1-0800-05-A0**	☆	8.00	91	3.583	40	1.575	53	2.087
9.00	.3543	**854.1-0900-05-A0**	☆	10.00	103	4.055	45	1.772	61	2.402
9.52	.3748	**854.1-0952-05-A0**	☆	10.00	103	4.055	45	1.772	61	2.402
11.11	.4374	**854.1-1111-05-A0**	☆	12.00	118	4.646	51	2.008	71	2.795
12.70	.5000	**854.1-1270-05-A0**	☆	14.00	124	4.882	55	2.165	77	3.032

[1] Flute length

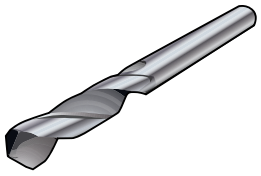
E184 E4 G6 E2 J4

CoroDrill® 856

4 – 5 × D_c

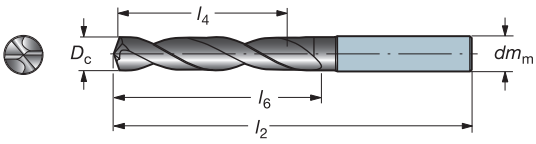
856.1

Cylindrical shank according to DIN 6535 HA



Drill diameter:	4.0-12.7 mm (.157-.500 inch)
Max hole depth:	4 - 5 × D_c
Coating:	Diamond
Hole tolerance:	IT 8-9
Surface finish:	R_a 1-5 µm (40-200 µ inch)
Cutting fluid:	Emulsion or cutting oil
Drill standard:	DIN 6537
Tolerances, mm:	dm_m = h6 D_c = m7

External coolant supply



l_4 = Recommended max drilling depth

D_c mm	D_c inch	External coolant supply Ordering code	N - N20C	Dimensions, millimeter, inch (mm, in.) dm_m mm	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6[1] mm	l_6[1] in.
4.00	.1575	**856.1-0400-05-A0**	☆	6.00	74	2.913	27	1.063	36	1.417
4.76	.1874	**856.1-0476-05-A0**	☆	6.00	74	2.913	27	1.063	36	1.417
5.00	.1969	**856.1-0500-05-A0**	☆	6.00	82	3.228	35	1.378	44	1.732
6.00	.2362	**856.1-0600-05-A0**	☆	6.00	82	3.228	35	1.378	44	1.732
6.35	.2500	**856.1-0635-05-A0**	☆	8.00	91	3.583	39	1.535	53	2.087
7.00	.2756	**856.1-0700-05-A0**	☆	8.00	91	3.583	40	1.575	53	2.087
7.94	.3126	**856.1-0794-05-A0**	☆	8.00	91	3.583	40	1.575	53	2.087
8.00	.3150	**856.1-0800-05-A0**	☆	8.00	91	3.583	40	1.575	53	2.087
9.00	.3543	**856.1-0900-05-A0**	☆	10.00	103	4.055	45	1.772	61	2.402
9.52	.3748	**856.1-0952-05-A0**	☆	10.00	103	4.055	45	1.772	61	2.402
11.11	.4374	**856.1-1111-05-A0**	☆	12.00	118	4.646	51	2.008	71	2.795
12.70	.5000	**856.1-1270-05-A0**	☆	14.00	124	4.882	55	2.165	77	3.032

[1] Flute length

GC E184 E4 G6 E2 J4

CoroDrill® 452

Tooling solutions for composite- and metallic-stack materials

High quality hole making for
hand-held applications



In corporation with Precorp

PRECORP



ISO application areas:
ISO N - including composite materials
ISO S - mainly Titanium alloys

N S

Tolerance

Portable drill bushing is recommended to achieve close tolerances when drilling and reaming.

Tool selection examples for the CoroDrill® 452 family*

- Step 1: select material
- Step 2: select required diameter
- Step 3: define required hole- and surface tolerance

Material	Diameter	IT+/H11		IT++/H8	
		Ra+	Ra++	Ra+	Ra++
CFRP		452.1-C	452.1-C + 452.R	452.1-C + 452.R	452.1-C + 452.R
CFRP/metallic stack	≤ 6.35	452.1-CM	452.1-CM + 452.R-CM	452.1-CM	452.1-CM + 452.R-CM
CFRP/metallic stack	> 6.35	452.4-CM	452.4-CM + 452.R-CM	452.4-CM	452.4-CM + 452.R-CM
Titanium/Aluminium	≤ 6.35	452.1-CM	452.1-CM + 452.R-CM	452.1-CM	452.1-CM + 452.R-CM
Titanium/Aluminium	> 6.35	452.4-CM	452.4-CM + 452.R-CM	452.4-CM	452.4-CM + 452.R-CM

* refers to first choice only, other selections may also be relevant.

IT + = Normal tolerance demand

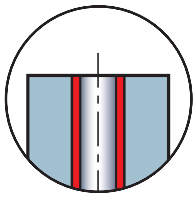
IT ++ = High tolerance demand

RA + = Normal surface demand

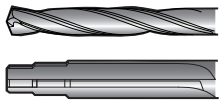
RA ++ = High surface demand

Through hole

Example tool combinations for through-hole application - select tool for desired application results.



The following example relates to drill hole diameter 6.35 mm (0.249 inch)

Example 6.35 mm	Normal demand (drill process)	High demand (drill process)	Extreme demand (drill-ream process)
CFRP material	452.1-0635-044AO-C H10F (drill)	-	452.1-0483-044AO-C H10F (drill) 452.R-0635-032AO-C H10F[1] (reamer)
CFRP and metal material	452.1-0635-044AO-CM H10F (drill)	452.4-0635-034AO-CM H10F (pilot drill)	452.1-0483-044AO-CM H10F (drill) 452.R-0635-032AO-CM H10F (reamer)
			

[1] Reamer pilot diameter (PHD) must correspond to pre-hole drill (diameter).

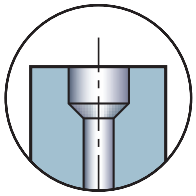
Cutting data

Application	Material	V_c m/min	ft/min	f_n mm	inch
Drilling/reaming	CFRP	60	197	0.08	.003
	CFRP/Aluminium	120	394	0.05	.002
	CFRP/Titanium	20		0.05	.002
	Aluminium	60		0.08	.003
	Titanium	15		0.05	.002
	Stainless steel	15		0.05	.002
Countersink	CFRP	60		0.08	.003

CFRP = Carbon Fiber Reinforced Plastic

Countersinks

To be used with microstop device



PCD cutting edge for stable consistant tool life and re-sharpening.



Carbide pilot ensures accuracy and durability.

Threaded coupling for 1/4 and 3/8 inch diameter, for combination with microstop adaptor.



Microstop adaptor



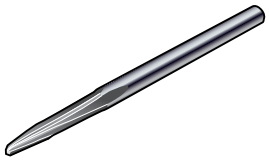
A total offer, including engineered products and support.

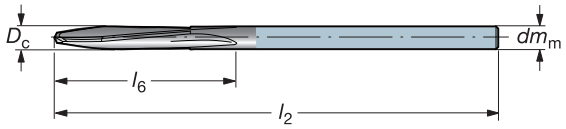
Sandvik Coromant and Precorp can offer solutions and support from dedicated application specialists globally. Along with our standard product offer, engineered solutions with customized designs are available. Please contact your local sales representative and visit www.sandvik.coromant.com/composites for more information.

CoroDrill® 452

Drill for CFRP materials

452.1-C





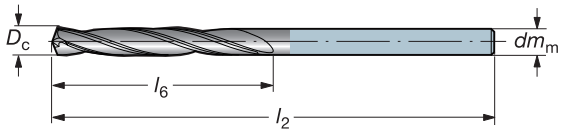
Hole tolerance: IT tolerance (+/-0.025mm)
Surface finish: For standard demands

D_c mm	D_c in.	Ordering code	P - H10F	K - H10F	N - H10F	S - H10F	dm_m mm	dm_m in.	l_2 mm	l_2 in.	l_6 mm	l_6 in.
			Dimensions, millimeter, inch (mm, in.)									
2.50	.098	**452.1-0250-044A0-C**	☆	☆	☆	☆	2.50	.098	101.6	4.000	50.8	2.000
3.26	.128	**452.1-0326-044A0-C**	☆	☆	☆	☆	3.26	.128	101.6	4.000	50.8	2.000
4.17	.164	**452.1-0417-044A0-C**	☆	☆	☆	☆	4.17	.164	101.6	4.000	50.8	2.000
4.83	.190	**452.1-0483-044A0-C**	☆	☆	☆	☆	4.83	.190	101.6	4.000	50.8	2.000
5.56	.219	**452.1-0556-044A0-C**	☆	☆	☆	☆	5.56	.219	101.6	4.000	50.8	2.000
6.35	.250	**452.1-0635-044A0-C**	☆	☆	☆	☆	6.35	.250	101.6	4.000	50.8	2.000
7.94	.313	**452.1-0794-044A0-C**	☆	☆	☆	☆	7.94	.312	101.6	4.000	50.8	2.000
9.53	.375	**452.1-0953-044A0-C**	☆	☆	☆	☆	9.52	.375	101.6	4.000	50.8	2.000
11.12	.438	**452.1-1112-044A0-C**	☆	☆	☆	☆	11.11	.438	101.6	4.000	50.8	2.000
12.70	.500	**452.1-1270-044A0-C**	☆	☆	☆	☆	12.70	.500	101.6	4.000	50.8	2.000

Drill for CFRP-metallic stack materials

452.1-CM





Hole tolerance: IT tolerance (+/-0.025mm)
Surface finish: For standard demands

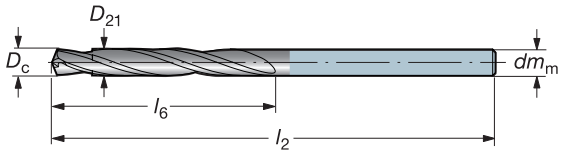
D_c mm	D_c in.	Ordering code	P - H10F	K - H10F	N - H10F	S - H10F	dm_m mm	dm_m in.	l_2 mm	l_2 in.	l_6 mm	l_6 in.
			Dimensions, millimeter, inch (mm, in.)									
2.50	.098	**452.1-0250-044A0-CM**	☆	☆	☆	☆	2.50	.098	101.6	4.000	50.8	2.000
3.26	.128	**452.1-0326-044A0-CM**	☆	☆	☆	☆	3.26	.128	101.6	4.000	50.8	2.000
4.17	.164	**452.1-0417-044A0-CM**	☆	☆	☆	☆	4.17	.164	101.6	4.000	50.8	2.000
4.83	.190	**452.1-0483-044A0-CM**	☆	☆	☆	☆	4.83	.190	101.6	4.000	50.8	2.000
5.56	.219	**452.1-0556-044A0-CM**	☆	☆	☆	☆	5.56	.219	101.6	4.000	50.8	2.000
6.35	.250	**452.1-0635-044A0-CM**	☆	☆	☆	☆	6.35	.250	101.6	4.000	50.8	2.000
7.94	.313	**452.1-0794-044A0-CM**	☆	☆	☆	☆	7.94	.312	101.6	4.000	50.8	2.000
9.53	.375	**452.1-0953-044A0-CM**	☆	☆	☆	☆	9.52	.375	101.6	4.000	50.8	2.000
11.12	.438	**452.1-1112-044A0-CM**	☆	☆	☆	☆	11.11	.438	101.6	4.000	50.8	2.000
12.70	.500	**452.1-1270-044A0-CM**	☆	☆	☆	☆	12.70	.500	101.6	4.000	50.8	2.000

CoroDrill® 452

Pilot high precision drill for CFRP-metallic stack materials

452.4





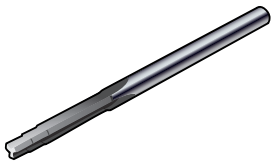
Hole tolerance: +/- 0.025 mm using high quality drill bushing.
Surface finish: For high demands

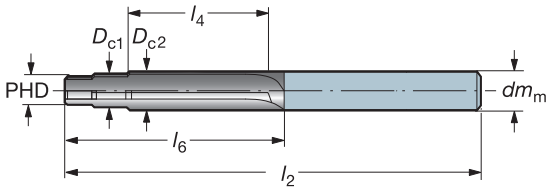
D_{21} mm	D_{21} in.	Ordering code	P - H10F	K - H10F	N - H10F	S - H10F	D_c mm	D_c in.	dm_m mm	dm_m in.	l_2 mm	l_2 in.	l_6 mm	l_6 in.
			Dimensions, millimeter, inch (mm, in.)											
4.17	.164	**452.4-0417-034A0-CM**	☆	☆	☆	☆	3.37	.133	3.97	.156	101.6	4.000	50.8	2.000
4.83	.190	**452.4-0483-034A0-CM**	☆	☆	☆	☆	4.06	.160	4.76	.188	101.6	4.000	50.8	2.000
5.56	.219	**452.4-0556-034A0-CM**	☆	☆	☆	☆	4.76	.188	5.56	.219	101.6	4.000	50.8	2.000
6.35	.250	**452.4-0635-034A0-CM**	☆	☆	☆	☆	5.56	.219	6.35	.250	101.6	4.000	50.8	2.000
7.94	.313	**452.4-0794-034A0-CM**	☆	☆	☆	☆	7.15	.281	7.94	.312	101.6	4.000	50.8	2.000
9.53	.375	**452.4-0953-034A0-CM**	☆	☆	☆	☆	8.73	.344	9.52	.375	101.6	4.000	50.8	2.000
11.12	.438	**452.4-1112-034A0-CM**	☆	☆	☆	☆	10.32	.406	11.11	.438	101.6	4.000	50.8	2.000
12.70	.500	**452.4-1270-034A0-CM**	☆	☆	☆	☆	11.91	.469	12.70	.500	101.6	4.000	50.8	2.000

CoroDrill® 452

REAMER

For CFRP materials: -C geometry
For CFRP metallic stack materials: -CM geometry
452.R



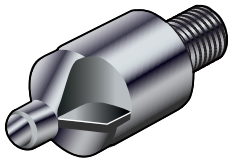


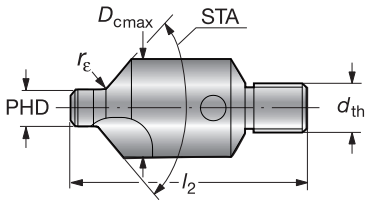
Hole tolerance: +/- 0.010 mm using high quality drill bushing.
Surface finish: For very high demands

			P	K	N	S	Dimensions, millimeter, inch (mm, in.)											
			-	-	-	-												
D_{c2} mm	D_{c2} in.	Ordering code	H10F	H10F	H10F	H10F	PHD mm	PHD in.	dm_m mm	dm_m in.	D_{c1} mm	D_{c1} in.	l_2 mm	l_2 in.	l_4 mm	l_4 in.	l_6 mm	l_6 in.
4.17	.164	452.R-0417-032A0-C	☆	☆	☆	☆	2.57	.101	4.17	.164	3.36	.132	101.6	4.000	30.3	1.193	50.8	2.000
4.83	.190	452.R-0483-032A0-C	☆	☆	☆	☆	3.23	.127	4.83	.190	4.01	.158	101.6	4.000	30.3	1.193	50.8	2.000
5.56	.219	452.R-0556-032A0-C	☆	☆	☆	☆	3.96	.156	5.56	.219	4.74	.187	101.6	4.000	30.3	1.193	50.8	2.000
6.35	.250	452.R-0635-032A0-C	☆	☆	☆	☆	4.75	.187	6.35	.250	5.54	.218	101.6	4.000	30.3	1.193	50.8	2.000
7.94	.313	452.R-0794-029A0-C	☆	☆	☆	☆	6.34	.250	7.94	.312	7.13	.281	101.6	4.000	27.1	1.067	50.8	2.000
9.53	.375	452.R-0953-025A0-C	☆	☆	☆	☆	7.93	.312	9.52	.375	8.71	.343	101.6	4.000	23.9	.941	50.8	2.000
11.12	.438	452.R-1112-025A0-C	☆	☆	☆	☆	9.52	.375	11.11	.438	10.31	.406	101.6	4.000	23.9	.941	50.8	2.000
12.70	.500	452.R-1270-025A0-C	☆	☆	☆	☆	11.10	.437	12.70	.500	11.89	.468	101.6	4.000	23.9	.941	50.8	2.000
4.17	.164	452.R-0417-032A0-CM	☆	☆	☆	☆	2.57	.101	4.17	.164	3.36	.132	101.6	4.000	31.4	1.236	50.8	2.000
4.83	.190	452.R-0483-032A0-CM	☆	☆	☆	☆	3.23	.127	4.83	.190	4.01	.158	101.6	4.000	31.4	1.236	50.8	2.000
5.56	.219	452.R-0556-032A0-CM	☆	☆	☆	☆	3.96	.156	5.56	.219	4.74	.187	101.6	4.000	31.4	1.236	50.8	2.000
6.35	.250	452.R-0635-032A0-CM	☆	☆	☆	☆	4.75	.187	6.35	.250	5.54	.218	101.6	4.000	31.4	1.236	50.8	2.000
7.94	.313	452.R-0794-029A0-CM	☆	☆	☆	☆	6.34	.250	7.94	.312	7.13	.281	101.6	4.000	28.2	1.110	50.8	2.000
9.53	.375	452.R-0953-025A0-CM	☆	☆	☆	☆	7.93	.312	9.52	.375	8.71	.343	101.6	4.000	25.0	.984	50.8	2.000
11.12	.438	452.R-1112-025A0-CM	☆	☆	☆	☆	9.52	.375	11.11	.438	10.31	.406	101.6	4.000	25.0	.984	50.8	2.000
12.70	.500	452.R-1270-025A0-CM	☆	☆	☆	☆	11.10	.437	12.70	.500	11.89	.468	101.6	4.000	25.0	.984	50.8	2.000

Single edge PCD countersink for CFRP materials

452.C1





				N	Dimensions, millimeter, inch (mm, in.)					
				CD						
STA	PHD mm	PHD in.	Ordering code	CD10	D_{cmax} mm	D_{cmax} in.	d_{th}	l_2 mm	l_2 in.	r_ε
100	4.14	.163	452.C1-0414-100T-C	☆	10	.394	1/4 x 24	36.0	1.417	0.9
	4.80	.189	452.C1-0480-100T-C	☆	10	.394		36.6	1.441	0.9
	5.53	.218	452.C1-0553-100T-C	☆	10	.394		36.6	1.441	0.9
	6.33	.249	452.C1-0632-100T-C	☆	14	.551		37.8	1.488	0.9
	7.91	.312	452.C1-0791-100T-C	☆	18	.709		39.7	1.563	1.15
	9.50	.374	452.C1-0950-100T-C	☆	20	.787		49.5	1.949	1.15
	11.09	.437	452.C1-1109-100T-C	☆	23	.906		51.0	2.008	1.4
	12.68	.499	452.C1-1268-100T-C	☆	26	1.024		49.0	1.929	1.4
130	4.14	.163	452.C1-0414-130T-C	☆	10	.394	3/8 x 28	36.0	1.417	0.9
	4.80	.189	452.C1-0480-130T-C	☆	10	.394		36.6	1.441	0.9
	5.53	.218	452.C1-0553-130T-C	☆	10	.394		36.6	1.441	0.9
	6.33	.249	452.C1-0632-130T-C	☆	14	.551		37.8	1.488	0.9
	7.91	.312	452.C1-0791-130T-C	☆	18	.709		39.7	1.563	1.15
	9.50	.374	452.C1-0950-130T-C	☆	20	.787		49.5	1.949	1.15
	11.09	.437	452.C1-1109-130T-C	☆	23	.906		51.0	2.008	1.4
	12.68	.499	452.C1-1268-130T-C	☆	26	1.024		49.0	1.929	1.4

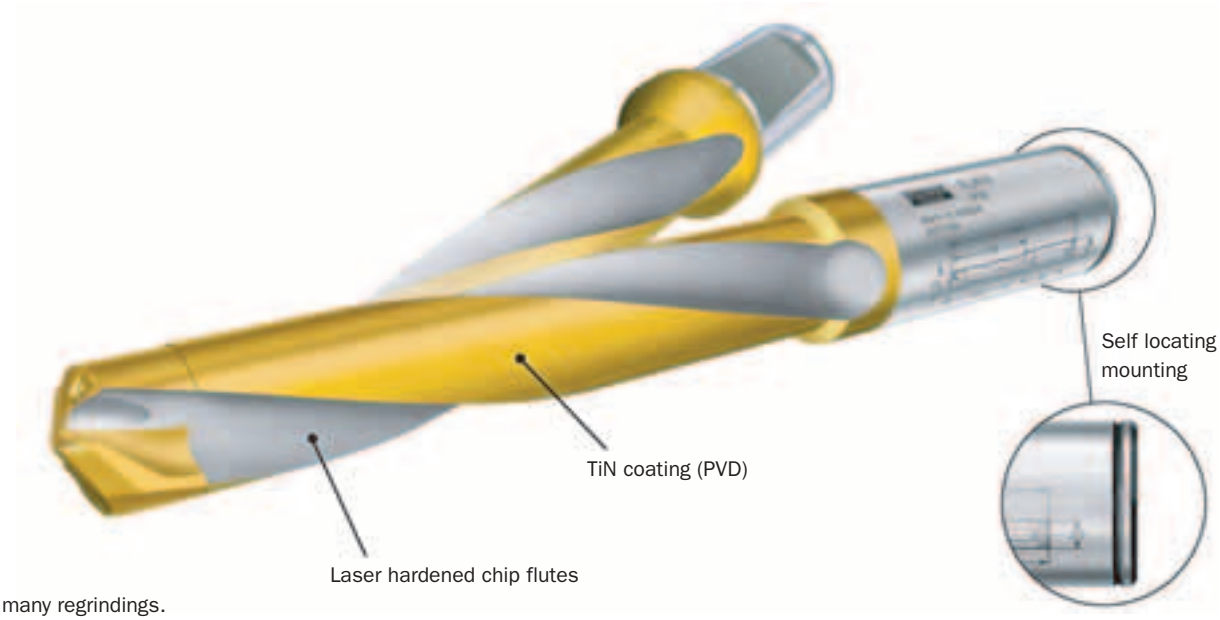
Coromant Delta

Brazed carbide drill

High productivity drilling of close tolerance holes

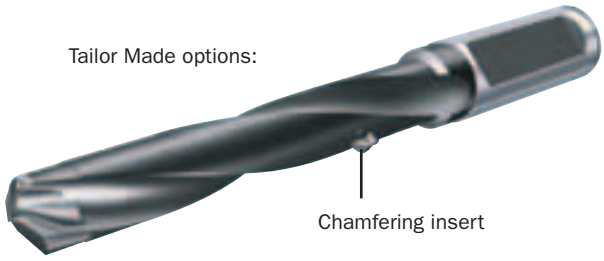
Short and long designs:
3.5-5.0 x Dc

Laser marking of diameter, carbide grade, code number and batch number



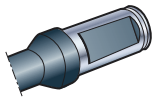
Allows many regrindings.
Regrinding service available.

Tailor Made options:





Cylindrical with flat



Whistle Notch

- Choice of various coatings
- Production of chamfered holes for threading
- Pre drilling of thread holes

Tailor Made

Tool options designed to individual customer requirements are available. For information on our Tailor Made programme see page J4.

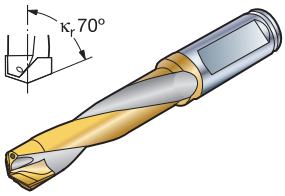
ISO application areas:

P M K N H

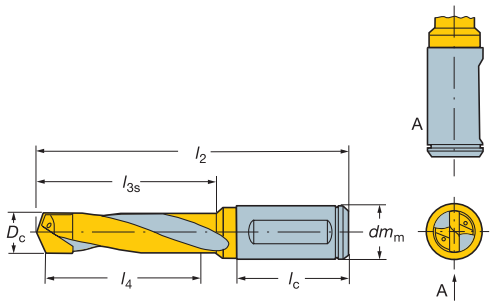
SANDVIK Coromant

Coromant Delta 3.5 × D_c

Cylindrical shank with flat according to ISO 9766



Drill diameter:	9.50-30.40 mm (.374-1.197 inch)
Hole depth:	3.5 × D_c
Hole tolerance:	IT8-9
Surface finish:	R_a 1-2 µm (40-80 µ inch)
Cutting fluid:	Emulsion or Neat oil
Tolerances, mm:	D_c = js7 dm_m h6



l_4 = recommended drilling depth

Metric design

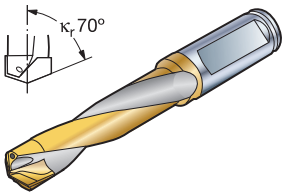
Stocked drills		Non-stocked drills		P	M	K	N	H	Dimensions, mm					
				-	-	-	-	-						
D_c mm	**Ordering code**	Drilling dia. range	**Ordering code**	P20	K20	K20	K20	K20	dm_m	l_2	l_{3s}	l_4	l_c	KG
9.75	**R411.5-10034D9.75**	9.50-10.00	**R411.5-10034Dxx.xx**		☆	☆	☆	☆	16	98	39	35	48	0.1
10.00	**R411.5-10034D10.00**			☆	☆	☆	☆	☆	16	98	39	35	48	0.1
10.25	**R411.5-10534D10.25**	10.01-10.50	**R411.5-10534Dxx.xx**	☆	☆	☆	☆	☆	16	100	41	37	48	0.1
10.50	**R411.5-10534D10.50**			☆	☆	☆	☆	☆	16	100	41	37	48	0.1
10.75	**R411.5-11034D10.75**			☆					16	103	44	39	48	0.1
11.00	**R411.5-11034D11.00**			☆					16	103	44	39	48	0.1
11.25	**R411.5-11534D11.25**	11.01-11.50	**R411.5-11534Dxx.xx**	☆					16	105	46	40	48	0.1
11.50	**R411.5-11534D11.50**			☆					16	105	46	40	48	0.1
11.75	**R411.5-12034D11.75**	11.51-12.00	**R411.5-12034Dxx.xx**	☆	☆	☆	☆	☆	16	108	49	42	48	0.1
12.00	**R411.5-12034D12.00**			☆	☆	☆	☆	☆	16	108	49	42	48	0.1
12.50	**R411.5-12534D12.50**			☆	☆	☆	☆	☆	16	113	54	44	48	0.1
12.75	**R411.5-13034D12.75**			☆					16	113	54	46	48	0.1
13.00	**R411.5-13034D13.00**			☆	☆	☆	☆	☆	16	113	54	46	48	0.1
13.25	**R411.5-13534D13.25**			☆					16	118	59	47	48	0.1
13.50	**R411.5-13534D13.50**			☆	☆	☆	☆	☆	16	118	59	47	48	0.1
14.00	**R411.5-14034D14.00**				☆	☆	☆	☆	16	118	59	49	48	0.1
14.25	**R411.5-14534D14.25**	14.01-14.50	**R411.5-14534Dxx.xx**		☆	☆	☆	☆	20	123	63	51	50	0.2
14.50	**R411.5-14534D14.50**			☆	☆	☆	☆	☆	20	123	63	51	50	0.2
15.00	**R411.5-15034D15.00**			☆	☆	☆	☆	☆	20	123	63	53	50	0.2
15.25	**R411.5-15534D15.25**	15.01-15.50	**R411.5-15534Dxx.xx**	☆	☆	☆	☆	☆	20	128	68	54	50	0.2
15.50	**R411.5-15534D15.50**			☆					20	128	68	54	50	0.2
15.75	**R411.5-16034D15.75**	15.51-16.00	**R411.5-16034Dxx.xx**	☆					20	128	68	56	50	0.2
16.00	**R411.5-16034D16.00**			☆	☆	☆	☆	☆	20	128	68	56	50	0.2
16.25	**R411.5-16534D16.25**	16.01-16.50	**R411.5-16534Dxx.xx**	☆					20	133	73	58	50	0.2
16.50	**R411.5-16534D16.50**			☆	☆	☆	☆	☆	20	133	73	58	50	0.2

Ordering example for stocked drills: 2 pieces R411.5-10034 D9.75 P20
Ordering example for non-stocked drills: 2 pieces R411.5-10034 D*9.80* P20

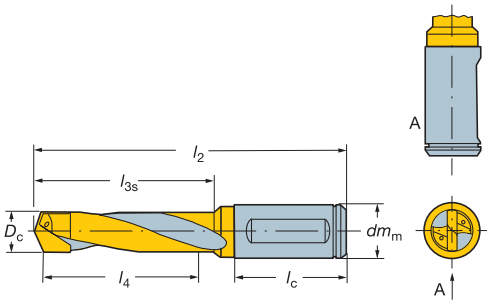
E152 E184 E4 G6 E2 J4

Coromant Delta 3.5 × D_c

Cylindrical shank with flat according to ISO 9766



Drill diameter:	9.50-30.40 mm (.374-1.197 inch)
Hole depth:	3.5 × D_c
Hole tolerance:	IT8-9
Surface finish:	R_a 1-2 µm (40-80 µ inch)
Cutting fluid:	Emulsion or Neat oil
Tolerances, mm:	D_c = js7 dm_m h6



l_4 = recommended drilling depth

Metric design

Stocked drills		Non-stocked drills		P	M	K	N	H	Dimensions, mm					
				-	-	-	-	-						
D_c mm	**Ordering code**	Drilling dia. range	**Ordering code**	P20	K20	K20	K20	K20	dm_m	l_2	l_{3s}	l_4	l_c	kg
16.75	**R411.5-17034D16.75**			☆	☆	☆	☆	☆	20	133	73	60	50	0.2
17.00	**R411.5-17034D17.00**			☆	☆	☆	☆	☆	20	133	73	60	50	0.2
17.50	**R411.5-17534D17.50**			☆	☆	☆	☆	☆	20	136	76	61	50	0.3
17.75	**R411.5-18034D17.75**	17.51-18.00	**R411.5-18034Dxx.xx**	☆					20	136	76	63	50	0.3
18.00	**R411.5-18034D18.00**			☆	☆	☆	☆	☆	20	136	76	63	50	0.2
18.50	**R411.5-18534D18.50**	18.01-18.50	**R411.5-18534Dxx.xx**	☆	☆	☆	☆	☆	20	139	79	65	50	0.3
18.75	**R411.5-19034D18.75**			☆					25	149	81	67	56	0.3
19.00	**R411.5-19034D19.00**			☆					25	149	81	67	56	0.3
19.25	**R411.5-19534D19.25**	19.01-19.50	**R411.5-19534Dxx.xx**	☆					25	154	86	68	56	0.3
19.50	**R411.5-19534D19.50**			☆					25	154	86	68	56	0.3
19.75	**R411.5-20034D19.75**			☆	☆	☆	☆	☆	25	154	86	70	56	0.3
20.00	**R411.5-20034D20.00**			☆	☆	☆	☆	☆	25	154	86	70	56	0.3
20.50	**R411.5-20534D20.50**	20.01-20.50	**R411.5-20534Dxx.xx**	☆	☆	☆	☆	☆	25	159	91	72	56	0.4
21.00	**R411.5-21034D21.00**	20.51-21.00	**R411.5-21034Dxx.xx**	☆	☆	☆	☆	☆	25	159	91	74	56	0.4
21.50	**R411.5-21534D21.50**	21.01-21.50	**R411.5-21534Dxx.xx**	☆	☆	☆	☆	☆	25	164	96	75	56	0.4
22.00	**R411.5-22034D22.00**	21.51-22.00	**R411.5-22034Dxx.xx**	☆	☆	☆	☆	☆	25	164	96	77	56	0.4
22.50	**R411.5-22534D22.50**	22.01-22.50	**R411.5-22534Dxx.xx**	☆	☆	☆	☆	☆	25	168	96	79	56	0.4
23.00	**R411.5-23034D23.00**	22.51-23.00	**R411.5-23034Dxx.xx**	☆					25	168	100	81	56	0.4
23.50	**R411.5-23534D23.50**			☆					25	174	106	82	56	0.4
24.00	**R411.5-24034D24.00**	23.51-24.00	**R411.5-24034Dxx.xx**	☆	☆	☆	☆	☆	25	174	106	84	56	0.4
24.50	**R411.5-24534D24.50**			☆	☆	☆	☆	☆	32	183	110	86	60	0.4
25.00	**R411.5-25034D25.00**	24.51-25.00	**R411.5-25034Dxx.xx**	☆					32	183	110	88	60	0.4
25.50	**R411.5-25534D25.50**	25.01-25.50	**R411.5-25534Dxx.xx**	☆					32	189	116	89	60	0.4
26.00	**R411.5-26034D26.00**	25.51-26.00	**R411.5-26034Dxx.xx**	☆	☆	☆	☆	☆	32	189	116	91	60	0.4
26.50	**R411.5-26534D26.50**			☆	☆	☆	☆	☆	32	193	120	93	60	0.4
27.00	**R411.5-27034D27.00**			☆					32	193	120	95	60	0.4
28.00	**R411.5-28034D28.00**			☆					32	199	126	98	60	0.4
28.50	**R411.5-28534D28.50**			☆	☆	☆	☆	☆	32	204	131	100	60	0.4
30.00	**R411.5-30034D30.00**			☆					32	208	135	105	60	0.4

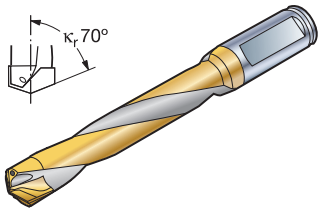
Ordering example for stocked drills: 2 pieces R411.5-25034 D25.00 P20
Ordering example for non-stocked drills: 2 pieces R411.5-18034D*17.80*

E152 E184 E4 G6 E2 J4

SANDVIK Coromant

Coromant Delta 5 × D_c

Cylindrical shank with flat according to ISO 9766



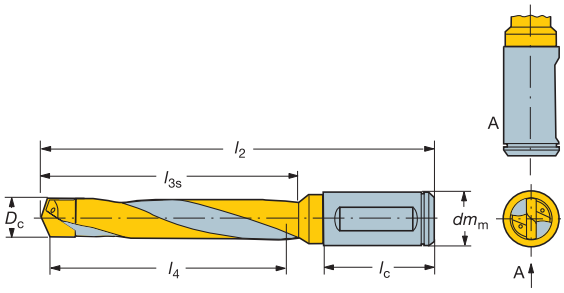
Drill diameter: 9.50-20.00 mm (.374-.787 inch)

Hole depth: 5 × D_c

Hole tolerance: IT9-10

Surface finish: R_a 2-4 µm (80-160 µ inch)
Cutting fluid: Emulsion or Neat oil

Tolerances, mm: D_c = js7
dm_m h6

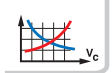


l_4 = recommended drilling depth

Metric design

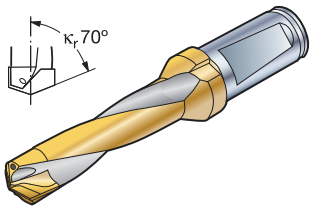
Stocked drills		Non-stocked drills		P	M	K	N	H	Dimensions, mm					
				-	-	-	-	-						
D_c mm	**Ordering code**	Drilling dia. range	**Ordering code**	P20	K20	K20	K20	K20	dm_m	l_2	l_{3s}	l_4	l_c	KG
10.20	**R411.5-10554D10.20**	10.01-10.50	**R411.5-10554Dxx.xx**	☆					16	116	57	53	48	0.1
10.50	**R411.5-10554D10.50**			☆					16	116	57	53	48	0.1
11.00	**R411.5-11054D11.00**			☆					16	120	61	55	48	0.1
11.50	**R411.5-11554D11.50**			☆					16	122	63	58	48	0.1
12.00	**R411.5-12054D12.00**			☆	☆	☆	☆	☆	16	126	67	60	48	0.1
12.25	**R411.5-12554D12.25**			☆					16	133	74	63	48	0.1
12.50	**R411.5-12554D12.50**			☆					16	133	74	63	48	0.1
13.00	**R411.5-13054D13.00**			☆	☆	☆	☆	☆	16	133	74	65	48	0.1
13.50	**R411.5-13554D13.50**	13.01-13.50	**R411.5-13554Dxx.xx**	☆					16	139	80	68	48	0.1
14.00	**R411.5-14054D14.00**			☆	☆	☆	☆	☆	16	139	80	70	48	0.1
14.50	**R411.5-14554D14.50**	14.01-14.50	**R411.5-14554Dxx.xx**	☆					20	146	86	73	50	0.2
15.00	**R411.5-15054D15.00**			☆	☆	☆	☆	☆	20	146	86	75	50	0.2
15.10	**R411.5-15554D15.10**				☆	☆	☆	☆	20	152	92	78	50	0.2
15.25	**R411.5-15554D15.25**			☆					20	152	92	78	50	0.2
15.50	**R411.5-15554D15.50**			☆	☆	☆	☆	☆	20	152	92	78	50	0.2
16.00	**R411.5-16054D16.00**			☆	☆	☆	☆	☆	20	152	92	80	50	0.2
16.50	**R411.5-16554D16.50**	16.01-16.50	**R411.5-16554Dxx.xx**	☆	☆	☆	☆	☆	20	159	99	83	50	0.2
17.00	**R411.5-17054D17.00**	16.51-17.00	**R411.5-17054Dxx.xx**	☆	☆	☆	☆	☆	20	159	99	85	50	0.2
17.50	**R411.5-17554D17.50**	17.01-17.50	**R411.5-17554Dxx.xx**	☆	☆	☆	☆	☆	20	163	99	85	50	0.2
18.00	**R411.5-18054D18.00**			☆					20	163	103	90	50	0.2
18.50	**R411.5-18554D18.50**			☆					20	167	107	93	50	0.3
19.00	**R411.5-19054D19.00**			☆					25	178	110	95	56	0.3
19.50	**R411.5-19554D19.50**			☆	☆	☆	☆	☆	25	184	86	98	56	0.3
20.00	**R411.5-20054D20.00**			☆					25	184	116	100	56	0.3

Ordering example for stocked drills: 2 pieces R411.5-10554D10.20 P20
Ordering example for non-stocked drills: 2 pieces R411.5-10554D*10.30* P20

 E152  E184  E4  G6  E2  J4

Coromant Delta 3.5 × D_c

Whistle Notch shank



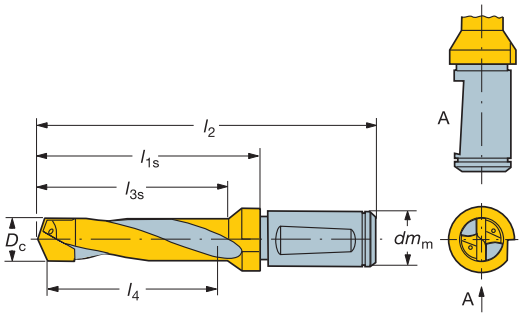
Drill diameter: 10.00-30.40 mm (.394-1.197 inch)

Hole depth: 3.5 × D_c

Hole tolerance: IT8-9

Surface finish: R_a 1-2 µm (40-80 µ inch)
Cutting fluid: Emulsion or Neat oil

Tolerances: D_c = js7
dm_m h6



l_{1s} = programming length
l_4 = recommended drilling depth

Metric design

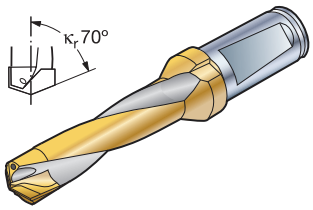
Stocked drills		Non-stocked drills		P	Dimensions, mm					
D_c mm	Ordering code	Drilling dia. range	Ordering code	P20	dm_m	l_2	l_{3s}	l_{1s}	l_4	KG
10.00	R411.5-10032D10.00			☆	16	92	39	52	35	0.1
10.20	R411.5-10232D10.20			☆	16	94	41	54	36	0.1
10.25	R411.5-10232D10.25			☆	16	94	41	54	36	0.1
10.50	R411.5-10532D10.50			☆	16	94	41	54	37	0.1
10.75	R411.5-10732D10.75			☆	16	97	44	57	38	0.1
11.00	R411.5-11032D11.00	10.76-11.00	R411.5-11032Dxx.xx	☆	16	97	44	57	39	0.1
11.11	R411.5-11232D11.11	11.01-11.25	R411.5-11232Dxx.xx	☆	16	99	46	59	39	0.1
11.25	R411.5-11232D11.25			☆	16	99	46	59	40	0.1
11.50	R411.5-11532D11.50	11.26-11.50	R411.5-11532Dxx.xx	☆	16	99	46	59	40	0.1
11.75	R411.5-11732D11.75			☆	16	102	49	62	41	0.1
12.00	R411.5-12032D12.00			☆	16	102	49	62	42	0.1
12.10	R411.5-12232D12.10	12.01-12.25	R411.5-12232Dxx.xx	☆	16	107	54	67	43	0.1
12.25	R411.5-12232D12.25			☆	16	107	54	67	43	0.1
12.50	R411.5-12532D12.50			☆	16	107	54	67	44	0.1
12.70	R411.5-12732D12.70	12.51-12.75	R411.5-12732Dxx.xx	☆	16	107	54	67	45	0.1
12.75	R411.5-12732D12.75			☆	16	107	54	67	46	0.1
12.80	R411.5-13032D12.80			☆	16	107	54	67	46	0.1
13.00	R411.5-13032D13.00			☆	16	107	54	67	46	0.1
13.25	R411.5-13232D13.25	13.01-13.25	R411.5-13232Dxx.xx	☆	16	112	59	72	46	0.1
13.50	R411.5-13532D13.50			☆	16	112	59	72	47	0.1
13.75	R411.5-13732D13.75	13.51-13.75	R411.5-13732Dxx.xx	☆	16	112	59	72	49	0.1
14.00	R411.5-14032D14.00	13.76-14.00	R411.5-14032Dxx.xx	☆	16	112	59	72	49	0.1
14.10	R411.5-14232D14.10			☆	20	115	63	77	50	0.1
14.20	R411.5-14232D14.20			☆	20	117	63	77	50	0.1
14.25	R411.5-14232D14.25			☆	20	117	63	77	50	0.1
14.50	R411.5-14532D14.50	14.26-14.50	R411.5-14532Dxx.xx	☆	20	117	63	77	51	0.2
14.75	R411.5-14732D14.75	14.51-14.75	R411.5-14732Dxx.xx	☆	20	117	63	77	53	0.2
15.00	R411.5-15032D15.00			☆	20	117	63	77	53	0.2
15.25	R411.5-15232D15.25			☆	20	122	68	82	53	0.2
15.50	R411.5-15532D15.50			☆	20	122	68	82	54	0.2
15.75	R411.5-15732D15.75			☆	20	122	68	82	56	0.2
15.88	R411.5-16032D15.88	15.76-16.00	R411.5-16032Dxx.xx	☆	20	122	68	82	56	0.2
16.00	R411.5-16032D16.00			☆	20	122	68	82	56	0.2
16.10	R411.5-16232D16.10	16.01-16.25	R411.5-16232Dxx.xx	☆	20	127	73	87	57	0.2
16.25	R411.5-16232D16.25			☆	20	127	73	87	57	0.2
16.50	R411.5-16532D16.50			☆	20	127	73	87	58	0.2
16.60	R411.5-16732D16.60			☆	20	127	73	87	59	0.2
16.75	R411.5-16732D16.75			☆	20	127	73	87	60	0.2
17.00	R411.5-17032D17.00	16.76-17.00	R411.5-17032Dxx.xx	☆	20	127	73	87	60	0.2
17.50	R411.5-17532D17.50			☆	25	137	76	92	61	0.3
17.75	R411.5-17732D17.75			☆	25	137	76	92	63	0.3
18.00	R411.5-18032D18.00			☆	25	137	76	92	63	0.3
18.04	R411.5-18232D18.04	18.01-18.25	R411.5-18232Dxx.xx	☆	20	142	81	97	64	0.3
18.50	R411.5-18532D18.50			☆	25	142	81	97	65	0.3
18.75	R411.5-18732D18.75			☆	25	142	81	97	66	0.3

Ordering example for stocked drills: 2 pieces R411.5-11032 D11.00 P20
Ordering example for non-stocked drills: 2 pieces R411.5-11032 D*10.80* P20

E152 E184 E4 G6 E2 J4

Coromant Delta 3.5 × D_c

Whistle Notch shank

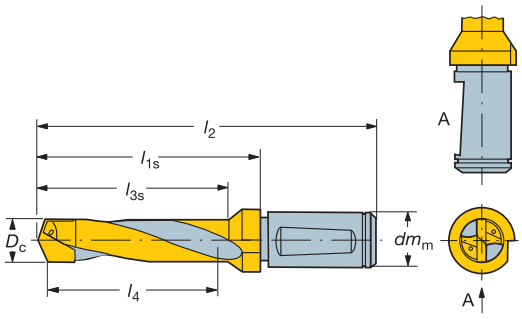


Drill diameter: 10.00-30.40 mm (.394-1.197 inch)
Hole depth: 3.5 × D_c

Hole tolerance: IT8-9

Surface finish: R_a 1-2 µm (40-80 µ inch)
Cutting fluid: Emulsion or Neat oil

Tolerances: D_c = js7
dm_m h6



l_{1s} = programming length
l_4 = recommended drilling depth

Metric design

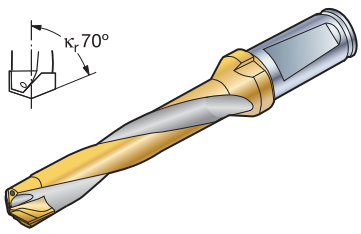
Stocked drills		Non-stocked drills		P	Dimensions, mm					
D_c mm	**Ordering code**	Drilling dia. range	**Ordering code**	P20	dm_m	l_2	l_{3s}	l_{1s}	l_4	KG
19.00	**R411.5-19032D19.00**			☆	25	142	81	97	67	0.3
19.05	**R411.5-19232D19.05**			☆	25	147	86	102	67	0.3
19.25	**R411.5-19232D19.25**			☆	25	147	86	102	67	0.3
19.50	**R411.5-19532D19.50**			☆	25	147	86	102	68	0.3
19.75	**R411.5-19732D19.75**			☆	25	147	86	102	70	0.3
20.00	**R411.5-20032D20.00**	19.76-20.00	**R411.5-20032Dxx.xx**	☆	25	147	86	102	70	0.3
20.50	**R411.5-20532D20.50**	20.01-20.50	**R411.5-20532Dxx.xx**	☆	25	152	91	107	72	0.4
21.00	**R411.5-21032D21.00**			☆	25	152	91	107	74	0.4
21.20	**R411.5-21532D21.20**			☆	25	155	96	112	75	0.4
21.50	**R411.5-21532D21.50**			☆	25	157	96	112	75	0.4
22.00	**R411.5-22032D22.00**			☆	25	157	96	112	77	0.4
22.50	**R411.5-22532D22.50**	22.01-22.50	**R411.5-22532Dxx.xx**	☆	25	161	100	116	79	0.4
23.00	**R411.5-23032D23.00**			☆	25	161	100	116	81	0.4
23.50	**R411.5-23532D23.50**			☆	25	167	106	122	82	0.4
24.00	**R411.5-24032D24.00**			☆	25	167	106	122	84	0.4
24.50	**R411.5-24532D24.50**	24.01-24.50	**R411.5-24532Dxx.xx**	☆	25	171	110	126	86	0.4
25.00	**R411.5-25032D25.00**	24.51-25.00	**R411.5-25032Dxx.xx**	☆	25	171	110	126	88	0.4
25.50	**R411.5-25532D25.50**	25.01-25.50	**R411.5-25532Dxx.xx**	☆	25	178	116	133	89	0.4
26.00	**R411.5-26032D26.00**			☆	25	178	116	133	91	0.4
26.50	**R411.5-26532D26.50**			☆	25	182	120	137	93	0.4
27.00	**R411.5-27032D27.00**			☆	25	182	120	137	95	0.4
27.50	**R411.5-27532D27.50**			☆	25	188	126	143	96	0.4
28.00	**R411.5-28032D28.00**			☆	25	188	126	143	98	0.4
28.50	**R411.5-28532D28.50**			☆	25	193	131	148	100	0.4
30.00	**R411.5-30032D30.00**			☆	25	197	135	152	105	0.4

Ordering example for stocked drills: 2 pieces R411.5-20032 D20.00 P20
Ordering example for non-stocked drills: 2 pieces R411.5-20032 D*19.90* P20

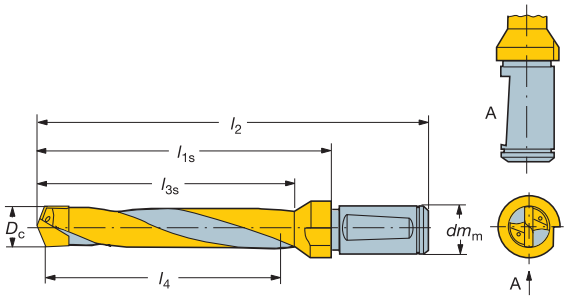
E152 E184 E4 G6 E2 J4

Coromant Delta 5 × D_c

Whistle Notch shank



Drill diameter:	9.50-20.00 mm (.374-.787 inch)
Hole depth:	5 × D_c
Hole tolerance:	IT9-10
Surface finish:	R_a 2-4 µm (80-160 µ inch)
Cutting fluid:	Emulsion or Neat oil
Tolerances, mm:	D_c = js7 dm_m h6



l_{1s} = programming length
l_4 = recommended drilling depth

Metric design

Stocked drills		Non-stocked drills		P	Dimensions, mm					
				-						
D_c mm	**Ordering code**	Drilling dia. range	**Ordering code**	P20	dm_m	l_2	l_{3s}	l_{1s}	l_4	KG
10.00	**R411.5-10052D10.00**	9.50-10.00	**R411.5-10052Dxx.xx**	☆	16	107	54	67	50	0.1
10.25	**R411.5-10552D10.25**	10.01-10.50	**R411.5-10552Dxx.xx**	☆	16	110	57	70	53	0.1
10.50	**R411.5-10552D10.50**			☆	16	110	57	70	53	0.1
11.00	**R411.5-11052D11.00**	10.51-11.00	**R411.5-11052Dxx.xx**	☆	16	114	61	74	55	0.1
11.50	**R411.5-11552D11.50**			☆	16	116	63	76	58	0.1
12.00	**R411.5-12052D12.00**			☆	16	120	67	80	60	0.1
12.50	**R411.5-12552D12.50**			☆	16	127	74	87	63	0.1
13.00	**R411.5-13052D13.00**			☆	16	127	74	87	65	0.1
13.50	**R411.5-13552D13.50**	13.01-13.50	**R411.5-13552Dxx.xx**	☆	16	133	80	93	68	0.1
14.00	**R411.5-14052D14.00**	13.51-14.00	**R411.5-14052Dxx.xx**	☆	16	133	80	93	70	0.1
14.25	**R411.5-14552D14.25**			☆	20	137	86	100	73	0.2
14.50	**R411.5-14552D14.50**			☆	20	140	86	100	73	0.2
15.00	**R411.5-15052D15.00**	14.51-15.00	**R411.5-15052Dxx.xx**	☆	20	140	92	100	75	0.2
15.50	**R411.5-15552D15.50**			☆	20	146	92	106	78	0.2
16.00	**R411.5-16052D16.00**			☆	20	146	92	106	80	0.2
16.50	**R411.5-16552D16.50**			☆	20	153	99	113	83	0.2
17.00	**R411.5-17052D17.00**	16.51-17.00	**R411.5-17052Dxx.xx**	☆	20	153	99	113	85	0.2
17.50	**R411.5-17552D17.50**			☆	25	164	103	119	88	0.3
18.00	**R411.5-18052D18.00**			☆	25	164	103	119	90	0.2
18.50	**R411.5-18552D18.50**			☆	25	171	110	126	93	0.3
19.00	**R411.5-19052D19.00**			☆	25	171	110	126	95	0.3
19.50	**R411.5-19552D19.50**			☆	25	177	116	132	98	0.3
20.00	**R411.5-20052D20.00**			☆	25	177	116	132	100	0.3

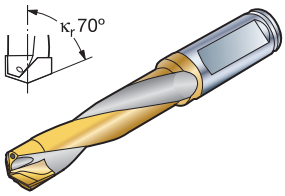
Ordering example for stocked drills: 2 pieces R411.5-10052 D10.00 P20
Ordering example for non-stocked drills: 2 pieces R411.5-10052 D*9.80* P20

E152 E184 E4 G6 E2 J4

SANDVIK Coromant

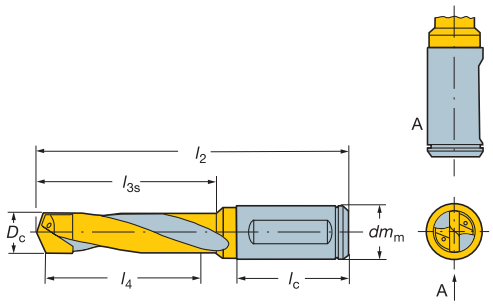
Coromant Delta 3.5 × D_c

Cylindrical shank with flat according to ISO 9766



Drill diameter: 9.525-25.80 mm (.375-1.0156 inch)
Hole depth: 3.5 × D_c
Hole tolerance: 0 / .0015 inch
Surface finish: R_a 1-2 µm (40-80 µ inch)
Cutting fluid: Emulsion or Neat oil

Tolerances: D_c = js7
dm_m h6



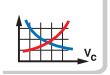
l_4 = recommended drilling depth

Inch design

Stocked drills

D_c inch	Ordering code	P - P20	M - K20	K - K20	N - K20	H - K20	dm_m	l_2	l_{3s}	l_4	l_c	Lbs
.3750	RA411.5-2534D0.3750	☆	☆	☆	☆	☆	.625	3.860	1.530	1.380	1.890	.4409
.4062	RA411.5-2634D0.4062	☆					.625	3.940	1.610	1.460	1.890	.4409
.4219	RA411.5-2734D0.4219	☆	☆	☆	☆	☆	.625	4.060	1.730	1.540	1.890	.4409
.4375	RA411.5-2834D0.4375	☆	☆	☆	☆	☆	.625	4.130	1.810	1.570	1.890	.4409
.4531	RA411.5-3034D0.4531		☆	☆	☆	☆	.625	4.250	1.930	1.650	1.890	.4409
.4688	RA411.5-3034D0.4688	☆					.625	4.250	1.930	1.650	1.890	.4409
.4844	RA411.5-3134D0.4844	☆					.625	4.450	2.130	1.730	1.890	.4409
.5000	RA411.5-3234D0.5000	☆					.625	4.450	2.130	1.810	1.890	.4409
.5312	RA411.5-3434D0.5312	☆	☆	☆	☆	☆	.625	4.650	2.320	1.850	1.890	.4409
.5469	RA411.5-3534D0.5469	☆					.625	4.650	2.320	1.930	1.890	.4409
.5625	RA411.5-3634D0.5625	☆					.750	4.840	2.480	2.010	1.970	.8818
.6250	RA411.5-4034D0.6250	☆					.750	5.040	2.680	2.200	1.970	.8818
.6406	RA411.5-4134D0.6406	☆					.750	5.240	2.870	2.280	1.970	.8818
.6562	RA411.5-4234D0.6562	☆	☆	☆	☆	☆	.750	5.240	2.870	2.360	1.970	.8818
.6719	RA411.5-4434D0.6719	☆					.750	5.350	2.990	2.400	1.970	1.5432
.6875	RA411.5-4434D0.6875	☆	☆	☆	☆	☆	.750	5.350	2.990	2.400	1.970	1.5432
.7188	RA411.5-4634D0.7188	☆					.750	5.470	3.110	2.560	1.970	1.5432
.7500	RA411.5-4934D0.7500	☆					1.000	6.060	3.390	2.680	2.200	1.5432
.7656	RA411.5-4934D0.7656	☆					1.000	6.060	3.390	2.680	2.200	1.5432
.7812	RA411.5-5034D0.7812	☆					1.000	6.060	3.390	2.760	2.200	1.5432
.8125	RA411.5-5234D0.8125	☆	☆	☆	☆	☆	1.000	6.260	3.580	2.910	2.200	1.9841
.8437	RA411.5-5434D0.8437	☆					1.000	6.460	3.780	2.950	2.200	1.9841
.8750	RA411.5-5634D0.8750	☆	☆	☆	☆	☆	1.000	6.610	3.940	3.110	2.200	1.9841
.8906	RA411.5-5734D0.8906	☆					1.000	6.610	3.940	3.190	2.200	1.9841
.9375	RA411.5-6034D0.9375	☆					1.000	6.850	4.170	3.310	2.200	1.9841
.9844	RA411.5-6434D0.9844	☆					1.250	7.440	4.570	3.500	2.360	1.9841
1.0000	RA411.5-6434D1.0000	☆					1.250	7.440	4.570	3.500	2.360	1.9841
1.0156	RA411.5-6534D1.0156	☆					1.250	7.440	4.570	3.580	2.360	1.9841

Ordering example for stocked drills: 2 pieces RA411.5-2534D0.3750 P20


E152


E184

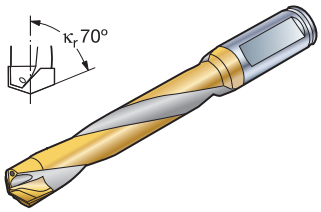
E4

G6

E2

Coromant Delta 5 × D_c

Cylindrical shank with flat according to ISO 9766



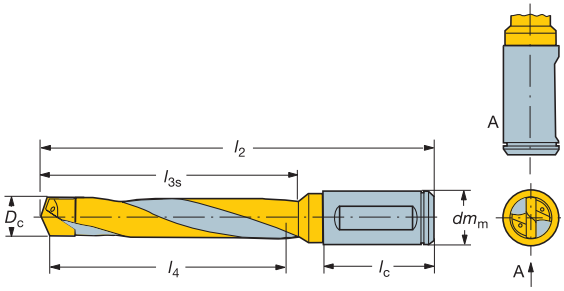
Drill diameter: 9.525-19.05 mm (.375-.750 inch)

Hole depth: 5 × D_c

Hole tolerance: 0 / .0015 inch

Surface finish: R_a 2-4 µm (80-160 µ inch)

Cutting fluid: Emulsion or Neat oil



l_4 = recommended drilling depth

Inch design

Stocked drills

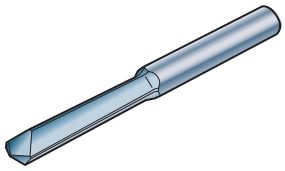
D_c inch	Ordering code	P - P20	M - K20	K - K20	N - K20	H - K20	Dimensions, inch dm_m	l_2	l_{3s}	l_4	l_c	Lbs
.3750	RA411.5-2554D0.3750	☆					.625	4.450	2.130	1.970	1.890	.4409
.4062	RA411.5-2654D0.4062	☆					.625	4.570	2.240	2.090	1.890	.4409
.4219	RA411.5-2754D0.4219	☆	☆	☆	☆	☆	.625	4.720	2.400	2.170	1.890	.4409
.4375	RA411.5-2854D0.4375	☆	☆	☆	☆	☆	.625	4.800	2.480	2.280	1.890	.4409
.4531	RA411.5-3054D0.4531	☆					.625	4.960	2.640	2.360	1.890	.4409
.4688	RA411.5-3054D0.4688	☆					.625	4.960	2.640	2.360	1.890	.4409
.4844	RA411.5-3154D0.4844	☆					.625	5.240	2.910	2.480	1.890	.4409
.5000	RA411.5-3254D0.5000	☆					.625	5.240	2.910	2.560	1.890	.4409
.5312	RA411.5-3454D0.5312	☆	☆	☆	☆	☆	.625	5.310	2.990	2.680	1.890	.4409
.5469	RA411.5-3554D0.5469	☆					.625	5.470	3.150	2.760	1.890	.4409
.5625	RA411.5-3654D0.5625	☆	☆	☆	☆	☆	.750	5.750	3.390	2.870	1.970	.8818
.6250	RA411.5-4054D0.6250	☆					.750	5.980	3.620	3.150	1.970	.8818
.6562	RA411.5-4254D0.6562	☆	☆	☆	☆	☆	.750	6.260	3.900	3.350	1.970	.8818
.6875	RA411.5-4454D0.6875	☆	☆	☆	☆	☆	.750	6.260	3.900	3.460	1.970	1.5432
.7031	RA411.5-4554D0.7031		☆	☆	☆	☆	.750	6.420	4.060	3.540	1.970	1.5432
.7188	RA411.5-4654D0.7188		☆	☆	☆	☆	.750	6.570	4.210	3.660	1.970	1.5432
.7344	RA411.5-4754D0.7344	☆					1.000	7.010	4.330	3.740	2.200	1.5432
.7500	RA411.5-4954D0.7500	☆	☆	☆	☆	☆	1.000	7.240	4.570	3.860	2.200	1.5432

Ordering example for stocked drills: 2 pieces RA411.5-2554D0.3750 P20

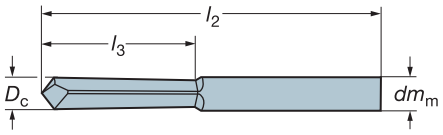
E152 E184 E4 G6 E2

Hard cut drills

For removal of broken taps or drilling difficult materials







5 × D_c

Field of application: For removal of broken taps

Drill dia.			Dimensions, millimeter, inch (mm, in.)						To remove taps	
D_c mm	D_c inch	**Ordering code**	l_2 mm	l_2 in.	l_3 mm	l_3 in.	dm_m mm	dm_m in.		
2	.079	**HC2**	30	1.181	10	.394	2	.079	M3	4-40 UNC, 6-40 UNF, 6 BA-4 BA
3	.118	**HC3**	40	1.575	15	.591	3	.118	M4, M5	8-32 UNC, 10-32 UNF, 3 BA-2 BA
4	.157	**HC4**	45	1.772	20	.787	4	.157	M6	1/4-5/16 UNC, 1/4-5/16 UNF, 1 BA-0 BA
5	.197	**HC5**	50	1.969	25	.984	5	.197	M8, M10	5/16-3/8 UNC, 5/16-3/8 UNF
6	.236	**HC6**	60	2.362	30	1.181	6	.236	M10, M12	3/8-1/2 UNC, 3/8-1/2 UNF
		HC23456; set of diameter 2-6								

Geometry
- The extra negative geometry produces a high working temperature which anneales the tap.
- Regrindable geometry.
- No cutting fluid is required – drill dry.

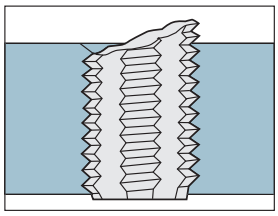
Application
- Drills are primarily designed for removal of broken taps, hardened bolts etc.
- Can also be used for drilling in other difficult materials e.g. chilled cast irons, stellite and glass.

Use machines with a stable spindle.
- FMS (flexible machining system), M/C:s, NC and NC-lathes, CNC, automatics, centre and turret lathes and milling machines.

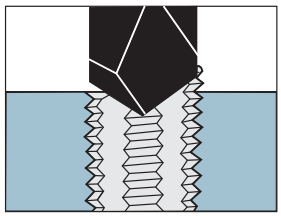
SAFETY INFORMATION
Precautions when grinding and brazing of cemented carbide, see page J8.

Operating procedure when drilling

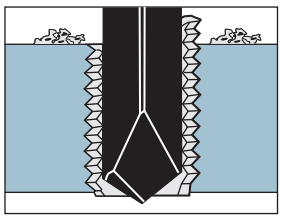
1. Securely clamp the workpiece on the machine table in a vice or similar rigid work-holding fixture. Centre the drill on the broken tap.



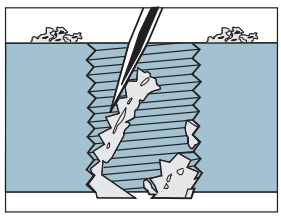
2. Centre drill in the uneven surface of the fractured tap, with a larger, more rigid drill than the one which will eventually be used for drilling out the tap.



3. Select the correct size of Hard-Cut drill according to the list in the table above. The recommended spindle speeds are 1500-3500 rpm. Drill with a consistent, steady, manual feed. Stop frequently to clear chips from the hole.



4. Once the tap has been drilled out it is a relatively simple matter to remove the remaining parts of the tap using a scriber or similar pointed tool.



CoroDrill® 870

Exchangeable tip drill

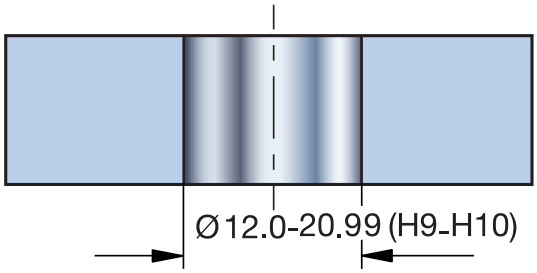
Secure and high productive drilling





High precision interface between drill body and tip for extra stability and ease of tip changing.

Drill flutes with optimized shape size and helix angle provide safe chip evacuation and tool stability.





Handling instructions

Gently press the tip down and towards the support surface while tightening the screw to the recommended torque shown on the drill body.

ISO application areas:

P

Tailor Made

Tool options designed to individual customer requirements are available. For information on our Tailor Made programme see page J4.

Code key for CoroDrill® 870

Drill body

870	–	1250	–	11	L	16	–	3
1		2		3	4	5		6

1 Product family

2 Drill body diameter (mm)

3 Tip interface size

4 Shank type
L = ISO 9766, LX = ISO 9766 inch

5 Shank diameter (mm or inch)

6 Max hole depth (x D_c)

Drill tip

870	–	1270	–	11	PM
1		2		3	4

1 Product family

2 Tip diameter (mm)

3 Tip interface size

4 Geometry
PM = ISO P, Medium machining

CoroDrill® 870 3 – 5 x D_c

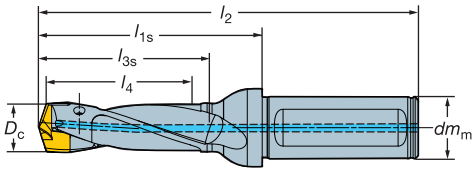
Drill bodies for drill tip diameter 12.00 - 20.99 mm (.472 - .826 inch)

Cylindrical shank

Flat according to ISO 9766

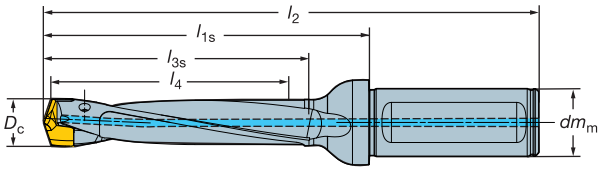
3 x D_c





5 × D_c





Drill tip diameter, mm	12.00 - 18.00	18.01 - 20.99
Hole tolerance, mm	0/+0.043	0/+0.052
Max hole depth, l_4	3 - 5 x D_c	3 - 5 x D_c

Metric design

l_{1s} = programming length

3 x D_c

Tip interface size	Applicable drill tip dia. (mm) D_c min	D_c max	Ordering code	Dimensions, mm dm_m	l_{1s}	l_2	l_{3s}	l_4	KG
10	12.00	12.49	**870-1200-10L16-3**	16	55	103	42	37.5	0.1
11	12.50	12.99	**870-1250-11L16-3**	16	56	104	43	39.0	0.1
12	13.00	13.49	**870-1300-12L16-3**	16	58	106	45	40.5	0.1
13	13.50	13.99	**870-1350-13L16-3**	16	60	108	47	42.0	0.1
14	14.00	14.99	**870-1400-14L20-3**	20	66	116	50	45.0	0.2
15	15.00	15.99	**870-1500-15L20-3**	20	69	119	53	48.0	0.2
16	16.00	16.99	**870-1600-16L20-3**	20	72	122	56	51.0	0.2
17	17.00	17.99	**870-1700-17L20-3**	20	76	126	59	54.0	0.2
18	18.00	18.99	**870-1800-18L20-3**	20	79	129	62	57.0	0.2
19	19.00	19.99	**870-1900-19L25-3**	25	86	142	66	60.0	0.4
20	20.00	20.99	**870-2000-20L25-3**	25	90	146	69	63.0	0.4

5 × D_c

Tip interface size	Applicable drill tip dia. (mm) D_c min	D_c max	Ordering code	Dimensions, mm dm_m	l_{1s}	l_2	l_{3s}	l_4	KG
10	12.00	12.49	**870-1200-10L16-5**	16	79	127	66	62.5	0.1
11	12.50	12.99	**870-1250-11L16-5**	16	82	130	69	65.0	0.1
12	13.00	13.49	**870-1300-12L16-5**	16	85	133	72	67.5	0.1
13	13.50	13.99	**870-1350-13L16-5**	16	87	135	74	70.0	0.1
14	14.00	14.99	**870-1400-14L20-5**	20	96	146	80	75.0	0.2
15	15.00	15.99	**870-1500-15L20-5**	20	101	151	85	80.0	0.2
16	16.00	16.99	**870-1600-16L20-5**	20	106	156	90	85.0	0.2
17	17.00	17.99	**870-1700-17L20-5**	20	112	162	95	90.0	0.2
18	18.00	18.99	**870-1800-18L20-5**	20	117	166	100	95.0	0.2
19	19.00	19.99	**870-1900-19L25-5**	25	126	182	106	100.0	0.4
20	20.00	20.99	**870-2000-20L25-5**	25	132	188	111	105.0	0.4

E154 J4

CoroDrill® 870 3 – 5 x D_c

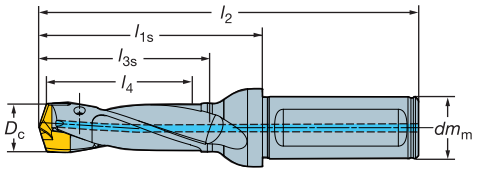
Drill bodies for drill tip diameter .472 - .826 inch

Cylindrical shank

Flat according to ISO 9766

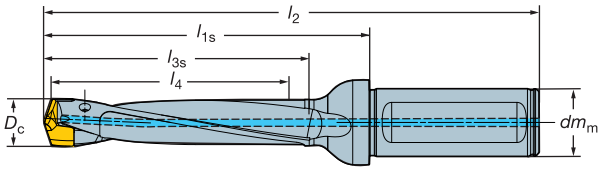
3 x D_c





5 × D_c





Drill tip diameter, inch	.472 - .709	.709 - .826
Hole tolerance, inch	0/+0.0017	0/+0.0020
Max hole depth, l_4	3 - 5 x D_c	3 - 5 x D_c

Inch design

l_{1s} = programming length

3 x D_c

Tip interface size	Applicable drill tip dia. (inch) D_c min	D_c max	Ordering code	Dimensions, inch dm_m	l_{1s}	l_2	l_{3s}	l_4	Lbs
10	.4724	.4917	**870-1200-10LX063-3**	.625	2.165	4.055	1.654	1.476	.2
11	.4921	.5114	**870-1250-11LX063-3**	.625	2.205	4.094	1.693	1.535	.2
12	.5118	.5311	**870-1300-12LX063-3**	.625	2.284	4.173	1.772	1.594	.2
13	.5315	.5508	**870-1350-13LX063-3**	.625	2.362	4.252	1.850	1.654	.2
14	.5512	.5902	**870-1400-14LX075-3**	.750	2.598	4.567	1.968	1.772	.4
15	.5905	.6295	**870-1500-15LX075-3**	.750	2.716	4.685	2.087	1.890	.4
16	.6299	.6689	**870-1600-16LX075-3**	.750	2.835	4.803	2.205	2.008	.4
17	.6693	.7083	**870-1700-17LX075-3**	.750	2.992	4.961	2.323	2.126	.5
18	.7087	.7476	**870-1800-18LX075-3**	.750	3.110	5.079	2.441	2.244	.5
19	.7480	.7870	**870-1900-19LX1-3**	1.000	3.386	5.591	2.598	2.362	.8
20	.7874	.8264	**870-2000-20LX1-3**	1.000	3.543	5.748	2.716	2.480	.8

5 × D_c

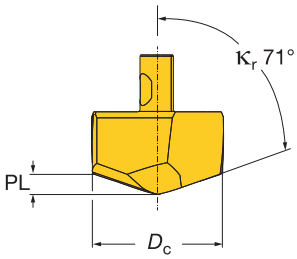
Tip interface size	Applicable drill tip dia. (inch) D_c min	D_c max	Ordering code	Dimensions, inch dm_m	l_{1s}	l_2	l_{3s}	l_4	Lbs
10	.4724	.4917	**870-1200-10LX063-5**	.625	3.110	5.000	2.598	2.461	.2
11	.4921	.5114	**870-1250-11LX063-5**	.625	3.228	5.118	2.716	2.559	.3
12	.5118	.5311	**870-1300-12LX063-5**	.625	3.346	5.236	2.835	2.658	.3
13	.5315	.5508	**870-1350-13LX063-5**	.625	3.425	5.315	2.913	2.756	.3
14	.5512	.5902	**870-1400-14LX075-5**	.750	3.780	5.748	3.150	2.953	.4
15	.5905	.6295	**870-1500-15LX075-5**	.750	3.976	5.945	3.346	3.150	.5
16	.6299	.6689	**870-1600-16LX075-5**	.750	4.173	6.142	3.543	3.346	.5
17	.6693	.7083	**870-1700-17LX075-5**	.750	4.409	6.378	3.740	3.543	.5
18	.7087	.7476	**870-1800-18LX075-5**	.750	4.606	6.535	3.937	3.740	.6
19	.7480	.7870	**870-1900-19LX1-5**	1.000	4.961	7.165	4.173	3.937	.9
20	.7874	.8264	**870-2000-20LX1-5**	1.000	5.197	7.402	4.370	4.134	.9

E154 J4

Drill tips for CoroDrill® 870

Drill tip diameter 12.00 - 20.90 mm (.472 - .823 inch)





Diameter range, mm (inch)	12.00 - 18.00 (.472 - .709)	18.01 - 20.90 (.709 - .823)
Hole tolerance, mm (inch)	0/+0.043 (0/+0.0017)	0/+0.052 (0/+0.0020)

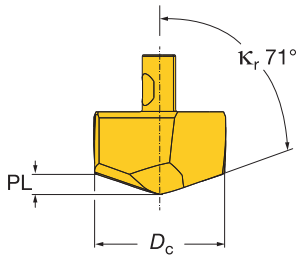
Drill tip dia.				P	Dimensions, millimeter, inch (mm, in.)	
Tip interface size	D_c mm	D_c inch	**Ordering code**	GC 4234	PL mm	PL in.
10	12.00	.472	**870-1200-10-PM**	★	1.8	.072
10	12.10	.476	**870-1210-10-PM**	★	1.8	.073
10	12.20	.480	**870-1220-10-PM**	★	1.9	.073
10	12.30	.484	**870-1230-10-PM**	★	1.9	.074
10	12.40	.488	**870-1240-10-PM**	★	1.9	.075
11	12.50	.492	**870-1250-11-PM**	★	1.9	.075
11	12.60	.496	**870-1260-11-PM**	★	1.9	.076
11	12.70	.500	**870-1270-11-PM**	★	2.0	.077
11	12.80	.504	**870-1280-11-PM**	★	2.0	.078
11	12.90	.508	**870-1290-11-PM**	★	2.0	.078
12	13.00	.512	**870-1300-12-PM**	★	2.0	.078
12	13.10	.516	**870-1310-12-PM**	★	2.0	.079
12	13.20	.520	**870-1320-12-PM**	★	2.0	.080
12	13.30	.524	**870-1330-12-PM**	★	2.0	.080
12	13.40	.528	**870-1340-12-PM**	★	2.1	.081
13	13.50	.532	**870-1350-13-PM**	★	2.1	.082
13	13.60	.535	**870-1360-13-PM**	★	2.1	.082
13	13.70	.539	**870-1370-13-PM**	★	2.1	.083
13	13.80	.543	**870-1380-13-PM**	★	2.1	.084
13	13.90	.547	**870-1390-13-PM**	★	2.1	.084
14	14.00	.551	**870-1400-14-PM**	★	2.1	.084
14	14.10	.555	**870-1410-14-PM**	★	2.2	.085
14	14.20	.559	**870-1420-14-PM**	★	2.2	.085
14	14.29	.563	**870-1429-14-PM**	★	2.2	.086
14	14.30	.563	**870-1430-14-PM**	★	2.2	.086
14	14.40	.567	**870-1440-14-PM**	★	2.2	.087
14	14.50	.571	**870-1450-14-PM**	★	2.2	.087
14	14.60	.575	**870-1460-14-PM**	★	2.2	.088
14	14.70	.579	**870-1470-14-PM**	★	2.2	.089
14	14.80	.583	**870-1480-14-PM**	★	2.3	.089
14	14.90	.587	**870-1490-14-PM**	★	2.3	.090
15	15.00	.591	**870-1500-15-PM**	★	2.3	.090
15	15.10	.594	**870-1510-15-PM**	★	2.3	.091
15	15.20	.598	**870-1520-15-PM**	★	2.3	.091
15	15.30	.602	**870-1530-15-PM**	★	2.3	.092
15	15.40	.606	**870-1540-15-PM**	★	2.4	.092
15	15.50	.610	**870-1550-15-PM**	★	2.4	.093
15	15.60	.614	**870-1560-15-PM**	★	2.4	.094
15	15.70	.618	**870-1570-15-PM**	★	2.4	.094
15	15.80	.622	**870-1580-15-PM**	★	2.4	.095
15	15.88	.625	**870-1588-15-PM**	★	2.4	.096
15	15.90	.626	**870-1590-15-PM**	★	2.4	.096
				P30		

E154 J4

Drill tips for CoroDrill® 870

Drill tip diameter 12.00 - 20.90 mm (.472 - .823 inch)





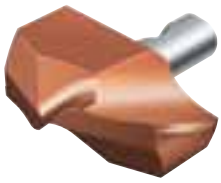
Diameter range, mm (inch)	12.00 - 18.00 (.472 - .709)	18.01 - 20.90 (.709 - .823)
Hole tolerance, mm (inch)	0/+0.043 (0/+0.0017)	0/+0.052 (0/+0.0020)

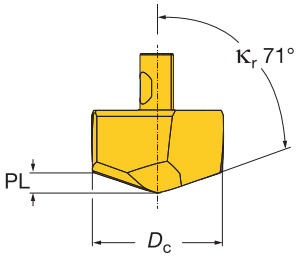
Drill tip dia.				P	Dimensions, millimeter, inch (mm, in.)	
Tip interface size	D_c mm	D_c inch	**Ordering code**	GC 4234	PL mm	PL in.
16	16.00	.630	**870-1600-16-PM**	★	2.4	.096
16	16.10	.634	**870-1610-16-PM**	★	2.4	.096
16	16.13	.635	**870-1613-16-PM**	★	2.4	.096
16	16.20	.638	**870-1620-16-PM**	★	2.5	.097
16	16.30	.642	**870-1630-16-PM**	★	2.5	.098
16	16.40	.646	**870-1640-16-PM**	★	2.5	.098
16	16.50	.650	**870-1650-16-PM**	★	2.5	.099
16	16.60	.654	**870-1660-16-PM**	★	2.5	.100
16	16.70	.658	**870-1670-16-PM**	★	2.5	.100
16	16.80	.661	**870-1680-16-PM**	★	2.6	.101
16	16.90	.665	**870-1690-16-PM**	★	2.6	.102
17	17.00	.669	**870-1700-17-PM**	★	2.6	.102
17	17.10	.673	**870-1710-17-PM**	★	2.6	.102
17	17.20	.677	**870-1720-17-PM**	★	2.6	.103
17	17.30	.681	**870-1730-17-PM**	★	2.6	.104
17	17.40	.685	**870-1740-17-PM**	★	2.6	.104
17	17.46	.687	**870-1746-17-PM**	★	2.7	.105
17	17.50	.689	**870-1750-17-PM**	★	2.7	.105
17	17.60	.693	**870-1760-17-PM**	★	2.7	.106
17	17.70	.697	**870-1770-17-PM**	★	2.7	.106
17	17.80	.701	**870-1780-17-PM**	★	2.7	.107
17	17.90	.705	**870-1790-17-PM**	★	2.7	.108
18	18.00	.709	**870-1800-18-PM**	★	2.7	.107
18	18.10	.713	**870-1810-18-PM**	★	2.7	.108
18	18.20	.716	**870-1820-18-PM**	★	2.8	.108
18	18.30	.720	**870-1830-18-PM**	★	2.8	.109
18	18.40	.724	**870-1840-18-PM**	★	2.8	.110
18	18.50	.728	**870-1850-18-PM**	★	2.8	.110
18	18.60	.732	**870-1860-18-PM**	★	2.8	.111
18	18.70	.736	**870-1870-18-PM**	★	2.8	.112
18	18.80	.740	**870-1880-18-PM**	★	2.8	.112
18	18.90	.744	**870-1890-18-PM**	★	2.9	.113
				P30		

E154 J4

Drill tips for CoroDrill® 870

Drill tip diameter 12.00 - 20.90 mm (.472 - .823 inch)

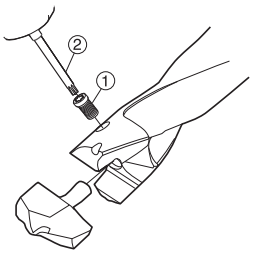




Diameter range, mm (inch)	12.00 - 18.00 (.472 - .709)	18.01 - 20.90 (.709 - .823)
Hole tolerance, mm (inch)	0/+0.043 (0/+0.0017)	0/+0.052 (0/+0.0020)

Drill tip dia.				P	Dimensions, millimeter, inch (mm, in.)	
Tip interface size	D_c mm	D_c inch	**Ordering code**	GC 4234	PL mm	PL in.
19	19.00	.748	**870-1900-19-PM**	★	2.9	.113
19	19.05	.750	**870-1905-19-PM**	★	2.9	.113
19	19.10	.752	**870-1910-19-PM**	★	2.9	.114
19	19.20	.756	**870-1920-19-PM**	★	2.9	.115
19	19.25	.758	**870-1925-19-PM**	★	2.9	.115
19	19.30	.760	**870-1930-19-PM**	★	2.9	.115
19	19.40	.764	**870-1940-19-PM**	★	2.9	.116
19	19.50	.768	**870-1950-19-PM**	★	3.0	.116
19	19.60	.772	**870-1960-19-PM**	★	3.0	.117
19	19.70	.776	**870-1970-19-PM**	★	3.0	.118
19	19.80	.780	**870-1980-19-PM**	★	3.0	.118
19	19.90	.784	**870-1990-19-PM**	★	3.0	.119
20	20.00	.787	**870-2000-20-PM**	★	3.0	.119
20	20.10	.791	**870-2010-20-PM**	★	3.0	.120
20	20.20	.795	**870-2020-20-PM**	★	3.1	.120
20	20.30	.799	**870-2030-20-PM**	★	3.1	.121
20	20.40	.803	**870-2040-20-PM**	★	3.1	.122
20	20.50	.807	**870-2050-20-PM**	★	3.1	.122
20	20.60	.811	**870-2060-20-PM**	★	3.1	.123
20	20.64	.813	**870-2064-20-PM**	★	3.1	.123
20	20.70	.815	**870-2070-20-PM**	★	3.1	.124
20	20.80	.819	**870-2080-20-PM**	★	3.2	.124
20	20.90	.823	**870-2090-20-PM**	★	3.2	.125
				P30		

Spare parts for CoroDrill® 870



	1	2		
Tip interface size	Insert screw	Screwdriver (Torx Plus)	Torque wrench[1)]	Torque value Nm (in-lbs)
10-15	5513 031-02	5680 046-03 (7IP)	5680 100-02	0.9 (8)
16-19	5513 031-03	5680 046-01 (8IP)	5680 100-03	1.2 (10)
20	5513 031-04	5680 046-04 (9IP)	5680 100-04	1.4 (12)

[1)] Accessories, must be ordered separately

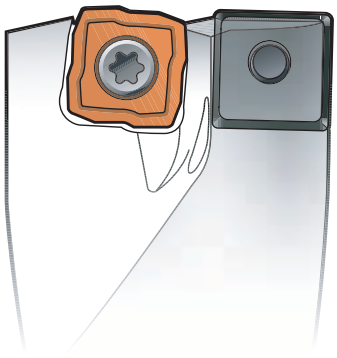
E154 J4

CoroDrill® 880

Indexable insert drill

Adding a new dimension to success

Step Technology™



The CoroDrill 880 features the new Sandvik Coromant innovation, Step Technology





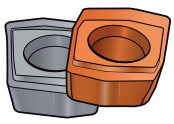
Closer hole tolerances. Advanced insert positioning. Wiper technology. Excellent surface finish.



Step-by-step entrance into the workpiece. Perfectly balanced cutting forces. Up to 100% productivity increase.

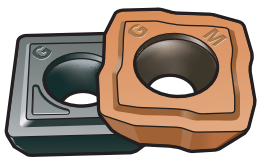
Size 01

Two cutting edges



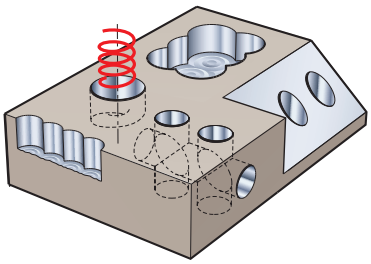
Size 02-09

Four cutting edges

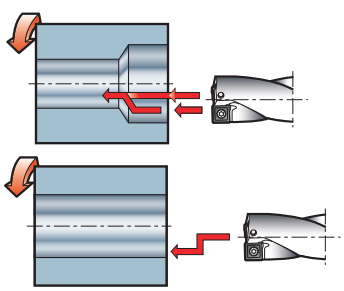


Specially optimized grades and geometries. High performance in all workpiece materials.

Rotating drill



Stationary drill



Tailor Made

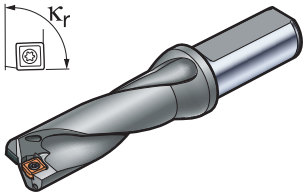
Tool options designed to individual customer requirements are available. For information on our Tailor Made programme see page J4.

CoroDrill® 880 2 x D_c

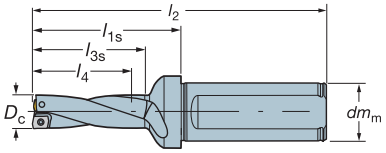
Drill diameter 12.00 - 63.00 mm

Cylindrical shank

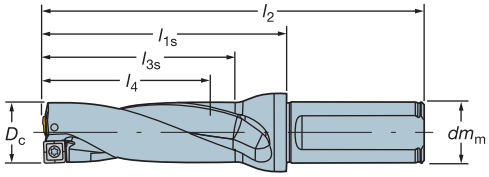
Flat according to ISO 9766



D_c 12.00 - 13.99 mm κ_r 79°



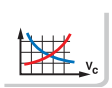
D_c 14.00 - 63.00 mm κ_r 88°



l_{1s} = programming length

	Drill diameter, mm	12.00 - 43.99	44.00 - 52.99	53.00 - 63.00
	Hole tolerance, mm	0/+0.25	0/+0.28	0/+0.30
	Tolerance, D_c mm	0/+0.20	0/+0.25	0/+0.28
Metric design	Max hole depth, l_4	2 x D_c		

	Drill dia.		Dimensions, mm						Radial adjustment	
	D_c mm	**Ordering code**	dm_m	l_{1s}	l_2	l_{3s}	l_4	kg		D_c Max
01	12.0	880-D1200L20-02	20	39	89	27	24	0.2	0.25	12.5
	12.5	880-D1250L20-02	20	41	91	28	25	0.2	0.25	13.0
	12.7	880-D1270L20-02	20	41	91	28	25	0.2	0.25	13.2
	13.0	880-D1300L20-02	20	42	92	29	26	0.2	0.25	13.5
	13.5	880-D1350L20-02	20	43	93	30	27	0.2	0.25	14.0
02	14.0	880-D1400L20-02	20	44	95	31	28	0.2	0.50	15.0
	14.5	880-D1450L20-02	20	46	96	32	29	0.2	0.45	15.4
	15.0	880-D1500L20-02	20	47	97	33	30	0.2	0.40	15.8
	15.5	880-D1550L20-02	20	49	99	35	31	0.2	0.30	16.1
	16.0	880-D1600L20-02	20	51	101	36	32	0.2	0.30	16.6
03	16.5	880-D1650L20-02	20	52	102	37	33	0.2	0.60	17.7
	17.0	880-D1700L20-02	20	53	103	38	34	0.2	0.60	18.2
	17.5	880-D1750L25-02	25	55	111	39	35	0.3	0.50	18.5
	18.0	880-D1800L25-02	25	56	112	40	36	0.3	0.40	18.8
	18.5	880-D1850L25-02	25	57	113	41	37	0.3	0.40	19.3
	19.0	880-D1900L25-02	25	58	114	42	38	0.3	0.30	19.6
	19.5	880-D1950L25-02	25	60	116	43	39	0.3	0.30	20.1
04	20.0	880-D2000L25-02	25	61	117	44	40	0.3	0.90	21.8
	21.0	880-D2100L25-02	25	64	120	46	42	0.3	0.80	22.6
	22.0	880-D2200L25-02	25	66	122	48	44	0.3	0.60	23.2
	23.0	880-D2300L25-02	25	69	125	50	46	0.3	0.50	24.0
05	24.0	880-D2400L25-02	25	71	127	52	48	0.4	1.10	26.2
	25.0	880-D2500L25-02	25	74	130	54	50	0.4	1.00	27.0
	26.0	880-D2600L32-02	32	77	137	56	52	0.5	0.90	27.8
	27.0	880-D2700L32-02	32	79	139	58	54	0.5	0.70	28.4
	28.0	880-D2800L32-02	32	82	142	60	56	0.6	0.60	29.2
	29.0	880-D2900L32-02	32	84	144	62	58	0.6	0.50	30.0
06	30.0	880-D3000L32-02	32	87	147	64	60	0.6	1.12	32.2
	31.0	880-D3100L40-02	40	90	160	66	62	1.0	0.99	33.0
	32.0	880-D3200L40-02	40	92	162	68	64	1.0	0.87	33.7
	33.0	880-D3300L40-02	40	95	165	70	66	1.1	0.75	34.5
	34.0	880-D3400L40-02	40	98	168	73	68	1.1	0.62	35.2
	35.0	880-D3500L40-02	40	101	171	75	70	1.1	0.50	36.0
07	36.0	880-D3600L40-02	40	104	174	77	72	1.2	1.38	38.8
	37.0	880-D3700L40-02	40	105	175	78	74	1.2	1.25	39.5
	38.0	880-D3800L40-02	40	108	178	80	76	1.2	1.13	40.2
	39.0	880-D3900L40-02	40	110	178	82	78	1.2	1.00	41.0
	40.0	880-D4000L40-02	40	113	183	84	80	1.3	0.88	41.8
	41.0	880-D4100L40-02	40	117	187	87	82	1.3	0.75	42.5
	42.0	880-D4200L40-02	40	119	189	89	84	1.4	0.63	43.2
	43.0	880-D4300L40-02	40	122	192	91	86	1.4	0.50	44.0

 E113  E5  E111  E156  G6  E2  J4  J3

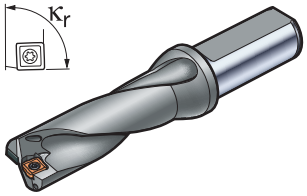
SANDVIK Coromant

CoroDrill® 880 2 x D_c

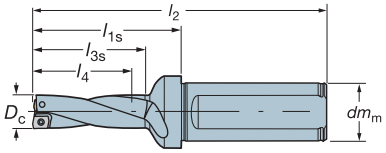
Drill diameter 12.00 - 63.00 mm

Cylindrical shank

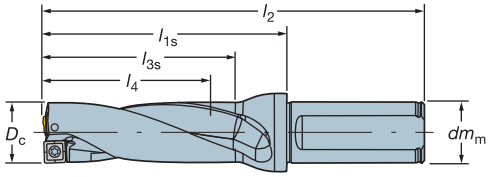
Flat according to ISO 9766



D_c 12.00 - 13.99 mm κ_r 79°



D_c 14.00 - 63.00 mm κ_r 88°



l_{1s} = programming length

	Drill diameter, mm	12.00 - 43.99	44.00 - 52.99	53.00 - 63.00
	Hole tolerance, mm	0/+0.25	0/+0.28	0/+0.30
	Tolerance, D_c mm	0/+0.20	0/+0.25	0/+0.28
Metric design	Max hole depth, l_4	2 x D_c		

	Drill dia.		Dimensions, mm						Radial adjustment	
	D_c mm	**Ordering code**	dm_m	l_{1s}	l_2	l_{3s}	l_4	KG		D_c Max
08	44.0	880-D4400L40-02	40	124	194	93	88	1.4	1.50	47.0
	45.0	880-D4500L40-02	40	127	197	95	90	1.5	1.40	47.8
	46.0	880-D4600L40-02	40	130	200	97	92	1.5	1.30	48.6
	47.0	880-D4700L40-02	40	132	202	99	94	1.8	1.10	49.2
	48.0	880-D4800L40-02	40	135	205	101	96	1.9	1.00	50.0
	49.0	880-D4900L40-02	40	137	207	103	98	1.9	0.90	50.8
	50.0	880-D5000L40-02	40	140	210	105	100	2.0	0.80	51.6
	51.0	880-D5100L40-02	40	144	214	108	102	2.1	0.60	52.2
	52.0	880-D5200L40-02	40	146	216	110	104	2.1	0.50	53.0
09	53.0	880-D5300L40-02	40	149	219	112	106	2.2	2.00	57.0
	54.0	880-D5400L40-02	40	151	221	114	108	2.2	1.90	57.8
	55.0	880-D5500L40-02	40	154	224	116	110	2.3	1.70	58.4
	56.0	880-D5600L40-02	40	157	227	118	112	2.4	1.60	59.2
	57.0	880-D5700L40-02	40	159	229	120	114	2.4	1.50	60.0
	58.0	880-D5800L40-02	40	162	232	122	116	2.5	1.40	60.8
	59.0	880-D5900L40-02	40	164	234	124	118	2.6	1.20	61.4
	60.0	880-D6000L40-02	40	167	237	126	120	2.7	1.10	62.2
	61.0	880-D6100L40-02	40	171	241	129	122	2.8	1.00	63.0
	62.0	880-D6200L40-02	40	173	243	131	124	2.8	0.80	63.6
	63.0	880-D6300L40-02	40	176	246	133	126	2.9	0.70	64.4

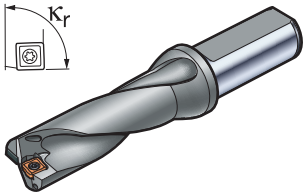
E113 E5 E111 E156 G6 E2 J4 J3

CoroDrill® 880 3 x D_c

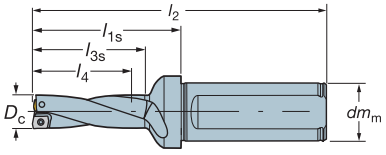
Drill diameter 12.00 - 63.00 mm

Cylindrical shank

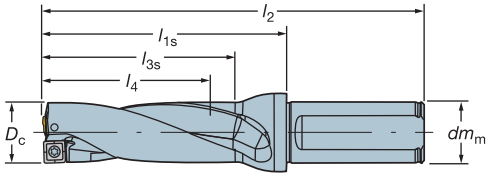
Flat according to ISO 9766



D_c 12.00 - 13.99 mm κ_r 79°



D_c 14.00 - 63.00 mm κ_r 88°



l_{1s} = programming length

	Drill diameter, mm	12.00 - 43.99	44.00 - 52.99	53.00 - 63.00
	Hole tolerance, mm	0/+0.25	0/+0.28	0/+0.30
	Tolerance, D_c mm	0/+0.20	0/+0.25	0/+0.28
Metric design	Max hole depth, l_4	3 x D_c		

	Drill dia.		Dimensions, mm						Radial adjustment	
	D_c mm	**Ordering code**	dm_m	l_{1s}	l_2	l_{3s}	l_4	kg		D_c Max
01	12.0	880-D1200L20-03	20	51	101	39	36	0.2	0.25	12.5
	12.5	880-D1250L20-03	20	53	103	40	38	0.2	0.25	13.0
	12.7	880-D1270L20-03	20	54	104	41	38	0.2	0.25	13.2
	13.0	880-D1300L20-03	20	55	105	42	39	0.2	0.25	13.5
	13.5	880-D1350L20-03	20	56	106	43	41	0.2	0.25	14.0
02	14.0	880-D1400L20-03	20	58	108	45	42	0.2	0.50	15.0
	14.5	880-D1450L20-03	20	60	110	46	44	0.2	0.45	15.4
	15.0	880-D1500L20-03	20	62	112	48	45	0.2	0.40	15.8
	15.5	880-D1550L20-03	20	64	114	50	47	0.2	0.30	16.1
	16.0	880-D1600L20-03	20	66	116	51	48	0.2	0.30	16.6
03	16.5	880-D1650L20-03	20	68	118	53	50	0.2	0.60	17.7
	17.0	880-D1700L20-03	20	69	119	54	51	0.2	0.60	18.2
	17.5	880-D1750L25-03	25	72	128	56	53	0.3	0.50	18.5
	18.0	880-D1800L25-03	25	73	129	57	54	0.3	0.40	18.8
	18.5	880-D1850L25-03	25	75	131	59	56	0.3	0.40	19.3
	19.0	880-D1900L25-03	25	76	132	60	57	0.3	0.30	19.6
	19.5	880-D1950L25-03	25	79	135	62	59	0.3	0.30	20.1
04	20.0	880-D2000L25-03	25	81	137	64	60	0.3	0.90	21.8
	20.5	880-D2050L25-03	25	82	138	65	62	0.3	0.80	22.1
	20.9	880-D2090L25-03	25	84	140	66	63	0.3	0.80	22.5
	21.0	880-D2100L25-03	25	84	140	66	63	0.3	0.80	22.6
	21.5	880-D2150L25-03	25	86	142	68	65	0.3	0.70	22.9
	22.0	880-D2200L25-03	25	87	143	69	66	0.3	0.60	23.2
	22.5	880-D2250L25-03	25	90	146	71	68	0.3	0.50	23.5
	23.0	880-D2300L25-03	25	91	147	72	69	0.3	0.50	24.0
	23.5	880-D2350L25-03	25	93	149	74	71	0.3	0.40	24.3
	23.9	880-D2390L25-03	25	95	151	76	72	0.3	0.30	24.5
05	24.0	880-D2400L25-03	25	95	151	76	72	0.4	1.10	26.2
	24.5	880-D2450L25-03	25	97	153	77	74	0.4	1.00	26.5
	25.0	880-D2500L25-03	25	99	155	79	75	0.4	1.00	27.0
	25.5	880-D2550L25-03	25	100	156	80	77	0.4	0.90	27.4
	26.0	880-D2600L32-03	32	102	162	81	78	0.5	0.90	27.8
	26.4	880-D2640L32-03	32	104	164	83	79	0.5	0.80	28.0
	26.5	880-D2650L32-03	32	104	164	83	80	0.5	0.80	28.1
	27.0	880-D2700L32-03	32	105	165	84	81	0.5	0.70	28.4
	27.5	880-D2750L32-03	32	108	168	86	83	0.5	0.60	28.7
	28.0	880-D2800L32-03	32	109	169	87	84	0.6	0.60	29.2
	28.5	880-D2850L32-03	32	111	171	89	86	0.6	0.50	29.5
	29.0	880-D2900L32-03	32	112	172	90	87	0.6	0.50	30.0
	29.4	880-D2940L32-03	32	115	175	92	88	0.6	0.40	30.2
	29.5	880-D2950L32-03	32	115	175	92	89	0.6	0.40	30.3

Drill diameters for tap-size holes

D_c		
20.9	=	M24
23.9	=	M27
26.4	=	M30
29.4	=	M33

E113 E5 E111 E156 G6 E2 J4 J3

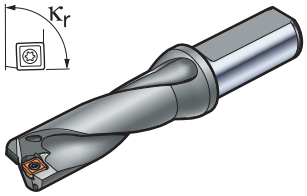
SANDVIK Coromant

CoroDrill® 880 3 x D_c

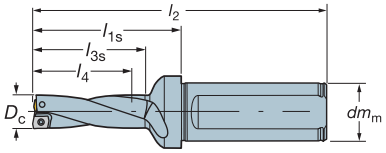
Drill diameter 12.00 - 63.00 mm

Cylindrical shank

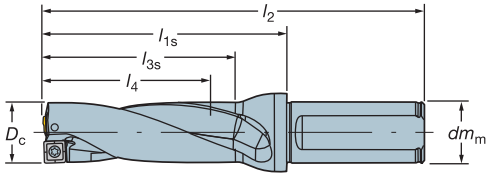
Flat according to ISO 9766



D_c 12.00 - 13.99 mm κ_r 79°



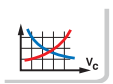
D_c 14.00 - 63.00 mm κ_r 88°



l_{1s} = programming length

	Drill diameter, mm	12.00 - 43.99	44.00 - 52.99	53.00 - 63.00
	Hole tolerance, mm	0/+0.25	0/+0.28	0/+0.30
	Tolerance, D_c mm	0/+0.20	0/+0.25	0/+0.28
Metric design	Max hole depth, l_4	3 x D_c		

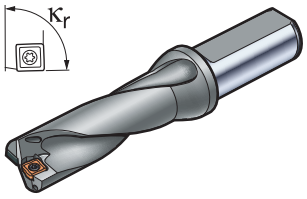
	Drill dia.		Dimensions, mm						Radial adjustment	
	D_c mm	Ordering code	dm_m	l_{1s}	l_2	l_{3s}	l_4	KG		D_c Max
06	30.0	880-D3000L32-03	32	117	177	94	90	0.7	1.12	32.2
	30.5	880-D3050L32-03	32	118	178	95	92	0.7	1.05	32.6
	31.0	880-D3100L40-03	40	121	191	97	93	1.1	0.99	33.0
	31.5	880-D3150L40-03	40	122	192	98	95	1.1	0.93	33.4
	32.0	880-D3200L40-03	40	124	194	100	96	1.1	0.87	33.7
	32.5	880-D3250L40-03	40	126	196	101	98	1.1	0.81	34.1
	33.0	880-D3300L40-03	40	128	198	103	99	1.2	0.75	34.5
	33.5	880-D3350L40-03	40	130	200	105	101	1.2	0.68	34.9
	34.0	880-D3400L40-03	40	131	201	106	102	1.2	0.62	35.2
	34.5	880-D3450L40-03	40	134	204	108	104	1.2	0.56	35.6
	35.0	880-D3500L40-03	40	135	205	109	105	1.2	0.50	36.0
	35.5	880-D3550L40-03	40	137	207	111	107	1.3	0.44	36.4
07	36.0	880-D3600L40-03	40	139	209	112	108	1.3	1.38	38.8
	37.0	880-D3700L40-03	40	142	212	115	111	1.3	1.25	39.5
	38.0	880-D3800L40-03	40	146	216	118	114	1.4	1.13	40.2
	39.0	880-D3900L40-03	40	149	219	121	117	1.4	1.00	41.0
	40.0	880-D4000L40-03	40	153	223	124	120	1.5	0.88	41.8
	41.0	880-D4100L40-03	40	157	227	127	123	1.5	0.75	42.5
	42.0	880-D4200L40-03	40	160	230	130	126	1.6	0.63	43.2
	43.0	880-D4300L40-03	40	164	234	133	129	1.6	0.50	44.0
08	44.0	880-D4400L40-03	40	167	237	136	132	1.7	1.50	47.0
	45.0	880-D4500L40-03	40	172	242	140	135	1.7	1.40	47.8
	46.0	880-D4600L40-03	40	176	246	143	138	1.8	1.30	48.6
	47.0	880-D4700L40-03	40	179	249	146	141	2.1	1.10	49.2
	48.0	880-D4800L40-03	40	183	253	149	144	2.2	1.00	50.0
	49.0	880-D4900L40-03	40	186	256	152	147	2.3	0.90	50.8
	50.0	880-D5000L40-03	40	190	260	155	150	2.3	0.80	51.6
	51.0	880-D5100L40-03	40	194	264	158	153	2.4	0.60	52.2
	52.0	880-D5200L40-03	40	197	267	161	156	2.5	0.50	53.0
09	53.0	880-D5300L40-03	40	201	271	164	159	2.6	2.00	57.0
	54.0	880-D5400L40-03	40	204	274	167	162	2.7	1.90	57.8
	55.0	880-D5500L40-03	40	209	279	171	165	2.8	1.70	58.4
	56.0	880-D5600L40-03	40	213	283	174	168	2.9	1.60	59.2
	57.0	880-D5700L40-03	40	216	286	177	171	3.0	1.50	60.0
	58.0	880-D5800L40-03	40	220	290	180	174	3.1	1.40	60.8
	59.0	880-D5900L40-03	40	223	293	183	177	3.2	1.20	61.4
	60.0	880-D6000L40-03	40	227	297	186	180	3.3	1.10	62.2
	61.0	880-D6100L40-03	40	232	302	190	183	3.4	1.00	63.0
	62.0	880-D6200L40-03	40	235	305	193	186	3.5	0.80	63.6
	63.0	880-D6300L40-03	40	239	309	196	189	3.6	0.70	64.4

 E113
 E5
 E111
 E156
 G6
 E2
 J4
 J3

CoroDrill® 880 4 x D_c

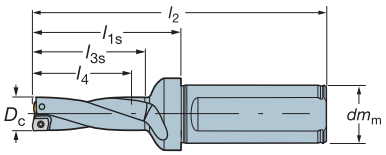
Drill diameter 12.00 - 58.00 mm

Cylindrical shank
Flat according to ISO 9766

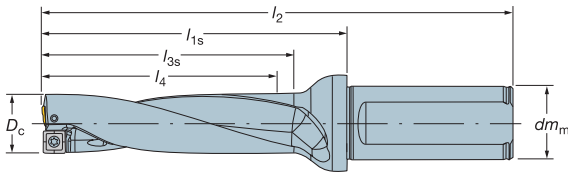


Metric design

D_c 12.00 - 13.99 mm κ_r 79°



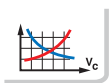
D_c 14.00 - 58.00 mm κ_r 88°



Drill diameter, mm	12.00 - 43.99	44.00 - 52.99	53.00 - 58.00
Hole tolerance, mm	0/+0.40	0/+0.43	0/+0.45
Tolerance, D_c mm	+0.04/+0.24	+0.04/+0.29	+0.04/+0.32
Max hole depth, l_4	4 x D_c		

l_{1s} = programming length

Drill dia.	D_c mm	Ordering code	Dimensions, mm dm_m	l_{1s}	l_2	l_{3s}	l_4	KG	Radial adjustment	D_c Max
01	12.0	880-D1200L20-04	20	63	113	51	48	0.2	0.25	12.5
	12.5	880-D1250L20-04	20	66	116	53	50	0.2	0.25	13.0
	12.7	880-D1270L20-04	20	66	116	53	51	0.2	0.25	13.2
	13.0	880-D1300L20-04	20	68	118	55	52	0.2	0.25	13.5
	13.5	880-D1350L20-04	20	70	120	57	54	0.2	0.25	14.0
02	14.0	880-D1400L20-04	20	72	122	59	56	0.2	0.50	15.0
	14.5	880-D1450L20-04	20	75	125	61	58	0.2	0.45	15.4
	15.0	880-D1500L20-04	20	77	127	63	60	0.2	0.40	15.8
	15.5	880-D1550L20-04	20	79	129	65	62	0.2	0.30	16.1
	16.0	880-D1600L20-04	20	82	132	67	64	0.2	0.30	16.6
03	16.5	880-D1650L20-04	20	84	134	69	66	0.2	0.60	17.7
	17.0	880-D1700L20-04	20	86	136	71	68	0.2	0.60	18.2
	17.5	880-D1750L25-04	25	89	145	73	70	0.3	0.50	18.5
	18.0	880-D1800L25-04	25	91	147	75	72	0.3	0.40	18.8
	18.5	880-D1850L25-04	25	93	149	77	74	0.3	0.40	19.3
	19.0	880-D1900L25-04	25	95	151	79	76	0.3	0.30	19.6
	19.5	880-D1950L25-04	25	99	155	82	78	0.3	0.30	20.1
04	20.0	880-D2000L25-04	25	101	157	84	80	0.3	0.90	21.8
	21.0	880-D2100L25-04	25	105	161	87	84	0.3	0.80	22.6
	22.0	880-D2200L25-04	25	109	165	91	88	0.3	0.60	23.2
	23.0	880-D2300L25-04	25	114	170	95	92	0.3	0.50	24.0
05	24.0	880-D2400L25-04	25	119	175	100	96	0.4	1.10	26.2
	25.0	880-D2500L25-04	25	124	180	104	100	0.4	1.00	27.0
	26.0	880-D2600L32-04	32	128	188	107	104	0.5	0.90	27.8
	27.0	880-D2700L32-04	32	132	192	111	108	0.5	0.70	28.4
	28.0	880-D2800L32-04	32	137	197	115	112	0.6	0.60	29.2
	29.0	880-D2900L32-04	32	141	201	119	116	0.6	0.50	30.0
06	30.0	880-D3000L32-04	32	147	207	124	120	0.8	1.12	32.2
	31.0	880-D3100L40-04	40	152	222	128	124	1.2	0.99	33.0
	32.0	880-D3200L40-04	40	156	226	132	128	1.2	0.87	33.7
	33.0	880-D3300L40-04	40	161	231	136	132	1.3	0.75	34.5
	34.0	880-D3400L40-04	40	165	235	140	136	1.3	0.62	35.2
	35.0	880-D3500L40-04	40	170	240	144	140	1.4	0.50	36.0
07	36.0	880-D3600L40-04	40	175	245	148	144	1.4	1.38	38.8
	37.0	880-D3700L40-04	40	179	249	152	148	1.5	1.25	39.5
	38.0	880-D3800L40-04	40	184	254	156	152	1.5	1.13	40.2
	39.0	880-D3900L40-04	40	188	258	160	156	1.6	1.00	41.0
	40.0	880-D4000L40-04	40	193	263	164	160	1.7	0.88	41.8
	41.0	880-D4100L40-04	40	198	268	168	164	1.7	0.75	42.5
	42.0	880-D4200L50-04	50	202	282	172	168	2.4	0.63	43.2
	43.0	880-D4300L50-04	50	207	287	176	172	2.5	0.50	44.0
08	44.0	880-D4400L50-04	50	211	291	180	176	2.6	1.50	47.0
	45.0	880-D4500L50-04	50	217	297	185	180	2.6	1.40	47.8
	46.0	880-D4600L50-04	50	222	302	189	184	2.7	1.30	48.6
	47.0	880-D4700L50-04	50	226	306	193	188	2.8	1.10	49.2
	48.0	880-D4800L50-04	50	231	311	197	192	2.9	1.00	50.0
	49.0	880-D4900L50-04	50	235	315	201	196	3.0	0.90	50.8
	50.0	880-D5000L50-04	50	240	320	205	200	3.1	0.80	51.6
	51.0	880-D5100L50-04	50	245	325	209	204	3.2	0.60	52.2
	52.0	880-D5200L50-04	50	249	329	213	208	3.3	0.50	53.0
09	53.0	880-D5300L50-04	50	254	334	217	212	3.4	2.00	57.0
	54.0	880-D5400L50-04	50	258	338	221	216	3.5	1.90	57.8
	55.0	880-D5500L50-04	50	264	344	226	220	3.7	1.70	58.4
	56.0	880-D5600L50-04	50	269	349	230	224	3.8	1.60	59.2
	57.0	880-D5700L50-04	50	273	353	234	228	3.9	1.50	60.0
	58.0	880-D5800L50-04	50	278	358	238	232	4.0	1.40	60.8

 E113  E5  E111  E156  G6  E2  J4  J3

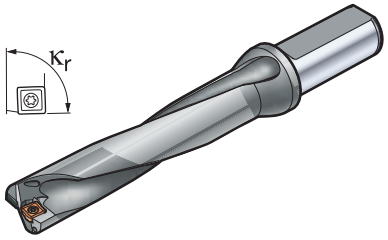
SANDVIK Coromant

CoroDrill® 880 5 x D_c

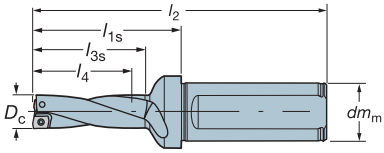
Drill diameter 12.00 - 43.00 mm

Cylindrical shank

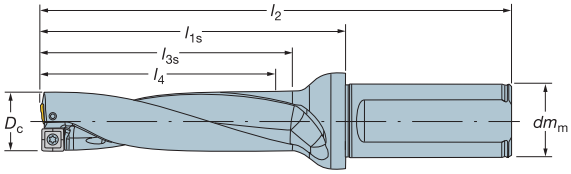
Flat according to ISO 9766



D_c 12.00 - 13.99 mm κ_r 79°



D_c 14.00 - 43.00 mm κ_r 88°

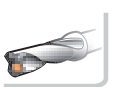
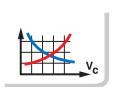


l_{1s} = programming length

Drill diameter, mm	12.00 - 43.00
Hole tolerance, mm	0/+0.40
Tolerance, D_c mm	+0.4/+0.24
Max hole depth, l_4	5 x D_c

Metric design

	Drill dia.		Dimensions, mm						Radial adjustment	
	D_c mm	Ordering code	dm_m	l_{1s}	l_2	l_{3s}	l_4	KG		D_c Max
01	12.0	880-D1200L20-05	20	75	125	63	60	0.2	0.25	12.5
	12.5	880-D1250L20-05	20	78	128	65	63	0.2	0.25	13.0
	12.7	880-D1270L20-05	20	79	129	66	64	0.2	0.25	13.2
	13.0	880-D1300L20-05	20	81	131	68	65	0.2	0.25	13.5
	13.5	880-D1350L20-05	20	84	134	71	68	0.2	0.25	14.0
02	14.0	880-D1400L20-05	20	86	136	73	70	0.2	0.50	15.0
	14.5	880-D1450L20-05	20	89	139	75	72	0.2	0.45	15.4
	15.0	880-D1500L20-05	20	92	142	78	75	0.2	0.40	15.8
	15.5	880-D1550L20-05	20	95	145	81	78	0.2	0.30	16.1
	16.0	880-D1600L20-05	20	98	148	83	80	0.2	0.30	16.6
03	16.5	880-D1650L20-05	20	101	151	86	83	0.2	0.60	17.7
	17.0	880-D1700L20-05	20	103	153	88	85	0.2	0.60	18.2
	17.5	880-D1750L25-05	25	107	163	91	88	0.3	0.50	18.5
	18.0	880-D1800L25-05	25	109	165	93	90	0.3	0.40	18.8
	18.5	880-D1850L25-05	25	112	168	96	93	0.3	0.40	19.3
	19.0	880-D1900L25-05	25	114	170	98	95	0.3	0.30	19.6
	19.5	880-D1950L25-05	25	118	174	101	97	0.4	0.30	20.1
04	20.0	880-D2000L25-05	25	121	177	104	100	0.4	0.90	21.8
	21.0	880-D2100L25-05	25	126	182	108	105	0.4	0.80	22.6
	22.0	880-D2200L25-05	25	131	187	113	110	0.4	0.60	23.2
	23.0	880-D2300L25-05	25	138	194	119	116	0.4	0.50	24.0
05	24.0	880-D2400L25-05	25	143	199	124	120	0.5	1.10	26.2
	25.0	880-D2500L25-05	25	149	205	129	125	0.5	1.00	27.0
	26.0	880-D2600L32-05	32	154	214	133	130	0.7	0.90	27.8
	27.0	880-D2700L32-05	32	159	219	138	135	0.7	0.70	28.4
	28.0	880-D2800L32-05	32	165	225	143	140	0.8	0.60	29.2
	29.0	880-D2900L32-05	32	171	231	149	146	0.8	0.50	30.0
06	30.0	880-D3000L32-05	32	177	237	154	150	0.9	1.12	32.2
	31.0	880-D3100L40-05	40	183	253	159	155	1.3	0.99	33.0
	32.0	880-D3200L40-05	40	188	258	164	160	1.3	0.87	33.7
	33.0	880-D3300L40-05	40	194	264	169	165	1.4	0.75	34.5
	34.0	880-D3400L40-05	40	200	270	175	170	1.4	0.62	35.2
	35.0	880-D3500L40-05	40	206	276	180	175	1.5	0.50	36.0
07	36.0	880-D3600L40-05	40	212	282	185	180	1.5	1.38	38.8
	37.0	880-D3700L40-05	40	216	286	189	185	1.6	1.25	39.5
	38.0	880-D3800L40-05	40	222	292	194	190	1.7	1.13	40.2
	39.0	880-D3900L40-05	40	228	298	200	195	1.7	1.00	41.0
	40.0	880-D4000L40-05	40	234	304	205	200	1.8	0.88	41.8
	41.0	880-D4100L40-05	40	240	310	210	205	1.9	0.75	42.5
	42.0	880-D4200L50-05	50	245	325	215	210	2.6	0.63	43.2
	43.0	880-D4300L50-05	50	251	331	220	215	2.7	0.50	44.0

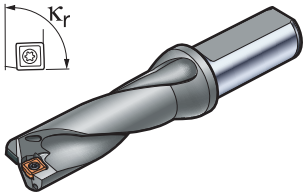
 E113
 E5
 E111
 E156
 G6
 E2
 J4
 J3

CoroDrill® 880 2 x D_c

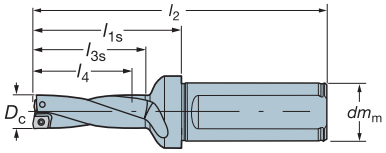
Drill diameter .500 - 2.500 inch

Cylindrical shank

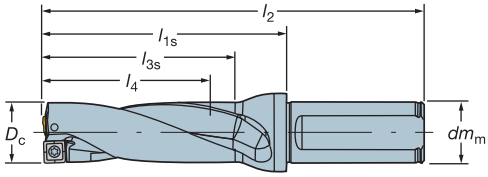
Flat according to ISO 9766



D_c .500 - .531 κ_r 79°



D_c .562 - 2.500 κ_r 88°



l_{1s} = programming length

Drill diameter, inch	.500 - 1.687	1.750 - 2.000	2.125 - 2.500
Hole tolerance, inch	0/+.010	0/+.011	0/+.012
Tolerance, D_c inch	0/+.008	0/+.010	0/+.011
Max hole depth, l_4	2 x D_c		

Inch design

	Drill dia. D_c inch	Ordering code	Dimensions, inch dm_m	l_{1s}	l_2	l_{3s}	l_4	Lbs	Radial adjustment (+)	D_c Max
01	.500	A880-D0500LX19-02	.750	1.582	3.550	1.100	1.000	.4	.010	.520
	.531	A880-D0531LX19-02	.750	1.668	3.636	1.168	1.062	.4	.010	.551
02	.562	A880-D0562LX19-02	.750	1.756	3.724	1.237	1.124	.4	.018	.597
	.625	A880-D0625LX19-02	.750	1.932	3.900	1.375	1.250	.4	.010	.646
03	.656	A880-D0656LX19-02	.750	2.018	3.986	1.443	1.312	.4	.023	.702
	.687	A880-D0687LX25-02	1.000	2.092	4.297	1.498	1.374	.7	.020	.727
	.750	A880-D0750LX25-02	1.000	2.267	4.472	1.635	1.500	.7	.010	.770
04	.812	A880-D0812LX25-02	1.000	2.439	4.644	1.770	1.624	.7	.032	.875
	.875	A880-D0875LX25-02	1.000	2.636	4.841	1.929	1.750	.7	.023	.921
	.937	A880-D0937LX25-02	1.000	2.787	4.992	2.043	1.874	.7	.014	.965
05	1.000	A880-D1000LX25-02	1.000	2.962	5.167	2.180	2.000	.9	.037	1.075
	1.062	A880-D1062LX31-02	1.250	3.102	5.464	2.283	2.124	.9	.030	1.121
	1.125	A880-D1125LX31-02	1.250	3.297	5.659	2.440	2.250	.9	.020	1.164
06	1.187	A880-D1187LX31-02	1.250	3.411	5.773	2.517	2.374	1.3	.043	1.274
	1.250	A880-D1250LX38-02	1.500	3.582	6.338	2.650	2.500	2.2	.035	1.321
	1.312	A880-D1312LX38-02	1.500	3.751	6.507	2.782	2.624	2.2	.028	1.368
	1.375	A880-D1375LX38-02	1.500	3.922	6.678	2.915	2.750	2.4	.020	1.415
07	1.437	A880-D1437LX38-02	1.500	4.091	6.847	3.047	2.874	2.4	.052	1.540
	1.500	A880-D1500LX38-02	1.500	4.232	6.988	3.150	3.000	2.6	.044	1.588
	1.562	A880-D1562LX38-02	1.500	4.399	7.155	3.280	3.124	2.6	.036	1.634
	1.625	A880-D1625LX38-02	1.500	4.570	7.326	3.413	3.250	2.9	.028	1.681
	1.687	A880-D1687LX38-02	1.500	4.737	7.493	3.543	3.374	2.9	.020	1.728
08	1.750	A880-D1750LX38-02	1.500	4.907	7.663	3.675	3.500	3.1	.057	1.864
	1.875	A880-D1875LX38-02	1.500	5.245	8.001	3.938	3.750	4.0	.041	1.957
	2.000	A880-D2000LX38-02	1.500	5.582	8.338	4.200	4.000	4.4	.026	2.051
09	2.125	A880-D2125LX38-02	1.500	5.920	8.676	4.463	4.250	4.9	.074	2.273
	2.250	A880-D2250LX38-02	1.500	6.257	9.013	4.725	4.500	5.3	.061	2.372
	2.375	A880-D2375LX38-02	1.500	6.595	9.351	4.988	4.750	5.7	.042	2.458
	2.500	A880-D2500LX38-02	1.500	6.932	9.688	5.250	5.000	6.4	.026	2.551

E113 E5 E111 E156 G6 E2 J4 J3

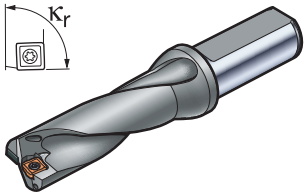
SANDVIK Coromant

CoroDrill® 880 3 x D_c

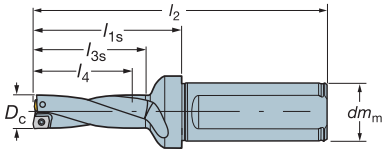
Drill diameter .500 - 2.500 inch

Cylindrical shank

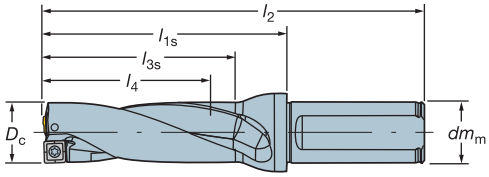
Flat according to ISO 9766



D_c .500 - .531 κ_r 79°



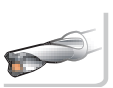
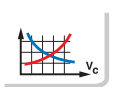
D_c .562 - 2.500 κ_r 88°



l_{1s} = programming length

	Drill diameter, inch	.500 - 1.687	1.750 - 2.000	2.125 - 2.500
	Hole tolerance, inch	0/+.010	0/+.011	0/+.012
	Tolerance, D_c inch	0/+.008	0/+.010	0/+.011
Inch design	Max hole depth, l_4	3 x D_c		

	Drill dia. D_c inch	Ordering code	Dimensions, inch dm_m	l_{1s}	l_2	l_{3s}	l_4	Lbs	Radial adjustment (+)	D_c Max
01	.500	A880-D0500LX19-03	.750	2.082	4.051	1.600	1.500	.4	.010	.520
	.531	A880-D0531LX19-03	.750	2.199	4.168	1.699	1.593	.4	.010	.551
02	.562	A880-D0562LX19-03	.750	2.330	4.298	1.811	1.686	.4	.018	.597
	.625	A880-D0625LX19-03	.750	2.565	4.534	2.008	1.875	.4	.010	.646
03	.656	A880-D0656LX19-03	.750	2.701	4.670	2.126	1.968	.4	.023	.702
	.687	A880-D0687LX25-03	1.000	2.799	5.004	2.205	2.061	.7	.020	.727
	.750	A880-D0750LX25-03	1.000	3.034	5.239	2.402	2.250	.7	.010	.770
04	.812	A880-D0812LX25-03	1.000	3.267	5.472	2.598	2.436	.7	.032	.875
	.875	A880-D0875LX25-03	1.000	3.463	5.668	2.756	2.625	.7	.023	.921
	.937	A880-D0937LX25-03	1.000	3.697	5.902	2.953	2.811	.7	.014	.965
05	1.000	A880-D1000LX25-03	1.000	3.932	6.137	3.150	3.000	.9	.037	1.075
	1.062	A880-D1062LX31-03	1.250	4.164	6.526	3.345	3.186	.9	.030	1.121
	1.125	A880-D1125LX31-03	1.250	4.401	6.763	3.544	3.375	.9	.020	1.164
06	1.187	A880-D1187LX31-03	1.250	4.598	6.960	3.704	3.561	1.5	.043	1.274
	1.250	A880-D1250LX38-03	1.500	4.832	7.588	3.900	3.750	2.4	.035	1.321
	1.312	A880-D1312LX38-03	1.500	5.063	7.819	4.094	3.936	2.4	.028	1.368
	1.375	A880-D1375LX38-03	1.500	5.297	8.053	4.290	4.125	2.6	.020	1.415
07	1.437	A880-D1437LX38-03	1.500	5.527	8.283	4.483	4.311	2.9	.052	1.540
	1.500	A880-D1500LX38-03	1.500	5.732	8.488	4.650	4.500	2.9	.044	1.588
	1.562	A880-D1562LX38-03	1.500	5.961	8.717	4.842	4.686	2.6	.036	1.634
	1.625	A880-D1625LX38-03	1.500	6.194	8.950	5.037	4.875	3.3	.028	1.681
	1.687	A880-D1687LX38-03	1.500	6.423	9.179	5.229	5.061	3.5	.020	1.728
08	1.750	A880-D1750LX38-03	1.500	6.657	9.413	5.425	5.250	4.0	.057	1.864
	1.875	A880-D1875LX38-03	1.500	7.120	9.876	5.813	5.625	4.6	.041	1.957
	2.000	A880-D2000LX38-03	1.500	7.582	10.338	6.200	6.000	5.3	.026	2.051
09	2.125	A880-D2125LX38-03	1.500	8.045	10.801	6.588	6.375	5.7	.074	2.273
	2.250	A880-D2250LX38-03	1.500	8.507	11.263	6.975	6.750	6.4	.061	2.372
	2.375	A880-D2375LX38-03	1.500	8.970	11.726	7.363	7.125	7.3	.042	2.458
	2.500	A880-D2500LX38-03	1.500	9.432	12.188	7.750	7.500	7.9	.026	2.551

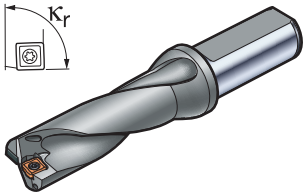
 E113
 E5
 E111
 E156
 G6
 E2
 J4
 J3

CoroDrill® 880 4 x D_c

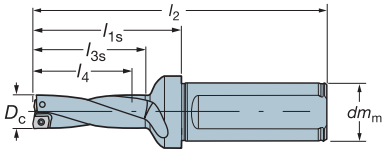
Drill diameter .500 - 2.250 inch

Cylindrical shank

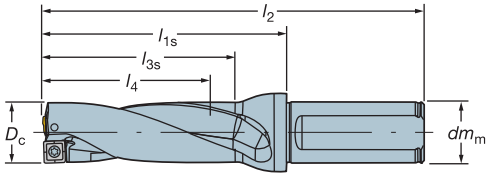
Flat according to ISO 9766



D_c .500 - .531 κ_r 79°



D_c .562 - 2.250 κ_r 88°



l_{1s} = programming length

	Drill diameter, inch	.500 - 1.687	1.750 - 2.000	2.125 - 2.250
	Hole tolerance, inch	0/+.016	0/+.017	0/+.018
	Tolerance, D_c inch	+.0016/+.009	+.0016/+.011	.0016/+.013
Inch design	Max hole depth, l_4	4 x D_c		

	Drill dia. D_c inch	Ordering code	Dimensions, inch dm_m	l_{1s}	l_2	l_{3s}	l_4	Lbs	Radial adjustment (+)	D_c Max
01	.500	A880-D0500LX19-04	.750	2.582	4.550	2.100	2.000	.4	.010	.520
	.531	A880-D0531LX19-04	.750	2.720	4.688	2.230	2.124	.4	.010	.551
02	.562	A880-D0562LX19-04	.750	2.881	4.850	2.362	2.248	.4	.018	.597
	.625	A880-D0625LX19-04	.750	3.195	5.164	2.638	2.500	.4	.010	.646
03	.656	A880-D0656LX19-04	.750	3.331	5.300	2.756	2.624	.4	.024	.703
	.687	A880-D0687LX25-04	1.000	3.468	5.673	2.874	2.748	.7	.020	.727
	.750	A880-D0750LX25-04	1.000	3.781	5.986	3.149	3.000	.7	.010	.770
04	.812	A880-D0812LX25-04	1.000	4.054	6.259	3.385	3.248	.9	.032	.875
	.875	A880-D0875LX25-04	1.000	4.329	6.534	3.622	3.500	.9	.023	.921
	.937	A880-D0937LX25-04	1.000	4.602	6.807	3.858	3.748	.9	.014	.965
05	1.000	A880-D1000LX25-04	1.000	4.915	7.120	4.133	4.000	1.1	.037	1.075
	1.062	A880-D1062LX31-04	1.250	5.189	7.551	4.370	4.248	1.5	.030	1.121
	1.125	A880-D1125LX31-04	1.250	5.502	7.864	4.645	4.500	1.5	.020	1.164
06	1.187	A880-D1187LX31-04	1.250	5.785	8.147	4.891	4.748	1.8	.043	1.274
	1.250	A880-D1250LX38-04	1.500	6.082	8.838	5.150	5.000	2.6	.035	1.321
	1.312	A880-D1312LX38-04	1.500	6.375	9.131	5.406	5.248	2.6	.028	1.368
	1.375	A880-D1375LX38-04	1.500	6.672	9.428	5.665	5.500	2.9	.020	1.415
07	1.437	A880-D1437LX38-04	1.500	6.964	9.720	5.920	5.748	3.1	.052	1.540
	1.500	A880-D1500LX38-04	1.500	7.232	9.988	6.150	6.000	3.3	.044	1.588
	1.562	A880-D1562LX38-04	1.500	7.523	10.279	6.404	6.248	3.5	.036	1.634
	1.625	A880-D1625LX38-04	1.500	7.819	10.575	6.662	6.500	3.7	.028	1.681
	1.687	A880-D1687LX38-04	1.500	8.110	10.866	6.916	6.748	4.0	.020	1.728
08	1.750	A880-D1750LX38-04	1.500	8.407	11.163	7.175	7.000	4.2	.057	1.864
	1.875	A880-D1875LX38-04	1.500	8.993	11.749	7.686	7.500	5.3	.041	1.957
	2.000	A880-D2000LX38-04	1.500	9.582	12.338	8.200	8.000	6.0	.026	2.051
09	2.125	A880-D2125LX38-04	1.500	10.170	12.926	8.713	8.500	6.8	.074	2.273
	2.250	A880-D2250LX38-04	1.500	10.757	13.513	9.225	9.000	7.7	.061	2.372

E113 E5 E111 E156 G6 E2 J4 J3

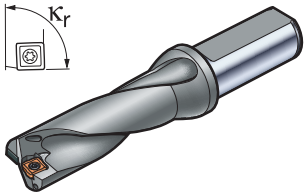
SANDVIK Coromant

CoroDrill® 880 5 x D_c

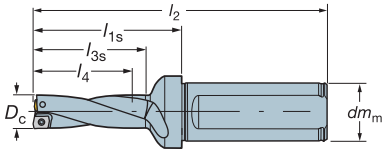
Drill diameter .500 - 1.687 inch

Cylindrical shank

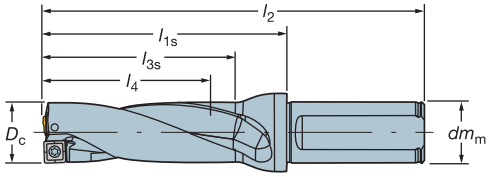
Flat according to ISO 9766



D_c .500 - .531 κ_r 79°



D_c .562 - 1.687 κ_r 88°

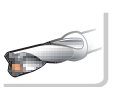
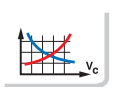


l_{1s} = programming length

Drill diameter, inch	.500 - 1.687
Hole tolerance, inch	0/+.016
Tolerance, D_c inch	+.0016/+.009
Max hole depth, l_4	5 x D_c

Inch design

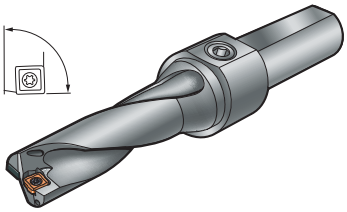
	Drill dia. D_c inch	Ordering code	Dimensions, inch dm_m	l_{1s}	l_2	l_{3s}	l_4	Lbs	Radial adjustment (+)	D_c Max
01	.500	A880-D0500LX19-05	.750	3.082	5.050	2.600	2.500	.4	.010	.520
	.531	A880-D0531LX19-05	.750	3.255	5.224	2.755	2.655	.4	.010	.551
02	.562	A880-D0562LX19-05	.750	3.441	5.410	2.922	2.810	.4	.018	.597
	.625	A880-D0625LX19-05	.750	3.807	5.776	3.250	3.125	.4	.010	.646
03	.656	A880-D0656LX19-05	.750	3.986	5.954	3.411	3.280	.4	.024	.703
	.687	A880-D0687LX25-05	1.000	4.166	6.371	3.572	3.435	.7	.020	.727
	.750	A880-D0750LX25-05	1.000	4.517	6.722	3.885	3.750	.7	.010	.770
04	.812	A880-D0812LX25-05	1.000	4.875	7.080	4.206	4.060	.9	.032	.875
	.875	A880-D0875LX25-05	1.000	5.213	7.418	4.506	4.375	.9	.023	.921
	.937	A880-D0937LX25-05	1.000	5.569	7.774	4.825	4.685	1.1	.014	.965
05	1.000	A880-D1000LX25-05	1.000	5.932	8.137	5.150	5.000	1.3	.037	1.075
	1.062	A880-D1062LX31-05	1.250	6.256	8.618	5.437	5.310	1.5	.030	1.121
	1.125	A880-D1125LX31-05	1.250	6.617	8.979	5.760	5.625	1.8	.020	1.164
06	1.187	A880-D1187LX31-05	1.250	6.971	9.333	6.077	5.935	2.0	.043	1.274
	1.250	A880-D1250LX38-05	1.500	7.332	10.088	6.400	6.250	2.6	.035	1.321
	1.312	A880-D1312LX38-05	1.500	7.686	10.442	6.717	6.560	2.9	.028	1.368
	1.375	A880-D1375LX38-05	1.500	8.047	10.803	7.040	6.875	2.9	.020	1.415
07	1.437	A880-D1437LX38-05	1.500	8.401	11.157	7.357	7.185	3.3	.052	1.540
	1.500	A880-D1500LX38-05	1.500	8.732	11.488	7.650	7.500	3.5	.044	1.588
	1.562	A880-D1562LX38-05	1.500	9.085	11.841	7.966	7.810	3.7	.036	1.634
	1.625	A880-D1625LX38-05	1.500	9.445	12.201	8.288	8.125	4.2	.028	1.681
	1.687	A880-D1687LX38-05	1.500	9.798	12.554	8.604	8.435	4.4	.020	1.728

 E113
 E5
 E111
 E156
 G6
 E2
 J4
 J3

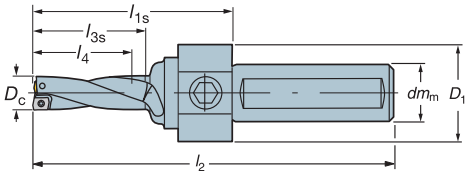
CoroDrill® 880 3 x D_c

Drill diameter .500 - 2.500 inch

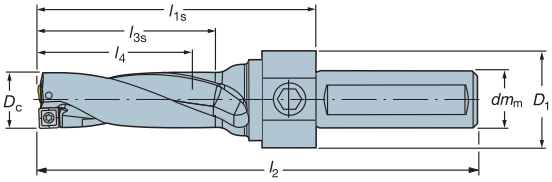
Cylindrical shank with flat US P shank



D_c .500 - .531 κ_r 79°



D_c .562 - 2.500 κ_r 88°



l_{1s} = programming length

Drill diameter, inch	.500 - 1.687	1.750 - 2.000	2.125 - 2.500
Hole tolerance, inch	0/+.010	0/+.011	0/+.012
Tolerance, D_c inch	0/+.008	0/+.010	0/+.011
Max hole depth, l_4	3 x D_c		

Inch design

	Drill dia. D_c inch	Ordering code	Dimensions, inch dm_m	D_1	l_{1s}	l_2	l_{3s}	l_4	Lbs	Radial adjustment (+)	D_c Max
01	.500	A880-D0500P19-03	.750		3.263	6.243	1.600	1.500	.4	.010	.520
	.531	A880-D0531P19-03	.750		3.380	6.360	1.699	1.593	.4	.010	.551
02	.562	A880-D0562P19-03	.750	1.287	3.511	6.491	1.811	1.686	.4	.018	.597
	.625	A880-D0625P19-03	.750	1.287	3.746	6.726	2.008	1.875	.4	.010	.646
03	.656	A880-D0656P19-03	.750	1.287	3.843	6.823	2.126	1.968	.4	.023	.702
	.687	A880-D0687P25-03	1.000	1.750	4.059	7.039	2.205	2.061	.7	.020	.727
	.750	A880-D0750P25-03	1.000	1.750	4.293	7.273	2.402	2.250	.7	.010	.770
04	.812	A880-D0812P25-03	1.000	1.750	4.527	7.507	2.598	2.436	.7	.032	.875
	.875	A880-D0875P31-03	1.250	1.750	4.722	7.702	2.756	2.625	.9	.023	.921
	.937	A880-D0937P31-03	1.250	1.750	4.957	7.937	2.953	2.811	.9	.014	.965
05	1.000	A880-D1000P31-03	1.250	1.750	5.191	8.171	3.150	3.000	1.0	.037	1.075
	1.062	A880-D1062P31-03	1.250	1.750	5.386	8.366	3.345	3.186	1.1	.030	1.121
	1.125	A880-D1125P31-03	1.250	1.750	5.620	8.600	3.544	3.375	1.1	.020	1.164
06	1.187	A880-D1187P31-03	1.250	1.750	5.854	8.834	3.700	3.561	1.1	.043	1.274
	1.250	A880-D1250P38-03	1.500	2.126	6.089	9.069	3.898	3.750	1.6	.035	1.321
	1.312	A880-D1312P38-03	1.500	2.126	6.324	9.304	4.095	3.936	1.6	.028	1.368
	1.375	A880-D1375P38-03	1.500	2.126	6.557	9.537	4.291	4.125	1.7	.020	1.415
07	1.437	A880-D1437P38-03	1.500	2.126	6.792	9.772	4.488	4.311	1.8	.052	1.540
	1.500	A880-D1500P38-03	1.500	2.126	6.987	9.967	4.646	4.500	1.8	.044	1.588
	1.562	A880-D1562P38-03	1.500	2.126	7.222	10.202	4.843	4.686	1.9	.036	1.634
	1.625	A880-D1625P38-03	1.500	2.126	7.455	10.435	5.039	4.875	2.0	.028	1.681
	1.687	A880-D1687P38-03	1.500	2.618	7.886	10.866	5.236	5.061	2.0	.020	1.728
08	1.750	A880-D1750P38-03	1.500	2.618	8.121	11.101	5.433	5.250	2.7	.057	1.864
	1.875	A880-D1875P38-03	1.500	2.618	8.590	11.570	5.827	5.625	2.9	.041	1.957
	2.000	A880-D2000P38-03	1.500	2.618	9.058	12.038	6.220	6.000	3.1	.026	2.051
09	2.125	A880-D2125P38-03	1.500	2.618	9.488	12.468	6.575	6.375	3.4	.074	2.273
	2.250	A880-D2250P38-03	1.500	2.618	9.957	12.937	6.969	6.750	3.7	.061	2.372
	2.375	A880-D2375P38-03	1.500	2.618	10.426	13.406	7.363	7.125	4.0	.042	2.458
	2.500	A880-D2500P38-03	1.500	2.618	10.888	13.868	7.750	7.500	4.4	.026	2.551

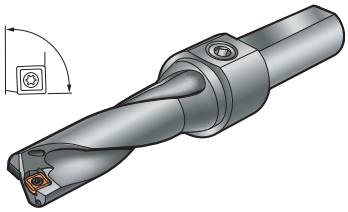
E113 E5 E111 E156 G6 E2 J4 J3

SANDVIK Coromant

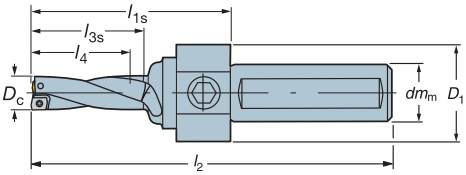
CoroDrill® 880 4 x D_c

Drill diameter .500 - 2.250 inch

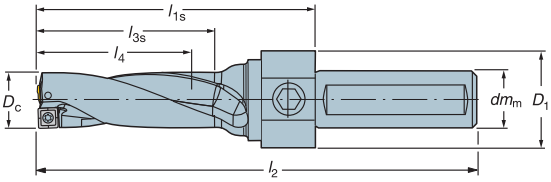
Cylindrical shank with flat US P shank



D_c .500 - .531 κ_r 79°



D_c .562 - 2.250 κ_r 88°



l_{1s} = programming length

	Drill diameter, inch	.500 - 1.687	1.750 - 2.000	2.125 - 2.250
	Hole tolerance, inch	0/+.016	0/+.017	0/+.018
	Tolerance, D_c inch	+.0016/+.009	+.0016/+.011	.0016/+.013
Inch design	Max hole depth, l_4	4 x D_c		

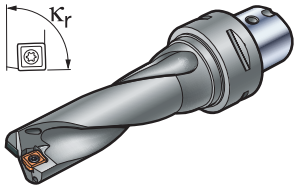
	Drill dia.		Dimensions, inch							Radial adjustment (+)	
	D_c inch	Ordering code	dm_m	D_1	l_{1s}	l_2	l_{3s}	l_4	Lbs		D_c Max
01	.500	A880-D0500P19-04	.750		3.763	6.743	2.100	2.000	.4	.010	.520
	.531	A880-D0531P19-04	.750		3.911	6.891	2.230	2.124	.4	.010	.551
02	.562	A880-D0562P19-04	.750	1.287	4.062	7.042	2.362	2.248	.4	.018	.597
	.625	A880-D0625P19-04	.750	1.287	4.376	7.356	2.638	2.500	.4	.010	.646
03	.656	A880-D0656P19-04	.750	1.750	4.512	7.492	2.756	2.624	.4	.023	.702
	.687	A880-D0687P25-04	1.000	1.750	4.728	7.708	2.874	2.748	.7	.020	.727
	.750	A880-D0750P25-04	1.000	1.750	5.040	8.020	3.149	3.000	.7	.010	.770
04	.812	A880-D0812P25-04	1.000	1.750	5.314	8.294	3.385	3.248	.7	.032	.875
	.875	A880-D0875P31-04	1.250	1.750	5.588	8.568	3.622	3.500	.9	.023	.921
	.937	A880-D0937P31-04	1.250	1.750	5.862	8.842	3.858	3.748	1.0	.014	.965
05	1.000	A880-D1000P31-04	1.250	1.750	6.174	9.154	4.133	4.000	1.0	.037	1.075
	1.062	A880-D1062P31-04	1.250	1.750	6.449	9.429	4.370	4.248	1.1	.030	1.121
	1.125	A880-D1125P31-04	1.250	1.750	6.761	9.741	4.645	4.500	1.2	.020	1.164
06	1.187	A880-D1187P31-04	1.250	1.750	7.035	10.015	4.881	4.748	1.2	.043	1.274
	1.250	A880-D1250P38-04	1.500	2.126	7.348	10.328	5.157	5.000	1.7	.035	1.321
	1.312	A880-D1312P38-04	1.500	2.126	7.622	10.602	5.393	5.248	1.7	.028	1.368
	1.375	A880-D1375P38-04	1.500	2.126	7.931	10.911	5.665	5.500	1.8	.020	1.415
07	1.437	A880-D1437P38-04	1.500	2.126	8.209	11.189	5.905	5.748	1.9	.052	1.540
	1.500	A880-D1500P38-04	1.500	2.126	8.483	11.463	6.142	6.000	2.0	.044	1.588
	1.562	A880-D1562P38-04	1.500	2.126	8.796	11.776	6.417	6.248	2.1	.036	1.634
	1.625	A880-D1625P38-04	1.500	2.126	9.070	12.050	6.654	6.500	2.2	.028	1.681
	1.687	A880-D1687P38-04	1.500	2.618	9.579	12.559	6.929	6.748	2.8	.020	1.728
08	1.750	A880-D1750P38-04	1.500	2.618	9.853	12.833	7.165	7.000	2.9	.057	1.864
	1.875	A880-D1875P38-04	1.500	2.618	10.440	13.420	7.677	7.500	3.2	.041	1.957
	2.000	A880-D2000P38-04	1.500	2.618	11.027	14.007	8.189	8.000	3.5	.026	2.051
09	2.125	A880-D2125P38-04	1.500	2.618	11.614	14.594	8.701	8.500	3.8	.074	2.273
	2.250	A880-D2250P38-04	1.500	2.618	12.201	15.181	9.213	9.000	4.2	.061	2.372

E113 E5 E111 E156 G6 E2 J4 J3

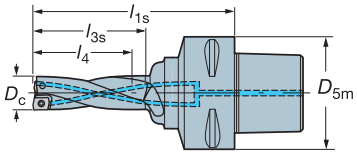
CoroDrill® 880 3 x D_c

Drill diameter 12.00 - 30.00 mm (.472 - 1.181 inch)

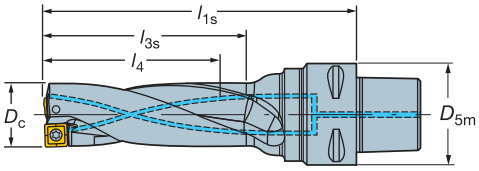
Coromant Capto®



D_c 12.00 - 13.99 mm (.472 - .550 inch) κ_r 79°



D_c 14.00 - 30.00 mm (.551 - 1.181 inch) κ_r 88°



Hole tolerance	0/+0.25 mm (+.010 inch)
Tolerance, D_c	0/+0.20 mm (+.008 inch)
Max hole depth, l_4	3 × D_c

l_{1s} = programming length

Drill dia.					Dimensions, millimeter, inch (mm, in.)								Radial adjustment	
	D_c mm	D_c inch	Coupling size	**Ordering code**	dm_m	D_{5m} mm	l_{1s} mm	l_{3s} mm	l_{3s} in.	l_4 mm	l_4 in.	KG		D_c Max
01	12.0	.472	C4	**880-D1200C4-03**	28	40	71	39	1.535	36	1.417	0.3	0.25	12.5
	12.5	.492	C4	**880-D1250C4-03**	28	40	73	40	1.575	38	1.496	0.3	0.25	13.0
	12.7	.500	C4	**880-D1270C4-03**	28	40	74	41	1.614	38	1.496	0.3	0.25	13.2
	13.0	.512	C4	**880-D1300C4-03**	28	40	75	42	1.654	39	1.535	0.3	0.25	13.5
	13.5	.532	C4	**880-D1350C4-03**	28	40	77	44	1.732	41	1.614	0.3	0.25	14.0
02	14.0	.551	C4	**880-D1400C4-03**	28	40	78	45	1.772	42	1.654	0.3	0.50	15.0
	14.5	.571	C4	**880-D1450C4-03**	28	40	80	46	1.811	44	1.732	0.3	0.45	15.4
	15.0	.591	C4	**880-D1500C4-03**	28	40	82	48	1.890	45	1.772	0.3	0.40	15.8
	15.5	.610	C4	**880-D1550C4-03**	28	40	84	50	1.968	47	1.850	0.3	0.30	16.1
	16.0	.630	C4	**880-D1600C4-03**	28	40	86	51	2.008	48	1.890	0.3	0.30	16.6
03	16.5	.650	C4	**880-D1650C4-03**	28	40	88	53	2.087	50	1.968	0.3	0.60	17.7
	17.0	.669	C4	**880-D1700C4-03**	28	40	89	54	2.126	51	2.008	0.3	0.60	18.2
	17.5	.689	C4	**880-D1750C4-03**	28	40	92	56	2.205	53	2.087	0.3	0.50	18.5
	18.0	.709	C4	**880-D1800C4-03**	28	40	93	57	2.244	54	2.126	0.3	0.40	18.8
	18.5	.728	C4	**880-D1850C4-03**	28	40	95	59	2.323	56	2.205	0.4	0.40	19.3
	19.0	.748	C4	**880-D1900C4-03**	28	40	96	60	2.362	57	2.244	0.4	0.30	19.6
	19.5	.768	C4	**880-D1950C4-03**	28	40	99	62	2.441	59	2.323	0.4	0.30	20.1
04	20.0	.787	C4	**880-D2000C4-03**	28	40	101	64	2.520	60	2.362	0.4	0.90	21.8
	21.0	.827	C4	**880-D2100C4-03**	28	40	104	66	2.598	63	2.480	0.4	0.80	22.6
	22.0	.866	C4	**880-D2200C4-03**	28	40	107	69	2.716	66	2.598	0.4	0.60	23.2
	23.0	.906	C4	**880-D2300C4-03**	28	40	111	72	2.835	69	2.716	0.4	0.50	24.0
05	24.0	.945	C4	**880-D2400C4-03**	28	40	115	76	2.992	72	2.835	0.4	1.10	26.2
	25.0	.984	C4	**880-D2500C4-03**	28	40	119	79	3.110	75	2.953	0.5	1.00	27.0
	26.0	1.024	C4	**880-D2600C4-03**	28	40	122	81	3.189	78	3.071	0.5	0.90	27.8
	27.0	1.063	C4	**880-D2700C4-03**	28	40	125	84	3.307	81	3.189	0.5	0.70	28.4
	28.0	1.102	C4	**880-D2800C4-03**	28	40	129	87	3.425	84	3.307	0.5	0.60	29.2
	29.0	1.142	C4	**880-D2900C4-03**	28	40	132	90	3.543	87	3.425	0.6	0.50	30.0
06	30.0	1.181	C4	**880-D3000C4-03**	28	40	137	94	3.701	90	3.543	0.6	1.12	32.2

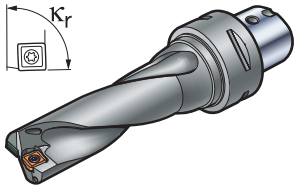
E113 E5 E111 E156 G6 E2 J4 J3

SANDVIK Coromant

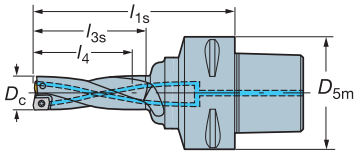
CoroDrill® 880 3 x D_c

Drill diameter 12.00 - 43.00 mm (.472 - 1.693 inch)

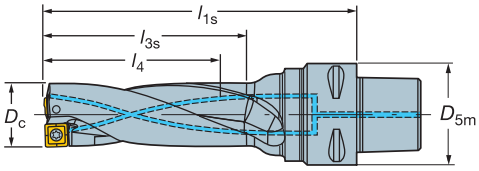
Coromant Capto®



D_c 12.00 - 13.99 mm (.472 - .550 inch) κ_r 79°



D_c 14.00 - 43.00 mm (.551 - 1.693 inch) κ_r 88°



Hole tolerance	0/+0.25 mm (+.010 inch)
Tolerance, D_c	0/+0.20 mm (+.008 inch)
Max hole depth, l_4	3 × D_c

l_{1s} = programming length

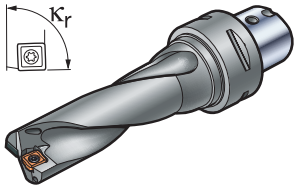
Drill dia.					Dimensions, millimeter, inch (mm, in.)								Radial adjustment	
□	D_c mm	D_c inch	Coupling size	**Ordering code**	dm_m	D_{5m} mm	l_{1s} mm	l_{3s} mm	l_{3s} in.	l_4 mm	l_4 in.	kg		D_c Max
01	12.0	.472	C5	**880-D1200C5-03**	35	50	71	39	1.535	36	1.417	0.5	0.25	12.5
	12.5	.492	C5	**880-D1250C5-03**	35	50	73	40	1.575	38	1.496	0.5	0.25	13.0
	12.7	.500	C5	**880-D1270C5-03**	35	50	74	41	1.614	38	1.496	0.5	0.25	13.2
	13.0	.512	C5	**880-D1300C5-03**	35	50	75	42	1.654	39	1.535	0.5	0.25	13.5
	13.5	.532	C5	**880-D1350C5-03**	35	50	77	44	1.732	41	1.614	0.5	0.25	14.0
02	14.0	.551	C5	**880-D1400C5-03**	35	50	78	45	1.772	42	1.654	0.5	0.50	15.0
	14.5	.571	C5	**880-D1450C5-03**	35	50	80	46	1.811	44	1.732	0.5	0.45	15.4
	15.0	.591	C5	**880-D1500C5-03**	35	50	82	48	1.890	45	1.772	0.5	0.40	15.8
	15.5	.610	C5	**880-D1550C5-03**	35	50	84	50	1.968	47	1.850	0.5	0.30	16.1
	16.0	.630	C5	**880-D1600C5-03**	35	50	86	51	2.008	48	1.890	0.5	0.30	16.6
03	16.5	.650	C5	**880-D1650C5-03**	35	50	88	53	2.087	50	1.968	0.5	0.60	17.7
	17.0	.669	C5	**880-D1700C5-03**	35	50	89	54	2.126	51	2.008	0.5	0.60	18.2
	17.5	.689	C5	**880-D1750C5-03**	35	50	92	56	2.205	53	2.087	0.5	0.50	18.5
	18.0	.709	C5	**880-D1800C5-03**	35	50	93	57	2.244	54	2.126	0.5	0.40	18.8
	18.5	.728	C5	**880-D1850C5-03**	35	50	95	59	2.323	56	2.205	0.6	0.40	19.3
	19.0	.748	C5	**880-D1900C5-03**	35	50	96	60	2.362	57	2.244	0.6	0.30	19.6
	19.5	.768	C5	**880-D1950C5-03**	35	50	99	62	2.441	59	2.323	0.6	0.30	20.1
04	20.0	.787	C5	**880-D2000C5-03**	35	50	101	64	2.520	60	2.362	0.6	0.90	21.8
	21.0	.827	C5	**880-D2100C5-03**	35	50	104	66	2.598	63	2.480	0.6	0.80	22.6
	22.0	.866	C5	**880-D2200C5-03**	35	50	107	69	2.716	66	2.598	0.6	0.60	23.2
	23.0	.906	C5	**880-D2300C5-03**	35	50	111	72	2.835	69	2.716	0.6	0.50	24.0
05	24.0	.945	C5	**880-D2400C5-03**	35	50	115	76	2.992	72	2.835	0.6	1.10	26.2
	25.0	.984	C5	**880-D2500C5-03**	35	50	119	79	3.110	75	2.953	0.7	1.00	27.0
	26.0	1.024	C5	**880-D2600C5-03**	35	50	122	81	3.189	78	3.071	0.7	0.90	27.8
	27.0	1.063	C5	**880-D2700C5-03**	35	50	125	84	3.307	81	3.189	0.8	0.70	28.4
	28.0	1.102	C5	**880-D2800C5-03**	35	50	129	87	3.425	84	3.307	0.8	0.60	29.2
	29.0	1.142	C5	**880-D2900C5-03**	35	50	132	90	3.543	87	3.425	0.8	0.50	30.0
06	30.0	1.181	C5	**880-D3000C5-03**	35	50	137	94	3.701	90	3.543	0.8	1.12	32.2
	31.0	1.220	C5	**880-D3100C5-03**	35	50	141	97	3.819	93	3.661	0.9	0.99	33.0
	32.0	1.260	C5	**880-D3200C5-03**	35	50	144	100	3.937	96	3.780	0.9	0.87	33.7
	33.0	1.299	C5	**880-D3300C5-03**	35	50	148	103	4.055	99	3.898	1.0	0.75	34.5
	34.0	1.339	C5	**880-D3400C5-03**	35	50	151	106	4.173	102	4.016	1.0	0.62	35.2
	35.0	1.378	C5	**880-D3500C5-03**	35	50	155	109	4.291	105	4.134	1.1	0.50	36.0
07	36.0	1.417	C5	**880-D3600C5-03**	35	50	159	112	4.409	108	4.252	1.1	1.38	38.8
	37.0	1.457	C5	**880-D3700C5-03**	35	50	162	115	4.528	111	4.370	1.1	1.25	39.5
	38.0	1.496	C5	**880-D3800C5-03**	35	50	166	118	4.646	114	4.488	1.2	1.13	40.2
	39.0	1.535	C5	**880-D3900C5-03**	35	50	169	121	4.764	117	4.606	1.2	1.00	41.0
	40.0	1.575	C5	**880-D4000C5-03**	35	50	173	124	4.882	120	4.724	1.3	0.88	41.8
	41.0	1.614	C5	**880-D4100C5-03**	35	50	177	127	5.000	123	4.842	1.3	0.75	42.5
	42.0	1.654	C5	**880-D4200C5-03**	35	50	186	130	5.118	126	4.961	1.6	0.63	43.2
	43.0	1.693	C5	**880-D4300C5-03**	35	50	190	133	5.236	129	5.079	1.7	0.50	44.0

E113 E5 E111 E156 G6 E2 J4 J3

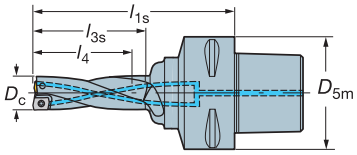
CoroDrill® 880 3 x D_c

Drill diameter 12.00 - 43.00 mm (.472 - 1.693 inch)

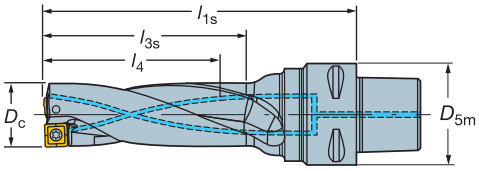
Coromant Capto®



D_c 12.00 - 13.99 mm (.472 - .550 inch) κ_r 79°



D_c 14.00 - 43.00 mm (.551 - 1.693 inch) κ_r 88°



Hole tolerance	0/+0.25 mm (+.010 inch)
Tolerance, D_c	0/+0.20 mm (+.008 inch)
Max hole depth, l_4	3 × D_c

l_{1s} = programming length

Drill dia.					Dimensions, millimeter, inch (mm, in.)								Radial adjustment	
	D_c mm	D_c inch	Coupling size	**Ordering code**	dm_m	D_{5m} mm	l_{1s} mm	l_{3s} mm	l_{3s} in.	l_4 mm	l_4 in.	KG		D_c Max
01	12.0	.472	C6	**880-D1200C6-03**	44	63	73	39	1.535	36	1.417	0.9	0.25	12.5
	12.5	.492	C6	**880-D1250C6-03**	44	63	75	40	1.575	38	1.496	0.9	0.25	13.0
	12.7	.500	C6	**880-D1270C6-03**	44	63	76	41	1.614	38	1.496	0.9	0.25	13.2
	13.0	.512	C6	**880-D1300C6-03**	44	63	77	42	1.654	39	1.535	0.9	0.25	13.5
	13.5	.532	C6	**880-D1350C6-03**	44	63	79	44	1.732	41	1.614	0.9	0.25	14.0
02	14.0	.551	C6	**880-D1400C6-03**	44	63	80	45	1.772	42	1.654	0.9	0.50	15.0
	14.5	.571	C6	**880-D1450C6-03**	44	63	82	46	1.811	44	1.732	0.9	0.45	15.4
	15.0	.591	C6	**880-D1500C6-03**	44	63	84	48	1.890	45	1.772	0.9	0.40	15.8
	15.5	.610	C6	**880-D1550C6-03**	44	63	86	50	1.968	47	1.850	0.9	0.30	16.1
	16.0	.630	C6	**880-D1600C6-03**	44	63	88	51	2.008	48	1.890	0.9	0.30	16.6
03	16.5	.650	C6	**880-D1650C6-03**	44	63	90	53	2.087	50	1.968	0.9	0.60	17.7
	17.0	.669	C6	**880-D1700C6-03**	44	63	91	54	2.126	51	2.008	0.9	0.60	18.2
	17.5	.689	C6	**880-D1750C6-03**	44	63	94	56	2.205	53	2.087	0.9	0.50	18.5
	18.0	.709	C6	**880-D1800C6-03**	44	63	95	57	2.244	54	2.126	1.0	0.40	18.8
	18.5	.728	C6	**880-D1850C6-03**	44	63	97	59	2.323	56	2.205	1.0	0.40	19.3
	19.0	.748	C6	**880-D1900C6-03**	44	63	98	60	2.362	57	2.244	1.0	0.30	19.6
	19.5	.768	C6	**880-D1950C6-03**	44	63	101	62	2.441	59	2.323	1.0	0.30	20.1
04	20.0	.787	C6	**880-D2000C6-03**	44	63	103	64	2.520	60	2.362	1.0	0.90	21.8
	21.0	.827	C6	**880-D2100C6-03**	44	63	106	66	2.598	63	2.480	1.0	0.80	22.6
	22.0	.866	C6	**880-D2200C6-03**	44	63	109	69	2.716	66	2.598	1.0	0.60	23.2
	23.0	.906	C6	**880-D2300C6-03**	44	63	113	72	2.835	69	2.716	1.1	0.50	24.0
05	24.0	.945	C6	**880-D2400C6-03**	44	63	117	76	2.992	72	2.835	1.0	1.10	26.2
	25.0	.984	C6	**880-D2500C6-03**	44	63	121	79	3.110	75	2.953	1.1	1.00	27.0
	26.0	1.024	C6	**880-D2600C6-03**	44	63	124	81	3.189	78	3.071	1.1	0.90	27.8
	27.0	1.063	C6	**880-D2700C6-03**	44	63	127	84	3.307	81	3.189	1.2	0.70	28.4
	28.0	1.102	C6	**880-D2800C6-03**	44	63	131	87	3.425	84	3.307	1.2	0.60	29.2
	29.0	1.142	C6	**880-D2900C6-03**	44	63	134	90	3.543	87	3.425	1.2	0.50	30.0
06	30.0	1.181	C6	**880-D3000C6-03**	44	63	139	94	3.701	90	3.543	1.2	1.12	32.2
	31.0	1.220	C6	**880-D3100C6-03**	44	63	143	97	3.819	93	3.661	1.3	0.99	33.0
	32.0	1.260	C6	**880-D3200C6-03**	44	63	146	100	3.937	96	3.780	1.3	0.87	33.7
	33.0	1.299	C6	**880-D3300C6-03**	44	63	150	103	4.055	99	3.898	1.4	0.75	34.5
	34.0	1.339	C6	**880-D3400C6-03**	44	63	153	106	4.173	102	4.016	1.4	0.62	35.2
	35.0	1.378	C6	**880-D3500C6-03**	44	63	157	109	4.291	105	4.134	1.5	0.50	36.0
07	36.0	1.417	C6	**880-D3600C6-03**	44	63	161	112	4.409	108	4.252	1.5	1.38	38.8
	37.0	1.457	C6	**880-D3700C6-03**	44	63	164	115	4.528	111	4.370	1.5	1.25	39.5
	38.0	1.496	C6	**880-D3800C6-03**	44	63	168	118	4.646	114	4.488	1.6	1.13	40.2
	39.0	1.535	C6	**880-D3900C6-03**	44	63	171	121	4.764	117	4.606	1.6	1.00	41.0
	40.0	1.575	C6	**880-D4000C6-03**	44	63	175	124	4.882	120	4.724	1.7	0.88	41.8
	41.0	1.614	C6	**880-D4100C6-03**	44	63	179	127	5.000	123	4.842	1.7	0.75	42.5
	42.0	1.654	C6	**880-D4200C6-03**	44	63	182	130	5.118	126	4.961	1.9	0.63	43.2
	43.0	1.693	C6	**880-D4300C6-03**	44	63	186	133	5.236	129	5.079	2.0	0.50	44.0

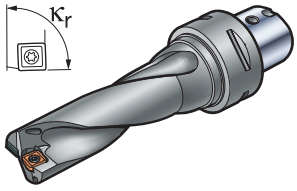
E113 E5 E111 E156 G6 E2 J4 J3

SANDVIK Coromant

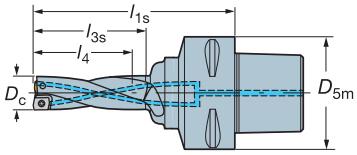
CoroDrill® 880 4 x D_c

Drill diameter 12.00 - 30.00 mm (.472 - 1.181 inch)

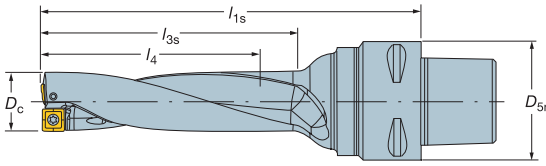
Coromant Capto®



D_c 12.00 - 13.99 mm (.472 - .550 inch) κ_r 79°



D_c 14.00 - 30.00 mm (.551 - 1.181 inch) κ_r 88°



Hole tolerance	0/+0.40 mm (+.016 inch)
Tolerance, D_c	+0.04/+0.24 mm (+.0016/+.009 inch)
Max hole depth, l_4	4 × D_c

l_{1s} = programming length

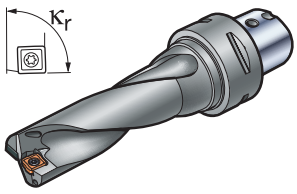
Drill dia.					Dimensions, millimeter, inch (mm, in.)								Radial adjustment	
	D_c mm	D_c inch	Coupling size	**Ordering code**	dm_m	D_{5m} mm	l_{1s} mm	l_{3s} mm	l_{3s} in.	l_4 mm	l_4 in.	kg		D_c Max
01	12.0	.472	C4	**880-D1200C4-04**	28	40	83	51	2.008	48	1.890	0.3	0.25	12.5
	12.5	.492	C4	**880-D1250C4-04**	28	40	86	53	2.087	50	1.968	0.3	0.25	13.0
	12.7	.500	C4	**880-D1270C4-04**	28	40	86	53	2.087	51	2.008	0.3	0.25	13.2
	13.0	.512	C4	**880-D1300C4-04**	28	40	88	55	2.165	52	2.047	0.3	0.25	13.5
	13.5	.532	C4	**880-D1350C4-04**	28	40	90	57	2.244	54	2.126	0.3	0.25	14.0
02	14.0	.551	C4	**880-D1400C4-04**	28	40	92	59	2.323	56	2.205	0.3	0.50	15.0
	14.5	.571	C4	**880-D1450C4-04**	28	40	95	61	2.402	58	2.284	0.3	0.45	15.4
	15.0	.591	C4	**880-D1500C4-04**	28	40	97	63	2.480	60	2.362	0.3	0.40	15.8
	15.5	.610	C4	**880-D1550C4-04**	28	40	99	65	2.559	62	2.441	0.3	0.30	16.1
	16.0	.630	C4	**880-D1600C4-04**	28	40	102	67	2.638	64	2.520	0.3	0.30	16.6
03	16.5	.650	C4	**880-D1650C4-04**	28	40	104	69	2.716	66	2.598	0.4	0.60	17.7
	17.0	.669	C4	**880-D1700C4-04**	28	40	106	71	2.795	68	2.677	0.3	0.60	18.2
	17.5	.689	C4	**880-D1750C4-04**	28	40	109	73	2.874	70	2.756	0.4	0.50	18.5
	18.0	.709	C4	**880-D1800C4-04**	28	40	111	75	2.953	72	2.835	0.4	0.40	18.8
	18.5	.728	C4	**880-D1850C4-04**	28	40	113	77	3.032	74	2.913	0.4	0.40	19.3
	19.0	.748	C4	**880-D1900C4-04**	28	40	115	79	3.110	76	2.992	0.4	0.30	19.6
	19.5	.768	C4	**880-D1950C4-04**	28	40	119	82	3.228	78	3.071	0.4	0.30	20.1
04	20.0	.787	C4	**880-D2000C4-04**	28	40	121	84	3.307	80	3.150	0.4	0.90	21.8
	21.0	.827	C4	**880-D2100C4-04**	28	40	125	87	3.425	84	3.307	0.4	0.80	22.6
	22.0	.866	C4	**880-D2200C4-04**	28	40	129	91	3.583	88	3.465	0.4	0.60	23.2
	23.0	.906	C4	**880-D2300C4-04**	28	40	134	95	3.740	92	3.622	0.5	0.50	24.0
05	24.0	.945	C4	**880-D2400C4-04**	28	40	139	100	3.937	96	3.780	0.5	1.10	26.2
	25.0	.984	C4	**880-D2500C4-04**	28	40	144	104	4.094	100	3.937	0.5	1.00	27.0
	26.0	1.024	C4	**880-D2600C4-04**	28	40	148	107	4.213	104	4.094	0.6	0.90	27.8
	27.0	1.063	C4	**880-D2700C4-04**	28	40	152	111	4.370	108	4.252	0.6	0.70	28.4
	28.0	1.102	C4	**880-D2800C4-04**	28	40	157	115	4.528	112	4.409	0.6	0.60	29.2
	29.0	1.142	C4	**880-D2900C4-04**	28	40	161	119	4.685	116	4.567	0.7	0.50	30.0
06	30.0	1.181	C4	**880-D3000C4-04**	28	40	167	124	4.882	120	4.724	0.7	1.12	32.2

E113 E5 E111 E156 G6 E2 J4 J3

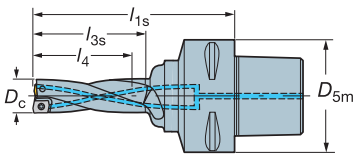
CoroDrill® 880 4 x D_c

Drill diameter 12.00 - 43.00 mm (.472 - 1.693 inch)

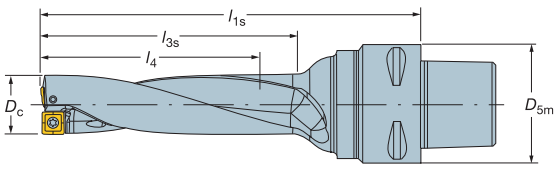
Coromant Capto®



D_c 12.00 - 13.99 mm (.472 - .550 inch) κ_r 79°



D_c 14.00 - 43.00 mm (.551 - 1.693 inch) κ_r 88°



Hole tolerance	0/+0.40 mm (+.016 inch)
Tolerance, D_c	+0.04/+0.24 mm (+.0016/+.009 inch)
Max hole depth, l_4	4 × D_c

l_{1s} = programming length

Drill dia.					Dimensions, millimeter, inch (mm, in.)								Radial adjustment	
	D_c mm	D_c inch	Coupling size	**Ordering code**	dm_m	D_{5m} mm	l_{1s} mm	l_{3s} mm	l_{3s} in.	l_4 mm	l_4 in.	kg		D_c Max
01	12.0	.472	C5	**880-D1200C5-04**	35	50	83	51	2.008	48	1.890	0.5	0.25	
	12.5	.492	C5	**880-D1250C5-04**	35	50	86	53	2.087	50	1.968	0.5	0.25	13.0
	12.7	.500	C5	**880-D1270C5-04**	35	50	86	53	2.087	51	2.008	0.5	0.25	13.2
	13.0	.512	C5	**880-D1300C5-04**	35	50	88	55	2.165	52	2.047	0.5	0.25	13.5
	13.5	.532	C5	**880-D1350C5-04**	35	50	90	57	2.244	54	2.126	0.5	0.25	14.0
02	14.0	.551	C5	**880-D1400C5-04**	35	50	92	59	2.323	56	2.205	0.5	0.50	15.0
	14.5	.571	C5	**880-D1450C5-04**	35	50	95	61	2.402	58	2.284	0.5	0.45	15.4
	15.0	.591	C5	**880-D1500C5-04**	35	50	97	63	2.480	60	2.362	0.5	0.40	15.8
	15.5	.610	C5	**880-D1550C5-04**	35	50	99	65	2.559	62	2.441	0.5	0.30	16.1
	16.0	.630	C5	**880-D1600C5-04**	35	50	102	67	2.638	64	2.520	0.5	0.30	16.6
03	16.5	.650	C5	**880-D1650C5-04**	35	50	104	69	2.716	66	2.598	0.5	0.60	17.7
	17.0	.669	C5	**880-D1700C5-04**	35	50	106	71	2.795	68	2.677	0.5	0.60	18.2
	17.5	.689	C5	**880-D1750C5-04**	35	50	109	73	2.874	70	2.756	0.6	0.50	18.5
	18.0	.709	C5	**880-D1800C5-04**	35	50	111	75	2.953	72	2.835	0.6	0.40	18.8
	18.5	.728	C5	**880-D1850C5-04**	35	50	113	77	3.032	74	2.913	0.6	0.40	19.3
	19.0	.748	C5	**880-D1900C5-04**	35	50	115	79	3.110	76	2.992	0.6	0.30	19.6
	19.5	.768	C5	**880-D1950C5-04**	35	50	119	82	3.228	78	3.071	0.6	0.30	20.1
04	20.0	.787	C5	**880-D2000C5-04**	35	50	121	84	3.307	80	3.150	0.6	0.90	21.8
	21.0	.827	C5	**880-D2100C5-04**	35	50	125	87	3.425	84	3.307	0.6	0.80	22.6
	22.0	.866	C5	**880-D2200C5-04**	35	50	129	91	3.583	88	3.465	0.6	0.60	23.2
	23.0	.906	C5	**880-D2300C5-04**	35	50	134	95	3.740	92	3.622	0.7	0.50	24.0
05	24.0	.945	C5	**880-D2400C5-04**	35	50	139	100	3.937	96	3.780	0.7	1.10	26.2
	25.0	.984	C5	**880-D2500C5-04**	35	50	144	104	4.094	100	3.937	0.7	1.00	27.0
	26.0	1.024	C5	**880-D2600C5-04**	35	50	148	107	4.213	104	4.094	0.8	0.90	27.8
	27.0	1.063	C5	**880-D2700C5-04**	35	50	152	111	4.370	108	4.252	0.8	0.70	28.4
	28.0	1.102	C5	**880-D2800C5-04**	35	50	157	115	4.528	112	4.409	0.8	0.60	29.2
	29.0	1.142	C5	**880-D2900C5-04**	35	50	161	119	4.685	116	4.567	0.9	0.50	30.0
06	30.0	1.181	C5	**880-D3000C5-04**	35	50	167	124	4.882	120	4.724	0.9	1.12	32.2
	31.0	1.220	C5	**880-D3100C5-04**	35	50	172	128	5.039	124	4.882	1.0	0.99	33.0
	32.0	1.260	C5	**880-D3200C5-04**	35	50	176	132	5.197	128	5.039	1.0	0.87	33.7
	33.0	1.299	C5	**880-D3300C5-04**	35	50	181	136	5.354	132	5.197	1.1	0.75	34.5
	34.0	1.339	C5	**880-D3400C5-04**	35	50	185	140	5.512	136	5.354	1.1	0.62	35.2
	35.0	1.378	C5	**880-D3500C5-04**	35	50	190	144	5.669	140	5.512	1.2	0.50	36.0
07	36.0	1.417	C5	**880-D3600C5-04**	35	50	195	148	5.827	144	5.669	1.2	1.38	38.8
	37.0	1.457	C5	**880-D3700C5-04**	35	50	199	152	5.984	148	5.827	1.3	1.25	39.5
	38.0	1.496	C5	**880-D3800C5-04**	35	50	204	156	6.142	152	5.984	1.4	1.13	40.2
	39.0	1.535	C5	**880-D3900C5-04**	35	50	208	160	6.299	156	6.142	1.4	1.00	41.0
	40.0	1.575	C5	**880-D4000C5-04**	35	50	213	164	6.457	160	6.299	1.5	0.88	41.8
	41.0	1.614	C5	**880-D4100C5-04**	35	50	218	168	6.614	164	6.457	1.6	0.75	42.5
	42.0	1.654	C5	**880-D4200C5-04**	35	50	228	172	6.772	168	6.614	1.8	0.63	43.2
	43.0	1.693	C5	**880-D4300C5-04**	35	50	233	176	6.929	172	6.772	1.9	0.50	44.0

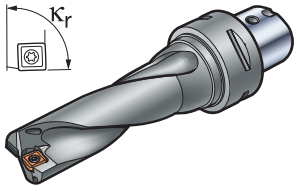
E113 E5 E111 E156 G6 E2 J4 J3

SANDVIK Coromant

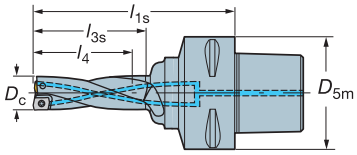
CoroDrill® 880 4 x D_c

Drill diameter 12.00 - 43.00 mm (.472 - 1.693 inch)

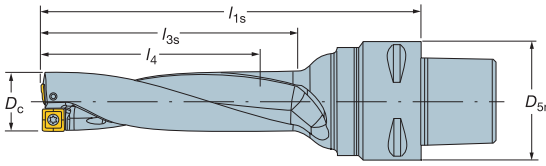
Coromant Capto®



D_c 12.00 - 13.99 mm (.472 - .550 inch) κ_r 79°



D_c 14.00 - 43.00 mm (.551 - 1.693 inch) κ_r 88°

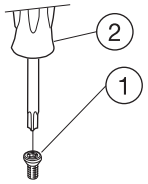


Hole tolerance	0/+0.40 mm (+.016 inch)
Tolerance, D_c	+0.04/+0.24 mm (+.0016/+.009 inch)
Max hole depth, l_4	4 × D_c

l_{1s} = programming length

Drill dia.					Dimensions, millimeter, inch (mm, in.)								Radial adjustment	
□	D_c mm	D_c inch	Coupling size	**Ordering code**	dm_m	D_{5m} mm	l_{1s} mm	l_{3s} mm	l_{3s} in.	l_4 mm	l_4 in.	kg		D_c Max
01	12.0	.472	C6	880-D1200C6-04	44	63	85	51	2.008	48	1.890	0.9	0.25	12.5
	12.5	.492	C6	880-D1250C6-04	44	63	88	53	2.087	50	1.968	0.9	0.25	13.0
	12.7	.500	C6	880-D1270C6-04	44	63	88	53	2.087	51	2.008	0.9	0.25	13.2
	13.0	.512	C6	880-D1300C6-04	44	63	90	55	2.165	52	2.047	0.9	0.25	13.5
	13.5	.532	C6	880-D1350C6-04	44	63	92	57	2.244	54	2.126	0.9	0.25	14.0
02	14.0	.551	C6	880-D1400C6-04	44	63	94	59	2.323	56	2.205	0.9	0.50	15.0
	14.5	.571	C6	880-D1450C6-04	44	63	97	61	2.402	58	2.284	0.9	0.45	15.4
	15.0	.591	C6	880-D1500C6-04	44	63	99	63	2.480	60	2.362	0.9	0.40	15.8
	15.5	.610	C6	880-D1550C6-04	44	63	101	65	2.559	62	2.441	0.9	0.30	16.1
	16.0	.630	C6	880-D1600C6-04	44	63	104	67	2.638	64	2.520	0.9	0.30	16.6
03	16.5	.650	C6	880-D1650C6-04	44	63	106	69	2.716	66	2.598	0.9	0.60	17.7
	17.0	.669	C6	880-D1700C6-04	44	63	108	71	2.795	68	2.677	1.0	0.60	18.2
	17.5	.689	C6	880-D1750C6-04	44	63	111	73	2.874	70	2.756	1.0	0.50	18.5
	18.0	.709	C6	880-D1800C6-04	44	63	113	75	2.953	72	2.835	1.0	0.40	18.8
	18.5	.728	C6	880-D1850C6-04	44	63	115	77	3.032	74	2.913	1.0	0.40	19.3
	19.0	.748	C6	880-D1900C6-04	44	63	117	79	3.110	76	2.992	1.0	0.30	19.6
	19.5	.768	C6	880-D1950C6-04	44	63	121	82	3.228	78	3.071	1.0	0.30	20.1
04	20.0	.787	C6	880-D2000C6-04	44	63	123	84	3.307	80	3.150	1.0	0.90	21.8
	21.0	.827	C6	880-D2100C6-04	44	63	127	87	3.425	84	3.307	1.0	0.80	22.6
	22.0	.866	C6	880-D2200C6-04	44	63	131	91	3.583	88	3.465	1.0	0.60	23.2
	23.0	.906	C6	880-D2300C6-04	44	63	136	95	3.740	92	3.622	1.1	0.50	24.0
05	24.0	.945	C6	880-D2400C6-04	44	63	141	100	3.937	96	3.780	1.1	1.10	26.2
	25.0	.984	C6	880-D2500C6-04	44	63	146	104	4.094	100	3.937	1.1	1.00	27.0
	26.0	1.024	C6	880-D2600C6-04	44	63	150	107	4.213	104	4.094	1.2	0.90	27.8
	27.0	1.063	C6	880-D2700C6-04	44	63	154	111	4.370	108	4.252	1.2	0.70	28.4
	28.0	1.102	C6	880-D2800C6-04	44	63	159	115	4.528	112	4.409	1.2	0.60	29.2
	29.0	1.142	C6	880-D2900C6-04	44	63	163	119	4.685	116	4.567	1.3	0.50	30.0
06	30.0	1.181	C6	880-D3000C6-04	44	63	169	124	4.882	120	4.724	1.3	1.12	32.2
	31.0	1.220	C6	880-D3100C6-04	44	63	174	128	5.039	124	4.882	1.4	0.99	33.0
	32.0	1.260	C6	880-D3200C6-04	44	63	178	132	5.197	128	5.039	1.4	0.87	33.7
	33.0	1.299	C6	880-D3300C6-04	44	63	183	136	5.354	132	5.197	1.5	0.75	34.5
	34.0	1.339	C6	880-D3400C6-04	44	63	187	140	5.512	136	5.354	1.5	0.62	35.2
	35.0	1.378	C6	880-D3500C6-04	44	63	192	144	5.669	140	5.512	1.6	0.50	36.0
07	36.0	1.417	C6	880-D3600C6-04	44	63	197	148	5.827	144	5.669	1.6	1.38	38.8
	37.0	1.457	C6	880-D3700C6-04	44	63	201	152	5.984	148	5.827	1.7	1.25	39.5
	38.0	1.496	C6	880-D3800C6-04	44	63	206	156	6.142	152	5.984	1.8	1.13	40.2
	39.0	1.535	C6	880-D3900C6-04	44	63	210	160	6.299	156	6.142	1.8	1.00	41.0
	40.0	1.575	C6	880-D4000C6-04	44	63	215	164	6.457	160	6.299	1.9	0.88	41.8
	41.0	1.614	C6	880-D4100C6-04	44	63	220	168	6.614	164	6.457	2.0	0.75	42.5
	42.0	1.654	C6	880-D4200C6-04	44	63	224	172	6.772	168	6.614	2.1	0.63	43.2
	43.0	1.693	C6	880-D4300C6-04	44	63	229	176	6.929	172	6.772	2.2	0.50	44.0

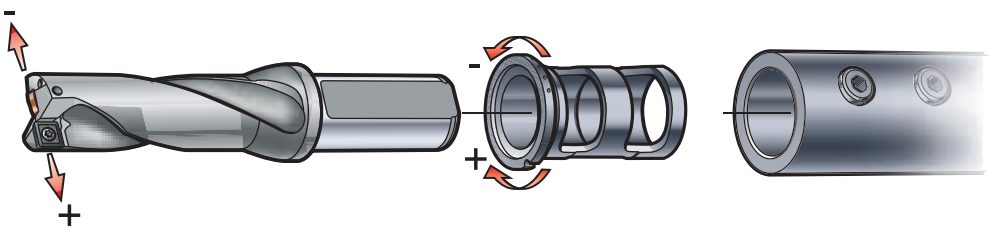
Spare parts for CoroDrill® 880



Insert size	1	2	
	Insert screw	Screwdriver (Torx Plus)	Torque value Nm (in-lbs)
880-01	5513 020-28	5680 046-08 (6IP)	0.6 (5)
880-02	5513 020-28	5680 046-08 (6IP)	0.6 (5)
880-03	5513 020-33	5680 046-03 (7IP)	0.8 (7)
880-04	5513 020-58	5680 046-03 (7IP)	0.8 (7)
880-05	5513 020-57	5680 046-04 (9IP)	1.4 (12)
880-06	416.1-833	5680 046-05 (10IP)	2.0 (18)
880-07	416.1-833	5680 046-05 (10IP)	2.0 (18)
880-08	416.1-834	5680 046-02 (15IP)	3.0 (26)
880-09	416.1-834	5680 046-02 (15IP)	3.0 (26)

E113 E5 E156 G6 E2 J4 J3

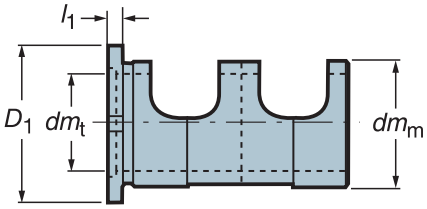
Eccentric sleeve for CoroDrill® 880



Simple and easy to use, our new versatile adjustable sleeve fits all ISO shank 9766 holders with screw clamping. By adjusting the eccentric sleeve +/-0.3 mm (+/-.012 inch) the drill diameter can be adjusted for closer hole tolerances. From nominal diameter adjust max -0.10 mm (.004 inch). Note the total tool length will be 2.5 - 3.5 mm (.098 - .128 inch) longer when using the sleeve.

Also fits Coromant U drills

For drill diameter 12 – 63 mm (.472 - 2.480 inch)

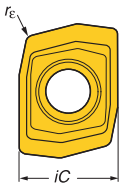


Drill diameter		Ordering code	Dimensions, millimeter, inch (mm, in.)							
D_c mm	D_c inch		D_1 mm	D_1 in.	dm_m mm	dm_m in.	dm_t mm	dm_t in.	l_1 mm	l_1 in.
12-17.49	.472 - .689	**416.2-L20-25**	33	1.299	25	.984	20	.787	5	.197
17.5-25.99	.690 - 1.023	**416.2-L25-32**	40	1.575	32	1.260	25	.984	5	.197
26.0-30.99	1.024 - 1.220	**416.2-L32-40**	50	1.969	40	1.575	32	1.260	5	.197
31.0-63	1.220 - 2.480	**416.2-L40-50**	60	2.362	50	1.969	40	1.575	5	.197

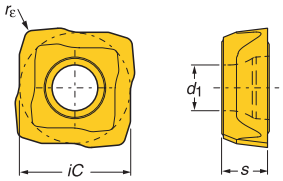
Inserts for CoroDrill® 880

Drill diameter 12.00 - 63.00 mm (.472 - 2.500 inch)

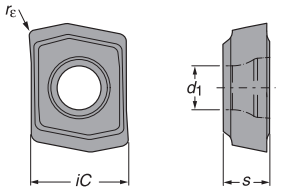
Central insert
Size 01



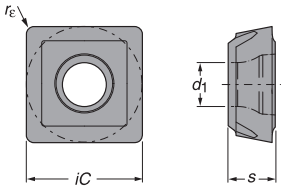
Size 02-09



Peripheral insert
Size 01



Size 02-09



	□	Ordering code	Insert position	P					M						K						N			S					H			Dimensions, millimeter, inch (mm, in.)	
				GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	-	GC	GC	GC	GC	-	GC	GC	GC		
				1044	4014	4024	4034	4044	1044	1144	2044	4024	4034	4044	1044	4014	4024	4034	4044	1044	4044	H13A	1044	1144	2044	4044	H13A	1044	4024	4044	r_ε mm	r_ε in.
Medium feed	01	880-01 02 03H-C-LM	⊙	★					★						☆					★			★					☆			0.3	.012
		880-01 02 W04H-P-LM	◔			☆	☆	★				☆	☆	★			☆	☆	☆		★					★				☆	☆	0.4	.016
	02	880-02 02 04H-C-GM	⊙	☆					☆						☆					☆			☆					★			0.4	.016
		880-02 02 04H-C-LM	⊙	★					☆	★					☆					★			★	☆				☆			0.4	.016
		880-02 02 W04H-P-GM	◔			☆		☆				☆		☆			☆		☆		☆					☆				☆	★	0.4	.016
		880-02 02 W05H-P-GT	◔			☆	☆	☆				☆	☆	☆			☆	☆	☆		☆					☆				☆	☆	0.5	.020
		880-02 02 W05H-P-LM	◔			☆	☆	★				☆	☆	☆			☆	☆	☆		★					★				☆	☆	0.5	.020
		880-02 02 W05H-P-MS	◔								★														☆							0.5	.020
	03	880-03 03 05H-C-GM	⊙	☆					☆						☆					☆			☆					★			0.5	.020
		880-03 03 05H-C-LM	⊙	★					☆	★					☆					☆	★		☆	☆			★	☆			0.5	.020
		880-03 03 W05H-P-GM	◔		☆	☆		☆				☆		☆		☆	☆		☆		☆					☆				☆	★	0.5	.020
		880-03 03 W06H-P-GT	◔			☆	☆	☆				☆	☆	☆			☆	☆	☆		☆					☆				☆	☆	0.6	.024
		880-03 03 W06H-P-LM	◔		☆	☆	☆	★				☆	☆	☆		☆	☆	☆	☆		☆	★					☆	★			☆	☆	0.6	.024
		880-03 03 W06H-P-MS	◔								★														☆							0.6	.024
	04	880-04 03 05H-C-GM	⊙	☆					☆						☆					☆			☆					★			0.5	.020
		880-04 03 05H-C-LM	⊙	★					☆	★					☆					☆	★		☆	☆			★	☆			0.5	.020
		880-04 03 W05H-P-GM	◔		☆	☆		☆				☆		☆		☆	☆		☆		☆					☆				☆	★	0.5	.020
		880-04 03 W07H-P-GT	◔			☆	☆	☆				☆	☆	☆			☆	☆	☆		☆					☆				☆	☆	0.7	.028
		880-04 03 W07H-P-LM	◔		☆	★	☆	☆				☆	☆	☆		☆	☆	☆	☆		☆	★					☆	★			☆	☆	0.7	.028
		880-04 03 W07H-P-MS	◔								★														☆							0.7	.028
	05	880-05 03 05H-C-GM	⊙	☆					☆						☆					☆			☆					★			0.5	.020
		880-05 03 05H-C-LM	⊙	★					☆	★					☆					☆	★		☆	☆			★	☆			0.5	.020
		880-05 03 W05H-P-GM	◔		☆	☆		☆				☆		☆		☆	☆		☆		☆					☆				☆	★	0.5	.020
		880-05 03 W08H-P-GT	◔			☆	☆	☆				☆	☆	☆			☆	☆	☆		☆					☆				☆	☆	0.8	.032
		880-05 03 W08H-P-LM	◔		☆	★	☆	☆				☆	☆	☆		☆	☆	☆	☆		☆	★					☆	★			☆	☆	0.8	.032
		880-05 03 W08H-P-MS	◔								★														☆							0.8	.032
	06	880-06 04 06H-C-GM	⊙	☆					☆						☆					☆			☆					★			0.6	.024
		880-06 04 06H-C-LM	⊙	★					☆	★					☆					☆	★		☆	☆			★	☆			0.6	.024
		880-06 04 W06H-P-GM	◔		☆	☆		☆				☆		☆		☆	☆		☆		☆					☆				☆	★	0.6	.024
		880-06 04 W08H-P-LM	◔		☆	★		☆				☆		☆		☆	☆		☆		☆	★					☆	★			☆	☆	0.8	.032
		880-06 04 W08H-P-MS	◔								★														☆							0.8	.032
	07	880-07 04 06H-C-GM	⊙	☆					☆						☆					☆			☆					★			0.6	.024
		880-07 04 06H-C-LM	⊙	★					★						☆					☆	★		☆				★	☆			0.6	.024
		880-07 04 W06H-P-GM	◔		☆	☆		☆				☆		☆		☆	☆		☆		☆					☆				☆	★	0.6	.024
		880-07 04 W10H-P-LM	◔		☆	★		☆				★		☆		☆	☆		☆		☆	★					☆	★			☆	☆	1.0	.039
	08	880-08 05 08H-C-GM	⊙	☆					☆						☆					☆			☆					★			0.8	.032
		880-08 05 08H-C-LM	⊙	★					★						☆					☆	★		☆				★	☆			0.8	.032
		880-08 05 W08H-P-GM	◔		☆	☆		☆				☆		☆		☆	☆		☆		☆					☆				☆	★	0.8	.032
		880-08 05 W10H-P-LM	◔		☆	★		☆				★		☆		☆	☆		☆		☆	★					☆	★			☆	☆	1.0	.039
	09	880-09 06 08H-C-GM	⊙	☆					☆						☆					☆			☆					★			0.8	.032
		880-09 06 08H-C-LM	⊙	★					★						☆					☆	★		☆				★	☆			0.8	.032
		880-09 06 W08H-P-GM	◔		☆	☆		☆				☆		☆		☆	☆		☆		☆					☆				☆	★	0.8	.032
		880-09 06 W10H-P-LM	◔		☆	★		☆				★		☆		☆	☆		☆		☆	★					☆	★			☆	☆	1.0	.039
				P40	P15	P20	P30	P40	M35	M35	M35	M20	M30	M35	K25	K15	K20	K20	K25	N20	N20	N20	S30	S35	S30	S30	S20	H20	H15	H20		

⊙ = Central insert
◔ = Peripheral insert

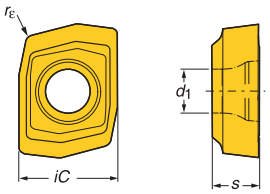
★= First choice

E156

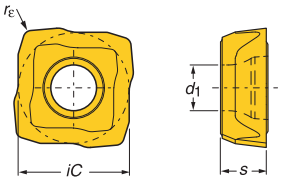
Inserts for CoroDrill® 880

Drill diameter 12.00 - 63.00 mm (.472 - 2.500 inch)

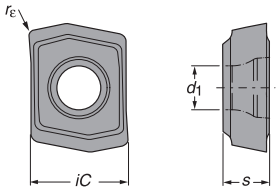
Central insert
Size 01



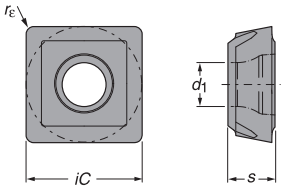
Size 02-09



Peripheral insert
Size 01



Size 02-09



	□	Ordering code	Insert position	P					M						K					N			S					H			Dimensions, millimeter, inch (mm, in.)	
				GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	-	GC	GC	GC	GC	-	GC	GC	GC		
				1044	4014	4024	4034	4044	1044	1144	2044	4024	4034	4044	1044	4014	4024	4034	4044	1044	4044	H13A	1044	1144	2044	4044	H13A	1044	4024	4044	r_ε mm	r_ε in.
High feed	01	880-01 02 03H-C-GR	⊙	★					☆						★					☆			☆					★			0.3	.012
		880-01 02 W04H-P-GR	◑			☆	☆	★				☆	☆	☆			☆	☆	★		☆					☆				☆	★	0.4	.016
	02	880-02 02 04H-C-GR	⊙	★					☆						★					☆			☆					☆			0.4	.016
		880-02 02 W05H-P-GR	◑				☆	★					☆	☆				☆	★		☆					☆					☆	0.5	.020
	03	880-03 03 05H-C-GR	⊙	★					☆						★					☆			☆					☆			0.5	.020
		880-03 03 W06H-P-GR	◑				☆	★					☆	☆				☆	★		☆					☆					☆	0.6	.024
	04	880-04 03 05H-C-GR	⊙	★					☆						★					☆			☆					☆			0.5	.020
		880-04 03 W07H-P-GR	◑			★	☆	☆				☆	☆	☆			★	☆	☆		☆					☆				☆	☆	0.7	.028
	05	880-05 03 05H-C-GR	⊙	★					☆						★					☆			☆					☆			0.5	.020
		880-05 03 W08H-P-GR	◑			★	☆	☆				☆	☆	☆			★	☆	☆		☆					☆				☆	☆	0.8	.032
	06	880-06 04 06H-C-GR	⊙	★					☆						★					☆			☆					☆			0.6	.024
		880-06 04 W10H-P-GR	◑			★		☆				☆		☆			★		☆		☆					☆				☆	☆	1.0	.039
	07	880-07 04 06H-C-GR	⊙	★					☆						★					☆			☆					☆			0.6	.024
		880-07 04 W12H-P-GR	◑			★		☆				☆		☆			★		☆		☆					☆				☆	☆	1.2	.047
	08	880-08 05 08H-C-GR	⊙	★					☆						★					☆			☆					☆			0.8	.032
		880-08 05 W12H-P-GR	◑			★		☆				☆		☆			★		☆		☆					☆				☆	☆	1.2	.047
	09	880-09 06 08H-C-GR	⊙	★					☆						★					☆			☆					☆			0.8	.032
		880-09 06 W12H-P-GR	◑			★		☆				☆		☆			★		☆		☆					☆				☆	☆	1.2	.047
				P40	P15	P20	P30	P40	M35	M35	M35	M20	M30	M35	K25	K15	K20	K20	K25	N20	N20	N20	S30	S35	S30	S30	S20	H20	H15	H20		

⊙ = Central insert
◑ = Peripheral insert

★= First choice

Insert size	Dimensions D_c mm	D_c inch	iC mm	iC inch	s mm	s inch	D_1 mm	D_1 inch
880-01…C	12.00-13.99	.472-.550	4.8	.189	2.2	.087	2.2	.087
880-01…P			4.8	.189				
880-02…C	14.00-16.49	.551-.649	4.9	.193	2.4	.094	2.2	.087
880-02…P			5.1	.201				
880-03…C	16.50-19.99	.650-.786	5.7	.224	2.6	.102	2.5	.098
880-03…P			6.0	.236				
880-04…C	20.00-23.99	.787-.944	6.8	.268	2.8	.110	2.5	.098
880-04…P			7.4	.291			2.8	.110
880-05…C	24.00-29.99	.945-1.181	8.4	.331	3.0	.118	3.2	.120
880-05…P			8.9	.350				
880-06…C	30.00-35.99	1.182-1.416	10.2	.402	3.5	.138	4.0	.157
880-06…P			10.6	.419				
880-07…C	36.00-43.99	1.417-1.731	12.4	.486	4.0	.157	4.0	.157
880-07…P			12.6	.498				
880-08…C	44.00-52.99	1.732-2.086	14.8	.585	4.5	.177	4.7	.185
880-08…P			15.4	.608				
880-09…C	53.00-63.50	2.087-2.500	17.9	.705	5.5	.216	4.7	.185
880-09…P			18.6	.732				

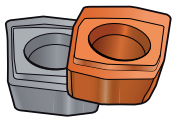
E156

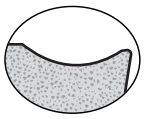
SANDVIK Coromant

CoroDrill® 880

Insert geometries

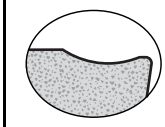
D_c 12.00 - 13.99 mm (.472 - .550 inch)





-LM

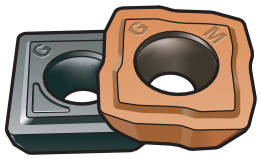
P M N S

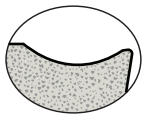


-GR

P M K N S H

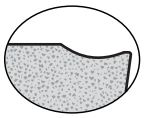
D_c 14.00 - 63.00 mm (.550 - 2.500 inch)





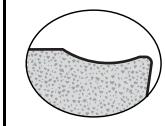
-LM **-MS**

P M N S M S



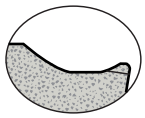
-GM

P M K N S H



-GR

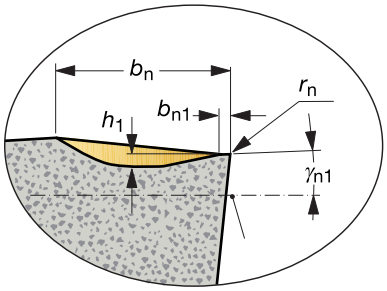
P K



-GT

P M K N S H

Characteristics



-LM	-MS	-GM	-GR	-GT
- Low to medium feed - Light cutting - Excellent chip control in long-chipping materials - LM - first choice for long-chipping materials - MS - sharp edge geometry optimized for stainless steel		- Low to medium feed - Light cutting - Excellent chip control in feed area - Low deflection	- Low to high feed - Strong reinforced edge - Good chip control in high feeds	- Low to high feed - Very strong reinforced edge - Good chip control in most materials - First choice for unstable conditions and interrupted cuts

Features		-LM	-MS	-GM	-GR	-GT
Corner radius (peripheral insert)	r_e	Large	Large	Medium	Large	Large
Chipbreaker length	b_h	Long	Long	Short	Medium	Medium
Chipbreaker depth	h_1	Deep	Deep	Medium	Medium	Medium
Primary land width	b_{h1}	Long	Long	Short	Medium	Medium/Long
Primary land angle	γ_{n1}	Positive	Positive	Neutral	Neutral	Neutral
Edge radius	r_n	Medium	Small	Small	Large	Medium

		Light	First choice	Tough
P	Low carbon High carbon	GM GM	LM GR	GT*
M		GM	LM/MS***	GT*
K		GM	GR	GT*
N		GM	LM	GT*
S		GM	LM	GT*
H		GM	GM**	GT*

* Note: -GT geometry is available in insert sizes 02-05. Drills outside these sizes (01, 06, 07, 08 & 09) should choose -GR geometry for the highest demands on edge toughness.

** Note: For insert size 01 the first choice is -GR geometry.

*** MS geometry available in peripheral insert sizes 02-06.

Definitions

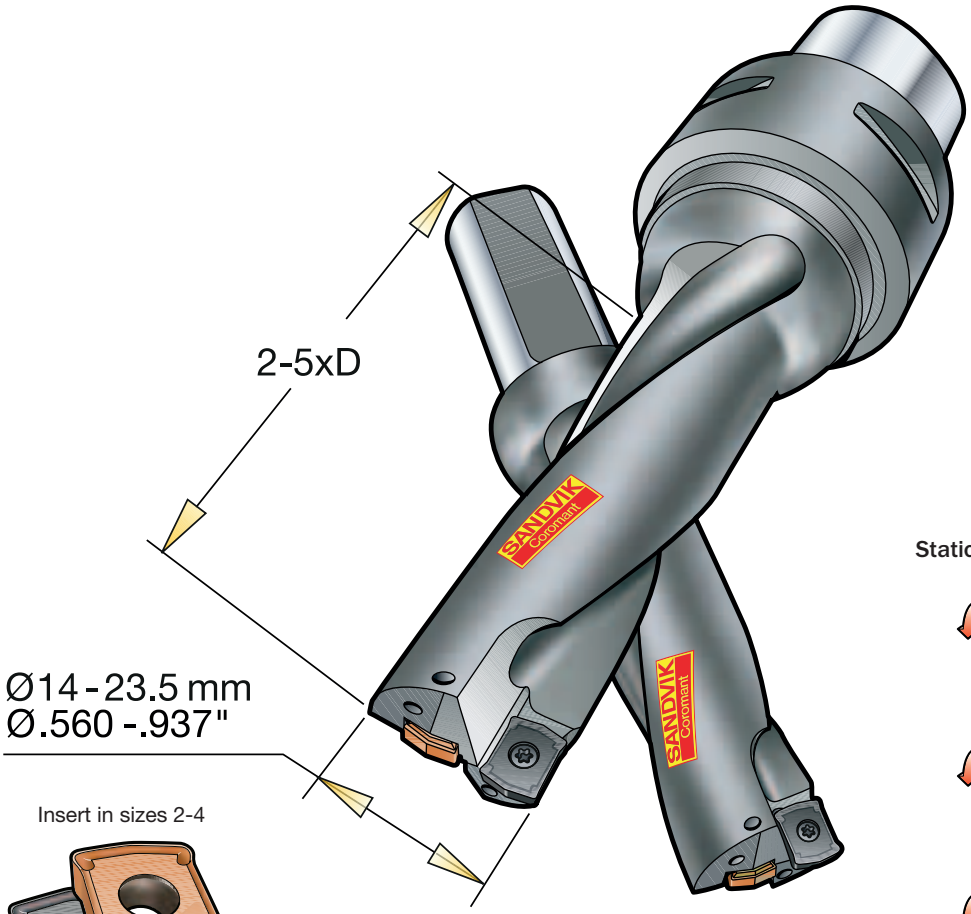
Light
- Low feed rates
- Applications requiring low cutting forces, e.g. with long drill, 4-5 x D_c

Tough
- unstable conditions and interrupted cuts

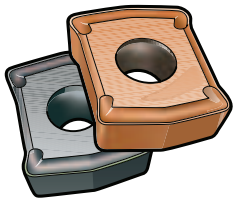
CoroDrill® 881

Indexable insert drill

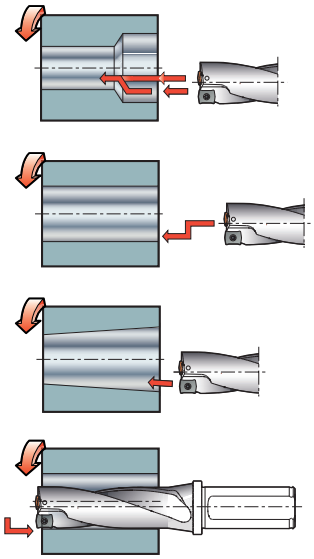
Problem solver in unstable conditions



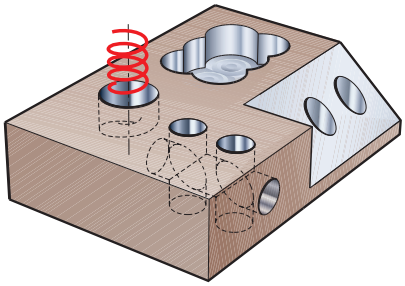
Insert in sizes 2-4



Stationary drill



Rotating drill



ISO application areas:

P M K N S H

Tailor Made

Tool options designed to individual customer requirements are available. For information on our Tailor Made programme see page J4.

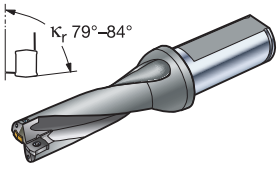
SANDVIK Coromant

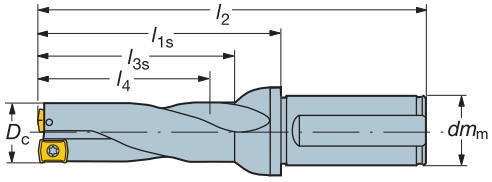
CoroDrill® 881 2 – 3 x D_c

Drill diameter 14.00 - 23.50 mm (.562 - .937 inch)

Cylindrical shank

Flat according to ISO 9766





l_{1s} = programming length

Metric design

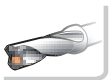
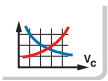
Hole tolerance	-0.1/+0.3 mm (-.004/+.008 inch)
Tolerance, D_c mm	±0.15 mm (±.006 inch)
Max hole depth, l_4	2 – 3 x D_c

2 x D_c

	Drill dia.		Dimensions, mm						Radial adjustment	
	D_c mm	**Ordering code**	dm_m	l_{1s}	l_2	l_{3s}	l_4	kg		D_c Max
02	14.0	**881-D1400L20-02**	20	44	95	31	28	0.2	1.00	16.0
	14.5	**881-D1450L20-02**	20	46	96	32	29	0.2	0.90	16.3
	15.0	**881-D1500L20-02**	20	47	97	33	30	0.2	0.85	16.7
	15.5	**881-D1550L20-02**	20	49	99	35	31	0.2	0.75	17.0
	16.0	**881-D1600L20-02**	20	51	101	36	32	0.2	0.70	17.4
	16.5	**881-D1650L20-02**	20	52	102	37	33	0.2	0.60	17.7
	17.0	**881-D1700L20-02**	20	53	103	38	34	0.2	0.50	18.0
03	17.5	**881-D1750L25-02**	25	55	111	39	35	0.3	1.00	19.5
	18.0	**881-D1800L25-02**	25	56	112	40	36	0.3	0.90	19.8
	18.5	**881-D1850L25-02**	25	57	113	41	37	0.3	0.85	20.2
	19.0	**881-D1900L25-02**	25	58	114	42	38	0.3	0.80	20.6
	19.5	**881-D1950L25-02**	25	60	116	43	39	0.3	0.75	21.0
	20.0	**881-D2000L25-02**	25	61	117	44	40	0.3	0.75	21.5
04	21.0	**881-D2100L25-02**	25	64	120	46	42	0.3	1.50	24.0
	22.0	**881-D2200L25-02**	25	66	122	48	44	0.3	1.25	24.5
	23.0	**881-D2300L25-02**	25	69	125	50	46	0.3	1.00	25.0

3 x D_c

	Drill dia.		Dimensions, mm						Radial adjustment	
	D_c mm	**Ordering code**	dm_m	l_{1s}	l_2	l_{3s}	l_4	kg		D_c Max
02	14.0	**881-D1400L20-03**	20	58	108	45	42	0.2	1.00	16.0
	14.5	**881-D1450L20-03**	20	60	110	46	44	0.2	0.90	16.3
	15.0	**881-D1500L20-03**	20	62	112	48	45	0.2	0.85	16.7
	15.5	**881-D1550L20-03**	20	64	114	50	47	0.2	0.75	17.0
	16.0	**881-D1600L20-03**	20	66	116	51	48	0.2	0.70	17.4
	16.5	**881-D1650L20-03**	20	68	118	53	50	0.2	0.60	17.7
	17.0	**881-D1700L20-03**	20	69	119	54	51	0.2	0.50	18.0
03	17.5	**881-D1750L25-03**	25	72	128	56	53	0.3	1.00	19.5
	18.0	**881-D1800L25-03**	25	73	129	57	54	0.3	0.90	19.8
	18.5	**881-D1850L25-03**	25	75	131	60	56	0.3	0.85	20.2
	19.0	**881-D1900L25-03**	25	76	132	60	57	0.3	0.80	20.6
	19.5	**881-D1950L25-03**	25	79	135	62	59	0.3	0.75	21.0
	20.0	**881-D2000L25-03**	25	81	137	64	60	0.3	0.75	21.5
	20.5	**881-D2050L25-03**	25	83	139	66	62	0.3	0.70	21.9
04	21.0	**881-D2100L25-03**	25	84	140	66	63	0.3	1.50	24.0
	21.5	**881-D2150L25-03**	25	86	140	68	65	0.3	1.30	24.1
	22.0	**881-D2200L25-03**	25	87	143	69	66	0.3	1.25	24.5
	22.5	**881-D2250L25-03**	25	90	146	71	68	0.3	1.10	24.7
	23.0	**881-D2300L25-03**	25	91	147	72	69	0.3	1.00	25.0
	23.5	**881-D2350L25-03**	25	93	149	74	71	0.3	0.70	24.9

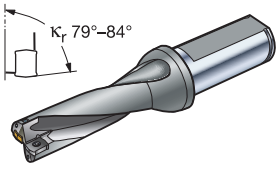
 E123
 E176
 E111
 E166
 G6
 E2
 J4

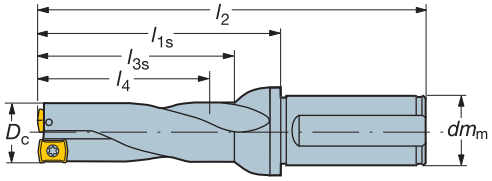
CoroDrill® 881 4 – 5 x D_c

Drill diameter 14.00 - 23.50 mm (.562 - .937 inch)

Cylindrical shank

Flat according to ISO 9766





l_{1s} = programming length

Metric design

Hole tolerance	-0.1/+0.4 mm (-.004/+.016 inch)
Tolerance, D_c mm	±0.2 mm (±.008 inch)
Max hole depth, l_4	4 – 5 × D_c

4 x D_c

	Drill dia.		Dimensions, mm						Radial adjustment	
	D_c mm	**Ordering code**	dm_m	l_{1s}	l_2	l_{3s}	l_4	kg		D_c Max
02	14.0	**881-D1400L20-04**	20	72	122	59	56	0.2	1.00	16.0
	14.5	**881-D1450L20-04**	20	75	125	61	58	0.2	0.90	16.3
	15.0	**881-D1500L20-04**	20	77	127	63	60	0.2	0.85	16.7
	15.5	**881-D1550L20-04**	20	79	129	65	62	0.2	0.75	17.0
	16.0	**881-D1600L20-04**	20	82	132	67	64	0.2	0.70	17.4
	16.5	**881-D1650L20-04**	20	84	134	69	66	0.2	0.60	17.7
	17.0	**881-D1700L20-04**	20	86	136	71	68	0.2	0.50	18.0
03	17.5	**881-D1750L25-04**	25	89	145	73	70	0.3	1.00	19.5
	18.0	**881-D1800L25-04**	25	91	147	75	72	0.3	0.90	19.8
	18.5	**881-D1850L25-04**	25	93	149	77	74	0.3	0.85	20.2
	19.0	**881-D1900L25-04**	25	95	151	79	76	0.3	0.80	20.6
	19.5	**881-D1950L25-04**	25	99	155	82	78	0.3	0.75	21.0
	20.0	**881-D2000L25-04**	25	101	157	84	80	0.3	0.75	21.5
04	21.0	**881-D2100L25-04**	25	105	161	87	84	0.3	1.50	24.0
	22.0	**881-D2200L25-04**	25	109	165	91	88	0.3	1.25	24.5
	23.0	**881-D2300L25-04**	25	113	170	95	92	0.3	1.00	25.0

5 × D_c

	Drill dia.		Dimensions, mm						Radial adjustment	
	D_c mm	**Ordering code**	dm_m	l_{1s}	l_2	l_{3s}	l_4	kg		D_c Max
02	14.0	**881-D1400L20-05**	20	86	122	73	70	0.2	1.00	16.0
	14.5	**881-D1450L20-05**	20	89	125	75	72	0.2	0.90	16.3
	15.0	**881-D1500L20-05**	20	92	142	78	75	0.2	0.85	16.7
	15.5	**881-D1550L20-05**	20	95	145	81	78	0.2	0.75	17.0
	16.0	**881-D1600L20-05**	20	98	148	83	80	0.2	0.70	17.4
	16.5	**881-D1650L20-05**	20	101	151	86	83	0.2	0.60	17.7
	17.0	**881-D1700L20-05**	20	103	153	88	85	0.2	0.50	18.0
03	17.5	**881-D1750L25-05**	25	107	163	91	88	0.3	1.00	19.5
	18.0	**881-D1800L25-05**	25	109	165	93	90	0.3	0.90	19.8
	18.5	**881-D1850L25-05**	25	112	168	96	93	0.3	0.85	20.2
	19.0	**881-D1900L25-05**	25	114	170	98	95	0.3	0.80	20.6
	19.5	**881-D1950L25-05**	25	118	174	101	97	0.3	0.75	21.0
	20.0	**881-D2000L25-05**	25	121	177	104	100	0.3	0.75	21.5
04	21.0	**881-D2100L25-05**	25	126	182	108	105	0.3	1.50	24.0
	22.0	**881-D2200L25-05**	25	131	187	113	110	0.3	1.25	24.5
	23.0	**881-D2300L25-05**	25	138	194	119	116	0.3	1.00	25.0

E123 E2 E111 E166 G6 E2 J4

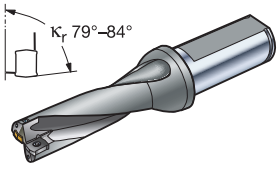
SANDVIK Coromant

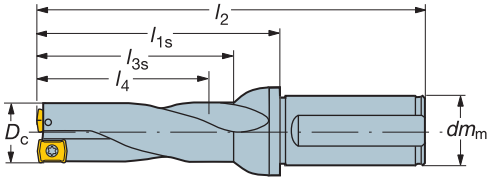
CoroDrill® 881 2 – 5 x D_c

Drill diameter .562 - .937 inch

Cylindrical shank

Flat according to ISO 9766





l_{1s} = programming length

	Hole tolerance	-.004/+.008 inch	-.004/+.016 inch
	Tolerance, D_c inch	±.006 inch	±.008 inch
Inch design	Max hole depth, l_4	2 – 3 x D_c	4 – 5 × D_c

2 x D_c

	Drill dia.		Dimensions, inch						Radial adjustment (+)	
	D_c inch	**Ordering code**	dm_m	l_{1s}	l_2	l_{3s}	l_4	Lbs		D_c Max
02	.562	**A881-D0562LX19-02**	.750	1.788	3.756	1.237	1.124	.9	.035	.632
	.625	**A881-D0625LX19-02**	.750	1.965	3.933	1.375	1.250	.9	.027	.679
	.656	**A881-D0656LX19-02**	.750	2.034	4.004	1.444	1.312	.9	.023	.702
03	.687	**A881-D0687LX25-02**	1.000	2.088	4.291	1.498	1.374	1.5	.039	.765
	.750	**A881-D0750LX25-02**	1.000	2.304	4.508	1.635	1.500	1.5	.031	.812
	.812	**A881-D0812LX25-02**	1.000	2.440	4.646	1.771	1.624	1.5	.029	.870
04	.875	**A881-D0875LX25-02**	1.000	2.630	4.835	1.882	1.750	1.5	.047	.969
	.937	**A881-D0937LX25-02**	1.000	2.763	4.968	2.015	1.874	1.5	.029	.995

3 x D_c

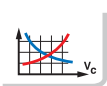
	Drill dia.		Dimensions, inch						Radial adjustment (+)	
	D_c inch	**Ordering code**	dm_m	l_{1s}	l_2	l_{3s}	l_4	Lbs		D_c Max
02	.562	**A881-D0562LX19-03**	.750	2.204	4.331	1.811	1.686	.9	.035	.632
	.625	**A881-D0625LX19-03**	.750	2.598	4.567	2.008	1.875	.9	.027	.679
	.656	**A881-D0656LX19-03**	.750	2.716	4.685	2.126	1.968	.9	.023	.702
03	.687	**A881-D0687LX25-03**	1.000	2.795	5.000	2.205	2.061	1.5	.039	.765
	.750	**A881-D0750LX25-03**	1.000	3.071	5.276	2.402	2.250	1.5	.031	.812
	.812	**A881-D0812LX25-03**	1.000	3.267	5.472	2.598	2.436	1.5	.029	.870
04	.875	**A881-D0875LX25-03**	1.000	3.504	5.709	2.756	2.625	1.5	.047	.969
	.937	**A881-D0937LX25-03**	1.000	3.701	5.906	2.953	2.811	1.5	.029	.995

4 x D_c

	Drill dia.		Dimensions, inch						Radial adjustment (+)	
	D_c inch	**Ordering code**	dm_m	l_{1s}	l_2	l_{3s}	l_4	Lbs		D_c Max
02	.562	**A881-D0562LX19-04**	.750	2.913	4.882	2.362	2.248	.9	.035	.632
	.625	**A881-D0625LX19-04**	.750	3.228	5.197	2.638	2.500	.9	.027	.679
	.656	**A881-D0656LX19-04**	.750	3.346	5.315	2.756	2.624	.9	.023	.702
03	.687	**A881-D0687LX25-04**	1.000	3.464	5.669	2.874	2.748	1.5	.039	.765
	.750	**A881-D0750LX25-04**	1.000	3.818	6.024	3.149	3.000	1.5	.031	.812
	.812	**A881-D0812LX25-04**	1.000	4.054	6.260	3.385	3.248	2.0	.029	.870
04	.875	**A881-D0875LX25-04**	1.000	4.370	6.575	3.622	3.500	2.0	.047	.969
	.937	**A881-D0937LX25-04**	1.000	4.606	6.811	3.858	3.748	2.0	.029	.995

5 × D_c

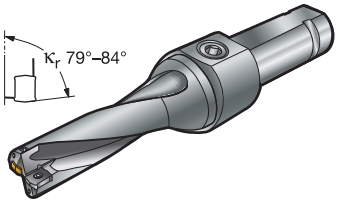
	Drill dia.		Dimensions, inch						Radial adjustment (+)	
	D_c inch	**Ordering code**	dm_m	l_{1s}	l_2	l_{3s}	l_4	Lbs		D_c Max
02	.562	**A881-D0562LX19-05**	.750	3.473	5.441	2.922	2.810	.9	.035	.632
	.625	**A881-D0625LX19-05**	.750	3.840	5.807	3.250	3.125	.9	.027	.679
	.656	**A881-D0656LX19-05**	.750	4.001	5.968	3.411	3.280	.9	.023	.702
03	.687	**A881-D0687LX25-05**	1.000	4.162	6.366	3.572	3.435	1.5	.039	.765
	.750	**A881-D0750LX25-05**	1.000	4.554	6.760	3.885	3.750	1.5	.031	.812
	.812	**A881-D0812LX25-05**	1.000	4.875	7.079	4.206	4.060	2.0	.029	.870
04	.875	**A881-D0875LX25-05**	1.000	5.254	7.461	4.506	4.375	2.0	.047	.969
	.937	**A881-D0937LX25-05**	1.000	5.573	7.780	4.825	4.685	2.0	.029	.995

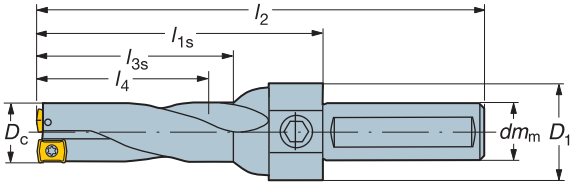
 E123
 E2
 E111
 E166
 G6
 E2
 J4

CoroDrill® 881 3 – 4 x D_c

Drill diameter .562 - .937 inch

Cylindrical shank with flat US P shank





l_{1s} = programming length

	Hole tolerance	-.004/+.008 inch	-.004/+.016 inch
	Tolerance, D_c inch	±.006 inch	±.008 inch
Inch design	Max hole depth, l_4	3 x D_c	4 x D_c

3 x D_c

	Drill dia.		Dimensions, inch							Radial adjustment (+)	
	D_c inch	**Ordering code**	dm_m	D_1	l_{1s}	l_2	l_{3s}	l_4	Lbs		D_c Max
02	.562	**A881-D0562P19-03**	.750	1.287	3.149	6.150	1.811	1.686	2.0	.035	.632
	.625	**A881-D0625P19-03**	.750	1.287	3.386	6.386	2.008	1.875	2.0	.027	.679
	.656	**A881-D0656P19-03**	.750	1.287	3.465	6.465	2.087	1.968	2.0	.023	.702
03	.687	**A881-D0687P25-03**	1.000	1.750	3.622	6.622	2.205	2.061	3.3	.039	.765
	.750	**A881-D0750P25-03**	1.000	1.750	3.858	6.858	2.402	2.250	3.3	.031	.812
	.812	**A881-D0812P25-03**	1.000	1.750	4.094	7.094	2.598	2.436	3.3	.029	.870
04	.875	**A881-D0875P31-03**	1.250	1.750	4.291	7.291	2.756	2.625	4.4	.047	.969
	.937	**A881-D0937P31-03**	1.250	1.750	4.528	7.528	2.953	2.811	4.4	.029	.995

4 x D_c

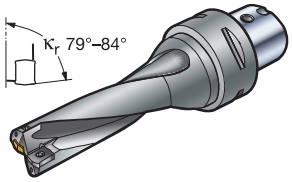
	Drill dia.		Dimensions, inch							Radial adjustment (+)	
	D_c inch	**Ordering code**	dm_m	D_1	l_{1s}	l_2	l_{3s}	l_4	Lbs		D_c Max
02	.562	**A881-D0562P19-04**	.750	1.287	3.700	6.701	2.362	2.248	2.0	.035	.632
	.625	**A881-D0625P19-04**	.750	1.287	4.016	7.016	2.638	2.500	2.0	.027	.679
	.656	**A881-D0656P19-04**	.750	1.287	4.134	7.134	2.756	2.624	2.0	.023	.702
03	.687	**A881-D0687P25-04**	1.000	1.750	4.291	7.291	2.874	2.748	3.3	.039	.765
	.750	**A881-D0750P25-04**	1.000	1.750	4.605	7.606	3.149	3.000	3.3	.031	.812
	.812	**A881-D0812P25-04**	1.000	1.750	4.881	7.882	3.385	3.248	3.3	.029	.870
04	.875	**A881-D0875P31-04**	1.250	1.750	5.157	8.158	3.622	3.500	4.4	.047	.969
	.937	**A881-D0937P31-04**	1.250	1.750	5.433	8.433	3.858	3.748	4.4	.029	.995

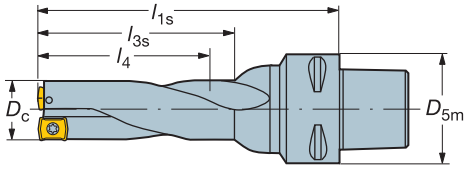
E123 E2 E111 E166 G6 E2 J4

CoroDrill® 881 3 x D_c

Drill diameter 14.00 - 23.50 mm (.562 - .937 inch)

Coromant Capto®





l_{1s} = programming length

Metric design

Hole tolerance, mm -0.1/+0.3 mm (-.004/+.008 inch)
Tolerance, D_c mm ±0.15 mm (±.006 inch)
Max hole depth, l_4 3 x D_c

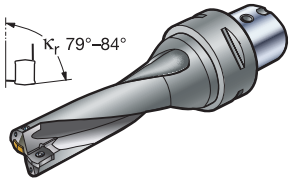
Drill dia.					Dimensions, millimeter, inch (mm, in.)								Radial adjustment	
	D_c mm	D_c inch	Coupling size	**Ordering code**	dm_m	D_{5m} mm	h_{1s} mm	l_{3s} mm	l_{3s} in.	l_4 mm	l_4 in.	kg		D_c Max
02	14.0	.551	C4	**881-D1400C4-03**	28	40	83	45	1.772	42	1.654	0.2	1.00	16.0
	14.5	.571	C4	**881-D1450C4-03**	28	40	85	46	1.811	44	1.732	0.3	0.90	16.3
	15.0	.591	C4	**881-D1500C4-03**	28	40	87	48	1.890	45	1.772	0.4	0.85	16.7
	15.5	.610	C4	**881-D1550C4-03**	28	40	89	50	1.968	47	1.850	0.3	0.75	17.0
	16.0	.630	C4	**881-D1600C4-03**	28	40	91	51	2.008	48	1.890	0.3	0.70	17.4
	16.5	.650	C4	**881-D1650C4-03**	28	40	93	53	2.087	50	1.968	0.3	0.60	17.7
	17.0	.669	C4	**881-D1700C4-03**	28	40	94	54	2.126	51	2.008	0.3	0.50	18.0
03	17.5	.689	C4	**881-D1750C4-03**	28	40	102	56	2.205	53	2.087	0.3	1.00	19.5
	18.0	.709	C4	**881-D1800C4-03**	28	40	103	57	2.244	54	2.126	0.3	0.90	19.8
	18.5	.728	C4	**881-D1850C4-03**	28	40	105	59	2.323	56	2.205	0.4	0.85	20.2
	19.0	.748	C4	**881-D1900C4-03**	28	40	106	60	2.362	57	2.244	0.4	0.80	20.6
	19.5	.768	C4	**881-D1950C4-03**	28	40	109	62	2.441	59	2.323	0.4	0.75	21.0
	20.0	.787	C4	**881-D2000C4-03**	28	40	111	64	2.520	60	2.362	0.4	0.75	21.5
04	21.0	.827	C4	**881-D2100C4-03**	28	40	114	66	2.598	63	2.480	0.4	1.50	24.0
	22.0	.866	C4	**881-D2200C4-03**	28	40	117	69	2.716	66	2.598	0.4	1.25	24.5
	23.0	.906	C4	**881-D2300C4-03**	28	40	126	72	2.835	69	2.716	0.4	1.00	25.0
02	14.0	.551	C5	**881-D1400C5-03**	35	50	83	45	1.772	42	1.654	0.2	1.00	16.0
	14.5	.571	C5	**881-D1450C5-03**	35	50	85	46	1.811	44	1.732	0.5	0.90	16.3
	15.0	.591	C5	**881-D1500C5-03**	35	50	87	48	1.890	45	1.772	0.5	0.85	16.7
	15.5	.610	C5	**881-D1550C5-03**	35	50	89	50	1.968	47	1.850	0.5	0.75	17.0
	16.0	.630	C5	**881-D1600C5-03**	35	50	91	51	2.008	48	1.890	0.5	0.70	17.4
	16.5	.650	C5	**881-D1650C5-03**	35	50	93	53	2.087	50	1.968	0.5	0.60	17.7
	17.0	.669	C5	**881-D1700C5-03**	35	50	94	54	2.126	51	2.008	0.5	0.50	18.0
03	17.5	.689	C5	**881-D1750C5-03**	35	50	102	56	2.205	53	2.087	0.5	1.00	19.5
	18.0	.709	C5	**881-D1800C5-03**	35	50	103	57	2.244	54	2.126	0.5	0.90	19.8
	18.5	.728	C5	**881-D1850C5-03**	35	50	105	59	2.323	56	2.205	0.6	0.85	20.2
	19.0	.748	C5	**881-D1900C5-03**	35	50	106	60	2.362	57	2.244	0.6	0.80	20.6
	19.5	.768	C5	**881-D1950C5-03**	35	50	109	62	2.441	59	2.323	0.6	0.75	21.0
	20.0	.787	C5	**881-D2000C5-03**	35	50	111	64	2.520	60	2.362	0.6	0.75	21.5
04	21.0	.827	C5	**881-D2100C5-03**	35	50	114	66	2.598	63	2.480	0.6	1.50	24.0
	22.0	.866	C5	**881-D2200C5-03**	35	50	117	69	2.716	66	2.598	0.6	1.25	24.5
	23.0	.906	C5	**881-D2300C5-03**	35	50	121	72	2.835	69	2.716	0.6	1.00	25.0
02	14.0	.551	C6	**881-D1400C6-03**	44	63	88	45	1.772	42	1.654	0.9	1.00	16.0
	14.5	.571	C6	**881-D1450C6-03**	44	63	90	46	1.811	44	1.732	0.9	0.90	16.3
	15.0	.591	C6	**881-D1500C6-03**	44	63	92	48	1.890	45	1.772	0.9	0.85	16.7
	15.5	.610	C6	**881-D1550C6-03**	44	63	94	50	1.968	47	1.850	0.9	0.75	17.0
	16.0	.630	C6	**881-D1600C6-03**	44	63	96	51	2.008	48	1.890	0.9	0.70	17.4
	16.5	.650	C6	**881-D1650C6-03**	44	63	98	53	2.087	50	1.968	0.9	0.60	17.7
	17.0	.669	C6	**881-D1700C6-03**	44	63	99	54	2.126	51	2.008	0.9	0.50	18.0
03	17.5	.689	C6	**881-D1750C6-03**	44	63	107	56	2.205	53	2.087	0.9	1.00	19.5
	18.0	.709	C6	**881-D1800C6-03**	44	63	108	57	2.244	54	2.126	1.0	0.90	19.8
	18.5	.728	C6	**881-D1850C6-03**	44	63	110	59	2.323	56	2.205	1.0	0.85	20.2
	19.0	.748	C6	**881-D1900C6-03**	44	63	111	60	2.362	57	2.244	1.0	0.80	20.6
	19.5	.768	C6	**881-D1950C6-03**	44	63	114	62	2.441	59	2.323	1.0	0.75	21.0
	20.0	.787	C6	**881-D2000C6-03**	44	63	111	64	2.520	60	2.362	0.4	0.75	21.5
04	21.0	.827	C6	**881-D2100C6-03**	44	63	119	66	2.598	63	2.480	1.0	1.50	24.0
	22.0	.866	C6	**881-D2200C6-03**	44	63	122	69	2.716	66	2.598	1.0	1.25	24.5
	23.0	.906	C6	**881-D2300C6-03**	44	63	126	72	2.835	69	2.716	1.1	1.00	25.0

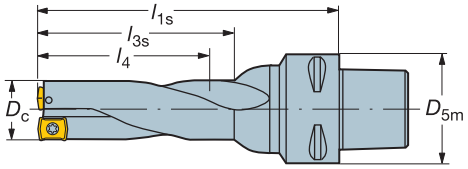
E123 E2 E111 E166 G6 E2 J4

CoroDrill® 881 4 x D_c

Drill diameter 14.00 - 23.50 mm (.562 - .937 inch)

Coromant Capto®





l_{1s} = programming length

Metric design

Hole tolerance, mm	-0.1/+0.4 mm (-.004/+.016 inch)
Tolerance, D_c mm	±0.2 mm (±.008 inch)
Max hole depth, l_4	4 x D_c

Drill dia.					Dimensions, millimeter, inch (mm, in.)								Radial adjustment	
	D_c mm	D_c inch	Coupling size	**Ordering code**	dm_m	D_{5m} mm	l_{1s} mm	l_{3s} mm	l_{3s} in.	l_4 mm	l_4 in.	KG		D_c Max
02	14.0	.551	C4	881-D1400C4-04	28	40	97	59	2.323	56	2.205	0.3	1.00	16.0
	14.5	.571	C4	881-D1450C4-04	28	40	100	61	2.402	58	2.284	0.3	0.90	16.3
	15.0	.591	C4	881-D1500C4-04	28	40	102	63	2.480	60	2.362	0.3	0.85	16.7
	15.5	.610	C4	881-D1550C4-04	28	40	104	65	2.559	62	2.441	0.3	0.75	17.0
	16.0	.630	C4	881-D1600C4-04	28	40	107	67	2.638	64	2.520	0.3	0.70	17.4
	16.5	.650	C4	881-D1650C4-04	28	40	109	69	2.716	66	2.598	0.3	0.60	17.7
	17.0	.669	C4	881-D1700C4-04	28	40	111	71	2.795	68	2.677	0.3	0.50	18.0
03	17.5	.689	C4	881-D1750C4-04	28	40	119	73	2.874	70	2.756	0.4	1.00	19.5
	18.0	.709	C4	881-D1800C4-04	28	40	121	75	2.953	72	2.835	0.4	0.90	19.8
	18.5	.728	C4	881-D1850C4-04	28	40	123	77	3.032	74	2.913	0.4	0.85	20.2
	19.0	.748	C4	881-D1900C4-04	28	40	125	79	3.110	76	2.992	0.4	0.80	20.6
	19.5	.768	C4	881-D1950C4-04	28	40	129	82	3.228	78	3.071	0.4	0.75	21.0
	20.0	.787	C4	881-D2000C4-04	28	40	131	84	3.307	80	3.150	0.4	0.75	21.5
04	21.0	.827	C4	881-D2100C4-04	28	40	135	87	3.425	84	3.307	0.4	1.50	24.0
	22.0	.866	C4	881-D2200C4-04	28	40	139	91	3.583	88	3.465	0.4	1.25	24.5
	23.0	.906	C4	881-D2300C4-04	28	40	144	95	3.740	92	3.622	0.5	1.00	25.0
02	14.0	.551	C5	881-D1400C5-04	35	50	97	59	2.323	56	2.205	0.5	1.00	16.0
	14.5	.571	C5	881-D1450C5-04	35	50	100	61	2.402	58	2.284	0.5	0.90	16.3
	15.0	.591	C5	881-D1500C5-04	35	50	102	63	2.480	60	2.362	0.5	0.85	16.7
	15.5	.610	C5	881-D1550C5-04	35	50	104	65	2.559	62	2.441	0.5	0.75	17.0
	16.0	.630	C5	881-D1600C5-04	35	50	107	67	2.638	64	2.520	0.5	0.70	17.4
	16.5	.650	C5	881-D1650C5-04	35	50	109	69	2.716	66	2.598	0.5	0.60	17.7
	17.0	.669	C5	881-D1700C5-04	35	50	111	71	2.795	68	2.677	0.5	0.50	18.0
03	17.5	.689	C5	881-D1750C5-04	35	50	119	73	2.874	70	2.756	0.6	1.00	19.5
	18.0	.709	C5	881-D1800C5-04	35	50	121	75	2.953	72	2.835	0.6	0.90	19.8
	18.5	.728	C5	881-D1850C5-04	35	50	123	77	3.032	74	2.913	0.6	0.85	20.2
	19.0	.748	C5	881-D1900C5-04	35	50	125	79	3.110	76	2.992	0.6	0.80	20.6
	19.5	.768	C5	881-D1950C5-04	35	50	129	82	3.228	78	3.071	0.6	0.75	21.0
	20.0	.787	C5	881-D2000C5-04	35	50	131	84	3.307	80	3.150	0.6	0.75	21.5
04	21.0	.827	C5	881-D2100C5-04	35	50	135	87	3.425	84	3.307	0.6	1.50	24.0
	22.0	.866	C5	881-D2200C5-04	35	50	139	91	3.583	88	3.465	0.6	1.25	24.5
	23.0	.906	C5	881-D2300C5-04	35	50	144	95	3.740	92	3.622	0.5	1.00	25.0
02	14.0	.551	C6	881-D1400C6-04	44	63	102	59	2.323	56	2.205	0.9	1.00	16.0
	14.5	.571	C6	881-D1450C6-04	44	63	105	61	2.402	58	2.284	0.9	0.90	16.3
	15.0	.591	C6	881-D1500C6-04	44	63	107	63	2.480	60	2.362	0.9	0.85	16.7
	15.5	.610	C6	881-D1550C6-04	44	63	109	65	2.559	62	2.441	0.9	0.75	17.0
	16.0	.630	C6	881-D1600C6-04	44	63	112	67	2.638	64	2.520	0.9	0.70	17.4
	16.5	.650	C6	881-D1650C6-04	44	63	114	69	2.716	66	2.598	0.9	0.60	17.7
	17.0	.669	C6	881-D1700C6-04	44	63	116	71	2.795	68	2.677	0.9	0.50	18.0
03	17.5	.689	C6	881-D1750C6-04	44	63	124	73	2.874	70	2.756	1.0	1.00	19.5
	18.0	.709	C6	881-D1800C6-04	44	63	126	75	2.953	72	2.835	1.0	0.90	19.8
	18.5	.728	C6	881-D1850C6-04	44	63	128	77	3.032	74	2.913	1.0	0.85	20.2
	19.0	.748	C6	881-D1900C6-04	44	63	130	79	3.110	76	2.992	1.0	0.80	20.6
	19.5	.768	C6	881-D1950C6-04	44	63	134	82	3.228	78	3.071	1.0	0.75	21.0
	20.0	.787	C6	881-D2000C6-04	44	63	136	84	3.307	80	3.150	1.0	0.75	21.5
04	21.0	.827	C6	881-D2100C6-04	44	63	140	87	3.425	84	3.307	1.0	1.50	24.0
	22.0	.866	C6	881-D2200C6-04	44	63	144	91	3.583	88	3.465	1.0	1.25	24.5
	23.0	.906	C6	881-D2300C6-04	44	63	149	95	3.740	92	3.622	1.1	1.00	25.0

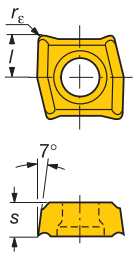
E123 E2 E111 E166 G6 E2 J4

SANDVIK Coromant

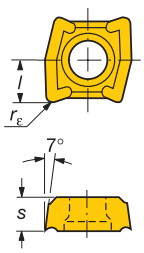
Inserts for CoroDrill® 881

Drill diameter 14.00 - 23.50 mm (.562 - .937 inch)

Central insert



Peripheral insert

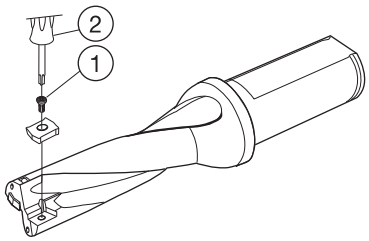


			P			M					K			N		S			H			Dimensions, millimeter, inch (mm, in.)	
			GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC		
			1044	4024	4044	1044	1144	2044	4024	4044	1044	4024	4044	1044	4044	1044	1144	4044	1044	4024	4044	r_ε mm	r_ε in.
02	**881-02 02 04M-C-GM1**	⊙	★			☆	★				★			★		★	☆		★			0.4	.016
	881-02 02 04M-P-GM1	↻		☆	★			★	☆	☆		☆	★		★			★		☆	★	0.4	.016
03	**881-03 03 08M-C-GM1**	⊙	★			☆	★				★			★		★	☆		★			0.8	.032
	881-03 03 08M-P-GM1	↻		☆	★			★	☆	☆		☆	★		★			★		☆	★	0.8	.032
04	**881-04 03 08M-C-GM1**	⊙	★			☆	★				★			★		★	☆		★			0.8	.032
	881-04 03 08M-P-GM1	↻		☆	★			★	☆	☆		☆	★		★			★		☆	★	0.8	.032
			P40	P20	P40	M35	M35	M35	M20	M35	K25	K20	K25	N20	N20	S30	S35	S30	H20	H15	H20		

⊙ = Central insert
↻ = Peripheral insert

★= First choice

Insert size	Dimensions D_c mm	D_c inch	l_1 mm	l_1 inch	s mm	s inch	D_1 mm	D_1 inch
881-02…C 881-02…P	12.70-17.43	.500-.686	2.7	.106	2.4	.094	2.5	.098
881-03…C 881-03…P	17.44-20.99	.687-.826	3.3	.130	3.2	.126	2.5	.098
881-04…C 881-04…P	21.00-25.99	.827-1.023	4.0	.157	3.2	.126	2.8	.110



Spare parts for CoroDrill® 881

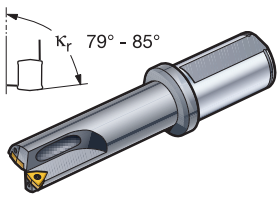
Insert size	1 Insert screw	2 Screwdriver (Torx Plus)	Torque wrench[1)]	Torque Nm
881-02	5513 020-33	5680 046-03 (7IP)	5680 100-02	0.9
881-03	5513 020-19	5680 046-03 (7IP)	5680 100-02	0.9
881-04	5513 020-20	5680 046-03 (7IP)	5680 100-02	0.9

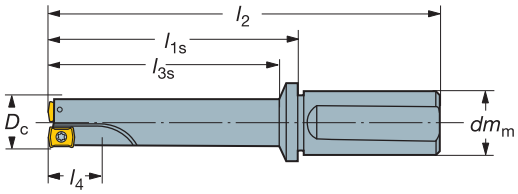
[1)] Accessories, must be ordered separately

E176

Plunge drills

4 × D_c





Drill diameter, D_c	12.7 - 35 mm (.500-1.378 inch)
Tolerance, D_c	±0.2 mm (±.008 inch)
Max hole depth:	4 × D_c

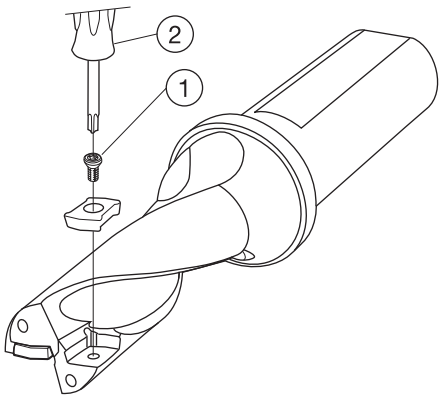
l_{1s} = programming length

Metric design

Drill diameter			Dimensions, millimeter, inch (mm, in.)									
D_c mm	D_c inch	**Ordering code**	dm_m mm	l_{1s} mm	l_2 mm	l_2 in.	l_{3s} mm	l_{3s} in.	l_4 mm	l_4 in.	KG	**Inserts**
12.7	.500	**R416.22-0127L20-41**	20	63	113	4.449	53	2.087	12.7	0.500	0.2	**LCMX 02..C**
16.0	.630	**R416.22-0160L20-41**	20	77	127	5.000	67	2.638	16.0	0.630	0.2	**LCMX 02..C**
19.0	.748	**R416.22-0190L25-41**	25	89	145	5.709	79	3.110	19.0	0.748	0.3	**LCMX 03..**
25.0	.984	**R416.22-0250L25-41**	25	114	170	6.693	104	4.094	25.0	0.984	0.4	**LCMX 04..**
35.0	1.378	**R416.22-0350L40-41**	40	154	214	8.425	144	5.669	35.0	1.378	1.3	**WCMX 06..**

Engineered special options diameter range 12.7-58 mm, 2-6 x D_c to be quoted.

Spare parts for Coromant U drills R416.2, R416.21 and R416.22



	1	2	
Insert size	Insert screw	Screwdriver (Torx Plus)	Torque value Nm (in-lbs)
LCMX 02	5513 020-33	5680 046-03 (7IP)	0.8 (7)
LCMX 03	5513 020-19	5680 046-03 (7IP)	0.8 (7)
LCMX 04	5513 020-20	5680 046-03 (7IP)	0.8 (7)
TCMT 06	5513 020-28	5680 051-01 (6IP)	0.6 (5)
TCMT 09	5513 020-05	5680 051-02 (7IP)	0.8 (7)
WCMX 05	416.1-832	5680 046-04 (9IP)	1.7 (15)
WCMX 06	416.1-833	5680 046-05 (10IP)	2.0 (18)
WCMX 08	416.1-834	5680 046-02 (15IP)	3.0 (26)

E126 E2 J3 G6 E2 J4

Geometry recommendations for Coromant U drills

Geometry recommendations for Coromant U and T-MAX U drills

D_c 12.7 - 17 mm (.500 - .669 inch)

General choice

Central insert	Peripheral insert
C-53	P-53
	

P M K N S H

- Good chip control in most materials including: steel, stainless steel, cast iron, titanium, heat resistant alloys and aluminium
- Low to high cutting speeds
- Central and peripheral insert

Complementary choice

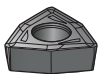
TC-53	P-53
	

P K H

- TC -53, optimized geometry for increased edge security

D_c 17.5 - 41 mm (.689 - .984 inch)

Productivity choice

	Wiper TECHNOLOGY
-WM	-WM
	
-WM	-WM
	

P K M

- Wiper geometry for up to 50% higher feed
- For steel and cast iron with hardness above 200HB and easy to machine stainless steels
- For stable conditions and open tolerance holes
- Central and peripheral insert

D_c 17.5 - 58 mm (.689 - 2.283 inch)

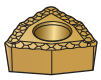
General choice

-53	-53
	
-53	-53
	

P M K N S H

- Good chip control in most materials including: steel, stainless steel, cast iron, titanium, heat resistant alloys and aluminium
- Low to high cutting speeds
- Central and peripheral insert

Complementary choice

-53	-58
	
-53	-58
	
T-53	T-53
	
T-53	T-53
	

P M

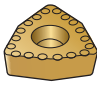
- Geometry -58, optimized as peripheral insert for low carbon steel and stainless steel
- High cutting speeds

P K H

- Optimized geometries with increased edge security

D_c 26 - 58 mm (1.024 - 2.283 inch)

Complementary choice

-53	-51
	
-56	-56
	

P M K

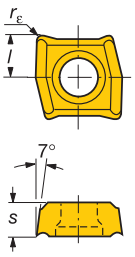
- Geometry -51, optimized as peripheral for good chip control in steel, stainless steel, cast iron
- High cutting speeds

P M

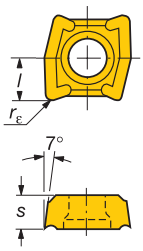
- Good chip control in steel and stainless steel

Inserts for Coromant U drills R416.2, R416.21, R416.22

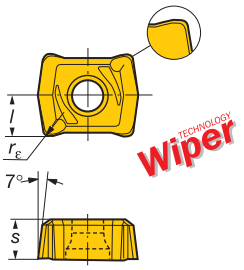
Central
LCMX 02
C-53
D_c 12.7 - 17.0 mm
D_c .500 - .669 inch



Peripheral
LCMX 02
P-53
D_c 12.7 - 17.0 mm
D_c .500 - .669 inch



LCMX 03/04
R-WM
D_c 17.5 - 25.0 mm
D_c .689 - .984 inch



			P				M					K				N				S			H			Dimensions, millimeter, inch (mm, in.)		
			GC	GC	GC	GC	GC	GC	GC	GC	-	GC	GC	GC	-	GC	GC	-		GC	GC	-	GC	GC	GC			
			1020	1120	235	3040	1020	1120	235	3040	H13A	1020	1120	3040	H13A	1020	1120	H13A		1020	1120	H13A	1020	1120	3040			
	Ordering code																									*l*	*s*	r_ε
02	LCMX 02 02 04 P-53	↻		☆		★		☆		★			☆	★			☆							☆	★	2.68	2.38	0.4
																										.106	*.094*	*.016*
	LCMX 02 02 04 C-53	⊙	★				★					★				★				★			★			2.68	2.38	0.4
																										.106	*.094*	*.016*
	LCMX 02 02 04 TC-53	⊙	★									★											☆			2.68	2.38	0.4
																										.106	*.094*	*.016*
03	LCMX 03 03 08-53	↻	☆		☆	★	★		☆	☆	☆	☆		★	☆	☆		★		★		☆	★		☆	3.25	3.18	0.8
																										.128	*.125*	*.031*
	LCMX 03 03 08-53	⊙	★				★		☆		☆	★			☆	☆		★		★		☆	★			3.25	3.18	0.8
																										.128	*.125*	*.031*
	LCMX 03 03 04-58	↻			☆	★			☆	★																3.25	3.18	0.4
																										.128	*.125*	*.016*
	LCMX 03 03 08 T-53	⊙↻	★									★											★			3.25	3.18	0.8
																										.128	*.125*	*.031*
	LCMX 03 03 04 R-WM	↻		★										★												3.25	3.18	0.4
																										.128	*.125*	*.016*
	LCMX 03 03 04 R-WM	⊙	★									★														3.25	3.18	0.4
																										.128	*.125*	*.016*
04	LCMX 04 03 08-53	↻	☆		☆	★	★		☆	☆	☆	☆		★	☆	☆		★		★		☆	★		☆	4.0	3.18	0.8
																										.157	*.125*	*.031*
	LCMX 04 03 08-53	⊙	★				★		☆		☆	★			☆	☆		★		★		☆	★			4.0	3.18	0.8
																										.157	*.125*	*.031*
	LCMX 04 03 04-58	↻			☆	★			☆	★																4.0	3.18	0.4
																										.157	*.125*	*.016*
	LCMX 04 03 08 T-53	⊙↻	★									★											☆			4.0	3.18	0.8
																										.157	*.125*	*.031*
	LCMX 04 03 04 R-WM	↻				★								★												4.0	3.18	0.4
																										.157	*.125*	*.016*
	LCMX 04 03 04 R-WM	⊙	★									★														4.0	3.18	0.4
																										.157	*.125*	*.016*

Ordering example: 100 pieces LCMX 02 02 04 P-53 3040
★= First choice

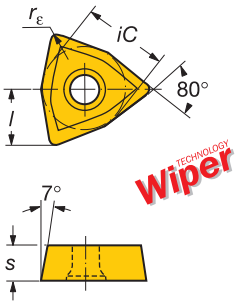
↻ = Peripheral insert
⊙ = Central insert
⊙↻ = Central and peripheral insert

E180

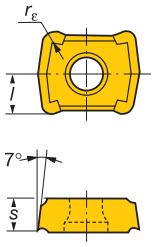
SANDVIK Coromant

Inserts for Coromant U drills R416.2, R416.21, R416.22

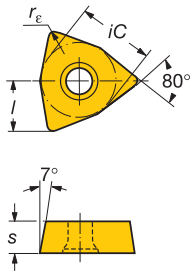
WCMX 05/06
R-WM
D_c 26.0 - 41.3 mm
D_c 1.024 - 1.626 inch



LCMX 03/04
D_c 17.5 - 25.0 mm
D_c .689 - .984 inch



WCMX 05/06/08
D_c 26.0 - 80.0 mm
D_c 1.024 - 3.150 inch



			P				M					K				N				S				H			Dimensions, millimeter, inch (mm, in.)			
			GC	GC	GC	GC	GC	GC	GC	GC	-	GC	GC	GC	-	GC	GC	-		GC	GC	-		GC	GC	GC				
			1020	1120	235	3040	1020	1120	235	3040	H13A	1020	1120	3040	H13A	1020	1120	H13A		1020	1120	H13A		1020	1120	3040				
	Ordering code																										l	iC	s	r_ε
05	WCMX 05 03 04 R-WM	◔				★								★													5.07	7.94	3.18	0.4
																											.200	.313	.125	.016
	WCMX 05 03 04 R-WM	⊙																									5.07	7.94	3.18	0.4
																											.200	.313	.125	.016
	WCMX 05 03 08 R-51	◔			☆				☆		☆				☆												5.07	7.94	3.18	0.8
																											.200	.313	.125	.031
	WCMX 05 03 08 R-53	◔	☆			★	★		☆	☆	☆	☆		★	☆	☆		★	★		☆	★			★		☆	5.07	7.94	3.18	0.8
																											.200	.313	.125	.031
	WCMX 05 03 08 R-53	⊙	★				★		☆			★			☆	☆		★	★		☆	★					5.07	7.94	3.18	0.8
																											.200	.313	.125	.031
	WCMX 05 03 08-58	◔			☆	★			☆	★																	5.07	7.94	3.18	0.8
																											.200	.313	.125	.031
	WCMX 05 03 08 T-53	◉	★									★												☆			5.07	7.94	3.18	0.8
																											.200	.313	.125	.031
	WCMX 05 03 08-56	◔			☆				☆																		5.07	7.94	3.18	0.8
																											.200	.313	.125	.031
06	WCMX 06 T3 04 R-WM	◔				★								★													6.14	9.52	3.97	0.4
																											.242	.375	.156	.016
	WCMX 06 T3 04 R-WM	⊙	★									★															6.14	9.52	3.97	0.4
																											.242	.375	.156	.016
	WCMX 06 T3 08 R-51	◔			☆				☆		☆				☆												6.14	9.52	3.97	0.8
																											.242	.375	.156	.031
	WCMX 06 T3 08 R-53	◔	☆		☆	★	★		☆	☆	☆	☆		★	☆	☆		★	★		☆	★			★		☆	6.14	9.52	3.97	0.8
																											.242	.375	.156	.031
	WCMX 06 T3 08 R-53	⊙	★				★		☆		☆	★			☆	☆		★	★		☆						6.14	9.52	3.97	0.8
																											.242	.375	.156	.031
	WCMX 06 T3 08-58	◔			☆	★			☆	★																	6.14	9.52	3.97	0.8
																											.242	.375	.156	.031
	WCMX 06 T3 08 T-53	◉	★									★												☆			6.14	9.52	3.97	0.8
																											.242	.375	.156	.031
	WCMX 06 T3 08-56	◔			☆				☆																		6.14	9.52	3.97	0.8
																											.242	.375	.156	.031
08	WCMX 08 04 12 R-51	◔			☆				☆		☆				☆												8.14	12.7	4.76	1.2
																											.320	.500	.187	.047
	WCMX 08 04 12 R-53	◔	☆		☆	★	★		☆	☆	☆	☆		☆	★	☆		★	★		☆	★			★		☆	8.14	12.7	4.76	1.2
																											.320	.500	.187	.047
	WCMX 08 04 12 R-53	⊙	★				★		☆		☆	★			☆	☆		★	★		☆						8.14	12.7	4.76	1.2
																											.320	.500	.187	.047
	WCMX 08 04 12-58	◔			☆	★			☆	★																	8.14	12.7	4.76	1.2
																											.320	.500	.187	.047
	WCMX 08 04 12 T-53	◉	★									★												☆			8.14	12.7	4.76	1.2
																											.320	.500	.187	.047
	WCMX 08 04 12-56	◔			☆				☆																		8.14	12.7	4.76	1.2
																											.320	.500	.187	.047

Ordering example: 100 pieces LCMX 02 02 04 P-53 3040
★= First choice

◔ = Peripheral insert
⊙ = Central insert
◉ = Central and peripheral insert

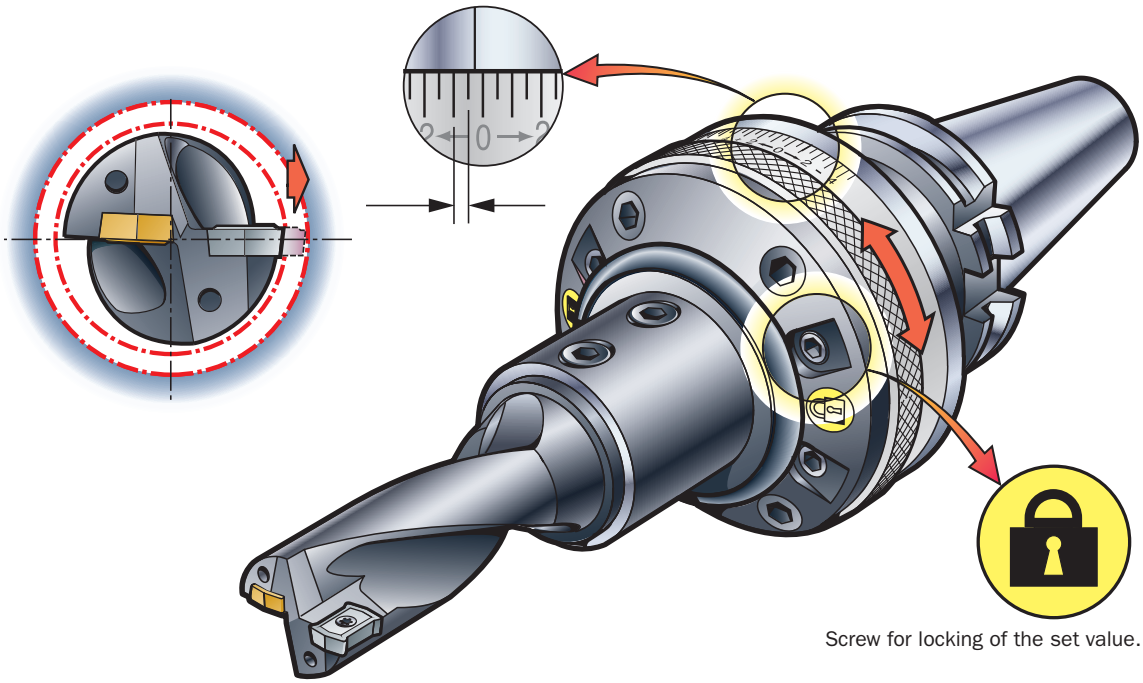
E180

Coromant® holder for drills with cylindrical shanks (ISO 9766) adjustable for flexible hole making.

Will optimize rotating use of Coromant drills with indexable inserts.

Working range: Nominal diameter +1.4 mm (+.055 inch). Adjustable in increments of 0.05 mm (.002 inch). The scale-zero denotes nominal diameter.

Allows manufacturing of larger holes than the nominal hole diameter the drill is specified for.



Screw for locking of the set value.

Improve the accuracy of holes produced on machining centers

Adjustable holders for CoroDrill® 880

Sandvik Coromant has developed a program of holders for CoroDrill® 880 drills to provide closer diameter control of the hole production.
The high precision of the holder simplifies fine adjustment for production of holes within tighter tolerance than specified for the drill, facilitating the production of high quality components.
Accurate adjustment makes it easy to compensate for diameter deviations or to off-set the drill for manufacturing a larger hole than the nominal diameter of the drill.
To some extent this influences the inventory costs as a standard size drill kan be used within a range of diameters, reducing the need for intermediate dimensions and special tooling.
The holder also makes it possible to widen the application area for CoroDrill® 880 drills on machining centers.
By just changing slides, different shank sizes can be used in the same holder/adaptor, giving better ecomomy and flexibility.



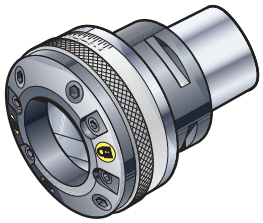
Setting

Setting of the holder is easily done by just turning the scale ring surrounding the holder. It´s marked in increments of 0.05 mm (.002 inch) indicating a diametrical movement of the tool.
The scale also has a zero mark as a nominal setting for the holder only.
Note: A diameter below the nominal of the drill should never be choosen.

Adjustable drill holder

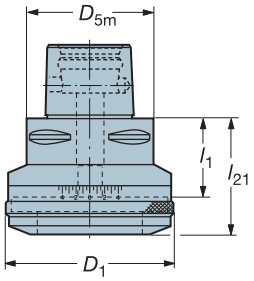
Coromant Capto®

391.277



Diametric adjustment in increments of 0.05 mm (.002 inch): -0.4 (–.016) +1.4 (+.055)

Note: Drill should not be adjusted below nominal diameter.



l_1 = programming length

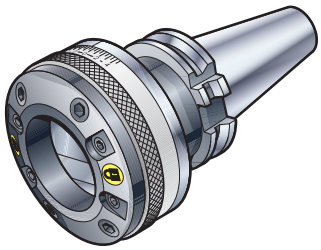
Coupling size	Ordering code	Coolant[1]	Dimensions, millimeter, inch (mm, in.) D_1 mm	D_1 in.	D_{5m} mm	D_{5m} in.	l_1 mm	l_1 in.	l_{21} mm	l_{21} in.	kg	Slide size
C5	**C5-391.277-01 040A**	1	86	3.386	50	1.968	40	1.575	64.6	2.543	1.7	01
C6	**C6-391.277-01 040B**	1	86	3.386	63	2.480	40	1.575	64.6	2.543	2.0	01
	C6-391.277-02 045A	1	106	4.173	63	2.480	45	1.772	69.6	2.740	2.7	02
C8	**C8-391.277-02050A**	1	106	4.173	80	3.150	50	1.968	74.6	2.937	3.6	02

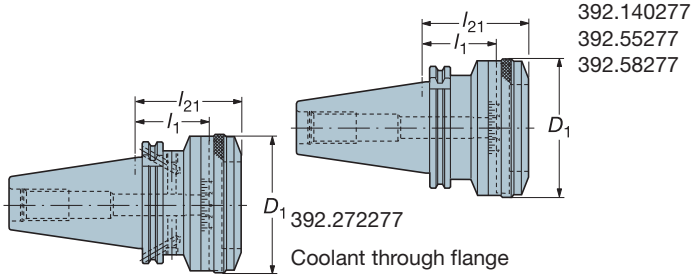
[1] 0 = no coolant, 1 = coolant through centre, 6 = coolant through flange, 7 = coolant through centre and through flange

Slides must be ordered separately, see page E131.

Solid

A392.45277 / 392.272277 / .140277 / .55277 / .58277





Diametric adjustment in increments of 0.05 mm (.002 inch): -0.4 (-.016) +1.4 (+.055)

Note: Drill should not be adjusted below nominal diameter.

l_1 = programming length

Metric design

Machine design	Taper	Ordering code	Coolant[1]	Dimensions, mm D_1	l_1	l_{21}	kg	Slide size
DIN 69871 -A	40	392.140277-4001055A	1	86	55	79.6	2.3	01
	50	392.140277-5002055A	1	106	55	79.6	4.7	02
	50	392.140277-5003075A	1	140	75	85	6.5	03
DIN 69871 -B	40	392.272277-4001055A	6	86	55	79.6	2.2	01
	50	392.272277-5002055A	6	106	55	79.6	4.7	02
	50	392.272277-5003075A	6	140	75	85	6.5	03
MAS-BT 403	40	392.55277-40 01 055A	1	86	55	79.6	2.4	01
	50	392.58277-50 02 063A	1	106	63	87.6	5.8	02
	50	392.58277-50 03 080B	1	140	80	90	7.3	03

[1] 0 = no coolant, 1 = coolant through centre, 6 = coolant through flange, 7 = coolant through centre and through flange

Inch design

Machine design	Taper	Ordering code	Coolant[1]	Dimensions, inch D_1	l_1	l_{21}	Lbs	Slide size
CAT V	40	A392.45277-40 01 055A	1	3.386	2.165	3.130	4.9	01
	50	A392.45277-50 02 055A	1	4.173	2.165	3.130	10.6	02
	50	A392.45277-50 03 075A	1	5.512	2.953	3.346	15.0	03

[1] 0 = no coolant, 1 = coolant through centre, 6 = coolant through flange, 7 = coolant through centre and through flange

Slides must be ordered separately, see page E131.

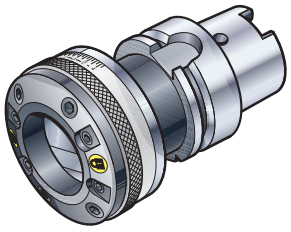

E130


J3

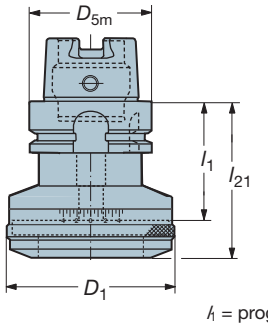
Adjustable drill holder

HSK

392.410 277



Diametric adjustment in increments of 0.05 mm (.002 inch): -0.4 (-.016) +1.4 (+.055)



Note: Hole for data carrier is not standard. Drill should not be adjusted below nominal diameter.

l_1 = programming length

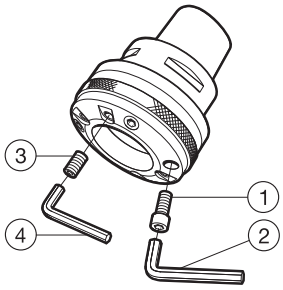
HSK size	Ordering code	Coolant[1]	Dimensions, millimeter, inch (mm, in.) D_1 mm	D_1 in.	D_{5m} mm	D_{5m} in.	l_1 mm	l_1 in.	l_{21} mm	l_{21} in.	kg	Slide size
63	**392.410277-6301060B**	1	86	3.386	63	2.480	60	2.362	84.6	3.327	1.8	01
100	**392.410277-10002065A**	1	106	4.173	100	3.937	65	2.559	90.0	3.543	4.3	02
100	**392.410277-10003085A**	1	140	5.519	100	3.937	85	3.346	95.0	3.740	6.6	03

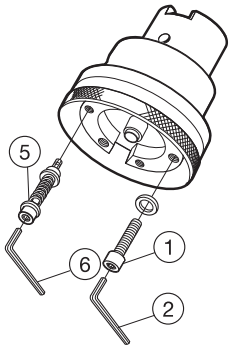
[1] 0 = no coolant, 1 = coolant through centre, 6 = coolant through flange, 7 = coolant through centre and through flange

Slides must be ordered separately, see page E131.
Coolant tube must be ordered separately, see page G80.

Ordering example: 2 pieces 392.410277-63 01 060 B

Spare parts for adjustable drill holders





Size	1 Screw	2[1] Key (mm)	3 Screw	4 Key (mm)	5[1] Preclamp set	6 Key (mm)
01	3212 010-361	3021 010-050 (5.0)	5519 026-06	3021 010-040 (4.0)	-	
02	3212 010-361	3021 010-050 (5.0)	5519 026-06	3021 010-040 (4.0)	-	
03	3212 010-411	3021 010-060 (6.0)	-	-	5519 200-01	3021 010-050 (5.0)

[1] Accessories, must be ordered separately

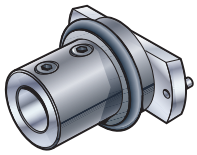
Ordering example: 10 pieces 3212 010-361

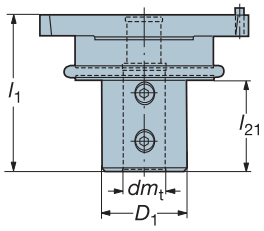


Slide for adjustable drill holders

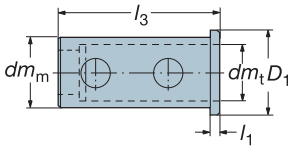
Shank according to ISO 9766

393.277





Sleeve



Reduction sleeve 393.277-40 32 074 A
for slide 393.277-40 03 090 A

	mm (inch)
dm_m	40 (1.575)
dm_t	32 (1.260)
D_1	48 (1.890)
l_1	3 (.118)
l_3	74 (2.913)

l_1 = programming length

Metric version

Slide size	Ordering code	Dimensions, mm dm_t	D_1	l_1	l_{21}	kg
01	393.277-20 01 075A	20	40	75	43	0.7
	393.277-25 01 080A	25	45	80	48	0.8
02	393.277-20 02 075A	20	40	75	43	1.0
	393.277-25 02 085A	25	45	85	54	1.2
	393.277-32 02 085A	32	52	85	54	1.3
03	393.277-40 03 090A	40	65	100	65	3.3
	393.277-50 03 100A	50	75	110	75	3.7

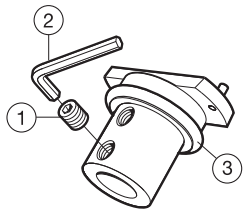
Inch version

Slide size	Ordering code	Dimensions, inch dm_t	D_1	l_1	l_{21}	Lbs
01	A393.277-75 01 075A	.750	1.575	2.953	1.693	1.5
	A393.277-100 01 080A	1.000	1.772	3.150	1.890	1.8
02	A393.277-75 02 075A	.750	1.575	2.953	1.693	2.2
	A393.277-100 02 085A	1.000	1.772	3.346	2.126	2.6
	A393.277-125 02 085A	1.250	2.047	3.346	2.126	2.9

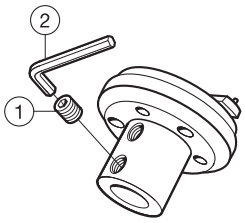
Spare parts for slide for adjustable drill holders

393.277

01 - 02



03



Slide	1 Screw	2[1] Key (mm)	3 O-ring
393.277-20 01	5514 042-04	3021 010-040 (4.0)	5641 001-31
393.277-25 01	416.1-838	3021 010-060 (6.0)	5641 001-31
393.277-20 02	5514 042-04	3021 010-040 (4.0)	5641 001-32
393.277-25 02	416.1-838	3021 010-060 (6.0)	5641 001-32
393.277-32 02	416.1-838	3021 010-060 (6.0)	5641 001-32
393.277-40 03	5514 042-06	3021 010-100 (10.0)	-
393.277-50 03	5514 042-06	3021 010-100 (10.0)	-
A393.277-75 01 075 A	5514 042-04	3021 010-040 (4.0)	5641 001-31
A393.277-75 02 075 A	5514 042-04	3021 010-040 (4.0)	5641 001-32
A393.277-100 01 080 A	416.1-838	3021 010-060 (6.0)	5641 001-31
A393.277-100 02 085 A	416.1-838	3021 010-060 (6.0)	5641 001-32
A393.277-125 02 085 A	416.1-838	3021 010-060 (6.0)	5641 001-32

[1] Accessories, must be ordered separately



J3

CoroDrill® Delta-C R840 for drill diameters 0.30-2.90 mm

Metric values

ISO	CMC No.	Material	Hardness Brinell HB	Grade	Cutting speed (v_c), m/min	Drill diameter, mm 0.30-1.40 Feed f_n mm/r	Grade	Cutting speed (v_c), m/min	1.50-2.90 Feed f_n mm/r
P		**Unalloyed steel**							
	01.0	C = 0.05–0.10 %	125	H10F	15-50	0.005-0.022	1020	80-100	0.04-0.08
	01.1	C = 0.1–0.25%	125	H10F	15-50	0.005-0.022	1020	80-100	0.04-0.08
	01.2	C = 0.25–0.55%	150	H10F	15-50	0.005-0.022	1020	70-85	0.03-0.07
	01.3	C = 0.55–0.80%	170	H10F	15-50	0.005-0.022	1020	70-85	0.03-0.07
		High carbon steel							
	01.4	Carbon tool steel	210	H10F	10-42	0.004-0.020	1020	65-80	0.03-0.07
		Low alloy steel							
	02.1	Non-hardened	180	H10F	15-50	0.005-0.022	1020	60-75	0.03-0.06
	02.2	Hardened and tempered	275	H10F	10-42	0.004-0.018	1020	45-60	0.03-0.06
	02.2	Hardened and tempered	350	H10F	7-27	0.003-0.014	1020	35-50	0.015-0.030
		High alloy steel							
	03.11	Annealed	200	H10F	6-24	0.004-0.0175	1020	45-60	0.03-0.07
	03.21	Hardened tool steel	325	H10F	5-20	0.004-0.0175	1020	40-50	0.03-0.06
		Steel castings							
	06.1	Unalloyed	180	H10F	15-50	0.005-0.022	1020	60-75	0.03-0.06
	06.2	Low-alloy (alloying elements ≤5%)	200	H10F	15-50	0.005-0.022	1020	50-65	0.03-0.06
S		**Titanium alloys**							
	23.21	α, near α and α + β alloys, annealed	Rm = 850	H10F	4-17	0.0023-0.01	1020	30-40	0.02-0.04
	23.22	α + β alloys in aged condition, β alloys, annealed or aged	Rm =1050	H10F	3-13	0.0015-0.007	1020	30-40	0.02-0.04
K		**Malleable cast iron**							
	07.1	Ferritic (short chipping)	130	H10F	10-42	0.0048-0.021	1020	70-95	0.06-0.10
	07.2	Pearlitic (long chipping)	230	H10F	6-30	0.0048-0.021	1020	65-80	0.06-0.10
		Grey cast iron							
	08.1	Low tensile strength	180	H10F	13-51	0.0056-0.0245	1020	70-95	0.06-0.10
	08.2	High tensile strength	260	H10F	10-42	0.0048-0.021	1020	60-80	0.06-0.10
		Nodular cast iron, SG iron							
	09.1	Ferritic	160	H10F	10-42	0.0048-0.021	1020	60-80	0.06-0.10
	09.2	Pearlitic	250	H10F	8-34	0.0032-0.014	1020	50-65	0.06-0.10
H		**Extra hard steel**							
	04.1	Hardened and tempered	43-47 HRc	–	–	–	1020	20-30	0.01-0.02
	04.1		47-60 HRc	–	–	–	1020	20-30	0.01-0.02
N		**Aluminium alloys**							
	30.11	Wrought or wrought and coldworked, non-aging	60	H10F	35-135	0.0072-0.0315	1020	200-250	0.06-0.10
	30.21	Cast, non-aging	75	H10F	24-95	0.0072-0.0315	1020	150-200	0.06-0.10
		Copper and copper alloys							
	33.1	Free cutting alloys, ≥1% Pb	110	H10F	17-68	0.0064-0.028	1020	140-170	0.06-0.10
	33.2	Brass, leaded bronzes, ≤1% Pb	90	H10F	10-40	0.0064-0.028	1020	160-190	0.06-0.10

Higher feed recommendations should be used in stable and good machining conditions,
Use lower/higher feed recommendations at smaller/larger diameters within the range:
Example: f_n = 0.10-0.14-0.25
Example: D_c = 3.0-5.0-6.0

CoroDrill® Delta-C for drill diameters 3-20 mm

Metric values

ISO	CMC No.	Material	Hardness Brinell HB	Grades	Cutting speed (v_c), m/min	Drill diameter, mm 3.00–6.00 Feed f_n mm/r [3]	6.01–10.00	10.01–14.00	14.01–20.00
P		Unalloyed steel							
	01.0	C = 0.05–0.10 %	125	1220	80-140	0.10-0.25	0.15-0.34	0.20-0.40	0.22-0.45
	01.1	C = 0.1–0.25%	125	1220	80-140	0.10-0.25	0.15-0.34	0.20-0.40	0.22-0.45
	01.2	C = 0.25–0.55%	150	1220	80-140	0.10-0.25	0.15-0.34	0.20-0.40	0.22-0.45
	01.3	C = 0.55–0.80%	170	1220	70-130	0.10-0.25	0.15-0.34	0.20-0.40	0.22-0.45
		High carbon steel							
	01.4	Carbon tool steel	210	1220	70-120	0.10-0.25	0.15-0.34	0.20-0.40	0.22-0.45
		Low alloy steel							
	02.1	Non-hardened	180	1220	70-120	0.10-0.20	0.14-0.30	018-0.35	0.20-0.40
	02.2	Hardened and tempered	275	1220	70-100	0.10-0.20	0.14-0.30	018-0.35	0.20-0.40
	02.2	Hardened and tempered	350	1220	50-80	0.10-0.20	0.14-0.25	018-0.35	0.20-0.38
		High alloy steel							
	03.11	Annealed	200	1220	40-80	0.08-0.14	0.10-0.22	0.14-0.25	0.16-0.32
	03.21	Hardened tool steel	325	1220	40-70	0.08-0.14	0.10-0.22	0.12-0.25	0.18-0.28
		Steel castings							
	06.1	Unalloyed	180	1220	70-130	0.10-0.25	0.15-0.34	0.20-0.40	0.22-0.45
	06.2	Low-alloy (alloying elements ≤5%)	200	1220	70-120	0.10-0.25	0.15-0.34	0.20-0.40	0.22-0.45
M		**Stainless steel**							
	05.11	Non-hardened / Ferritic/Martensitic	200	1220	40-80 [1]	0.08-0.14	0.08-0.20	0.12-0.22	0.14-0.24
	05.21	Austenitic	180	1220	40-80 [1]	0.08-0.14	0.08-0.20	0.12-0.22	0.14-0.24
		Stainless steel							
	15.21	Austenitic castings	200	1220	40-80 [1]	0.08-0.14	0.08-0.20	0.12-0.22	0.14-0.24
S		**Heat resistant super alloys – Nickel base**							
	20.21	Annealed or solution treated	250	1220	10-25	0.06-0.12	0.08-0.15	0.08-0.15	0.10-0.16
	20.22	Aged or solution treated and aged	350	1220	10-25	0.06-0.12	0.08-0.15	0.08-0.15	0.10-0.16
	20.24	Cast or cast and aged	320	1220	10-25	0.06-0.12	0.08-0.15	0.08-0.15	0.10-0.16
		Titanium alloys							
	23.21	α, near α and α + β alloys, annealed	Rm [2] = 850	1220	20-60	0.06-0.12	0.08-0.20	0.14-0.28	0.16-0.30
	23.22	α + β alloys in aged condition, β alloys, annealed or aged	Rm [2] =1050	1220	20-60	0.06-0.12	0.08-0.20	0.14-0.28	0.16-0.30
K		**Malleable cast iron**							
	07.1	Ferritic (short chipping)	130	1220	90-150	0.15-0.30	0.25-0.40	0.35-0.60	0.40-0.60
				1210	100-160	0.15-0.30	0.25-0.40	0.35-0.60	0.40-0.60
	07.2	Pearlitic (long chipping)	230	1220	70-130	0.15-0.25	0.20-0.35	0.30-0.55	0.35-0.55
				1210	100-150	0.15-0.25	0.20-0.35	0.30-0.55	0.35-0.55
		Grey cast iron							
	08.1	Low tensile strength	180	1220	90-150	0.15-0.30	0.25-0.40	0.35-0.60	0.40-0.60
				1210	140-200	0.15-0.30	0.25-0.40	0.35-0.60	0.40-0.60
	08.2	High tensile strength	260	1220	70-130	0.15-0.25	0.20-0.35	0.30-0.55	0.35-0.55
				1210	100-140	0.15-0.25	0.20-0.35	0.30-0.55	0.35-0.55
		Nodular cast iron, SG iron							
	09.1	Ferritic	160	1220	80-110	0.15-0.30	0.25-0.40	0.35-0.60	0.40-0.60
				1210	110-150	0.15-0.30	0.25-0.40	0.35-0.60	0.40-0.60
	09.2	Pearlitic	250	1220	70-100	0.15-0.25	0.20-0.35	0.30-0.55	0.35-0.55
				1210	100-140	0.15-0.25	0.20-0.35	0.30-0.55	0.35-0.55
	CGI			1210	90-130	0.15-0.30	0.20-0.40	0.30-0.60	0.35-0.60
H		**Extra hard steel**							
	04.1	Hardened and tempered	43-47 HRc	1220	30-50	0.06-0.10	0.08-0.12	0.10-0.15	0.12-0.18
	04.1		47-60 HRc	1220	15-25	0.06-0.10	0.08-0.12	0.10-0.15	0.12-0.18
N		**Aluminium alloys**							
	30.11	Wrought or wrought and coldworked, non-aging	60	N20D	120-230	0.15-0.25	0.20-0.40	0.30-0.50	0.40-0.60
	30.21	Cast, non-aging	75	N20D	120-230	0.15-0.25	0.20-0.40	0.30-0.50	0.40-0.60
		Copper and copper alloys							
	33.1	Free cutting alloys, ≥1% Pb	110	N20D	90-150	0.15-0.25	0.20-0.40	0.30-0.50	0.40-0.60
	33.2	Brass, leaded bronzes, ≤1% Pb	90	N20D	90-150	0.15-0.25	0.20-0.40	0.30-0.50	0.40-0.60

1) Internal cutting fluid supply is recommended when drilling stainless steel as a good supply of coolant at the cutting edges is essential for chip evacuation and tool life.

2) Rm = ultimate tensile strength measured in MPa.

3) Higher feeds should be used in stable and favourable machining conditions.

CoroDrill® Delta-C R840 for drill diameters .012-.114 inch

Inch values

ISO	CMC No.	Material	Hardness Brinell HB	Grade	Cutting speed (V_c) ft/min	Drill diameter 0.30-1.40 mm (.012-.055 inch) Feed f_n in./r	Grade	Cutting speed (V_c) ft/min	Drill diameter 1.50-2.90 mm (.059-.114 inch) Feed f_n in./r
P		**Unalloyed steel**							
	01.0	C = 0.05-0.10%	125	H10F	50-170	0.0002-0.0009	1020	260-330	.002-.003
	01.1	C = 0.10-0.25%	125	H10F	50-170	0.0002-0.0009	1020	260-330	.002-.003
	01.2	C = 0.25-0.55%	150	H10F	50-170	0.0002-0.0009	1020	230-280	.001-.003
	01.3	C = 0.55-0.80%	170	H10F	50-170	0.0002-0.0009	1020	230-280	.001-.003
		High carbon steel							
	01.4	Carbon tool steel	210	H10F	30-140	0.00015-0.0008	1020	210-260	.001-.003
		Low alloy steel							
	02.1	Non-hardened	180	H10F	50-170	0.0002-0.0009	1020	200-250	.001-.002
	02.2	Hardened and tempered	275	H10F	30-140	0.00015-0.0007	1020	150-200	.001-.002
	02.2	Hardened and tempered	350	H10F	25-90	0.0001-0.0006	1020	115-160	.001-.002
		High alloy steel							
	03.11	Annealed	200	H10F	20-80	0.00015-0.0007	1020	150-200	.001-.003
	03.21	Hardened tool steel	325	H10F	17-65	0.00015-0.0007	1020	130-160	.001-.002
		Steel castings							
	06.1	Unalloyed	180	H10F	50-170	0.0002-0.0009	1020	200-250	.001-.002
	06.2	Low-alloy (alloying elements ≤5%)	200	H10F	50-170	0.0002-0.0009	1020	160-210	.001-.002
S		**Titanium alloys**							
	23.21	α, near α and α + β alloys, annealed	Rm = 850	H10F	15-55	0.0001-0.0004	1020	100-130	.001-.002
	23.22	α + β alloys in aged condition, β alloys, annealed or aged	Rm =1050	H10F	10-45	0.00006-0.0003	1020	100-130	.001-.002
K		**Malleable cast iron**							
	07.1	Ferritic (short chipping)	130	H10F	30-140	0.0002-0.0008	1020	230-310	.002-.004
	07.2	Pearlitic (long chipping)	230	H10F	20-100	0.0002-0.0008	1020	210-260	.002-.004
		Grey cast iron							
	08.1	Low tensile strength	180	H10F	40-170	0.0002-0.00095	1020	230-310	.002-.004
	08.2	High tensile strength	260	H10F	30-140	0.0002-0.0008	1020	200-260	.002-.004
		Nodular cast iron, SG iron							
	09.1	Ferritic	160	H10F	30-140	0.0002-0.0008	1020	200-260	.002-.004
	09.2	Pearlitic	250	H10F	25-15	0.00012-0.0006	1020	160-210	.002-.004
H		**Extra hard steel**							
	04.1	Hardened and tempered	43-47 HRc	–	–	–	1020	65-100	.0004-.0008
	04.1		47-60 HRc	–	–	–	1020	65-100	.0004-.0008
N		**Aluminium alloys**							
	30.11	Wrought or wrought and coldworked, non-aging	60	H10F	120-450	0.0003-0.0012	1020	650-820	.002-.004
	30.21	Cast, non-aging	75	H10F	80-310	0.0003-0.0012	1020	490-650	.002-.004
		Copper and copper alloys							
	33.1	Free cutting alloys, ≥1% Pb	110	H10F	60-220	0.00025-0.0011	1020	460-560	.002-.004
	33.2	Brass, leaded bronzes, ≤1% Pb	90	H10F	30-130	0.00025-0.0011	1020	520-620	.002-.004

Higher feed recommendations should be used in stable and good machining conditions,
Use lower/higher feed recommendations at smaller/larger diameters within the range:
Example: f_n = .004-.006-.010 inch
Example: D_c = .039-.197-.236 inch

CoroDrill® Delta-C for drill diameters .118-.787 inch

Inch values

ISO	CMC No.	Material	Hardness Brinell HB	Grades	Cutting speed (V_c) ft/min	Drill diameter 3.00-6.00 mm (.118-.236 inch) Feed f_n inch/r	6.01-10.00 mm (.237-.394 inch) Feed f_n inch/r	10.01-14.00 mm (.395-.551 inch) Feed f_n inch/r	14.01-20.00 mm (.552-.787 inch) Feed f_n inch/r
P		**Unalloyed steel**							
	01.0	C = 0.05-0.10%	125	1220	260-460	.004-.010	.006-.013	.008-.016	.009-.018
	01.1	C = 0.10-0.25%	125	1220	260-460	.004-.010	.006-.013	.008-.016	.009-.018
	01.2	C = 0.25-0.55%	150	1220	260-460	.004-.010	.006-.013	.008-.016	.009-.018
	01.3	C = 0.55-0.80%	170	1220	230-430	.004-.010	.006-.013	.008-.016	.009-.018
		High carbon steel							
	01.4	Carbon tool steel	210	1220	230-400	.004-.010	.006-.013	.008-.016	.009-.018
		Low alloy steel							
	02.1	Non-hardened	180	1220	230-400	.004-.008	.006-.012	.007-.014	.008-.016
	02.2	Hardened and tempered	275	1220	230-330	.004-.008	.006-.012	.007-.014	.008-.016
	02.2	Hardened and tempered	350	1220	160-260	.004-.008	.006-.010	.007-.014	.008-.016
		High alloy steel							
	03.11	Annealed	200	1220	130-260	.003-.006	.004-.009	.006-.010	.006-.013
	03.21	Hardened tool steel	325	1220	130-230	.003-.006	.004-.009	.005-.010	.007-.011
		Steel castings							
	06.1	Unalloyed	180	1220	230-430	.004-.010	.006-.013	.008-.016	.009-.018
	06.2	Low-alloy (alloying elements ≤5%)	200	1220	230-400	.004-.010	.006-.013	.008-.016	.009-.018
M		**Stainless steel**							
	05.11	Non-hardened / Ferritic/Martensitic	200	1220	130-260[1]	.003-.006	.003-.008	.005-.009	.006-.009
	05.21	Austenitic	180	1220	130-260[1]	.003-.006	.003-.008	.005-.009	.006-.009
		Stainless steel							
	15.21	Austenitic castings	200	1220	130-260[1]	.003-.006	.003-.008	.005-.009	.006-.009
				1030		.003-.008	.004-.010	.006-.012	.007-.014
S		**Heat resistant super alloys – Nickel base**							
	20.21	Annealed or solution treated	250	1220	30-80	.002-.005	.003-.006	.003-.006	.004-.006
	20.22	Aged or solution treated and aged	350	1220	30-80	.002-.005	.003-.006	.003-.006	.004-.006
	20.24	Cast or cast and aged	320	1220	30-80	.002-.005	.003-.006	.003-.006	.004-.006
		Titanium alloys							
	23.21	α, near α and α + β alloys, annealed	Rm[2] = 850	1220	70-200	.002-.005	.003-.008	.006-.011	.006-.012
	23.22	α + β alloys in aged condition, β alloys, annealed or aged	Rm[2] =1050	1220	70-200	.002-.005	.003-.008	.006-.011	.006-.012
K		**Malleable cast iron**							
	07.1	Ferritic (short chipping)	130	1220	300-500	.006-.012	.010-.016	.014-.024	.016-.024
				1210	330-560	.006-.012	.010-.016	.014-.024	.016-.024
	07.2	Pearlitic (long chipping)	230	1220	230-430	.006-.010	.008-.014	.012-.022	.014-.022
				1210	300-500	.006-.010	.008-.014	.012-.022	.014-.022
		Grey cast iron							
	08.1	Low tensile strength	180	1220	300-500	.006-.012	.010-.016	.014-.024	.016-.024
				1210	330-560	.006-.012	.010-.016	.014-.024	.016-.024
	08.2	High tensile strength	260	1220	230-430	.006-.010	.008-.014	.012-.022	.014-.022
				1210	300-500	.006-.010	.008-.014	.012-.022	.014-.022
		Nodular cast iron, SG iron							
	09.1	Ferritic	160	1220	80-300	.006-.012	.010-.016	.014-.024	.016-.024
				1210	330-500	.006-.012	.010-.016	.014-.024	.016-.024
	09.2	Pearlitic	250	1220	200-300	.006-.010	.008-.014	.012-.022	.014-.022
				1210	300-500	.006-.010	.008-.014	.012-.022	.014-.022
	CGI			1210	230-400	.006-.012	.010-.016	.014-.024	.016-.024
H		**Extra hard steel**							
	04.1	Hardened and tempered	43-47 HRc	1220	90-150	.002-.004	.003-.005	.004-.006	.005-.007
	04.1		47-60 HRc	1220	50-80	.002-.004	.003-.005	.004-.006	.005-.007
N		**Aluminium alloys**							
	30.11	Wrought or wrought and coldworked, non-aging	60	N20D	400-750	.006-.010	.008-.016	.012-.020	.016-.024
	30.21	Cast, non-aging	75	N20D	400-750	.006-.010	.008-.016	.012-.020	.016-.024
		Copper and copper alloys							
	33.1	Free cutting alloys, ≥1% Pb	110	N20D	240-450	.006-.010	.008-.016	.012-.020	.016-.024
	33.2	Brass, leaded bronzes, ≤1% Pb	90	N20D	240-450	.006-.010	.008-.016	.012-.020	.016-.024

1) Internal cutting fluid supply is recommended when drilling stainless steel as a good supply of coolant at the cutting edges is essential for chip evacuation and tool life.

2) Rm = ultimate tensile strength measured in MPa.

3) Higher feeds should be used in stable and favourable machining conditions.

CoroDrill® 860

Internal coolant supply 3 – 8 × Dc

Metric values

ISO	MC No.	CMC No.	Material	Hardness Brinell HB	Grade	Cutting speed (v_c), m/min D_c 3.00 - 20.00mm (min-start-max)
P			**Unalloyed steel**			
	P1.1.Z.AN	01.0	C = 0.05–0.10 %	125	4234	140-200-250
	P1.1.Z.AN	01.1	C = 0.1–0.25%	125	4234	140-200-250
	P1.2.Z.AN	01.2	C = 0.25–0.55%	150	4234	140-180-250
	P1.3.Z.AN	01.3	C = 0.55–0.80%	170	4234	140-180-250
			High carbon steel			
	P1.3.Z.AN	01.4	Carbon tool steel	210	4234	150-170-220
			Low alloy steel			
	P2.1.Z.AN	02.1	Non-hardened	175	4234	120-170-240
	P2.5.Z.HT	02.2	Hardened and tempered	275	4234	80-110-140
	P2.5.Z.HT	02.2	Hardened and tempered	350	4234	60-80-100
			High alloy steel			
	P3.0.Z.AN	03.11	Annealed	200	4234	60-120-140
	P3.0.Z.HT	03.21	Hardened tool steel	300	4234	60-80-100
			Steel castings			
	P1.5.C.UT	06.1	Unalloyed	150	4234	120-170-210
	P2.6.C.UT	06.2	Low-alloy (alloying elements ≤5%)	200	4234	120-160-220

Inch values

ISO	MC No.	CMC No.	Material	Hardness Brinell HB	Grade	Cutting speed (v_c), ft/min D_c .1181 - .7874 inch (min-start-max)
P			**Unalloyed steel**			
	P1.1.Z.AN	01.0	C = 0.05–0.10 %	125	4234	460-655-820
	P1.1.Z.AN	01.1	C = 0.1–0.25%	125	4234	460-655-820
	P1.2.Z.AN	01.2	C = 0.25–0.55%	150	4234	460-590-820
	P1.3.Z.AN	01.3	C = 0.55–0.80%	170	4234	460-590-755
			High carbon steel			
	P1.3.Z.AN	01.4	Carbon tool steel	210	4234	490-560-720
			Low alloy steel			
	P2.1.Z.AN	02.1	Non-hardened	175	4234	395-560-785
	P2.5.Z.HT	02.2	Hardened and tempered	275	4234	260-360-460
	P2.5.Z.HT	02.2	Hardened and tempered	350	4234	195-260-330
			High alloy steel			
	P3.0.Z.AN	03.11	Annealed	200	4234	195-395-460
	P3.0.Z.HT	03.21	Hardened tool steel	300	4234	195-260-330
			Steel castings			
	P1.5.C.UT	06.1	Unalloyed	150	4234	395-560-690
	P2.6.C.UT	06.2	Low-alloy (alloying elements ≤5%)	200	4234	395-525-720

Cutting data recommendations are valid for internal coolant supply, which gives the best performance.

Preferred pressure min. 15 bar

If external coolant supply is used:
- More important to adjust cutting data for good chip form and evacuation
- Lower penetration rates than what is possible with internal coolant may be necessary

CoroDrill® 860

Internal coolant supply 3 – 8 × Dc

Drill diameter, mm							
3	4	6	8	10	12	16	20
Feed f_n mm/r (min-start-max)							
0.06-0.10-0.20	0.10-0.14-0.24	0.12-0.18-0.28	0.14-0.22-0.32	0.15-0.24-0.39	0.18-0.27-0.42	0.21-0.30-0.45	0.24-0.33-0.48
0.06-0.10-0.20	0.10-0.14-0.24	0.12-0.18-0.28	0.14-0.22-0.32	0.15-0.24-0.39	0.18-0.27-0.42	0.21-0.30-0.45	0.24-0.33-0.48
0.06-0.10-0.20	0.10-0.14-0.24	0.12-0.18-0.28	0.14-0.22-0.32	0.15-0.24-0.39	0.18-0.27-0.42	0.21-0.30-0.45	0.24-0.33-0.48
0.06-0.10-0.20	0.10-0.14-0.24	0.12-0.18-0.28	0.14-0.22-0.32	0.15-0.24-0.39	0.18-0.27-0.42	0.21-0.30-0.45	0.24-0.33-0.48
0.06-0.10-0.20	0.10-0.14-0.24	0.12-0.18-0.28	0.14-0.22-0.32	0.15-0.24-0.39	0.18-0.27-0.42	0.21-0.30-0.45	0.24-0.33-0.48
0.06-0.10-0.20	0.10-0.14-0.24	0.12-0.18-0.28	0.14-0.22-0.30	0.15-0.24-0.39	0.18-0.27-0.42	0.21-0.30-0.45	0.24-0.33-0.48
0.08-0.14-0.20	0.14-0.18-0.24	0.18-0.24-0.32	0.20-0.28-0.36	0.20-0.32-0.40	0.22-0.36-0.44	0.24-0.40-0.48	0.26-0.44-0.50
0.08-0.12-0.18	0.14-0.16-0.22	0.18-0.22-0.30	0.20-0.25-0.33	0.20-0.29-0.37	0.22-0.33-0.41	0.24-0.36-0.42	0.26-0.40-0.48
0.08-0.14-0.22	0.10-0.18-0.24	0.12-0.20-0.26	0.15-0.22-0.28	0.16-0.24-0.32	0.18-0.28-0.40	0.20-0.30-0.42	0.22-0.32-0.44
0.08-0.12-0.16	0.10-0.15-0.18	0.12-0.18-0.22	0.15-0.20-0.28	0.16-0.22-0.32	0.18-0.26-0.36	0.20-0.28-0.40	0.22-0.30-0.42
0.06-0.10-0.20	0.10-0.14-0.24	0.12-0.18-0.28	0.14-0.22-0.30	0.15-0.24-0.39	0.18-0.27-0.42	0.21-0.30-0.45	0.24-0.33-0.48
0.06-0.10-0.20	0.10-0.14-0.24	0.12-0.18-0.28	0.14-0.22-0.30	0.15-0.24-0.39	0.18-0.27-0.42	0.21-0.30-0.45	0.24-0.33-0.48

Drill diameter, inch							
.118	.157	.236	.315	.394	.472	.630	.787
Feed f_n inch/r (min-start-max)							
.0024-.0039-.0079	.0039-.0055-.0094	.0047-.0071-.0110	.0055-.0087-.0126	.0059-.0094-.0154	.0071-.0106-.0165	.0083-.0118-.0177	.0094-.0130-.0189
.0024-.0039-.0079	.0039-.0055-.0094	.0047-.0071-.0110	.0055-.0087-.0126	.0059-.0094-.0154	.0071-.0106-.0165	.0083-.0118-.0177	.0094-.0130-.0189
.0024-.0039-.0079	.0039-.0055-.0094	.0047-.0071-.0110	.0055-.0087-.0126	.0059-.0094-.0154	.0071-.0106-.0165	.0083-.0118-.0177	.0094-.0130-.0189
.0024-.0039-.0079	.0039-.0055-.0094	.0047-.0071-.0110	.0055-.0087-.0126	.0059-.0094-.0154	.0071-.0106-.0165	.0083-.0118-.0177	.0094-.0130-.0189
.0024-.0039-.0079	.0039-.0055-.0094	.0047-.0071-.0110	.0055-.0087-.0126	.0059-.0094-.0154	.0071-.0106-.0165	.0083-.0118-.0177	.0094-.0130-.0189
.0024-.0039-.0079	.0039-.0055-.0094	.0047-.0071-.0110	.0055-.0087-.0118	.0059-.0094-.0154	.0071-.0106-.0165	.0083-.0118-.0177	.0094-.0130-.0189
.0031-.0055-.0079	.0055-.0071-.0094	.0071-.0094-.0126	.0079-.0110-.0142	.0079-.0126-.0157	.0087-.0142-.0173	.0094-.0157-.0189	.0102-.0173-.0197
.0031-.0047-.0071	.0055-.0063-.0087	.0071-.0087-.0118	.0079-.0098-.0130	.0079-.0114-.0146	.0087-.0130-.0161	.0094-.0142-.0165	.0105-.0157-.0189
.0031-.0055-.0087	.0039-.0071-.0094	.0047-.0079-.0102	.0059-.0087-.0110	.0063-.0094-.0126	.0071-.0110-.0157	.0079-.0118-.0165	.0087-.0126-.0173
.0031-.0047-.0063	.0039-.0059-.0071	.0047-.0071-.0087	.0059-.0079-.0110	.0063-.0087-.0126	.0071-.0102-.0142	.0079-.0110-.0157	.0087-.0118-.0165
.0024-.0039-.0079	.0039-.0055-.0094	.0047-.0071-.0110	.0055-.0087-.0118	.0059-.0094-.0154	.0071-.0106-.0165	.0083-.0118-.0177	.0094-.0130-.0189
.0024-.0039-.0079	.0039-.0055-.0094	.0047-.0071-.0110	.0055-.0087-.0118	.0059-.0094-.0154	.0071-.0106-.0165	.0083-.0118-.0177	.0094-.0130-.0189

CoroDrill® 861 - GP

Metric values

ISO	MC No.	CMC No.	Material	Hardness Brinell HB	Cutting speed v_c m/min Min.	Max.
P			**Unalloyed steel**			
	P1.1.Z.AN	01.1	C=0.1-0.25%	125	76	150
	P1.2.Z.AN	01.2	C=0.25-0.55%	190	76	150
			Low alloy steel			
	P2.2.Z.AN	02.1	Annealed	240	52	114
	P2.5.Z.HT	02.2	Hardened and tempered	330	52	114
			High alloy steel			
	P3.0.Z.AN	03.11	Annealed	200	52	114
	P4.0.S.NS		**Sintered steels**	150	76	132
			Stainless steel			
	P5.1.Z.AN	05.11 /15.11	Ferritic/Martensitic	200	24	114
M			**Stainless steel**			
	M1.0.Z.AQ	05.21/15.21	Austenitic	200	24	66
	M2.0.Z.AQ	05.21/15.21	Super austenitic Ni≥20%	200	24	42
	M3.2.Z.AQ	05.52/15.52	Duplex (austenitic/ferritic)	260	24	36
K			**Malleable cast iron**			
	K1.1.C.NS	07.1/07.2	Ferritic?Pearlitic	200	64	96
			Grey cast iron			
	K2.1.C.UT	08.1	Low tensile strength	180	88	132
	K2.2.C.UT	08.2	High tensile strength	245	64	96
			Nodular cast iron			
	K3.1.C.UT	09.1	Ferritic	155	64	96
	K3.3.C.UT	09.2	Pearlitic	265	64	96
	K5.1.C.NS		**ADI**	300	64	96
N			**Aluminium based alloys**			
	N1.1.Z.UT		Commercial pure	30	200	300
	N1.2.Z.AG		AlSi alloys, Si ≤ 1%	100	200	300
	N1.3.C.AG	30.21	AlSi cast alloys, Si > 1% and < 13%	90	120	240
	N1.4.C.NS		AlSi cast alloys, Si ≥ 13%	130	120	180
	N2.0.C.UT		**Magnesium based alloys**	70	120	240
			Copper based alloys			
	N3.1.U.UT		Non-leaded copper alloys (incl. electrolytic copper)	100	100	150
	N3.2.C.UT		Leaded brass & bronzes (Pb ≤ 1%)	90	176	264
	N3.3.U.UT		Free cutting copper based alloys (Pb>1%)	110	176	264
	N3.4.C.UT		high strength bronzes (>225HB)	300	80	120
	N4.0.C.UT		**Zink based alloys**	70	76	264

CoroDrill® 861 - GP

Metric values

Drill diameter, mm													
f_n mm/rev.													
3.00-3.99		4.00-4.99		5.00-5.99		6.00-7.99		8.00-9.99		10.00-11.99		12.00	
Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
0.10	0.13	0.12	0.15	0.13	0.17	0.15	0.20	0.20	0.26	0.25	0.33	0.28	0.38
0.10	0.13	0.12	0.15	0.13	0.17	0.15	0.20	0.20	0.26	0.25	0.33	0.28	0.38
0.07	0.10	0.08	0.12	0.09	0.13	0.11	0.15	0.14	0.20	0.17	0.25	0.20	0.28
0.07	0.10	0.08	0.12	0.09	0.13	0.11	0.15	0.14	0.20	0.17	0.25	0.20	0.28
0.07	0.10	0.08	0.12	0.09	0.13	0.11	0.15	0.14	0.20	0.17	0.25	0.20	0.28
0.10	0.13	0.12	0.15	0.13	0.17	0.15	0.20	0.20	0.26	0.25	0.33	0.28	0.38
0.07	0.10	0.08	0.12	0.09	0.13	0.11	0.15	0.14	0.20	0.17	0.25	0.20	0.28
0.07	0.10	0.08	0.12	0.09	0.13	0.11	0.15	0.14	0.20	0.17	0.25	0.20	0.28
0.07	0.10	0.08	0.12	0.09	0.13	0.11	0.15	0.14	0.20	0.17	0.25	0.20	0.28
0.06	0.08	0.07	0.09	0.08	0.10	0.10	0.12	0.13	0.15	0.16	0.18	0.19	0.21
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.29
0.12	0.14	0.14	0.16	0.16	0.18	0.19	0.21	0.25	0.27	0.32	0.34	0.37	0.39
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.29
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.29
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.29
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.29
0.12	0.14	0.14	0.16	0.16	0.18	0.19	0.21	0.25	0.27	0.32	0.34	0.37	0.39
0.12	0.14	0.14	0.16	0.16	0.18	0.19	0.21	0.25	0.27	0.32	0.34	0.37	0.29
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.29
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.29
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.39
0.12	0.14	0.14	0.16	0.16	0.18	0.19	0.21	0.25	0.27	0.32	0.34	0.37	0.39
0.12	0.14	0.14	0.16	0.16	0.18	0.19	0.21	0.25	0.27	0.32	0.34	0.37	0.39
0.12	0.14	0.14	0.16	0.16	0.18	0.19	0.21	0.25	0.27	0.32	0.34	0.37	0.29
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.39
0.12	0.14	0.14	0.16	0.16	0.18	0.19	0.21	0.25	0.27	0.32	0.34	0.37	0.39

CoroDrill® 861 - GP

Inch values

ISO	MC No.	CMC No.	Material	Hardness Brinell HB	Cutting speed v_c ft/min Min.	Max.
P			**Unalloyed steel**			
	P1.1.Z.AN	01.1	C=0.1-0.25%	125	250	490
	P1.2.Z.AN	01.2	C=0.25-0.55%	190	250	490
			Low alloy steel			
	P2.2.Z.AN	02.1	Annealed	240	170	375
	P2.5.Z.HT	02.2	Hardened and tempered	330	170	375
			High alloy steel			
	P3.0.Z.AN	03.11	Annealed	200	170	375
	P4.0.S.NS		**Sintered steels**	150	250	433
			Stainless steel			
	P5.1.Z.AN	05.11 /15.11	Ferritic/Martensitic	200	80	375
M			**Stainless steel**			
	M1.0.Z.AQ	05.21/15.21	Austenitic	200	80	215
	M2.0.Z.AQ	05.21/15.21	Super austenitic Ni≥20%	200	80	140
	M3.2.Z.AQ	05.52/15.52	Duplex (austenitic/ferritic)	260	80	120
K			**Malleable cast iron**			
	K1.1.C.NS	07.1/07.2	Ferritic?Pearlitic	200	210	315
			Grey cast iron			
	K2.1.C.UT	08.1	Low tensile strength	180	290	435
	K2.2.C.UT	08.2	High tensile strength	245	210	315
			Nodular cast iron			
	K3.1.C.UT	09.1	Ferritic	155	210	315
	K3.2.C.UT	09.2	Pearlitic	265	210	315
	K5.1.C.NS		**ADI**	300	210	315
N			**Aluminium based alloys**			
	N1.1.Z.UT		Commercial pure	30	655	985
	N1.2.Z.AG		AlSi alloys, Si ≤ 1%	100	655	985
	N1.3.C.AG	30.21	AlSi cast alloys, Si > 1% and < 13%	90	395	785
	N1.4.C.NS		AlSi cast alloys, Si ≥ 13%	130	395	590
	N2.0.C.UT		**Magnesium based alloys**	70	395	785
			Copper based alloys			
	N3.1.U.UT		Non-leaded copper alloys (incl. electrolytic copper)	100	330	490
	N3.2.C.UT		Leaded brass & bronzes (Pb ≤ 1%)	90	575	865
	N3.3.U.UT		Free cutting copper based alloys (Pb>1%)	110	575	865
	N3.4.C.UT		high strength bronzes (>225HB)	300	260	395
	N4.0.C.UT		**Zink based alloys**	70	250	865

CoroDrill® 861 - GP

Inch values

Drill diameter, inch													
f_n inch/rev.													
.1181-.1571		.1572-.1964		.1965-.2358		.2359-.3146		.3147-.3933		.3934-.4720		.4721	
Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
.0039	.0051	.0047	.0059	.0051	.0067	.0059	.0079	.0079	.0102	.0098	.0130	.0110	.0150
.0039	.0051	.0047	.0059	.0051	.0067	.0059	.0079	.0079	.0102	.0098	.0130	.0110	.0150
.0028	.0039	.0031	.0047	.0035	.0051	.0043	.0059	.0055	.0079	.0067	.0098	.0079	.0110
.0028	.0039	.0031	.0047	.0035	.0051	.0043	.0059	.0055	.0079	.0067	.0098	.0079	.0110
.0028	.0039	.0031	.0047	.0035	.0051	.0043	.0059	.0055	.0079	.0067	.0098	.0079	.0110
.0039	.0051	.0047	.0059	.0051	.0067	.0059	.0079	.0079	.0102	0098	.0130	.0110	.0150
.0028	.0039	.0031	.0047	.0035	.0051	.0043	.0059	.0055	.0079	.0067	.0098	.0079	.0110
.0028	.0039	.0031	.0047	.0035	.0051	.0043	.0059	.0055	.0079	.0067	.0098	.0079	.0110
.0028	.0039	.0031	.0047	.0035	.0051	.0043	.0059	.0055	.0079	.0067	.0098	.0079	.0110
.0024	.0031	.0028	.0035	.0031	.0039	.0039	.0047	.0051	.0059	.0063	.0071	.0075	.0083
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0114
.0047	.0055	.0055	.0063	.0063	.0071	.0075	.0083	.0098	.0106	.0126	.0134	.0146	.0154
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0114
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0114
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0114
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0114
.0047	.0055	.0055	.0063	.0063	.0071	.0075	.0083	.0098	.0106	.0126	.0134	.0146	.0154
.0047	.0055	.0055	.0063	.0063	.0071	.0075	.0083	.0098	.0106	.0126	.0134	.0146	.0114
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0114
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0114
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0154
.0047	.0055	.0055	.0063	.0063	.0071	.0075	.0083	.0098	.0106	.0126	.0134	.0146	.0154
.0047	.0055	.0055	.0063	.0063	.0071	.0075	.0083	.0098	.0106	.0126	.0134	.0146	.0154
.0047	.0055	.0055	.0063	.0063	.0071	.0075	.0083	.0098	.0106	.0126	.0134	.0146	.0114
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0154
.0047	.0055	.0055	.0063	.0063	.0071	.0075	.0083	.0098	.0106	.0126	.0134	.0146	.0154

CoroDrill® 861 - GM

12 - 15 x D_c

Metric values

ISO	MC No.	CMC No.	Material	Hardness Brinell (HB)	Cutting speed (V_c) m/min Min.	Max.
P			**Unalloyed steel**			
	P1.1.Z.AN	01.1	C=0.10-0.25%	125	80	156
	P1.2.Z.AN	01.2	C=0.25-0.55%	190	80	156
			Low alloy steel			
	P2.2.Z.AN	02.1	Annealed	240	64	120
	P2.5.Z.HT	02.2	Hardened and tempered	330	64	120
			High alloy steel			
	P3.0.Z.AN	03.11	Annealed	200	64	120
	P4.0.S.NS		**Sintered steels**	150	80	132
			Stainless steel			
	P5.1.Z.AN	05.11 /15.11	Ferritic/Martensitic	200	20	120
M			**Stainless Steel**			
	M1.0.Z.AQ	05.21/15.21	Austenitic	200	20	42
	M2.0.Z.AQ	05.21/15.21	Super austenitic Ni≥20%	200	20	36
	M3.2.Z.AQ	05.52/15.52	Duplex (austenitic/ferritic)	260	20	30
K						
	K1.1.C.NS	07.1/07.2	**Malleable cast iron (ferritic, pearlitic)**	200	60	90
			Grey cast iron			
	K2.1.C.UT	08.1	Low tensile strengt	180	92	138
	K2.2.C.UT	08.2	High tensile strength	245	60	90
			Nodular cast iron			
	K3.1.C.UT	09.1	Ferritic	155	60	90
	K3.3.C.UT	09.2	Pearlitic	265	60	90
	K5.1.C.NS		**ADI**	300	60	90
N			**Aluminium based alloys**			
	N1.1.Z.UT		Commercial pure	30	216	324
	N1.2.Z.AG		AlSi alloys, Si ≤ 1%	100	216	324
	N1.3.C.AG	30.21	AlSi cast alloys, Si > 1% and < 13%	90	72	216
	N1.4.C.NS		AlSi cast alloys, Si ≥ 13%	130	72	108
	N2.0.C.UT		**Magnesium based alloys**	70	72	216
			Copper based alloys			
	N3.1.U.UT		Non-leaded copper alloys (incl. electrolytic copper)	100	100	150
	N3.2.C.UT		Leaded brass & bronzes (Pb ≤ 1%)	90	176	264
	N3.3.U.UT		Free cutting copper based alloys (Pb>1%)	110	176	264
	N3.4.C.UT		high strength bronzes (>225HB)	300	80	120
	N4.0.C.UT		**Zink based alloys**	70	176	264

CoroDrill® 861 - GM

12 - 15 x D_c

Metric values

Drill diameter, D_c f_n mm/rev.													
3.00-3.99		4.00-4.99		5.00-5.99		6.00-7.99		8.00-9.99		10.00-11.99		12.00-14.00	
Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
0.10	0.13	0.12	0.15	0.13	0.17	0.15	0.20	0.20	0.26	0.25	0.33	0.28	0.38
0.10	0.13	0.12	0.15	0.13	0.17	0.15	0.20	0.20	0.26	0.25	0.33	0.28	0.38
0.10	0.13	0.12	0.15	0.13	0.17	0.15	0.20	0.20	0.26	0.25	0.33	0.28	0.38
0.10	0.13	0.12	0.15	0.13	0.17	0.15	0.20	0.20	0.26	0.25	0.33	0.28	0.38
0.10	0.13	0.12	0.15	0.13	0.17	0.15	0.20	0.20	0.26	0.25	0.33	0.28	0.38
0.10	0.13	0.12	0.15	0.13	0.17	0.15	0.20	0.20	0.26	0.25	0.33	0.28	0.38
0.10	0.13	0.12	0.15	0.13	0.17	0.15	0.20	0.20	0.26	0.25	0.33	0.28	0.38
0.07	0.10	0.08	0.12	0.09	0.13	0.11	0.15	0.14	0.20	0.17	0.25	0.20	0.28
0.07	0.10	0.08	0.12	0.09	0.13	0.11	0.15	0.14	0.20	0.17	0.25	0.20	0.28
0.07	0.10	0.08	0.12	0.09	0.13	0.11	0.15	0.14	0.20	0.17	0.25	0.20	0.28
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.29
0.12	0.14	0.14	0.16	0.16	0.18	0.19	0.21	0.25	0.27	0.32	0.34	0.37	0.39
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.29
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.29
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.29
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.29
0.12	0.14	0.14	0.16	0.16	0.18	0.19	0.21	0.25	0.27	0.32	0.34	0.37	0.39
0.12	0.14	0.14	0.16	0.16	0.18	0.19	0.21	0.25	0.27	0.32	0.34	0.37	0.39
0.12	0.14	0.14	0.16	0.16	0.18	0.19	0.21	0.25	0.27	0.32	0.34	0.37	0.39
0.12	0.14	0.14	0.16	0.16	0.18	0.19	0.21	0.25	0.27	0.32	0.34	0.37	0.39
0.12	0.14	0.14	0.16	0.16	0.18	0.19	0.21	0.25	0.27	0.32	0.34	0.37	0.39
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.29
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.29
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.29
0.06	0.08	0.07	0.09	0.08	0.10	0.10	0.12	0.13	0.15	0.16	0.18	0.19	0.21
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.29

CoroDrill® 861 - GM

20 - 30 x D_c

Metric values

ISO	MC No.	CMC No.	Material	Hardness Brinell (HB)	Cutting speed (V_c) m/min Min.	Max.
P			**Unalloyed steel**			
	P1.1.Z.AN	01.1	C=0.10-0.25%	125	72	140
	P1.2.Z.AN	01.2	C=0.25-0.55%	190	72	140
			Low alloy steel			
	P2.2.Z.AN	02.1	Annealed	240	58	135
	P2.5.Z.HT	02.2	Hardened and tempered	330	58	135
			High alloy steel			
	P3.0.Z.AN	03.11	Annealed	200	58	135
	P4.0.S.NS		**Sintered steels**	150	72	119
			Stainless steel			
	P5.1.Z.AN	05.11 /15.11	Ferritic/Martensitic	200	19	108
M			**Stainless steel**			
	M1.0.Z.AQ	05.21/15.21	Austenitic	200	19	38
	M2.0.Z.AQ	05.21/15.21	Super austenitic Ni≥20%	200	19	33
	M3.2.Z.AQ	05.52/15.52	Duplex (austenitic/ferritic)	260	19	28
K						
	K1.1.C.NS	07.1/07.2	**Malleable cast iron**	200	55	82
			Grey cast iron			
	K2.1.C.UT	08.1	Low tensile strength	180	92	138
	K2.2.C.UT	08.2	High tensile strength	245	55	82
			Nodular cast iron			
	K3.1.C.UT	09.1	Ferritic	155	55	82
	K3.3.C.UT	09.2	Pearlitic	265	55	82
	K5.1.C.NS		**ADI**	300	55	82
N			**Aluminium based alloys**			
	N1.1.Z.UT		Commercial pure	30	194	292
	N1.2.Z.AG		AlSi alloys, Si ≤ 1%	100	194	292
	N1.3.C.AG	30.21	AlSi cast alloys, Si > 1% and < 13%	90	65	194
	N1.4.C.NS		AlSi cast alloys, Si ≥ 13%	130	65	97
	N2.0.C.UT		**Magnesium based alloys**	70	65	194

CoroDrill® 861 - GM

20 - 30 x D_c

Metric values

Drill diameter D_c
f_n mm/rev.

3.00-3.99		4.00-4.99		5.00-5.99		6.00-7.99		8.00-9.99		10.00-11.99		12.00	
Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
0.07	0.10	0.08	0.12	0.09	0.13	0.11	0.15	0.14	0.20	0.17	0.25	0.20	0.28
0.07	0.10	0.08	0.12	0.09	0.13	0.11	0.15	0.14	0.20	0.17	0.25	0.20	0.28
0.07	0.10	0.08	0.12	0.09	0.13	0.11	0.15	0.14	0.20	0.17	0.25	0.20	0.28
0.07	0.10	0.08	0.12	0.09	0.13	0.11	0.15	0.14	0.20	0.17	0.25	0.20	0.28
0.07	0.10	0.08	0.12	0.09	0.13	0.11	0.15	0.14	0.20	0.17	0.25	0.20	0.28
0.07	0.10	0.08	0.12	0.09	0.13	0.11	0.15	0.14	0.20	0.17	0.25	0.20	0.28
0.07	0.10	0.08	0.12	0.09	0.13	0.11	0.15	0.14	0.20	0.17	0.25	0.20	0.28
0.04	0.07	0.05	0.08	0.06	0.09	0.07	0.11	0.09	0.14	0.11	0.17	0.13	0.20
0.04	0.07	0.05	0.08	0.06	0.09	0.07	0.11	0.09	0.14	0.11	0.17	0.13	0.20
0.04	0.07	0.05	0.08	0.06	0.09	0.07	0.11	0.09	0.14	0.11	0.17	0.13	0.20
0.06	0.08	0.07	0.09	0.08	0.10	0.10	0.12	0.13	0.15	0.16	0.18	0.19	0.21
0.12	0.14	0.14	0.16	0.16	0.18	0.19	0.21	0.25	0.27	0.32	0.34	0.37	0.39
0.06	0.08	0.07	0.09	0.08	0.10	0.10	0.12	0.13	0.15	0.16	0.18	0.19	0.21
0.06	0.08	0.07	0.09	0.08	0.10	0.10	0.12	0.13	0.15	0.16	0.18	0.19	0.21
0.06	0.08	0.07	0.09	0.08	0.10	0.10	0.12	0.13	0.15	0.16	0.18	0.19	0.21
0.06	0.08	0.07	0.09	0.08	0.10	0.10	0.12	0.13	0.15	0.16	0.18	0.19	0.21
0.12	0.14	0.14	0.16	0.16	0.18	0.19	0.21	0.25	0.27	0.32	0.34	0.37	0.39
0.12	0.14	0.14	0.16	0.16	0.18	0.19	0.21	0.25	0.27	0.32	0.34	0.37	0.39
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.29
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.29
0.09	0.11	0.11	0.13	0.12	0.14	0.14	0.16	0.19	0.21	0.24	0.26	0.27	0.29

CoroDrill® 861 - GM

12 - 15 x D_c

Inch values

ISO	MC No.	CMC No.	Material	Hardness Brinell (HB)	Cutting speed (V_c) ft/min Min.	Max.
P			**Unalloyed steel**			
	P1.1.Z.AN	01.1	C=0.10-0.25%	125	260	510
	P1.2.Z.AN	01.2	C=0.25-0.55%	190	260	510
			Low alloy steel			
	P2.2.Z.AN	02.1	Annealed	240	210	395
	P2.5.Z.HT	02.2	Hardened and tempered	330	210	395
			High alloy steel			
	P3.0.Z.AN	03.11	Annealed	200	210	395
	P4.0.S.NS		**Sintered steels**	150	260	435
			Stainless steel			
	P5.1.Z.AN	05.11 /15.11	Ferritic/Martensitic	200	65	395
M			**Stainless steel**			
	M1.0.Z.AQ	05.21/15.21	Austenitic	200	65	140
	M2.0.Z.AQ	05.21/15.21	Super austenitic Ni≥20%	200	65	120
	M3.2.Z.AQ	05.52/15.52	Duplex (austenitic/ferritic)	260	65	100
K						
	K1.1.C.NS	07.1/07.2	**Malleable cast iron (ferritic, pearlitic)**	200	195	295
			Grey cast iron			
	K2.1.C.UT	08.1	Low tensile strength	180	300	455
	K2.2.C.UT	08.2	High tensile strength	245	195	295
			Nodular cast iron			
	K3.1.C.UT	09.1	Ferritic	155	195	295
	K3.2.C.UT	09.2	Pearlitic	265	195	295
	K5.1.C.NS		**ADI**	300	195	295
N			**Aluminium based alloys**			
	N1.1.Z.UT		Commercial pure	30	710	1065
	N1.2.Z.AG		AlSi alloys, Si ≤ 1%	100	710	1065
	N1.3.C.AG	30.21	AlSi cast alloys, Si > 1% and < 13%	90	235	710
	N1.4.C.NS		AlSi cast alloys, Si ≥ 13%	130	235	355
	N2.0.C.UT		**Magnesium based alloys**	70	235	710
			Copper based alloys			
	N3.1.U.UT		Non-leaded copper alloys (incl. electrolytic copper)	100	330	490
	N3.2.C.UT		Leaded brass & bronzes (Pb ≤ 1%)	90	575	865
	N3.3.U.UT		Free cutting copper based alloys (Pb>1%)	110	575	865
	N3.4.C.UT		high strength bronzes (>225HB)	300	260	395
	N4.0.C.UT		**Zink based alloys**	70	575	865

CoroDrill® 861 - GM

12 - 15 x D_c

Inch values

Drill diameter, D_c f_n inch/rev.													
.1181-.1571		.1572-.1964		.1965-.2358		.2359-.3146		.3147-.3933		.3934-.4720		.4721-.5512	
Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
.0039	.0051	.0047	.0059	.0051	.0067	.0059	.0079	.0079	.0102	.0098	.013	.011	.015
.0039	.0051	.0047	.0059	.0051	.0067	.0059	.0079	.0079	.0102	.0098	.013	.011	.015
.0039	.0051	.0047	.0059	.0051	.0067	.0059	.0079	.0079	.0102	.0098	.013	.011	.015
.0039	.0051	.0047	.0059	.0051	.0067	.0059	.0079	.0079	.0102	.0098	.013	.011	.015
.0039	.0051	.0047	.0059	.0051	.0067	.0059	.0079	.0079	.0102	.0098	.013	.011	.015
.0039	.0051	.0047	.0059	.0051	.0067	.0059	.0079	.0079	.0102	.0098	.013	.011	.015
.0039	.0051	.0047	.0059	.0051	.0067	.0059	.0079	.0079	.0102	.0098	.013	.011	.015
.0028	.0039	.0031	.0047	.0035	.0051	.0043	.0059	.0055	.0079	.0067	.0098	.0079	.011
.0028	.0039	.0031	.0047	.0035	.0051	.0043	.0059	.0055	.0079	.0067	.0098	.0079	.011
.0028	.0039	.0031	.0047	.0035	.0051	.0043	.0059	.0055	.0079	.0067	.0098	.0079	.011
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0114
.0047	.0055	.0055	.0063	.0063	.0071	.0075	.0083	.0098	.0106	.0126	.0134	.0146	.0154
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0114
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0114
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0114
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0114
.0047	.0055	.0055	.0063	.0063	.0071	.0354	.0083	.0098	.0106	.0126	.0134	.0146	.0154
.0047	.0055	.0055	.0063	.0063	.0071	.0354	.0083	.0098	.0106	.0126	.0134	.0146	.0154
.0047	.0055	.0055	.0063	.0063	.0071	.0075	.0083	.0098	.0106	.0126	.0134	.0146	.0154
.0047	.0055	.0055	.0063	.0063	.0071	.0075	.0083	.0098	.0106	.0126	.0134	.0146	.0154
.0047	.0055	.0055	.0063	.0063	.0071	.0075	.0083	.0098	.0106	.0126	.0134	.0146	.0154
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0114
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0114
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0114
.0024	.0031	.0028	.0035	.0031	.0039	.0039	.0047	.0051	.0059	.0063	.0071	.0075	.0083
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0114

CoroDrill® 861 - GM

20 - 30 x D_c

Inch values

ISO	MC No.	CMC No.	Material	Hardness Brinell (HB)	Cutting speed (V_c) ft/min Min.	Max.
P			**Unalloyed steel**			
	P1.1.Z.AN	01.1	C=0.10-0.25%	125	235	460
	P1.2.Z.AN	01.2	C=0.25-0.55%	190	235	460
			Low alloy steel			
	P2.2.Z.AN	02.1	Annealed	240	190	445
	P2.5.Z.HT	02.2	Hardened and tempered	330	190	445
			High alloy steel			
	P3.0.Z.AN	03.11	Annealed	200	190	445
	P4.0.S.NS		**Sintered steels**	150	235	390
			Stainless steel			
	P5.1.Z.AN	05.11 /15.11	Ferritic/Martensitic	200	60	355
M			**Stainless steel**			
	M1.0.Z.AQ	05.21/15.21	Austenitic	200	60	125
	M2.0.Z.AQ	05.21/15.21	Super austenitic Ni≥20%	200	60	110
	M3.2.Z.AQ	05.52/15.52	Duplex (austenitic/ferritic)	260	60	90
K						
	K1.1.C.NS	07.1/07.2	**Malleable cast iron (ferritic, pearlitic)**	200	180	270
			Grey cast iron			
	K2.1.C.UT	08.1	Low tensile strength	180	300	455
	K2.2.C.UT	08.2	High tensile strength	245	180	270
			Nodular cast iron			
	K3.1.C.UT	09.1	Ferritic	155	180	270
	K3.3.C.UT	09.2	Pearlitic	265	180	270
	K5.1.C.NS		**ADI**	300	180	270
N			**Aluminium based alloys**			
	N1.1.Z.UT		Commercial pure	30	635	960
	N1.2.Z.AG		AlSi alloys, Si ≤ 1%	100	635	960
	N1.3.C.AG		AlSi cast alloys, Si > 1% and < 13%	90	215	635
	N1.4.C.NS		AlSi cast alloys, Si ≥ 13%	130	215	320
	N2.0.C.UT		**Magnesium based alloys**	70	215	635

CoroDrill® 861 - GM

20 - 30 x D_c

Inch values

Drill diameter D_c													
f_n inch/rev.													
.1181-.1571		**.1572-.1964**		**.1965-.2358**		**.2359-.3146**		**.3147-.3933**		**.3934-.4720**		**.4724**	
Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
.0028	.0039	.0031	.0047	.0035	.0051	.0043	.0059	.0055	.0079	.0067	.0098	.0079	011
.0028	.0039	.0031	.0047	.0035	.0051	.0043	.0059	.0055	.0079	.0067	.0098	.0079	.011
.0028	.0039	.0031	.0047	.0035	.0051	.0043	.0059	.0055	.0079	.0067	.0098	.0079	.011
.0028	.0039	.0031	.0047.	.0035	.0051	.0043	.0059	.0055	.0079	.0067	.0098	.0079	.011
.0028	.0039	.0031	.0047	.0035	.0051	.0043	.0059	.0055	.0079	.0067	.0098	.0079	.011
.0028	.0039	.0031	.0047	.0035	.0051	.0043	.0059	.0055	.0079	.0067	.0098	.0079	.011
.0028	.0039	.0031	.0047	.0035	.0051	.0043	.0059	.0055	.0079	.0067	.0098	.0079	.011
.0016	.0028	.002	.0031	.0024	.0035	.0028	.0043	.0035	.0055	.0043	.0067	.0051	.0079
.0016	.0028	.002	.0031.	.0024	.0035	.0028	.0043	.0035	.0055	.0043	.0067	.0051	.0079
.0016	.0028	.002	.0031	.0024	.0035	.0028	.0043	.0035	.0055	.0043	.0067	.0051	.0079
.0024	.0031	.0028	.0035	.0031	.0039	.0039	.0047	.0051	.0059	.0063	.0071	.0075	.0083
.0047	.0055	.0055	.0063	.0063	.0071	.0075	.0083	.0098	.0106	.0126	.0134	.0146	.0154
.0024	.0031	.0028	.0035	.0031	.0035	.0039	.0047	.0051	.0059	.0063	.0071	.0075	
.0024	.0031	.0028	.0035	.0031	.0039	.0039	.0047	.0051	.0059	.0063	.0071	.0075	.0083
.0024	.0031	.0028	.0035	.0031	.0039	.0039	.0047	.0051	.0059	.0063	.0071	.0075	.0083
.0024	.0031	.0028	.0035	.0031	.0039	.0039	.0047	.0051	.0059	.0063	.0071	.0075	.0083
.0047	.0055	.0055	.0063	.0063	.0071	.0075	.0083	.0098	.0106	.0126	.0134	.0146	.0154
.0047	.0055	.0055	.0063	.0063	.0071	.0075	.0083	.0098	.0106	.0126	.0134	.0146	.0154
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0114
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0114
.0035	.0043	.0043	.0051	.0047	.0055	.0055	.0063	.0075	.0083	.0094	.0102	.0106	.0114

CoroDrill® 862

Metric values

ISO	MC No.	CMC No.	Material	Hardness Brinell HB	Cutting speed (V_c) m/min		Drill diameter, D_c f_n mm/rev			
							1.85-2.49		2.50-2.99	
					min.	max.	min.	max.	min.	max.
P			**Unalloyed steel**							
	P1.1.Z.AN	01.1	C=0.1-0.25%	125	40	60	0.07	0.09	0.10	0.13
	P1.2.Z.AN	01.2	C=0.25-0.55%	190	40	60	0.07	0.09	0.10	0.13
			Low alloy steel							
	P2.2.Z.AN	02.1	Annealed	240	32	60	0.06	0.08	0.09	0.11
	P2.5.Z.HT	02.2	Hardened and tempered	330	32	60	0.06	0.08	0.09	0.11
			High alloy steel							
	P3.0.Z.AN	03.11	Annealed	200	32	60	0.06	0.08	0.09	0.11
	P4.0.S.NS		**Sintered steels**	150	40	60	0.06	0.08	0.09	0.11
			Stainless steel							
	P5.1.Z.AN	05.11/15.11	Ferritic/martensitic	200	18	60	0.03	0.07	0.04	0.1
M			**Stainless steel**							
	M1.0.Z.AQ	05.21/15.21	Austenitic	200	18	26	0.02	0.04	0.03	0.05
	M2.0.Z.AQ	05.21/15.21	Super austenitic Ni≥20%	200	18	26	0.02	0.04	0.03	0.05
	M3.2.Z.AQ	05.52/15.52	Austenitic/Ferritic (Duplex)	260	18	26	0.02	0.04	0.03	0.05
K			**Malleable**							
	K1.1.C.NS	07.1/07.2	Ferritic?Pearlitic	200	32	48	0.04	0.06	0.06	0.08
			Grey							
	K2.1.C.UT	08.1	Low tensile strength	180	40	60	0.08	0.10	0.12	0.14
	K2.2.C.UT	08.2	High tensile strength	245	32	48	0.04	0.06	0.06	0.08
			Nodular cast iron							
	K3.1.C.UT	09.1	Ferritic	155	32	48	0.04	0.06	0.06	0.08
	K3.3.C.UT	09.2	Pearlitic	265	32	48	0.04	0.06	0.06	0.08
	K4.2.C.UT		**CGI**	230	32	48	0.04	0.06	0.06	0.08
	K5.1.C.NS		**ADI**	300	32	48	0.04	0.06	0.06	0.08
S			**Heat resistans super alloys**							
	S1.0.U.AG		Iron Based	280	12	18	0.02	0.04	0.03	0.05
	S2.0.Z.AG	20.22	Ni based	350	12	18	0.02	0.04	0.03	0.05
	S4.3.Z.AN	23.22	Titanium based	330	12	18	0.02	0.04	0.03	0.05
N			**Aluminium based alloys**							
	N1.1.Z.UT		Commercial pure	30	48	72	0.09	0.11	0.14	0.16
	N1.2.Z.AG		AlSi alloys, Si ≤ 1%	100	48	72	0.09	0.11	0.14	0.16
	N1.3.C.AG	30.21	AlSi cast alloys, Si > 1% and < 13%	90	40	60	0.09	0.11	0.14	0.16
	N1.4.C.NS		AlSi cast alloys, Si ≥ 13%	130	40	60	0.09	0.11	0.14	0.16
	N2.0.C.UT		**Magnesium based alloys**	70	120	240	0.06	0.08	0.09	0.11

CoroDrill® 862

Inch values

ISO	MC No.	CMC No.	Material	Hardness Brinell HB	Cutting speed (V_c) ft/min		Drill diameter, D_c f_n inch/rev. .0728-.0980		.0981-.1177	
					min.	max.	min.	max.	min.	max.
P			**Unalloyed steel**							
	P1.1.Z.AN	01.1	C=0.1-0.25%	125	130	195	.0028	.0035	.0039	.0051
	P1.2.Z.AN	01.2	C=0.25-0.55%	190	130	195	.0028	.0035	.0039	.0051
			Low alloy steel							
	P2.2.Z.AN	02.1	Annealed	240	105	195	.0024	.0031	.0035	.0043
	P2.5.Z.HT	02.2	Hardened and tempered	330	105	195	.0024	.0031	.0035	.0043
			High alloy steel							
	P3.0.Z.AN	03.11	Annealed	200	105	195	.0024	.0031	.0035	.0043
	P4.0.S.NS		**Sintered steels**	150	130	195	.0024	.0031	.0035	.0043
			Stainless steel							
	P5.1.Z.AN	05.11 /15.11	Ferritic/martensitic	200	60	195	.0012	.0028	.0016	.0039
M			**Stainless steel**							
	M1.0.Z.AQ	05.21/15.21	Austenitic	200	60	85	.0008	.0016	.0012	.002
	M2.0.Z.AQ	05.21/15.21	Super austenitic Ni≥20%	200	60	85	.0008	.0016	.0012	.002
	M3.2.Z.AQ	05.52/15.52	Austenitic/Ferritic (Duplex)	260	60	85	.0008	.0016	.0012	.002
K			**Malleable cast iron**							
	K1.1.C.NS	07.1/07.2	Ferritic, Pearlitic	200	105	155	.0016	.0024	.0024	.0031
			Grey cast iron							
	K2.1.C.UT	08.1	Low tensile strength	180	130	195	.0031	.0039	.0047	.0055
	K2.2.C.UT	08.2	High tensile strength	245	105	155	.0016	.0024	.0024	.0031
			Nodular cast iron							
	K3.1.C.UT	09.1	Ferritic	155	105	155	.0016	.0024	.0024	.0031
	K3.3C.UT	09.2	Pearlitic	265	105	155	.0016	.0024	.0024	.0031
	K4.2.C.UT		**CGI**	230	105	155	.0016	.0024	.0024	.0031
	K5.1.C.NS		**ADI**	300	105	155	.0016	.0024	.0024	.0031
S			**Heat resistant super alloys**							
	S1.0.U.AG		Iron Based	280	40	60	.0008	.0016	.0012	.002
	S2.0.Z.AG	20.22	Ni based	350	40	60	.0008	.0016	.0012	.002
	S4.3.Z.AN	23.22	Titanium based	330	40	60	.0008	.0016	.0012	.002
N			**Aluminium based alloys**							
	N1.1.Z.UT		Commercial pure	30	155	235	.0035	.0043	.0055	.0063
	N1.2.Z.AG		AlSi alloys, Si ≤ 1%	100	155	235	.0035	.0043	.0055	.0063
	N1.3.C.AG	30.21	AlSi cast alloys, Si > 1% and < 13%	90	130	195	.0035	.0043	.0055	.0063
	N1.4.C.NS		AlSi cast alloys, Si ≥ 13%	130	130	195	.0035	.0043	.0055	.0063
	N2.0.C.UT		**Magnesium based alloys**	70	395	785	.0024	.0031	.0035	.0043

Coromant Delta drill® R411.5

Metric values

ISO	CMC No.	Material	Hardness Brinell HB	Grade	Cutting speed v_c m/min	Drill diameter, mm 9.50-14 Feed f_n mm/r	14.01-17 Feed f_n mm/r	17.01-30.40 Feed f_n mm/r
P		**Unalloyed steel**						
	01.0	Non-hardened 0,05-0,10% C	80-170	P20	75-100	0.14-0.22	0.15-0.25	0.18-0.31
	01.1	Non-hardened 0.10-0.25% C	90-200					
	01.2	Non-hardened 0.25-0.55% C	125-225		70-90	0.15-0.23	0.18-0.26	0.20-0.30
	01.3	Non-hardened 0.55-0.80% C	150-225					
	01.4	High carbon & carbon tool steel	180-225					
		Low alloy steel						
	02.1	Non-hardened	150-260	P20	55-90	0.14-0.22	0.18-0.26	0.20-0.28
	02.2	Hardened	220-400		35-65	0.14-0.22	0.15-0.25	0.18-0.26
		High alloy steel						
	03.11	Annealed	150-250	P20	40-70	0.15-0.20	0.18-0.25	0.20-0.27
	03.22	Hardened steel	250-400		40-60	0.15-0.20	0.17-0.20	0.18-0.24
		Steel castings						
	06.1	Unalloyed	90-225	P20	70-90	0.17-0.23	0.19-0.25	0.20-0.26
	06.2	Low alloyed (alloying elements ≤ 5%)	150-250		50-75	0.15-0.21	0.17-0.23	0.19-0.25
M		**Stainless steel**						
	05.11	Ferritic, Martensitic 13-25% Cr	150-270	K20	25-55	0.14-0.21	0.17-0.24	0.18-0.27
		Stainless steel						
	05.21	Austenitic Ni > 8%, 18-25% Cr	150-270	K20	25-55	0.14-0.20[1)]	0.16-0.23[1)]	0.19-0.25[1)]
K		**Malleable cast iron**						
	07.1	Ferritic (short chipping)	110-145	K20	75-120	0.15-0.26	0.18-0.30	0.21-0.39
	07.2	Pearlitic (long chipping)	150-270		75-110	0.15-0.25	0.16-0.29	0.18-0.35
		Grey cast iron						
	08.1	Low tensile strength	150-220	K20	85-115	0.19-0.31	0.23-0.39	0.26-0.46
	08.2	High tensile strength	200-330		55-100	0.19-0.30	0.24-0.36	0.28-0.44
		Nodular cast iron						
	09.1	Ferritic	125-230	K20	65-105	0.16-0.26	0.20-0.35	0.23-0.41
	09.2	Pearlitic	200-300		55-95	0.15-0.25	0.18-0.33	0.21-0.39
H		**Extra hard steel**						
	04.1	Hardened and tempered	*HRC* 43-47 47-60	P20	25-40 15-30	0.10-0.15	0.12-0.17	0.15-0.20
N		**Aluminium alloys**						
	30.12	Wrought solution treated and aged	75-150	K20	95-150	0.21-0.33	0.18-0.41	0.18-0.41
	30.21	Cast	40-100					
		Copper and copper alloys						
	33.1	Free cutting alloys (Pb ≥ 1%)	50-160	K20	45-150	0.16-0.29	0.20-0.35	0.25-0.44
	33.2	Brass and leaded bronzes (Pb ≤ 1%)						

1) If chip control is difficult to achieve with the recommended cutting data, reduce the feed to 0.08 - 0.10 mm/rev.

Coromant Delta drill® R411.5

Inch values

ISO	CMC No.	Material	Hardness Brinell HB	Grade	Cutting speed v_c ft/min	Drill diameter 9.50-14 mm (.374-.551 inch) Feed f_n inch/rev	14.01-17 mm (.552-.669 inch) Feed f_n inch/rev	17.01-30.40 mm (.670-1.197 inch) Feed f_n inch/rev
P		**Unalloyed steel**						
	01.0	Non-hardened 0,05-0,10% C	80-170	P20	250-330	.006-.009	.006-.010	.007-.012
	01.1	Non-hardened 0.10-0.25% C	90-200					
	01.2	Non-hardened 0.25-0.55% C	125-225		220-300	.006-.009	.007-.010	.008-.012
	01.3	Non-hardened 0.55-0.80% C	150-225					
	01.4	High carbon & carbon tool steel	180-225					
		Low alloy steel						
	02.1	Non-hardened	150-260	P20	180-300	.006-.009	.007-.010	.008-.011
	02.2	Hardened	220-400		120-220	.006-.009	.006-.010	.007-.010
		High alloy steel						
	03.11	Annealed	150-250	P20	120-220	.006-.008	.007-.010	.008-.011
	03.22	Hardened steel	250-400		120-190	.006-.008	.007-.009	.007-.009
		Steel castings						
	06.1	Unalloyed	90-225	P20	220-300	.007-.009	.007-.010	.008-.010
	06.2	Low alloyed (alloying elements ≤ 5%)	150-250		150-240	.006-.008	.007-.009	.007-.010
M		**Stainless steel**						
	05.11	Ferritic, Martensitic 13-25% Cr	150-270	K20	80-180	.006-.008	.007-.009	.007-.011
		Stainless steel						
	05.21	Austenitic Ni > 8%, 18-25% Cr	150-270	K20	80-180	.006-.008[1)]	.006-.009[1)]	.007-.010[1)]
K		**Malleable cast iron**						
	07.1	Ferritic (short chipping)	110-145	K20	240-390	.006-.010	.007-.012	.008-.015
	07.2	Pearlitic (long chipping)	150-270		240-370	.006-.010	.006-.011	.007-.014
		Grey cast iron						
	08.1	Low tensile strength	150-220	K20	270-380	.009-.012	.009-.015	.010-.018
	08.2	High tensile strength	200-330		180-330	.009-.012	.009-.014	.011-.017
		Nodular cast iron						
	09.1	Ferritic	125-230	K20	210-350	.006-.010	.008-.014	.009-.016
	09.2	Pearlitic	200-300		180-310	.006-.010	.007-.013	.008-.015
H		**Extra hard steel**						
	04.1	Hardened and tempered	*HRC* 43-47 47-60	P20	80-130 50-100	.004-.006	.005-.007	.006-.008
N		**Aluminium alloys**						
	30.12	Wrought solution treated and aged	75-150	K20	310-490	.008-.013	.007-.016	.007-.016
	30.21	Cast	40-100					
		Copper and copper alloys						
	33.1	Free cutting alloys (Pb ≥ 1%)	50-160	K20	150-490	.006-.011	.008-.014	.010-.017
	33.2	Brass and leaded bronzes (Pb ≤ 1%)						

1) If chip control is difficult to achieve with the recommended cutting data, reduce the feed to 0.08 - 0.10 mm/rev.

CoroDrill® 870

3 – 5 × D_c

Metric values

ISO	MC No.	CMC No.	Material	Hardness Brinell (HB)	Cutting speed (V_c) m/min Min.	Rec.	Max.
P			**Unalloyed steel**				
	P1.1.Z.AN	01.1	C=0.10-0.25%	125	80	120	160
	P1.2.Z.AN	01.2	C=0.25-0.55%	190	80	120	160
	P1.3.Z.AN	01.3	C=0.55-0.80%	190	70	100	130
			Low alloy steel				
	P2.1.Z.AN	02.1	Annealed	175	80	110	140
	P2.2.Z.AN	02.1	Annealed	240	80	110	140
	P2.4.Z.AN	02.1	Annealed	225	80	110	140
	P2.6.C.UT	02.1	Untreated	200	80	110	140
	P2.5.Z.HT	02.2	Hardened and tempered	330	70	100	130
			High alloy steel				
	P3.0.Z.AN	03.11	Annealed	200	40	60	80
	P3.0.Z.HT	03.21	Hardened and tempered	380	40	60	80
			Steel castings				
	P1.5.C.UT	06.1	Unalloyed	150	80	110	140
	P2.6.C.UT	06.2	Low alloyed (alloying elements < 5%)	200	70	100	130

Inch values

ISO	MC No.	CMC No.	Material	Hardness Brinell (HB)	Cutting speed (V_c) ft/min Min.	Rec.	Max.
P			**Unalloyed steel**				
	P1.1.Z.AN	01.1	C=0.10-0.25%	125	260	395	525
	P1.2.Z.AN	01.2	C=0.25-0.55%	190	260	390	525
	P1.3.Z.AN	01.3	C=0.55-0.80%	190	230	330	425
			Low alloy steel				
	P2.1.Z.AN	02.1	Annealed	175	260	360	460
	P2.2.Z.AN	02.1	Annealed	240	260	360	460
	P2.4.Z.AN	02.1	Annealed	225	260	360	460
	P2.6.C.UT	02.1	Untreated	200	260	360	460
	P2.5.Z.HT	02.2	Hardened and tempered	330	230	330	425
			High alloy steel				
	P3.0.Z.AN	03.11	Annealed	200	130	195	260
	P3.0.Z.HT	03.21	Hardened and tempered	380	130	195	260
			Steel castings				
	P1.5.C.UT	06.1	Unalloyed	150	260	360	460
	P2.6.C.UT	06.2	Low alloyed (alloying elements < 5%)	200	230	330	425

CoroDrill® 870

3 – 5 × D_c

Feed (f_n) mm/r correlating with drill diameter

12.00-13.99 mm			14.00-15.99 mm			16.00-19.99 mm			20.00-20.99 mm		
Min.	Rec.	Max.	Min.	Rec.	Max.	Min.	Rec.	Max.	Min.	Rec.	Max.
0.14	0.20	0.35	0.16	0.25	0.41	0.20	0.32	0.45	0.20	0.34	0.45
0.14	0.20	0.35	0.16	0.25	0.41	0.20	0.32	0.45	0.20	0.34	0.45
0.14	0.20	0.35	0.16	0.25	0.41	0.20	0.32	0.45	0.20	0.34	0.45
0.14	0.20	0.37	0.16	0.25	0.45	0.20	0.32	0.48	0.20	0.36	0.50
0.14	0.20	0.37	0.16	0.25	0.45	0.20	0.32	0.48	0.20	0.36	0.50
0.14	0.20	0.37	0.16	0.25	0.45	0.20	0.32	0.48	0.20	0.36	0.50
0.14	0.20	0.37	0.16	0.25	0.45	0.20	0.32	0.48	0.20	0.36	0.50
0.14	0.20	0.37	0.16	0.25	0.45	0.20	0.32	0.48	0.20	0.36	0.50
0.12	0.19	0.33	0.14	0.22	0.38	0.18	0.25	0.40	0.18	0.30	0.45
0.12	0.19	0.33	0.14	0.22	0.38	0.18	0.25	0.40	0.18	0.30	0.45
0.14	0.20	0.35	0.16	0.25	0.41	0.20	0.32	0.45	0.20	0.34	0.45
0.14	0.20	0.37	0.16	0.25	0.45	0.20	0.32	0.48	0.20	0.36	0.50

Feed (f_n) inch/rev. correlating with drill diameter

.4721-.5508 in.			.5509-.6295 in.			.6296-.7870 in.			.7871-.8264 in.		
Min.	Rec.	Max.	Min.	Rec.	Max.	Min.	Rec.	Max.	Min.	Rec.	Max.
.0055	.0079	.0138	.0063	.0098	.0161	.0079	.0126	.0177	.0079	.0134	.0177
.0055	.0079	.0138	.0063	.0098	.0161	.0079	.0126	.0177	.0079	.0134	.0177
.0055	.0079	.0138	.0063	.0098	.0161	.0079	.0126	.0177	.0079	.0134	.0177
.0055	.0079	.0146	.0063	.0098	.0177	.0079	.0126	.0189	.0079	.0142	.0197
.0055	.0079	.0146	.0063	.0098	.0177	.0079	.0126	.0189	.0079	.0142	.0197
.0055	.0079	.0146	.0063	.0098	.0177	.0079	.0126	.0189	.0079	.0142	.0197
.0055	.0079	.0146	.0063	.0098	.0177	.0079	.0126	.0189	.0079	.0142	.0197
.0055	.0079	.0146	.0063	.0098	.0177	.0079	.0126	.0189	.0079	.0142	.0197
.0047	.0075	.0130	.0055	.0087	.0150	.0071	.0098	.0157	.0071	.0118	.0177
.0047	.0075	.0130	.0055	.0087	.0150	.0071	.0098	.0157	.0071	.0118	.0177
.0055	.0079	.0138	.0063	.0098	.0161	.0079	.0126	.0177	.0079	.0134	.0177
.0055	.0079	.0146	.0063	.0098	.0177	.0079	.0126	.0189	.0079	.0142	.0197

CoroDrill® 880

Metric values

ISO	MC No. (CMC No.)	Material	Hardness Brinell HB	Grade	Cutting speed (m/min)	Drill diameter D_c mm
P	P1.0.Z.AN (01.0)	**Unalloyed steel** Non hardened 0.05-0.10% C	90-200	4014	220-400	12.00-13.99
						14.00-16.49
						16.50-19.99
				4024	230-380	20.00-23.99
				4034	210-310	24.00-29.99
				4044	190-235	30.00-35.99
						36.00-43.99
						44.00-52.99
						53.00-63.50
	P1.1.Z.AN (01.1)	Non hardened 0.05-0.25% C	90-200	4014	240-390	12.00-13.99
						14.00-16.49
						16.50-19.99
				4024	230-350	20.00-23.99
				4034	200-290	24.00-29.99
				4044	170-225	30.00-35.99
						36.00-43.99
						44.00-52.99
						53.00-63.50
	P1.2.Z.AN (01.2)	Non hardened 0.25-0.55% C	125-225	4014	200-320	12.00-13.99
						14.00-16.49
						16.50-19.99
				4024	190-290	20.00-23.99
				4034	155-235	24.00-29.99
				4044	120-180	30.00-35.99
						36.00-43.99
						44.00-52.99
						53.00-63.50
	P1.3.Z.AN (01.3)	Non hardened 0.55-0.80% C	150-250	4014	175-305	12.00-13.99
						14.00-16.49
						16.50-19.99
				4024	170-275	20.00-23.99
				4034	140-225	24.00-29.99
				4044	105-175	30.00-35.99
						36.00-43.99
						44.00-52.99
						53.00-63.50
	P1.3.Z.AN (01.4)	High carbon & carbon tool steel	180-275	4014	175-300	12.00-13.99
						14.00-16.49
						16.50-19.99
				4024	200-275	20.00-23.99
				4034	155-225	24.00-29.99
				4044	105-170	30.00-35.99
						36.00-43.99
						44.00-52.99
						53.00-63.50
	P2.1.Z.AN (02.1)	Low alloy steel (Non-hardened)	150-260	4014	175-320	12.00-13.99
						14.00-16.49
						16.50-19.99
				4024	180-290	20.00-23.99
				4034	150-235	24.00-29.99
				4044	115-180	30.00-35.99
						36.00-43.99
						44.00-52.99
						53.00-63.50
	P2.5.Z.HT (02.2)	Hardened steel	220-450	4014	150-255	12.00-13.99
						14.00-16.49
						16.50-19.99
				4024	90-230	20.00-23.99
				4034	85-185	24.00-29.99
				4044	75-140	30.00-35.99
						36.00-43.99
						44.00-52.99
						53.00-63.50

Note: Bold text is recommended geometry
Central insert grade is always 1044.

CoroDrill® 880

Geometry / Feed											
Drill length 2-3xD				Drill length 4xD				Drill length 5xD			
-LM	-GM	-GR	-GT	-LM	-GM	-GR	-GT	-LM	-GM	-GR	-GT
f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.
0.04-0.08		0.04-0.06		**0.04-0.08**		0.04-0.06		**0.04-0.05**		0.04-0.05	
0.04-0.08	0.04-0.06	0.04-0.06	0.04-0.08	**0.04-0.08**	0.04-0.06	0.04-0.06	0.04-0.08	**0.04-0.05**	0.04-0.04	0.04-0.04	0.04-0.05
0.04-0.10	0.04-0.06	0.04-0.06	0.04-0.10	**0.04-0.10**	0.04-0.06	0.04-0.06	0.04-0.10	**0.04-0.07**	0.04-0.04	0.04-0.04	0.04-0.07
0.04-0.12	0.04-0.08	0.04-0.08	0.04-0.12	**0.04-0.12**	0.04-0.08	0.04-0.08	0.04-0.12	**0.04-0.08**	0.04-0.05	0.04-0.05	0.04-0.08
0.04-0.12	0.04-0.08	0.04-0.08	0.04-0.12	**0.04-0.12**	0.04-0.08	0.04-0.08	0.04-0.12	**0.04-0.08**	0.04-0.05	0.04-0.05	0.04-0.08
0.06-0.14	0.06-0.10	0.06-0.10		**0.06-0.12**	0.06-0.10	0.06-0.10		**0.06-0.09**	0.06-0.07	0.06-0.07	
0.06-0.16	0.06-0.10	0.06-0.10		**0.06-0.14**	0.06-0.10	0.06-0.10		**0.06-0.11**	0.06-0.07	0.06-0.07	
0.08-0.16	0.08-0.12	0.08-0.12		**0.08-0.16**	0.08-0.12	0.08-0.12					
0.08-0.16	0.08-0.12	0.08-0.12		**0.08-0.16**	0.08-0.12	0.08-0.12					
0.04-0.10		0.04-0.06		**0.04-0.08**		0.04-0.06		**0.04-0.07**		0.04-0.05	
0.04-0.10	0.04-0.06	0.04-0.06	0.04-0.10	**0.04-0.10**	0.04-0.06	0.04-0.06	0.04-0.10	**0.04-0.07**	0.04-0.04	0.04-0.04	0.04-0.07
0.04-0.12	0.04-0.06	0.04-0.06	0.04-0.12	**0.04-0.12**	0.04-0.06	0.04-0.06	0.04-0.12	**0.04-0.08**	0.04-0.04	0.04-0.04	0.04-0.08
0.04-0.14	0.04-0.10	0.04-0.08	0.04-0.14	**0.04-0.14**	0.04-0.10	0.04-0.08	0.04-0.14	**0.04-0.09**	0.04-0.07	0.04-0.05	0.04-0.09
0.04-0.14	0.04-0.10	0.04-0.08	0.04-0.14	**0.04-0.14**	0.04-0.10	0.04-0.08	0.04-0.14	**0.04-0.09**	0.04-0.07	0.04-0.05	0.04-0.09
0.06-0.16	0.06-0.12	0.06-0.10		**0.06-0.16**	0.06-0.10	0.06-0.10		**0.06-0.11**	0.06-0.08	0.06-0.07	
0.06-0.16	0.06-0.12	0.06-0.10		**0.06-0.16**	0.06-0.10	0.06-0.10		**0.06-0.11**	0.06-0.08	0.06-0.07	
0.08-0.16	0.08-0.12	0.08-0.12		**0.08-0.16**	0.08-0.12	0.08-0.12					
0.08-0.16	0.08-0.12	0.08-0.12		**0.08-0.16**	0.08-0.12	0.08-0.12					
0.04-0.10		**0.04-0.15**		0.04-0.10		**0.04-0.12**		0.04-0.07		**0.04-0.12**	
0.04-0.10	0.04-0.10	**0.04-0.20**	0.04-0.20	0.04-0.10	0.04-0.10	**0.04-0.14**	0.04-0.14	0.04-0.07	0.04-0.07	**0.04-0.13**	0.04-0.13
0.06-0.14	0.06-0.14	**0.06-0.22**	0.06-0.22	0.06-0.14	0.06-0.14	**0.06-0.16**	0.06-0.16	0.06-0.09	0.06-0.09	**0.06-0.15**	0.06-0.15
0.06-0.18	0.06-0.18	**0.06-0.26**	0.06-0.26	0.06-0.18	0.06-0.18	**0.06-0.20**	0.06-0.20	0.06-0.12	0.06-0.12	**0.06-0.17**	0.06-0.17
0.06-0.18	0.08-0.18	**0.08-0.30**	0.08-0.30	0.06-0.18	0.08-0.18	**0.08-0.22**	0.08-0.22	0.06-0.12	0.08-0.12	**0.08-0.20**	0.08-0.20
0.06-0.22	0.08-0.22	**0.08-0.32**		0.06-0.20	0.08-0.20	**0.08-0.24**		0.06-0.15	0.08-0.15	**0.08-0.21**	
0.06-0.24	0.08-0.24	**0.08-0.34**		0.06-0.20	0.08-0.20	**0.08-0.24**		0.06-0.16	0.08-0.16	**0.08-0.23**	
0.10-0.24	0.10-0.24	**0.10-0.34**		0.10-0.20	0.10-0.20	**0.10-0.24**					
0.10-0.24	0.10-0.24	**0.10-0.34**		0.10-0.20	0.10-0.20	**0.10-0.24**					
0.04-0.10		**0.04-0.15**		0.04-0.10		**0.04-0.12**		0.04-0.07		**0.04-0.12**	
0.04-0.10	0.04-0.10	**0.04-0.20**	0.04-0.20	0.04-0.10	0.04-0.10	**0.04-0.14**	0.04-0.14	0.04-0.07	0.04-0.07	**0.04-0.13**	0.04-0.13
0.06-0.14	0.06-0.14	**0.06-0.22**	0.06-0.22	0.06-0.14	0.06-0.14	**0.06-0.16**	0.06-0.16	0.06-0.09	0.06-0.09	**0.06-0.15**	0.06-0.15
0.06-0.18	0.06-0.18	**0.06-0.26**	0.06-0.26	0.06-0.18	0.06-0.18	**0.06-0.20**	0.06-0.20	0.06-0.12	0.06-0.12	**0.06-0.17**	0.06-0.17
0.06-0.18	0.08-0.18	**0.08-0.30**	0.08-0.30	0.06-0.18	0.08-0.18	**0.08-0.22**	0.08-0.22	0.06-0.12	0.08-0.12	**0.08-0.20**	0.08-0.20
0.06-0.24	0.08-0.24	**0.08-0.32**		0.06-0.20	0.08-0.20	**0.08-0.24**		0.06-0.16	0.08-0.16	**0.08-0.21**	
0.06-0.24	0.08-0.24	**0.08-0.34**		0.06-0.20	0.08-0.20	**0.08-0.24**		0.06-0.16	0.08-0.16	**0.08-0.23**	
0.06-0.24	0.08-0.24	**0.08-0.34**		0.06-0.20	0.08-0.20	**0.08-0.24**					
0.10-0.24	0.10-0.24	**0.08-0.34**		0.10-0.20	0.10-0.20	**0.10-0.24**					
0.04-0.10		**0.04-0.15**		0.04-0.10		**0.04-0.12**		0.04-0.10		**0.04-0.12**	
0.04-0.10	0.04-0.10	**0.04-0.18**	0.04-0.18	0.04-0.10	0.04-0.10	**0.04-0.14**	0.04-0.14	0.04-0.07	0.04-0.07	**0.04-0.12**	0.04-0.12
0.06-0.14	0.06-0.14	**0.06-0.22**	0.06-0.22	0.06-0.14	0.06-0.14	**0.06-0.16**	0.06-0.16	0.06-0.09	0.06-0.09	**0.06-0.15**	0.06-0.15
0.06-0.18	0.06-0.18	**0.06-0.26**	0.06-0.26	0.06-0.18	0.06-0.18	**0.06-0.20**	0.06-0.20	0.06-0.12	0.06-0.12	**0.06-0.17**	0.06-0.17
0.06-0.18	0.08-0.18	**0.08-0.30**	0.08-0.30	0.06-0.18	0.08-0.18	**0.08-0.22**	0.08-0.22	0.06-0.12	0.08-0.12	**0.08-0.20**	0.08-0.20
0.06-0.24	0.08-0.24	**0.08-0.32**		0.06-0.20	0.08-0.20	**0.08-0.24**		0.06-0.16	0.08-0.16	**0.08-0.21**	
0.06-0.24	0.08-0.24	**0.08-0.34**		0.06-0.20	0.08-0.20	**0.08-0.24**		0.06-0.16	0.08-0.16	**0.08-0.23**	
0.06-0.24	0.08-0.24	**0.08-0.34**		0.06-0.20	0.08-0.20	**0.08-0.24**					
0.10-0.24	0.10-0.24	**0.10-0.34**		0.10-0.20	0.10-0.20	**0.10-0.24**					
0.04-0.10		**0.04-0.15**		0.04-0.10		**0.04-0.12**		0.04-0.07		**0.04-0.11**	
0.04-0.10	0.04-0.10	**0.04-0.20**	0.04-0.20	0.04-0.10	0.04-0.10	**0.04-0.14**	0.04-0.14	0.04-0.07	0.04-0.07	**0.04-0.13**	0.04-0.13
0.06-0.14	0.06-0.14	**0.06-0.22**	0.06-0.22	0.06-0.14	0.06-0.14	**0.06-0.16**	0.06-0.16	0.06-0.09	0.06-0.09	**0.06-0.15**	0.06-0.15
0.06-0.18	0.06-0.18	**0.06-0.26**	0.06-0.26	0.06-0.18	0.06-0.18	**0.06-0.20**	0.06-0.20	0.06-0.12	0.06-0.12	**0.06-0.17**	0.06-0.17
0.06-0.18	0.08-0.18	**0.08-0.30**	0.08-0.30	0.06-0.18	0.08-0.18	**0.08-0.22**	0.08-0.22	0.06-0.12	0.08-0.12	**0.08-0.20**	0.08-0.20
0.06-0.24	0.08-0.24	**0.08-0.32**		0.06-0.20	0.08-0.20	**0.08-0.24**		0.06-0.16	0.08-0.16	**0.08-0.21**	
0.06-0.24	0.08-0.24	**0.08-0.34**		0.06-0.24	0.08-0.24	**0.08-0.24**		0.06-0.16	0.08-0.16	**0.08-0.23**	
0.10-0.24	0.10-0.24	**0.10-0.34**		0.10-0.20	0.10-0.20	**0.10-0.24**					
0.10-0.24	0.10-0.24	**0.10-0.34**		0.10-0.20	0.10-0.20	**0.10-0.24**					
0.04-0.10		**0.04-0.15**		0.04-0.10		**0.04-0.12**		0.04-0.07		**0.04-0.10**	
0.04-0.10	0.04-0.10	**0.04-0.16**	0.04-0.16	0.04-0.10	0.04-0.10	**0.04-0.14**	0.04-0.14	0.04-0.07	0.04-0.07	**0.04-0.11**	0.04-0.11
0.06-0.14	0.06-0.14	**0.06-0.20**	0.06-0.20	0.06-0.14	0.06-0.14	**0.06-0.16**	0.06-0.16	0.06-0.09	0.06-0.09	**0.06-0.13**	0.06-0.13
0.06-0.18	0.06-0.18	**0.06-0.22**	0.06-0.22	0.06-0.18	0.06-0.18	**0.06-0.20**	0.06-0.20	0.06-0.12	0.06-0.12	**0.06-0.15**	0.06-0.15
0.06-0.18	0.08-0.18	**0.08-0.26**	0.08-0.30	0.06-0.18	0.08-0.18	**0.08-0.22**	0.08-0.22	0.06-0.12	0.08-0.12	**0.08-0.17**	0.08-0.17
0.06-0.24	0.08-0.24	**0.08-0.30**		0.06-0.20	0.08-0.20	**0.08-0.20**		0.06-0.16	0.08-0.16	**0.08-0.20**	
0.06-0.24	0.08-0.24	**0.08-0.30**		0.06-0.22	0.08-0.22	**0.08-0.20**		0.06-0.16	0.08-0.16	**0.08-0.20**	
0.10-0.24	0.10-0.24	**0.10-0.32**		0.10-0.22	0.10-0.22	**0.10-0.24**					
0.10-0.24	0.10-0.24	**0.10-0.32**		0.10-0.22	0.10-0.22	**0.10-0.24**					

CoroDrill® 880

Metric values

ISO	MC No. (CMC No.)	Material	Hardness Brinell HB	Grade	Cutting speed (m/min)	Drill diameter D_c mm
P	P3.0.Z.AN (03.11)	High alloy steel (Annealed)	150-250	4014 4024 4034 4044	155-300 160-275 130-225 100-170	12.00-13.99 14.00-16.49 16.50-19.99 20.00-23.99 24.00-29.99 30.00-35.99 36.00-43.99 44.00-52.99 53.00-63.50
	P3.0.Z.HT (03.21)	Hardened steel	250-350	4014 4024 4034 4044	100-215 80-200 75-165 70-125	12.00-13.99 14.00-16.49 16.50-19.99 20.00-23.99 24.00-29.99 30.00-35.99 36.00-43.99 44.00-52.99 53.00-63.50
	P1.5.C.UT (06.1)	Steel castings (Unalloyed)	90-225	4014 4024 4034 4044	190-345 140-310 135-250 125-190	12.00-13.99 14.00-16.49 16.50-19.99 20.00-23.99 24.00-29.99 30.00-35.99 36.00-43.99 44.00-52.99 53.00-63.50
	P2.6.C.UT (06.2)	Low alloyed (alloying elements less than 5%)	150-250	4014 4024 4034 4044	125-265 110-250 105-200 100-150	12.00-13.99 14.00-16.49 16.50-19.99 20.00-23.99 24.00-29.99 30.00-35.99 36.00-43.99 44.00-52.99 53.00-63.50

Note: Bold text is recommended geometry
Central insert grade is always 1044.

CoroDrill® 880

Geometry / Feed											
Drill length 2-3xD				Drill length 4xD				Drill length 5xD			
-LM	-GM	-GR	-GT	-LM	-GM	-GR	-GT	-LM	-GM	-GR	-GT
f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.
0.04-0.10		**0.04-0.15**		0.04-0.10		**0.04-0.12**		0.04-0.07		**0.04-0.10**	
0.04-0.10	0.04-0.10	**0.04-0.16**	0.04-0.16	0.04-0.10	0.04-0.10	**0.04-0.14**	0.04-0.14	0.04-0.07	0.04-0.07	**0.04-0.11**	0.04-0.11
0.06-0.14	0.06-0.14	**0.06-0.20**	0.06-0.20	0.06-0.14	0.06-0.14	**0.06-0.16**	0.06-0.16	0.06-0.09	0.06-0.09	**0.06-0.13**	0.06-0.13
0.06-0.18	0.06-0.18	**0.06-0.22**	0.06-0.22	0.06-0.18	0.06-0.18	**0.06-0.20**	0.06-0.20	0.06-0.12	0.06-0.12	**0.06-0.15**	0.06-0.15
0.06-0.18	0.08-0.18	**0.08-0.26**	0.08-0.26	0.06-0.18	0.08-0.18	**0.08-0.22**	0.08-0.22	0.06-0.12	0.08-0.12	**0.08-0.17**	0.08-0.17
0.06-0.24	0.08-0.24	**0.08-0.30**		0.06-0.20	0.08-0.20	**0.08-0.24**		0.06-0.16	0.08-0.16	**0.08-0.20**	
0.06-0.24	0.08-0.24	**0.08-0.30**		0.06-0.22	0.08-0.22	**0.08-0.24**		0.06-0.16	0.08-0.16	**0.08-0.20**	
0.10-0.24	0.10-0.24	**0.10-0.32**		0.10-0.22	0.10-0.22	**0.10-0.24**					
0.10-0.24	0.10-0.24	**0.10-0.32**		0.10-0.22	0.10-0.22	**0.10-0.24**					
0.04-0.10		**0.04-0.12**		0.04-0.10		**0.04-0.11**		0.04-0.07		**0.04-0.09**	
0.04-0.10	0.04-0.10	**0.04-0.14**	0.04-0.14	0.04-0.10	0.04-0.10	**0.04-0.14**	0.04-0.14	0.04-0.07	0.04-0.07	**0.04-0.09**	0.04-0.09
0.06-0.14	0.06-0.14	**0.06-0.16**	0.06-0.16	0.06-0.14	0.06-0.14	**0.06-0.16**	0.06-0.16	0.06-0.09	0.06-0.09	**0.06-0.11**	0.06-0.11
0.06-0.18	0.06-0.18	**0.06-0.18**	0.06-0.20	0.06-0.18	0.06-0.18	**0.06-0.20**	0.06-0.20	0.06-0.12	0.06-0.12	**0.06-0.12**	0.06-0.12
0.06-0.18	0.08-0.18	**0.08-0.22**	0.08-0.26	0.06-0.18	0.08-0.18	**0.08-0.22**	0.08-0.22	0.06-0.12	0.08-0.12	**0.08-0.15**	0.08-0.17
0.06-0.20	0.08-0.20	**0.08-0.24**		0.06-0.20	0.08-0.20	**0.08-0.24**		0.06-0.13	0.08-0.13	**0.08-0.16**	
0.06-0.22	0.08-0.22	**0.08-0.26**		0.06-0.22	0.08-0.22	**0.08-0.24**		0.06-0.15	0.08-0.15	**0.08-0.17**	
0.10-0.22	0.10-0.22	**0.10-0.26**		0.10-0.22	0.10-0.22	**0.10-0.24**					
0.10-0.22	0.10-0.22	**0.10-0.26**		0.10-0.22	0.10-0.22	**0.10-0.24**					
0.04-0.08		**0.04-0.12**		0.04-0.08		**0.04-0.12**		0.04-0.05		**0.04-0.08**	
0.04-0.08	0.04-0.08	**0.04-0.12**	0.04-0.12	0.04-0.08	0.04-0.08	**0.04-0.12**	0.04-0.12	0.04-0.05	0.04-0.05	**0.04-0.08**	0.04-0.08
0.04-0.08	0.04-0.08	**0.04-0.12**	0.04-0.12	0.04-0.08	0.04-0.08	**0.04-0.12**	0.04-0.12	0.04-0.05	0.04-0.05	**0.04-0.08**	0.04-0.08
0.04-0.10	0.04-0.10	**0.04-0.14**	0.04-0.14	0.04-0.10	0.04-0.10	**0.04-0.14**	0.04-0.14	0.04-0.07	0.04-0.07	**0.04-0.09**	0.04-0.09
0.04-0.10	0.04-0.10	**0.04-0.14**	0.06-0.22	0.04-0.10	0.04-0.10	**0.04-0.14**	0.06-0.14	0.04-0.07	0.04-0.07	**0.04-0.09**	0.04-0.09
0.06-0.14	0.06-0.14	**0.06-0.16**		0.06-0.14	0.06-0.14	**0.06-0.16**		0.06-0.09	0.06-0.09	**0.06-0.11**	
0.06-0.14	0.06-0.14	**0.06-0.16**		0.06-0.14	0.06-0.14	**0.06-0.16**		0.06-0.09	0.06-0.09	**0.06-0.11**	
0.08-0.14	0.08-0.14	**0.08-0.16**		0.08-0.14	0.08-0.14	**0.08-0.16**					
0.08-0.14	0.08-0.14	**0.08-0.16**		0.08-0.14	0.08-0.14	**0.08-0.16**					
0.04-0.10		**0.04-0.15**		0.04-0.10		**0.04-0.12**		0.04-0.07		**0.04-0.10**	
0.04-0.10	0.04-0.10	**0.04-0.20**	0.04-0.20	0.04-0.10	0.04-0.10	**0.04-0.14**	0.04-0.14	0.04-0.07	0.04-0.07	**0.04-0.13**	0.04-0.13
0.04-0.14	0.06-0.14	**0.06-0.22**	0.06-0.22	0.04-0.14	0.06-0.14	**0.06-0.16**	0.06-0.16	0.04-0.09	0.06-0.09	**0.06-0.15**	0.06-0.15
0.06-0.18	0.06-0.18	**0.06-0.26**	0.06-0.26	0.06-0.18	0.06-0.18	**0.06-0.20**	0.06-0.20	0.06-0.12	0.06-0.12	**0.06-0.17**	0.06-0.17
0.06-0.18	0.08-0.18	**0.08-0.30**	0.08-0.30	0.06-0.18	0.08-0.18	**0.08-0.22**	0.08-0.22	0.06-0.12	0.08-0.12	**0.08-0.20**	0.08-0.20
0.06-0.20	0.08-0.20	**0.08-0.32**		0.06-0.20	0.08-0.20	**0.08-0.24**		0.06-0.13	0.08-0.13	**0.08-0.21**	
0.06-0.22	0.08-0.22	**0.08-0.34**		0.06-0.22	0.08-0.22	**0.08-0.24**		0.06-0.15	0.08-0.15	**0.08-0.23**	
0.10-0.22	0.10-0.22	**0.10-0.34**		0.10-0.22	0.10-0.22	**0.10-0.24**					
0.10-0.22	0.10-0.22	**0.10-0.34**		0.10-0.22	0.10-0.22	**0.10-0.24**					

CoroDrill® 880

Metric values

ISO	MC No. (CMC No.)	Material	Hardness Brinell HB	Grade	Cutting speed (m/min)	Drill diameter D_c mm	Geometry/ feed (f_n mm/rev.) Drill length 2-3xD -LM	-MS[1]	-GM
M	P5.0.Z.AN (05.11)	Stainless steel Ferritic/Martensitic 13-25% Cr	150-270	4024	120-265	12.00-13.99	**0.04-0.12**		
						14.00-16.49	0.04-0.14	**0.04-0.14**	0.04-0.08
						16.50-19.99	0.06-0.16	**0.06-0.16**	0.04-0.08
				4034	115-215	20.00-23.99	0.06-0.18	**0.06-0.18**	0.06-0.14
				4044	115-165	24.00-29.99	0.06-0.18	**0.06-0.18**	0.06-0.14
				2044	115-165	30.00-35.99	0.06-0.20	**0.06-0.20**	0.06-0.16
						36.00-43.99	**0.06-0.20**		0.06-0.16
						44.00-52.99	**0.10-0.24**		0.10-0.18
						53.00-63.50	**0.10-0.24**		0.10-0.18
	M1.0.Z.AQ (05.21)	Austenitic Ni > 8%, 13-25% Cr	150-275	4024	120-250	12.00-13.99	**0.04-0.12**		
						14.00-16.49	0.04-0.14	**0.04-0.14**	0.04-0.08
						16.50-19.99	0.06-0.14	**0.06-0.14**	0.04-0.08
				4034	115-215	20.00-23.99	0.06-0.16	**0.06-0.16**	0.06-0.12
				4044	115-180	24.00-29.99	0.06-0.16	**0.06-0.16**	0.06-0.12
				2044	115-180	30.00-35.99	0.06-0.18	**0.06-0.18**	0.06-0.16
						36.00-43.99	**0.06-0.20**		0.06-0.16
						44.00-52.99	**0.10-0.20**		0.10-0.16
						53.00-63.50	**0.10-0.20**		0.10-0.16
	M3.1.Z.AQ (05.51) M3.2.Z.AQ (05.52)	Austenitic/Ferritic (Duplex)	200-320	4024	90-145	12.00-13.99	**0.04-0.12**		
						14.00-16.49	0.04-0.14	**0.04-0.14**	0.04-0.08
						16.50-19.99	0.06-0.14	**0.06-0.14**	0.04-0.08
				4034	85-135	20.00-23.99	0.06-0.16	**0.06-0.16**	0.06-0.12
				4044	85-125	24.00-29.99	0.06-0.16	**0.06-0.16**	0.06-0.12
				2044	85-125	30.00-35.99	0.06-0.18	**0.06-0.18**	0.06-0.16
						36.00-43.99	**0.06-0.20**		0.06-0.16
						44.00-52.99	**0.10-0.20**		0.10-0.16
						53.00-63.50	**0.10-0.20**		0.10-0.16
	M1.0.C.UT (15.21)	Austenitic castings	150-250	4024	150-200	12.00-13.99	**0.04-0.12**		
						14.00-16.49	0.04-0.12	**0.04-0.12**	0.04-0.08
						16.50-19.99	0.06-0.14	**0.06-0.14**	0.04-0.08
				4034	115-175	20.00-23.99	0.06-0.16	**0.06-0.16**	0.06-0.12
				4044	80-155	24.00-29.99	0.06-0.16	**0.06-0.16**	0.06-0.12
				2044	80-155	30.00-35.99	0.06-0.18	**0.06-0.18**	0.06-0.16
						36.00-43.99	**0.06-0.20**		0.06-0.16
						44.00-52.99	**0.10-0.20**		0.10-0.16
						53.00-63.50	**0.10-0.20**		0.10-0.16
S	S2.0.Z.AN (20.21) S2.0.Z.AG (20.22) S2.0.C.NS (20.24)	Heat resistant alloys. Ni Based	140-425	4044	20-90	12.00-13.99	**0.04-0.08**		
						14.00-16.49	**0.04-0.08**	0.04-0.08	0.04-0.10
						16.50-19.99	**0.05-0.08**	0.05-0.08	0.05-0.10
				H13A	15-90	20.00-23.99	**0.05-0.08**	0.05-0.08	0.05-0.10
				2044	20-90	24.00-29.99	**0.06-0.10**	0.06-0.10	0.06-0.12
						30.00-35.99	**0.06-0.12**	0.06-0.12	0.06-0.12
						36.00-43.99	**0.06-0.12**		0.06-0.12
						44.00-52.99	**0.06-0.12**		0.06-0.12
						53.00-63.50	**0.08-0.14**		0.06-0.14
	S4.2.Z.AN (23.21) S4.3.Z.AG (23.22)	Titanium: Alfa- , near Alfa- and Alfa + Beta alloys in annealed condition Titanium: Alfa + Beta alloys in aged condition, Beta alloys in annealed or aged condition	Rm (Mpa) 600-1500	4044	40-135	12.00-13.99	**0.04-0.14**		
						14.00-16.49	**0.06-0.14**	0.06-0.14	0.06-0.12
						16.50-19.99	**0.08-0.16**	0.08-0.16	0.08-0.14
				H13A	40-135	20.00-23.99	**0.08-0.16**	0.08-0.16	0.08-0.14
						24.00-29.99	**0.12-0.18**	0.12-0.18	0.10-0.16
				2044	40-135	30.00-35.99	**0.12-0.18**	0.12-0.18	0.10-0.18
						36.00-43.99	**0.12-0.18**		0.10-0.18
						44.00-52.99	**0.12-0.18**		0.10-0.18
						53.00-63.50	**0.14-0.20**		0.14-0.20

Note: Bold text is recommended geometry

[1] -MS geometry is only available in GC2044

GC1044 is the universal central insert grade for all materials

GC1144 is the optimized central insert grade for ISO M materials (Available in D_c 14.00 to 35.99 mm)

SANDVIK Coromant

CoroDrill® 880

Geometry/ feed (f_n mm/rev.)											
Drill length 2-3xD		**Drill length 4xD**					**Drill length 5xD**				
-GR	**-GT**	**-LM**	**MS[1)]**	**-GM**	**-GR**	**-GT**	**-LM**	**MS[1)]**	**-GM**	**-GR**	**-GT**
0.04-0.08		**0.04-0.10**			0.04-0.08		**0.04-0.08**			0.04-0.05	
0.04-0.08	0.04-0.14	0.04-0.12	**0.04-0.12**	0.04-0.08	0.04-0.08	0.04-0.12	0.04-0.09	**0.04-0.09**	0.04-0.05	0.04-0.05	0.04-0.09
0.04-0.08	0.06-0.16	0.06-0.14	**0.06-0.14**	0.04-0.08	0.04-0.08	0.06-0.14	0.06-0.11	**0.06-0.11**	0.04-0.05	0.04-0.05	0.06-0.11
0.06-0.14	0.06-0.18	0.06-0.16	**0.06-0.16**	0.06-0.14	0.06-0.14	0.06-0.16	0.06-0.12	**0.06-0.12**	0.06-0.09	0.06-0.09	0.06-0.12
0.06-0.14	0.06-0.18	0.06-0.16	**0.06-0.16**	0.06-0.14	0.06-0.14	0.06-0.16	0.06-0.12	**0.06-0.12**	0.06-0.09	0.06-0.09	0.06-0.12
0.06-0.16		0.06-0.18	**0.06-0.18**	0.06-0.16	0.06-0.16		0.06-0.13	**0.06-0.13**	0.06-0.11	0.06-0.11	
0.06-0.16		**0.06-0.18**		0.06-0.16	0.06-0.16		**0.06-0.13**		0.06-0.11	0.06-0.11	
0.10-0.18		**0.10-0.20**		0.10-0.16	0.10-0.16						
0.10-0.18		**0.10-0.20**		0.10-0.16	0.10-0.16						
0.04-0.08		**0.04-0.10**			0.04-0.08		**0.04-0.08**			0.04-0.05	
0.04-0.08	0.04-0.14	0.04-0.12	**0.04-0.12**	0.04-0.08	0.04-0.08	0.04-0.12	0.04-0.09	**0.04-0.09**	0.04-0.05	0.04-0.05	0.04-0.09
0.04-0.08	0.06-0.14	0.06-0.12	**0.06-0.12**	0.04-0.08	0.04-0.08	0.06-0.12	0.06-0.09	**0.06-0.09**	0.04-0.05	0.04-0.05	0.06-0.09
0.06-0.12	0.06-0.16	0.06-0.14	**0.06-0.14**	0.06-0.12	0.06-0.12	0.06-0.14	0.06-0.11	**0.06-0.11**	0.06-0.08	0.06-0.08	0.06-0.11
0.06-0.12	0.06-0.16	0.06-0.14	**0.06-0.14**	0.06-0.12	0.06-0.12	0.06-0.14	0.06-0.11	**0.06-0.11**	0.06-0.08	0.06-0.08	0.06-0.11
0.06-0.16		0.06-0.16	**0.06-0.16**	0.06-0.16	0.06-0.16		0.06-0.12	**0.06-0.12**	0.06-0.11	0.06-0.11	
0.06-0.16		**0.06-0.16**		0.06-0.16	0.06-0.16		**0.06-0.13**		0.06-0.11	0.06-0.11	
0.10-0.16		**0.10-0.16**		0.10-0.16	0.10-0.16						
0.10-0.16		**0.10-0.16**		0.10-0.16	0.10-0.16						
0.04-0.08		**0.04-0.10**			0.04-0.08		**0.04-0.08**			0.04-0.05	
0.04-0.08	0.04-0.14	0.04-0.12	**0.04-0.12**	0.04-0.08	0.04-0.08	0.04-0.12	0.04-0.09	**0.04-0.09**	0.04-0.05	0.04-0.05	0.04-0.09
0.04-0.08	0.06-0.14	0.06-0.12	**0.06-0.12**	0.04-0.08	0.04-0.08	0.06-0.12	0.06-0.09	**0.06-0.09**	0.04-0.05	0.04-0.05	0.06-0.09
0.06-0.12	0.06-0.16	0.06-0.14	**0.06-0.14**	0.06-0.12	0.06-0.12	0.06-0.14	0.06-0.11	**0.06-0.11**	0.06-0.08	0.06-0.08	0.06-0.11
0.06-0.12	0.06-0.16	0.06-0.14	**0.06-0.14**	0.06-0.12	0.06-0.12	0.06-0.14	0.06-0.11	**0.06-0.11**	0.06-0.08	0.06-0.08	0.06-0.11
0.06-0.16		0.06-0.18	**0.06-0.18**	0.06-0.16	0.06-0.16		0.06-0.12	**0.06-0.12**	0.06-0.11	0.06-0.11	
0.06-0.16		**0.06-0.18**		0.06-0.16	0.06-0.16		**0.06-0.13**		0.06-0.11	0.06-0.11	
0.10-0.16		**0.10-0.16**		0.10-0.16	0.10-0.16						
0.10-0.16		**0.10-0.16**		0.10-0.16	0.10-0.16						
0.04-0.08		**0.04-0.10**			0.04-0.08		**0.04-0.08**			0.04-0.05	
0.04-0.08	0.04-0.12	0.04-0.10	**0.04-0.10**	0.04-0.08	0.04-0.08	0.04-0.10	0.04-0.08	**0.04-0.08**	0.04-0.05	0.04-0.05	0.04-0.08
0.04-0.08	0.06-0.14	0.06-0.12	**0.06-0.12**	0.04-0.08	0.04-0.08	0.06-0.12	0.06-0.09	**0.06-0.09**	0.04-0.05	0.04-0.05	0.06-0.09
0.06-0.12	0.06-0.16	0.06-0.14	**0.06-0.14**	0.06-0.12	0.06-0.12	0.06-0.14	0.06-0.11	**0.06-0.11**	0.06-0.08	0.06-0.08	0.06-0.11
0.06-0.12	0.06-0.16	0.06-0.14	**0.06-0.14**	0.06-0.12	0.06-0.12	0.06-0.14	0.06-0.11	**0.06-0.11**	0.06-0.08	0.06-0.08	0.06-0.11
0.06-0.16		0.06-0.18	**0.06-0.18**	0.06-0.16	0.06-0.16		0.06-0.12	**0.06-0.12**	0.06-0.11	0.06-0.11	
0.06-0.16		**0.06-0.18**		0.06-0.16	0.06-0.16		**0.06-0.13**		0.06-0.11	0.06-0.11	
0.10-0.16		**0.10-0.16**		0.10-0.16	0.10-0.16						
0.10-0.16		**0.10-0.16**		0.10-0.16	0.10-0.16						
0.04-0.08		**0.04-0.08**			0.04-0.08		**0.04-0.05**			0.04-0.05	
0.04-0.08	0.04-0.08	**0.04-0.08**	0.04-0.08	0.04-0.08	0.04-0.08	0.04-0.08	**0.04-0.05**	0.04-0.05	0.04-0.07	0.04-0.05	
0.05-0.08	0.05-0.08	**0.05-0.08**	0.05-0.08	0.05-0.08	0.05-0.08	0.05-0.08	**0.05-0.05**	0.05-0.05	0.05-0.07	0.05-0.05	
0.05-0.08	0.05-0.08	**0.05-0.08**	0.05-0.08	0.05-0.08	0.05-0.08	0.05-0.08	**0.05-0.05**	0.05-0.05	0.05-0.07	0.05-0.05	
0.06-0.08	0.05-0.08	**0.05-0.10**	0.05-0.10	0.06-0.10	0.06-0.08	0.06-0.08	**0.06-0.07**	0.06-0.07	0.06-0.08	0.05-0.06	
0.06-0.12		**0.06-0.12**	0.06-0.12	0.06-0.12	0.06-0.12		**0.06-0.08**	0.06-0.08	0.06-0.08	0.06-0.08	
0.06-0.12		**0.06-0.12**		0.06-0.12	0.06-0.12		**0.06-0.08**		0.06-0.08	0.06-0.08	
0.06-0.12		**0.06-0.12**		0.06-0.12	0.08-0.12						
0.08-0.12		**0.08-0.14**		0.08-0.14	0.08-0.12						
0.04-0.10		**0.04-0.12**			0.04-0.10		**0.04-0.10**			0.04-0.08	
0.06-0.10	0.06-0.10	**0.04-0.12**	0.04-0.12	0.04-0.10	0.08-0.12	0.06-0.10	**0.06-0.09**	0.06-0.09	0.06-0.08	0.06-0.07	0.06-0.07
0.08-0.12	0.08-0.12	**0.08-0.14**	0.08-0.14	0.06-0.12	0.08-0.12	0.08-0.12	**0.08-0.11**	0.08-0.11	0.08-0.09	0.08-0.08	0.08-0.08
0.08-0.12	0.08-0.12	**0.08-0.14**	0.08-0.14	0.06-0.12	0.10-0.14	0.08-0.12	**0.08-0.11**	0.08-0.11	0.08-0.09	0.08-0.08	0.08-0.08
0.10-0.14	0.10-0.14	**0.10-0.16**	0.10-0.16	0.08-0.14	0.10-0.14	0.10-0.14	**0.12-0.12**	0.12-0.12	0.10-0.11	0.09-0.10	0.09-0.10
0.10-0.16		**0.12-0.18**	0.12-0.18	0.10-0.16	0.10-0.16		**0.12-0.12**	0.12-0.12	0.10-0.12	0.10-0.11	
0.10-0.16		**0.12-0.18**		0.10-0.16	0.12-0.16		**0.12-0.12**		0.10-0.12	0.10-0.11	
0.10-0.16		**0.12-0.18**		0.10-0.16	0.12-0.16						
0.12-0.16		**0.14-0.20**		0.14-0.18	0.12-0.16						

CoroDrill® 880

Metric values

ISO	MC No. (CMC No.)	Material	Hardness Brinell HB	Grade	Cutting speed (m/min)	Drill diameter D_c mm
K	K1.1.C.NS (07.1)	Malleable cast iron Ferritic (Short chipping)	110-145	4014 4024 4034 4044	140-255 140-230 110-190 80-145	12.00-13.99 14.00-16.49 16.50-19.99 20.00-23.99 24.00-29.99 30.00-35.99 36.00-43.99 44.00-52.99 53.00-63.50
	K1.1.C.NS (07.2)	Pearlitic (long chipping)	150-270	4014 4024 4034 4044	100-185 105-170 85-140 65-105	12.00-13.99 14.00-16.49 16.50-19.99 20.00-23.99 24.00-29.99 30.00-35.99 36.00-43.99 44.00-52.99 53.00-63.50
	K2.1.C.UT (08.1)	Grey cast iron: Low tensile strength	150-220	4014 4024 4034 4044	225-345 210-310 170-255 130-195	12.00-13.99 14.00-16.49 16.50-19.99 20.00-23.99 24.00-29.99 30.00-35.99 36.00-43.99 44.00-52.99 53.00-63.50
	K2.2.C.UT (08.2)	High tensile strength	200-330	4014 4024 4034 4044	110-250 125-230 100-185 75-140	12.00-13.99 14.00-16.49 16.50-19.99 20.00-23.99 24.00-29.99 30.00-35.99 36.00-43.99 44.00-52.99 53.00-63.50
	K3.1.C.UT (09.1)	Nodular cast iron (Ferritic)	150-230	4014 4024 4034 4044	120-235 125-215 100-175 80-135	12.00-13.99 14.00-16.49 16.50-19.99 20.00-23.99 24.00-29.99 30.00-35.99 36.00-43.99 44.00-52.99 53.00-63.50
	K3.3.C.UT (09.2)	Pearlitic	200-330	4014 4024 4034 4044	100-215 110-200 90-165 70-125	12.00-13.99 14.00-16.49 16.50-19.99 20.00-23.99 24.00-29.99 30.00-35.99 36.00-43.99 44.00-52.99 53.00-63.50

Note: Bold text is recommended geometry
Central insert grade is always 1044.

CoroDrill® 880

Geometry / Feed											
Drill length 2-3xD				Drill length 4xD				Drill length 5xD			
-LM	-GM	-GR	-GT	-LM	-GM	-GR	-GT	-LM	-GM	-GR	-GT
f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.
0.06-0.10		**0.06-0.15**		0.06-0.10		**0.06-0.13**		0.06-0.08		**0.06-0.10**	
0.06-0.10	0.06-0.12	**0.06-0.20**	0.06-0.20	0.06-0.10	0.06-0.12	**0.06-0.14**	0.06-0.14	0.06-0.07	0.06-0.08	**0.06-0.13**	0.06-0.13
0.06-0.12	0.08-0.14	**0.08-0.22**	0.08-0.22	0.06-0.12	0.08-0.14	**0.08-0.18**	0.08-0.18	0.06-0.08	0.08-0.09	**0.08-0.15**	0.08-0.15
0.08-0.14	0.10-0.18	**0.10-0.28**	0.10-0.28	0.08-0.14	0.10-0.18	**0.10-0.22**	0.10-0.22	0.08-0.09	0.10-0.12	**0.10-0.19**	0.08-0.19
0.08-0.14	0.10-0.20	**0.10-0.30**	0.10-0.30	0.08-0.14	0.10-0.20	**0.10-0.26**	0.10-0.26	0.08-0.09	0.10-0.13	**0.10-0.20**	0.10-0.20
0.10-0.16	0.10-0.20	**0.10-0.32**		0.10-0.16	0.10-0.20	**0.10-0.28**		0.10-0.11	0.10-0.13	**0.10-0.21**	
0.10-0.16	0.10-0.20	**0.10-0.34**		0.10-0.16	0.10-0.20	**0.10-0.30**		0.10-0.11	0.10-0.13	**0.10-0.23**	
0.12-0.18	0.12-0.22	**0.12-0.34**		0.12-0.16	0.12-0.20	**0.12-0.30**					
0.12-0.18	0.12-0.22	**0.12-0.34**		0.12-0.16	0.12-0.20	**0.12-0.30**					
0.06-0.10		**0.06-0.15**		0.06-0.10		**0.06-0.12**		0.06-0.08		**0.06-0.10**	
0.06-0.10	0.06-0.12	**0.06-0.16**	0.06-0.16	0.06-0.10	0.06-0.12	**0.06-0.12**	0.06-0.12	0.06-0.07	0.06-0.08	**0.06-0.11**	0.06-0.11
0.06-0.12	0.08-0.14	**0.08-0.18**	0.08-0.18	0.06-0.12	0.08-0.14	**0.08-0.14**	0.08-0.14	0.06-0.08	0.08-0.09	**0.08-0.12**	0.08-0.12
0.08-0.14	0.10-0.16	**0.10-0.24**	0.10-0.24	0.08-0.14	0.10-0.16	**0.10-0.19**	0.10-0.19	0.08-0.09	0.10-0.11	**0.10-0.16**	0.08-0.16
0.08-0.14	0.10-0.18	**0.10-0.28**	0.10-0.28	0.08-0.14	0.10-0.18	**0.10-0.22**	0.10-0.22	0.08-0.09	0.10-0.12	**0.10-0.19**	0.10-0.19
0.10-0.16	0.10-0.20	**0.10-0.30**		0.10-0.16	0.10-0.20	**0.10-0.24**		0.10-0.11	0.10-0.13	**0.10-0.20**	
0.10-0.16	0.10-0.20	**0.10-0.32**		0.10-0.16	0.10-0.20	**0.10-0.26**		0.10-0.11	0.10-0.13	**0.10-0.21**	
0.10-0.16	0.10-0.20	**0.10-0.32**		0.10-0.16	0.10-0.20	**0.10-0.26**					
0.10-0.16	0.10-0.20	**0.10-0.32**		0.10-0.16	0.10-0.20	**0.10-0.26**					
0.06-0.10		**0.06-0.15**		0.06-0.10		**0.06-0.13**		0.06-0.08		**0.06-0.10**	
0.06-0.10	0.06-0.12	**0.06-0.20**	0.06 - 0.20	0.06-0.10	0.06-0.12	**0.06-0.14**	0.06 - 0.14	0.06-0.07	0.06-0.08	**0.06-0.13**	0.06 - 0.13
0.06-0.12	0.08-0.14	**0.08-0.22**	0.08-0.22	0.06-0.12	0.08-0.14	**0.08-0.18**	0.08 - 0.18	0.06-0.08	0.08-0.09	**0.08-0.15**	0.08 - 0.15
0.08-0.14	0.10-0.18	**0.10-0.28**	0.10 - 0.28	0.08-0.14	0.10-0.18	**0.10-0.22**	0.10 - 0.22	0.08-0.09	0.10-0.12	**0.10-0.19**	0.10 - 0.19
0.08-0.14	0.10-0.20	**0.10-0.32**	0.10 - 0.32	0.08-0.14	0.10-0.20	**0.10-0.26**	0.10 - 0.26	0.08-0.09	0.10-0.13	**0.10-0.21**	0.10 - 0.21
0.10-0.16	0.10-0.20	**0.10-0.32**		0.10-0.16	0.10-0.20	**0.10-0.28**		0.10-0.11	0.10-0.13	**0.10-0.21**	
0.10-0.16	0.10-0.20	**0.10-0.34**		0.10-0.16	0.10-0.20	**0.10-0.30**		0.10-0.11	0.10-0.13	**0.10-0.23**	
0.12-0.18	0.12-0.22	**0.12-0.34**		0.12-0.16	0.12-0.20	**0.12-0.30**					
0.12-0.18	0.12-0.22	**0.12-0.34**		0.12-0.16	0.12-0.20	**0.12-0.30**					
0.06-0.10		**0.06-0.15**		0.06-0.10		**0.06-0.12**		0.06-0.08		**0.06-0.10**	
0.06-0.10	0.06-0.12	**0.06-0.16**	0.06 - 0.16	0.06-0.10	0.06-0.12	**0.06-0.12**	0.06 - 0.12	0.06-0.07	0.06-0.08	**0.06-0.11**	0.06 - 0.11
0.06-0.12	0.08-0.14	**0.08-0.18**	0.08 - 0.18	0.06-0.12	0.08-0.14	**0.08-0.14**	0.08 - 0.14	0.06-0.08	0.08-0.09	**0.08-0.12**	0.08 - 0.12
0.08-0.14	0.10-0.16	**0.10-0.24**	0.10 - 0.24	0.08-0.14	0.10-0.16	**0.10-0.19**	0.10 - 0.19	0.08-0.09	0.10-0.11	**0.10-0.16**	0.10 - 0.16
0.08-0.14	0.10-0.18	**0.10-0.28**	0.10 - 0.28	0.08-0.14	0.10-0.18	**0.10-0.22**	0.10 - 0.22	0.08-0.09	0.10-0.12	**0.10-0.19**	0.10 - 0.19
0.10-0.16	0.10-0.20	**0.10-0.30**		0.10-0.16	0.10-0.20	**0.10-0.24**		0.10-0.11	0.10-0.13	**0.10-0.20**	
0.10-0.16	0.10-0.20	**0.10-0.32**		0.10-0.16	0.10-0.20	**0.10-0.26**		0.10-0.11	0.10-0.13	**0.10-0.21**	
0.10-0.16	0.10-0.20	**0.10-0.32**		0.10-0.16	0.10-0.20	**0.10-0.26**					
0.10-0.16	0.10-0.20	**0.10-0.32**		0.10-0.16	0.10-0.20	**0.10-0.26**					
0.06-0.10		**0.06-0.15**		0.06-0.10		**0.06-0.12**		0.06-0.08		**0.06-0.10**	
0.06-0.10	0.06-0.12	**0.06-0.16**	0.06 - 0.16	0.06-0.10	0.06-0.12	**0.06-0.12**	0.06 - 0.12	0.06-0.07	0.06-0.08	**0.06-0.11**	0.06 - 0.11
0.06-0.12	0.08-0.14	**0.08-0.18**	0.08 - 0.18	0.06-0.12	0.08-0.14	**0.08-0.14**	0.08 - 0.14	0.06-0.08	0.08-0.09	**0.08-0.12**	0.08 - 0.12
0.08-0.14	0.10-0.16	**0.10-0.24**	0.10 - 0.24	0.08-0.14	0.10-0.16	**0.10-0.19**	0.10 - 0.19	0.08-0.09	0.10-0.11	**0.10-0.16**	0.10 - 0.16
0.08-0.14	0.10-0.18	**0.10-0.28**	0.10 - 0.28	0.08-0.14	0.10-0.18	**0.10-0.22**	0.10 - 0.22	0.08-0.09	0.10-0.12	**0.10-0.19**	0.10 - 0.19
0.10-0.16	0.10-0.20	**0.10-0.30**		0.10-0.16	0.10-0.20	**0.10-0.24**		0.10-0.11	0.10-0.13	**0.10-0.20**	
0.10-0.16	0.10-0.20	**0.10-0.32**		0.10-0.16	0.10-0.20	**0.10-0.26**		0.10-0.11	0.10-0.13	**0.10-0.21**	
0.10-0.16	0.10-0.20	**0.10-0.32**		0.10-0.16	0.10-0.20	**0.10-0.26**					
0.10-0.16	0.10-0.20	**0.10-0.32**		0.10-0.16	0.10-0.20	**0.10-0.26**					
0.06-0.10		**0.06-0.15**		0.06-0.10		**0.06-0.12**		0.06-0.08		**0.06-0.10**	
0.06-0.10	0.06-0.12	**0.06-0.16**	0.06 - 0.16	0.06-0.10	0.06-0.12	**0.06-0.12**	0.06 - 0.12	0.06-0.07	0.06-0.08	**0.06-0.11**	0.06 - 0.11
0.06-0.12	0.08-0.14	**0.08-0.18**	0.08 - 0.18	0.06-0.12	0.08-0.14	**0.08-0.14**	0.08 - 0.14	0.06-0.08	0.08-0.09	**0.08-0.12**	0.08 - 0.12
0.08-0.14	0.10-0.16	**0.10-0.24**	0.10 - 0.24	0.08-0.14	0.10-0.16	**0.10-0.19**	0.10 - 0.19	0.08-0.09	0.10-0.11	**0.10-0.16**	0.10 - 0.16
0.08-0.14	0.10-0.18	**0.10-0.28**	0.10 - 0.28	0.08-0.14	0.10-0.18	**0.10-0.22**	0.10 - 0.22	0.08-0.09	0.10-0.12	**0.10-0.19**	0.10 - 0.19
0.10-0.16	0.10-0.20	**0.10-0.30**		0.10-0.16	0.10-0.20	**0.10-0.24**		0.10-0.11	0.10-0.13	**0.10-0.20**	
0.10-0.16	0.10-0.20	**0.10-0.32**		0.10-0.16	0.10-0.20	**0.10-0.26**		0.10-0.11	0.10-0.13	**0.10-0.21**	
0.10-0.16	0.10-0.20	**0.10-0.32**		0.10-0.16	0.10-0.20	**0.10-0.26**					
0.10-0.16	0.10-0.20	**0.10-0.32**		0.10-0.16	0.10-0.20	**0.10-0.26**					

CoroDrill® 880

Metric values

ISO	MC No. (CMC No.)	Material	Hardness Brinell HB	Grade	Cutting speed (m/min)	Drill diameter D_c mm
H	H1.3.Z.HA (04.1)	Hardened and tempered	47-65	4014 4024 4034 4044	40-100 30-80 30-80 30-80	12.00-13.99 14.00-16.49 16.50-19.99 20.00-23.99 24.00-29.99 30.00-35.99 36.00-43.99 44.00-52.99 53.00-63.50
N	N1.2.Z.AG (30.12)	Al. alloys Wrought or wrought and aged	30-150	4044 H13A	300-385 300-400	12.00-13.99 14.00-16.49 16.50-19.99 20.00-23.99 24.00-29.99 30.00-35.99 36.00-43.99 44.00-52.99 53.00-63.50
	N1.3.C.UT (30.21)	Cast. non aging	40-100	4044 H13A	300-385 300-400	12.00-13.99 14.00-16.49 16.50-19.99 20.00-23.99 24.00-29.99 30.00-35.99 36.00-43.99 44.00-52.99 53.00-63.50
	N1.3.C.AG (30.22)	Cast or cast and aged	70-140	4044 H13A	250-335 250-350	12.00-13.99 14.00-16.49 16.50-19.99 20.00-23.99 24.00-29.99 30.00-35.99 36.00-43.99 44.00-52.99 53.00-63.50
	N3.3.U.UT (33.1)	Copper and copper alloys	70-160	4044 H13A	250-380 250-400	12.00-13.99 14.00-16.49 16.50-19.99 20.00-23.99 24.00-29.99 30.00-35.99 36.00-43.99 44.00-52.99 53.00-63.50
	N3.2.C.UT (33.2)	Brass and leaded alloys (Pb < 1%)	50-200	4044 H13A	180-230 180-240	12.00-13.99 14.00-16.49 16.50-19.99 20.00-23.99 24.00-29.99 30.00-35.99 36.00-43.99 44.00-52.99 53.00-63.50

Note: Bold text is recommended geometry
Central insert grade is always 1044.

CoroDrill® 880

Geometry / Feed											
Drill length 2-3xD				Drill length 4xD				Drill length 5xD			
-LM	-GM	-GR	-GT	-LM	-GM	-GR	-GT	-LM	-GM	-GR	-GT
f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.	f_n mm/rev.
0.04-0.08		**0.04-0.10**		0.04-0.08		**0.04-0.10**		0.04-0.05		**0.04-0.06**	
0.04-0.08	**0.04-0.12**	0.04-0.08	0.04 - 0.08	0.04-0.08	**0.04-0.10**	0.04-0.08	0.04 - 0.08	0.04-0.05	**0.04-0.08**	0.04-0.05	0.04 - 0.05
0.05-0.12	**0.06-0.14**	0.05-0.12	0.05 - 0.12	0.05-0.10	**0.06-0.12**	0.05-0.10	0.05 - 0.10	0.05-0.08	**0.06-0.09**	0.05-0.08	0.05 - 0.08
0.05-0.14	**0.06-0.18**	0.05-0.14	0.05 - 0.14	0.05-0.12	**0.06-0.15**	0.05-0.12	0.05 - 0.12	0.05-0.09	**0.06-0.12**	0.05-0.09	0.05 - 0.09
0.05-0.14	**0.06-0.18**	0.05-0.14	0.05 - 0.14	0.05-0.12	**0.06-0.15**	0.05-0.12	0.05 - 0.12	0.05-0.09	**0.06-0.12**	0.05-0.09	0.05 - 0.09
0.06-0.16	**0.06-0.20**	0.06-0.16		0.06-0.16	**0.06-0.18**	0.06-0.16		0.06-0.11	**0.06-0.13**	0.06-0.11	
0.06-0.16	**0.06-0.20**	0.06-0.16		0.06-0.16	**0.06-0.18**	0.06-0.16		0.06-0.11	**0.06-0.13**	0.06-0.11	
0.10-0.16	**0.10-0.20**	0.10-0.16		0.10-0.16	**0.10-0.18**	0.10-0.16					
0.10-0.16	**0.10-0.20**	0.10-0.16		0.10-0.16	**0.10-0.18**	0.10-0.16					
0.04-0.14		0.04-0.12		**0.04-0.12**		**0.04-0.10**		**0.04-0.08**		0.04-0.08	
0.04-0.14	0.04-0.12	0.04-0.12	0.04 - 0.12	**0.04-0.12**	0.04-0.10	0.04-0.10	0.04 - 0.10	**0.04-0.09**	0.04-0.08	0.04-0.08	0.04 - 0.08
0.04-0.16	0.04-0.14	0.04-0.14	0.04 - 0.14	**0.04-0.14**	0.04-0.12	0.04-0.12	0.04 - 0.12	**0.04-0.11**	0.04-0.09	0.04-0.09	0.04 - 0.09
0.06-0.18	0.06-0.16	0.06-0.16	0.06 - 0.16	**0.06-0.16**	0.06-0.14	0.06-0.14	0.06 - 0.16	**0.06-0.12**	0.06-0.11	0.06-0.11	0.06 - 0.11
0.10-0.20	0.10-0.18	0.10-0.18	0.10 - 0.18	**0.10-0.18**	0.10-0.16	0.10-0.16	0.10 - 0.16	**0.10-0.13**	0.10-0.12	0.10-0.12	0.10 - 0.12
0.10-0.25	0.10-0.20	0.10-0.20		**0.10-0.22**	0.10-0.18	0.10-0.16		**0.10-0.17**	0.10-0.13	0.10-0.13	
0.10-0.25	0.10-0.20	0.10-0.20		**0.10-0.22**	0.10-0.20	0.10-0.16		**0.10-0.17**	0.10-0.13	0.10-0.13	
0.12-0.28	0.12-0.22	0.12-0.22		**0.12-0.25**	0.12-0.22	0.12-0.18					
0.12-0.28	0.12-0.22	0.12-0.22		**0.12-0.25**	0.12-0.22	0.12-0.18					
0.04-0.12		0.04-0.12		**0.04-0.10**		0.04-0.10		**0.04-0.08**		0.04-0.08	
0.04-0.12	0.04-0.14	0.04-0.12	0.04 - 0.12	**0.04-0.10**	0.04-0.12	0.04-0.10	0.04 - 0.10	**0.04-0.08**	0.04-0.09	0.04-0.08	0.04 - 0.08
0.04-0.14	0.04-0.16	0.04-0.14	0.04 - 0.14	**0.04-0.12**	0.04-0.14	0.04-0.12	0.04 - 0.12	**0.04-0.09**	0.04-0.11	0.04-0.09	0.04 - 0.09
0.06-0.16	0.06-0.18	0.06-0.16	0.06 - 0.16	**0.06-0.14**	0.06-0.16	0.06-0.14	0.06 - 0.14	**0.06-0.11**	0.06-0.12	0.06-0.11	0.06 - 0.11
0.10-0.18	0.10-0.20	0.10-0.18	0.10 - 0.18	**0.10-0.16**	0.10-0.18	0.10-0.16	0.10 - 0.16	**0.10-0.12**	0.10-0.13	0.10-0.12	0.10 - 0.12
0.10-0.20	0.10-0.22	0.10-0.20		**0.10-0.18**	0.10-0.20	0.10-0.18		**0.10-0.13**	0.10-0.15	0.10-0.13	
0.10-0.20	0.10-0.24	0.10-0.20		**0.10-0.18**	0.10-0.22	0.10-0.18		**0.10-0.13**	0.10-0.16	0.10-0.13	
0.12-0.22	0.12-0.26	0.12-0.22		**0.12-0.20**	0.12-0.24	0.12-0.20					
0.12-0.22	0.12-0.26	0.12-0.22		**0.12-0.20**	0.12-0.24	0.12-0.20					
0.04-0.12		0.04-0.12		**0.04-0.10**		0.04-0.10		**0.04-0.08**		0.04-0.08	
0.04-0.12	0.04-0.14	0.04-0.12	0.04 - 0.12	**0.04-0.10**	0.04-0.12	0.04-0.10	0.04 - 0.10	**0.04-0.08**	0.04-0.09	0.04-0.08	0.04 - 0.08
0.04-0.14	0.04-0.16	0.04-0.14	0.04 - 0.14	**0.04-0.12**	0.04-0.14	0.04-0.12	0.04 - 0.12	**0.04-0.09**	0.04-0.11	0.04-0.09	0.04 - 0.09
0.06-0.16	0.06-0.18	0.06-0.16	0.06 - 0.16	**0.06-0.14**	0.06-0.16	0.06-0.14	0.06 - 0.14	**0.06-0.11**	0.06-0.12	0.06-0.11	0.06 - 0.11
0.10-0.18	0.10-0.20	0.10-0.18	0.10 - 0.18	**0.10-0.16**	0.10-0.18	0.10-0.16	0.10 - 0.16	**0.10-0.12**	0.10-0.13	0.10-0.12	0.10 - 0.12
0.10-0.20	0.10-0.22	0.10-0.20		**0.10-0.18**	0.10-0.20	0.10-0.18		**0.10-0.13**	0.10-0.15	0.10-0.13	
0.10-0.20	0.10-0.24	0.10-0.20		**0.10-0.18**	0.10-0.22	0.10-0.18		**0.10-0.13**	0.10-0.16	0.10-0.13	
0.12-0.22	0.12-0.26	0.12-0.22		**0.12-0.20**	0.12-0.24	0.12-0.20					
0.12-0.22	0.12-0.26	0.12-0.22		**0.12-0.20**		0.12-0.20					
0.04-0.14		0.04-0.12		**0.04-0.12**		0.04-0.10		**0.04-0.08**		0.04-0.08	
0.04-0.14	0.04-0.12	0.04-0.12	0.04 - 0.12	**0.04-0.12**	0.04-0.10	0.04-0.10	0.04 - 0.10	**0.04-0.09**	0.04-0.08	0.04-0.08	0.04 - 0.08
0.04-0.16	0.04-0.14	0.04-0.14	0.04 - 0.14	**0.04-0.14**	0.04-0.12	0.04-0.12	0.04 - 0.12	**0.04-0.11**	0.04-0.09	0.04-0.09	0.04 - 0.09
0.06-0.18	0.06-0.16	0.06-0.16	0.06 - 0.16	**0.06-0.16**	0.06-0.14	0.06-0.14	0.06 - 0.14	**0.06-0.12**	0.06-0.11	0.06-0.11	0.06 - 0.11
0.10-0.20	0.10-0.18	0.10-0.18	0.10 - 0.18	**0.10-0.18**	0.10-0.16	0.10-0.16	0.10 - 0.16	**0.10-0.13**	0.10-0.12	0.10-0.12	0.10 - 0.12
0.10-0.25	0.10-0.20	0.10-0.20		**0.10-0.22**	0.10-0.18	0.10-0.16		**0.10-0.17**	0.10-0.13	0.10-0.13	
0.10-0.25	0.10-0.20	0.10-0.20		**0.10-0.22**	0.10-0.20	0.10-0.16		**0.10-0.17**	0.10-0.13	0.10-0.13	
0.12-0.28	0.12-0.22	0.12-0.22		**0.12-0.25**	0.12-0.22	0.12-0.18					
0.12-0.28	0.12-0.22	0.12-0.22		0.12-0.25	0.12-0.22	0.12-0.18					
0.04-0.14		0.04-0.12		0.04-0.12		0.04-0.10		**0.04-0.08**		0.04-0.08	
0.04-0.14	0.04-0.12	0.04-0.12	0.04 - 0.12	**0.04-0.12**	0.04-0.10	0.04-0.10	0.04 - 0.10	**0.04-0.09**	0.04-0.08	0.04-0.08	0.04 - 0.08
0.04-0.16	0.04-0.14	0.04-0.14	0.04 - 0.14	**0.04-0.14**	0.04-0.12	0.04-0.12	0.04 - 0.12	**0.04-0.11**	0.04-0.09	0.04-0.09	0.04 - 0.09
0.06-0.18	0.06-0.16	0.06-0.16	0.06 - 0.16	**0.06-0.16**	0.06-0.14	0.06-0.14	0.06 - 0.14	**0.06-0.12**	0.06-0.11	0.06-0.11	0.06 - 0.11
0.10-0.20	0.10-0.18	0.10-0.18	0.10 - 0.18	**0.10-0.18**	0.10-0.16	0.10-0.16	0.10 - 0.16	**0.10-0.13**	0.10-0.12	0.10-0.12	0.10 - 0.12
0.10-0.25	0.10-0.20	0.10-0.20		**0.10-0.22**	0.10-0.18	0.10-0.16		**0.10-0.17**	0.10-0.13	0.10-0.13	
0.10-0.25	0.10-0.20	0.10-0.20		**0.10-0.22**	0.10-0.20	0.10-0.16		**0.10-0.17**	0.10-0.13	0.10-0.13	
0.12-0.28	0.12-0.22	0.12-0.22		**0.12-0.25**	0.12-0.22	0.12-0.18					
0.12-0.28	0.12-0.22	0.12-0.22		**0.12-0.25**	0.12-0.22	0.12-0.18					

CoroDrill® 880

Inch values

ISO	MC No. (CMC No.)	Material	Hardness Brinell HB	Grade	Cutting speed (ft/min)	Drill diameter D_c inch
P	P1.0.Z.AN (01.0)	Non hardened 0.05-0.10% C	90-200	4014	720-1300	.472-.550
				4024	760-1250	.551-.649
				4034	690-1000	.650-.787
				4044	620-770	.788-.944
						.945-1.181
						1.182-1.417
						1.418-1.732
						1.733-2.086
						2.087-2.500
	P1.0.Z.AN (01.1)	Non hardened 0.05-0.25% C	90-200	4014	790-1250	.472-.550
				4024	750-1150	.551-.649
				4034	650-950	.650-.787
				4044	550-740	.788-.944
						.945-1.181
						1.182-1.417
						1.418-1.732
						1.733-2.086
						2.087-2.500
	P1.2.Z.AN (01.2)	Non hardened 0.25-0.55% C	125-225	4014	650-1050	.472-.550
				4024	620-950	.551-.649
				4034	510-770	.650-.787
				4044	395-590	.788-.944
						.945-1.181
						1.182-1.417
						1.418-1.732
						1.733-2.086
						2.087-2.500
	P1.3.Z.AN (01.3)	Non hardened 0.55-0.80% C	150-250	4014	580-1000	.472-.550
				4024	560-910	.551-.649
				4034	460-740	.650-.787
				4044	345-580	.788-.944
						.945-1.181
						1.182-1.417
						1.418-1.732
						1.733-2.086
						2.087-2.500
	P1.3.Z.AN (01.4)	High carbon & carbon tool steel	180-275	4014	580-990	.472-.550
				4024	660-910	.551-.649
				4034	510-740	.650-.787
				4044	345-560	.788-.944
						.945-1.181
						1.182-1.417
						1.418-1.732
						1.733-2.086
						2.087-2.500
	P2.1.Z.AN (02.1)	Low alloy steel (Non-hardened)	150-260	4014	570-1050	.472-.550
				4024	590-950	.551-.649
				4034	490-770	.650-.787
				4044	375-590	.788-.944
						.945-1.181
						1.182-1.417
						1.418-1.732
						1.733-2.086
						2.087-2.500
	P2.5.Z.HT (02.2)	Hardened steel	220-450	4014	490-840	.472-.550
				4024	295-750	.551-.649
				4034	280-610	.650-.787
				4044	245-460	.788-.944
						.945-1.181
						1.182-1.417
						1.418-1.732
						1.733-2.086
						2.087-2.500

Note: Bold text is recommended geometry
Central insert grade is always 1044.

CoroDrill® 880

Geometry / Feed											
Drill length 2-3xD				Drill length 4xD				Drill length 5xD			
-LM	-GM	-GR	-GT	-LM	-GM	-GR	-GT	-LM	-GM	-GR	-GT
f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.
.002-.003		.001-.002		**.002-.003**		.001-.002		**.001-.002**		.001-.002	
.002-.003	.001-.002	.001-.002	.002-.003	**.002-.003**	.001-.002	.001-.002	.002-.003	**.001-.002**	.001-.002	.001-.002	.001-.002
.002-.004	.001-.002	.001-.002	.002-.004	**.002-.004**	.001-.002	.001-.002	.002-.004	**.002-.003**	.001-.002	.001-.002	.002-.003
.002-.005	.002-.003	.002-.003	.002-.005	**.002-.005**	.002-.003	.002-.003	.002-.005	**.002-.003**	.001-.002	.001-.002	.002-.003
.002-.005	.002-.003	.002-.003	.002-.005	**.002-.005**	.002-.003	.002-.003	.002-.005	**.002-.003**	.001-.002	.001-.002	.002-.003
.002-.006	.002-.004	.002-.004		**.002-.005**	.002-.004	.002-.004		**.002-.004**	.002-.003	.002-.003	
.002-.006	.002-.004	.002-.004		**.002-.006**	.002-.004	.002-.004		**.002-.004**	.002-.003	.002-.003	
.003-.006	.003-.005	.003-.005		**.003-.006**	.003-.005	.003-.005					
.003-.006	.003-.005	.003-.005		**.003-.006**	.003-.005	.003-.005					
.002-.004		.001-.002		**.002-.003**		.001-.002		**.002-.003**		.001-.002	
.002-.004	.001-.002	.001-.002	.002-.004	**.002-.004**	.001-.002	.001-.002	.002-.004	**.002-.003**	.001-.002	.001-.002	.002-.003
.002-.005	.001-.002	.001-.002	.002-.005	**.002-.005**	.001-.002	.001-.002	.002-.005	**.002-.003**	.001-.002	.001-.002	.002-.003
.002-.006	.002-.004	.002-.003	.002-.006	**.002-.006**	.002-.004	.002-.003	.002-.006	**.002-.004**	.002-.003	.001-.002	.002-.004
.002-.006	.002-.004	.002-.003	.002-.006	**.002-.006**	.002-.004	.002-.003	.002-.006	**.002-.004**	.002-.003	.001-.002	.002-.004
.002-.006	.002-.005	.002-.004		**.002-.006**	.002-.004	.002-.004		**.002-.004**	.002-.003	.002-.003	
.002-.006	.002-.005	.002-.004		**.002-.006**	.002-.004	.002-.004		**.002-.004**	.002-.003	.002-.003	
.003-.006	.003-.005	.003-.005		**.003-.006**	.003-.005	.003-.005					
.003-.006	.003-.005	.003-.005		**.003-.006**	.003-.005	.003-.005					
.002-.004		**.002-.006**		.002-.004		**.002-.005**		.002-.003		**.002-.005**	
.002-.004	.002-.004	**.002-.008**	.002-.008	.002-.004	.002-.004	**.002-.006**	.002-.006	.002-.003	.002-.003	**.002-.005**	.002-.005
.002-.006	.002-.006	**.002-.009**	.002-.009	.002-.006	.002-.006	**.002-.006**	.002-.006	.002-.004	.002-.004	**.002-.006**	.002-.006
.002-.007	.002-.007	**.002-.010**	.002-.010	.002-.007	.002-.007	**.002-.008**	.002-.008	.002-.005	.002-.005	**.002-.007**	.002-.007
.002-.007	.003-.007	**.003-.012**	.003-.012	.002-.007	.003-.007	**.003-.009**	.003-.009	.002-.005	.003-.005	**.003-.008**	.003-.008
.002-.009	.003-.009	**.003-.013**		.002-.008	.003-.008	**.003-.009**		.002-.006	.003-.006	**.003-.008**	
.002-.009	.003-.009	**.003-.013**		.002-.008	.003-.008	**.003-.009**		.002-.006	.003-.006	**.003-.009**	
.004-.009	.004-.009	**.004-.013**		.004-.008	.004-.008	**.004-.009**					
.004-.009	.004-.009	**.004-.013**		.004-.008	.004-.008	**.004-.009**					
.002-.004		**.002-.006**		.002-.004		**.002-.005**		.002-.003		**.002-.005**	
.002-.004	.002-.004	**.002-.008**	.002-.008	.002-.004	.002-.004	**.002-.006**	.002-.006	.002-.003	.002-.003	**.002-.005**	.002-.005
.002-.006	.002-.006	**.002-.009**	.002-.009	.002-.006	.002-.006	**.002-.006**	.002-.006	.002-.004	.002-.004	**.002-.006**	.002-.006
.002-.007	.002-.007	**.002-.010**	.002-.010	.002-.007	.002-.007	**.002-.008**	.002-.008	.002-.005	.002-.005	**.002-.007**	.002-.007
.002-.007	.003-.007	**.003-.012**	.003-.012	.002-.007	.003-.007	**.003-.009**	.003-.009	.002-.005	.003-.005	**.003-.008**	.003-.008
.002-.009	.003-.009	**.003-.013**		.002-.008	.003-.008	**.003-.009**		.002-.006	.003-.006	**.003-.008**	
.002-.009	.003-.009	**.003-.013**		.002-.008	.003-.008	**.003-.009**		.002-.006	.003-.006	**.003-.009**	
.002-.009	.003-.009	**.003-.013**		.002-.008	.003-.008	**.003-.009**					
.004-.009	.004-.009	**.004-.013**		.004-.008	.004-.008	**.004-.009**					
.002-.004		**.002-.006**		.002-.004		**.002-.005**		.002-.004		**.002-.005**	
.002-.004	.002-.004	**.002-.007**	.002-.007	.002-.004	.002-.004	**.002-.006**	.002-.006	.002-.003	.002-.003	**.002-.005**	.002-.005
.002-.006	.002-.006	**.002-.009**	.002-.009	.002-.006	.002-.006	**.002-.006**	.002-.006	.002-.004	.002-.004	**.002-.006**	.002-.006
.002-.007	.002-.007	**.002-.010**	.002-.010	.002-.007	.002-.007	**.002-.008**	.002-.008	.002-.005	.002-.005	**.002-.007**	.002-.007
.002-.007	.003-.007	**.003-.012**	.003-.012	.002-.007	.003-.007	**.003-.009**	.003-.009	.002-.005	.003-.005	**.003-.008**	.003-.008
.002-.009	.003-.009	**.003-.013**		.002-.008	.003-.008	**.003-.009**		.002-.006	.003-.006	**.003-.008**	
.002-.009	.003-.009	**.003-.013**		.002-.008	.003-.008	**.003-.009**		.002-.006	.003-.006	**.003-.009**	
.004-.009	.004-.009	**.004-.013**		.004-.008	.004-.008	**.004-.009**					
.004-.009	.004-.009	**.004-.013**		.004-.008	.004-.008	**.004-.009**					
.002-.004		**.002-.006**		.002-.004		**.002-.005**		.002-.003		**.002-.004**	
.002-.004	.002-.004	**.002-.008**	.002-.008	.002-.004	.002-.004	**.002-.006**	.002-.006	.002-.003	.002-.003	**.002-.005**	.002-.005
.002-.006	.002-.006	**.002-.009**	.002-.009	.002-.006	.002-.006	**.002-.006**	.002-.006	.002-.004	.002-.004	**.002-.006**	.002-.006
.002-.007	.002-.007	**.002-.010**	.002-.010	.002-.007	.002-.007	**.002-.008**	.002-.008	.002-.005	.002-.005	**.002-.007**	.002-.007
.002-.007	.003-.007	**.003-.012**	.003-.012	.002-.007	.003-.007	**.003-.009**	.003-.009	.002-.005	.003-.005	**.003-.008**	.003-.008
.002-.009	.003-.009	**.003-.013**		.002-.008	.003-.008	**.003-.009**		.002-.006	.003-.006	**.003-.008**	
.002-.009	.003-.009	**.003-.013**		.002-.009	.003-.009	**.003-.009**		.002-.006	.003-.006	**.003-.009**	
.004-.009	.004-.009	**.004-.013**		.004-.008	.004-.008	**.004-.009**					
.004-.009	.004-.009	**.004-.013**		.004-.008	.004-.008	**.004-.009**					
				.002-.004		**.002-.005**		.002-.003		**.002-.004**	
.002-.004	.002-.004	**.002-.006**	.002-.006	.002-.004	.002-.004	**.002-.006**	.002-.006	.002-.003	.002-.003	**.002-.004**	.002-.004
.002-.006	.002-.006	**.002-.008**	.002-.008	.002-.006	.002-.006	**.002-.006**	.002-.006	.002-.004	.002-.004	**.002-.005**	.002-.005
.002-.007	.002-.007	**.002-.009**	.002-.009	.002-.007	.002-.007	**.002-.008**	.002-.008	.002-.005	.002-.005	**.002-.006**	.002-.006
.002-.007	.003-.007	**.003-.010**	.003-.012	.002-.007	.003-.007	**.003-.009**	.003-.009	.002-.005	.003-.005	**.003-.007**	.003-.007
.002-.009	.003-.009	**.003-.012**		.002-.008	.003-.008	**.003-.008**		.002-.006	.003-.006	**.003-.008**	
.002-.009	.003-.009	**.003-.012**		.002-.009	.003-.009	**.003-.008**		.002-.006	.003-.006	**.003-.008**	
.004-.009	.004-.009	**.004-.013**		.004-.009	.004-.009	**.004-.009**					
.004-.009	.004-.009	**.004-.013**		.004-.009	.004-.009	**.004-.009**					

CoroDrill® 880

Inch values

ISO	MC No. (CMC No.)	Material	Hardness Brinell HB	Grade	Cutting speed (ft/min)	Drill diameter D_c inch
P	P3.0.Z.AN (03.11)	High alloy steel (Annealed)	150-250	4014	510-980	.472-.550
				4024	520-900	.551-.649
				4034	425-730	.650-.787
				4044	325-560	.788-.944
						.945-1.181
						1.182-1.417
						1.418-1.732
						1.733-2.086
						2.087-2.500
	P3.0.Z.HT (03.21)	Hardened steel	250-350	4014	330-710	.472-.550
				4024	265-660	.551-.649
				4034	245-540	.650-.787
				4044	230-410	.788-.944
						.945-1.181
						1.182-1.417
						1.418-1.732
						1.733-2.086
						2.087-2.500
	P1.5.C.UT (06.1)	Steel castings (Unalloyed)	90-225	4014	620-1150	.472-.550
				4024	455-1000	.551-.649
				4034	440-810	.650-.787
				4044	405-620	.788-.944
						.945-1.181
						1.182-1.417
						1.418-1.732
						1.733-2.086
						2.087-2.500
	P2.6.C.UT (06.2)	Low alloyed (alloying elements less than 5%)	150-250	4014	410-870	.472-.550
				4024	360-820	.551-.649
				4034	345-650	.650-.787
				4044	325-490	.788-.944
						.945-1.181
						1.182-1.417
						1.418-1.732
						1.733-2.086
						2.087-2.500

Note: Bold text is recommended geometry
Central insert grade is always 1044.

CoroDrill® 880

Geometry / Feed											
Drill length 2-3xD				Drill length 4xD				Drill length 5xD			
-LM	-GM	-GR	-GT	-LM	-GM	-GR	-GT	-LM	-GM	-GR	-GT
f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.
.002-.004		**.002-.006**		.002-.004		**.002-.005**		.002-.003		**.002-.004**	
.002-.004	.002-.004	**.002-.006**	.002-.006	.002-.004	.002-.004	**.002-.006**	.002-.006	.002-.003	.002-.003	**.002-.004**	.002-.004
.002-.006	.002-.006	**.002-.008**	.002-.008	.002-.006	.002-.006	**.002-.006**	.002-.006	.002-.004	.002-.004	**.002-.005**	.002-.005
.002-.007	.002-.007	**.002-.009**	.002-.009	.002-.007	.002-.007	**.002-.008**	.002-.008	.002-.005	.002-.005	**.002-.006**	.002-.006
.002-.007	.003-.007	**.003-.010**	.003-.010	.002-.007	.003-.007	**.003-.009**	.003-.009	.002-.005	.003-.005	**.003-.007**	.003-.007
.002-.009	.003-.009	**.003-.012**		.002-.008	.003-.008	**.003-.009**		.002-.006	.003-.006	**.003-.008**	
.002-.009	.003-.009	**.003-.012**		.002-.009	.003-.009	**.003-.009**		.002-.006	.003-.006	**.003-.008**	
.004-.009	.004-.009	**.004-.013**		.004-.009	.004-.009	**.004-.009**					
.004-.009	.004-.009	**.004-.013**		.004-.009	.004-.009	**.004-.009**					
.002-.004		**.002-.005**		.002-.004		**.002-.004**		.002-.003		**.002-.004**	
.002-.004	.002-.004	**.002-.006**	.002-.006	.002-.004	.002-.004	**.002-.006**	.002-.006	.002-.003	.002-.003	**.002-.004**	.002-.004
.002-.006	.002-.006	**.002-.006**	.002-.006	.002-.006	.002-.006	**.002-.006**	.002-.006	.002-.004	.002-.004	**.002-.004**	.002-.004
.002-.007	.002-.007	**.002-.007**	.002-.008	.002-.007	.002-.007	**.002-.008**	.002-.008	.002-.005	.002-.005	**.002-.005**	.002-.005
.002-.007	.003-.007	**.003-.009**	.003-.010	.002-.007	.003-.007	**.003-.009**	.003-.009	.002-.005	.003-.005	**.003-.006**	.003-.007
.002-.008	.003-.008	**.003-.009**		.002-.008	.003-.008	**.003-.009**		.002-.005	.003-.005	**.003-.006**	
.002-.009	.003-.009	**.003-.010**		.002-.009	.003-.009	**.003-.009**		.002-.006	.003-.006	**.003-.007**	
.004-.009	.004-.009	**.004-.010**		.004-.009	.004-.009	**.004-.009**					
.004-.009	.004-.009	**.004-.010**		.004-.009	.004-.009	**.004-.009**					
.002-.003		**.002-.005**		.002-.003		**.002-.005**		.001-.002		**.002-.003**	
.002-.003	.002-.003	**.002-.005**	.002-.005	.002-.003	.002-.003	**.002-.005**	.002-.005	.001-.002	.001-.002	**.002-.003**	.002-.003
.002-.003	.002-.003	**.002-.005**	.002-.005	.002-.003	.002-.003	**.002-.005**	.002-.005	.001-.002	.001-.002	**.002-.003**	.002-.003
.002-.004	.002-.004	**.002-.006**	.002-.006	.002-.004	.002-.004	**.002-.006**	.002-.006	.002-.003	.002-.003	**.002-.004**	.002-.004
.002-.004	.002-.004	**.002-.006**	.003-.009	.002-.004	.002-.004	**.002-.006**	.002-.006	.002-.003	.002-.003	**.002-.004**	.002-.004
.002-.006	.002-.006	**.002-.006**		.002-.006	.002-.006	**.002-.006**		.002-.004	.002-.004	**.002-.004**	
.002-.006	.002-.006	**.002-.006**		.002-.006	.002-.006	**.002-.006**		.002-.004	.002-.004	**.002-.004**	
.003-.006	.003-.006	**.003-.006**		.003-.006	.003-.006	**.003-.006**					
.003-.006	.003-.006	**.003-.006**		.003-.006	.003-.006	**.003-.006**					
.002-.004		**.002-.006**		.002-.004		**.002-.005**		.002-.003		**.002-.004**	
.002-.004	.002-.004	**.002-.008**	.002-.008	.002-.004	.002-.004	**.002-.006**	.002-.006	.002-.003	.002-.003	**.002-.005**	.002-.005
.002-.006	.002-.006	**.002-.009**	.002-.009	.002-.006	.002-.006	**.002-.006**	.002-.006	.002-.004	.002-.004	**.002-.006**	.002-.006
.002-.007	.002-.007	**.002-.010**	.002-.010	.002-.007	.002-.007	**.002-.008**	.002-.008	.002-.005	.002-.005	**.002-.007**	.002-.007
.002-.007	.003-.007	**.003-.012**	.003-.012	.002-.007	.003-.007	**.003-.009**	.003-.009	.002-.005	.003-.005	**.003-.008**	.003-.008
.002-.008	.003-.008	**.003-.013**		.002-.008	.003-.008	**.003-.009**		.002-.005	.003-.005	**.003-.008**	
.002-.009	.003-.009	**.003-.013**		.002-.009	.003-.009	**.003-.009**		.002-.006	.003-.006	**.003-.009**	
.004-.009	.004-.009	**.004-.013**		.004-.009	.004-.009	**.004-.009**					
.004-.009	.004-.009	**.004-.013**		.004-.009	.004-.009	**.004-.009**					

CoroDrill® 880

Inch values

ISO	MC No. (CMC No.)	Material	Hardness Brinell HB	Grade	Cutting speed (ft/min)	Drill diameter D_c inch	Geometry/feed (f_n inch/rev.) Drill length 2-3xD -LM	-MS[1]	-GM
M	P5.0.Z.AN (05.11)	Stainless steel Ferritic/Martensitic 13-25% Cr	150-270	4024	390-870	.472-.550	**.002-.005**		
				4034	375-700	.551-.649	.002-.006	**.002-.006**	.002-.004
				4044	375-540	.650-.787	.002-.007	**.002-.007**	.002-.004
				2044	375-540	.788-.944	.002-.008	**.002-.008**	.002-.006
						.945-1.181	.002-.008	**.002-.008**	.002-.006
						1.182-1.417	.002-.008	**.002-.008**	.002-.007
						1.418-1.732	**.002-.008**		.002-.007
						1.733-2.086	**.004-.010**		.004-.008
						2.087-2.500	**.004-.010**		.004-.008
	M1.0.Z.AQ (05.21)	Austenitic Ni > 8%, 13-25% Cr	150-275	4024	390-820	.472-.550	**.002-.005**		
				4034	375-700	.551-.649	.002-.006	**.002-.006**	.002-.004
				4044	375-590	.650-.787	.002-.006	**.002-.006**	.002-.004
				2044	375-590	.788-.944	.002-.007	**.002-.007**	.002-.005
						.945-1.181	.002-.007	**.002-.007**	.002-.005
						1.182-1.417	.002-.008	**.002-.008**	.002-.007
						1.418-1.732	**.002-.008**		.002-.007
						1.733-2.086	**.004-.008**		.004-.007
						2.087-2.500	**.004-.008**		.004-.007
	M3.1.Z.AQ (05.51) M3.2.Z.AQ (05.52)	Austenitic/Ferritic (Duplex)	200-320	4024	295-475	.472-.550	**.002-.005**		
				4034	280-445	.551-.649	.002-.006	**.002-.006**	.002-.004
				4044	280-410	.650-.787	.002-.006	**.002-.006**	.002-.004
				2044	280-410	.788-.944	.002-.007	**.002-.007**	.002-.005
						.945-1.181	.002-.007	**.002-.007**	.002-.005
						1.182-1.417	.002-.008	**.002-.008**	.002-.007
						1.418-1.732	**.002-.008**		.002-.007
						1.733-2.086	**.004-.008**		.004-.007
						2.087-2.500	**.004-.008**		.004-.007
	M1.0.C.UT (15.21)	Austenitic castings	150-250	4024	495-660	.472-.550	**.002-.005**		
				4034	380-570	.551-.649	.002-.005	**.002-.005**	.002-.004
				4044	265-510	.650-.787	.002-.006	**.002-.006**	.002-.004
				2044	265-510	.788-.944	.002-.007	**.002-.007**	.002-.005
						.945-1.181	.002-.007	**.002-.007**	.002-.005
						1.182-1.417	.002-.008	**.002-.008**	.002-.007
						1.418-1.732	**.002-.008**		.002-.007
						1.733-2.086	**.004-.008**		.004-.007
						2.087-2.500	**.004-.008**		.004-.007
S	S2.0.Z.AN (20.21) S2.0.Z.AG (20.22) S2.0.C.NS (20.24)	Heat resistant alloys. Ni Based	140-425	4044 H13A 2044	65-290 50-290 65-290	.472-.550	**.002-.004**		
						.551-.649	**.002-.004**	.002-.004	.002-.004
						.650-.787	**.002-.004**	.002-.004	.002-.004
						.788-.944	**.002-.004**	.002-.004	.002-.004
						.945-1.181	**.002-.004**	.002-.004	.002-.005
						1.182-1.417	**.002-.005**	.002-.005	.002-.005
						1.418-1.732	**.002-.005**		.002-.005
						1.733-2.086	**.002-.005**		.002-.005
						2.087-2.500	**.003-.006**		.003-.006
	S4.2.Z.AN (23.21) S4.3.Z.AG (23.22)	Titanium: Alfa- , near Alfa- and Alfa + Beta alloys in annealed condition Titanium: Alfa + Beta alloys in aged condition, Beta alloys in annealed or aged condition	RM (Mpa) 600-1500	4044 H13A 2044	135-440 135-440 135-440	.472-.550	**.002-.006**		
						.551-.649	**.002-.006**	.002-.006	.002-.005
						.650-.787	**.003-.007**	.003-.007	.003-.006
						.788-.944	**.003-.007**	.003-.007	.003-.006
						.945-1.181	**.005-.008**	.005-.008	.004-.007
						1.182-1.417	**.005-.008**	.005-.008	.004-.008
						1.418-1.732	**.005-.008**		.004-.008
						1.733-2.086	**.005-.008**		.004-.008
						2.087-2.500	**.006-.008**		.006-.008

Note: Bold text is recommended geometry

[1] -MS geometry is only available in GC2044

GC1044 is the universal central insert grade for all materials

GC1144 is the optimized central insert grade for ISO M materials (Available in D_c .551 to 1.417 inch)

CoroDrill® 880

Geometry/feed (f_n inch/rev.)											
Drill length 2-3xD		Drill length 4xD					Drill length 5xD				
-GR	-GT	-LM	-MS[1)]	-GM	-GR	-GT	-LM	-MS[1)]	-GM	-GR	-GT
.002-.004		**.002-.004**			.002-.004		**.002-.004**			.001-.002	
.002-.004	.002-.006	.002-.005	**002-.005**	.002-.004	.002-.004	.002-.005	.002-.004	**.002-.004**	.002-.003	.002-.003	.002-.004
.002-.004	.002-.007	.002-.006	**002-.006**	.002-.004	.002-.004	.002-.006	.002-.005	**.002-.005**	.002-.003	.002-.003	.002-.005
.002-.006	.002-.008	.002-.007	**.002-.007**	.002-.006	.002-.006	.002-.007	.002-.005	**.002-.005**	.002-.004	.002-.004	.002-.005
.002-.006	.002-.008	.002-.007	**.002-.007**	.002-.006	.002-.006	.002-.007	.002-.005	**.002-.005**	.002-.004	.002-.004	.002-.005
.002-.007		.002-.008	**.002-.008**	.002-.007	.002-.007		.002-.006	**.002-.006**	.002-.005	.002-.005	
.002-.007		**.002-.008**		.002-.007	.002-.007		**.002-.006**		.002-.005	.002-.005	
.004-.008		**.004-.008**		.004-.007	.004-.007						
.004-.008		**.004-.008**		.004-.007	.004-.007						
.002-.004		**.002-.004**			.002-.004		**.002-.004**			.001-.002	
.002-.004	.002-.006	.002-.005	**.002-.005**	.002-.004	.002-.004	.002-.005	.002-.004	**.002-.004**	.002-.003	.002-.003	.002-.004
.002-.004	.002-.006	.002-.005	**.002-.005**	.002-.004	.002-.004	.002-.005	.002-.004	**.002-.004**	.002-.003	.002-.003	.002-.004
.002-.005	.002-.007	.002-.006	**.002-.006**	.002-.005	.002-.005	.002-.006	.002-.005	**.002-.005**	.002-.004	.002-.004	.002-.005
.002-.005	.002-.007	.002-.006	**.002-.006**	.002-.005	.002-.005	.002-.006	.002-.005	**.002-.005**	.002-.004	.002-.004	.002-.005
.002-.007		.002-.007	**.002-.007**	.002-.007	.002-.007		.002-.005	**.002-.005**	.002-.005	.002-.005	
.002-.007		**.002-.007**		.002-.007	.002-.007		**.002-.006**		.002-.005	.002-.005	
.004-.007		**.004-.007**		.004-.007	.004-.007						
.004-.007		**.004-.007**		.004-.007	.004-.007						
.002-.004		**.002-.004**			.002-.004		**.002-.004**			.001-.002	
.002-.004	.002-.006	.002-.005	**.002-.005**	.002-.004	.002-.004	.002-.005	.002-.004	**.002-.004**	.002-.003	.002-.003	.002-.004
.002-.004	.002-.006	.002-.005	**.002-.005**	.002-.004	.002-.004	.002-.005	.002-.004	**.002-.004**	.002-.003	.002-.003	.002-.004
.002-.005	.002-.007	.002-.006	**.002-.006**	.002-.005	.002-.005	.002-.006	.002-.005	**.002-.005**	.002-.004	.002-.004	.002-.005
.002-.005	.002-.007	.002-.006	**.002-.006**	.002-.005	.002-.005	.002-.006	.002-.005	**.002-.005**	.002-.004	.002-.004	.002-.005
.002-.007		.002-.008	**.002-.008**	.002-.007	.002-.007		.002-.005	**.002-.005**	.002-.005	.002-.005	
.002-.007		**.002-.008**		.002-.007	.002-.007		**.002-.006**		.002-.005	.002-.005	
.004-.007		**.004-.007**		.004-.007	.004-.007						
.004-.007		**.004-.007**		.004-.007	.004-.007						
.002-.004		**.002-.004**			.002-.004		**.002-.004**			.001-.002	
.002-.004	.002-.005	.002-.004	**.002-.004**	.002-.004	.002-.004	.002-.004	.002-.004	**.002-.004**	.002-.003	.002-.003	.002-.004
.002-.004	.002-.006	.002-.005	**.002-.005**	.002-.004	.002-.004	.002-.005	.002-.004	**.002-.004**	.002-.003	.002-.003	.002-.004
.002-.005	.002-.007	.002-.006	**.002-.006**	.002-.005	.002-.005	.002-.006	.002-.005	**.002-.005**	.002-.004	.002-.004	.002-.005
.002-.005	.002-.007	.002-.006	**.002-.006**	.002-.005	.002-.005	.002-.006	.002-.005	**.002-.005**	.002-.004	.002-.004	.002-.005
.002-.007		.002-.008	**.002-.008**	.002-.007	.002-.007		.002-.005	**.002-.005**	.002-.005	.002-.005	
.002-.007		**.002-.008**		.002-.007	.002-.007		**.002-.006**		.002-.005	.002-.005	
.004-.007		**.004-.007**		.004-.007	.004-.007						
.004-.007		**.004-.007**		.004-.007	.004-.007						
.002-.004		**.002-.004**			.002-.004		**.001-.002**			.001-.002	
.002-.004	.002-.004	**.002-.004**	.002-.004	.002-.004	.002-.004	.002-.004	**.002-.003**	.002-.003	.002-.003	.002-.003	.002-.003
.002-.004	.002-.004	**.002-.004**	.002-.004	.002-.004	.002-.004	.002-.004	**.002-.003**	.002-.003	.002-.003	.002-.003	.002-.003
.002-.004	.002-.004	**.002-.004**	.002-.004	.002-.004	.002-.004	.002-.004	**.002-.003**	.002-.003	.002-.003	.002-.003	.002-.003
.002-.004	.002-.004	**.002-.004**	.002-.004	.002-.004	.002-.004	.002-.004	**.002-.003**	.002-.003	.002-.004	.002-.003	.002-.003
.002-.005		**.002-.005**	.002-.005	.002-.005	.002-.005		**.002-.004**	.002-.004	.002-.004	.002-.004	
.002-.005		**.002-.005**		.002-.005	.002-.005		**.002-.004**		.002-.004	.002-.004	
.002-.005		**.002-.005**		.002-.005	.003-.005						
.003-.005		**.003-.006**		.003-.006	.003-.005						
.002-.004		**.002-.005**			.002-.004		**.002-.004**			.002-.004	
.002-.004	.002-.004	**.002-.005**	.002-.005	.002-.004	.003-.005	.002-.004	**.002-.004**	.002-.004	.002-.004	.002-.003	.002-.003
.003-.005	.003-.005	**.003-.006**	.003-.006	.002-.005	.003-.005	.003-.005	**.003-.005**	.003-.005	.003-.004	.003-.004	.003-.004
.003-.005	.003-.005	**.003-.006**	.003-.006	.002-.005	.004-.006	.003-.005	**.003-.005**	.003-.005	.003-.004	.003-.004	.003-.004
.004-.006	.004-.006	**.004-.007**	.004-.007	.003-.006	.004-.007	.004-.006	**.004-.005**	.004-.005	.004-.005	.003-.004	.003-.004
.004-.007		**.005-.008**	.005-.008	.004-.007	.004-.007		**.004-.005**	.004-.005	.004-.005	.004-.005	
.004-.007		**.005-.008**		.004-.007	.005-.007		**.004-.005**		.004-.005	.004-.005	
.004-.007		**.005-.008**		.004-.007	.005-.007						
.005-.007		**.006-.008**		.006-.008	.005-.007						

CoroDrill® 880

Inch values

ISO	MC No. (CMC No.)	Material	Hardness Brinell HB	Grade	Cutting speed (ft/min)	Drill diameter D_c inch
K	K1.1.C.NS (07.1)	Malleable cast iron Ferritic (Short chipping)	110-145	4014 4024 4034 4044	460-840 460-750 360-620 260-475	.472-.550 .551-.649 .650-.787 .788-.944 .945-1.181 1.182-1.417 1.418-1.732 1.733-2.086 2.087-2.500
	K1.1.C.NS (07.2)	Pearlitic (long chipping)	150-270	4014 4024 4034 4044	325-600 345-560 280-455 210-345	.472-.550 .551-.649 .650-.787 .788-.944 .945-1.181 1.182-1.417 1.418-1.732 1.733-2.086 2.087-2.500
	K2.1.C.UT (08.1)	Grey cast iron: Low tensile strength	150-220	4014 4024 4034 4044	740-1150 690-1000 560-840 430-640	.472-.550 .551-.649 .650-.787 .788-.944 .945-1.181 1.182-1.417 1.418-1.732 1.733-2.086 2.087-2.500
	K2.2.C.UT (08.2)	High tensile strength	200-330	4014 4024 4034 4044	360-820 410-750 325-610 245-460	.472-.550 .551-.649 .650-.787 .788-.944 .945-1.181 1.182-1.417 1.418-1.732 1.733-2.086 2.087-2.500
	K3.1.C.UT (09.1)	Nodular cast iron (Ferritic)	150-230	4014 4024 4034 4044	395-770 410-700 325-570 260-440	.472-.550 .551-.649 .650-.787 .788-.944 .945-1.181 1.182-1.417 1.418-1.732 1.733-2.086 2.087-2.500
	K3.3.C.UT (09.2)	Pearlitic	200-330	4014 4024 4034 4044	100-215 110-200 90-165 70-125	.472-.550 .551-.649 .650-.787 .788-.944 .945-1.181 1.182-1.417 1.418-1.732 1.733-2.086 2.087-2.500

Note: Bold text is recommended geometry
Central insert grade is always 1044.

CoroDrill® 880

Geometry / Feed											
Drill length 2-3xD				Drill length 4xD				Drill length 5xD			
-LM	-GM	-GR	-GT	-LM	-GM	-GR	-GT	-LM	-GM	-GR	-GT
f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.
.002-.004		**.002-.006**		.002-.004		**.002-.006**		.002-.004		**.002-.004**	
.002-.004	.002-.005	**.002-.008**	.002-.008	.002-.004	.002-.005	**.002-.006**	.002-.006	.002-.003	.002-.004	**.002-.006**	.002-.006
.002-.005	.003-.006	**.003-.009**	.003-.009	.002-.005	.003-.006	**.003-.008**	.003-.008	.002-.004	.003-.004	**.003-.006**	.003-.006
.003-.006	.004-.008	**.004-.012**	.004-.012	.003-.006	.004-.008	**.004-.009**	.004-.009	.003-.004	.004-.005	**.004-.008**	.004-.008
.003-.006	.004-.008	**.004-.012**	.004-.012	.003-.006	.004-.008	**.004-.011**	.004-.011	.003-.004	.004-.006	**.004-.008**	.004-.008
.004-.007	.004-.008	**.004-.013**		.004-.007	.004-.008	**.004-.012**		.004-.005	.004-.006	**.004-.009**	
.004-.007	.004-.008	**.004-.014**		.004-.007	.004-.008	**.004-.012**		.004-.005	.004-.006	**.004-.009**	
.005-.008	.005-.009	**.005-.014**		.005-.007	.005-.008	**.005-.012**					
.005-.008	.005-.009	**.005-.014**		.005-.007	.005-.008	**.005-.012**					
.002-.004		**.002-.006**		.002-.004		**.002-.005**		.002-.004		**.002-.004**	
.002-.004	.002-.005	**.002-.007**	.002-.007	.002-.004	.002-.005	**.002-.005**	.002-.005	.002-.003	.002-.004	**.002-.005**	.002-.005
.002-.005	.003-.006	**.003-.008**	.003-.008	.002-.005	.003-.006	**.003-.006**	.003-.006	.002-.004	.003-.004	**.003-.005**	.003-.005
.003-.006	.004-.007	**.004-.010**	.004-.010	.003-.006	.004-.007	**.004-.008**	.004-.008	.003-.004	.004-.005	**.004-.007**	.004-.007
.003-.006	.004-.008	**.004-.012**	.004-.012	.003-.006	.004-.008	**.004-.009**	.004-.009	.003-.004	.004-.005	**.004-.008**	.004-.008
.004-.007	.004-.008	**.004-.012**		.004-.007	.004-.008	**.004-.010**		.004-.005	.004-.006	**.004-.008**	
.004-.007	.004-.008	**.004-.013**		.004-.007	.004-.008	**.004-.011**		.004-.005	.004-.006	**.004-.009**	
.004-.007	.004-.008	**.004-.013**		.004-.007	.004-.008	**.004-.011**					
.004-.007	.004-.008	**.004-.013**		.004-.007	.004-.008	**.004-.011**					
.002-.004		**.002-.006**		.002-.004		**.002-.006**		.002-.004		**.002-.004**	
.002-.004	.002-.005	**.002-.008**	.002-.008	.002-.004	.002-.005	**.002-.006**	.002-.006	.002-.003	.002-.004	**.002-.006**	.002-.006
.002-.005	.003-.006	**.003-.009**	.003-.009	.002-.005	.003-.006	**.003-.008**	.003-.008	.002-.004	.003-.004	**.003-.006**	.003-.006
.003-.006	.004-.008	**.004-.012**	.004-.012	.003-.006	.004-.008	**.004-.009**	.004-.009	.003-.004	.004-.005	**.004-.008**	.004-.008
.003-.006	.004-.008	**.004-.013**	.004-.013	.003-.006	.004-.008	**.004-.011**	.004-.011	.003-.004	.004-.006	**.004-.009**	.004-.009
.004-.007	.004-.008	**.004-.013**		.004-.007	.004-.008	**.004-.012**		.004-.005	.004-.006	**.004-.009**	
.004-.007	.004-.008	**.004-.014**		.004-.007	.004-.008	**.004-.012**		.004-.005	.004-.006	**.004-.009**	
.005-.008	.005-.009	**.005-.014**		.005-.007	.005-.008	**.005-.012**					
.005-.008	.005-.009	**.005-.014**		.005-.007	.005-.008	**.005-.012**					
.002-.004		**.002-.006**		.002-.004		**.002-.005**		.002-.004		**.002-.004**	
.002-.004	.002-.005	**.002-.007**	.002-.007	.002-.004	.002-.005	**.002-.005**	.002-.005	.002-.003	.002-.004	**.002-.005**	.002-.005
.002-.005	.003-.006	**.003-.008**	.003-.008	.002-.005	.003-.006	**.003-.006**	.003-.006	.002-.004	.003-.004	**.003-.005**	.003-.005
.003-.006	.004-.007	**.004-.010**	.004-.010	.003-.006	.004-.007	**.004-.008**	.004-.008	.003-.004	.004-.005	**.004-.007**	.004-.007
.003-.006	.004-.008	**.004-.012**	.004-.012	.003-.006	.004-.008	**.004-.009**	.004-.009	.003-.004	.004-.005	**.004-.008**	.004-.008
.004-.007	.004-.008	**.004-.012**		.004-.007	.004-.008	**.004-.010**		.004-.005	.004-.006	**.004-.008**	
.004-.007	.004-.008	**.004-.013**		.004-.007	.004-.008	**.004-.011**		.004-.005	.004-.006	**.004-.009**	
.004-.007	.004-.008	**.004-.013**		.004-.007	.004-.008	**.004-.011**					
.004-.007	.004-.008	**.004-.013**		.004-.007	.004-.008	**.004-.011**					
.002-.004		**.002-.006**		.002-.004		**.002-.005**		.002-.004		**.002-.004**	
.002-.004	.002-.005	**.002-.007**	.002-.007	.002-.004	.002-.005	**.002-.005**	.002-.005	.002-.003	.002-.004	**.002-.005**	.002-.005
.002-.005	.003-.006	**.003-.008**	.003-.008	.002-.005	.003-.006	**.003-.006**	.003-.006	.002-.004	.003-.004	**.003-.005**	.003-.005
.003-.006	.004-.007	**.004-.010**	.004-.010	.003-.006	.004-.007	**.004-.008**	.004-.008	.003-.004	.004-.005	**.004-.007**	.004-.007
.003-.006	.004-.008	**.004-.012**	.004-.012	.003-.006	.004-.008	**.004-.009**	.004-.009	.003-.004	.004-.005	**.004-.008**	.004-.008
.004-.007	.004-.008	**.004-.012**		.004-.007	.004-.008	**.004-.010**		.004-.005	.004-.006	**.004-.008**	
.004-.007	.004-.008	**.004-.013**		.004-.007	.004-.008	**.004-.011**		.004-.005	.004-.006	**.004-.009**	
.004-.007	.004-.008	**.004-.013**		.004-.007	.004-.008	**.004-.011**					
.004-.007	.004-.008	**.004-.013**		.004-.007	.004-.008	**.004-.011**					
.002-.004		**.002-.006**		.002-.004		**.002-.005**		.002-.004		**.002-.004**	
.002-.004	.002-.005	**.002-.007**	.002-.007	.002-.004	.002-.005	**.002-.005**	.002-.005	.002-.003	.002-.004	**.002-.005**	.002-.005
.002-.005	.003-.006	**.003-.008**	.003-.008	.002-.005	.003-.006	**.003-.006**	.003-.006	.002-.004	.003-.004	**.003-.005**	.003-.005
.003-.006	.004-.007	**.004-.010**	.004-.010	.003-.006	.004-.007	**.004-.008**	.004-.008	.003-.004	.004-.005	**.004-.007**	.004-.007
.003-.006	.004-.008	**.004-.012**	.004-.012	.003-.006	.004-.008	**.004-.009**	.004-.009	.003-.004	.004-.005	**.004-.008**	.004-.008
.004-.007	.004-.008	**.004-.012**		.004-.007	.004-.008	**.004-.010**		.004-.005	.004-.006	**.004-.008**	
.004-.007	.004-.008	**.004-.013**		.004-.007	.004-.008	**.004-.011**		.004-.005	.004-.006	**.004-.009**	
.004-.007	.004-.008	**.004-.013**		.004-.007	.004-.008	**.004-.011**					
.004-.007	.004-.008	**.004-.013**		.004-.007	.004-.008	**.004-.011**					

CoroDrill® 880

Inch values

ISO	MC No. (CMC No.)	Material	Hardness Brinell HB	Grade	Cutting speed (ft/min)	Drill diameter D_c inch
H	H1.3.Z.HA (04.1)	Hardened and tempered	450	4014 4024 4034 4044	130-330 100-265 100-265 100-265	.472-.550 .551-.649 .650-.787 .788-.944 .945-1.181 1.182-1.417 1.418-1.732 1.733-2.086 2.087-2.500
N	N1.2.Z.AG (30.12)	Al. alloys Wrought or wrought and aged	30-150	4044 H13A	980-1250 980-1300	.472-.550 .551-.649 .650-.787 .788-.944 .945-1.181 1.182-1.417 1.418-1.732 1.733-2.086 2.087-2.500
	N1.3.C.UT (30.21)	Cast. non aging	40-100	4044 H13A	980-1250 980-1300	.472-.550 .551-.649 .650-.787 .788-.944 .945-1.181 1.182-1.417 1.418-1.732 1.733-2.086 2.087-2.500
	N1.3.C.AG (30.22)	Cast or cast and aged	70-140	4044 H13A	820-1100 820-1150	.472-.550 .551-.649 .650-.787 .788-.944 .945-1.181 1.182-1.417 1.418-1.732 1.733-2.086 2.087-2.500
	N3.3.U.UT (33.1)	Copper and copper alloys	70-160	4044 H13A	820-1250 820-1300	.472-.550 .551-.649 .650-.787 .788-.944 .945-1.181 1.182-1.417 1.418-1.732 1.733-2.086 2.087-2.500
	N3.2.C.UT (33.2)	Brass and leaded alloys (Pb < 1%)	50-200	4044 H13A	590-750 590-780	.472-.550 .551-.649 .650-.787 .788-.944 .945-1.181 1.182-1.417 1.418-1.732 1.733-2.086 2.087-2.500

Note: Bold text is recommended geometry
Central insert grade is always 1044.

CoroDrill® 880

Geometry / Feed											
Drill length 2-3xD				Drill length 4xD				Drill length 5xD			
-LM	-GM	-GR	-GT	-LM	-GM	-GR	-GT	-LM	-GM	-GR	-GT
f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.	f_n inch/rev.
.002-.004		**.002-.004**		.002-.004		**.002-.004**		.001-.002		**.002-.003**	
.002-.004	**.002-.005**	.002-.004	.002-.004	.002-.004	**.002-.004**	.002-.004	.002-.004	.002-.003	**.002-.004**	.002-.003	.002-.003
.002-.005	**.002-.006**	.002-.005	.002-.005	.002-.004	**.002-.005**	.002-.004	.002-.004	.002-.004	**.002-.004**	.002-.004	.002-.004
.002-.006	**.002-.008**	.002-.006	.002-.006	.002-.005	**.002-.006**	.002-.005	.002-.005	.002-.004	**.002-.005**	.002-.004	.002-.004
.002-.006	**.002-.008**	.002-.006	.002-.006	.002-.005	**.002-.006**	.002-.005	.002-.005	.002-.004	**.002-.005**	.002-.004	.002-.004
.002-.007	**.002-.008**	.002-.007		.002-.007	**.002-.008**	.002-.007		.002-.005	**.002-.006**	.002-.005	
.002-.007	**.002-.008**	.002-.007		.002-.007	**.002-.008**	.002-.007		.002-.005	**.002-.006**	.002-.005	
.004-.007	**.004-.008**	.004-.007		.004-.007	**.004-.008**	.004-.007					
.004-.007	**.004-.008**	.004-.007		.004-.007	**.004-.008**	.004-.007					
.002-.006		.002-.005		**.002-.005**		.002-.004		**.002-.004**		.002-.004	
.002-.006	.002-.005	.002-.005	.002-.005	**.002-.005**	.002-.004	.002-.004	.002-.004	**.002-.004**	.002-.004	.002-.004	.002-.004
.002-.007	.002-.006	.002-.006	.002-.006	**.002-.006**	.002-.005	.002-.005	.002-.005	**.002-.005**	.002-.004	.002-.004	.002-.004
.002-.008	.002-.007	.002-.007	.002-.007	**.002-.007**	.002-.006	.002-.006	.002-.006	**.002-.005**	.002-.005	.002-.005	.002-.005
.004-.008	.004-.008	.004-.008	.004-.008	**.004-.008**	.004-.007	.004-.007	.004-.007	**.004-.006**	.004-.005	.004-.005	.004-.005
.004-.010	.004-.008	.004-.008		**.004-.009**	.004-.008	.004-.007		**.004-.007**	.004-.006	.004-.006	
.004-.010	.004-.008	.004-.008		**.004-.009**	.004-.008	.004-.007		**.004-.007**	.004-.006	.004-.006	
.005-.012	.005-.009	.005-.009		**.005-.010**	.005-.009	.005-.008					
.005-.012	.005-.009	.005-.009		**.005-.010**	.005-.009	.005-.008					
.002-.005		.002-.005		**.002-.004**		.002-.004		**.002-.004**		.002-.004	
.002-.005	.002-.006	.002-.005	.002-.005	**.002-.004**	.002-.005	.002-.004	.002-.004	**.002-.004**	.002-.004	.002-.004	.002-.004
.002-.006	.002-.007	.002-.006	.002-.006	**.002-.005**	.002-.006	.002-.005	.002-.005	**.002-.004**	.002-.005	.002-.004	.002-.004
.002-.007	.002-.008	.002-.007	.002-.007	**.002-.006**	.002-.007	.002-.006	.002-.006	**.002-.005**	.002-.005	.002-.005	.002-.005
.004-.008	.004-.008	.004-.008	.004-.008	**.004-.007**	.004-.008	.004-.007	.004-.007	**.004-.005**	.004-.006	.004-.005	.004-.005
.004-.008	.004-.009	.004-.008		**.004-.008**	.004-.008	.004-.008		**.004-.006**	.004-.006	.004-.006	
.004-.008	.004-.010	.004-.008		**.004-.008**	.004-.009	.004-.008		**.004-.006**	.004-.007	.004-.006	
.005-.009	.005-.011	.005-.009		**.005-.008**	.005-.010	.005-.008					
.005-.009	.005-.011	.005-.009		**.005-.008**	.005-.010	.005-.008					
.002-.005		.002-.005		**.002-.004**		.002-.004		**.002-.032**		.002-.004	
.002-.005	.002-.006	.002-.005	.002-.005	**.002-.004**	.002-.005	.002-.004	.002-.004	**.002-.004**	.002-.004	.002-.004	.002-.004
.002-.006	.002-.007	.002-.006	.002-.006	**.002-.005**	.002-.006	.002-.005	.002-.005	**.002-.004**	.002-.005	.002-.004	.002-.004
.002-.007	.002-.008	.002-.007	.002-.007	**.002-.006**	.002-.007	.002-.006	.002-.006	**.002-.005**	.002-.005	.002-.005	.002-.005
.004-.008	.004-.008	.004-.008	.004-.008	**.004-.007**	.004-.008	.004-.007	.004-.007	**.004-.005**	.004-.006	.004-.005	.004-.005
.004-.008	.004-.009	.004-.008		**.004-.008**	.004-.008	.004-.008		**.004-.006**	.004-.006	.004-.006	
.004-.008	.004-.010	.004-.008		**.004-.008**	.004-.009	.004-.008		**.004-.006**	.004-.007	.004-.006	
.005-.009	.005-.011	.005-.009		**.005-.008**	.005-.010	.005-.008					
.005-.009	.005-.011	.005-.009		**.005-.008**	.005-.010	.005-.008					
.002-.006		.002-.005		**.002-.005**		.002-.004		**.002-.004**		.002-.004	
.002-.006	.002-.005	.002-.005	.002-.005	**.002-.005**	.002-.004	.002-.004	.002-.004	**.002-.004**	.002-.004	.002-.004	.002-.004
.002-.007	.002-.006	.002-.006	.002-.006	**.002-.006**	.002-.005	.002-.005	.002-.005	**.002-.005**	.002-.004	.002-.004	.002-.004
.002-.008	.002-.007	.002-.007	.002-.007	**.002-.007**	.002-.006	.002-.006	.002-.006	**.002-.005**	.002-.005	.002-.005	.002-.005
.004-.008	.004-.008	.004-.008	.004-.008	**.004-.008**	.004-.007	.004-.007	.004-.007	**.004-.006**	.004-.005	.004-.005	.004-.005
.004-.010	.004-.008	.004-.008		**.004-.009**	.004-.008	.004-.007		**.004-.007**	.004-.006	.004-.006	
.004-.010	.004-.008	.004-.008		**.004-.009**	.004-.008	.004-.007		**.004-.007**	.004-.006	.004-.006	
.005-.012	.005-.009	.005-.009		**.005-.010**	.005-.009	.005-.008					
.005-.012	.005-.009	.005-.009		**.005-.010**	.005-.009	.005-.008					
.002-.006		.002-.005		**.002-.005**		.002-.004		**.002-.004**		.002-.004	
.002-.006	.002-.005	.002-.005	.002-.005	**.002-.005**	.002-.004	.002-.004	.002-.004	**.002-.004**	.002-.004	.002-.004	.002-.004
.002-.007	.002-.006	.002-.006	.002-.006	**.002-.006**	.002-.005	.002-.005	.002-.005	**.002-.005**	.002-.004	.002-.004	.002-.004
.002-.008	.002-.007	.002-.007	.002-.007	**.002-.007**	.002-.006	.002-.006	.002-.006	**.002-.005**	.002-.005	.002-.005	.002-.005
.004-.008	.004-.008	.004-.008	.004-.008	**.004-.008**	.004-.007	.004-.007	.004-.007	**.004-.006**	.004-.005	.004-.005	.004-.005
.004-.010	.004-.008	.004-.008		**.004-.009**	.004-.008	.004-.007		**.004-.007**	.004-.006	.004-.006	
.004-.010	.004-.008	.004-.008		**.004-.009**	.004-.008	.004-.007		**.004-.007**	.004-.006	.004-.006	
.005-.012	.005-.009	.005-.009		**.005-.010**	.005-.009	.005-.008					
.005-.012	.005-.009	.005-.009		**.005-.010**	.005-.009	.005-.008					

CoroDrill® 881

Metric values

ISO	MC No. (CMC No.)	Material	Hardness Brinell HB	Grade	Cutting speed (m/min)	Drill diameter D_c mm	Geometry / Feed Drill length 2-3xD -GM1 f_n mm/rev.	4xD -GM1 f_n mm/rev.	5xD -GM1 f_n mm/rev.
P		**Unalloyed steel**							
	P1.0.Z.AN (01.0)	Non hardened 0.05-0.10% C	80-170	4024	230-380	12.70-17.43	0.04-0.10	0.04-0.09	0.04-0.07
				4044	190-235	17.44-20.99	0.04-0.10	0.04-0.09	0.04-0.07
						21.00-25.99	0.04-0.12	0.04-0.10	0.04-0.08
	P1.1.Z.AN (01.1)	Non hardened 0.05-0.25% C	90-200	4024	230-350	12.70-17.43	0.04-0.10	0.04-0.09	0.04-0.07
				4044	170-225	17.44-20.99	0.04-0.10	0.04-0.09	0.04-0.07
						21.00-25.99	0.04-0.12	0.04-0.10	0.04-0.08
	P1.2.Z.AN (01.2)	Non hardened 0.25-0.55% C	125-225	4024	190-290	12.70-17.43	0.04-0.12	0.04-0.10	0.04-0.08
				4044	120-180	17.44-20.99	0.04-0.14	0.04-0.12	0.04-0.09
						21.00-25.99	0.04-0.16	0.04-0.14	0.04-0.11
	P1.3.Z.AN (01.3)	Non hardened 0.55-0.80% C	150-250	4024	170-275	12.70-17.43	0.04-0.12	0.04-0.10	0.04-0.08
				4044	105-175	17.44-20.99	0.06-0.14	0.06-0.12	0.06-0.09
						21.00-25.99	0.06-0.16	0.06-0.14	0.06-0.11
	P1.3.Z.AN (01.4)	High carbon & carbon tool steel	180-275	4024	200-275	12.70-17.43	0.04-0.12	0.04-0.10	0.04-0.08
				4044	105-170	17.44-20.99	0.06-0.14	0.06-0.12	0.06-0.09
						21.00-25.99	0.06-0.16	0.06-0.14	0.06-0.11
	P2.1.Z.AN (02.1)	Low alloy steel (Non-hardened)	150-260	4024	180-290	12.70-17.43	0.04-0.14	0.04-0.12	0.04-0.09
				4044	115-180	17.44-20.99	0.06-0.16	0.06-0.13	0.06-0.11
						21.00-25.99	0.06-0.18	0.06-0.14	0.06-0.12
	P2.5.Z.HT (02.2)	Hardened steel	220-450	4024	90-230	12.70-17.43	0.04-0.12	0.04-0.10	0.04-0.08
				4044	75-140	17.44-20.99	0.06-0.14	0.06-0.12	0.06-0.09
						21.00-25.99	0.06-0.16	0.06-0.13	0.06-0.11
	P3.0.Z.AN 03.11	High alloy steel (Annealed)	150-250	4024	160-275	12.70-17.43	0.04-0.10	0.04-0.08	0.04-0.07
				4044	100-170	17.44-20.99	0.04-0.16	0.04-0.13	0.04-0.11
						21.00-25.99	0.04-0.18	0.04-0.14	0.04-0.12
	P3.0.Z.HT (03.21)	Hardened steel	250-350	4024	80-200	12.70-17.43	0.04-0.12	0.04-0.10	0.04-0.08
				4044	70-125	17.44-20.99	0.06-0.14	0.06-0.11	0.06-0.09
						21.00-25.99	0.06-0.16	0.06-0.13	0.06-0.11
	P1.5.C.UT (06.1)	Steel castings (Unalloyed)	90-225	4024	140-310	12.70-17.43	0.04-0.10	0.04-0.08	0.04-0.07
				4044	125-190	17.44-20.99	0.04-0.10	0.04-0.08	0.04-0.07
						21.00-25.99	0.04-0.12	0.04-0.10	0.04-0.08
	P2.6.C.UT (06.2)	Low alloyed (alloying elements less than 5%)	150-250	4024	110-250	12.70-17.43	0.04-0.12	0.04-0.10	0.04-0.08
				4044	100-150	17.44-20.99	0.06-0.14	0.06-0.11	0.06-0.09
						21.00-25.99	0.06-0.16	0.06-0.13	0.06-0.11
M	P5.0.Z.AN (05.11)	Stainless steel Ferretic/ Martensitic 13-25% Cr	150-270	4024	120-265	12.70-17.43	0.04-0.12	0.04-0.10	0.04-0.08
				4044	115-165	17.44-20.99	0.04-0.14	0.04-0.12	0.04-0.09
				2044	115-165	21.00-25.99	0.04-0.16	0.04-0.14	0.04-0.11
	M1.0.Z.AQ (05.21)	Austenitic Ni > 8%, 13-25% Cr	150-275	4024	120-250	12.70-17.43	0.04-0.12	0.04-0.10	0.04-0.08
				4044	115-180	17.44-20.99	0.04-0.12	0.04-0.10	0.04-0.08
				2044	115-180	21.00-25.99	0.04-0.14	0.04-0.12	0.04-0.09
	M3.1.Z.AQ (05.51) M3.2.Z.AQ (05.52)	Austenitic/Ferritic (Duplex)	200-320	4024	90-145	12.70-17.43	0.04-0.12	0.04-0.10	0.04-0.08
				4044	85-125	17.44-20.99	0.04-0.12	0.04-0.10	0.04-0.08
				2044	85-125	21.00-25.99	0.04-0.14	0.04-0.12	0.04-0.09
	M1.0.C.UT (15.21)	Austenitic castings	150-250	4024	150-200	12.70-17.43	0.04-0.10	0.04-0.08	0.04-0.06
				4044	80-155	17.44-20.99	0.04-0.12	0.04-0.10	0.04-0.08
				2044	80-155	21.00-25.99	0.04-0.14	0.04-0.12	0.04-0.09

GC1044 is the universal central insert grade for all materials
GC1144 is the optimized central insert grade for ISO M materials

CoroDrill® 881

Metric values

ISO	MC No. (CMC No.)	Material	Hardness Brinell HB	Grade	Cutting speed (m/min)	Drill diameter D_c mm	Geometry / Feed Drill length 2-3xD -GM1 f_n mm/rev.	4xD -GM1 f_n mm/rev.	5xD -GM1 f_n mm/rev.
S	S2.0.Z.AN	Heat resistant alloys. Ni Based	140-425	2044	20-90	12.70-17.43	0.03-0.08	0.03-0.08	0.03-0.05
						17.44-20.99	0.04-0.08	0.04-0.08	0.04-0.05
	S2.0.Z.AG (20.22)			4044	20-90	21.00-25.99	0.04-0.08	0.04-0.08	0.04-0.05
	S2.0.C.NS (20.24)								
						12.70-17.43	0.04-0.12	0.04-0.10	0.04-0.08
				2044	40-135	17.44-20.99	0.06-0.14	0.06-0.12	0.06-0.09
	S4.2.Z.AN	Titanium: Alfa- , near Alfa- and Alfa + Beta alloys in annealed condition	$Rm(_MPa)$	4044	40-135	21.00-25.99	0.08-0.14	0.08-0.12	0.08-0.09
	(23.21)	Titanium: Alfa + Beta alloys in aged condition, Beta alloys in annealed or aged condition	600-1500						
	S4.3.Z.AG (23.22)								
K	K1.1.C.NS (07.1)	Malleable cast iron Ferritic (Short chipping)	110-145			12.70-17.43	0.04-0.16	0.04-0.12	0.04-0.11
				4024	140-230	17.44-20.99	0.08-0.18	0.06-0.14	0.06-0.12
				4044	80-145	21.00-25.99	0.10-0.22	0.08-0.16	0.06-0.15
	K1.1.C.NS (07.2)	Pearlitic (long chipping)	150-270			12.70-17.43	0.04-0.12	0.04-0.10	0.04-0.08
				4024	105-170	17.44-20.99	0.06-0.14	0.06-0.12	0.06-0.09
				4044	65-105	21.00-25.99	0.08-0.16	0.08-0.14	0.08-0.11
	K2.1.C.UT (08.1)	Grey cast iron: Low tensile strength	150-220			12.70-17.43	0.04-0.16	0.04-0.12	0.04-0.11
				4024	210-310	17.44-20.99	0.08-0.18	0.06-0.14	0.06-0.12
				4044	130-195	21.00-25.99	0.10-0.22	0.08-0.16	0.06-0.15
	K2.2.C.UT (08.2)	High tensile strength	200-330			12.70-17.43	0.04-0.12	0.04-0.10	0.04-0.08
				4024	125-230	17.44-20.99	0.06-0.14	0.06-0.12	0.06-0.09
				4044	75-140	21.00-25.99	0.08-0.16	0.08-0.14	0.08-0.11
	K3.1.C.UT (09.1)	Nodular cast iron (Ferritic)	150-230			12.70-17.43	0.04-0.12	0.04-0.10	0.04-0.08
				4024	125-215	17.44-20.99	0.06-0.14	0.06-0.12	0.06-0.09
				4044	80-135	21.00-25.99	0.08-0.16	0.08-0.14	0.08-0.11
	K3.3.C.UT (09.2)	Pearlitic	200-330			12.70-17.43	0.04-0.12	0.04-0.10	0.04-0.08
				4024	110-200	17.44-20.99	0.06-0.14	0.06-0.12	0.06-0.09
				4044	70-125	21.00-25.99	0.08-0.16	0.08-0.14	0.08-0.11
H	H1.3.Z.HA (04.1)	Hardened and tempered	47-65			12.70-17.43	0.04-0.10	0.04-0.08	0.04-0.06
				4024	30-80	17.44-20.99	0.06-0.14	0.06-.011	0.06-0.09
				4044	30-80	21.00-25.99	0.06-0.16	0.06-0.13	0.06-0.11
N	N1.2.Z.AG (30.12)	Al. alloys Wrought or wrought and aged	30-150	4044	300-385	12.70-17.43	0.04-0.12	0.04-0.10	0.04-0.08
						17.44-20.99	0.04-0.14	0.04-0.12	0.04-0.09
						21.00-25.99	0.06-0.16	0.06-0.14	0.06-0.11
	N1.3.C.UT (30.21)	Cast. non aging	40-100	4044	300-385	12.70-17.43	0.04-0.10	0.04-0.08	0.04-0.07
						17.44-20.99	0.04-0.12	0.04-0.10	0.04-0.08
						21.00-25.99	0.06-0.14	0.06-0.12	0.06-0.09
	N1.3.C.AG (30.22)	Cast or cast and aged	70-140	4044	250-335	12.70-17.43	0.04-0.10	0.04-0.08	0.04-0.07
						17.44-20.99	0.04-0.12	0.04-0.10	0.04-0.08
						21.00-25.99	0.06-0.14	0.06-0.12	0.06-0.09
	N3.3.U.UT (33.1)	Copper and copper alloys	70-160	4044	250-380	12.70-17.43	0.04-0.12	0.04-0.10	0.04-0.08
						17.44-20.99	0.04-0.14	0.04-0.12	0.04-0.09
						21.00-25.99	0.06-0.16	0.06-0.14	0.06-0.11
	N3.2.C.UT (33.2)	Brass and leaded alloys (Pb < 1%)	50-200	4044	180-230	12.70-17.43	0.04-0.12	0.04-0.10	0.04-0.08
						17.44-20.99	0.04-0.14	0.04-0.12	0.04-0.09
						21.00-25.99	0.06-0.16	0.06-0.14	0.06-0.11

GC1044 is the universal central insert grade for all materials

CoroDrill® 881

Inch values

ISO	MC No. (CMC No.)	Material	Hardness Brinell HB	Grade	Cutting speed (ft/min)	Drill diameter D_c inch	Geometry / Feed Drill length 2-3xD -GM1 f_n inch/rev.	4xD -GM1 f_n inch/rev.	5xD -GM1 f_n inch/rev.
P		**Unalloyed steel**							
	P1.0.Z.AN (01.0)	Non hardened 0.05-0.10% C	80-170	4024	760-1250	.500-.686	.002-.004	.002-.004	.002-.003
				4044	620-770	.687-.826	.002-.004	.002-.004	.002-.003
						.827-1.023	.002-.005	.002-.004	.002-.003
	P1.1.Z.AN (01.1)	Non hardened 0.05-0.25% C	90-200	4024	750-1150	.500-.686	.002-.004	.002-.004	.002-.003
				4044	550-740	.687-.826	.002-.004	.002-.004	.002-.003
						.827-1.023	.002-.005	.002-.004	.002-.003
	P1.2.Z.AN (01.2)	Non hardened 0.25-0.55% C	125-225	4024	620-950	.500-.686	.002-.005	.002-.004	.002-.003
				4044	395-590	.687-.826	.002-.006	.002-.005	.002-.004
						.827-1.023	.002-.006	.002-.006	.002-.004
	P1.3.Z.AN (01.3)	Non hardened 0.55-0.80% C	150-250	4024	560-910	.500-.686	.002-.005	.002-.004	.002-.003
				4044	345-580	.687-.826	.002-.006	.002-.005	.002-.004
						.827-1.023	.002-.006	.002-.006	.002-.004
	P1.3.Z.AN (01.4)	High carbon & carbon tool steel	180-275	4024	660-910	.500-.686	.002-.005	.002-.004	.002-.003
				4044	345-560	.687-.826	.002-.006	.002-.005	.002-.004
						.827-1.023	.002-.006	.002-.006	.002-.004
	P2.1.Z.AN (02.1)	Low alloy steel (Non-hardened)	150-260	4024	590-950	.500-.686	.002-.006	.002-.005	.002-.004
				4044	375-590	.687-.826	.002-.006	.002-.005	.002-.004
						.827-1.023	.002-.007	.002-.006	.002-.005
	P2.5.Z.HT (02.2)	Hardened steel	220-450	4024	295-750	.500-.686	.002-.005	.002-.004	.002-.003
				4044	245-460	.687-.826	.002-.006	.002-.005	.002-.004
						.827-1.023	.002-.006	.002-.005	.002-.004
	P3.0.Z.AN (03.11)	High alloy steel (Annealed)	150-250	4024	520-900	.500-.686	.002-.004	.002-.003	.002-.003
				4044	325-560	.687-.826	.002-.006	.002-.005	.002-.004
						.827-1.023	.002-.007	.002-.006	.002-.005
	P3.0.Z.HT (03.21)	Hardened steel	250-350	4024	265-660	.500-.686	.002-.005	.002-.004	.002-.003
				4044	230-410	.687-.826	.002-.006	.002-.004	.002-.004
						.827-1.023	.002-.006	.002-.005	.002-.004
	P1.5.C.UT (06.1)	Steel castings (Unalloyed)	90-225	4024	455-1000	.500-.686	.002-.004	.002-.003	.002-.003
				4044	405-620	.687-.826	.002-.004	.002-.003	.002-.003
						.827-1.023	.002-.005	.002-.004	.002-.003
	P2.6.C.UT (06.2)	Low alloyed (alloying elements less than 5%)	150-250	4024	360-820	.500-.686	.002-.005	.002-.004	.002-.003
				4044	325-490	.687-.826	.002-.006	.002-.004	.002-.004
						.827-1.023	.002-.006	.002-.005	.002-.004
M	P5.0.Z.AN (05.11)	Stainless steel Ferretic/ Martensitic 13-25% Cr	150-270	4024	390-870	.500-.686	.002-.005	.002-.004	.002-.004
				4044	375-540	.687-.826	.002-.006	.002-.005	.002-.004
				2044	375-540	.827-1.023	.002-.007	.002-.006	.002-.005
	M1.0.Z.AQ (05.21)	Austenitic Ni > 8%, 13-25% Cr	150-275	4024	390-820	.500-.686	.002-.005	.002-.004	.002-.004
				4044	375-590	.687-.826	.002-.005	.002-.004	.002-.004
				2044	375-590	.827-1.023	.002-.006	.002-.005	.002-.004
	M3.1.Z.AQ (05.51) M3.2.Z.AQ (05.52)	Austenitic/Ferritic (Duplex)	200-320	4024	295-475	.500-.686	.002-.005	.002-.004	.002-.004
				4044	280-410	.687-.826	.002-.005	.002-.004	.002-.004
				2044	280-410	.827-1.023	.002-.006	.002-.005	.002-.004
	M1.0.C.UT (15.21)	Austenitic castings	150-250	4024	495-660	.500-.686	.002-.004	.002-.004	.002-.003
				4044	265-510	.687-.826	.002-.005	.002-.004	.002-.004
				2044	265-510	.827-1.023	.002-.006	.002-.005	.002-.004

GC1044 is the universal central insert grade for all materials
GC1144 is the optimized central insert grade for ISO M materials

SANDVIK Coromant

CoroDrill® 881

Inch values

ISO	MC No. (CMC No.)	Material	Hardness Brinell HB	Grade	Cutting speed (ft/min)	Drill diameter D_c inch	Geometry / Feed Drill length 2-3xD -GM1 f_n mm/rev.	4xD -GM f_n mm/rev.	5xD -GM f_n mm/rev.
S	S2.0.Z.AN	Heat resistant alloys. Ni Based	140-425	2044	65-290	.500-.686	.001-.004	.001-.004	.001-.003
						.687-.826	.002-.004	.002-.004	.002-.003
	S2.0.Z.AG (20.22)			4044	65-290	.827-1.023	.002-.004	.002-.004	.002-.003
	S2.0.C.NS (20.24)								
	S4.2.Z.AN	Titanium: Alfa- , near Alfa- and Alfa + Beta alloys in annealed condition	*Rm(MPa)*	2044	135-440	.500-.686	.002-.005	.002-.004	.002-.004
						.687-.826	.002-.006	.002-.005	.002-.004
				4044	135-440	.827-1.023	.003-.006	.003-.005	.003-.004
	(23.21)	Titanium: Alfa + Beta alloys in aged condition, Beta alloys in annealed or aged condition	600-1500						
	S4.3.Z.AG (23.22)								
K	K1.1.C.NS (07.1)	Malleable cast iron Ferritic (Short chipping)	110-145			.500-.686	.002-.007	.002-.005	.002-.005
				4024	460-750	.687-.826	.003-.008	.002-.006	.002-.005
				4044	260-475	.827-1.023	.004-.009	.003-.007	.002-.006
	K1.1.C.NS (07.2)	Pearlitic (long chipping)	150-270			.500-.686	.002-.005	.002-.004	.002-.004
				4024	345-560	.687-.826	.002-.006	.002-.005	.002-.004
				4044	210-345	.827-1.023	.003-.007	.003-.006	.003-.005
	K2.1.C.UT (08.1)	Grey cast iron: Low tensile strength	150-220			.500-.686	.002-.007	.002-.005	.002-.005
				4024	690-1000	.687-.826	.003-.008	.002-.006	.002-.005
				4044	430-640	.827-1.023	.004-.009	.003-.007	.002-.006
	K2.2.C.UT (08.2)	High tensile strength	200-330			.500-.686	.002-.005	.002-.004	.002-.004
				4024	410-750	.687-.826	.002-.006	.002-.005	.002-.004
				4044	245-460	.827-1.023	.003-.007	.003-.006	.003-.005
	K3.1.C.UT (09.1)	Nodular cast iron (Ferritic)	150-230			.500-.686	.002-.005	.002-.004	.002-.004
				4024	410-750	.687-.826	.002-.006	.002-.005	.002-.004
				4044	260-440	.827-1.023	.003-.007	.003-.006	.003-.005
	K3.3.C.UT (09.2)	Pearlitic	200-330			.500-.686	.002-.005	.002-.004	.002-.004
				4024	110-200	.687-.826	.002-.006	.002-.005	.002-.004
				4044	70-125	.827-1.023	.003-.007	.003-.006	.003-.005
H	H1.3.Z.HA (04.1)	Hardened and tempered	47-65			.500-.686	.002-.004	.002-.004	.002-.003
				4024	100-265	.687-.826	.002-.006	.002-.005	.002-.004
				4044	100-265	.827-1.023	.002-.007	.002-.006	.002-.005
N	N1.2.Z.AG (30.12)	Al. alloys Wrought or wrought and aged	30-150	4044	980-1250	.500-.686	.002-.005	.002-.004	.002-.004
						.687-.826	.002-.006	.002-.005	.002-.004
						.827-1.023	.002-.007	.002-.006	.002-.005
	N1.3.C.UT (30.21)	Cast. non aging	40-100	4044	980-1250	.500-.686	.002-.004	.002-.004	.002-.003
						.687-.826	.002-.005	.002-.004	.002-.004
						.827-1.023	.002-.006	.002-.005	.002-.004
	N1.3.C.AG (30.22)	Cast or cast and aged	70-140	4044	820-1100	.500-.686	.002-.004	.002-.004	.002-.003
						.687-.826	.002-.005	.002-.004	.002-.004
						.827-1.023	.002-.006	.002-.005	.002-.004
	N3.3.U.UT (33.1)	Copper and copper alloys	70-160	4044	820-1250	.500-.686	.002-.005	.002-.004	.002-.004
						.687-.826	.002-.006	.002-.005	.002-.004
						.827-1.023	.002-.007	.002-.006	.002-.005
	N3.2.C.UT (33.2)	Brass and leaded alloys (Pb < 1%)	50-200	4044	590-750	.500-.686	.002-.005	.002-.004	.002-.004
						.687-.826	.002-.006	.002-.005	.002-.004
						.827-1.023	.002-.007	.002-.006	.002-.005

GC1044 is the universal central insert grade for all materials

Coromant U drills, metric values

ISO	CMC No.	Material	Hardness Brinell HB	Drill dia D_c mm	Feed f_n mm/r	Speed v_c m/min	Geometry / Grade FIRST CHOICE Highest productivity ◔	FIRST CHOICE Highest productivity ⊙	Complementary ◔	Complementary ⊙
P		**Unalloyed steel**		12.7–17.0	0.04–0.08	290 (230–380)	-53/3040	-53/1020	-53/1120	-53/1020
	01.0	Non hardened 0,05–0,10% C	80-170	17.5–25.4	0.04–0.08		-53/3040		-53/1020	T-53/1020
				26.0–30.0	0.05–0.08		-53/3040		-53/1020	
				31.0–41.3	0.07–0.10		-53/3040		-53/1020	
				42.0–80.0	0.08–0.12		-53/3040		-53/1020	
	01.1	Non hardened 0,05–0,25% C	90–200	12.7–17.0	0.04–0.08	270 (225–345)	-53/3040	-53/1020	-53/1120	-53/1020
				17.5–25.4	0.04–0.08		-53/3040		-53/1020	T-53/1020
				26.0–30.0	0.05–0.10		-53/3040		-53/1020	
				31.0–41.3	0.07–0.12		-53/3040		-53/1020	
				42.0–80.0	0.08–0.14		-53/3040		-53/1020	
	01.2	Non hardened 0,25–0,55% C	125–225	12.7–17.0	0.04–0.10	230 (190–290)	-53/3040	-53/1020	-53/1120	-53/1020
				17.5–25.4	0.04–0.14				-53/1020	T-53/1020
				26.0–30.0	0.08–0.18				-53/1020	
				31.0–41.3	0.10–0.20				-53/1020	
				42.0–80.0	0.12–0.24				-53/1020	
	01.3	Non hardened 0,55–0,80% C	150–225	12.7–17.0	0.04–0.10	210 (170–275)	-53/3040	-53/1020	-53/1120	-53/1020
				17.5–25.4	0.06–0.14				-53/1020	T-53/1020
				26.0–30.0	0.08–0.18				-53/1020	
				31.0–41.3	0.10–0.20				-53/1020	
				42.0–80.0	0.12–0.24				-53/1020	
	01.4	High carbon & carbon tool steel	180–275	12.7–17.0	0.04–0.10	210 (200–275)	-53/3040	-53/1020	-53/1120	-53/1020
				17.5–25.4	0.06–0.14				-53/1020	T-53/1020
				26.0–30.0	0.08–0.18				-53/1020	
				31.0–41.3	0.10–0.20				-53/1020	
				42.0–80.0	0.12–0.24				-53/1020	
		Low alloy steel		12.7–17.0	0.04–0.10	220 (180–290)	-53/3040	-53/1020	-53/1120	-53/1020
	02.1	Non-hardened	150–260	17.5–25.4	0.06–0.12				-53/1020	T-53/1020
				26.0–30.0	0.10–0.16				-53/1020	
				31.0–41.3	0.11–0.18				-53/1020	
				42.0-80.0	0.12–0.22				-53/1020	
	02.2	Hardened	220–450	12.7–17.0	0.04–0.10	170 (90–230)	-53/3040	-53/1020	-53/1120	-53/1020
				17.5–25.4	0.06–0.14				-53/1020	T-53/1020
				26.0–30.0	0.10–0.18				-53/1020	
				31.0–41.3	0.10–0.20				-53/1020	
				42.0–80.0	0.12–0.24				-53/1020	
		High alloy steel		12.7–17.0	0.04–0.08	180 (160–275)	-53/3040	-53/1020	-53/1120	-53/1020
	03.11	Annealed	50–250	17.5–25.4	0.04–0.14				-53/1020	T-53/1020
				26.0–30.0	0.08–0.18				-53/1020	
				31.0–41.3	0.10–0.20				-53/1020	
				42.0–80.0	0.12–0.24				-53/1020	
	03.21	Hardened steel	250–450	12.7–17.0	0.04–0.10	130 (80–200)	-53/3040	-53/1020	-53/1120	-53/1020
				17.5–25.4	0.06–0.12				-53/1020	T-53/1020
				26.0–30.0	0.10–0.16				-53/1020	
				31.0–41.3	0.11–0.18				-53/1020	
				42.0–80.0	0.12–0.22				-53/1020	
		Steel castings		12.7–17.0	0.04–0.08	200 (140–310)	-53/3040	-53/1020	-53/1120	-53/1020
	06.1	Unalloyed	90–225	17.5–25.4	0.04–0.08		-53/3040		-53/1020	T-53/1020
				26.0–30.0	0.05–0.10		-53/3040		-53/1020	
				31.0–41.3	0.06–0.12		-53/3040		-53/1020	
				42.0–80.0	0.07–0.14		-53/3040		-53/1020	
	06.2	Low alloyed (alloying elements ≤ 5%)	150–250	12.7–17.0	0.04–0.10	160 (110–250)	-53/3040	-53/1020	-53/1120	-53/1020
				17.5–25.4	0.06–0.12				-53/1020	T-53/1020
				26.0–30.0	0.10–0.16				-53/1020	
				31.0–41.3	0.11–0.18				-53/1020	
				42.0–80.0	0.12–0.22				-53/1020	
M		**Stainless steel**		12.7–17.0	0.04–0.10	170 (120–265)	53/3040	53/1020	53/1120	53/1020
	05.11	Ferritic, Martensitic 13–25% Cr	150–270	17.5–25.4	0.04–0.14		53/3040		53/1020	
				26.0–30.0	0.08–0.18		53/3040		53/1020	
				31.0–41.3	0.10–0.20		53/3040		53/1020	
				42.0–80.0	12–0.24		53/3040		53/1020	
	05.21	Austenitic Ni > 8% 13–25% Cr	150–275	12.7–17.0	0.04–0.10	150 (120–250)	53/3040	53/1020	53/1120	53/1020
				17.5–25.4	0.04–0.12		53/3040		53/1020	
				26.0–30.0	0.08–0.14		53/3040		53/1020	
				31.0–41.3	0.10–0.16		53/3040		53/1020	
				42.0–80.0	0.11–0.18		53/3040		53/1020	
	05.51 05.52	Austenitic Ferritic (duplex)	180–320	12.7–17.0	0.04–0.10	110 (90–145)	53/3040	53/1020	53/1120	53/1020
				17.5–25.4	0.04–0.12		53/3040		53/1020	
				26.0–30.0	0.08–0.14		53/3040		53/1020	
				31.0–41.3	0.10–0.16		53/3040		53/1020	
				42.0–80.0	0.11–0.18		53/3040		53/1020	

Insert positioning: ⊙ = Central ◔ = Peripheral

Wiper TECHNOLOGY -WM geometry for machining steel and cast iron with hardness < 200 HB in stable conditions, increase feed (fn) with 50%. For easy to machine stainless steels in stable conditions, increase feed (fn) with 25%.

Coromant U drills, metric values

ISO	CMC No.	Material	Hardness Brinell HB	Drill dia D_c mm	Feed f_n mm/r	Speed v_c m/min	Geometry / Grade FIRST CHOICE Highest productivity ◔	FIRST CHOICE Highest productivity ⊙	Complementary ◔	Complementary ⊙
M		**Stainless steel**		12.7–17.0	0.04–0.08		-53/1120		-53/1120	-53/1020
	15.21	Austenitic castings	150–250	17.5–25.4	0.04–0.12			-53/1020	-53/1020	
				26.0–30.0	0.05–0.12	110 (80–155)	-53/1020	-53/1020	-53/1020	
				31.0–41.3	0.06–0.14			-53/1020	-53/1020	
				42.0–80.0	0.06–0.14			-53/1020	-53/1020	
S		**Heat resistant alloys**		12.7–17.0	0.03–0.08		-53/1120		-53/1120	-53/1020
	20.21	Ni based	140–425	17.5–25.4	0.04–0.08			-53/1020	-53/1020	
	20.22			26.0–30.0	0.06–0.10	50 (20– 88)	-53/1020	-53/1020	-53/1020	
	20.24			31.0–41.3	0.08–0.12			-53/1020	-53/1020	
				42.0–80.0	0.09–0.14			-53/1020	-53/1020	
		Titanium alloys		12.7–17.0	0.04–0.10		-53/1120	-53/1020	-53/1120	-53/1020
	23.21	α, near α and α+β alloys. Alloys in	600–1500	17.5–25.4	0.08–0.14		-53/H13A	-53/H13A	-53/H13A	-53/H13A
	23.22	annealed or aged conditions		26.0–30.0	0.12–0.16	60 (40–132)	-53/H13A	-53/H13A	-53/H13A	-53/H13A
				31.0–41.3	0.14–0.18		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				42.0–80.0	0.16–0.20		-53/H13A	-53/H13A	-53/H13A	-53/H13A
K		**Malleable cast iron**		12.7–17.0	0.04–0.14	170 (140–230)	-53/3040	-53/1020	-53/1120	-53/1020
	07.1	Ferritic (short chipping)	110–145	17.5–25.4	0.10–0.18				-53/1020	T-53/1020
				26.0–30.0	0.14–0.20				-53/1020	
				31.0–41.3	0.16–0.26				-53/1020	
				42.0–80.0	0.18–0.28				-53/1020	
	07.2	Pearlitic (long chipping)	150–270	12.7–17.0	0.04–0.10	140 (105–170)	-53/3040	-53/1020	-53/1120	-53/1020
				17.5–25.4	0.08–0.14				-53/1020	T-53/1020
				26.0–30.0	0.12–0.18				-53/1020	
				31.0–41.3	0.14–0.20				-53/1020	
				42.0–80.0	0.15–0.22				-53/1020	
		Grey cast iron		12.7–17.0	0.04–0.14	250 (210–310)	-53/3040	-53/1020	-53/1120	-53/1020
	08.1	Low tensile strength	150–220	17.5–25.4	0.10–0.18				-53/1020	T-53/1020
				26.0–30.0	0.14–0.20				-53/1020	
				31.0–41.3	0.16–0.26				-53/1020	
				42.0–80.0	0.18–0.28				-53/1020	
	08.2	High tensile strength	200–330	12.7–17.0	0.04–0.10	170 (125–230)	-53/3040	-53/1020	-53/1120	-53/1020
				17.5–25.4	0.08–0.14				-53/1020	T-53/1020
				26.0–30.0	0.12–0.18				-53/1020	
				31.0–41.3	0.14–0.20				-53/1020	
				42.0–80.0	0.15–0.22				-53/1020	
		Nodular cast iron		12.7–17.0	0.04–0.10	170 (125–215)	-53/3040	-53/1020	-53/1120	-53/1020
	09.1	Ferritic	125–230	17.5–25.4	0.08–0.14				-53/1020	T-53/1020
				26.0–30.0	0.12–0.18				-53/1020	
				31.0–41.3	0.14–0.20				-53/1020	
				42.0–80.0	0.15–0.22				-53/1020	
	09.2	Pearlitic	200–300	12.7–17.0	0.04–0.10	150 (110–200)	-53/3040	-53/1020	-53/1120	-53/1020
				17.5–25.4	0.08–0.14				-53/1020	
				26.0–30.0	0.12–0.18				-53/1020	
				31.0–41.3	0.14–0.20				-53/1020	
				42.0–80.0	0.15–0.22				-53/1020	
H		**Extra hard steel**		12.7–17.0	0.05-0.08					
	04.1	Hardened and tempered	450	17.5–25.4	0.07-0.15					
				26.0–30.0	0.07-0.15	40 (30-80)	-53/3040	-53/1020	-53/1020	-53/1020
				31.0–41.3	0.10-0.15				-53/1120	
				42.0–80.0	0.10-0.15					
N		**Aluminium alloys**		12.7–17.0	0.04–0.12	350 (300–440)	-53/1120	-53/1020	-53/1120	-53/1020
	30.12	Wrought or wrought and aged	30–150	17.5–25.4	0.06–0.16		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				26.0–30.0	0.10–0.18		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				31.0–41.3	0.12–0.22		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				42.0–80.0	0.14–0.26		-53/H13A	-53/H13A	-53/H13A	-53/H13A
	30.21	Cast. non aging	40–100	12.7–17.0	0.04–0.12	150 (30–440)	-53/1120	-53/1020	-53/1120	-53/1020
				17.5–25.4	0.06–0.16		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				26.0–30.0	0.10–0.18		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				31.0–41.3	0.12–0.22		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				42.0–80.0	0.14–0.26		-53/H13A	-53/H13A	-53/H13A	-53/H13A
	30.22	Cast or cast and aged	70–140	12.7–17.0	0.04–0.12	300 (250–385)	-53/1120	-53/1020	-53/1120	-53/1020
				17.5–25.4	0.06–0.16		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				26.0–30.0	0.10–0.18		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				31.0–41.3	0.12–0.22		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				42.0–80.0	0.14–0.26		-53/H13A	-53/H13A	-53/H13A	-53/H13A
		Copper and copper alloys		12.7–17.0	0.04–0.12	300 (250–385)	-53/1120	-53/1020	-53/1120	-53/1020
	33.1	Free cutting alloys (Pb ≥ 1%)	50–160	17.5–25.4	0.06–0.16		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				26.0–30.0	0.10–0.18		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				31.0–41.3	0.12–0.22		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				42.0–80.0	0.14–0.26		-53/H13A	-53/H13A	-53/H13A	-53/H13A
	33.2	Brass and leaded alloys (Pb ≤ 1%)	50–160	12.7–17.0	0.04–0.12	230 (180–265)	-53/1120	-53/1020	-53/1120	-53/1020
				17.5–25.4	0.06–0.16		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				26.0–30.0	0.10–0.18		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				31.0–41.3	0.12–0.22		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				42.0–80.0	0.14–0.26		-53/H13A	-53/H13A	-53/H13A	-53/H13A

Insert positioning: ⊙ = Central ◔ = Peripheral

Indexable U-drills, inch values

ISO	CMC No.	Material	Hardness Brinell HB	Drill dia D_c inch	Feed f_n inch/rev.	Speed v_c ft/min	Geometry / Grade FIRST CHOICE Highest productivity ◔	FIRST CHOICE Highest productivity ⊙	Complementary ◔	Complementary ⊙
P		**Unalloyed steel**		.500- .669	.001–.003	950 (755–1245)	-53/3040	-53/1020	-53/1120	-53/1020
	01.0	Non hardened 0,05–0,10% C	80–170	.689-1.000	.001–.003				-53/1020	T-53/1020
				1.024-1.181	.002–.003				-53/1020	
				1.220-1.614	.003–.004				-53/1020	
				1.654-3.500	.004–.006				-53/1020	
	01.1	Non hardened 0,05–0,25% C	90–200	.500- .669	.001–.003	885 (740–1130)	-53/3040	-53/1020	-53/1120	-53/1020
				.689-1.000	.001–.003				-53/1020	T-53/1020
				1.024-1.181	.002–.003				-53/1020	
				1.220-1.614	.003–.004				-53/1020	
				1.654-3.500	.004–.006				-53/1020	
	01.2	Non hardened 0,25–0,55% C	125–225	.500- .669	.001–.004	755 (625–950)	-53/3040	-53/1020	-53/1120	-53/1020
				.689-1.000	.001–.006				-53/1020	T-53/1020
				1.024-1.181	.003–.007				-53/1020	
				1.220-1.614	.004–.008				-53/1020	
				1.654-3.500	.005–.009				-53/1020	
	01.3	Non hardened 0,55–0,80% C	150–225	.500- .669	.001–.004	690 (560–900)	-53/3040	-53/1020	-53/1120	-53/1020
				.689-1.000	.002–.006				-53/1020	T-53/1020
				1.024-1.181	.003–.007				-53/1020	
				1.220-1.614	.004–.008				-53/1020	
				1.654-3.500	.005–.009				-53/1020	
	01.4	High carbon & carbon tool steel	180–275	.500- .669	.001–.004	690 (655–900)	-53/3040	-53/1020	-53/1120	-53/1020
				.689-1.000	.002–.006				-53/1020	T-53/1020
				1.024-1.181	.003–.007				-53/1020	
				1.220-1.614	.004–.008				-53/1020	
				1.654-3.500	.005–.009				-53/1020	
		Low alloy steel		.500- .669	.001–.004	720 (590–950)	-53/3040	-53/1020	-53/1120	-53/1020
	02.1	Non-hardened	150–260	.689-1.000	.002–.005				-53/1020	T-53/1020
				1.024-1.181	.004–.006				-53/1020	
				1.220-1.614	.004–.007				-53/1020	
				1.654-3.500	.005–.009				-53/1020	
	02.2	Hardened	220–450	.500- .669	.001–.004	560 (295–755)	-53/3040	-53/1020	-53/1120	-53/1020
				.689-1.000	.002–.006				-53/1020	T-53/1020
				1.024-1.181	.004–.007				-53/1020	
				1.220-1.614	.004–.008				-53/1020	
				1.654-3.500	.005–.009				-53/1020	
		High alloy steel		.500- .669	.001–.003	590 (525–900)	-53/3040	-53/1020	-53/1120	-53/1020
	03.11	Annealed	50–250	.689-1.000	.001–.006				-53/1020	T-53/1020
				1.024-1.181	.003–.007				-53/1020	
				1.220-1.614	.004–.008				-53/1020	
				1.654-3.500	.005–.009				-53/1020	
	03.21	Hardened steel	250–450	.500- .669	.001–.004	1425 (260–655)	-53/3040	-53/1020	-53/1120	-53/1020
				.689-1.000	.002–.005				-53/1020	T-53/1020
				1.024-1.181	.004–.006				-53/1020	
				1.220-1.614	.004–.007				-53/1020	
				1.654-3.500	.005–.009				-53/1020	
		Steel castings		.689-1.000	.001–.003	655 (460–1020)	-53/3040	-53/1020	-53/1120	-53/1020
	06.1	Unalloyed	90–225	.689-1.000	.001–.003				-53/1020	T-53/1020
				1.024-1.181	.002–.004				-53/1020	
				1.220-1.614	.002–.005				-53/1020	
				1.654-3.500	.003–.006				-53/1020	
	06.2	Low alloyed (alloying elements ≤ 5%)	150–250	.500- .669	.001–.004	525 (360–820)	-53/3040	-53/1020	-53/1120	-53/1020
				.689-1.000	.002–.005				-53/1020	T-53/1020
				1.024-1.181	.004–.006				-53/1020	
				1.220-1.614	.004–.007				-53/1020	
				1.654-3.500	.005–.009				-53/1020	
M		**Stainless steel**		.500- .669	.001–.004	560 (395–870)	53/3040	53/1020	53/1120	53/1020
	05.11	Ferritic, Martensitic 13–25% Cr	150–270	.689-1.000	.001–.006				53/1020	
				1.024-1.181	.003–.007				53/1020	
				1.220-1.614	.004–.008				53/1020	
				1.654-3.500	.005–.009				53/1020	
	05.21	Austenitic Ni > 8% 13–25% Cr	150–275	.500- .669	.001–.004	490 (395–820)	53/3040	53/1020	53/1120	53/1020
				.689-1.000	.001–.005				53/1020	
				1.024-1.181	.003–.006				53/1020	
				1.220-1.614	.004–.006				53/1020	
				1.654-3.500	.004–.007				53/1020	
	05.51 05.52	Austenitic Ferritic (duplex)	180–320	.500- .669	.001–.004	360 (295-475)	53/3040	53/1020	53/1120	53/1020
				.689-1.000	.001–.005				53/1020	
				1.024-1.181	.003–.006				53/1020	
				1.220-1.614	.004–.006				53/1020	
				1.654-3.500	.004–.007				53/1020	

Insert positioning: ⊙ = Central ◔ = Peripheral

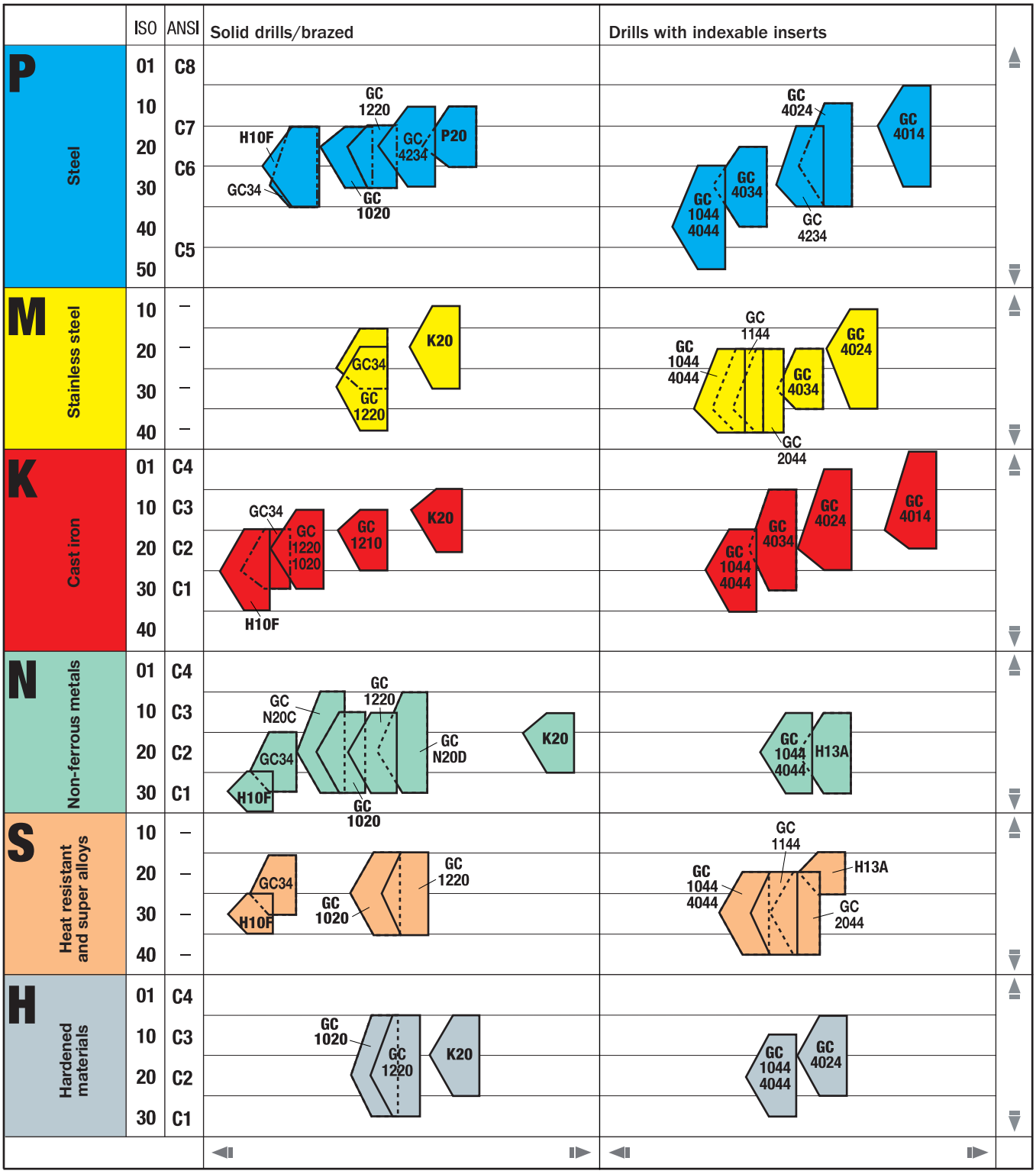
Wiper TECHNOLOGY -WM geometry for machining steel and cast iron with hardness < 200 HB in stable conditions, increase feed (fn) with 50%. For easy to machine stainless steels in stable conditions, increase feed (fn) with 25%.

Indexable U-drills, inch values

ISO	CMC No.	Material	Hardness Brinell HB	Drill dia D_c inch	Feed f_n inch/rev.	Speed v_c ft/min	Geometry / Grade FIRST CHOICE Highest productivity ◔	FIRST CHOICE Highest productivity ⊙	Complementary ◔	Complementary ⊙
M		**Stainless steel**		.500- .669	.001-.004		-53/1120		-53/1120	-53/1020
	15.21	Austenitic castings	150–250	.689-1.000	.001-.005			-53/1020	-53/1020	
				1.024-1.181	.003-.006	360 (260–510)	-53/1020	-53/1020	-53/1020	
				1.220-1.614	.002–.006			-53/1020	-53/1020	
				1.654-3.500	.002–.006			-53/1020	-53/1020	
S		**Heat resistant alloys**		.500- .669	.001–.003		-53/1120		-53/1120	-53/1020
	20.21	Ni based	140–425	.689-1.000	.001-.004			-53/1020	-53/1020	
	20.22			1.024-1.181	.002–.004	165 (65–290)	-53/1020	-53/1020	-53/1020	
	20.24			1.220-1.614	.003–.005			-53/1020	-53/1020	
				1.654-3.500	.004–.006			-53/1020	-53/1020	
		Titanium alloys		.500- .669	.001–.004		-53/1120	-53/1020	-53/1120	-53/1020
	23.21	α, near α and α+β alloys. Alloys	600–1500	.689-1.000	.003–.006		-53/H13A	-53/H13A	-53/H13A	-53/H13A
	23.22	in annealed or aged conditions		1.024-1.181	.005–.006	195 (130–430)	-53/H13A	-53/H13A	-53/H13A	-53/H13A
				1.220-1.614	.006–.007		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				1.654-3.500	.006–.008		-53/H13A	-53/H13A	-53/H13A	-53/H13A
K		**Malleable cast iron**		.500- .669	.001–.006	560 (460–755)	-53/3040	-53/1020	-53/1120	-53/1020
	07.1	Ferritic (short chipping)	110–145	.689-1.000	.004–.007				-53/1020	T-53/1020
				1.024-1.181	.006–.008				-53/1020	
				1.220-1.614	.006–.010				-53/1020	
				1.654-3.500	.007–.011				-53/1020	
	07.2	Pearlitic (long chipping)	150–270	.500- .669	.001–.004	460 (345–560)	-53/3040	-53/1020	-53/1120	-53/1020
				.689-1.000	.003–.006				-53/1020	T-53/1020
				1.024-1.181	.005–.007				-53/1020	
				1.220-1.614	.006–.008				-53/1020	
				1.654-3.500	.006–.009				-53/1020	
		Grey cast iron		.500- .669	.001–.006	820 (690–1020)	-53/3040	-53/1020	-53/1120	-53/1020
	08.1	Low tensile strength	150–220	.689-1.000	.004–.007				-53/1020	T-53/1020
				1.024-1.181	.006–.008				-53/1020	
				1.220-1.614	.006–.010				-53/1020	
				1.654-3.500	.007–.011				-53/1020	
	08.2	High tensile strength	200–330	.500- .669	.001–.004	560 (410–755)	-53/3040	-53/1020	-53/1120	-53/1020
				.689-1.000	.003–.006				-53/1020	T-53/1020
				1.024-1.181	.005–.007				-53/1020	
				1.220-1.614	.006–.008				-53/1020	
				1.654-3.500	.006–.009				-53/1020	
		Nodular cast iron		.500- .669	.001–.004	560 (410–705)	-53/3040	-53/1020	-53/1120	-53/1020
	09.1	Ferritic	125–230	.689-1.000	.003–.006				-53/1020	T-53/1020
				1.024-1.181	.005–.007				-53/1020	
				1.220-1.614	.006–.008				-53/1020	
				1.654-3.500	.006–.009				-53/1020	
	09.2	Pearlitic	200–300	.500- .669	.001–.004	490 (360–655)	-53/3040	-53/1020	-53/1120	-53/1020
				.689-1.000	.003–.006				-53/1020	
				1.024-1.181	.005–.007				-53/1020	
				1.220-1.614	.006–.008				-53/1020	
				1.654-3.500	.006–.009				-53/1020	
H		**Extra hard steel**		.500- .669	.003–.004					
	04.1	Hardened and tempered	450	.689-1.000	.003–.006					
				1.024-1.181	.003–.006	130 (100–260)	-53/3040	-53/1020	-53/1020	-53/1020
				1.220-1.614	.004–.006				-53/1120	
				1.654-3.500	.004–.006					
N		**Aluminium alloys**		.500- .669	.001-.005	1150 (985–1440)	-53/1120	-53/1020	-53/1120	-53/1020
	30.12	Wrought or wrought and aged	30–150	.689-1.000	.002–.006		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				1.024-1.181	.004–.007		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				1.220-1.614	.005–.009		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				1.654-3.500	.006–.010		-53/H13A	-53/H13A	-53/H13A	-53/H13A
	30.21	Cast. non aging	40–100	.500- .669	.001-.005	490 (100–1440)	-53/1120	-53/1020	-53/1120	-53/1020
				.689-1.000	.002–.006		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				1.024-1.181	.004–.007		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				1.220-1.614	.005–.009		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				1.654-3.500	.006–.010		-53/H13A	-53/H13A	-53/H13A	-53/H13A
	30.22	Cast or cast and aged	70–140	.500- .669	.001-.005	985 (820–1260)	-53/1120	-53/1020	-53/1120	-53/1020
				.689-1.000	.002–.006		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				1.024-1.181	.004–.007		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				1.220-1.614	.005–.009		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				1.654-3.500	.006–.010		-53/H13A	-53/H13A	-53/H13A	-53/H13A
		Copper and copper alloys		.500- .669	.001-.005	985 (820–1260)	-53/1120	-53/1020	-53/1120	-53/1020
	33.1	Free cutting alloys (Pb ≥ 1%)	50–160	.689-1.000	.002–.006		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				1.024-1.181	.004–.007		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				1.220-1.614	.005–.009		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				1.654-3.500	.006–.010		-53/H13A	-53/H13A	-53/H13A	-53/H13A
	33.2	Brass and leaded alloys (Pb ≤ 1%)	50–160	.500- .669	.001-.005	755 (590–870)	-53/1120	-53/1020	-53/1120	-53/1020
				.689-1.000	.002–.006		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				1.024-1.181	.004–.007		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				1.220-1.614	.005–.009		-53/H13A	-53/H13A	-53/H13A	-53/H13A
				1.654-3.500	.006–.010		-53/H13A	-53/H13A	-53/H13A	-53/H13A

Insert positioning: ⊙ = Central ◔ = Peripheral

Grades for drilling



The position and form of the grade symbols indicate the suitable field of application.

Centre of the field of application.

Recommended field of application.

Stable

Unstable

Heat

Low

High

SANDVIK Coromant

Grades for solid drills

P Steel, cast steel, long chipping malleable iron

GC1220 (HC) – P25 (P10-P30)
Fine grained cemented carbide substrate with excellent combination of both hardness and toughness. PVD coated with 3-5 microns of nano multilayers of TiAlN coating giving very good edge line security. First choice grade for mixed production in all type of materials.
GC1020 (HC) – P25 (P10-P30)
PVD-coated grade for drilling of most materials. Fine grained carbide substrate with TiCN+TiN coating. Wide application area
P20 (HC) – P20 (P10-P30)
PVD-coating,TiN,on wear resistant substrate. General steel applications.
H10F (HW) – P25 (P15-P35)
Uncoated fine grade carbide grade with good edge strength. Suitable for drilling in most materials at low speed and feed.
GC4234 (HC) – P20 (P10-P30)
Fine grained cemented carbide substrate with excellent combination of both hardness and toughness. PVD coated with 3-5 microns of nano multilayers of TiAlN coating giving very good edge line security.
GC34 (HC) – P30 (P15-P35)
Fine grained cemented carbide substrate combined with a PVD nanostructured coating layer of TiAlN. Giving very good edge line security as high hardness and toughness behavior of the grade. The coating provides a smooth surface for excellent chip evacuation. A good choice for mixed production in all type of materials.

K Cast iron

GC 1210 (HC) – K15 (K10-K25)
Hard and very wear resistant carbide substrate containing gamma phase. The substrate is coated with AlCrN giving excellent wear and oxidation resistance and good hot hardness. Ideal PVD-grade in the Coromant Delta-C family for drilling at medium to high speed in all kinds of cast iron.
GC 1220 (HC) – K20 (K10-K30)
Fine grained cemented carbide with an excellent combination of both hardness and toughness. The carbide is PVD coated with 3 microns of nano multilayers of TiAlN coating giving very good edge line security. First choice grade for steel, stainless steels and cast iron in Coromant Delta C.
GC1020 (HC) – K20 (K10-K20)
PVD-coated grade for drilling of most materials. Fine grained carbide substrate with TiCN+TiN coating. Wide application area
K20 (HC) – K20 (K05-K20)
PVD-coated, TiN, on WC-Co substrate. Stainless steel, cast iron, aluminium and some heatresistant materials.
H10F (HW) – K25 (K15-K35)
Uncoated fine grade carbide grade with good edge strength. Suitable for drilling in most materials at low speed and feed.
GC34 (HC) – K25 (K15-K30)
Fine grained cemented carbide substrate combined with a PVD nanostructured coating layer of TiAlN. Giving very good edge line security as high hardness and toughness behavior of the grade. The coating provides a smooth surface for excellent chip evacuation. A good choice for mixed production in all type of materials.

M Austenitic/ferritic/martensitic stainless steel

GC 1220 (HC) – M30 (M20-M40)
Fine grained cemented carbide with an excellent combination of both hardness and toughness. The carbide is PVD coated with 3 microns of nano multilayers of TiAlN coating giving very good edge line security. First choice grade for steel, stainless steels and cast iron in Coromant Delta C.
K20 (HC) – M20 (M10-M30)
PVD-coated, TiN, on WC-Co substrate. Stainless steel, cast iron, aluminium and some heatresistant materials.
GC34 (HC) – M25 (M15-M30)
Fine grained cemented carbide substrate combined with a PVD nanostructured coating layer of TiAlN. Giving very good edge line security as high hardness and toughness behavior of the grade. The coating provides a smooth surface for excellent chip evacuation. A good choice for mixed production in all type of materials.

Grades for solid drills

N Non ferrous metals, plastics, wood

N20C (HC) – N20 (N05-N30)
Fine Carbide with Diamond coating. First choice for dry drilling in Carbon Fibre Reinforced Plastics. Excellent Tool life. Low friction coefficient. Stable hole dimensions. Cost efficient. Not regrindable. For CFRP/Alu stacks DLC (Diamond Like Coating)is preferred, less risk of flaking in Aluminum.
N20D (HC) – N20 (N05-N30)
A fine grained cemented carbide with an excellent combination of both hardness and toughness. The fine grains contribute to keeping the cutting edge sharp throughout the entire tool life. The carbide is PVD coated with smooth TiAlN adding wear resistance and lowering adherence to work material on the cutting edge.
First choice for aluminum with a silicon content up to 12%.
K20 (HC) – N15 (N10-N25)
PVD-coated, TiN, on WC-Co substrate. Stainless steel, cast iron, aluminium and some heatresistant materials.
H10F (HW) – N20 (N10-N30)
Uncoated fine grade carbide grade with good edge strength. Suitable for drilling in most materials at low speed and feed.
GC1020 (HC) – N20 (N10-N30)
PVD-coated grade for drilling of most materials. Fine grained carbide substrate with TiCN+TiN coating. Wide application area
GC1220 (HC) – N10 (N10-N30)
Fine grained cemented carbide substrate with excellent combination of both hardness and toughness. PVD coated with 3-5 microns of nano multilayers of TiAlN coating giving very good edge line security. First choice grade for mixed production in all types of materials.
GC34 (HC) – N25 (N15-N30)
Fine grained cemented carbide substrate combined with a PVD nanostructured coating layer of TiAlN. Giving very good edge line security as high hardness and toughness behavior of the grade. The coating provides a smooth surface for excellent chip evacuation. A good choice for mixed production in all type of materials.

S Heat resistant alloys Titanium alloys

GC1020 (HC) – S25 (S10-S30)
PVD-coated grade for drilling of most materials. Fine grained carbide substrate with TiCN+TiN coating. Wide application area
H10F (HW) –S30 (S25-S35)
Uncoated fine grade carbide grade with good edge strength. Suitable for drilling in most materials at low speed and feed.
GC 1220 (HC) – S25 (S15 -S35)
Fine grained cemented carbide with an excellent combination of both hardness and toughness. The carbide is PVD coated with 3 microns of nano multilayers of TiAlN coating giving very good edge line security. First choice grade for steel, stainless steels and cast iron in Coromant Delta C.
GC34 (HC) – S25 (S15-S30)
Fine grained cemented carbide substrate combined with a PVD nanostructured coating layer of TiAlN. Giving very good edge line security as high hardness and toughness behavior of the grade. The coating provides a smooth surface for excellent chip evacuation. A good choice for mixed production in all type of materials.

H Hardened steel

GC 1220 (HC) – H20 (H05 –H30)
Fine grained cemented carbide with an excellent combination of both hardness and toughness. The carbide is PVD coated with 3 microns of nano multilayers of TiAlN coating giving very good edge line security. First choice grade for steel, stainless steels and cast iron in Coromant Delta C.
K20 (HC) – H15 (H05-H25)
PVD-coated, TiN, on WC-Co substrate. Stainless steel, cast iron, aluminium and heat resistant materials.
GC1020 (HC) – H15 (H05-H25)
PVD-coated grade for drilling of most materials. Fine grained carbide substrate with TiCN+TiN coating. Wide application area

Letter symbols specifying the designation of hard cutting materials:

Hardmetals:

HW	Uncoated hardmetal containing primarily tungsten carbide (WC)
HT	Uncoated hardmetal, also called cermet, containing primarily titanium carbides (TIC) or titanium nitrides (TIN) or both.
HC	Hardmetals as above, but coated

Ceramics:

CA	Oxide ceramics containing primarily aluminium oxide (Al_2O_3).
CM	Mixed ceramics containing primarily aluminium oxide (Al_2O_3) but containing components other than oxides.
CN	Nitride ceramics containing primarily silicon nitride (Si_3N_4).
CC	Ceramics as above, but coated.

Diamond:

DP	Polycrystalline diamond[1)]

Boron nitride:

BN	Polycrystalline boron nitride[1)]

[1)] Polycrystalline diamond and polycrystalline boron nitride are also named superhard cutting materials.

Grades for drills with indexable inserts

P Steel, cast steel, long chipping malleable iron

GC4014 (HC) – P15 (P05-P30)
Grade for peripheral insert. Low to medium feed rates at high cutting speed. High wear resistance and good resistance against plastic deformation.
GC4024 (HC) – P20 (P10-P35)
Grade for peripheral insert. Excellent toughness behaviour and high wear resistance. For moderate to high cutting speeds. MT-CVD coated grade.
GC1044 (HC) – P40 (P25-P50)
The basic choice as central insert for ISO P application area. PVD-coated grade with excellent wear resistance and toughness at low to high cutting speeds.
GC4034 (HC) - P30 (P20-P40)
Peripheral grade for smaller diameter drills. Excellent wear resistance. For moderate to high cutting speeds. MT-CVD coated grade.
GC4044 (HC) – P40 (P25-P50)
The basic choice as peripheral grade for ISO P application area. PVD-coated grade with excellent wear resistance and toughness at low to moderate cutting speeds.
GC4234 (HC) – P30 (P15-P35)
Fine grained cemented carbide substrate with excellent combination of both hardness and toughness. PVD coated with 3-5 microns of nano multilayers of TiAlN coating giving very good edge line security.

M Austenitic/ferritic/martensitic stainless steel

GC1144 (HC) – M35 (M20-M40)
Optimized centre ISO M grade based on fine-grained cemented carbide coated with a new PVD-oxide coating for excellent wear resistance and resistance against built up edge in all types of stainless steels.
GC2044 (HC) – M35 (M20-M40)
Optimized periphery ISO M grade based on fine-grained cemented carbide coated with a new PVD-oxide coating for excellent wear resistance and resistance against built up edge in all types of stainless steels.
GC4024 (HC) – M20 (M10-M35)
Grade for peripheral insert. Excellent edge toughness and very high wear resistance. Very good resistance against build-up edges. For medium to high cutting speeds. MT-CVD coated grade.
GC1044 (HC) – M35 (M20-M40)
The basic choice as central grade for ISO M application area. PVD coated grade with excellent edge toughness and resistance against built-up edge.
GC4034 (HC) - M30 (M20-M35)
Supplementary grade for stainless steels. Excellent wear resistance and good resistance to built-up edge. For medium to high cutting speeds. MT-CVD coated grade.
GC4044 (HC) – M35 (M20-M40)
Grade for ISO M application area. PVD coated grade with excellent edge toughness and resistance against built-up edge.

Grades for drills with indexable inserts

K Cast iron

GC4014 (HC) –K15 (K01-K25)
Grade for peripheral insert. Finishing to light roughing of cast iron at high cutting speeds.
GC4024 (HC) – K20 (K05-K30)
Grade for peripheral insert. Very good combination of toughness and wear resistance. Universal grade for medium to high cutting speeds. MT-CVD coated grade.
GC1044 (HC) – K25 (K10-K35)
The basic choice as central grade for ISO K application area. A PVD-coated grade for toughness demanding operations.
GC4034 (HC) - K20 (K10-K30)
Peripheral grade for smaller diameter drills. Excellent wear resistance. For moderate to high cutting speeds. MT-CVD coated grade
GC4044 (HC) – K25 (K10-K35)
The basic choice as peripheral grade for ISO K application area. A PVD-coated grade with excellent wear resistance and toughness at low to moderate cutting speeds.

N Non ferrous metals, plastics, wood

GC1020 (HC) – (N10-N30)
Basic choice as central insert for toughness demanding operations. A PVD-coated grade.
GC1120 (HC) – (N10-N30)
Suitable for toughness demanding applications as peripheral insert for Coromant U drill in diameter 12.7-17 mm. Good combination of wear resistance and toughness. A PVD-coated grade.
H13A (HW) – (N10-N25)
The universal grade for low to moderate cutting speeds. Suitable both for central and peripheral inserts.
GC1044 (HC) – (N10-N30)
The basic choice as central grade for ISO N application area. PVD-coated grade with excellent wear resistance and toughness at moderate to very high cutting speeds.
GC4044 (HC)– (N10-N30)
The basic choice as peripheral grade for ISO N application area. PVD coated grade with excellent edge toughness and resistance against built-up edge.

Grades for drills with indexable inserts

S Heat resistant alloys Titanium alloys

H13A (HW) – S20 (S15-S25)
A complementary choice for heat resistant alloys and titanium. Good edge sharpness, wear resistance and toughness. Suitable both for central and peripheral inserts. Uncoated grade.
GC1044 (HC) – S30 (S20-S35)
The basic choice as central grade for ISO S application area. PVD-coated grade with excellent wear resistance and toughness at low to moderate cutting speeds.
GC4044 (HC) – S30 (S20-S35)
The basic choice as peripheral grade for ISO S application area. PVD coated grade with excellent edge toughness and resistance against built-up edge.
GC1144 (HC) – S35 (S20-S40)
Complementary centre grade for ISO S materials.
GC2044 (HC) – S30 (S20-S40)
Complementary periphery ISO S grade based on fine-grained cemented carbide coated with a new PVD-oxide coating.

H Hardened steel

GC4024 (HC) – H15 (H05-H25)
Grade for peripheral insert. Good toughness behaviour and high wear resistance. For moderate to high cutting speeds. MT-CVD coated grade.
GC1044 (HC) – H20 (H10-H30)
The basic choice as central grade for ISO H application area. PVD-coated grade with excellent wear resistance and toughness at low to moderate cutting speeds.
GC4044 (HC) – H20 (H10-H30)
The basic choice as peripheral grade for ISO H application area. A PVD-coated grade with excellent edge toughness and resistance against built-up edge.

Letter symbols specifying the designation of hard cutting materials:

Hardmetals:

HW	Uncoated hardmetal containing primarily tungsten carbide (WC)
HT	Uncoated hardmetal, also called cermet, containing primarily titanium carbides (TIC) or titanium nitrides (TIN) or both.
HC	Hardmetals as above, but coated

Ceramics:

CA	Oxide ceramics containing primarily aluminium oxide (Al_2O_3).
CM	Mixed ceramics containing primarily aluminium oxide (Al_2O_3) but containing components other than oxides.
CN	Nitride ceramics containing primarily silicon nitride (Si_3N_4).
CC	Ceramics as above, but coated.

Diamond:

DP	Polycrystalline diamond[1)]

Boron nitride:

BN	Polycrystalline boron nitride[1)]

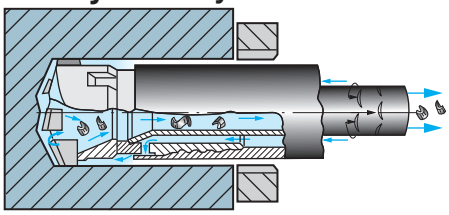
[1)] Polycrystalline diamond and polycrystalline boron nitride are also named superhard cutting materials.

Deep hole drilling with Sandvik Coromant

Deep holes are defined by a high ratio between hole depth and diameter.
Deep hole drilling is the preferred method for drilling hole depths of more than 10 x the diameter. During drilling, it is important that the chips are broken and that they can be transported away without jamming and affecting the drilled surface.
In deep hole drilling, cutting fluid supply and chip transport have been provided for the development of four different systems that permit trouble-free machining of deep holes.
- Ejector system (two-tube system)
- STS (single tube system)
- CoroDrill® 805
- Gun drilling system

Sandvik Coromant are a world leading manufacturer of deep hole machining tools for these sytems.
The tools are available as standard, special or Tailor Made and there is an excellent world wide delivery- and service facility.

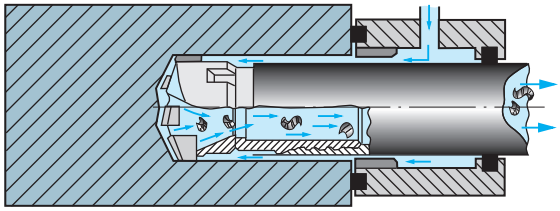
The Ejector System



Drilling depth up to 100 x diameter

- Requires no seal between the workpiece and the drill bushing.
- Adapted easily to existing machines, preferable in conventional lathes, turning centres, machining centres and horizontal boring machines.
- For machining workpieces where sealing problems can occur.
- An advantage when it is possible to use a pre-drilled hole instead of a drill bushing for guidance, for example in machining centres.

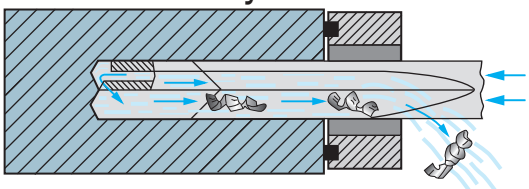
The Single Tube System



Drilling depth up to 150 x diameter

- In materials with poor chip forming properties such as stainless steel, and low-carbon steel.
- In materials with an uneven structure when chipbreaking problems exist.
- More advantageous for long series production.
- When large diameter holes are required.
- Requires special deep hole drilling machine.

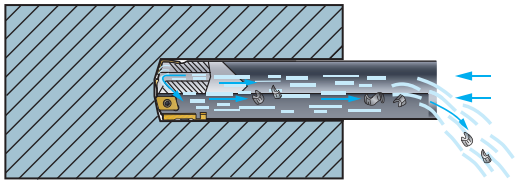
The Gun Drill System



Drilling depth up to 100 x diameter

- For small diameters.
- Can easily be applied to machining centres by using a pre-drilled hole for guidance.
- Requires high coolant pressure.

CoroDrill® 805



Drilling depth up to 12 x diameter

- Can be used in conventional machining centres, lathes and turn-mill centres with high efficiency.
- No extra pump capacity is required.
- Wide availability of standard tools.

DEEP HOLE DRILLING

Applications

Tool guide and selection E192

Products

Ejector system

Ground drill head 424.6 E194
CoroDrill® 800.24 E202
T-MAX® drill 424.10 E208
T-MAX® 424.31F and 424.31 counterboring heads E214
Mounting parts for rotating and non-rotating connectors E230
Rotating connectors E228
Non-rotating connectors E229
Varilock adapted connector for automatic tool change E233

STS Single Tube System

Ground drill head 420.6 E236
CoroDrill® 800.20 E244
T-MAX® drill 424.10 E250
T-MAX® 424.31F and 424.31 counterboring heads E254
T-MAX® trepanning head 420.7 E264
T-MAX® counterboring head 424.32 E265
Adjustable counterboring head E265
STS oil pressure heads E266
STS connecting chucks E267
Collets, bushings and sealing sleeves for STS E268

Vibration dampers E269
Adaptors for converting from external to internal tube threads E270
Grades for Ejector and STS E272
Inserts for CoroDrill® 800.24 and 800.20 solid drill heads E275
Inserts for T-MAX® 424.10 solid drill heads E277
Inserts for T-Max® 424.31F/424.31 counterboring solid drill heads E279

Spare parts for Ejector and STS E280
Cutting data for Ejector and STS E301

High Feed CounterBore

E290
Cutting data E317

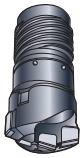
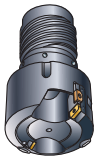
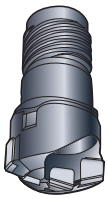
CoroDrill® 805

E291
Cutting data E319

Gun drilling

E293
Gun drill 428.9 and 428.2 E294
Gun drill 428.5 and 428.7 E296
Automatic toolchange oil supply unit E299
Oil supply unit E299
Accessories E300
Cutting data E323

Tool guide and selection

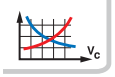
	Ejector						
	Solid drilling			Counterboring			
Page	E194	E202	E208	E214	E214	E265	E236
D_c mm	18.40-65.00	25.00-65.00	≥63.50	20.00-124.99	≥65.00	≥75.00	15.60-65.00
D_c inch	.724-2.559	.984-2.559	≥2.500	.787-4.921	≥2.559	≥2.953	.615-2.559
	 424.6	 800.24	 424.10	 424.31F	 424.31	 424.32	 420.6
Drill depth	**100 x D_c**	**100 x D_c**	**100 x D_c**	**100 x D_c**	**100 x D_c**	**100 x D_c**	**150 x D_c**
Material							
P	•••	•••	•••	•••	•••	•••	•••
M	•	••	•••	•••	•••	•••	•••
K	•••	•••	•••	•••	•••	•••	•••
N	••	•••	•••	••	••	••	•••
S	•	••	•••				•••
Hole tolerance	IT9	IT10	IT10	IT9-10	IT10	IT10	IT9
Surface finish Ra	2 µm .079 µ inch	2 µm .079 µ inch	3 µm .118 µ inch	1 µm .039 µ inch	3 µm .118 µ inch	3 µm .118 µ inch	2 µm .079 µ inch
Machine							
– DHD machines	Yes	Yes	Yes	Yes	Yes	Yes	Yes
– NC lathes	Yes	Yes	Yes	Yes	Yes	Yes	-
– Lathes	Yes	Yes	Yes	Yes	Yes	Yes	-
– Most conventional machines	Yes	Yes	Yes	Yes	Yes	Yes	-
– Machining centres	Yes	Yes	Yes	Yes	Yes	Yes	-
– Special gun drilling machines	-	-	-	-	-	-	-

••• = Very good
•• = Good
• = Fair

Symbols for page references:

 Inserts

 Tailor Made options

 Cutting data

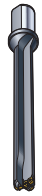
 Conversion table, formulas and definitions

 Spare parts/accessories

 Connecting chucks

SANDVIK Coromant

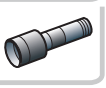
Tool guide and selection

	STS						CoroDrill® 805	Gun drilling
Solid drilling		Counterboring			Trepanning			
E244	E250	E254	E254	E265	E264		E291	E293
25.00-65.00	≥63.50	20.00-124.99	≥65.00	≥75.00	≥112.00		25-60	0.98-40.50
.984-2.559	≥2.500	.787-4.921	≥2.559	≥2.953	≥4.409		1.000-2.000	.039-1.594
								
800.20	424.10	424.31F	424.31	424.32	420.7			428.x
150 x D_c	**150 x D_c**	**150 x D_c**	**150 x D_c**	**150 x D_c**	**150 x D_c**		**8-12 x D_c**	**≤100 x D_c**
•••	•••	•••	•••	•••	•••			
•••	•••	•••	•••	•••	•••			
•••	•••	•••	•••	•••	•••			
•••	•••	••	••	••	•••			
•••	•••				•••			
IT10	IT10	IT9-10	IT10	IT10	IT10		IT10	IT9-10
2 µm .079 µ inch	3 µm .118 µ inch	1 µm .039 µ inch	3 µm .118 µ inch	3 µm .118 µ inch	3 µm .118 µ inch		2 µm .079 µ inch	0.1-2 µm .004-.157 µ inch
Yes	Yes	Yes	Yes	Yes	Yes		-	-
-	-	-	-	-	-		Yes	Yes
-	-	-	-	-	-		Yes	-
-	-	-	-	-	-		Yes	-
-	-	-	-	-	-		Yes	Yes
-	-	-	-	-	-		-	Yes

 Connectors

 Mounting parts

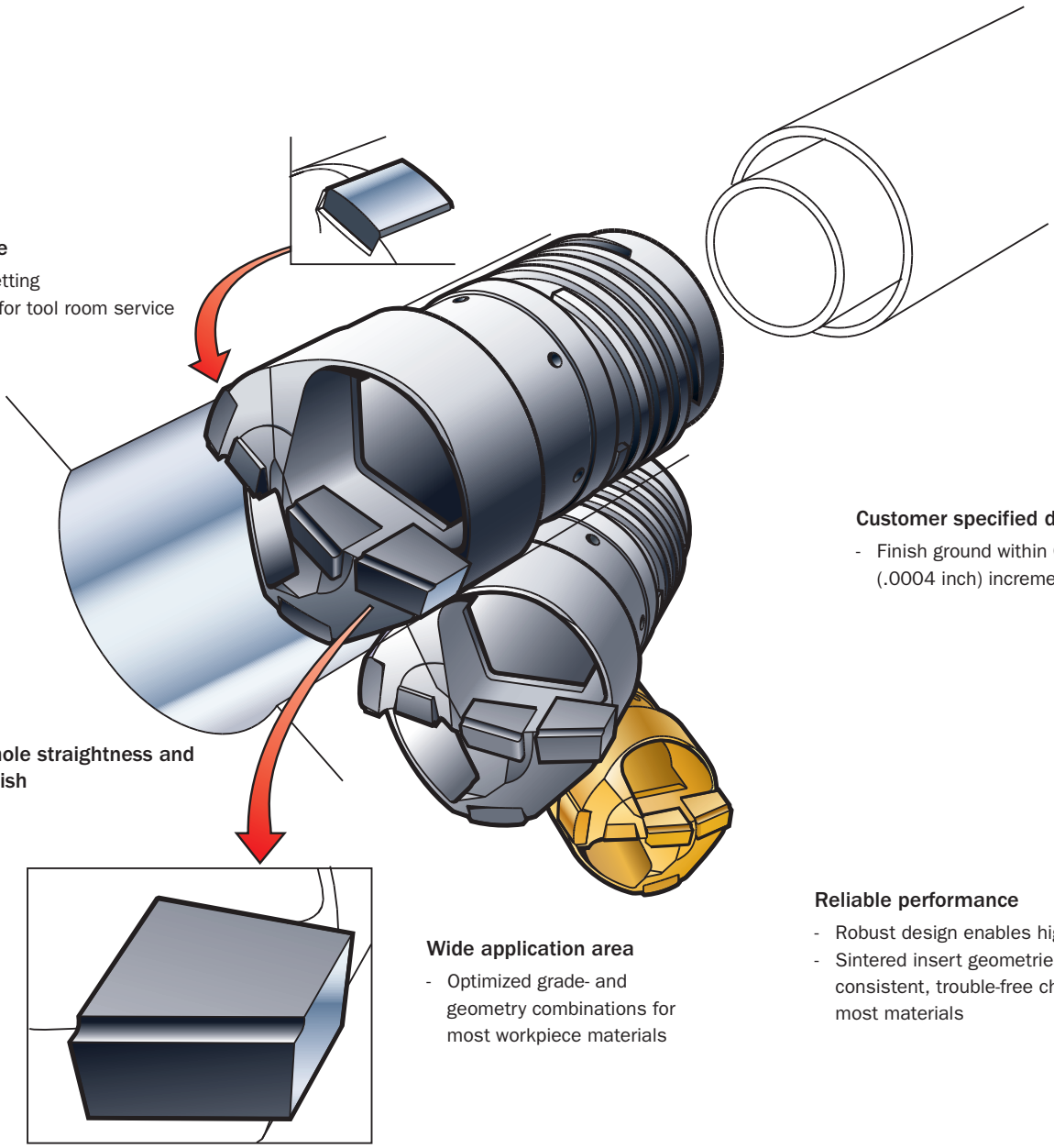
 Vibration dampers

 Oil pressure heads

Ground drill head 424.6

Ground brazed solid drill head

"The original" precision drill



Easy to use
- No pre-setting
- No need for tool room service

Customer specified diameter
- Finish ground within 0.01 mm (.0004 inch) increments

Excellent hole straightness and surface finish

Wide application area
- Optimized grade- and geometry combinations for most workpiece materials

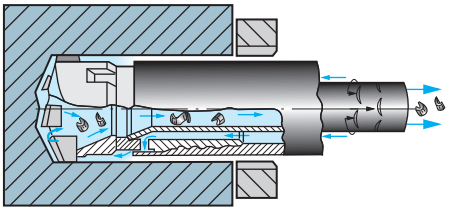
Reliable performance
- Robust design enables high feed rates
- Sintered insert geometries ensure consistent, trouble-free chip control in most materials

ISO application area:

P M K N S

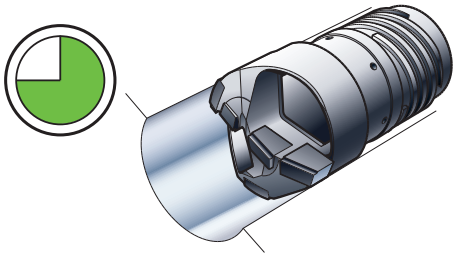
Ground drill head 424.6

Preferred Ejector applications



- Modified lathes
- Economical and easy to apply in horizontal boring machines: NC lathes and machining centres
- Transfer lines
- Easy machining workpiece materials

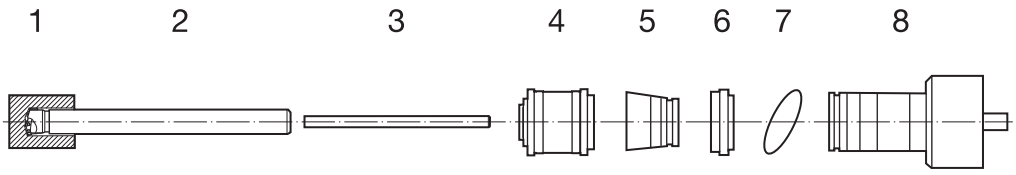
Productivity



- 4 - 6 times faster than gun drilling
- The first choice for hole diameters 18.40 - 65.00 mm (.724 - 2.559 inch) when extra close diameter tolerance is demanded
- Low investment cost for small batch production
- Standard programme available

IT9
R_a 2 µm

Tool mounting



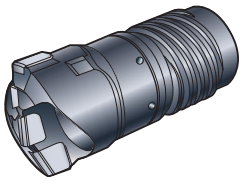
1 Drill heads, see page E196.
2 Outer drill tubes, see page E197.
3 Inner drill tubes, see page E197.
4 Vibration dampers, see page E269.
5 Collets and connecting sleeves, see page E230.
6 Sealing sleeves, see page E230.
7 O-rings, see page E230.
8 Connectors, see page E228.

Inner tube length corresponding with drilling diameter

Drill diameter	Inner tube
≤65.00 mm (2.559 inch)	30 mm longer than outer tube
65.01-123.90 mm (2.559-4.878 inch)	190 mm longer than outer tube
124.00-183.90 mm (4.882-7.240 inch)	220 mm longer than outer tube

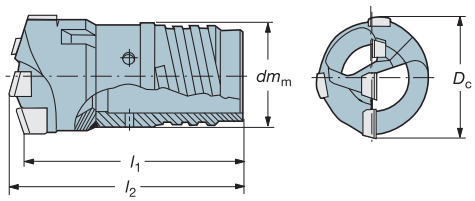
Ejector drill programme - Ground brazed solid drill head 424.6

Diameter range 18.40-65.00 mm (.724-2.559 inch)



Hole depth: 100 x Dia.
Hole tolerance: IT9
Surface finish: R_a 2 µm
Cutting fluid: Neat oil or soluble.

Drill heads are delivered with standard chipbreaker, finish ground to the desired diameter to tolerance ISO h6.



dm_m is the same as dm_t for the drill tube.

Diameter range, mm, inch:		Tube range	Ordering code, Drill head	P		M		K	N	S	Dimensions, mm, inch		
				-	-	-	-	-	-	-			
D_c min	D_c max			63	70	20	67	72	72	72	dm_m	l_1	l_2
18.40	19.20	00	424.6-0013D				★				16.0	47.1	50
.724	*.756*										*.630*	*1.854*	*1.968*
18.40	19.20		424.6-0014D	☆	★			★	★	★	16.0	47.1	50
.724	*.756*										*.630*	*1.854*	*1.968*
19.21	20.00		424.6-0023D				★				16.0	47	50
.756	*.787*										*.630*	*1.850*	*1.968*
19.21	20.00		424.6-0024D	☆	★			★	★	★	16.0	47	50
.756	*.787*										*.630*	*1.850*	*1.968*
20.01	20.90	01	424.6-0113D				★				18.0	52.9	56
.788	*.823*										*.709*	*2.083*	*2.205*
20.01	20.90		424.6-0114D	☆	★			★	★	★	18.0	52.9	56
.788	*.823*										*.709*	*2.083*	*2.205*
20.91	21.80		424.6-0123D				★				18.0	52.7	56
.823	*.858*										*.709*	*2.075*	*2.205*
20.91	21.80		424.6-0124D	☆	★			★	★	★	18.0	52.7	56
.823	*.858*										*.709*	*2.075*	*2.205*
21.81	22.90	02	424.6-0213D				★				19.5	52.8	56
.859	*.902*										*.768*	*2.079*	*2.205*
21.81	22.90		424.6-0214D	☆	★			★	★	★	19.5	52.8	56
.859	*.902*										*.768*	*2.079*	*2.205*
22.91	24.10		424.6-0223D				★				19.5	52.6	56
.902	*.949*										*.768*	*2.071*	*2.205*
22.91	24.10		424.6-0224D	☆	★			★	★	★	19.5	52.6	56
.902	*.949*										*.768*	*2.071*	*2.205*
24.11	25.20	03	424.6-0313D				★				21.0	54	57.5
.949	*.992*										*.827*	*2.126*	*2.264*
24.11	25.20		424.6-0314D	☆	★			★	★	★	21.0	54	57.5
.949	*.992*										*.827*	*2.126*	*2.264*
25.21	26.40		424.6-0323D				★				21.0	54	57.5
.992	*1.039*										*.827*	*2.126*	*2.264*
25.21	26.40		424.6-0324D	☆	★			★	★	★	21.0	54	57.5
.992	*1.039*										*.827*	*2.126*	*2.264*
26.41	27.50	04	424.6-0413D				★				23.5	56.8	60.5
1.040	*1.083*										*.925*	*2.236*	*2.382*
26.41	27.50		424.6-0414D	☆	★			★	★	★	23.5	56.8	60.5
1.040	*1.083*										*.925*	*2.236*	*2.382*
27.51	28.70		424.6-0423D				★				23.5	56.8	60.5
1.083	*1.130*										*.925*	*2.236*	*2.382*
27.51	28.70		424.6-0424D	☆	★			★	★	★	23.5	56.8	60.5
1.083	*1.130*										*.925*	*2.236*	*2.382*
28.71	29.80	05	424.6-0513D				★				25.5	59.5	63.5
1.130	*1.173*										*1.004*	*2.342*	*2.500*
28.71	29.80		424.6-0514D	☆	★			★	★	★	25.5	59.5	63.5
1.130	*1.173*										*1.004*	*2.342*	*2.500*
29.81	31.00		424.6-0523D				★				25.5	59.3	63.5
1.174	*1.220*										*1.004*	*2.335*	*2.500*
29.81	31.00		424.6-0524D	☆	★			★	★	★	25.5	59.3	63.5
1.174	*1.220*										*1.004*	*2.335*	*2.500*

[1] Drills with other grade combinations are available on request.

★= First choice

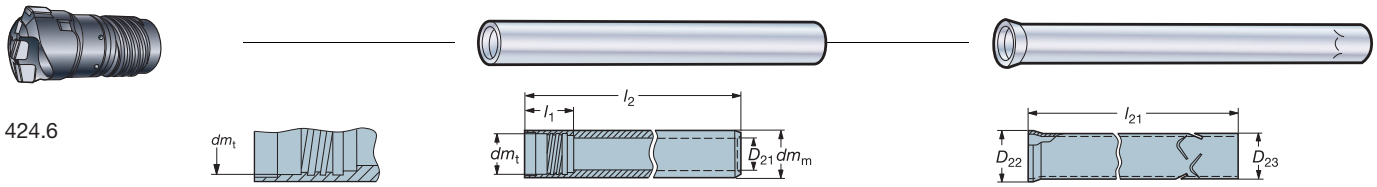
When ordering drill heads, state drill diameter (xx.xx) and grade combination (zz) in the ordering code.

Ordering example: 2 pieces 424.6-0014 D*18.40* 70

SAFETY INFORMATION

Precautions when grinding and brazing of cemented carbide, see page J8.

Drill head **Outer tube** **Inner tube**



Note!

Drill tubes are supplied threaded at both ends, with an internal thread, the E-thread.
The inner tube must be ordered 30 mm (1.181 inch) longer than the outer tube.

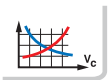
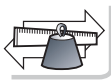
dm_t is the same as dm_m for the drill

Diameter range, mm, inch:		Tube range	Ordering code, outer tube[1]	Dimensions, mm, inch					Ordering code, inner tube[1]	Dimensions, mm, inch		
D_c min	D_c max			dm_m	dm_t	D_{21}	l_1	l_2		D_{22}	D_{23}	l_{21}
18.40	20.00	00	424.2-800-2	18.0	16.0	12	27.5	400	424.2-850-2	12	10	430
.724	*.787*			*.709*	*.630*	*.472*	*1.083*	*15.748*		*.472*	*.394*	*16.929*
18.40	20.00		424.2-800-3	18.0	16.0	12	27.5	630	424.2-850-3	12	10	660
.724	*.787*			*.709*	*.630*	*.472*	*1.083*	*24.803*		*.472*	*.394*	*25.984*
18.40	20.00		424.2-800-4	18.0	16.0	12	27.5	1070	424.2-850-4	12	10	1100
.724	*.787*			*.709*	*.630*	*.472*	*1.083*	*42.126*		*.472*	*.394*	*43.307*
20.01	21.80	01	424.2-801-2	19.5	18.0	14	30.0	400	424.2-851-2	14	12	430
.788	*.858*			*.768*	*.709*	*.551*	*1.181*	*15.748*		*.551*	*.472*	*16.929*
20.01	21.80		424.2-801-3	19.5	18.0	14	30.0	630	424.2-851-3	14	12	660
.788	*.858*			*.768*	*.709*	*.551*	*1.181*	*24.803*		*.551*	*.472*	*25.984*
20.01	21.80		424.2-801-4	19.5	18.0	14	30.0	1070	424.2-851-4	14	12	1100
.788	*.858*			*.768*	*.709*	*.551*	*1.181*	*42.126*		*.551*	*.472*	*43.307*
21.81	24.10	02	424.2-802-2	21.5	19.5	15	30.0	400	424.2-852-2	15	13	430
.859	*.949*			*.846*	*.768*	*.591*	*1.181*	*15.748*		*.591*	*.512*	*16.929*
21.81	24.10		424.2-802-3	21.5	19.5	15	30.0	630	424.2-852-3	15	13	660
.859	*.949*			*.846*	*.768*	*.591*	*1.181*	*24.803*		*.591*	*.512*	*25.984*
21.81	24.10		424.2-802-4	21.5	19.5	15	30.0	1070	424.2-852-4	15	13	1100
.859	*.949*			*.846*	*.768*	*.591*	*1.181*	*42.126*		*.591*	*.512*	*43.307*
24.11	26.40	03	424.2-803-2	23.5	21.0	16	30.0	400	424.2-853-2	16	14	430
.949	*1.039*			*.925*	*.827*	*.630*	*1.181*	*15.748*		*.630*	*.551*	*16.929*
24.11	26.40		424.2-803-3	23.5	21.0	16	30.0	630	424.2-853-3	16	14	660
.949	*1.039*			*.925*	*.827*	*.630*	*1.181*	*24.803*		*.630*	*.551*	*25.984*
24.11	26.40		424.2-803-4	23.5	21.0	16	30.0	1070	424.2-853-4	16	14	1100
.949	*1.039*			*.925*	*.827*	*.630*	*1.181*	*42.126*		*.630*	*.551*	*43.307*
26.41	28.70	04	424.2-804-2	26.0	23.5	18	33.0	400	424.2-854-2	18	16	430
1.040	*1.130*			*1.024*	*.925*	*.709*	*1.299*	*15.748*		*.709*	*.630*	*16.929*
26.41	28.70		424.2-804-3	26.0	23.5	18	33.0	630	424.2-854-3	18	16	660
1.040	*1.130*			*1.024*	*.925*	*.709*	*1.299*	*24.803*		*.709*	*.630*	*25.984*
26.41	28.70		424.2-804-4	26.0	23.5	18	33.0	1070	424.2-854-4	18	16	1100
1.040	*1.130*			*1.024*	*.925*	*.709*	*1.299*	*42.126*		*.709*	*.630*	*43.307*
28.71	31.00	05	424.2-805-2	28.0	25.5	20	33.0	400	424.2-855-2	20	18	430
1.130	*1.220*			*1.102*	*1.004*	*.787*	*1.299*	*15.748*		*.787*	*.709*	*16.929*
28.71	31.00		424.2-805-3	28.0	25.5	20	33.0	630	424.2-855-3	20	18	660
1.130	*1.220*			*1.102*	*1.004*	*.787*	*1.299*	*24.803*		*.787*	*.709*	*25.984*
28.71	31.00		424.2-805-4	28.0	25.5	20	33.0	1070	424.2-855-4	20	18	1100
1.130	*1.220*			*1.102*	*1.004*	*.787*	*1.299*	*42.126*		*.787*	*.709*	*43.307*

[1] Other lengths can be manufactured by customer request, please contact your local Sandvik Coromant representative.

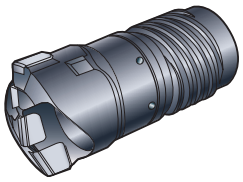
Ordering example for outer tube, length 400 mm (15.748 inch) and inner tube 430 mm (16.929 inch), fitting drill head D_c = 18.40 mm (.724 inch):

1 piece 424.2-800-2 and 1 piece 424.2-850-2

 E269  E230  E228  E301  J3

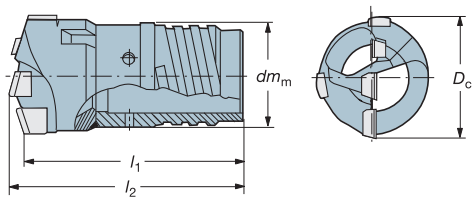
Ejector drill programme - Ground brazed solid drill head 424.6

Diameter range 18.40-65.00 mm (.724-2.559 inch)



Hole depth: 100 x Dia.
Hole tolerance: IT9
Surface finish: R_a 2 µm
Cutting fluid: Neat oil or soluble.

Drill heads are delivered with standard chipbreaker, finish ground to the desired diameter to tolerance ISO h6.



dm_m is the same as dm_t for the drill tube.

Diameter range, mm, inch:		Tube range	Ordering code, Drill head	P		M		K	N	S	Dimensions, mm, inch		
				-	-	-	-	-	-	-			
D_c min	D_c max			63	70	20	67	72	72	72	dm_m	l_1	l_2
31.01	32.10	06	424.6-0613D				★				28.0	59.4	63.5
1.221	*1.264*										*1.102*	*2.339*	*2.500*
31.01	32.10		424.6-0614D	☆	★			★	★	★	28.0	59.4	63.5
1.221	*1.264*										*1.102*	*2.339*	*2.500*
32.11	33.30		424.6-0623D				★				28.0	59.1	63.5
1.264	*1.311*										*1.102*	*2.327*	*2.500*
32.11	33.30		424.6-0624D	☆	★			★	★	★	28.0	59.1	63.5
1.264	*1.311*										*1.102*	*2.327*	*2.500*
33.31	34.80	07	424.6-0713D				★				30.0	66	70.5
1.311	*1.370*										*1.181*	*2.598*	*2.776*
33.31	34.80		424.6-0714D	☆	★			★	★	★	30.0	66	70.5
1.311	*1.370*										*1.181*	*2.598*	*2.776*
34.81	36.20		424.6-0723D				★				30.0	65.9	70.5
1.370	*1.425*										*1.181*	*2.594*	*2.776*
34.81	36.20		424.6-0724D	☆	★			★	★	★	30.0	65.9	70.5
1.370	*1.425*										*1.181*	*2.594*	*2.776*
36.21	37.30	08	424.6-0813D				★				33.0	68.7	73.5
1.426	*1.468*										*1.299*	*2.705*	*2.894*
36.21	37.30		424.6-0814D	☆	★			★	★	★	33.0	68.7	73.5
1.426	*1.468*										*1.299*	*2.705*	*2.894*
37.31	38.40		424.6-0823D				★				33.0	68.5	73.5
1.469	*1.512*										*1.299*	*2.697*	*2.894*
37.31	38.40		424.6-0824D	☆	★			★	★	★	33.0	68.5	73.5
1.469	*1.512*										*1.299*	*2.697*	*2.894*
38.41	39.60		424.6-0833D				★				33.0	68.3	73.5
1.512	*1.559*										*1.299*	*2.689*	*2.894*
38.41	39.60		424.6-0834D	☆	★			★	★	★	33.0	68.3	73.5
1.512	*1.559*										*1.299*	*2.689*	*2.894*
39.61	40.60	09	424.6-0913D				★				36.0	68.2	73.5
1.559	*1.598*										*1.417*	*2.685*	*2.894*
39.61	40.60		424.6-0914D	☆	★			★	★	★	36.0	68.2	73.5
1.559	*1.598*										*1.417*	*2.685*	*2.894*
40.61	41.80		424.6-0923D				★				36.0	68	73.5
1.599	*1.646*										*1.417*	*2.677*	*2.894*
40.61	41.80		424.6-0924D	☆	★			★	★	★	36.0	68	73.5
1.599	*1.646*										*1.417*	*2.677*	*2.894*
41.81	43.00		424.6-0933D				★				36.0	67.8	73.5
1.646	*1.693*										*1.417*	*2.669*	*2.894*
41.81	43.00		424.6-0934D	☆	★			★	★	★	36.0	67.8	73.5
1.646	*1.693*										*1.417*	*2.669*	*2.894*
43.01	44.30	10	424.6-1013D				★				39.0	69.5	75
1.693	*1.744*										*1.535*	*2.736*	*2.953*
43.01	44.30		424.6-1014D	☆	★			★	★	★	39.0	69.5	75
1.693	*1.744*										*1.535*	*2.736*	*2.953*
44.31	45.60		424.6-1023D				★				39.0	69.3	75
1.744	*1.795*										*1.535*	*2.728*	*2.953*
44.31	45.60		424.6-1024D	☆	★			★	★	★	39.0	69.3	75
1.744	*1.795*										*1.535*	*2.728*	*2.953*
45.61	47.00		424.6-1033D				★				39.0	69.1	75
1.796	*1.850*										*1.535*	*2.720*	*2.953*
45.61	47.00		424.6-1034D	☆	★			★	★	★	39.0	69.1	75
1.796	*1.850*										*1.535*	*2.720*	*2.953*

[1] Drills with other grade combinations are available on request.

★= First choice

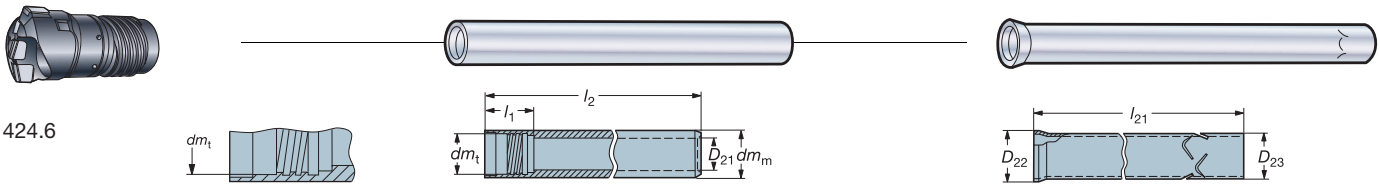
When ordering drill heads, state drill diameter (xx.xx) and grade combination (zz) in the ordering code.

Ordering example: 2 pieces 424.6-0614 D*31.01* 70

SAFETY INFORMATION

Precautions when grinding and brazing of cemented carbide, see page J8.

Drill head **Outer tube** **Inner tube**



Note!

Drill tubes are supplied threaded at both ends, with an internal thread, the E-thread.
The inner tube must be ordered 30 mm (1.181 inch) longer than the outer tube.

dm_t is the same as dm_m for the drill

Diameter range, mm, inch:		Tube range	Ordering code, outer tube[1]	Dimensions, mm, inch					Ordering code, inner tube[1]	Dimensions, mm, inch		
D_c min	D_c max			dm_m	dm_t	D_{21}	l_1	l_2		D_{22}	D_{23}	l_{21}
31.01	33.30	06	424.2-806-2	30.5	28.0	22	33.0	400	424.2-856-2	22	20	430
1.221	*1.311*			*1.201*	*1.102*	*.866*	*1.299*	*15.748*		*.866*	*.787*	*16.929*
31.01	33.30		424.2-806-3	30.5	28.0	22	33.0	630	424.2-856-3	22	20	660
1.221	*1.311*			*1.201*	*1.102*	*.866*	*1.299*	*24.803*		*.866*	*.787*	*25.984*
31.01	33.30		424.2-806-4	30.5	28.0	22	33.0	1070	424.2-856-4	22	20	1100
1.221	*1.311*			*1.201*	*1.102*	*.866*	*1.299*	*42.126*		*.866*	*.787*	*43.307*
33.31	36.20	07	424.2-807-2	33.0	30.0	24	40.0	400	424.2-857-2	24	22	430
1.311	*1.425*			*1.299*	*1.181*	*.945*	*1.575*	*15.748*		*.945*	*.866*	*16.929*
33.31	36.20		424.2-807-3	33.0	30.0	24	40.0	630	424.2-857-3	24	22	660
1.311	*1.425*			*1.299*	*1.181*	*.945*	*1.575*	*24.803*		*.945*	*.866*	*25.984*
33.31	36.20		424.2-807-4	33.0	30.0	24	40.0	1070	424.2-857-4	24	22	1100
1.311	*1.425*			*1.299*	*1.181*	*.945*	*1.575*	*42.126*		*.945*	*.866*	*43.307*
36.21	39.60	08	424.2-808-2	35.5	33.0	26	40.0	400	424.2-858-2	26	24	430
1.426	*1.559*			*1.398*	*1.299*	*1.024*	*1.575*	*15.748*		*1.024*	*.945*	*16.929*
36.21	39.60		424.2-808-3	35.5	33.0	26	40.0	630	424.2-858-3	26	24	660
1.426	*1.559*			*1.398*	*1.299*	*1.024*	*1.575*	*24.803*		*1.024*	*.945*	*25.984*
36.21	39.60		424.2-808-4	35.5	33.0	26	40.0	1070	424.2-858-4	26	24	1100
1.426	*1.559*			*1.398*	*1.299*	*1.024*	*1.575*	*42.126*		*1.024*	*.945*	*43.307*
39.61	43.00	09	424.2-809-2	39.0	36.0	29	40.0	400	424.2-859-2	29	27	430
1.559	*1.693*			*1.535*	*1.417*	*1.142*	*1.575*	*15.748*		*1.142*	*1.063*	*16.929*
39.61	43.00		424.2-809-3	39.0	36.0	29	40.0	630	424.2-859-3	29	27	660
1.559	*1.693*			*1.535*	*1.417*	*1.142*	*1.575*	*24.803*		*1.142*	*1.063*	*25.984*
39.61	43.00		424.2-809-4	39.0	36.0	29	40.0	1070	424.2-859-4	29	27	1100
1.559	*1.693*			*1.535*	*1.417*	*1.142*	*1.575*	*42.126*		*1.142*	*1.063*	*43.307*
43.01	47.00	10	424.2-810-2	42.5	39.0	32	40.0	400	424.2-860-2	32	30	430
1.693	*1.850*			*1.673*	*1.535*	*1.260*	*1.575*	*15.748*		*1.260*	*1.181*	*16.929*
43.01	47.00		424.2-810-3	42.5	39.0	32	40.0	630	424.2-860-3	32	30	660
1.693	*1.850*			*1.673*	*1.535*	*1.260*	*1.575*	*24.803*		*1.260*	*1.181*	*25.984*
43.01	47.00		424.2-810-4	42.5	39.0	32	40.0	1070	424.2-860-4	32	30	1100
1.693	*1.850*			*1.673*	*1.535*	*1.260*	*1.575*	*42.126*		*1.260*	*1.181*	*43.307*

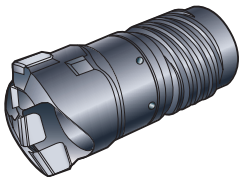
[1] Other lengths can be manufactured by customer request, please contact your local Sandvik Coromant representative.

Ordering example for outer tube, length 400 mm (15.748 inch) and inner tube 430 mm (16.929 inch), fitting drill head D_c = 31.01 mm (1.221 inch):
1 piece 424.2-806-2 and 1 piece 424.2-856-2

 E269  E230  E228  E301  J3

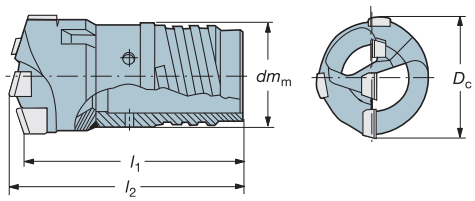
Ejector drill programme - Ground brazed solid drill head 424.6

Diameter range 18.40-65.00 mm (.724-2.559 inch)



Hole depth: 100 x Dia.
Hole tolerance: IT9
Surface finish: R_a 2 µm
Cutting fluid: Neat oil or soluble.

Drill heads are delivered with standard chipbreaker, finish ground to the desired diameter to tolerance ISO h6.



dm_m is the same as dm_t for the drill tube.

Diameter range, mm, inch:		Tube range	Ordering code, Drill head	P		M		K	N	S	Dimensions, mm, inch		
				-	-	-	-	-	-	-			
D_c min	D_c max			63	70	20	67	72	72	72	dm_m	l_1	l_2
47.01	48.50	11	424.6-1113D				★				43.0	72.8	79
1.851	*1.909*										*1.693*	*2.866*	*3.110*
47.01	48.50		424.6-1114D	☆	★			★	★	★	43.0	72.8	79
1.851	*1.909*										*1.693*	*2.866*	*3.110*
48.51	50.10		424.6-1123D				★				43.0	72.7	79
1.910	*1.972*										*1.693*	*2.862*	*3.110*
48.51	50.10		424.6-1124D	☆	★			★	★	★	43.0	72.7	79
1.910	*1.972*										*1.693*	*2.862*	*3.110*
50.11	51.70		424.6-1133D				★				43.0	72.5	79
1.973	*2.035*										*1.693*	*2.854*	*3.110*
50.11	51.70		424.6-1134D	☆	★			★	★	★	43.0	72.5	79
1.973	*2.035*										*1.693*	*2.854*	*3.110*
51.71	53.20	12	424.6-1213D				★				47.0	75.2	82
2.036	*2.094*										*1.850*	*2.961*	*3.228*
51.71	53.20		424.6-1214D	☆	★			★	★	★	47.0	75.2	82
2.036	*2.094*										*1.850*	*2.961*	*3.228*
53.21	54.70		424.6-1223D				★				47.0	75.2	82
2.095	*2.154*										*1.850*	*2.961*	*3.228*
53.21	54.70		424.6-1224D	☆	★			★	★	★	47.0	75.5	82
2.095	*2.154*										*1.850*	*2.972*	*3.228*
54.71	56.20		424.6-1233D				★				47.0	75.2	82
2.154	*2.213*										*1.850*	*2.961*	*3.228*
54.71	56.20		424.6-1234D	☆	★			★	★	★	47.0	75.2	82
2.154	*2.213*										*1.850*	*2.961*	*3.228*
56.21	58.40	13	424.6-1313D				★				51.0	77.2	84
2.213	*2.299*										*2.008*	*3.039*	*3.307*
56.21	58.40		424.6-1314D	☆	★			★	★	★	51.0	77.2	84
2.213	*2.299*										*2.008*	*3.039*	*3.307*
58.41	60.60		424.6-1323D				★				51.0	76.6	84
2.300	*2.386*										*2.008*	*3.016*	*3.307*
58.41	60.60		424.6-1324D	☆	★			★	★	★	51.0	76.6	84
2.300	*2.386*										*2.008*	*3.016*	*3.307*
60.61	62.80		424.6-1333D				★				51.0	76.8	84
2.386	*2.472*										*2.008*	*3.024*	*3.307*
60.61	62.80		424.6-1334D	☆	★			★	★	★	51.0	76.8	84
2.386	*2.472*										*2.008*	*3.024*	*3.307*
62.81	65.00		424.6-1343D				★				51.0	76.5	84
2.473	*2.559*										*2.008*	*3.012*	*3.307*
62.81	65.00		424.6-1344D	☆	★			★	★	★	51.0	76.5	84
2.473	*2.559*										*2.008*	*3.012*	*3.307*

1) Drills with other grade combinations are available on request.

★= First choice

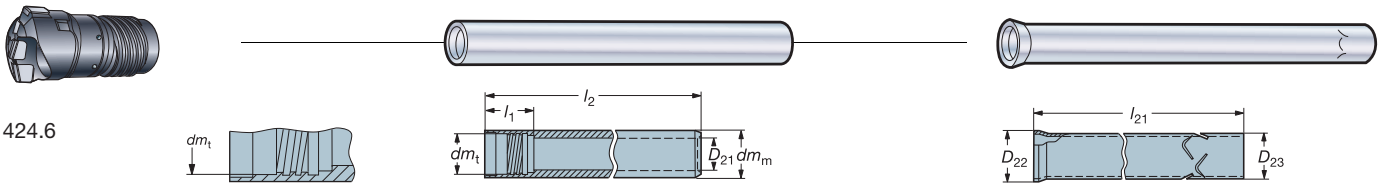
When ordering drill heads, state drill diameter (xx.xx) and grade combination (zz) in the ordering code.

Ordering example: 2 pieces 424.6-1114 D*47.01* 70

SAFETY INFORMATION

Precautions when grinding and brazing of cemented carbide, see page J8.

Drill head **Outer tube** **Inner tube**



Note!

Drill tubes are supplied threaded at both ends, with an internal thread, the E-thread.
The inner tube must be ordered 30 mm (1.181 inch) longer than the outer tube.

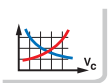
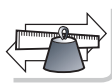
dm_t is the same as dm_m for the drill

Diameter range, mm, inch:		Tube range	Ordering code, outer tube[1]	Dimensions, mm, inch					Ordering code, inner tube[1]	Dimensions, mm, inch		
D_c min	D_c max			dm_m	dm_t	D_{21}	l_1	l_2		D_{22}	D_{23}	l_{21}
47.01	51.70	11	424.2-811-2	46.5	43.0	35	44.0	400	424.2-861-2	35	32	430
1.851	*2.035*			*1.831*	*1.693*	*1.378*	*1.732*	*15.748*		*1.378*	*1.260*	*16.929*
47.01	51.70		424.2-811-3	46.5	43.0	35	44.0	630	424.2-861-3	35	32	660
1.851	*2.035*			*1.831*	*1.693*	*1.378*	*1.732*	*24.803*		*1.378*	*1.260*	*25.984*
47.01	51.70		424.2-811-4	46.5	43.0	35	44.0	1070	424.2-861-4	35	32	1100
1.851	*2.035*			*1.831*	*1.693*	*1.378*	*1.732*	*42.126*		*1.378*	*1.260*	*43.307*
51.71	56.20	12	424.2-812-2	51.0	47.0	39	44.0	400	424.2-862-2	39	36	430
2.036	*2.213*			*2.008*	*1.850*	*1.535*	*1.732*	*15.748*		*1.535*	*1.417*	*16.929*
51.71	56.20		424.2-812-3	51.0	47.0	39	44.0	630	424.2-862-3	39	36	660
2.036	*2.213*			*2.008*	*1.850*	*1.535*	*1.732*	*24.803*		*1.535*	*1.417*	*25.984*
51.71	56.20		424.2-812-4	51.0	47.0	39	44.0	1070	424.2-862-4	39	36	1100
2.036	*2.213*			*2.008*	*1.850*	*1.535*	*1.732*	*42.126*		*1.535*	*1.417*	*43.307*
56.21	65.00	13	424.2-813-2	55.5	51.0	43	44.0	400	424.2-863-2	43	40	430
2.213	*2.559*			*2.185*	*2.008*	*1.693*	*1.732*	*15.748*		*1.693*	*1.575*	*16.929*
56.21	65.00		424.2-813-3	55.5	51.0	43	44.0	630	424.2-863-3	43	40	660
2.213	*2.559*			*2.185*	*2.008*	*1.693*	*1.732*	*24.803*		*1.693*	*1.575*	*25.984*
56.21	65.00		424.2-813-4	55.5	51.0	43	44.0	1070	424.2-863-4	43	40	1100
2.213	*2.559*			*2.185*	*2.008*	*1.693*	*1.732*	*42.126*		*1.693*	*1.575*	*43.307*

[1] Other lengths can be manufactured by customer request, please contact your local Sandvik Coromant representative.

Ordering example for outer tube, length 400 mm (15.748 inch) and inner tube 430 mm (16.929 inch), fitting drill head D_c = 47.01 mm (1.851 inch):

1 piece 424.2-811-2 and 1 piece 424.2-861-2

 E269  E230  E228  E301  J3

CoroDrill® 800.24

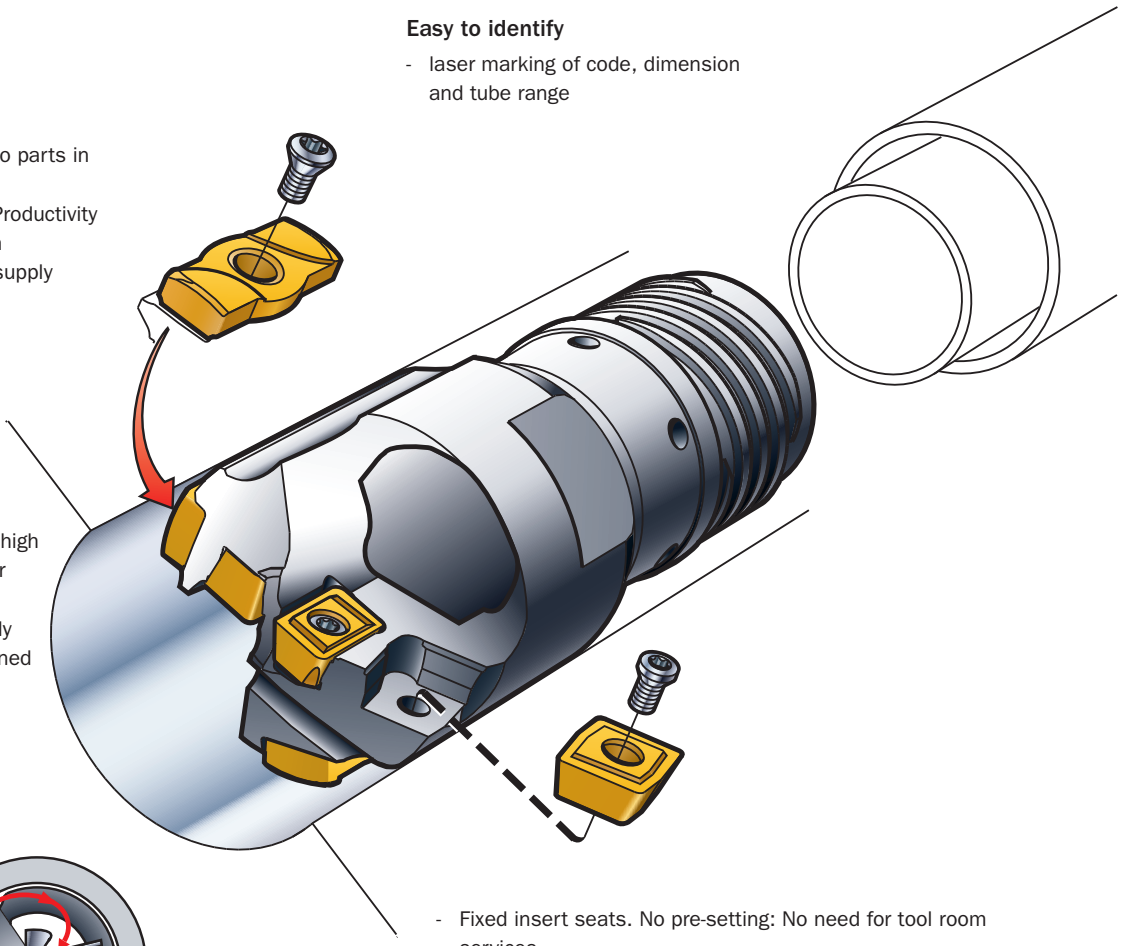
Indexable insert design

The productivity drill

Easy to identify

- laser marking of code, dimension and tube range

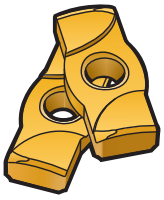
- Indexable economy: Two parts in one drill head
- Higher cutting speed: Productivity
- Excellent surface finish
- Improved cutting fluid supply



- Robust design enables high feed per rev. for greater productivity
- Wear resistant drill body manufactured in hardened steel
- Customer specified diameters
- Close tolerances

- Fixed insert seats. No pre-setting: No need for tool room services
- Few spare parts: Low inventory costs







Coolant accelerator

- Ensures outstanding chip evacuation
- No chip clogging: No production stops

Productivity in a wide application range

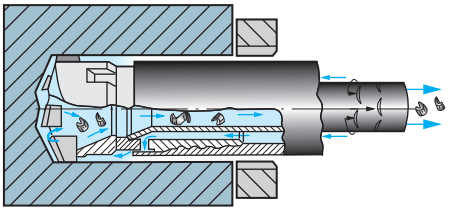
- Modern grade and geometry programme covers most workpiece materials
- Few inserts and support pad sizes cover the whole diameter range
- Excellent chip control in both low and high feeds

ISO application area:

P M K N S

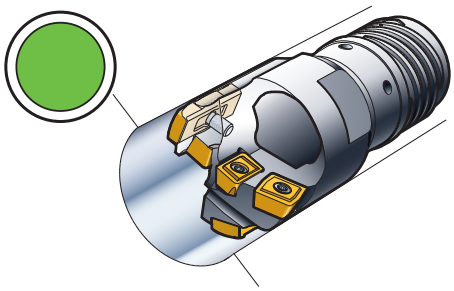
CoroDrill® 800.24

Preferred Ejector applications



- Modified lathes
- Economical and easy to apply to horizontal boring machines: NC lathes
- Machining centres with horizontal spindle
- Transfer lines
- Easy machining workpiece materials

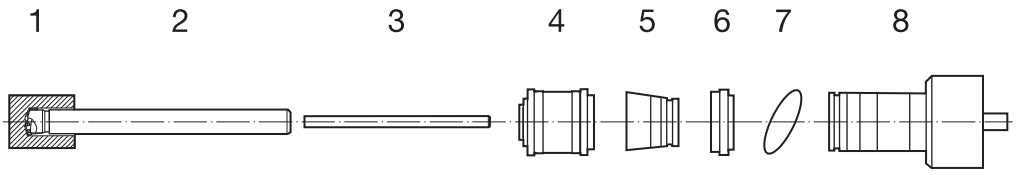
Productivity



- The most productive choice for diameter range 25.00 - 65.00 mm (.984 - 2.559 inch)
- Lowest cost per hole
- Consistent performance within a wide application range
- Standard programme
- Developed and manufactured with the latest technology

IT10
R_a 2 µm

Tool mounting



1 Drill heads, see page E204.
2 Outer drill tubes, see page E205.
3 Inner drill tubes, see page E205.
4 Vibration dampers, see page E269.
5 Collets and connecting sleeves, see page E230.
6 Sealing sleeves, see page E230.
7 O-rings, see page E230.
8 Connectors, see page E228.

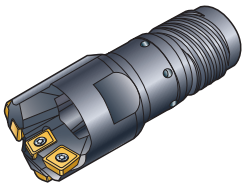
Inner tube length corresponding with drilling diameter

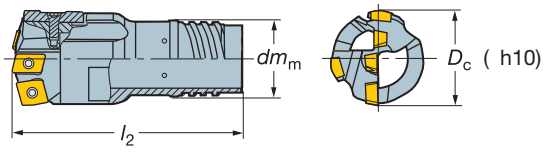
Drill diameter	Inner tube
≤65.00 mm (2.559 inch)	30 mm longer than outer tube
65.01-123.90 mm (2.559-4.878 inch)	190 mm longer than outer tube
124.00-183.90 mm (4.882-7.240 inch)	220 mm longer than outer tube

Ejector drill programme - CoroDrill® solid drill head 800.24

Indexable insert design

Diameter range 25.00-65.00 mm (.984-2.559 inch)





Hole depth: 100 x Dia.
Hole tolerance: IT10
Surface finish: R_a 2 µm
Cutting fluid: Neat oil or soluble with EP-additives.

Note!

The drill is manufactured to minus tolerance so that it will not exceed the drill bush diameter.

dm_m is the same as dm_t for the drill tube.

Metric version

Diameter range, mm		Tube range	**Ordering code, Drill head**	Dimensions, mm		Inserts			Support pads	
D_c min	D_c max			dm_m	≤ l_2	Central	Intermediate	Peripheral	Pad	No
25.00	26.40	03	**800.24-03Dxx.xx**	21.0	75	800-05 03 08M-C-G	800-05 03 08M-I-G	800-06 03 08H-P-G	800-06A	2
26.41	28.70	04	**800.24-04Dxx.xx**	23.5	78	800-05 03 08M-C-G	800-05 03 08M-I-G	800-06 03 08H-P-G	800-06A	2
28.71	31.00	05	**800.24-M05Dxx.xx**	25.5	80	800-06 T3 08M-C-G	800-05 03 08M-I-G	800-06 03 08H-P-G	800-06A	2
31.01	33.30	06	**800.24-06Dxx.xx**	28.0	80	800-06 T3 08M-C-G	800-06 T3 08M-I-G	800-08 T3 08H-P-G	800-07A	2
33.31	36.20	07	**800.24-07Dxx.xx**	30.0	90	800-06 T3 08M-C-G[1)] 800-08 T3 08M-C-G[1)]	800-06 T3 08M-I-G[1)] 800-08 T3 08M-I-G[1)]	800-08 T3 08H-P-G	800-07A	2
36.21	39.60	08	**800.24-08Dxx.xx**	33.0	90	800-08 T3 08M-C-G	800-08 T3 08M-I-G	800-08 T3 08H-P-G[1)] 800-09 T3 08H-P-G[1)]	800-07A	2
39.61	43.00	09	**800.24-09Dxx.xx**	36.0	95	800-08 T3 08M-C-G	800-08 T3 08M-I-G	800-09 T3 08H-P-G	800-08A	2
43.01	47.00	10	**800.24-10Dxx.xx**	39.0	100	800-10 T3 08M-C-G	800-08 T3 08M-I-G	800-09 T3 08H-P-G	800-08A	2
47.01	51.70	11	**800.24-11Dxx.xx**	43.0	110	800-12 T3 08M-C-G[1)] 800-10 T3 08M-C-G[1)]	800-08 T3 08M-I-G	800-09 T3 08H-P-G[1)] 800-11 T3 08H-P-G[1)]	800-10A	2
51.71	56.20	12	**800.24-12Dxx.xx**	47.0	115	800-10 T3 08M-C-G	800-08 T3 08M-I-G[1)] 800-12 T3 08M-I-G[1)]	800-11 T3 08H-P-G	800-10A[1)] 800-12A[1)]	2 2
56.21	65.00	13	**800.24-13Dxx.xx**	51.0	125	800-10 T3 08M-C-G[1)] 800-12 T3 08M-C-G[1)]	800-12 T3 08M-I-G	800-11 T3 08H-P-G	800-12A	2

[1)] To match insert/support pad sizes to required drill diameter, see below table.

When ordering drill heads, state drill diameter (xx.xx) in the ordering code.

Ordering example, drill head: 2 pieces 800.24-03D*25.00*

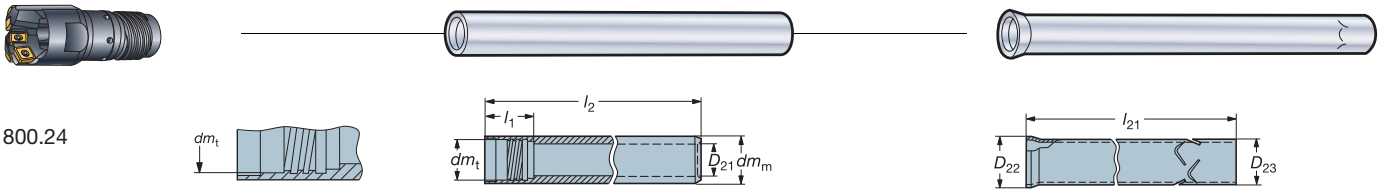
Drill diameter range – insert and pad sizes

Inserts
(Ordered separately)
Intermediate and peripheral inserts are also available in L- geometry (for long chipping materials) see page E275.

Support pads
(Ordered separately)

Diameter range	□	Central	Diameter range	□	Intermediate	Diameter range	□	Peripheral	Diameter range	Pad
25.00-28.70	05	800-05 03 08M-C-G	25.00-31.00	05	800-05 03 08M-I-G	25.00-31.00	06	800-06 03 08H-P-G	25.00-31.00	800-06A
28.71-33.99	06	800-06 T3 08M-C-G	31.01-34.99	06	800-06 T3 08M-I-G	31.01-38.99	08	800-08 T3 08H-P-G	31.01-39.60	800-07A
34.00-43.00	08	800-08 T3 08M-C-G	35.00-54.99	08	800-08 T3 08M-I-G	39.00-49.99	09	800-09 T3 08H-P-G	39.61-47.00	800-08A
43.01-47.00	10	800-10 T3 08M-C-G	55.00-65.00	12	800-12 T3 08M-I-G	50.00-65.00	11	800-11 T3 08H-P-G	47.01-54.99	800-10A
47.01-49.99	12	800-12 T3 08M-C-G							55.00-65.00	800-12A
50.00-57.99	10	800-10 T3 08M-C-G								
58.00-65.00	12	800-12 T3 08M-C-G								

Drill head **Outer tube** **Inner tube**



Note!

Drill tubes are supplied threaded at both ends, with an internal thread, the E-thread.
The inner tube must be ordered 30 mm (1.181 inch) longer than the outer tube.

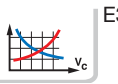
dm_t is the same as dm_m for the drill

Diameter range, mm		Tube range	Ordering code, outer tube[1]	Dimensions, mm					Ordering code, inner tube[1]	Dimensions, mm		
D_c min	D_c max			dm_m	dm_t	D_{21}	l_1	l_2		D_{22}	D_{23}	l_{21}
25.00	26.40	03	424.2-803-2	23.5	21.0	16	30.0	400	424.2-853-2	16	14	430
			424.2-803-3	23.5	21.0	16	30.0	630	424.2-853-3	16	14	660
			424.2-803-4	23.5	21.0	16	30.0	1070	424.2-853-4	16	14	1100
26.41	28.70	04	424.2-804-2	26.0	23.5	18	33.0	400	424.2-854-2	18	16	430
			424.2-804-3	26.0	23.5	18	33.0	630	424.2-854-3	18	16	660
			424.2-804-4	26.0	23.5	18	33.0	1070	424.2-854-4	18	16	1100
28.71	31.00	05	424.2-805-2	28.0	25.5	20	33.0	400	424.2-855-2	20	18	430
			424.2-805-3	28.0	25.5	20	33.0	630	424.2-855-3	20	18	660
			424.2-805-4	28.0	25.5	20	33.0	1070	424.2-855-4	20	18	1100
31.01	33.30	06	424.2-806-2	30.5	28.0	22	33.0	400	424.2-856-2	22	20	430
			424.2-806-3	30.5	28.0	22	33.0	630	424.2-856-3	22	20	660
			424.2-806-4	30.5	28.0	22	33.0	1070	424.2-856-4	22	20	1100
33.31	36.20	07	424.2-807-2	33.0	30.0	24	40.0	400	424.2-857-2	24	22	430
			424.2-807-3	33.0	30.0	24	40.0	630	424.2-857-3	24	22	660
			424.2-807-4	33.0	30.0	24	40.0	1070	424.2-857-4	24	22	1100
36.21	39.60	08	424.2-808-2	35.5	33.0	26	40.0	400	424.2-858-2	26	24	430
			424.2-808-3	35.5	33.0	26	40.0	630	424.2-858-3	26	24	660
			424.2-808-4	35.5	33.0	26	40.0	1070	424.2-858-4	26	24	1100
39.61	43.00	09	424.2-809-2	39.0	36.0	29	40.0	400	424.2-859-2	29	27	430
			424.2-809-3	39.0	36.0	29	40.0	630	424.2-859-3	29	27	660
			424.2-809-4	39.0	36.0	29	40.0	1070	424.2-859-4	29	27	1100
43.01	47.00	10	424.2-810-2	42.5	39.0	32	40.0	400	424.2-860-2	32	30	430
			424.2-810-3	42.5	39.0	32	40.0	630	424.2-860-3	32	30	660
			424.2-810-4	42.5	39.0	32	40.0	1070	424.2-860-4	32	30	1100
47.01	51.70	11	424.2-811-2	46.5	43.0	35	44.0	400	424.2-861-2	35	32	430
			424.2-811-3	46.5	43.0	35	44.0	630	424.2-861-3	35	32	660
			424.2-811-4	46.5	43.0	35	44.0	1070	424.2-861-4	35	32	1100
51.71	56.20	12	424.2-812-2	51.0	47.0	39	44.0	400	424.2-862-2	39	36	430
			424.2-812-3	51.0	47.0	39	44.0	630	424.2-862-3	39	36	660
			424.2-812-4	51.0	47.0	39	44.0	1070	424.2-862-4	39	36	1100
56.21	65.00	13	424.2-813-2	55.5	51.0	43	44.0	400	424.2-863-2	43	40	430
			424.2-813-3	55.5	51.0	43	44.0	630	424.2-863-3	43	40	660
			424.2-813-4	55.5	51.0	43	44.0	1070	424.2-863-4	43	40	1100

[1] Other lengths can be manufactured by customer request.

Ordering example for outer tube, length 400 mm (15.748 inch) and inner tube 430 mm (16.929 inch), fitting drill head D_c = 25.00 mm (.984 inch):

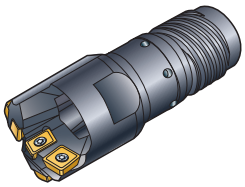
1 piece 424.2-803-2 and 1 piece 424.2-853-2

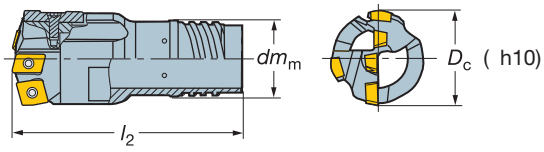
 E275  E269  E230  E228  E280  E305  J3

Ejector drill programme - CoroDrill® solid drill head 800.24

Indexable insert design

Diameter range 25.00-65.00 mm (.984-2.559 inch)





Hole depth: 100 x Dia.
Hole tolerance: IT10
Surface finish: R_a 2 µm
Cutting fluid: Neat oil or soluble with EP-additives.

Note!

The drill is manufactured to minus tolerance so that it will not exceed the drill bush diameter.

dm_m is the same as dm_t for the drill tube.

Inch version

Diameter range, inch		Tube range	**Ordering code, Drill head**	Dimensions, inch		Inserts			Support pads	
D_c min	D_c max			dm_m	≤ l_2	Central	Intermediate	Peripheral	Pad	No
.984	1.039	03	**A800.24-03Dx.xxx**	.827	2.953	800-05 03 08M-C-G	800-05 03 08M-I-G	800-06 03 08H-P-G	800-06A	2
1.040	1.130	04	**A800.24-04Dx.xxx**	.925	3.071	800-05 03 08M-C-G	800-05 03 08M-I-G	800-06 03 08H-P-G	800-06A	2
1.130	1.220	05	**A800.24-M05Dx.xxx**	1.004	3.150	800-06 T3 08M-C-G	800-05 03 08M-I-G	800-06 03 08H-P-G	800-06A	2
1.221	1.311	06	**A800.24-06Dx.xxx**	1.102	3.150	800-06 T3 08M-C-G	800-06 T3 08M-I-G	800-08 T3 08H-P-G	800-07A	2
1.311	1.425	07	**A800.24-07Dx.xxx**	1.181	3.543	800-06 T3 08M-C-G[1)] 800-08 T3 08M-C-G[1)]	800-06 T3 08M-I-G[1)] 800-08 T3 08M-I-G[1)]	800-08 T3 08H-P-G	800-07A	2
1.426	1.559	08	**A800.24-08Dx.xxx**	1.299	3.543	800-08 T3 08M-C-G	800-08 T3 08M-I-G	800-08 T3 08H-P-G[1)] 800-09 T3 08H-P-G[1)]	800-07A	2
1.559	1.693	09	**A800.24-09Dx.xxx**	1.417	3.740	800-08 T3 08M-C-G	800-08 T3 08M-I-G	800-09 T3 08H-P-G	800-08A	2
1.693	1.850	10	**A800.24-10Dx.xxx**	1.535	3.937	800-10 T3 08M-C-G	800-08 T3 08M-I-G	800-09 T3 08H-P-G	800-08A	2
1.851	2.035	11	**A800.24-11Dx.xxx**	1.693	4.331	800-12 T3 08M-C-G[1)] 800-10 T3 08M-C-G[1)]	800-08 T3 08M-I-G	800-09 T3 08H-P-G[1)] 800-11 T3 08H-P-G[1)]	800-10A	2
2.036	2.213	12	**A800.24-12Dx.xxx**	1.850	4.528	800-10 T3 08M-C-G	800-08 T3 08M-I-G[1)] 800-12 T3 08M-I-G[1)]	800-11 T3 08H-P-G	800-10A[1)] 800-12A[1)]	2
2.213	2.559	13	**A800.24-13Dx.xxx**	2.008	4.921	800-10 T3 08M-C-G[1)] 800-12 T3 08M-C-G[1)]	800-12 T3 08M-I-G	800-11 T3 08H-P-G	800-12A	2

[1)] To match insert/support pad sizes to required drill diameter, see below table.

When ordering drill heads, state drill diameter (xx.xx) in the ordering code.

Ordering example, drill head: 2 pieces A800.24-03D*.984*

Drill diameter range – insert and pad sizes

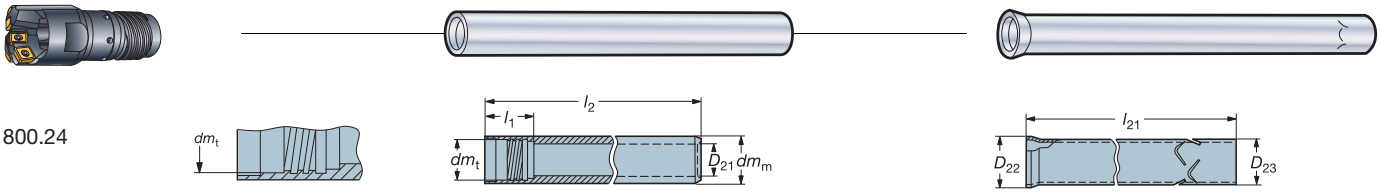
Inserts
(Ordered separately)
Intermediate and peripheral inserts are also available in L- geometry (for long chipping materials) see page E275.

Support pads
(Ordered separately)

Diameter range	⬜	Central	Diameter range	⬜	Intermediate	Diameter range	⬜	Peripheral	Diameter range	Pad
.984-1.130	05	800-05 03 08M-C-G	.984-1.220	05	800-05 03 08M-I-G	.984-1.220	06	800-06 03 08H-P-G	.984-1.220	800-06A
1.131-1.338	06	800-06 T3 08M-C-G	1.221-1.378	06	800-06 T3 08M-I-G	1.221-1.535	08	800-08 T3 08H-P-G	1.221-1.559	800-07A
1.339-1.693	08	800-08 T3 08M-C-G	1.379-2.165	08	800-08 T3 08M-I-G	1.536-1.968	09	800-09 T3 08H-P-G	1.560-1.850	800-08A
1.694-1.850	10	800-10 T3 08M-C-G	2.166-2.559	12	800-12 T3 08M-I-G	1.969-2.559	11	800-11 T3 08H-P-G	1.851-2.165	800-10A
1.851-1.968	12	800-12 T3 08M-C-G							2.166-2.559	800-12A
1.969-2.283	10	800-10 T3 08M-C-G								
2.283-2.559	12	800-12 T3 08M-C-G								

SANDVIK Coromant

Drill head **Outer tube** **Inner tube**



Note!

Drill tubes are supplied threaded at both ends, with an internal thread, the E-thread.
The inner tube must be ordered 30 mm (1.181 inch) longer than the outer tube.

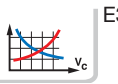
dm_t is the same as dm_m for the drill

Diameter range, inch		Tube range	Ordering code, outer tube[1]	Dimensions, inch					Ordering code, inner tube[1]	Dimensions, inch		
D_c min	D_c max			dm_m	dm_t	D_{21}	l_1	l_2		D_{22}	D_{23}	l_{21}
.984	1.039	03	424.2-803-2	.925	.827	.630	1.181	15.748	424.2-853-2	.630	.551	16.929
			424.2-803-3	.925	.827	.630	1.181	24.803	424.2-853-3	.630	.551	25.984
			424.2-803-4	.925	.827	.630	1.181	42.126	424.2-853-4	.630	.551	43.307
1.040	1.130	04	424.2-804-2	1.024	.925	.709	1.299	15.748	424.2-854-2	.709	.630	16.929
			424.2-804-3	1.024	.925	.709	1.299	24.803	424.2-854-3	.709	.630	25.984
			424.2-804-4	1.024	.925	.709	1.299	42.126	424.2-854-4	.709	.630	43.307
1.130	1.220	05	424.2-805-2	1.102	1.004	.787	1.299	15.748	424.2-855-2	.787	.709	16.929
			424.2-805-3	1.102	1.004	.787	1.299	24.803	424.2-855-3	.787	.709	25.984
			424.2-805-4	1.102	1.004	.787	1.299	42.126	424.2-855-4	.787	.709	43.307
1.221	1.311	06	424.2-806-2	1.201	1.102	.866	1.299	15.748	424.2-856-2	.866	.787	16.929
			424.2-806-3	1.201	1.102	.866	1.299	24.803	424.2-856-3	.866	.787	25.984
			424.2-806-4	1.201	1.102	.866	1.299	42.126	424.2-856-4	.866	.787	43.307
1.311	1.425	07	424.2-807-2	1.299	1.181	.945	1.575	15.748	424.2-857-2	.945	.866	16.929
			424.2-807-3	1.299	1.181	.945	1.575	24.803	424.2-857-3	.945	.866	25.984
			424.2-807-4	1.299	1.181	.945	1.575	42.126	424.2-857-4	.945	.866	43.307
1.426	1.559	08	424.2-808-2	1.398	1.299	1.024	1.575	15.748	424.2-858-2	1.024	.945	16.929
			424.2-808-3	1.398	1.299	1.024	1.575	24.803	424.2-858-3	1.024	.945	25.984
			424.2-808-4	1.398	1.299	1.024	1.575	42.126	424.2-858-4	1.024	.945	43.307
1.559	1.693	09	424.2-809-2	1.535	1.417	1.142	1.575	15.748	424.2-859-2	1.142	1.063	16.929
			424.2-809-3	1.535	1.417	1.142	1.575	24.803	424.2-859-3	1.142	1.063	25.984
			424.2-809-4	1.535	1.417	1.142	1.575	42.126	424.2-859-4	1.142	1.063	43.307
1.693	1.850	10	424.2-810-2	1.673	1.535	1.260	1.575	15.748	424.2-860-2	1.260	1.181	16.929
			424.2-810-3	1.673	1.535	1.260	1.575	24.803	424.2-860-3	1.260	1.181	25.984
			424.2-810-4	1.673	1.535	1.260	1.575	42.126	424.2-860-4	1.260	1.181	43.307
1.851	2.035	11	424.2-811-2	1.831	1.693	1.378	1.732	15.748	424.2-861-2	1.378	1.260	16.929
			424.2-811-3	1.831	1.693	1.378	1.732	24.803	424.2-861-3	1.378	1.260	25.984
			424.2-811-4	1.831	1.693	1.378	1.732	42.126	424.2-861-4	1.378	1.260	43.307
2.036	2.213	12	424.2-812-2	2.008	1.850	1.535	1.732	15.748	424.2-862-2	1.535	1.417	16.929
			424.2-812-3	2.008	1.850	1.535	1.732	24.803	424.2-862-3	1.535	1.417	25.984
			424.2-812-4	2.008	1.850	1.535	1.732	42.126	424.2-862-4	1.535	1.417	43.307
2.213	2.559	13	424.2-813-2	2.185	2.008	1.693	1.732	15.748	424.2-863-2	1.693	1.575	16.929
			424.2-813-3	2.185	2.008	1.693	1.732	24.803	424.2-863-3	1.693	1.575	25.984
			424.2-813-4	2.185	2.008	1.693	1.732	42.126	424.2-863-4	1.693	1.575	43.307

[1] Other lengths can be manufactured by customer request.

Ordering example for outer tube, length 400 mm (15.748 inch) and inner tube 430 mm (16.929 inch), fitting drill head D_c = 25.00 mm (.984 inch):

1 piece 424.2-803-2 and 1 piece 424.2-853-2

 E275  E269  E230  E228  E280  E305  J3

T-MAX® drill 424.10

Indexable insert design

The adjustable drill

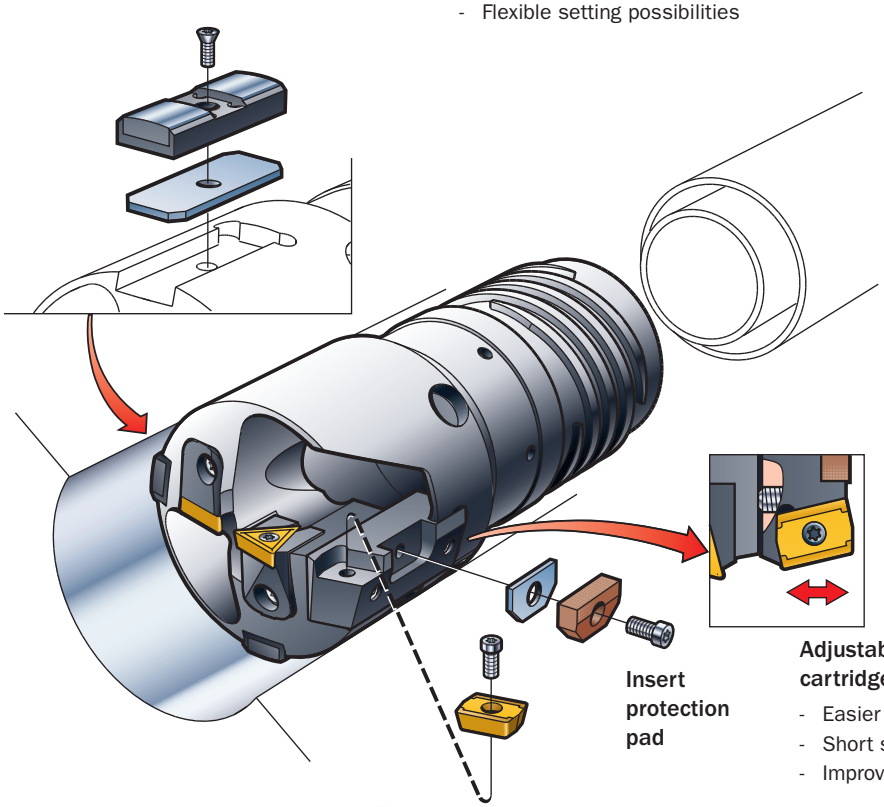
Built-in precision

- Flexible setting possibilities

Indexable twin edge support pad

Diameter adjusting shim

Large chip-evacuation ports



Excellent hole straightness and surface finish

Insert protection pad

Adjustable peripheral cartridge for 424.31

- Easier radial setting
- Short setting time
- Improved precision

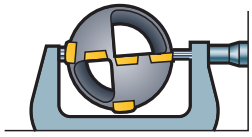
Few spare parts

Modern inserts - machining economy

- Four insert types cover the whole diameter range
- Geometries and grades for drilling most materials
- Grade GC1025 the best choice for both steel and stainless steel
- High feed rate

Strong secure insert cartridges

- Designed to protect the head from damage
- Easy to change
- Good economy



Easy to pre-set

Tailor Made

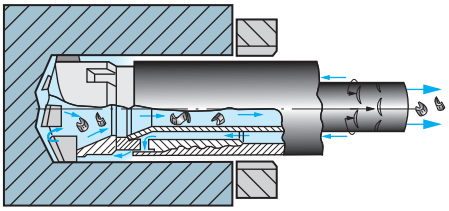
Tool options designed to individual customer requirements are available. For information on our Tailor Made programme see page J4.

ISO application area:

P M K N S

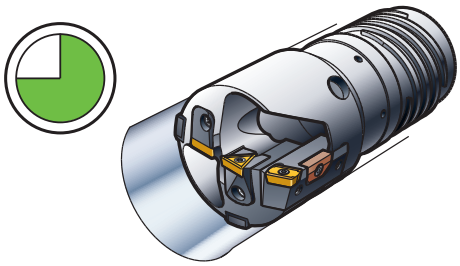
T-MAX® drill 424.10

Preferred Ejector applications



- Modified lathes
- Economical and easy to apply to horizontal boring machines: NC lathes
- Machining centres with horizontal spindle
- Transfer lines
- Easy machining workpiece materials

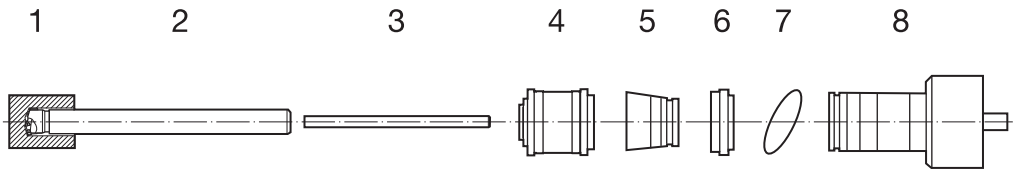
Productivity



- The choice for large diameters starts from 63.50 mm (2.500 inch)
- Wide application area
- Good hole straightness in long workpieces
- Stocked standard programme
- Wide range of Tailor Made and engineered solutions

IT10
R_a 3 µm

Tool mounting



1 Drill heads, see page E210.
2 Outer drill tubes, see page E211.
3 Inner drill tubes, see page E211.
4 Vibration dampers, see page E269.
5 Collets and connecting sleeves, see page E230.
6 Sealing sleeves, see page E230.
7 O-rings, see page E230.
8 Connectors, see page E228.

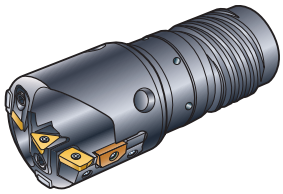
Inner tube length corresponding with drilling diameter

Drill diameter	Inner tube
≤65.00 mm (2.559 inch)	30 mm longer than outer tube
65.01-123.90 mm (2.559-4.878 inch)	190 mm longer than outer tube
124.00-183.90 mm (4.882-7.240 inch)	220 mm longer than outer tube

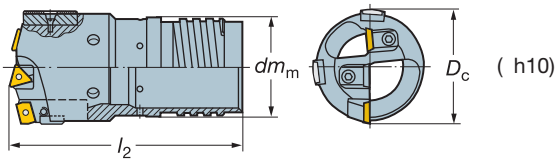
Ejector drill programme - T-MAX® adjustable solid drill head A424.10 / 424.10

Indexable insert design

Diameter range 63.50-183.90 mm (2.500-7.240 inch)



Hole depth: 100 x Dia.
Hole tolerance: IT10
Surface finish: R_a 3 µm
Cutting fluid: Neat oil or soluble with EP-additives.



dm_m is the same as dm_t for the drill tube.

Diameter range, mm, inch[2] D_c	Tube range	**Ordering code, Drill head[1]**	Dimensions, mm, inch dm_m	l_2	Radial adjustment
63.50	13	**A424.10-2500**	51.0	115	1
2.500			*2.008*	*4.528*	*.0394*
65.00		**424.10-0650E**	51.0	115	1.5
2.559			*2.008*	*4.528*	*.0591*
65.00	14	**424.10-0650**	52.0	150	1
2.559			*2.047*	*5.906*	*.0394*
69.85	15	**A424.10-2750**	58.0	150	1
2.750			*2.284*	*5.906*	*.0394*
70.00		**424.10-0700**	58.0	150	1
2.756			*2.284*	*5.906*	*.0394*
71.45		**A424.10-2813**	58.0	150	0.75
2.813			*2.284*	*5.906*	*.0295*
75.00	16	**424.10-0750**	63.0	160	2
2.953			*2.480*	*6.299*	*.0787*
76.20		**A424.10-3000**	63.0	160	2
3.000			*2.480*	*6.299*	*.0787*
80.00	17	**424.10-0800**	70.0	190	1.25
3.150			*2.756*	*7.480*	*.0492*
82.55		**A424.10-3250**	70.0	190	0.75
3.250			*2.756*	*7.480*	*.0295*
85.00		**424.10-0850**	70.0	190	1.75
3.346			*2.756*	*7.480*	*.0689*
88.90	18	**A424.10-3500**	77.0	190	1.75
3.500			*3.032*	*7.480*	*.0689*
90.00		**424.10-0900**	77.0	190	1.75
3.543			*3.032*	*7.480*	*.0689*
95.00		**424.10-0950**	77.0	190	2
3.740			*3.032*	*7.480*	*.0787*
95.25		**A424.10-3750**	77.0	190	2
3.750			*3.032*	*7.480*	*.0787*

1) A in the ordering code indicates drill with inch dimensions

2) Drills in other dimensions are available on request

Ordering example, drill head: 2 pieces 424.10-0650E

For ordering additional cartridge/support pad:
2 pieces L430.31-1216-16
4 pieces 430.32-12 D65.0

Drill diameter range – insert and pad sizes

Inserts
(Ordered separately)

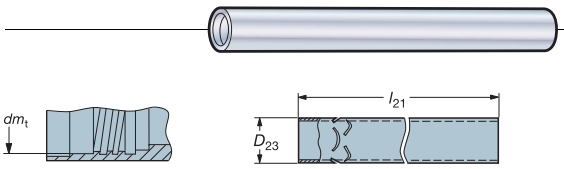
Central cartridge	△	Insert	Intermediate cartridge	△	Insert	Peripheral cartridge	▭	Insert
L430.31-1216-16	16	TPMT 16T312R-22	R430.30-1216-16	16	TPMT 16T312R-22	R430.28-1516-16	13	R424.9-13T308-22
	16	TPMT 16T312TR-23		16	TPMT 16T312TR-23		13	R424.9-13T308-23
L430.31-1522-22	22	TPMT 220612R-22	R430.30-1522-22	22	TPMT 220612R-22	R430.28-1822-22	18	R424.9-180608-22
	22	TPMT 220612TR-23		22	TPMT 220612TR-23		18	R424.9-180608-23

Drill head

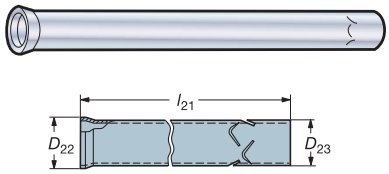


A424.10/424.10

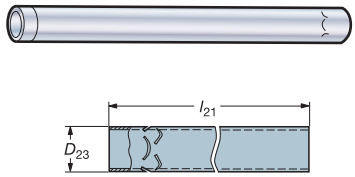
Outer tube, range 13-25



Inner tube, range 13



Inner tube, range 14-25



Note!

Drill tubes are supplied threaded at both ends, with an internal thread, the E-thread.

dm_t is the same as dm_m for the drill

Diameter range, mm, inch	Tube range	Ordering code, outer tube[1]	Dimensions, mm, inch					Ordering code, inner tube[1]	Dimensions, mm, inch		
D_c			dm_m	dm_t	D_{21}	l_1	l_2		D_{22}	D_{23}	l_{21}
63.50	13	424.2-813-2	55.5	51.0	43	44.0	400	424.2-863-2	43	40	430
2.500			*2.185*	*2.008*	*1.693*	*1.732*	*15.748*		*1.693*	*1.575*	*16.929*
65.00		424.2-813-3	55.5	51.0	43	44.0	630	424.2-863-3	43	40	660
2.559			*2.185*	*2.008*	*1.693*	*1.732*	*24.803*		*1.693*	*1.575*	*25.984*
		424.2-813-4	55.5	51.0	43	44.0	1070	424.2-863-4	43	40	1100
			2.185	*2.008*	*1.693*	*1.732*	*42.126*		*1.693*	*1.575*	*43.307*
65.00	14	424.2-814-L	56.0	52.0	43	75.0		424.2-864-L		40	
2.559			*2.205*	*2.047*	*1.693*	*2.953*				*1.575*	
69.85	15	424.2-815-L	62.0	58.0	48	75.0		424.2-865-L		44	
2.750			*2.441*	*2.284*	*1.890*	*2.953*				*1.732*	
70.00											
2.756											
71.45											
2.813											
75.00	16	424.2-816-L	68.0	63.0	53	75.0		424.2-866-L		48	
2.953			*2.677*	*2.480*	*2.087*	*2.953*				*1.890*	
76.20											
3.000											
80.00	17	424.2-817-L	75.0	70.0	59	97.0		424.2-867-L		54	
3.150			*2.953*	*2.756*	*2.323*	*3.819*				*2.126*	
82.55											
3.250											
85.00											
3.346											
88.90	18	424.2-818-L	82.0	77.0	66	97.0		424.2-868-L		60	
3.500			*3.228*	*3.032*	*2.598*	*3.819*				*2.362*	
90.00											
3.543											
95.00											
3.740											
95.25											
3.750											

[1] Length of tubes with ordering codes ending with -L are manufactured by customer request.

Ordering example for outer tube, length 400 mm (15.748 inch) and inner tube 430 mm (16.929 inch), fitting drill head D_c = 63.50 mm (2.500 inch):

1 piece 424.2-813-2 and 1 piece 424.2-863-2

Note!

Inner tube 424.2 for drilling diameter >65.00-123.90 mm (2.559-4.878 inch) must be ordered 190 mm (7.480 inch) longer than the outer tube.

Inner tube 424.2 for drilling diameter 124.00-183.90 mm (4.882-7.240 inch) must be ordered 220 mm (8.661 inch) longer than the outer tube.

Ordering example for drill tube, design to customer request, outer tube length 3000 mm (118.110 inch) and inner tube 3190 mm (125.590 inch), fitting drill head D_c = 65.00 mm (2.559 inch):

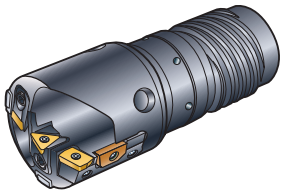
1 piece 424.2-814-L3000 and 1 piece 424.2-864-L3190

E277 E269 E230 E228 E281 E309 J3

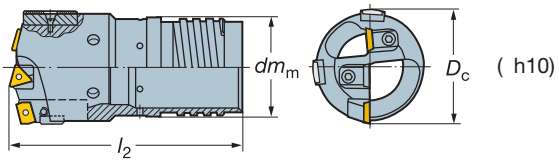
Ejector drill programme - T-MAX® adjustable solid drill head A424.10 / 424.10

Indexable insert design

Diameter range 63.50-183.90 mm (2.500-7.240 inch)



Hole depth: 100 x Dia.
Hole tolerance: IT10
Surface finish: R_a 3 µm
Cutting fluid: Neat oil or soluble with EP-additives.



dm_m is the same as dm_t for the drill tube.

Diameter range, mm, inch[2] D_c	Tube range	**Ordering code, Drill head[1]**	Dimensions, mm, inch dm_m	l_2	Radial adjustment
100.00	19	**424.10-1000**	89.0	195	1
3.937			*3.504*	*7.677*	*.0394*
101.60		**A424.10-4000**	89.0	195	1.25
4.000			*3.504*	*7.677*	*.0492*
105.00		**424.10-1050**	89.0	195	0.5
4.134			*3.504*	*7.677*	*.0197*
107.95		**A424.10-4250**	89.0	195	2
4.250			*3.504*	*7.677*	*.0787*
110.00		**424.10-1100**	89.0	195	1.5
4.331			*3.504*	*7.677*	*.0591*
114.30		**A424.10-4500**	101.0	220	2
4.500			*3.976*	*8.661*	*.0787*
115.00	20	**424.10-1150**	101.0	220	1.5
4.528			*3.976*	*8.661*	*.0591*
120.00		**424.10-1200**	101.0	220	1.5
4.724			*3.976*	*8.661*	*.0591*
120.65		**A424.10-4750**	101.0	220	1.5
4.750			*3.976*	*8.661*	*.0591*
125.00	21	**424.10-1250**	113.0	220	1.75
4.921			*4.449*	*8.661*	*.0689*
127.00		**A424.10-5000**	101.0	220	1.25
5.000			*3.976*	*8.661*	*.0492*
130.00		**424.10-1300**	113.0	220	0.5
5.118			*4.449*	*8.661*	*.0197*
136.00-147.90	22	**Tailor Made**			
5.354-5.823					
148.00-159.90	23	**Tailor Made**			
5.827-6.295					
160.00-171.90	24	**Tailor Made**			
6.299-6.768					
172.00-183.90	25	**Tailor Made**			
6.772-7.240					

1) A in the ordering code indicates drill with inch dimensions

2) Drills in other dimensions are available on request

Ordering example, drill head: 2 pieces 424.10-1000

For ordering additional cartridge/support pad:
2 pieces L430.31-1216-16
4 pieces 430.32-12 D65.0

Drill diameter range – insert and pad sizes

Inserts
(Ordered separately)

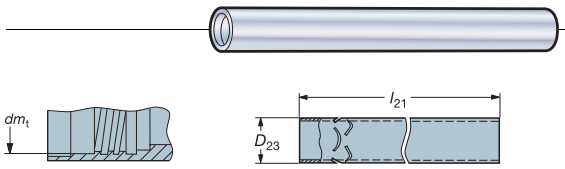
Central cartridge	△	Insert	Intermediate cartridge	△	Insert	Peripheral cartridge	▭	Insert
L430.31-1216-16	16	TPMT 16T312R-22	R430.30-1216-16	16	TPMT 16T312R-22	R430.28-1516-16	13	R424.9-13T308-22
	16	TPMT 16T312TR-23		16	TPMT 16T312TR-23		13	R424.9-13T308-23
L430.31-1522-22	22	TPMT 220612R-22	R430.30-1522-22	22	TPMT 220612R-22	R430.28-1822-22	18	R424.9-180608-22
	22	TPMT 220612TR-23		22	TPMT 220612TR-23		18	R424.9-180608-23

Drill head

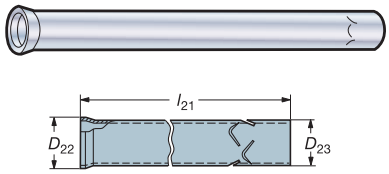


A424.10/424.10

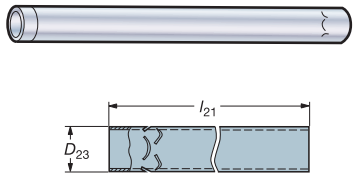
Outer tube, range 13-25



Inner tube, range 13



Inner tube, range 14-25



Note!

Drill tubes are supplied threaded at both ends, with an internal thread, the E-thread.

dm_t is the same as dm_m for the drill

Diameter range, mm, inch	Tube range	Ordering code, outer tube[1]	Dimensions, mm, inch					Ordering code, inner tube[1]	Dimensions, mm, inch		
D_c			dm_m	dm_t	D_{21}	l_1	l_2		D_{22}	D_{23}	l_{21}
100.00	19	424.2-819-L	94.0	89.0	78	97.0		424.2-869-L		70	
3.937			*3.701*	*3.504*	*3.071*	*3.819*				*2.756*	
101.60											
4.000											
105.00											
4.134											
107.95											
4.250											
110.00											
4.331											
114.30											
4.500											
115.00	20	424.2-820-L	106.0	101.0	90	118.0		424.2-870-L		80	
4.528			*4.173*	*3.976*	*3.543*	*4.646*				*3.150*	
120.00											
4.724											
120.65											
4.750											
125.00	21	424.2-821-L	118.0	113.0	92	118.0		424.2-870-L		80	
4.921			*4.646*	*4.449*	*3.622*	*4.646*				*3.150*	
127.00											
5.000											
130.00											
5.118											
136.00-147.90	22	424.2-822-L	130.0	125.0	104	118.0		424.2-872-L		95	
5.354-5.823			*5.118*	*4.921*	*4.094*	*4.646*				*3.740*	
148.00-159.90	23	424.2-823-L	142.0	137.0	116	139.0		424.2-873-L		100	
5.827-6.295			*5.591*	*5.394*	*4.567*	*5.472*				*3.937*	
160.00-171.90	24	424.2-824-L	154.0	149.0	128	139.0		424.2-874-L		120	
6.299-6.768			*6.063*	*5.866*	*5.039*	*5.472*				*4.724*	
172.00-183.90	25	424.2-825-L	166.0	161.0	140	139.0		424.2-875-L		130	
6.772-7.240			*6.535*	*6.339*	*5.512*	*5.472*				*5.118*	

[1] Lengths are manufactured by customer request

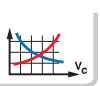
Ordering example for drill tube, design to customer request, outer tube length 3000 mm (118.110 inch) and inner tube 3190 mm (125.590 inch), fitting drill head D_c = 100.00 mm (3.937 inch):

1 piece 424.2-819-L3000 and 1 piece 424.2-869-L3190

Note!

Inner tube 424.2 for drilling diameter >65.00-123.90 mm (2.559-4.878 inch) must be ordered 190 mm (7.480 inch) longer than the outer tube.

Inner tube 424.2 for drilling diameter 124.00-183.90 mm (4.882-7.240 inch) must be ordered 220 mm (8.661 inch) longer than the outer tube.

 E277  E269  E230  E228  E281  E309  J3

T-MAX® 424.31F and 424.31 counterboring heads

Single indexable insert design

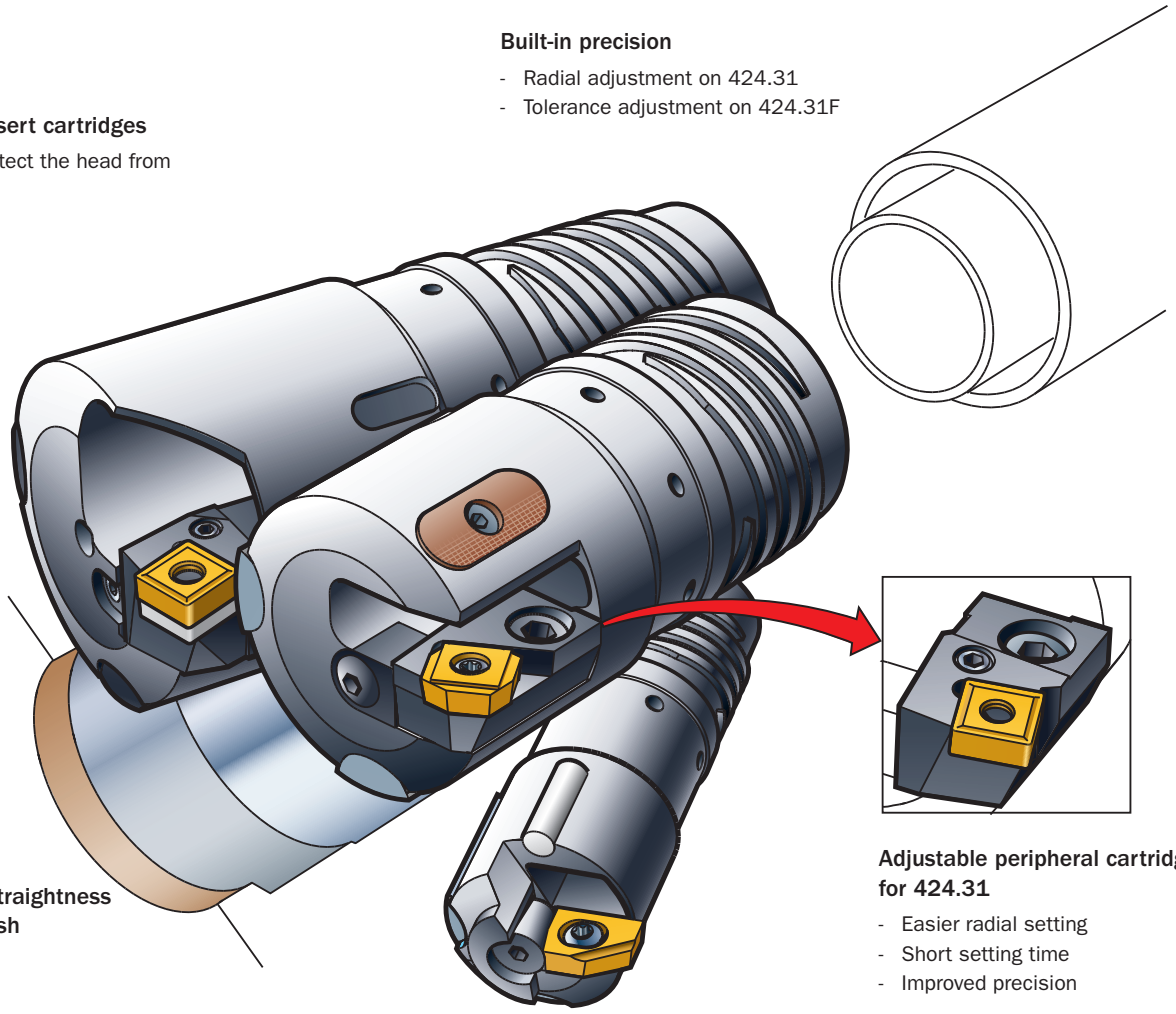
The productivity and precision single insert counterboring heads

Built-in precision

- Radial adjustment on 424.31
- Tolerance adjustment on 424.31F

Strong secure insert cartridges

- Designed to protect the head from damage
- Easy to change
- Good economy



Excellent hole straightness and surface finish

Adjustable peripheral cartridge for 424.31

- Easier radial setting
- Short setting time
- Improved precision

Machining economy

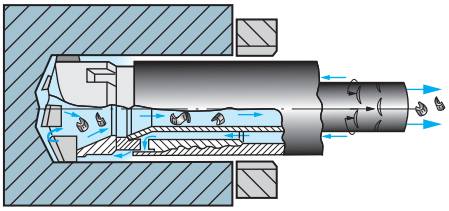
- Insert grades for counterboring in most materials
- Insert types, sizes and geometries for higher productivity, closer hole tolerances and improved surface finish

ISO application area:

P M K N

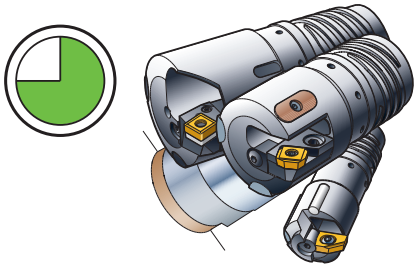
T-MAX® 424.31F and 424.31 counterboring heads

Preferred Ejector applications



- Modified lathes
- Economical and easy to apply to horizontal boring machines: NC lathes
- Machining centres with horizontal spindle
- Transfer lines
- Easy machining workpiece materials

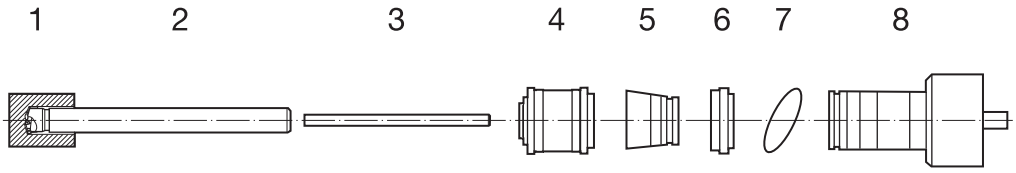
Productivity



- Designed for precision, productivity and versatility
- Single insert design
- Adjustable insert cartridge head
- Stocked standard components
- Wide range of engineered solutions

IT9-10
R_a 1 µm

Tool mounting



1 Drill heads, see page E216.
2 Outer drill tubes, see page E217.
3 Inner drill tubes, see page E217.
4 Vibration dampers, see page E269.
5 Collets and connecting sleeves, see page E230.
6 Sealing sleeves, see page E230.
7 O-rings, see page E230.
8 Connectors, see page E228.

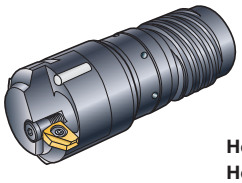
Inner tube length corresponding with drilling diameter

Drill diameter	Inner tube
≤65.00 mm (2.559 inch)	30 mm longer than outer tube
65.01-123.90 mm (2.559-4.878 inch)	190 mm longer than outer tube
124.00-183.90 mm (4.882-7.240 inch)	220 mm longer than outer tube

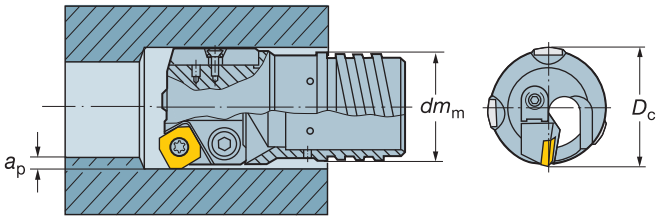
T-MAX® counterboring head 424.31F - manufactured by customer request

Single indexable insert design - close tolerance

Diameter range 20.00-43.00 mm (.787-1.693 inch)



Hole depth: 100 x Dia.
Hole tolerance: IT9
Surface finish: R_a 1 µm
Cutting fluid: Neat oil or emulsion with EP-additives.



dm_m is the same as dm_t for the drill tube.

Diameter range, mm, inch		Max cutting depth, mm, inch	Inserts[1] R424.31F	Support pad set		Pressure pad set	
D_c min	D_c max	a_p			No.		No.
20.00	22.99	3.0	04	430.21-06 D20.0	2	5636 010-011	1
.787	*.905*	*.118*					
20.00	22.99	3.0	04	430.21-06 D20.0	2	5636 010-011	1
.787	*.905*	*.118*					
20.00	22.99	3.0	04	430.21-06 D20.0	2	5636 010-011	1
.787	*.905*	*.118*					
20.00	22.99	3.0	04	430.21-06 D20.0	2	5636 010-011	1
.787	*.905*	*.118*					
20.00	22.99	3.0	04	430.21-06 D20.0	2	5636 010-011	1
.787	*.905*	*.118*					
20.00	22.99	3.0	04	430.21-06 D20.0	2	5636 010-011	1
.787	*.905*	*.118*					
20.00	22.99	3.0	04	430.21-06 D20.0	2	5636 010-011	1
.787	*.905*	*.118*					
20.00	22.99	3.0	04	430.21-06 D20.0	2	5636 010-011	1
.787	*.905*	*.118*					
23.00	25.99	3.0	04	430.21-06 D23.0	2	5636 010-011	1
.906	*1.023*	*.118*					
23.00	25.99	3.0	04	430.21-06 D23.0	2	5636 010-011	1
.906	*1.023*	*.118*					
23.00	25.99	3.0	04	430.21-06 D23.0	2	5636 010-011	1
.906	*1.023*	*.118*					
23.00	25.99	3.0	04	430.21-06 D23.0	2	5636 010-011	1
.906	*1.023*	*.118*					
23.00	25.99	3.0	04	430.21-06 D23.0	2	5636 010-011	1
.906	*1.023*	*.118*					
23.00	25.99	3.0	04	430.21-06 D23.0	2	5636 010-011	1
.906	*1.023*	*.118*					
26.00	31.00	3.0	04	430.21-06 D26.0	2	5636 010-011	1
1.024	*1.220*	*.118*					
26.00	31.00	3.0	04	430.21-06 D26.0	2	5636 010-011	1
1.024	*1.220*	*.118*					
26.00	31.00	3.0	04	430.21-06 D26.0	2	5636 010-011	1
1.024	*1.220*	*.118*					
26.00	31.00	3.0	04	430.21-06 D26.0	2	5636 010-011	1
1.024	*1.220*	*.118*					
26.00	31.00	3.0	04	430.21-06 D26.0	2	5636 010-011	1
1.024	*1.220*	*.118*					
26.00	31.00	3.0	04	430.21-06 D26.0	2	5636 010-011	1
1.024	*1.220*	*.118*					
26.00	31.00	3.0	04	430.21-06 D26.0	2	5636 010-011	1
1.024	*1.220*	*.118*					
26.00	31.00	3.0	04	430.21-06 D26.0	2	5636 010-011	1
1.024	*1.220*	*.118*					
26.00	31.00	3.0	04	430.21-06 D26.0	2	5636 010-011	1
1.024	*1.220*	*.118*					

[1] Inserts are ordered separately.

Ordering example: 2 pieces 430.21-06 D20.0

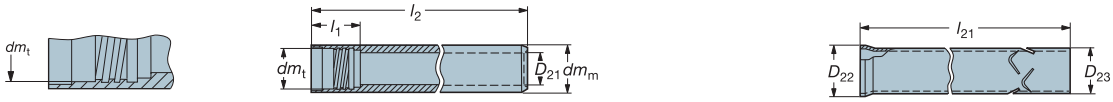
When ordering counterboring heads the following must be stated:
- Drill diameter, D_c
- Depth of cut or pre-bored size
- Drilling system to be used - Ejector or STS
- Drill tubes to be used and size dm_t

For more information and advice, please contact your nearest Sandvik representative.

Counterboring head **Outer tube** **Inner tube**



424.31F



Note!

Drill tubes are supplied threaded at both ends, with an internal thread, the E-thread.
The inner tube must be ordered 30 mm (1.181 inch) longer than the outer tube.

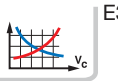
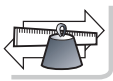
dm_t is the same as dm_m for the drill

Diameter range, mm, inch:		Tube range	Ordering code, outer tube[1]	Dimensions, mm, inch					Ordering code, inner tube[1]	Dimensions, mm, inch		
D_c min	D_c max			dm_m	dm_t	D_{21}	l_1	l_2		D_{22}	D_{23}	l_{21}
20.00	22.99	00	424.2-800-2	18.0	16.0	12	27.5	400	424.2-850-2	12	10	430
.787	*.905*			*.709*	*.630*	*.472*	*1.083*	*15.748*		*.472*	*.394*	*16.929*
20.00	22.99		424.2-800-3	18.0	16.0	12	27.5	630	424.2-850-3	12	10	660
.787	*.905*			*.709*	*.630*	*.472*	*1.083*	*24.803*		*.472*	*.394*	*25.984*
20.00	22.99		424.2-800-4	18.0	16.0	12	27.5	1070	424.2-850-4	12	10	1100
.787	*.905*			*.709*	*.630*	*.472*	*1.083*	*42.126*		*.472*	*.394*	*43.307*
20.00	22.99	01	424.2-801-2	19.5	18.0	14	30.0	400	424.2-851-2	14	12	430
.787	*.905*			*.768*	*.709*	*.551*	*1.181*	*15.748*		*.551*	*.472*	*16.929*
20.00	22.99		424.2-801-3	19.5	18.0	14	30.0	630	424.2-851-3	14	12	660
.787	*.905*			*.768*	*.709*	*.551*	*1.181*	*24.803*		*.551*	*.472*	*25.984*
20.00	22.99		424.2-801-4	19.5	18.0	14	30.0	1070	424.2-851-4	14	12	1100
.787	*.905*			*.768*	*.709*	*.551*	*1.181*	*42.126*		*.551*	*.472*	*43.307*
20.00	22.99	02	424.2-802-2	21.5	19.5	15	30.0	400	424.2-852-2	15	13	430
.787	*.905*			*.846*	*.768*	*.591*	*1.181*	*15.748*		*.591*	*.512*	*16.929*
20.00	22.99		424.2-802-3	21.5	19.5	15	30.0	630	424.2-852-3	15	13	660
.787	*.905*			*.846*	*.768*	*.591*	*1.181*	*24.803*		*.591*	*.512*	*25.984*
20.00	22.99		424.2-802-4	21.5	19.5	15	30.0	1070	424.2-852-4	15	13	1100
.787	*.905*			*.846*	*.768*	*.591*	*1.181*	*42.126*		*.591*	*.512*	*43.307*
23.00	25.99	02	424.2-802-2	21.5	19.5	15	30.0	400	424.2-852-2	15	13	430
.906	*1.023*			*.846*	*.768*	*.591*	*1.181*	*15.748*		*.591*	*.512*	*16.929*
23.00	25.99		424.2-802-3	21.5	19.5	15	30.0	630	424.2-852-3	15	13	660
.906	*1.023*			*.846*	*.768*	*.591*	*1.181*	*24.803*		*.591*	*.512*	*25.984*
23.00	25.99		424.2-802-4	21.5	19.5	15	30.0	1070	424.2-852-4	15	13	1100
.906	*1.023*			*.846*	*.768*	*.591*	*1.181*	*42.126*		*.591*	*.512*	*43.307*
23.00	25.99	03	424.2-803-2	23.5	21.0	16	30.0	400	424.2-853-2	16	14	430
.906	*1.023*			*.925*	*.827*	*.630*	*1.181*	*15.748*		*.630*	*.551*	*16.929*
23.00	25.99		424.2-803-3	23.5	21.0	16	30.0	630	424.2-853-3	16	14	660
.906	*1.023*			*.925*	*.827*	*.630*	*1.181*	*24.803*		*.630*	*.551*	*25.984*
23.00	25.99		424.2-803-4	23.5	21.0	16	30.0	1070	424.2-853-4	16	14	1100
.906	*1.023*			*.925*	*.827*	*.630*	*1.181*	*42.126*		*.630*	*.551*	*43.307*
26.00	31.00	03	424.2-803-2	23.5	21.0	16	30.0	400	424.2-853-2	16	14	430
1.024	*1.220*			*.925*	*.827*	*.630*	*1.181*	*15.748*		*.630*	*.551*	*16.929*
26.00	31.00		424.2-803-3	23.5	21.0	16	30.0	630	424.2-853-3	16	14	660
1.024	*1.220*			*.925*	*.827*	*.630*	*1.181*	*24.803*		*.630*	*.551*	*25.984*
26.00	31.00		424.2-803-4	23.5	21.0	16	30.0	630	424.2-853-4	16	14	1100
1.024	*1.220*			*.925*	*.827*	*.630*	*1.181*	*42.126*		*.630*	*.551*	*43.307*
26.00	31.00	04	424.2-804-2	26.0	23.5	18	33.0	400	424.2-854-2	18	16	430
1.024	*1.220*			*1.024*	*.925*	*.709*	*1.299*	*15.748*		*.709*	*.630*	*16.929*
26.00	31.00		424.2-804-3	26.0	23.5	18	33.0	630	424.2-854-3	18	16	660
1.024	*1.220*			*1.024*	*.925*	*.709*	*1.299*	*24.803*		*.709*	*.630*	*25.984*
26.00	31.00		424.2-804-4	26.0	23.5	18	33.0	1070	424.2-854-4	18	16	1100
1.024	*1.220*			*1.024*	*.925*	*.709*	*1.299*	*42.126*		*.709*	*.630*	*43.307*
26.00	31.00	05	424.2-805-2	28.0	25.5	20	33.0	400	424.2-855-2	20	18	430
1.024	*1.220*			*1.102*	*1.004*	*.787*	*1.299*	*15.748*		*.787*	*.709*	*16.929*
26.00	31.00		424.2-805-3	28.0	25.5	20	33.0	630	424.2-855-3	20	18	660
1.024	*1.220*			*1.102*	*1.004*	*.787*	*1.299*	*24.803*		*.787*	*.709*	*25.984*
26.00	31.00		424.2-805-4	28.0	25.5	20	33.0	1070	424.2-855-4	20	18	1100
1.024	*1.220*			*1.102*	*1.004*	*.787*	*1.299*	*42.126*		*.787*	*.709*	*43.307*

[1] Other lengths can be manufactured by customer request.

Ordering example for outer tube, length 400 mm (15.748 inch) and inner tube 430 mm (16.929 inch), fitting drill head D_c = 20.00 mm (.787 inch):

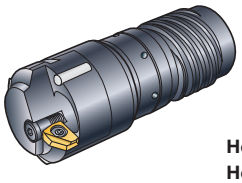
1 piece 424.2-800-2 and 1 piece 424.2-850-2

 E279  E269  E230  E228  E282  E313  J3

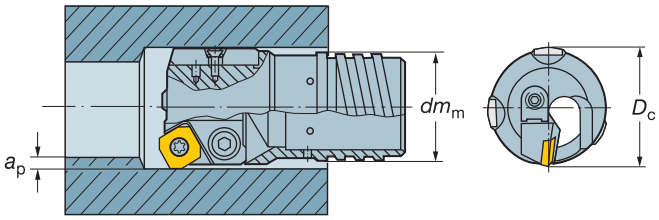
T-MAX® counterboring head 424.31F - manufactured by customer request

Single indexable insert design - close tolerance

Diameter range 20.00-43.00 mm (.787-1.693 inch)



Hole depth: 100 x Dia.
Hole tolerance: IT9
Surface finish: R_a 1 µm
Cutting fluid: Neat oil or emulsion with EP-additives.



dm_m is the same as dm_t for the drill tube.

Diameter range, mm, inch		Max cutting depth, mm, inch	Inserts[1] R424.31F	Support pad set		Pressure pad set	
D_c min	D_c max	a_p			No.		No.
31.01	33.99	3.0	04	430.21-08 D31.0	2	5636 010-021	1
1.221	*1.338*	*.118*					
31.01	33.99	3.0	04	430.21-08 D31.0	2	5636 010-021	1
1.221	*1.338*	*.118*					
31.01	33.99	3.0	04	430.21-08 D31.0	2	5636 010-021	1
1.221	*1.338*	*.118*					
31.01	33.99	3.0	04	430.21-08 D31.0	2	5636 010-021	1
1.221	*1.338*	*.118*					
31.01	33.99	3.0	04	430.21-08 D31.0	2	5636 010-021	1
1.221	*1.338*	*.118*					
31.01	33.99	3.0	04	430.21-08 D31.0	2	5636 010-021	1
1.221	*1.338*	*.118*					
34.00	37.99	3.0	04	430.21-08 D34.0	2	5636 010-021	1
1.339	*1.496*	*.118*					
34.00	37.99	3.0	04	430.21-08 D34.0	2	5636 010-021	1
1.339	*1.496*	*.118*					
34.00	37.99	3.0	04	430.21-08 D34.0	2	5636 010-021	1
1.339	*1.496*	*.118*					
34.00	37.99	3.0	04	430.21-08 D34.0	2	5636 010-021	1
1.339	*1.496*	*.118*					
34.00	37.99	3.0	04	430.21-08 D34.0	2	5636 010-021	1
1.339	*1.496*	*.118*					
34.00	37.99	3.0	04	430.21-08 D34.0	2	5636 010-021	1
1.339	*1.496*	*.118*					
38.00	43.00	3.0	04	430.21-08 D38.0	2	5636 010-021	1
1.496	*1.693*	*.118*					
38.00	43.00	3.0	04	430.21-08 D38.0	2	5636 010-021	1
1.496	*1.693*	*.118*					
38.00	43.00	3.0	04	430.21-08 D38.0	2	5636 010-021	1
1.496	*1.693*	*.118*					
38.00	43.00	3.0	04	430.21-08 D38.0	2	5636 010-021	1
1.496	*1.693*	*.118*					
38.00	43.00	3.0	04	430.21-08 D38.0	2	5636 010-021	1
1.496	*1.693*	*.118*					
38.00	43.00	3.0	04	430.21-08 D38.0	2	5636 010-021	1
1.496	*1.693*	*.118*					

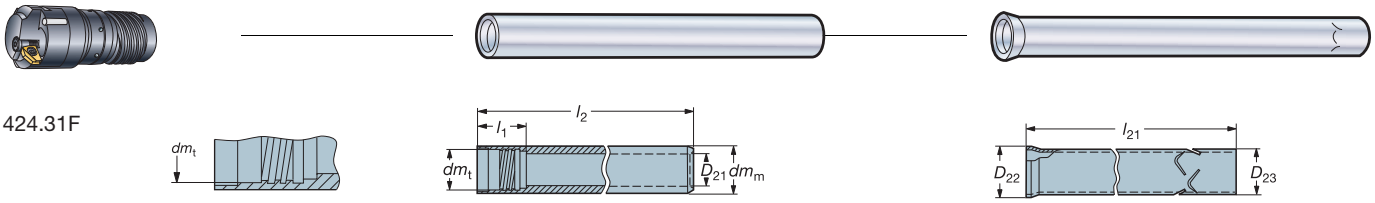
[1] Inserts are ordered separately.

Ordering example: 2 pieces 430.21-08 D31.01

When ordering counterboring heads the following must be stated:
- Drill diameter, D_c
- Depth of cut or pre-bored size
- Drilling system to be used - Ejector or STS
- Drill tubes to be used and size dm_t

For more information and advice, please contact your nearest Sandvik representative.

Counterboring head **Outer tube** **Inner tube**



Note!

Drill tubes are supplied threaded at both ends, with an internal thread, the E-thread.
The inner tube must be ordered 30 mm (1.181 inch) longer than the outer tube.

dm_t is the same as dm_m for the drill

Diameter range, mm, inch:		Tube range	Ordering code, outer tube[1]	Dimensions, mm, inch					Ordering code, inner tube[1]	Dimensions, mm, inch		
D_c min	D_c max			dm_m	dm_t	D_{21}	l_1	l_2		D_{22}	D_{23}	l_{21}
31.01	33.99	06	424.2-806-2	30.5	28.0	22	33.0	400	424.2-856-2	22	20	430
1.221	*1.338*			*1.201*	*1.102*	*.866*	*1.299*	*15.748*		*.866*	*.787*	*16.929*
31.01	33.99		424.2-806-3	30.5	28.0	22	33.0	630	424.2-856-3	22	20	660
1.221	*1.338*			*1.201*	*1.102*	*.866*	*1.299*	*24.803*		*.866*	*.787*	*25.984*
31.01	33.99		424.2-806-4	30.5	28.0	22	33.0	1070	424.2-856-4	22	20	1100
1.221	*1.338*			*1.201*	*1.102*	*.866*	*1.299*	*42.126*		*.866*	*.787*	*43.307*
31.01	33.99	07	424.2-807-2	33.0	30.0	24	40.0	400	424.2-857-2	24	22	430
1.221	*1.338*			*1.299*	*1.181*	*.945*	*1.575*	*15.748*		*.945*	*.866*	*16.929*
31.01	33.99		424.2-807-3	33.0	30.0	24	40.0	630	424.2-857-3	24	22	660
1.221	*1.338*			*1.299*	*1.181*	*.945*	*1.575*	*24.803*		*.945*	*.866*	*25.984*
31.01	33.99		424.2-807-4	33.0	30.0	24	40.0	1070	424.2-857-4	24	22	1100
1.221	*1.338*			*1.299*	*1.181*	*.945*	*1.575*	*42.126*		*.945*	*.866*	*43.307*
34.00	37.99	07	424.2-807-2	33.0	30.0	24	40.0	400	424.2-857-2	24	22	430
1.339	*1.496*			*1.299*	*1.181*	*1.181*	*1.575*	*15.748*		*.945*	*.866*	*16.929*
34.00	37.99		424.2-807-3	33.0	30.0	24	40.0	630	424.2-857-3	24	22	660
1.339	*1.496*			*1.299*	*1.181*	*1.181*	*1.575*	*24.803*		*.945*	*.866*	*25.984*
34.00	37.99		424.2-807-4	33.0	30.0	24	40.0	1070	424.2-857-4	24	22	1100
1.339	*1.496*			*1.299*	*1.181*	*1.181*	*1.575*	*42.126*		*.945*	*.866*	*43.307*
34.00	37.99	08	424.2-808-2	35.5	33.0	26	40.0	400	424.2-858-2	26	24	430
1.339	*1.496*			*1.398*	*1.299*	*1.024*	*1.575*	*15.748*		*1.024*	*.945*	*16.929*
34.00	37.99		424.2-808-3	35.5	33.0	26	40.0	630	424.2-858-3	26	24	660
1.339	*1.496*			*1.398*	*1.299*	*1.024*	*1.575*	*24.803*		*1.024*	*.945*	*25.984*
34.00	37.99		424.2-808-4	35.5	33.0	26	40.0	1070	424.2-858-4	26	24	1100
1.339	*1.496*			*1.398*	*1.299*	*1.024*	*1.575*	*42.126*		*1.024*	*.945*	*43.307*
38.00	43.00	08	424.2-808-2	35.5	33.0	26	40.0	400	424.2-858-2	26	24	430
1.496	*1.693*			*1.398*	*1.299*	*1.024*	*1.575*	*15.748*		*1.024*	*.945*	*16.929*
38.00	43.00		424.2-808-3	35.5	33.0	26	40.0	630	424.2-858-3	26	24	660
1.496	*1.693*			*1.398*	*1.299*	*1.024*	*1.575*	*24.803*		*1.024*	*.945*	*25.984*
38.00	43.00		424.2-808-4	35.5	33.0	26	40.0	1070	424.2-858-4	26	24	1100
1.496	*1.693*			*1.398*	*1.299*	*1.024*	*1.575*	*42.126*		*1.024*	*.945*	*43.307*
38.00	43.00	09	424.2-809-2	39.0	36.0	29	40.0	400	424.2-859-2	29	27	430
1.496	*1.693*			*1.535*	*1.417*	*1.142*	*1.575*	*15.748*		*1.142*	*1.063*	*16.929*
38.00	43.00		424.2-809-3	39.0	36.0	29	40.0	630	424.2-859-3	29	27	660
1.496	*1.693*			*1.535*	*1.417*	*1.142*	*1.575*	*24.803*		*1.142*	*1.063*	*25.984*
38.00	43.00		424.2-809-4	39.0	36.0	29	40.0	1070	424.2-859-4	29	27	1100
1.496	*1.693*			*1.535*	*1.417*	*1.142*	*1.575*	*42.126*		*1.142*	*1.063*	*43.307*

[1] Other lengths can be manufactured by customer request.

Ordering example for outer tube, length 400 mm (15.748 inch) and inner tube 430 mm (16.929 inch), fitting drill head D_c = 31.01 mm (1.221 inch):

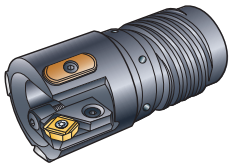
1 piece 424.2-806-2 and 1 piece 424.2-856-2

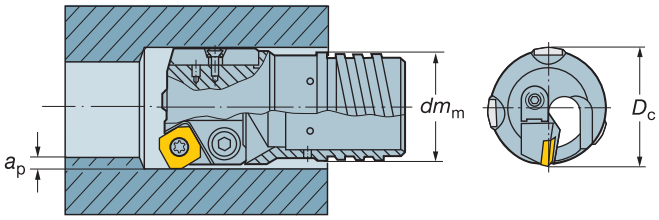
E279 E269 E230 E228 E282 E313 J3

T-MAX® counterboring head 424.31F - manufactured by customer request

Single indexable insert design - close and normal tolerances

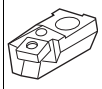
Diameter range 43.01-124.99 mm (1.693-4.921 inch)





Hole depth: 100 x Dia.
Hole tolerance: IT9 or IT10
Surface finish: R_a 1 µm
Cutting fluid: Neat oil or emulsion with EP-additives.

dm_m is the same as dm_t for the drill tube.

Diameter range, mm, inch		Cartridge	Max cutting depth, mm, inch	Inserts[1]	Cartridge	Max cutting depth, mm, inch	Inserts[1]	Support pad set		Pressure pad set	
				R424.31F			SNMG SNMM				
D_c min	D_c max	For close tolerances (IT9)	a_p	☐	For normal tolerances (IT10)	a_p	☐		No.		No.
43.01	46.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D43.0	2	5636 020-011	1
1.693	*1.850*		*.177*			*.236*					
43.01	46.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D43.0	2	5636 020-011	1
1.693	*1.850*		*.177*			*.236*					
43.01	46.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D43.0	2	5636 020-011	1
1.693	*1.850*		*.177*			*.236*					
47.00	51.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D47.0	2	5636 020-011	1
1.851	*2.047*		*.177*			*.236*					
47.00	51.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D47.0	2	5636 020-011	1
1.851	*2.047*		*.177*			*.236*					
47.00	51.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D47.0	2	5636 020-011	1
1.851	*2.047*		*.177*			*.236*					
47.00	51.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D47.0	2	5636 020-011	1
1.851	*2.047*		*.177*			*.236*					
47.00	51.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D47.0	2	5636 020-011	1
1.851	*2.047*		*.177*			*.236*					
47.00	51.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D47.0	2	5636 020-011	1
1.851	*2.047*		*.177*			*.236*					
52.00	57.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D52.0	2	5636 020-011	1
2.048	*2.283*		*.177*			*.236*					
52.00	57.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D52.0	2	5636 020-011	1
2.048	*2.283*		*.177*			*.236*					
52.00	57.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D52.0	2	5636 020-011	1
2.048	*2.283*		*.177*			*.236*					
52.00	57.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D52.0	2	5636 020-011	1
2.048	*2.283*		*.177*			*.236*					
52.00	57.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D52.0	2	5636 020-011	1
2.048	*2.283*		*.177*			*.236*					
52.00	57.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D52.0	2	5636 020-011	1
2.048	*2.283*		*.177*			*.236*					
58.00	65.00	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D58.0	2	5636 020-011	1
2.284	*2.559*		*.177*			*.236*					
58.00	65.00	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D58.0	2	5636 020-011	1
2.284	*2.559*		*.177*			*.236*					
58.00	65.00	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D58.0	2	5636 020-011	1
2.284	*2.559*		*.177*			*.236*					

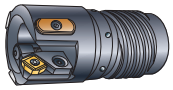
[1] Inserts are ordered separately.

Ordering example: 2 pieces R430.24-1118-06

When ordering counterboring heads the following must be stated:
- Drill diameter, D_c
- Depth of cut or pre-bored size
- Cartridges to be used - cartridge for close tolerances or normal tolerances
- Drilling system to be used - Ejector or STS
- Drill tubes to be used and size dm_t

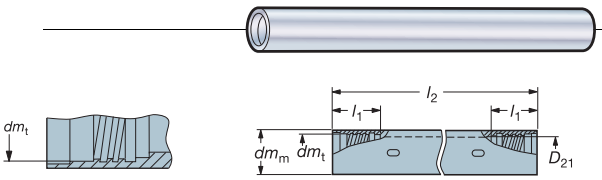
For more information and advice, please contact your nearest Sandvik representative.

Counterboring head

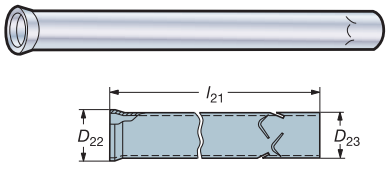


424.31F

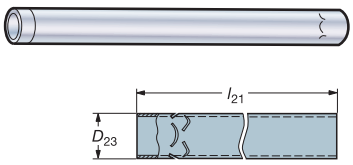
Outer tube, range 10-21



Inner tube, range 10-13



Inner tube, range 14-21



Note!

Drill tubes are supplied threaded at both ends, with an internal thread, the E-thread. The inner tube must be ordered 30 mm (1.181 inch) longer than the outer tube.

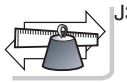
dm_t is the same as dm_m for the drill

Diameter range, mm, inch:		Tube range	Ordering code, outer tube[1]	Dimensions, mm, inch					Ordering code, inner tube[1]	Dimensions, mm, inch		
D_c min	D_c max			dm_m	dm_t	D_{21}	l_1	l_2		D_{22}	D_{23}	l_{21}
43.01	46.99	10	424.2-810-2	42.5	39.0	32	40.0	400	424.2-860-2	32	30	430
1.693	*1.850*			*1.673*	*1.535*	*1.260*	*1.575*	*15.748*		*1.260*	*1.181*	*16.929*
43.01	46.99		424.2-810-3	42.5	39.0	32	40.0	630	424.2-860-3	32	30	660
1.693	*1.850*			*1.673*	*1.535*	*1.260*	*1.575*	*24.803*		*1.260*	*1.181*	*25.984*
43.01	46.99		424.2-810-4	42.5	39.0	32	40.0	1070	424.2-860-4	32	30	1100
1.693	*1.850*			*1.673*	*1.535*	*1.260*	*1.575*	*42.126*		*1.260*	*1.181*	*43.307*
47.00	51.99	11	424.2-811-2	46.5	43.0	35	44.0	400	424.2-861-2	35	32	430
1.851	*2.047*			*1.831*	*1.693*	*1.378*	*1.732*	*15.748*		*1.378*	*1.260*	*16.929*
47.00	51.99		424.2-811-3	46.5	43.0	35	44.0	630	424.2-861-3	35	32	660
1.851	*2.047*			*1.831*	*1.693*	*1.378*	*1.732*	*24.803*		*1.378*	*1.260*	*25.984*
47.00	51.99		424.2-811-4	46.5	43.0	35	44.0	1070	424.2-861-4	35	32	1100
1.851	*2.047*			*1.831*	*1.693*	*1.378*	*1.732*	*42.126*		*1.378*	*1.260*	*43.307*
47.00	51.99	12	424.2-812-2	51.0	47.0	39	44.0	400	424.2-862-2	39	36	430
1.851	*2.047*			*2.008*	*1.850*	*1.535*	*1.732*	*15.748*		*1.535*	*1.417*	*16.929*
47.00	51.99		424.2-812-3	51.0	47.0	39	44.0	630	424.2-862-3	39	36	660
1.851	*2.047*			*2.008*	*1.850*	*1.535*	*1.732*	*24.803*		*1.535*	*1.417*	*25.984*
47.00	51.99		424.2-812-4	51.0	47.0	39	44.0	1070	424.2-862-4	39	36	1100
1.851	*2.047*			*2.008*	*1.850*	*1.535*	*1.732*	*42.126*		*1.535*	*1.417*	*43.307*
52.00	57.99	12	424.2-812-2	51.0	47.0	39	44.0	400	424.2-862-2	39	36	430
2.047	*2.283*			*2.008*	*1.850*	*1.535*	*1.732*	*15.748*		*1.535*	*1.417*	*16.929*
52.00	57.99		424.2-812-3	51.0	47.0	39	44.0	630	424.2-862-3	39	36	660
2.047	*2.283*			*2.008*	*1.850*	*1.535*	*1.732*	*24.803*		*1.535*	*1.417*	*25.984*
52.00	57.99		424.2-812-4	51.0	47.0	39	44.0	1070	424.2-862-4	39	36	1100
2.047	*2.283*			*2.008*	*1.850*	*1.535*	*1.732*	*42.126*		*1.535*	*1.417*	*43.307*
52.00	57.99	13	424.2-813-2	55.5	51.0	43	44.0	400	424.2-863-2	43	40	430
2.047	*2.283*			*2.185*	*2.008*	*1.693*	*1.732*	*15.748*		*1.693*	*1.575*	*16.929*
52.00	57.99		424.2-813-3	55.5	51.0	43	44.0	630	424.2-863-3	43	40	660
2.047	*2.283*			*2.185*	*2.008*	*1.693*	*1.732*	*24.803*		*1.693*	*1.575*	*25.984*
52.00	57.99		424.2-813-4	55.5	51.0	43	44.0	1070	424.2-863-4	43	40	1100
2.047	*2.283*			*2.185*	*2.008*	*1.693*	*1.732*	*42.126*		*1.693*	*1.575*	*43.307*
58.00	65.00	13	424.2-813-2	55.5	51.0	43	44.0	400	424.2-863-2	43	40	430
2.283	*2.559*			*2.185*	*2.008*	*1.693*	*1.732*	*15.748*		*1.693*	*1.575*	*16.929*
58.00	65.00		424.2-813-3	55.5	51.0	43	44.0	630	424.2-863-3	43	40	660
2.283	*2.559*			*2.185*	*2.008*	*1.693*	*1.732*	*24.803*		*1.693*	*1.575*	*25.984*
58.00	65.00		424.2-813-4	55.5	51.0	43	44.0	1070	424.2-863-4	43	40	1100
2.283	*2.559*			*2.185*	*2.008*	*1.693*	*1.732*	*42.126*		*1.693*	*1.575*	*43.307*

[1] Other lengths can be manufactured by customer request.

Ordering example for outer tube, length 400 mm (15.748 inch) and inner tube 430 mm (16.929 inch), fitting drill head D_c = 43.01 mm (1.693 inch):

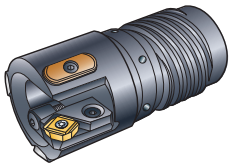
1 piece 424.2-810-2 and 1 piece 424.2-860-2

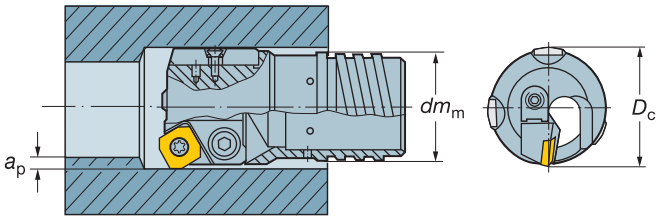
 E279  E269  E230  E228  E282  E313  J3

T-MAX® counterboring head 424.31F - manufactured by customer request

Single indexable insert design - close and normal tolerances

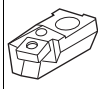
Diameter range 43.01-124.99 mm (1.693-4.921 inch)





Hole depth: 100 x Dia.
Hole tolerance: IT9 or IT10
Surface finish: R_a 1 µm
Cutting fluid: Neat oil or emulsion with EP-additives.

dm_m is the same as dm_t for the drill tube.

Diameter range, mm, inch		Cartridge	Max cutting depth, mm, inch	Inserts[1]	Cartridge	Max cutting depth, mm, inch	Inserts[1]	Support pad set		Pressure pad set	
				R424.31F			SNMG SNMM				
D_c min	D_c max	For close tolerances (IT9)	a_p	☐	For normal tolerances (IT10)	a_p	☐		No.		No.
65.01	69.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-12 D65.0	2	420.37-410-01	3
2.559	*2.756*		*.177*			*.236*					
70.00	74.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-12 D70.0	2	420.37-410-01	3
2.757	*2.952*		*.177*			*.236*					
70.00	74.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-12 D70.0	2	420.37-410-01	3
2.757	*2.952*		*.177*			*.236*					
75.00	79.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-12 D75.0	2	420.37-410-01	3
2.953	*3.149*		*.177*			*.236*					
80.00	84.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-12 D80.0	2	420.37-415-01	3
3.150	*3.346*		*.177*			*.236*					
85.00	89.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-12 D85.0	2	420.37-415-01	3
3.347	*3.543*		*.177*			*.236*					
85.00	89.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-12 D85.0	2	420.37-415-01	3
3.347	*3.543*		*.177*			*.236*					
90.00	94.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-16 D90.0	2	420.37-510-01	3
3.544	*3.740*		*.177*			*.236*					
95.00	99.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-16 D95.0	2	420.37-510-01	3
3.741	*3.937*		*.177*			*.236*					
100.00	104.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-16 D100.0	2	420.37-510-01	3
3.937	*4.133*		*.177*			*.236*					
105.00	109.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-16 D105.0	2	420.37-510-01	3
4.134	*4.330*		*.177*			*.236*					
110.00	114.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-16 D110.0	2	420.37-510-01	3
4.331	*4.527*		*.177*			*.236*					
110.00	114.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-16 D110.0	2	420.37-510-01	3
4.331	*4.527*		*.177*			*.236*					
115.00	119.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-16 D115.0	2	420.37-510-01	3
4.528	*4.724*		*.177*			*.236*					
120.00	124.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-16 D120.0	2	420.37-510-01	3
4.725	*4.921*		*.177*			*.236*					
120.00	124.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-16 D120.0	2	420.37-510-01	3
4.725	*4.921*		*.177*			*.236*					

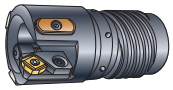
[1] Inserts are ordered separately.

Ordering example: 2 pieces R430.24-1118-06

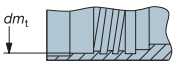
When ordering counterboring heads the following must be stated:
- Drill diameter, D_c
- Depth of cut or pre-bored size
- Cartridges to be used - cartridge for close tolerances or normal tolerances
- Drilling system to be used - Ejector or STS
- Drill tubes to be used and size dm_t

For more information and advice, please contact your nearest Sandvik representative.

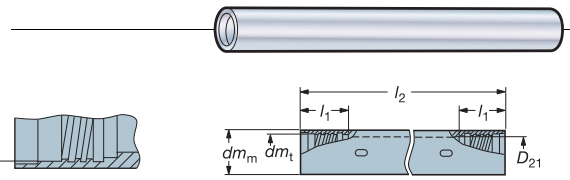
Counterboring head



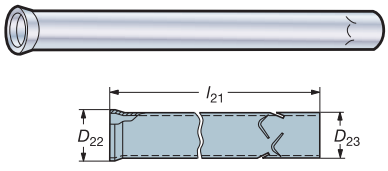
424.31F



Outer tube, range 10-21



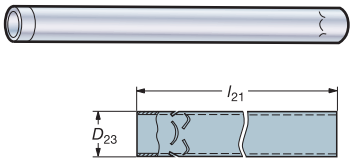
Inner tube, range 10-13



Note!

Drill tubes are supplied threaded at both ends, with an internal thread, the E-thread.

Inner tube, range 14-21



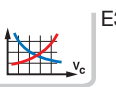
dm_t is the same as dm_m for the drill

Diameter range, mm, inch:		Tube range	Ordering code, outer tube[1]	Dimensions, mm, inch					Ordering code, inner tube[1]	Dimensions, mm, inch		
D_c min	D_c max			dm_m	dm_t	D_{21}	l_1	l_2		D_{22}	D_{23}	l_{21}
65.01	69.99	14	424.2-814-L	56.0	52.0	43	75.0		424.2-864-L		40	
2.559	*2.756*			*2.205*	*2.047*	*1.693*	*2.953*				*1.575*	
70.00	74.99	15	424.2-815-L	62.0	58.0	48	75.0		424.2-865-L		44	
2.756	*2.952*			*2.441*	*2.284*	*1.890*	*2.953*				*1.732*	
70.00	74.99	16	424.2-816-L	68.0	63.0	53	75.0		424.2-866-L		48	
2.756	*2.952*			*2.677*	*2.480*	*2.087*	*2.953*				*1.890*	
75.00	79.99	16	424.2-816-L	68.0	63.0	53	75.0		424.2-866-L		48	
2.953	*3.149*			*2.677*	*2.480*	*2.087*	*2.953*				*1.890*	
80.00	84.99	17	424.2-817-L	75.0	70.0	59	97.0		424.2-867-L		54	
3.150	*3.346*			*2.953*	*2.756*	*2.323*	*3.819*				*2.126*	
85.00	89.99	17	424.2-817-L	75.0	70.0	59	97.0		424.2-867-L		54	
3.346	*3.543*			*2.953*	*2.756*	*2.323*	*3.819*				*2.126*	
85.00	89.99	18	424.2-818-L	82.0	77.0	66	97.0		424.2-868-L		60	
3.346	*3.543*			*3.228*	*3.032*	*2.598*	*3.819*				*2.362*	
90.00	94.99	18	424.2-818-L	82.0	77.0	66	97.0		424.2-868-L		60	
3.543	*3.740*			*3.228*	*3.032*	*2.598*	*3.819*				*2.362*	
95.00	99.99	18	424.2-818-L	82.0	77.0	66	97.0		424.2-868-L		60	
3.740	*3.937*			*3.228*	*3.032*	*2.598*	*3.819*				*2.362*	
100.00	104.99	19	424.2-819-L	94.0	89.0	78	97.0		424.2-869-L		70	
3.937	*4.133*			*3.701*	*3.504*	*3.071*	*3.819*				*2.756*	
105.00	109.99	19	424.2-819-L	94.0	89.0	78	97.0		424.2-869-L		70	
4.134	*4.330*			*3.701*	*3.504*	*3.071*	*3.819*				*2.756*	
110.00	114.99	19	424.2-819-L	94.0	89.0	78	97.0		424.2-869-L		70	
4.331	*4.527*			*3.701*	*3.504*	*3.071*	*3.819*				*2.756*	
110.00	114.99	20	424.2-820-L	106.0	101.0	90	118.0		424.2-870-L		80	
4.331	*4.527*			*4.173*	*3.976*	*3.543*	*4.646*				*3.150*	
115.00	119.99	20	424.2-820-L	106.0	101.0	90	118.0		424.2-870-L		80	
4.528	*4.724*			*4.173*	*3.976*	*3.543*	*4.646*				*3.150*	
120.00	124.99	20	424.2-820-L	106.0	101.0	90	118.0		424.2-870-L		80	
4.724	*4.921*			*4.173*	*3.976*	*3.543*	*4.646*				*3.150*	
120.00	124.99	21	424.2-821-L	118.0	113.0	92	118.0		424.2-870-L		80	
4.724	*4.921*			*4.646*	*4.449*	*3.622*	*4.646*				*3.150*	

[1] Lengths are manufactured by customer request

Ordering example for drill tube, design to customer request, outer tube length 800 mm (31.496 inch) and inner tube 990 mm (38.976 inch), fitting drill head Dc = 65.01 mm (2.559 inch):

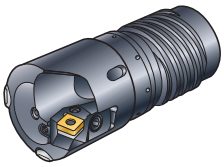
1 piece 424.2-814-L800 and 1 piece 424.2-864-L990

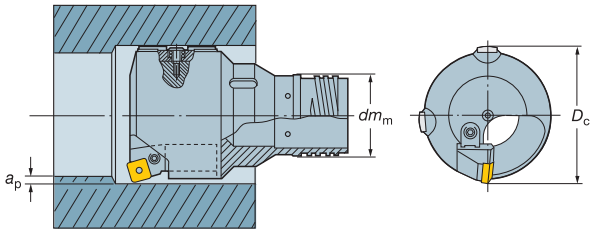
 E279  E269  E230  E228  E282  E313  J3

T-MAX® counterboring head 424.31 - manufactured by customer request

Single indexable insert design

Diameter range ≥ 65.00 mm (2.559 inch)





Diameter range, mm, inch: 65.00 mm (2.559 inch) - Max dia. is dependent on machine capacity
Hole depth: 100 x Dia.
Hole tolerance: IT10
Surface finish: R_a 3 µm
Cutting fluid: Neat oil or soluble with EP-additives.

dm_m is the same as dm_t for the drill tube.

Diameter range, mm, inch		T-Max P cartridge	Max cutting depth, mm, inch	Inserts[3]	T-Max S cartridge	Max cutting depth, mm, inch	Inserts[3]	Support pad set	
				SNMG SNMM □			TPMX TPUN[2] △		
D_c min	D_c max		a_p mm			a_p mm			No.
65.00	69.99	R430.24-2024-12	10	12	R430.23-2024-16	12	16	R430.21-12 D65.0	2
2.559	*2.756*								
70.00	74.99	R430.24-2024-12	10	12	R430.23-2024-16	12	16	R430.21-12 D70.0	2
2.757	*2.952*								
75.00	79.99	R430.24-2024-12	10	12	R430.23-2024-16	12	16	R430.21-12 D75.0	2
2.953	*3.149*								
80.00	84.99	R430.24-2024-12	10	12	R430.23-2024-16	12	16	R430.21-12 D80.0	2
3.150	*3.346*								
85.00	89.99	R430.24-2024-12	10	12	R430.23-2024-16	12	16	R430.21-12 D85.0	2
3.346	*3.543*								
85.00	89.99	R430.24-2024-12	10	12	R430.23-2024-16	12	16	R430.21-12 D85.0	2
3.346	*3.543*								
90.00	94.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	R430.21-16 D90.0	2
3.544	*3.740*								
95.00	99.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	R430.21-16 D95.0	2
3.741	*3.937*								
100.00	104.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	R430.21-16 D100.0	2
3.938	*4.133*								
105.00	109.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	R430.21-16 D105.0	2
4.134	*4.330*								
110.00	114.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	R430.21-18 D110.0	2
4.331	*4.527*								
110.00	114.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	R430.21-18 D110.0	2
4.331	*4.527*								
115.00	119.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	R430.21-18 D115.0	2
4.528	*4.724*								
120.00	124.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	R430.21-18 D120.0	2
4.725	*4.921*								
120.00	124.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	R430.21-18 D120.0	2
4.725	*4.921*								
125.00	129.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	R430.21-18 D125.0	2
4.922	*5.118*								

1) For small cutting depth, use cartridges R430.24-2024-12 or R430.23-2024-16. Must be stated in order.

2) Loose chipbreakers are to be used, see page E283

3) Inserts are ordered separately.

When ordering additional support pads, D and the drilling diameter must be specified in the ordering code.

Ordering example for cartridge for counterboring head Ø65 mm (2.559 inch): 1 piece R430.24-2024-12

Ordering example for support pad for counterboring head Ø65 mm (2.559 inch): 1 piece 430.21-12 D65.0

When ordering counterboring heads the following must be stated:
- Drill diameter, D_c
- Depth of cut or pre-bored size
- Insert clamping system to be used - T-Max P lever or T-Max S top clamp
- Drilling system to be used - Ejector or STS
- Drill tubes to be used and size dm_t

For more information and advice, please contact your nearest Sandvik representative.

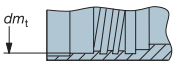
Counterboring head **Outer tube, range 14-25** **Inner tube, range 14-25**

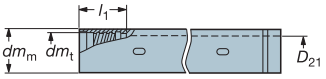






424.31







Note!

Drill tubes are supplied threaded at both ends, with an internal thread, the E-thread.

dm_t is the same as dm_m for the drill

Diameter range, mm, inch:		Tube range	Ordering code, outer tube[1]	Dimensions, mm, inch				Ordering code, inner tube[1]	Dimensions, mm, inch
D_c min	D_c max			dm_m	dm_t	D_{21}	l_1		D_{23}
65.00	69.99	14	424.2-814-L	56.0	52.0	43	75.0	424.2-864-L	40
2.559	*2.756*			*2.205*	*2.047*	*1.693*	*2.953*		*1.575*
70.00	74.99	15	424.2-815-L	62.0	58.0	48	75.0	424.2-865-L	44
2.757	*2.952*			*2.441*	*2.284*	*1.890*	*2.953*		*1.732*
75.00	79.99	16	424.2-816-L	68.0	63.0	53	75.0	424.2-866-L	48
2.953	*3.149*			*2.677*	*2.480*	*2.087*	*2.953*		*1.890*
80.00	84.99	17	424.2-817-L	75.0	70.0	59	97.0	424.2-867-L	54
3.150	*3.346*			*2.953*	*2.756*	*2.323*	*3.819*		*2.126*
85.00	89.99	17	424.2-817-L	75.0	70.0	59	97.0	424.2-867-L	54
3.347	*3.543*			*2.953*	*2.756*	*2.323*	*3.819*		*2.126*
85.00	89.99	18	424.2-818-L	82.0	77.0	66	97.0	424.2-868-L	60
3.347	*3.543*			*3.228*	*3.032*	*2.598*	*3.819*		*2.362*
90.00	94.99	18	424.2-818-L	82.0	77.0	66	97.0	424.2-868-L	60
3.544	*3.740*			*3.228*	*3.032*	*2.598*	*3.819*		*2.362*
95.00	99.99	18	424.2-818-L	82.0	77.0	66	97.0	424.2-868-L	60
3.741	*3.937*			*3.228*	*3.032*	*2.598*	*3.819*		*2.362*
100.00	104.99	19	424.2-819-L	94.0	89.0	78	97.0	424.2-869-L	70
3.937	*4.133*			*3.701*	*3.504*	*3.071*	*3.819*		*2.756*
105.00	109.99	19	424.2-819-L	94.0	89.0	78	97.0	424.2-869-L	70
4.134	*4.330*			*3.701*	*3.504*	*3.071*	*3.819*		*2.756*
110.00	114.99	19	424.2-819-L	94.0	89.0	78	97.0	424.2-869-L	70
4.331	*4.527*			*3.701*	*3.504*	*3.071*	*3.819*		*2.756*
110.00	114.99	20	424.2-820-L	106.0	101.0	90	118.0	424.2-870-L	80
4.331	*4.527*			*4.173*	*3.976*	*3.543*	*4.646*		*3.150*
115.00	119.99	20	424.2-820-L	106.0	101.0	90	118.0	424.2-870-L	80
4.528	*4.724*			*4.173*	*3.976*	*3.543*	*4.646*		*3.150*
120.00	124.99	20	424.2-820-L	106.0	101.0	90	118.0	424.2-870-L	80
4.724	*4.921*			*4.173*	*3.976*	*3.543*	*4.646*		*3.150*
120.00	124.99	21	424.2-821-L	118.0	113.0	92	118.0	424.2-870-L	80
4.724	*4.921*			*4.646*	*4.449*	*3.622*	*4.646*		*3.150*
125.00	129.99	21	424.2-821-L	118.0	113.0	92	118.0	424.2-870-L	80
4.921	*5.118*			*4.646*	*4.449*	*3.622*	*4.646*		*3.150*

[1] Lengths are manufactured by customer request

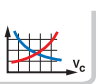
Ordering example for drill tube, design to customer request, outer tube length 800 mm (31.496 inch) and inner tube 990 mm (38.976 inch), fitting drill head Dc = 65.01 mm (2.559 inch):

1 piece 424.2-814-L800 and 1 piece 424.2-864-L990

Note!

Inner tube 424.2 for drilling diameter >65.00-123.90 mm (2.559-4.878 inch) must be ordered 190 mm (7.480 inch) longer than the outer tube.

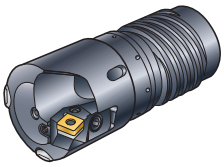
Inner tube 424.2 for drilling diameter 124.00-183.90 mm (4.882-7.240 inch) must be ordered 220 mm (8.661 inch) longer than the outer tube.

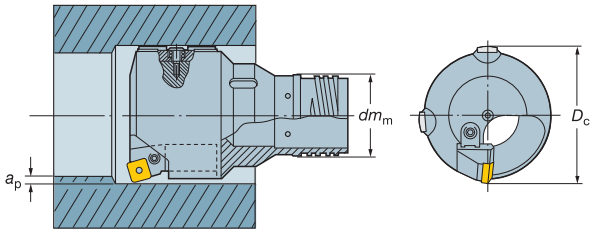
 E279  E269  E230  E228  E282  E313  J3

T-MAX® counterboring head 424.31 - manufactured by customer request

Single indexable insert design

Diameter range ≥ 65.00 mm (2.559 inch)





Diameter range, mm, inch: 65.00 mm (2.559 inch) - Max dia. is dependent on machine capacity
Hole depth: 100 x Dia.
Hole tolerance: IT10
Surface finish: R_a 3 µm
Cutting fluid: Neat oil or soluble with EP-additives.

dm_m is the same as dm_t for the drill tube.

Diameter range, mm, inch		T-Max P cartridge	Max cutting depth, mm, inch	Inserts[3]	T-Max S cartridge	Max cutting depth, mm, inch	Inserts[3]	Support pad set	
				SNMG SNMM □			TPMX TPUN[2] △		
D_c min	D_c max		a_p mm			a_p mm			No.
130.00	139.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	R430.21-18 D130.0	2
5.119	*5.511*								
130.00	139.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	R430.21-18 D130.0	2
5.119	*5.511*								
140.00	149.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	R430.21-18 D140.0	2
5.512	*5.905*								
140.00	149.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	R430.21-18 D140.0	2
5.512	*5.905*								
150.00	159.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	R430.21-18 D150.0	2
5.906	*6.299*								
160.00	169.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	R430.21-18 D160.0	2
6.300	*6.693*								
170.00	179.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	R430.21-18 D170.0	2
6.694	*7.086*								
170.00	179.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	R430.21-18 D170.0	2
6.694	*7.086*								
180.00	183.90	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	R430.21-18 D180.0	2
7.087	*7.240*								

1) For small cutting depth, use cartridges R430.24-2024-12 or R430.23-2024-16. Must be stated in order.

2) Loose chipbreakers are to be used, see page E283

3) Inserts are ordered separately.

When ordering additional support pads, D and the drilling diameter must be specified in the ordering code.

Ordering example for cartridge for counterboring head Ø130 mm (5.119 inch): 1 piece R430.24-2532-19

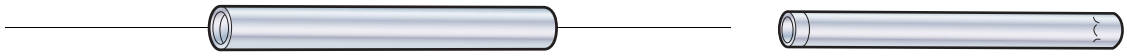
Ordering example for support pad for counterboring head Ø65 mm (2.559 inch): 1 piece 430.21-12 D65.0

When ordering counterboring heads the following must be stated:
- Drill diameter, D_c
- Depth of cut or pre-bored size
- Insert clamping system to be used - T-Max P lever or T-Max S top clamp
- Drilling system to be used - Ejector or STS
- Drill tubes to be used and size dm_t

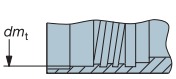
For more information and advice, please contact your nearest Sandvik representative.

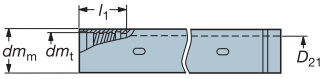
Counterboring head **Outer tube, range 14-25** **Inner tube, range 14-25**





424.31







Note!

Drill tubes are supplied threaded at both ends, with an internal thread, the E-thread.

dm_t is the same as dm_m for the drill

Diameter range, mm, inch:		Tube range	Ordering code, outer tube[1]	Dimensions, mm, inch				Ordering code, inner tube[1]	Dimensions, mm, inch
D_c min	D_c max			dm_m	dm_t	D_{21}	l_1		D_{23}
130.00	139.99	21	424.2-821-L	118.0	113.0	92	118.0	424.2-870-L	80
5.119	*5.511*			*4.646*	*4.449*	*3.622*	*4.646*		*3.150*
130.00	139.99	22	424.2-822-L	130.0	125.0	104	118.0	424.2-872-L	95
5.119	*5.511*			*5.118*	*4.921*	*4.094*	*4.646*		*3.740*
140.00	149.99	22	424.2-822-L	130.0	125.0	104	118.0	424.2-872-L	95
5.512	*5.905*			*5.118*	*4.921*	*4.094*	*4.646*		*3.740*
140.00	149.99	23	424.2-823-L	142.0	137.0	116	139.0	424.2-873-L	100
5.512	*5.905*			*5.591*	*5.394*	*4.567*	*5.472*		*3.937*
150.00	159.99	23	424.2-823-L	142.0	137.0	116	139.0	424.2-873-L	100
5.906	*6.299*			*5.591*	*5.394*	*4.567*	*5.472*		*3.937*
160.00	179.99	24	424.2-824-L	154.0	149.0	128	139.0	424.2-874-L	120
6.299	*7.086*			*6.063*	*5.866*	*5.039*	*5.472*		*4.724*
170.00	179.99	24	424.2-824-L	154.0	149.0	128	139.0	424.2-874-L	120
6.693	*7.086*			*6.063*	*5.866*	*5.039*	*5.472*		*4.724*
170.00	179.99	25	424.2-825-L	166.0	161.0	140	139.0	424.2-875-L	130
6.693	*7.086*			*6.535*	*6.339*	*5.512*	*5.472*		*5.118*
180.00	183.90	25	424.2-825-L	166.0	161.0	140	139.0	424.2-875-L	130
7.087	*7.240*			*6.535*	*6.339*	*5.512*	*5.472*		*5.118*

[1] Lengths are manufactured by customer request

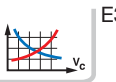
Ordering example for drill tube, design to customer request, outer tube length 800 mm (31.496 inch) and inner tube 990 mm (38.976 inch), fitting drill head Dc = 65.01 mm (2.559 inch):

1 piece 424.2-814-L800 and 1 piece 424.2-864-L990

Note!

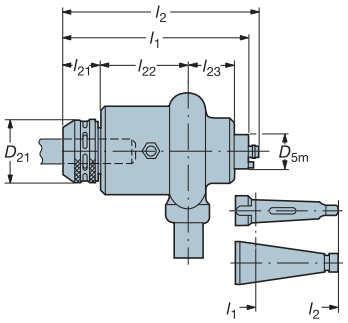
Inner tube 424.2 for drilling diameter >65.00-123.90 mm (2.559-4.878 inch) must be ordered 190 mm (7.480 inch) longer than the outer tube.

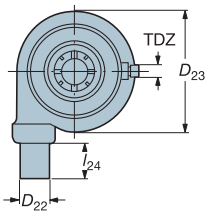
Inner tube 424.2 for drilling diameter 124.00-183.90 mm (4.882-7.240 inch) must be ordered 220 mm (8.661 inch) longer than the outer tube.

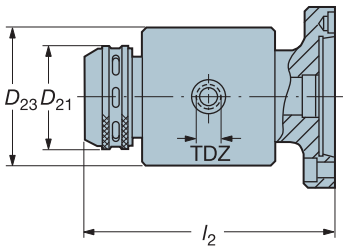
 E279  E269  E230  E228  E282  E313  J3

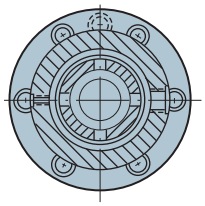
Rotating connectors

Diameter range 18.40-183.90 mm (.724-7.240 inch)

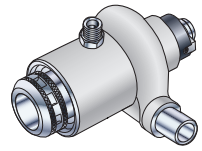
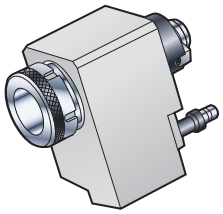
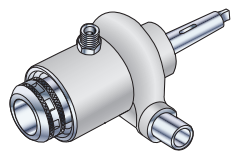
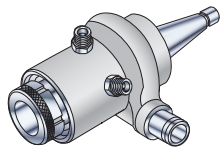
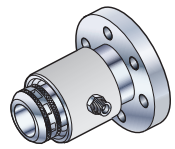








Please note: the leakage hole on the flange-mounted connectors must be kept open.

Type of connector	Diameter range, mm, inch D_c min	D_c max	Ordering code	Dimensions, mm, inch dm_m	D_{21}	D_{22}	D_{23}	l_1	l_2	l_{21}	l_{22}	l_{23}	l_{24}	TDZ
			**Varilock adapted for manual tool change**											
	18.40	65.00	**424.2-400M-V63**	63	115	53	210	305		67	135	85	60	R3/4"
	.724	2.559		2.480	4.528	2.087	8.268	12.008		2.638	5.315	3.346	2.362	
			**Varilock adapted connector for automatic tool change**											
	18.40	43.00	**For ordering information, see page E234.**											
	.724	1.693												
	18.40	65.00												
	.724	2.559												
			**Morse taper**											
	18.40	65.00	**424.2-400M**		115	53	210	309.5	465	67	135	85	60	R3/4"
	.724	2.559			4.528	2.087	8.268	12.185	18.307	2.638	5.315	3.346	2.362	
	18.40	36.20	**424.2-401M**		85	40	160	257	380	50	123	64	50	R3/4"
	.724	1.425			3.346	1.575	6.299	10.118	14.961	1.968	4.842	2.520	1.968	
			**ISO taper**											
	65.00	123.90	**424.2-402**		164	100	312	391	521	61	200	108	100	R1"
	2.559	4.878			6.457	3.937	12.284	15.394	20.512	2.402	7.874	4.252	3.937	
			**Flange mounting**											
	18.40	36.20	**424.9S/231-1**		85		130		235					R3/4"
	.724	1.425			3.346		5.118		9.252					
	18.40	65.00	**424.9S/170-1**		170		160		285					R3/4"
	.724	2.559			6.693		6.299		11.220					
	65.00	123.90	**424.9S/224-1**		164		225		345					R1"
	2.559	4.878			6.457		8.858		13.583					
	124.00	183.90	**424.9S/245-1**		244		360		400					R1 1/4
	4.882	7.240			9.606		14.173		15.748					

[1] Flange mounted, spindle nose type and size must be specified. Connectors are supplied with nut and spanner. Available on request.

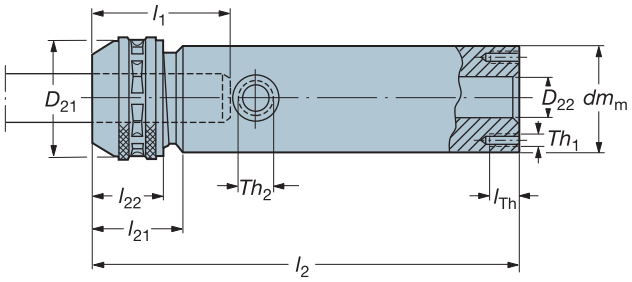
Ordering example: 1 piece 424.2-400M-V63

Non-rotating connectors

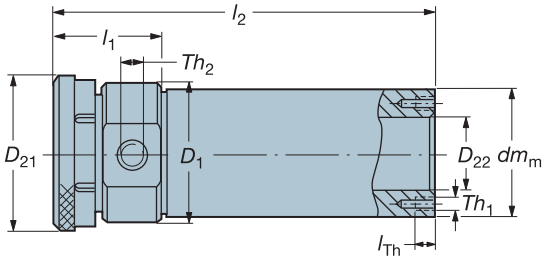
Diameter range 18.40-183.90 mm (.724-7.240 inch)

Cylindrical shank

Diameter 18.40-65.00 mm (.724-2.559 inch)

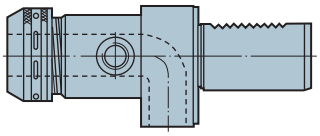


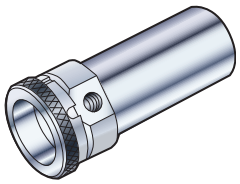
Diameter 65.00-183.90 mm (2.559-7.240 inch)



Example on connectors for NC lathes

Mounting specifications of turret lathe are required to design special connectors.



Type of shank	Diameter range, mm, inch		Shank	**Ordering code, outer tube**[1)]	Dimensions, mm, inch									
	D_c min	D_c max	dm_m		D_1	D_{21}	D_{22}	l_1	l_2	l_{21}	l_{22}	l_{Th}	Th_1	Th_2
	18.40	36.20	75	**424.2-411**		85	30	103	300	63	50	20	M8	R1/2"
	.724	*1.425*	*2.953*			*3.346*	*1.181*	*4.055*	*11.811*	*2.480*	*1.968*	*.787*	*M8*	*R1/2"*
	18.40	65.00	100	**424.2-410**		115	45	120	330	63	50	20	M8	R3/4"
	.724	*2.559*	*3.937*			*4.528*	*1.772*	*4.724*	*12.992*	*2.480*	*1.968*	*.787*	*M8*	*R3/4"*
	65.00	123.90	140	**424.2-412**	160	164	81	116	416			20	M8	R1"
	2.559	*4.878*	*5.512*		*6.299*	*6.457*	*3.189*	*4.567*	*16.378*			*.787*	*M8*	*R1"*
	124.00	183.90	230	**424.2-413**	250	244	142	156	456			20	M8	R1 1/4"
	4.882	*7.240*	*9.055*		*9.842*	*9.606*	*5.591*	*6.142*	*17.953*			*.787*	*M8*	*R1 1/4"*

Connectors are supplied with nut and spanner.

Ordering example: 1 piece 424.2-411

Mounting parts for rotating and non-rotating connectors

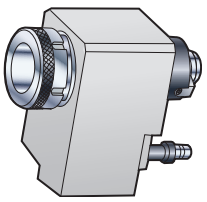
Diameter range 18.40-65.00 mm (.724-2.559 inch)

Diameter range		Tube range	Mounting parts				Connectors Rotating			Connectors Non-rotating
					O-rings: Two outer and one inner.					
			Collet	Sealing sleeve	Outer	Inner	Varilock adapted	Morse taper	Flange mounting[1]	Cylindrical
D_c mm	D_c inch									
18.40-19.20	.724-.756	0	424.2-421-00	424.2-431-00	3671 010-033	3671 010-024	424.2-400M-V63	424.2-401M	424.9S/231-1	424.2-411
19.21-20.00	.757-.787		424.2-420-00	424.2-430-00	3671 010-137	3671 010-024		424.2-400M	424.9S/170-1	424.2-410
20.01-20.90	.788-.823	1	424.2-421-01	424.2-431-01	3671 010-033	424.2-445-01	424.2-400M-V63	424.2-401M	424.9S/231-1	424.2-411
20.91-21.80	.824-.858		424.2-420-01	424.2-430-01	3671 010-137	424.2-445-01		424.2-400M	424.9S/170-1	424.2-410
21.81-22.90	.859-.902	2	424.2-421-02	424.2-431-02	3671 010-033	424.2-445-02	424.2-400M-V63	424.2-401M	424.9S/231-1	424.2-411
22.91-24.10	.903-.949		424.2-420-02	424.2-430-02	3671 010-137	424.2-445-02		424.2-400M	424.9S/170-1	424.2-410
24.11-25.20	.950-.992	3	424.2-421-03	424.2-431-03	3671 010-033	3671 010-026	424.2-400M-V63	424.2-401M	424.9S/231-1	424.2-411
25.21-26.40	.993-1.039		424.2-420-03	424.2-430-03	3671 010-137	3671 010-026		424.2-400M	424.9S/170-1	424.2-410
26.41-27.50	1.040-1.083	4	424.2-421-04	424.2-431-04	3671 010-033	424.2-445-04	424.2-400M-V63	424.2-401M	424.9S/231-1	424.2-411
27.51-28.70	1.084-1.130		424.2-420-04	424.2-430-04	3671 010-137	424.2-445-04		424.2-400M	424.9S/170-1	424.2-410
28.71-29.80	1.131-1.173	5	424.2-421-05	424.2-431-05	3671 010-033	424.2-445-05	424.2-400M-V63	424.2-401M	424.9S/231-1	424.2-411
29.81-31.00	1.174-1.220		424.2-420-05	424.2-430-05	3671 010-137	424.2-445-05		424.2-400M	424.9S/170-1	424.2-410
31.01-32.10	1.221-1.264	6	424.2-421-06	424.2-431-06	3671 010-033	3671 010-029	424.2-400M-V63	424.2-401M	424.9S/231-1	424.2-411
32.11-33.30	1.265-1.311		424.2-420-06	424.2-430-06	3671 010-137	3671 010-029		424.2-400M	424.9S/170-1	424.2-410
33.31-34.80	1.312-1.370	7	424.2-421-07	424.2-431-07	3671 010-033	3671 010-030	424.2-400M-V63	424.2-401M	424.9S/231-1	424.2-411
34.81-36.20	1.371-1.425		424.2-420-07	424.2-430-07	3671 010-137	3671 010-030		424.2-400M	424.9S/170-1	424.2-410
36.21-37.30	1.426-1.469	8	424.2-420-08	424.2-430-08	3671 010-137	3671 010-031	424.2-400M-V63	424.2-400M	424.9S/170-1	424.2-410
37.31-38.40	1.470-1.512									
38.41-39.60	1.513-1.559									
39.61-40.60	1.560-1.598	9	424.2-420-09	424.2-430-09	3671 010-137	424.2-445-09	424.2-400M-V63	424.2-400M	424.9S/170-1	424.2-410
40.61-41.80	1.599-1.646									
41.81-43.00	1.647-1.693									
43.01-44.30	1.694-1.744	10	424.2-420-10	424.2-430-10	3671 010-137	424.2-445-10	424.2-400M-V63	424.2-400M	424.9S/170-1	424.2-410
44.31-45.60	1.745-1.795									
45.61-47.00	1.796-1.850									
47.01-48.50	1.851-1.909	11	424.2-420-11	424.2-430-11	3671 010-137	424.2-445-11	424.2-400M-V63	424.2-400M	424.9S/170-1	424.2-410
48.51-50.10	1.910-1.972									
50.11-51.70	1.973-2.035									
51.71-53.20	2.036-2.094	12	424.2-420-12	424.2-430-12	3671 010-137	424.2-445-12	424.2-400M-V63	424.2-400M	424.9S/170-1	424.2-410
53.21-54.70	2.095-2.154									
54.71-56.20	2.155-2.213									
56.21-58.40	2.214-2.300	13	424.2-420-13	424.2-430-13	3671 010-137	3671 010-135	424.2-400M-V63	424.2-400M	424.9S/170-1	424.2-410
58.41-60.60	2.301-2.386									
60.61-62.80	2.387-2.472									
62.81-65.00	2.473-2.559									

[1] Available on request.

Ordering example: 2 pieces 424.2-421-00

Varilock adapted connector for automatic tool change



Drill diameter range 18.40-65.00 mm (.724-2.559 inch)

For ordering, see page E234

Mounting parts for rotating and non-rotating connectors

Diameter range 65.00-183.90 mm (2.559-7.240 inch)

Diameter range		Tube range	Mounting parts			Connectors Rotating		Connectors Non-rotating	
				Except for tube mounted connector.					For more information, see page E232
			Connecting sleeve/ collet	Sealing sleeve	O-ring	ISO taper	Flange mounting[1]	Cylindrical	Tube mounted[1]
D_c mm	D_c inch								
65.00-66.99	2.559-2.637	14	424.2-422-14	424.2-432-14	3671 010-143	424.2-402	424.9S/224-1	424.2-412	424.9S/232-1-14
67.00-72.99	2.638-2.874	15	424.2-422-15	424.2-432-15	3671 010-143	424.2-402	424.9S/224-1	424.2-412	424.9S/232-1-15
73.00-79.99	2.875-3.149	16	424.2-422-16	424.2-432-16	3671 010-143	424.2-402	424.9S/224-1	424.2-412	424.9S/232-1-16
80.00-86.99	3.150-3.425	17	424.2-422-17	424.2-432-17	3671 010-143	424.2-402	424.9S/224-1	424.2-412	424.9S/232-1-17
87.00-99.99	3.426-3.937	18	424.2-422-18	424.2-432-18	3671 010-143	424.2-402	424.9S/224-1	424.2-412	424.9S/232-1-18
100.00-111.99	3.938-4.409	19	424.2-422-19	424.2-432-19	3671 010-143	424.2-402	424.9S/224-1	424.2-412	424.9S/232-1-19
112.00-123.99	4.410-4.881	20	424.2-422-20	424.2-432-20	3671 010-143	424.2-402	424.9S/224-1	424.2-412	424.9S/232-1-20
Note that connecting sleeves with ordering code S-424.2-422-xxx are shortened. See footnote.									
65.00-66.99	2.559-2.637	14	S-424.2-422-14A[2]	424.2-432-14	3671 010-143	424.2-402	424.9S/224-1	424.2-412	424.9S/232-1-14
67.00-72.99	2.638-2.874	15	S-424.2-422-15A[2]	424.2-432-15	3671 010-143	424.2-402	424.9S/224-1	424.2-412	424.9S/232-1-15
73.00-79.99	2.875-3.149	16	S-424.2-422-16A[2]	424.2-432-16	3671 010-143	424.2-402	424.9S/224-1	424.2-412	424.9S/232-1-16
80.00-86.99	3.150-3.425	17	S-424.2-422-17A[2]	424.2-432-17	3671 010-143	424.2-402	424.9S/224-1	424.2-412	424.9S/232-1-17
87.00-99.99	3.426-3.937	18	S-424.2-422-18A[2]	424.2-432-18	3671 010-143	424.2-402	424.9S/224-1	424.2-412	424.9S/232-1-18
100.00-111.99	3.938-4.409	19	S-424.2-422-19A[2]	424.2-432-19	3671 010-143	424.2-402	424.9S/224-1	424.2-412	424.9S/232-1-19
112.00-123.99	4.410-4.881	20	S-424.2-422-20A[2]	424.2-432-20	3671 010-143	424.2-402	424.9S/224-1	424.2-412	424.9S/232-1-20
124.00-135.99	4.882-5.354	21	424.2-423-21	424.2-433-21	3671 010-154	-	424.9S/245-1	424.2-413	424.9S/232-1-21
136.00-147.99	5.355-5.826	22	424.2-423-22	424.2-433-22	3671 010-154	-	424.9S/245-1	424.2-413	424.9S/232-1-22
148.00-159.99	5.827-6.299	23	424.2-423-23	424.2-433-23	3671 010-154	-	424.9S/245-1	424.2-413	424.9S/232-1-23
160.00-171.99	6.300-6.771	24	424.2-423-24	424.2-433-24	3671 010-154	-	424.9S/245-1	424.2-413	424.9S/232-1-24
172.00-183.90	6.772-7.240	25	424.2-423-25	424.2-433-25	3671 010-154	-	424.9S/245-1	424.2-413	424.9S/232-1-25

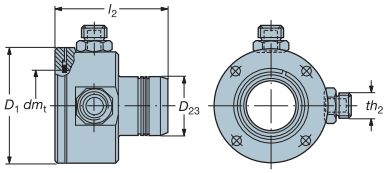
1) Available on request.

2) New reinforced sleeve, the sleeve has been shortened by 11 mm (.433 inch). Customers that have existing tubes must be notified that the inner tube will be too long and thus have to be cut off by 11 mm (.433 inch) in the front end. Please note that the length l_2 of the outer tube will stay the same and is not affected by the modification. Available on request.

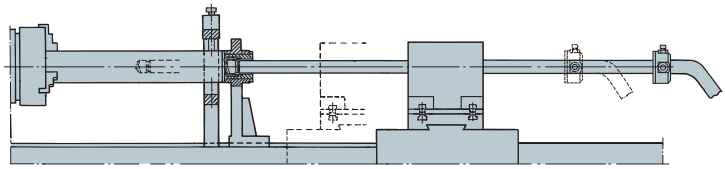
Ordering example: 2 pieces 424.2-422-14

Drill mounted connectors - non-rotating

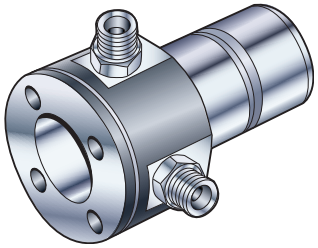
Diameter range 65.00-183.90 mm (2.559-7.240 inch)



Mounting of drill tube mounted connector



Connectors are supplied with nut and spanner.

Type of shank	Diameter range D_c min mm	D_c max mm	D_c min inch	D_c max inch	**Ordering code, outer tube**[1]	Dimensions, millimeter, inch (mm, in.) dm_t mm	dm_t in.	D_1 mm	D_1 in.	D_{23} mm	D_{23} in.	l_2 mm	l_2 in.	th_2
	65.00	66.90	2.559	2.634	**424.9S/232-1-14**	56	2.205	110	4.331	50.5	1.988	150	5.906	R1"
	67.00	72.90	2.638	2.870	**424.9S/232-1-15**	62	2.441	110	4.331	50.5	1.988	150	5.906	R1"
	73.00	79.90	2.874	3.146	**424.9S/232-1-16**	68	2.677	120	4.724	63.2	2.488	150	5.906	R1"
	80.00	86.90	3.150	3.421	**424.9S/232-1-17**	75	2.953	130	5.118	63.2	2.488	150	5.906	R1"
	87.00	99.90	3.425	3.933	**424.9S/232-1-18**	82	3.228	130	5.118	75.9	2.988	150	5.906	R1"
	100.00	111.90	3.937	4.406	**424.9S/232-1-19**	94	3.701	150	5.906	75.9	2.988	150	5.906	R1"
	112.00	123.90	4.409	4.878	**424.9S/232-1-20**	106	4.173	160	6.299	101	3.976	150	5.906	R1"
	124.00	135.90	4.882	5.350	**424.9S/232-1-21**	118	4.646	170	6.693	101	3.976	170	6.693	R1 1/4
	136.00	147.90	5.354	5.823	**424.9S/232-1-22**	130	5.118	185	7.284	126.7	4.988	170	6.693	R1 1/4
	148.00	159.90	5.827	6.295	**424.9S/232-1-23**	142	5.591	200	7.874	126.7	4.988	170	6.693	R1 1/4
	160.00	171.90	6.299	6.768	**424.9S/232-1-24**	154	6.063	215	8.465	126.7	4.988	170	6.693	R1 1/4
	172.00	183.90	6.772	7.240	**424.9S/232-1-25**	166	6.535	225	8.858	126.7	4.988	170	6.693	R1 1/4

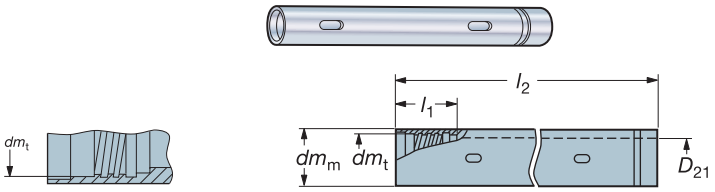
[1] For connector 424.9S/232-1-xx, the inner tube must be ordered 75 mm (2.953 inch) longer than the outer tube.

Ordering example: 1 piece 424.9S/232-1-14

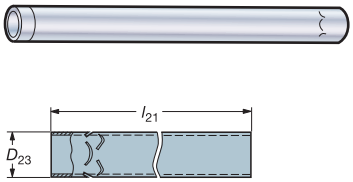
Note!

For spare parts, see page E289

Outer tube, range 14-25



Inner tube, range 14-25



dm_t is the same as dm_m for the drill

Diameter range D_c min mm	D_c max mm	D_c min inch	D_c max inch	Tube range	Ordering code, outer tube[1]	Dimensions, millimeter, inch (mm, in.) dm_m mm	dm_m in.	dm_t mm	dm_t in.	D_{21} mm	D_{21} in.	l_1 mm	l_1 in.	Ordering code, inner tube[1]	Dimensions, millimeter, inch (mm, in.) D_{23} mm	D_{23} in.
65.00	66.90	2.559	2.634	14	424.9S/233-14	56.0	2.205	52.0	2.047	43	1.693	75.0	2.953	424.2-864-L	40	1.575
67.00	72.90	2.638	2.870	15	424.9S/233-15	62.0	2.441	58.0	2.284	48	1.890	75.0	2.953	424.2-865-L	44	1.732
73.00	79.90	2.874	3.146	16	424.9S/233-16	68.0	2.677	63.0	2.480	53	2.087	75.0	2.953	424.2-866-L	48	1.890
80.00	86.90	3.150	3.421	17	424.9S/233-17	75.0	2.953	70.0	2.756	53	2.087	75.0	2.953	424.2-867-L	54	2.126
87.00	99.90	3.425	3.933	18	424.9S/233-18	82.0	3.228	77.0	3.032	66	2.598	97.0	3.819	424.2-868-L	60	2.362
100.00	111.90	3.937	4.406	19	424.9S/233-19	94.0	3.701	89.0	3.504	78	3.071	97.0	3.819	424.2-869-L	70	2.756
112.00	123.90	4.409	4.878	20	424.9S/233-20	106.0	4.173	101.0	3.976	90	3.543	118.0	4.646	424.2-870-L	80	3.150
124.00	135.90	4.882	5.350	21	424.9S/233-21	118.0	4.646	113.0	4.449	92	3.622	118.0	4.646	424.2-870-L	80	3.150
136.00	147.90	5.354	5.823	22	424.9S/233-22	130.0	5.118	125.0	4.921	104	4.094	118.0	4.646	424.2-872-L	95	3.740
148.00	159.90	5.827	6.295	23	424.9S/233-23	142.0	5.591	137.0	5.394	116	4.567	139.0	5.472	424.2-873-L	100	3.937
160.00	171.90	6.299	6.768	24	424.9S/233-24	154.0	6.063	149.0	5.866	128	5.039	139.0	5.472	424.2-874-L	120	4.724
172.00	183.90	6.772	7.240	25	424.9S/233-25	166.0	6.535	161.0	6.339	140	5.512	139.0	5.472	424.2-875-L	130	5.118

[1] Lengths are manufactured by customer request

[2] Available on request.

Ordering example outer tube: 1 piece 424.9S/233-14

SANDVIK Coromant

Varilock adapted connector for automatic tool change

Deep hole drilling operations are not normally performed on Machining Centres but carried out on conventional or purpose built machines which require dedicated workholding facilities.

The Ejector system developed by Sandvik Coromant however, has been designed to allow deep hole drilling to be performed more effectively on Machining Centres.

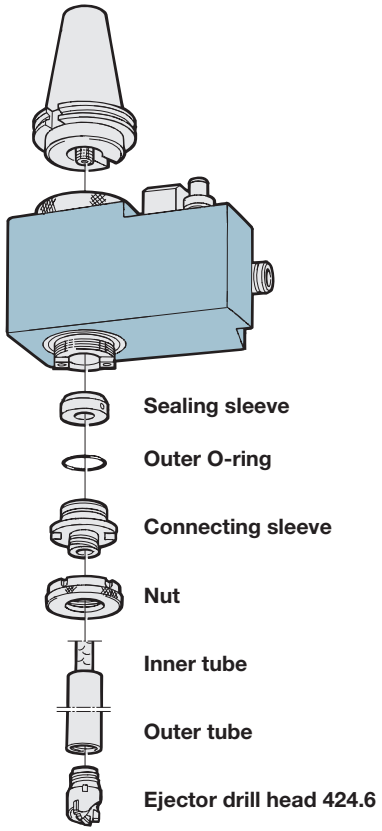
Ejector drilling requires high pressure coolant, a feature which most machining centres do not have. To enable this requirement to be incorporated, an extra coolant unit is necessary to obtain the benefits of Ejector drilling.

To deal with the copious amount of coolant supply needed to ensure good chip evacuation, Sandvik Coromant have introduced a Varilock connector with integral coolant supply housing, specially adapted for automatic tool changing.

A Varilock coupling is incorporated into the rear of the connector which allows interchangeability between a wide range of basic holders.

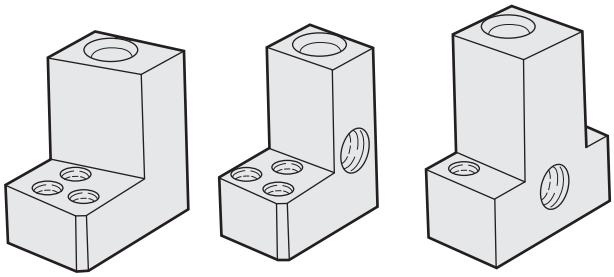
Rotating connector

For Ejector drilling in machining centre



Machine connection block

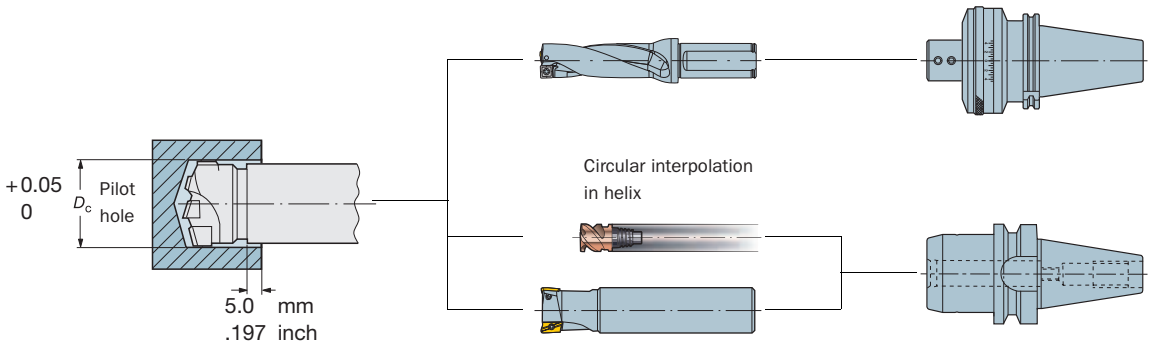
The illustration shows three types of machine connection block which are necessary if the machine is not already equipped with coolant supply adjacent to the spindle. If you wish to order the machine connection block with the coolant connector, please send full details of the type of block you require and its position on the spindle nose. If your machine is already fitted with a connection block, please send the details with your order.



Pilot holes for Ejector drilling

Method of producing pilot holes:
A deep pilot hole is required when not using a bush to guide the coolant.
The tolerance of the hole is plus in relation to the drill diameter.

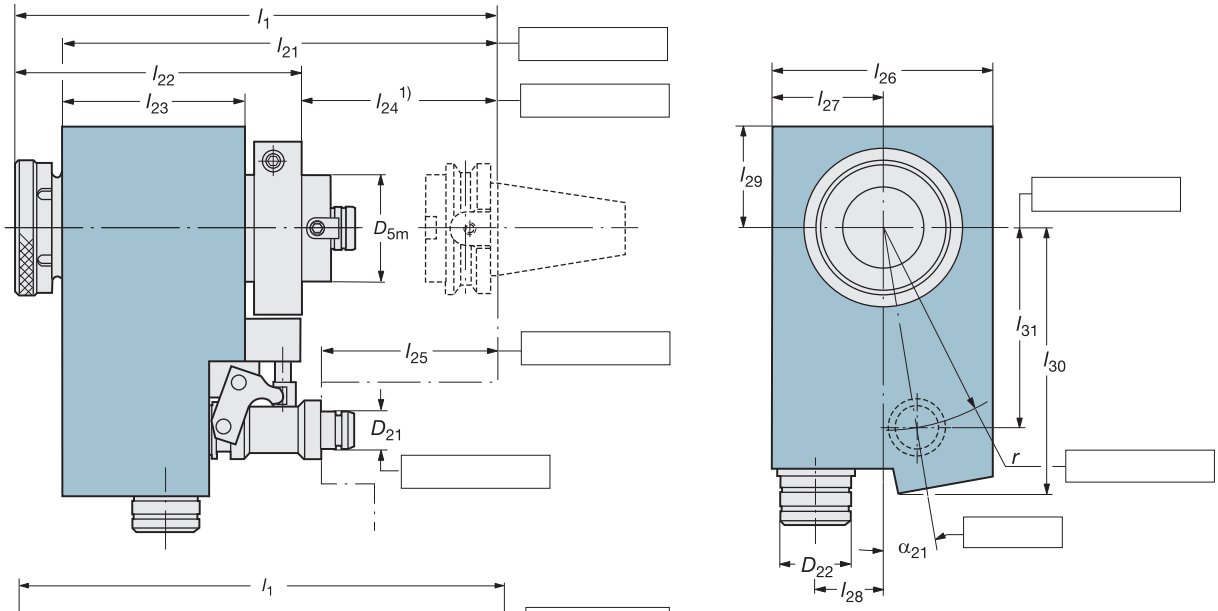
Machining of pilot hole



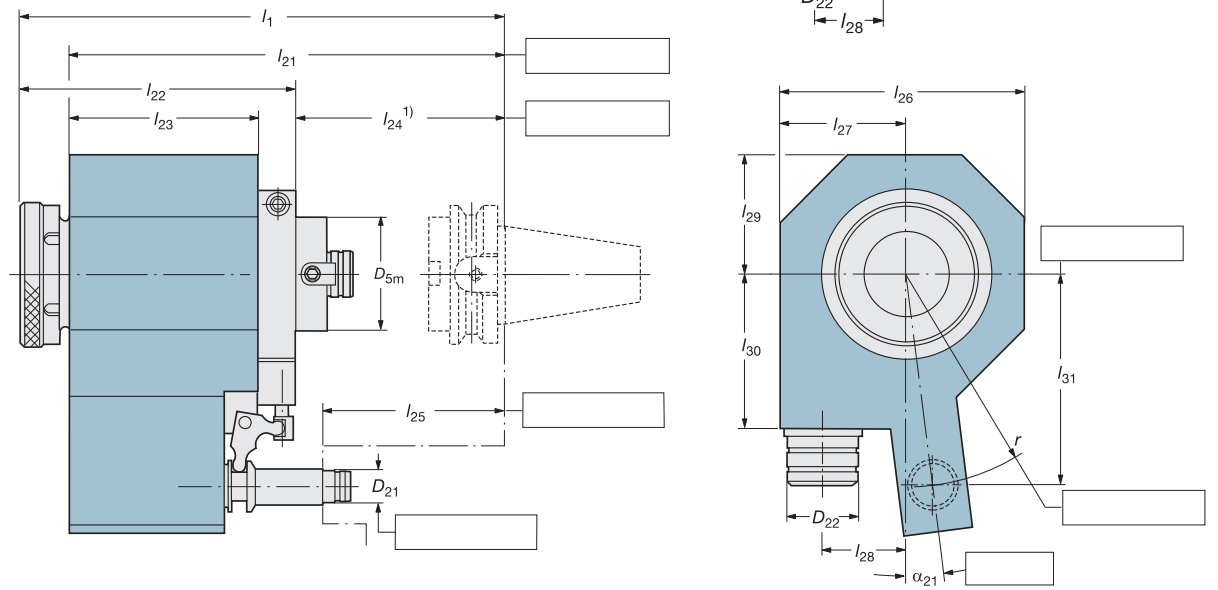
Varilock coolant connector

When ordering, please complete the details of your requirements below and send your order or inquiry to your Sandvik Coromant sales representative.

Housing, size 1



Housing, size 2



l_1 = programming length

1) The connector provides limited space in front of the flange for the toolgripper. If the toolgripper requires a specific space (l_{24}) please make sure this measurement is stated in the order.

Housing size	Drill diameter range, mm, inch	Varilock size	Dimensions, mm, inch										Max. rev/min.	Cutting fluid pressure, N/cm², psi		Cutting fluid quantity, l/min, gpm
	D_c	D_{5m}	D_{22}	l_{22}	l_{23}	l_{26}	l_{27}	l_{28}	l_{29}	l_{30}	KG			Max.	Recommended values	
1	18.40-43.00	63	40	170	107	130	65	40	60	160	15		3000	200	80-150	50-120
	.724-1.693		*1.575*	*6.693*	*4.213*	*5.118*	*2.559*	*1.575*	*2.362*	*6.299*				*1770*	*706-1327*	*13-32*
2	18.40-65.00	80	50	200	135	175	90	60	85	110	25		2500	200	60-150	50-200
	.724-2.559		*1.969*	*7.874*	*5.315*	*6.890*	*3.543*	*2.362*	*3.346*	*4.331*				*1770*	*531-1327*	*13-53*

Drill tubes manufactured by customer request

Ordering

When ordering, the following must be stated:

- Machine type
- Taper standard
- Taper size
- Drill diameter
- Drilling depth
- Drill tube length

For more information and advice, please contact your nearest Sandvik representative.

Components for Varilock-adapted connector for automatic tool change in machining centres

							Connector Rotating, Varilock-adapted
Tube range	Outer tube[1]	Inner tube[1]	Nut[2]	Connecting sleeve[2]	Sealing sleeve[2]	O-ring[2]	Size
00	424.9S/280 Pos 0	424.9S/281 Pos 0	424.9S/279-4.1	424.9S/282 Pos 0	424.9S/283 Pos 0	3671 010-131	1
			840110A16-4	840110R31-2 Pos 0	840110R32-2 Pos 0	3671 010-135	2
01	424.9S/280 Pos 1	424.9S/281 Pos 1	424.9S/279-4.1	424.9S/282 Pos 1	424.9S/283 Pos 1	3671 010-131	1
			840110A16-4	840110R31-2 Pos 1	840110R32-2 Pos 1	3671 010-135	2
02	424.9S/280 Pos 2	424.9S/281 Pos 2	424.9S/279-4.1	424.9S/282 Pos 2	424.9S/283 Pos 2	3671 010-131	1
			840110A16-4	840110R31-2 Pos 2	840110R32-2 Pos 2	3671 010-135	2
03	424.9S/280 Pos 3	424.9S/281 Pos 3	424.9S/279-4.1	424.9S/282 Pos 3	424.9S/283 Pos 3	3671 010-131	1
			840110A16-4	840110R31-2 Pos 3	840110R32-2 Pos 3	3671 010-135	2
04	424.9S/280 Pos 4	424.9S/281 Pos 4	424.9S/279-4.1	424.9S/282 Pos 4	424.9S/283 Pos 4	3671 010-131	1
			840110A16-4	840110R31-2 Pos 4	840110R32-2 Pos 4	3671 010-135	2
05	424.9S/280 Pos 5	424.9S/281 Pos 5	424.9S/279-4.1	424.9S/282 Pos 5	424.9S/283 Pos 5	3671 010-131	1
			840110A16-4	840110R31-2 Pos 5	840110R32-2 Pos 5	3671 010-135	2
06	424.9S/280 Pos 6	424.9S/281 Pos 6	424.9S/279-4.1	424.9S/282 Pos 6	424.9S/283 Pos 6	3671 010-131	1
			840110A16-4	840110R31-2 Pos 6	840110R32-2 Pos 6	3671 010-135	2
07	424.9S/280 Pos 7	424.9S/281 Pos 7	424.9S/279-4.1	424.9S/282 Pos 7	424.9S/283 Pos 7	3671 010-131	1
			840110A16-4	840110R31-2 Pos 7	840110R32-2 Pos 7	3671 010-135	2
08	424.9S/280 Pos 8	424.9S/281 Pos 8	424.9S/279-4.1	424.9S/282 Pos 8	424.9S/283 Pos 8	3671 010-131	1
			840110A16-4	840110R31-2 Pos 8	840110R32-2 Pos 8	3671 010-135	2
09	424.9S/280 Pos 9	424.9S/281 Pos 9	424.9S/279-4.1	424.9S/282 Pos 9	424.9S/283 Pos 9	3671 010-131	1
			840110A16-4	840110R31-2 Pos 9	840110R32-2 Pos 9	3671 010-135	2
10	424.9S/280 Pos 10	424.9S/281 Pos 10	840110A16-4	840110R31-2 Pos 10	840110R32-2 Pos 10	3671 010-135	2
11	424.9S/280 Pos 11	424.9S/281 Pos 11	840110A16-4	840110R31-2 Pos 11	840110R32-2 Pos 11	3671 010-135	2
12	424.9S/280 Pos 12	424.9S/281 Pos 12	840110A16-4	840110R31-2 Pos 12	840110R32-2 Pos 12	3671 010-135	2
13	424.9S/280 Pos 13	424.9S/281 Pos 13	840110A16-4	840110R31-2 Pos 13	840110R32-2 Pos 13	3671 010-135	2

[1] Lengths are manufactured by customer request

[2] Available on request.

Ordering example: 1 piece 424.9S/280 Pos 0

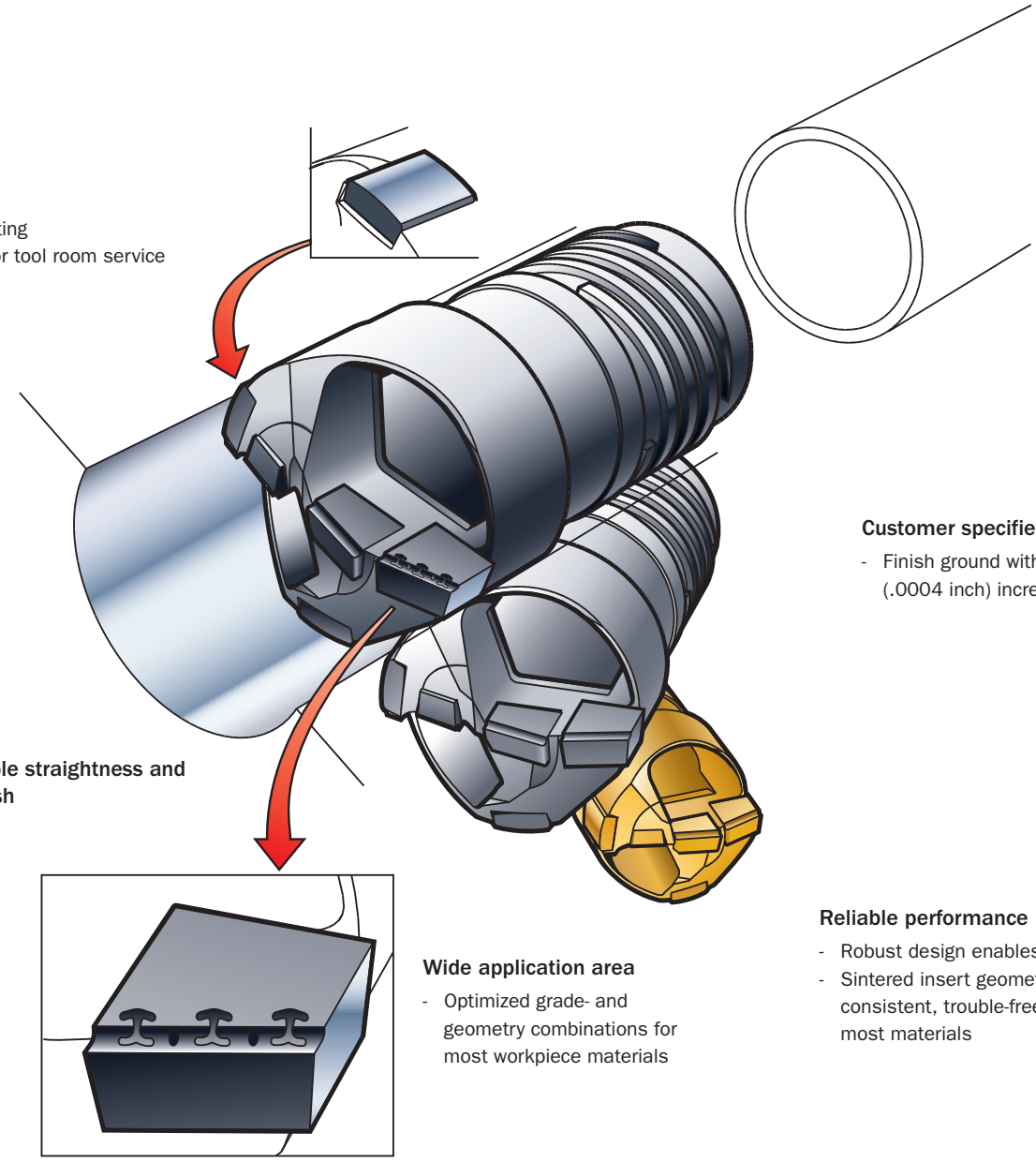
Ground drill head 420.6

Ground brazed solid drill head

"The original" precision drill

Easy to use

- No pre-setting
- No need for tool room service



Customer specified diameter

- Finish ground within 0.01 mm (.0004 inch) increments

Excellent hole straightness and surface finish

Wide application area

- Optimized grade- and geometry combinations for most workpiece materials

Reliable performance

- Robust design enables high feed rates
- Sintered insert geometries ensure consistent, trouble-free chip control in most materials

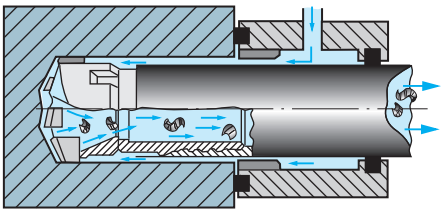
ISO application area:

P M K N S

SANDVIK Coromant

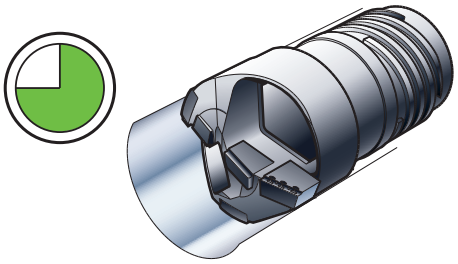
Ground drill head 420.6

Preferred STS applications



- Special machines for mass production
- Special DHD machines
- Long run production
- Long workpieces
- Material with difficult chipbreaking or uneven structure
- Stainless and low carbon steel

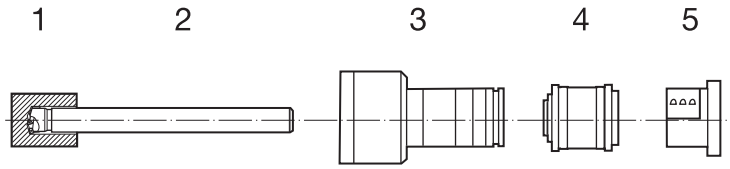
Productivity



- The first choice for hole diameters 15.60 - 24.99 mm (.614 - .984 inch) or for diameters 25.00 - 65.00 mm (.984 - 2.559 inch) when extra close diameter tolerance is demanded
- Low investment cost for small batch production
- Standard programme

IT9
R_a 2 µm

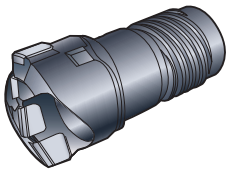
Tool mounting



1 Drill heads, see page E238.
2 Drill tubes, see page E239.
3 Oil pressure heads, see page E266.
4 Vibration dampers, see page E269.
5 Connecting chucks, see page E267.

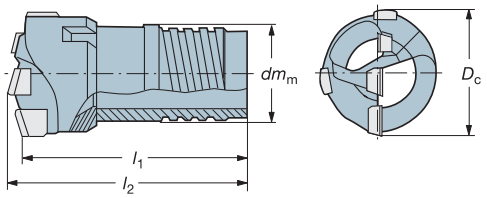
STS drill programme - Ground brazed drill head 420.6

Diameter range 15.60-65.00 mm (.614-2.559 inch)



Hole depth:	150 x Dia.
Hole tolerance:	IT9
Surface finish:	R_a 2 µm
Cutting fluid:	Neat oil or soluble.

Drill heads are delivered with standard chipbreaker, finish ground to the desired diameter to tolerance ISO h6.



dm_m is the same as dm_t for the drill tube.

Diameter range				Tube range	Ordering code, Drill head[1]	P		M		K	N	S	Dimensions, millimeter, inch (mm, in.)					
						-	-	-	-	-	-	-						
D_c min mm	D_c max mm	D_c min inch	D_c max inch			63	70	20	67	72	72	72	dm_m mm	dm_m in.	l_1 mm	l_1 in.	l_2 mm	l_2 in.
15.60	16.20	.614	.638	97	420.6-9713Dxx.xx zz				★				12.6	.496	40.3	1.587	43.0	1.693
15.60	16.20	.614	.638		420.6-9714Dxx.xx zz		★			☆	★	★	12.6	.496	40.3	1.587	43.0	1.693
16.21	16.70	.638	.658		420.6-9723Dxx.xx zz				★				12.6	.496	40.3	1.587	43.0	1.693
16.21	16.70	.638	.658		420.6-9724Dxx.xx zz		★			☆	★	★	12.6	.496	40.3	1.587	43.0	1.693
16.71	17.20	.658	.677	98	420.6-9813Dxx.xx zz				★				13.6	.535	40.3	1.587	43.0	1.693
16.71	17.20	.658	.677		420.6-9814Dxx.xx zz		★			☆	★	★	13.6	.535	40.3	1.587	43.0	1.693
17.21	17.70	.678	.697		420.6-9823Dxx.xx zz				★				13.6	.535	40.3	1.587	43.0	1.693
17.21	17.70	.678	.697		420.6-9824Dxx.xx zz		★			☆	★	★	13.6	.535	40.3	1.587	43.0	1.693
17.71	18.40	.697	.724	99	420.6-9913Dxx.xx zz				★				14.5	.571	44.2	1.740	47.0	1.850
17.71	18.40	.697	.724		420.6-9914Dxx.xx zz		★			☆	★	★	14.5	.571	44.2	1.740	47.0	1.850
18.41	18.90	.725	.744		420.6-9923Dxx.xx zz				★				14.5	.571	44.1	1.736	47.0	1.850
18.41	18.90	.725	.744		420.6-9924Dxx.xx zz		★			☆	★	★	14.5	.571	44.1	1.736	47.0	1.850
18.91	19.20	.744	.756	00	420.6-0013Dxx.xx zz				★				15.5	.610	44.1	1.736	47.0	1.850
18.91	19.20	.744	.756		420.6-0014Dxx.xx zz		★			☆	★	★	15.5	.610	44.1	1.736	47.0	1.850
19.21	20.00	.756	.787		420.6-0023Dxx.xx zz				★				15.5	.610	44.0	1.732	47.0	1.850
19.21	20.00	.756	.787		420.6-0024Dxx.xx zz		★			☆	★	★	15.5	.610	44.0	1.732	47.0	1.850
20.01	20.90	.788	.823	01	420.6-0112Dxx.xx zz			★					16.0	.630	49.4	1.945	52.5	2.067
20.01	20.90	.788	.823		420.6-0113Dxx.xx zz			★	☆				16.0	.630	49.4	1.945	52.5	2.067
20.01	20.90	.788	.823		420.6-0114Dxx.xx zz	☆	★			☆	★	★	16.0	.630	49.4	1.945	52.5	2.067
20.91	21.80	.823	.858		420.6-0122Dxx.xx zz			★					16.0	.630	49.2	1.937	52.5	2.067
20.91	21.80	.823	.858		420.6-0123Dxx.xx zz			★	☆				16.0	.630	49.2	1.937	52.5	2.067
20.91	21.80	.823	.858		420.6-0124Dxx.xx zz	☆	★			☆	★	★	16.0	.630	49.2	1.937	52.5	2.067
21.81	22.90	.859	.902	02	420.6-0212Dxx.xx zz			★					18.0	.709	52.8	2.079	56.0	2.205
21.81	22.90	.859	.902		420.6-0213Dxx.xx zz			★	☆				18.0	.709	52.8	2.079	56.0	2.205
21.81	22.90	.859	.902		420.6-0214Dxx.xx zz	☆	★			☆	★	★	18.0	.709	52.8	2.079	56.0	2.205
22.91	24.10	.902	.949		420.6-0222Dxx.xx zz			★					18.0	.709	52.6	2.071	56.0	2.205
22.91	24.10	.902	.949		420.6-0223Dxx.xx zz			★	☆				18.0	.709	52.6	2.071	56.0	2.205
22.91	24.10	.902	.949		420.6-0224Dxx.xx zz	☆	★			☆	★	★	18.0	.709	52.6	2.071	56.0	2.205
24.11	25.20	.949	.992	03	420.6-0312Dxx.xx zz			★					19.5	.768	54.0	2.126	57.5	2.264
24.11	25.20	.949	.992		420.6-0313Dxx.xx zz			★	☆				19.5	.768	54.0	2.126	57.5	2.264
24.11	25.20	.949	.992		420.6-0314Dxx.xx zz	☆	★			☆	★	★	19.5	.768	54.0	2.126	57.5	2.264
25.21	26.40	.992	1.039		420.6-0322Dxx.xx zz			★					19.5	.768	54.0	2.126	57.5	2.264
25.21	26.40	.992	1.039		420.6-0323Dxx.xx zz			★	☆				19.5	.768	54.0	2.126	57.5	2.264
25.21	26.40	.992	1.039		420.6-0324Dxx.xx zz	☆	★			☆	★	★	19.5	.768	54.0	2.126	57.5	2.264
26.41	27.50	1.040	1.083	04	420.6-0412Dxx.xx zz			★					21.0	.827	53.8	2.118	57.5	2.264
26.41	27.50	1.040	1.083		420.6-0413Dxx.xx zz			★	☆				21.0	.827	53.8	2.118	57.5	2.264
26.41	27.50	1.040	1.083		420.6-0414Dxx.xx zz	☆	★			☆	★	★	21.0	.827	53.8	2.118	57.5	2.264
27.51	28.70	1.083	1.130		420.6-0422Dxx.xx zz			★					21.0	.827	53.8	2.118	57.5	2.264
27.51	28.70	1.083	1.130		420.6-0423Dxx.xx zz			★	☆				21.0	.827	53.8	2.118	57.5	2.264
27.51	28.70	1.083	1.130		420.6-0424Dxx.xx zz	☆	★			☆	★	★	21.0	.827	53.8	2.118	57.5	2.264
28.71	29.80	1.130	1.173	05	420.6-0512Dxx.xx zz			★					23.5	.925	59.5	2.342	63.5	2.500
28.71	29.80	1.130	1.173		420.6-0513Dxx.xx zz			★	☆				23.5	.925	59.5	2.342	63.5	2.500
28.71	29.80	1.130	1.173		420.6-0514Dxx.xx zz	☆	★			☆	★	★	23.5	.925	59.5	2.342	63.5	2.500
29.81	31.00	1.174	1.220		420.6-0522Dxx.xx zz			★					23.5	.925	59.3	2.335	63.5	2.500
29.81	31.00	1.174	1.220		420.6-0523Dxx.xx zz			★	☆				23.5	.925	59.3	2.335	63.5	2.500
29.81	31.00	1.174	1.220		420.6-0524Dxx.xx zz	☆	★			☆	★	★	23.5	.925	59.3	2.335	63.5	2.500
31.01	32.10	1.221	1.264	06	420.6-0612Dxx.xx zz			★					25.5	1.004	59.4	2.339	63.5	2.500
31.01	32.10	1.221	1.264		420.6-0613Dxx.xx zz			★	☆				25.5	1.004	59.4	2.339	63.5	2.500
31.01	32.10	1.221	1.264		420.6-0614Dxx.xx zz	☆	★			☆	★	★	25.5	1.004	59.4	2.339	63.5	2.500
32.11	33.30	1.264	1.311		420.6-0622Dxx.xx zz			★					25.5	1.004	59.1	2.327	63.5	2.500
32.11	33.30	1.264	1.311		420.6-0623Dxx.xx zz			★	☆				25.5	1.004	59.1	2.327	63.5	2.500
32.11	33.30	1.264	1.311		420.6-0624Dxx.xx zz	☆	★			☆	★	★	25.5	1.004	59.1	2.327	63.5	2.500

[1] Drills with other grade combinations and drills with diameters 12.60-15.59 mm (.496-.614 inch) are available on request.

When ordering drill heads, state chipbreaker No. (w), drill diameter (xx.xx) and grade combination (zz) in the ordering code.

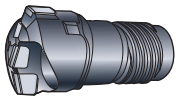
[2] The Ejector drill 800.24 in diameter range 60.61-65.00 mm (2.386-2.559 inch) together with the drill tube 420.5-813E are an alternative to the corresponding STS drills, where the highest possible stability is required.

Ordering example: 2 pieces 420.6-9714 D*15.60* 70

★= First choice

SANDVIK Coromant

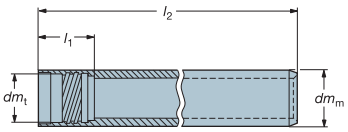
Drill head



420.6

Drill tube 420.5-





Diameter range				Tube range	**Ordering code, outer tube**[1]	Dimensions, millimeter, inch (mm, in.)							
D_c min mm	D_c max mm	D_c min inch	D_c max inch			dm_m mm	dm_m in.	dm_t mm	dm_t in.	l_1 mm	l_1 in.	l_2 mm	l_2 in.
15.60	16.70	.614	.658	97	**420.5-797-2**	14.0	.551	12.6	.496	21.0	.827	1600	62.992
16.71	17.70	.658	.697	98	**420.5-798-2**	15.0	.591	13.6	.535	21.0	.827	1600	62.992
17.71	18.90	.697	.744	99	**420.5-799-2**	16.0	.630	14.5	.571	22.0	.866	1600	62.992
18.91	20.00	.744	.787	00	**420.5-800-2**	17.0	.669	15.5	.610	22.0	.866	1600	62.992
20.01	21.80	.788	.858	01	**420.5-801-4**	18.0	.709	16.0	.630	25.0	.984	2600	102.362
21.81	24.10	.859	.949	02	**420.5-802-4**	20.0	.787	18.0	.709	26.0	1.024	2600	102.362
24.11	26.40	.949	1.039	03	**420.5-803-4**	22.0	.866	19.5	.768	26.0	1.024	2600	102.362
26.41	28.70	1.040	1.130	04	**420.5-804-4**	24.0	.945	21.0	.827	26.0	1.024	2600	102.362
28.71	31.00	1.130	1.220	05	**420.5-805-4**	26.0	1.024	23.5	.925	29.0	1.142	2600	102.362
31.01	33.30	1.221	1.311	06	**420.5-806-4**	28.0	1.102	25.5	1.004	29.0	1.142	2600	102.362

[1] Other lengths can be manufactured by customer request.

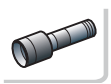
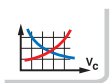
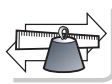
[2] 424.6 style Ejector drills can be used in these tubes for greater stability.

Ordering example for drill tube length 1600 mm (62.992 inch) fitting drill head D_c = 16.00 mm (.630 inch):

1 piece 420.5-797-2

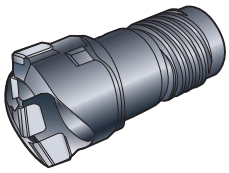
Ordering example for drill tube, design to customer request, length 400 mm (15.748 inch) fitting drill head D_c = 22.00 mm (.866 inch):

1 piece 420.5-802-L400

 E269  E266  E267  E301  J3

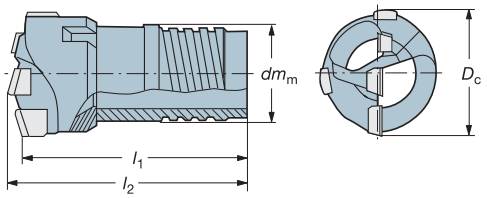
STS drill programme - Ground brazed drill head 420.6

Diameter range 15.60-65.00 mm (.614-2.559 inch)



Hole depth:	150 x Dia.
Hole tolerance:	IT9
Surface finish:	R_a 2 µm
Cutting fluid:	Neat oil or soluble.

Drill heads are delivered with standard chipbreaker, finish ground to the desired diameter to tolerance ISO h6.



dm_m is the same as dm_t for the drill tube.

Diameter range D_c min mm	D_c max mm	D_c min inch	D_c max inch	Tube range	Ordering code, Drill head[1]	P - 63	P - 70	M - 20	M - 67	K - 72	N - 72	S - 72	dm_m mm	dm_m in.	l_1 mm	l_1 in.	l_2 mm	l_2 in.
33.31	34.80	1.311	1.370	07	420.6-0712Dxx.xx zz			★					28.0	1.102	59.0	2.323	63.5	2.500
33.31	34.80	1.311	1.370		420.6-0713Dxx.xx zz			★	☆				28.0	1.102	59.0	2.323	63.5	2.500
33.31	34.80	1.311	1.370		420.6-0714Dxx.xx zz	☆	★			☆	★	★	28.0	1.102	59.0	2.323	63.5	2.500
34.81	36.20	1.370	1.425		420.6-0722Dxx.xx zz			★					28.0	1.102	59.0	2.323	63.5	2.500
34.81	36.20	1.370	1.425		420.6-0723Dxx.xx zz			★	☆				28.0	1.102	58.9	2.319	63.5	2.500
34.81	36.20	1.370	1.425		420.6-0724Dxx.xx zz	☆	★			☆	★	★	28.0	1.102	58.9	2.319	63.5	2.500
36.21	37.30	1.426	1.468	08	420.6-0812Dxx.xx zz			★					30.0	1.181	68.7	2.705	73.5	2.894
36.21	37.30	1.426	1.468		420.6-0813Dxx.xx zz			★	☆				30.0	1.181	68.7	2.705	73.5	2.894
36.21	37.30	1.426	1.468		420.6-0814Dxx.xx zz	☆	★			☆	★	★	30.0	1.181	68.7	2.705	73.5	2.894
37.31	38.40	1.469	1.512		420.6-0822Dxx.xx zz			★					30.0	1.181	68.7	2.705	73.5	2.894
37.31	38.40	1.469	1.512		420.6-0823Dxx.xx zz			★	☆				30.0	1.181	68.5	2.697	73.5	2.894
37.31	38.40	1.469	1.512		420.6-0824Dxx.xx zz	☆	★			☆	★	★	30.0	1.181	68.5	2.697	73.5	2.894
38.41	39.60	1.512	1.559		420.6-0832Dxx.xx zz			★					30.0	1.181	68.3	2.689	73.5	2.894
38.41	39.60	1.512	1.559		420.6-0833Dxx.xx zz			★	☆				30.0	1.181	68.3	2.689	73.5	2.894
38.41	39.60	1.512	1.559		420.6-0834Dxx.xx zz	☆	★			☆	★	★	30.0	1.181	68.3	2.689	73.5	2.894
39.61	40.60	1.559	1.598	09	420.6-0912Dxx.xx zz			★					33.0	1.299	68.2	2.685	73.5	2.894
39.61	40.60	1.559	1.598		420.6-0913Dxx.xx zz			★	☆				33.0	1.299	68.2	2.685	73.5	2.894
39.61	40.60	1.559	1.598		420.6-0914Dxx.xx zz	☆	★			☆	★	★	33.0	1.299	68.2	2.685	73.5	2.894
40.61	41.80	1.599	1.646		420.6-0922Dxx.xx zz			★					33.0	1.299	68.0	2.677	73.5	2.894
40.61	41.80	1.599	1.646		420.6-0923Dxx.xx zz			★	☆				33.0	1.299	68.0	2.677	73.5	2.894
40.61	41.80	1.599	1.646		420.6-0924Dxx.xx zz	☆	★			☆	★	★	33.0	1.299	68.0	2.677	73.5	2.894
41.81	43.00	1.646	1.693		420.6-0932Dxx.xx zz			★					33.0	1.299	67.8	2.669	73.5	2.894
41.81	43.00	1.646	1.693		420.6-0933Dxx.xx zz			★	☆				33.0	1.299	67.8	2.669	73.5	2.894
41.81	43.00	1.646	1.693		420.6-0934Dxx.xx zz	☆	★			☆	★	★	33.0	1.299	67.8	2.669	73.5	2.894
43.01	44.30	1.693	1.744	10	420.6-1012Dxx.xx zz			★					36.0	1.417	69.5	2.736	75.0	2.953
43.01	44.30	1.693	1.744		420.6-1013Dxx.xx zz			★	☆				36.0	1.417	69.5	2.736	75.0	2.953
43.01	44.30	1.693	1.744		420.6-1014Dxx.xx zz	☆	★			☆	★	★	36.0	1.417	69.5	2.736	75.0	2.953
44.31	45.60	1.744	1.795		420.6-1022Dxx.xx zz			★					36.0	1.417	69.3	2.728	75.0	2.953
44.31	45.60	1.744	1.795		420.6-1023Dxx.xx zz			★	☆				36.0	1.417	69.3	2.728	75.0	2.953
44.31	45.60	1.744	1.795		420.6-1024Dxx.xx zz	☆	★			☆	★	★	36.0	1.417	69.3	2.728	75.0	2.953
45.61	47.00	1.796	1.850		420.6-1032Dxx.xx zz			★					36.0	1.417	69.1	2.720	75.0	2.953
45.61	47.00	1.796	1.850		420.6-1033Dxx.xx zz			★	☆				36.0	1.417	69.1	2.720	75.0	2.953
45.61	47.00	1.796	1.850		420.6-1034Dxx.xx zz	☆	★			☆	★	★	36.0	1.417	69.1	2.720	75.0	2.953
47.01	48.50	1.851	1.909	11	420.6-1112Dxx.xx zz			★					39.0	1.535	68.8	2.709	75.0	2.953
47.01	48.50	1.851	1.909		420.6-1113Dxx.xx zz			★	☆				39.0	1.535	68.8	2.709	75.0	2.953
47.01	48.50	1.851	1.909		420.6-1114Dxx.xx zz	☆	★			☆	★	★	39.0	1.535	68.8	2.709	75.0	2.953
48.51	50.10	1.910	1.972		420.6-1122Dxx.xx zz			★					39.0	1.535	68.7	2.705	75.0	2.953
48.51	50.10	1.910	1.972		420.6-1123Dxx.xx zz			★	☆				39.0	1.535	68.7	2.705	75.0	2.953
48.51	50.10	1.910	1.972		420.6-1124Dxx.xx zz	☆	★			☆	★	★	39.0	1.535	68.7	2.705	75.0	2.953
50.11	51.70	1.973	2.035		420.6-1132Dxx.xx zz			★					39.0	1.535	68.5	2.697	75.0	2.953
50.11	51.70	1.973	2.035		420.6-1133Dxx.xx zz			★	☆				39.0	1.535	68.5	2.697	75.0	2.953
50.11	51.70	1.973	2.035		420.6-1134Dxx.xx zz	☆	★			☆	★	★	39.0	1.535	68.5	2.697	75.0	2.953

[1] Drills with other grade combinations and drills with diameters 12.60-15.59 mm (.496-.614 inch) are available on request.

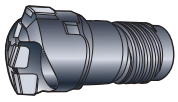
When ordering drill heads, state chipbreaker No. (w), drill diameter (xx.xx) and grade combination (zz) in the ordering code.

[2] The Ejector drill 800.24 in diameter range 60.61-65.00 mm (2.386-2.559 inch) together with the drill tube 420.5-813E are an alternative to the corresponding STS drills, where the highest possible stability is required.

Ordering example: 2 pieces 420.6-0714 D*33.31* 70

★= First choice

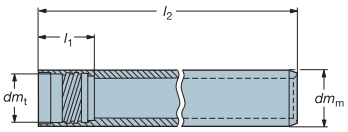
Drill head



420.6

Drill tube 420.5-



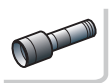
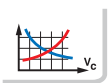
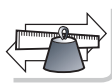


Diameter range				Tube range	**Ordering code, outer tube**[1]	Dimensions, millimeter, inch (mm, in.)							
D_c min mm	D_c max mm	D_c min inch	D_c max inch			dm_m mm	dm_m in.	dm_t mm	dm_t in.	l_1 mm	l_1 in.	l_2 mm	l_2 in.
33.31	36.20	1.311	1.425	07	**420.5-807-4**	30.0	1.181	28.0	1.102	29.0	1.142	2600	102.362
36.21	39.60	1.426	1.559	08	**420.5-808-4**	33.0	1.299	30.0	1.181	36.0	1.417	2600	102.362
39.61	43.00	1.559	1.693	09	**420.5-809-4**	36.0	1.417	33.0	1.299	36.0	1.417	2600	102.362
43.01	47.00	1.693	1.850	10	**420.5-810-4**	39.0	1.535	36.0	1.417	36.0	1.417	2600	102.362
47.01	51.70	1.851	2.035	11	**420.5-811-4**	43.0	1.693	39.0	1.535	36.0	1.417	2600	102.362

[1] Other lengths can be manufactured by customer request.

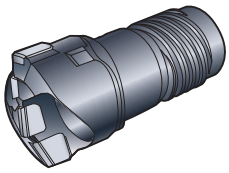
Ordering example for drill tube length 1600 mm (62.992 inch) fitting drill head D_c = 33.31 mm (1.311 inch):
1 piece 420.5-807-4

Ordering example for drill tube, design to customer request, length 400 mm (15.748 inch) fitting drill head D_c = 33.31 mm (1.311 inch):
1 piece 420.5-807-L400

 E269  E266  E267  E301  J3

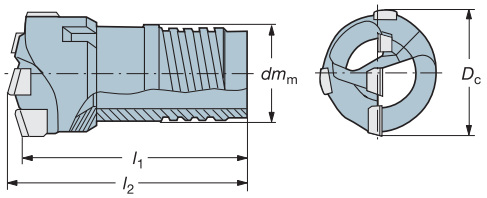
STS drill programme - Ground brazed drill head 420.6

Diameter range 15.60-65.00 mm (.614-2.559 inch)



Hole depth:	150 x Dia.
Hole tolerance:	IT9
Surface finish:	R_a 2 µm
Cutting fluid:	Neat oil or soluble.

Drill heads are delivered with standard chipbreaker, finish ground to the desired diameter to tolerance ISO h6.



dm_m is the same as dm_t for the drill tube.

Diameter range D_c min mm	D_c max mm	D_c min inch	D_c max inch	Tube range	**Ordering code, Drill head**[1]	P		M		K	N	S	Dimensions, millimeter, inch (mm, in.) dm_m mm	dm_m in.	l_1 mm	l_1 in.	l_2 mm	l_2 in.
						- 63	- 70	- 20	- 67	- 72	- 72	- 72						
51.71	53.20	2.036	2.094	12	**420.6-1212Dxx.xx zz**			★					43.0	1.693	75.2	2.961	82.0	3.228
51.71	53.20	2.036	2.094		**420.6-1213Dxx.xx zz**			★	☆				43.0	1.693	75.2	2.961	82.0	3.228
51.71	53.20	2.036	2.094		**420.6-1214Dxx.xx zz**	☆	★			☆	★	★	43.0	1.693	75.2	2.961	82.0	3.228
53.21	54.70	2.095	2.154		**420.6-1222Dxx.xx zz**			★					43.0	1.693	75.5	2.972	82.0	3.228
53.21	54.70	2.095	2.154		**420.6-1223Dxx.xx zz**			★	☆				43.0	1.693	75.5	2.972	82.0	3.228
53.21	54.70	2.095	2.154		**420.6-1224Dxx.xx zz**	☆	★			☆	★	★	43.0	1.693	75.5	2.972	82.0	3.228
54.71	56.20	2.154	2.213		**420.6-1232Dxx.xx zz**			★					43.0	1.693	75.2	2.961	82.0	3.228
54.71	56.20	2.154	2.213		**420.6-1233Dxx.xx zz**			★	☆				43.0	1.693	75.2	2.961	82.0	3.228
54.71	56.20	2.154	2.213		**420.6-1234Dxx.xx zz**	☆	★			☆	★	★	43.0	1.693	75.2	2.961	82.0	3.228
56.21	58.40	2.213	2.299	13	**420.6-1312Dxx.xx zz**			★					47.0	1.850	77.2	3.039	84.0	3.307
56.21	58.40	2.213	2.299		**420.6-1313Dxx.xx zz**			★	☆				47.0	1.850	77.2	3.039	84.0	3.307
56.21	58.40	2.213	2.299		**420.6-1314Dxx.xx zz**	☆	★			☆	★	★	47.0	1.850	77.2	3.039	84.0	3.307
58.41	60.60	2.300	2.386		**420.6-1322Dxx.xx zz**			★					47.0	1.850	76.7	3.020	84.0	3.307
58.41	60.60	2.300	2.386		**420.6-1323Dxx.xx zz**			★	☆				47.0	1.850	76.7	3.020	84.0	3.307
58.41	60.60	2.300	2.386		**420.6-1324Dxx.xx zz**	☆	★			☆	★	★	47.0	1.850	76.7	3.020	84.0	3.307
60.61	62.80	2.386	2.472		**420.6-1332Dxx.xx zz**			★					47.0	1.850	76.8	3.024	84.0	3.307
60.61	62.80	2.386	2.472		**420.6-1333Dxx.xx zz**			★	☆				47.0	1.850	76.8	3.024	84.0	3.307
60.61	62.80	2.386	2.472		**420.6-1334Dxx.xx zz**	☆	★			☆	★	★	47.0	1.850	76.8	3.024	84.0	3.307
62.81	65.00	2.473	2.559		**420.6-1342Dxx.xx zz**			★					47.0	1.850	76.5	3.012	84.0	3.307
62.81	65.00	2.473	2.559		**420.6-1343Dxx.xx zz**			★	☆				47.0	1.850	76.5	3.012	84.0	3.307
62.81	65.00	2.473	2.559		**420.6-1344Dxx.xx zz**	☆	★			☆	★	★	47.0	1.850	76.5	3.012	84.0	3.307
60.61	62.80	2.386	2.472	13E	**424.6-1332Dxx.xx zz**			★					51.0	2.008	76.8	3.024	84.0	3.307
62.81	65.00	2.473	2.559		**424.6-1342Dxx.xx zz**			★					51.0	2.008	76.5	3.012	84.0	3.307

[1] Drills with other grade combinations and drills with diameters 12.60-15.59 mm (.496-.614 inch) are available on request.

When ordering drill heads, state chipbreaker No. (w), drill diameter (xx.xx) and grade combination (zz) in the ordering code.

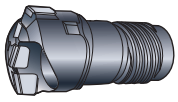
[2] The Ejector drill 800.24 in diameter range 60.61-65.00 mm (2.386-2.559 inch) together with the drill tube 420.5-813E are an alternative to the corresponding STS drills, where the highest possible stability is required.

Ordering example: 2 pieces 420.6-1214 D*51.71* 70

★= First choice

SANDVIK Coromant

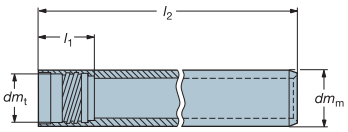
Drill head



420.6

Drill tube 420.5-





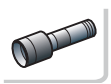
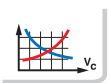
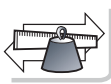
Diameter range				Tube range	**Ordering code, outer tube**[1]	Dimensions, millimeter, inch (mm, in.)							
D_c min mm	D_c max mm	D_c min inch	D_c max inch			dm_m mm	dm_m in.	dm_t mm	dm_t in.	l_1 mm	l_1 in.	l_2 mm	l_2 in.
51.71	56.20	2.036	2.213	12	**420.5-812-4**	47.0	1.850	43.0	1.693	40.0	1.575	2600	102.362
56.21	65.00	2.213	2.559	13	**420.5-813-4**	51.0	2.008	47.0	1.850	40.0	1.575	2600	102.362
60.61	65.00	2.386	2.559	13E[2]	**420.5-813E-4**	56.0	2.205	51.0	2.008	40.0	1.575	2600	102.362

[1] Other lengths can be manufactured by customer request.

[2] 424.6 style Ejector drills can be used in these tubes for greater stability.

Ordering example for drill tube length 1600 mm (62.992 inch) fitting drill head D_c = 51.71 mm (2.036 inch):
1 piece 420.5-797-2

Ordering example for drill tube, design to customer request, length 400 mm (15.748 inch) fitting drill head D_c = 51.71 mm (2.036 inch):
1 piece 420.5-812-L400

 E269  E266  E267  E301  J3

CoroDrill® 800.20

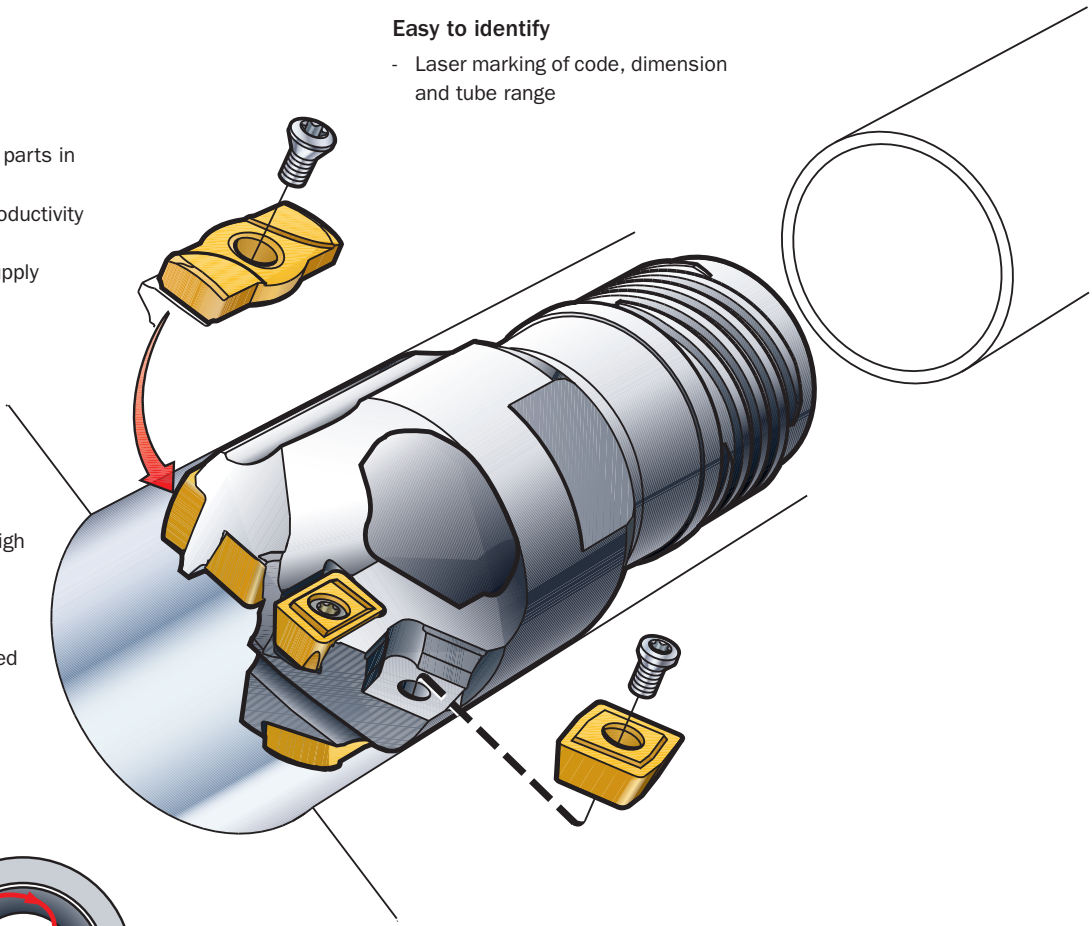
Indexable insert design

The productivity drill

Easy to identify

- Laser marking of code, dimension and tube range

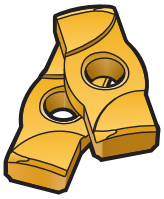
- Indexable economy: Two parts in one drill head
- Higher cutting speed: Productivity
- Excellent surface finish
- Improved cutting fluid supply



- Robust design enables high feed per rev. for greater productivity
- Wear resistant drill body manufactured in hardened steel
- Customer specified diameters
- Close tolerances



- Fixed insert seats. No pre-setting: No need for tool room services
- Few spare parts: Low inventory costs





Coolant accelerator

- Ensures outstanding chip evacuation
- No chip clogging: No production stops

Productivity in a wide application range

- Modern grade and geometry programme covers most workpiece materials
- Few inserts and support pad sizes cover the whole diameter range
- Excellent chip control in both low and high feeds

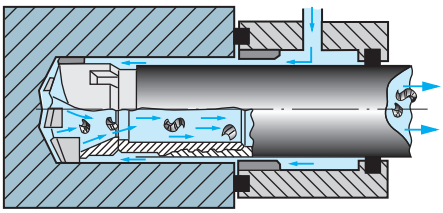
ISO application area:

P M K N S

SANDVIK Coromant

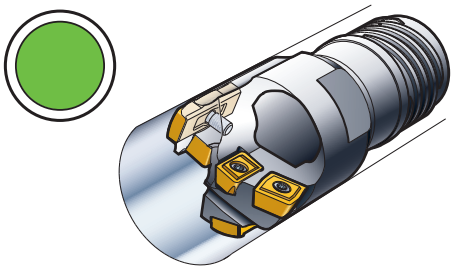
CoroDrill® 800.20

Preferred STS applications



- Special machines for mass production
- Special DHD machines
- Long run production
- Long workpieces
- Material with difficult chipbreaking or uneven structure
- Stainless and low carbon steel

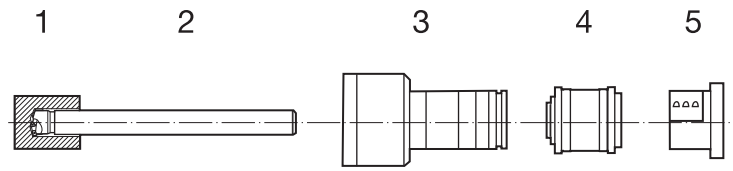
Productivity



- The most productive choice for diameter range 25.00 - 65.00 mm (.984 - 2.559 inch)
- Lowest cost per hole
- Consistent performance within a wide application range
- Standard programme
- Developed and manufactured with the latest technology

IT10
R_a 2 µm

Tool mounting

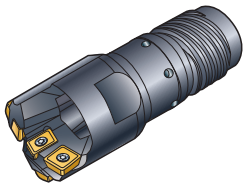


1 Drill heads, see page E246.
2 Drill tubes, see page E247.
3 Oil pressure heads, see page E266.
4 Vibration dampers, see page E269.
5 Connecting chucks, see page E267.

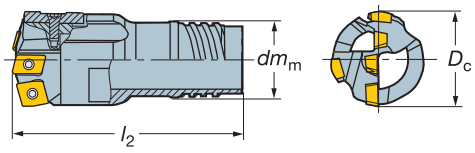
STS drill programme - CoroDrill® solid drill head 800.20

Indexable insert design

Diameter range 25.00-65.00 mm (.984-2.559 inch)



Hole depth: 150 x Dia.
Hole tolerance: IT10
Surface finish: R_a 2 µm
Cutting fluid: Neat oil or soluble with EP-additives.



Note!
The drill is manufactured to minus tolerance so that it will not exceed the drill bush diameter.

dm_m is the same as dm_t for the drill tube.

Metric version

Diameter range D_c min	D_c max	Tube range	**Ordering code, Drill head**	Dimensions, mm dm_m	≤ l_2	Inserts Central	Intermediate	Peripheral	Support pads Pad	No
25.00	26.40	03	**800.20-03Dxx.xx**	19.5	75	800-05 03 08M-C-G	800-05 03 08M-I-G	800-06 03 08H-P-G	800-06A	2
26.41	28.70	04	**800.20-04Dxx.xx**	21.0	78	800-05 03 08M-C-G	800-05 03 08M-I-G	800-06 03 08H-P-G	800-06A	2
28.71	31.00	05	**800.20-M05Dxx.xx**	23.5	80	800-06 T3 08M-C-G	800-05 03 08M-I-G	800-06 03 08H-P-G	800-06A	2
31.01	33.30	06	**800.20-06Dxx.xx**	25.5	85	800-06 T3 08M-C-G	800-06 T3 08M-I-G	800-08 T3 08H-P-G	800-07A	2
33.31	36.20	07	**800.20-07Dxx.xx**	28.0	85	800-06 T3 08M-C-G[1)]	800-06 T3 08M-I-G[1)]	800-08 T3 08H-P-G	800-07A	2
						800-08 T3 08M-C-G[1)]	800-08 T3 08M-I-G[1)]			
36.21	39.60	08	**800.20-08Dxx.xx**	30.0	95	800-08 T3 08M-C-G	800-08 T3 08M-I-G	800-08 T3 08H-P-G[1)]	800-07A	2
								800-09 T3 08H-P-G[1)]		
39.61	43.00	09	**800.20-09Dxx.xx**	33.0	100	800-08 T3 08M-C-G	800-08 T3 08M-I-G	800-09 T3 08H-P-G	800-08A	2
43.01	47.00	10	**800.20-10Dxx.xx**	36.0	100	800-10 T3 08M-C-G	800-08 T3 08M-I-G	800-09 T3 08H-P-G	800-08A	2
47.01	51.70	11	**800.20-11Dxx.xx**	39.0	110	800-12 T3 08M-C-G[1)]	800-08 T3 08M-I-G	800-09 T3 08H-P-G[1)]	800-10A	2
						800-10 T3 08M-C-G[1)]		800-11 T3 08H-P-G[1)]		
51.71	56.20	12	**800.20-12Dxx.xx**	43.0	120	800-10 T3 08M-C-G	800-08 T3 08M-I-G[1)]	800-11 T3 08H-P-G	800-10A[1)]	2
							800-12 T3 08M-I-G[1)]		800-12A[1)]	
56.21	65.00	13	**800.20-13Dxx.xx**	47.0	125	800-10 T3 08M-C-G[1)]	800-12 T3 08M-I-G	800-11 T3 08H-P-G	800-12A	2
						800-12 T3 08M-C-G[1)]				
60.61	65.00	13E[2)]	**800.24-13Dxx.xx[2)]**	51.0	125	800-10 T3 08M-C-G[1)]	800-12 T3 08M-I-G	800-11 T3 08H-P-G	800-12A	2
						800-12 T3 08M-C-G[1)]				

[1)] To match insert/support pad sizes to required drill diameter, see below table.

[2)] The Ejector drill 800.24 in diameter range 60.61-65.00 mm (2.386-2.559 inch) together with the drill tube 420.5-813E are an alternative to the corresponding STS drills, where the highest possible stability is required.

When ordering drill heads, state drill diameter (xx.xx) in the ordering code.

Ordering example, drill head: 2 pieces 800.20-03D*25.00*

Drill diameter range – insert and pad sizes

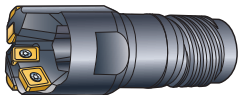
Inserts
(Ordered separately)
Intermediate and peripheral inserts are also available in L- geometry (for long chipping materials) see page E275.

Support pads
(Ordered separately)

Diameter range, mm, inch	□	Central	Diameter range, mm, inch	□	Intermediate	Diameter range, mm, inch	□	Peripheral	Diameter range, mm, inch	Pad
25.00-28.70 *.984-1.130*	05	800-05 03 08M-C-G	25.00-31.00 *.984-1.220*	05	800-05 03 08M-I-G	25.00-31.00 *.984-1.220*	06	800-06 03 08H-P-G	25.00-31.00 *.984-1.220*	800-06A
28.71-33.99 *1.131-1.338*	06	800-06 T3 08M-C-G	31.01-34.99 *1.221-1.378*	06	800-06 T3 08M-I-G	31.01-38.99 *1.221-1.535*	08	800-08 T3 08H-P-G	31.01-39.60 *1.221-1.559*	800-07A
34.00-43.00 *1.339-1.693*	08	800-08 T3 08M-C-G	35.00-54.99 *1.379-2.165*	08	800-08 T3 08M-I-G	39.00-49.99 *1.536-1.968*	09	800-09 T3 08H-P-G	39.61-47.00 *1.560-1.850*	800-08A
43.01-47.00 *1.694-1.850*	10	800-10 T3 08M-C-G	55.00-65.00 *2.166-2.559*	12	800-12 T3 08M-I-G	50.00-65.00 *1.969-2.559*	11	800-11 T3 08H-P-G	47.01-54.99 *1.851-2.165*	800-10A
47.01-49.99 *1.851-1.968*	12	800-12 T3 08M-C-G							55.00-65.00 *2.166-2.559*	800-12A
50.00-57.99 *1.969-2.283*	10	800-10 T3 08M-C-G								
58.00-65.00 *2.283-2.559*	12	800-12 T3 08M-C-G								

SANDVIK Coromant

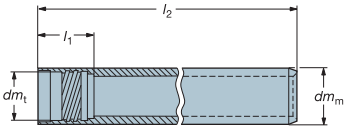
Drill head



800.20

Drill tube 420.5-





Diameter range		Tube range	**Ordering code, drill tube**[1]	Dimensions, mm			
D_c min	D_c max			dm_m	dm_t	l_1	l_2
24.11	26.40	03	**420.5-803-4**	22.0	19.5	26.0	2600
26.41	28.70	04	**420.5-804-4**	24.0	21.0	26.0	2600
28.71	31.00	05	**420.5-805-4**	26.0	23.5	29.0	2600
31.01	33.30	06	**420.5-806-4**	28.0	25.5	29.0	2600
33.31	36.20	07	**420.5-807-4**	30.0	28.0	29.0	2600
36.21	39.60	08	**420.5-808-4**	33.0	30.0	36.0	2600
39.61	43.00	09	**420.5-809-4**	36.0	33.0	36.0	2600
43.01	47.00	10	**420.5-810-4**	39.0	36.0	36.0	2600
47.01	51.70	11	**420.5-811-4**	43.0	39.0	36.0	2600
51.71	56.20	12	**420.5-812-4**	47.0	43.0	40.0	2600
56.21	65.00	13	**420.5-813-4**	51.0	47.0	40.0	2600
60.61	65.00	13E[2]	**420.5-813E-4**[2]	57.0	51.0	40.0	2600

[1] Other lengths can be manufactured by customer request.

[2] 800.24 style Ejector drills can be used in these tubes for greater stability.

Ordering example for drill tube, length 2600 mm (102.362 inch), fitting drill head D_c = 30.00 mm (1.181 inch):
1 piece 420.5-805-4

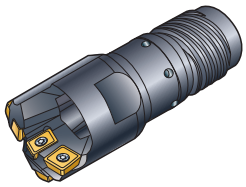
Ordering example for drill tube, design to customer request, length 400 mm (15.748 inch) fitting drill head D_c = 37.00 mm (1.457 inch):
1 piece 420.5-808-L400

 E275
 E269
 E266
 E267
 E280
 E305
 J3

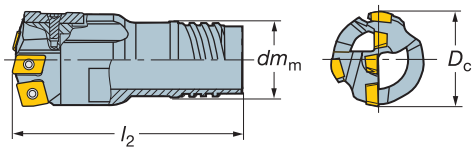
STS drill programme - CoroDrill® solid drill head 800.20

Indexable insert design

Diameter range 25.00-65.00 mm (.984-2.559 inch)



Hole depth:	150 x Dia.
Hole tolerance:	IT10
Surface finish:	R_a 2 µm
Cutting fluid:	Neat oil or soluble with EP-additives.



Note!
The drill is manufactured to minus tolerance so that it will not exceed the drill bush diameter.

dm_m is the same as dm_t for the drill tube.

Inch version

Diameter range		Tube range	**Ordering code, Drill head**	Dimensions, inch		Inserts			Support pads	
D_c min	D_c max			dm_m	≤ l_2	Central	Intermediate	Peripheral	Pad	No
.984	1.039	03	**A800.20-03Dx.xxx**	.768	2.953	800-05 03 08M-C-G	800-05 03 08M-I-G	800-06 03 08H-P-G	800-06A	2
1.040	1.091	04	**A800.20-04Dx.xxx**	.827	3.071	800-05 03 08M-C-G	800-05 03 08M-I-G	800-06 03 08H-P-G	800-06A	2
1.130	1.220	05	**A800.20-M05Dx.xxx**	.925	3.150	800-06 T3 08M-C-G	800-05 03 08M-I-G	800-06 03 08H-P-G	800-06A	2
1.221	1.311	06	**A800.20-06Dx.xxx**	1.004	3.346	800-06 T3 08M-C-G	800-06 T3 08M-I-G	800-08 T3 08H-P-G	800-07A	2
1.311	1.425	07	**A800.20-07Dx.xxx**	1.102	3.346	800-06 T3 08M-C-G[1]	800-06 T3 08M-I-G[1]	800-08 T3 08H-P-G	800-07A	2
						800-08 T3 08M-C-G[1]	800-08 T3 08M-I-G[1]			
1.426	1.559	08	**A800.20-08Dx.xxx**	1.181	3.740	800-08 T3 08M-C-G	800-08 T3 08M-I-G	800-08 T3 08H-P-G[1]	800-07A	2
								800-09 T3 08H-P-G[1]		
1.559	1.693	09	**A800.20-09Dx.xxx**	1.299	3.937	800-08 T3 08M-C-G	800-08 T3 08M-I-G	800-09 T3 08H-P-G	800-08A	2
1.693	1.850	10	**A800.20-10Dx.xxx**	1.417	3.937	800-10 T3 08M-C-G	800-08 T3 08M-I-G	800-09 T3 08H-P-G	800-08A	2
1.851	2.035	11	**A800.20-11Dx.xxx**	1.535	4.331	800-12 T3 08M-C-G[1]	800-08 T3 08M-I-G	800-09 T3 08H-P-G[1]	800-10A	2
						800-10 T3 08M-C-G[1]		800-11 T3 08H-P-G[1]		
2.036	2.213	12	**A800.20-12Dx.xxx**	1.693	4.724	800-10 T3 08M-C-G	800-08 T3 08M-I-G[1]	800-11 T3 08H-P-G	800-10A[1]	2
							800-12 T3 08M-I-G[1]		800-12A[1]	2
2.213	2.559	13	**A800.20-13Dx.xxx**[2]	1.850	4.921	800-10 T3 08M-C-G[1]	800-12 T3 08M-I-G	800-11 T3 08H-P-G	800-12A	2
						800-12 T3 08M-C-G[1]				
2.386	2.559	13E[2]	**A800.24-13Dx.xxx**[2]	2.008	4.921	800-10 T3 08M-C-G[1]	800-12 T3 08M-I-G	800-11 T3 08H-P-G	800-12A	2
						800-12 T3 08M-C-G[1]				

[1] To match insert/support pad sizes to required drill diameter, see below table.

[2] The Ejector drill 800.24 in diameter range 60.61-65.00 mm (2.386-2.559 inch) together with the drill tube 420.5-813E are an alternative to the corresponding STS drills, where the highest possible stability is required.

When ordering drill heads, state drill diameter (xx.xx) in the ordering code.

Ordering example, drill head: 2 pieces A800.20-03D*.984*

Drill diameter range – insert and pad sizes

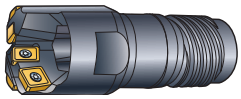
Inserts
(Ordered separately)
Intermediate and peripheral inserts are also available in L- geometry (for long chipping materials) see page E275.

Support pads
(Ordered separately)

Diameter range, mm, inch	□	Central	Diameter range, mm, inch	□	Intermediate	Diameter range, mm, inch	□	Peripheral	Diameter range, mm, inch	Pad
25.00-28.70 *.984-1.130*	05	800-05 03 08M-C-G	25.00-31.00 *.984-1.220*	05	800-05 03 08M-I-G	25.00-31.00 *.984-1.220*	06	800-06 03 08H-P-G	25.00-31.00 *.984-1.220*	800-06A
28.71-33.99 *1.131-1.338*	06	800-06 T3 08M-C-G	31.01-34.99 *1.221-1.378*	06	800-06 T3 08M-I-G	31.01-38.99 *1.221-1.535*	08	800-08 T3 08H-P-G	31.01-39.60 *1.221-1.559*	800-07A
34.00-43.00 *1.339-1.693*	08	800-08 T3 08M-C-G	35.00-54.99 *1.379-2.165*	08	800-08 T3 08M-I-G	39.00-49.99 *1.536-1.968*	09	800-09 T3 08H-P-G	39.61-47.00 *1.560-1.850*	800-08A
43.01-47.00 *1.694-1.850*	10	800-10 T3 08M-C-G	55.00-65.00 *2.166-2.559*	12	800-12 T3 08M-I-G	50.00-65.00 *1.969-2.559*	11	800-11 T3 08H-P-G	47.01-54.99 *1.851-2.165*	800-10A
47.01-49.99 *1.851-1.968*	12	800-12 T3 08M-C-G							55.00-65.00 *2.166-2.559*	800-12A
50.00-57.99 *1.969-2.283*	10	800-10 T3 08M-C-G								
58.00-65.00 *2.283-2.559*	12	800-12 T3 08M-C-G								

SANDVIK Coromant

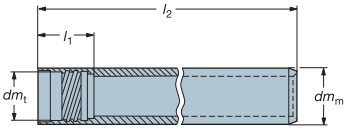
Drill head



800.20

Drill tube 420.5-





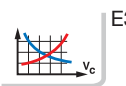
Diameter range		Tube range	**Ordering code, drill tube**[1]	Dimensions, inch			
D_c min	D_c max			dm_m	dm_t	l_1	l_2
.950	1.039	03	**420.5-803-4**	.866	.768	1.024	102.362
1.040	1.130	04	**420.5-804-4**	.945	.827	1.024	102.362
1.131	1.220	05	**420.5-805-4**	1.024	.925	1.142	102.362
1.221	1.311	06	**420.5-806-4**	1.102	1.004	1.142	102.362
1.312	1.425	07	**420.5-807-4**	1.181	1.102	1.142	102.362
1.426	1.559	08	**420.5-808-4**	1.299	1.181	1.417	102.362
1.560	1.693	09	**420.5-809-4**	1.417	1.299	1.417	102.362
1.694	1.850	10	**420.5-810-4**	1.535	1.417	1.417	102.362
1.851	2.035	11	**420.5-811-4**	1.693	1.535	1.417	102.362
2.036	2.213	12	**420.5-812-4**	1.850	1.693	1.575	102.362
2.214	2.559	13	**420.5-813-4**	2.008	1.850	1.575	102.362
2.386	2.559	13E[2]	**420.5-813E-4**[2]	2.244	2.008	1.575	102.362

[1] Other lengths can be manufactured by customer request.

[2] 800.24 style Ejector drills can be used in these tubes for greater stability.

Ordering example for drill tube, length 2600 mm (102.362 inch), fitting drill head D_c = 30.00 mm (1.181 inch):
1 piece 420.5-805-4

Ordering example for drill tube, design to customer request, length 400 mm (15.748 inch) fitting drill head D_c = 37.00 mm (1.457 inch):
1 piece 420.5-808-L400

 E275  E269  E266  E267  E280  E305  J3

T-MAX® drill 424.10

Indexable insert design

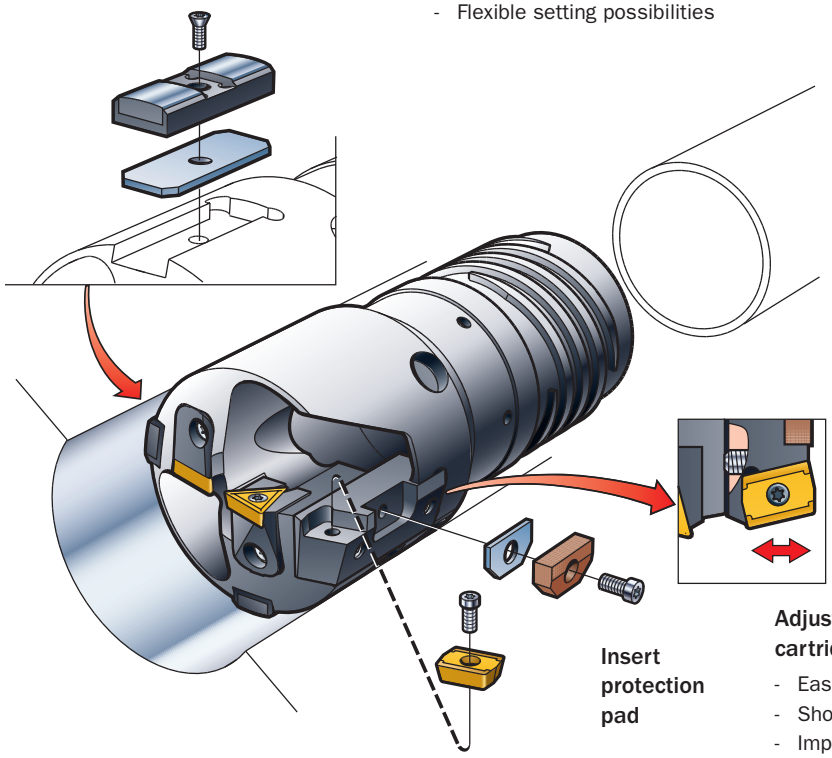
The adjustable drill

Built-in precision
- Flexible setting possibilities

Indexable twin edge support pad

Diameter adjusting shim

Large chip-evacuation ports



Excellent hole straightness and surface finish

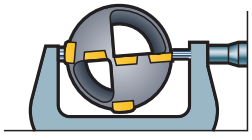
Insert protection pad

Adjustable peripheral cartridge for 424.31
- Easier radial setting
- Short setting time
- Improved precision

Few spare parts

Modern inserts - machining economy
- Four insert types cover the whole diameter range
- Geometries and grades for drilling most materials
- Grade GC1025 the best choice for both steel and stainless steel
- High feed rate

Strong secure insert cartridges
- Designed to protect the head from damage
- Easy to change
- Good economy



Easy to pre-set

Tailor Made

Tool options designed to individual customer requirements are available. For information on our Tailor Made programme see page J4.

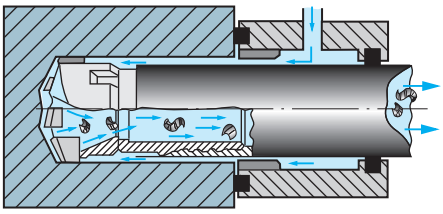
ISO application area:

P M K N S

SANDVIK Coromant

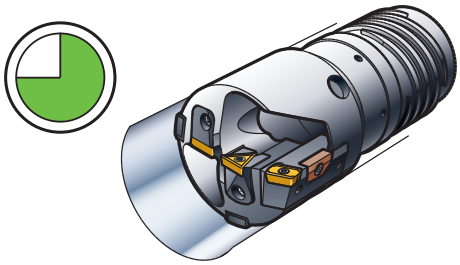
T-MAX® drill 424.10

Preferred STS applications



- Special machines for mass production
- Special DHD machines
- Long run production
- Long workpieces
- Material with difficult chipbreaking or uneven structure
- Stainless and low carbon steel

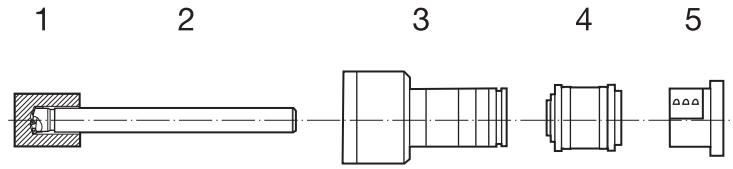
Productivity



- The choice for large diameters starting from 63.50 mm (2.500 inch)
- Wide application area
- Good hole straightness in long workpieces
- Stocked standard programme
- Wide range of Tailor Made and engineered solutions

IT10
R_a 3 µm

Tool mounting

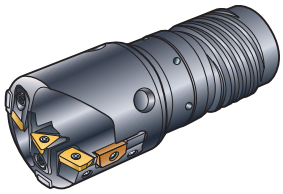


1 Drill heads, see page E252.
2 Drill tubes, see page E253.
3 Oil pressure heads, see page E266.
4 Vibration dampers, see page E269.
5 Connecting chucks, see page E267.

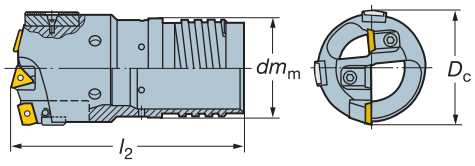
STS drill programme - T-MAX® adjustable solid drill head A424.10 / 424.10

Indexable insert design

Diameter range 63.50-183.90 mm (2.500-7.240 inch)



Hole depth:	100 x Dia.
Hole tolerance:	IT10
Surface finish:	R_a 3 µm
Cutting fluid:	Neat oil or soluble with EP-additives.



dm_m is the same as dm_t for the drill tube.

Diameter range[2]		Tube range	Ordering code, Drill head[1]	Dimensions, millimeter, inch (mm, in.)				
D_c mm	D_c inch			dm_m mm	dm_m in.	l_2 mm	l_2 in.	Radial adjustment
63.50	2.500	13	**A424.10-2500**	51	2.008	115	4.528	1
65.00	2.559	13E	**424.10-0650E**	51	2.008	115	4.528	1.5
65.00	2.559	14	**424.10-0650**	52	2.047	150	5.906	1
69.85	2.750	15	**A424.10-2750**	58	2.284	150	5.906	1
70.00	2.756		**424.10-0700**	58	2.284	150	5.906	1
71.45	2.813		**A424.10-2813**	58	2.284	150	5.906	0.75
75.00	2.953	16	**424.10-0750**	63	2.480	160	6.299	2
76.20	3.000		**A424.10-3000**	63	2.480	160	6.299	2
80.00	3.150	17	**424.10-0800**	70	2.756	190	7.480	1.25
82.55	3.250		**A424.10-3250**	70	2.756	190	7.480	0.75
85.00	3.346		**424.10-0850**	70	2.756	190	7.480	1.75
88.90	3.500	18	**A424.10-3500**	77	3.032	190	7.480	1.75
90.00	3.543		**424.10-0900**	77	3.032	190	7.480	1.75
95.00	3.740		**424.10-0950**	77	3.032	190	7.480	2
95.25	3.750		**A424.10-3750**	77	3.032	190	7.480	2
100.00	3.937	19	**424.10-1000**	89	3.504	195	7.677	1
101.60	4.000		**A424.10-4000**	89	3.504	195	7.677	1.25
105.00	4.134		**424.10-1050**	89	3.504	195	7.677	0.5
107.95	4.250		**A424.10-4250**	89	3.504	195	7.677	2
110.00	4.331		**424.10-1100**	89	3.504	195	7.677	1.5
114.30	4.500		**A424.10-4500**	101	3.976	220	8.661	2
115.00	4.528	20	**424.10-1150**	101	3.976	220	8.661	1.5
120.00	4.724		**424.10-1200**	101	3.976	220	8.661	1.5
120.65	4.750		**A424.10-4750**	101	3.976	220	8.661	1.5
125.00	4.921	21	**424.10-1250**	113	4.449	220	8.661	1.75
127.00	5.000		**A424.10-5000**	101	3.976	220	8.661	1.25
130.00	5.118		**424.10-1300**	113	4.449	220	8.661	0.5
136.00-147.90	5.354-5.823	22	**Tailor Made**					
148.00-159.90	5.827-6.295	23	**Tailor Made**					
160.00-171.90	6.299-6.768	24	**Tailor Made**					
172.00-183.90	6.772-7.240	25	**Tailor Made**					

1) A in the ordering code indicates drill with inch dimensions

2) Drills in other dimensions are available on request

Ordering example, complete drill head: 2 pieces 424.10-0650

For ordering additional cartridge/support pad:
2 pieces L430.31-1216-16
4 pieces 430.32-12 D65.0

Drill diameter range – insert and pad sizes

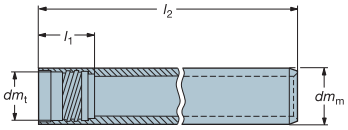
Inserts
(Ordered separately)

Central cartridge	△	Insert	Intermediate cartridge	△	Insert	Peripheral cartridge	▭	Insert
L430.31-1216-16	16	TPMT 16T312R-22	R430.30-1216-16	16	TPMT 16T312R-22	R430.28-1516-16	13	R424.9-13T308-22
	16	TPMT 16T312TR-23		16	TPMT 16T312TR-23		13	R424.9-13T308-23
L430.31-1522-22	22	TPMT 220612R-22	R430.30-1522-22	22	TPMT 220612R-22	R430.28-1822-22	18	R424.9-180608-22
	22	TPMT 220612TR-23		22	TPMT 220612TR-23		18	R424.9-180608-23

Drill head **Drill tube 420.5-**







A424.10/424.10

Diameter range				Tube range	**Ordering code, drill tube**[1]	Dimensions, millimeter, inch (mm, in.)							
D_c min mm	D_c max mm	D_c min inch	D_c max inch			dm_m mm	dm_m in.	dm_t mm	dm_t in.	l_1 mm	l_1 in.	l_2 mm	l_2 in.
56.21	65.00	2.213	2.559	13	**420.5-813-4**	51.0	2.008	47.0	1.850	40.0	1.575	2600	102.362
60.61	65.00	2.386	2.559	13E	**420.5-813E-4**	56.0	2.205	51.0	2.008	40.0	1.575	2600	102.362
65.00	69.99	2.559	2.756	14	**420.5-814-L**	56.0	2.205	52.0	2.047	75.0	2.953		
70.00	74.99	2.756	2.952	15	**420.5-815-L**	62.0	2.441	58.0	2.284	75.0	2.953		
75.00	79.99	2.953	3.149	16	**420.5-816-L**	68.0	2.677	63.0	2.480	75.0	2.953		
80.00	89.99	3.150	3.543	17	**420.5-817-L**	75.0	2.953	70.0	2.756	97.0	3.819		
90.00	99.99	3.543	3.937	18	**420.5-818-L**	82.0	3.228	77.0	3.032	97.0	3.819		
100.00	114.99	3.937	4.527	19	**420.5-819-L**	94.0	3.701	89.0	3.504	97.0	3.819		
115.00	124.99	4.528	4.921	20	**420.5-820-L**	106.0	4.173	101.0	3.976	118.0	4.646		
125.00	139.99	4.921	5.511	21	**420.5-821-L**	118.0	4.646	113.0	4.449	118.0	4.646		
140.00	149.99	5.512	5.905	22	**420.5-822-L**	130.0	5.118	125.0	4.921	118.0	4.646		
150.00	159.99	5.906	6.299	23	**420.5-823-L**	142.0	5.591	137.0	5.394	139.0	5.472		
160.00	179.99	6.299	7.086	24	**420.5-824-L**	154.0	6.063	149.0	5.866	139.0	5.472		
180.00	189.99	7.087	7.480	25	**420.5-825-L**	166.0	6.535	161.0	6.339	139.0	5.472		

[1] Length of tubes with ordering codes ending with -L are manufactured by customer request.

Ordering example for drill tube length 2600 mm (102.362 inch) fitting drill head D_c = 63.50 mm (2.500 inch):

1 piece 420.5-813-4

Ordering example for drill tube, design to customer request, length 400 mm (15.748 inch) fitting drill head D_c = 75.00 mm (2.953 inch):

1 piece 420.5-816-L400

 E277  E269  E266  E267  E281  E309  J3

T-MAX® 424.31F and 424.31 counterboring heads

Single indexable insert design

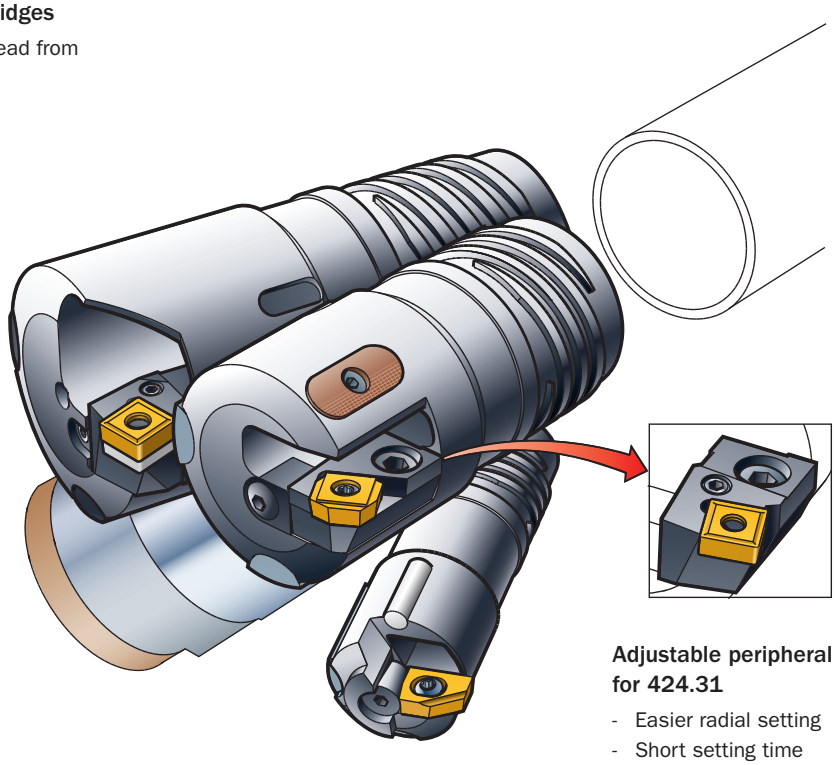
The productive and precise single-insert counterboring heads

Built-in precision

- Radial adjustment on 424.31
- Tolerance adjustment on 424.31F

Strong secure insert cartridges

- Designed to protect the head from damage
- Easy to change
- Good economy



Adjustable peripheral cartridge for 424.31

- Easier radial setting
- Short setting time
- Improved precision

Excellent hole straightness and surface finish

Machining economy

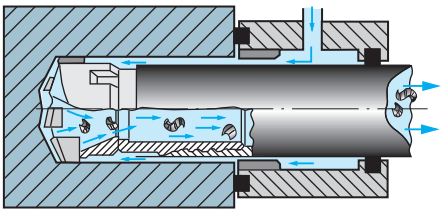
- Insert grades for counterboring in most materials
- Insert types, sizes and geometries for higher productivity, closer hole tolerances and improved surface finish

ISO application area:

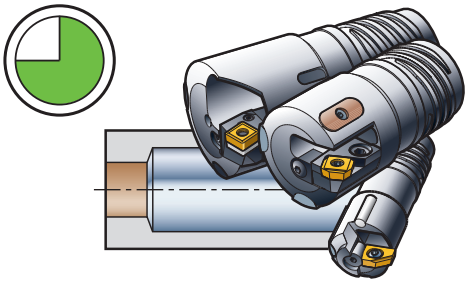
P M K N

T-MAX® 424.31F and 424.31 counterboring heads

Preferred STS applications



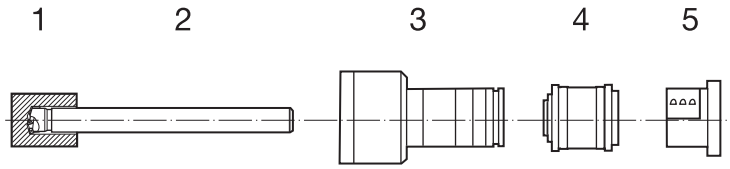
- Special machines for mass production
- Special DHD machines
- Long run production
- Long workpieces
- Material with difficult chipbreaking or uneven structure
- Stainless and low carbon steel



- Designed for precision, productivity and versatility
- Single insert design
- Adjustable insert cartridge head
- Stocked standard components
- Wide range of engineered solutions

IT9-10
R_a 1 µm

Tool mounting

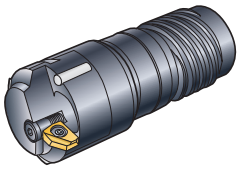


1 Drill heads, see page E256.
2 Drill tubes, see page E257.
3 Oil pressure heads, see page E266.
4 Vibration dampers, see page E269.
5 Connecting chucks, see page E267.

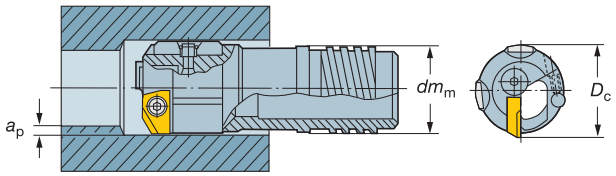
T-MAX® counterboring head 424.31F - manufactured by customer request

Single indexable insert design - close tolerance

Diameter range 20.00-43.00 mm (.787-1.693 inch)



Hole depth:	150 x Dia.
Hole tolerance:	IT9
Surface finish:	R_a 1 µm
Cutting fluid:	Neat oil or soluble with EP-additives.



dm_m is the same as dm_t for the drill tube.

Diameter range				**Max. cutting depth**		Inserts[1] R424.31F	Support pad set		Pressure pad set	
D_c min mm	D_c max mm	D_c min inch	D_c max inch	a_p mm	a_p inch	☐		No.		No.
20.00	22.99	.787	.905	3.0	.118	04	420.21-06 D20.0	2	5636 010-011	1
23.00	25.99	.906	1.023	3.0	.118	04	420.21-06 D23.0	2	5636 010-011	1
26.00	31.00	1.024	1.220	3.0	.118	04	420.21-06 D26.0	2	5636 010-011	1
31.01	33.99	1.221	1.338	3.0	.118	04	420.21-08 D31.0	2	5636 010-021	1
34.00	37.99	1.339	1.495	3.0	.118	04	420.21-08 D34.0	2	5636 010-021	1
38.00	43.00	1.496	1.693	3.0	.118	04	420.21-08 D38.0	2	5636 010-021	1

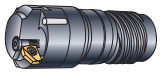
[1] Inserts are ordered separately.

Ordering example: 2 pieces 420.21-06 D20.0

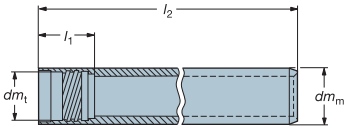
When ordering counterboring heads the following must be stated:
- Drill diameter, D_c
- Depth of cut or pre-bored size
- Insert clamping system to be used - T-Max P lever or T-Max S top clamp
- Drilling system to be used - Ejector or STS
- Drill tubes to be used and size dm_t

For more information and advice, please contact your nearest Sandvik representative.

Counterboring head **Drill tube 420.5-**







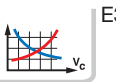
424.31F

Diameter range				Tube range	**Ordering code, drill tube**[1]	Dimensions, millimeter, inch (mm, in.)							
D_c min mm	D_c max mm	D_c min inch	D_c max inch			dm_m mm	dm_m in.	dm_t mm	dm_t in.	l_1 mm	l_1 in.	l_2 mm	l_2 in.
20.00	22.99	.787	.905	00	**420.5-800-2**	17.0	.669	15.5	.610	22.0	.866	1600	62.992
				01	**420.5-801-4**	18.0	.709	16.0	.630	25.0	.984	2600	102.362
				02	**420.5-802-4**	20.0	.787	18.0	.709	26.0	1.024	2600	102.362
23.00	25.99	.906	1.023	02	**420.5-802-4**	20.0	.787	18.0	.709	26.0	1.024	2600	102.362
				03	**420.5-803-4**	22.0	.866	19.5	.768	26.0	1.024	2600	102.362
26.00	31.00	1.024	1.220	03	**420.5-803-4**	22.0	.866	19.5	.768	26.0	1.024	2600	102.362
				04	**420.5-804-4**	24.0	.945	21.0	.827	26.0	1.024	2600	102.362
				05	**420.5-805-4**	26.0	1.024	23.5	.925	29.0	1.142	2600	102.362
31.01	33.99	1.221	1.338	06	**420.5-806-4**	28.0	1.102	25.5	1.004	29.0	1.142	2600	102.362
				07	**420.5-807-4**	30.0	1.181	28.0	1.102	29.0	1.142	2600	102.362
34.00	37.99	1.339	1.496	07	**420.5-807-4**	30.0	1.181	28.0	1.102	29.0	1.142	2600	102.362
				08	**420.5-808-4**	33.0	1.299	30.0	1.181	36.0	1.417	2600	102.362
38.00	43.00	1.496	1.693	08	**420.5-808-4**	33.0	1.299	30.0	1.181	36.0	1.417	2600	102.362
				09	**420.5-809-4**	36.0	1.417	33.0	1.299	36.0	1.417	2600	102.362

[1] Other lengths can be manufactured by customer request.

Ordering example for drill tube length 1600 mm (62.992 inch) fitting drill head D_c = 20.00 mm (.787 inch):
1 piece 420.5-800-2

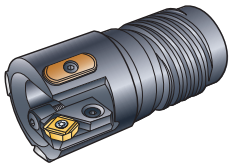
Ordering example for drill tube, design to customer request, length 400 mm (15.748 inch) fitting drill head D_c = 23.01 mm (.906 inch):
1 piece 420.5-802-L400

 E279  E269  E266  E267  E282  E313  J3

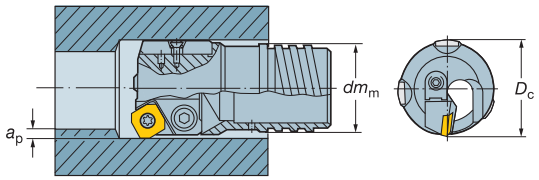
T-MAX® counterboring head 424.31F - manufactured by customer request

Single indexable insert design - close and normal tolerances

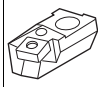
Diameter range 43.01-124.99 mm (1.693-4.921 inch)



Hole depth: 150 x Dia.
Hole tolerance: IT9 or IT10
Surface finish: R_a 1 µm
Cutting fluid: Neat oil or soluble with EP-additives.



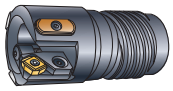
dm_m is the same as dm_t for the drill tube.

Diameter range, mm, inch		Cartridge	Max cutting depth, mm, inch	Inserts[1]	Cartridge	Max cutting depth, mm, inch	Inserts[1]	Support pad set		Pressure pad set	
				R424.31F			SNMG SNMM				
D_c min	D_c max	For close tolerances (IT9)	a_p	□	For normal tolerances (IT10)	a_p	□		No.		No.
43.01	46.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D43.0	2	5636 020-011	1
1.693	*1.850*		*.177*			*.236*					
47.00	51.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D47.0	2	5636 020-011	1
1.851	*2.047*		*.177*			*.236*					
52.00	57.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D52.0	2	5636 020-011	1
2.048	*2.283*		*.177*			*.236*					
58.00	65.00	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-10 D58.0	2	5636 020-011	1
2.284	*2.559*		*.177*			*.236*					
65.00	69.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-12 D65.0	2	420.37-410-01	3
2.559	*2.756*		*.177*			*.236*					
70.00	74.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-12 D70.0	2	420.37-410-01	3
2.757	*2.952*		*.177*			*.236*					
75.00	79.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-12 D75.0	2	420.37-410-01	3
2.953	*3.149*		*.177*			*.236*					
80.00	84.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-12 D80.0	2	420.37-415-01	3
3.150	*3.346*		*.177*			*.236*					
85.00	89.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-12 D85.0	2	420.37-415-01	3
3.347	*3.543*		*.177*			*.236*					
90.00	94.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-16 D90.0	2	420.37-510-01	3
3.544	*3.740*		*.177*			*.236*					
95.00	99.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-16 D95.0	2	420.37-510-01	3
3.741	*3.937*		*.177*			*.236*					
100.00	104.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-16 D100.0	2	420.37-510-01	3
3.937	*4.133*		*.177*			*.236*					
105.00	109.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-16 D105.0	2	420.37-510-01	3
4.134	*4.330*		*.177*			*.236*					
110.00	114.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-16 D110.0	2	420.37-510-01	3
4.331	*4.527*		*.177*			*.236*					
115.00	119.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-16 D115.0	2	420.37-510-01	3
4.528	*4.724*		*.177*			*.236*					
120.00	124.99	R430.24-1118-06	4.5	06	R430.24-1018-09	6.0	09	R430.21-16 D120.0	2	420.37-510-01	3
4.725	*4.921*		*.177*			*.236*					

[1] Inserts are ordered separately.

Ordering example: 2 pieces R430.24-1118-06

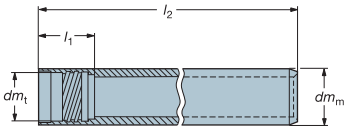
Counterboring head



424.31F

Drill tube 420.5-





Diameter range, mm, inch		Tube range	**Ordering code, drill tube**[1]	Dimensions, mm, inch			
D_c min	D_c max			dm_m	dm_t	l_1	l_2
43.01	46.99	10	420.5-810-4	39.0	36.0	36.0	2600
1.693	*1.849*			*1.535*	*1.417*	*1.417*	*102.362*
47.00	51.99	11	420.5-811-4	43.0	39.0	36.0	2600
1.850	*2.047*			*1.693*	*1.535*	*1.417*	*102.362*
47.00	51.99	12	420.5-812-4	47.0	43.0	40.0	2600
1.850	*2.047*			*1.850*	*1.693*	*1.575*	*102.362*
52.00	57.99	12	420.5-812-4	47.0	43.0	40.0	2600
2.047	*2.283*			*1.850*	*1.693*	*1.575*	*102.362*
52.00	57.99	13	420.5-813-4	51.0	47.0	40.0	2600
2.047	*2.283*			*2.008*	*1.850*	*1.575*	*102.362*
58.00	65.00	13	420.5-813-4	51.0	47.0	40.0	2600
2.283	*2.559*			*2.008*	*1.850*	*1.575*	*102.362*
65.00	69.99	14	420.5-814-L	56.0	52.0	75.0	
2.559	*2.756*			*2.205*	*2.047*	*2.953*	
70.00	74.99	15	420.5-815-L	62.0	58.0	75.0	
2.756	*2.952*			*2.441*	*2.284*	*2.953*	
70.00	74.99	16	420.5-816-L	68.0	63.0	75.0	
2.756	*2.952*			*2.677*	*2.480*	*2.953*	
75.00	79.99	16	420.5-816-L	68.0	63.0	75.0	
2.953	*3.149*			*2.677*	*2.480*	*2.953*	
80.00	84.99	17	420.5-817-L	75.0	77.0	97.0	
3.150	*3.346*			*2.953*	*3.032*	*3.819*	
85.00	89.99	17	420.5-817-L	75.0	77.0	97.0	
3.346	*3.543*			*2.953*	*3.032*	*3.819*	
85.00	89.99	18	420.5-818-L	82.0	77.0	97.0	
3.346	*3.543*			*3.228*	*3.032*	*3.819*	
90.00	94.99	18	420.5-818-L	82.0	77.0	97.0	
3.543	*3.740*			*3.228*	*3.032*	*3.819*	
95.00	99.99	18	420.5-818-L	82.0	77.0	97.0	
3.741	*3.937*			*3.228*	*3.032*	*3.819*	
100.00	104.99	19	420.5-819-L	94.0	89.0	97.0	
3.937	*4.133*			*3.701*	*3.504*	*3.819*	
105.00	109.99	19	420.5-819-L	94.0	89.0	97.0	
4.134	*4.330*			*3.701*	*3.504*	*3.819*	
110.00	114.99	19	420.5-819-L	94.0	89.0	97.0	
4.331	*4.527*			*3.701*	*3.504*	*3.819*	
110.00	114.99	20	420.5-820-L	106.0	101.0	118.0	
4.331	*4.527*			*4.173*	*3.976*	*4.646*	
115.00	119.99	20	420.5-820-L	106.0	101.0	118.0	
4.528	*4.724*			*4.173*	*3.976*	*4.646*	
120.00	124.99	20	420.5-820-L	106.0	101.0	118.0	
4.724	*4.921*			*4.173*	*3.976*	*4.646*	
120.00	124.99	21	420.5-821-L	118.0	113.0	118.0	
4.724	*4.921*			*4.646*	*4.449*	*4.646*	

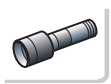
[1] Length of tubes with ordering codes ending with -L are manufactured by customer request.

Ordering example for drill tube length 2600 mm (102.362 inch) fitting drill head D_c = 43.01 mm (1.693 inch):

1 piece 420.5-810-4

Ordering example for drill tube, design to customer request, length 400 mm (15.748 inch) fitting drill head D_c = 52.00 mm (2.047 inch):

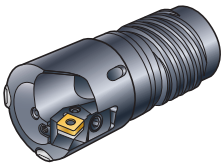
1 piece 420.5-812-L400

 E279  E269  E266  E267  E282  E313  J3

T-MAX® counterboring head 424.31 - manufactured by customer request

Single indexable insert design

Diameter range ≥ 65.00 mm (2.559 inch)



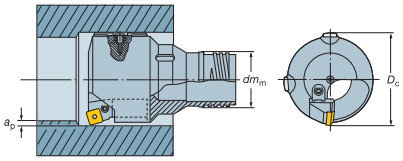
Diameter range, mm, inch: 65.00 mm (2.559 inch) - Max dia. is dependent on machine capacity

Hole depth: 150 x Dia.

Hole tolerance: IT10

Surface finish: R_a 3 µm

Cutting fluid: Neat oil or soluble with EP-additives.



dm_m is the same as dm_t for the drill tube.

Diameter range, mm, inch		T-Max P cartridge	Max cutting depth, mm, inch	Inserts[3]	T-Max S cartridge	Max cutting depth, mm, inch	Inserts[3]	Support pad set	
				SNMG SNMM □			TPMX TPUN[2] △		
D_c min	D_c max		a_p			a_p			No.
65.00	69.99	R430.24-2024-12	10	12	R430.23-2024-16	12	16	430.21-12 D65.0	2
2.559	*2.756*		*.394*			*.472*			
70.00	74.99	R430.24-2024-12	10	12	R430.23-2024-16	12	16	430.21-12 D70.0	2
2.757	*2.952*		*.394*			*.472*			
75.00	79.99	R430.24-2024-12	10	12	R430.23-2024-16	12	16	430.21-12 D75.0	2
2.953	*3.149*		*.394*			*.472*			
80.00	84.99	R430.24-2024-12	10	12	R430.23-2024-16	12	16	430.21-12 D80.0	2
3.150	*3.346*		*.394*			*.472*			
85.00	89.99	R430.24-2024-12	10	12	R430.23-2024-16	12	16	430.21-12 D85.0	2
3.346	*3.543*		*.394*			*.472*			
85.00	89.99	R430.24-2024-12	10	12	R430.23-2024-16	12	16	430.21-12 D85.0	2
3.346	*3.543*		*.394*			*.472*			
90.00	94.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-16 D90.0	2
3.544	*3.740*		*.630*			*.669*			
95.00	99.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-16 D95.0	2
3.741	*3.937*		*.630*			*.669*			
100.00	104.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-16 D100.0	2
3.938	*4.133*		*.630*			*.669*			
105.00	109.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-16 D105.0	2
4.134	*4.330*		*.630*			*.669*			
110.00	114.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D110.0	2
4.331	*4.527*		*.630*			*.669*			
110.00	114.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D110.0	2
4.331	*4.527*		*.630*			*.669*			
115.00	119.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D115.0	2
4.528	*4.724*		*.630*			*.669*			
120.00	124.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D120.0	2
4.725	*4.921*		*.630*			*.669*			
120.00	124.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D120.0	2
4.725	*4.921*		*.630*			*.669*			
125.00	129.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D125.0	2
4.922	*5.118*		*.630*			*.669*			
130.00	139.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D130.0	2
5.119	*5.511*		*.630*			*.669*			
130.00	139.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D130.0	2
5.119	*5.511*		*.630*			*.669*			
140.00	149.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D140.0	2
5.512	*5.905*		*.630*			*.669*			
140.00	149.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D140.0	2
5.512	*5.905*		*.630*			*.669*			

[1] For small cutting depth, use cartridges R430.24-2024-12 or R430.23-2024-16. Must be stated in order.

[2] Loose chipbreakers are to be used, see page E283

[3] Inserts are ordered separately.

When ordering additional support pads, D and the drilling diameter must be specified in the ordering code.

Ordering example for cartridge for counterboring head Ø65 mm (2.559 inch): 1 piece R430.24-2024-12

Ordering example for support pad for counterboring head Ø65 mm (2.559 inch): 1 piece 430.21-12 D65.0

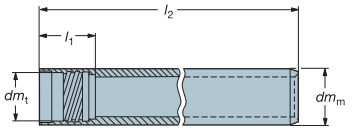
Counterboring head



424.31

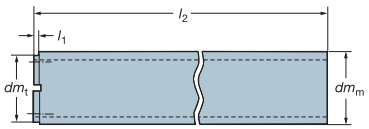
Drill tube 420.5- (Tube range 14-26)





Drill tube 420.5- (Tube range 27-33)



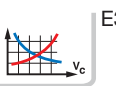


Diameter range, mm, inch:		Tube range	**Ordering code, drill tube**[1]	Dimensions, mm, inch		
D_c min	D_c max			dm_m	dm_t	l_1
65.00	69.99	14	**420.5-814-L**	56.0	52.0	75.0
2.559	*2.756*			*2.205*	*2.047*	*2.953*
70.00	74.99	15	**420.5-815-L**	62.0	58.0	75.0
2.756	*2.952*			*2.441*	*2.284*	*2.953*
75.00	79.99	16	**420.5-816-L**	68.0	63.0	75.0
2.953	*3.149*			*2.677*	*2.480*	*2.953*
80.00	84.99	17	**420.5-817-L**	75.0	77.0	97.0
3.150	*3.346*			*2.953*	*3.032*	*3.819*
85.00	89.99	17	**420.5-817-L**	75.0	77.0	97.0
3.346	*3.543*			*2.953*	*3.032*	*3.819*
85.00	89.99	18	**420.5-818-L**	82.0	77.0	97.0
3.346	*3.543*			*3.228*	*3.032*	*3.819*
90.00	94.99	18	**420.5-818-L**	82.0	77.0	97.0
3.543	*3.740*			*3.228*	*3.032*	*3.819*
95.00	99.99	18	**420.5-818-L**	82.0	77.0	97.0
3.741	*3.937*			*3.228*	*3.032*	*3.819*
100.00	104.99	19	**420.5-819-L**	94.0	89.0	97.0
3.937	*4.133*			*3.701*	*3.504*	*3.819*
105.00	109.99	19	**420.5-819-L**	94.0	89.0	97.0
4.134	*4.330*			*3.701*	*3.504*	*3.819*
110.00	114.99	19	**420.5-819-L**	94.0	89.0	97.0
4.331	*4.527*			*3.701*	*3.504*	*3.819*
3.543	114.99	20	**420.5-820-L**	106.0	101.0	118.0
4.331	*4.527*			*4.173*	*3.976*	*4.646*
115.00	119.99	20	**420.5-820-L**	106.0	101.0	118.0
4.528	*4.724*			*4.173*	*3.976*	*4.646*
120.00	124.99	20	**420.5-820-L**	106.0	101.0	118.0
4.724	*4.921*			*4.173*	*3.976*	*4.646*
120.00	124.99	21	**420.5-821-L**	118.0	113.0	118.0
4.724	*4.921*			*4.646*	*4.449*	*4.646*
125.00	129.99	21	**420.5-821-L**	118.0	113.0	118.0
4.921	*5.118*			*4.646*	*4.449*	*4.646*
130.00	139.99	21	**420.5-821-L**	118.0	113.0	118.0
5.118	*5.511*			*4.646*	*4.449*	*4.646*
130.00	139.99	22	**420.5-822-L**	130.0	125.0	118.0
5.118	*5.511*			*5.118*	*4.921*	*4.646*
140.00	149.99	22	**420.5-822-L**	130.0	125.0	118.0
5.512	*5.905*			*5.118*	*4.921*	*4.646*
140.00	149.99	23	**420.5-823-L**	142.0	137.0	139.0
5.512	*5.905*			*5.591*	*5.394*	*5.472*

[1] Lengths are manufactured by customer request

Ordering example for drill tube, design to customer request, length 400 mm (15.748 inch) fitting drill head D_c = 65.00 mm (2.559 inch):

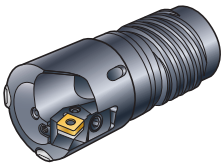
1 piece 420.5-814-L400

 E279  E269  E266  E267  E282  E313  J3

T-MAX® counterboring head 424.31 - manufactured by customer request

Single indexable insert design

Diameter range ≥ 65.00 mm (2.559 inch)



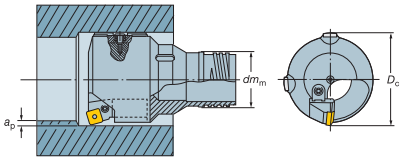
Diameter range, mm, inch: 65.00 mm (2.559 inch) - Max dia. is dependent on machine capacity

Hole depth: 150 x Dia.

Hole tolerance: IT10

Surface finish: R_a 3 µm

Cutting fluid: Neat oil or soluble with EP-additives.



dm_m is the same as dm_t for the drill tube.

Diameter range, mm, inch		T-Max P cartridge	Max cutting depth, mm, inch	Inserts[3]	T-Max S cartridge	Max cutting depth, mm, inch	Inserts[3]	Support pad set	
				SNMG SNMM □			TPMX TPUN[2] △		
D_c min	D_c max		a_p			a_p			No.
150.00	159.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D150.0	2
5.906	*6.299*		*.630*			*.669*			
160.00	169.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D160.0	2
6.300	*6.693*		*.630*			*.669*			
170.00	179.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D170.0	2
6.694	*7.086*		*.630*			*.669*			
170.00	179.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D170.0	2
6.694	*7.086*		*.630*			*.669*			
180.00	189.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D180.0	2
7.087	*7.240*		*.630*			*.669*			
180.00	189.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D180.0	2
7.087	*7.240*		*.630*			*.669*			
190.00	199.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D190.0	2
7.480	*7.874*		*.630*			*.669*			
190.00	199.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D190.0	2
7.480	*7.874*		*.630*			*.669*			
200.00	224.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D200.0	2
7.874	*8.858*		*.630*			*.669*			
200.00	224.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D200.0	2
7.874	*8.858*		*.630*			*.669*			
200.00	224.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D200.0	2
7.874	*8.858*		*.630*			*.669*			
225.00	249.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D225.0	2
8.858	*9.842*		*.630*			*.669*			
225.00	249.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D225.0	2
8.858	*9.842*		*.630*			*.669*			
225.00	249.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D225.0	2
8.858	*9.842*		*.630*			*.669*			
250.00	278.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D250.0	2
9.843	*10.984*		*.630*			*.669*			
250.00	278.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D250.0	2
9.843	*10.984*		*.630*			*.669*			
250.00	278.99	R430.24-2532-19[1]	16	19	R430.23-2532-22[1]	17	22	430.21-18 D250.0	2
9.843	*10.984*		*.630*			*.669*			

1) For small cutting depth, use cartridges R430.24-2024-12 or R430.23-2024-16. Must be stated in order.

2) Loose chipbreakers are to be used, see page E283

3) Inserts are ordered separately.

When ordering additional support pads, D and the drilling diameter must be specified in the ordering code.

Ordering example for cartridge for counterboring head Ø65 mm (2.559 inch): 1 piece R430.24-2024-12

Ordering example for support pad for counterboring head Ø65 mm (2.559 inch): 1 piece 430.21-12 D65.0

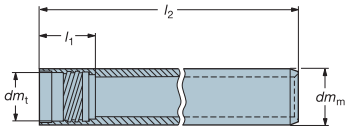
Counterboring head



424.31

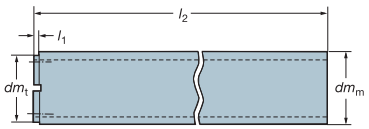
Drill tube 420.5- (Tube range 14-26)





Drill tube 420.5- (Tube range 27-33)





Diameter range, mm, inch:		Tube range	**Ordering code, drill tube**[1]	Dimensions, mm, inch		
D_c min	D_c max			dm_m	dm_t	l_1
150.00	159.99	23	**420.5-823-L**	142.0	137.0	137.0
5.906	*6.299*			*5.591*	*5.394*	*5.472*
160.00	169.99	24	**420.5-824-L**	154.0	149.0	139.0
6.299	*6.693*			*6.063*	*5.866*	*5.472*
170.00	179.99	24	**420.5-824-L**	154.0	149.0	139.0
6.693	*7.086*			*6.063*	*5.866*	*5.472*
170.00	179.99	25	**420.5-825-L**	166.0	161.0	139.0
6.693	*7.086*			*6.535*	*6.339*	*5.472*
180.00	189.99	25	**420.5-825-L**	166.0	161.0	139.0
7.087	*7.480*			*6.535*	*6.339*	*5.472*
180.00	189.99	26	**420.5-826-L**	178.0	173.0	144.0
7.087	*7.480*			*7.008*	*6.811*	*5.669*
190.00	199.99	26	**420.5-826-L**	178.0	173.0	144.0
7.480	*7.874*			*7.008*	*6.811*	*5.669*
190.00	199.99	27	**420.5-827-L**	190.0	172.0	8.0
7.480	*7.874*			*7.480*	*6.772*	*.315*
200.00	224.99	27	**420.5-827-L**	190.0	172.0	8.0
7.874	*8.858*			*7.480*	*6.772*	*.315*
200.00	224.99	28	**420.5-828-L**	202.0	184.0	8.0
7.874	*8.858*			*7.953*	*7.244*	*.315*
200.00	224.99	29	**420.5-829-L**	214.0	196.0	8.0
7.874	*8.858*			*8.425*	*7.716*	*.315*
225.00	249.99	29	**420.5-829-L**	214.0	196.0	8.0
8.858	*9.842*			*8.425*	*7.716*	*.315*
225.00	249.99	30	**420.5-830-L**	226.0	208.0	8.0
8.858	*9.842*			*8.898*	*8.189*	*.315*
225.00	249.99	31	**420.5-831-L**	238.0	220.0	8.0
8.858	*9.842*			*9.370*	*8.661*	*.315*
250.00	278.99	31	**420.5-831-L**	238.0	220.0	8.0
9.842	*10.984*			*9.370*	*8.661*	*.315*
250.00	278.99	32	**420.5-832-L**	250.0	232.0	8.0
9.842	*10.984*			*9.842*	*9.134*	*.315*
250.00	278.99	33	**420.5-833-L**	262.0	244.0	8.0
9.842	*10.984*			*10.315*	*9.606*	*.315*

[1] Lengths are manufactured by customer request

Ordering example for drill tube, design to customer request, length 400 mm (15.748 inch) fitting drill head D_c = 150.00 mm (5.906 inch):

1 piece 420.5-823-L400

When ordering counterboring heads the following must be stated:
- Drill diameter, D_c
- Depth of cut or pre-bored size
- Insert clamping system to be used - T-Max P lever or T-Max S top clamp
- Drilling system to be used - Ejector or STS
- Drill tubes to be used and size dm_t

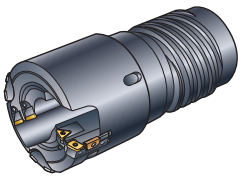
For more information and advice, please contact your nearest Sandvik representative.

 E279  E269  E266  E267  E282  E313  J3

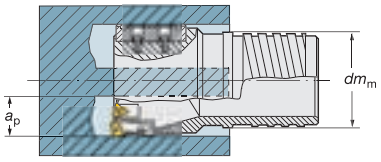
T-MAX® trepanning head 420.7 - manufactured by customer request

Indexable insert design

Diameter range 112.00-250.00 mm (4.409-9.843 inch)



Hole depth:	150 x Dia.
Hole tolerance:	IT10
Surface finish:	R_a 3 µm
Cutting fluid:	Neat oil or soluble.



dm_m is the same as dm_t for the drill tube.

Diameter range				Cartridges							
D_c min mm	D_c max mm	D_c min inch	D_c max inch	Central	No.	Peripheral	No.	Support pad	No.	a_p mm	a_p inch
112.00	119.99	4.409	4.724	L430.27-1216-16	3	R430.28-1516-16	1	(Available on request)	2	43.75	1.722
120.00	124.99	4.725	4.921	L430.27-1216-16	3	R430.28-1516-16	1	430.21-18D120.0	2	43.75	1.722
125.00	129.99	4.922	5.118	L430.27-1216-16	3	R430.28-1516-16	1	430.21-18D125.0	2	43.75	1.722
130.00	139.99	5.119	5.511	L430.27-1216-16	3	R430.28-1516-16	1	430.21-18D130.0	2	43.75	1.722
140.00	149.99	5.512	5.905	L430.27-1216-16	3	R430.28-1516-16	1	430.21-18D140.0	2	43.75	1.722
150.00	159.99	5.906	6.299	L430.27-1216-16	3	R430.28-1516-16	1	430.21-18D150.0	2	43.75	1.722
160.00	179.99	6.300	7.086	L430.27-1216-16	3	R430.28-1516-16	1	430.21-18D160.0	2	43.75	1.722
180.00	195.99	7.087	7.716	L430.27-1216-16	3	R430.28-1516-16	1	430.21-18D180.0	2	43.75	1.722
196.00	224.99	7.717	8.858	L430.27-1216-16	4	R430.28-1516-16	1	430.21-18D200.0	2	53.75	2.116
225.00	249.99	8.859	9.842	L430.27-1216-16	4	R430.28-1516-16	1	430.21-18D225.0	2	53.75	2.116
250.00		9.843		L430.27-1216-16	4	R430.28-1516-16	1	430.21-18D250.0	2	53.75	2.116

When ordering trepanning heads the following must be stated:
- Drill diameter D_c

For more information and advice, please contact your nearest Sandvik representative.

Inserts
(Ordered separately)

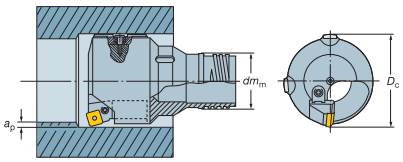
Central cartridge	△	Insert	Peripheral cartridge	▭	Insert
L430.27-1216-16	16	TPMT 16T312R-22	R430.28-1516-16	13	R424.9-13T308-22
	16	TPMT 16T312TR-23		13	R424.9-13T308-23

E277 E269 E266 E267 E284 E315 J3

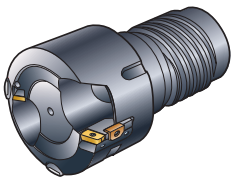
T-MAX® counterboring head 424.32 - manufactured by customer request

Multi-indexable insert design, available for both Ejector and STS

Diameter range ≥ 75.00 mm (2.953 inch)



dm_m is the same as dm_t for the drill tube.



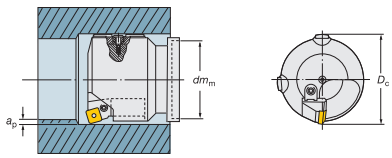
Diameter range ≥ 75.00 mm (2.953 inch)
Max. diameter is dependant on machine capacity

Hole depth:	150 x D_c
Hole tolerance:	IT10
Surface finish R_a, µm (µ inch):	3 (.118)
Cutting fluid:	Neat oil or emulsion with EP-additives.
Max cutting depth, a_p	from diameter 75.00 mm (2.953 inch), a_p = 30 mm (1.181 inch) from diameter 99.99 mm (3.937 inch), a_p = 40 mm (1.575 inch) from diameter 120.00 mm (4.724 inch), a_p = 50 mm (1.968 inch) from diameter 160.00 mm (6.299 inch), a_p = 67 mm (2.638 inch)

Adjustable counterboring head - manufactured by customer request

Multi-indexable insert design, preferably for STS drills

Diameter range ≥ 100.00 mm (3.937 inch)



dm_m is the same as dm_t for the drill tube.



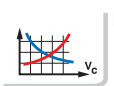
Diameter range ≥ 100.00 mm (3.937 inch)
Max. diameter is dependent on machine capacity

Diameter increasing:	10 - 120 mm depending on diameter, by fitting shims behind pad blocks and cassettes
Hole depth:	150 x D_c
Hole tolerance:	IT10
Surface finish R_a, µm (µ inch):	3 (.118)
Cutting fluid:	Neat oil or emulsion with EP-additives.
Cutting depth, a_p:	5 - 60 mm (.197 - 2.362 inch) depending on diameter

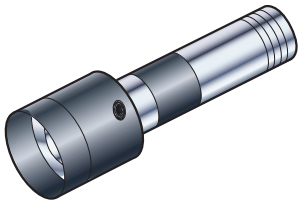
When ordering above counterboring heads the following must be stated:

- Drill diameter, D_c
- Adjustability range (only for adjustable counterboring heads)
- Drilling system to be used: Ejector or STS
- Depth of cut or pre-bored size
- Drill tubes to be used and size, dm_t

For more information and advice, please contact your nearest Sandvik representative.

 E277
 E269
 E266
 E267
 E282
 E313
 J3

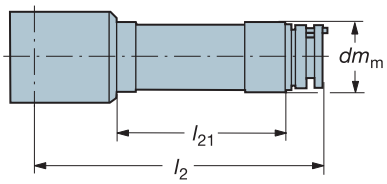
STS oil pressure heads



Diameter range, mm: 15.60-399.90

Temperature in oil pressure head, °C: 50-60

Max spindle speed, rev/min = *n*
Max coolant pressure, Mpa, psi = *p*
Max clamping force, N, lbs/clamping = *F*
Coolant flow, l/min, gal/min = q



For stationary workpieces

Diameter range				Ordering code	Dimensions, millimeter, inch (mm, in.)						Specifications, metric				Specifications, inch			
D_c min mm	D_c max mm	D_c min inch	D_c max inch		l_2 mm	l_2 in.	l_{21} mm	l_{21} in.	dm_m mm	dm_m in.	*n*	*p*	*F*	*q*	*n*	*p*	*F*	*q*
				With clamping cones														
15.60	43.00	.614	1.693	**420.9S/505**	466	18.346	250	9.843	100.0	3.937	1800	6.0	5000	3	1800	850	2280	1.0
43.01	79.90	1.693	3.146	**420.9S/506**	531	20.906	250	9.843	140.0	5.512	1200	3.0	7500	5	1200	435	3409	1.5
80.00	159.90	3.150	6.295	**420.9S/507**	623	24.528	250	9.843	230.0	9.055	800	1.5	8500	7	800	210	3900	2.0
160.00	255.90	6.299	10.075	**420.9S/508**	715	28.150	300	11.811	355.0	13.976	350	1.2	10000	8	350	175	4600	2.0
256.00	399.90	10.079	15.744	**420.9S/509**	905	35.630	430	16.929	490.0	19.291	105	0.5	15000	12	105	70	6800	3.3
				For face sealing only without clamping cones														
15.60	43.00	.614	1.693	**420.9S/510**	413	16.260	250	9.843	100.0	3.937	1800	6.0	5000	3	1800	850	2280	1.0
43.01	79.90	1.693	3.146	**420.9S/511**	461	18.150	250	9.843	140.0	5.512	1200	3.0	7500	5	1200	435	3409	1.5
80.00	159.90	3.150	6.295	**420.9S/512**	526	20.709	250	9.843	230.0	9.055	800	1.5	8500	7	800	210	3900	2.0
160.00	255.90	6.299	10.075	**420.9S/513**	573	22.559	300	11.811	355.0	13.976	350	1.2	10000	8	350	175	4600	2.0
256.00	399.90	10.079	15.744	**420.9S/514**	715	28.150	430	16.929	490.0	19.291	105	0.5	15000	12	105	70	6800	3.3

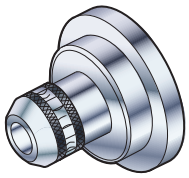
For rotating workpieces

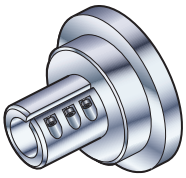
Diameter range				Ordering code	Dimensions, millimeter, inch (mm, in.)						Specifications, metric				Specifications, inch			
D_c min mm	D_c max mm	D_c min inch	D_c max inch		l_2 mm	l_2 in.	l_{21} mm	l_{21} in.	dm_m mm	dm_m in.	*n*	*p*	*F*	*q*	*n*	*p*	*F*	*q*
				With clamping cones														
15.60	43.00	.614	1.693	**420.9S/500**	466	18.346	250	9.843	100.0	3.937	1800	6.0	5000	3	1800	850	5000	1.0
43.01	79.90	1.693	3.146	**420.9S/501**	531	20.906	250	9.843	140.0	5.512	1200	2.0	7500	5	1200	290	7500	1.5
80.00	159.90	3.150	6.295	**420.9S/502**	623	24.528	250	9.843	230.0	9.055	800	1.5	8500	7	800	210	8500	2.0
160.00	255.90	6.299	10.075	**420.9S/503**	715	28.150	300	11.811	355.0	13.976	350	1.2	10000	8	350	175	10000	2.0
256.00	399.90	10.079	15.744	**420.9S/504**	905	35.630	430	16.929	490.0	19.291	105	0.5	15000	12	105	70	15000	3.3
				For face sealing only without clamping cones														
15.60	43.00	.614	1.693	**420.9S/515**	466	18.346	250	9.843	100.0	3.937	1800	6.0	5000	3	1800	850	5000	1.0
43.01	79.90	1.693	3.146	**420.9S/516**	527	20.748	250	9.843	140.0	5.512	1200	2.0	7500	5	1200	290	7500	1.5
80.00	159.90	3.150	6.295	**420.9S/517**	623	24.528	250	9.843	230.0	9.055	800	1.5	8500	7	800	210	8500	2.0
160.00	255.90	6.299	10.075	**420.9S/518**	715	28.150	300	11.811	355.0	13.976	350	1.2	10000	8	350	175	10000	2.0
256.00	399.90	10.079	15.744	**420.9S/519**	905	35.630	430	16.929	490.0	19.291	105	0.5	15000	12	105	70	15000	3.3

When ordering STS oil pressure heads the following must be stated:
- Ordering code for oil pressure head
- Drill diameter, D_c
- Drill tube diameter
- Workpiece outer diameter

For more information and advice, please contact your nearest Sandvik representative.

STS connecting chucks





Connecting chucks are manufactured to customers request and designed to a specific STS drill tube. Chucks are available in a variety of spindle nose styles and sizes. Suitable for rotating as well as stationary tools. Bushes must be manufactured to suit each drill tube diameter used.

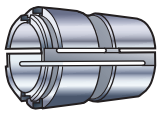
Diameter range				**Ordering code**	Drill tube diameter, millimeter, inch (mm, in.)			
D_c min mm	D_c max mm	D_c min inch	D_c max inch		dm_m min mm	dm_m min in.	dm_m max mm	dm_m max in.
				Collet style				
15.60	65.00	.614	2.559	**420.9S/524**	11.0	.433	56.0	2.205
				Split bushing style				
51.70	123.90	2.035	4.878	**420.9S/520**	47.0	1.850	106.0	4.173
124.00	183.90	4.882	7.240	**420.9S/521**	118.0	4.646	166.0	6.535
184.00	255.90	7.244	10.075	**420.9S/522**	178.0	7.008	238.0	9.370
256.00	399.90	10.079	15.744	**420.9S/523**	250.0	9.842	382.0	15.039

When ordering STS oil pressure heads the following must be stated:

- Ordering code for connecting chuck.
- Information about spindle nose design.
- Drill tube diameter.

For more information and advice, please contact your nearest Sandvik representative.

Collets, bushings and sealing sleeves for STS

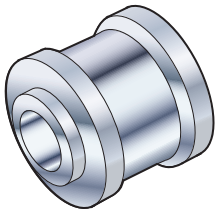


Diameter range, mm (inch)	Drill tube	Tube diameter, mm (inch)	Collet	Split bushing	Collet sealing sleeve	Split cap sealing sleeve
12.61-13.60 (.496-.535)	420.5-794	11 (.433)	000-840100A46.15		000-840110A12.19	
13.61-14.60 (.536-.575)	420.5-795	12 (.472)	000-840100A46.13		000-840110A12.20	
14.61-15.60 (576-.614)	420.5-796	13 (.512)	000-840100A46.14		000-840110A12.21	
15.61-16.70 (.615-.657)	420.5-797	14 (.551)	000-840100A46.1		000-840110A12.1	
16.71-17.70 (.658-.696)	420.5-798	15 (.590)	000-840100A46.2		000-840110A12.2	
17.71-18.90 (.697-.744)	420.5-799	16 (.630)	000-840100A46.4		000-840110A12.3	
18.91-20.00 (.745-.787)	420.5-800	17 (.670)	000-840100A46.4		000-840110A12.4	
20.01-24.10 (.788-.858)	420.5-801	18 (.709)	424.2-420-00		000-840110A12.5	
21.81-24.10 (.859-948)	420.5-802	20 (.787)	000-840100A46.5		000-840110A12.6	
24.11-26.40 (.949-1.039)	420.5-803	22 (.866)	000-840100A46.6		000-840110A12.7	
26.41-28.70 (1.040-1.129)	420.5-804	24 (.945)	000-840100A46.7		000-840110A12.8	
28.71-31.00 (1.130-1.220)	420.5-805	26 (1.024)	424.2-420-04		000-840110A12.9	
31.01-33.30 (1.221-1.311)	420.5-806	28 (1.102)	424.2-420-05		000-840110A12.10	
33.31-36.20 (1.312-1.425)	420.5-807	30 (1.181)	000-840100A46.8		000-840110A12.11	
36.21-39.60 (1.426-1.559)	420.5-808	33 (1.299)	424.2-420-07		000-840110A12.12	
39.61-43.00 (1.560-1.692)	420.5-809	36 (1.417)	000-840100A46.9		000-840110A12.13	
43.10-47.00 (1.693-1.850)	420.5-810	39 (1.535)	424.2-420-09		000-840110A12.14	
47.01-51.70 (1.851-2.035)	420.5-811	43 (1.693)	000-840100A46.10		000-840110A12.15	
51.71-56.20 (2.036-2.212)	420.5-812	47 (1.850)	000-840100A46.11	342-840100A57.5	000-840110A12.16	342-840100A57-25
56.21-65.00 (2.213-2.559)	420.5-813	51 (2.008)	424.2-420-12	342-840100A57.6	000-840110A12.17	342-840100A57-26
60.61-65.00 (2.386-2.559)	420.5-813E	56 (2.205)	000-840100A46.12		000-840110A12.18	
65.00-69.99 (2.559-2.756)	420.5-814	56 (2.205)		342-840100A57.7		342-840100A57-27
69.85-71.45 (2.750-2.813)	420.5-815	62 (2.441)		342-840100A57.8		342-840100A57-28
75.00-76.20 (2.953-3.000)	420.5-816	68 (2.677)		342-840100A57.9		342-840100A57-29
80.00-85.00 (3.150-3.346)	420.5-817	75 (2.953)		342-840100A57.10		342-840100A57-30
88.90-92.25 (3.500-3.632)	420.5-818	82 (3.228)		342-840100A57.11		342-840100A57-31
100.00-112.00 (3.937-4.409)	420.5-819	94 (3.701)		342-840100A57.12		342-840100A57-32
112.00-123.90 (4.409-4.878)	420.5-820	106 (4.173)		Not required		Not required
124.00-135.90 (4.882-5.350)	420.5-821	118 (4.646)		342-840100A58-5		342-840100A58-25
136.00-147.90 (5.354-5.823)	420.5-822	130 (5.118)		342-840100A58-6		342-840100A58-26
150.00-159.90 (5.905-6.295)	420.5-823	142 (5.591)		342-840100A58-7		342-840100A58-27
160.00-171.90 (6.299-6.768)	420.5-824	154 (6.063)		342-840100A58-8		342-840100A58-28
172.00-183.90 (6.772-7.240)	420.5-825	166 (6.535)		Not required		Not required
183.40-195.90 (7.220-7.713)	420.5-826	178 (7.008)		342-840100A71-10		342-840100A71-20
196.00-207.90 (7.716-8.185)	420.5-827	190 (7.480)		342-840100A71-11		342-840100A71-21
208.00-219.90 (8.189-8.657)	420.5-828	202 (7.953)		342-840100A71-12		342-840100A71-22
219.90-231.90 (8.657-9.130)	420.5-829	214 (8.425)		342-840100A71-13		342-840100A71-23
232.00-243.90 (9.134-9.602)	420.5-830	226 (8.898)		342-840100A71-14		342-840100A71-24
243.90-255.90 (9.602-10.075)	420.5-831	238 (9.370)		Not required		Not required
256.00-267.80 (10.079-10.543)	420.5-832	250 (9.842)		342-840100A72-10		342-840100A72-30
267.90-279.90 (10.547-11.020)	420.5-833	262 (10.315)		342-840100A72-11		342-840100A72-31
288.00-291.90 (11.339-11.492)	420.5-834	274 (10.787)		342-840100A72-12		342-840100A72-32
292.00-303.90 (11.496-11.965)	420.5-835	286 (11.260)		342-840100A72-13		342-840100A72-33
304.00-315.90 (11.968-12.437)	420.5-836	298 (11.732)		342-840100A72-14		342-840100A72-34
316.00-327.90 (12.441-12.909)	420.5-837	310 (12.205)		342-840100A72-15		342-840100A72-35
		322 (12.677)		342-840100A72-16		342-840100A72-36
		334 (13.150)		342-840100A72-17		342-840100A72-37
		346 (13.622)		342-840100A72-18		342-840100A72-38
		358 (14.094)		342-840100A72-19		342-840100A72-39
		370 (14.567)		342-840100A72-20		342-840100A72-40
		382 (15.039)				

Vibration dampeners

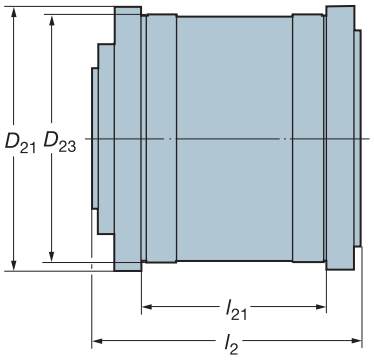
For ejector and STS drills

Diameter range 15.60-243.90 mm (.614-9.602 inch)



Vibration not only affects the surface finish and shortens tool life but also forces changes in cutting data which result in lost productivity.

In order to control this vibration better, Sandvik has designed a line of vibration dampeners. These dampeners are clamped externally to the drill tube and act as supports for the drill.



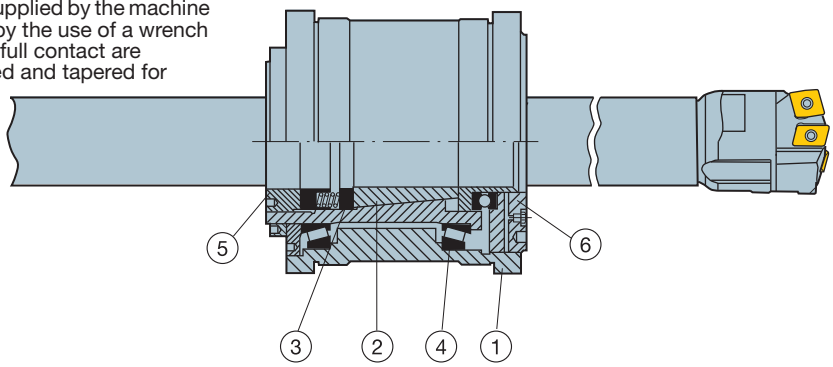
Diameter range				**Ordering code**	Drill tube diameter, millimeter, inch (mm, in.)				Dimensions, millimeter, inch (mm, in.)							
D_c min mm	D_c max mm	D_c min inch	D_c max inch		dm_m min mm	dm_m max mm	dm_m min in.	dm_m max in.	l_2 mm	l_2 in.	l_{21} mm	l_{21} in.	D_{21} mm	D_{21} in.	D_{23} mm	D_{23} in.
15.60	79.90	.614	3.146	**342-0937-1**	11.0	68.0	.433	2.677	195	7.677	135	5.315	195	7.677	180	7.087
80.00	159.90	3.150	6.295	**342-0938-1**	75.0	142.0	2.953	5.591	254	10.000	165	6.496	300	11.811	280	11.024
160.00	243.90	6.299	9.602	**342-0939-1**	154.0	226.0	6.063	8.898	286	11.260	165	6.496	375	14.764	355	13.976

When ordering vibration dampers the following must be stated:
- Ordering code for vibration damper
- Drill tube diameter

For more information and advice, please contact your nearest Sandvik representative.

Vibration dampers for rotating drills

The Vibration not only affects the surface finish and shortens tool life but also forces changes in cutting data which result in lost productivity. assembly is mounted in a steady-rest(s), normally supplied by the machine builder. The dampening pressure can be adjusted by the use of a wrench on the thrust ring (item no. 6). Phenolic bushes for full contact are manufactured for each drill tube size and are slotted and tapered for maximum dampening.



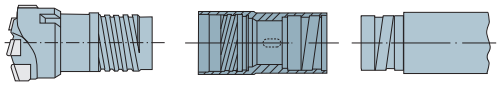
1 Body
2 Collet
3 Adjusting ring
4 Bearing
5 Pressure nut
6 Thrust ring

Adaptors for converting from external to internal tube threads

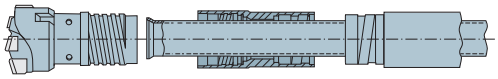
(Available on request)

Diameter range 20.00-65.00 mm (.787-2.559 inch)

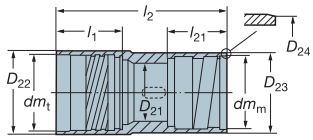
420.9S/188-xx - STS 420.6, 800.20



420.9S/173-xx - Ejector 424.6, 800.24



420.9S/188-xx - STS 420.6, 800.20
420.9S/173-xx - Ejector 424.6, 800.24



Adaptors are delivered with one-start square thread, the Heller-thread, in one end and an internal four-start square thread, the E-thread, in the other end.

Diameter range, mm, inch		**Ordering code**	Dimensions, mm, inch								
			Ejector thread		BTA-thread						
D_c min	D_c max		dm_t	l_1	dm_m	l_{21}	D_{21}	D_{22}	D_{23}	D_{24}	l_2
		Ejector - 424.6, 800.24									
20.00	21.80	**420.9S/173-1**	18.0	30.0	16.5	25	12	19.5	18.8	18	78
.787	.858		.709	1.181	.650	.984	.472	.768	.740	.709	3.071
21.81	24.10	**420.9S/173-2**	19.5	30.0	19.0	25	13	21.5	21	20	78
.859	.949		.768	1.181	.748	.984	.512	.846	.827	.787	3.071
24.11	26.40	**420.9S/173-3**	21.0	30.0	20.0	25	14	23.5	22.5	22	78
.949	1.039		.827	1.181	.787	.984	.551	.925	.886	.866	3.071
26.41	28.70	**420.9S/173-4**	23.5	33.0	22.0	25	15.5	26	24.6	24	84
1.040	1.130		.925	1.299	.866	.984	.610	1.024	.968	.945	3.307
28.71	31.00	**420.9S/173-5**	25.5	33.0	24.0	25	17	28	26.7	26	84
1.130	1.220		1.004	1.299	.945	.984	.669	1.102	1.051	1.024	3.307
31.01	33.30	**420.9S/173-6**	28.0	33.0	26.0	25	18.5	30.5	28.8	28	84
1.221	1.311		1.102	1.299	1.024	.984	.728	1.201	1.134	1.102	3.307
33.31	36.20	**420.9S/173-7**	30.0	40.0	27.0	40	20	33	31	30	108
1.311	1.425		1.181	1.575	1.063	1.575	.787	1.299	1.220	1.181	4.252
36.21	39.60	**420.9S/173-8**	33.0	40.0	30.0	40	23	35.5	33.8	33	108
1.426	1.559		1.299	1.575	1.181	1.575	.906	1.398	1.331	1.299	4.252
39.61	43.00	**420.9S/173-9**	36.0	40.0	33.0	40	25.5	39	36.8	36	108
1.559	1.693		1.417	1.575	1.299	1.575	1.004	1.535	1.449	1.417	4.252
43.01	47.00	**420.9S/173-10**	39.0	40.0	37.0	40	28	42	40.6	39	108
1.693	1.850		1.535	1.575	1.457	1.575	1.102	1.654	1.598	1.535	4.252
47.01	51.70	**420.9S/173-11**	43.0	44.0	41.0	40	31	46	44.4	43	114
1.851	2.035		1.693	1.732	1.614	1.575	1.220	1.811	1.748	1.693	4.488
51.71	56.20	**420.9S/173-12**	47.0	44.0	44.0	40	35	51	48.6	47	114
2.036	2.213		1.850	1.732	1.732	1.575	1.378	2.008	1.913	1.850	4.488
56.21	65.00	**420.9S/173-13**	51.0	44.0	49.0	40	39	55	53	51	114
2.213	2.559		2.008	1.732	1.929	1.575	1.535	2.165	2.087	2.008	4.488
		STS - 420.6, 800.20									
20.00	21.80	**420.9S/188-1**	16.0	27.5	16.5	25	12	18.8	18.8	18	75
.787	.858		.630	1.083	.650	.984	.472	.740	.740	.709	2.953
21.81	24.10	**420.9S/188-2**	18.0	30.0	19.0	25	13	21	21	20	78
.859	.949		.709	1.181	.748	.984	.512	.827	.827	.787	3.071
24.11	26.40	**420.9S/188-3**	19.5	30.0	20.0	25	14	22.5	22.5	22	78
.949	1.039		.768	1.181	.787	.984	.551	.886	.886	.866	3.071
26.41	28.70	**420.9S/188-4**	21.0	30.0	22.0	25	15.5	24.6	24.6	24	78
1.040	1.130		.827	1.181	.866	.984	.610	.968	.968	.945	3.071
28.71	31.00	**420.9S/188-5**	23.5	33.0	24.0	25	17	26.7	26.7	26	84
1.130	1.220		.925	1.299	.945	.984	.669	1.051	1.051	1.024	3.307
31.01	33.30	**420.9S/188-6**	25.5	33.0	26.0	25	18.5	28.8	28.8	28	84
1.221	1.311		1.004	1.299	1.024	.984	.728	1.134	1.134	1.102	3.307
33.31	36.20	**420.9S/188-7**	28.0	33.0	27.0	40	20	31	31	30	108
1.311	1.425		1.102	1.299	1.063	1.575	.787	1.220	1.220	1.181	4.252
36.21	39.60	**420.9S/188-8**	30.0	40.0	30.0	40	23	33.8	33.8	33	108
1.426	1.559		1.181	1.575	1.181	1.575	.906	1.331	1.331	1.299	4.252
39.61	43.00	**420.9S/188-9**	33.0	40.0	33.0	40	25.5	36.8	36.8	36	108
1.559	1.693		1.299	1.575	1.299	1.575	1.004	1.449	1.449	1.417	4.252
43.01	47.00	**420.9S/188-10**	36.0	40.0	37.0	40	28	40.6	40.6	39	108
1.693	1.850		1.417	1.575	1.457	1.575	1.102	1.598	1.598	1.535	4.252
47.01	51.70	**420.9S/188-11**	39.0	40.0	41.0	40	31	44.4	44.4	43	108
1.851	2.035		1.535	1.575	1.614	1.575	1.220	1.748	1.748	1.693	4.252
51.71	56.20	**420.9S/188-12**	43.0	44.0	44.0	40	35	48.6	48.6	47	114
2.036	2.213		1.693	1.732	1.732	1.575	1.378	1.913	1.913	1.850	4.488
56.21	65.00	**420.9S/188-13**	47.0	44.0	49.0	40	39	53	53	51	114
2.213	2.559		1.850	1.732	1.929	1.575	1.535	2.087	2.087	2.008	4.488

Note! Adaptors for cross hole drilling are available on request.

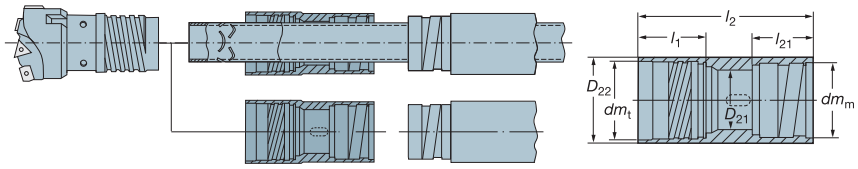
Ordering example: 2 pieces 420.9S/173-1

Adaptors for converting from external to internal tube threads

(Available on request)

Diameter range 65.00-195.90 mm (2.559-7.713 inch)

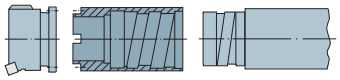
420.9S/344-xx - Ejector T-Max 424.10, STS T-Max 424.10

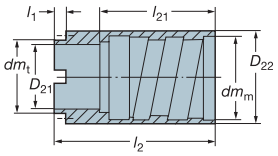


Adaptors for drill diameters up to 195.9 mm (7.713 inch) are delivered with one-start square thread, the Heller-thread, in one end and an internal four-start square thread, the E-thread, in the other end.

Diameter range 196.00-363.90 mm (7.717-14.327 inch)

420.9S/348-xx - STS T-Max special drilling and counterboring heads





Adaptors for drill diameters >196 mm (7.717 inch) are delivered with one-start square thread in one end and locations for flange mounting in the other end.

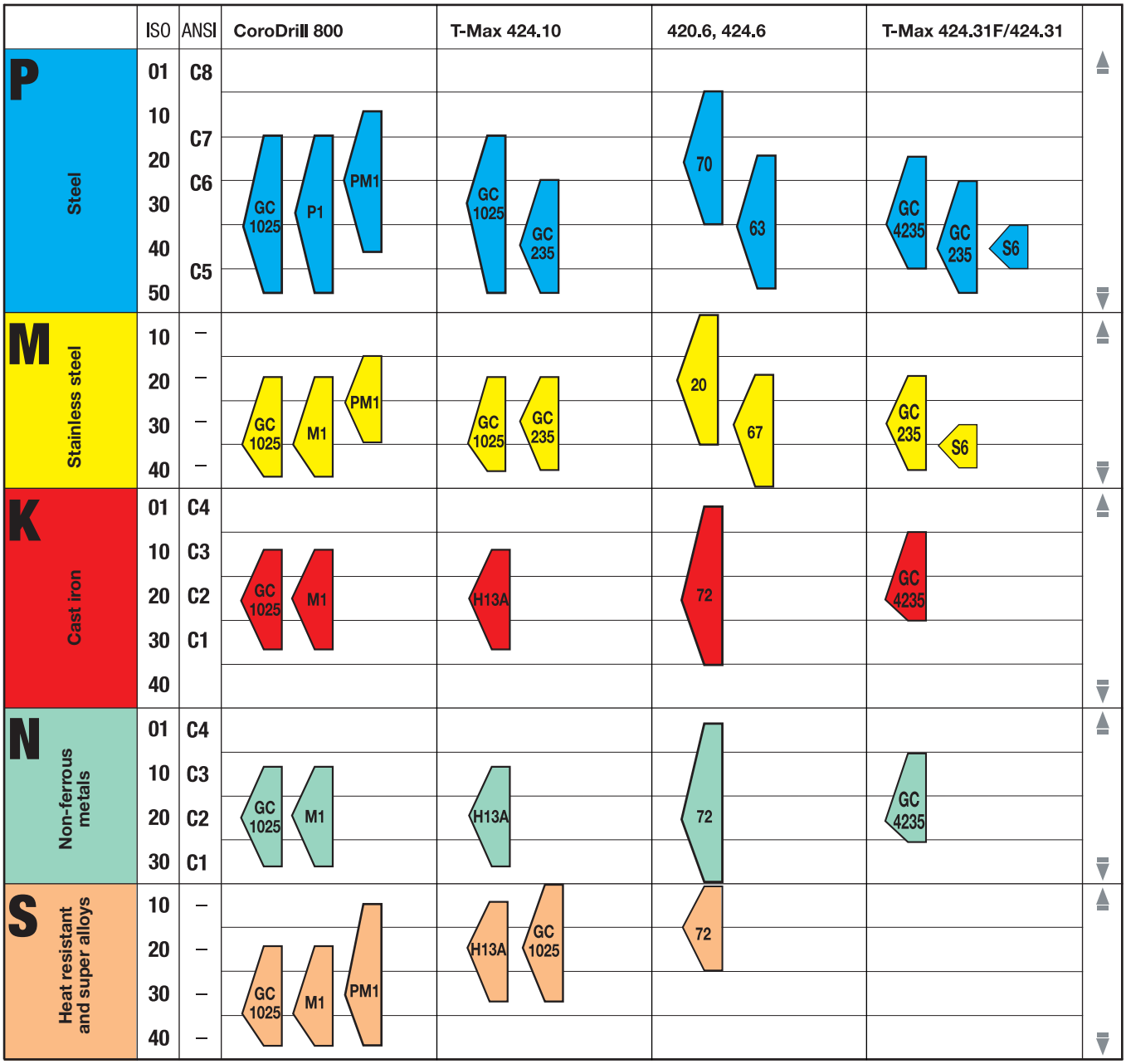
Diameter range, mm, inch		Ordering code	Dimensions, mm, inch						
			Ejector thread		BTA-thread				
D_c min	D_c max		dm_t	l_1	dm_m	l_{21}	D_{21}	D_{22}	l_2
		STS / Ejector - T-Max 420.10							
65.00	66.90	**420.9S/344-14**	52.0	75.0	53.0	40	43	56	135
2.559	2.634		2.047	2.953	2.087	1.575	1.693	2.205	5.315
67.00	72.90	**420.9S/344-15**	58.0	75.0	59.0	40	48	62	135
2.638	2.870		2.284	2.953	2.323	1.575	1.890	2.441	5.315
73.00	79.90	**420.9S/344-16**	63.0	75.0	65.0	70	53	68	165
2.874	3.146		2.480	2.953	2.559	2.756	2.087	2.677	6.496
80.00	86.90	**420.9S/344-17**	70.0	97.0	71.0	70	59	75	190
3.150	3.421		2.756	3.819	2.795	2.756	2.323	2.953	7.480
87.00	99.90	**420.9S/344-18**	77.0	97.0	79.0	70	66	82	190
3.425	3.933		3.032	3.819	3.110	2.756	2.598	3.228	7.480
100.00	111.90	**420.9S/344-19**	89.0	97.0	90.0	70	78	94	190
3.937	4.406		3.504	3.819	3.543	2.756	3.071	3.701	7.480
112.00	123.90	**420.9S/344-20**	101.0	118.0	102.0	70	90	106	215
4.409	4.878		3.976	4.646	4.016	2.756	3.543	4.173	8.465
124.00	135.90	**420.9S/344-21**	113.0	118.0	114.0	70	92	118	215
4.882	5.350		4.449	4.646	4.488	2.756	3.622	4.646	8.465
136.00	147.90	**420.9S/344-22**	125.0	118.0	126.0	70	104	130	215
5.354	5.823		4.921	4.646	4.961	2.756	4.094	5.118	8.465
148.00	159.90	**420.9S/344-23**	137.0	139.0	139.0	70	70	142	240
5.827	6.295		5.394	5.472	5.472	2.756	2.756	5.591	9.449
160.00	171.90	**420.9S/344-24**	149.0	139.0	151.0	85	128	154	255
6.299	6.768		5.866	5.472	5.945	3.346	5.039	6.063	10.039
172.00	183.90	**420.9S/344-25**	161.0	139.0	163.0	85	140	166	255
6.772	7.240		6.339	5.472	6.417	3.346	5.512	6.535	10.039
184.00	195.90	**420.9S/344-26**	173.0	144.0	175.0	85	152	178	265
7.244	7.713		6.811	5.669	6.890	3.346	5.984	7.008	10.433

Diameter range, mm, inch		Ordering code	Dimensions, mm, inch						
			Ejector thread		BTA-thread				
D_c min	D_c max		dm_t	l_1	dm_m	l_{21}	D_{21}	D_{22}	l_2
		STS - T-Max special drilling and counterboring heads							
196.00	207.90	**420.9S/348-27**	172.0	8.0	187.0	85.0	154.0	190.0	130
7.717	8.185		6.772	.315	7.362	3.346	6.063	7.480	5.118
208.00	219.90	**420.9S/348-28**	184.0	8.0	199.0	85.0	166.0	202.0	130
8.189	8.657		7.244	.315	7.835	3.346	6.535	7.953	5.118
220.00	231.90	**420.9S/348-29**	196.0	8.0	211.0	85.0	178.0	214.0	130
8.661	9.130		7.717	.315	8.307	3.346	7.008	8.425	5.118
232.00	243.90	**420.9S/348-30**	208.0	8.0	223.0	85.0	190.0	226.0	130
9.134	9.602		8.189	.315	8.780	3.346	7.480	8.898	5.118
244.00	255.90	**420.9S/348-31**	220.0	8.0	235.0	85.0	202.0	238.0	130
9.606	10.075		8.661	.315	9.252	3.346	7.953	9.370	5.118
256.00	267.90	**420.9S/348-32**	232.0	8.0	247.0	120.0	214.0	250.0	165
10.079	10.547		9.134	.315	9.724	4.724	8.425	9.843	6.496
268.00	279.90	**420.9S/348-33**	244.0	8.0	259.0	120.0	226.0	262.0	165
10.551	11.020		9.606	.315	10.197	4.724	8.898	10.315	6.496
280.00	291.90	**420.9S/348-34**	256.0	8.0	271.0	120.0	238.0	274.0	165
11.024	11.492		10.079	.315	10.669	4.724	9.370	10.787	6.496
292.00	303.90	**420.9S/348-35**	268.0	8.0	283.0	120.0	250.0	286.0	165
11.496	11.965		10.551	.315	11.142	4.724	9.843	11.260	6.496
304.00	315.90	**420.9S/348-36**	280.0	8.0	295.0	120.0	262.0	298.0	165
11.969	12.437		11.024	.315	11.614	4.724	10.315	11.732	6.496
316.00	327.90	**420.9S/348-37**	292.0	8.0	307.0	120.0	274.0	310.0	165
12.441	12.909		11.496	.315	12.087	4.724	10.787	12.205	6.496
328.00	339.90	**420.9S/348-38**	304.0	8.0	319.0	120.0	286.0	322.0	165
12.913	13.382		11.969	.315	12.559	4.724	11.260	12.677	6.496
340.00	351.90	**420.9S/348-39**	316.0	8.0	331.0	120.0	298.0	334.0	165
13.386	13.854		12.441	.315	13.031	4.724	11.732	13.150	6.496
352.00	363.90	**420.9S/348-40**	328.0	8.0	343.0	120.0	310.0	346.0	165
13.858	14.327		12.913	.315	13.504	4.724	12.205	13.622	6.496

Note! Adaptors for cross hole drilling are available on request.

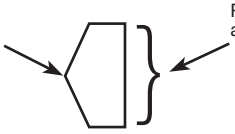
Ordering example: 2 pieces 420.9S/344-14

Grades for Ejector and STS



The position and form of the grade symbols indicate the suitable field of application.

Centre of the field of application.

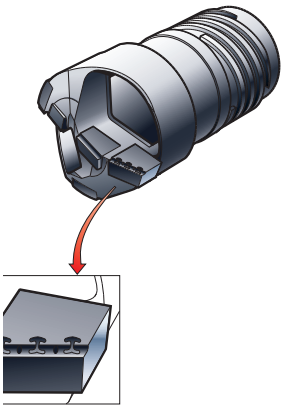


Recommended field of application.

Stable

Unstable

Choice of carbide grades and insert geometries for ground brazed solid drill heads 424.6 and 420.6

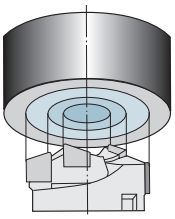


Geometry No. 2
For Duplex stainless steel

Geometry No. 3
For austenitic stainless steel

Geometry No. 4
General steel and cast iron machining

A wide range of carbide grade combinations



Insert	P		M		K	N	S
	Chipbreaker						
	4	4	3/2	3	4	4	4
	Grade combination						
	70	63	20	67	72	72	72
C = Central	P40	P40	M35	M35	K20	N20	S15
I = Intermediate	P30	P30	M35	M35	K20	N20	S15
P = Peripheral	P10	P30	M25	M35	K20	N20	S15
S = Support pad	P20	P20	M20	M20	K20	N20	S15

P Steel, cast steel, long chipping malleable iron

Grade combination 70 is the first choice for machining unalloyed and alloyed steel. The right grade combination for high cutting speed. If better toughness behaviour is required choose grade combination 63.

M Austenitic/ferritic/martensitic stainless steel

Grade combination 20 is the best choice for machining stainless steel. If better toughness behaviour is required choose grade combination 67.

K Cast iron

Grade combination 72 is the optimum choice for machining cast iron.

N Non ferrous metals, plastics, wood

Grade combination 72 is the best choice for machining aluminium alloys, copper and copper alloys.

S Heat resistant alloys Titanium alloys

Grade combination 72 is the best choice for machining heat resistant super alloys and titanium.

Optimized grade combinations for certain applications available on request.

SAFETY INFORMATION

Precautions when grinding and brazing of cemented carbide, see page J8.

Insert geometries and grades for CoroDrill® 800.24 and 800.20 solid drill heads

Insert geometries

Geometry (G)

- All round geometry
- High cutting feeds and speeds
- Good chip control in most materials

Geometry (L)

- Gives improved chip control in long chipping materials, such as low carbon steels and duplex stainless steels
- Secure production process in materials where chip jamming can easily occur

Support pad grades

Grade PM1

- Adds greater wear resistance in Duplex, stainless steels, titanium and heat resistant super alloys
- Complementary grade for steel
- New styling for easier identification and lower friction (black and yellow)

Grade P1

- First choice in steel applications

Grade M1

- First choice in ferritic and austenitic stainless and cast iron

Grade recommendations per ISO application area

P Steel, cast steel, long chipping malleable iron

GC1025 (HC) (P15–P50)

A PVD coated universal grade with excellent wear resistance and toughness.

P1 (HC) (P15–P50)

Coated support pad with excellent wear resistance.

PM1 (HC) (P10–P35)

Support pad with new coating and substrate for tougher steels.

M Austenitic/ferritic/martensitic stainless steel

GC1025 (HC) (M20–M40)

A universal grade for ISO M application area. PVD coated with excellent toughness and resistance against built-up edge.

M1 (HC) (M20–M40)

Coated support pad with excellent wear resistance.

PM1 (HC) (M15–M35)

Support pad with new coating and substrate for stainless/Duplex steels.

K Cast iron

GC1025 (HC) (K10–K30)

A universal grade for ISO K application area. Good combination of wear resistance and toughness.

M1 (HC) (K10–K30)

Coated support pad with excellent wear resistance.

N Non ferrous metals, plastics, wood

GC1025 (HC) (N10–N30)

Universal grade for aluminium alloys, copper and copper alloys.

M1 (HC) (N10–N30)

Coated support pad with excellent wear resistance.

S Heat resistant alloys Titanium alloys

GC1025 (HC) (S20–S40)

A PVD coated grade with excellent wear resistance and toughness. Resistance against built-up edge.

M1 (HC) (S20–S40)

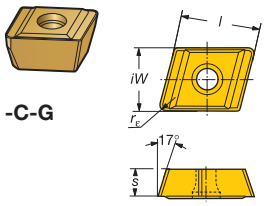
Coated support pad with excellent wear resistance.

PM1 (HC) (S10–S40)

Support pad with new coating and substrate for heat resistant super alloys and titanium.

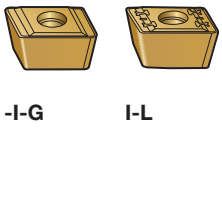
Inserts for CoroDrill® 800.24 and 800.20 solid drill heads

Central



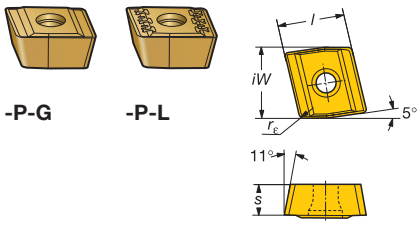
-C-G

Intermediate



-I-G **I-L**

Peripheral



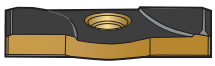
-P-G **-P-L**

Insert size □	Ordering code	P GC 1025	M GC 1025	K GC 1025	N GC 1025	S GC 1025	Dimensions, millimeter, inch (mm, in.) l mm	l in.	iW mm	iW in.	s mm	s in.	r_ε mm	r_ε inch
	Central													
05	800-05 03 08M-C-G	★	★	★	★	★	9.87	.389	5.56	.219	3.18	.125	0.8	.032
06	800-06 T3 08M-C-G	★	★	★	★	★	9.87	.389	6.35	.250	3.97	.156	0.8	.032
08	800-08 T3 08M-C-G	★	★	★	★	★	9.87	.389	7.94	.313	3.97	.156	0.8	.032
10	800-10 T3 08M-C-G	★	★	★	★	★	9.87	.389	9.53	.375	3.97	.156	0.8	.032
12	800-12 T3 08M-C-G	★	★	★	★	★	9.87	.389	12.70	.500	3.97	.156	0.8	.032
	Intermediate													
05	800-05 03 08M-I-G	★	★	★	★	★	9.87	.389	5.56	.219	3.18	.125	0.8	.032
	800-05 03 08M-I-L	★	★	★	★	★	9.87	.389	5.56	.219	3.18	.125	0.8	.032
06	800-06 T3 08M-I-G	★	★	★	★	★	9.87	.389	6.35	.250	3.97	.156	0.8	.032
	800-06 T3 08M-I-L	★	★	★	★	★	9.87	.389	6.35	.250	3.97	.156	0.8	.032
08	800-08 T3 08M-I-G	★	★	★	★	★	9.87	.389	7.94	.313	3.97	.156	0.8	.032
	800-08 T3 08M-I-L	★	★	★	★	★	9.87	.389	7.94	.313	3.97	.156	0.8	.032
12	800-12 T3 08M-I-G	★	★	★	★	★	9.87	.389	12.70	.500	3.97	.156	0.8	.032
	800-12 T3 08M-I-L	★	★	★	★	★	9.87	.389	12.70	.500	3.97	.156	0.8	.032
	Peripheral													
06	800-06 03 08H-P-G	★	★	★	★	★	6.50	.256	8.00	.315	3.18	.125	0.8	.032
	800-06 03 08H-P-L	★	★	★	★	★	6.50	.256	8.00	.315	3.18	.125	0.8	.032
08	800-08 T3 08H-P-G	★	★	★	★	★	8.50	.335	9.00	.354	3.97	.156	0.8	.032
	800-08 T3 08H-P-L	★	★	★	★	★	8.50	.335	9.00	.354	3.97	.156	0.8	.032
09	800-09 T3 08H-P-G	★	★	★	★	★	9.68	.381	9.00	.354	3.97	.156	0.8	.032
	800-09 T3 08H-P-L	★	★	★	★	★	9.68	.381	9.00	.354	3.97	.156	0.8	.032
11	800-11 T3 08H-P-G	★	★	★	★	★	12.75	.502	9.00	.354	3.97	.156	0.8	.032
	800-11 T3 08H-P-L	★	★	★	★	★	12.75	.502	9.00	.354	3.97	.156	0.8	.032
		P30	M35	K20	N20	S35								

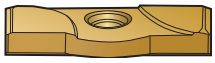
Ordering example: 10 pieces 800-05 03 08M-C-G 1025

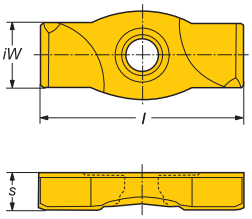
Support pads for CoroDrill™ 800 solid drill heads

Support pad PM1



Support pad P1 and M1





Support pad width, b	Ordering code	P GC P1	P - PM1	M GC M1	M - PM1	K GC M1	N GC M1	S GC M1	S - PM1	Dimensions, millimeter, inch (mm, in.) b mm	b in.	l mm	l in.	s mm	s in.
06	800-06A	★	☆	★	☆	★	★	☆	★	6	.236	18	.709	3.0	.118
07	800-07A	★	☆	★	☆	★	★	☆	★	7	.276	20	.787	3.5	.138
08	800-08A	★	☆	★	☆	★	★	☆	★	8	.315	25	.984	4.5	.177
10	800-10A	★	☆	★	☆	★	★	☆	★	10	.394	30	1.181	4.5	.177
12	800-12A	★	☆	★	☆	★	★	☆	★	12	.472	35	1.378	5.5	.216

★= First choice

Ordering example: 10 pieces 800-06A P1

For shims, see page E280.

Insert geometries and grades for T-MAX® 424.10 solid drill heads

Insert geometries

Geometry -22

- All round geometry
- High cutting feeds and speeds
- Good chip control in most materials including: steel, cast iron, aluminium and other non-ferrous materials

Geometry -23

- First choice for long chipping materials such as: stainless steels, heat resistant super alloys
- Good chip control at moderate feeds and speeds

Grade recommendations per ISO application area

P **Steel, cast steel, long chipping malleable iron**

GC1025 (HC) (P15–P50)

First choice for ISO P materials.
A PVD coated universal grade with excellent wear resistance and toughness.

GC235 (HC) (P25-P50)

Combines good wear resistance at low to moderate cutting speeds with excellent toughness behaviour.

M **Austenitic/ferritic/martensitic stainless steel**

GC1025 (HC) (M20–M40)

First choice for ISO M materials.
PVD coated grade with excellent edge toughness and resistance against built-up edge

GC235 (HC) (M20-M40)

Good edge toughness and resistance against built-up. First choice for austenitic stainless steel.

K **Cast iron**

H13A (HW) (K10-K30)

Grade for low to moderate cutting speeds. Ideal choice for machining ferritic modular cast iron.

N **Non ferrous metals, plastics, wood**

H13A (HW) (N10-N30)

Grade for low to moderate cutting speeds in aluminium alloys, copper and copper alloys.

S **Heat resistant alloys**
Titanium alloys

GC1025 (HC) (S05-S30)

A PVD coated grade with excellent wear resistance and toughness at moderate cutting speeds.

H13A (HW) (S10-S30)

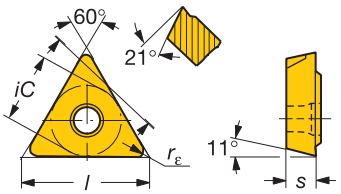
The first choice for machining heat resistant super alloys and titanium. Good edge sharpness, wear resistance and toughness.

Inserts for T-MAX® 424.10 solid drill heads

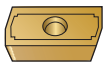
Central and intermediate



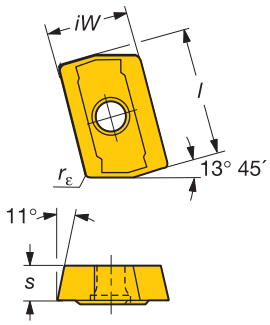
TPMT-22
TPMT-23



Peripheral



R424.9-22
R424.9-23



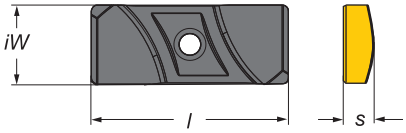
Insert size		Ordering code	P		M		K	N	S		Dimensions, millimeter, inch (mm, in.)									
			GC	GC	GC	-	GC	GC	GC	-										
□	▭		1025	235	1025	235	H13A	H13A	1025	H13A	*iC* mm	*iC* in.	*l* mm	*l* in.	*iW* mm	*iW* in.	*s* mm	*s* in.	r_ε mm	r_ε inch
		Central and intermediate																		
16		**TPMT 16 T3 12R-22**	★	☆	★	☆			★		9.52	.375	16.50	.650			3.97	.156	1.2	.047
		TPMT 16 T3 12TR-23	★	☆	★	☆	★	★	☆	★	9.52	.375	16.50	.650			3.97	.156	1.2	.047
22		**TPMT 22 06 12R-22**	★	☆	★	☆			★		12.70	.500	22.00	.866			6.35	.250	1.2	.047
		TPMT 22 06 12TR-23	★	☆	★	☆	★	★	☆	★	12.70	.500	22.00	.866			6.35	.250	1.2	.047
		Peripheral																		
	13	**R424.9-13 T3 08-22**	★	☆	★	☆			★				14.70	.579	10.00	.394	3.97	.156	0.8	.032
		R424.9-13 T3 08-23	★	☆	★	☆	★	★	☆	★			14.70	.579	10.00	.394	3.97	.156	0.8	.032
	18	**R424.9-18 06 08-22**	★	☆	★	☆			★				20.60	.811	11.50	.453	6.35	.250	0.8	.032
		R424.9-18 06 08-23	★	☆	★	☆	★	★	☆	★			20.60	.811	11.50	.453	6.35	.250	0.8	.032
			P30	P40	M35		K20	N20	S35	S20										

★= First choice

Ordering example: 10 pieces TPMT 16 T3 12R-22 1025

Support pads for T-MAX® 424.10 solid drill heads





Drill head dia.	Support pads	P	M	K	N	S	Dimensions, millimeter, inch (mm, in.)					
		GC	GC	GC	GC	GC						
mm (inch)	Ordering code	PM1	PM1	PM1	PM1	PM1	*b* mm	*b* in.	*l* mm	*l* in.	*s* mm	*s* in.
63.5-74.99 (2.480-2.952)	800-14 D065	★	★	★	★	★	14	.551	35	1.379	7.0	.276
75.0-84.99 (2.953-3.346)	800-16 D075	★	★	★	★	★	14	.551	35	1.379	7.0	.276
85.0-99.99 (3.346-3.936)	800-18 D085	★	★	★	★	★	14	.551	35	1.379	7.0	.276
100-109.99 (3.937-4.330)	800-20 D100	★	★	★	★	★	20	.787	50	1.969	8.5	.335
110-119.99 (4.331-4.724)	800-22 D110	★	★	★	★	★	20	.787	50	1.969	8.5	.335
120-129.99 (4.724-5.118)	800-24 D120	★	★	★	★	★	20	.787	50	1.969	8.5	.335
130-139.99 (5.118-5.511)	800-26 D130	★	★	★	★	★	20	.787	50	1.969	8.5	.335

Note: For drill head diameter above 140 mm (5.512 inch), support pads can be ordered as special.
Contact your local Sandvik representative for more information.

Shims for T-MAX® solid drill head 424.10

Shim	Thickness	
	mm	inch
5549 127-01	0.10	.004
5549 127-02	0.20	.008
5549 127-03	0.30	.012
5549 126-01	0.10	.004
5549 126-02	0.20	.008
5549 126-03	0.30	.012

Insert geometries and grades for T-MAX® 424.31F/424.31 counterboring solid drill heads

Insert geometries

424.31F: hole diameter range 20.00-43.00 mm (.787-1.693 inch)

Finishing geometry for hole tolerance IT9

- Good chip control and excellent surface finish in most materials including: steel, stainless steel, heat resistant super alloys, aluminium and other non-ferrous materials
- High cutting feeds and speeds

424.31F: hole diameter range 43.01-124.00 mm (1.693-4.882 inch)

Finishing to light roughing geometry for hole tolerance IT9

- Good chip control and excellent surface finish in most materials including: steel, stainless steel, heat resistant super alloys, aluminium and other non-ferrous materials
- High cutting feeds and speeds

424.31F/424.31: hole diameter range 43.01-124.00 mm (1.693-4.882 inch)

Semi-finishing and roughing geometries for hole tolerance IT10

SNMG (double sided)

- All round geometry for machining at medium feeds
- Suitable for short chipping materials
- PM for medium turning in steel
- PR for rough turning in steel

SNMM (single sided)

- For roughing and semi-finishing
- Strong straight cutting edge
- PR for rough turning in steel

TPMX (single sided)

- Parallel land for better surface finish
- Low cutting forces

TPUN (single sided)

- With loose chipbreaker
- Alternative for TPMX inserts if chipbreaking problems occur

Grade recommendations per ISO application area

P **Steel, cast steel, long chipping malleable iron**

GC235 (HC) (P25-P50)

Combines good wear resistance at low to moderate cutting speeds with excellent toughness behaviour.

GC4235 (HC) (P20-P45)

Good toughness and wear resistance. Relatively high cutting speeds.

M **Austenitic/ferritic/martensitic stainless steel**

GC235 (HC) (M20-M40)

The first choice for austenitic stainless steel. Good edge toughness and resistance against built-up edge.

GC4235 (HC) - M25 (M15-M30)

Good resistance to thermal shock and mechanical shock provides excellent edge security also for interrupted cuts.

K **Cast iron**

GC4235 (HC) (K05-K25)

Good edge toughness in combination with wear resistance at moderate to high cutting speeds.

N **Non ferrous metals, plastics, wood**

GC4235 (HC) (N05-N25)

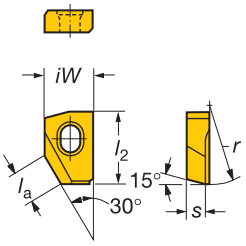
Good edge toughness in combination with wear resistance at moderate to high cutting speeds.

Inserts for T-MAX® 424.31F/424.31 counterboring solid drill heads

424.31F - close tolerance (IT9)

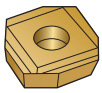


424.31F

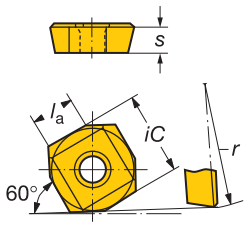


Hole diameter, mm, inch	20.00-43.00 .787-1.692
Max cutting depth, a_p mm, inch	3.0 .118

424.31F - close tolerance (IT9)

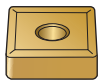


424.31F

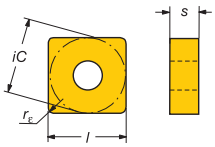


Hole diameter, mm, inch	43.01-124.00 1.693-4.882
Max cutting depth, a_p mm, inch	4.5 .177

424.31F/424.31 - normal tolerance (IT10)



SNMG
SNMG-15
SNMM



Hole diameter, mm, inch	43.01-124.00 1.693-4.882
Max cutting depth, a_p mm, inch	6.0 (/ = 09) .236 (/ = .354) 10.0 (/ = 12) .394 (/ = .472) 16.0 (/ = 19) .748 (/ = .748)

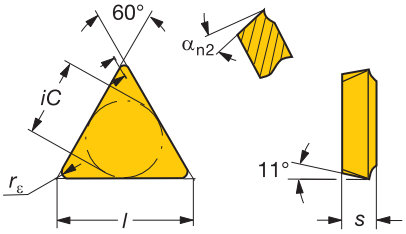
424.31 - normal tolerance (IT10)



TPMX



TPUN



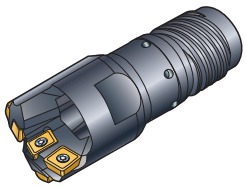
Hole diameter, mm, inch	43.01-124.00 1.693-4.882
Max cutting depth, a_p mm, inch	12.0 (/ = 16) .472 (/ = .630) 17.0 (/ = 22) .669 (/ = .866)

Insert size □	Insert size △	Ordering code	P GC235	P GC4235	M GC235	M GC4235	K GC4235	N GC4235	l mm	l in.	l_2 mm	l_2 in.	iC mm	iC in.	iW mm	iW in.	s mm	s in.	l_a mm	l_a in.	r mm	r in.	r_ε mm	r_ε in.	α_{n2}
		For 424.31F																							
04		R424.31F-04 03 00	★		★						9.5	.374			6.5	.256	2.55	.100	4.4	.173	10	.394			
06		R424.31F-06 T3 00	★		★								12.7	.500			3.97	.156	6.1	.240	20	.787			
09		SNMG 09 03 08		★		★	★	★	9.525	.375			9.525	.375			3.18	.125					0.8	.031	
		SNMG 09 03 08-PM		★					9.525	.375			9.525	.375			3.18	.125					0.8	.031	
		SNMM 09 03 08		★		★	★	★	9.525	.375			9.525	.375			3.18	.125					0.8	.031	
		For 424.31																							
12		SNMG 12 04 12		★					12.7	.500			12.7	.500			4.76	.187					1.2	.047	
		SNMG 12 04 12-PM		★					12.7	.500			12.7	.500			4.76	.187					1.2	.047	
		SNMM 12 04 12-PR		★					12.7	.500			12.7	.500			4.76	.187					1.2	.047	
19		SNMG 19 06 12-PR		★					19.05	.750			19.05	.750			6.35	.250					1.2	.047	
		SNMM 19 06 12-PR		★					19.05	.750			19.05	.750			6.35	.250					1.2	.047	
	16	TPMX 16 03 12 R22	★		★				16.5	.650			9.525	.375			3.18	.125					1.2	.047	20°
	22	TPMX 22 04 12 R22	★		★				22.0	.866			12.7	.500			4.76	.187					1.2	.047	17°
	16	TPUN 16 03 12	☆	★	☆	★	★	★	16.5	.650			9.525	.375			3.18	.125					1.2	.047	
	22	TPUN 22 04 12	☆	★	☆	★	★	★	22.0	.866			12.7	.500			4.76	.187					1.2	.047	

★= First choice

Ordering example: 10 pieces R424.31F-04 03 00 GC235

CoroDrill® 800 solid drill heads



Drill head	Insert - C, I, P[1]			Support pad		
Metric (inch)	Drill diameter Range, mm (inch)	Screw Central	Key (Torx Plus)	Pad	Screw	Key (Torx Plus)
800.20-xxDxx.xx (A800.20-xxDxx.xx)	25.00-28.70 (.964-1.129)	5513 020-05	5680 046-03 (7IP)	06A	5513 020-20	5680 046-03 (7IP)
		5513 020-05	5680 046-03 (7IP)	07A	416.1-832	5680 046-04 (9IP)
800.24-xxDxx.xx (A800.24-xxDxx.xx)	28.71-31.00 (1.130-1.220)	5513 020-05	5680 046-03 (7IP)			
		5513 020-34	5680 046-01 (8IP)	08A	5513 020-16	5680 046-05 (10IP)
	31.01-65.00 (1.121-2.559)	5513 020-34	5680 046-01 (8IP)	10A - 12A	416.1.833	5680 046-05 (10IP)

[1] C= Central, I= Intermediate, P= Peripheral

Drill diameter range – insert and pad sizes, ordered separately.

Shims

Shim set (8 pcs)	Dimensions, mm (inch)		
	s	*l*	*b*
5549 127-85	0.02 (.0008)	18 (.707)	6 (.236)
5549 127-86	0.03 (.0012)	18 (.707)	6 (.236)
5549 127-88	0.02 (.0008)	20 (.787)	7 (.276)
5549 127-89	0.03 (.0012)	20 (.787)	7 (.276)
5549 127-91	0.02 (.0008)	25 (.984)	8 (.315)
5549 127-92	0.03 (.0012)	25 (.984)	8 (.315)
5549 127-94	0.02 (.0008)	30 (1.181)	10 (.394)
5549 127-95	0.03 (.0012)	30 (1.181)	10 (.394)
5549 127-97	0.02 (.0008)	35 (1.378)	12 (.472)
5549 127-98	0.03 (.0012)	35 (1.378)	12 (.472)

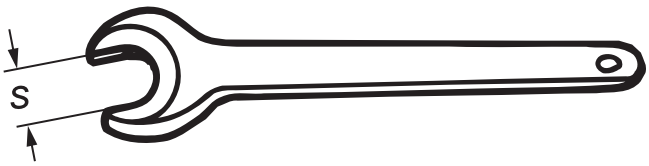
Note: Do not add more than 0.05 mm thickness of shims

Wrench width of jaws

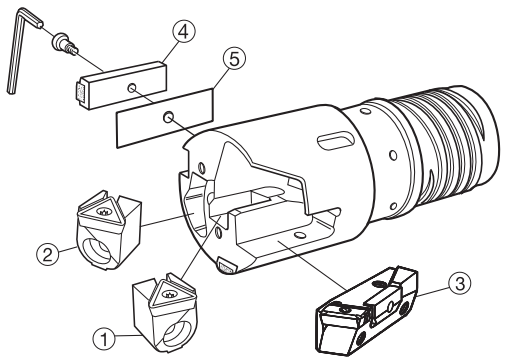
Diameter range, mm (inch)	Width of jaws, mm (inch)
D_c	*s*
25.00<-≤27.00 (.984<– ≤1.063)	22.00 (.866)
27.00<-≤30.00 (1.063<– ≤1.181)	24.00 (.945)
30.00<-≤32.00 (1.181<– ≤1.260)	27.00 (1.063)
32.00<-≤35.00 (1.260<– ≤1.378)	28.00 (1.102)
35.00<-≤36.20 (1.378<– ≤1.425)	30.00 (1.181)
35.20<-≤39.60 (1.425<– ≤1.559)	32.00 (1.260)
39.60<-≤43.00 (1.559<– ≤1.693)	36.00 (1.417)
43.00<-≤47.00 (1.693<– ≤1.850)	38.00 (1.496)
47.00<-≤51.70 (1.850<– ≤2.035)	41.00 (1.614)
51.70<-≤54.00 (2.035<– ≤2.126)	46.00 (1.811)
54.00<-≤56.20 (2.126<– ≤2.213)	50.00 (1.969)
56.20<-≤60.00 (2.213<– ≤2.362)	50.00 (1.969)
60.00<-≤63.00 (2.362<– ≤2.480)	55.00 (2.165)
63.00<-≤65.00 (2.480<– ≤2.559)	60.00 (2.362)

Note!

There are no specific wrenches for the CoroDrill 800 heads. An adjustable wrench, or a regular box wrench, should be used. The width of the jaws for each drill is shown in the table below.



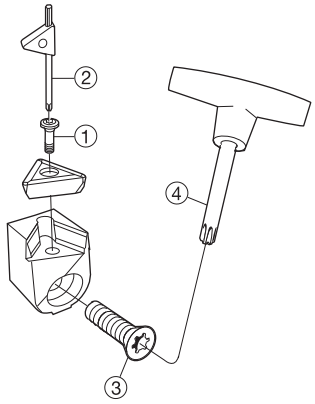
T-MAX® solid drill head 424.10



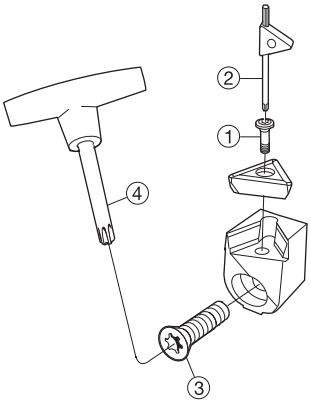
1	2	3	4	5
Central cartridge	Intermediate cartridge	Peripheral cartridge	Support pad	Shim
See below	See below	See below	See page E277.	See page E277.

T-Max® U cartridges

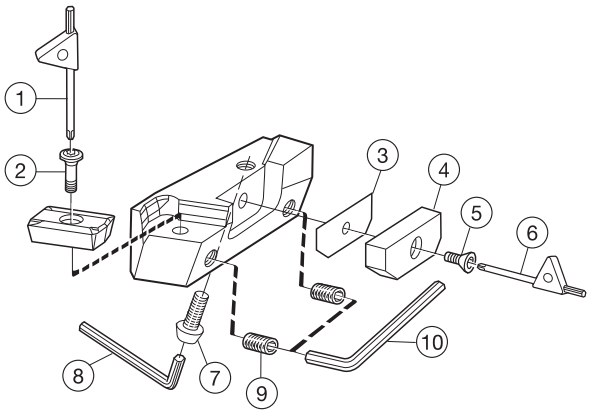
Central cartridges
L430.31



Intermediate cartridge
R430.30



Peripheral cartridge
R430.28



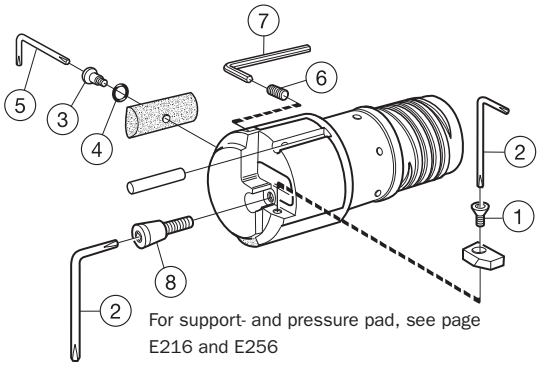
Central cartridge Diameter range, mm (inch)	Intermediate cartridge Diameter range, mm (inch)	1 Screw	2 Key (Torx Plus)	3 Screw	4 Key (Torx Plus)
L430.31-1216-16 63.50-82.55 (2.500-3.250) 107.95-130.00 (4.240-5.118)	**R430.30-1216-16** 63.50-90.00 (2.500-3.543) 107.95-130.00 (4.240-5.118)	5513 020-04	5680 049-03 (9IP)	5513 020-26	5680 048 03 (20IP)
L430.31-1522-22 85.00-105.00 (3.346-4.134)	**R430.30-1522-22** 95.00-105.00 (3.740-4.134)	5513 020-25	5680 049-02 (15IP)	5513 020-26	5680 048 03 (20IP)

Peripheral cartridge Diameter range, mm (inch)	1 Key (Torx Plus)	2 Screw	4 Insert protection pad	5 Screw	6 Key (Torx Plus)	7 Screw	8 Key (mm)	9 Screw	10 Key (mm)
R430.28-1516-16 63.50-71.45 (2.500-2.813) 107.95-120.65 (4.250-4.750)	5680 049-03 (9IP)	5513 020-24	5636 030-01	154.3-835	5680 049-03 (9IP)	430.21-825	3021 010-040 (4.0)	3214 010-357	174.1-864 (3.0)
R430.28-1822-22 75.00-105.00 (2.953-4.134) 125.00-130.00(4.921-5.118)	5680 049-02 (15IP)	5513 020-25	5636 030-02	154.3-835	5680 049-03 (9IP)	430.21-825	3021 010-040 (4.0)	3214 010-357	174.1-864 (3.0)

	3 Shim mm (inch)			
R430.28-1516-16	5549 024-01 0.1 (.004)	5549 024-02 0.2 (.006)	5549 024-03 0.4 (.016)	5549 024-04 0.8 (.031)
R430.28-1822-22	5549 024-05 0.1 (.004)	5549 024-06 0.2 (.006)	5549 024-07 0.4 (.016)	5549 024-08 0.8 (.031)

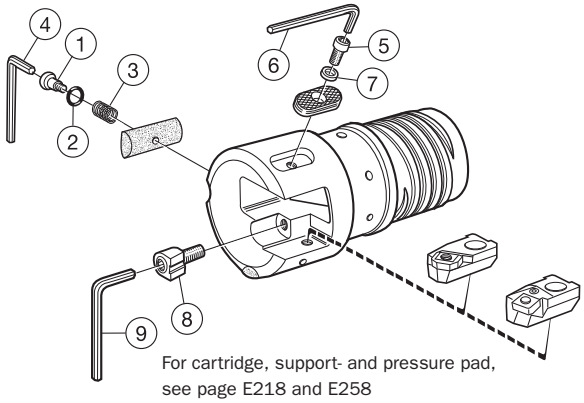
T-MAX® counterboring heads 424.31F

Diameter range 20.00-43.00 mm (.787-1.693 inch)



For support- and pressure pad, see page E216 and E256

Diameter range 43.01-124.00 mm (1.693-4.882 inch)



For cartridge, support- and pressure pad, see page E218 and E258

Diameter range 20.00-43.00 mm (.787-1.693 inch)

Diameter range	1	2	3	4	5	6	7	8
D_c mm (inch)	Screw	Key (Torx Plus)	Screw	O-ring	Key (Torx Plus)	Screw	Key (mm)	Screw
20.00-31.00 (.787-1.220)	416.1-830	5680 046-03 (7IP)	5513 030-01[1)]	5641 001-13[1)]	5680 051-01 (7IP)[1)]	3214 040-154[1)]	3021 012-013 (1.27)[1)]	5513 014-01
31.01-43.00 (1.221-1.693)	416.1-830	5680 046-03 (7IP)	5513 030-02[1)]	5641 001-13[1)]	5680 051-01 (7IP)[1)]	3214 040-206[1)]	174.1-862 (1.5)[1)]	5513 014-01

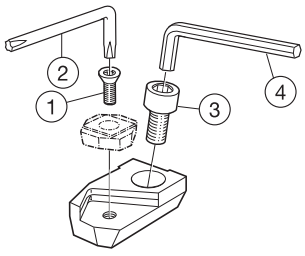
Diameter range 43.01-124.00 mm (1.693-4.882 inch)

Diameter range	1	2	3	4	5	6	7	8	9
D_c mm (inch)	Screw	O-ring	Spring	Key (mm)	Screw	Key (mm)	Washer	Wedge set	Key (mm)
43.01-65.00 (1.694-2.559)	5513 011-01[1)]	3671 010-110[1)]	-	174.1-870 (2.0)[1)]	3213 010-206[1)]	174.1-870 (2.0)[1)]	-	5332 040-011	174.1-864 (3.0)
65.00-79.99 (2.559-3.146)	430.21-820[1)]	-	430.21-821[1)]	174.1-864 (3.0)	3212 010-207	174.1-863 (2.5)	3411 010-032	5332 040-011	174.1-864 (3.0)
80.00-89.90 (3.150-3.539)	430.21-820[1)]	-	430.21-821[1)]	174.1-864 (3.0)	3212 010-307	3021 010-040 (4.0)	3411 011-053	5332 040-011	174.1-864 (3.0)
90.00-124.99 (3.543-4.882)	430.21-820[1)]	-	430.21-821[1)]	174.1-864 (3.0)	3212 010-358	3021 010-050 (5.0)	3411 011-064	5332 040-011	174.1-864 (3.0)

[1)] Delivered with pad

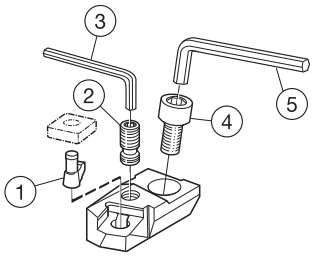
Cartridges for T-MAX® counterboring heads 424.31F

R430.24-1118-06
Cartridge for close tolerances



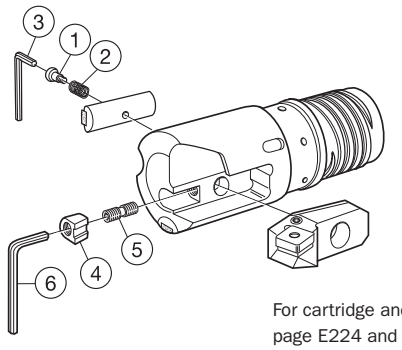
1	2	3	4
Screw	Key (Torx Plus)	Screw	Key (mm)
416.1-833	5680 046-05 (10IP)	3212 010-307	3021 010-040 (4.0)

R430.24-1018-09
Cartridge for normal tolerances



1	2	3	4	5
Lever	Screw	Key (mm)	Key	Key (mm)
174.3-845-1	174.3-829	174.1-870 (2.0)	3212 010-307	3021 010-040 (4.0)

T-MAX® counterboring heads 424.31



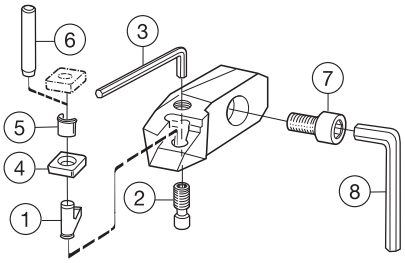
For cartridge and support pad, see page E224 and E262

Diameter range, mm, inch:	1[1]	2[1]	3	4	5	6
D_c mm (inch)	Screw	Spring	Key (mm)	Wedge	Screw	Key (mm)
65.00-278.99 (2.559-10.984)	430.21-820	430.21-821	174.1-864 (3.0)	430.23-820	269.833	3021 010-040 (4.0)
279.00- (10.984-)	430.21-823	430.21-824	3021 010-040 (4.0)	430.23-820	269.833	3021 010-040 (4.0)

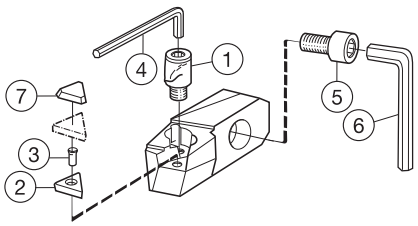
[1] Delivered with pad

Cartridges for T-MAX® counterboring heads 424.31

T-Max® P Lever design cartridge R430.24



T-MAX® S top clamp design cartridge R430.23



T-Max® P Cartridge R430.24?	1	2	3	4	5	6	7	8
	Lever mm (inch)	Screw	Key (mm)	Shim	Shim pin	Shim pin Punch	Screw	Key (mm)
R430.24-2024-12	174.3-841M 3.0 (.118)	174.3-821	174.1-864 (6.0)	174.3-851M	174.3-861	174.3-871	3212 010-412	3021 010-060[1]
R430.24-2532-19	174.3-842M 4.0 (.157)	174.3-822M	3021 010-040 (8.0)	174.3-852M	174.3-862	174.3-872	3212 010-464	3021 010-080[1]

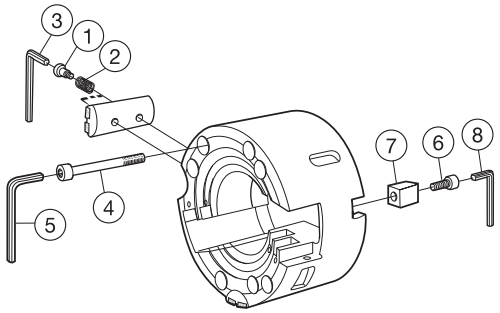
T-MAX® S Cartridge R430.23	1	2	3	4	5	6
	Clamp set	Shim	Shim pin	Key (mm)	Screw	Key (mm)
R430.23-2024-16	174.9-837-1	175.2-850	174.1-865	174.1-864 (3.0)	3212 010-412	3021 010-060 (6.0)[1]
R430.23-2532-22	174.9-838-1	175.2-851	174.1-866	3021 010-040 (4.0)	3212 010-464	3021 010-080 (8.0)[1]

[1] Supplied on request

Optional parts

Cartridge	Are to be used for TPUN inserts and loose chipbreaker. Available separately.		
	1	4	7
	Clamp set	Key (mm)	Chipbreaker mm (inch)
R430.23-2024-16	174.9-833-2	174.1-864 (3.0)	DO 212 H35 B = 1.2 mm (.047) DO 220 H35 B = 2.0 mm (.079)
R430.23-2532-22	174.9-835-1	3021 010-040 (4.0)	DO 320 H35 B = 2.0 mm (.079) DO 325 H35 B = 2.5 mm (.098)

T-MAX® trepanning head 420.7



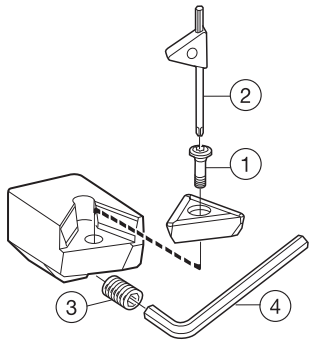
Support pad set	1[1]	2[1]	3
	Screw	Spring	Key (mm)
430.21-12 D 430.21-16 D 430.21-18 D	430.21-820	430.21-821	174.1-864 (3.0)

[1] Delivered with pad

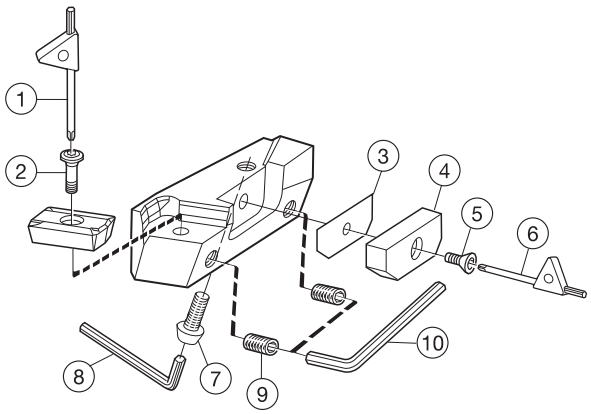
4	5	6	7	8
Screw	Key (mm)	Screw	Wedge	Key (mm)
3212 010-473 (8.0)	3021 010-080	3212 010-396	420.7-820 (5.0)	3021 010-050

T-Max® U cartridges

Central cartridge
L430.27



Peripheral cartridge
R430.28

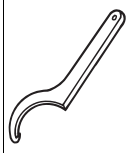


Central cartridge	1	2	3	4
	Screw	Key (Torx Plus)	Screw	Key (mm)
L430.27-1216-16	5513 020-24	5680 049-03 (9IP)	437.5-822	174.1-864 (3.0)
L430.27-1522-22	5513 020-25	5680 049-02 (15IP)	437.5-822	174.1-864 (3.0)

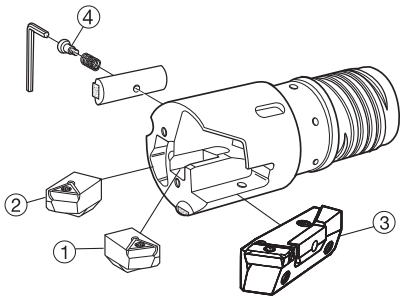
Peripheral cartridge	1	2	4	5	6	7	8	9	10
	Key (Torx Plus)	Screw	Insert protection pad	Screw	Key (Torx Plus)	Screw	Key (mm)	Screw	Key (mm)
R430.28-1516-16	5680 049-03 (9IP)	5513 020-24	5636 030-01	154.3-835	5680 049-03 (9IP)	430.21-825	3021 010-040 (4.0)	3214 010-357	174.1-864 (3.0)
R430.28-1822-22	5680 049-02 (15IP)	5513 020-25	5636 030-02	154.3-835	5680 049-03 (9IP)	430.21-825	3021 010-040 (4.0)	3214 010-357	174.1-864 (3.0)

Peripheral cartridge	3			
	Shim (mm)			
R430.28-1516-16	5549 024-01 (0.1)	5549 024-02 (0.2)	5549 024-03 (0.4)	5549 024-04 (0.8)
R430.28-1822-22	5549 024-05 (0.1)	5549 024-06 (0.2)	5549 024-07 (0.4)	5549 024-08 (0.8)

Hook spanners for deep hole drills

Solid drill head 424.6, 420.6  D_c mm (inch)	Solid drill head 424.10 Counterboring head 424.32  D_c mm (inch)	Counterboring head 424.31F  D_c mm (inch)	Trepanning head 420.7  D_c mm (inch)	Hook spanner  (DIN 1810)
24.11-26.40 (.949 - 1.039)	-	20.00-23.40 (.787 - .921)	-	3022 010-016
26.41-33.30 (1.040 - 1.311)	-	23.41-31.00 (.922 - 1.220)	-	3022 010-025
33.31-36.20 (1.312 - 1.425)	-	31.01-35.00 (1.221 - 1.378)	-	3022 010-030
36.21-43.00 (1.426 - 1.692)	-	35.01-40.00 (1.379 - 1.575)	-	3022 010-034
43.01-47.00 (1.693 - 1.850)	-	40.01-47.00 (1.576 - 1.850)	-	3022 010-040
47.01-56.20 (1.851 - 2.212)	-	47.01-55.00 (1.851 - 2.165)	-	3022 010-045
56.21-62.80 (2.213 - 2.472)	-	55.01-60.00 (2.166 - 2.362)	-	3022 010-052
62.81-65.00 (2.473 - 2.559)	65, 65E, 70 (2.559, (2.559E), 2.756)	60.01-72.90 (2.363 - 2.870)	-	3022 010-058
-	75, 80 (2.953, 3.150)	73.00-79.90 (2.871 - 3.146)	-	3022 010-068
-	85, 90, 95 (3.346, 3.543, 3.740)	80.00-99.90 (3.147 - 3.933)	-	3022 010-080
-	100, 105, 110 (3.937, 4.134, 4.331)	100.00-111.90 (3.934 - 4.406)	-	3022 010-095
-	115, 120 (4.528, 4.724)	112.00-123.90 (4.407 - 4.878)	120 (4.724)	3022 010-110
-	125, 130 (4.921, 5.118)	-	125, 130, 140 (4.921, 5.118, 5.512)	3022 010-120
-	150 (5.906)	-	150 (5.906)	3022 010-135
-	160, 170 (6.299, 6.693)	-	160 (6.299, 6.693)	3022 010-155
-	180 (7.087)	-	180 (7.087)	3022 010-180

Spare parts for obsolete tools T-MAX® solid drill head 424.9



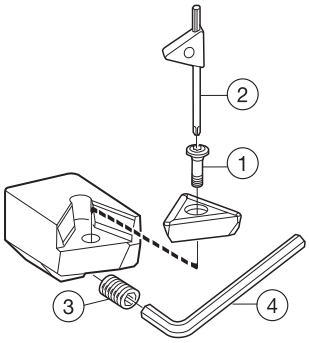
	TPMX	TPUN	P		M		K	N
			G	-	GC	-	GC	GC
△			235	4235	235	4235	4235	4235
16	TPMX	16 03 12 R22	★		★			
22	TPMX	22 04 12 R22	★		★			
16	TPUN	16 03 12	☆	★	☆	★	★	★
22	TPUN	22 04 12	☆	★	☆	★	★	★

★= First choice

Support pad set	1	2	3	4
	Central cartridge	Intermediate cartridge	Peripheral cartridge	Screw
430.21-12D 430.21-16D 430.21-18D	See below	See below	See below	430.21-820

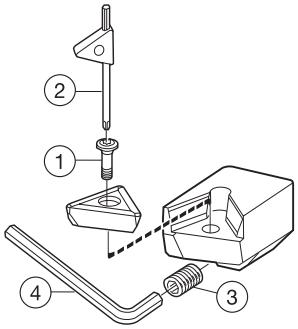
Central cartridge

L430.27



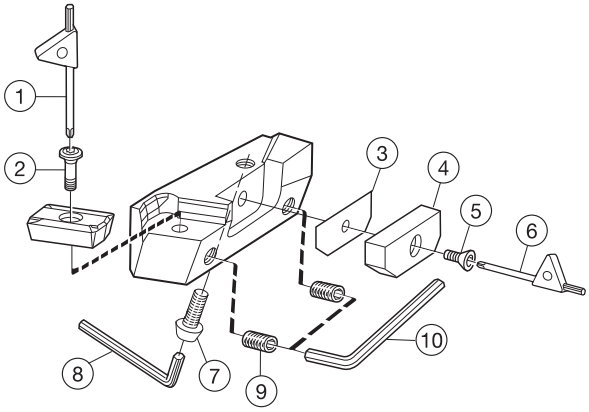
Intermediate cartridge

R430.26



Peripheral cartridge

R430.28



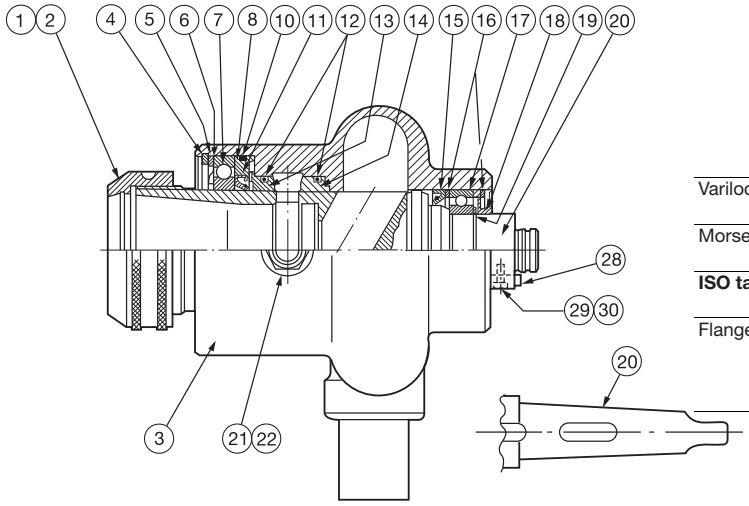
Central cartridge	Intermediate cartridge	1	2	3	4
		Screw	Key (Torx Plus)	Screw	Key (mm)
L430.27-1216-16	R430.26-1216-16	5513 020-24	5680 049-03 (9IP)	437.5-822	174.1-864 (3.0)
L430.27-1522-22	R430.26-1522-22	5513 020-25	5680 049-02 (15IP)	437.5-822	174.1-864 (3.0)

Peripheral cartridge	1	2	4	5	6	7	8	9	10
	Key (Torx Plus)	Screw	Insert protection pad	Screw	Key (Torx Plus)	Screw	Key (mm)	Screw	Key (mm)
R430.28-1516-16	5680 049-03 (9IP)	5513 020-24	5636 030-01	154.3-835	5680 049-03 (9IP)	430.21-825	3021 010-040 (4.0)	3214 010-357	174.1-864 (3.0)
R430.28-1822-22	5680 049-02 (15IP)	5513 020-25	5636 030-02	154.3-835	5680 049-03 (9IP)	430.21-825	3021 010-040 (4.0)	3214 010-357	174.1-864 (3.0)

	3			
	Shim (mm)			
R430.28-1516-16	5549 024-01 (0.1)	5549 024-02 (0.2)	5549 024-03 (0.4)	5549 024-04 (0.8)

Rotating connectors

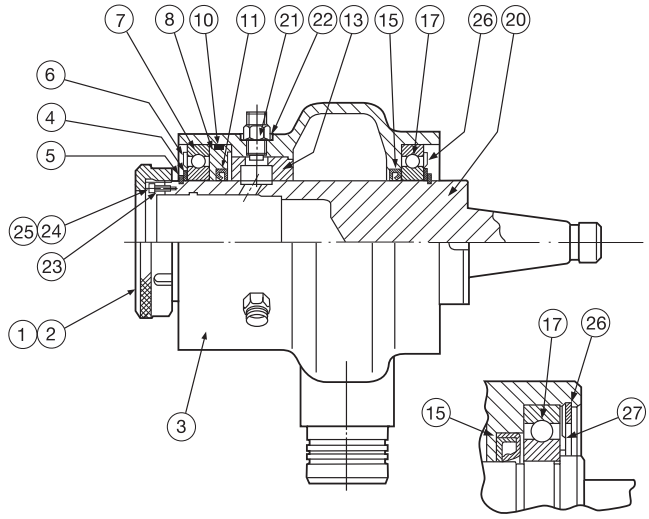
424.2-401M, 424.2-400M, 424.2-400M-V63



Type of shank	Connector code	1	2
			
		Nut	Hook spanner
Varilock adapted	424.2-400M-V63	424.2-400-01	3022 010-110
Morse taper	424.2-401M	424.2-401-01	3022 010-080
	400M	424.2-400-01	3022 010-110
ISO taper	424.2-402	424.2-402-03	3022 010-155
Flange mounting	424.9S/231-1[1)]	424.2-401-01	3022 010-080
	424.9S/170-1[1)]	424.2-400-01	3022 010-110
	424.9S/224-1[1)]	424.2-402-03	3022 010-155
	424.9S/245-1[1)]	424.2-402-03	3022 010-230

[1)] For further information, please contact your local sales representative.

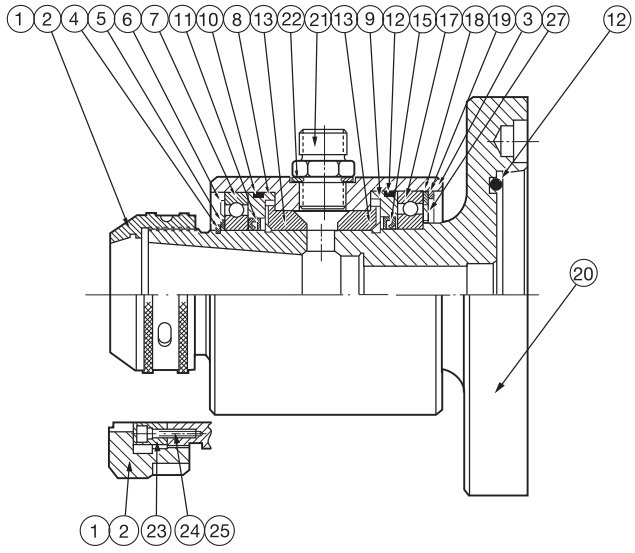
424.2-402



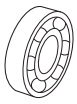
Type of shank	Connector code	11	12
			
		Sealing ring	O-ring
Varilock adapted	424.2-400M-V63	424.2-400-27	424.2-400-28
Morse taper	424.2-410M	424.2-401-27	424.2-401-28
	400M	424.2-400-27	424.2-400-28
ISO taper	424.2-402	B1 130x160x12	-
Flange mounting	424.9S/231-1	BA 70x85x7[1)]	109.5x3[1)]
	424.9S/170-1	B2 95x120x15[1)]	144.5x3[1)]
	424.9S/224-1	B1 130x160x12[1)]	199.3x5.7[1)]
	424.9S/245-1	B1 200x230x15[1)]	319.3x5.7[1)]

[1)] For further information, please contact your local sales representative.

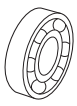
424.9S/231-1 424.9S/224-1
424.9S/170-1 424.9S/245-1



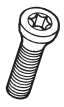
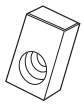
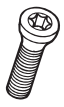
Type of shank	Connector code	21	22
			
		Nipple	Sealing ring
Varilock adapted	424.2-400M-V63	424.2-400-29	3672 020-270
Morse taper	424.2-401M	424.2-401-29	3672 020-215
	400M	424.2-400-29	3672 020-270
ISO taper	424.2-402	424.2-402-07	U36.7x46x2
Flange mounting	424.9S/231-1	424.2-401-29	3672 020-270
	424.9S/170-1	424.2-400-29	3672 020-270
	424.9S/224-1	424.2-402-07	U36.7x46x2
	424.9S/245-1	424.2-403-07	U42.7x53x3

3	4	5	6	7	8	9	10
							
Housing	Circlip	Clamping ring	Sealing washer	Ball bearing	Support ring	Support ring	O-ring
424.2-400-10M	424.2-400-12(H)	424.2-400-03M	424.2-400-04	424.2-400-25	424.2-400-20	-	424.2-400-26
424.2-401-10M	424.2-401-12(H)	424.2-401-03M	424.2-401-04	424.2-401-25	424.2-401-20	-	424.2-401-26
424.2-400-10M	424.2-400-12(H)	424.2-400-03M	424.2-400-04	424.2-400-25	424.2-400-20	-	424.2-400-26
424.2-402-01	3421 100-130(A)	424.2-402-04	23126 AV	SKF 16026	424.2-402-05	-	3671 010-162
424.9S/231-7[1]	SgA 70(A)[1]	424.9S/231-2[1]	16014 AV[1]	SKF 16014	424.9S/231-3[1]	424.9S/231-5[1]	104.5x3[1]
424.9S/170-8[1]	SgA 95(A)[1]	424.9S/170-2[1]	16019 AV1)	SKF 16019	424.9S/170-2[1]	424.9S/170-5[1]	139.5x3[1]
424.9S/224-3[1]	3421 100-130(A)	424.2-402-04	23126 AV	SKF 16026	424.2-402-05	424.9S/224-2[1]	3671 010-162
424.9S/245-3[1]	3421 100-200(A)	424.2-403-04	16040 AV	SKF 16040	424.2-403-05	424.9S/245-2[1]	3671 010-174

1) For further information, please contact your local sales representative.
2) (H) = For hole (A) = For shank

13	14	15	16	17	18	19	20
							
Spacing rings outer	Inner	Sealing ring	Circlip[2]	Ball bearing	Sealing sleeve	Circlip[2]	Shank
424.2-400-21	424.2-400-23	424.2-400-08	424.2-400-14(H)	424.2-400-15	424.2-400-09	424.2-400-16(A)	5622 033-01
424.2-401-21	424.2-401-23	424.2-401-08	424.2-401-14(H)	424.2-401-15	424.2-401-09	424.2-401-16(A)	424.2-401-11M
424.2-400-21	424.2-400-23	424.2-400-08	424.2-400-14(H)	424.2-400-15	424.2-400-09	424.2-400-16(A)	424.2-400-11M
424.2-402-06	-	B2 FG135x170x15	-	SKF 16028	-	-	424.2-402-02
424.9S/231-4[1]	-	BA75x90x8[1]	-	SKF 16015[1]	424.9S/231-6[1]	SgH 115(H)[1]	Depending on spindle nose type and size
424.9S/170-4[1]	-	B2 100x120x15[1]	-	SKF 16020[1]	424.9S/170-6[1]	SgH 150(H)[1]	
424.2-402-06[1]	-	B2 FG135x170x15[1]	-	SKF 16028[1]	-	3221 110-210(H)	
424.2-403-06[1]	-	B2 210x240x15[1]	-	SKF 16044[1]	-	-	

1) For further information, please contact your local sales representative.
2) (H) = For hole (A) = For shank

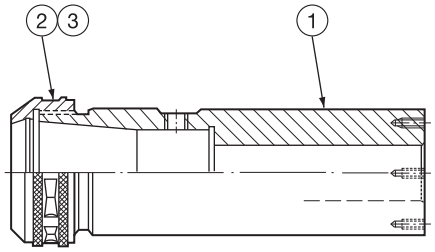
23	24	25	26	27	28	29	30
							
Driving key	Screw	Key (mm)	Circlip[2]	Sealing washer	Driving Key	Screw	Key (mm)
-	-	-	-	-	5631 010-05	3212 010-358	3021 010-050 (5.0)
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
424.2-402-08	3212 010-310	3021 010-040 (4.0)	3421 110-210(H)	16028 JV	-	-	-
-	-	-	-	16015 JV	-	-	-
-	-	-	-	16020 JV	-	-	-
424.2-402-08	3212 010-310	3021 010-040 (4.0)	-	16028 JV	-	-	-
424.2-403-08	3212 010-362	3021 010-050 (5.0)	-	424.9S/245-5[1]	-	-	-

1) For further information, please contact your local sales representative.

Non-rotating connectors

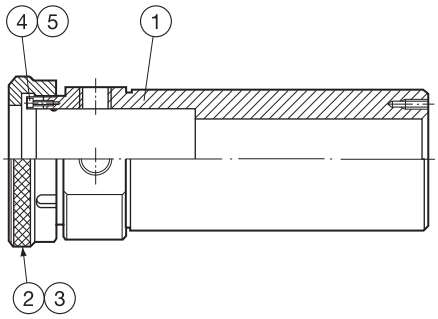
Cylindrical

424.2-411
424.2-410



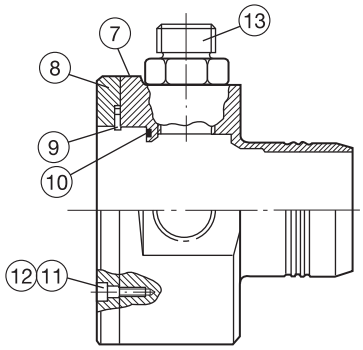
Cylindrical

424.2-412
424.2-413

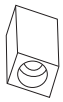
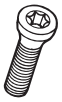


Drill tube mounted

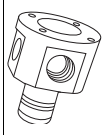
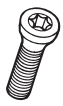
424.9S/232-1



Cylindrical

Connector	1	2	3	4	5	6
						
	Shank	Nut	Hook spanner	Driving key	Screw	Key (mm)
424.2- 411	424.2-411-01	424.2-401-01	3022 010-080	-	-	-
410	424.2-410-01	424.2-400-01	3022 010-110	-	-	-
412	424.2-412-01	424.2-402-03	3022 010-155	424.2-402-08	3212 010-310	3021 010-040 (4.0)
413	424.2-413-01	424.2-403-03	3022 010-230	424.2-403-08	3212 010-362	3021 010-050 (5.0)

Drill tube mounted

Connector	7	8	9	10	11	12	13
							
	Body	Cover	Circlip	O-ring	Screw	Key (mm)	Nipple
424.9S/232-1-14	424.9S/232-2-14[1]	424.9S/232-3-14[1]	SgA 56[1]	49.5x3[1]	3212 010-360	3021 010-050 (5.0)	BSP04000-16[1]
424.9S/232-1-15	424.9S/232-2-15[1]	424.9S/232-3-15[1]	SgA 62[1]	54.5x3[1]	3212 010-360	3021 010-050 (5.0)	BSP04000-16[1]
424.9S/232-1-16	424.9S/232-2-16[1]	424.9S/232-3-16[1]	SgA 68[1]	59.5x3[1]	3212 010-360	3021 010-050 (5.0)	BSP04000-16[1]
424.9S/232-1-17	424.9S/232-2-17[1]	424.9S/232-3-17[1]	SgA75[1]	64.5x3[1]	3212 010-360	3021 010-050 (5.0)	BSP04000-16[1]
424.9S/232-1-18	424.9S/232-2-18[1]	424.9S/232-3-18[1]	SgA 82[1]	74.5x3[1]	3212 010-360	3021 010-050 (5.0)	BSP04000-16[1]
424.9S/232-1-19	424.9S/232-2-19[1]	424.9S/232-3-19[1]	SgA 95[1]	84.5x3[1]	3212 010-360	3021 010-050 (5.0)	BSP04000-16[1]
424.9S/232-1-20	424.9S/232-2-20[1]	424.9S/232-3-20[1]	SgA 105[1]	99.5x3[1]	3212 010-360	3021 010-050 (5.0)	BSP04000-16[1]
424.9S/232-1-21	424.9S/232-2-21[1]	424.9S/232-3-21[1]	SgA 118[1]	109.5x3[1]	3212 010-410	3021 010-060 (6.0)	BSP04000-20[1]
424.9S/232-1-22	424.9S/232-2-22[1]	424.9S/232-3-22[1]	SgA 130[1]	119.5x3[1]	3212 010-410	3021 010-060 (6.0)	BSP04000-20[1]
424.9S/232-1-23	424.9S/232-2-23[1]	424.9S/232-3-23[1]	SgA 140[1]	134.5x3[1]	3212 010-410	3021 010-060 (6.0)	BSP04000-20[1]
424.9S/232-1-24	424.9S/232-2-24[1]	424.9S/232-3-24[1]	SgA 155[1]	144.5x3[1]	3212 010-410	3021 010-060 (6.0)	BSP04000-20[1]
424.9S/232-1-25	424.9S/232-2-25[1]	424.9S/232-3-25[1]	SgA 165[1]	154.5x3[1]	3212 010-410	3021 010-060 (6.0)	BSP04000-20[1]

1) For further information, please contact your local sales representative.

High Feed CounterBore

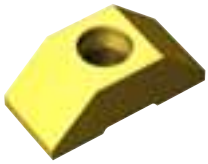
A complete tooling system for high feed counterboring

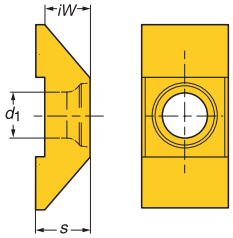
- High process security
- Stable tool setup
- Reduced machine downtime
- Less need for seperate honing operation
- Order to fit size of pre-bore and required finished bore
- Wear resistant inserts for tough Cr-Ni-based materials



Tailor Made

Inserts for High Feed CounterBore

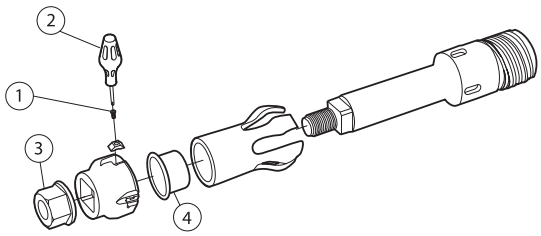




Max. ap = 7 mm (.275 inch)

		P		M		K		S		Dimensions, millimeter, inch (mm, in.)					
		GC	GC	GC	GC	GC	GC	GC	GC						
↕□	**Ordering code**	1025	2015	1025	2015	1025	2015	1025	2015	*s* mm	*s* in.	d_1 mm	d_1 in.	*iW* mm	*iW* in.
07	**HFC-070900-T**	★	☆	☆	★	★	☆	★	☆	9.0	.354	5.0	.197	7.5	.295

Spare parts



Head	1	2	3	4
Diameter range, mm (inch)	Insert screw	Key (Torx Plus)	Nut	Bearing
55-69.99 (2.165-2.756)	5513 020/29-1	5680 046-02 (15IP)	5532 020-02	5547 010-02
70-89.99 (2.756-3.543)	5513 020-13	5680 046-02 (15IP)	5532 020-03	5547 010-03
90-104.99 (3.543-4.133)	5513 020-13	5680 046-02 (15IP)	5532 020-05	5547 010-04
105-134.99 (4.134-5.315)	5513 020-13	5680 046-02 (15IP)	5532 020-06	5547 010-05
≥135 (≥5.315)	5513 020-13	5680 046-02 (15IP)	5532 020-07	5547 010-06

For more information regarding application please contact your Sandvik Coromant sales representative

E317 J4

SANDVIK Coromant

CoroDrill® 805

Tools for deep holes in conventional machines





CoroDrill® 805 increases the efficiency of deep-hole drilling and is available as a standard tool. It can drill up to 15 x hole diameter in a conventional machine, so that it is not necessary to move the workpiece to a dedicated deep-hole drilling machine.

The highly productive CoroDrill 805 provides the same surface finish as deep hole drilling methods. The tool achieves a secure machining process with indexable insert technology, and can be used for hole making applications in steel shafts and titanium landing gear components.

Benefits

- Single set-up machining of deep holes
- Achieves same quality as deep-hole drilling
- Highly effective chip evacuation
- No extra coolant-pump capacity required
- Wide availability of standard tools
- Insert configuration with the same logic as for CD800, see page E275.

CoroDrill 805 can be used in conventional machining centres, lathes and turn-mill centres with high efficiency.

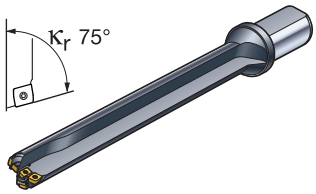
ISO application area:

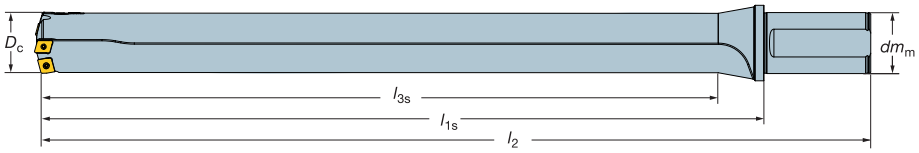


CoroDrill® 805 8-12 x *Dc*

Drill diameter 25-60 mm (1.000-2.000 inch)

Cylindrical shank





l_{1s} = programming length

Hole tolerance:	IT 10
Surface finish:	<Ra 2 µm (<Ra 80 µ inch) comparable with CoroDrill 800
Work piece materials:	ISO P, M, K, N and S
Machines:	Horizontal machining centres, lathes and multi-task (turn-mill) machines.
Coolant:	Internal coolant supply

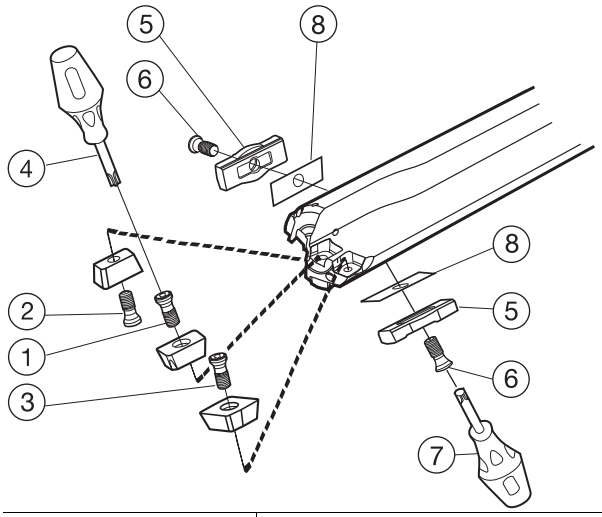
Metric dimensions

Drill dia.		Dimensions, mm							
D_c mm	**Ordering code**	dm_m	l_{1s}	l_2	l_{3s}	Central insert	Intermediate insert	Peripheral insert	Support pad
25	**805-D2500L32-120**	32	323.5	383.5	302.5	800-05 03 08M-C-G	800-05 03 08M-I-G	800-06 03 08H-P-G	800-06A
30	**805-D3000L32-120**	32	387	447	363	800-06 T3 08M-C-G	800-05 03 08M-I-G	800-06 03 08H-P-G	800-06A
32	**805-D3200L32-100**	32	348.4	408.4	323.2	800-06 T3 08M-C-G	800-06 T3 08M-I-G	800-08 T3 08H-P-G	800-07A
38	**805-D3800L40-100**	40	412.6	482.6	383.2	800-08 T3 08M-C-G	800-08 T3 08M-I-G	800-08 T3 08H-P-G	800-07A
40	**805-D4000L40-110**	40	474	544	444	800-08 T3 08M-C-G	800-08 T3 08M-I-G	800-09 T3 08H-P-G	800-08A
45	**805-D4500L40-100**	40	487.5	557.5	454.5	800-10 T3 08M-C-G	800-08 T3 08M-I-G	800-09 T3 08H-P-G	800-08A
50	**805-D5000L50-100**	50	541	621	505	800-10 T3 08M-C-G	800-08 T3 08M-I-G	800-11 T3 08H-P-G	800-10A
60	**805-D6000L50-080**	50	528	608	486	800-12 T3 08M-C-G	800-12 T3 08M-I-G	800-11 T3 08H-P-G	800-12A

Inch dimensions

Drill dia.		Dimensions, inch							
D_c inch	**Ordering code**	dm_m	l_{1s}	l_2	l_{3s}	Central insert	Intermediate insert	Peripheral insert	Support pad
1.000	**A805-D1000LX31-120**	1.250	12.937	15.299	12.098	800-05 03 08M-C-G	800-05 03 08M-I-G	800-06 03 08H-P-G	800-06A
1.250	**A805-D1250LX31-120**	1.250	16.110	18.472	15.126	800-06 T3 08M-C-G	800-06 T3 08M-I-G	800-08 T3 08H-P-G	800-07A
1.375	**A805-D1375LX38-100**	1.500	14.945	17.701	13.886	800-08 T3 08M-C-G	800-06 T3 08M-I-G	800-08 T3 08H-P-G	800-07A
1.500	**A805-D1500LX38-100**	1.500	16.287	19.043	15.150	800-08 T3 08M-C-G	800-08 T3 08M-I-G	800-08 T3 08H-P-G	800-07A
1.750	**A805-D1750LX50-100**	2.000	18.961	22.110	17.673	800-10 T3 08M-C-G	800-08 T3 08M-I-G	800-09 T3 08H-P-G	800-08A
1.875	**A805-D1875LX50-100**	2.000	20.299	23.449	18.941	800-12 T3 08M-C-G	800-08 T3 08M-I-G	800-09 T3 08H-P-G	800-10A
2.000	**A805-D2000LX50-100**	2.000	21.638	24.787	20.201	800-10 T3 08M-C-G	800-08 T3 08M-I-G	800-11 T3 08H-P-G	800-10A

Inserts are ordered separately.



8		Dimensions, mm (inch)		
Shim set (8 pcs)	Support pad	*s*	*l*	*b*
5549 127-85	800-06A	0.02 (.0008)	18 (.707)	6 (.236)
5549 127-86		0.03 (.0012)	18 (.707)	6 (.236)
5549 127-88	800-07A	0.02 (.0008)	20 (.787)	7 (.276)
5549 127-89		0.03 (.0012)	20 (.787)	7 (.276)
5549 127-91	800-08A	0.02 (.0008)	25 (.984)	8 (.315)
5549 127-92		0.03 (.0012)	25 (.984)	8 (.315)
5549 127-94	800-10A	0.02 (.0008)	30 (1.181)	10 (.394)
5549 127-95		0.03 (.0012)	30 (1.181)	10 (.394)
5549 127-97	800-12A	0.02 (.0008)	35 (1.378)	12 (.472)
5549 127-98		0.03 (.0012)	35 (1.378)	12 (.472)

Note: Do not add more than 0.05 mm thickness of shims

		1	2	3	4	5	6	7
Diameter range		Central insert	Intermediate	Peripheral insert				
D_c mm	D_c inch	screw	insert screw	screw	Key (Torx Plus)	Support pad	Support pad screw	Key (Torx Plus)
25	1.000	5513 020-05	5513 020-05	5513 020-05	5680 046-03 (7IP)	800-06A	5513 020-20	5680 046-03 (7IP)
30	-	-	5513 020-05	5513 020-05	5680 046-03 (7IP)	800-06A	5513 020-20	5680 046-03 (7IP)
		5513 020-34	-	-	5680 046-01 (8IP)			
32-38	1.250-1.500	5513 020-34	5513 020-34	5513 020-34	5680 046-01 (8IP)	800-07A	416.1-832	5680 046-04 (9IP)
40-60	1.750-2.000	5513 020-34	5513 020-34	5513 020-34	5680 046-01 (8IP)	800-08A-12A	5513 020-16	5680 046-05 (10IP)

E319

SANDVIK Coromant

Gun drills

Wide range of application possibilities

Highly productive gun drills

Easy to use

- No pre-setting
- No need for tool room service

Solid carbide gun drills 428.5

- Diameter range: 1.00-12.00 mm (.039-.472 inch)
- Hole depth: 300 mm (11.811 inch)
- Hole tolerance: IT8
- Surface finish: 0.1-3.0 µm

Single-lip 428.9

- Diameter range: 1.90-40.50 mm (.075-1.594 inch)
- Hole depth: ≤ 100 x diameter
- Hole tolerance: IT9
- Surface finish: 0.1-3.0 µm



Twin-lip 428.2

- Diameter range: 5.00-26.50 mm (.197-1.043 inch)
- Hole depth: ≤ 100 x diameter
- Hole tolerance: IT10
- Surface finish: 1.0-4.0 µm

High feed gun drills 428.7

- Diameter range: 3.00-12.00 mm (.118-.472 inch)
- Hole depth: 300 mm
- Hole tolerance: IT8
- Surface finish: 0.1-3.0 µm

Wide application area

- Optimized grade- and geometry combinations for most workpiece materials
- When ordering state workpiece material to be drilled

Customer specified diameter

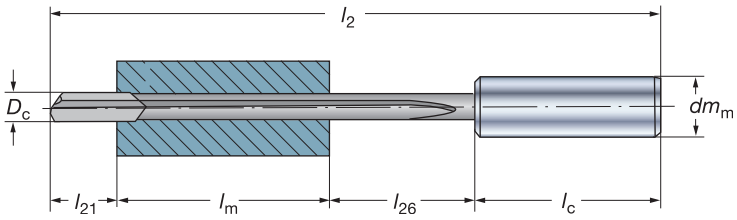
- Finish ground within 0.01 mm (.0004 inch) increments

ISO application area:

P M K N S

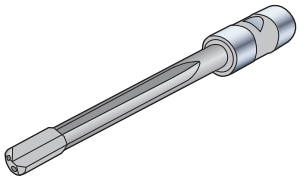
Gun drills

Solid carbide heads 428.9 and 428.2



l_2 = Overall length with or without driver
D_c = Drill diameter
l_{21} = Addition for regrinding
l_m = Depth of hole
l_{26} = Minimum chip evacuation distance
l_c = Length of drive
dm = Driver diameter

Single-lip
428.9



Drill diameter, mm (inch): 1.90-40.50 (.075-1.594)

Hole depth: ≤ 100 x diameter

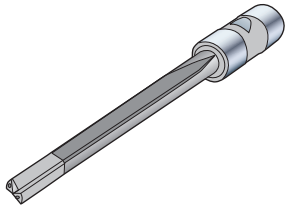
Hole tolerance: IT9

Surface finish R_a, µm: 0.1-3.0

Cutting fluid: Neat oil

Tolerance: D_c = h5
dm_m = d9

Twin-lip
428.2



Drill diameter, mm (inch): 5.00-26.50 (.197-1.043)

Hole depth: ≤ 100 x diameter (Note! $l_{2\,max}$ = 1250 mm)

Hole tolerance: IT10

Surface finish R_a, µm: 1.0-4.0

Cutting fluid: Neat oil

Tolerance: D_c = h5
dm_m = d9

Diameter range		Ordering code	Dimensions, millimeter, inch (mm, in.)				Diameter range		Ordering code Suitable only for short chipping materials	Dimensions, millimeter, inch (mm, in.)			
		P M K N S	l_{21} mm	l_{21} in.	l_{26} mm	l_{26} in.			P K N	l_{21} mm	l_{21} in.	l_{26} mm	l_{26} in.
D_c mm	D_c inch						D_c mm	D_c inch					
1.90-2.60	.075-.102	xxxxx-AAAA-BBB	10	.394	25	.984	7.06-8.55	.278-.336	xxxxx-AAAA-BBB	25	.984	40	1.575
2.61-3.35	.103-.132	xxxxx-AAAA-BBB	13	.512	25	.984	8.56-13.05	.337-.513	xxxxx-AAAA-BBB	25	.984	50	1.969
3.36-4.05	.133-.159	xxxxx-AAAA-BBB	13	.512	30	1.181	13.06-18.05	.514-.710	xxxxx-AAAA-BBB	25	.984	55	2.165
4.06-5.15	.160-.202	xxxxx-AAAA-BBB	19	.748	30	1.181	18.06-23.00	.711-.905	xxxxx-AAAA-BBB	30	1.181	65	2.559
5.16-7.05	.203-.277	xxxxx-AAAA-BBB	23	.906	30	1.181	23.01-26.50	.906-1.043	xxxxx-AAAA-BBB	35	1.378	65	2.559
7.06-8.55	.278-.336	xxxxx-AAAA-BBB	25	.984	40	1.575							
8.56-13.05	.337-.513	xxxxx-AAAA-BBB	25	.984	50	1.969							
13.06-18.05	.514-.710	xxxxx-AAAA-BBB	25	.984	55	2.165							
18.06-23.00	.711-.905	xxxxx-AAAA-BBB	30	1.181	65	2.559							
23.01-26.50	.906-1.043	xxxxx-AAAA-BBB	35	1.378	65	2.559							
26.51-32.00	1.044-1.259	xxxxx-AAAA-BBB	40	1.575	80	3.150							
32.01-40.50	1.260-1.594	xxxxx-AAAA-BBB	45	1.772	90	3.543							

When ordering gun drills the following must be stated:
- Drill diameter, xxxxx in the ordering code.
- Overall length l_2 , AAAA in the ordering code.
- If required, driver No., BBB in the ordering code.
- Material to be drilled.

Ordering example for gun drill head D_c 1,90 mm (.075 inch), length 250 mm (9.842 inch) with driver No 002 for drilling stainless steel:

2 pieces 428.9-01900-0250-002 solid carbide head for stainless steel.

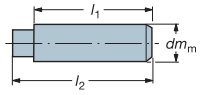
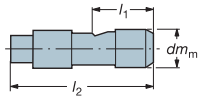
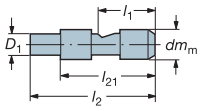
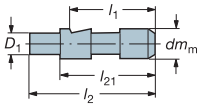
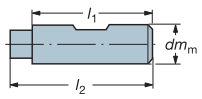
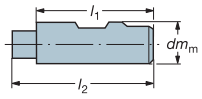
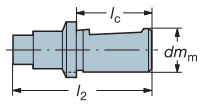
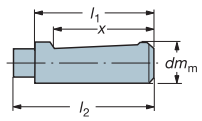
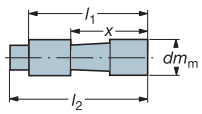
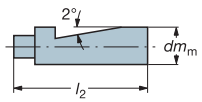
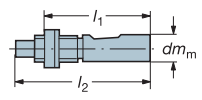
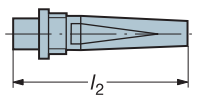
For further information, please contact your local sales representative.

SAFETY INFORMATION

Precautions when grinding and brazing of cemented carbide, see page J8.



E323

Drivers for gun drills 428.2 and 428.9	Diameter range		Driver[3]	Dimensions, millimeter, inch (mm, in.)												
	D_c mm	D_c inch	No.	dm_m mm	dm_m in.	D_1 mm	D_1 in.	l_1 mm	l_1 in.	l_2 mm	l_2 in.	l_{21} mm	l_{21} in.	l_c mm	l_c in.	Shank type
	1.90-4.50	.075-.177	006	6	.236	-		-		36	1.417	-		-		
	1.90-7.30	.075-.287	010	10	.394	-		-		40	1.575	-		-		
	1.90-12.40	.075-.488	016	16	.630	-		-		48	1.890	-		-		
	1.90-15.90	.075-.626	020	20	.787	-		-		50	1.969	-		-		
	6.00-19.50	.236-.768	025	25	.984	-		-		56	2.205	-		-		
	1.90-20.50	.075-.807	002	16	.630	-		31	1.220	45	1.772	-		-		-
	1.90-29.60	.075-1.165	003	20	.787	-		34	1.339	70	2.756	-		-		-
	10.00-48.99	.394-1.929	005	32	1.260	-		34	1.339	70	2.756	-		-		-
	4.00-20.50	.157-.807	035	19.05	.750	-		34	1.339	70	2.756	-		-		-
	6.00-49.00	.236-1.929	036	25.40	1.000	-		34	1.339	70	2.756	-		-		-
	1.90-7.30	.075-.287	601	10	.394	-		24	.945	40	1.575	-		-		-
	7.30-19.60	.236-.772	801	25	.984	-		33.30	1.311	70	2.756	-		-		-
	6.55-12.50	.258-.492	602	10	.394	8.20	.323	24	.945	-		40	1.575	-		-
	19.60-49.00	.772-1.929	802[1]	25	.984	20.30	.799	33.30	1.311	-		70	2.756	-		-
	1.95-12.60	.077-.496	701	16	.630	-		47	1.850	-		50	1.969	-		-
	12.60-20.50	.496-.807	702	16	.630	13.5		47	1.850	-		50	1.969	-		-
	1.95-12.59	.077-.495	903	10	.394	-		-		40	1.575	-		-		Weldon
	1.95-12.59	.077-.495	904	12	.472	-		-		45	1.772	-		-		
	1.95-16.59	.077-.667	905	16	.630	-		-		48	1.890	-		-		
	1.95-20.50	.077-.807	906	20	.787	-		-		50	1.969	-		-		
	6.00-49.00	.236-1.929	907	25	.984	-		-		56	2.205	-		-		Weldon
	9.70-49.00	.382-1.929	908	32	1.260	-		-		60	2.362	-		-		
	9.70-49.00	.382-1.929	909	40	1.575	-		-		70	2.756	-		-		
	1.95-16.59	.077-.667	405	16	.630	-		-		-		-		40	1.575	Coromant
	1.95-20.50	.077-.807	406	20	.787	-		-		-		-		40	1.575	Whistle Notch
	6.00-26.60	.236-1.047	407	25	.984	-		-		-		-		45	1.772	
	9.70-34.50	.382-1.358	408	32	1.260	-		-		-		-		45	1.772	
	9.70-42.70	.382-1.681	409	40	1.575	-		-		-		-		55	2.165	
	1.95-9.00	.077-.354	603	10	.394	-		-		40	1.575	-		-		Whistle Notch
	1.95-12.59	.077-.495	604	12	.472	-		-		45	1.772	-		-		
	1.95-16.59	.077-.667	605	16	.630	-		-		48	1.890	-		-		
	1.95-20.50	.077-.807	606	20	.787	-		-		50	1.969	-		-		
	6.00-49.00	.236-1.929	607	25	.984	-		-		56	2.205	-		-		
	9.70-49.00	.382-1.929	608	32	1.260	-		-		60	2.362	-		-		
	1.95-9.80	.077-.386	101	12.70	.500	-		-		38.10	1.500	-		-		-
	1.95-12.00	.077-.472	102	16	.630	-		-		70	2.756	-		-		-
	3.96-15.20	.156-.598	103	19.05	.750	-		-		70	2.756	-		-		-
	3.96-29.60	.156-1.165	104	20	.787	-		-		70	2.756	-		-		-
	3.96-20.50	.156-.807	204	19.05	.750	-		-		70	2.756	-		-		-
	6.00-49.00	.024-1.929	205	25.40	1.000	-		-		70	2.756	-		-		-
	6.00-49.00	.024-1.929	206	28	1.102	-		-		70	2.756	-		-		-
	9.70-49.00	.382-1.929	207	31.75	1.250	-		-		70	2.756	-		-		-
	9.70-49.00	.382-1.929	208	36	1.417	-		-		70	2.756	-		-		-
	9.70-49.00	.382-1.929	209	38.10	1.500	-		-		70	2.756	-		-		-
	1.90-12.00	.075-.472	301[2]	16	.630	-		112	4.409	-		-		-		-
	1.90-15.20	.075-.598	302[2]	20	.787	-		126	4.961	-		-		-		-
	6.00-26.00	.236-1.024	303[2]	28	1.102	-		126	4.961	-		-		-		-
	8.70-32.60	.343-1.283	304[2]	36	1.417	-		162	6.378	-		-		-		-
	11.90-49.00	.469-1.929	305[2]	48	1.890	-		166	6.535	-		-		-		-
	1.90-9.20	.075-.362	501[2]	-		-		-		84	3.307	-		-		Morse taper 1
	9.20-16.10	.362-.634	503[2]	-		-		-		84	3.307	-		-		Morse taper 3
	16.10-23.60	.634-.929	504[2]	-		-		-		131	5.157	-		-		Morse taper 4
	23.40-34.00	.921-1.339	505[2]	-		-		-		200	7.874	-		-		Morse taper 4

1) Supplied with driving dog.

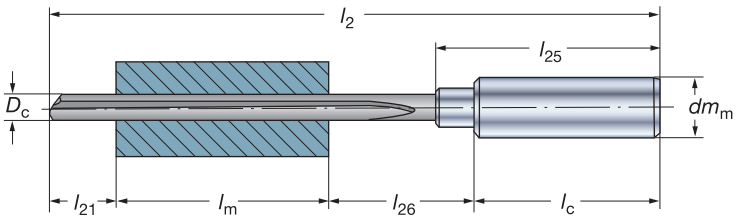
2) Adjustable

3) Available on request.

Gun drills

Solid carbide gun drills 428.5

High feed gun drills 428.7



l_2 = Overall length with or without driver
D_c = Drill diameter
l_{21} = Addition for regrinding
l_m = Depth of hole
l_{26} = Minimum chip evacuation distance
l_c = Length of drive
dm_m = Driver diameter

Solid carbide gun drills 428.5



Drill diameter, mm (inch):	1.00-12.00 (.039-.472)
Max. drill length including driver, mm (inch):	300 (11.811)
Hole tolerance:	IT8
Surface finish R_a, µm:	0.1-3.0
Cutting fluid:	Neat oil
Tolerance:	D_c = h5 dm_m = g6

High feed gun drills 428.7



Drill diameter, mm (inch):	3.00-12.00 (.118-.472)
Max. drill length including driver, mm (inch):	300 (11.811)
Hole tolerance:	IT8
Surface finish R_a, µm:	0.1-3.0
Cutting fluid:	Neat oil
Tolerance:	D_c = h5 dm_m = g6

Diameter range mm inch D_c	Ordering code P K N	Dimensions, mm, inch l_{21}	l_{26}
1.00-12.00	428.5- xxxxx-AAAA-BBB	8-25	25-50
.039-.472		*.315-.984*	*.984-1.969*

Diameter range mm inch D_c	Ordering code P K N	Dimensions, mm, inch l_{21}	l_{26}
3.00-12.00	428.7- xxxxx-AAAA-BBB	8-25	25-50
.118-.472		*.315-.984*	*.984-1.969*

When ordering gun drills the following must be stated:
- Drill diameter, xxxxx in the ordering code.
- Overall length l_2 , AAAA in the ordering code.
- If required, driver No., BBB in the ordering code.
- Material to be drilled.

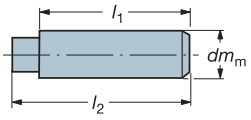
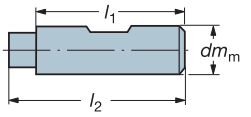
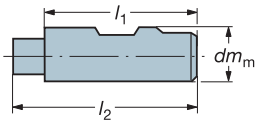
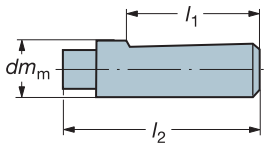
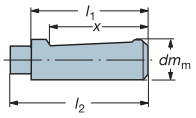
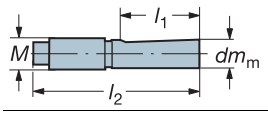
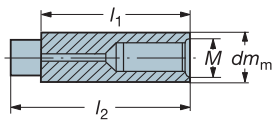
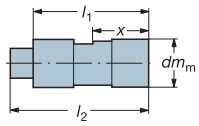
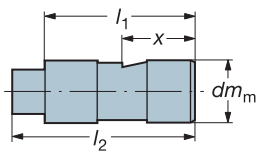
Ordering example for gun drill head Dc 3.00 mm (.118 inch), length 250 mm (9.842 inch) with driver No C01 for drilling stainless steel:

2 pieces 428.5-03000-0250-C01 solid carbide head for stainless steel.

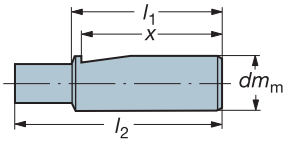
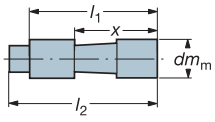
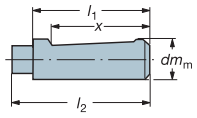
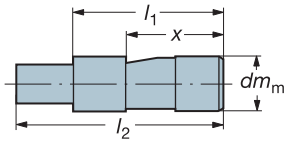
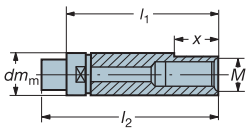
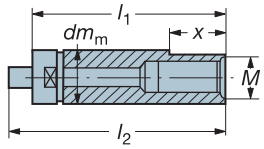
For further information, please contact your local sales representative.



E323

Drivers for gun drills 428.5 and 428.7	Diameter range		Driver[3]	Dimensions, millimeter, inch (mm, in.)									
	D_c mm	D_c inch	No.	dm_m mm	dm_m in.	M	l_1 mm	l_1 in.	l_2 mm	l_2 in.	x mm	x in.
	1.00-6.50	.075-.256	**C00**	10	.394		40	1.575	55	2.165		
	1.00-8.00	.075-.315	**C01**	12	.472		45	1.772	60	2.362		
	1.00-11.40	.075-.449	**C02**	16	.630		48	1.890	63	2.480		
	1.00-12.00	.075-.472	**C03**	20	.787		50	1.968	65	2.559		
	1.00-12.00	.075-.472	**C04**	25	.984		56	2.205	71	2.795		
	1.00-12.00	.075-.472	**C05**	32	1.260		60	2.362	75	2.953		
	1.00-7.10	.075-.280	**C10**	10	.394		40	1.575	55	2.165		
	1.00-8.00	.075-.315	**C11**	12	.472		45	1.772	60	2.362		
	1.00-12.00	.075-.472	**C12**	16	.630		48	1.890	63	2.480		
	1.00-12.00	.075-.472	**C13**	20	.787		50	1.968	65	2.559		
	1.00-12.00	.075-.472	**C20**	25	.984		56	2.205	71	2.795		
	1.00-12.00	.075-.472	**C21**	32	1.260		60	2.362	75	2.953		
	1.00-12.00	.075-.472	**C22**	40	1.575		70	2.756	85	3.346		
	1.00-7.10	.075-.280	**C30**	10	.394		40	1.575	55	2.165		
	1.00-8.00	.075-.315	**C31**	12	.472		45	1.772	60	2.362		
	1.00-11.40	.075-.449	**C32**	16	.630		48	1.890	63	2.480		
	1.00-12.00	.075-.472	**C33**	20	.787		50	1.968	65	2.559		
	1.00-12.00	.075-.472	**C34**	25	.984		56	2.205	71	2.795		
	1.00-12.00	.075-.472	**C35**	32	1.260		60	2.362	75	2.953		
	1.00-6.50	.075-.256	**C40**	10	.394		40	1.575	55	2.165		
	1.00-8.00	.075-.315	**C41**	12	.472		45	1.772	60	2.362		
	1.00-11.40	.075-.449	**C42**	16	.630		48	1.890	63	2.480		
	1.00-12.00	.075-.472	**C43**	20	.787		50	1.968	65	2.559		
	1.00-12.00	.075-.472	**C44**	25	.984		56	2.205	71	2.795		
	1.00-11.40	.075-.449	**C50**	16	.630	TR16x1.5	112	4.409	127	5.000		
	1.00-12.00	.075-.472	**C51**	20	.787	TR20x2	126	4.961	141	5.551		
	1.00-12.00	.075-.472	**C52**	28	1.102	TR28x2	126	4.961	141	5.551		
	1.00-12.00	.075-.472	**C53**	36	1.417	TR36x2	162	6.378	177	6.969		
	1.00-6.50	.075-.256	**C60**	10	.394	M6x0.5	60	2.362	75	2.953		
	1.00-12.00	.075-.472	**C61**	16	.630	M10x1	80	3.150	95	3.740		
	1.00-12.00	.075-.472	**C62**	25	.984	M16x1.5	100	3.937	115	4.528		
	1.00-11.40	.075-.449	**C70**	16	.630		40	1.575	55	2.165	15.5	.610
	1.00-12.00	.075-.472	**C71**	25	.984		50	1.968	65	2.559	25.5	1.004
	1.00-12.00	.075-.472	**C72**	35	1.378		60	2.362	75	2.953	29.5	1.161
	1.00-7.10	.075-.280	**C80**	10	.394		40	1.575	55	2.165	24.3	.957
	1.00-12.00	.075-.472	**C81**	16	.630		45	1.772	60	2.362	31.0	1.220
	1.00-12.00	.075-.472	**C82**	16	.630		50	1.968	65	2.559	47.5	1.870
	1.00-12.00	.075-.472	**C83**	25	.984		70	2.756	85	3.346	34.0	1.339

[3] Available on request.

Drivers for gun drills 428.5 and 428.7	Diameter range		Driver[3]	Dimensions, millimeter, inch (mm, in.)									
	D_c mm	D_c inch	No.	dm_m mm	dm_m in.	M	l_1 mm	l_1 in.	l_2 mm	l_2 in.	x mm	x in.
	1.00-8.70	.075-.343	**D00**	16	.630		50	1.968	65	2.559	47.5	1.870
	1.00-8.30	.075-.327	**D10**	12.7	.500		38.1	1.500	53.1	2.091	25.4	1.000
	1.00-12.00	.075-.472	**D11**	19.05	.750		69.8	2.748	84.8	3.339	44.4	1.748
	1.00-12.00	.075-.472	**D20**	25.4	1.000		69.8	2.748	84.8	3.339	57.1	2.248
	1.00-12.00	.075-.472	**D21**	31.75	1.250		69.8	2.748	84.8	3.339	57.1	2.248
	1.00-12.00	.075-.472	**D22**	38.1	1.500		69.8	2.748	84.8	3.339	57.1	2.248
	1.00-12.00	.075-.472	**D30**	12.7	.500		38.1	2.283	53.1	2.091	25.4	1.000
	1.00-6.80	.075-.268	**D40**	10	.394	M6x0.5	68	2.677	83	3.268	35	1.378
	1.00-12.00	.075-.472	**D42**	25	.984	M16x1.5	112	4.409	127	5.000	45	1.772
	1.00-10.00	.268-.394	**D50**	10	.394	M6x0.5	68	2.677	83	3.268	35	1.378
	1.00-12.00	.075-.472	**D51**	16	.630	M10x1	90	3.543	105	4.134	37	1.457

[3] Available on request.

Hydro-Grip® Heavy Duty

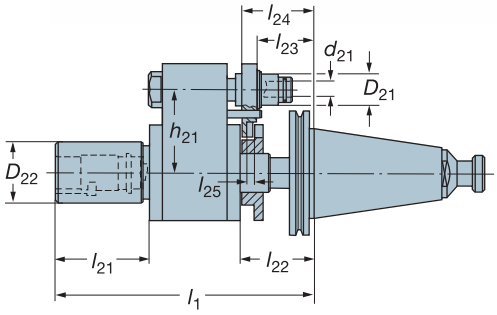
Hydro-Grip® HD (Heavy Duty) provides stable tool holding for demanding machining. A strong clamping force makes it the first Hydro-Grip for the heavy roughing area, with the highest level of power and stability of a hydraulic power chuck. In addition to its strength, Hydro-Grip HD increases productivity through quick and simple set-up, without the need for extra equipment.
The secret with Hydro-Grip is the precise symmetrical clamping. This makes it possible to get very high run-out accuracy. With good run-out, all the teeth of the tool are cutting. When all teeth are cutting you get better surface quality, prevent vibration and prolong tool life. All together you save money.



Automatic tool change oil supply unit

Diameter range: 1.85 - 25.00 mm (.073-.984 inch)



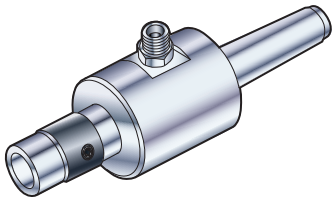


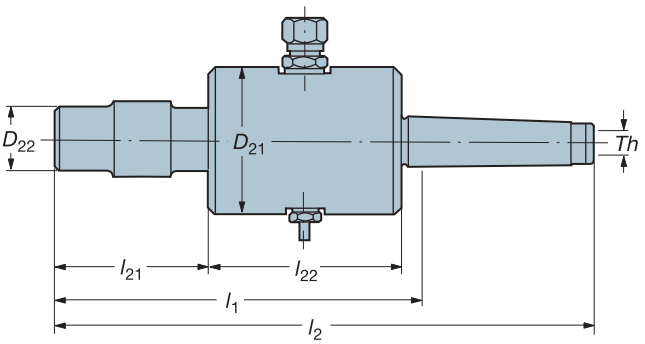
Diameter range, mm, inch	Driver	Shank	Max rev	Max pressure	Dimensions, mm, inch									
D_c	dm_m	ISO taper	RPM	MPa	D_{21}	D_{22}	d_{21}	h_{21}	l_1	l_{21}	l_{22}	l_{23}	l_{24}	l_{25}
1.85-25	10-25	40/50	10000	10	24	48	12	65	204.8	75	58.2	45	57	6
.073-.984	*.394-.984*				*.945*	*1.890*	*.472*	*2.559*	*8.063*	*2.953*	*2.291*	*1.772*	*2.244*	*.236*

For ordering an automatic toolchange oil supply unit, please contact your nearest Sandvik representative.

Oil supply unit

Diameter range: 1.85 - 40.05 mm (.073-1.577 inch)



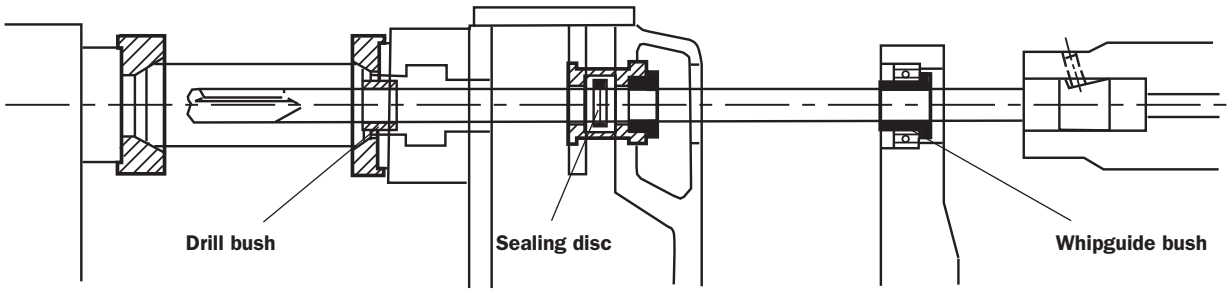


Diameter range, mm, inch	Driver	Oil supply unit size[1)]	Shank	Max rev	Max pressure	Dimensions, mm, inch						
D_c	dm_m		Morse taper	RPM	MPa	D_{21}	D_{22}	l_1	l_2	l_{21}	l_{22}	Th
1.85-25	10-28	1	3	10000	10	75	48	152	233	75	72	M12
.073-.984	*.394-1.102*					*2.953*	*1.890*	*5.984*	*9.173*	*2.953*	*2.835*	
25.01-40.05	28-38.1	2	4	4000	5	95	60	165	270	75	84	M14
.985-1.577	*1.102-1.500*					*3.740*	*2.362*	*6.496*	*10.630*	*2.953*	*3.307*	

Ordering example: 1 piece Oil supply unit, size 1, with driver xxx

For further information, please contact your local sales representative.

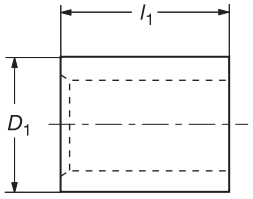
Accessories



Drill bush

According to DIN 179 extended model made of tool steel, hardened throughout.

Give measurement D_c when placing an order.



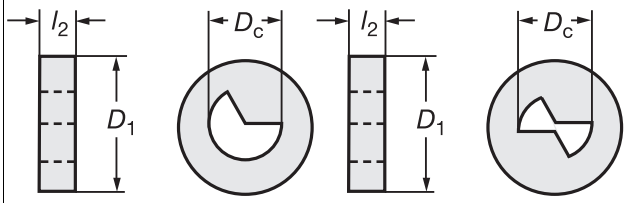
D_c mm	D_c inch	D_1 mm	D_1 inch	l_1 mm	l_1 inch
0.8-1.099	.0314-.0432	3	.118	9	.354
1.1-1.899	.0433-.0747	4	.157	9	.354
1.9-2.699	.0748-.1062	5	.197	9	.354
2.7-3.399	.1063-.1338	6	.236	12	.472
3.4-4.099	.1339-.1613	7	.276	12	.472
4.1-5.099	.1614-.2007	8	.315	12	.472
5.1-6.099	.2008-.2401	10	.394	16	.630
6.1-8.099	.2402-.3188	12	.472	16	.630
8.1-10.099	.3189-.3975	15	.591	20	.787
10.1-12.099	.3976-.4763	18	.709	20	.787
12.1-15.099	.4764-.5944	22	.866	28	1.102
15.1-18.099	.5945-.7125	26	1.024	28	1.102
18.1-22.099	.7126-.8699	30	1.181	36	1.417
22.1-26.099	.8700-1.0275	35	1.378	36	1.417
26.1-30.099	1.0276-1.1849	42	1.654	45	1.772
30.1-35.099	1.1850-1.3818	48	1.890	45	1.772
35.1-42.099	1.3819-1.6574	55	2.165	56	2.205

Sealing disc[1)]

Made of special plastic

Give drill diameter D_c when placing an order.

Single-lip **Twin-lip**



Diameter range

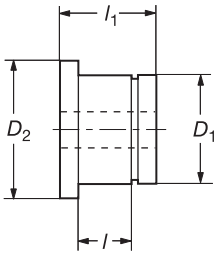
D_c mm	D_c inch	D_1 mm	D_1 inch	l_2 mm	l_2 inch
2.0-6.2	.079-.244	20	.787	3	.118
6.3-18.5	.248-.728	32	1.260	4	.157
18.6-24.6	.732-.969	40	1.575	4	.157
24.7-42.0	.972-1.654	90	3.543	4	.157

[1)] The sealing disc fits tightly onto the drill shank and must be held in position in the chip box with retaining device. This prevents the disc moving with the feed motion, which could cause chip obstruction.

Whipguide bush

Made of special plastic

Give drill diameter D_c when placing an order.



Diameter range

D_c mm	D_c inch	D_1 mm	D_1 inch	D_2 mm	D_2 inch	l mm	l inch	l_1 mm	l_1 inch
2.0-12.0	.079-.472	20	.787	26	1.024	12	.472	22	.866
2.0-25.0	.079-.984	30	1.181	38	1.496	16	.630	26	1.024
2.0-37.0	.079-1.457	45	1.772	52	2.047	14	.551	26	1.024

For further information, please contact your local sales representative.

Cutting data for ground brazed solid drill heads 424.6 and 420.6

Metric version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	Grade combination	Cutting speed v_c m/min	Drill diameter, mm 15.60-20.00 Feed f_n mm/r	20.01-31.00	31.01-43.00	43.01-65.00
		Unalloyed steel								
P	P1.1.Z.AN (01.1)	Non-hardened 0.10-0.25% C	1500	90-200	70/63	70-120	0.14-0.20[1]	0.15-0.20[1]	0.15-0.25	0.18-0.28
	P1.2.Z.AN (01.2)	Non-hardened 0.25-0.55% C	1600	125-225	70/63	70-120	0.14-0.20[1]	0.15-0.20[1]	0.15-0.25	0.18-0.28
	P1.3.Z.AN (01.3)	Non-hardened 0.55-0.80% C	1700	150-250	70/63	70-120	0.14-0.20	0.17-0.25	0.20-0.30	0.24-0.32
	P1.3.Z.AN (01.4)	High carbon steel, annealed	1800	180-275	70/63	70-120	0.14-0.20	0.17-0.25	0.20-0.30	0.24-0.32
		Low alloy steel								
	P2.1.Z.AN (02.1)	Non hardened	1700	150-260	70/63	70-100	0.14-0.20	0.17-0.25	0.20-0.30	0.20-0.30
	P2.5.Z.HT (02.2)	Hardened and tempered	1900	220-450	70/63	55-100	0.14-0.20	0.17-0.25	0.20-0.30	0.24-0.32
		High alloy steel								
	P3.0.Z.AN (03.11)	Annealed	1950	150-250	70/63	70-100	0.14-0.20	0.17-0.25	0.20-0.30	0.24-0.32
	(03.13)	Annealed HSS	2150	150-250	70/63	70-100	0.14-0.20	0.17-0.25	0.20-0.30	0.24-0.32
	P3.0.Z.HT (03.21)	Hardened tool steel	2900	250-350	70/63	55-100	0.14-0.20	0.17-0.25	0.20-0.30	0.24-0.32
	(03.22)	Hardened steel, others	3100	250-450	70/63	55-100	0.14-0.20	0.17-0.25	0.20-0.30	0.24-0.32
		Castings								
	P1.5.C.UT (06.1)	Unalloyed	1400	90-225	70/63	50-100	0.12-0.18	0.15-0.22	0.20-0.28	0.24-0.32
	P2.6.C.UT (06.2)	Low alloyed (alloying elements < 5%)	1600	150-250	70/63	50-100	0.12-0.18	0.15-0.22	0.20-0.28	0.24-0.32
	(06.32)	Stainless austenitic	1750	150-250	20[2]/67	50-85	0.16-0.20	0.18-0.25	0.22-0.30	0.24-0.36
	(06.33)	Manganese steel, 12–14% Mn	2900	200-300	20[2]/67	35-70	0.16-0.20	0.18-0.25	0.22-0.30	0.24-0.36
		Rolled/forged								
M	P5.0.Z.AN (05.11)	Ferritic/Martensitic, non hardened	1800	150-270	20[2]/67	40-85	0.16-0.20	0.18-0.25	0.22-0.30	0.24-0.36
	M1.0.Z.AQ (05.21)	Austenitic	1950	150-275	20[2]/67	40-85	0.16-0.20	0.18-0.25	0.22-0.30	0.24-0.36
	M3.1.Z.AQ (05.51)	Austenitic / ferritic materials (Duplex) non-weldable ≥ 0.05% C	2000	180-290	20[2]/67	35-60	0.12-0.15	0.20-0.27	0.22-0.30	0.25-0.35
	M3.2.Z.AQ (05.52)	Austenitic / ferritic materials (Duplex) weldable < 0.05% C	2450	200-320	20[2]/67	35-60	0.12-0.15	0.20-0.27	0.22-0.30	0.25-0.35
		Malleable								
K	K1.1.C.NS (07.1)	Ferritic	790	110-145	72	80-100	0.14-0.20	0.18-0.25	0.20-0.30	0.24-0.32
	K1.1.C.NS (07.2)	Pearlitic	900	150-270	72	80-100	0.14-0.20	0.18-0.25	0.20-0.30	0.24-0.32
		Grey								
	K2.1.C.UT (08.1)	Low tensile strength	890	150-220	72	60-100	0.12-0.18	0.15-0.22	0.20-0.28	0.24-0.32
	K2.2.C.UT (08.2)	High tensile strength	1100	200-330	72	60-100	0.12-0.18	0.15-0.22	0.20-0.28	0.24-0.32
		Nodular								
	K3.1.C.UT (09.1)	Ferritic	900	125-230	72	50-100	0.12-0.18	0.15-0.22	0.20-0.28	0.24-0.32
	K3.3.C.UT (09.2)	Pearlitic	1350	200-300	72	50-100	0.12-0.18	0.15-0.22	0.20-0.28	0.24-0.32

[1] Ejector drills in small diameters, not recommended for CMC 01.1 with carbon ≤ 0.18%. STS drills are the recommended alternative.

[2] Only for STS drills.

For carbide grades and grade combination, see page E273

Cutting data for ground brazed solid drill heads 424.6 and 420.6

Metric version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	Grade combination	Cutting speed v_c m/min	Drill diameter, mm 15.60-20.00 Feed f_n mm/r	20.01-31.00	31.01-43.00	43.01-65.00
N		**Aluminium alloys**								
	(30.11)	Wrought or wrought and coldworked, non-aging	400	30-100	72	65-130	0.10-0.20	0.16-0.25	0.18-0.30	0.20-0.45
	N1.2.Z.AG (30.12)	Wrought or wrought and aged	650	30-150	72	65-130	0.10-0.20	0.16-0.25	0.18-0.30	0.20-0.45
	N1.3.C.UT (30.21)	Cast, non aging	600	40-100	72	65-130	0.10-0.20	0.16-0.25	0.18-0.30	0.20-0.45
	N1.3.C.AG (30.22)	Cast or cast and aged	700	70-140	72	65-130	0.10-0.20	0.16-0.25	0.18-0.30	0.20-0.45
		Copper and copper alloys								
	N3.3.U.UT (33.1)	Free cutting alloys (Pb > 1%)	550	70-160	72	65-130	0.10-0.20	0.16-0.25	0.18-0.30	0.20-0.45
	N3.2.C.UT (33.2)	Brass and leaded alloys (Pb < 1%)	550	50-200	72	65-130	0.10-0.20	0.16-0.25	0.18-0.30	0.20-0.45
S		**Iron base**								
	(20.11)	Annealed or solution treated	2400	180-230	72	10-50	0.10-0.18	0.14-0.20	0.18-0.26	0.20-0.30
		Nickel base								
	S2.0.Z.AN (20.21)	Annealed or solution treated	2650	140-300	72	10-50	0.10-0.18	0.14-0.20	0.18-0.26	0.20-0.30
		Cobalt base								
	(20.31)	Annealed or solution treated	2700	180-230	72	10-50	0.10-0.18	0.14-0.20	0.18-0.26	0.20-0.30
		Titanium								
	S4.2.Z.AN (23.21)	Alfa- , near Alfa- and Alfa + Beta alloys annealed	1400	600-1100	72	30-50	0.14-0.16	0.16-0.22	0.18-0.26	0.20-0.30

Cutting data for ground brazed solid drill heads 424.6 and 420.6

Inch version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	Grade combination	Cutting speed v_c ft/min	Drill diameter, inch .614-.787 Feed f_n inch/rev	.788-1.220 Feed f_n inch/rev	1.221-1.693 Feed f_n inch/rev	1.694-2.559 Feed f_n inch/rev
		Unalloyed steel								
P	P1.1.Z.AN (01.1)	Non-hardened 0.10-0.25% C	216,500	90-200	70/63	230-395	.006-.008[1]	.006-.008[1]	.006-.010	.007-.011
	P1.2.Z.AN (01.2)	Non-hardened 0.25-0.55% C	233,000	125-225	70/63	230-395	.006-.008[1]	.006-.008[1]	.006-.010	.007-.011
	P1.3.Z.AN (01.3)	Non-hardened 0.55-0.80% C	247,000	150-250	70/63	230-395	.006-.008	.007-.010	.008-.012	.009-.013
	P1.3.Z.AN (01.4)	High carbon steel, annealed	260,500	180-275	70/63	230-395	.006-.008	.007-.010	.008-.012	.009-.013
		Low alloy steel								
	P2.1.Z.AN (02.1)	Non hardened	246,500	150-260	70/63	230-330	.006-.008	.007-.010	.008-.012	.008-.012
	P2.5.Z.HT (02.2)	Hardened and tempered	278,500	220-450	70/63	180-330	.006-.008	.007-.010	.008-.012	.009-.013
		High alloy steel								
	P3.0.Z.AN (03.11)	Annealed	282,000	150-250	70/63	230-330	.006-.008	.007-.010	.008-.012	.009-.013
	(03.13)	Annealed HSS	311,000	150-250	70/63	230-330	.006-.008	.007-.010	.008-.012	.009-.013
	P3.0.Z.HT (03.21)	Hardened tool steel	420,000	250-350	70/63	180-330	.006-.008	.007-.010	.008-.012	.009-.013
	(03.22)	Hardened steel, others	448,500	250-450	70/63	180-330	.006-.008	.007-.010	.008-.012	.009-.013
		Castings								
	P1.5.C.UT (06.1)	Unalloyed	204,000	90-225	70/63	165-330	.005-.007	.006-.009	.008-.011	.009-.013
	P2.6.C.UT (06.2)	Low alloyed (alloying elements < 5%)	230,500	150-250	70/63	165-330	.005-.007	.006-.009	.008-.011	.009-.013
	(06.32)	Stainless austenitic	254,000	150-250	20[2]/67	165-280	.006-.008	.007-.010	.009-.012	.009-.014
	(06.33)	Manganese steel, 12–14% Mn	420,500	200-300	20[2]/67	115-230	.006-.008	.007-.010	.009-.012	.009-.014
		Rolled/forged								
M	P5.0.Z.AN (05.11)	Ferritic/Martensitic, non hardened	262,000	150-270	20[2]/67	130-280	.006-.008	.007-.010	.009-.012	.009-.014
	M1.0.Z.AQ (05.21)	Austenitic	285,000	150-275	20[2]/67	130-280	.006-.008	.007-.010	.009-.012	.009-.014
	M3.1.Z.AQ (05.51)	Austenitic / ferritic materials (Duplex) non-weldable ≥ 0.05% C	286,500	180-290	20[2]/67	115-195	.005-.006	.008-.011	.009-.012	.010-.014
	M3.2.Z.AQ (05.52)	Austenitic / ferritic materials (Duplex) weldable < 0.05% C	356,500	200-320	20[2]/67	115-195	.005-.006	.008-.011	.009-.012	.010-.014
		Malleable								
K	K1.1.C.NS (07.1)	Ferritic	115,000	110-145	72	260-330	.006-.008	.007-.010	.008-.012	.009-.013
	K1.1.C.NS (07.2)	Pearlitic	131,000	150-270	72	260-330	.006-.008	.007-.010	.008-.012	.009-.013
		Grey								
	K2.1.C.UT (08.1)	Low tensile strength	130,000	150-220	72	195-330	.005-.007	.006-.009	.008-.011	.009-.013
	K2.2.C.UT (08.2)	High tensile strength	159,500	200-330	72	195-330	.005-.007	.006-.009	.008-.011	.009-.013
		Nodular								
	K3.1.C.UT (09.1)	Ferritic	130,000	125-230	72	165-330	.005-.007	.006-.009	.008-.011	.009-.013
	K3.3.C.UT (09.2)	Pearlitic	194,500	200-300	72	165-330	.005-.007	.006-.009	.008-.011	.009-.013

[1] Ejector drills in small diameters, not recommended for CMC 01.1 with carbon ≤ 0.18%. STS drills are the recommended alternative.

[2] Only for STS drills.

For carbide grades and grade combination, see page E273

Cutting data for ground brazed solid drill heads 424.6 and 420.6

Inch version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	Grade combination	Cutting speed v_c ft/min	Drill diameter, inch .614-.787 Feed f_n inch/rev	.788-1.220	1.221-1.693	1.694-2.559
N		**Aluminium alloys**								
	(30.11)	Wrought or wrought and coldworked, non-aging	58,000	30-100	72	215-425	.004-.008	.006-.010	.007-.012	.008-.018
	N1.2.Z.AG (30.12)	Wrought or wrought and aged	94,500	30-150	72	215-425	.004-.008	.006-.010	.007-.012	.008-.018
	N1.3.C.UT (30.21)	Cast, non aging	87,000	40-100	72	215-425	.004-.008	.006-.010	.007-.012	.008-.018
	N1.3.C.AG (30.22)	Cast or cast and aged	101,500	70-140	72	215-425	.004-.008	.006-.010	.007-.012	.008-.018
		Copper and copper alloys								
	N3.3.U.UT (33.1)	Free cutting alloys (Pb > 1%)	79,500	70-160	72	215-425	.004-.008	.006-.010	.007-.012	.008-.018
	N3.2.C.UT (33.2)	Brass and leaded alloys (Pb < 1%)	80,000	50-200	72	215-425	.004-.008	.006-.010	.007-.012	.008-.018
S		**Iron base**								
	(20.11)	Annealed or solution treated	348,000	180-230	72	33-165	.004-.007	.006-.008	.007-.010	.008-.012
		Nickel base								
	S2.0.Z.AN (20.21)	Annealed or solution treated	383,000	140-300	72	33-165	.004-.007	.006-.008	.007-.010	.008-.012
		Cobalt base								
	(20.31)	Annealed or solution treated	391,500	180-230	72	33-165	.004-.007	.006-.008	.007-.010	.008-.012
		Titanium								
	S4.2.Z.AN (23.21)	Alfa- , near Alfa- and Alfa + Beta alloys annealed	203,000	600-1100	72	100-165	.005-.006	.006-.009	.007-.010	.008-.012

Cutting data for CoroDrill® solid drill heads 800.24 and 800.20

Metric version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	Geometry / Grade Insert position C	I	P	Support pad grade	Cutting speed v_c m/min	Drill diameter, mm 25.00-43.00 Feed f_n mm/r	43.01-65.00 Feed f_n mm/r
P		**Unalloyed steel**									
	P1.1.Z.AN (01.1)	Non-hardened 0.10-0.25% C	1500	90-200	G/1025	G/1025	G/1025	P1	70-130	0.11-0.41	0.14-0.45
	P1.2.Z.AN (01.2)	Non-hardened 0.25-0.55% C	1600	125-225	G/1025	G/1025	G/1025	P1	70-130	0.11-0.41	0.14-0.45
	P1.3.Z.AN (01.3)	Non-hardened 0.55-0.80% C	1700	150-250	G/1025	G/1025	G/1025	P1	70-130	0.11-0.41	0.17-0.25
	P1.3.Z.AN (01.4)	High carbon steel, annealed	1800	180-275	G/1025	G/1025	G/1025	P1	70-130	0.11-0.41	0.14-0.45
		Low alloy steel									
	P2.1.Z.AN (02.1)	Non hardened	1700	150-260	G/1025	G/1025	G/1025	P1	70-120	0.11-0.41	0.20-0.45
	P2.5.Z.HT (02.2)	Hardened and tempered	1900	220-450	G/1025	G/1025	G/1025	P1	55-110	0.11-0.41	0.20-0.45
		High alloy steel									
	P3.0.Z.AN (03.11)	Annealed	1950	150-250	G/1025	G/1025	G/1025	P1	70-120	0.11-0.41	0.20-0.45
	(03.13)	Annealed HSS	2150	150-250	G/1025	G/1025	G/1025	P1	70-120	0.11-0.41	0.20-0.45
	P3.0.Z.HT (03.21)	Hardened tool steel	2900	250-350	G/1025	G/1025	G/1025	P1	55-110	0.11-0.38	0.20-0.40
	(03.22)	Hardened steel, others	3100	250-450	G/1025	G/1025	G/1025	P1	55-110	0.20-0.38	0.20-0.40
		Castings									
	P1.5.C.UT (06.1)	Unalloyed	1400	90-225	G/1025	G/1025	G/1025	P1	50-110	0.11-0.41	0.20-0.45
	P2.6.C.UT (06.2)	Low alloyed (alloying elements < 5%)	1600	150-250	G/1025	G/1025	G/1025	P1	50-110	0.11-0.41	0.20-0.45
	(06.32)	Stainless austenitic	1800	150-250	G/1025	G/1025	G/1025	P1	50-100	0.11-0.33	0.20-0.38
	(06.33)	Manganese steel, 12–14% Mn	2900	200-300	G/1025	G/1025	G/1025	P1	35-85	0.11-0.33	0.20-0.38
M		**Rolled/forged**									
	P5.0.Z.AN (05.11)	Ferritic/Martensitic, non hardened	1800	150-270	G/1025	G/1025	G/1025	M1	40-110	0.11-0.41	0.20-0.45
	M1.0.Z.AQ (05.21)	Austenitic	1950	150-275	G/1025	G/1025	G/1025	M1	40-110	0.11-0.41	0.20-0.45
	M3.1.Z.AQ (05.51)	Austenitic / ferritic materials (Duplex) non-weldable ≥ 0.05% C	2000	180-290	G/1025	G/1025	G/1025	M1	40-110	0.11-0.33	0.20-0.35
	M3.2.Z.AQ (05.52)	Austenitic / ferritic materials (Duplex) weldable < 0.05% C	2450	200-320	G/1025	G/1025	G/1025	M1	40-80	0.11-0.33	0.20-0.35
K		**Malleable**									
	K1.1.C.NS (07.1)	Ferritic	790	110-145	G/1025	G/1025	G/1025	M1	80-120	0.11-0.38	0.24-0.41
	K1.1.C.NS (07.2)	Pearlitic	900	150-270	G/1025	G/1025	G/1025	M1	80-120	0.11-0.38	0.24-0.41
		Grey									
	K2.1.C.UT (08.1)	Low tensile strength	890	150-220	G/1025	G/1025	G/1025	M1	60-110	0.11-0.38	0.24-0.41
	K2.2.C.UT (08.2)	High tensile strength	1100	200-330	G/1025	G/1025	G/1025	M1	60-110	0.11-0.38	0.24-0.41
		Nodular									
	K3.1.C.UT (09.1)	Ferritic	900	125-230	G/1025	G/1025	G/1025	M1	50-110	0.11-0.38	0.24-0.41
	K3.3.C.UT (09.2)	Pearlitic	1350	200-300	G/1025	G/1025	G/1025	M1	50-110	0.11-0.38	0.24-0.41

Cutting data for CoroDrill® solid drill heads 800.24 and 800.20

Metric version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	Geometry / Grade Insert position C	I	P	Support pad grade	Cutting speed v_c m/min	Drill diameter, mm 25.00-43.00 Feed f_n mm/r	43.01-65.00 Feed f_n mm/r
N		**Aluminium alloys**									
	(30.11)	Wrought or wrought and coldworked, non-aging	400	30-100	G/1025	G/1025	G/1025	M1	65-150	0.09-0.33	0.24-0.35
	N1.2.Z.AG (30.12)	Wrought or wrought and aged	650	30-150	G/1025	G/1025	G/1025	M1	65-150	0.09-0.33	0.24-0.35
	N1.3.C.UT (30.21)	Cast, non aging	600	40-100	G/1025	G/1025	G/1025	M1	65-150	0.09-0.33	0.24-0.35
	N1.3.C.AG (30.22)	Cast or cast and aged	700	70-140	G/1025	G/1025	G/1025	M1	65-150	0.09-0.33	0.24-0.35
		Copper and copper alloys									
	N3.3.U.UT (33.1)	Free cutting alloys (Pb > 1%)	550	70-160	G/1025	G/1025	G/1025	M1	65-150	0.09-0.33	0.24-0.35
	N3.2.C.UT (33.2)	Brass and leaded alloys (Pb < 1%)	550	50-200	G/1025	G/1025	G/1025	M1	65-150	0.09-0.33	0.24-0.35
S		**Iron base**									
	(20.11)	Annealed or solution treated	2400	180-230	G/1025	G/1025	G/1025	PM1	10-55	0.09-0.30	0.20-0.33
		Nickel base									
	S2.0.Z.AN (20.21)	Annealed or solution treated	2650	140-300	G/1025	G/1025	G/1025	PM1	10-55	0.09-0.30	0.20-0.33
		Cobalt base									
	(20.31)	Annealed or solution treated	2700	180-230	G/1025	G/1025	G/1025	PM1	10-55	0.09-0.30	0.20-0.33
		Titanium									
	S4.2.Z.AN (23.21)	Alfa- , near Alfa- and Alfa + Beta alloys annealed	1400	600-1100	G/1025	G/1025	G/1025	PM1	30-60	0.09-0.30	0.20-0.33

Cutting data for CoroDrill® solid drill heads 800.24 and 800.20

Inch version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	Geometry / Grade Insert position C	I	P	Support pad grade	Cutting speed v_c ft/min	Drill diameter, inch .984-1.693 Feed f_n inch/rev	1.694-2.559 Feed f_n inch/rev
P		**Unalloyed steel**									
	P1.1.Z.AN (01.1)	Non-hardened 0.10-0.25% C	216,500	90-200	G/1025	G/1025	G/1025	P1	70-130	.004-.016	.006-.018
	P1.2.Z.AN (01.2)	Non-hardened 0.25-0.55% C	233,000	125-225	G/1025	G/1025	G/1025	P1	70-130	.004-.016	.006-.018
	P1.3.Z.AN (01.3)	Non-hardened 0.55-0.80% C	247,000	150-250	G/1025	G/1025	G/1025	P1	70-130	.004-.016	.007-.010
	P1.3.Z.AN (01.4)	High carbon steel, annealed	260,500	180-275	G/1025	G/1025	G/1025	P1	70-130	.004-.016	.006-.018
		Low alloy steel									
	P2.1.Z.AN (02.1)	Non hardened	246,500	150-260	G/1025	G/1025	G/1025	P1	70-120	.004-.016	.008-.018
	P2.5.Z.HT (02.2)	Hardened and tempered	278,500	220-450	G/1025	G/1025	G/1025	P1	55-110	.004-.016	.008-.018
		High alloy steel									
	P3.0.Z.AN (03.11)	Annealed	282,000	150-250	G/1025	G/1025	G/1025	P1	70-120	.004-.016	.008-.018
	(03.13)	Annealed HSS	311,000	150-250	G/1025	G/1025	G/1025	P1	70-120	.004-.016	.008-.018
	P3.0.Z.HT (03.21)	Hardened tool steel	420,000	250-350	G/1025	G/1025	G/1025	P1	55-110	.004-.015	.008-.016
	(03.22)	Hardened steel, others	448,500	250-450	G/1025	G/1025	G/1025	P1	55-110	.008-.015	.008-.016
		Castings									
	P1.5.C.UT (06.1)	Unalloyed	204,000	90-225	G/1025	G/1025	G/1025	P1	50-110	.004-.016	.008-.018
	P2.6.C.UT (06.2)	Low alloyed (alloying elements < 5%)	230,500	150-250	G/1025	G/1025	G/1025	P1	50-110	.004-.016	.008-.018
	(06.32)	Stainless austenitic	333,500	150-250	G/1025	G/1025	G/1025	P1	50-100	.004-.013	.008-.015
	(06.33)	Manganese steel, 12–14% Mn	420,500	200-300	G/1025	G/1025	G/1025	P1	35-85	.004-.013	.008-.015
M		**Rolled/forged**									
	P5.0.Z.AN (05.11)	Ferritic/Martensitic, non hardened	262,000	150-270	G/1025	G/1025	G/1025	M1	40-110	.004-.016	.008-.018
	M1.0.Z.AQ (05.21)	Austenitic	285,000	150-275	G/1025	G/1025	G/1025	M1	40-110	.004-.016	.008-.018
	M3.1.Z.AQ (05.51)	Austenitic / ferritic materials (Duplex) non-weldable ≥ 0.05% C	286,500	180-290	G/1025	G/1025	G/1025	M1	40-110	.004-.013	.008-.014
	M3.2.Z.AQ (05.52)	Austenitic / ferritic materials (Duplex) weldable < 0.05% C	356,500	200-320	G/1025	G/1025	G/1025	M1	40-80	.004-.013	.008-.014
K		**Malleable**									
	K1.1.C.NS (07.1)	Ferritic	115,000	110-145	G/1025	G/1025	G/1025	M1	80-120	.004-.015	.009-.016
	K1.1.C.NS (07.2)	Pearlitic	131,000	150-270	G/1025	G/1025	G/1025	M1	80-120	.004-.015	.009-.016
		Grey									
	K2.1.C.UT (08.1)	Low tensile strength	130,000	150-220	G/1025	G/1025	G/1025	M1	60-110	.004-.015	.009-.016
	K2.2.C.UT (08.2)	High tensile strength	159,500	200-330	G/1025	G/1025	G/1025	M1	60-110	.004-.015	.009-.016
		Nodular									
	K3.1.C.UT (09.1)	Ferritic	130,000	125-230	G/1025	G/1025	G/1025	M1	50-110	.004-.015	.009-.016
	K3.3.C.UT (09.2)	Pearlitic	194,500	200-300	G/1025	G/1025	G/1025	M1	50-110	.004-.015	.009-.016

Cutting data for CoroDrill® solid drill heads 800.24 and 800.20

Inch version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	Geometry / Grade Insert position C	I	P	Support pad grade	Cutting speed v_c ft/min	Drill diameter, inch .984-1.693 Feed f_n inch/rev	1.694-2.559 Feed f_n inch/rev
N		**Aluminium alloys**									
	(30.11)	Wrought or wrought and coldworked, non-aging	58,000	30-100	G/1025	G/1025	G/1025	M1	65-150	.004-.013	.009-.014
	N1.2.Z.AG (30.12)	Wrought or wrought and aged	94,500	30-150	G/1025	G/1025	G/1025	M1	65-150	.004-.015	.009-.014
	N1.3.C.UT (30.21)	Cast, non aging	87,000	40-100	G/1025	G/1025	G/1025	M1	65-150	.004-.015	.009-.014
	N1.3.C.AG (30.22)	Cast or cast and aged	101,500	70-140	G/1025	G/1025	G/1025	M1	65-150	.004-.015	.009-.014
		Copper and copper alloys									
	N3.3.U.UT (33.1)	Free cutting alloys (Pb > 1%)	79,500	70-160	G/1025	G/1025	G/1025	M1	65-150	.004-.015	.009-.014
	N3.2.C.UT (33.2)	Brass and leaded alloys (Pb < 1%)	80,000	50-200	G/1025	G/1025	G/1025	M1	65-150	.004-.015	.009-.014
S		**Iron base**									
	(20.11)	Annealed or solution treated	348,000	180-230	G/1025	G/1025	G/1025	PM1	10-55	.004-.012	.008-.013
		Nickel base									
	S2.0.Z.AN (20.21)	Annealed or solution treated	383,000	140-300	G/1025	G/1025	G/1025	PM1	10-55	.004-.012	.008-.013
		Cobalt base									
	(20.31)	Annealed or solution treated	391,500	180-230	G/1025	G/1025	G/1025	PM1	10-55	.004-.012	.008-.013
		Titanium									
	S4.2.Z.AN (23.21)	Alfa- , near Alfa- and Alfa + Beta alloys annealed	203,000	600-1100	G/1025	G/1025	G/1025	PM1	30-60	.004-.012	.008-.013

Cutting data for T-MAX® adjustable solid drill head 424.10

Metric version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	Geometry / Grade	Cutting speed v_c m/min	Drill diameter, mm ≥63.50 Feed f_n mm/r
P		**Unalloyed steel**					
	P1.1.Z.AN (01.1)	Non-hardened 0.10-0.25% C	1500	90-200	-22/-23/1025	80-100	0.18-0.35
	P1.2.Z.AN (01.2)	Non-hardened 0.25-0.55% C	1600	125-225	-22/1025	80-100	0.18-0.35
	P1.3.Z.AN (01.3)	Non-hardened 0.55-0.80% C	1700	150-250	-22/1025	80-100	0.18-0.35
	P1.3.Z.AN (01.4)	High carbon steel, annealed	1800	180-275	-22/1025	80-100	0.18-0.35
		Low alloy steel					
	P2.1.Z.AN (02.1)	Non hardened	1700	150-260	-22/1025	70-100	0.18-0.35
	P2.5.Z.HT (02.2)	Hardened and tempered	1900	220-450	-22/1025	60-100	0.16-0.35
		High alloy steel					
	P3.0.Z.AN (03.11)	Annealed	1950	150-250	-22/1025	70-100	0.18-0.30
	(03.13)	Annealed HSS	2150	150-250	-22/1025	70-100	0.18-0.30
	P3.0.Z.HT (03.21)	Hardened tool steel	2900	250-350	-22/1025	60-100	0.16-0.30
	(03.22)	Hardened steel, others	3100	250-450	-22/1025	60-100	0.16-0.30
		Castings					
	P1.5.C.UT (06.1)	Unalloyed	1400	90-225	-22/1025	50-100	0.15-0.30
	P2.6.C.UT (06.2)	Low alloyed (alloying elements < 5%)	1600	150-250	-22/1025	50-100	0.15-0.30
M		**Rolled/forged**					
	P5.0.Z.AN (05.11)	Ferritic/Martensitic, non hardened	1800	150-270	-22/1025	50-90	0.16-0.35
	M1.0.Z.AQ (05.21)	Austenitic	1950	150-275	-23/1025	50-90	0.16-0.35
K		**Malleable**					
	K1.1.C.NS (07.1)	Ferritic	790	110-145	-22/H13A	80-100	0.18-0.30
	K1.1.C.NS (07.2)	Pearlitic	900	150-270	-22/H13A	80-100	0.18-0.30
		Grey					
	K2.1.C.UT (08.1)	Low tensile strength	890	150-220	-22/H13A	60-100	0.16-0.35
	K2.2.C.UT (08.2)	High tensile strength	1100	200-330	-22/H13A	60-100	0.16-0.35
		Nodular					
	K3.1.C.UT (09.1)	Ferritic	900	125-230	-22/H13A	50-100	0.16-0.35
	K3.3.C.UT (09.2)	Pearlitic	1350	200-300	-22/H13A	50-100	0.16-0.35

Cutting data for T-MAX® adjustable solid drill head 424.10

Metric version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	Geometry / Grade	Cutting speed v_c m/min	Drill diameter, mm ≥63.50 Feed f_n mm/r
N		**Aluminium alloys**					
	(30.11)	Wrought or wrought and coldworked, non-aging	400	30-100	-23/H13A	65-130	0.10-0.30
	N1.2.Z.AG (30.12)	Wrought or wrought and aged	650	30-150	-23/H13A	65-130	0.10-0.30
	N1.3.C.UT (30.21)	Cast, non aging	600	40-100	-23/H13A	65-130	0.10-0.30
	N1.3.C.AG (30.22)	Cast or cast and aged	700	70-140	-23/H13A	65-130	0.10-0.30
		Copper and copper alloys					
	N3.3.U.UT (33.1)	Free cutting alloys (Pb > 1%)	550	70-160	-23/H13A	65-130	0.10-0.30
	N3.2.C.UT (33.2)	Brass and leaded alloys (Pb < 1%)	550	50-200	-23/H13A	65-130	0.10-0.30
S		**Iron base**					
	(20.11)	Annealed or solution treated	2400	180-230	-22/1025	20-65	0.15-0.30
		Nickel base					
	S2.0.Z.AN (20.21)	Annealed or solution treated	2650	140-300	-23/1025	20-65	0.15-0.30
		Cobalt base					
	(20.31)	Annealed or solution treated	2700	180-230	-23/H13A	20-65	0.15-0.30
		Titanium					
	S4.2.Z.AN (23.21)	Alfa- , near Alfa- and Alfa + Beta alloys annealed	1400	600-1100	-23/H13A -22/1025	30-60 30-100	0.15-0.30 0.15-0.30

Cutting data for T-MAX® adjustable solid drill head 424.10

Inch version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	Geometry / Grade	Cutting speed v_c ft/min	Drill diameter, inch ≥2.500 Feed f_n inch/rev
P		**Unalloyed steel**					
	P1.1.Z.AN (01.1)	Non-hardened 0.10-0.25% C	216,500	90-200	-22/-23/1025	260-330	.007-.014
	P1.2.Z.AN (01.2)	Non-hardened 0.25-0.55% C	233,000	125-225	-22/1025	260-330	.007-.014
	P1.3.Z.AN (01.3)	Non-hardened 0.55-0.80% C	247,000	150-250	-22/1025	260-330	.007-.014
	P1.3.Z.AN (01.4)	High carbon steel, annealed	260,500	180-275	-22/1025	260-330	.007-.014
		Low alloy steel					
	P2.1.Z.AN (02.1)	Non hardened	246,500	150-260	-22/1025	230-330	.007-.014
	P2.5.Z.HT (02.2)	Hardened and tempered	278,500	220-450	-22/1025	195-330	.006-.014
		High alloy steel					
	P3.0.Z.AN (03.11)	Annealed	282,000	150-250	-22/1025	260-330	.007-.012
	(03.13)	Annealed HSS	311,000	150-250	-22/1025	260-330	.007-.012
	P3.0.Z.HT (03.21)	Hardened tool steel	420,000	250-350	-22/1025	195-330	.006-.012
	(03.22)	Hardened steel, others	448,500	250-450	-22/1025	195-330	.006-.012
		Castings					
	P1.5.C.UT (06.1)	Unalloyed	204,000	90-225	-22/1025	165-330	.006-.012
	P2.6.C.UT (06.2)	Low alloyed (alloying elements < 5%)	230,500	150-250	-22/1025	165-330	.006-.012
M		**Rolled/forged**					
	P5.0.Z.AN (05.11)	Ferritic/Martensitic, non hardened	262,000	150-270	-22/1025	165-295	.006-.014
	M1.0.Z.AQ (05.21)	Austenitic	285,000	150-275	-23/1025	165-295	.006-.014
K		**Malleable**					
	K1.1.C.NS (07.1)	Ferritic	115,000	110-145	-22/H13A	260-330	.007-.014
	K1.1.C.NS (07.2)	Pearlitic	131,000	150-270	-22/H13A	260-330	.007-.012
		Grey					
	K2.1.C.UT (08.1)	Low tensile strength	130,000	150-220	-22/H13A	195-330	.006-.014
	K2.2.C.UT (08.2)	High tensile strength	159,500	200-330	-22/H13A	195-330	.006-.014
		Nodular					
	K3.1.C.UT (09.1)	Ferritic	130,000	125-230	-22/H13A	165-330	.006-.014
	K3.3.C.UT (09.2)	Pearlitic	194,500	200-300	-22/H13A	165-330	.006-.014

Cutting data for T-MAX® adjustable solid drill head 424.10

Inch version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	Geometry / Grade	Cutting speed v_c ft/min	Drill diameter, inch ≥2.500 Feed f_n inch/rev
N		**Aluminium alloys**					
	(30.11)	Wrought or wrought and coldworked, non-aging	58,000	30-100	-23/H13A	215-425	.004-.012
	N1.2.Z.AG (30.12)	Wrought or wrought and aged	94,500	30-150	-23/H13A	215-425	.004-.012
	N1.3.C.UT (30.21)	Cast, non aging	87,000	40-100	-23/H13A	215-425	.004-.012
	N1.3.C.AG (30.22)	Cast or cast and aged	101,500	70-140	-23/H13A	215-425	.004-.012
		Copper and copper alloys					
	N3.3.U.UT (33.1)	Free cutting alloys (Pb > 1%)	79,500	70-160	-23/H13A	215-425	.004-.012
	N3.2.C.UT (33.2)	Brass and leaded alloys (Pb < 1%)	80,000	50-200	-23/H13A	215-425	.004-.012
S		**Iron base**					
	(20.11)	Annealed or solution treated	348,000	180-230	-22/1025	65-215	.006-.012
		Nickel base					
	S2.0.Z.AN (20.21)	Annealed or solution treated	383,000	140-300	-23/1025	65-215	.006-.012
		Cobalt base					
	(20.31)	Annealed or solution treated	391,500	180-230	-23/H13A	65-215	.006-.012
		Titanium					
	S4.2.Z.AN (23.21)	Alfa- , near Alfa- and Alfa + Beta alloys annealed	203,000	600-1100	-23/H13A -22/1025	100-215 100-330	.006-.012 .006-.012

Cutting data for T-MAX® counterboring heads 424.31F, 424.31 and 424.32

Metric version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	Geometry / Grade	Cutting speed v_c m/min	Depth of cut (a_p), mm 1-3 Feed f_n mm/r	3-8	≥8
P		**Unalloyed steel**							
	P1.1.Z.AN (01.1)	Non-hardened 0.10-0.25% C	1500	90-200	235/4235	60-140	0.15-0.40	0.20-0.40	0.18-0.40
	P1.2.Z.AN (01.2)	Non-hardened 0.25-0.55% C	1600	125-225	235/4235	60-120	0.15-0.40	0.20-0.40	0.18-0.40
	P1.3.Z.AN (01.3)	Non-hardened 0.55-0.80% C	1700	150-250	235/4235	50-100	0.15-0.40	0.20-0.40	0.18-0.35
		Low alloy steel							
	P2.1.Z.AN (02.1)	Non hardened	1700	150-260	235/4235	50-130	0.15-0.40	0.20-0.40	0.18-0.40
	P2.5.Z.HT (02.2)	Hardened and tempered	1900	220-450	235/4235	50-120	0.15-0.40	0.20-0.40	0.18-0.40
		High alloy steel							
	P3.0.Z.AN (03.11)	Annealed	1950	150-250	235/4235	50-100	0.15-0.40	0.20-0.40	0.18-0.40
	(03.13)	Annealed HSS	2150	150-250	235/4235	50-100	0.15-0.40	0.20-0.40	0.18-0.40
	P3.0.Z.HT (03.21)	Hardened tool steel	2900	250-350	235/4235	60-100	0.15-0.40	0.20-0.40	0.18-0.40
	(03.22)	Hardened steel, others	3100	250-450	235/4235	60-100	0.15-0.40	0.20-0.40	0.18-0.40
		Castings							
	P1.5.C.UT (06.1)	Unalloyed	1400	90-225	235/4235	60-120	0.20-0.40	0.20-0.40	0.18-0.40
	P2.6.C.UT (06.2)	Low alloyed (alloying elements < 5%)	1600	150-250	235/4235	50-110	0.20-0.40	0.20-0.40	0.18-0.40
M		**Rolled/forged**							
	P5.0.Z.AN (05.11)	Ferritic/Martensitic, non hardened	1800	150-270	235/S6	50-95	0.20-0.40	0.20-0.40	0.18-0.40
	M1.0.Z.AQ (05.21)	Austenitic	1950	150-275	235/S6	50-95	0.20-0.40	0.20-0.40	0.18-0.40
K		**Malleable**							
	K1.1.C.NS (07.1)	Ferritic	790	110-145	415/4235	60-120	0.20-0.40	0.20-0.40	0.15-0.40
	K1.1.C.NS (07.2)	Pearlitic	900	150-270	415/4235	60-120	0.20-0.40	0.20-0.40	0.15-0.40
		Grey							
	K2.1.C.UT (08.1)	Low tensile strength	890	150-220	415/4235	50-120	0.20-0.40	0.20-0.40	0.15-0.40
	K2.2.C.UT (08.2)	High tensile strength	1100	200-330	415/4235	50-120	0.20-0.40	0.20-0.40	0.15-0.40
		Nodular							
	K3.1.C.UT (09.1)	Ferritic	900	125-230	415/4235	60-120	0.20-0.40	0.20-0.40	0.15-0.40
	K3.3.C.UT (09.2)	Pearlitic	1350	200-300	415/4235	60-120	0.20-0.40	0.20-0.40	0.15-0.40
N		**Aluminium alloys**							
	(30.11)	Wrought or wrought and coldworked, non-aging	400	30-100	4235	65-300	0.20-0.40	0.20-0.40	0.20-0.40
	N1.2.Z.AG (30.12)	Wrought or wrought and aged	650	30-150	4235	65-300	0.20-0.40	0.20-0.40	0.20-0.40
	N1.3.C.UT (30.21)	Cast, non aging	600	40-100	4235	65-300	0.20-0.40	0.20-0.40	0.20-0.40
	N1.3.C.AG (30.22)	Cast or cast and aged	700	70-140	4235	65-300	0.20-0.40	0.20-0.40	0.20-0.40
		Copper and copper alloys							
	N3.3.U.UT (33.1)	Free cutting alloys (Pb > 1%)	550	70-160	4235	65-300	0.20-0.40	0.20-0.40	0.20-0.40
	N3.2.C.UT (33.2)	Brass and leaded alloys (Pb < 1%)	550	50-200	4235	65-300	0.20-0.40	0.20-0.40	0.20-0.40

Cutting data for T-MAX® counterboring heads 424.31F, 424.31 and 424.32

Inch version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	Geometry / Grade	Cutting speed v_c ft/min	Depth of cut (a_p), inch .039-.118 Feed f_n inch/rev	.118-.315 Feed f_n inch/rev	≥.315 Feed f_n inch/rev
P		**Unalloyed steel**							
	P1.1.Z.AN (01.1)	Non-hardened 0.10-0.25% C	216,500	90-200	235/4235	195-460	.006-.016	.008-.016	.007-.016
	P1.2.Z.AN (01.2)	Non-hardened 0.25-0.55% C	233,000	125-225	235/4235	195-395	.006-.016	.008-.016	.007-.016
	P1.3.Z.AN (01.3)	Non-hardened 0.55-0.80% C	247,000	150-250	235/4235	165-330	.006-.016	.008-.016	.007-.014
		Low alloy steel							
	P2.1.Z.AN (02.1)	Non hardened	246,500	150-260	235/4235	165-425	.006-.016	.008-.016	.007-.016
	P2.5.Z.HT (02.2)	Hardened and tempered	278,500	220-450	235/4235	165-395	.006-.016	.008-.016	.007-.016
		High alloy steel							
	P3.0.Z.AN (03.11)	Annealed	282,000	150-250	235/4235	165-330	.006-.016	.008-.016	.007-.016
	(03.13)	Annealed HSS	311,000	150-250	235/4235	165-330	.006-.016	.008-.016	.007-.016
	P3.0.Z.HT (03.21)	Hardened tool steel	420,000	250-350	235/4235	195-330	.006-.016	.008-.016	.007-.016
	(03.22)	Hardened steel, others	448,500	250-450	235/4235	195-330	.006-.016	.008-.016	.007-.016
		Castings							
	P1.5.C.UT (06.1)	Unalloyed	204,000	90-225	235/4235	195-395	.008-.016	.008-.016	.007-.016
	P2.6.C.UT (06.2)	Low alloyed (alloying elements < 5%)	230,500	150-250	235/4235	165-360	.008-.016	.008-.016	.007-.016
M		**Rolled/forged**							
	P5.0.Z.AN (05.11)	Ferritic/Martensitic, non hardened	262,000	150-270	235/S6	165-310	.008-.016	.008-.016	.007-.016
	M1.0.Z.AQ (05.21)	Austenitic	285,000	150-275	235/S6	165-310	.008-.016	.008-.016	.007-.016
K		**Malleable**							
	K1.1.C.NS (07.1)	Ferritic	115,000	110-145	415/4235	195-395	.008-.016	.008-.016	.006-.016
	K1.1.C.NS (07.2)	Pearlitic	131,000	150-270	415/4235	195-395	.008-.016	.008-.016	.006-.016
		Grey							
	K2.1.C.UT (08.1)	Low tensile strength	130,000	150-220	415/4235	165-395	.008-.016	.008-.016	.006-.016
	K2.2.C.UT (08.2)	High tensile strength	159,500	200-330	415/4235	165-395	.008-.016	.008-.016	.006-.016
		Nodular							
	K3.1.C.UT (09.1)	Ferritic	130,000	125-230	415/4235	195-395	.008-.016	.008-.016	.006-.016
	K3.3.C.UT (09.2)	Pearlitic	194,500	200-300	415/4235	195-395	.008-.016	.008-.016	.006-.016
N		**Aluminium alloys**							
	(30.11)	Wrought or wrought and coldworked, non-aging	58,000	30-100	4235	215-985	.008-.016	.008-.016	.008-.016
	N1.2.Z.AG (30.12)	Wrought or wrought and aged	94,500	30-150	4235	215-985	.008-.016	.008-.016	.008-.016
	N1.3.C.UT (30.21)	Cast, non aging	87,000	40-100	4235	215-985	.008-.016	.008-.016	.008-.016
	N1.3.C.AG (30.22)	Cast or cast and aged	101,500	70-140	4235	215-985	.008-.016	.008-.016	.008-.016
		Copper and copper alloys							
	N3.3.U.UT (33.1)	Free cutting alloys (Pb > 1%)	79,500	70-160	4235	215-985	.008-.016	.008-.016	.008-.016
	N3.2.C.UT (33.2)	Brass and leaded alloys (Pb < 1%)	80,000	50-200	4235	215-985	.008-.016	.008-.016	.008-.016

Cutting data for T-MAX® trepanning head 420.7

Metric version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	Geometry / Grade	Cutting speed v_c m/min	Drill diameter, mm ≥120 Feed f_n mm/r
		Unalloyed steel					
P	P1.1.Z.AN (01.1)	Non-hardened 0.10-0.25% C	1500	90-200	-22/-23/235	80-100	0.18-0.30
	P1.2.Z.AN (01.2)	Non-hardened 0.25-0.55% C	1600	125-225	-22/235	80-100	0.18-0.30
	P1.3.Z.AN (01.3)	Non-hardened 0.55-0.80% C	1700	150-250	-22/235	80-100	0.18-0.30
	P1.3.Z.AN (01.4)	High carbon steel, annealed	1800	180-275	-22/235	80-100	0.18-0.30
		Low alloy steel					
	P2.1.Z.AN (02.1)	Non hardened	1700	150-260	-22/235	70-100	0.18-0.30
	P2.5.Z.HT (02.2)	Hardened and tempered	1900	220-450	-22/235	60-100	0.16-0.30
		High alloy steel					
	P3.0.Z.AN (03.11)	Annealed	1950	150-250	-22/235	70-100	0.18-0.30
	(03.13)	Annealed HSS	2150	150-250	-22/235	70-100	0.18-0.30
	P3.0.Z.HT (03.21)	Hardened tool steel	2900	250-350	-22/235	60-100	0.16-0.30
	(03.22)	Hardened steel, others	3100	250-450	-22/235	60-100	0.16-0.30
		Castings					
	P1.5.C.UT (06.1)	Unalloyed	1400	90-225	-22/235	50-100	0.15-0.30
	P2.6.C.UT (06.2)	Low alloyed (alloying elements < 5%)	1600	150-250	-22/235	50-100	0.15-0.30
		Rolled/forged					
M	P5.0.Z.AN (05.11)	Ferritic/Martensitic, non hardened	1800	150-270	-22/235	50-90	0.16-0.35
	M1.0.Z.AQ (05.21)	Austenitic	1950	150-275	-22/235	50-90	0.16-0.35
		Malleable					
K	K1.1.C.NS (07.1)	Ferritic	790	110-145	-23/H13A	80-100	0.18-0.30
	K1.1.C.NS (07.2)	Pearlitic	900	150-270	-23/H13A	80-100	0.18-0.30
		Grey					
	K2.1.C.UT (08.1)	Low tensile strength	890	150-220	-23/H13A	60-100	0.16-0.30
	K2.2.C.UT (08.2)	High tensile strength	1100	200-330	-23/H13A	60-100	0.16-0.30
		Nodular					
	K3.1.C.UT (09.1)	Ferritic	900	125-230	-23/H13A	50-100	0.16-0.30
	K3.3.C.UT (09.2)	Pearlitic	1350	200-300	-23/H13A	50-100	0.16-0.30
		Aluminium alloys					
N	(30.11)	Wrought or wrought and coldworked, non-aging	400	30-100	-23/H13A	65-130	0.10-0.30
	N1.2.Z.AG (30.12)	Wrought or wrought and aged	650	30-150	-23/H13A	65-130	0.10-0.30
	N1.3.C.UT (30.21)	Cast, non aging	600	40-100	-23/H13A	65-130	0.10-0.30
	N1.3.C.AG (30.22)	Cast or cast and aged	700	70-140	-23/H13A	65-130	0.10-0.30
		Copper and copper alloys					
	N3.3.U.UT (33.1)	Free cutting alloys (Pb > 1%)	550	70-160	-23/H13A	65-130	0.10-0.30
	N3.2.C.UT (33.2)	Brass and leaded alloys (Pb < 1%)	550	50-200	-23/H13A	65-130	0.10-0.30

Cutting data for T-MAX® trepanning head 420.7

Inch version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	Geometry / Grade	Cutting speed v_c ft/min	Drill diameter, inch ≥120 Feed f_n inch/rev
		Unalloyed steel					
P	P1.1.Z.AN (01.1)	Non-hardened 0.10-0.25% C	216,500	90-200	-22/-23/235	260-330	.007-.012
	P1.2.Z.AN (01.2)	Non-hardened 0.25-0.55% C	233,000	125-225	-22/235	260-330	.007-.012
	P1.3.Z.AN (01.3)	Non-hardened 0.55-0.80% C	247,000	150-250	-22/235	260-330	.007-.012
	P1.3.Z.AN (01.4)	High carbon steel, annealed	260,500	180-275	-22/235	260-330	.007-.012
		Low alloy steel					
	P2.1.Z.AN (02.1)	Non hardened	246,500	150-260	-22/235	230-330	.007-.012
	P2.5.Z.HT (02.2)	Hardened and tempered	278,500	220-450	-22/235	195-330	.006-.012
		High alloy steel					
	P3.0.Z.AN (03.11)	Annealed	282,000	150-250	-22/235	230-330	.007-.012
	(03.13)	Annealed HSS	311,000	150-250	-22/235	230-330	.007-.012
	P3.0.Z.HT (03.21)	Hardened tool steel	420,000	250-350	-22/235	195-330	.006-.012
	(03.22)	Hardened steel, others	448,500	250-450	-22/235	195-330	.006-.012
		Castings					
	P1.5.C.UT (06.1)	Unalloyed	204,000	90-225	-22/235	165-330	.006-.012
	P2.6.C.UT (06.2)	Low alloyed (alloying elements < 5%)	230,500	150-250	-22/235	165-330	.006-.012
		Rolled/forged					
M	P5.0.Z.AN (05.11)	Ferritic/Martensitic, non hardened	262,000	150-270	-22/235	165-295	.006-.014
	M1.0.Z.AQ (05.21)	Austenitic	285,000	150-275	-22/235	165-295	.006-.014
		Malleable					
K	K1.1.C.NS (07.1)	Ferritic	115,000	110-145	-23/H13A	260-330	.007-.012
	K1.1.C.NS (07.2)	Pearlitic	131,000	150-270	-23/H13A	260-330	.007-.012
		Grey					
	K2.1.C.UT (08.1)	Low tensile strength	130,000	150-220	-23/H13A	195-330	.006-.012
	K2.2.C.UT (08.2)	High tensile strength	159,500	200-330	-23/H13A	195-330	.006-.012
		Nodular					
	K3.1.C.UT (09.1)	Ferritic	130,000	125-230	-23/H13A	165-330	.006-.012
	K3.3.C.UT (09.2)	Pearlitic	194,500	200-300	-23/H13A	165-330	.006-.012
		Aluminium alloys					
N	(30.11)	Wrought or wrought and coldworked, non-aging	58,000	30-100	-23/H13A	215-425	.004-.012
	N1.2.Z.AG (30.12)	Wrought or wrought and aged	94,500	30-150	-23/H13A	215-425	.004-.012
	N1.3.C.UT (30.21)	Cast, non aging	87,000	40-100	-23/H13A	215-425	.004-.012
	N1.3.C.AG (30.22)	Cast or cast and aged	101,500	70-140	-23/H13A	215-425	.004-.012
		Copper and copper alloys					
	N3.3.U.UT (33.1)	Free cutting alloys (Pb > 1%)	79,500	70-160	-23/H13A	215-425	.004-.012
	N3.2.C.UT (33.2)	Brass and leaded alloys (Pb < 1%)	80,000	50-200	-23/H13A	215-425	.004-.012

Cutting data for High Feed CounterBore

Metric version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	Cutting speed v_c m/min	Feed f_z, mm/insert
P		**Unalloyed steel**				
	P1.1.Z.AN (01.1)	Non-hardened 0.10-0.25% C	1500	90-200	70-100	0.15-0.30
	P1.2.Z.AN (01.2)	Non-hardened 0.25-0.55% C	1600	125-225	60-100	0.15-0.30
	P1.3.Z.AN (01.3)	Non-hardened 0.55-0.80% C	1700	150-250	50-80	0.15-0.30
		Low alloy steel				
	P2.1.Z.AN (02.1)	Non-hardened	1700	150-260	50-100	0.15-0.30
	P2.5.Z.HT (02.2)	Hardened and tempered	1900	220-450	50-100	0.15-0.30
		High alloy steel				
	P3.0.Z.AN (03.11)	Annealed	1950	150-250	50-80	0.15-0.30
	P3.0.Z.HT (03.21)	Hardened tool steel	2900	250-350	60-80	0.15-0.30
		Steel castings				
	P1.5.C.UT (06.1)	Unalloyed	1400	90-225	60-100	0.15-0.30
	P2.6.C.UT (06.2)	Low alloyed (alloying elements < 5%)	1600	150-250	50-80	0.15-0.30
M		**Stainless steel: Rolled / forged**				
	P5.0.Z.AN (05.11)	Ferritic/Martensitic, non hardened	1800	150-270	40-60	0.12-0.28
	M1.0.Z.AQ (05.21)	Austenitic	1950	150-275	30-60	0.12-0.28
K		**Malleable cast iron**				
	K1.1.C.NS (07.1)	Ferritic	790	110-145	80-110	0.16-0.30
	K1.1.C.NS (07.2)	Pearlitic	900	150-270	70-110	0.16-0.30
		Grey cast iron				
	K2.1.C.UT (08.1)	Low tensile strength	890	150-220	80-120	0.16-0.30
	K2.2.C.UT (08.2)	High tensile strength	1100	200-330	70-110	0.16-0.30
		Nodular cast iron				
	K3.1.C.UT (09.1)	Ferritic	900	125-230	80-110	0.16-0.30
	K3.3.C.UT (09.2)	Pearlitic	1350	200-300	70-110	0.16-0.30
N		**Aluminium alloys**				
	N1.3.C.UT (30.21)	Cast, non aging	600	40-100	160-200	0.15-0.30
		Copper and copper alloys				
	N3.3.U.UT (33.1)	Free cutting alloys (Pb > 1%)	550	70-160	80-150	0.15-0.30
	N3.2.C.UT (33.2)	Brass and leaded bronzes (Pb ≤ 1%)	550	50-200	80-150	0.15-0.30
S		**Iron base**				
	20.11	Annealed or solution treated	2400	180-230	25-40	0.10-0.30
		Nickel base				
	S2.0.Z.AN (20.21)	Annealed or solution treated	2650	140-300	25-40	0.10-0.30
		Cobalt base				
	20.31	Annealed or solution treated	2700	180-230	25-40	0.10-0.30
		Titanium				
	S4.2.Z.AN (23.21)	Alfa- , near Alfa- and Alfa + Beta alloys annealed	1400	600-1100	20-50	0.10-0.30

Cutting data for High Feed CounterBore

Inch version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	Cutting speed v_c ft/min	Feed f_z, inch/insert
P		**Unalloyed steel**				
	P1.1.Z.AN (01.1)	Non-hardened 0.10-0.25% C	216,500	90-200	230-328	.006-.012
	P1.2.Z.AN (01.2)	Non-hardened 0.25-0.55% C	233,000	125-225	197-328	.006-.012
	P1.3.Z.AN (01.3)	Non-hardened 0.55-0.80% C	247,000	150-250	164-262	.006-.012
		Low alloy steel				
	P2.1.Z.AN (02.1)	Non-hardened	246,500	150-260	164-328	.006-.012
	P2.5.Z.HT (02.2)	Hardened and tempered	278,500	220-450	164-328	.006-.012
		High alloy steel				
	P3.0.Z.AN (03.11)	Annealed	282,000	150-250	164-262	.006-.012
	P3.0.Z.HT (03.21)	Hardened tool steel	420,000	250-350	197-262	.006-.012
		Steel castings				
	P1.5.C.UT (06.1)	Unalloyed	204,000	90-225	197-328	.006-.012
	P2.6.C.UT (06.2)	Low alloyed (alloying elements < 5%)	230,500	150-250	164-262	.006-.012
M		**Stainless steel: Rolled / forged**				
	P5.0.Z.AN (05.11)	Ferritic/Martensitic, non hardened	262,000	150-270	131-197	.005-.011
	M1.0.Z.AQ (05.21)	Austenitic	285,000	150-275	98-197	.005-.011
K		**Malleable cast iron**				
	K1.1.C.NS (07.1)	Ferritic	115,000	110-145	262-361	.006-.012
	K1.1.C.NS (07.2)	Pearlitic	131,000	150-270	230-361	.006-.012
		Grey cast iron				
	K2.1.C.UT (08.1)	Low tensile strength	130,000	150-220	262-394	.006-.012
	K2.2.C.UT (08.2)	High tensile strength	159,500	200-330	230-361	.006-.012
		Nodular cast iron				
	K3.1.C.UT (09.1)	Ferritic	130,000	125-230	262-361	.006-.012
	K3.3.C.UT (09.2)	Pearlitic	194,500	200-300	230-361	.006-.012
N		**Aluminium alloys**				
	N1.3.C.UT (30.21)	Cast, non aging	87,000	40-100	525-656	.006-.012
		Copper and copper alloys				
	N3.3.U.UT (33.1)	Free cutting alloys (Pb > 1%)	79,500	70-160	262-492	.006-.012
	N3.2.C.UT (33.2)	Brass and leaded bronzes (Pb ≤ 1%)	80,000	50-200	262-492	.006-.012
S		**Iron base**				
	20.11	Annealed or solution treated	348,000	180-230	82-131	.004-.012
		Nickel base				
	S2.0.Z.AN (20.21)	Annealed or solution treated	383,000	140-300	82-131	.004-.012
		Cobalt base				
	20.31	Annealed or solution treated	391,500	180-230	82-131	.004-.012
		Titanium				
	S4.2.Z.AN (23.21)	Alfa- , near Alfa- and Alfa + Beta alloys annealed	203,000	600-1100	66-164	.004-.012

Cutting data for CoroDrill® 805

Metric version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	Geometry / Grade Inserts P	Inserts I	Inserts C	Support pad grade	Cutting speed v_c m/min	Drill diameter, mm 25.00-43.00 Feed f_n mm/r	Drill diameter, mm 43.00-65.00 Feed f_n mm/r
P		**Unalloyed steel**									
	P1.1.Z.AN (01.1)	Non-hardened 0.10-0.25% C	1500	90-200	G/1025	G/1025	G/1025	P1	70-130	0.11-0.31	0.14-0.34
	P1.2.Z.AN (01.2)	Non-hardened 0.25-0.55% C	1600	125-225	G/1025	G/1025	G/1025	P1	70-130	0.11-0.31	0.14-0.34
	P1.3.Z.AN (01.3)	Non-hardened 0.55-0.80% C	1700	150-250	G/1025	G/1025	G/1025	P1	70-130	0.11-0.31	0.14-0.34
	P1.3.Z.AN (01.4)	High carbon steel, annealed	1800	180-275	G/1025	G/1025	G/1025	P1	70-130	0.11-0.31	0.14-0.34
		Low alloy steel									
	P2.1.Z.AN (02.1)	Non-hardened	1700	150-260	G/1025	G/1025	G/1025	P1	70-120	0.11-0.31	0.20-0.34
	P2.5.Z.HT (02.2)	Hardened and tempered	1900	220-450	G/1025	G/1025	G/1025	P1	55-110	0.11-0.31	0.20-0.34
		High alloy steel									
	P3.0.Z.AN (03.11)	Annealed	1950	150-250	G/1025	G/1025	G/1025	P1	70-120	0.11-0.31	0.20-0.34
	03.13	Annealed HSS	2150	150-250	G/1025	G/1025	G/1025	P1	70-120	0.11-0.31	0.20-0.34
	P3.0.Z.HT (03.21)	Hardened tool steel	2900	250-350	G/1025	G/1025	G/1025	P1	55-110	0.11-0.29	0.20-0.30
	03.22	Hardened steel, others	3100	250-450	G/1025	G/1025	G/1025	P1	55-110	0.20-0.29	0.20-0.30
		Castings									
	P1.5.C.UT (06.1)	Unalloyed	1400	90-225	G/1025	G/1025	G/1025	P1	55-110	0.11-0.31	0.20-0.34
	P2.6.C.UT (06.2)	Low alloyed (alloying elements < 5%)	1600	150-250	G/1025	G/1025	G/1025	P1	55-110	0.11-0.31	0.20-0.34
	06.32	Stainless austenitic	2300	150-250	G/1025	G/1025	G/1025	P1	50-100	0.11-0.25	0.20-0.29
	06.33	Manganese steel, 12–14% Mn	2900	200-300	G/1025	G/1025	G/1025	P1	35-85	0.11-0.25	0.20-0.29
M		**Rolled/forged**									
	P5.0.Z.AN (05.11)	Ferritic/Martensitic, non hardened	1800	150-270	G/1025	G/1025	G/1025	M1	40-110	0.11-0.30	0.20-0.33
	M1.0.Z.AQ (05.21)	Austenitic	1950	150-275	G/1025	G/1025	G/1025	M1	40-110	0.11-0.30	0.20-0.33
	M3.1.Z.AQ (05.51)	Austenitic / ferritic materials (Duplex) non-weldable ≥ 0.05% C	2000	180-290	G/1025	G/1025	G/1025	M1	40-110	0.11-0.25	0.20-0.25
	M3.2.Z.AQ (05.52)	Austenitic / ferritic materials (Duplex) weldable < 0.05% C	2450	200-320	G/1025	G/1025	G/1025	M1	40-90	0.11-0.25	0.20-0.25
K		**Malleable**									
	K1.1.C.NS (07.1)	Ferritic	790	110-145	G/1025	G/1025	G/1025	M1	80-120	0.11-0.29	0.24-0.31
	K1.1.C.NS (07.2)	Pearlitic	900	150-270	G/1025	G/1025	G/1025	M1	80-120	0.11-0.29	0.24-0.31
		Grey									
	K2.1.C.UT (08.1)	Low tensile strength	890	150-220	G/1025	G/1025	G/1025	M1	60-110	0.11-0.29	0.24-0.31
	K2.2.C.UT (08.2)	High tensile strength	1100	200-330	G/1025	G/1025	G/1025	M1	60-110	0.11-0.29	0.24-0.31
		Nodular									
	K3.1.C.UT (09.1)	Ferritic	900	125-230	G/1025	G/1025	G/1025	M1	50-110	0.11-0.29	0.24-0.31
	K3.3.C.UT (09.2)	Pearlitic	1350	200-300	G/1025	G/1025	G/1025	M1	50-110	0.11-0.29	0.24-0.31

Cutting data for CoroDrill® 805

Metric version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	Geometry / Grade Inserts P	I	C	Support pad grade	Cutting speed v_c m/min	Drill diameter, mm 25.00-43.00 Feed f_n mm/r	43.00-65.00
N		**Aluminium alloys**									
	30.11	Wrought or wrought and coldworked, non aging	400	30-100	G/1025	G/1025	G/1025	M1	65-150	0.09-0.25	0.24-0.30
	N1.2.Z.AG (30.12)	Wrought or wrought and aged	650	30-150	G/1025	G/1025	G/1025	M1	65-150	0.09-0.25	0.24-0.30
	N1.3.C.UT (30.21)	Cast non-aging	600	40-100	G/1025	G/1025	G/1025	M1	65-150	0.09-0.25	0.24-0.30
	N1.3.C.AG (30.22)	Cast or cast and aged	700	70-140	G/1025	G/1025	G/1025	M1	65-150	0.09-0.25	0.24-0.30
		Copper and copper alloys									
	N3.3.U.UT (33.1)	Free cutting alloys (Pb > 1%)	550	70-160	G/1025	G/1025	G/1025	M1	65-150	0.09-0.25	0.24-0.30
	N3.2.C.UT (33.2)	Brass and leaded bronzes (Pb ≤ 1%)	550	50-200	G/1025	G/1025	G/1025	M1	65-150	0.09-0.25	0.24-0.30
S		**Iron base**									
	20.11	Annealed or solution treated	2400	180-230	G/1025	G/1025	G/1025	PM1	10-55	0.09-0.22	0.20-0.25
		Nickel base									
	S2.0.Z.AN (20.21)	Annealed or solution treated	2650	140-300	G/1025	G/1025	G/1025	PM1	10-55	0.09-0.22	0.20-0.25
		Cobalt base									
	20.31	Annealed or solution treated	2700	180-230	G/1025	G/1025	G/1025	PM1	10-55	0.09-0.22	0.20-0.25
		Titanium									
	S4.2.Z.AN (23.21)	Alfa- , near Alfa- and Alfa + Beta alloys annealed	1400	Rm[2] 600-1100	G/1025	G/1025	G/1025	PM1	20-40	0.09-0.22	0.20-0.25

Method

1. Make a short pilot hole, min. 12 mm (.472 inch) deep for diameter 25 mm (.984 inch) and min. 20 mm (.787 inch) deep for diameter 65 mm (2.559 inch). To achieve a hole with a close tolerance the diameter of the pilot hole should be of H8, which normally can be achieved by helical interpolation with a solid carbide endmill. If it's not critical with hole tolerance the pilot hole can be drilled with the CoroDrill 880 in corresponding diameter.
2. Feed the CoroDrill 805 into the pilot hole with slow rotation and coolant on.
3. Start rpm and feed movement.

Cutting data for CoroDrill® 805

Inch version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	Geometry / Grade Inserts P	Inserts I	Inserts C	Support pad grade	Cutting speed v_c ft/min	Drill diameter, inch .984-1.693 Feed f_n inch/rev	Drill diameter, inch 1.693-2.559 Feed f_n inch/rev
		Unalloyed steel									
P	P1.1.Z.AN (01.1)	Non-hardened 0.10-0.25% C	216,500	90-200	G/1025	G/1025	G/1025	P1	230-425	.004-.012	.006-.013
	P1.2.Z.AN (01.2)	Non-hardened 0.25-0.55% C	233,000	125-225	G/1025	G/1025	G/1025	P1	230-425	.004-.012	.006-.013
	P1.3.Z.AN (01.3)	Non-hardened 0.55-0.80% C	247,000	150-250	G/1025	G/1025	G/1025	P1	230-425	.004-.012	.006-.013
	P1.3.Z.AN (01.4)	High carbon steel, annealed	260,500	180-275	G/1025	G/1025	G/1025	P1	230-425	.004-.012	.006-.013
		Low alloy steel									
	P2.1.Z.AN (02.1)	Non-hardened	246,500	150-260	G/1025	G/1025	G/1025	P1	230-395	.004-.012	.008-.013
	P2.5.Z.HT (02.2)	Hardened and tempered	278,500	220-450	G/1025	G/1025	G/1025	P1	180-360	.004-.012	.008-.013
		High alloy steel									
	P3.0.Z.AN (03.11)	Annealed	282,000	150-250	G/1025	G/1025	G/1025	P1	230-395	.004-.012	.008-.013
	03.13	Annealed HSS	311,000	150-250	G/1025	G/1025	G/1025	P1	230-395	.004-.012	.008-.013
	P3.0.Z.HT (03.21)	Hardened tool steel	420,000	250-350	G/1025	G/1025	G/1025	P1	180-360	.004-.011	.008-.012
	03.22	Hardened steel, others	448,500	250-450	G/1025	G/1025	G/1025	P1	180-360	.008-.011	.008-.012
		Castings									
	P1.5.C.UT (06.1)	Unalloyed	204,000	90-225	G/1025	G/1025	G/1025	P1	180-360	.004-.012	.008-.013
	P2.6.C.UT (06.2)	Low alloyed (alloying elements < 5%)	230,500	150-250	G/1025	G/1025	G/1025	P1	180-360	.004-.012	.008-.013
	06.32	Stainless austenitic	333,500	150-250	G/1025	G/1025	G/1025	P1	165-330	.004-.010	.008-.011
	06.33	Manganese steel, 12–14% Mn	420,500	200-300	G/1025	G/1025	G/1025	P1	115-280	.004-.010	.008-.011
		Rolled/forged									
M	P5.0.Z.AN (05.11)	Ferritic/Martensitic, non hardened	333,500	150-270	G/1025	G/1025	G/1025	M1	130-360	.004-.012	.008-.013
	M1.0.Z.AQ (05.21)	Austenitic	377,000	150-275	G/1025	G/1025	G/1025	M1	130-360	.004-.012	.008-.013
	M3.1.Z.AQ (05.51)	Austenitic / ferritic materials (Duplex) non-weldable ≥ 0.05% C	377,000	180-290	G/1025	G/1025	G/1025	M1	130-360	.004-.010	.008-.010
	M3.2.Z.AQ (05.52)	Austenitic / ferritic materials (Duplex) weldable < 0.05% C	435,000	200-320	G/1025	G/1025	G/1025	M1	130-295	.004-.010	.008-.010
		Malleable									
K	K1.1.C.NS (07.1)	Ferritic	138,000	110-145	G/1025	G/1025	G/1025	M1	260-395	.004-.011	.009-.012
	K1.1.C.NS (07.2)	Pearlitic	159,500	150-270	G/1025	G/1025	G/1025	M1	260-395	.004-.011	.009-.012
		Grey									
	K2.1.C.UT (08.1)	Low tensile strength	159,500	150-220	G/1025	G/1025	G/1025	M1	195-360	.004-.011	.009-.012
	K2.2.C.UT (08.2)	High tensile strength	187,000	200-330	G/1025	G/1025	G/1025	M1	195-360	.004-.011	.009-.012
		Nodular									
	K3.1.C.UT (09.1)	Ferritic	152,500	125-230	G/1025	G/1025	G/1025	M1	165-360	.004-.011	.009-.012
	K3.3.C.UT (09.2)	Pearlitic	254,000	200-300	G/1025	G/1025	G/1025	M1	165-360	.004-.011	.009-.012

Cutting data for CoroDrill® 805

Inch version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	Geometry / Grade Inserts P	I	C	Support pad grade	Cutting speed v_c ft/min	Drill diameter, inch .984-1.693 Feed f_n inch/rev	1.693-2.559
N		**Aluminium alloys**									
	30.11	Wrought or wrought and coldworked, non aging	58,000	30-100	G/1025	G/1025	G/1025	M1	215-490	.004-.010	.009-.012
	N1.2.Z.AG (30.12)	Wrought or wrought and aged	94,500	30-150	G/1025	G/1025	G/1025	M1	215-490	.004-.010	.009-.012
	N1.3.C.UT (30.21)	Cast non-aging	87,000	40-100	G/1025	G/1025	G/1025	M1	215-490	.004-.010	.009-.012
	N1.3.C.AG (30.22)	Cast or cast and aged	101,500	70-140	G/1025	G/1025	G/1025	M1	215-490	.004-.010	.009-.012
		Copper and copper alloys									
	N3.3.U.UT (33.1)	Free cutting alloys (Pb > 1%)	79,500	70-160	G/1025	G/1025	G/1025	M1	215-490	.004-.010	.009-.012
	N3.2.C.UT (33.2)	Brass and leaded bronzes (Pb ≤ 1%)	80,000	50-200	G/1025	G/1025	G/1025	M1	215-490	.004-.010	.009-.012
S		**Iron base**									
	20.11	Annealed or solution treated	348,000	180-230	G/1025	G/1025	G/1025	PM1	35-180	.004-.009	.008-.010
		Nickel base									
	S2.0.Z.AN (20.21)	Annealed or solution treated	383,000	140-300	G/1025	G/1025	G/1025	PM1	35-180	.004-.009	.008-.010
		Cobalt base									
	20.31	Annealed or solution treated	391,500	180-230	G/1025	G/1025	G/1025	PM1	35-180	.004-.009	.008-.010
		Titanium									
	S4.2.Z.AN (23.21)	Alfa- , near Alfa- and Alfa + Beta alloys annealed	203,000	Rm[2] 600-1100	G/1025	G/1025	G/1025	PM1	65-130	.004-.009	.008-.010

Method

1. Make a short pilot hole, min. 12 mm (.472 inch) deep for diameter 25 mm (.984 inch) and min. 20 mm (.787 inch) deep for diameter 65 mm (2.559 inch). To achieve a hole with a close tolerance the diameter of the pilot hole should be of H8, which normally can be achieved by helical interpolation with a solid carbide endmill. If it's not critical with hole tolerance the pilot hole can be drilled with the CoroDrill 880 in corresponding diameter.
2. Feed the CoroDrill 805 into the pilot hole with slow rotation and coolant on.
3. Start rpm and feed movement.

Cutting data for gun drills 428.9 and 428.2

Metric version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	Cutting speed v_c m/min	Drill diameter, mm 0.98-3.00 Feed f_n mm/r	3.00-6.30	6.00-12.50	12.50-40.50
P		**Unalloyed**							
	P1.1.Z.AN (01.1)	Non-hardened 0.10-0.25% C	1500	90-200	60-120	0.003-0.010	0.005-0.030	0.015-0.055	0.020-0.110
	P1.2.Z.AN (01.2)	Non-hardened 0.25-0.55% C	1600	125-225	50-120	0.003-0.010	0.005-0.030	0.015-0.055	0.020-0.110
	P1.3.Z.AN (01.3)	Non-hardened 0.55-0.80% C	1700	150-250	40-100	0.003-0.010	0.004-0.025	0.010-0.050	0.020-0.100
		Low alloy steel							
	P2.1.Z.AN (02.1)	Non-hardened	1700	150-260	40-120	0.003-0.010	0.004-0.030	0.010-0.055	0.020-0.110
	P2.5.Z.HT (02.2)	Hardened and tempered	1900	220-450	40-120	0.003-0.010	0.004-0.025	0.010-0.050	0.020-0.100
		High alloy steel							
	P3.0.Z.AN (03.11)	Annealed	1950	150-250	40-100	0.003-0.010	0.004-0.025	0.010-0.050	0.020-0.100
	P3.0.Z.HT (03.21)	Hardened tool steel	2900	250-350	50-100	0.003-0.010	0.005-0.025	0.015-0.050	0.030-0.100
		Castings							
	P1.5.C.UT (06.1)	Unalloyed	1400	90-225	50-120	0.003-0.010	0.005-0.030	0.015-0.055	0.020-0.110
	P2.6.C.UT (06.2)	Low alloyed (alloying elements < 5%)	1600	150-250	40-100	0.003-0.010	0.004-0.025	0.010-0.050	0.020-0.100
M		**Rolled/forged**							
	P5.0.Z.AN (5.11)	Ferritic/Martensitic, non hardened	1800	150-270	40-90	0.003-0.008	0.004-0.025	0.010-0.040	0.020-0.100
	M1.0.Z.AQ (05.21)	Austenitic	1950	150-275	40-90	0.003-0.008	0.004-0.025	0.010-0.040	0.020-0.100
K		**Malleable**							
	K1.1.C.NS (07.1)	Ferritic	790	110-145	70-90	0.005-0.010	0.008-0.030	0.020-0.070	0.050-0.190
	K1.1.C.NS (07.2)	Pearlitic	900	150-270	60-90	0.004-0.010	0.005-0.030	0.010-0.070	0.030-0.190
		Grey							
	K2.1.C.UT (08.1)	Low tensile strength	890	150-220	60-90	0.004-0.010	0.008-0.030	0.010-0.070	0.030-0.190
	K2.2.C.UT (08.2)	High tensile strength	1100	200-330	15-90	0.003-0.010	0.003-0.030	0.005-0.070	0.010-0.190
		Nodular							
	K3.1.C.UT (09.1)	Ferritic	900	125-230	70-90	0.005-0.010	0.008-0.030	0.020-0.070	0.050-0.190
	K3.3.C.UT (09.2)	Pearlitic	1350	200-300	60-90	0.004-0.010	0.005-0.030	0.010-0.070	0.030-0.190
N		**Aluminium alloys**							
	N1.3.C.UT (30.21)	Cast, non aging	600	40-100	65-300	0.005-0.015	0.005-0.040	0.020-0.070	0.030-0.150
		Copper and copper alloys							
	N3.3.U.UT (33.1)	Free cutting alloys (Pb > 1%)	550	70-160	65-300	0.005-0.015	0.005-0.040	0.020-0.070	0.030-0.150
	N3.2.C.UT (33.2)	Brass and leaded bronzes (Pb ≤ 1%)	550	50-200	65-300	0.005-0.015	0.005-0.040	0.020-0.070	0.030-0.150
S		**Iron base**							
	20.11	Annealed or solution treated	2400	180-230	10-40	0.003-0.008	0.004-0.025	0.010-0.040	0.020-0.100
		Nickel base							
	S2.0.Z.AN (20.21)	Annealed or solution treated	2650	140-300	10-40	0.003-0.008	0.004-0.025	0.010-0.040	0.020-0.100
		Cobalt base							
	20.31	Annealed or solution treated	2700	180-230	10-40	0.003-0.008	0.004-0.025	0.010-0.040	0.020-0.100
		Titanium							
	S4.2.Z.AN (23.21)	Alfa- , near Alfa- and Alfa + Beta alloys annealed	1400	600-1100	20-50	0.003-0.008	0.004-0.025	0.010-0.040	0.020-0.100

Cutting data for gun drills 428.9 and 428.2

Inch version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	Cutting speed v_c ft/min	Drill diameter, inch .039-.118 Feed f_n inch/rev	.118-.248	.236-.492	.492-1.594
P		**Unalloyed**							
	P1.1.Z.AN (01.1)	Non-hardened 0.10-0.25% C	216,500	90-200	195-395	.0001-.0004	.0002-.0012	.0006-.0022	.0008-.0043
	P1.2.Z.AN (01.2)	Non-hardened 0.25-0.55% C	233,000	125-225	165-395	.0001-.0004	.0002-.0012	.0006-.0022	.0008-.0043
	P1.3.Z.AN (01.3)	Non-hardened 0.55-0.80% C	247,000	150-250	130-330	.0001-.0004	.0002-.0010	.0004-.0020	.0008-.0039
		Low alloy steel							
	P2.1.Z.AN (02.1)	Non-hardened	246,500	150-260	130-395	.0001-.0004	.0002-.0012	.0004-.0022	.0008-.0043
	P2.5.Z.HT (02.2)	Hardened and tempered	278,500	220-450	130-395	.0001-.0004	.0002-.0010	.0004-.0020	.0008-.0039
		High alloy steel							
	P3.0.Z.AN (03.11)	Annealed	282,000	150-250	130-330	.0001-.0004	.0002-.0010	.0004-.0020	.0008-.0039
	P3.0.Z.HT (03.21)	Hardened tool steel	420,000	250-350	165-330	.0001-.0004	.0002-.0010	.0006-.0020	.0012-.0039
		Castings							
	P1.5.C.UT (06.1)	Unalloyed	204,000	90-225	165-395	.0001-.0004	.0002-.0012	.0006-.0022	.0008-.0043
	P2.6.C.UT (06.2)	Low alloyed (alloying elements < 5%)	230,500	150-250	130-330	.0001-.0004	.0002-.0010	.0004-.0020	.0008-.0039
M		**Rolled/forged**							
	P5.0.Z.AN (05.11)	Ferritic/Martensitic, non hardened	262,000	150-270	130-295	.0001-.0003	.0002-.0010	.0004-.0016	.0008-.0039
	M1.0.Z.AQ (05.21)	Austenitic	285,000	150-275	130-295	.0001-.0003	.0002-.0010	.0004-.0016	.0008-.0039
K		**Malleable**							
	K1.1.C.NS (07.1)	Ferritic	115,000	110-145	230-295	.0002-.0004	.0003-.0012	.0008-.0028	.0020-.0075
	K1.1.C.NS (07.2)	Pearlitic	131,000	150-270	195-295	.0002-.0004	.0002-.0012	.0004-.0028	.0012-.0075
		Grey							
	K2.1.C.UT (08.1)	Low tensile strength	130,000	150-220	195-295	.0002-.0004	.0003-.0012	.0004-.0028	.0012-.0075
	K2.2.C.UT (08.2)	High tensile strength	159,500	200-330	50-295	.0001-.0004	.0001-.0012	.0002-.0028	.0004-.0075
		Nodular							
	K3.1.C.UT (09.1)	Ferritic	130,000	125-230	230-295	.0002-.0004	.0003-.0012	.0008-.0028	.0020-.0075
	K3.3.C.UT (09.2)	Pearlitic	194,500	200-300	195-295	.0002-.0004	.0002-.0012	.0004-.0028	.0012-.0075
N		**Aluminium alloys**							
	N1.3.C.UT (30.21)	Cast, non aging	87,000	40-100	65-300	.0002-.0006	.0002-.0016	.0008-.0028	.0012-.0059
		Copper and copper alloys							
	N3.3.U.UT (33.1)	Free cutting alloys (Pb > 1%)	79,500	70-160	65-300	.0002-.0006	.0002-.0016	.0008-.0028	.0012-.0059
	N3.2.C.UT (33.2)	Brass and leaded bronzes (Pb ≤ 1%)	80,000	50-200	65-300	.0002-.0006	.0002-.0016	.0008-.0028	.0012-.0059
S		**Iron base**							
	20.11	Annealed or solution treated	348,000	180-230	35-130	.0001-.0003	.0002-.0010	.0004-.0016	.0008-.0039
		Nickel base							
	S2.0.Z.AN (20.21)	Annealed or solution treated	383,000	140-300	35-130	.0001-.0003	.0002-.0010	.0004-.0016	.0008-.0039
		Cobalt base							
	20.31	Annealed or solution treated	391,500	180-230	35-130	.0001-.0003	.0002-.0010	.0004-.0016	.0008-.0039
		Titanium							
	S4.2.Z.AN (23.21)	Alfa- , near Alfa- and Alfa + Beta alloys annealed	203,000	600-1100	65-165	.0001-.0003	.0002-.0010	.0004-.0016	.0008-.0039

Cutting data for solid carbide gun drills 428.5

Metric version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	Cutting speed v_c m/min	Drill diameter, mm 0.98-3.00 Feed f_n mm/r	3.00-6.30	6.00-12.00
P		**Unalloyed steel**						
	P1.1.Z.AN (01.1)	Non-hardened 0.10-0.25% C	1500	90-200	40-60	0.003-0.010	0.005-0.030	0.015-0.055
	P1.2.Z.AN (01.2)	Non-hardened 0.25-0.55% C	1600	125-225	35-60	0.003-0.010	0.005-0.030	0.015-0.055
	P1.3.Z.AN (01.3)	Non-hardened 0.55-0.80% C	1700	150-250	25-50	0.003-0.010	0.004-0.025	0.010-0.050
		Low alloy steel						
	P2.1.Z.AN (02.1)	Non-hardened	1700	150-260	25-60	0.003-0.010	0.004-0.030	0.010-0.055
	P2.5.Z.HT (02.2)	Hardened and tempered	1900	220-450	25-60	0.003-0.010	0.004-0.025	0.010-0.050
		High alloy steel						
	P3.0.Z.AN (03.11)	Annealed	1950	150-250	25-50	0.003-0.010	0.004-0.025	0.010-0.050
	P3.0.Z.HT (03.21)	Hardened tool steel	2900	250-350	35-50	0.003-0.010	0.005-0.025	0.015-0.050
		Steel castings						
	P1.5.C.UT (06.1)	Unalloyed	1400	90-225	35-60	0.003-0.010	0.005-0.030	0.015-0.055
	P2.6.C.UT (06.2)	Low alloyed (alloying elements < 5%)	1600	150-250	25-50	0.003-0.010	0.004-0.025	0.010-0.050
K		**Malleable cast iron**						
	K1.1.C.NS (07.1)	Ferritic	790	110-145	70-90	0.005-0.010	0.008-0.030	0.020-0.070
	K1.1.C.NS (07.2)	Pearlitic	900	150-270	60-90	0.004-0.010	0.005-0.030	0.010-0.070
		Grey cast iron						
	K2.1.C.UT (08.1)	Low tensile strength	890	150-220	70-100	0.004-0.010	0.008-0.030	0.010-0.070
	K2.2.C.UT (08.2)	High tensile strength	1100	200-330	60-90	0.003-0.010	0.003-0.030	0.005-0.070
		Nodular cast iron						
	K3.1.C.UT (09.1)	Ferritic	900	125-230	70-90	0.005-0.010	0.008-0.030	0.020-0.070
	K3.3.C.UT (09.2)	Pearlitic	1350	200-300	60-90	0.004-0.010	0.005-0.030	0.010-0.070
N		**Aluminium alloys**						
	N1.3.C.UT (30.21)	Cast, non aging	600	40-100	100-300	0.005-0.015	0.005-0.040	0.020-0.070
		Copper and copper alloys						
	N3.3.U.UT (33.1)	Free cutting alloys (Pb > 1%)	550	70-160	80-150	0.005-0.015	0.005-0.040	0.020-0.070
	N3.2.C.UT (33.2)	Brass and leaded bronzes (Pb ≤ 1%)	550	50-200	80-150	0.005-0.015	0.005-0.040	0.020-0.070

Cutting data for solid carbide gun drills 428.5

Inch version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	Cutting speed v_c ft/min	Drill diameter, inch .039-.118 Feed f_n inch/rev	.118-.248 Feed f_n inch/rev	.236-.472 Feed f_n inch/rev
P		**Unalloyed steel**						
	P1.1.Z.AN (01.1)	Non-hardened 0.10-0.25% C	216,500	90-200	130-195	.0001-.0004	.0002-.0012	.0006-.0022
	P1.2.Z.AN (01.2)	Non-hardened 0.25-0.55% C	233,000	125-225	115-195	.0001-.0004	.0002-.0012	.0006-.0022
	P1.3.Z.AN (01.3)	Non-hardened 0.55-0.80% C	247,000	150-250	80-165	.0001-.0004	.0002-.0010	.0004-.0020
		Low alloy steel						
	P2.1.Z.AN (02.1)	Non-hardened	246,500	150-260	80-195	.0001-.0004	.0002-.0012	.0004-.0022
	P2.5.Z.HT (02.2)	Hardened and tempered	278,500	220-450	80-195	.0001-.0004	.0002-.0010	.0004-.0020
		High alloy steel						
	P3.0.Z.AN (03.11)	Annealed	282,000	150-250	80-165	.0001-.0004	.0002-.0010	.0004-.0020
	P3.0.Z.HT (03.21)	Hardened tool steel	420,000	250-350	115-165	.0001-.0004	.0002-.0010	.0006-.0020
		Steel castings						
	P1.5.C.UT (06.1)	Unalloyed	204,000	90-225	115-195	.0001-.0004	.0002-.0012	.0006-.0022
	P2.6.C.UT (06.2)	Low alloyed (alloying elements < 5%)	230,500	150-250	80-165	.0001-.0004	.0002-.0010	.0004-.0020
K		**Malleable cast iron**						
	K1.1.C.NS (07.1)	Ferritic	115,000	110-145	230-295	.0002-.0004	.0003-.0012	.0008-.0028
	K1.1.C.NS (07.2)	Pearlitic	131,000	150-270	195-295	.0002-.0004	.0002-.0012	.0004-.0028
		Grey cast iron						
	K2.1.C.UT (08.1)	Low tensile strength	130,000	150-220	230-330	.0002-.0004	.0003-.0012	.0004-.0028
	K2.2.C.UT (08.2)	High tensile strength	159,500	200-330	195-295	.0001-.0004	.0001-.0012	.0002-.0028
		Nodular cast iron						
	K3.1.C.UT (09.1)	Ferritic	130,000	125-230	230-295	.0002-.0004	.0003-.0012	.0008-.0028
	K3.3.C.UT (09.2)	Pearlitic	194,500	200-300	195-295	.0002-.0004	.0002-.0012	.0004-.0028
N		**Aluminium alloys**						
	N1.3.C.UT (30.21)	Cast, non aging	87,000	40-100	330-985	.0002-.0006	.0002-.0016	.0008-.0028
		Copper and copper alloys						
	N3.3.U.UT (33.1)	Free cutting alloys (Pb > 1%)	79,500	70-160	260-490	.0002-.0006	.0002-.0016	.0008-.0028
	N3.2.C.UT (33.2)	Brass and leaded bronzes (Pb ≤ 1%)	80,000	50-200	260-490	.0002-.0006	.0002-.0016	.0008-.0028

Cutting data for high feed gun drills 428.7

Metric version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	Cutting speed v_c m/min	Drill diameter, mm 3.00-6.30 Feed f_n mm/r	Drill diameter, mm 6.00-12.00 Feed f_n mm/r
P		**Unalloyed steel**					
	P1.1.Z.AN (01.1)	Non-hardened 0.10-0.25% C	1500	90-200	40-60	0.025-0.150	0.075-0.275
	P1.2.Z.AN (01.2)	Non-hardened 0.25-0.55% C	1600	125-225	35-60	0.025-0.150	0.075-0.275
	P1.3.Z.AN (01.3)	Non-hardened 0.55-0.80% C	1700	150-250	25-50	0.020-0.125	0.050-0.250
		Low alloy steel					
	P2.1.Z.AN (02.1)	Non-hardened	1700	150-260	25-60	0.020-0.150	0.050-0.275
	P2.5.Z.HT (02.2)	Hardened and tempered	1900	220-450	25-60	0.020-0.125	0.050-0.250
		High alloy steel					
	P3.0.Z.AN (03.11)	Annealed	1950	150-250	25-50	0.020-0.125	0.050-0.250
	P3.0.Z.HT (03.21)	Hardened tool steel	2900	250-350	35-50	0.025-0.125	0.075-0.250
		Steel castings					
	P1.5.C.UT (06.1)	Unalloyed	1400	90-225	35-60	0.025-0.150	0.075-0.275
	P2.6.C.UT (06.2)	Low alloyed (alloying elements < 5%)	1600	150-250	25-50	0.020-0.125	0.050-0.250
K		**Malleable cast iron**					
	K1.1.C.NS (07.1)	Ferritic	790	110-145	70-90	0.040-0.150	0.100-0.350
	K1.1.C.NS (07.2)	Pearlitic	900	150-270	60-90	0.025-0.150	0.050-0.350
		Grey cast iron					
	K2.1.C.UT (08.1)	Low tensile strength	890	150-220	70-100	0.040-0.150	0.050-0.350
	K2.2.C.UT (08.2)	High tensile strength	1100	200-330	60-90	0.015-0.150	0.025-0.350
		Nodular cast iron					
	K3.1.C.UT (09.1)	Ferritic	900	125-230	70-90	0.040-0.150	0.100-0.350
	K3.3.C.UT (09.2)	Pearlitic	1350	200-300	60-90	0.025-0.150	0.050-0.350
N		**Aluminium alloys**					
	N1.3.C.UT (30.21)	Cast, non aging	600	40-100	100-300	0.025-0.200	0.100-0.350
		Copper and copper alloys					
	N3.3.U.UT (33.1)	Free cutting alloys (Pb > 1%)	550	70-160	80-150	0.025-0.200	0.100-0.350
	N3.2.C.UT (33.2)	Brass and leaded bronzes (Pb ≤ 1%)	550	50-200	80-150	0.025-0.200	0.100-0.350

Cutting data for high feed gun drills 428.7

Inch version

ISO	MC No. (CMC No.)	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	Cutting speed v_c ft/min	Drill diameter, inch .118-.248 Feed f_n inch/rev	Drill diameter, inch .236-.472 Feed f_n inch/rev
P		**Unalloyed steel**					
	P1.1.Z.AN (01.1)	Non-hardened 0.10-0.25% C	216,500	90-200	130-195	.0010-.0059	.0030-.0108
	P1.2.Z.AN (01.2)	Non-hardened 0.25-0.55% C	233,000	125-225	115-195	.0010-.0059	.0030-.0108
	P1.3.Z.AN (01.3)	Non-hardened 0.55-0.80% C	247,000	150-250	80-165	.0010-.0049	.0020-.0098
		Low alloy steel					
	P2.1.Z.AN (02.1)	Non-hardened	246,500	150-260	80-195	.0010-.0059	.0020-.0108
	P2.5.Z.HT (02.2)	Hardened and tempered	278,500	220-450	80-195	.0010-.0049	.0020-.0098
		High alloy steel					
	P3.0.Z.AN (03.11)	Annealed	282,000	150-250	80-165	.0010-.0049	.0020-.0098
	P3.0.Z.HT (03.21)	Hardened tool steel	420,000	250-350	115-165	.0010-.0049	.0030-.0098
		Steel castings					
	P1.5.C.UT (06.1)	Unalloyed	204,000	90-225	115-195	.0010-.0059	.0030-.0108
	P2.6.C.UT (06.2)	Low alloyed (alloying elements < 5%)	230,500	150-250	80-165	.0010-.0049	.0020-.0098
K		**Malleable cast iron**					
	K1.1.C.NS (07.1)	Ferritic	115,000	110-145	230-295	.0016-.0059	.0039-.0138
	K1.1.C.NS (07.2)	Pearlitic	131,000	150-270	195-295	.0010-.0059	.0039-.0138
		Grey cast iron					
	K2.1.C.UT (08.1)	Low tensile strength	130,000	150-220	230-330	.0016-.0059	.0020-.0138
	K2.2.C.UT (08.2)	High tensile strength	159,500	200-330	195-295	.0006-.0059	.0010-.0138
		Nodular cast iron					
	K3.1.C.UT (09.1)	Ferritic	130,000	125-230	230-295	.0016-.0059	.0039-.0138
	K3.3.C.UT (09.2)	Pearlitic	194,500	200-300	195-295	.0010-.0059	.0020-.0138
N		**Aluminium alloys**					
	N1.3.C.UT (30.21)	Cast, non aging	87,000	40-100	330-985	.0010-.0079	.0039-.0138
		Copper and copper alloys					
	N3.3.U.UT (33.1)	Free cutting alloys (Pb > 1%)	79,500	70-160	260-490	.0010-.0079	.0039-.0138
	N3.2.C.UT (33.2)	Brass and leaded bronzes (Pb ≤ 1%)	80,000	50-200	260-490	.0010-.0079	.0039-.0138

