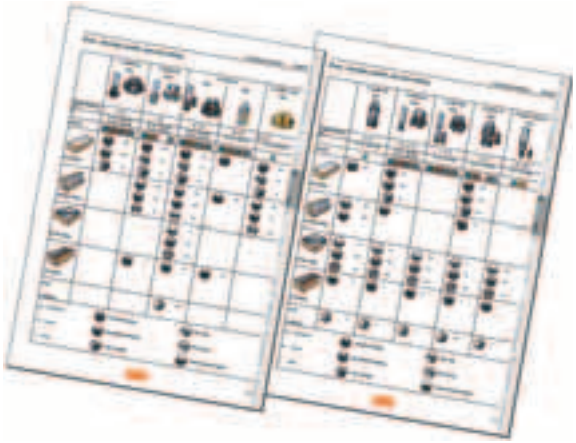
How to choose your milling tool



1 Define your type of operation

Identify your type of operation:
- Face milling
- Shoulder milling
- Profile milling
- Slot milling

Select your tool.
See page D6.

2 Define your material

Define your material according to ISO:

- **P** Steel (P)
- **M** Stainless steel (M)
- **K** Cast iron (K)
- **N** Aluminum (N)
- **S** Heat resistant and titanium alloy (S)
- **H** Hardened material (H)

See Material Cross Reference list in chapter I.

3 Select your milling cutter

Choose cutter pitch and mounting.
Use a close pitch cutter as first choice.

Use a coarse pitch cutter for long overhang and unstable conditions.
Use an extra close pitch cutter for short chipping materials and super alloys.

Choose a mounting type.

4 Select your insert

Choose the insert geometry for your operation:

Geometry L = Light
For light cuts when low forces / power are required

Geometry M = Medium
First choice for mixed production

Geometry H = Heavy
For rough operations, forging, cast skin and vibrations

Select insert grade for optimum productivity.

5 Define your start values

Cutting speeds and feeds for different materials are given on the insert dispensers and in the tables on page D334.

The values should be optimized according to machine and conditions!

For more technical information, see our Metalcutting Technical guide

Cutters
Inserts
GC Grade descriptions
Tailor Made options
Solid end mills
Spare parts/ accessories
Cutting data
Tooling systems
How to choose tool, overview
Cutting data, feed recommendations

MILLING

Applications

Face and shoulder milling D4
Profile milling D5
Slot milling D5

Products

Tool overview D6
Insert overview D14

90° shoulder mill
CoroMill® 490, small cutting depth D17
CoroMill® 390, deep and shallow shoulder milling D25
CoroMill® 290, roughing D47
CoroMill® Century, high speed machining D51
CoroMill® 790, router for non ferrous material D61
CoroMill® 690, long edge D67
Sandvik AUTO-FS - finishing D315
CoroMill® 331, multi-perpouse side and facemill D140
CoroMill 329, side and face mill D169

75° - 45° face mill
Sandvik AUTO-AF - finishing D311
CoroMill® 365, roughing of cast iron and steel D98
CoroMill 360, heavy duty face mill D105
CoroMill 345, face milling D83
CoroMill® 245, light cutting D90
Sandvik AUTO – Roughing D308
T-Max 45, heavy duty face mill D300

10° face and plunge cutter
CoroMill® 210, high productive roughing D75

Profiling milling cutters
CoroMill® 300, light cutting semi finishing D110
CoroMill® 200, roughing D122
CoroMill® Ball Nose, semi finishing end mill D128
CoroMill® Ball Nose Finishing, high finishing end mill D135

Internal grooving and threading cutter
CoroMill® 327, from 10 mm hole D176
CoroMill® 328, from 39 mm hole D194
CoroMill 325, thread whirling cutter D187

Solid carbide end mills
CoroMill 326, threading and chamfering D192
CoroMill® Plura, finishing to roughing D229
CoroMill® Plura with iLock D289
CoroMill® Plura, thread milling D295

Other cutters
CoroMill® 316 exchangeable heads with EH interface D211
CoroMill 170, gear cutter D199
CoroMill® 176, Gear cutter D206
Coromant Plunge Cutter D81
Coromant Finishing Long Edge Cutter D73
U-Max® drilling end mill D303
U-Max® chamfering end mill D305
AUTO cylinder boring cutter D318
T-MAX Q-cutter D173

ISO inserts D322

Cutting data D328

Grade information D356

Face milling

General face milling
CoroMill 345 Page D83
CoroMill 245 Page D90
CoroMill 490 Page D17
CoroMill 390® Page D25
CoroMill 200 Page D122
CoroMill 300 Page D110

Aluminium milling
CoroMill Century Page D51

High feed milling
CoroMill 210 Page D75
CoroMill Plura Page D229
CoroMill 200 Page D122
CoroMill 300 Page D110

Shoulder milling

Deep shoulder milling
CoroMill 390® Page D25
CoroMill 210 Page D75

Face and shoulder milling
CoroMill 490 Page D17
CoroMill 390® Page D25
CoroMill 331 Page D140
CoroMill Century Page D51

Shoulder milling
CoroMill 690 Page D67
CoroMill 316 Page D211
CoroMill 390® Page D25

Profile milling

Roughing/semi - finishing

CoroMill 200	Page D122
CoroMill 300	Page D110
CoroMill 316	Page D211
CoroMill Plura	Page D229

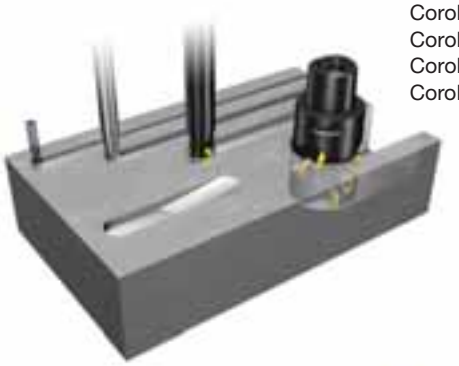
Finishing

CoroMill Ball Nose finishing	Page D135
CoroMill 316	Page D211
CoroMill Plura	Page D229

Roughing/semi - finishing

CoroMill 200	Page D122
CoroMill 300	Page D110
CoroMill 316	Page D211
CoroMill Plura	Page D229
CoroMill Ball nose	Page D128

Slot– and thread milling



Slot milling

CoroMill 390®	Page D27
CoroMill 690	Page D67
CoroMill 316	Page D211
CoroMill Plura	Page D229
CoroMill® 325	Page D187

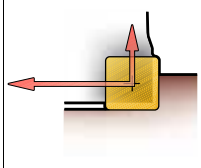
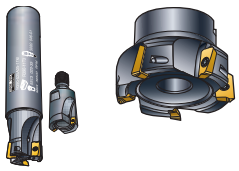
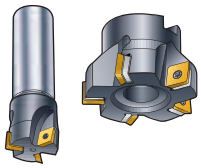
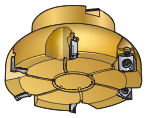
Thread milling

CoroMill 328	Page D194
CoroMill 327	Page D176
CoroMill® 326	Page D192
CoroMill Plura	Page D295
CoroMill® 325	Page D187

Side and face milling

CoroMill 331	Page D140
CoroMill 329	Page D169
CoroMill 328	Page D194
CoroMill 327	Page D176
CoroMill® 326	Page D192
T-MAX Q-Cutter	Page D173

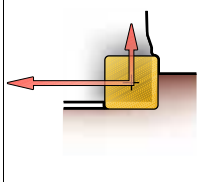
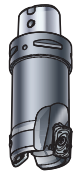
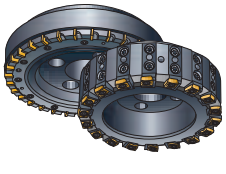
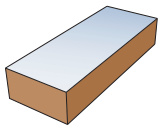
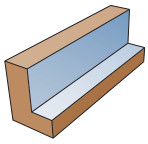
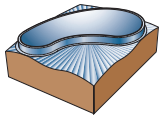
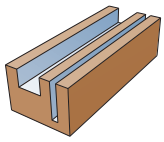
90˚ shoulder milling cutters

	CoroMill® 490	CoroMill® 390		CoroMill® 290	CoroMill® Century
	Page D17	Page D25	Page D27	Page D47	Page D51
					
Cutting depth (a_p), mm inch	5.5 - 10.0 .216 - .394	10 - 15.7 .394 - .618	36 - 85 1.420 - 3.900	10.7 .421	2 - 10 .079 - .394
D_c mm D_c inch	20 - 250 .750 - 10.000	12 - 200 .500 - 8.000	32 - 200 1.250 - 4.000	40 - 250 2.000 - 10.000	40 - 200 2.000 - 8.000
Material	P M K N S H	P M K N S H	P M K N S H	P M K N S H	P K N H
Face milling	••• / •• / ••	••• / •• / ••	•	••• / •• / •	••• / •• / •
Shoulder milling	••• / ••• / •••	••• / ••• / •••	••• / •••	••• / •• / ••	••• / •• / •••
Profile milling		• / ••• / •••			
Slot milling	••	••	••	•	
Others		•••			

••• = Very good
•• = Good
• = Fair

General face milling
Thin walls
Ramping
Helical interpolation
Profiling
Edging / contouring
Axial / plunge milling
Slotting
Long overhang
General shoulder milling
Repeated shoulder milling

90˚ shoulder milling cutters

	CoroMill® 790 Page D61	CoroMill® 690 Page D67	Coromant Finishing Long Edge Cutter Page D73	AUTO-FS Page D315
				
Cutting depth (a_p), mm inch	12, 18 .472 - .709	53 - 112 2.087 - 4.409	100 - 150 4.000 - 6.000	1 - 8 .008 - .315
D_c mm D_c inch	25 - 100 1.000 - 5.000	40 - 100 1.500 - 4.000	50 - 80 2.000 - 3.000	125 - 500 4.921 - 19.685
Material	P M N S H	S	P M N S H	P K N S H
 Face milling	••	•	•	••• •••
 Shoulder milling	••• •••	•••	•••	•••
 Profile milling	•• ••• •••			
 Slot milling	••	••	••	
Others	•			

Repeated shoulder milling

Deep slotting

Ramping

General shoulder milling

Slotting

Axial / plunge milling

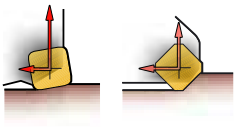
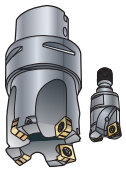
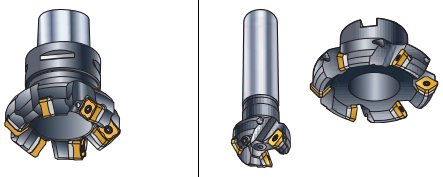
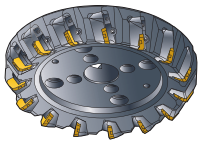
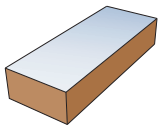
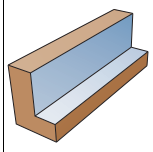
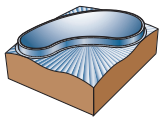
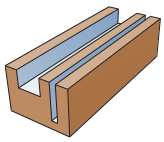
Helical interpolation

General face milling

Profiling

Intermittent machining

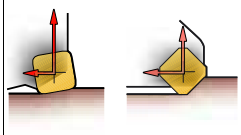
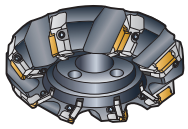
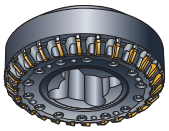
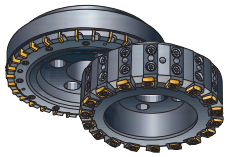
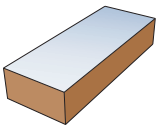
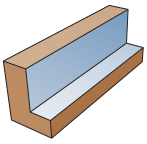
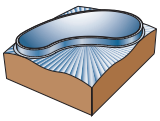
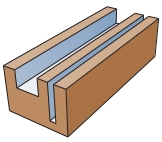
10˚-75˚ face and plunge milling cutters

	CoroMill® 210 Page D75	CoroMill® 345 Page D83	CoroMill® 245 Page D90	CoroMill® 360 Page D105
				
Cutting depth (a_p), mm inch	1.2 - 2 .047 - .079	6 .236	6 - 10 .240 - .394	13 / 18 .512 / .709
D_c mm D_c inch	25 - 160 1.000 - 6.000	40 - 250 1.500-10.000	32 - 250 1.250 - 10.000	160 - 500 6.000 - 20.000
Material	P M K S H	P M K N S H	P M K N S H	P M K S
 Face milling	••• ••• •••	••• ••• •••	••• ••• ••	••• ••• •
 Shoulder milling	••			
 Profile milling	• •• •••			
 Slot milling	•			
Others Continued ...	••			

••• = Very good
•• = Good
• = Fair

General face milling
Ramping
Intermittent machining
Helical interpolation
Profiling
Axial / plunge milling
Slotting
Long overhang
Repeated shoulder milling

10˚-75˚ face and plunge milling cutters

	CoroMill® 365 Page D98	T-MAX 45 Page D300	AUTO-R Page D308	AUTO-AF Page D311
				
Cutting depth (a_p), mm inch	6 .236	12 .472	6 .236	1 - 8 .008 - .315
D_c mm D_c inch	40 - 250 1.500 - 10.000	100 - 400 3.937 - 15.748	125 - 500 3.150 - 19.685	80 - 500 3.150 - 9.843
Material	P K H	P M K N S H	P K N S H	P K N S H
 Face milling	••• / ••	•• / •••	•• / ••	••• / •••
 Shoulder milling				•••
 Profile milling				
 Slot milling				
Others				

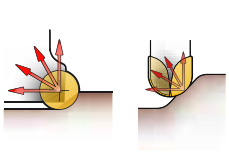
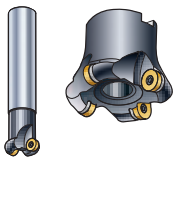
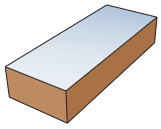
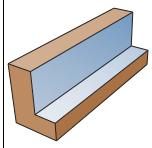
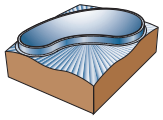
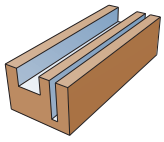
••• = Very good
•• = Good
• = Fair

General face milling

Intermittent machining

General shoulder milling

Round insert and Ball Nose cutters

	CoroMill® 200 Page D122	CoroMill® 300 Page D110	CoroMill® Ball Nose Page D128	CoroMill® Ball Nose Finishing Page D135
				
Cutting depth (a_p), mm	5 - 10	0.7 - 10	8.6 - 44.6	1.2 - 4.8
inch	.187 - .375	.027 - .500	.310 - 1.791	.047 - .188
D_c mm D_c inch	25 - 160 1.000 - 10.000	10 - 200 .375 - 8.000	10 - 50 .375 - 2.000	8 - 32 .312 - 1.250
Material	P M K N S H	P M K N S H	P M K N S H	P M K H
 Face milling	•• ••• ••	•• ••• ••		
 Shoulder milling	•	•		
 Profile milling	•• ••• •••	••• ••• •••	••• ••• •••	••• • •
 Slot milling	•	••	•	•
Others	•	•	•	•

••• = Very good
•• = Good
• = Fair

General face milling

Ramping

Intermittent machining

Helical interpolation

Profiling

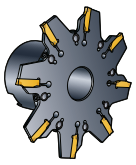
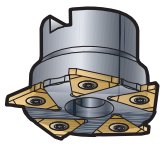
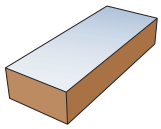
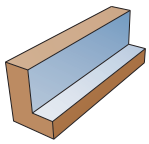
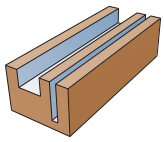
Axial / plunge milling

Slotting

Long overhang

Repeated shoulder milling

Slot, groove, side/face and thread milling cutters

	CoroMill® 331		CoroMill® 329	CoroMill® 327	CoroMill® 328	T-MAX® Q-cutter
	Page D140 Adjustable	Page D160 Fixed pockets	Page D169	Page D176	Page D194	Page D173
						
Cutting depth (a_p), mm inch	6 - 33.8 .236 - 1.643	6 - 10 .250 - .500	15 / 18 .591 / .709	1.5 - 10.0 .059 - .394	1.3 - 5.15 .051 - .203	2 - 6 .084 - .243
D_c mm D_c inch	80 - 315 3.150 - 12.000	40 - 125 1.500 - 3.000	100 - 160 4.000 - 5.000	9.7 - 34.7 .382 - 1.366	39 - 80 1.535 - 2.480	80 - 315 3.000 - 12.000
Material	P M K N S H		P M K N S	P M K N S	P M K N S	P M K N S
 Face milling	•• •• •••	•• •• •••				
 Shoulder milling	•• •••	•• •••				
 Slot milling	••• •••	••• •••	••• •••	••• •••	••• •••	•••
Others	••	••		••• ••• •••	••• ••• •••	

Continued ...

••• = Very good
•• = Good
• = Fair

General face milling

Ramping

Deep shoulder milling

Helical interpolation

Back shoulder milling

Axial / plunge milling

Threading outside

Slotting

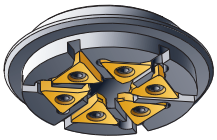
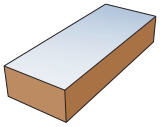
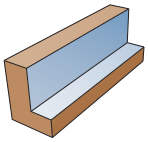
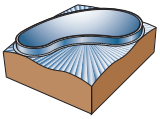
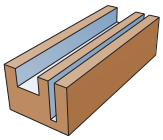
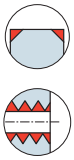
Deep slotting

Thin walls

Threading inside

Chamfering

Cutters for different applications

	Solid end mill CoroMill® 326	Thread milling CoroMill® 325	Gear milling cutters CoroMill® 170	Gear milling cutters CoroMill® 176
	Page D192	Page D187	Page D199	Page D206
				
Cutting depth (a_p), mm inch	0.6 - 1.2 .024 - .047			
D_c mm D_c inch	6 - 8 .236 - .315	12 - 20 .472 - .472	210 - 500 8.268 - 19.685	90 - 210 3.543 - 8.268
Material	P M K N S	M N S	P	P
 Face milling				
 Shoulder milling				
 Profile milling				
 Slot milling				
Others	 ••• •••	•••	•••	•••

••• = Very good
•• = Good
• = Fair

Gear milling

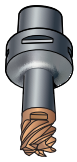
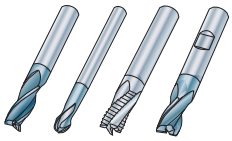
Chamfering

Threading outside

Threading inside

SANDVIK Coromant

Cutters for different applications

	Exchangeable head CoroMill® 316 Page D211	**Solid end mill CoroMill® Plura** Page D229	**Solid end mill** **CoroMill® Plura with iLock** Page D289	**Solid end mill** **CoroMill® Plura, thread mill** Page D295
				
Cutting depth (a_p), mm inch	0.7 - 13.5 .024 - .551	0.1 - 90 .004 - 3.543	19 - 54 .748 - 2.126	8.4 - 50 .453 - 1.250
D_c mm D_c inch	10 - 25 .375 - 1.000	0.4 - 25 .016 - .984	12 - 25 .630 - .984	3.2 - 19 .311-.5551
Material	P M K N S	P M K N S H	S	P M K N S H
Face milling	••• ••• •••	••• •••	••• •••	
Shoulder milling	••• ••• ••• •••	••• ••• ••• •••	••• ••• ••• •••	
Profile milling	••• ••• •••	••• ••• •••		
Slot milling	••• •••	••• •••	••• •••	
Others	••• •••	••• •••		•••

••• = Very good
•• = Good
• = Fair

Peck drilling

Ramping

Threading

Helical interpolation

Back shoulder milling

Profiling

Chamfering

Slotting

Deep slotting

Deep shoulder milling

General shoulder milling

Long overhang

Face milling

Thin walls

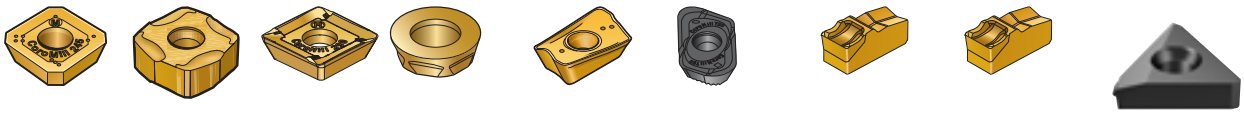
Repeated shoulder milling

Inserts for milling

CoroMill®

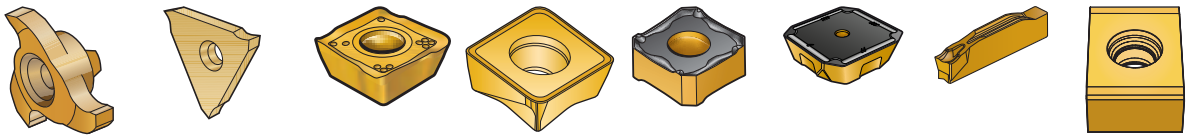
	APMT	R/L331.1A	N331.1A	N331.1D	R/L590	RCHT	RCKT	R210	R216	R216F
Page	D132	D163	D162	D166	D57	D125	D125	D78	D132	D138

CoroMill® **T-MAX Q-cutter**



	R245	R/L 365	R290	R300	R390	R790	N151.2	330.20	325R
Page	D95	D102	D50	D117	D42	D65	D175	D175	D190

CoroMill®

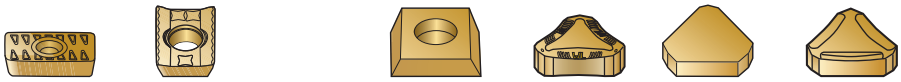


	327	328	490	690	345	360	329	170
Page	D180	D197	D23	D72	D88	D109	D172	D202

CoroMill® **U-Max®** **T-MAX® 45** **AUTO**

	176	R216.2	LNCX	SPMT	N260.8	SBEN	SBEX	SDKX/SDMX
Page	D208	D304	D304	D305	D313	D316	D316	D318

Plunge cutter **Long edge cutter** **AUTO**



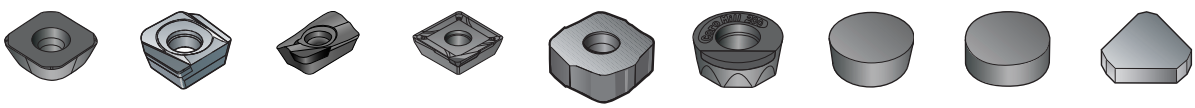
	LPMH	LDHT/LEHT	SDMX	TNEF	TNEN	TNHF
Page	D82	D74	D318	D309	D309	D309

Inserts for other cutters

	BPKX	HNGX	SEER/SEKR	SMKR	SEKN/SEMN	SNKN	SPEX	SPKN	TPKN	TPKR
Page	D324	D322	D322	D323	D322	D323	D323	D323	D324	D324

Inserts for advanced materials

CoroMill® **Inserts for other cutters**



	R245	R/L590	R390	R290	N365	RCHT	RPGN	RNGN	TNCN
Page	D96	D57	D44	D50	D102	D127	D324	D324	D309

General code key for CoroMill inserts

R	390	–	11	T3	12	M	–	P	L	W
1	2		3	4	5	6		7	8	9

1 Hand of insert

R = Right hand
L = Left hand

2 Main code

E.g.: 390= CoroMill® 390

3 Insert width

E.g.: 11=11 mm (.669 inch)

4 Insert thickness, *s* mm

E.g.: T3 s = 3.97

04 s = 4.76

06 s = 6.33

5 Corner radius

E.g.: 12 = 1.2 mm

6 Edge performance

M = Highest edge security
E = Highest sharpness and precision
H = High edge sharpness and high precision
K = High cutting sharpness

7 Main ISO application area

P M K N S H

8 Operation

L = Light cutting
M = Medium
H = Heavy
T = Turn milling

9 Wiper

W = Wiper

General code key for CoroMill cutter

R	A	390	–	063	Q	22	L	–	11	M	050
1	2	3		4	5	6	7		8	9	10

1 Style

R = Right hand rotating

2 Performance

A = Inch

3 Main code

E.g.: 390 = CoroMill® 390

4 Cutting diameter

E.g.: 063 = 63 mm

5 Type of coupling

A = Cylindrical, mm
B = Weldon mm
C = Coromant Capto
D = Cylindrical inch
J = CIS arbor mounting
M = Weldon, inch
N = Whistle Notch inch
Q = Arbor mounting mm
O = Cylindrical inch
R = Arbor mounting inch
T = Threaded coupling
W = Whistle Notch mm
HA= HSK form A

6 Coupling size

22 = 22 mm

7 Extra long

L = Extra long

8 Insert size

11 = 11 mm (la)

9 Pitch

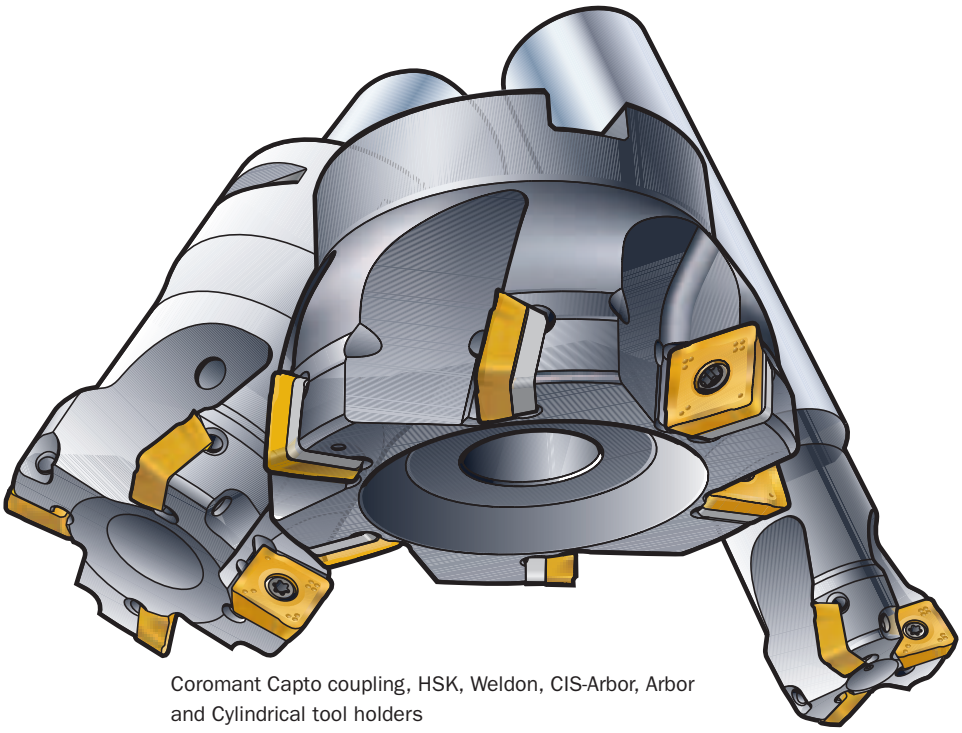
L = Coarse pitch
M = Close pitch
H = Extra close pitch

10 Length, l_1

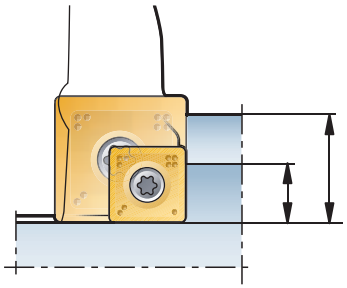
E.g.: 050 = 50 mm

CoroMill® 490

New generation face and shoulder mill
Diameter 20 - 250 mm (.750 - 10.000 inch)



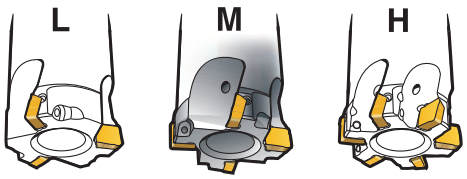
Coromant Capto coupling, HSK, Weldon, CIS-Arbor, Arbor and Cylindrical tool holders



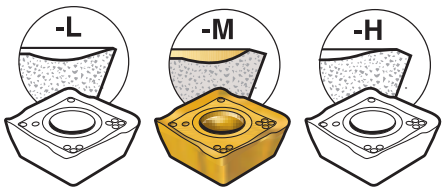
Insert size 08
Max depth 5.5 mm (.216 inch)
Recommended 4 mm (.157 inch)

Insert size 14
Max depth 10 mm (.394 inch)
Recommended 7 mm (.276 inch)

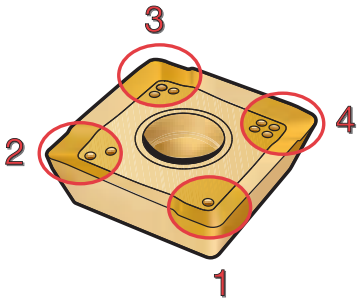
Through coolant:
Insert size 14, 40-125 mm (1.575-5.000 inch)
Insert size 08, 20-50 mm (.750-2.000 inch)



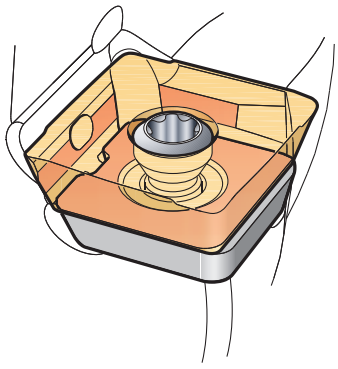
Three different cutter pitches with differential pitch



Insert chip breaker geometry



Four true edges



Secure insert location

Tailor Made

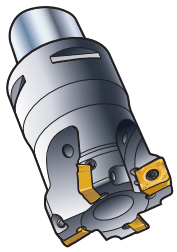
Download the Tailor Made Tool Selection Guide in PDF-format at
www.sandvik.coromant.com

ISO application areas:

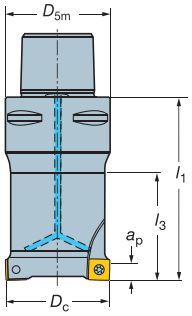
P M K N S H

End mill and square shoulder face mill

Diameter 20 - 84 mm



Coromant Capto®



$\kappa_r = 90°$

Insert size, mm
8, 14

l_1 = programming length

Metric version

		Ordering code										Coolant[1]	Dimensions, mm					
	D_c mm	Coarse pitch			Close pitch			Extra close pitch						D_{5m}	l_1	l_3	Max a_p	n_{max}
		Coromant Capto																
08	20	490-020C3-08L	2	-	-	-	-	-	-	-		1	0.2	32	80	40	5.5	48500
		490-020C4-08L	2	-	-	-	-	-	-	-		1	0.4	40	70	40	5.5	39000
		490-020C5-08L	2	-	-	-	-	-	-	-		1	0.6	50	75	40	5.5	28000
		490-020C6-08L	2	-	-	-	-	-	-	-		1	1.0	63	80	40	5.5	20000
	25	-	-	-	490-025C3-08M	3	-	-	-	-		1	0.3	32	80	60	5.5	40400
		-	-	-	490-025C4-08M	3	-	-	-	-		1	0.4	40	70	45	5.5	39000
		-	-	-	490-025C5-08M	3	-	-	-	-		1	0.6	50	75	50	5.5	28000
		-	-	-	490-025C6-08M	3	-	-	-	-		1	1.0	63	80	53	5.5	20000
	32	-	-	-	490-032C3-08M	4	-	-	-	-		1	0.4	32	80	60	5.5	33900
		-	-	-	490-032C4-08M	4	-	-	-	-		1	0.5	40	70	45	5.5	33900
		-	-	-	490-032C5-08M	4	-	-	-	-		1	0.7	50	75	50	5.5	28000
		-	-	-	490-032C6-08M	4	-	-	-	-		1	1.0	63	80	53	5.5	20000
		-	-	-	490-032C8-08M	4	-	-	-	-		1	2.0	80	80	45	5.5	14000
	36	-	-	-	490-036C3-08M	-	4	-	-	-		1	0.3	32	50	30	5.5	31300
	40	-	-	-	490-040C4-08M	-	4	490-040C4-08H	6	-		1	0.6	40	70	45	5.5	29300
		-	-	-	490-040C5-08M	-	4	490-040C5-08H	6	-		1	0.8	50	75	50	5.5	28000
		-	-	-	-	-	-	490-040C6-08H	6	-		1	1.2	63	80	53	5.5	20000
		-	-	-	-	-	-	490-040C8-08H	6	-		1	2.2	80	80	45	5.5	14000
	44	-	-	-	490-044C4-08M	-	5	490-044C4-08H	6	-		1	0.6	40	60	40	5.5	27600
	50	-	-	-	490-050C5-08M	-	5	490-050C5-08H	7	-		1	1.0	50	75	50	5.5	25500
		-	-	-	490-050C6-08M	-	5	490-050C6-08H	7	-		1	1.4	63	80	53	5.5	20000
		-	-	-	-	-	-	490-050C8-08H	7	-		1	2.4	80	80	45	5.5	14000
	54	-	-	-	490-054C5-08M	-	5	490-054C5-08H	7	-		1	0.9	50	60	40	5.5	24300
	63	-	-	-	490-063C6-08M	-	6	490-063C6-08H	8	-		1	1.2	63	50	23	5.5	20000
		-	-	-	-	-	-	490-063C8-08H	8	-		1	2.8	80	80	45	5.5	14000
	66	-	-	-	490-066C6-08M	-	6	490-066C6-08H	-	8		1	1.3	63	50	28	5.5	20000
	80	-	-	-	490-080C8-08M	-	8	490-080C8-08H	-	10		1	3.4	80	80	45	5.5	14000
	84	-	-	-	490-084C8-08M	-	8	490-084C8-08H	-	10		1	2.7	80	60	30	5.5	14000
14	40	-	-	-	490-040C4-14M[2]	-	3	490-040C4-14H[2]	4	-		1	0.5	40	70	45	10.0	26400
		-	-	-	490-040C5-14M[2]	-	3	490-040C5-14H[2]	4	-		1	0.8	50	75	50	10.0	26400
		-	-	-	490-040C6-14M[2]	-	3	490-040C6-14H[2]	4	-		1	1.2	63	80	53	10.0	20000
		-	-	-	-	-	-	490-040C8-14H[2]	4	-		1	2.1	80	80	45	10.0	14000
	44	-	-	-	490-044C4-14M[2]	-	3	490-044C4-14H[2]	4	-		1	0.6	40	70	70	10.0	24600
	50	-	-	-	-	-	-	490-050C5-14H[2]	5	-		1	1.0	50	75	50	10.0	22400
		-	-	-	490-050C5-14M	-	4	-	-	-		1	1.0	50	75	50	10.0	13700
		-	-	-	-	-	-	490-050C6-14H[2]	5	-		1	1.4	63	80	53	10.0	20000
		-	-	-	490-050C6-14M	-	4	-	-	-		1	1.4	63	80	53	10.0	13700
		-	-	-	-	-	-	490-050C8-14H[2]	5	-		1	2.3	80	80	45	10.0	14000
	54	-	-	-	-	-	-	490-054C5-14H[2]	5	-		1	0.9	50	60	60	10.0	21300
		-	-	-	490-054C5-14M	-	4	-	-	-		1	0.9	50	60	60	10.0	13000
	63	-	-	-	490-063C6-14M	-	5	490-063C6-14H	6	-		1	1.8	63	80	53	10.0	11700
		-	-	-	-	-	-	490-063C8-14H	6	-		1	2.6	80	80	45	10.0	11700
	66	-	-	-	490-066C6-14M	-	5	490-066C6-14H	6	-		1	1.5	63	65	65	10.0	11400
	80	-	-	-	490-080C6-14M	-	6	490-080C6-14H	8	-		1	1.9	63	65	65	10.0	10100
		-	-	-	490-080C8-14M	-	6	490-080C8-14H	8	-		1	3.2	80	80	45	10.0	10100
	84	-	-	-	490-084C8-14M	-	6	490-084C8-14H	8	-		1	3.0	80	70	70	10.0	9800

[1] 0 = no coolant, 1 = coolant through centre

[2] No shims used

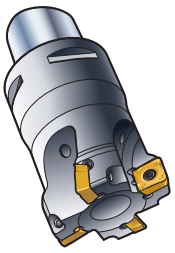
= Even pitch

J3 G6 J4 D23 D24

SANDVIK Coromant

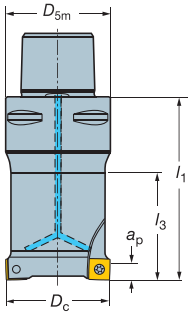
End mill and square shoulder face mill

Diameter .750 - 3.000 inch



0°

Coromant Capto®



Insert size, mm
8, 14

l_1 = programming length

Inch version

	D_c	Ordering code									Coolant[1]	Dimensions, inch					n_{max}
	inch	Coarse pitch			Close pitch			Extra close pitch				lbs	D_{5m}	l_1	l_3	Max a_p	
		Coromant Capto															
08	.750	A490-019C5-08L	2	-	-	-	-	-	-	-	1	1.3	1.968	3.000	1.500	.216	28000
		A490-019C6-08L	2	-	-	-	-	-	-	-	1	2.1	2.480	3.000	1.500	.216	20000
	1.000	-	-	-	A490-025C5-08M	3	-	-	-	-	1	1.3	1.968	3.000	2.015	.216	28000
		-	-	-	A490-025C6-08M	3	-	-	-	-	1	2.1	2.480	3.000	1.937	.216	20000
	1.250	-	-	-	A490-032C5-08M	4	-	-	-	-	1	1.5	1.968	3.000	2.015	.216	28000
		-	-	-	A490-032C6-08M	4	-	-	-	-	1	2.3	2.480	3.000	1.937	.216	20000
		-	-	-	A490-032C8-08M	4	-	-	-	-	1	4.4	3.150	3.000	1.622	.216	14000
	1.500	-	-	-	-	-	-	A490-038C5-08H	5	-	1	1.7	1.968	3.000	2.015	.216	28000
		-	-	-	-	-	-	A490-038C6-08H	5	-	1	2.3	2.480	3.000	1.937	.216	20000
		-	-	-	-	-	-	A490-038C8-08H	5	-	1	4.6	3.150	3.000	1.622	.216	14000
	2.000	-	-	-	A490-051C5-08M	-	5	A490-051C5-08H	7	-	1	2.4	1.968	3.000	3.000	.216	25200
		-	-	-	-	-	-	A490-051C6-08H	7	-	1	3.1	2.480	3.000	1.937	.216	20000
		-	-	-	-	-	-	A490-051C8-08H	7	-	1	5.2	3.150	3.000	1.622	.216	14000
	2.500	-	-	-	A490-063C6-08M	-	6	A490-063C6-08H	8	-	1	2.8	2.480	2.000	.937	.216	20000
		-	-	-	-	-	-	A490-063C8-08H	8	-	1	5.9	3.150	3.000	1.622	.216	14000
	3.000	-	-	-	-	-	-	A490-076C8-08H	10	-	1	5.9	3.150	2.500	1.122	.216	14000
14	1.500	-	-	-	A490-038C5-14M[2]	3	-	-	-	-	1	1.6	1.968	3.000	2.015	.394	27400
		-	-	-	A490-038C6-14M[2]	3	-	-	-	-	1	2.4	2.480	3.000	1.937	.394	20000
		-	-	-	A490-038C8-14M[2]	3	-	-	-	-	1	4.5	3.150	3.000	1.622	.394	14000
	2.000	-	-	-	-	-	-	A490-051C5-14H[2]	5	-	1	2.2	1.968	3.000	3.000	.394	22200
		-	-	-	A490-051C5-14M	-	4	-	-	-	1	2.2	1.968	3.000	3.000	.394	13600
		-	-	-	-	-	-	A490-051C6-14H[2]	5	-	1	3.0	2.480	3.000	1.937	.394	20000
		-	-	-	A490-051C6-14M	-	4	-	-	-	1	3.0	2.480	3.000	1.937	.394	13600
		-	-	-	-	-	-	A490-051C8-14H[2]	5	-	1	5.0	3.150	3.000	1.622	.394	14000
	2.500	-	-	-	A490-063C6-14M	-	5	A490-063C6-14H	6	-	1	3.2	2.480	2.500	2.500	.394	11700
		-	-	-	-	-	-	A490-063C8-14H	6	-	1	5.6	3.150	3.000	1.622	.394	11700
	3.000	-	-	-	A490-076C8-14M	-	6	A490-076C8-14H	7	-	1	6.5	3.150	3.000	1.622	.394	10400

[1] 0 = no coolant, 1 = coolant through centre

[2] No shims used

= Even pitch

= Differential pitch

J3

G6

J4

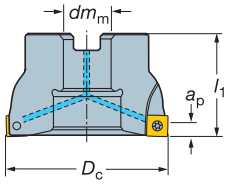
D23

D24

Square shoulder face mill

Diameter 40 - 250 mm

Arbor



$\kappa_r = 90°$

Insert size, mm
08, 14

l_1 = programming length

Metric version

		Ordering code										Dimensions, mm				
	D_c mm	Coarse pitch			Close pitch			Extra close pitch			Coolant[1]	kg	dm_m	l_1	Max a_p	n_{max}
		Arbor														
08	40	-	-	-	490-040Q16-08M	-	4	490-040Q16-08H	6	-	1	0.2	16	40	5.5	29300
	44	-	-	-	490-044Q16-08M	-	5	-	-	-	1	0.2	16	40	5.5	27600
	50	490-050Q22-08L	-	4	490-050Q22-08M	-	5	490-050Q22-08H	7	-	1	0.4	22	40	5.5	25500
	54	-	-	-	490-054Q22-08M	-	5	-	-	-	1	0.4	22	40	5.5	24300
	63	490-063Q22-08L	-	5	490-063Q22-08M	-	6	490-063Q22-08H	8	-	1	0.5	22	40	5.5	22200
	66	-	-	-	490-066Q22-08M	-	6	-	-	-	1	0.5	22	40	5.5	21600
	80	490-080Q27-08L	-	6	490-080Q27-08M	-	8	490-080Q27-08H	-	10	1	1.2	27	50	5.5	19400
	84	-	-	-	490-084Q27-08M	-	8	-	-	-	1	1.3	27	50	5.5	18900
	100	490-100Q32-08L	-	6	490-100Q32-08M	-	8	490-100Q32-08H	-	10	0	1.6	32	50	5.5	17100
	125	490-125Q40-08L	-	8	490-125Q40-08M	-	10	490-125Q40-08H	-	12	0	2.9	40	63	5.5	15200
14	50	-	-	-	-	-	-	490-050Q22-14H[2]	5	-	1	0.3	22	40	10.0	22400
		-	-	-	490-050Q22-14M	-	4	-	-	-	1	0.3	22	40	10.0	13700
	54	-	-	-	490-054Q22-14M	-	4	-	-	-	1	0.3	22	40	10.0	13000
	63	-	-	-	490-063Q22-14M	-	5	490-063Q22-14H	6	-	1	0.4	22	40	10.0	11700
	66	-	-	-	490-066Q22-14M	-	5	-	-	-	1	0.4	22	40	10.0	11400
	80	-	-	-	490-080Q27-14M	-	6	490-080Q27-14H	8	-	1	1.0	27	50	10.0	10100
	84	-	-	-	490-084Q27-14M	-	6	-	-	-	1	1.1	27	50	10.0	9800
	100	490-100Q32-14L	-	5	490-100Q32-14M	-	7	490-100Q32-14H	10	-	1	1.4	32	50	10.0	8900
	125	490-125Q40-14L	-	6	490-125Q40-14M	-	8	490-125Q40-14H	12	-	1	2.6	40	63	10.0	7800
	160	490-160Q40-14L	-	8	490-160Q40-14M	-	12	490-160Q40-14H	15	-	0	4.4	40	63	10.0	6800
	200	490-200Q60-14L	-	10	490-200Q60-14M	-	16	-	-	-	0	7.4	60	63	10.0	6000
	250	490-250Q60-14L	-	12	490-250Q60-14M	-	18	-	-	-	0	11.3	60	63	10.0	5300
		CIS Arbor														
08	80	A490-080J25.4-08L	-	6	A490-080J25.4-08M	-	8	A490-080J25.4-08H	-	10	1	1.1	25.4	50	5.5	19400
	100	A490-100J31.75-08L	-	6	A490-100J31.75-08M	-	8	A490-100J31.75-08H	-	10	0	2.1	31.75	63	5.5	17100
	125	A490-125J38.1-08L	-	8	A490-125J38.1-08M	-	10	A490-125J38.1-08H	-	12	0	3.0	38.1	63	5.5	15200
14	80	A490-080J25.4-14L	-	4	A490-080J25.4-14M	-	6	A490-080J25.4-14H	8	-	1	0.9	25.4	50	10.0	10100
	100	A490-100J31.75-14L	-	5	A490-100J31.75-14M	-	7	A490-100J31.75-14H	10	-	1	1.9	31.75	63	10.0	8900
	125	A490-125J38.1-14L	-	6	A490-125J38.1-14M	-	8	-	-	-	1	2.7	38.1	63	10.0	7800
	160	-	-	-	A490-160J50.8-14M	-	12	-	-	-	0	5.0	50.8	63	10.0	6800
	200	-	-	-	A490-200J47.625-14M	-	16	-	-	-	0	8.2	47.625	63	10.0	6000
	250	-	-	-	A490-250J47.625-14M	-	18	-	-	-	0	12.2	47.625	63	10.0	5300

1) 0 = no coolant, 1 = coolant through centre

2) No shims used

= Even pitch

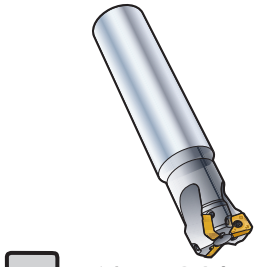
= Differential pitch

J3
G6
J4
D23
D24

SANDVIK Coromant

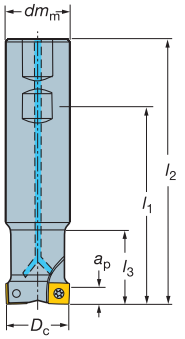
Square shoulder face mill

Diameter 20 - 80 mm

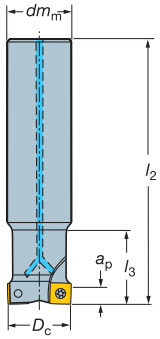


$\kappa_r = 90°$

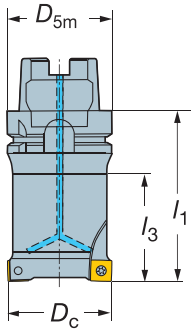
Weldon



Cylindrical



HSK



Insert size, mm
8, 14

l_1 = programming length

Metric version

		Ordering code										Coolant[1]	Dimensions, mm							
	D_c mm	Coarse pitch			Close pitch			Extra close pitch					kg	dm_m	D_{5m}	l_1	l_2	l_3	Max a_p	n_{max}
		Weldon																		
08	20	490-020B16-08L	2	-	-	-	-	-	-	-		1	0.1	16		50.5	74	25	5.5	48500
		490-020B20-08L	2	-	-	-	-	-	-	-		1	0.1	20		51.5	76	25	5.5	48500
	25	490-025B20-08L	2	-	-	-	-	-	-	-		1	0.2	20		58.5	83	32	5.5	40400
		-	-	-	490-025B25-08M	3	-	-	-	-		1	0.3	25		56.5	88	32	5.5	40400
	32	490-032B25-08L	-	3	490-032B25-08M	4	-	-	-	-		1	0.4	25		66.5	98	40	5.5	33900
		490-032B32-08L	-	3	490-032B32-08M	4	-	-	-	-		1	0.5	32		64.5	100	40	5.5	33900
	40	-	-	-	490-040B32-08M	-	4	490-040B32-08H	6	-		1	0.7	32		76.5	112	50	5.5	29300
14	40	-	-	-	490-040B32-14M[2]	-	3	490-040B32-14H[2]	4	-		1	0.6	32		76.5	112	50	10.0	26400
		Cylindrical shank																		
08	20	490-020A16-08L	2	-	-	-	-	-	-	-		1	0.1	16			100	25	5.5	48500
		490-020A20-08L	2	-	-	-	-	-	-	-		1	0.2	20			110	25	5.5	48500
	22	490-022A20L-08L	2	-	-	-	-	-	-	-		1	0.4	20			170	30	5.5	20300
	25	490-025A20-08L	2	-	490-025A20-08M	3	-	-	-	-		1	0.2	20			110	32	5.5	40400
		490-025A25-08L	2	-	490-025A25-08M	3	-	-	-	-		1	0.4	25			120	32	5.5	40400
	28	490-028A25L-08L	2	-	-	-	-	-	-	-		1	0.7	25			210	35	5.5	11000
	32	490-032A25-08L	-	3	490-032A25-08M	4	-	-	-	-		1	0.4	25			120	40	5.5	33900
		490-032A32-08L	-	3	490-032A32-08M	4	-	-	-	-		1	0.7	32			130	40	5.5	33900
	40	490-040A32-08L	-	3	490-040A32-08M	-	4	490-040A32-08H	6	-		1	1.1	32			170	50	5.5	20300
14	40	-	-	-	490-040A32-14M[2]	-	3	490-040A32-14H[2]	4	-		1	1.0	32			170	50	10.0	26400
		-	-	-	490-040A32L-14M[2]	-	3	-	-	-		1	1.5	32			250	65	10.0	7600
	50	490-050A32-14L	-	3	490-050A32-14M	-	4	-	-	-		1	0.8	32			120	40	10.0	13700
	63	490-063A32-14L	-	4	490-063A32-14M	-	5	-	-	-		1	1.0	32			120	40	10.0	11700
		HSK																		
08	20	490-020HA06-08L	2	-	-	-	-	-	-	-		1	0.9	48	63	95		40	5.5	30000
	25	-	-	-	490-025HA06-08M	3	-	-	-	-		1	0.9	48	63	95		50	5.5	30000
	32	-	-	-	490-032HA06-08M	4	-	-	-	-		1	1.0	48	63	95		58	5.5	30000
	40	-	-	-	-	-	-	490-040HA06-08H	6	-		1	1.2	48	63	95		58	5.5	29300
	50	-	-	-	490-050HA06-08M	-	5	490-050HA06-08H	7	-		1	1.4	48	63	95		58	5.5	25500
	63	-	-	-	490-063HA06-08M	-	6	490-063HA06-08H	8	-		1	1.4	48	63	70		44	5.5	22200
	66	-	-	-	490-066HA06-08M	-	6	490-066HA06-08H	-	8		1	1.4	48	63	70		44	5.5	21600
	80	-	-	-	490-080HA06-08M	-	8	-	-	-		1	1.6	48	63	70		44	5.5	19400

[1] 0 = no coolant, 1 = coolant through centre

[2] No shims used

= Even pitch

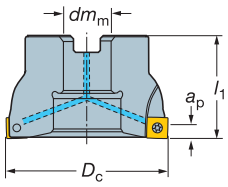
= Differential pitch

J3 G6 J4 D23 D24

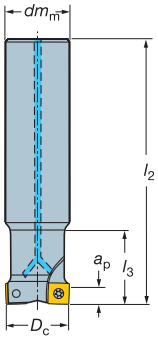
Square shoulder face mill

Diameter .750 - 10.000 inch

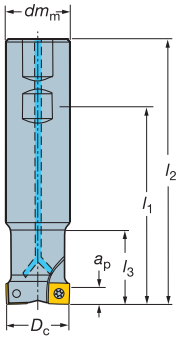
Arbor



Cylindrical



Weldon



0°

Insert size, mm
8, 14

l_1 = programming length

Inch version

□	D_c inch	Ordering code Coarse pitch	⊙	⊙	Close pitch	⊙	⊙	Extra close pitch	⊙	⊙	Coolant[1]	Dimensions, inch Lbs	dm_m	l_1	l_2	l_3	Max a_p	n_{max}
		Arbor																
08	1.500	-	-	-	A490-038R19-08M	-	4	A490-038R19-08H	5	-	1	0.4	.750	1.575			.216	30200
	2.000	A490-051R19-08L	-	4	A490-051R19-08M	-	5	A490-051R19-08H	7	-	1	0.8	.750	1.575			.216	25200
	2.126	-	-	-	A490-054R19-08M	-	5	-	-	-	1	0.8	.750	1.575			.216	24300
	2.500	A490-063R25-08L	-	5	A490-063R25-08M	-	6	A490-063R25-08H	8	-	1	1.8	1.000	1.969			.216	22100
	2.598	-	-	-	A490-066R25-08M	-	6	-	-	-	1	1.7	1.000	1.969			.216	21600
	3.000	A490-076R25-08L	-	6	A490-076R25-08M	-	8	A490-076R25-08H	10	-	1	2.4	1.000	1.969			.216	19900
	3.307	-	-	-	A490-084R25-08M	-	8	-	-	-	1	2.9	1.000	1.969			.216	18900
	4.000	A490-102R38-08L	-	6	A490-102R38-08M	-	8	A490-102R38-08H	-	10	0	3.2	1.500	1.969			.216	17000
	5.000	A490-127R38-08L	-	8	A490-127R38-08M	-	10	A490-127R38-08H	-	12	0	6.4	1.500	2.480			.216	15100
14	2.000	-	-	-	-	-	-	A490-051R19-14H[2]	5	-	1	0.7	.750	1.575			.394	22200
		-	-	-	A490-051R19-14M	-	4	-	-	-	1	0.7	.750	1.575			.394	13600
	2.126	-	-	-	A490-054R19-14M	-	4	-	-	-	1	0.7	.750	1.575			.394	13000
	2.500	-	-	-	A490-063R25-14M	-	5	A490-063R25-14H	6	-	1	1.3	1.000	1.969			.394	11700
	2.598	-	-	-	A490-066R25-14M	-	5	-	-	-	1	1.4	1.000	1.969			.394	11400
	3.000	-	-	-	A490-076R25-14M	-	6	A490-076R25-14H	7	-	1	1.9	1.000	1.969			.394	10400
	3.307	-	-	-	A490-084R25-14M	-	6	-	-	-	1	2.4	1.000	1.969			.394	9800
	4.000	A490-102R38-14L	-	5	A490-102R38-14M	-	7	A490-102R38-14H	10	-	1	2.8	1.500	1.969			.394	8800
	5.000	A490-127R38-14L	-	6	A490-127R38-14M	-	8	A490-127R38-14H	12	-	1	6.0	1.500	2.480			.394	7700
	6.000	A490-152R38-14L	-	8	A490-152R38-14M	-	12	A490-152R38-14H	14	-	0	9.0	1.500	2.480			.394	7000
	8.000	A490-203R63-14L	-	10	A490-203R63-14M	-	16	-	-	-	0	16.6	2.500	2.480			.394	6000
	10.00	A490-254R63-14L	-	12	A490-254R63-14M	-	18	-	-	-	0	25.5	2.500	2.480			.394	5300
		Weldon																
08	.750	A490-019M19-08L	2	-	-	-	-	-	-	-	1	0.3	.750	2.335	3.350	1.020	.216	50600
	1.000	A490-025M19-08L	2	-	A490-025M19-08M	3	-	-	-	-	1	0.4	.750	2.485	3.500	1.468	.216	40000
		A490-025M25-08L	2	-	A490-025M25-08M	3	-	-	-	-	1	0.7	1.000	2.610	3.750	1.250	.216	40000
	1.250	A490-032M32-08L	-	3	A490-032M32-08M	4	-	-	-	-	1	1.1	1.250	2.610	3.750	1.350	.216	34100
	1.500	-	-	-	A490-038M32-08M	-	4	A490-038M32-08H	5	-	1	1.3	1.250	2.860	4.000	1.719	.216	30200
14	1.500	-	-	-	A490-038M32-14M[2]	3	-	-	-	-	1	1.1	1.250	2.860	4.000	1.719	.394	27400
		Cylindrical shank																
08	.750	A490-019O19L-08L	2	-	-	-	-	-	-	-	1	0.7	.750		6.500	1.625	.216	22100
	1.000	A490-025O25L-08L	2	-	-	-	-	-	-	-	1	1.5	1.000		8.000	2.125	.216	12100
		-	-	-	A490-025O25L-08M	3	-	-	-	-	1	1.5	1.000		8.000	2.125	.216	12100
14	1.500	-	-	-	A490-038O32L-14M[2]	3	-	-	-	-	1	3.2	1.250		10.000	2.625	.394	7400

[1] 0 = no coolant, 1 = coolant through centre

[2] No shims used

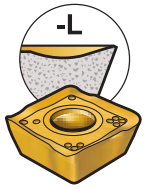
⊙ = Even pitch

⊙ = Differential pitch

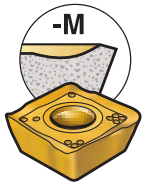
J3 G6 J4 D23 D24

SANDVIK Coromant

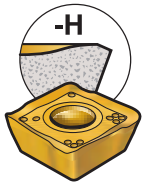
Inserts for CoroMill® 490



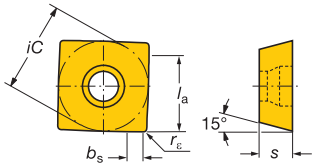
Light



Medium



Heavy



Dimensions, mm (inch)

iC	l_a	*s*
08	5.6 (.220)	3.3 (.130)
14	10.8 (.426)	6.3 (.154)

l_a = max recommended cutting depth

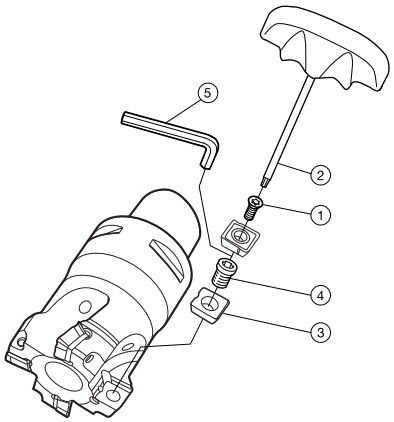
	iC	Ordering code	P								M							K								N		S					H			Dimensions, millimeter, inch (mm, in.)			
			GC	GC	CC	GC	GC	GC	GC	CT	GC	GC	GC	GC	GC	CT	GC	GC	GC	GC	GC	GC	GC	-	-	GC	GC	GC	GC	GC	GC	GC	GC	CT	b_s mm	b_s in.	r_ε mm	r_ε in.
			1010	1030	3040	3220	4220	4230	4240	530	1030	1040	2030	2040	4240	530	S30T	1010	1020	3040	3220	4220	4230	4240	H13A	H13A	1010	1030	2040	S30T	S40T	1010	1030	530				
Light	08	490R-08T304E-ML										☆	☆	☆											☆	☆			☆									
		490R-08T304M-KL																	☆	☆					☆											1.5	.059	0.4	.016
		490R-08T304M-PL		☆				☆	☆		☆				☆								☆					☆								1.5	.059	0.4	.016
		490R-08T308E-ML		☆							☆	★	☆	☆			☆								☆	★		☆	☆	★	☆		☆			1.5	.059	0.4	.016
		490R-08T308M-KL																	★	☆																1.2	.047	0.8	.032
		490R-08T308M-PL	☆	★			☆	☆	☆	☆	☆				☆	☆		☆				☆	☆				☆	☆				★		☆	1.2	.047	0.8	.032
	14	490R-140408E-ML										★		☆			☆								☆	★			☆	★	☆					2.0	.079	0.8	.032
		490R-140408M-PL		★	☆		☆	☆			☆								★	☆			☆	☆				☆					☆			2.0	.079	0.8	.032
Medium	08	490R-08T308E-MM		☆							☆	☆	☆	☆			☆													★	☆					1.2	.047	0.8	.032
		490R-08T308M-KM																	★	☆	☆															1.2	.047	0.8	.032
		~~490R-08T308M-MM~~										★	☆	☆			☆													☆	★	☆					~~1.2~~	~~.047~~	~~0.8~~	.032
		490R-08T308M-PM	☆	★			☆	☆	☆		☆				☆			☆				☆	☆				☆	☆				★			1.2	.047	0.8	.032
		~~490R-08T312E-MM~~										★	☆	☆																					~~0.85~~	~~.034~~	~~1.2~~	.047
		490R-08T312M-KM																	☆	☆	☆															0.85	.034	1.2	.047
		490R-08T312M-PM	☆	☆			☆	☆	☆		☆				☆			☆				☆	☆				☆	☆				☆			0.85	.034	1.2	.047
		490R-08T316E-MM										☆	☆	☆																					0.6	.024	1.6	.063
		490R-08T316M-KM																	☆	☆	☆															0.6	.024	1.6	.063
		490R-08T316M-PM	☆	☆			☆	☆	☆		☆				☆			☆				☆					☆	☆				☆			0.6	.024	1.6	.063
	14	490L-140408M-PM			☆	★		★	★						☆					★			☆													2.0	.079	0.8	.032
		490R-140408E-MM										☆		☆																☆						2.0	.079	0.8	.032
		490R-140408M-MM										★		☆			☆													☆	★	☆				2.0	.079	0.8	.032
		490R-140408M-PM		☆	☆		☆	☆	★						☆				☆	★	☆	☆	☆	☆				☆					☆			2.0	.079	0.8	.032
		490R-140412E-MM										★		☆			☆													☆	★	☆				1.6	.063	1.2	.047
		490R-140412M-PM		★	☆			★	★		☆				☆				★	★	★		☆					☆								2.0	.079	1.2	.047
		490R-140416E-MM										☆		☆																☆						1.6	.063	1.6	.063
		490R-140416M-PM		★	☆			★	★		☆				☆				★	★	★		☆					☆								2.0	.079	1.6	.063
		490R-140420E-MM										☆		☆																☆						0.8	.032	2.0	.079
		490R-140420M-MM										☆		☆																☆						0.8	.032	2.0	.079
		490R-140420M-PM		☆	☆		☆	☆	☆										☆	☆	☆	☆	☆	☆												0.8	.032	2.0	.079
Heavy	08	490R-08T308M-KH																	☆	☆	☆															1.2	.047	0.8	.032
		490R-08T308M-PH		☆			☆	☆	★						☆								☆	☆												1.2	.047	0.8	.032
		490R-08T316M-KH																	☆	★	☆															0.6	.024	1.6	.063
		490R-08T316M-PH		☆			☆	☆	☆		☆				☆								☆	☆				☆								0.6	.024	1.6	.063
	14	490R-140408M-PH		☆	☆		☆	☆	☆										☆	★	☆	☆	☆	☆												2.0	.079	0.8	.032
		490R-140420M-PH		☆	☆		☆	☆	☆										☆	☆	☆	☆	☆	☆												0.8	.032	2.0	.079
			P10	P30	P20		P20	P20	P40	P15	M15	M30	M25	M40	M40	M10	M25	K05	K20	K30	K15	K25	K30	K40	K20	N15	S10	S15	S30	S25	S35	H10	H10	H25				

★= First choice

Note! 490L = Left hand insert.
Left hand cutters to be ordered separately.
For further information contact your Sandvik Coromant sales representative.

D334 D327

Spare parts for CoroMill® 490



		1	2					3	4	5
				Torque value						
Insert size	D_c mm (inch)	Screw	Key (Torx Plus)	Nm	In-lbs	Molykote	Torque wrench[1]	Shim	Shim screw	Key
08	25-125 (1.000 - 5.000)	5513 020-35	5680 046-01 (8IP)	1.2	10.6	5683 010-01	5680 100-03 (8IP)			
	19.05-20.00(.750 -.787)	5513 020-36	5680 046-01 (8IP)	1.2	10.6	5683 010-01	5680 100-03 (8IP)			
14	40-50[2] (1.500-2.000)	5513 020-72	5680 048-01 (15IP)	3.0	26.5	5683 010-01	5680 100-06 (15IP)	-	-	-
	63-250 (2.500-10.000)	5513 020-72	5680 048-01 (15IP)	3.0	26.5	5683 010-01	5680 100-06 (15IP)	5322 471-01 5322 478-01[3]	5512 090-01	5680 010-01

[1] Accessories, must be ordered separately

[2] No shims used for D_c 50-54 mm (2.000 inch) extra close pitch

[3] Shim for left hand insert, to be ordered separately.

Mounting screws for Arbor

Size	Article code	Coolant screw[1]	Non-coolant screw[2]	Key [1]	Size
08	490-040Q16-08M/H, 490-044Q16-08M	5512 073-03	–	3021 010-060	(6)
	490-050Q22-08L/M/H, 490-054Q22-08M	5512 073-01	–	3021 010-080	(8)
	A490-038R19-08M/H	5512 074-03	5512 065-01	3021 011-516	(5/16)
	A490-051R19-08L/M/H	5512 074-01	–	3021 011-516	(5/16)

No through coolant on D_c larger than 54 mm (2.000 inch) nor optimized arbor screws

Size	Article code	Coolant screw[1]	Non-coolant screw[2]	Key [1]	Size
14	490-050Q22-14M/H	5512 073-04	5512 060-15	3021 010-080	(8)
	490-063Q22-14M/H	5512 073-01	–	3021 010-080	(8)
	490-080Q27-14M/H, A490-080J25.4-14L/M/H,	5512 073-02	–	3021 010-100	(10)
	490-100Q32-14L/M/H	5512 087-061	–	5680 043-18	(50IP)
	490-125Q40-14L/M/H, A490-125J38.1-14L/M	5512 098-01	–	5680 043-18	(50IP)
	A490-051R19-14M/H	5512 074-03	5512 065-01	3021 011-516	(5/16)
	A490-063R25-14M/H, A490-076R25-14M/H	5512 074-02	–	3021 011-380	(3/8)
	A490-102R38-14L/M/H, A490-127R38-14L/M/H	5512 099-01	–	5680 043-18	(50IP)
	A490-100J31.75-14L/M/H	5512 087-04	–	5680 043-18	(50IP)

No through coolant on D_c larger than 127 mm (5.000 inch) nor optimized arbor screws

[1] To be ordered separately.

[2] Standard screw delivered with the cutter body, optimized for CoroMill 490 concept

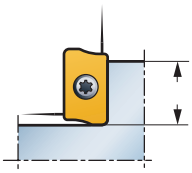
CoroMill® 390

Shoulder milling cutters

Comprehensive concept for deep or shallow shoulder milling

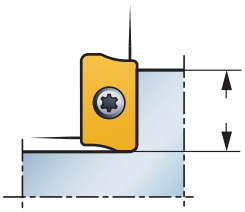
Diameter 12 - 200 mm (.500 - 8.000 inch)

Insert size -11 mm

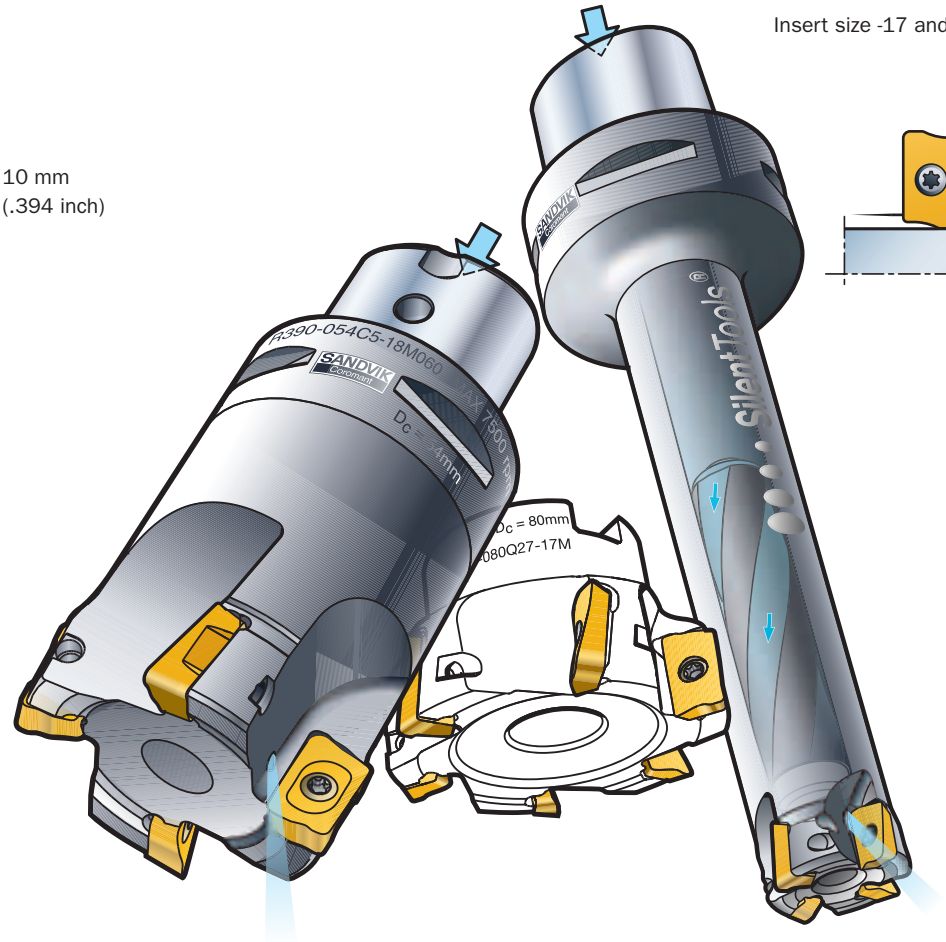


10 mm
(.394 inch)

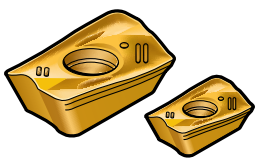
Insert size -17 and 18 mm



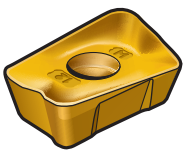
15.7 mm
(.618 inch)



Pitch choice recommendations:
Insert size -11 and -17 mm

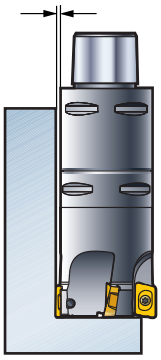


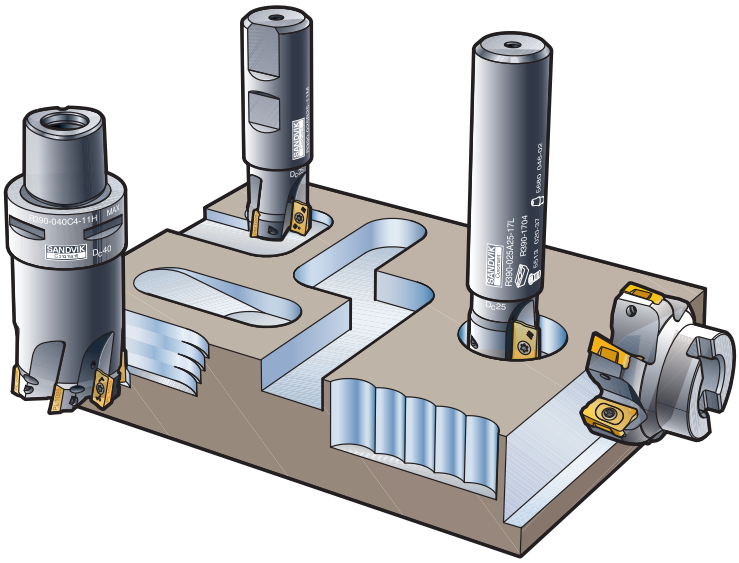
Pitch choice recommendations:
Insert size -18 mm



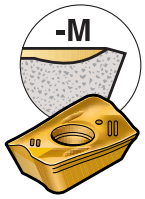
Versatile shoulder milling

Oversized diameter option for clearance





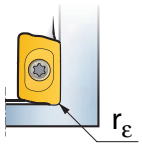
Geometries:

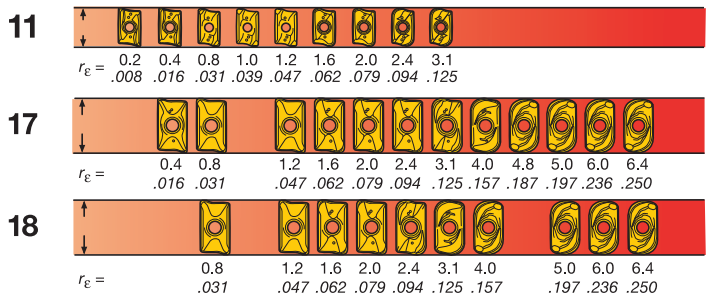


Condition: Light cutting | General | High security

ISO application areas:

Radius insert options





Tailor Made

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

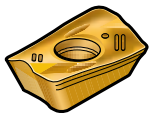
CoroMill® 390

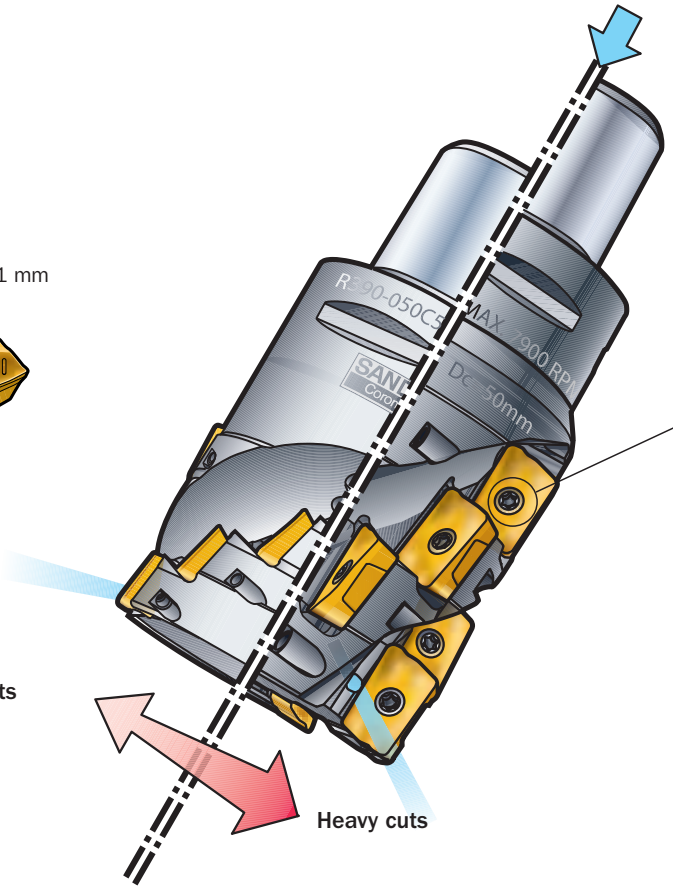
Long edge milling cutters

Options for light and heavy operations

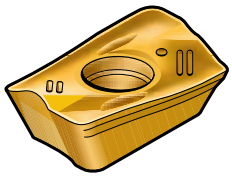
Diameter 32 - 200 mm (1.250 - 8.000 inch)

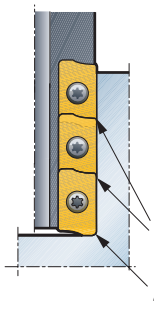
Insert size 11 mm





Insert size 18 mm

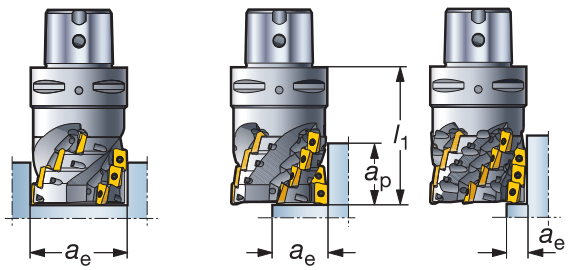




r_ε Radius insert for peripheral
Insert -11, max. 1.0 mm (.039 inch)
Inserts -18, max. 1.2 mm (.047 inch)
r_ε Radius insert options for cutter end seats.

Pitch:

Long set up | General | Short set up



Tailor Made

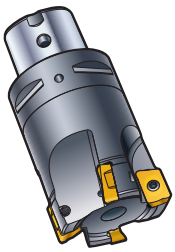
Tool options designed to individual customer requirements are available. For information on our Tailor Made programme see page J4.

ISO application areas:

P M K N S

End mill and square shoulder face mill

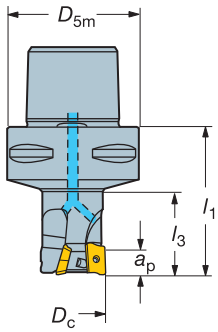
Diameter 16 – 80 mm



$\kappa_r = 90°$

Insert size
11

Coromant Capto®



l_1 = programming length

Metric version

		Ordering code										Dimensions, mm					
	D_c mm	Coarse pitch			Close pitch			Extra close pitch			Coolant[1]		D_{5m}	l_1	l_3	Max a_p	n_{max}[2]
		Coromant Capto															
11	16	R390-016C3-11L050	2	-	-	-	-	-	-	-	1	0.2	C3	50	25	10.0	39000
		R390-016C4-11L	2	-	-	-	-	-	-	-	1	0.5	C4	50	25	10.0	39000
	20	R390-020C3-11L050	2	-	R390-020C3-11M050	3	-	-	-	-	1	0.2	C3	50	25	10.0	34600
		R390-020C4-11L	2	-	-	-	-	-	-	-	1	0.5	C4	50	25	10.0	34600
		-	-	-	R390-020C5-11M095	3	-	-	-	-	1	1.0	C5	95	40	10.0	34600
		-	-	-	R390-020C6-11M110	3	-	-	-	-	1	1.6	C6	110	40	10.0	34600
	25	R390-025C3-11L050	2	-	R390-025C3-11M050	3	-	-	-	-	1	0.2	C3	50	32	10.0	36500
		R390-025C4-11L	2	-	R390-025C4-11M	3	-	-	-	-	1	0.5	C4	55	32	10.0	36500
		-	-	-	R390-025C5-11M095	3	-	-	-	-	1	1.1	C5	95	45	10.0	36500
		-	-	-	R390-025C6-11M110	3	-	-	-	-	1	1.6	C6	110	45	10.0	36500
	32	R390-032C3-11L050	-	2	R390-032C3-11M050	-	3	-	-	-	1	0.3	C3	50	35	10.0	31000
		R390-032C4-11L	2	-	R390-032C4-11M	-	3	-	-	-	1	0.6	C4	65	40	10.0	31000
		R390-032C5-11L	2	-	R390-032C5-11M	-	3	-	-	-	1	0.8	C5	65	40	10.0	31000
		-	-	-	R390-032C5-11M095	-	3	-	-	-	1	1.1	C5	95	50	10.0	31000
		-	-	-	R390-032C6-11M080	3	-	-	-	-	1	1.5	C6	80	40	10.0	31000
		-	-	-	R390-032C6-11M110	-	3	-	-	-	1	1.7	C6	110	50	10.0	31000
	36	-	-	-	R390-036C3-11M050	3	-	-	-	-	1	0.4	C3	50	50	10.0	29000
		-	-	-	R390-036C3-11M075	3	-	-	-	-	1	0.5	C3	75	75	10.0	29000
	40	-	-	-	R390-040C4-11M	-	4	R390-040C4-11H	-	6	1	0.8	C4	70	50	10.0	27000
		-	-	-	R390-040C5-11M	-	4	R390-040C5-11H	-	6	1	1.1	C5	75	50	10.0	27000
		-	-	-	R390-040C6-11M080	4	-	-	-	-	1	1.6	C6	80	40	10.0	27000
	44	-	-	-	R390-044C4-11M060	4	-	-	-	-	1	0.8	C4	60	60	10.0	25600
		-	-	-	R390-044C4-11M075	4	-	-	-	-	1	0.9	C4	75	75	10.0	25600
	50	-	-	-	R390-050C5-11M060	5	-	-	-	-	1	1.0	C5	60	60	10.0	23700
		-	-	-	R390-050C6-11M080	5	-	-	-	-	1	1.8	C6	80	40	10.0	23700
	54	-	-	-	R390-054C5-11M060	5	-	-	-	-	1	1.2	C5	60	60	10.0	22700
		-	-	-	R390-054C5-11M080	5	-	-	-	-	1	1.4	C5	80	80	10.0	22700
	63	-	-	-	R390-063C5-11M060	5	-	-	-	-	1	1.4	C5	60	60	10.0	20700
		-	-	-	R390-063C6-11M080	6	-	-	-	-	1	2.2	C6	80	40	10.0	20700
	66	-	-	-	R390-066C6-11M060	6	-	-	-	-	1	1.9	C6	60	60	10.0	20200
		-	-	-	R390-066C6-11M080	6	-	-	-	-	1	2.3	C6	80	80	10.0	20200
	80	-	-	-	R390-080C6-11M060	7	-	-	-	-	1	2.2	C6	60	60	10.0	18200
		-	-	-	R390-080C6-11M080	7	-	-	-	-	1	2.7	C6	80	80	10.0	18200

1) 0 = no coolant, 1 = coolant through centre

2) n_{max} (max. rev/min) for holders must also be considered.

= Even pitch

= Differential pitch

Note:

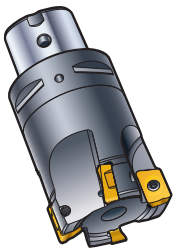
When using inserts with radius >1.6 mm, standard cutter bodies have to be modified accordingly: r = rε - 0.5 mm.

D42
D46
G6
D2
J4

SANDVIK Coromant

End mill and square shoulder face mill

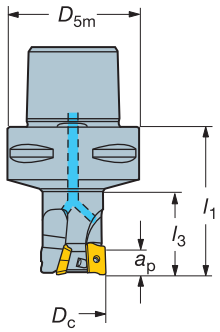
Diameter 40 – 84 mm



$\kappa_r = 90°$

Insert size
18

Coromant Capto®



l_1 = programming length

Metric version

		Ordering code										Dimensions, mm					
	D_c mm	Coarse pitch			Close pitch			Extra close pitch			Coolant[1]	KG	D_{5m}	l_1	l_3	Max a_p	n_{max}[2]
		Coromant Capto															
18	40	-	-	-	R390-040C4-18M060	3	-	-	-	-	1	0.6	C4	60	40	15.4	9200
		-	-	-	R390-040C5-18M080	3	-	-	-	-	1	1.1	C5	80	40	15.4	9200
		-	-	-	R390-040C6-18M100	3	-	-	-	-	1	1.9	C6	100	50	15.4	9200
	44	R390-044C4-18L080	2	-	R390-044C4-18M080	3	-	-	-	-	1	0.7	C4	80	80	15.4	8600
		-	-	-	R390-044C4-18M060	3	-	-	-	-	1	0.5	C4	60	60	15.4	8600
	50	-	-	-	R390-050C5-18M060	4	-	-	-	-	1	1.1	C5	60	40	15.4	7900
		-	-	-	R390-050C6-18M080	4	-	-	-	-	1	1.4	C6	80	40	15.4	7900
	54	-	-	-	R390-054C5-18M060	4	-	-	-	-	1	1.1	C5	60	60	15.4	7500
		-	-	-	R390-054C5-18M080	4	-	-	-	-	1	1.4	C5	80	80	15.4	7500
	63	-	-	-	R390-063C5-18M060	5	-	-	-	-	1	1.0	C5	60	60	15.4	6800
		-	-	-	R390-063C6-18M060	5	-	-	-	-	1	1.3	C6	60	38	15.4	6800
	66	-	-	-	R390-066C6-18M060	5	-	-	-	-	1	1.8	C6	60	60	15.4	6700
		-	-	-	R390-066C6-18M080	5	-	-	-	-	1	1.8	C6	80	80	15.4	6700
	80	-	-	-	R390-080C6-18M060	6	-	-	-	-	1	2.1	C6	60	60	15.4	5900
	84	-	-	-	R390-084C8-18M070	6	-	-	-	-	1	3.0	C8	70	70	15.4	5800
		-	-	-	R390-084C8-18M100	6	-	-	-	-	1	4.5	C8	100	100	15.4	5800

1) 0 = no coolant, 1 = coolant through centre

2) n_{max} (max. rev/min) for holders must also be considered.

= Even pitch

= Differential pitch

Note:
When using inserts with radius >1.6 mm, standard cutter bodies have to be modified accordingly: r = rε - 0.5 mm.

D42

D46

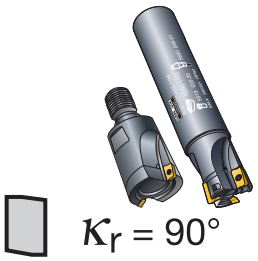
G6

D2

J4

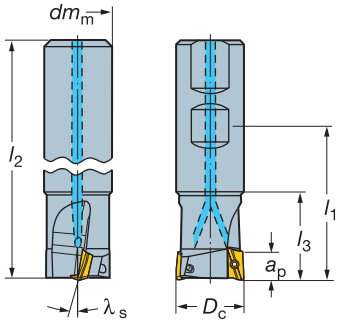
End mill

Diameter 12 – 42 mm



$\kappa_r = 90°$

Cylindrical **Weldon** **Threaded coupling**



Insert size
11, 17

l_1 = programming length

Metric version

		Ordering code											Dimensions, mm								
□	D_c mm	Coarse pitch	⊙	⊙	Close pitch	⊙	⊙	Extra close pitch	⊙	⊙	Coolant[1]	kg	dm_m	l_1	l_2	l_3	λ_s	Max a_p	d_{th}	n_{max}[2]
		Cylindrical shank																		
11	12	R390-012A16-11L[3]	1	-	-	-	-	-	-	-	1	0.2	16		95	20	11.48	10.0		68600
	16	R390-016A16-11L	2	-	-	-	-	-	-	-	1	0.3	16		100	25	13.43	10.0		41500
		R390-016A16L-11L	2	-	-	-	-	-	-	-	1	0.3	16		145	25	13.43	10.0		31000
	18	R390-018A16L-11L	2	-	-	-	-	-	-	-	1	0.3	16		145	25	10.31	10.0		31000
	20	R390-020A20-11L	2	-	R390-020A20-11M	3	-	-	-	-	1	0.4	20		110	25	10.27	10.0		34600
		R390-020A20L-11L	2	-	-	-	-	-	-	-	1	0.5	20		170	40	10.27	10.0		20300
	22	R390-022A20L-11L	2	-	-	-	-	-	-	-	1	0.5	20		170	30	14	10.0		20300
	25	R390-025A25-11L	2	-	R390-025A25-11M	3	-	R390-025A25-11H	4	-	1	0.5	25		120	32	17.06	10.0		36500
		R390-025A25L-11L	2	-	-	-	-	-	-	-	1	0.5	25		210	50	17.06	10.0		8100
	30	R390-030A25L-11L	2	-	-	-	-	-	-	-	1	1.1	25		210	35	18.8	10.0		11000
	32	R390-032A32-11L	2	-	R390-032A32-11M	-	3	R390-032A32-11H	-	5	1	0.8	32		130	40	19.46	10.0		31000
	40	R390-040A32-11L	2	-	R390-040A32-11M	-	4	R390-040A32-11H	-	6	1	0.8	32		170	50	21.93	10.0		27000
		R390-040A32L-11L	2	-	-	-	-	-	-	-	1	1.7	32		250	65	21.93	10.0		9100
17	25	R390-025A25-17L	2	-	-	-	-	-	-	-	1	0.5	25		120	32	11.55	15.7		30800
		R390-025A25L-17L	2	-	-	-	-	-	-	-	1	0.5	25		210	50	17.06	10.0		11000
	32	R390-032A32-17L	2	-	R390-032A32-17M	-	3	-	-	-	1	0.8	32		130	40	13.15	15.7		25600
		R390-032A32L-17L	2	-	-	-	-	-	-	-	1	1.5	32		250	65	19.46	10.0		7600
	40	R390-040A32-17L	2	-	R390-040A32-17M	-	3	R390-040A32-17H	4	-	1	1.1	32		170	50	14.78	15.7		21900
		R390-040A32L-17L	2	-	-	-	-	-	-	-	1	1.7	32		250	65	21.93	10.0		7600
		Weldon																		
11	12	R390-012B16-11L	1	-	-	-	-	-	-	-	1	0.2	16	44.5	68	20	11.48	10.0		68600
	16	R390-016B16-11L	2	-	-	-	-	-	-	-	1	0.2	16	49.5	73	25	13.43	10.0		41500
	20	R390-020B20-11L	2	-	R390-020B20-11M	3	-	-	-	-	1	0.3	20	56.5	81	25	10.27	10.0		34600
	25	R390-025B25-11L	2	-	R390-025B25-11M	3	-	R390-025B25-11H	4	-	1	0.4	25	56.5	88	32	17.06	10.0		36500
	32	R390-032B32-11L	2	-	R390-032B32-11M	-	3	R390-032B32-11H	-	5	1	0.6	32	64.5	100	40	19.46	10.0		31000
	40	R390-040B32-11L	2	-	R390-040B32-11M	-	4	R390-040B32-11H	-	6	1	0.8	32	74.5	110	50	21.93	10.0		27000
17	25	R390-025B25-17L	2	-	-	-	-	-	-	-	1	0.4	25	56.5	88	32	11.55	15.7		30800
	32	R390-032B32-17L	2	-	R390-032B32-17M	-	3	-	-	-	1	0.8	32	64.5	100	40	13.15	15.7		25600
	40	R390-040B32-17L	2	-	R390-040B32-17M	-	3	R390-040B32-17H	4	-	1	0.8	32	74.5	110	50	14.78	15.7		21900
		MSSC																		
11	16	R390-16T08-11L[4]	2	-	-	-	-	-	-	-	0	0.2		25			13.43	10.0	8	10900
	20	R390-20T10-11L[4]	2	-	R390-20T10-11M	3	-	-	-	-	1	0.2		30			10.27	10.0	10	9900
	25	R390-25T12-11L[4]	2	-	R390-25T12-11M	3	-	-	-	-	1	0.2		35			17.06	10.0	12	8100
	32	R390-32T16-11L[4]	2	-	R390-32T16-11M	3	-	-	-	-	1	0.3		45			19.46	10.0	16	9100
	35	R390-35T16-11L[4]	2	-	R390-35T16-11M	3	-	-	-	-	1	0.4		45			20.46	10.0	16	9100
	40	R390-40T16-11L[4]	2	-	R390-40T16-11M	4	-	-	-	-	1	0.4		45			21.93	10.0	16	9100
	42	R390-42T16-11L[4]	2	-	R390-42T16-11M	4	-	-	-	-	1	0.4		45			22.49	10.0	16	9100

1) 0 = no coolant, 1 = coolant through centre
2) n_{max} (max. rev/min) for holders must also be considered.
3) Recommended to use light geometries.
4) Max. rpm values, $n$max, are not given for threaded coupling design as they are always used with long extensions.

⊙ = Even pitch
⊙ = Differential pitch

Note:
When using inserts with radius >1.6 mm, standard cutter bodies have to be modified accordingly: r = rε - 0.5 mm.

D42
D46
G6
D2
J4

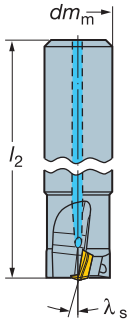
SANDVIK Coromant

End mill

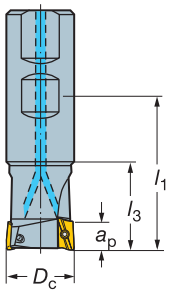
Diameter .500 - 1.500 inch

0°

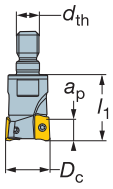
Cylindrical



Weldon



Threaded coupling



Insert size
11, 17

l_1 = programming length

Inch version

		Ordering code								Coolant[1]	Dimensions, inch							
D_c inch		Coarse pitch		Close pitch			Extra close pitch				Lbs	dm_m	l_1	l_2	l_3	λ_s	Max a_p	n_{max}[2]
		Cylindrical shank																
11	.625	RA390-016O16L-11L	2	-	-	-	-	-	-	1	0.5	.625		5.700	1.375	13.43	.394	31000
	.750	RA390-019O19L-11L	2	-	-	-	-	-	-	1	0.8	.750		6.500	1.625	14.73	.394	22100
	1.000	RA390-025O25L-11L	2	RA390-025O25L-11M	3	-	-	-	-	1	1.5	1.000		8.000	2.125	17.06	.394	12100
17	1.000	RA390-025O25L-17L	2	-	-	-	-	-	-	1	1.5	1.000		8.000	2.125	17.06	.394	12100
	1.250	RA390-032O32L-17L	2	RA390-032O32L-17M	-	3	-	-	-	1	2.8	1.250		9.000	2.625	13.15	.618	9000
	1.500	RA390-038O32L-17L	2	RA390-038O32L-17M	-	3	-	-	-	1	2.8	1.250		9.000		14.76	.618	9000
		Weldon																
11	.500	RA390-013M16-11L[3]	1	-	-	-	-	-	-	1	0.5	.625	1.929	2.882	.751	11.99	.394	64400
	.625	RA390-016M19-11L	2	-	-	-	-	-	-	1	0.6	.750	2.235	3.250	1.020	13.43	.394	41800
	.750	RA390-019M19-11L	2	RA390-019M19-11M	3	-	-	-	-	1	0.6	.750	2.335	3.350	1.020	14.73	.394	35900
	1.000	RA390-025M19-11L	2	RA390-025M19-11M	3	-	RA390-025M19-11H	4	-	1	0.7	.750	2.485	3.500	1.468	17.06	.394	36100
		RA390-025M25-11L	2	RA390-025M25-11M	3	-	RA390-025M25-11H	4	-	1	1.0	1.000	2.610	3.750	1.250	17.06	.394	36100
	1.250	RA390-032M32-11L	2	RA390-032M32-11M	-	3	RA390-032M32-11H	-	5	1	1.1	1.250	2.610	3.750	1.350	19.46	.394	31200
	1.500	RA390-038M32-11L	2	RA390-038M32-11M	-	4	RA390-038M32-11H	-	6	1	1.6	1.250	2.860	4.000	1.719	21.35	.394	27800
17	1.000	RA390-025M25-17L	2	-	-	-	-	-	-	1	1.0	1.000	2.860	4.000	1.500	11.7	.618	30500
	1.250	RA390-032M32-17L	2	RA390-032M32-17M	-	3	-	-	-	1	1.4	1.250	2.860	4.000	1.580	13.15	.618	25700
	1.500	RA390-038M32-17L	2	RA390-038M32-17M	-	3	RA390-038M32-17H	-	4	1	1.7	1.250	3.360	4.500	1.750	14.76	.618	22700

	Ordering code								Coolant[1]	Dimensions, inch					
D_c inch	Coarse pitch		Close pitch			Extra close pitch				Lbs	D_{5m}	l_1	λ_s	Max a_p	D_{th}
	MSSC														
11	.625	RA390-16T08-11L	2	-	-	-	-	-	-	1	0.4	.504	.906	13.43	.394	.315
	.750	RA390-19T10-11L	2	-	-	-	-	-	-	1	0.3	.701	1.134	14.73	.394	.394
	1.000	RA390-25T12-11L	2	RA390-25T12-11M	3	-	-	-	-	1	0.5	.819	1.378	17.06	.394	.472
	1.250	RA390-32T16-11L	2	RA390-32T16-11M	3	-	-	-	-	1	0.7	1.134	1.693	19.46	.394	.630
	1.500	RA390-38T16-11L	2	RA390-38T16-11M	4	-	-	-	-	1	0.9	1.134	1.693	21.35	.394	.630

1) 0 = no coolant, 1 = coolant through centre

2) n_{max} (max. rev/min) for holders must also be considered.

3) Recommended to use light-medium cuts (a_e/a_p) and L (light) geometries.

= Even pitch

= Differential pitch

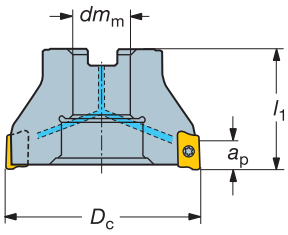
Note:
When using inserts with radius >1.6 mm, standard cutter bodies have to be modified accordingly: r = rε - 0.5 mm.

D42 D46 G6 D2 J4

Square shoulder face mill

Diameter 40 – 200 mm

Arbor



$\kappa_r = 90°$

Insert size, mm
11, 17, 18

l_1 = programming length

Metric version

□	D_c mm	Ordering code Coarse pitch			Close pitch			Extra close pitch			Coolant[1]	Dimensions, mm kg	dm_m	l_1	Max a_p	n_{max}[2]
		Arbor														
11	40	-	-	-	R390-040Q16-11M	-	4	R390-040Q16-11H	-	6	0	0.4	16	40	10.0	27000
	44	-	-	-	R390-044Q16-11M	-	4	-	-	-	1	0.2	16	40	10.0	25600
	50	-	-	-	R390-050Q22-11M	-	5	R390-050Q22-11H	-	7	0	0.5	22	40	10.0	23700
	54	-	-	-	R390-054Q22-11M	-	5	-	-	-	1	0.2	22	40	10.0	22600
	63	-	-	-	R390-063Q22-11M	-	6	R390-063Q22-11H	-	8	0	0.6	22	40	10.0	20700
	66	-	-	-	R390-066Q22-11M	-	6	-	-	-	1	0.4	22	40	10.0	20200
	80	-	-	-	R390-080Q27-11M	-	7	R390-080Q27-11H	-	10	0	0.9	27	50	10.0	18200
	84	-	-	-	R390-084Q27-11M	-	7	-	-	-	1	1.0	27	50	10.0	17700
17	40	R390-040Q16-17L	2	-	R390-040Q16-17M	-	3	R390-040Q16-17H	4	-	0	0.3	16	40	15.7	21900
	44	-	-	-	R390-044Q16-17M	-	3	-	-	-	1	0.2	16	40	15.7	20600
	50	R390-050Q22-17L	-	3	R390-050Q22-17M	-	4	R390-050Q22-17H	-	5	0	0.4	22	40	15.7	19000
	54	-	-	-	R390-054Q22-17M	-	4	-	-	-	1	0.3	22	40	15.7	18200
	63	R390-063Q22-17L	-	4	R390-063Q22-17M	-	5	R390-063Q22-17H	-	6	0	0.6	22	40	15.7	16500
	66	-	-	-	R390-066Q22-17M	-	5	-	-	-	1	0.4	22	40	15.7	16100
	80	R390-080Q27-17L	-	4	R390-080Q27-17M	-	6	R390-080Q27-17H	-	8	0	0.8	27	50	15.7	14400
	84	-	-	-	R390-084Q27-17M	-	6	-	-	-	1	1.0	27	50	15.7	14100
	100	R390-100Q32-17L	-	5	R390-100Q32-17M	-	7	R390-100Q32-17H	-	9	0	1.0	32	50	15.7	12700
	125	R390-125Q40-17L	-	6	R390-125Q40-17M	-	8	R390-125Q40-17H	-	11	0	2.7	40	63	15.7	11200
18	50	R390-050Q22-18L	-	3	R390-050Q22-18M	-	4	R390-050Q22-18H	5	-	0	0.6	22	40	15.4	7900
	54	-	-	-	R390-054Q22-18M	-	4	-	-	-	1	0.3	22	40	15.4	7500
	63	R390-063Q22-18L	-	4	R390-063Q22-18M	-	5	R390-063Q22-18H	6	-	0	0.8	22	40	15.4	6800
	66	-	-	-	R390-066Q22-18M	-	5	-	-	-	1	0.4	22	40	15.4	6700
	80	R390-080Q27-18L	-	4	R390-080Q27-18M	-	6	-	-	-	0	1.1	27	50	15.4	5900
	84	-	-	-	R390-084Q27-18M	-	6	-	-	-	1	1.0	27	50	15.4	5800
		R390-100Q32-18L	-	5	R390-100Q32-18M	-	7	-	-	-	0	1.8	32	50	15.4	5200
	125	R390-125Q40-18L	-	6	R390-125Q40-18M	-	8	-	-	-	0	2.7	40	63	15.4	4600
	160	R390-160Q40-18L	-	8	R390-160Q40-18M	-	12	-	-	-	0	3.9	40	63	15.4	4000
	200	R390-200Q60-18L	-	10	-	-	-	-	-	-	0	10.0	60	63	15.4	3600
		CIS Arbor														
17	80	RA390-080J25.4-17L	-	4	RA390-080J25.4-17M	-	6	RA390-080J25.4-17H	-	8	0	1.0	25.4	50	15.7	14400
18	80	-	-	-	RA390-080J25.4-18M	-	6	-	-	-	0	1.2	25.4	50	15.4	5900
	100	-	-	-	RA390-100J31.75-18M	-	7	-	-	-	0	2.1	31.75	50	15.4	5200
	125	-	-	-	RA390-125J38.1-18M	-	8	-	-	-	0	3.0	38.1	63	15.4	4600
	160	-	-	-	RA390-160J50.8-18M	-	12	-	-	-	0	9.8	50.8	63	15.4	4000
	200	RA390-200J47.625-18L	-	10	-	-	-	-	-	-	0	10.4	47.62	63	15.4	3600

[1] n_{max} (max. rev/min) for holders must also be considered.

Note:
Bolt circle for cutters 200 and 250mm = 4"
When using inserts with radius >1.6 mm, standard cutter bodies have to be modified accordingly: r = rε - 0.5 mm.

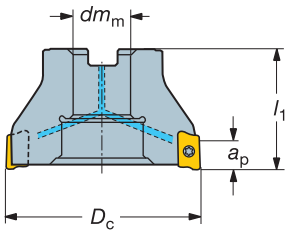
= Even pitch
= Differential pitch

D42
D46
G6
D2
J4

Square shoulder face mill

Diameter 1.500 - 8.000 inch

Arbor



0°

Insert size, mm
11, 17, 18

l_1 = programming length

Inch version

		Ordering code									Coolant[1]	Dimensions, inch				
	D_c inch	Coarse pitch			Close pitch			Extra close pitch					dm_m	l_1	Max a_p	n_{max}[2]
		Arbor														
11	1.500	-	-	-	RA390-038R19-11M	4	-	RA390-038R19-11H	6	-	0	0.8	.750	1.575	.394	22700
	1.732	-	-	-	RA390-044R19-11M	-	4	-	-	-	1	0.5	.750	1.575	.394	25600
	2.000	-	-	-	RA390-051R19-11M	5	-	RA390-051R19-11H	7	-	0	1.1	.750	1.575	.394	23500
	2.126	-	-	-	RA390-054R19-11M	-	5	-	-	-	1	0.5	.750	1.575	.394	22600
	2.500	-	-	-	RA390-063R19-11M	6	-	RA390-063R19-11H	8	-	0	1.2	.750	1.575	.394	20700
	2.598	-	-	-	RA390-066R19-11M	-	6	-	-	-	1	1.0	.750	1.575	.394	20200
	3.000	-	-	-	RA390-076R25-11M	7	-	RA390-076R25-11H	9	-	0	2.2	1.000	1.969	.394	18700
	3.307	-	-	-	RA390-084R25-11M	-	7	-	-	-	1	2.1	1.000	1.968	.394	17700
17	1.732	-	-	-	RA390-044R19-17M	-	3	-	-	-	1	0.4	.750	1.575	.618	20600
	2.000	RA390-051R19-17L	3	-	RA390-051R19-17M	4	-	RA390-051R19-17H	5	-	0	1.1	.750	1.575	.618	18800
	2.126	-	-	-	RA390-054R19-17M	-	4	-	-	-	1	0.6	.750	1.575	.618	18200
	2.500	RA390-063R19-17L	4	-	RA390-063R19-17M	5	-	RA390-063R19-17H	6	-	0	1.3	.750	1.575	.618	16500
	2.598	-	-	-	RA390-066R19-17M	-	5	-	-	-	1	1.0	.750	1.575	.618	16100
	3.000	RA390-076R25-17L	4	-	RA390-076R25-17M	6	-	RA390-076R25-17H	7	-	0	2.0	1.000	1.969	.618	14800
	3.307	-	-	-	RA390-084R25-17M	-	6	-	-	-	1	2.1	1.000	1.968	.618	14100
	4.000	RA390-102R38-17L	5	-	RA390-102R38-17M	7	-	RA390-102R38-17H	9	-	0	4.4	1.500	1.969	.618	12600
	5.000	RA390-127R38-17L	6	-	RA390-127R38-17M	8	-	RA390-127R38-17H	11	-	0	6.6	1.500	2.480	.618	11200
18	2.000	RA390-051R19-18L	-	3	RA390-051R19-18M	-	4	RA390-051R19-18H	5	-	0	1.9	.750	1.575	.606	7800
	2.126	-	-	-	RA390-054R19-18M	-	4	-	-	-	1	0.6	.750	1.575	.606	7500
	2.500	RA390-063R19-18L	-	4	RA390-063R19-18M	-	5	RA390-063R19-18H	6	-	0	2.4	.750	1.575	.606	6800
	2.598	-	-	-	RA390-066R19-18M	-	5	-	-	-	1	1.0	.750	1.575	.606	6700
	3.000	RA390-076R25-18L	-	4	RA390-076R25-18M	-	6	-	-	-	0	4.9	1.000	1.968	.606	6100
	3.307	-	-	-	RA390-084R25-18M	-	6	-	-	-	1	2.1	1.000	1.968	.606	5800
	4.000	RA390-102R38-18L	-	5	RA390-102R38-18M	-	7	-	-	-	0	9.2	1.500	1.968	.606	5200
	5.000	RA390-127R38-18L	-	6	RA390-127R38-18M	-	8	-	-	-	0	17.1	1.500	2.480	.606	4600
	6.000	RA390-152R38-18L	-	8	RA390-152R38-18M	-	12	-	-	-	0	20.4	1.500	2.480	.606	4100
	8.000	RA390-203R63-18L	-	10	-	-	-	-	-	-	0	20.4	2.500	2.480	.606	3500

[1] n_{max} (max. rev/min) for holders must also be considered.

Note:
Bolt circle for cutters 8" = 4"
When using inserts with radius >1.6 mm, standard cutter bodies have to be modified accordingly: r = rε - 0.5 mm.

= Even pitch
= Differential pitch

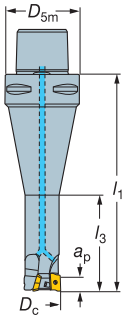
D42 D46 G6 D2 J4

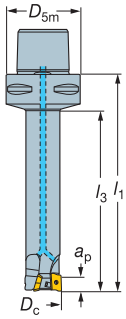
End mill and square shoulder face mill

Dampened

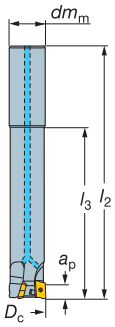
$\kappa_r = 90°$

Coromant Capto





Cylindrical shank



l_1 = programming length

	D_c	Ordering code									Coolant[1]	Dimensions, mm						n_{max}
	mm	Coarse pitch			Close pitch			Extra close pitch				kg	Size	D_{5m}	l_1	l_3	Max a_p	
		Coromant Capto																
11	20	R390D-020C5-11L125	2	-	-	-	-	-	-	-	1	0.6	C5	50	125	100	10	21000
		R390D-020C6-11L165	2	-	-	-	-	-	-	-	1	1.5	C6	63	165	60	10	20000
	25	-	-	-	-	-	-	R390D-025C5-11H150	-	4	1	0.8	C5	50	150	125	10	20000
		-	-	-	-	-	-	R390D-025C6-11H165	-	4	1	1.6	C6	63	165	75	10	20000
	32	-	-	-	R390D-032C5-11M165	-	4	-	-	-	1	1.2	C5	50	165	140	10	26000
		-	-	-	R390D-032C6-11M165	-	4	-	-	-	1	1.8	C6	63	165	96	10	20000
	40	-	-	-	-	-	-	R390D-040C6-11H165	-	6	1	2.0	C6	63	165	120	10	20000

[1] 0 = no coolant, 1 = coolant through centre

	D_c	Ordering code									Coolant[1]	Dimensions, mm						n_{max}
	mm	Coarse pitch			Close pitch			Extra close pitch				kg	dm_m	l_2	l_3	Max a_p		
		Cylindrical shank																
11	20	R390D-020A20-11L	2	-	-	-	-	-	-	-	1	0.3	20	170	100	10	30000	
	25	-	-	-	-	-	-	R390D-025A25-11H	-	4	1	0.6	25	195	125	10	23000	
	32	-	-	-	R390D-032A32-11M	-	4	-	-	-	1	1.1	32	235	160	10	17000	

[1] 0 = no coolant, 1 = coolant through centre

= Even pitch

= Differential pitch

Note:

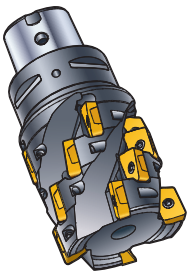
When using inserts with radius >1.6 mm, standard cutter bodies have to be modified accordingly: r = rε - 0.5 mm.

D42
D46
G6
D2
J4

SANDVIK Coromant

Long edge milling cutter

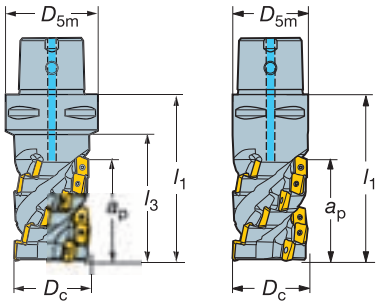
Diameter 32 – 100 mm



$\kappa_r = 90°$

Insert size
11, 18

Coromant Capto®



l_1 = programming length

Metric version

		Ordering code	z_n/z_c			z_n/z_c			z_n/z_c			Dimensions, mm					
	D_c mm	Coarse pitch	⌖	⌖	Close pitch	⌖	⌖	Extra close pitch	⌖	⌖	Coolant[1]	kg	D_{5m}	l_1	l_3	Max a_p	n_{max}[2]
		Coromant Capto															
11	32	R390-032C5-36L	8/2	-	R390-032C5-36M	-	12/3	-	-	-	1	1.0	50	72	46	36	21700
		R390-032C5-54L	12/2	-	R390-032C5-54M	-	18/3	-	-	-	1	1.1	50	89	63	54	21700
		-	-	-	R390-032C6-45M	-	15/3	-	-	-	1	1.4	63	82	54	45	21700
		R390-032C6-63L	14/2	-	-	-	-	-	-	-	1	1.5	63	100	72	63	21700
	36	R390-036C3-36L	8/2	-	R390-036C3-36M	-	12/3	-	-	-	1	0.7	32	66	66	36	20200
	40	-	-	-	R390-040C5-54M	-	18/3	R390-040C5-54H	-	24/4	1	1.2	50	89	63	54	18900
		-	-	-	R390-040C6-63M	-	21/3	R390-040C6-63H	-	28/4	1	1.7	63	100	72	63	18900
	44	-	-	-	R390-044C4-45M	-	15/3	-	-	-	1	1.0	40	80	80	45	17800
	50	R390-050C5-36L	-	12/3	R390-050C5-36M	-	16/4	R390-050C5-36H	20/5	-	1	1.3	50	72	50	36	16600
		R390-050C5-54L	-	18/3	R390-050C5-54M	-	24/4	-	-	-	1	1.5	50	89	67	54	16600
		-	-	-	R390-050C6-63M	-	28/4	R390-050C6-63H	35/5	-	1	2.1	63	100	72	63	16600
	54	-	-	-	R390-054C5-54M	-	24/4	-	-	-	1	1.7	50	89	80	54	16000
	66	-	-	-	R390-066C6-45M	-	20/4	-	-	-	1	2.5	63	82	82	45	13900
18	44	R390-044C4-43L	6/2	-	-	-	-	-	-	-	1	0.9	40	78	78	43	8600
		R390-044C5-43L	6/2	-	-	-	-	-	-	-	1	1.3	50	80	53	43	9200
		R390-044C5-57L	-	8/2	-	-	-	-	-	-	1	1.4	50	92	67	57	9200
		R390-044C6-43L	6/2	-	-	-	-	-	-	-	1	1.6	63	80	53	43	9200
		R390-044C6-57L	8/2	-	-	-	-	-	-	-	1	1.7	63	94	67	57	9200
	50	R390-050C5-43L	6/2	-	-	-	-	-	-	-	1	1.3	50	78	53	43	7900
		-	-	-	R390-050C6-43M	-	9/3	-	-	-	1	1.7	63	80	53	43	7900
		R390-050C6-71L	10/2	-	R390-050C6-71M	15/3	-	-	-	-	1	2.0	63	108	81	71	7900
		-	-	-	R390-050C8-57M	-	12/3	-	-	-	1	2.7	80	102	67	57	7900
	54	-	-	-	R390-054C5-43M	-	9/3	-	-	-	1	1.3	50	78	78	43	7500
	63	-	-	-	R390-063C6-43M	-	12/4	-	-	-	1	2.1	63	80	53	43	6800
		R390-063C6-57L	-	12/3	-	-	-	-	-	-	1	2.3	63	94	67	57	6800
		R390-063C8-57L	-	12/3	R390-063C8-57M	-	16/4	-	-	-	1	3.3	80	102	67	57	6800
		R390-063C8-85L	-	18/3	-	-	-	-	-	-	1	3.7	80	130	95	85	6800
	66	R390-066C6-57L	-	12/3	-	-	-	-	-	-	1	2.5	63	94	67	57	6700
	80	-	-	-	-	-	-	R390-080C8-57H	20/5	-	1	4.0	80	102.6	67	57	5900
		R390-080C8-71L	-	15/3	-	-	-	-	-	-	1	4.6	80	116	81	71	5900
	84	-	-	-	R390-084C8-57M	-	16/4	-	-	-	1	4.3	80	102.6	67	57	5800
	100	-	-	-	R390-100C8-57M	-	16/4	R390-100C8-57H	24/6	-	1	5.2	80	102	67	57	5200
		-	-	-	R390-100C8-71M	-	20/4	-	-	-	1	6.1	80	116.7	81	71	5200

[1] 0 = no coolant, 1 = coolant through centre

[2] n_{max} (max. rev/min) for holders must also be considered.

⌖ = Even pitch

⌖ = Differential pitch

z_n= Number of insert in the cutter Zn = 8

z_c= Effective number of rows Zc = 2

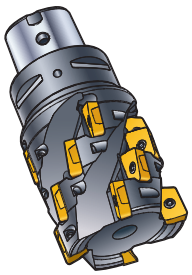
Note:

When using inserts with radius >1.6 mm, standard cutter bodies have to be modified accordingly: r = rε - 0.5 mm.

D42 D46 G6 D2 J4

Long edge milling cutter

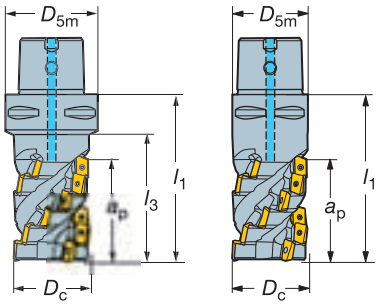
Diameter 1.250 - 3.000 inch



0°

Insert size
11, 18

Coromant Capto®



l_1 = programming length

Inch version

	D_c inch	Ordering code Coarse pitch	z_n/z_c		Close pitch	z_n/z_c		Extra close pitch	z_n/z_c		Coolant[1]	Dimensions, inch					
													D_{5m}	l_1	l_3	Max a_p	n_{max}[2]
		Coromant Capto															
11	1.250	RA390-032C5-36L	8/2	-	RA390-032C5-36M	-	12/3	-	-	-	1	2.2	C5	2.830	1.810	1.420	21700
	1.250	RA390-032C5-54L	12/2	-	RA390-032C5-54M	-	18/3	-	-	-	1	2.5	C5	3.500	2.480	2.130	21700
	1.250	-	-	-	RA390-032C6-45M	15/3	-	-	-	-	1	3.3	C6	3.230	2.130	1.770	21700
	1.250	RA390-032C6-63L	14/2	-	-	-	-	-	-	-	1	3.3	C6	3.940	2.480	2.480	21700
	1.500	-	-	-	RA390-038C5-63M	-	21/3	RA390-038C5-63H	-	28/4	1	2.6	C5	3.860	2.840	2.480	19500
	1.500	-	-	-	RA390-038C6-45M	-	15/3	-	-	-	1	3.5	C6	3.247	2.130	1.770	19500
	1.500	-	-	-	RA390-038C6-63M	-	21/3	RA390-038C6-63H	-	28/4	1	3.5	C6	3.940	2.840	2.480	19500
	1.500	RA390-038C6-80L	-	18/2	RA390-038C6-80M	-	27/3	-	-	-	1	3.8	C6	4.650	3.550	3.150	19500
	2.000	-	-	-	RA390-051C5-45M	-	20/4	RA390-051C5-45H	-	25/5	1	3.1	C5	3.150	3.150	1.770	16600
	2.000	RA390-051C5-63L	-	21/3	RA390-051C5-63M	-	28/4	-	-	-	1	3.5	C5	3.580	3.579	2.480	16600
	2.000	RA390-051C6-98L	-	33/3	-	-	-	-	-	-	1	5.2	C6	5.350	4.250	3.500	16600
18	2.000	RA390-051C5-43L	6/2	-	RA390-051C5-43M	-	9/3	-	-	-	1	3.2	C5	3.093	2.110	1.720	7800
	2.000	-	-	-	RA390-051C6-43M	-	9/3	-	-	-	1	3.7	C6	3.725	2.110	1.720	7800
	2.000	RA390-051C6-71L	-	10/2	-	-	-	-	-	-	1	4.5	C6	4.278	3.210	2.820	7800
	2.000	RA390-051C6-99L	-	14/2	-	-	-	-	-	-	1	4.9	C6	5.384	4.320	3.930	7800
	2.000	-	-	-	RA390-051C8-57M	-	12/3	-	-	-	1	5.3	C8	4.040	2.660	2.270	7800
	2.500	-	-	-	RA390-063C6-43M	-	12/4	-	-	-	1	4.6	C6	3.172	3.172	1.720	6800
	2.500	RA390-063C6-57L	-	12/3	RA390-063C6-57M	-	16/4	-	-	-	1	5.2	C6	3.725	3.724	2.270	6800
	2.500	RA390-063C6-71L	-	15/3	RA390-063C6-71M	-	20/4	-	-	-	1	5.6	C6	4.278	4.276	2.820	6800
	2.500	RA390-063C6-99L	-	21/3	-	-	-	-	-	-	1	6.5	C6	5.384	5.382	3.930	6800
	3.000	RA390-076C8-71L	-	15/3	-	-	-	-	-	-	1	9.5	C8	4.593	3.210	2.820	6100

1) 0 = no coolant, 1 = coolant through centre

2) n_{max} (max. rev/min) for holders must also be considered.

= Even pitch

= Differential pitch

z_n= Number of insert in the cutter Zn = 8
z_c= Effective number of rows Zc = 2

Note:
When using inserts with radius >1.6 mm, standard cutter bodies have to be modified accordingly: r = rε - 0.5 mm.

D42

D46

G6

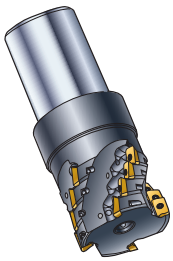
D2

J4

SANDVIK Coromant

Long edge milling cutter

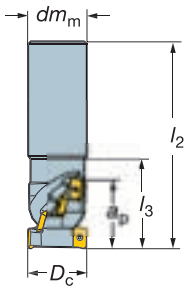
Diameter 32 – 200 mm



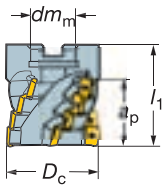
$\kappa_r = 90°$

Insert size
11, 18

Cylindrical



Arbor



l_1 = programming length

Metric version

		Ordering code									Dimensions, mm						
	D_c mm	Coarse pitch			Close pitch			Extra close pitch				dm_m	l_1	l_2	l_3	Max a_p	n_{max} [1]
		Cylindrical shank															
11	32	R390-032A25-36L	8/2	-	-	-	-	-	-	-	0.6	25		109	48	36	21700
		R390-032A32-36L	8/2	-	-	-	-	-	-	-	0.9	32		113	48	36	21700
	40	-	-	-	R390-040A40-45M	-	15/3	-	-	-	1.4	40		131	58	45	18900
		Arbor															
11	40	-	-	-	R390-040Q16-36M	-	12/3	R390-040Q16-36H	16/4	-	0.8	16	57			36	18900
	44	-	-	-	R390-044Q16-45M	-	15/3	-	-	-	0.9	16	65			45	17800
	50	-	-	-	R390-050Q22-36M	-	16/4	R390-050Q22-36H	20/5	-	1.0	22	57			36	16600
		R390-050Q22-54L	-	18/3	-	-	-	-	-	-	1.1	22	74			54	16600
	54	-	-	-	R390-054Q22-36M	-	16/4	-	-	-	1.0	22	57			36	16000
18	44	R390-044Q16-43L	6/2	-	-	-	-	-	-	-	0.8	16	68			43	8600
	50	R390-050Q22-57L	-	8/2	-	-	-	-	-	-	1.1	22	82			57	7900
		R390-054Q22-57L	8/2	-	-	-	-	-	-	-	1.3	22	82			57	7500
	63	R390-063Q27-57L	-	12/3	-	-	-	-	-	-	1.1	27	82			57	6800
	80	R390-080Q32-71L	-	15/3	-	-	-	-	-	-	2.9	32	97			71	5900
	100	-	-	-	R390-100Q40-57M	-	16/4	-	-	-	3.2	40	82.6			57	5200
	125	R390-125Q40-43L	18/6	-	-	-	-	-	-	-	4.7	40	68			43	4600
	160	R390-160Q40-43L	24/8	-	-	-	-	-	-	-	8.5	40	68			43	4000
	200	R390-200Q60-43L	27/9	-	-	-	-	-	-	-	14.5	60	68			43	3600

[1] n_{max} (max. rev/min) for holders must also be considered.

Note:
Bolt circle for cutters 200 and 250mm = 4"

= Even pitch

= Differential pitch

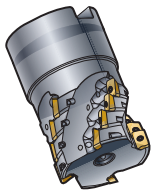
z_n= Number of insert in the cutter Zn = 18
z_c= Effective number of rows Zc = 3

Note:
When using inserts with radius >1.6 mm, standard cutter bodies have to be modified accordingly: r = rε - 0.5 mm.

D42
D46
G6
D2
J4

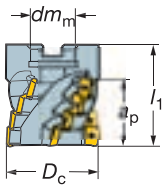
Long edge milling cutter

Diameter 1.250 - 4.000 inch

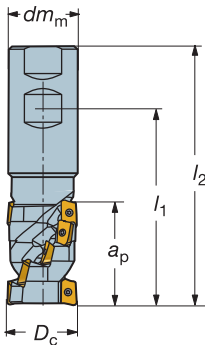


0°

Arbor



Weldon



Insert size
11, 18

l_1 = programming length

Inch version

		Ordering code									Dimensions, inch					
	D_c inch	Coarse pitch			Close pitch			Extra close pitch			Loc	dm_m	l_1	l_2	Max a_p	n_{max} [1]
		Weldon														
11	1.250	RA390-032M32-45L	10/2	-	-	-	-	-	-	-	2.0	1.250	3.220	3.500	1.770	21700
	1.500	RA390-038M38-54L	12/2	-	-	-	-	-	-	-	2.9	1.500	4.210	5.418	2.130	19500
	1.500	-	-	-	RA390-038M38-54M	-	18/3	-	-	-	2.9	1.500	4.210	5.418	2.130	19500
		Arbor														
11	2.000	-	-	-	RA390-051R19-36M	-	16/4	RA390-051R19-36H	20/5	-	2.1	.750	2.240		1.420	16600
	2.000	-	-	-	RA390-051R19-54M	-	18/3	-	-	-	2.5	.750	2.910		2.130	16600
18	2.000	-	-	-	RA390-051R19-43M	-	9/3	-	-	-	2.1	.750	2.699		1.720	7800
	2.000	-	-	-	RA390-051R19-57M	-	12/3	-	-	-	2.3	.750	3.252		2.270	7800
	2.500	-	-	-	RA390-063R19-43M	-	12/4	-	-	-	3.1	.750	2.699		1.720	6800
	2.500	-	-	-	RA390-063R25-43M	-	12/4	-	-	-	3.1	1.000	2.699		1.720	6800
	2.500	RA390-063R25-57L	-	12/3	-	-	-	-	-	-	3.1	1.000	3.252		2.270	6800
	3.000	-	-	-	-	-	-	RA390-076R32-43H	-	16/4	4.3	1.250	2.699		1.720	6100
	4.000	-	-	-	RA390-102R38-57M	-	16/4	RA390-102R38-57H	-	24/6	7.2	1.500	3.252		2.270	5200

[1] n_{max} (max. rev/min) for holders must also be considered.

= Even pitch

= Differential pitch

z_n= Number of insert in the cutter Zn = 12
z_c= Effective number of rows Zc = 3

Note:
When using inserts with radius >1.6 mm, standard cutter bodies have to be modified accordingly: r = rε - 0.5 mm.

D42
D46
G6
D2
J4

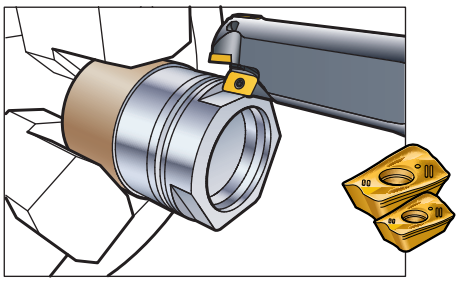
SANDVIK Coromant

CoroPlex™ MT

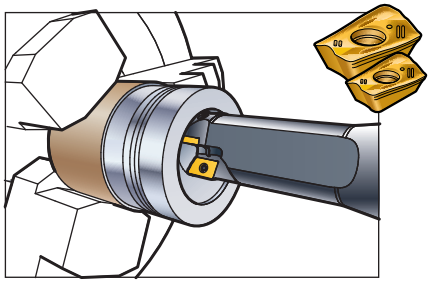
Multifunctional milling and turning tool

Many optimized tools in one solution dedicated for multi-task machining...

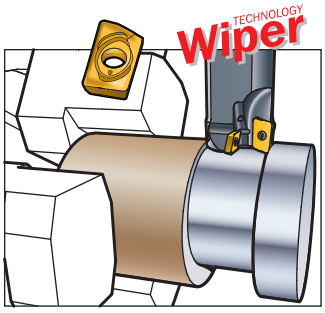
... as a CoroMill® 390 cutter



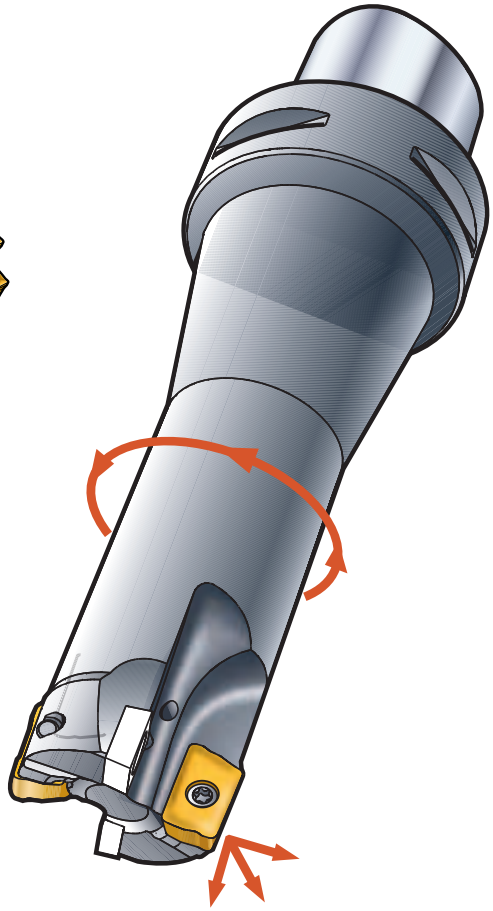
Shoulder milling

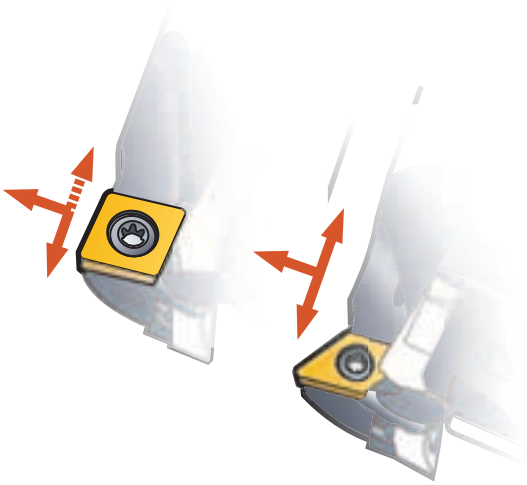


Circular interpolation in helix

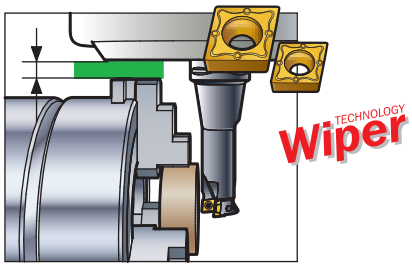


Turn milling

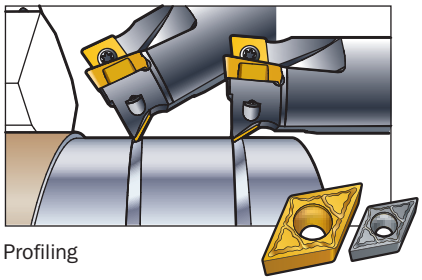




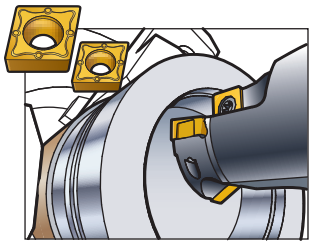
...as a CoroTurn® 107 tool



Face and longitudinal turning



Profiling



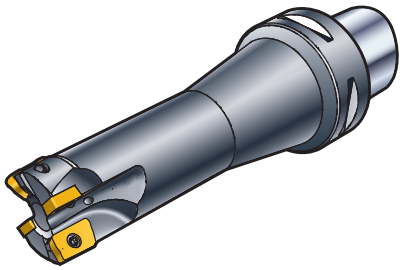
Internal turning

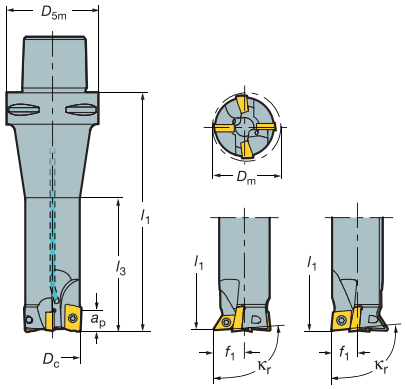
ISO application areas:

P M K N S H

Multi-functional tools CoroPlex™ MT

for milling and turning in multi-task machines





Coolant inlet: Axial through the center

Entering angle: K_r = 93°
Lead angle: -3°

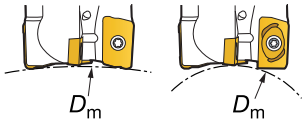
K_r = 95°
-5°

Insert size			Coupling size	D_c mm inch	Ordering code	z_n	Dimensions, mm, inch								Gauge insert		
							D_m min	D_{5m}	l_1	l_3	f_1	a_p	γ°1)	λ_s2)	ISO ANSI	n_{max}3)	KG
11	–	–	C5	32	**M-32C5-39011C09D07**	2	–	50	130	78.5	–	10	–	–	R390-11	12000	1.0
				1.260				*1.969*	*5.118*	*3.091*		*.394*					
–	09	3/8				1	35	50	129.3	77.8	15.4	–	0°	-5°	CCMT 09 T3 08	–	
							1.378	*1.969*	*5.091*	*3.063*	*.606*				*CCMT 3 (2.5) 2*		
–	07	1/4				1	35	50	128.9	77.4	15.4	–	0°	-5°	DCMT 07 02 04	–	
							1.378	*1.969*	*5.075*	*3.047*	*.606*				*DCMT 2 (1.5) 1*		
11	–	–	C6	32	**M-32C6-39011C09D07**	2	–	63	165	78.5	–	10	–	–	R390-11	12000	1.7
				1.260				*2.480*	*6.496*	*3.091*		*.394*					
–	09	3/8				1	35	63	164.3	77.8	15.4	–	0°	-5°	CCMT 09 T3 08	–	
							1.378	*2.480*	*6.469*	*3.063*	*.606*				*CCMT 3 (2.5)*		
–	07	1/4				1	35	63	163.9	77.4	15.4	–	0°	-5°	DCMT 07 02 04	–	
							1.378	*2.480*	*6.453*	*3.047*	*.606*				*DCMT 2 (1.5) 1*		
18	–	–	C6	40	**M-40C6-39018C12D11**	2	–	63	165	90.1	–	10	–	–	R390-18	10000	1.7
				1.575				*2.480*	*6.496*	*3.547*		*.394*					
–	12	1/2				1	43	63	164.4	89.5	19.0	–	0°	-5°	CCMT 12 04 08	–	
							1.693	*2.480*	*6.472*	*3.524*	*.748*				*CCMT 432*		
–	11	3/8				1	43	63	163.9	89.0	19.2	–	0°	-5°	DCMT 11 T3 04	–	
							1.693	*2.480*	*6.453*	*3.504*	*.756*				*DCMT 3 (2.5) 1*		
18	–	–	C8	40	**M-40C8-39018C12D11**	2	–	80	200	90.1	–	10	–	–	R390-18	10000	3.3
				1.575				*3.150*	*7.874*	*3.547*		*.394*					
–	12	1/2				1	43	80	199.4	89.5	19.0	–	0°	-5°	CCMT 12 04 08	–	
							1.693	*3.150*	*7.850*	*3.524*	*.748*				*CCMT 432*		
–	11	3/8				1	43	80	198.9	89.0	19.2	–	0°	-5°	DCMT 11 T3 04	–	
							1.693	*3.150*	*7.831*	*3.504*	*.756*				*DCMT 3 (2.5) 1*		

1) γ = Rake angle (valid with flat insert).
2) λ_s = Angle of inclination.
3) n_{max} (max. rev/min) for holders must also be considered.

Limitation on workpiece diameter

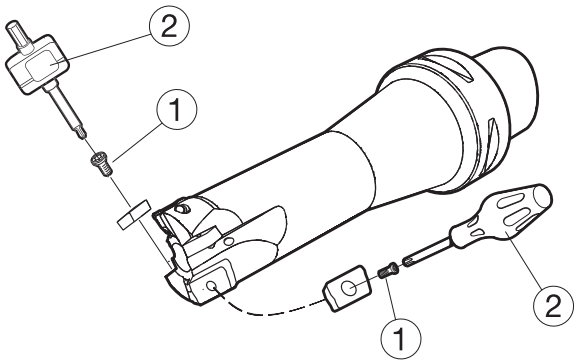
When turning axially and using the CCMT insert, it may be that the R390 inserts, because of their position in the tool, limit the workpiece diameter. See illustration below.



Tool diameter, Dc mm (inch)	Max workpiece diameter, Dm mm (inch) Insert type		
	R390-11	**R390-18**	**Wiper R390-11**
32 (1.260)	150 (5.906)	–	100 (3.937)
40 (1.575)	–	380 (14.960)	–

R390 .CMT

Multi-functional tools CoroPlex™ MT

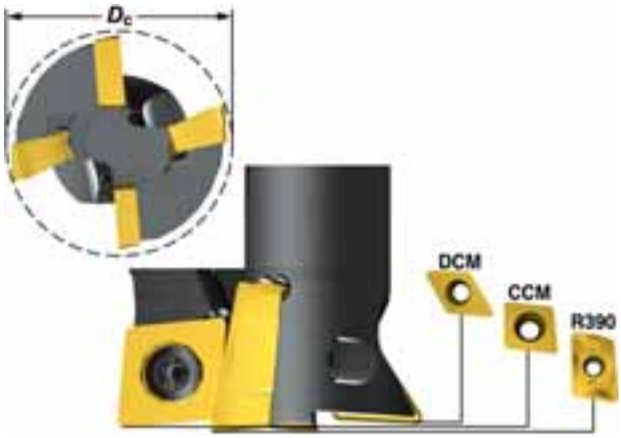


Spare parts

Insert					Torque value	
			1	2		
Type/size ISO-code	ANSI-code	Insert screw	Key (Torx Plus)		Nm	ft-lbs
CCMT 09 ...	CCMT 3 (2.5)	5513 020-09	5680 046-02 (15IP)		3.0	2.2
CCMT 12 ...	CCMT 43 ...	5513 020-07	5680 046-06 (20IP)		6.4	4.7
DCMT 07 ...	DCMT 2 (1.5)	5513 020-03	5680 046-03 (7IP)		0.9	0.7
DCMT 11 ...	DCMT 3 (2.5)	5513 020-09	5680 046-02 (15IP)		3.0	2.2
R390-11 ...	R390-11 ...	5513 020-35	5680 046-01 (8IP)		1.2	0.9
R390-18 ...	R390-18 ...	5513 020-29	5680 046-02 (15IP)		3.0	2.2

One and the same tool for both rotating and stationary use

The CoroMill® 390 inserts are positioned a little ahead of the CoroTurn® inserts – axially as well as radially – to guarantee that turning inserts are not in cut when the tool is applied rotating. This means that turning of an available blind hole – using the CoroTurn® function of the tool – must be stopped before the CoroMill® 390 inserts get in contact with bottom face.



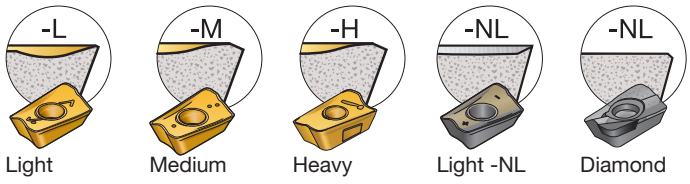
Tool length optimized for accessibility in multi-task machining

The tool bodies are extended by 65 mm (2.60 inch) compared with a corresponding conventional tools – to allow freer use of the working positions possible in multi-task machining – without any need for extensions.

Length and design of the tool body is optimized by each Coromant Capto® size to provide best accessibility relative to the most common chuck sizes. The tool is designed with all inserts positioned on the centre line of the tool, to be easy to use together with the standard programme cycles in the machine tools.

Inserts for CoroMill® 390

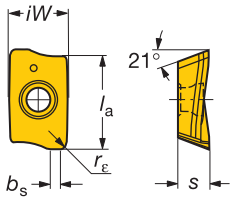
11



Light | Medium | Heavy | Light -NL | Diamond

Radius inserts

Note!
Intermediate radii and other grades and geometry combinations are delivered on request as engineered inserts.



Dimensions, mm (inch)

Size	l_a	iW	s
11	11 (.433)	6.8 (.268)	3.5 (.141)

			P						M				K				N				S						H						Dimensions, millimeter, inch (mm, in.)			
			GC	GC	GC	GC	GC	CT	GC	GC	GC	CT	GC	GC	GC	-	GC	GC	CT	-	GC	GC	GC	GC	GC	-	GC	GC	GC	GC	GC	GC	CT				
			1025	1030	4220	4230	4240	530	1040	2030	2040	530	1020	3040	4220	H13A	1025	1030	530	H13A	1010	1025	1030	2030	2040	H13A	S30T	S40T	1010	1025	1030	3040	4220	530				
		Ordering code	P30	P30	P20	P20	P40	P15	M30	M25	M40	M10	K20	K30	K25	K20	N15	N15	N15	N15	S10	S15	S15	S20	S30	S20	S25	S35	H10	H15	H10	H25	H25	H25	b_s mm	b_s in.	r_ε mm	r_ε in.
Light	11	R390-11 T3 04E-NL														☆				☆															0.9	.035	0.4	.016
		R390-11 T3 04E-PL	☆	☆													☆	☆				☆	☆				★	★		☆	☆				0.9	.035	0.4	.016
		R390-11 T3 08E-KL														☆				☆						☆									1.5	.059	0.8	.032
		R390-11 T3 08E-ML							★	☆	☆													★	☆		★	★							1.5	.059	0.8	.032
		R390-11 T3 08E-NL																		★															1.5	.059	0.8	.032
		R390-11 T3 08E-PL	☆	★				☆				☆					☆	☆			☆	☆	☆						★	☆	☆			☆	1.5	.059	0.8	.032
		R390-11 T3 08M-KL											★	☆		☆				☆						☆						★			1.2	.047	0.8	.032
		R390-11 T3 08M-PL	☆	★	☆	☆	☆	☆				☆			☆		☆	☆			☆	☆	☆				★	★	★	☆	☆		☆	☆	1.2	.047	0.8	.032
		R390-11 T3 16E-ML							☆	☆	☆													☆	☆										0.8	.032	1.6	.063
		R390-11 T3 20E-NL																		☆																	2.0	.079
		R390-11 T3 24E-ML							☆	☆	☆													☆	☆		★	★									2.4	.094
		R390-11 T3 31E-ML							★																												3.1	.122
		R390-11 T3 31E-NL																		☆																	3.1	.122
Medium	11	R390-11 T3 02E-KM														☆				☆						☆									0.7	.028	0.2	.008
		R390-11 T3 02E-MM							☆	☆														☆											0.7	.028	0.2	.008
		R390-11 T3 02E-PM	☆	☆			☆										☆	☆				☆	☆							☆	☆				0.7	.028	0.2	.008
		R390-11 T3 04M-KM											☆	☆		☆				☆						☆						☆			0.9	.035	0.4	.016
		R390-11 T3 04M-PM	☆	☆	☆		☆	☆				☆			☆				☆			☆	☆							☆	☆		☆	☆	0.9	.035	0.4	.016
		R390-11 T3 08M-KM											★	☆		☆				☆						☆						☆			1.2	.047	0.8	.032
		R390-11 T3 08M-MM							★	☆	☆													☆	☆		★	★							1.2	.047	0.8	.032
		R390-11 T3 08M-PM	☆	★	☆	☆	☆	☆				☆			☆		☆	☆			☆	☆	☆						★	☆	☆		☆	☆	1.2	.047	0.8	.032
		R390-11 T3 12E-KM														☆				☆						☆									0.8	.032	1.2	.047
		R390-11 T3 12E-MM							☆	☆														☆											0.8	.032	1.2	.047
		R390-11 T3 12E-PM	☆	☆			☆										☆	☆			☆	☆	☆				★	★	★	☆	☆				0.8	.032	1.2	.047
		R390-11 T3 16E-KM														☆				☆						☆									0.8	.032	1.6	.063
		R390-11 T3 16E-MM							☆	☆														☆											0.4	.016	1.6	.063
		R390-11 T3 16E-PM	☆	☆			☆										☆	☆			☆	☆	☆						★	☆	☆				0.4	.016	1.6	.063
		R390-11 T3 16M-KM											☆			☆				☆						☆									0.4	.016	1.6	.063
		R390-11 T3 16M-PM	☆	☆	☆		☆								☆		☆	☆			☆	☆	☆				★	★	★	☆	☆				0.4	.016	1.6	.063
		R390-11 T3 20E-KM														☆				☆						☆									0.4	.016	2.0	.079
		R390-11 T3 20E-MM							☆	☆														☆													2.0	.079
		R390-11 T3 20E-PM	☆	☆			☆										☆	☆			☆	☆	☆				★	★	★	☆	☆						2.0	.079
		R390-11 T3 24E-KM														☆				☆						☆											2.4	.094
		R390-11 T3 24E-MM							☆	☆														☆													2.4	.094
		R390-11 T3 24E-PM	☆	☆			☆										☆	☆				☆	☆								☆	☆					2.4	.094
		R390-11 T3 31E-KM														☆				☆						☆											3.1	.122
		R390-11 T3 31E-MM							★	☆														☆													3.1	.122
		R390-11 T3 31E-PM	☆	☆			☆										☆	☆			☆	☆	☆						★	☆	☆						3.1	.122
		R390-11 T3 31M-KM											☆			☆				☆						☆											3.1	.122
		R390-11 T3 31M-PM	☆	☆	☆		☆								☆		☆	☆			☆	☆	☆				★	★	★	☆	☆						3.1	.122
Heavy	11	R390-11 T3 10M-KH											★	☆																		☆			1.02	.040	1.0	.039
		R390-11 T3 10M-MH							★	☆	☆													☆	☆										1.02	.040	1.0	.039
		R390-11 T3 10M-PH	☆	☆	☆	☆	★								☆												★	★					☆		1.02	.040	1.0	.039

★= First choice

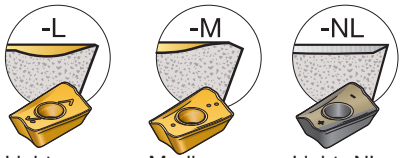
R390-11 T3 04 E-PL
|
E = Highest edge sharpness and precision
M = Highest edge security

D334 D327 D356 D2

SANDVIK Coromant

Inserts for CoroMill® 390

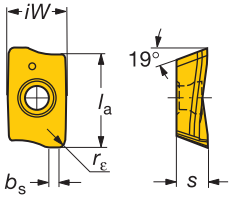
17



Light Medium Light -NL

Radius inserts

Note!
Intermediate radii and other grades and geometry combinations are delivered on request as engineered inserts.



Dimensions, mm (inch)

Size	l_a	iW	s
17	17 (.669)	9.6 (.378)	4.7 (.188)

				P						M					K				N			S									H						Dimensions, millimeter, inch (mm, in.)			
				GC	GC	GC	GC	GC	CT	GC	GC	GC	GC	CT	GC	GC	GC	-	GC	GC	-	GC	GC	GC	GC	-	GC	GC	GC	GC	GC	GC	CT						
				1025	1030	4220	4230	4240	530	1040	2030	2040	4240	530	1020	3040	4220	H13A	1025	1030	H13A	1010	1025	1030	2030	2040	H13A	S30T	S40T	1010	1025	1030	3040	4220	530						
			Ordering code																																		b_s mm	b_s in.	r_ε mm	r_ε in.		
Light	17		R390-17 04 08E-KL															☆			☆					☆											1.5	.059	0.8	.032		
			R390-17 04 08E-ML							☆	☆	☆													★	☆		★	★								1.5	.059	0.8	.032		
			R390-17 04 08E-NL																		★																1.5	.059	0.8	.032		
			R390-17 04 08E-PL	☆	★			☆	☆				☆	☆					☆	☆		☆	☆	☆						★	☆	☆			☆			1.5	.059	0.8	.032		
			R390-17 04 08M-KL												★	☆		☆			☆						☆						☆				1.5	.059	0.8	.032		
			R390-17 04 08M-PL	☆	★	☆	☆	☆	☆					☆			☆		☆	☆		☆	☆	☆				★	★	★	☆	☆		☆	☆		1.5	.059	0.8	.032		
			R390-17 04 20E-NL																		★																0.3	.012	2.0	.079		
			R390-17 04 31E-NL																																				3.1	.122		
			R390-17 04 40E-NL																																				4.0	.158		
			R390-17 04 50E-NL																																				5.0	.197		
Medium	17		R390-17 04 04E-KM															☆			☆						☆											1.0	.039	0.4	.016		
			R390-17 04 04E-MM							☆	☆															☆											1.0	.039	0.4	.016		
			R390-17 04 04E-PM	☆	☆			☆											☆	☆			☆	☆				★	★		☆	☆					1.0	.039	0.4	.016		
			R390-17 04 04M-KM												☆	☆		☆			☆						☆						☆				1.0	.039	0.4	.016		
			R390-17 04 04M-PM	☆	☆	☆		☆	☆				☆				☆		☆	☆			☆	☆							☆	☆		☆	☆		1.0	.039	0.4	.016		
			R390-17 04 08M-KM												★	☆		☆			☆						☆						☆				1.5	.059	0.8	.032		
			R390-17 04 08M-MM							★	☆	☆													☆	☆		★	★								1.5	.059	0.8	.032		
			R390-17 04 08M-PM	☆	★	☆	☆	☆	☆					☆			☆		☆	☆		☆	☆	☆						★	☆	☆		☆	☆		1.5	.059	0.8	.032		
			R390-17 04 12E-KM															☆			☆						☆											1.1	.043	1.2	.047		
			R390-17 04 12E-MM							☆	☆															☆											1.1	.043	1.2	.047		
			R390-17 04 12E-PM	☆	☆			☆											☆	☆		☆	☆	☆				★	★	★	☆	☆					1.1	.043	1.2	.047		
			R390-17 04 16E-KM															☆			☆						☆											0.7	.028	1.6	.063		
			R390-17 04 16E-MM							☆	☆															☆											0.7	.028	1.6	.063		
			R390-17 04 16E-PM	☆	☆			☆											☆	☆		☆	☆	☆				★	★	★	☆	☆					0.7	.028	1.6	.063		
			R390-17 04 16M-KM												☆			☆			☆						☆													1.6	.063		
			R390-17 04 16M-PM	☆	☆	☆		☆									☆		☆	☆			☆	☆				★	★		☆	☆					0.7	.028	1.6	.063		
			R390-17 04 20E-KM															☆			☆						☆											0.3	.012	2.0	.079		
			R390-17 04 20E-MM							☆	☆															☆											0.3	.012	2.0	.079		
			R390-17 04 20E-PM	☆	☆			☆											☆	☆		☆	☆	☆				★	★	★	☆	☆					0.3	.012	2.0	.079		
			R390-17 04 24E-KM															☆			☆						☆													2.4	.094		
			R390-17 04 24E-MM							☆	☆															☆													2.4	.094		
			R390-17 04 24E-PM	☆	☆			☆											☆	☆		☆	☆	☆				★	★	★	☆	☆							2.4	.094		
			R390-17 04 31E-KM															☆			☆						☆													3.1	.122		
			R390-17 04 31E-MM							☆	☆															☆													3.1	.122		
			R390-17 04 31E-PM	☆	☆			☆											☆	☆		☆	☆	☆				★	★	★	☆	☆							3.1	.122		
			R390-17 04 31M-KM												☆			☆			☆						☆													3.1	.122		
			R390-17 04 31M-PM	☆	☆	☆		☆									☆		☆	☆			☆	☆				★	★		☆	☆							3.1	.122		
			R390-17 04 40E-KM															☆			☆						☆													4.0	.158		
			R390-17 04 40E-MM							☆	☆															☆													4.0	.158		
			R390-17 04 40E-PM	☆	☆			☆											☆	☆		☆	☆	☆				★	★	★	☆	☆							4.0	.158		
			R390-17 04 48E-KM															☆			☆						☆													4.8	.189		
			R390-17 04 48E-MM							☆	☆															☆													4.8	.189		
			R390-17 04 48E-PM	☆	☆			☆											☆	☆		☆	☆	☆				★	★	★	☆	☆							4.8	.189		
			R390-17 04 50E-KM															☆			☆						☆													5.0	.197		
			R390-17 04 50E-MM							☆	☆															☆													5.0	.197		
			R390-17 04 50E-PM	☆	☆			☆											☆	☆		☆	☆	☆				★	★	★	☆	☆							5.0	.197		
			R390-17 04 60E-KM															☆			☆						☆													6.0	.236		
			R390-17 04 60E-MM							☆	☆															☆													6.0	.236		
			R390-17 04 60E-PM	☆	☆			☆											☆	☆		☆	☆	☆				★	★	★	☆	☆							6.0	.236		
			R390-17 04 64E-KM															☆			☆						☆													6.35	.250		
			R390-17 04 64E-MM							☆	☆															☆													6.35	.250		
			R390-17 04 64E-PM	☆	☆			☆											☆	☆		☆	☆	☆				★	★	★	☆	☆							6.35	.250		
				P30	P30	P20	P20	P40	P15	M30	M25	M40	M40	M10	K20	K30	K25	K20	N15	N15	N15	S10	S15	S15	S20	S30	S20	S25	S35	H10	H15	H10	H25	H25	H25						

R390-17 04 08 E-PL

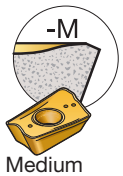
E = Highest edge sharpness and precision
M = Highest edge security

★= First choice

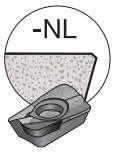
D334 D327 D356 D2

Inserts for CoroMill® 390

17



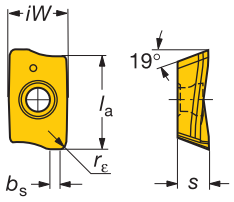
Medium



Diamond

Radius inserts

Note!
Intermediate radii and other grades and geometry combinations are delivered on request as engineered inserts.



			P			K			H	Dimensions, millimeter, inch (mm, in.)									
			GC	GC	GC	GC	GC	GC	GC										
		Ordering code	4220	4230	4240	1020	3040	4220	4220	l_a mm	l_a in.	iW mm	iW in.	s mm	s in.	b_s mm	b_s in.	r_ε mm	r_ε in.
Heavy	17	R390-17 04 08M-KH				☆	☆			17	.669	9.6	.378	4.76	.188	1.5	.059	0.8	.032
		R390-17 04 08M-PH	☆		★			☆	☆	17	.669	9.6	.378	4.76	.188	1.5	.059	0.8	.032
		R390-17 04 16M-PH		☆	☆					17	.669	9.6	.378	4.76	.188	1.5	.059	1.6	.063
			P20	P20	P40	K20	K30	K25	H25										

★= First choice

Advanced cutting materials

			N	Dimensions, millimeter, inch (mm, in.)											
			CD												
		Ordering code	CD10	a_p max mm	a_p max in.	l_a mm	l_a in.	iW mm	iW in.	s mm	s in.	b_s mm	b_s in.	r_ε mm	r_ε in.
Light	11	R390-11T304E-P4-NL	☆	4	.157	11	.433	6.8	.268	3.59	.141	2.2	.087	0.4	.016
	17	R390-170408E-P6-NL	★	6	.236	17	.669	9.6	.378	4.76	.188	1.8	.071	0.8	.032
			N05												

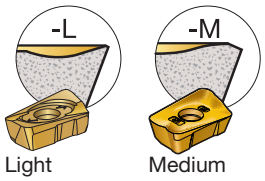
★= First choice

D334 D327 D356 D2

SANDVIK Coromant

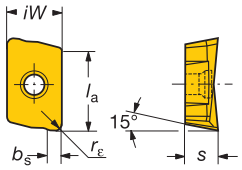
Inserts for CoroMill® 390

18



Radius inserts

Note!
Intermediate radii and other grades and geometry combinations are delivered on request as engineered inserts.



Dimensions, mm (inch)

Size	*iW*	*s*
18	11 (.433)	6.3 (.249)

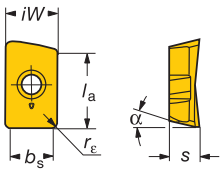
			P							M			K				N		S						H			Dimensions, millimeter, inch (mm, in.)					
			GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC						
	□	Ordering code	1025	1030	2040	3040	4220	4230	4240	1040	2030	2040	1020	3040	4020	4220	1025	1030	1010	1025	1030	2040	S30T	S40T	1010	3040	4220	l_a mm	l_a in.	b_s mm	b_s in.	r_ε mm	r_ε in.
Light	18	R390-18 06 08H-KL											★	☆												☆		15.8	.622	1.0	.039	0.8	.032
		R390-18 06 08H-ML								☆	☆	☆										☆						15.8	.622	1.0	.039	0.8	.032
		R390-18 06 08H-PL	☆	☆				☆	☆						☆				☆	☆	☆		★	★	★			15.8	.622	1.0	.039	0.8	.032
		R390-18 06 12H-KL											☆	★												☆		15.8	.622	1.0	.039	1.2	.047
		R390-18 06 12H-ML								★	☆	☆										☆						15.8	.622	1.0	.039	1.2	.047
		R390-18 06 12H-PL	☆	★			☆	☆	☆							☆	☆	☆	☆	☆	☆		★	★	★		☆	15.8	.622	1.0	.039	1.2	.047
		R390-18 06 16H-ML								☆	☆	☆																15.8	.622	1.0	.039	1.6	.063
		R390-18 06 16H-PL	★						☆								☆											15.8	.622	1.0	.039	1.6	.063
		R390-18 06 20H-ML								☆	☆	☆										☆						15.8	.622	1.0	.039	2.0	.079
		R390-18 06 20H-PL	☆														☆			☆								15.8	.622	1.0	.039	2.0	.079
		R390-18 06 24H-ML								☆	☆	☆										☆						15.8	.622	1.0	.039	2.4	.094
		R390-18 06 24H-PL	☆														☆			☆								15.8	.622	1.0	.039	2.4	.094
		R390-18 06 31H-KL											☆	☆												☆		15.8	.622	1.0	.039	3.1	.122
		R390-18 06 31H-ML								☆	☆	☆										☆						15.8	.622	1.0	.039	3.1	.122
		R390-18 06 31H-PL	☆														☆			☆								15.8	.622	1.0	.039	3.1	.122
		R390-18 06 40H-ML								☆	☆	☆										☆						15.8	.622	1.0	.039	4.0	.158
		R390-18 06 40H-PL	☆	☆													☆			☆								15.8	.622	1.0	.039	4.0	.158
		R390-18 06 50H-ML								☆	☆	☆										☆						15.8	.622	1.0	.039	5.0	.197
		R390-18 06 50H-PL	☆	☆													☆		☆	☆					★			15.8	.622	1.0	.039	5.0	.197
		R390-18 06 60H-ML								☆	☆	☆										☆						15.8	.622	1.0	.039	6.0	.236
		R390-18 06 60H-PL	☆	☆													☆		☆	☆					★			15.8	.622	1.0	.039	6.0	.236
		R390-18 06 64H-ML								☆	☆	☆										☆						15.8	.622	1.0	.039	6.4	.252
		R390-18 06 64H-PL	☆	☆													☆		☆	☆					★			15.8	.622	1.0	.039	6.4	.252
Medium	18	R390-18 06 08M-KM				☆							☆	☆														15.8	.622	1.1	.043	0.8	.032
		R390-18 06 08M-MM			☆					☆		☆										☆						15.8	.622	1.1	.043	0.8	.032
		R390-18 06 08M-PM					☆	☆	☆							☆					☆						☆	15.8	.622	1.1	.043	0.8	.032
		R390-18 06 12M-KM											★	☆												☆		15.8	.622	1.5	.059	1.2	.047
		R390-18 06 12M-KMR											☆	☆														17	.669	0.25	.010	1.2	.047
		R390-18 06 12M-MM								★	☆	☆										☆						15.8	.622	1.5	.059	1.2	.047
		R390-18 06 12M-MMR			☆					☆		☆										☆						17	.669	0.25	.010	1.2	.047
		R390-18 06 12M-PM	☆	☆			☆	★	☆							☆	☆	☆	☆	☆	☆		★	★	★		☆	15.8	.622	1.1	.043	1.2	.047
		R390-18 06 12M-PMR		☆				☆	☆												☆		★	★				17	.669	0.25	.010	1.2	.047
		R390-18 06 16M-KM				☆							★	★														15.8	.622	1.1	.043	1.6	.063
		R390-18 06 16M-MM			☆					☆		☆										☆						15.8	.622	1.1	.043	1.6	.063
		R390-18 06 16M-PM		☆			☆	☆	☆							☆					☆		★	★			☆	15.8	.622	1.1	.043	1.6	.063
		R390-18 06 20M-KM											☆	☆														15.8	.622	0.5	.020	2.0	.079
		R390-18 06 20M-MM			☆					☆		☆										☆						15.8	.622	0.5	.020	2.0	.079
		R390-18 06 20M-PM		☆			☆	★	☆							☆					☆							15.8	.622	0.5	.020	2.0	.079
		R390-18 06 31M-KM											☆	☆														15.8	.622	0.5	.020	3.1	.122
		R390-18 06 31M-MM			☆					☆		☆										☆						15.8	.622	0.5	.020	3.1	.122
		R390-18 06 31M-PM		☆			☆	☆	☆							☆					☆		★	★			☆	15.8	.622	0.5	.020	3.1	.122
			P30	P30	P45	P20	P20	P20	P40	M30	M25	M40	K20	K30	K25	K25	N15	N15	S10	S15	S15	S30	S25	S35	H10	H25	H25						

★= First choice

D334 D327 D356 D2

Wiper inserts for CoroMill® 390

11
18



Light

Dimensions, mm (inch)

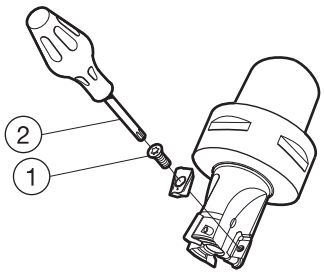
Size	l_a	iW	s
11	11 (.433)	6.8 (.268)	3.5 (.138)
18	16 (.630)	11 (.433)	6.3 (.249)

1) D_c mm	inch	b_s mm	inch
12	.500	2.0	.079
16	.625	2.5	.098
20	.750	3.2	.126
25	1.000	4.0	.157
32	1.250	4.9	.193
≥40	1.500	5.0	.197

			P		M	K	N		S		H		Dimensions, millimeter, inch (mm, in.)			
			GC	GC	GC	GC	GC	GC	GC	GC	GC	GC				
	□	Ordering code	1025	1030	1030	1020	1025	1030	1025	1030	1025	1030	b_s mm	b_s in.	r_ε mm	r_ε in.
Wiper	11	R390-11 T3 08E-PLW	☆	☆			☆	☆	☆	☆	☆	☆	1)	1)	0.8	.032
	18	R390-18 06 16H-PTW		☆	☆			☆		☆			8.6	.339	1.6	.063
		R390-18 06 16H-KTW				☆							8.6	.339	1.6	.063
			P30	P30	M15	K20	N15	N15	S15	S15	H15	H10				

Spare parts for CoroMill® 390

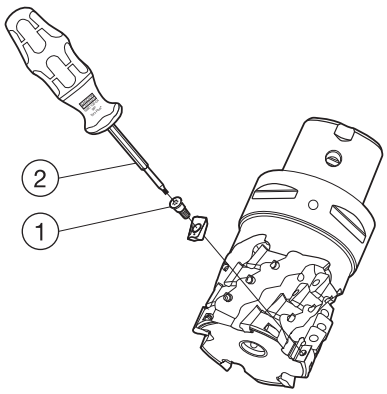
Square shoulder face mill



Cutter			1	2			
Insert size	D_c mm	D_c inch	Screw	Key (Torx Plus)	Torque value Nm/in.lbs	Molykote	Torque wrench 1)
11	12-22	.500-.750	5513 020-36	5680 046-01 (8IP)	1.2 /10.6	5683 010-01	5680 100-03
	25-80	1.000-3.000	5513 020-35	5680 046-01 (8IP)	1.2 /10.6	5683 010-01	5680 100-03
17	25	1.000	5513 020-37	5680 046-02 (15IP)	3.0/26	5683 010-01	5680 100-06
	32-125	1.250-5.000	5513 020-39	5680 048-01 (15IP)	3.0/26	5683 010-01	5680 100-06
18	40-200	2.000-8.000	5513 020-29	5680 046-02 (15IP)	3.0/26	5683 010-01	5680 100-06

1) Accessories, must be ordered separately

Long edge milling cutter



Cutter			1	2		
Insert size	D_c mm	D_c inch	Insert screw 2)	Torque wrench Torx Plus	Torque value Nm/in.lbs	Molykote
11	32-66	1.250-2.598	5513 024-01	5680 100-03 (8IP)	1.2/10.6	5683 010-01
18	40-200	2.000-4.000	5513 036-01	5680 100-06(15IP)	3.0/26	5683 010-01

1) Accessories, must be ordered separately

2) Note! The insert screw is unique for the CoroMill 390 long edge milling cutter. Do NOT use the screw for the CoroMill 390 square shoulder face mill.

D334 D327 D356 D2

SANDVIK Coromant

CoroMill® 290

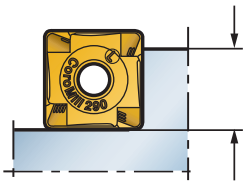
General purpose square shoulder milling cutter

Optional face mill generating low axial pressure

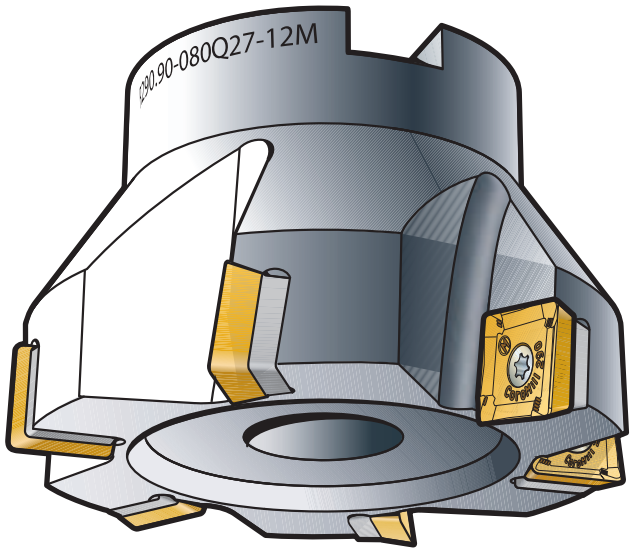
Diameter 40 - 250 mm (2.000 - 10.000 inch)

High accuracy

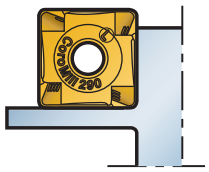
Milling of 90° corners, capable of producing excellent surface quality.



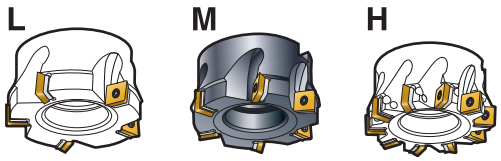
Max. a_p 10.7 mm (.421 inch)



Low axial forces

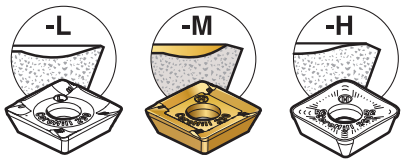


Pitch:



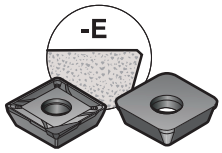
Condition: Unstable General Stable

Geometries:

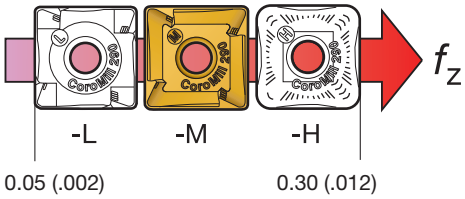


General

Ceramic and boron nitride



Feed range



0.05 (.002) 0.30 (.012)

Tailor Made

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

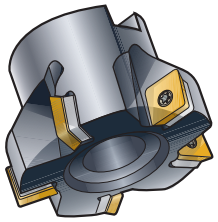
ISO application areas:

P K H

Square shoulder face mill

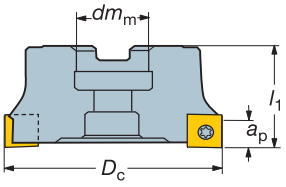
Square shoulder face mill

Diameter 40 – 250 mm

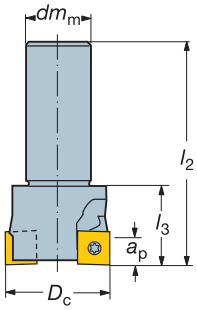


$\kappa_r = 90°$

Arbor



Cylindrical shank



l_1 = programming length

Metric version

		Ordering code									Dimensions, mm						
	D_c mm	Coarse pitch			Close pitch			Extra close pitch				dm_m	l_1	l_2	l_3	Max a_p	n_{max} [1]
		Cylindrical shank															
12	40	R290-040A32-12L [2]	-	3	-	-	-	-	-	-	0.4	32		120	39	10.7	21600
	50	R290-050A32-12L	-	3	R290-050A32-12M	4	-	-	-	-	0.4	32		120	39	10.7	18400
	63	R290-063A32-12L	-	4	R290-063A32-12M	5	-	-	-	-	1.1	32		120	39	10.7	15900
	80	R290-080A32-12L	-	4	R290-080A32-12M	6	-	-	-	-	1.9	32		120	39	10.7	13700
		Arbor															
12	50	R290-050Q22-12L	-	3	R290-050Q22-12M	4	-	R290-050Q22-12H [2]	5	-	0.5	22	40			10.7	18400
	63	R290-063Q22-12L	-	4	R290-063Q22-12M	5	-	R290-063Q22-12H	6	-	0.6	22	40			10.7	15900
	80	R290-080Q27-12L	-	4	R290-080Q27-12M	6	-	R290-080Q27-12H	8	-	0.9	27	50			10.7	13700
	100	R290-100Q32-12L	-	5	R290-100Q32-12M	7	-	R290-100Q32-12H	10	-	1.3	32	50			10.7	12000
	125	R290-125Q40-12L	-	6	R290-125Q40-12M	8	-	R290-125Q40-12H	12	-	2.7	40	63			10.7	10600
	160	R290-160Q40-12L	-	8	R290-160Q40-12M	12	-	R290-160Q40-12H	15	-	4.1	40	63			10.7	9250
	200	R290-200Q60-12L	-	10	R290-200Q60-12M	16	-	-	-	-	6.2	60	63			10.7	8200
	250	R290-250Q60-12L	-	12	R290-250Q60-12M	18	-	-	-	-	10.7	60	63			10.7	7300

[1] n_{max} (max. rev/min) for holders must also be considered.

[2] Without shim

Note!

Mounting dimensions, see Metal cutting Technical guide.

Bolt circle for cutters 200 and 250mm = 4"

= Even pitch

= Differential pitch

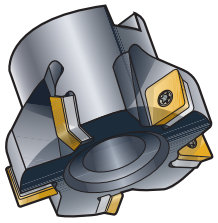
D50 D49 G6 D2 J4

SANDVIK Coromant

Square shoulder face mill

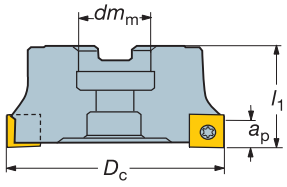
Square shoulder face mill

Diameter 2.000 - 10.000 inch



0°

Arbor



l_1 = programming length

Inch version

		Ordering code									Dimensions, inch				
	D_c inch	Coarse pitch			Close pitch			Extra close pitch				dm_m	l_1	Max a_p	n_{max}[1]
		Arbor													
12	2.000	RA290-051R19-12L	-	3	RA290-051R19-12M	4	-	RA290-051R19-12H[2]	5	-	0.8	.750	1.575	.421	18400
	2.500	RA290-063R19-12L	-	4	RA290-063R19-12M	5	-	RA290-063R19-12H	6	-	1.1	.750	1.575	.421	15900
	3.000	RA290-076R25-12L	-	4	RA290-076R25-12M	6	-	RA290-076R25-12H	7	-	2.1	1.000	1.969	.421	13700
	4.000	RA290-102R38-12L	-	5	RA290-102R38-12M	7	-	RA290-102R38-12H	10	-	3.1	1.500	1.969	.421	12000
	5.000	RA290-127R38-12L	-	6	RA290-127R38-12M	8	-	RA290-127R38-12H	12	-	6.0	1.500	2.480	.421	10600
	6.000	RA290-152R38-12L	-	8	RA290-152R38-12M	12	-	RA290-152R38-12H	14	-	8.7	1.500	2.480	.421	9250
	8.000	RA290-203R63-12L	-	10	RA290-203R63-12M	16	-	-	-	-	24.0	2.500	2.480	.421	8200
	10.000	RA290-254R63-12L	-	12	RA290-254R63-12M	18	-	-	-	-	32.0	2.500	2.480	.421	7300

1) n_{max} (max. rev/min) for holders must also be considered.

2) No shims used

Note!

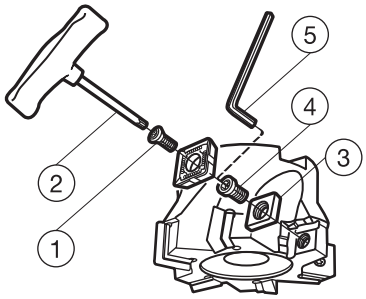
Mounting dimensions, see Metal cutting Technical guide.

Bolt circle for cutters 8" and 10" = 4"

= Even pitch

= Differential pitch

Spare parts



Cutter		1	2			3	4	5		
D_c mm	D_c Inch	Screw	Key (Torx Plus)	Torque value Nm/in.lbs	Torque wrench[2]	Shim	Shim screw	Key (mm)	Arbor screw[1]	
40-250	2.000-10.000	5513 020-32	5680 048-01 (15IP)	3.0/26	5680 100-06	5322 470-01	5512 090-09	5680 010-01 (3.5)	5512 060-15	

1) Only for cutter Ø 50 mm.

2) Accessories, must be ordered separately

D50

D49

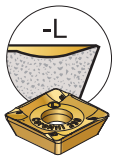
G6

D2

J4

Inserts for CoroMill® 290

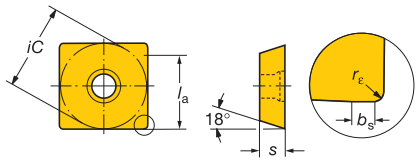
Cemented carbide / Cermet



Light

Medium

Heavy



Dimensions, mm (inch)

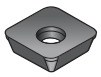
Size	*iC*	*s*
12	13.29 (.523)	3.97 (.156)
15	15.88 (.625)	4.76 (.188)

l_a = max recommended cutting depth

	□	Max a_p mm	Max a_p in.	Ordering code	P GC1030	P GC4220	P GC4230	P GC4240	M GC2030	M GC2040	K GC1020	K GC3040	K GC3220	S GC1030	H GC4220	H CT530	l_a mm	l_a in.	b_s mm	b_s in.	r_ε mm	r_ε in.
Light	12	10.7	.421	R290.90-12T320M-PL			☆	★									10.7	.421			2.0	.079
		6.0	.236	R290-12T308E-PL	★		☆							☆		☆	6.4	.252	1.46	.058	0.8	.032
		10.7	.421	R290-12T308M-PL	★	☆	★	★						☆	☆		10.7	.421	1.53	.060	0.8	.032
		10.7	.421	R290.90-12T320M-ML					★								10.7	.421			2.0	.079
		6.0	.236	R290-12T308E-ML					★	☆							6.4	.252	1.46	.058	0.8	.032
		6.0	.236	R290-12T308E-KL							★		☆				6.4	.252	1.46	.058	0.8	.032
		10.7	.421	R290-12T308M-KL							★	☆	☆				10.7	.421	1.53	.060	0.8	.032
Medium	12	10.7	.421	R290.90-12T320M-PM		☆	☆	☆							☆		10.7	.421			2.0	.079
		10.7	.421	R290-12T308M-PM	★	☆	★	★						☆	☆	☆	10.7	.421	1.53	.060	0.8	.032
		10.7	.421	R290.90-12T320M-MM					★								10.7	.421			2.0	.079
		10.7	.421	R290-12T308M-MM					★	☆							10.7	.421	1.53	.060	0.8	.032
		10.7	.421	R290.90-12T320M-KM							★	☆	☆				10.7	.421			2.0	.079
		10.7	.421	R290-12T308M-KM							★	☆	★				10.7	.421	1.53	.060	0.8	.032
	15	12.7	.500	R290.90-1504M-WM								☆					12.7	.500			0.8	.032
Heavy	12	10.7	.421	R290.90-12T320M-PH		☆	☆	★							☆		10.7	.421			2.0	.079
		10.7	.421	R290.90-12T320M-KH							★	☆	☆				10.7	.421			2.0	.079
					P30	P20	P20	P40	M25	M40	K20	K30	K15	S15	H25	H25						

★= First choice

Ceramic



Cubic boron nitride

	□	Max a_p mm	Max a_p in.	Ordering code	K CC6090	K CB CB50	H CB CB50	l_a mm	l_a in.	b_s mm	b_s in.	r_ε mm	r_ε in.
Medium	12	4.5	.177	R290-12 T3 08E		☆	☆	4.5	.177	1.55	.061	0.8	.032
		6.5	.256	R290-12 T3 20E	☆			6.5	.256	0.29	.011	2.0	.079
					K10	K10	H05						

R290-12T308 E-PL
|
E = Highest edge sharpness and precision
M = Highest edge security

D334 D327 D356 D2

SANDVIK Coromant

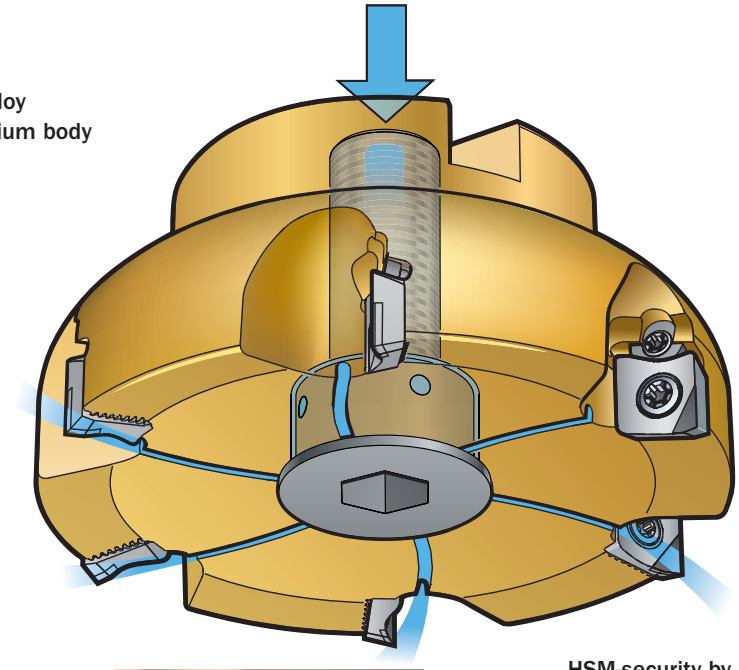
CoroMill® Century

Face mill for non-ferrous materials, cast iron and hardened steel

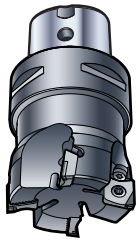
Designed for high speed machining.

Diameter 40 - 200 mm (2.000 - 8.000 inch)

High alloy aluminium body

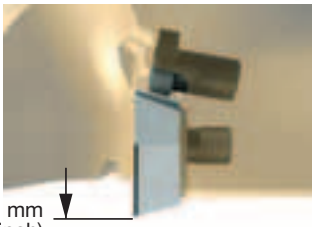


Steel body



Coromant Capto® , HSK or arbor mountings

Intensified chip evacuation through accelerated cutting fluid



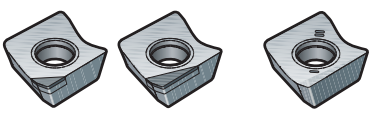
Easy setting to micron precision within 0.1 mm (.0039 inch) setting range

HSM-security by design

Serrated location gives a very high speed security against insert movement

PCD and carbide inserts

CB50 CB50



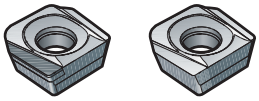
CD10 / CB50

H10
1020
1030

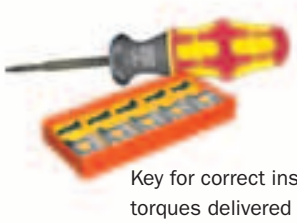
ISO application area:

N K H

Wiper insert option for high feed finishing



CD10 / CB50 H10



Key for correct insert tightening torques delivered with the tool

Tailor Made

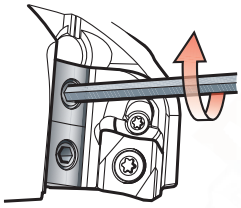
Tool options designed to individual customer requirements are available. For information on our Tailor Made programme see page J4.

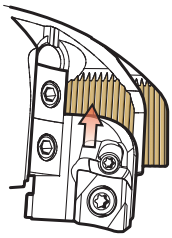
CoroMill® Century

Face mill with exchangeable cassettes

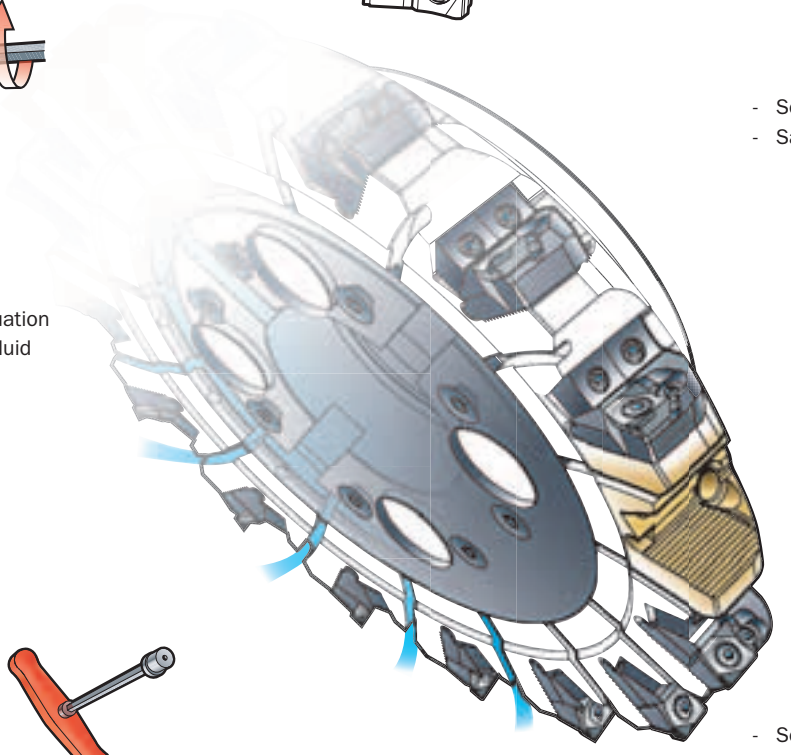
A concept for optimal finishing of aluminium, cast iron and hardened steel

- Safe wedge clamping
- Easy maintenance

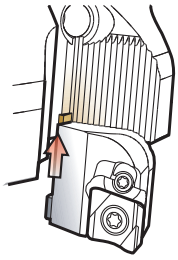




Good basic accuracy by design

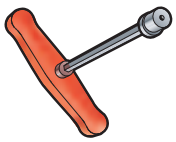


- Serrated cassette interface
- Safe performance

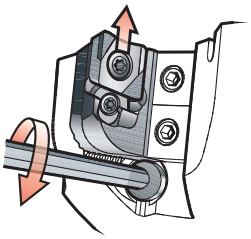


Intensified chip evacuation through accelerated fluid flush

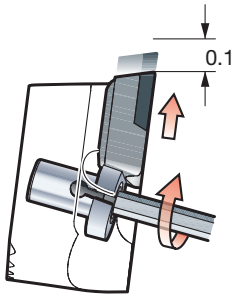
- Setting key
- Cam shaped
- Easy handling



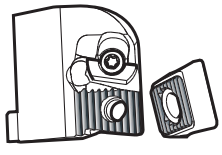
- Serrated inserts
- Reduced effect of tolerances
- Reduced run-out



Macro setting within 1.0 mm (.039 inch)



Micro setting within 0.1 mm (.0039 inch)



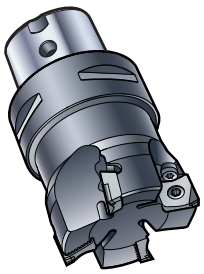
ISO application areas:

N K H

SANDVIK Coromant

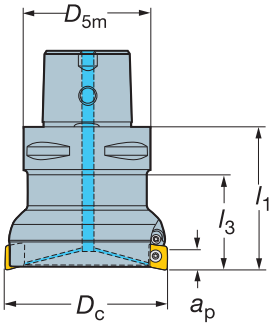
Face mill for non-ferrous materials, cast iron and hardened steel

Diameter 40 – 200 mm



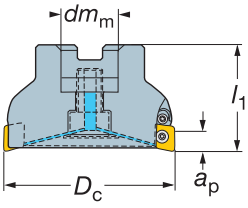
$\kappa_r = 90°$

Coromant Capto®

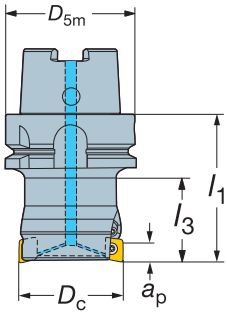


Coolant through

Arbor



HSK



l_1 = programming length

Metric version

	D_c mm	Ordering code Close pitch			Coolant[1]	Dimensions, mm kg	dm_m	D_{5m}	l_1	l_3	Torque value Nm[3]	n_{max}[2]
		Coromant Capto										
11	40	R590-040C3-11M	3	-	1	0.6	22	32	55	40	1.2	48000
		R590-040C4-11M	3	-	1	0.4	28	40	63	40	3.0	39000
	50	R590-050C5-11M	4	-	1	0.7	35	50	63	40	3.0	28000
	63	R590-063C5-11M	5	-	1	1.1	35	50	63	40	3.0	28000
	80	R590-080C6-11M	6	-	1	1.8	44	63	71		3.0	20000
		HSK										
11	40	R590-040HA06-11M	3	-	1	0.8	48	63	71	40	3.0	20000
	50	R590-050HA06-11M	4	-	1	1.0	48	63	71	40	3.0	20000
	63	R590-063HA06-11M	5	-	1	1.3	48	63	71	40	3.0	25000
		R590-063HA08-11M	5	-	1	2.0	60	80	80	50	3.0	16000
	80	R590-080HA06-11M	6	-	1	1.5	48	63	71		3.0	20000
		R590-080HA08-11M	6	-	1	2.5	60	80	80	50	3.0	16000
	100	R590-100HA06-11M	6	-	1	1.9	48	63	80		3.0	20000
		R590-100HA08-11M	6	-	1	3.0	60	80	80		3.0	16000
	125	R590-125HA08-11M	8	-	1	3.9	60	80	80		3.0	16000
		Arbor										
11	50	R590-050Q22S-11M	4	-	1	0.6	22		40		50.0	41600
	63	R590-063Q22S-11M	5	-	1	0.7	22		40		50.0	35100
	80	R590-080Q27A-11M	6	-	1	1.5	27		50		50.0	27500
		R590-080Q27S-11M	6	-	1	1.5	27		50		90.0	27500
	100	R590-100Q32A-11M	6	-	1	1.2	32		50		200.0	23800
		R590-100Q32S-11M	6	-	1	2.2	32		50		200.0	23800
	125	R590-125Q40A-11M	8	-	1	1.8	40		63		230.0	20700
		R590-125Q40S-11M	8	-	1	3.3	40		63		230.0	20700
	160	R590-160Q40A-11M	10	-	1	2.4	40		63		230.0	17900
		R590-160Q40S-11M	10	-	1	5.6	40		63		230.0	17900
	200	R590-200Q60A-11M	16	-	0	7.6	60		63		230.0	15700
		R590-200Q60S-11M	16	-	0	11.7	60		63		230.0	15700
		CIS Arbor										
11	80	RA590-080J25A-11M	6	-	1	0.9	25.4		50		50.0	27500
		RA590-080J25S-11M	6	-	1	1.5	25.4		50		90.0	27500
	100	RA590-100J31A-11M	6	-	1	1.2	31.75		63		200.0	23800
		RA590-100J31S-11M	6	-	1	2.2	31.75		63		200.0	23800
	125	RA590-125J38A-11M	8	-	1	1.8	38.1		63		230.0	20700
		RA590-125J38S-11M	8	-	1	3.8	38.1		63		230.0	20700
	160	RA590-160J38A-11M	10	-	1	2.4	38.1		63		230.0	17900
		RA590-160J38S-11M	10	-	1	6.0	38.1		63		230.0	17900
	200	RA590-200J47A-11M	16	-	1	3.0	47.62		63		230.0	15700
		RA590-200J47S-11M	16	-	1	8.5	47.62		63		230.0	15700

1) 0 = no coolant, 1 = coolant through centre

2) n_{max} (max. rev/min) for holders must also be considered.

3) Torque value shower screw

R590-050Q22S-11M

S = Steel
A = Aluminium

= Even pitch

= Differential pitch

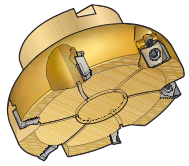
Note: Cutting depth (a_p) depends on insert type - see insert page

Bolt circle for cutters 200 = 4"

D57 D59 G6 D2

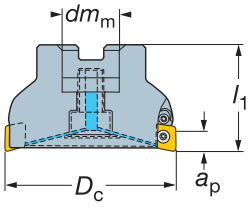
Face mill for non-ferrous materials, cast iron and hardened steel

Diameter 2.000 - 8.000 inch



0°

Arbor



l_1 = programming length

Inch version

	D_c inch	Ordering code Close pitch			Coolant[1]	Dimensions, inch	dm_m	l_1	Torque value ft.lbs[3]	n_{max}[2]
		Arbor								
11	2.000	RA590-051R19S-11M	4	-	1	1.4	.750	1.575	36.9	41100
	2.500	RA590-063R19S-11M	5	-	1	1.7	.750	1.575	36.9	34900
	3.000	RA590-076R25A-11M	6	-	1	1.8	1.000	1.968	66.4	28400
		RA590-076R25S-11M	6	-	1	3.1	1.000	1.968	66.4	28400
	4.000	RA590-102R38A-11M	6	-	1	3.3	1.500	2.480	147.5	23500
		RA590-102R38S-11M	6	-	1	5.9	1.500	2.480	147.5	23500
	5.000	RA590-127R38A-11M	8	-	1	4.0	1.500	2.480	169.6	20500
		RA590-127R38S-11M	8	-	1	7.4	1.500	2.480	169.6	20500
	6.000	RA590-152R38A-11M	10	-	1	5.0	1.500	2.480	169.6	18400
		RA590-152R38S-11M	10	-	1	10.8	1.500	2.480	169.6	18400
	8.000	RA590-203R63A-11M	16	-	0	6.6	2.500	2.480	2.2	15600
		RA590-203R63S-11M	16	-	0	18.7	2.500	2.480	2.2	15600

1) 0 = no coolant, 1 = coolant through centre

2) n_{max} (max. rev/min) for holders must also be considered.

3) Torque value shower screw

Note: Cutting depth (a_p) depends on insert type - see insert page

Bolt circle for cutters 8" = 4"

R590-050Q22S-11M
|
S = Steel
A = Aluminium

= Even pitch

= Differential pitch

D57

D59

G6

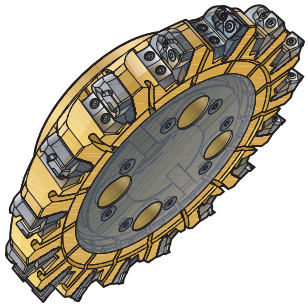
D2

CoroMill® Century face mill

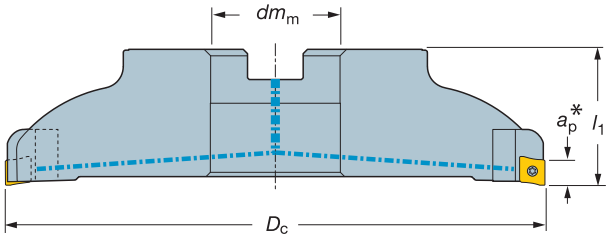
with exchangeable cassette system for arbor mounting

Diameter 160 - 500 mm

Metric version



TO BE QUOTED



$\kappa_r = 90°$

l_1 = programming length

		Ordering code				Dimensions			
		Close pitch Even		Close pitch Even					
	D_c mm	Coolant through		No coolant through			dm_m	l_1	n_{max} [2]
		Metric versions - Steel body							
11	160	S-R/L590-160Q40CS1-11M	10	S-R/L590-160Q40CS0-11M	10	6.5	40	63	3166
	200	S-R/L590-200Q60CS1-11M	12	S-R/L590-200Q60CS0-11M	12	9.5	60	63	2837
	250	S-R/L590-250Q60CS1-11M	16	S-R/L590-250Q60CS0-11M	16	15.0	60	63	2533
	315	S-R/L590-315Q60CS1-11M	20	S-R/L590-315Q60CS0-11M	20	25.0	60	80	2251
	400	S-R/L590-400Q60CS1-11M	26	S-R/L590-400Q60CS0-11M	26	42.0	60	80	1992
	500	S-R/L590-500Q60CS1-11M	32	S-R/L590-500Q60CS0-11M	32	60.0	60	80	1795
		Metric versions – Aluminium body							
11	160	S-R/L590-160Q40CA1-11M	10	S-R/L590-160Q40CA0-11M	10	3.0	40	63	3166
	200	S-R/L590-200Q60CA1-11M	12	S-R/L590-200Q60CA0-11M	12	8.0	60	63	2837
	250	S-R/L590-250Q60CA1-11M	16	S-R/L590-250Q60CA0-11M	16	10.0	60	63	2533
	315	S-R/L590-315Q60CA1-11M	20	S-R/L590-315Q60CA0-11M	20	12.0	60	80	2251
	400	S-R/L590-400Q60CA1-11M	26	S-R/L590-400Q60CA0-11M	26	16.0	60	80	1992
	500	S-R/L590-500Q60CA1-11M	32	S-R/L590-500Q60CA0-11M	32	20.0	60	80	1795
		CIS Versions - Steel body							
11	160	S-R/LA590-160J38CS1-11M	10	S-R/LA590-160J38CS0-11M	10	6.5	38.1	63	3166
	200	S-R/LA590-200J47CS1-11M	12	S-R/LA590-200J47CS0-11M	12	9.5	47.625	63	2837
	250	S-R/LA590-250J47CS1-11M	16	S-R/LA590-250J47CS0-11M	16	10.0	47.625	63	2533
	315	S-R/LA590-315J47CS1-11M	20	S-R/LA590-315J47CS0-11M	20	12.0	47.625	80	2251
		CIS Versions - Aluminium body							
11	160	S-R/LA590-160J38CA1-11M	10	S-R/LA590-160J38CA0-11M	10	3.0	38.1	63	3166
	200	S-R/LA590-200J47CA1-11M	12	S-R/LA590-200J47CA0-11M	12	8.0	47.625	63	2837
	250	S-R/LA590-250J47CA1-11M	16	S-R/LA590-250J47CA0-11M	16	10.0	47.625	63	2533
	315	S-R/LA590-315J47CA1-11M	20	S-R/LA590-315J47CA0-11M	20	12.0	47.625	80	2251

[1] Inserts are ordered separately.

[2] n_{max} (max. rev/min) for holders must also be considered.

Ordering example: 2 pieces S-R590-160Q40CS1-11M

All those cutters are subject to quotation, please contact your Sandvik Coromant representative.

Note: Cutting depth a_p depending of insert type.

D57

D59

G6

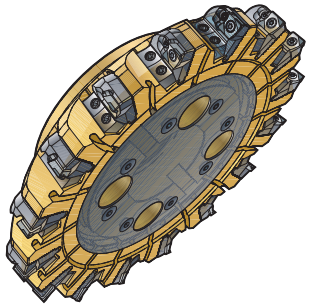
D2

CoroMill® Century face mill

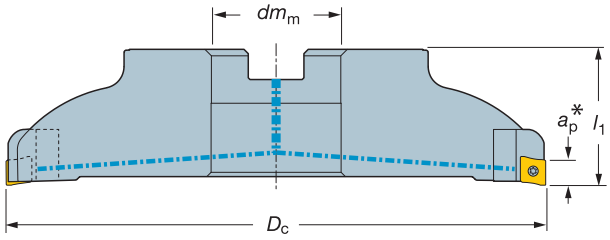
with exchangeable cassette system for arbor mounting

Diameter 6.000 - 20.000 inch

Inch version



TO BE QUOTED



0°

l_1 = programming length

		Ordering code				Dimensions			
		Close pitch		**Close pitch**					
		Even		**Even**					
	D_c inch	Coolant through		No coolant through			dm_m	l_1	n_{max} [2]
		Inch versions - Steel body							
11	6.000	S-R/LA590-152R38CS1-11M	10	S-R/LA590-152R38CS0-11M	10	14	1.500	2.480	3333
	8.000	S-R/LA590-203R63CS1-11M	12	S-R/LA590-203R63CS0-11M	12	20	2.500	2.480	2795
	10.000	S-R/LA590-254R63CS1-11M	16	S-R/LA590-254R63CS0-11M	16	32	2.500	2.480	2493
	12.000	S-R/LA590-305R63CS1-11M	20	S-R/LA590-305R63CS0-11M	20	54	2.500	3.150	2325
	14.000	S-R/LA590-355R63CS1-11M	20	S-R/LA590-355R63CS0-11M	20	60	2.500	3.150	2125
	16.000	S-R/LA590-406R63CS1-11M	26	S-R/LA590-406R63CS0-11M	26	90	2.500	3.150	1963
	20.000	S-R/LA590-508R63CS1-11M	32	S-R/LA590-508R63CS0-11M	32	130	2.500	3.150	1767
		Inch versions – Aluminium body							
11	6.000	S-R/LA590-15R38CA1-11M	10	S-R/LA590-152R38CA0-11M	10	7	1.500	2.480	3333
	8.000	S-R/LA590-203R63CA1-11M	12	S-R/LA590-203R63CA0-11M	12	18	2.500	2.480	2795
	10.000	S-R/LA590-254R63CA1-11M	16	S-R/LA590-254R63CA0-11M	16	23	2.500	2.480	2493
	12.000	S-R/LA590-305R63CA1-11M	20	S-R/LA590-305R63CA0-11M	20	26	2.500	3.150	2325
	14.000	S-R/LA590-355R63CA1-11M	20	S-R/LA590-355R63CA0-11M	20	28	2.500	3.150	2125
	16.000	S-R/LA590-406R63CA1-11M	26	S-R/LA590-406R63CA0-11M	26	35	2.500	3.150	1963
	20.000	S-R/LA590-508R63CA1-11M	32	S-R/LA590-508R63CA0-11M	32	45	2.500	3.150	1767

[1] Inserts are ordered separately.

[2] n_{max} (max. rev/min) for holders must also be considered.

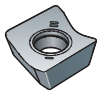
Note: Cutting depth a_p depending of insert type.

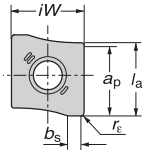
D57
D59
G6
D2

SANDVIK Coromant

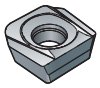
Inserts for CoroMill® Century

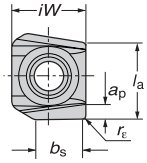
H10
1020
1030





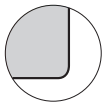
Wiper



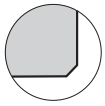


	□	Max a_p mm	Max a_p in.	Ordering code	P GC 1020	P GC 1030	M GC 1030	K GC 1020	N - H10	S GC 1030	Dimensions, millimeter, inch (mm, in.) l_a mm	l_a in.	iW mm	iW in.	r_ε mm	r_ε in.	b_s mm	b_s in.
Light	11	10	.394	R590-110508H-PL		☆					11	.433	11.5	.453	0.8	.032	1.7	.067
		10	.394	R590-110508H-KL				☆			11	.433	11.5	.453	0.8	.032	1.7	.067
		10	.394	R590-110504H-NL					★		11	.433	11.5	.453	0.4	.016	2.0	.079
Wiper	11	2	.079	R590-110504H-KTW	☆			★			11	.433	11.5	.453	0.4	.016	7	.276
		2	.079	R590-110504H-PTW		★	☆			☆	11	.433	11.5	.453	0.4	.016	7	.276
		2	.079	R590-110508H-PW		☆					11	.433	11.5	.453	0.8	.032	7	.276
		2	.079	R590-110508H-KW				☆			11	.433	11.5	.453	0.8	.032	7	.276
		2	.079	R590-110504H-NW					☆		11	.433	11.5	.453	0.4	.016	7	.276
						P30	M15	K20	N10	S15								

Corner geometries

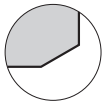


PR, RR, NL, NW First choice



PS, RS Against burr formation

PC, RC
Highest security

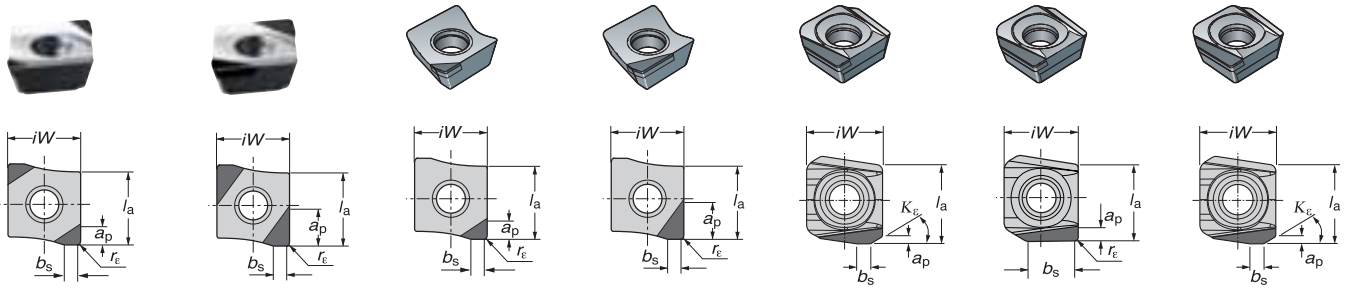


ZC First choice ISO K/H

D334 D327 D356 D2 J4

Inserts for CoroMill® Century

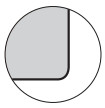
-PR2-KM CB50 **-PR5-KM CB50** **CD10** **CB50** **CD10 Wiper** **CB50**



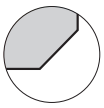
Advanced cutting materials

	□	Max a_p mm	Max a_p in.	Ordering code	K CB50	N CD10	H CB50	Dimensions, millimeter, inch (mm, in.) l_a mm	l_a in.	iW mm	iW in.	r_ε mm	r_ε in.	κ_ε	b_s mm	b_s in.
Light	11	1.2	.047	R/L590-1105H-ZC2-KL	☆		☆	3	.118	11.5	.453			30°	2.35	.092
		2	.079	R/L590-1105H-PR2-NL		★		3	.118	11.5	.453	0.4	.016		2.2	.087
		5	.197	R/L590-1105H-PR5-NL		★		6	.236	11.5	.453	0.4	.016		2.2	.087
		2	.079	R590-1105H-PC2-NL		☆		3	.118	11.5	.453			1X45°	1.5	.059
		5	.197	R590-1105H-PC5-NL		☆		6	.236	11.5	.453			1X45°	1.5	.059
		2	.079	R590-1105H-PS2-NL		☆		3	.118	11.5	.453			0.25X45°	2.2	.087
		5	.197	R590-1105H-PS5-NL		☆		6	.236	11.5	.453			0.25X45°	2.2	.087
Medium	11	2	.079	R590-110508H-PR2-KM	★			2	.079	11.5	.453	0.8	.032		1.5	.059
		5	.197	R590-110508H-PR5-KM	★			5	.197	11.5	.453	0.8	.032		1.5	.059
Wiper	11	1.2	.047	R/L590-1105H-ZC2-KW	☆		☆	3	.118	11.5	.453			30°	5.92	.233
		2	.079	R590-110508H-PR2-KW	★			2	.079	11.5	.453	0.8	.032		6.8	.268
		2	.079	R/L590-1105H-RR2-NW		☆		3	.118	11.5	.453	0.4	.016		7	.276
		2	.079	R590-1105H-RC2-NW		☆		3	.118	11.5	.453			1X45°	6.3	.248
		2	.079	R590-1105H-RS2-NW		☆		3	.118	11.5	.453			0.25X45°	7	.276
					K10	N05	H05									

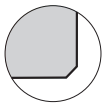
Corner geometries



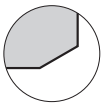
PR, RR, NL, NW First choice



PC, RC
Highest security



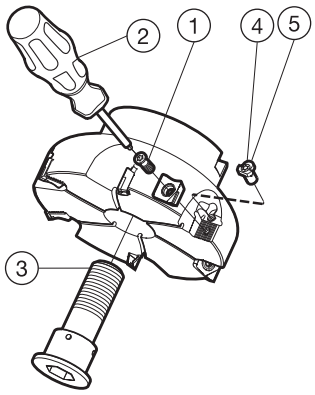
PS, RS Against burr formation



ZC First choice ISO K/H

D334 D327 D356 D2 J4

Spare parts for CoroMill® Century



Axial setting of the CoroMill Century cutter
Instructions for setting of CoroMill Century are included in each tool package.

Cutter			1	2		4	5
D_c mm	D_c inch		Insert screw	Torque wrench (Torx Plus)	Torque value Nm (ft-lbs)	Setting device	Setting device screw
Coromant Capto® and HSK							
40– 125	1.575–	3.150	5513 020-25	5680 100-06 (15IP)	3.0 (2.2)	5513 014-021	5513 014-02
Arbor							
50– 63	2.000–	2.500	5513 020-25	5680 100-06 (15IP)	3.0 (2.2)	5513 014-021	5513 014-02
80		3.000	5513 020-25	5680 100-06 (15IP)	3.0 (2.2)	5513 014-021	5513 014-02
100		4.000	5513 020-25	5680 100-06 (15IP)	3.0 (2.2)	5513 014-021	5513 014-02
125		5.000	5513 020-25	5680 100-06 (15IP)	3.0 (2.2)	5513 014-021	5513 014-02
160		6.000	5513 020-25	5680 100-06 (15IP)	3.0 (2.2)	5513 014-021	5513 014-02
200		8.000	5513 020-25	5680 100-06 (15IP)	3.0 (2.2)	5513 014-021	5513 014-02

1) See adaptor for face mills.

Cutter	3		Cutter	3		
D_c mm	Shower screw	Key (Torx Plus)	D_c inch	Shower screw	Key (Torx Plus)	Torque value Nm (ft-lbs)
50-63	5512 087-01	5680 043-17	2.000-2.500	5512 088-01	5680 043-17	50 (36)
80	5512 087-02	5680 043-18	3.000	5512 088-02	5680 043-18	90 (66)
100	5512 087-03	5680 043-18	4.000	5512 088-03	5680 043-18	200 (147)
100[1)]	5512 087-04	5680 043-18	5.000-6.000	5512 099-01	5680 043-18	230 (170)
125-160	5512 098-01	5680 043-18				230 (170)

1) CIS Arbor

Cutter D_c mm	Edge guard
40	91 100
50	91 101
63	91 102
80	91 103
100	91 104
125	91 105
160	91 106
200	91 277

Cutter	Coolant tubes	Key
HSK63	5692 020-04	5680 094-04
HSK80	5692 020-05	5680 094-05

Spare parts for cassettes

Cassette	Insert screw	Torque value Nm (in-lbs)	Setting device	Setting device screw	Torque wrench	Key
R/L 590-CA-11	5513 020-25	3.0 (26.55)	5513 014-021	5513 014-02	5680 100-06 (15IP)	–

Spare parts for CoroMill® Century bodies

D_c mm (inch)	Wedge	Wedge screw	Wedge key	Eccentric key
160-500 (6.000 - 20.000)	5431 105-03	339-831	265.2-817 (3.0)	5680 067-01

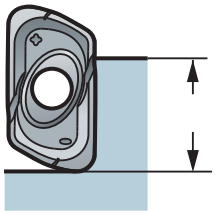
CoroMill® 790

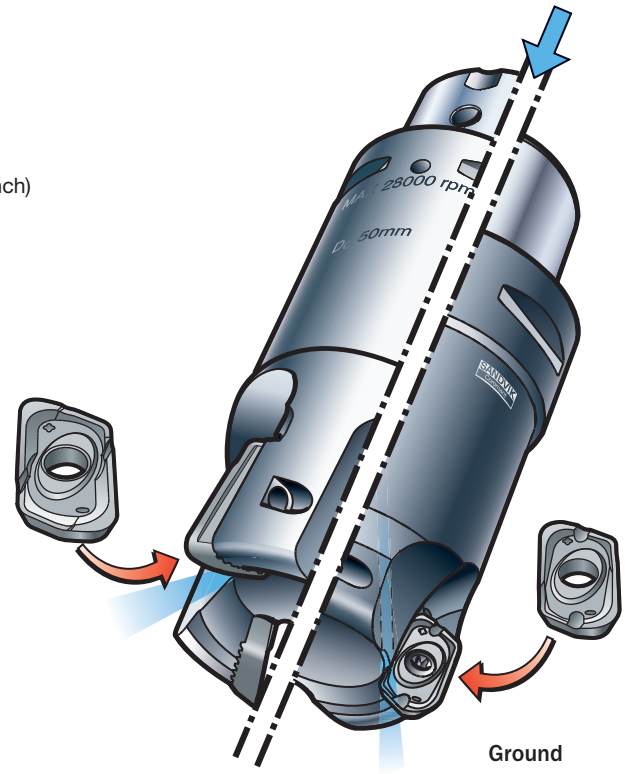
Shoulder milling cutters for non-ferrous materials

High speed machining performance with high security

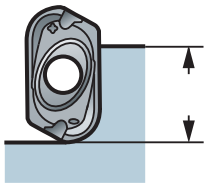
Diameter 25 - 100 mm (1.000 - 5.000 inch)

Insert size 22 mm





Insert size 16 mm



Shoulder milling in non-ferrous materials with:

- Coarse pitch (L)
- Close pitch (M)
- Extra close pitch (H)

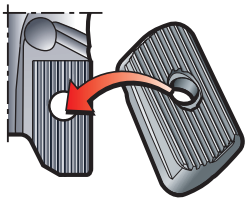
Finishing in all materials with:

- Extra close pitch plus (HX)

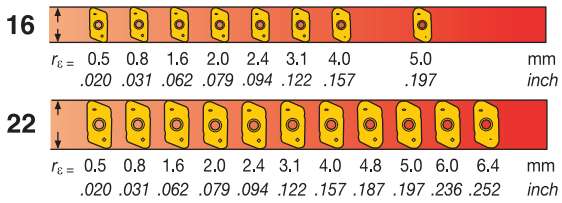
Torque wrench to be ordered separately

Ground

– for precision



Serrated location to achive high security and to reduce effects of insert tolerance on the cutter diameter



ISO application area:

P

ISO applications area for finishing

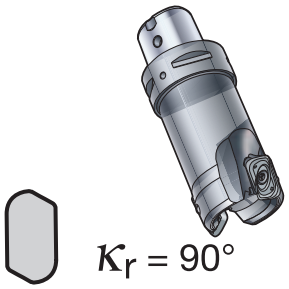
P M K N S H

Tailor Made

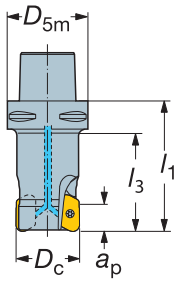
Tool options designed to individual customer requirements are available. For information on our Tailor Made programme see page J4.

Shoulder face / end mill 90°

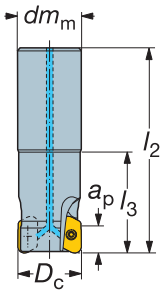
Diameter 25 – 100 mm



Coromant Capto®



Cylindrical



l_1 = programming length

Metric version

		Ordering code					
	D_c mm	Coarse pitch		Close pitch		Extra close pitch	
		Coromant Capto					
16	25	R790-025C5S2-16L	2	-	-	-	-
	32	-	-	R790-032C5S2-16M	3	-	-
	36	-	-	-	-	R790-036C3S1-16H	4
	36	R790-036C3S1-16L	2	-	-	-	-
	40	-	-	R790-040C4S1-16M	3	-	-
	40	-	-	R790-040C5S1-16M	3	-	-
	44	-	-	R790-044C4S1-16M	3	R790-044C4S1-16H	5
	50	-	-	-	-	R790-050C5S1-16H	4
	54	-	-	R790-054C5S1-16M	3	R790-054C5S1-16H	6
	66	-	-	-	-	R790-066C6S1-16H	7
	84	-	-	-	-	R790-084C8S1-16H	9
22	40	-	-	R790-040C4S2-22M	2	-	-
	44	-	-	R790-044C4S1-22M	2	R790-044C4S1-22H	3
	50	R790-050C5S1-22L	2	-	-	-	-
	50	R790-050C5S2-22L	2	-	-	-	-
	50	-	-	R790-050C5S2-22M	3	-	-
	54	-	-	R790-054C5S2-22M	3	R790-054C5S2-22H	4
	63	-	-	R790-063C6S1-22M	3	-	-
	63	-	-	R790-063C6S2-22M	3	-	-
	66	-	-	-	-	R790-066C6S1-22H	5
	66	-	-	R790-066C6S1-22M	3	-	-
	80	-	-	-	-	R790-080C8S1-22H	4
	80	-	-	R790-080C8S1-22M	3	-	-
	84	-	-	-	-	R790-084C8S1-22H	4
	100	-	-	R790-100C8S1-22M	4	R790-100C8S1-22H	7
		HSK					
16	25	R790-025HA06S2-16L	2	-	-	-	-
	32	-	-	R790-032HA06S2-16M	3	-	-
	40	-	-	R790-040HA06S2-16M	3	-	-
	50	-	-	R790-050HA06S1-16M	3	-	-
22	50	-	-	R790-050HA06S2-22M	3	-	-
		Cylindrical shank					
16	25	R790-025A25S2-16L	2	-	-	-	-
	32	-	-	R790-032A32S1-16M	3	-	-
	32	R790-032A32S2-16L	2	-	-	-	-
	40	-	-	R790-040A32S1-16M	3	-	-
	40	R790-040A32S2-16L	2	-	-	-	-
		Arbor					
16	50	-	-	-	-	R790-050Q22S1-16H	4

1) 0 = no coolant, 1 = coolant through centre

2) n_{max} (max. rev/min) for holders must also be considered.

= Even pitch

= Differential pitch

D65

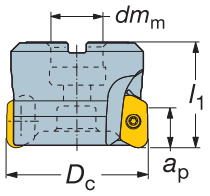
D66

G6

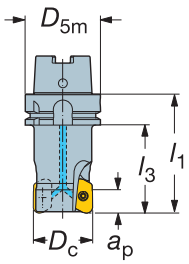
D2

SANDVIK Coromant

Arbor



HSK type A/C



l_1 = programming length

Extra close pitch plus		Coolant[1]	Dimensions, mm							
			kg	D_{5m}	dm_m	l_1	l_2	l_3	Max a_p	n_{max}[2]
-	-	1	0.8	50	35	74		50	12.0	28000
-	-	1	1.1	50	35	88		64	12.0	28000
-	4	1	0.8	32	22	67		50	12.0	44560
-	-	1	0.8	32	22	67		50	12.0	45600
-	-	1	0.5	40	28	62		40	12.0	39000
-	-	1	0.9	50	35	82		60	12.0	28000
-	5	1	1	40	28	81		60	12.0	39000
-	4	1	1.5	50	35	97		75	12.0	28000
-	6	1	1.6	50	35	81		60	12.0	28000
-	7	1	1.7	63	44	75		40.8	12.0	20000
-	9	1	3	80	55	75		40.8	12.0	14000
-	-	1	0.8	40	28	80		58	18.0	37500
-	3	1	0.4	40	28	66		45.8	18.0	28000
-	-	1	1.1	50	35	66		44	18.0	28000
-	-	1	1.5	50	35	100		78	18.0	28000
-	-	1	1.2	50	35	100		78	18.0	20000
-	4	1	0.7	50	35	66		44	18.0	28000
-	-	1	1.8	63	44	66		42	18.0	20000
-	-	1	1.4	63	44	126		102	18.0	14000
-	5	1	1.3	63	44	66		43.8	18.0	20000
-	-	1	1.8	63	44	66		66	18.0	20000
-	4	1	4.6	80	55	120		88	18.0	16000
-	-	1	4.7	80	55	120		88	18.0	14000
R790-084C8S1-22HX	6	1	3.1	80	55	84		52	18.0	14000
-	7	1	3.7	80	55	85		54	18.0	14000
				HSK size						
-	-	1	1.2	63	48	81		50	12.0	20000
-	-	1	1.4	63	48	92		69	12.0	20000
-	-	1	1.7	63	48	111		80	12.0	20000
-	-	1	2	63	48	104		75	12.0	20000
-	-	1	1.7	63	48	100		70	18.0	20000
-	-	1	0.6		25		125	50	12.0	60300
-	-	1	1.1		32		125	35	12.0	49600
-	-	1	1		32		127	64	12.0	49600
-	-	1	1.3		32		150	40	12.0	42500
-	-	1	1.4		32		150	80	12.0	42500
-	4	0	0.8		22	50			12.0	36700

D65

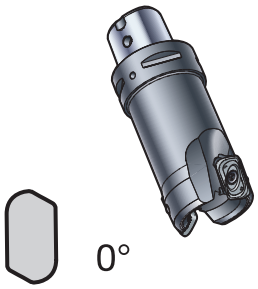
D66

G6

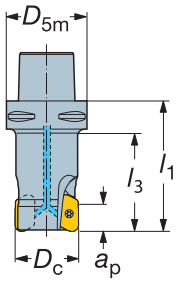
D2

Shoulder face / end mill 0°

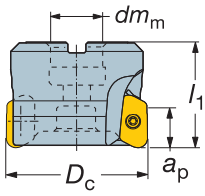
Diameter 1.000 - 5.000 inch



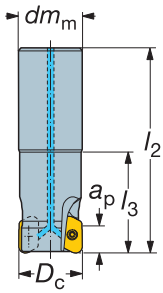
Coromant Capto®



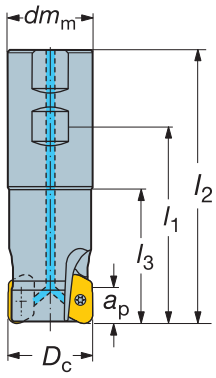
Arbor



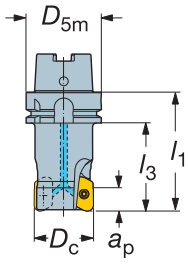
Cylindrical



Weldon



HSK A/C



l_1 = programming length

Inch version

		Ordering code						Coolant[1]	Dimensions, inch						
	D_c inch	Coarse pitch		Close pitch		Extra close pitch				D_{5m}	l_1	l_2	l_3	Max a_p	n_{max}[2]
		Coromant Capto													
16	1.500	-	-	RA790-038C5S2-16M	3	-	-	1	1.9	1.968	3.450		2.500	.472	39000
	2.000	-	-	RA790-050C5S1-16M	3	RA790-050C5S1-16H	4	1	3.0	1.968	2.900		2.000	.472	28000
22	1.500	-	-	RA790-038C4S2-22M	2	-	-	1	1.7	1.575	3.000		2.130	.709	37500
	2.000	RA790-050C5S1-22L	2	RA790-050C5S1-22M	3	-	-	1	2.4	1.968	2.598		1.661	.709	20000
	2.000	RA790-050C5S2-22L	2	-	-	-	-	1	3.4	1.968	4.000		3.130	.709	28000
	2.000	-	-	RA790-050C5S2-22M	3	-	-	1	3.4	1.968	4.000		3.130	.709	20000
	2.000	-	-	RA790-050C6S2-22M	3	-	-	1	2.8	2.480	4.000		3.130	.709	20000
	3.000	-	-	RA790-076C8S2-22M	3	-	-	1	2.3	3.150	6.000		4.740	.709	14000
		HSK								**HSK size**					
22	2.000	-	-	RA790-050HA06S2-22M	3	-	-	1	2.8	2.480	4.000		2.980	.709	20000
		Cylindrical shank								***dm*$_m$**					
16	1.000	RA790-025O25S2-16L	2	-	-	-	-	1	1.4	1.000		6.000	2.000	.472	60300
	1.250	-	-	RA790-032O25S1-16M	3	-	-	1	1.7	1.000		5.250	1.378	.472	49900
	1.250	RA790-032O25S2-16L	2	-	-	-	-	1	2.1	1.000		6.500	2.500	.472	49900
	1.500	-	-	RA790-038O32S1-16M	3	-	-	1	2.3	1.250		5.250	1.378	.472	43900
22	1.500	-	-	RA790-038O32S2-22M	2	-	-	1	2.1	1.250		5.118	3.000	.709	37500
	2.000	RA790-050O32S2-22L	2	-	-	-	-	1	3.8	1.250		6.500	2.000	.709	31400
		Weldon													
16	1.000	RA790-025M25S2-16L	2	-	-	-	-	1	1.0	1.000	2.860	4.000	1.500	.472	60300
	1.250	RA790-032M32S2-16L	2	-	-	-	-	1	1.9	1.250	2.860	4.000	1.500	.472	49900
	1.500	RA790-038M32S2-16L	2	-	-	-	-	1	2.1	1.250	3.360	4.500	1.750	.472	43900
22	1.500	-	-	RA790-038M38S2-22M	2	-	-	1	3.0	1.500	5.118	6.310	3.238	.709	37500
	2.000	RA790-050M32S2-22L	2	-	-	-	-	1	4.1	1.250	3.750	4.890	2.000	.709	31400
		Arbor													
16	2.000	-	-	RA790-050R19S1-16M	3	-	-	0	1.4	.750	1.580			.472	28000
22	2.500	-	-	RA790-063R25S1-22M	3	-	-	0	2.3	1.000	2.250			.709	24400
	3.000	-	-	RA790-076R25S1-22M	3	-	-	0	2.6	1.000	2.250			.709	24400
	4.000	-	-	RA790-101R38S1-22M	4	-	-	0	5.1	1.500	2.480			.709	20000
	5.000	-	-	-	-	RA790-127R38S1-22H	5	0	7.5	1.500	2.480			.709	20000

[1] 0 = no coolant, 1 = coolant through centre

[2] n_{max} (max. rev/min) for holders must also be considered.

Warning!

At high RPM's, the weight of the insert and clamping elements increase to affect the clamping arrangement. It is recommended that all high speed manufacturing should take place only in a well protected machine set up.

Correct insert clamping is received by tightening the 16 mm screw using a torque of 26 in-lbs and the 22 mm insert with 43 in-lbs.

Make sure, before mounting the insert, that the insert and its seat are in perfect condition and free from burrs or any particles which may seriously affect the clamping arrangement.

Note: A 0.67 ounce insert weighs 772 pounds at 37500 rpm!

= Even pitch

= Differential pitch

D65

D65

G6

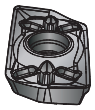
D2

J4

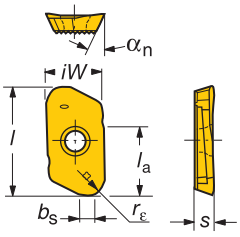
SANDVIK Coromant

Inserts for CoroMill® 790

Light -PL
Medium -NM



Light -NL



Dimensions, mm (inch)

Size	*iW*	*l*	*s*
16	11 (.433)	20 (.787)	4 (.157)
22	16 (.630)	29 (1.142)	5 (.197)

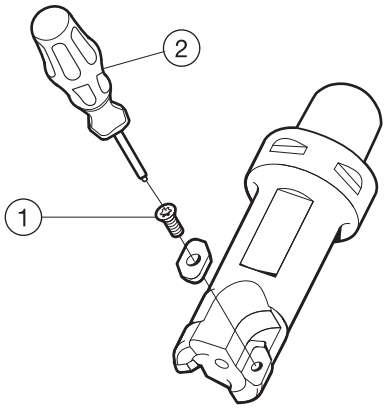
l_a = max recommended cutting depth

				P		M		N	S		H	Dimensions, millimeter, inch (mm, in.)						
				GC	GC	GC	GC	-	GC	GC	GC							
				1010	1030	1010	1030	H13A	1010	1030	1010	l_a mm	l_a in.	b_s mm	b_s in.	r_ε mm	r_ε in.	α_n°
	□	Ordering code																
Light	16	R790-160405PH-NL						★				16	.630	1	.039	0.5	.020	20
		R790-160408PH-NL						★				16	.630	1	.039	0.8	.032	20
		R790-160416PH-NL						★				16	.630	1	.039	1.6	.063	20
		R790-160420PH-NL						★				16	.630	1	.039	2	.079	20
		R790-160424PH-NL						★				16	.630	1	.039	2.4	.094	20
		R790-160431PH-NL						★				16	.630	1	.039	3.1	.122	20
		R790-160440PH-NL						★				16	.630	1	.039	4	.157	20
		R790-160450PH-NL						★				16	.630			5	.197	20
		R790-160408PH-PL		☆	☆	☆	☆		☆	☆	☆	12	.472	1	.039	0.8	.032	20
		R790-160416PH-PL			☆		☆			☆		12	.472	1	.039	1.6	.063	20
		R790-160420PH-PL			☆		☆			☆		12	.472	1	.039	2	.079	20
		R790-160431PH-PL			☆		☆			☆		12	.472	1	.039	3.1	.122	20
		R790-160440PH-PL			☆		☆			☆		12	.472	1	.039	4	.157	20
		R790-160450PH-PL			☆		☆			☆		12	.472			5	.197	20
	22	R790-220508PH-PL		☆	☆	☆	☆		☆	☆	☆	18	.709	1	.039	0.8	.032	25
		R790-220516PH-PL			☆		☆			☆		18	.709	1	.039	1.6	.063	25
		R790-220520PH-PL			☆		☆			☆		18	.709	1	.039	2	.079	25
		R790-220531PH-PL			☆		☆			☆		18	.709	1	.039	3.1	.122	25
		R790-220540PH-PL			☆		☆			☆		18	.709	1	.039	4	.157	25
		R790-220550PH-PL			☆		☆			☆		18	.709	1	.039	5	.197	25
		R790-220564PH-PL			☆		☆			☆		18	.709			6.4	.252	25
Medium	16	R790-160405PH-NM						☆				12	.472	1	.039	0.5	.020	20
		R790-160408PH-NM						☆				12	.472	1	.039	0.8	.032	20
		R790-160416PH-NM						☆				12	.472	1	.039	1.6	.063	20
		R790-160420PH-NM						☆				12	.472	1	.039	2	.079	20
		R790-160424PH-NM						☆				12	.472	1	.039	2.4	.094	20
		R790-160431PH-NM						☆				12	.472	1	.039	3.1	.122	20
		R790-160440PH-NM						☆				12	.472	1	.039	4	.157	20
		R790-160450PH-NM						☆				12	.472			5	.197	20
	22	R790-220505PH-NM						☆				18	.709	1	.039	0.5	.020	25
		R790-220508PH-NM						☆				18	.709	1	.039	0.8	.032	25
		R790-220516PH-NM						☆				18	.709	1	.039	1.6	.063	25
		R790-220520PH-NM						☆				18	.709	1	.039	2	.079	25
		R790-220531PH-NM						☆				18	.709	1	.039	3.1	.122	25
		R790-220540PH-NM						☆				18	.709	1	.039	4	.157	25
		R790-220550PH-NM						☆				18	.709	1	.039	5	.197	25
		R790-220564PH-NM						☆				18	.709			6.4	.252	25
				P10	P30	M10	M15	N15	S10	S15	H10							

★= First choice

D334 D327 D356 D2

Spare parts for CoroMill® 790



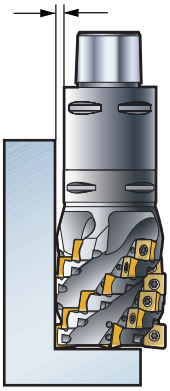
	1	2		
Insert size	Screw	Torque wrench (Torx Plus)	Torque value Nm (ft-lbs)	Molykote
16	5513 020-09	5680 100-06 (15IP)	3.0 (2.2)	5683 010-01
22	5513 020-07	5680 100-07 (20IP)	5.0 (3.7)	5683 010-01

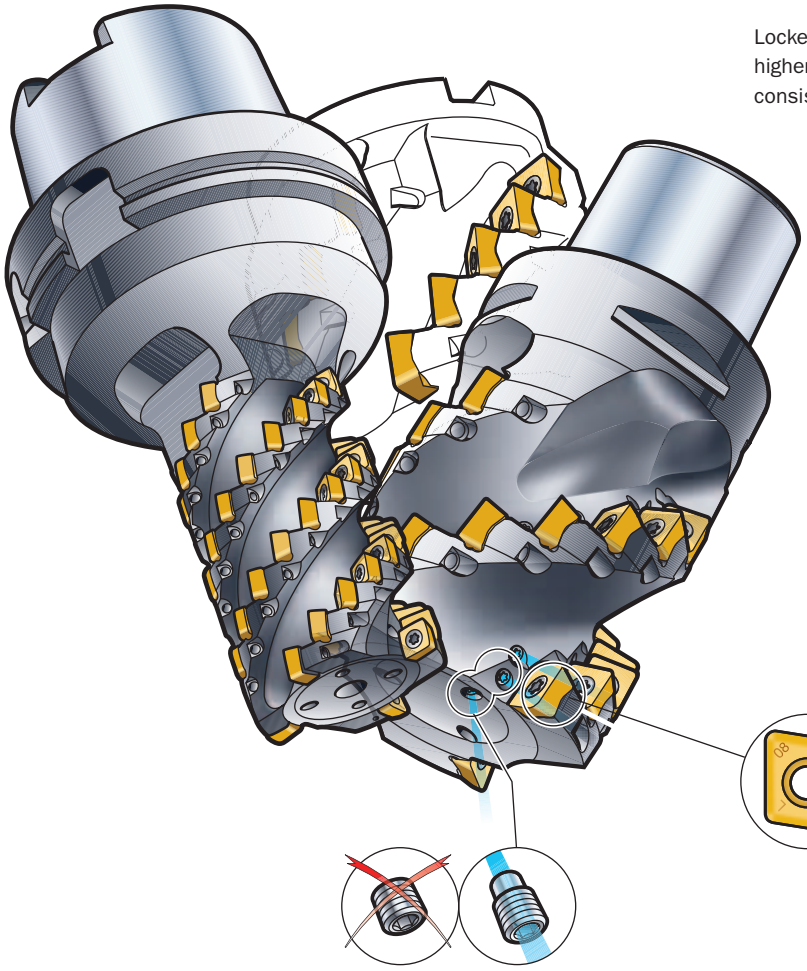
CoroMill® 690

The cutting edge for titanium milling
40-100 mm (1.500-4.000 inch)

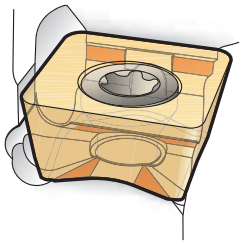
iLock™ ingenious locking interface

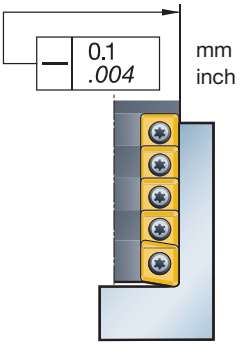
Oversized option



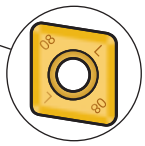


Locked-in precision with rigid stability higher productivity from product consistency



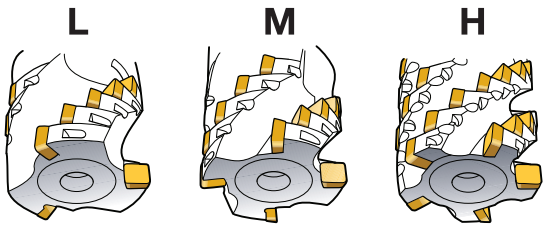


Alignment of inserts ensures straightness within 0.1 mm (.004 inch)

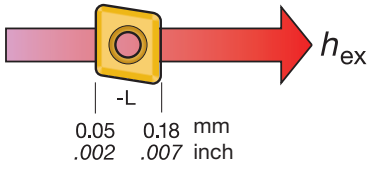


Marking

Pitch



Feed rate recommendations

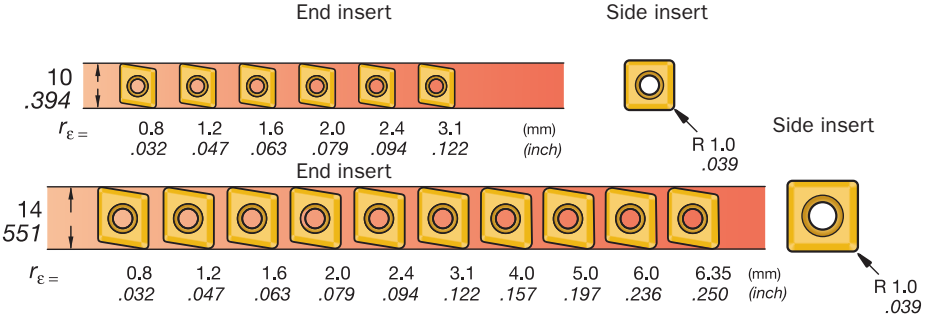


SL geometry optimized for titanium

ISO application areas:

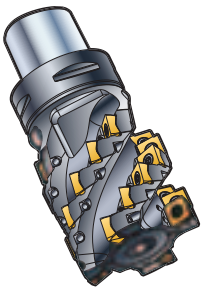
S

2 insert sizes



Long edge milling cutter

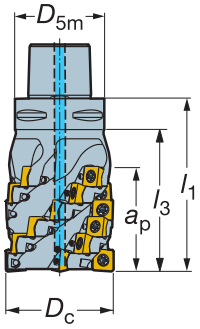
Diameter 40 - 100 mm



$\kappa_r = 90°$

Insert size
10, 14

Coromant Capto®



l_1 = programming length

Metric version

	D_c mm	Ordering code Coarse pitch	z_n/z_c	z_n/z_c	Close pitch	z_n/z_c	z_n/z_c	Extra close pitch	z_n/z_c	z_n/z_c	Coolant[1]	Dimensions, mm					n_{max}
												kg	D_{5m}	l_1	l_3	Max a_p	
		Coromant Capto															
10	40	-	-	-	-	-	-	690-040C6-1046H	12/2	-	1	0.8	63	83	49	46.0	5000
		-	-	-	-	-	-	690-040C6-1053H	12/2	-	1	1.0	63	95	55	53.0	5000
	44	-	-	-	-	-	-	690-044C4-1046H	18/3	-	1	0.8	40	82	62	46.0	5000
	50	-	-	-	-	-	-	690-050C5-1053H	21/3	-	1	1.0	50	90	70	53.0	5000
	54	-	-	-	-	-	-	690-054C5-1053H	21/3	-	1	1.1	50	90	90	53.0	5000
	63	-	-	-	-	-	-	690-063C6-10112H	60/4	-	1	2.9	63	156	134	112.0	5000
		-	-	-	690-063C6-1060M	-	24/3	-	-	-	1	2.1	63	100	78	60.0	5000
	66	-	-	-	-	-	-	690-066C6-10105H	56/4	-	1	3.0	63	150	150	105.0	5000
		-	-	-	-	-	-	690-066C6-1053H	28/4	-	1	2.1	63	92	92	53.0	5000
		-	-	-	690-066C6-1053M	-	21/4	-	-	-	1	2.1	63	95	73	53.0	5000
	80	-	-	-	-	-	-	690-080C8-10105H	70/5	-	1	4.4	80	153	120	105.0	5000
14	50	690-050C6-1449L	8/2	-	-	-	-	-	-	-	1	1.2	63	90	52	49.0	5000
	54	-	-	-	-	-	-	690-054C5-1461H	15/3	-	1	0.9	50	97	77	61.0	5000
	63	-	-	-	-	-	-	690-063C6-1461H	15/3	-	1	1.7	63	103	79	61.0	5000
	66	-	-	-	-	-	-	690-066C6-1449H	12/3	-	1	1.7	63	90	90	49.0	5000
	80	-	-	-	690-080C8-1473M	-	18/3	690-080C8-1473H	24/4	-	1	4.2	80	128	92	73.0	5000
	84	690-084C8-1461L	-	15/3	-	-	-	-	-	-	1	4.2	80	112	82	61.0	5000
		-	-	-	690-084C8-1461M	-	20/4	-	-	-	1	4.2	80	110	80	61.0	5000
		-	-	-	-	-	-	690-084C8-1484H	35/5	-	1	5.0	80	132	132	84.0	5000
	100	-	-	-	690-100C10-1473M	-	20/4	-	-	-	1	6.8	100	130	90	73.0	5000
		-	-	-	690-100C8-14108M	36/4	-	-	-	-	1	6.5	80	160	127	108.0	5000
		690-100C8-1473L	-	18/3	-	-	-	-	-	-	1	6.5	80	124	85	73.0	5000

[1] 1 = coolant through centre

Note: Add 2 additional jet nozzles per flute to load the cutter.

= Even pitch

= Differential pitch

z_n = Total number of side inserts in the cutter
z_c = Number of flutes/end inserts

J3

G6

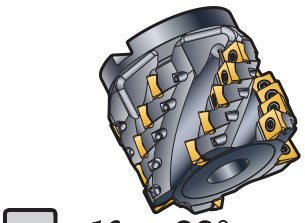
D72

D72

SANDVIK Coromant

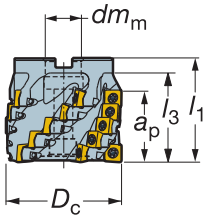
Long edge milling cutter

Diameter 40 - 100 mm

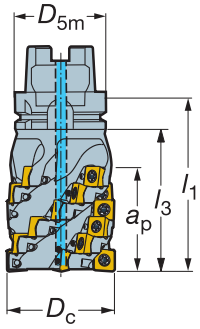


$\kappa_r = 90°$

Arbor



HSK



Insert size
10, 14

l_1 = programming length

Metric version

		Ordering code	z_n/z_c	z_n/z_c		z_n/z_c	z_n/z_c		z_n/z_c	z_n/z_c		Dimensions, mm					
$\square$	D_c mm	Coarse pitch	⊙	⊙	Close pitch	⊙	⊙	Extra close pitch	⊙	⊙	Coolant[1]	KG	D_{5m}	l_1	l_3	Max a_p	n_{max}
		HSK															
10	40	-	-	-	-	-	-	690-040HA06-1046H	12/2	-	1	1.2	63	104	48	46.0	5000
	63	-	-	-	690-063HA06-1060M	24/3	-	-	-	-	1	1.9	63	120	94	60.0	5000
		-	-	-	-	-	-	690-063HA12-10105H	56/4	-	1	6.8	125	180	110	105.0	5000
	80	-	-	-	690-080HA10-10105M	56/4	-	-	-	-	1	6.1	100	180	110	105.0	5000
	100	-	-	-	690-100HA10-10105M	56/4	-	-	-	-	1	8.0	100	180	151	105.0	5000
14	50	690-050HA06-1449L	8/2	-	-	-	-	-	-	-	1	1.4	63	110	52	49.0	5000
	80	-	-	-	-	-	-	690-080HA12-1484H	28/4	-	1	7.5	125	162	88	84.0	5000
	100	-	-	-	690-100HA12-14108M	45/5	-	-	-	-	1	7.0	125	185	112	108.0	5000

		Ordering code	z_n/z_c	z_n/z_c		z_n/z_c	z_n/z_c		z_n/z_c	z_n/z_c		Dimensions, mm					
$\square$	D_c mm	Coarse pitch	⊙	⊙	Close pitch	⊙	⊙	Extra close pitch	⊙	⊙	Coolant[1]	KG	dm_m	l_1	l_3	Max a_p	n_{max}
		Arbor															
10	50	-	-	-	-	-	-	690-050Q22-1046H	18/3	-	0	1.0	22	75	55	46.0	5000
	63	-	-	-	690-063Q27-1046M	-	18/2	-	-	-	0	1.5	27	80	60	46.0	5000
14	63	-	-	-	-	-	-	690-063Q27-1449H	12/3	-	0	0.8	27	80	60	49.0	5000
	80	-	-	-	690-080Q32-1461M	-	15/3	-	-	-	0	4.2	32	98	68	61.0	5000
	100	-	-	-	-	-	-	690-100Q32-1461H	25/5	-	0	6.2	32	90	90	61.0	5000

[1] 0 = no coolant, 1 = coolant through centre

Note: Add 2 additional jet nozzles per flute to load the cutter.

⊙ = Even pitch

⊙ = Differential pitch

z_n = Total number of side inserts in the cutter
z_c = Number of flutes/end inserts

J3

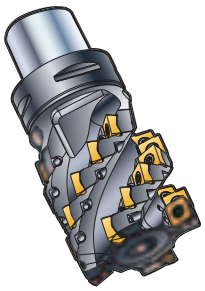
G6

D72

D72

Long edge milling cutter

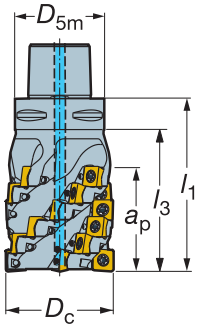
Diameter 1.500 - 4.000 inch



0°

Insert size
10, 14

Coromant Capto®



l_1 = programming length

Inch version

	D_c inch	Ordering code Coarse pitch	z_n/z_c	z_n/z_c	Close pitch	z_n/z_c	z_n/z_c	Extra close pitch	z_n/z_c	z_n/z_c	Coolant[1]	Dimensions, inch					n_{max}
												lbs	D_{5m}	l_1	l_3	Max a_p	
		Coromant Capto															
10	1.500	-	-	-	-	-	-	A690-038C6-1046H	12/2	-	1	1.8	2.480	3.268	1.890	1.811	5000
	2.000	-	-	-	-	-	-	A690-051C5-1060H	24/3	-	1	2.4	1.968	3.937	3.937	2.362	5000
		-	-	-	-	-	-	A690-051C6-10105H	42/3	-	1	3.7	2.480	5.906	4.213	4.134	5000
	2.500	-	-	-	-	-	-	A690-063C6-1060H	32/4	-	1	4.6	2.480	3.937	3.032	2.362	5000
		-	-	-	A690-063C6-1060M	-	24/3	-	-	-	1	4.6	2.480	4.016	3.150	2.362	5000
	3.000	-	-	-	A690-076C10-10105M	56/4	-	-	-	-	1	15.4	3.937	6.496	4.252	4.134	5000
		-	-	-	-	-	-	A690-076C6-1075H	50/5	-	1	7.1	2.480	4.567	4.567	2.953	5000
14	2.000	-	-	-	-	-	-	A690-051C6-1449H	11/2	-	1	2.7	2.480	3.543	2.126	1.929	5000
	2.500	-	-	-	-	-	-	A690-063C6-1461H	15/3	-	1	3.5	2.480	4.016	2.953	2.402	5000
	3.000	-	-	-	-	-	-	A690-076C6-1473H	24/4	-	1	6.8	2.480	4.803	4.803	2.874	5000
	4.000	A690-101C8-1473L	-	15/3	-	-	-	-	-	-	1	14.3	3.150	4.882	3.346	2.874	5000

1) 1 = coolant through centre

Note: Add 2 additional jet nozzles per flute to load the cutter.

= Even pitch = Differential pitch

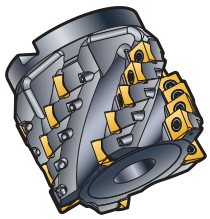
z_n = Total number of side inserts in the cutter z_c = Number of flutes/end inserts

J3
G6
D72
D72

SANDVIK Coromant

Long edge milling cutter

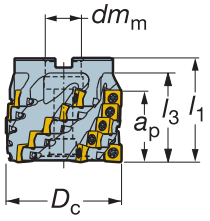
Diameter 1.500 - 4.000 inch



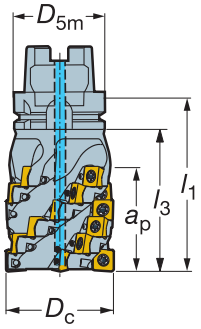
0°

Insert size
10 , 14

Arbor



HSK



l_1 = programming length

Inch version

		Ordering code	z_n/z_c	z_n/z_c		z_n/z_c	z_n/z_c		z_n/z_c	z_n/z_c		Dimensions, inch					
D_c inch	Coarse pitch			Close pitch			Extra close pitch			Coolant[1]	HSK size	l_1	l_3	Max a_p	n_{max}
	HSK																
10	3.000	-	-	-	**A690-076HA10-10105M**	56/4	-	-	-	-	1	16.5	100	7.087	4.331	4.134	5000
14	3.000	-	-	-	**A690-076HA12-1484M**	-	21/3	-	-	-	1	16.5	125	6.378	3.543	3.307	5000
	4.000	**A690-101HA10-1473L**	-	15/3	-	-	-	-	-	-	1	14.3	100	5.433	4.291	3.780	5000
		-	-	-	**A690-101HA12-1496M**	-	32/4	-	-	-	1	16.5	125	6.496	3.937	3.780	5000

		Ordering code	z_n/z_c	z_n/z_c		z_n/z_c	z_n/z_c		z_n/z_c	z_n/z_c		Dimensions, inch					
D_c inch	Coarse pitch			Close pitch			Extra close pitch			Coolant[1]		dm_m	l_1	l_3	Max a_p	n_{max}
	Arbor																
10	2.000	-	-	-	-	-	-	**A690-051R19-1046H**	18/3	-	0	2.2	.750	2.992	2.205	1.811	5000
	3.000	-	-	-	-	-	-	**A690-076R31-10105H**	70/5	-	0	10.1	1.250	5.906	4.961	4.134	5000
14	3.000	-	-	-	**A690-076R31-1461M**	-	15/3	-	-	-	0	8.8	1.250	3.740	2.559	2.402	5000
	4.000	**A690-101R38-1473L**	-	18/3	-	-	-	-	-	-	0	13.7	1.500	4.252	3.071	2.874	5000

[1] 0 = no coolant, 1 = coolant through centre
Note: Add 2 additional jet nozzles per flute to load the cutter.

= Even pitch = Differential pitch

z_n = Total number of side inserts in the cutter z_c = Number of flutes/end inserts

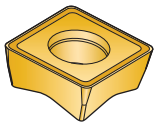
J3

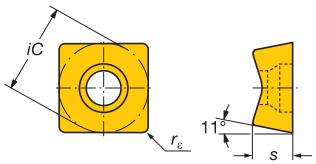
G6

D72

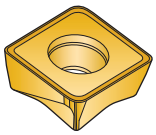
D72

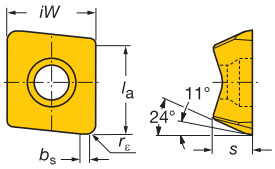
Inserts for CoroMill® 690 long edge cutter





P-SL
Side insert





E-SL
End insert

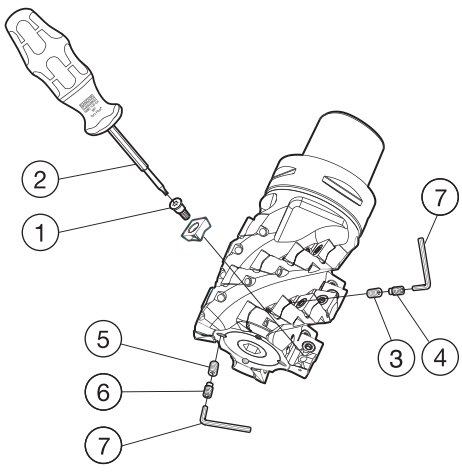
Dimensions, mm (inch)

Size	*iC*	*iW*	l_a	*s*
10	10 (.394)	10.01(.394)	10 (.394)	5.2 (.205)
14	14.5 (.571)	14.5 (.571)	14.75 (.581)	6.35 (.250)

	Insert size	Ordering code	S GC 1030	S GC 2040	S GC S30T	S GC S40T	Dimensions, millimeter, inch (mm, in.) b_s mm	b_s in.	r_ε mm	r_ε in.
Light	10	690-100510M-P-SL	★	☆	★	★			1.0	.039
	14	690-140610M-P-SL	★	☆	★	★			1.0	.039
	10	690-100508M-E-SL	★	☆	★	★	1.0	.039	0.8	.032
		690-100512M-E-SL	☆	☆	★	★	1.0	.039	1.2	.047
		690-100516M-E-SL	★	☆	★	★	1.0	.039	1.6	.063
		690-100520M-E-SL	☆	☆	★	★	1.0	.039	2.0	.079
		690-100524M-E-SL	☆	☆	★	★	1.0	.039	2.4	.094
		690-100531M-E-SL	☆	☆	★	★	1.0	.039	3.1	.122
	14	690-140608M-E-SL	★	☆	★	★	1.0	.039	0.8	.032
		690-140612M-E-SL	☆	☆	★	★	1.0	.039	1.2	.047
		690-140616M-E-SL	★	☆	★	★	1.0	.039	1.6	.063
		690-140620M-E-SL	☆	☆	★	★	1.0	.039	2.0	.079
		690-140624M-E-SL	☆	☆	★	★	1.0	.039	2.4	.094
		690-140631M-E-SL	☆	☆	★	★	1.0	.039	3.1	.122
		690-140640M-E-SL	☆	☆	★	★	1.0	.039	4.0	.157
		690-140650M-E-SL	☆	☆	★	★	1.0	.039	5.0	.197
		690-140660M-E-SL	☆	☆	★	★	1.0	.039	6.0	.236
		690-140664M-E-SL	☆	☆	★	★	1.0	.039	6.35	.250
			S15	S30	S25	S35				

★= First choice

Spare parts



	1	2			
			Torque value		
□	Insert screw	Key (Torx Plus)	Nm	In-lbs	Torque wrench[2]
10	5513 020-68	5680 046-02 (15IP)	3.0	26	5680 100 06 (15IP)
14	5513 020-55	5680 046-06 (20IP)	5.0	44	5680 100-07 (20IP)

Coolant holes

Cutter dia	3[2] / 5[1] Plug screw	4 / 6 Nozzle[2] (dia 1.0 mm)	7 Key (mm)[2]
40-44 mm (1.500 inch)	3214 010-202	5691 026-13	174.1-862(1.5)
50-100 mm (2.000-4.000 inch)	3214 010-253	5691 026-03	170.3-864(2.0)[3]

Optional nozzles (to be ordered separately)

Cutter dia 40-44 mm (1.500 inch)		Cutter dia 50- mm (2.000- inch)	
Ordering code	Hole diameter, mm	Ordering code	Hole diameter, mm
5691 026-11	0.6	5691 026-01	0.6
5691 026-12	0.8	5691 026-02	0.8
5691 026-13	1.0	5691 026-03	1.0
5691 026-14	1.2	5691 026-04	1.2
5691 026-15	1.4	5691 026-05	1.4

1) Delivered with the tool
2) Optional part delivered to separate order.
3) No torque required

D334 D327

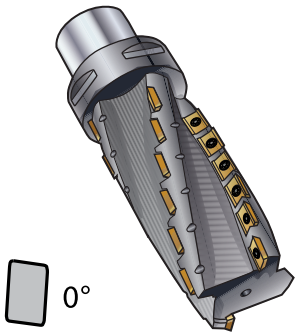
Coromant Finishing Long Edge Cutter

Superior surface finish from an indexable long edge

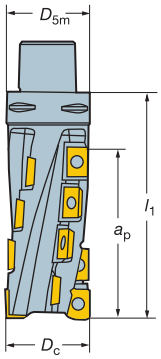
- Choose from many mounting options. Cutting depth a_p 4.00 - 6.00 inch (100 - 150 mm) depending on diameter
- Precision tolerance cutter body and unique insert cutting edge produce solid/brazed tool surface finish
- NO MISMATCH BETWEEN INSERTS
- Unmatched surface finish
- Reduced inventory costs
- Hassle free machining
- Low power consumption

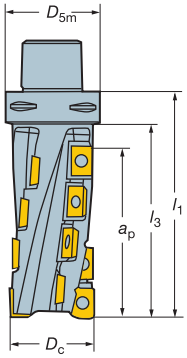
Coromant Finishing Long Edge Cutter

D_c 2.000-5.000 inch (19 mm side/18 mm end insert)



Coromant Capto®





Metric version

D_c mm	Ordering code Coarse pitch	z_n/z_c		Dimensions, mm D_{5m}	dm_m	l_1	l_3	Max a_p
	Coromant Capto							
50	R215-050C5-100L	16/2	-	50	35	141.5	121.5	100
80	R215-080C8-150L	24/2	-	80	55	200		150

Inch version

D_c inch	Ordering code Coarse pitch	z_n/z_c		Dimensions, inch D_{5m}	l_1	l_3	Max a_p
	Coromant Capto						
2.000	RA215-051C5-102L	16/2	-	1.968	5.821		4.000
3.000	RA215-076C8-152L	24/2	-	3.150	7.874	6.690	6.000

= Even pitch

= Differential pitch

z_n= Number of insert in the cutter Zn = 16
z_c= Effective number of rows Zc = 2

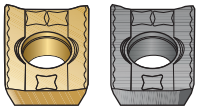
D74

D74

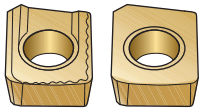
G6

D2

Inserts for Coromant finishing long edge cutter

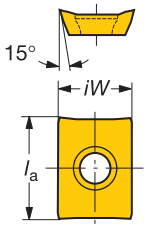


-ML -AL
Side insert

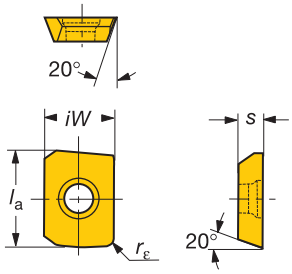


-ML2/PL2 -2
End insert

Side insert
LDHT 19...



End insert
LEHW 18.../LEHT 18...



Radius inserts

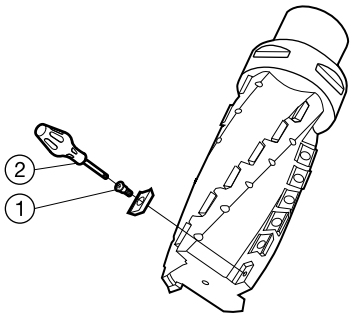
Note!
Intermediate radii and non-standard grades are delivered on request as engineered inserts.

	Insert size	Ordering code	P GC 1025	P GC 1030	M GC 1025	N GC 1025	N GC B28C	S GC 1025	S GC 1030	H GC 1025	l_a mm	l_a in.	s mm	s in.	iW mm	iW in.	r_ε mm	r_ε in.
			P30	P30	M15	N15		S15	S15	H15								
Light	18	LEHT 18 04 16R-ML2					★				19	.748	4.75	.187			1.6	.063
		LEHT 18 04 16R-PL2		★					☆		19	.748	4.75	.187			1.6	.063
		LEHW 18 04 16R-2	☆		☆	☆		☆		☆	19	.748	4.75	.187			1.6	.063
	19	LDHT 19 04 00-ML	☆		☆	☆		☆		☆	19.1	.752	4.75	.187	13.77	.542	0.2	.008
		LDHT 19 04 00-PL		★					☆		19.1	.752	4.75	.187	13.77	.542	0.2	.008

Dimensions, millimeter, inch (mm, in.)

★= First choice

Spare parts



Cutter	Insert size	1 Insert screw	2 Wrench (Torx Plus)	Torque value Nm (in-lbs)	Torque wrench[1]	Molykote
RA215	18/19	5513 020-50	5680 046-06 (20IP)	5.0 (44)	5680 100-07	5683 010-01

[1] Accessories, must be ordered separately

D334 D327 D356 D2

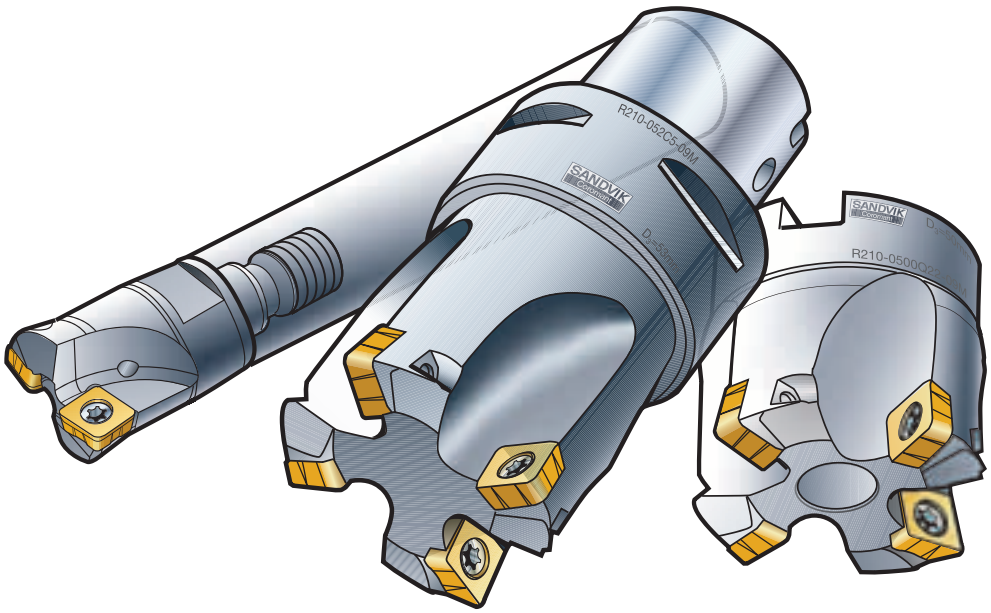
SANDVIK Coromant

CoroMill® 210

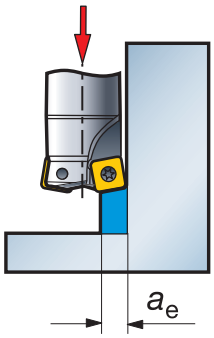
Versatile cutter for both high feed face milling and plunge milling

Highly productive roughing cutter

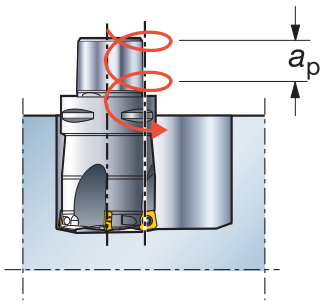
Diameter 25 - 160 mm (1.000 - 6.000 inch)



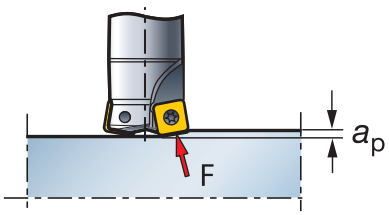
Plunge milling



High feed helical interpolation



High feed face milling



10° entering angle results in favourable cutting forces directed towards the spindle.

Dimensions, mm (inch)

/	a_p	a_e
09	1.2 (.047)	8 (.315)
14	2.0 (.079)	13 (.512)

ISO application areas:

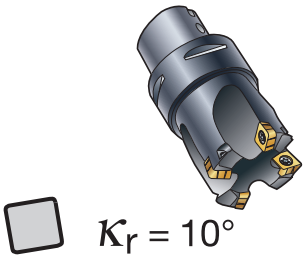
P M K S H

Tailor Made

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

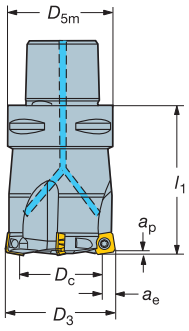
High feed and plunge mill

Diameter 25 - 160 mm

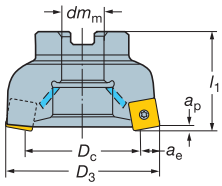


$\kappa_r = 10°$

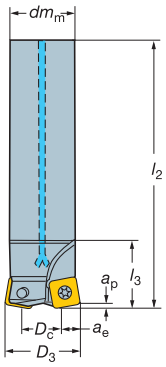
Coromant Capto®



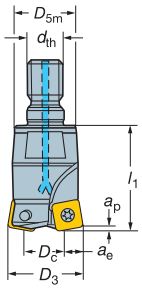
Arbor



Cylindrical



Threaded coupling



l_1 = programming length

Metric version

		Ordering code							Dimensions, mm									
	D_3	Close pitch			Extra close pitch			Coolant[1]	kg	D_c	D_{5m}	dm_m	l_1	l_2	l_3	Max a_p	a_e max	n_{max}[2]
		Coromant Capto																
09	36	R210-036C3-09M	2	-	R210-036C3-09H	3	-	1	0.5	21.9	32	22	50			1.2	8	30900
	42	R210-042C4-09M	-	3	R210-042C4-09H	4	-	1	0.8	27.9	40	28	60			1.2	8	27600
	52	R210-052C5-09M	-	4	R210-052C5-09H	5	-	1	1	37.9	50	35	70			1.2	8	24000
	54	-	-	-	R210-054C5-09H	5	-	1	1	39.9	50	35	70			1.2	8	23600
	66	R210-066C6-09M	-	6	-	-	-	1	1.6	51.9	63	44	72			1.2	8	21300
14	52	R210-052C5-14M	-	3	R210-052C5-14H	4	-	1	0.9	28.0	50	35	70			2.0	13	20800
	54	-	-	-	R210-054C5-14H	4	-	1	1	30.0	50	35	70			2.0	13	23600
	66	R210-066C6-14M	-	4	R210-066C6-14H	5	-	1	1.6	42.0	63	44	72			2.0	13	17700
	82	R210-082C8-14M	-	5	R210-082C8-14H	6	-	1	3	58.0	80	55	80			2.0	13	15100
	86	-	-	-	R210-086C8-14H	6	-	1	3.2	62.0	80	55	80			2.0	13	14700
		Cylindrical shank																
09	25	R210-025A20-09M	2	-	-	-	-	1	0.4	10.9		20		180	35	1.2	8	17200
	32	R210-032A25-09M	2	-	R210-032A25-09H	3	-	1	0.8	17.9		25		210	45	1.2	8	11000
	35	-	-	-	R210-035A32-09H	3	-	1	1	20.9		32		210	45	1.2	8	11000
	42	R210-042A32-09M	-	3	R210-042A32-09H	4	-	1	1.5	27.9		32		250	50	1.2	8	8000
		Arbor																
09	50	R210-050Q22-09M	-	4	R210-050Q22-09H	5	-	1	0.5	35.9		22	50			1.2	8	24500
	63	R210-063Q22-09M	-	5	R210-063Q22-09H	6	-	1	0.6	48.9		22	50			1.2	8	21800
	63	R210-063Q27-09M	-	5	-	-	-	1	0.7			27	50			1.2	8	21800
14	63	R210-063Q22-14M	-	4	R210-063Q22-14H	5	-	1	0.7	39.0		22	50			2.0	13	18300
	63	R210-063Q27-14M	-	4	-	-	-	1	0.7			27	50			2.0	13	18300
	80	R210-080Q27-14M	-	5	R210-080Q27-14H	6	-	1	1.2	56.0		27	50			2.0	13	15400
	100	R210-100Q32-14M	-	6	R210-100Q32-14H	7	-	1	1.6	76.0		32	50			2.0	13	13400
	125	R210-125Q40-14M	-	7	-	-	-	1	3.3	101.0		40	63			2.0	13	11400
	160	R210-160Q40-14M	-	8	-	-	-	1	5.3	136.0		40	63			2.0	13	10400
		CIS Arbor																
09	80	RA210-080J31-09M	-	7	-	-	-	1	1.2	65.9		31.75	63			1.2	8	18800
14	80	RA210-080J31-14M	-	5	-	-	-	1	1.2	56.0		31.75	63			2.0	13	15400
		Threaded coupling																
09	25	R210-025T12-09M[3]	2	-	-	-	-	1	0.25	10.9			35			1.2	8	
	32	R210-032T16-09M[3]	2	-	-	-	-	1	0.3	17.9			45			1.2	8	
	35	-	-	-	R210-035T16-09H	3	-	1	0.4	20.9			50			1.2	8	
	42	-	-	-	R210-042T16-09H	4	-	1	0.3	27.9			50			1.2	8	

1) 0 = no coolant, 1 = coolant through centre

2) n_{max} (max. rev/min) for holders must also be considered.

3) Max. rpm values, n_{max}, are not given for threaded shank design as they are always used with long extensions.

= Even pitch

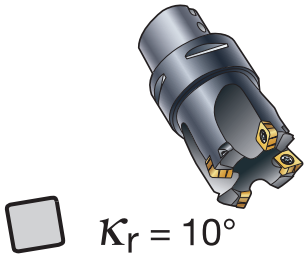
= Differential pitch

D78
D78
G6
D2
J4

SANDVIK Coromant

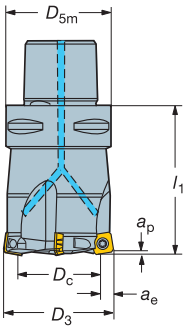
High feed and plunge mill

Diameter 1.000 - 6.000 inch

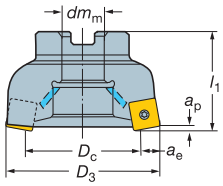


$\kappa_r = 10°$

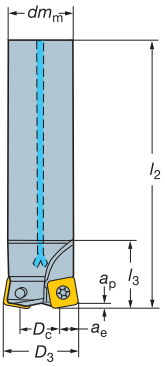
Coromant Capto®



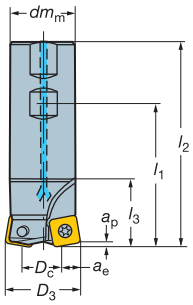
Arbor



Cylindrical



Weldon



l_1 = programming length

Inch version

		Ordering code							Dimensions, inch									
	D_3	Close pitch			Extra close pitch			Coolant[1]	Lbs	D_c	D_{5m}	dm_m	l_1	l_2	l_3	Max a_p	a_e max	n_{max}[2]
		Coromant Capto																
09	1.500	RA210-038C3-09M	-	3	-	-	-	1	1.3	.945	C3		1.969			.047	.315	29600
	2.000	RA210-051C5-09M	-	4	RA210-051C5-09H	5	-	1	2.2	1.445	C5		2.756			.047	.315	24800
	2.500	RA210-063C5-09M	-	5	-	-	-	1	2.9	1.945	C5		2.756			.047	.315	21700
14	2.000	RA210-051C5-14M	-	3	-	-	-	1	2.6	1.055	C5		2.756			.079	.512	20800
	2.000	-	-	-	RA210-051C5-14H	4	-	1	2.6	1.055	C5		2.756			.079	.512	20800
	2.500	RA210-063C5-14M	-	4	RA210-063C5-14H	5	-	1	2.9	1.555	C5		2.756			.079	.512	18200
		Cylindrical shank																
09	1.000	RA210-025O25-09M	2	-	-	-	-	1	4.2	.445		1.000		10.000	2.500	.047	.315	7400
	1.250	RA210-032O25-09M	2	-	RA210-032O25-09H	3	-	1	4.6	.693		1.000		10.000	2.000	.047	.315	7400
	1.378	-	-	-	RA210-035O32-09H	3	-	1	5.1	.821		1.250		10.000	2.000	.047	.315	7400
	1.500	RA210-038O32-09M	-	3	RA210-038O32-09H	4	-	1	3.3	.945		1.250		10.000	2.000	.047	.315	7400
		Weldon																
09	1.000	RA210-025M25-09M	2	-	-	-	-	1	1.8	.445		1.000	4.000	5.142	2.000	.047	.315	40200
	1.250	RA210-032M32-09M	2	-	-	-	-	1	2.2	.693		1.250	3.141	4.280	2.000	.047	.315	33900
	1.378	-	-	-	RA210-035M32-09H	3	-	1	2.4	.821		1.250	3.141	4.280	2.000	.047	.315	33900
	1.500	RA210-038M32-09M	-	3	-	-	-	1	3.1	.945		1.250	4.500	5.900	2.500	.047	.315	28500
	1.654	-	-	-	RA210-042M38-09H	4	-	1	3.7	1.020		1.500	4.500	5.639	2.500	.047	.315	28500
		Arbor																
09	2.000	RA210-051R19-09M	-	4	RA210-051R19-09H	5	-	1	1.1	1.445		.750	1.969			.047	.315	24800
	2.500	RA210-063R19-09M	-	5	-	-	-	1	1.5	1.945		.750	1.969			.047	.315	21700
14	2.500	RA210-063R19-14M	-	4	RA210-063R19-14H	5	-	1	1.5	1.555		.750	1.969			.079	.512	18200
	3.000	RA210-076R25-14M	-	5	RA210-076R25-14H	6	-	1	2.4	2.055		1.000	1.969			.079	.512	15900
	4.000	RA210-102R38-14M	-	6	RA210-102R38-14H	7	-	1	3.5	3.039		1.500	2.362			.079	.512	13300
	5.000	RA210-127R38-14M	-	7	-	-	-	1	6.0	4.055		1.500	2.480			.079	.512	11300
	6.000	RA210-152R38-14M	-	8	-	-	-	1	8.8	5.055		1.500	2.480			.079	.512	10600

[1] 0 = no coolant, 1 = coolant through centre

[2] n_{max} (max. rev/min) for holders must also be considered.

= Even pitch

= Differential pitch

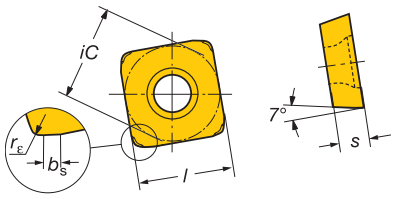
D78 D78 G6 D2 J4

Inserts for CoroMill® 210

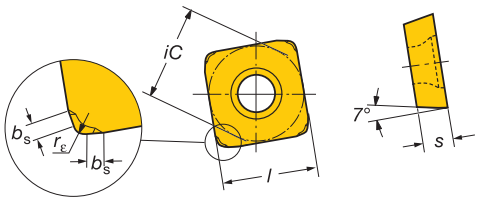
12M

14E

M-XM



E-XM



Dimensions, mm (inch)

Size	E-xM		M-xM	
	l = *iC*	*s*	*l* = *iC*	*s*
09	9.5 (.374)	4.50 (.177)	9.4 (.370)	4.00 (.158)
14	14.6 (.575)	5.26 (.207)	14.5 (.571)	4.76 (.188)

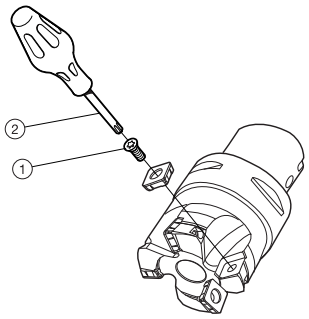
	□	Ordering code	P							M				K			S							H				Dimensions, millimeter, inch (mm, in.)			
			GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC				
			1030	2030	2040	3040	4220	4230	4240	1030	1040	2030	2040	1020	3040	4220	1010	1030	2030	2040	S30T	S40T	1010	1030	3040	4220	b_s mm	b_s in.	r_ε mm	r_ε in.
Medium	09	R210-09 04 12M-KM				☆								☆	☆											☆		1.0	.039	1.2	.047
		R210-09 04 12M-MM		☆	☆						★	☆	☆						★	☆								1.0	.039	1.2	.047
		R210-09 04 12M-PM	☆				☆	★	☆	☆						☆	☆	☆			★	★	★	☆			☆	1.0	.039	1.2	.047
		R210-09 04 14E-KM				☆								★	☆											☆		0.8	.032	1.4	.055
		R210-09 04 14E-MM		☆	☆						★	☆	☆						★	☆								0.8	.032	1.4	.055
		R210-09 04 14E-PM	★				☆	☆	☆	☆						☆	☆	☆			★	★	★	☆			☆	0.8	.032	1.4	.055
Medium	14	R210-14 05 12M-KM				☆								☆	☆											☆		1.0	.039	1.2	.047
		R210-14 05 12M-MM		☆	☆						★	☆	☆						★	☆								1.0	.039	1.2	.047
		R210-14 05 12M-PM	☆				☆	★	☆	☆						☆	☆	☆			★	★	★	☆			☆	1.0	.039	1.2	.047
		R210-14 05 14E-KM				☆								★	☆											☆		0.9	.035	1.4	.055
		R210-14 05 14E-MM		☆	☆						★	☆	☆						★	☆								0.9	.035	1.4	.055
		R210-14 05 14E-PM	★				☆	☆	☆	☆						☆	☆	☆			★	★	★	☆			☆	0.9	.035	1.4	.055
			P30	P30	P45	P20	P20	P20	P40	M15	M30	M25	M40	K20	K30	K25	S10	S15	S20	S30	S25	S35	H10	H10	H25	H25				

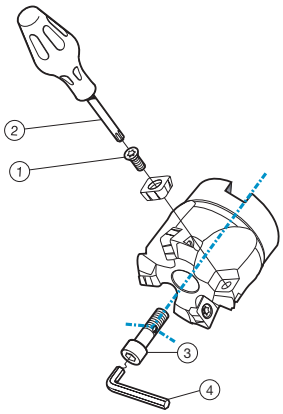
★= First choice

D334 D327 D356 D2

SANDVIK Coromant

Spare parts for CoroMill® 210





Cutter			1	2				3	4
	Insert size	dm_m mm inch	Insert screw	Key (Torx Plus)	Torque value Nm (in-lbs)	Molykote	Torque wrench[1]	Screw[2]	Key[1]
	09	–	5513 020-02	5680 046-02 (15IP)	3.0 (2.2)	5683 010-01	5680 100-06 (15IP)	–	–
	14	–	5513 020-50	5680 046-06 (20IP)	5.0 (3.7)	5683 010-01	5680 100-07 (20IP)	–	–
R210	–	**22**	–	–	–	–	–	5512 073-01	3021 010-080 (8.0)
	–	**27**	–	–	–	–	–	5512 073-02	3021 010-100 (10.0)
	–	**32**	–	–	–	–	–	5512 073-05	3021 010-140 (14.0)
	–	**125 - 160**	–	–	–	–	–	5512 098-01	5680 043-18 (50IP)
RA210	–	**.750**	–	–	–	–	–	5512 074-01	3021 011-516(5/16")
	–	**1.000**	–	–	–	–	–	5512 074-02	3021 011-380(3/8")
	–	**1.500**	–	–	–	–	–	5512 074-05	3021 011-580 (5/8")
	–	**1.500**[3]	–	–	–	–	–	5512 099-01	5680 043-18 (50IP)

1) Accessories, must be ordered separately

2) Optimized screw: Low head/Small diameter

3) For 5 and 6 inch dia cutters with dm_m = 1.500 inch

Feed recommendations for CoroMill® 210

Cutting data

Plunging

Feed values	f_z mm/tooth		f_z inch/tooth		f_z mm/tooth		f_z inch/tooth	
Insert size Tool overhang *iC*	<= 3 x D3		<= 3 x D3		> 3 x D3		> 3 x D_3	
	Starting value	(min.- max.)	Starting value	(min.- max.)	Starting value	(min.- max.)	Starting value	(min.- max.)
9	0.15	(0.01-0.2)	.006	(.004-.008)	0.10	(0.08-0.15)	.004	(.003-.006)
14	0.20	(0.10-0.25)	.008	(.004-.010)	0.15	(0.10-0.20)	.006	(.004-.008)

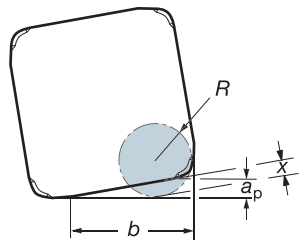
High feed machining

Speed and feed values, feed per tooth

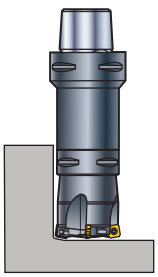
	Material CMC No	HB	Insert size 9 f_z mm/tooth f_z rec	f_z min - f_z max	Insert size 9 f_z inch/tooth **f_z rec**	f_z min - f_z max	Insert size 14 f_z mm/tooth f_z rec	f_z min - f_z max	Insert size 14 f_z inch/tooth **f_z rec**	f_z min - f_z max
P	**Unalloyed steel**									
	01.1/01.2	125-150	1.5	(0.4-2.0)	.060	(.016-.080)	2.0	(0.4-3.0)	.080	(.016-.118)
	Low alloy steel									
	02.1	175	1.5	(0.4-2.0)	.060	(.016-.080)	2.0	(0.4-3.0)	.080	(.016-.118)
	02.2	330	1.0	(0.4-1.5)	.040	(.016-.080)	1.5	(0.4-2.0)	.060	(.016-.080)
	High alloy steel									
	03.11	200	1.5	(0.4-1.7)	.060	(.016-.067)	2.0	(0.4-2.5)	.080	(.016-.098)
	03.21	300	1.0	(0.4-1.5)	.040	(.016-.059)	1.5	(0.4-2.0)	.060	(.016-.080)
M	**Stainless steel**									
	05.11	200	1.5	(0.4-1.7)	.060	(.016-.067)	2.0	(0.4-2.5)	.080	(.016-.098)
	05.21	200	1.2	(0.4-1.5)	.040	(.016-.060)	1.5	(0.4-2.0)	.060	(.016-.080)
K	**Grey cast iron**									
	08.2	245	1.5	(0.4-2.0)	.060	(.016-.080)	2.0	(0.4-3.0)	.080	(.016-.118)
	Nodular cast iron									
	09.2	250	1.5	(0.4-2.0)	.060	(.016-.080)	2.0	(0.4-3.0)	.080	(.016-.118)
S	**Heat resistant alloys**									
	20.22	350	0.8	(0.5-1.2)	.030	(.020-.047)	1.0	(0.5-1.5)	.040	(.020-.060)
	Titanium alloys									
	23.22	1050[1)]	0.8	(0.5-1.2)	.030	(.020-.047)	1.0	(0.5-1.5)	.040	(.020-.060)
H	**Hardened steel**									
	04.1	45-55	0.8	(0.4-1.2)	.030	(.016-.047)	1.0	(0.4-1.5)	.040	(.016-.118)

1) Rm = ultimate tensile strength measured in MPa.

Programming



iC	Dimensions, mm (inch)			Uncut material
	R	*b*	a_p	x
9	2.5	7.05	1.2	0.79
	(.098)	(.278)	(.047)	(.031)
14	3.5	12.0	2.0	1.48
	(.138)	(.472)	(.079)	(.058)

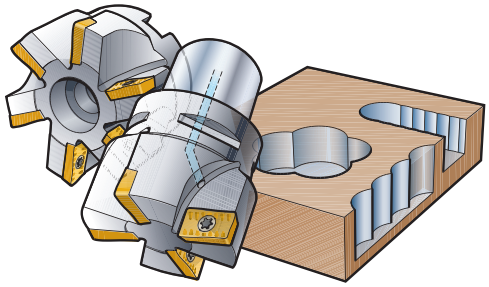


Caution needs to be taken when high feed milling against a steep wall. Reduce feed by 50%.

When recommended machining strategy for machining corners is not followed, feed rate has to be reduced by 50% when machining corners.

Coromant Plunge Cutter

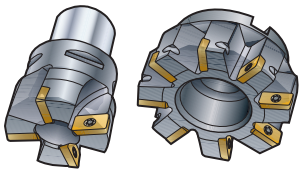
Extreme metal removal rates



- Axial milling
- Large radial depth of cut. Up to 21.6 mm (.850 inch)
- Coromant Capto, for superior coupling strength and modularity
- Robust cutters designed to optimize MRR (Metal Removal Rates)
- High productivity
- Superior chip flow
- Low power consumption and low noise
- Low stress on machine spindle

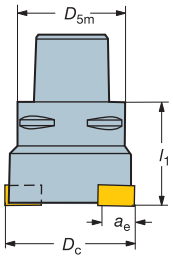
Note: Plunge cutter is not center cutting.

Diameter 80 – 160 mm
Diameter 3.000 - 8.000 inch

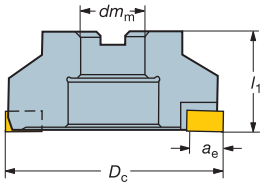


$\kappa_r = 92°$

Coromant Capto



Arbor



Metric version

		Ordering code			Dimensions, mm				
	D_c	Close pitch			kg	D_{5m}	dm_m	l_1	a_e max
		Coromant Capto							
25	80	R215-A080C6-25M	4	-	3.0	63		61	21.6
	85	R215-A085C8-25M	5	-	4.0	80		92	21.6
		Arbor							
25	100	R215-A100Q32-25M	6	-	4.5		32	50	21.6
	125	R215-A125Q40-25M	8	-	6.5		40	63	21.6
	160	R215-A160Q40-25M	8	-	9.0		40	63	21.6

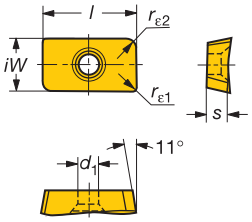
Inch version

		Ordering code			Dimensions, inch				
	D_c	Close pitch			Lbs	D_{5m}	dm_m	l_1	a_e max
		Coromant Capto							
25	3.000	RA215-A076C6-25M	4	-	2.4	2.480	1.732	2.390	.850
		Arbor							
25	4.000	RA215-A102R38-25M	6	-	3.5		1.500	2.375	.850
	5.000	RA215-A127R38-25M	8	-	6.6		1.500	2.375	.850
	6.000	RA215-A152R38-25M	8	-	11.5		1.500	2.375	.850
	8.000	RA215-A203R63-25M	12	-	13.7		2.500	2.480	.850

Note:
Bolt circle for cutters 8" and 10" = 4"

D82 D82 G6 D2

Inserts for Coromant plunge cutter

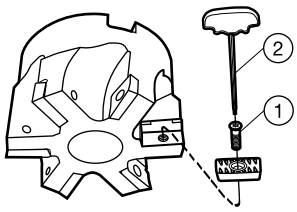


l_a = max recommended cutting depth

	Insert size	Ordering code	P GC1025	P GC1030	P GC4230	P GC4240	M GC1025	M GC1030	M GC4240	K GC4230	K GC4240	N GC1025	S GC1025	S GC1030	H GC1025	Dimensions, millimeter, inch (mm, in.) l mm	l in.	s mm	s in.	iW mm	iW in.	d_1 mm	d_1 in.	$r_{\varepsilon 1}$ mm	$r_{\varepsilon 1}$ in.	$r_{\varepsilon 2}$ mm	$r_{\varepsilon 2}$ in.
Medium	25	LPMH 25 06 10-PM	☆	☆	☆	★	☆	☆	☆	☆	☆	☆	☆	☆	☆	25.3	.996	6.35	.250	14.27	.562	5.51	.217	0.79	.031	2.44	.096
			P30	P30	P20	P40	M15	M15	M40	K30	K40	N15	S15	S15	H15												

★= First choice

Spare parts



Cutter	D_c mm (inch)	1 Screw	2 Key (Torx Plus)	Torque value Nm (in-lbs)	Molykote	Torque wrench[1]
R215	80-160	5513 016-01	5680 048-04 (20IP)	5.0	5683 010-01	5680 100-07
RA215	(3.000-8.000)			(44)		

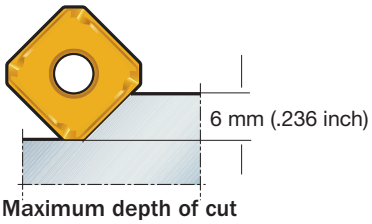
[1] Accessories, must be ordered separately

D334 D327 D356 D2

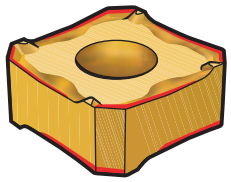
SANDVIK Coromant

CoroMill® 345

45 degree face mill
Diameter 40 - 250 mm (1.500 - 10.000 inch)

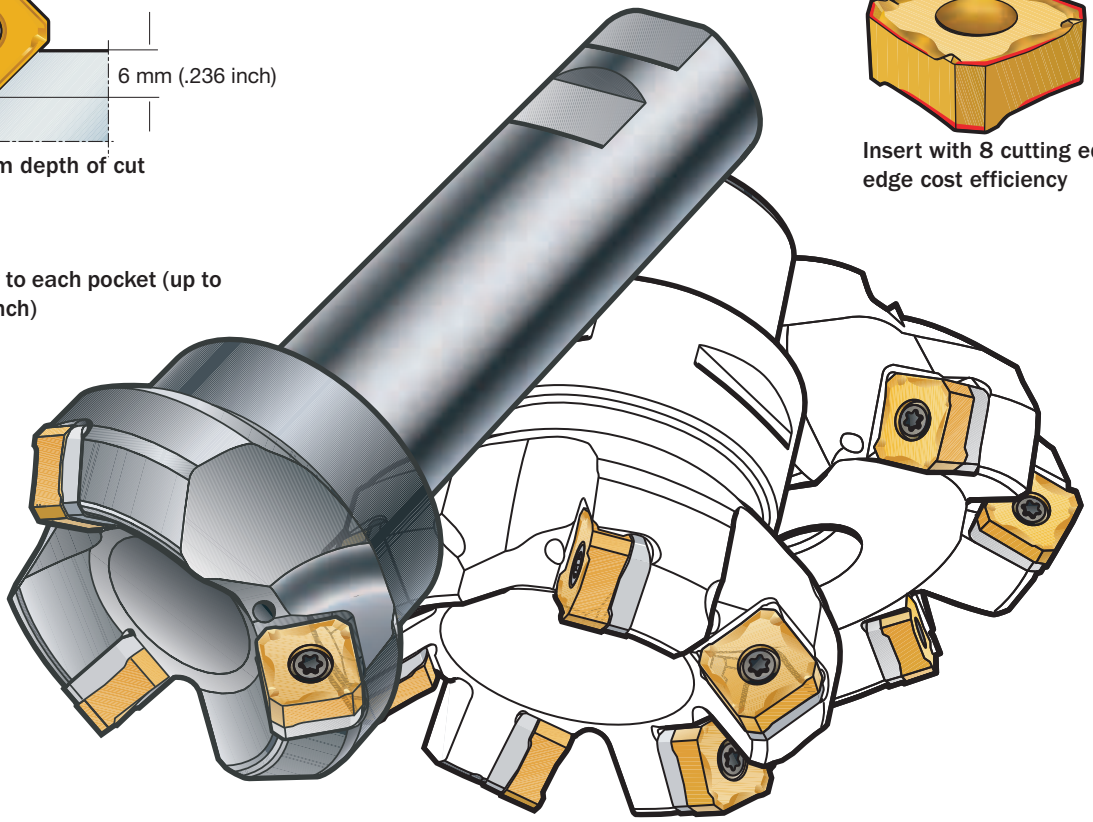


Maximum depth of cut

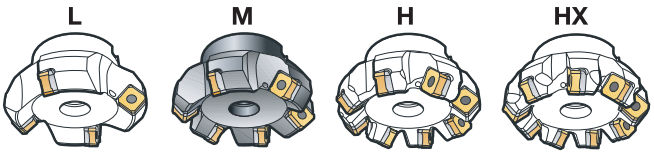


Insert with 8 cutting edges for great edge cost efficiency

Coolant supply to each pocket (up to ø 127mm, 5 inch)

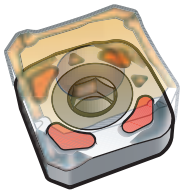


Couplings: Arbor, Coromant Capto, Cylindrical, Weldon, CIS Arbor.

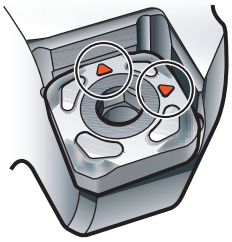


Choice of pitches

Unique design with fixed pocket and shim



Place shim in correct position

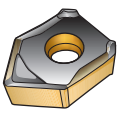


Pioneering shim technology

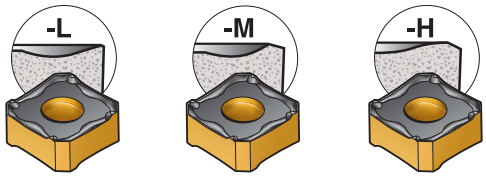
ISO application areas:

P M K N S H

Geometries



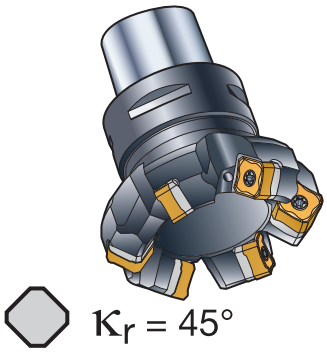
Wiper



Insert geometries -L, -M and -H and new E-PL

Face mill

Diameter 40 - 250 mm



$\kappa_r = 45°$

Metric version

D_c mm	Ordering code Coarse pitch			Close pitch			Extra close pitch		
	Coromant Capto								
40	345-040C4-13L	-	3	345-040C4-13M	-	4	-	-	-
50	345-050C5-13L	-	3	345-050C5-13M	-	4	345-050C5-13H	5	-
	345-050C6-13L	-	3	345-050C6-13M	-	4	345-050C6-13H	5	-
63	345-063C5-13L	-	4	345-063C5-13M	-	5	345-063C5-13H	6	-
	345-063C6-13L	-	4	345-063C6-13M	-	5	345-063C6-13H	6	-
80	345-080C6-13L	-	4	345-080C6-13M	-	6	345-080C6-13H	8	-
	-	-	-	345-080C8-13M	-	6	345-080C8-13H	8	-
100	-	-	-	345-100C8-13M	-	7	345-100C8-13H	10	-
	Cylindrical shank								
40	345-040A32-13L	-	3	345-040A32-13M	-	4	-	-	-
50	345-050A32-13L	-	3	345-050A32-13M	-	4	-	-	-
	Arbor								
40	345-040Q22-13L	-	3	345-040Q22-13M	-	4	-	-	-
50	345-050Q22-13L	-	3	345-050Q22-13M	-	4	345-050Q22-13H	5	-
63	345-063Q22-13L	-	4	345-063Q22-13M	-	5	345-063Q22-13H	6	-
80	345-080Q27-13L	-	4	345-080Q27-13M	-	6	345-080Q27-13H	8	-
100	345-100Q32-13L	-	5	345-100Q32-13M	-	7	345-100Q32-13H	10	-
125	345-125Q40-13L	-	6	345-125Q40-13M	-	8	345-125Q40-13H	12	-
160	345-160Q40-13L	-	7	345-160Q40-13M	-	10	345-160Q40-13H	-	12
200	345-200Q60-13L	-	8	345-200Q60-13M	-	12	345-200Q60-13H	-	16
250	345-250Q60-13L	-	10	345-250Q60-13M	-	14	345-250Q60-13H	-	18
	CIS Arbor								
80	A345-080J25-13L	-	4	A345-080J25-13M	-	6	A345-080J25-13H	8	-
100	A345-100J31-13L	-	5	A345-100J31-13M	-	7	A345-100J31-13H	10	-
125	A345-125J38-13L	-	6	A345-125J38-13M	-	8	A345-125J38-13H	12	-
160	A345-160J51-13L	-	7	A345-160J51-13M	-	10	A345-160J51-13H	-	12
200	A345-200J47-13L	-	8	A345-200J47-13M	-	12	A345-200J47-13H	-	16
250	A345-250J47-13L	-	10	A345-250J47-13M	-	14	A345-250J47-13H	-	18

1) 0 = no coolant, 1 = coolant through centre

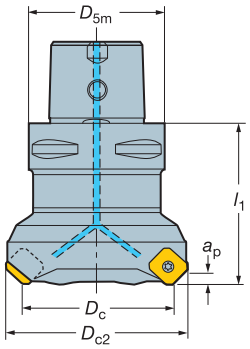
Note!
Mounting dimensions, see Metal cutting Technical guide.

= Even pitch
= Differential pitch

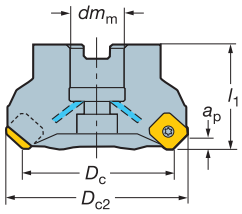
J3
G6
D88
D89

SANDVIK Coromant

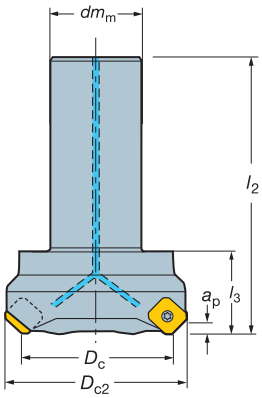
Coromant Capto®



Arbor



Cylindrical

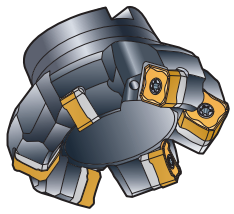


l_1 = programming length

Extra close pitch plus			Coolant[1]	Dimensions, mm							
				KG	dm_m	D_{5m}	D_{c2}	l_1	l_2	l_3	Max a_p
-	-	-	1	0.6	28	40	54.08	60			6.0
-	-	-	1	0.9	35	50	64.08	60			6.0
-	-	-	1	1.3	44	63	64.08	60			6.0
-	-	-	1	1.1	35	50	78.08	60			6.0
-	-	-	1	1.4	44	63	77.08	60			6.0
-	-	-	1	2.0	44	63	94.08	70			6.0
-	-	-	1	2.8	55	80	94.08	70			6.0
-	-	-	1	3.7	55	80	114.08	80			6.0
-	-	-	1	0.8	32		54.08		120	40	6.0
-	-	-	1	1.0	32		64.08		120	40	6.0
-	-	-	1	0.3	22		54.08	45			6.0
-	-	-	1	0.4	22		64.08	45			6.0
345-063Q22-13HX	7	-	1	0.6	22		77.08	45			6.0
345-080Q27-13HX	9	-	1	1.1	27		94.08	50			6.0
345-100Q32-13HX	11	-	1	1.8	32		114.08	50			6.0
345-125Q40-13HX	14	-	1	3.0	40		139.08	63			6.0
345-160Q40-13HX	16	-	0	4.1	40		174.08	63			6.0
345-200Q60-13HX	20	-	0	6.6	60		214.08	63			6.0
345-250Q60-13HX	24	-	0	10.3	60		264.08	63			6.0
A345-080J25-13HX	9	-	1	0.9	25.4		94.08	50			6.0
A345-100J31-13HX	11	-	1	1.8	31.75		114.08	50			6.0
A345-125J38-13HX	14	-	1	3.2	38.1		139.08	63			6.0
A345-160J51-13HX	16	-	0	4.7	50.8		174.08	63			6.0
A345-200J47-13HX	20	-	0	6.6	47.62		214.08	63			6.0
A345-250J47-13HX	24	-	0	11.7	47.62		264.08	63			6.0

Face mill

Diameter 1.500 - 10.000 inch



45°

Inch version

D_c inch	Ordering code Coarse pitch			Close pitch			Extra close pitch		
	Weldon								
1.500	A345-038M32-13L	-	3	A345-038M32-13M	-	4	-	-	-
2.000	A345-051M32-13L	-	3	A345-051M32-13M	-	4	-	-	-
2.500	A345-063M32-13L	-	4	-	-	-	-	-	-
	Arbor								
2.000	A345-051R19-13L	-	3	A345-051R19-13M	-	4	A345-051R19-13H	5	-
2.500	A345-063R25-13L	-	4	A345-063R25-13M	-	5	A345-063R25-13H	6	-
3.000	A345-076R25-13L	-	4	A345-076R25-13M	-	6	A345-076R25-13H	8	-
4.000	A345-102R38-13L	-	5	A345-102R38-13M	-	7	A345-102R38-13H	10	-
5.000	A345-127R38-13L	-	6	A345-127R38-13M	-	8	A345-127R38-13H	12	-
6.000	A345-152R38-13L	-	7	A345-152R38-13M	-	10	A345-152R38-13H	-	12
8.000	A345-203R63-13L	-	8	A345-203R63-13M	-	12	A345-203R63-13H	-	16
10.000	A345-254R63-13L	-	10	A345-254R63-13M	-	14	A345-254R63-13H	-	18

1) 0 = no coolant, 1 = coolant through centre

Note!

Mounting dimensions, see Metal cutting Technical guide.

Bolt circle for cutters 8" and 10" = 4"

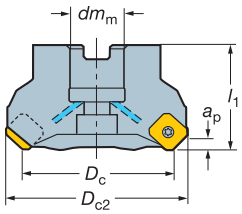
= Even pitch

= Differential pitch

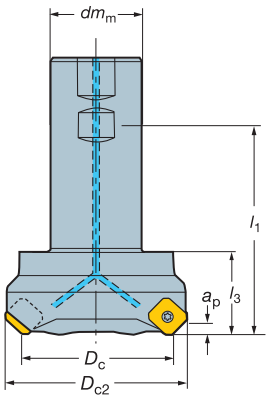
J3
G6
D88
D89

SANDVIK Coromant

Arbor



Weldon



l_1 = programming length

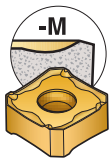
Extra close pitch plus			Coolant[1)]	Dimensions, inch					
				Lbs	dm_m	D_{c2}	l_1	l_3	Max a_p
-	-	-	1	2.1	1.250	2.054	4.724	1.575	.236
-	-	-	1	2.6	1.250	2.554	4.724	1.575	.236
-	-	-	1	2.8	1.250	3.054	4.724	1.575	.236
	-	-	1	1.0	.750	2.562	1.772		.236
A345-063R25-13HX	7	-	1	1.4	1.000	3.054	1.772		.236
A345-076R25-13HX	9	-	1	2.1	1.000	3.554	1.772		.236
A345-102R38-13HX	11	-	1	3.8	1.500	4.554	2.480		.236
A345-127R38-13HX	14	-	1	6.0	1.500	5.554	2.480		.236
A345-152R38-13HX	16	-	0	8.2	1.500	6.554	2.480		.236
A345-203R63-13HX	20	-	0	18.3	2.500	8.546	2.480		.236
A345-254R63-13HX	24	-	0	26.2	2.500	10.554	2.480		.236

Inserts for CoroMill® 345

Wiper
PW5, KW5

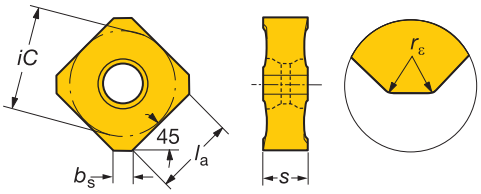
PW8, KW8

Light

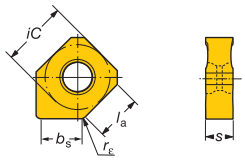


Medium

Heavy



Wiper



Dimensions, mm (inch)

Size	*l* = *iC*	l_a	*s*
13	13 (.512)	8.8 (.346)	5.60 (.220)

			Ordering code	Max a_p mm	Max a_p inch	P						M							K							S			H					Dimensions, millimeter, inch (mm, in.)			
						GC	GC	GC	GC	GC	CT	GC	GC	GC	GC	CT	GC	GC	GC	GC	GC	GC	-	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	CT				
						1030	3040	4220	4230	4240	530	1030	1040	2030	2040	4240	530	S30T	S40T	1020	3040	3220	4220	4230	4240	H13A	K20W	1030	S30T	S40T	1010	1030	3040	4220	530	b_s mm	b_s in.	r_ε mm	r_ε in.
Light	13		345R-1305E-KL	6.0	.236															★	☆	☆				☆	☆									2.0	.079	0.8	.032
			345R-1305E-PL	6.0	.236	★			☆	☆	☆			☆	☆		☆											☆			☆	☆			☆	2.0	.079	0.8	.032
			345R-1305M-KL	6.0	.236			☆		☆										★	☆		☆	☆	☆		☆							☆		2.0	.079	0.8	.032
			345R-1305M-PL	6.0	.236	★		☆	☆	☆		☆				☆							☆	☆	☆						☆					2.0	.079	0.8	.032
Medium	13		345L-1305M-PM	6.0	.236	☆			★	☆		☆				☆								☆												2.0	.079	0.8	.032
			345R-1305M-KM	6.0	.236																☆	★					☆									2.0	.079	0.8	.032
			345R-1305M-PM	6.0	.236	☆		☆	★	☆	☆	☆				☆	☆						☆	☆	☆			☆			☆			☆	☆	2.0	.079	0.8	.032
Heavy	13		345R-1305M-KH	6.0	.236			☆	☆												☆	★	☆	☆			☆						☆	☆		2.0	.079	0.8	.032
			345R-1305M-PH	6.0	.236	☆	☆	☆	★	☆											☆	☆	☆	☆	☆		☆				★	☆		☆		2.0	.079	0.8	.032
Wiper	13		345N-1305E-KW8	6.0	.236															★	☆	☆				☆	☆									8.0	.315	1.0	.039
			345N-1305E-PW5	6.0	.236	☆			☆	☆	☆			☆	☆		☆														☆				☆	5.0	.197	1.0	.039
			345N-1305E-PW8	6.0	.236	★			☆	☆	☆			☆	☆		☆														☆	☆			☆	8.0	.315	1.0	.039
						P30	P20	P20	P20	P40	P15	M15	M30	M25	M40	M40	M10	M25	M40	K20	K30	K15	K25	K30	K40	K20	K20	S15	S25	S35	H10	H10	H25	H25	H25				

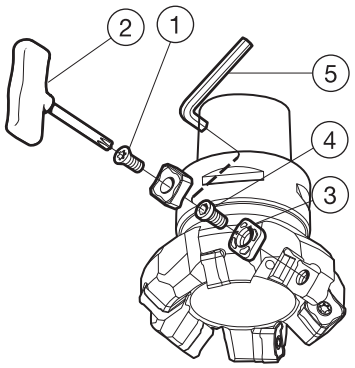
★= First choice

R345-13 05 E-PL
|
E = Highest edge sharpness and precision
M = Highest edge security

D334 D327

SANDVIK Coromant

Spare parts



Cutter	1	2				3	4	5
			Torque value					
Insert size	Insert screw	Key (Torx Plus)	Nm	In-lbs	Torque wrench[1]	Shim	Shim screw	Key (mm)
13	416.1-834	5680 048-01 (15IP)	3.0	26	5680 100-06	5322 472-04 5322 473-01[2]	5512 090-11	3021 010-040 (4.0)

[1] Optional part to be ordered separately.

[2] Shim for left hand cutter. Left hand cutters can be ordered as special.

Coolant screws

				Hex wrench		
	Screw code	Thread	Size	Key code	Arbor size	Fits following cutter codes
Metric	5512 073-01	M10	8 mm	3021 010-080	22	345-040Q22-13x 345-050Q22-13x
	5512 073-02	M12	10 mm	3021 010-100	27	345-080Q27-13x
	5512 073-05	M14	14 mm	3021 010-140	32	345-100Q32-13x
	5512 098-01	M20	50IP	5680 043-18	40	345-125Q40-13x 345-160Q40-13x
Inch	5512 074-01	3/8-24"	5/16"	3021 011-516	3/4	A345-051R19-13x
	5512 074-02	1/2-20"	3/8"	3021 011-380	1.00	A345-063R25-13x A345-076R25-13x
	5512 099-01	3/4-16"	50IP	5680 043-18	1.50 (B-Style)	A345-102R38-13x
	5512 099-01	3/4-16"	50IP	5680 043-18	1.50 (B-Style)	A345-127R38-13x
	5512 099-01	3/4-16"	50IP	5680 043-18	1.50 (B-Style)	A345-152R38-13x
	5512 073-02	M12	10mm	3021 010-100	25.4	A345-080J25-13x
	5512 073-05	M14	14mm	3021 010-140	31.75	A345-100J31-13x
	5512 098-01	M20	50IP	5680 043-18	38.1	A345-125J38-13x

CoroMill® 245

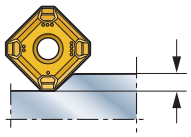
Light cutting face mills

A concept for highest metal removal and mirror finishing

Diameter 32 - 250 mm (1.250 - 10.000 inch)

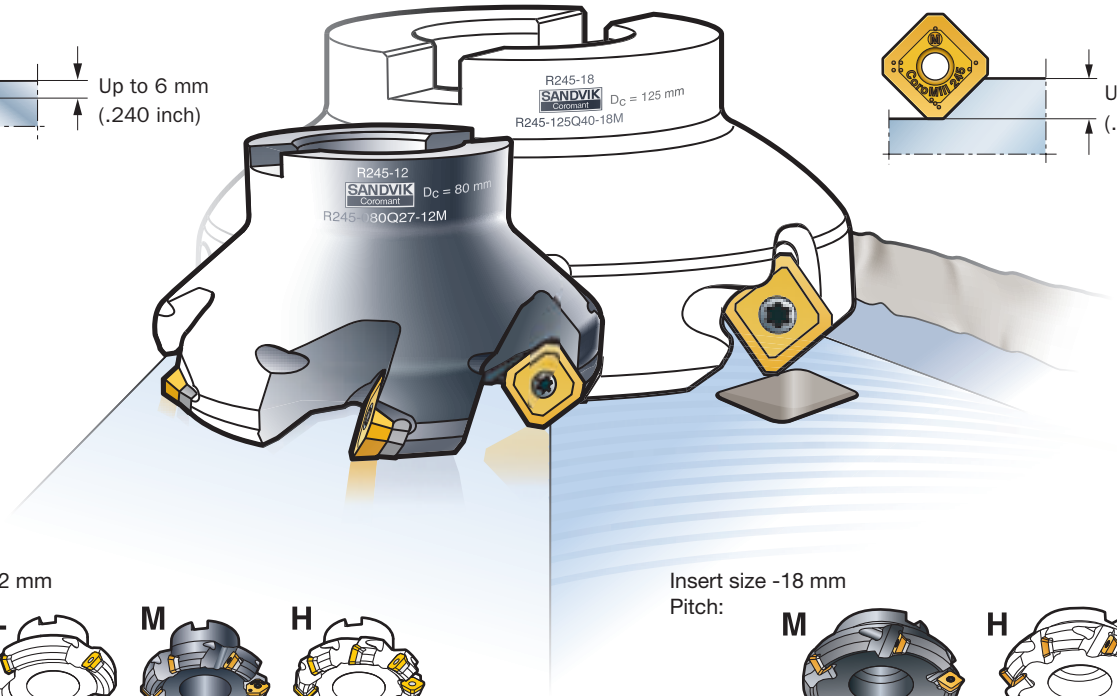
Roughing to mirror finishing

Insert size -12 mm

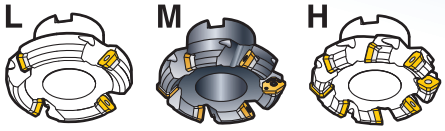


Demanding milling with highest security

Insert size -18 mm

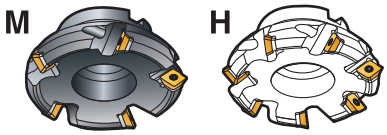


Insert size -12 mm
Pitch:



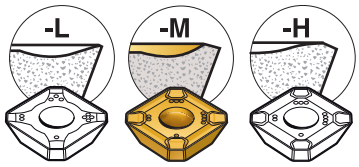
Condition:	Unstable	General	Stable

Insert size -18 mm
Pitch:



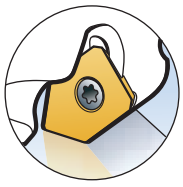
Condition:	General	Stable

Geometries:

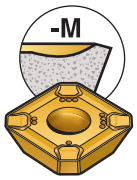


Condition:	Light cutting	General	High security

Wiper options



For high feed finishing



General

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 S H

SANDVIK Coromant

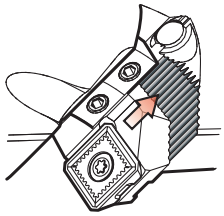
CoroMill® 245

Face mill with exchangeable cassettes

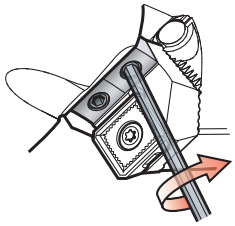
A concept for rough to semi finishing of steel

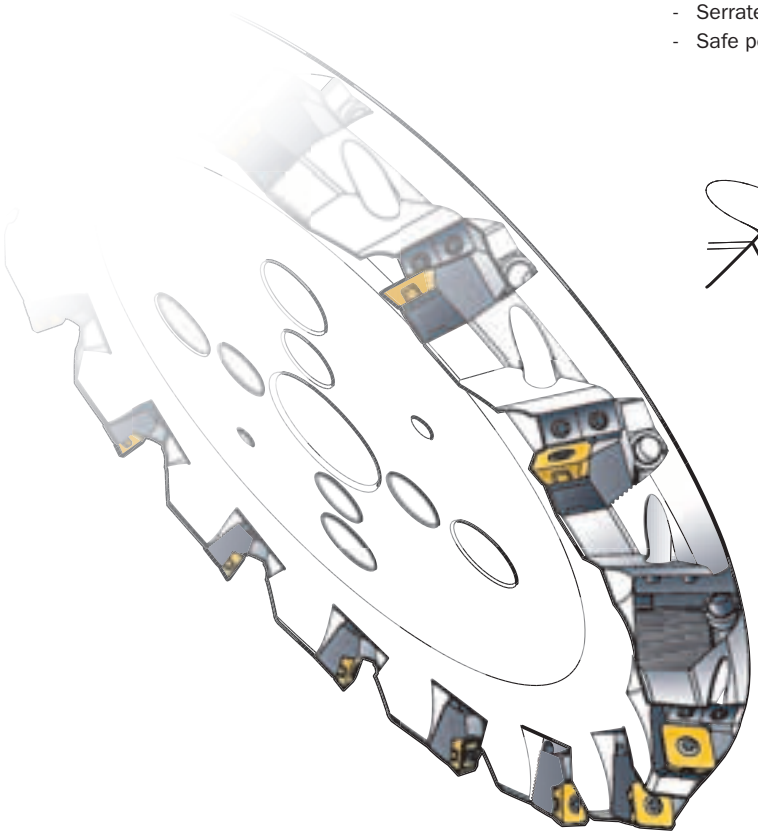
Good basic accuracy by design

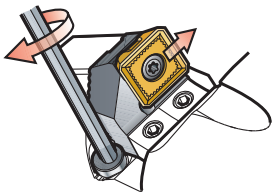
- Serrated cassette interface
- Safe performance



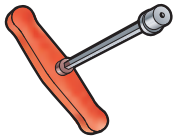
- Safe wedge clamping
- Easy maintenance







Setting within 0.1 mm (.039 inch)



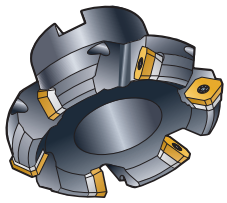
- Setting key
- Cam shaped
- Easy handling

ISO application areas:

P M K

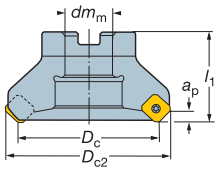
Face mill

Diameter 32 – 250 mm

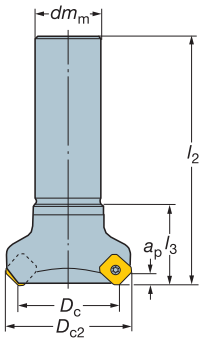


$\kappa_r = 45°$

Arbor



Cylindrical shank



l_1 = programming length

Metric version

□ 1)	D_c mm	Ordering code Coarse pitch		Close pitch			Extra close pitch			Dimensions, mm kg	dm_m	D_{c2}	l_1	l_2	l_3	Max a_p	n_{max} 2)
		Cylindrical shank															
12	32	-	-	R245-032A32-12M	3	-	-	-	-	1.0	32.0	44.5		120.0	39.0	6.0	18250
	40	R245-040A32-12L	3	-	-	-	-	-	-	1.1	32.0	52.5		120.0	39.0	6.0	18250
	50	R245-050A32-12L	3	R245-050A32-12M	4	-	-	-	-	1.4	32.0	62.5		120.0	39.0	6.0	16250
	63	R245-063A32-12L	4	R245-063A32-12M	5	-	-	-	-	1.1	32.0	75.5		120.0	39.0	6.0	14400
	80	R245-080A32-12L	4	R245-080A32-12M	6	-	-	-	-	2.1	32.0	92.5		120.0	39.0	6.0	12700
		Arbor															
12	50	R245-050Q22-12L	3	R245-050Q22-12M	4	-	R245-050Q22-12H	5	-	0.5	22.0	62.5	40.0			6.0	16250
	63	R245-063Q22-12L	4	R245-063Q22-12M	5	-	R245-063Q22-12H	6	-	0.6	22.0	75.5	40.0			6.0	14400
	80	R245-080Q27-12L	4	R245-080Q27-12M	6	-	R245-080Q27-12H	8	-	1.0	27.0	92.5	50.0			6.0	12700
	100	R245-100Q32-12L	5	R245-100Q32-12M	7	-	R245-100Q32-12H	10	-	1.4	32.0	112.5	50.0			6.0	11300
	125	R245-125Q40-12L	6	R245-125Q40-12M	8	-	R245-125Q40-12H	12	-	2.7	40.0	137.5	63.0			6.0	10100
	160	R245-160Q40-12L	7	R245-160Q40-12M	10	-	R245-160Q40-12H	16	-	5.0	40.0	172.5	63.0			6.0	8900
	200	R245-200Q60-12L	8	R245-200Q60-12M	12	-	R245-200Q60-12H	20	-	6.7	60.0	212.5	63.0			6.0	7950
	250	R245-250Q60-12L	10	R245-250Q60-12M	14	-	R245-250Q60-12H	24	-	8.5	60.0	262.5	63.0			6.0	7100
18	80	-	-	R245-080Q32-18M	-	4	R245-080Q32-18H	-	5	1.6	32.0	98.8	50.0			10.0	6100
	100	-	-	R245-100Q32-18M	-	4	R245-100Q32-18H	-	6	1.9	32.0	118.8	50.0			10.0	5400
	125	-	-	R245-125Q40-18M	-	5	R245-125Q40-18H	-	7	3.6	40.0	138.8	63.0			10.0	4900
	160	-	-	R245-160Q40-18M	-	6	R245-160Q40-18H	-	9	8.7	40.0	178.8	63.0			10.0	4300
	200	-	-	R245-200Q60-18M	-	8	R245-200Q60-18H	-	12	12.0	60.0	218.8	63.0			10.0	3800
	250	-	-	R245-250Q60-18M	-	10	R245-250Q60-18H	-	14	8.9	60.0	268.8	63.0			10.0	3400
		CIS Arbor															
12	80	RA245-080J25.4-12L	4	RA245-080J25.4-12M	6	-	RA245-080J25.4-12H	8	-	1.2	25.4	92.5	50.0			6.0	12700
	100	RA245-100J31.75-12L	5	RA245-100J31.75-12M	7	-	RA245-100J31.75-12H	10	-	2.2	31.8	112.5	63.0			6.0	11300
	125	RA245-125J38.1-12L	6	RA245-125J38.1-12M	8	-	RA245-125J38.1-12H	12	-	3.4	38.1	137.5	63.0			6.0	10100
	160	RA245-160J50.8-12L	7	RA245-160J50.8-12M	10	-	RA245-160J50.8-12H	16	-	5.0	50.8	172.5	63.0			6.0	8900
	200	RA245-200J47.625-12L	8	RA245-200J47.625-12M	12	-	RA245-200J47.625-12H	20	-	6.7	47.6	212.5	63.0			6.0	7950
	250	RA245-250J47.625-12L	10	RA245-250J47.625-12M	14	-	-	-	-	8.5	47.6	262.5	63.0			6.0	7100
18	80	-	-	RA245-080J25-18M	-	4	RA245-080J25-18H	-	5	1.5	25.4	101.3	50.0			10.0	6100
	100	-	-	RA245-100J31-18M	-	4	RA245-100J31-18H	-	6	2.7	31.8	118.8	50.0			10.0	5400
	125	-	-	RA245-125J38-18M	-	5	RA245-125J38-18H	-	7	3.7	38.1	143.8	63.0			10.0	4900
	160	-	-	RA245-160J51-18M	-	6	RA245-160J51-18H	-	9	9.3	50.8	178.8	63.0			10.0	4300
	200	-	-	RA245-200J47-18M	-	8	RA245-200J47-18H	-	12	12.0	47.6	218.8	63.0			10.0	3800
	250	-	-	RA245-250J47-18M	-	10	RA245-250J47-18H	-	14	8.9	47.6	268.8	63.0			10.0	3400

1) Inserts are ordered separately.

2) n_{max} (max. rev/min) for holders must also be considered.

3) Without shim

Note!

Mounting dimensions, see Metal cutting Technical guide.

Bolt circle for cutters 200 and 250mm = 4"

= Even pitch

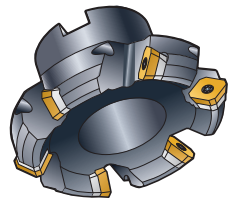
= Differential pitch

D95 D97 G6 D2 J4

SANDVIK Coromant

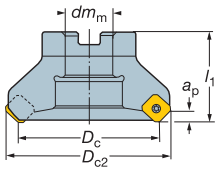
Face mill

Diameter 1.250 - 10.000 inch

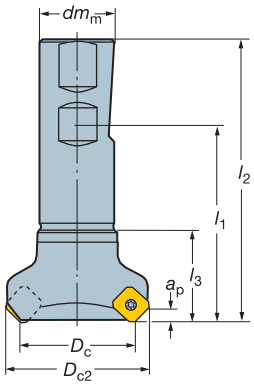


45°

Arbor



Weldon/Whistle Notch



l_1 = programming length

Inch version

		Ordering code								Dimensions, inch							
1) D_c inch		Coarse pitch		Close pitch			Extra close pitch			Lbs	dm_m	D_{c2}	l_1	l_2	l_3	Max a_p	n_{max} 2)
		Whistle Notch/Weldon															
12	1.250	RA245-032MN25-12L	2	RA245-032MN25-12M	3	-	-	-	-	1.6	1.000	1.742	2.716	3.856	1.575	.240	18250
	1.500	RA245-038MN32-12L	3	RA245-038MN32-12M	4	-	-	-	-	1.9	1.250	1.992	2.716	3.856	1.575	.240	18250
	2.000	RA245-051MN32-12L	3	RA245-051MN32-12M	4	-	-	-	-	3.1	1.250	2.492	2.834	3.974	1.575	.240	16250
	2.500	RA245-063MN32-12L	4	RA245-063MN32-12M	5	-	-	-	-	3.3	1.250	2.992	2.834	3.974	1.575	.240	14400
		Arbor															
12	2.000	RA245-051R19-12L	3	RA245-051R19-12M	4	-	RA245-051R19-12H	5	-	1.1	.750	2.492	1.575			.240	16250
	2.500	RA245-063R19-12L	4	RA245-063R19-12M	5	-	RA245-063R19-12H	6	-	1.6	.750	2.992	1.575			.240	14400
	3.000	RA245-076R25-12L	4	RA245-076R25-12M	6	-	RA245-076R25-12H	8	-	2.2	1.000	3.492	1.969			.240	12700
	4.000	RA245-102R38-12L	5	RA245-102R38-12M	7	-	RA245-102R38-12H	10	-	6.8	1.500	4.492	1.969			.240	11300
	5.000	RA245-127R38-12L	6	RA245-127R38-12M	8	-	RA245-127R38-12H	12	-	12.1	1.500	5.492	2.480			.240	10100
	6.000	RA245-152R38-12L	7	RA245-152R38-12M	10	-	RA245-152R38-12H	15	-	18.7	1.500	6.492	2.480			.240	8900
	8.000	RA245-203R63-12L	8	RA245-203R63-12M	12	-	RA245-203R63-12H	20	-	14.8	2.500	8.492	2.480			.240	7950
	10.000	RA245-254R63-12L	10	RA245-254R63-12M	14	-	RA245-254R63-12H	24	-	29.6	2.500	10.492	2.480			.240	7100
18	3.000	-	-	RA245-076R25-18M	-	4	RA245-076R25-18H	-	5	3.1	1.000	3.740	1.969			.394	6300
	4.000	-	-	RA245-102R38-18M	-	4	RA245-102R38-18H	-	6	7.7	1.500	4.740	1.969			.394	5400
	5.000	-	-	RA245-127R38-18M	-	5	RA245-127R38-18H	-	7	14.1	1.500	5.740	2.480			.394	4800
	6.000	-	-	RA245-152R38-18M	-	6	RA245-152R38-18H	-	9	20.5	1.500	6.740	2.480			.394	4400
	8.000	-	-	RA245-203R63-18M	-	8	RA245-203R63-18H	-	12	32.6	2.500	8.740	2.480			.394	3800
	10.000	-	-	RA245-254R63-18M	-	10	RA245-254R63-18H	-	14	54.5	2.500	10.740	2.480			.394	3400

1) Inserts are ordered separately.

2) n_{max} (max. rev/min) for holders must also be considered.

Note!
Mounting dimensions, see Metal cutting Technical guide.
Bolt circle for cutters 8" and 10" = 4"

= Even pitch

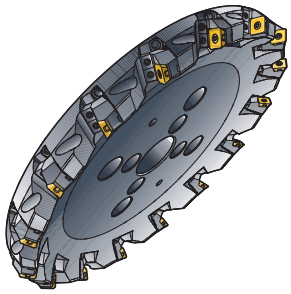
= Differential pitch

D95 D97 G6 D2 J4

Face mill 45° with cassettes

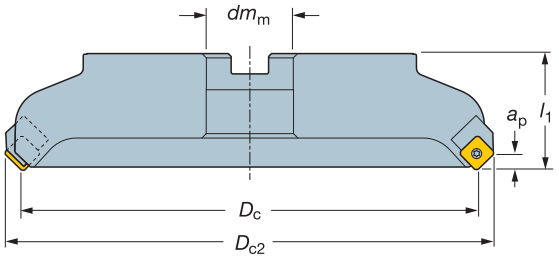
with exchangeable cassette system for arbor mounting

Diameter 160 - 500 mm (6.000 - 20.000 inch)



45°

TO BE QUOTED



l_1 = programming length

		Ordering code				Dimensions						
□ 1)	D_c	Close pitch	⟲	Extra close pitch	⟲	Lbs	KG	dm_m	D_{c2}	l_1	Max a_p	n_{max} 2)
		Inch version										
18	6.000	S-R/LA245-152R38CS0-18M	5	S-R/LA245-152R38CS0-18H	7	14		1.500	7.039	2.480	.394	1255
	8.000	S-R/LA245-203R63CS0-18M	6	S-R/LA245-203R63CS0-18H	9	20		2.500	8.614	2.480	.394	940
	10.000	S-R/LA245-254R63CS0-18M	8	S-R/LA245-254R63CS0-18H	12	32		2.500	10.583	2.480	.394	750
	12.000	S-R/LA245-305R63CS0-18M	10	S-R/LA245-305R63CS0-18H	14	54		2.500	13.142	3.150	.394	625
	14.000	S-R/LA245-355R63CS0-18M	10	S-R/LA245-355R63CS0-18H	14	60		2.500	13.142	3.150	.394	535
	16.000	S-R/LA245-406R63CS0-18M	12	S-R/LA245-406R63CS0-18H	18	90		2.500	16.488	3.150	.394	470
	20.000	S-R/LA245-508R63CS0-18M	14	S-R/LA245-508R63CS0-18H	22	130		2.500	20.425	3.150	.394	375
		Metric versions										
18	160	S-R/L245-160Q40CS0-18M	5	S-R/L245-160Q40CS0-18H	7		7.0	40	178.8	63	10	1190
	200	S-R/L245-200Q60CS0-18M	6	S-R/L245-200Q60CS0-18H	9		10.0	60	218.8	63	10	950
	250	S-R/L245-250Q60CS0-18M	8	S-R/L245-250Q60CS0-18H	12		16.0	60	268.8	63	10	760
	315	S-R/L245-315Q60CS0-18M	10	S-R/L245-315Q60CS0-18H	14		26.0	60	333.8	80	10	600
	400	S-R/L245-400Q60CS0-18M	12	S-R/L245-400Q60CS0-18H	18		44.0	60	418.8	80	10	475
	500	S-R/L245-500Q60CS0-18M	14	S-R/L245-500Q60CS0-18H	22		69.0	60	518.8	80	10	380
		CIS Arbor										
18	160	S-R/LA245-160J51CS0-18M	5	S-R/LA245-160J51CS0-18H	7		7.0	50.8	178.8	63	10	1190
	200	S-R/LA245-200J47CS0-18M	6	S-R/LA245-200J47CS0-18H	9		10.0	47.625	218.8	63	10	950
	250	S-R/LA245-250J47CS0-18M	8	S-R/LA245-250J47CS0-18H	12		16.0	47.625	268.8	63	10	760
	315	S-R/LA245-315J47CS0-18M	10	S-R/LA245-315J47CS0-18H	14		26.0	47.625	333.8	80	10	600

1) Inserts are ordered separately.

2) n_{max} (max. rev/min) for holders must also be considered.

⟲ = Differential pitch

D95 D97 G6 D2 J4

SANDVIK Coromant

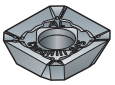
Inserts for CoroMill® 245

Cemented carbide / Cermet

Light

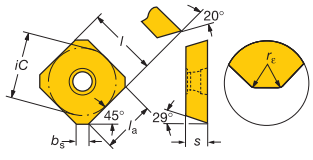
Medium

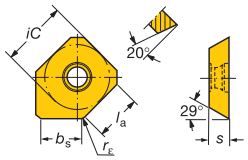
Heavy



Aluminium

Wiper





The Wiper inserts can also be used for turn milling.

Dimensions, mm (inch)

Size	*iC*	l_a	*s*	Max a_p	Max a_p, wiper
12	13.4 (.528)	10 (.394)	3.97 (.156)	6.5 (.256)	2.5 (.098)
18	18 (.709)	13.9 (.547)	6.10 (.240)	9.75 (.384)	9.75 (.384)

			Ordering code	P						M						K										N				S								H					Dimensions, millimeter, inch (mm, in.)			
				GC	GC	GC	GC	GC	CT	GC	GC	GC	GC	GC	CT	GC	GC	GC	GC	GC	GC	-	GC	GC		GC	-	-	GC	GC	GC	GC	GC	-	GC	GC		GC	GC	GC	GC	CT				
				1030	2040	4220	4230	4240	530	1030	1040	2030	2040	4240	530	1020	3040	3220	4220	4230	4240	H13A	K15W	K20W		1030	H10	H13A	K15W	1010	1030	2030	2040	H13A	S30T	S40T		1010	1030	3040	4220	530				
				P30	P45	P20	P20	P40	P15	M15	M30	M25	M40	M40	M10	K20	K30	K15	K25	K30	K40	K20	K15	K20		N15	N10	N15		S10	S15	S20	S30	S20	S25	S35		H10	H10	H25	H25	H25				
Light		12	R245-12 T3 E-AL																							☆																	2.3	.091	2.5	.098
			R245-12 T3 E-KL													★		☆				☆	☆					☆	☆					☆									2.0	.079	1.5	.059
			R245-12 T3 E-ML	☆							☆	☆	★													☆					☆	☆	☆						☆				2.1	.083	1.5	.059
			R245-12 T3 E-PL	★			☆		☆						☆											☆				☆	☆				★	★		★	☆				☆	2.1	.083	1.5	.059
			R245-12 T3 M-KL													★	☆	☆						☆																			1.47	.083	1.7	.059
			R245-12 T3 M-PL	★		☆	☆	☆		☆				☆					☆	☆	☆									☆	☆				★	★		★			☆			2.05	.081	1.4	.055
Medium		12	R245-12 T3 K-MM								☆	☆	★											☆							☆	☆			★	★								2.0	.079	1.5	.059
			R245-12 T3 M-KM													★	☆	☆				☆		☆				☆						☆							☆			1.47	.079	1.7	.059
			R245-12 T3 M-PM	☆		☆	★	☆	☆	☆				☆	☆				☆	☆	☆									☆	☆							★			☆	☆	2.0	.079	1.5	.059
		18	R245-18 T6 M-KM													★	☆	☆						☆																☆				1.5	.059	1.0	.039
			R245-18 T6 M-MM		☆							☆	★																			☆	☆										1.5	.059	1.0	.039
			R245-18 T6 M-PM	☆		☆	★	☆					☆						☆	☆	☆					☆				☆	☆							★	☆		☆		1.5	.059	1.0	.039
Heavy		12	R245-12 T3 M-KH													☆	☆	★						☆																☆				1.47	.079	1.7	.059
			R245-12 T3 M-PH			☆	★	☆					☆						☆	☆	☆																				☆		1.53	.060	1.6	.063
Wiper		12	R245-12 T3 E-W	★					☆						☆	★		☆				☆	☆			☆		☆	☆	☆	☆			☆				★	☆			☆	8.2	.323	1.5	.059
		18	R245-18 T6 E-W	★							☆					★										☆					☆	☆							☆				10.8	.425	1.0	.039

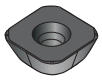
★= First choice

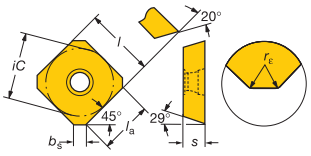
R245-12 T3 E-PL
|
E = Highest edge sharpness and precision
K = Highest edge sharpness
M = Highest edge security

D334 D327 D356 D2

Inserts for CoroMill® 245

Inserts for advanced cutting materials





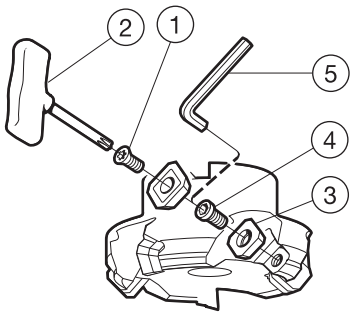
	↕ □	Ordering code	Max a_p mm	Max a_p inch	K CC 6190	K CB CB50	N CD CD10	H CC 6190	H CB CB50	Dimensions, millimeter, inch (mm, in.) *iC* mm	*iC* in.	b_s mm	b_s in.	r_ε mm	r_ε in.	l_a mm	l_a in.	*s* mm	*s* in.
Light	12	R245-12 T3 E	2.5	.098		☆	★		☆	13.4	.528	1.4	.055	1.5	.059	3.5	.138	3.97	.156
		R245-12 T3 E1	6.0	.236	☆			☆		13.4	.528	0.4	.016	2.5	.098	10.0	.394	3.97	.156
Wiper	12	R245-12 T3 E-W	2.5	.098		☆	☆		☆	13.4	.528	6.4	.252	2.5	.098	3.5	.138	3.97	.156
					K05	K10	N05	H10	H05										

★= First choice

D334 D327 D356 D2

SANDVIK Coromant

Spare parts for CoroMill® 245



Cutter			1	2			3	4	5
Insert size	D_c mm	D_c Inch	Insert screw	Key (Torx Plus)	Torque value Nm/ in.lbs	Torque wrench[1)]	Shim	Shim screw	Key (mm)
12	32	1.250	5513 020-01	5680 048-01 (15IP)	3.0 (26)	5680 100-06	–	–	–
	40–250	1.500-10.000	5513 020-01	5680 048-01 (15IP)	3.0 (26)	5680 100-06	5322 472-01	5512 090-09	5680 010-01 (3.5)
18	80–100	3.000-4.000	5513 020-55	5680 048-04 (20IP)	5.0 (43)	5680 100-07	–	–	–
	125-250	5.000-10.000	5513 020-26	5680 048-04 (20IP)	5.0 (43)	5680 100-07	5322 472-03	5512 090-10	3021 010-050 (5.0)

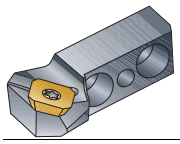
[1)] Accessories, must be ordered separately

Cassette	Insert screw	Torque value Nm	Setting device	Setting device screw	Torque wrench	Key
R/L 245-CA-18	5513 020-55	–	–	–	–	5680 048-04

Spare parts for CoroMill® 245 cassette

D_c mm (inch)	Wedge	Wedge screw	Wedge key	Eccentric key
160-500 (6.000-20.000)	5431 105-03	339-831	265.2-817 (3.0)	5680 067-01

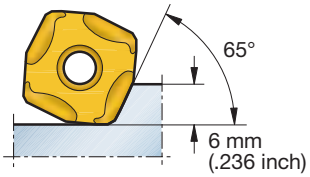
CoroMill® 245 cassettes for Auto-AF cutter

	Ordering code	
	R260.8-245 12	Right hand
	L260.8-245 12	Left hand

CoroMill® 365

Secure face milling in cast iron and steel

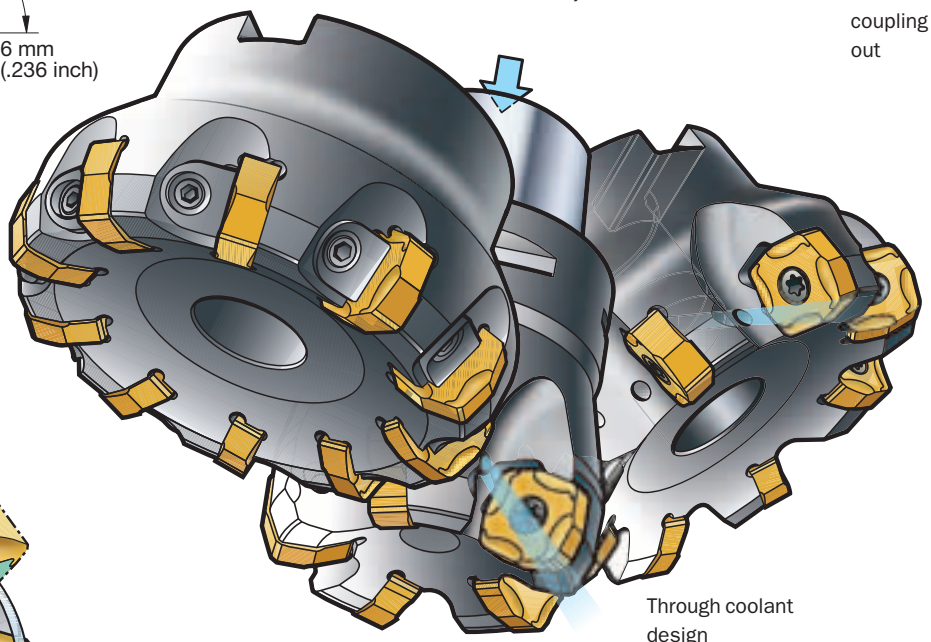
Maximum cost efficiency



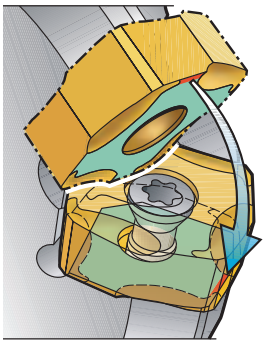
Up to 6 mm depth of cut.

Diameter 40-250 mm (1.500 - 10.000 inch)

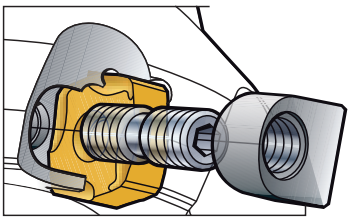
Arbor mounted or integrated with Coromant Capto coupling for minimal run out



Through coolant design

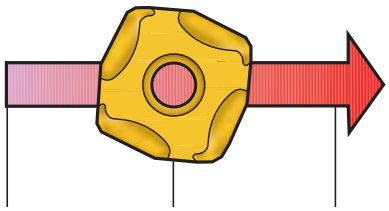


Design gives large support surface and optimal distribution of cutting forces.



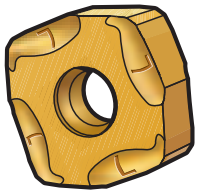
Same insert used for wedge clamp and screw down cutter bodies.

ISO application area:

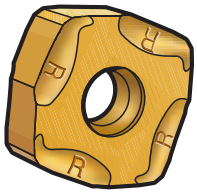


K	f_z	0.12 (.005)	0.25 (.010)	0.35 (.014)
P	f_z	0.15 (.006)	0.22 (.009)	0.28 (.011)

Unique insert design with 8 true cutting edges.

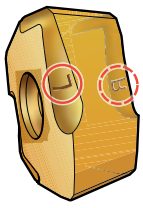


Left-hand insert



Right-hand insert

Wiper insert



Geometry and grade laser marked on the insert, for easy identification.

ISO application areas:

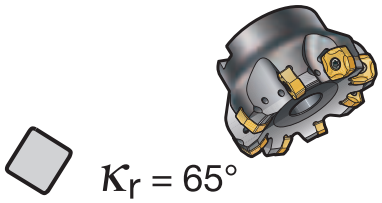
P K H

Inserts laser marked to clearly identify grade and geometry

SANDVIK Coromant

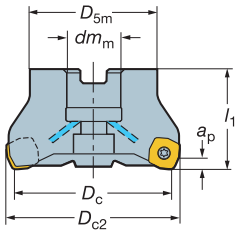
Face mill for cast iron

Diameter 40 - 250 mm

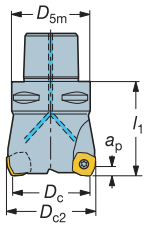


$\kappa_r = 65°$

Arbor



Coromant Capto®



l_1 = programming length

Metric version

		Ordering code							Dimensions, mm						
	D_c mm	Close pitch			Extra close pitch			Coolant[1]	KG	D_{c2}	D_{5m}	dm_m	l_1	Max a_p	n_{max}[2]
		Coromant Capto													
15	40	R365-040C4-S15M	-	3	-	-	-	1	0.5	46.7	40.0	28	60.0	6.0	18000
	50	R365-050C5-S15M	-	4	-	-	-	1	0.8	56.7	50.0	35	60.0	6.0	15700
	60	R365-063C6-S15M	-	5	-	-	-	1	1.5	69.7	63.0	44	60.0	6.0	13600
		Arbor													
15	50	-	-	-	R365-050Q22-S15H	5	-	1	0.5	56.7	43.0	22	50.0	6.0	15700
	63	R365-063Q22-S15M	-	5	R365-063Q22-S15H	6	-	1	0.7	69.7	50.4	22	50.0	6.0	13600
	80	R365-080Q27-S15M	-	6	R365-080Q27-S15H	8	-	1	1.1	86.7	64.0	27	50.0	6.0	11500
	100	R365-100Q32-S15M	-	7	R365-100Q32-S15H	10	-	1	1.8	106.7	80.0	32	50.0	6.0	9900
	125	R365-125Q40-S15M	-	8	R365-125Q40-S15H	12	-	1	3.4	131.7	100.0	40	63.0	6.0	8500
	160	R365-160Q40-S15M	-	10	R365-160Q40-S15H	14	-	0	5.2	166.7	128.0	40	63.0	6.0	7500
	80	-	-	-	R/L365-080Q27-W15H	10	-	0	1.4	86.7	64.0	27	50.0	6.0	11200
	100	-	-	-	R/L365-100Q32-W15H	14	-	0	2.0	106.7	80.0	32	50.0	6.0	9900
	125	-	-	-	R/L365-125Q40-W15H	18	-	0	3.8	131.7	100.0	40	63.0	6.0	8800
	160	-	-	-	R/L365-160Q40-W15H	22	-	0	5.7	166.4	128.0	40	63.0	6.0	7700
	200	-	-	-	R/L365-200Q60-W15H	28	-	0	10.2	205.6	180.0	60	63.0	6.0	6800
	250	-	-	-	R/L365-250Q60-W15H	36	-	0	15.2	255.6	200.0	60	63.0	6.0	6100
		CIS Arbor													
15	80	RA365-080J25-S15M	-	6	RA365-080J25-S15H	8	-	1	1.1	86.7	64.0	25.4	50.0	6.0	11500
	80	-	-	-	RA365-080J25-W15H	10	-	0	1.4	86.7	64.0	25.4	50.0	6.0	11200
	100	RA365-100J31-S15M	-	7	RA365-100J31-S15H	10	-	1	1.7	106.7	80.0	31.75	63.0	6.0	9900
	100	-	-	-	RA365-100J31-W15H	14	-	0	1.8	106.7	80.0	31.75	63.0	6.0	9900
	125	RA365-125J38-S15M	-	8	RA365-125J38-S15H	12	-	1	3.4	131.4	100.0	38.1	63.0	6.0	8500
	125	-	-	-	RA365-125J38-W15H	18	-	0	3.8	131.7	100.0	38.1	63.0	6.0	8800
	160	RA365-160J51-S15M	-	10	RA365-160J51-S15H	14	-	0	5.6	166.7	128.0	50.8	63.0	6.0	7500
	160	-	-	-	RA365-160J51-W15H	22	-	0	5.7	166.7	128.0	50.8	63.0	6.0	7700

1) 0 = no coolant, 1 = coolant through centre

2) n_{max} (max. rev/min) for holders must also be considered.

Note:

No internal coolant supply in cutter with diameters > 125mm (5 inch)

No internal coolant on wedge clamp cutters

Bolt circle for cutters 200 and 250mm = 4"

= Even pitch

= Differential pitch

RA365-063Q22- S15M

S = Screw clamp

W = Wedge clamp

D102

D104

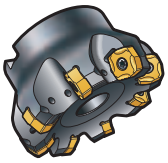
G6

D2

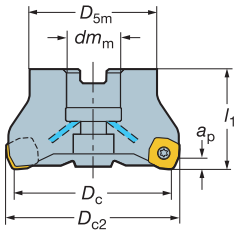
Face mill for cast iron

Diameter 1.500 - 10.000 inch

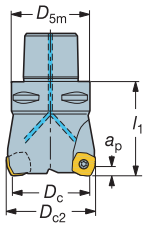
25°



Arbor



Coromant Capto



l_1 = programming length

Inch version

D_c inch	Ordering code Close pitch			Extra close pitch			Coolant[1]	Dimensions, inch Use	D_{5m}	dm_m	D_{c2}	l_1	Max a_p	n_{max}[2]
	Coromant Capto													
15 1.500	RA365-038C4-S15M	-	3	-	-	-	1	1.1	1.575	1.102	1.764	2.362	.236	18000
2.000	RA365-051C5-S15M	-	4	-	-	-	1	1.8	1.968	1.378	2.264	2.362	.236	15700
2.500	RA365-063C6-S15M	-	5	-	-	-	1	3.5	2.480	1.732	2.764	2.362	.236	13500
	Arbor													
15 2.000	-	-	-	RA365-051R19-S15H	5	-	1	1.1	1.732	.750	2.264	1.968	.236	15700
2.500	RA365-063R19-S15M	-	5	RA365-063R19-S15H	6	-	1	1.5	2.000	.750	2.764	1.968	.236	13500
3.000	RA365-076R25-S15M	-	6	RA365-076R25-S15H	8	-	1	2.2	2.402	1.000	3.264	1.968	.236	11900
4.000	RA365-102R38-S15M	-	7	RA365-102R38-S15H	10	-	1	3.7	3.201	1.500	4.264	1.968	.236	9900
5.000	RA365-127R38-S15M	-	8	RA365-127R38-S15H	12	-	0	3.7	4.000	1.500	5.264	2.480	.236	8800
6.000	RA365-152R38-S15M	-	10	RA365-152R38-S15H	14	-	0	10.1	4.803	1.500	6.264	2.480	.236	7900
3.000	-	-	-	R/LA365-076R25-W15H	10	-	0	2.6	2.402	1.000	3.264	1.968	.236	11600
4.000	-	-	-	R/LA365-102R38-W15H	14	-	0	4.0	3.083	1.500	4.264	1.968	.236	9800
5.000	-	-	-	R/LA365-127R38-W15H	18	-	0	8.6	4.000	1.500	5.264	2.480	.236	8700
6.000	-	-	-	R/LA365-152R38-W15H	22	-	0	11.2	4.016	1.500	6.252	2.480	.236	7900
8.000	-	-	-	R/LA365-203R63-W15H	28	-	0	22.5	7.087	2.500	8.220	2.480	.236	6800
10.000	-	-	-	R/LA365-254R63-W15H	36	-	0	34.0	7.874	2.500	10.220	2.480	.236	6000

1) 0 = no coolant, 1 = coolant through centre

2) n_{max} (max. rev/min) for holders must also be considered.

Note:

No internal coolant supply in cutter with diameters > 5 inch

No internal coolant on wedge clamp cutters

Bolt circle for cutters 8" and 10" = 4"

= Even pitch

= Differential pitch

RA365-063R19- S15M
|
S = Screw clamp
W = Wedge clamp

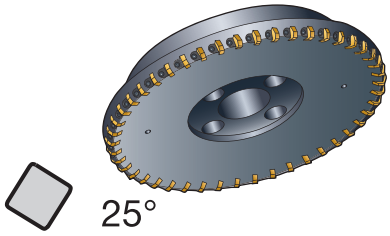
D102
D104
G6
D2

SANDVIK Coromant

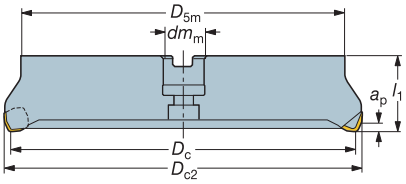
CoroMill® 365 face mill

Diameter 160 - 500 mm (12.000 - 18.000 inch)

Wedge clamp

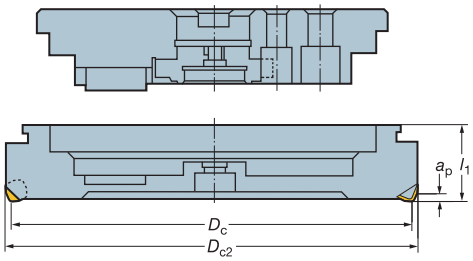


Arbor



S-R/L365

Arbor



S-R/L365 (Cap design)

TO BE QUOTED

Note!

Support body, see page D320.

l_1 = programming length

D_c mm	D_c inch	Ordering code Extra close pitch		Dimensions lbs	D_{c2}	dm_m	D_{5m}	l_1	Max a_p	n_{max}	Support body
		Inch									
		Arbor									
	12	S-R/LA365-305R63-W15H	46	46.297	12.260	2.500	10.031	2.480	.236	4100	
	14	S-R/LA365-355R63-W15H	52	70.548	14.252	2.500	12.031	2.480	.236	3700	
	16	S-R/LA365-406R63-W15H	58	94.799	16.252	2.500	14.031	2.480	.236	3500	
	18	S-R/LA365-508R63-W15H	72	154.323	20.252	2.500	18.031	2.480	.236	3100	
		Cap mounting									
	10	S-R/LA365-254X25-W15H	36	22.046	10.252	-	-	2.480	.236	4500	260-425M-1
	12	S-R/LA365-305X31-W15H	46	30.865	12.260	-	-	2.480	.236	4100	260-431M-1
	14	S-R/LA365-355X35-W15H	52	35.274	14.252	-	-	2.480	.236	3700	260-435M-1
	16	S-R/LA365-406X40-W15H	58	44.092	16.252	-	-	2.480	.236	3500	260-440M-1
	18	S-R/LA365-508X50-W15H	72	83.776	20.252	-	-	2.480	.236	3100	260-450M-1
		Metric		KG							
		Arbor									
315		S-R/L365-315Q60-W15H	46	24	321.4	60	265	63	6	4000	
355		S-R/L365-355Q60-W15H	52	32	361.4	60	305	63	6	4100	
400		S-R/L365-400Q60-W15H	58	42	406.4	60	350	63	6	4400	
500		S-R/L365-500Q60-W15H	72	68	506.4	60	450	63	6	4900	
		Cap mounting									
250		S-R/L365-250X25-W15H	36	10	256.4	-	232	63	6	4500	260-425M-1
315		S-R/L365-315X31-W15H	46	14	321.4	-	297	63	6	4000	260-431M-1
355		S-R/L365-355X35-W15H	52	16	361.4	-	337	63	6	3700	260-435M-1
400		S-R/L365-400X40-W15H	58	20	406.4	-	382	63	6	3500	260-440M-1
500		S-R/L365-500X50-W15H	72	31	506.4	-	482	63	6	3100	260-450M-1
		CIS Arbor									
160		S-LA365-160J51-W15H	22	6	166.4	50.8	128	63	6	5700	
200		S-R/LA365-200J47-W15H	28	8	206.4	47.6	160	63	6	5100	
250		S-R/LA365-250J47-W15H	36	13	256.4	47.6	200	63	6	4500	
315		S-R/LA365-315J47-W15H	46	24	321.4	47.6	265	63	6	4000	
400		S-R/LA365-400J47-W15H	58	42	406.4	47.6	350	63	6	3500	
500		S-R/LA365-500J47-W15H	72	68	506.4	47.6	450	63	6	3100	

= Even pitch

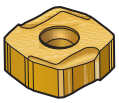
= Differential pitch

D102 D104 G6 D2

Inserts for CoroMill® 365

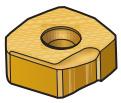
R/L 365

Wiper N365



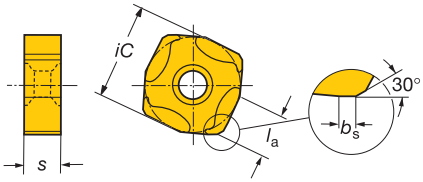
-PW4
-KW4

Wiper N365

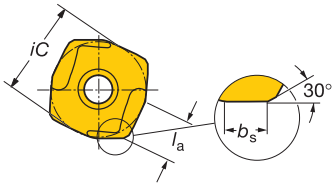


-PW8
-KW8

R/L365

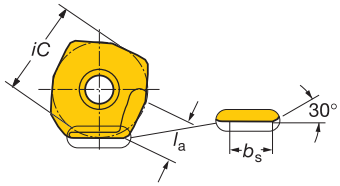


Wiper N365



-PW4
-KW4

Wiper N365



-PW8
-KW8

					P			K					S	H		Dimensions, millimeter, inch (mm, in.)							
					GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC								
	↕□	Ordering code	Max a_p mm	Max a_p inch	1030	4220	4230	1020	3220	4220	K20D	K20W	1010	1010	4220	*iC* mm	*iC* in.	b_s mm	b_s in.	l_a mm	l_a in.	*s* mm	*s* in.
Light	15	L365-1505ZNE-KL	6.0	.236				★			☆	☆				15.0	.591	1.5	.059	6.4	.252	5.66	.223
		R365-1505ZNE-KL	6.0	.236				★			☆	☆				15.0	.591	1.5	.059	6.4	.252	5.66	.223
		R365-1505ZNE-PL	6.0	.236	★	☆	☆			☆			☆	★	☆	15.0	.591	1.5	.059	6.4	.252	5.66	.223
Medium	15	L365-1505ZNE-KM	6.0	.236				☆			★	★				15.0	.591	1.5	.059	6.4	.252	5.66	.223
		R365-1505ZNE-KM	6.0	.236				☆			★	★				15.0	.591	1.5	.059	6.4	.252	5.66	.223
		R365-1505ZNE-PM	6.0	.236	☆	☆	★			☆			☆	★	☆	15.0	.591	1.5	.059	6.4	.252	5.66	.223
Wiper	15	N365-1505ZNE-KW4	6.0	.236				☆	☆			☆				15.0	.591	4.0	.157	6.4	.252	5.66	.223
		N365-1505ZNE-KW8	6.0	.236				☆	☆			☆				15.0	.591	8.0	.315	6.4	.252	5.66	.223
		N365-1505ZNE-PW4	6.0	.236	☆											15.0	.591	4.0	.157	6.4	.252	5.66	.223
		N365-1505ZNE-PW8	6.0	.236	☆											15.0	.591	8.0	.315	6.4	.252	5.66	.223
					P30	P20	P20	K20	K15	K25	K15	K20	S10	H10	H25								

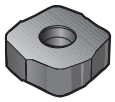
★= First choice

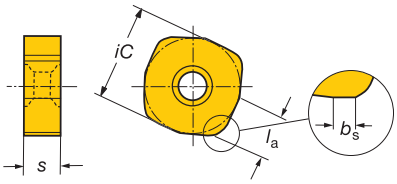
D334 D327

SANDVIK Coromant

Inserts for CoroMill® 365

Ceramic





Advanced cutting materials

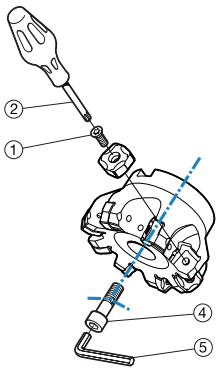
					K CC 6190	Dimensions, millimeter, inch (mm, in.)			
	□	Ordering code	Max a_p mm	Max a_p inch		b_s mm	b_s in.	r_ε mm	r_ε in.
Light	15	N365-1505ZNE	6.0	.236	★	1.2	.047		
Medium	15	N365-150536E	6.0	.236	★			3.6	.142
					K05				

★= First choice

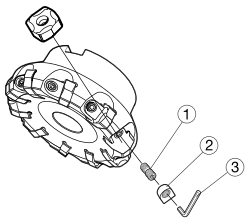
D334 D327

Spare parts for CoroMill® 365

Screw clamp



Wedge clamp



Cutter Screw clamp		1	2					4	5
	D_c	Insert screw	Key (Torx Plus)	Nm	In. lbs	Molykote	Torque wrench[1]	Screw[1)2)]	h_{ex} wrench size
R365	50-63	5513 020-29	5680 046-02 (15IP)	3.0	26	5683 010-01	5680 100-06 (15IP)	5512 073-01	8 mm
	80	5513 020-29	5680 046-02 (15IP)	3.0	26	5683 010-01	5680 100-06 (15IP)	5512 073-02	10 mm
	100	5513 020-29	5680 046-02 (15IP)	3.0	26	5683 010-01	5680 100-06 (15IP)	5512 087-061	12 mm
	125	5513 020-29	5680 046-02 (15IP)	3.0	26	5683 010-01	5680 100-06 (15IP)	5512 098-01	5680 043-18 (50IP)
	160	5513 020-29	5680 046-02 (15IP)	3.0	26	5683 010-01	5680 100-06 (15IP)	–	–
RA365	2.00	5513 020-29	5680 046-02 (15IP)	3.0	26	5683 010-01	5680 100-06 (15IP)	5512 074-01	5/16"
	2.50	5513 020-29	5680 046-02 (15IP)	3.0	26	5683 010-01	5680 100-06 (15IP)	5512 074-01	5/16"
	3.00	5513 020-29	5680 046-02 (15IP)	3.0	26	5683 010-01	5680 100-06 (15IP)	5512 074-02	3/8"
	4.00	5513 020-29	5680 046-02 (15IP)	3.0	26	5683 010-01	5680 100-06 (15IP)	5512 088-051	5680 043-18 (50IP)
	5.00	5513 020-29	5680 046-02 (15IP)	3.0	26	5683 010-01	5680 100-06 (15IP)	5512 099-01	5680 043-18 (50IP)
	6.00	5513 020-29	5680 046-02 (15IP)	3.0	26	5683 010-01	5680 100-06 (15IP)	–	–

Cutter Wedge clamp		1	2	3		
	D_c	Wedge screw	Wedge	Hex key (mm)	Nm	In-lbs
R365	80-500	339-831	5431 058-01	265.2-817 (3.0)	6.0	53

[1)] Accessories, must be ordered separately
[2)] For through coolant

Maximize your performance with the new generation of milling grades

Inserts in a new insert generation programme are introduced to widen the application area of the CoroMill 365 concept.

	GCI		CGI		NCI		Steel	
	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry
R365-1505ZNE-PL/PM 1030				☆	☆		★	☆
R365-1505ZNE-PL/PM 4230				☆	☆		☆	★
R365-1505ZNE-PL/PM 4220						☆	☆	☆
R/L365-1505ZNE-KL/KM 1020	★		★	☆	★	★	☆	☆
R/L365-1505ZNE-KL/KM K20W	★		★		☆	☆	☆	
R/L365-1505ZNE-KL/KM K20D		★		★				
R/L365-1505ZNE-PL/PM 1010							☆	☆
N365-1505ZNE 6190		★				☆		
N365-150536E 6190		★				☆		

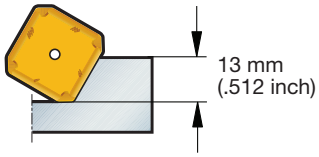
★ First choice

GCI - Grey cast iron
CGI - Compact Graphite Iron
NCI - Nodular cast iron

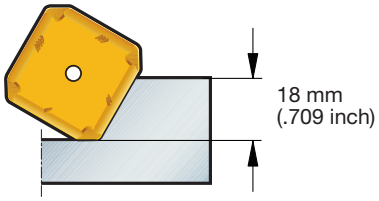
CoroMill® 360

Heavy duty face mill

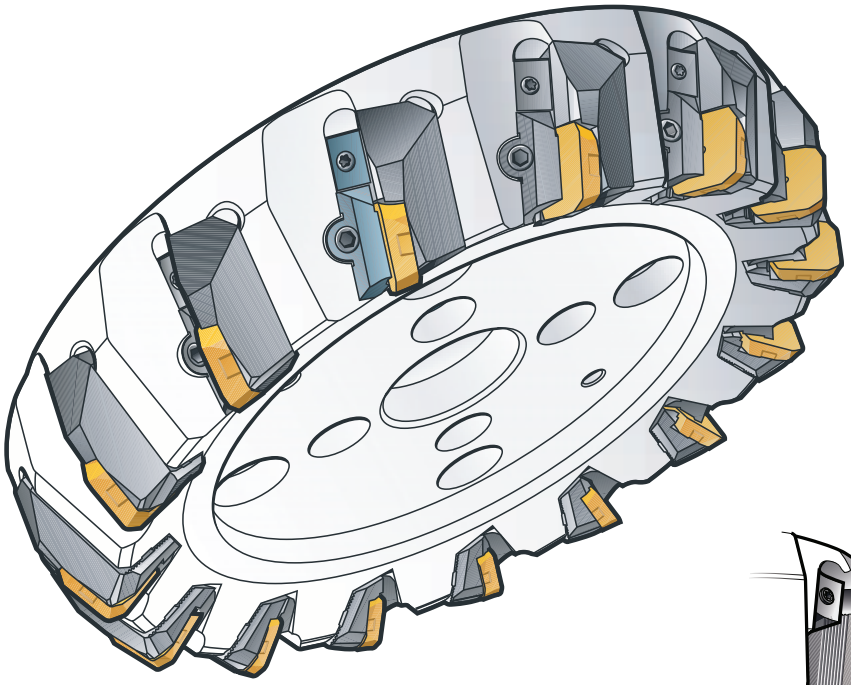
Diameter 160 - 500 mm (6.000 - 20.000 inch)

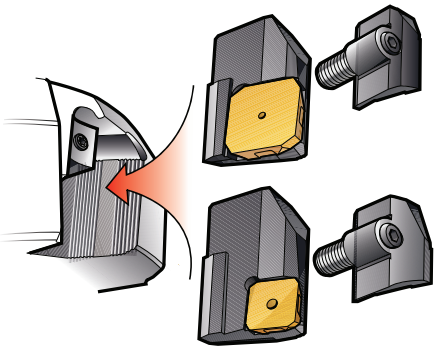


Maximum cutting depth for insert size 19 mm



Maximum cutting depth for insert size 28 mm

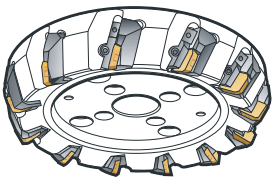


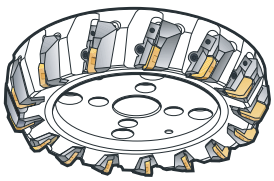


Unique cassette solution

The same body is used for both cassette sizes

Separate wedge and cassette for respective insert sizes. When replacing ensure you have the correct size of each.

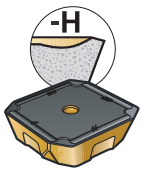




Cutter pitches

ISO application areas:

P M K S

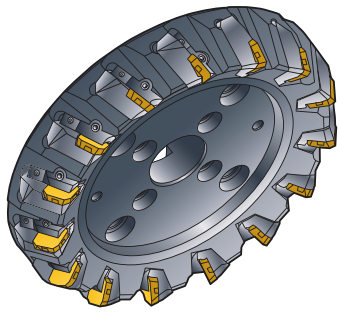


Geometry

CoroMill® 360

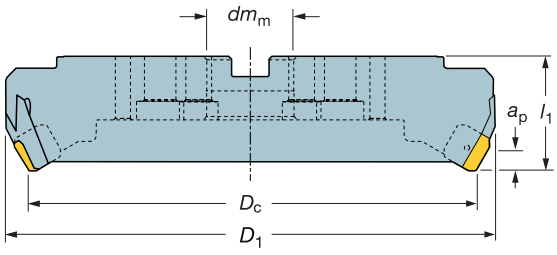
Heavy duty face mill

Right hand



30°

Arbor



l_1 = programming length

Metric version

		Ordering code						Dimensions, mm					
□	D_c	Close pitch			Extra close pitch			kg	D_1	dm_m	l_1	Max a_p	n_{max} 1)
		Arbor											
19	160	360-160Q40-Z6D19	-	6	360-160Q40-Z8E19	8	-	10.7	186.6	40	80	13	795
	200	360-200Q60-Z8D19	-	8	360-200Q60-Z10E19	10	-	14.2	226.6	60	80	13	640
	250	360-250Q60-Z10D19	-	10	360-250Q60-Z12E19	12	-	21.4	276.6	60	80	13	510
	315	360-315Q60-Z12D19	-	12	360-315Q60-Z15E19	15	-	32.6	341.6	60	80	13	405
	400	360-400Q60-Z15D19	-	15	360-400Q60-Z19E19	19	-	49.0	426.6	60	80	13	320
	500	360-500Q60-Z18D19	-	18	360-500Q60-Z24E19	24	-	72.6	526.6	60	80	13	255
28	160	360-160Q40-Z6D28	-	6	360-160Q40-Z8E28	8	-	10.5	186.6	40	80	18	795
	200	360-200Q60-Z8D28	-	8	360-200Q60-Z10E28	10	-	14.0	226.6	60	80	18	640
	250	360-250Q60-Z10D28	-	10	360-250Q60-Z12E28	12	-	21.1	276.6	60	80	18	510
	315	360-315Q60-Z12D28	-	12	360-315Q60-Z15E28	15	-	32.3	341.6	60	80	18	405
	400	360-400Q60-Z15D28	-	15	360-400Q60-Z19E28	19	-	48.6	426.6	60	80	18	320
	500	360-500Q60-Z18D28	-	18	360-500Q60-Z24E28	24	-	72.1	526.6	60	80	18	255
		CIS Arbor											
19	160	A360-160J38-Z6D19	-	6	A360-160J38-Z8E19	8	-	10.7	186.6	38.1	80	13	795
	200	A360-200J47-Z8D19	-	8	A360-200J47-Z10E19	10	-	14.2	226.6	47.625	80	13	640
	250	A360-250J47-Z10D19	-	10	A360-250J47-Z12E19	12	-	21.4	276.6	47.625	80	13	510
	315	A360-315J47-Z12D19	-	12	A360-315J47-Z15E19	15	-	32.6	341.6	47.625	80	13	405
	400	A360-400J47-Z15D19	-	15	A360-400J47-Z19E19	19	-	49.0	426.6	47.625	80	13	320
	500	A360-500J47-Z18D19	-	18	A360-500J47-Z24E19	24	-	72.6	526.6	47.625	80	13	255
28	160	A360-160J38-Z6D28	-	6	A360-160J38-Z8E28	8	-	10.5	186.6	38.1	80	18	795
	200	A360-200J47-Z8D28	-	8	A360-200J47-Z10E28	10	-	14.0	226.6	47.625	80	18	640
	250	A360-250J47-Z10D28	-	10	A360-250J47-Z12E28	12	-	21.1	276.6	47.625	80	18	510
	315	A360-315J47-Z12D28	-	12	A360-315J47-Z15E28	15	-	32.3	341.6	47.625	80	18	405
	400	A360-400J47-Z15D28	-	15	A360-400J47-Z19E28	19	-	48.6	426.6	47.625	80	18	320
	500	A360-500J47-Z18D28	-	18	A360-500J47-Z24E28	24	-	72.1	526.6	47.625	80	18	255

Inch version

		Ordering code						Dimensions					
□	D_c	Close pitch			Extra close pitch			Lbs	D_1	dm_m	l_1	Max a_p	n_{max} 1)
		Arbor											
19	6	A360-152R38-Z6D19	-	6	A360-152R38-Z8E19	8	-	21.7	7.047	1.500	3.150	.512	840
	8	A360-203R63-Z8D19	-	8	A360-203R63-Z10E19	10	-	32.9	9.047	2.500	3.150	.512	630
	10	A360-254R63-Z10D19	-	10	A360-254R63-Z12E19	12	-	48.2	11.047	2.500	3.150	.512	500
	12	A360-305R63-Z12D19	-	12	A360-305R63-Z15E19	15	-	65.8	13.047	2.500	3.150	.512	420
	16	A360-406R63-Z15D19	-	15	A360-406R63-Z19E19	19	-	110.9	17.047	2.500	3.150	.512	315
	20	A360-508R63-Z18D19	-	18	A360-508R63-Z24E19	24	-	164.5	21.047	2.500	3.150	.512	250
28	6	A360-152R38-Z6D28	-	6	A360-152R38-Z8E28	8	-	21.6	7.047	1.500	3.150	.709	840
	8	A360-203R63-Z8D28	-	8	A360-203R63-Z10E28	10	-	32.2	9.047	2.500	3.150	.709	630
	10	A360-254R63-Z10D28	-	10	A360-254R63-Z12E28	12	-	48.3	11.047	2.500	3.150	.709	500
	12	A360-305R63-Z12D28	-	12	A360-305R63-Z15E28	15	-	65.9	13.047	2.500	3.150	.709	420
	16	A360-406R63-Z15D28	-	15	A360-406R63-Z19E28	19	-	110.9	17.047	2.500	3.150	.709	315
	20	A360-508R63-Z18D28	-	18	A360-508R63-Z24E28	24	-	163.4	21.047	2.500	3.150	.709	250

1) n_{max} (max. rev/min) for holders must also be considered.

Note!

Mounting dimensions, see Metal cutting Technical guide.

= Even pitch

= Differential pitch

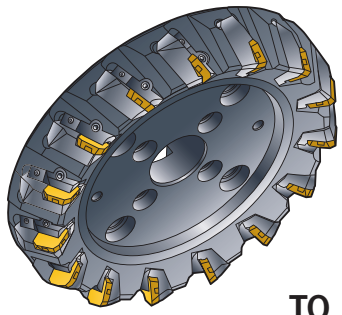
J3
G6
D109
D108

SANDVIK Coromant

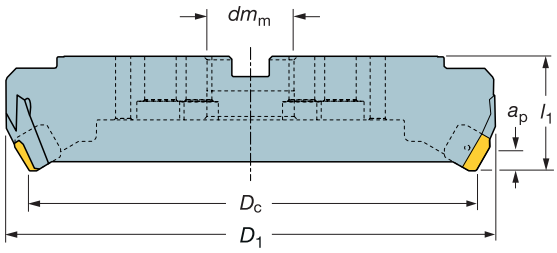
CoroMill® 360

Heavy duty face mill

Left hand



Arbor



30°

TO BE QUOTED

Note: Right hand cutter shown

l_1 = programming length

Metric version

		Ordering code						Dimensions, mm					
□	D_c	Close pitch			Extra close pitch			KG	D_1	dm_m	l_1	Max a_p	n_{max}[1]
		Arbor											
19	160	S-360L-160Q40-Z6D19	-	6	S-360L-160Q40-Z8E19	8	-	10.7	186.6	40	80	13	795
	200	S-360L-200Q60-Z8D19	-	8	S-360L-200Q60-Z10E19	10	-	14.2	226.6	60	80	13	640
	250	S-360L-250Q60-Z10D19	-	10	S-360L-250Q60-Z12E19	12	-	21.4	276.6	60	80	13	510
	315	S-360L-315Q60-Z12D19	-	12	S-360L-315Q60-Z15E19	15	-	32.6	341.6	60	80	13	405
	400	S-360L-400Q60-Z15D19	-	15	S-360L-400Q60-Z19E19	19	-	49.0	426.6	60	80	13	320
	500	S-360L-500Q60-Z18D19	-	18	S-360L-500Q60-Z24E19	24	-	72.6	526.6	60	80	13	255
28	160	S-360L-160Q40-Z6D28	-	6	S-360L-160Q40-Z8E28	8	-	10.5	186.6	40	80	18	795
	200	S-360L-200Q60-Z8D28	-	8	S-360L-200Q60-Z10E28	10	-	14.0	226.6	60	80	18	640
	250	S-360L-250Q60-Z10D28	-	10	S-360L-250Q60-Z12E28	12	-	21.1	276.6	60	80	18	510
	315	S-360L-315Q60-Z12D28	-	12	S-360L-315Q60-Z15E28	15	-	32.3	341.6	60	80	18	405
	400	S-360L-400Q60-Z15D28	-	15	S-360L-400Q60-Z19E28	19	-	48.6	426.6	60	80	18	320
	500	S-360L-500Q60-Z18D28	-	18	S-360L-500Q60-Z24E28	24	-	72.1	526.6	60	80	18	255
		CIS Arbor											
19	160	S-A360L-160J38-Z6D19	-	6	S-A360L-160J38-Z8E19	8	-	10.7	186.6	38.1	80	13	795
	200	S-A360L-200J47-Z8D19	-	8	S-A360L-200J47-Z10E19	10	-	14.2	226.6	47.625	80	13	640
	250	S-A360L-250J47-Z10D19	-	10	S-A360L-250J47-Z12E19	12	-	21.4	276.6	47.625	80	13	510
	315	S-A360L-315J47-Z12D19	-	12	S-A360L-315J47-Z15E19	15	-	32.6	341.6	47.625	80	13	405
	400	S-A360L-400J47-Z15D19	-	15	S-A360L-400J47-Z19E19	19	-	49.0	426.6	47.625	80	13	320
	500	S-A360L-500J47-Z18D19	-	18	S-A360L-500J47-Z24E19	24	-	72.6	526.6	47.625	80	13	255
28	160	S-A360L-160J38-Z6D28	-	6	S-A360L-160J38-Z8E28	8	-	10.5	186.6	38.1	80	18	795
	200	S-A360L-200J47-Z8D28	-	8	S-A360L-200J47-Z10E28	10	-	14.0	226.6	47.625	80	18	640
	250	S-A360L-250J47-Z10D28	-	10	S-A360L-250J47-Z12E28	12	-	21.1	276.6	47.625	80	18	510
	315	S-A360L-315J47-Z12D28	-	12	S-A360L-315J47-Z15E28	15	-	32.3	341.6	47.625	80	18	405
	400	S-A360L-400J47-Z15D28	-	15	S-A360L-400J47-Z19E28	19	-	48.6	426.6	47.625	80	18	320
	500	S-A360L-500J47-Z18D28	-	18	S-A360L-500J47-Z24E28	24	-	72.1	526.6	47.625	80	18	255

Inch version

		Ordering code						Dimensions					
□	D_c	Close pitch			Extra close pitch			Lbs	D_1	dm_m	l_1	Max a_p	n_{max}[1]
		Arbor											
19	6	S-A360L-152R38-Z6D19	-	6	S-A360L-152R38-Z8E19	8	-	21.7	7.047	1.500	3.150	.512	840
	8	S-A360L-203R63-Z8D19	-	8	S-A360L-203R63-Z10E19	10	-	32.9	9.047	2.500	3.150	.512	630
	10	S-A360L-254R63-Z10D19	-	10	S-A360L-254R63-Z12E19	12	-	48.2	11.047	2.500	3.150	.512	500
	12	S-A360L-305R63-Z12D19	-	12	S-A360L-305R63-Z15E19	15	-	65.8	13.047	2.500	3.150	.512	420
	16	S-A360L-406R63-Z15D19	-	15	S-A360L-406R63-Z19E19	19	-	110.9	17.047	2.500	3.150	.512	315
	20	S-A360L-508R63-Z18D19	-	18	S-A360L-508R63-Z24E19	24	-	164.5	21.047	2.500	3.150	.512	250
28	6	S-A360L-152R38-Z6D28	-	6	S-A360L-152R38-Z8E28	8	-	21.6	7.047	1.500	3.150	.709	840
	8	S-A360L-203R63-Z8D28	-	8	S-A360L-203R63-Z10E28	10	-	32.2	9.047	2.500	3.150	.709	630
	10	S-A360L-254R63-Z10D28	-	10	S-A360L-254R63-Z12E28	12	-	48.3	11.047	2.500	3.150	.709	500
	12	S-A360L-305R63-Z12D28	-	12	S-A360L-305R63-Z15E28	15	-	65.9	13.047	2.500	3.150	.709	420
	16	S-A360L-406R63-Z15D28	-	15	S-A360L-406R63-Z19E28	19	-	110.9	17.047	2.500	3.150	.709	315
	20	S-A360L-508R63-Z18D28	-	18	S-A360L-508R63-Z24E28	24	-	163.4	21.047	2.500	3.150	.709	250

1) n_{max} (max. rev/min) for holders must also be considered.

Note!

Mounting dimensions, see Metal cutting Technical guide.

J3

G6

D109

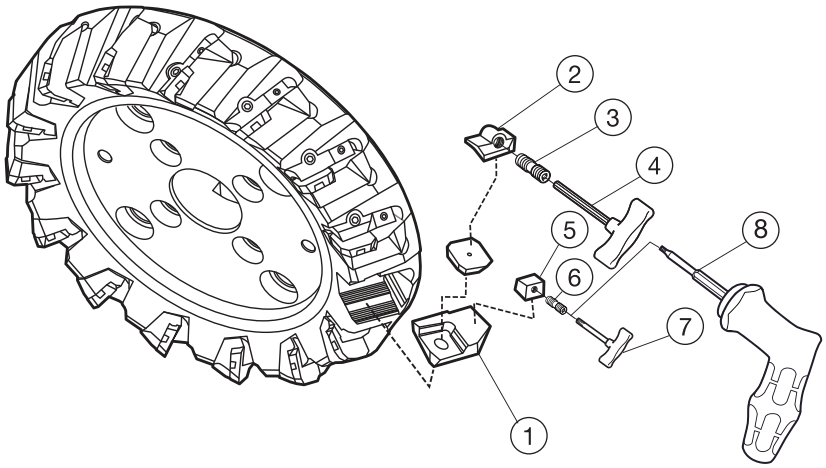
D108

= Even pitch

= Differential pitch

Left hand cutters delivered to special order.
Please contact your Sandvik Coromant representative.

Spare parts for CoroMill® 360



	1		2		3	4		
	Cassette		Insert wedge				Torque value	
Insert size	Right hand	Left hand	Right hand	Left hand	Insert wedge screw	Key	Nm	ft-lbs
19	360R-CA-19	360L-CA-19	360R-IW-19	360L-IW-19	267.21-830	5680 017-04(5.0)	16	11.8
28	360R-CA-28	360L-CA-28	360R-IW-28	360L-IW-28	267.21-830	5680 017-04(5.0)	16	11.8

	5	6	7			8
				Torque value		
Insert size	Cassette wedge	Cassette wedge screw	Key (Torx Plus)	Nm	ft-lbs	Torque wrench[1)]
19	5431 105-08	5516 010-06	5680 048-04(20IP)	6	4.4	5680 100-07
28	5431 105-08	5516 010-06	5680 048-04(20IP)	6	4.4	5680 100-07

1) Accessories, must be ordered separately

Unequipped bodies

Metric version

	Ordering code						Dimensions, mm			
D_c	Close pitch			Extra close pitch			KG	D_1	dm_m	l_1
	Arbor									
160	360-160Q40-Z6D	-	6	360-160Q40-Z8E	8	-	8.9	186.6	40	80
200	360-200Q60-Z8D	-	8	360-200Q60-Z10E	10	-	11.2	226.6	60	80
250	360-250Q60-Z10D	-	10	360-250Q60-Z12E	12	-	18.4	276.6	60	80
315	360-315Q60-Z12D	-	12	360-315Q60-Z15E	15	-	29.0	341.6	60	80
400	360-400Q60-Z15D	-	15	360-400Q60-Z19E	19	-	44.5	426.6	60	80
500	360-500Q60-Z18D	-	18	360-500Q60-Z24E	24	-	67.2	526.6	60	80
	CIS Arbor									
160	A360-160J38-Z6D	-	6	A360-160J38-Z8E	8	-	8.9	186.6	38.1	80
200	A360-200J47-Z8D	-	8	A360-200J47-Z10E	10	-	11.2	226.6	47.625	80
250	A360-250J47-Z10D	-	10	A360-250J47-Z12E	12	-	18.4	276.6	47.625	80
315	A360-315J47-Z12D	-	12	A360-315J47-Z15E	15	-	29.0	341.6	47.625	80
400	A360-400J47-Z15D	-	15	A360-400J47-Z19E	19	-	44.5	426.6	47.625	80
500	A360-500J47-Z18D	-	18	A360-500J47-Z24E	24	-	67.2	526.6	47.625	80

Inch version

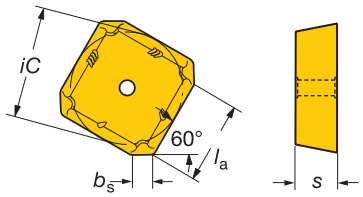
	Ordering code						Dimensions, mm			
D_c	Close pitch			Extra close pitch			KG	D_1	dm_m	l_1
	Arbor									
6	A360-152R38-Z6D	-	6	A360-152R38-Z8E	8	-	17.6	7.346	1.500	3.150
8	A360-203R63-Z8D	-	8	A360-203R63-Z10E	10	-	25.6	8.921	2.500	3.150
10	A360-254R63-Z10D	-	10	A360-254R63-Z12E	12	-	41.7	10.890	2.500	3.150
12	A360-305R63-Z12D	-	12	A360-305R63-Z15E	15	-	58.0	13.449	2.500	3.150
16	A360-406R63-Z15D	-	15	A360-406R63-Z19E	18	-	101.0	16.795	2.500	3.150
20	A360-508R63-Z18D	-	18	A360-508R63-Z24E	24		152.6	20.732	2.500	3.150

Left hand cutters delivered to special order.
Please contact your Sandvik Coromant representative.

Inserts for CoroMill® 360

Cemented carbide

Heavy



Right hand style shown

Dimensions, mm (inch)

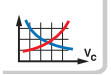
Size	*l* = *iC*	l_a	*s*
19	19 (.748)	15 (.591)	6.35 (.250)
28	28 (1.102)	20 (.787)	7.94 (.313)

	iC	Ordering code	Max a_p mm	Max a_p inch	P GC4220	P GC4230	P GC4240	M GC2030	M GC2040	K GC3040	K GC3220	K GC4220	S GC2030	S GC2040	Dimensions, millimeter, inch (mm, in.) b_s mm	b_s in.
Heavy	19	360L-1906M-KH	13.0	.512						★					2.2	.087
		360L-1906M-MH	13.0	.512					★					☆	2.2	.087
		360L-1906M-PH	13.0	.512		★									2.2	.087
		360R-19 06M-KH	13.0	.512						★	★				2.2	.087
		360R-19 06M-MH	13.0	.512				★	★				☆	☆	2.2	.087
		360R-19 06M-PH	13.0	.512	★	★	★					☆			2.2	.087
	28	360L-2807M-KH	18.0	.709						★					4.6	.181
		360L-2807M-MH	18.0	.709					★					☆	4.6	.181
		360L-2807M-PH	18.0	.709		★									4.6	.181
		360R-28 07M-KH	18.0	.709						★	★				4.6	.181
		360R-28 07M-MH	18.0	.709				★	★				☆	☆	4.6	.181
		360R-28 07M-PH	18.0	.709	★	★	★					☆			4.6	.181
					P20	P20	P40	M25	M40	K30	K15	K25	S20	S30		

★= First choice

Cutting data

	Feed per tooth, f_z mm (inch)	mm/tooth (inch/tooth)	Cutting speed v_c GC4220 m/min	GC4220 ft/min	Cutting speed v_c GC4230 m/min	GC4230 ft/min	Cutting speed v_c GC4240 m/min	GC4240 ft/min
P	0.46 (.018)	0.30-0.69 (.012-.027)	186 (125-227)	610 (410-745)	151 (102-184)	495 (335-605)	130 (87-157)	425 (285-515)
					GC2030		GC2040	
M	0.46 (.018)	0.30-0.69 (.012-.027)			117 (75-148)	385 (245-485)	113 (72-140)	370 (235-460)
					GC3220		GC3240	
K	0.46 (.018)	0.30-0.69 (.012-.027)			142 (96-174)	465 (315-570)	111 (75-136)	365 (245-445)

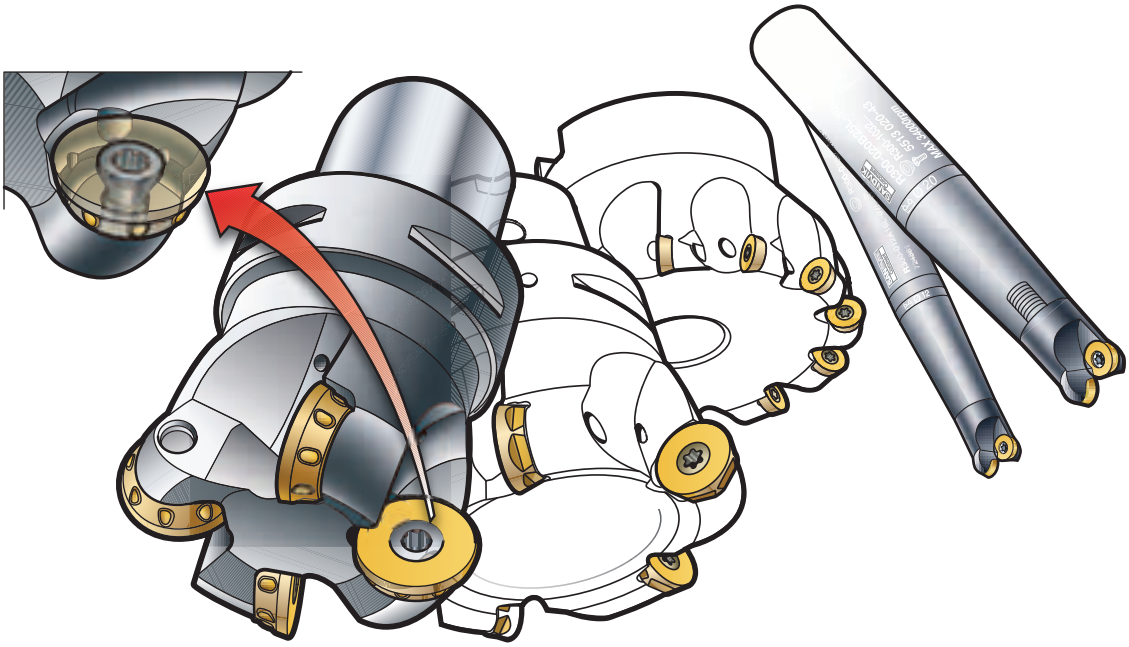

D334

D327

CoroMill® 300

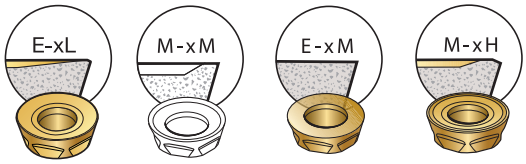
Light cutting face and profile milling cutters

Versatile concept for roughing to high feed semi-finishing



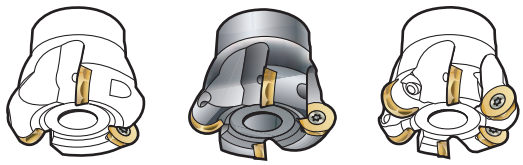
High feed semi-finishing
Extra close pitch version

Geometries:

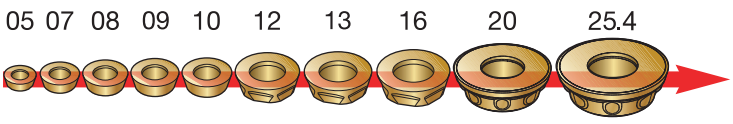


Light cutting | General | First choice semi-finishing | Roughing

Pitch: **L** **M** **H**



Condition: Unstable | First choice roughing | Stable



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.

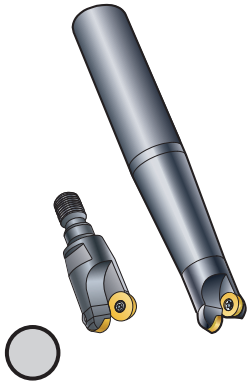
SANDVIK Coromant

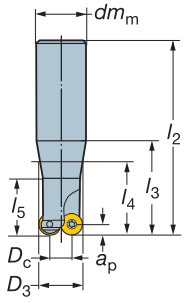
Face mill with round inserts, neutral design

Toroid cutter

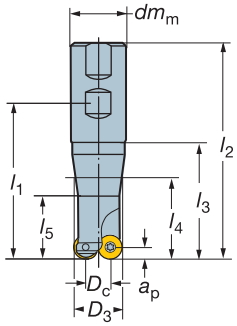
Diameter 10 – 42 mm

Cylindrical

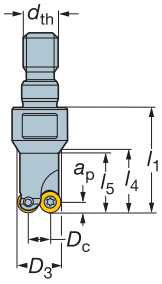




Weldon



Threaded coupling



l_1 = programming length

Metric version

			Ordering code								Dimensions, mm											
		D_3	Coarse pitch		Close pitch			Extra close pitch			D_c	D_{5m}	dm_m	l_1	l_2	l_3	l_4	l_5	d_{th}	Max a_p[1]	n_{max}
			Cylindrical shank																			
05		10	R300-010A16L-05L	2	-	-	-	-	-	0.3	5		16		160	60	24	18		0.7	15900
07	20	12	R300-012A16L-07L	2	-	-	-	-	-	0.2	5		16		200	60	28	20		1	8900
	24	15	R300-015A20L-07L	2	-	-	-	-	-	0.5	8		20		200	80	34	25		1.5	12700
08		16	R300-016A20L-08L	2	-	-	-	-	-	0.5	8		20		200	80	44	25		1.2	12700
10		20	R300-020A25L-10L	2	-	-	-	-	-	1.2	10		25		250	80	44	30		2	8100
12		24	R300-024A25L-12L	2	-	-	-	-	-	1.0	12		25		250	80	74	30		5	8900
		25	R300-025A32L-12L	2	-	-	-	-	-	1.8	13		32		250	80	41	30		5	15800
16		32	R300-032A32L-16L	2	-	-	-	-	-	1.5	16		32		250	80		30		7	8700
			Weldon																			
07	20	12	R300-012B16L-07L	2	-	-	-	-	-	0.2	5		16	85	109	60	28	20		1	34000
	24	15	R300-015B20L-07L	2	-	-	-	-	-	0.4	8		20	106	131	80	34	25		1.5	25000
08		16	R300-016B20L-08L	2	-	-	-	-	-	0.4	8		20	106	131	80	44	25		1.2	24700
10		20	R300-020B25L-10L	2	-	-	-	-	-	0.6	10		25	104.5	137	80	44	30		2	34000
12		25	R300-025B32L-12L	2	-	-	-	-	-	0.8	13		32	105	141	80	44	30		5	20200
			Threaded coupling																			
05		10	R300-10T08-05L	2	-	-	-	-	-	0.1	5	12.8		25			14.7	14	M8	0.7	
		12	-	-	R300-12T08-05M	3	-	-	-	0.1		12.8		25			17	15	M8	0.7	
07	20	12	R300-12T08-07L	2	-	-	-	-	-	0.1	5	12.8		25			16.6	14	M8	1	
		15	-	-	R300-15T08-07M	3	-	-	-	0.1	8	12.8		25					M8	1.2	
		16	-	-	R300-16T08-07M	3	-	-	-	0.1	9	12.8		25					M8	1	
	24	15	R300-15T08-07L	2	-	-	-	-	-	0.1	8	12.8		25					M8	1.2	
08		16	R300-16T08-08L	2	-	-	-	-	-	0.1	8	12.8		25					M8	1.5	
		20	-	-	R300-20T10-08M	3	-	-	-	0.2	12	17.8		30					M10	1.5	
		25	-	-	R300-25T12-08M	-	3	-	-	0.2	17	21		35					M12	4	
		32	-	-	R300-32T16-08M	-	4	R300-32T16-08H	5	0.2	24	21		45					M16	4	
		40	-	-	R300-40T16-08M	-	5	R300-40T16-08H	6	0.4	32	21		45					M16	4	
10		20	R300-20T10-10L	2	-	-	-	-	-	0.2	10	17.8		30					M10	2	
		25	R300-25T12-10L	2	R300-25T12-10M	3	-	-	-	0.2	15	20.8		35					M12	2	
		32	-	-	-	-	-	R300-32T16-10H	4	0.2	22	28.8		45					M16	4	
		35	-	-	-	-	-	R300-35T16-10H	4	0.4	25	28.8		45					M16	4	
		40	-	-	-	-	-	R300-40T16-10H	5	0.4	30	28.8		45					M16	4	
		42	-	-	-	-	-	R300-42T16-10H	5	0.4	32	28.8		45					M16	4	
12		24	R300-24T12-12L	2	-	-	-	-	-	0.2	12	20.8		35					M12	5	
		32	-	-	R300-32T16-12M	3	-	-	-	0.2	20	28.8		45					M16	5	
		35	-	-	R300-35T16-12M	3	-	-	-	0.3	23	28.8		45					M16	5	
		40	-	-	R300-40T16-12M	4	-	-	-	0.4	28	28.8		45					M16	5	
		42	-	-	R300-42T16-12M	4	-	-	-	0.4	30	28.8		45					M16	5	
16		32	R300-32T16-16L	2	-	-	-	-	-	0.2	16	28.8		45					M16	7	

[1] The theoretical maximum a_p for CoroMill® 300 is half the diameter of the insert. This should be used only at very small a_e.

= Even pitch

= Differential pitch

D117

D121

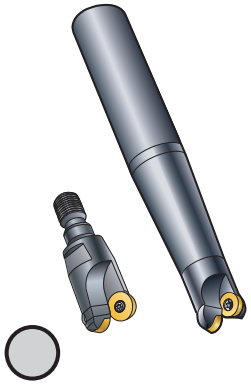
G6

D2

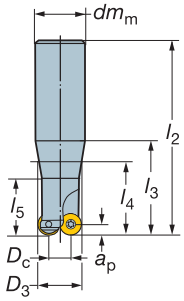
Face mill with round inserts, neutral design

Toroid cutter

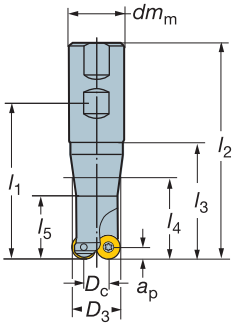
Diameter .375 - 1.250 inch



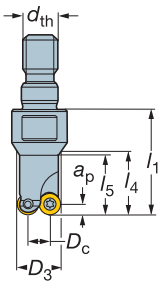
Cylindrical



Weldon



Threaded coupling



l_1 = programming length

Inch version

			Ordering code				Dimensions, inch											
		D_3	Coarse pitch		Close pitch			D_c	D_{5m}	dm_m	l_1	l_2	l_3	l_4	l_5	D_{th}	Max a_p[1]	n_{max}
			Cylindrical shank															
05		.375	RA300-010O13L-05L	2	-	-	0.5	.178		.500		6.000	2.000	1.100			.028	12500
07	20	.500	RA300-013O16L-07L	2	-	-	0.9	.224		.625		8.000	2.500	1.500			.050	8500
08		.625	RA300-016O19L-08L	2	-	-	1.7	.310		.750		9.000	3.000	2.100			.060	8300
10		.750	RA300-019O19L-10L	2	-	-	1.9	.356		.750		9.000	3.000	2.900			.078	8300
13		1.000	RA300-025O25L-13L	2	-	-	2.2	.500		1.000		10.00	3.000				.250	8800
16		1.250	RA300-032O32L-16L	2	-	-	3.3	.625		1.250		10.00	3.000				.276	8700
			Weldon															
05		.375	RA300-010M13-05L	2	-	-	0.3	.178		.500	2.139	3.030	1.250	.750			.028	24700
07	20	.500	RA300-013M16-07L	2	-	-	0.5	.224		.625	3.122	4.075	2.000	1.032			.050	35200
08		.625	RA300-016M19-08L	2	-	-	0.6	.310		.750	3.226	4.281	2.250	1.623	1.000		.060	24900
10		.750	RA300-019M25-10L	2	-	-	1.1	.356		1.000	3.641	4.781	2.500	1.496			.078	35900
			Threaded coupling															
05		.375	RA300-10T08-05L	2	-	-	0.2	.218	.504		.906			.575		M8	.030	
		.500	-	-	RA300-13T08-05M	3	0.4	.303	.504		.906			.594		M8	.030	
07	20	.500	RA300-13T08-07L	2	-	-	0.7	.224	.504		.906			.559		M8	.040	
		.625	-	-	RA300-16T08-07M	3	0.7	.349	.504		.906					M8	.040	
08		.625	RA300-16T08-08L	2	-	-	0.7	.310	.504		.906					M8	.060	
		.750	-	-	RA300-19T10-08M	3	0.7	.435	.701		1.181					M10	.060	
10		.750	RA300-19T10-10L	2	-	-	0.7	.356	.701		1.181					M10	.080	

[1] The theoretical maximum a_p for CoroMill® 300 is half the diameter of the insert. This should be used only at very small a_e.

* Max RPM of holders must also be considered.

= Even pitch

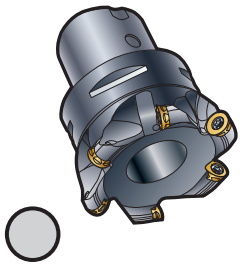
= Differential pitch

D118
D121
G6
D2

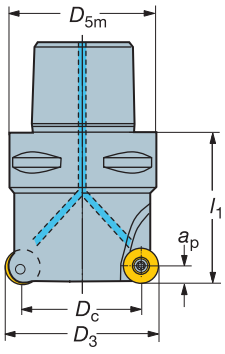
SANDVIK Coromant

Face mill with round inserts, positive design

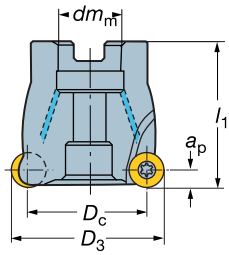
Diameter 35 - 200 mm



Coromant Capto®



Arbor



l_1 = programming length

Metric version

		Ordering code								Dimensions, mm						
		Coarse pitch		Close pitch			Extra close pitch		Coolant[1]						Max	
D_3										kg	D_c	D_{5m}	dm_m	l_1	a_p[2]	n_{max}
		Coromant Capto														
8	35	-	-	R300-035C3-08M	-	4	R300-035C3-08H	5	1	0.3	27	32		40	4	33800
	42	-	-	-	-	-	R300-042C4-08H	6	1	0.5	34	40		50	4	29800
	52	-	-	-	-	-	R300-052C5-08H	8	1	1.0	44	50		50	4	26100
	66	-	-	-	-	-	R300-066C6-08H	10	1	1.7	58	63		50	4	23100
	80	-	-	-	-	-	R300-080C6-08H	12	1	1.9	72	63		50	4	20500
10	35	-	-	-	-	-	R300-035C3-10H	4	1	0.3	25	32		40	5	43200
	42	-	-	-	-	-	R300-042C4-10H	5	1	0.5	32	40		50	5	37200
12	35	-	-	R300-035C3-12M	-	3	R300-035C3-12H	4	1	0.2	23	32		43	6	32900
	42	-	-	R300-042C4-12M	-	3	R300-042C4-12H	4	1	0.6	30	40		50	6	28300
	52	-	-	-	-	-	R300-052C5-12H	5	1	1.0	40	50		50	6	24000
	52	R300-052C5-12L	3	R300-052C5-12M	-	4	-	-	1	1.0	40	50		50	6	24400
	66	R300-066C6-12L	4	R300-066C6-12M	-	5	R300-066C6-12H	7	1	1.6	54	63		50	6	21700
	80	-	-	R300-080C6-12M	-	6	R300-080C6-12H	8	1	1.8	68	63		50	6	18900
16	52	R300-052C5-16L	3	R300-052C5-16M	-	4	R300-052C5-16H	5	1	1.0	36	50		60	8	20600
	66	R300-066C6-16L	4	R300-066C6-16M	-	5	R300-066C6-16H	6	1	1.8	50	63		60	8	17600
	80	-	-	R300-080C6-16M	-	5	R300-080C6-16H	7	1	2.0	64	63		60	8	15400
20	66	-	-	R300-066C6-20M	-	4	R300-066C6-20H	5	1	1.6	46	63		80	10	18478
	80	-	-	R300-080C6-20M	-	5	R300-080C6-20H	6	1	2.0	60	63		80	10	15622
	100	-	-	R300-100C8-20M	-	6	R300-100C8-20H	7	1	3.5	80	80		80	10	12843
		Arbor														
8	40	-	-	R300-040Q16-08M	-	5	R300-040Q16-08H	6	1	0.4	32		16	40	4	30800
	50	-	-	-	-	-	R300-050Q22-08H	8	1	0.8	42		22	50	4	26700
	52	-	-	-	-	-	R300-052Q22-08H	8	1	0.8	44		22	50	4	26100
	63	-	-	-	-	-	R300-063Q22-08H	10	1	0.9	55		22	50	4	23700
	80	-	-	-	-	-	R300-080Q27-08H	12	1	1.2	72		27	50	4	20500
12	50	R300-050Q22-12L	3	R300-050Q22-12M	-	4	R300-050Q22-12H	5	1	0.8	38		22	50	6	25000
	52	R300-052Q22-12L	3	R300-052Q22-12M	-	4	R300-052Q22-12H	5	1	0.9	40		22	50	6	24400
	63	R300-063Q22-12L	4	R300-063Q22-12M	-	5	R300-063Q22-12H	7	1	0.9	51		22	50	6	22100
	80	-	-	R300-080Q27-12M	-	6	R300-080Q27-12H	8	1	1.2	68		27	50	6	18900
16	63	R300-063Q22-16L	3	R300-063Q22-16M	-	4	R300-063Q22-16H	6	1	0.9	47		22	50	8	18200
	80	-	-	R300-080Q27-16M	-	5	R300-080Q27-16H	7	1	1.1	64		27	50	8	15400
	100	-	-	R300-100Q32-16M	-	6	R300-100Q32-16H	8	0	1.7	84		32	50	8	13300
	125	-	-	R300-125Q32-16M	-	8	R300-125Q32-16H	10	0	2.9	109		32	63	8	11900
20	80	R300-080Q27-20L	4	R300-080Q27-20M	-	5	R300-080Q27-20H	6	1	0.8	60		27	50	10	15622
	100	R300-100Q32-20L	5	R300-100Q32-20M	-	6	R300-100Q32-20H	7	1	2.0	80		32	63	10	12843
	125	R300-125Q40-20L	5	R300-125Q40-20M	-	7	R300-125Q40-20H	9	1	2.7	105		40	63	10	10768
	160	R300-160Q40-20L	6	R300-160Q40-20M	-	9	R300-160Q40-20H	11	0	4.6	140		40	63	10	9106
	200	R300-200Q60-20L	7	R300-200Q60-20M	-	11	-	-	0	5.9	180		60	63	10	7799

[1] 0 = no coolant, 1 = coolant through centre

[2] The theoretical maximum a_p for CoroMill® 300 is half the diameter of the insert. This should be used only at very small a_e.

= Even pitch

= Differential pitch

D117

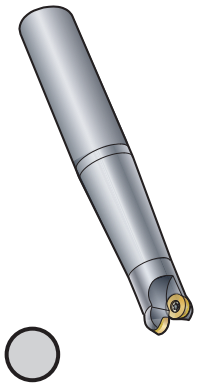
D121

G6

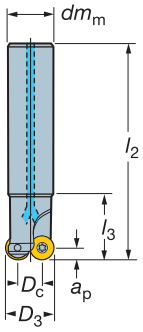
D2

Face mill with round inserts, positive design

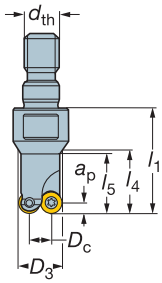
Diameter 25 - 40 mm



Cylindrical



Threaded coupling



l_1 = programming length

Metric version

		Ordering code						Dimensions, mm									
	D_3	Close pitch			Extra close pitch		Coolant[1]		D_c	D_{5m}	dm_m	l_1	l_2	l_3	d_{th}	Max a_p	n_{max}
		Cylindrical shank															
08	25	R300-025A20-08M	-	3	-	-	1	0.4	17		20		150	40		4	7200
	32	-	-	-	R300-032A25-08H	5	1	0.6	24		25		150	40		4	35900
	32	R300-032A25-08M	-	4	-	-	1	0.8			25		190	40		4	9000
10	25	R300-025A20-10M	-	2	-	-	1	0.5	15		20		150	40		5	28500
	32	-	-	-	R300-032A25-10H	4	1	0.7	22		25		150	40		5	28500
	32	R300-032A25-10M	-	3	-	-	1	0.7			25		190	40		5	14700
12	32	-	-	-	R300-032A25-12H	3	1	0.6	20		25		150	40		6	35500
	32	R300-032A25-12M	2	-	-	-	1	1.2			25		190	40		6	8900
	40	-	-	-	R300-040A32-12H	4	1	1.6	28		32		150	40		6	28500
	40	R300-040A32-12M	-	3	-	-	1	1.8			32		250	40		6	11400
		MSSC															
08	25	R300-25T12-08M	-	3	-	-	1	0.2	17	21		35			12	4	
	32	R300-32T16-08M	-	4	R300-32T16-08H	5	1	0.2	24	21		45			16	4	
	40	R300-40T16-08M	-	5	R300-40T16-08H	6	1	0.4	32	21		45			16	4	

[1] 0 = no coolant, 1 = coolant through centre

= Even pitch

= Differential pitch

D117

D121

G6

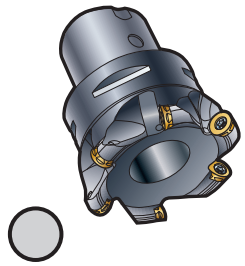
D2

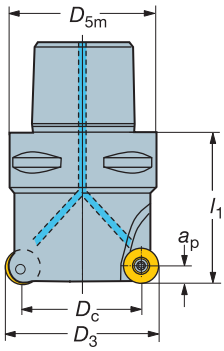
SANDVIK Coromant

Face mill with round inserts, positive design

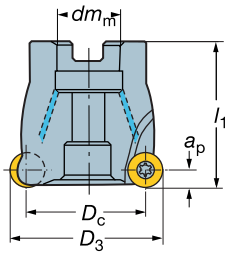
Diameter 1.000 - 8000 inch

Coromant Capto®





Arbor



Inch version

		Ordering code										Dimensions, inch						
	D_3	Coarse pitch			Close pitch			Extra close pitch			Coolant[1]		D_c	D_{5m}	dm_m	l_1	Max a_p[2]	n_{max}
		Coromant Capto																
13	2.047	-	-	-	-	-	-	RA300-052C5-13H	5	-	1	1.8	1.547	1.968	1.378	2.000	.248	16900
	2.047	RA300-052C5-13L	-	3	RA300-052C5-13M	-	4	-	-	-	1	1.8	1.547	1.968	1.378	2.000	.248	16600
	2.600	RA300-066C6-13L	-	4	RA300-066C6-13M	-	5	RA300-066C6-13H	7	-	1	2.6	2.099	2.480	1.732	2.000	.248	14300
16	3.000	RA300-076C6-16L	4	-	RA300-076C6-16M	5	-	RA300-076C6-16H	-	7	1	4.3	2.362	2.480	1.732	2.362	.315	16000
20	3.000	-	-	-	RA300-076C6-20M	-	4	RA300-076C6-20H	5	-	1	4.3	2.228	2.480	1.732	3.150	.394	16311
	4.000	-	-	-	RA300-102C8-20M	-	6	RA300-102C8-20H	7	-	1	7.7	3.213	3.150	2.165	3.150	.394	12672
25	3.000	RA300-076C6-25L	-	3	RA300-076C6-25M	-	4	-	-	-	1	4.3	2.016	2.480	1.732	3.150	.492	18214
	4.000	-	-	-	-	-	-	RA300-102C8-25H	6	-	1	7.7	3.000	3.150	2.165	3.150	.492	13498
	4.000	-	-	-	RA300-102C8-25M	-	4	-	-	-	1	7.7	3.000	3.150	2.165	3.150	.492	
		Arbor																
13	2.000	-	-	-	RA300-051R19-13M	-	4	RA300-051R19-13H	5	-	1	1.5	1.508		.750	1.968	.248	16900
	2.000	RA300-051R19-13L	-	3	-	-	-	-	-	-	1	1.5	1.508		.750	1.968	.248	16900
	2.500	RA300-063R19-13L	-	4	RA300-063R19-13M	-	5	RA300-063R19-13H	6	-	1	1.1	1.980		.750	1.968	.248	14700
	3.000	RA300-076R25-13L	-	5	RA300-076R25-13M	-	6	RA300-076R25-13H	7	-	1	3.3	2.492		1.000	1.968	.248	13500
16	2.500	RA300-063R19-16L	-	3	RA300-063R19-16M	-	4	RA300-063R19-16H	6	-	1	1.0	1.850		.750	1.968	.315	18200
	3.000	-	-	-	RA300-076R25-16M	-	5	RA300-076R25-16H	7	-	1	2.6	2.362		1.000	1.968	.315	16000
	4.000	RA300-102R38-16L	-	5	RA300-102R38-16M	-	6	RA300-102R38-16H	8	-	0	4.9	3.386		1.500	2.480	.315	13200
20	3.000	RA300-076R25-20L	-	3	RA300-076R25-20M	-	4	RA300-076R25-20H	5	-	1	1.8	2.228		1.000	2.480	.394	16311
	4.000	RA300-102R38-20L	-	5	RA300-102R38-20M	-	6	RA300-102R38-20H	7	-	1	4.4	3.213		1.500	2.480	.394	12672
	5.000	RA300-127R38-20L	-	5	RA300-127R38-20M	-	7	-	-	-	1	6.4	4.213		1.500	2.480	.394	10645
	6.000	RA300-152R38-20L	-	6	RA300-152R38-20M	-	9	RA300-152R38-20H	10	-	0	9.0	5.213		1.500	2.480	.394	9404
	8.000	RA300-203R63-20L	-	7	RA300-203R63-20M	-	11	-	-	-	0	13.2	7.213		2.500	2.480	.394	7718
25	3.000	RA300-076R25-25L	-	3	RA300-076R25-25M	-	4	-	-	-	1	4.3	2.016		1.000	2.480	.492	18214
	4.000	-	-	-	RA300-102R38-25M	-	4	RA300-102R38-25H	6	-	1	4.3	3.000		1.500	2.480	.492	13498
	5.000	RA300-127R38-25L	-	4	RA300-127R38-25M	-	5	RA300-127R38-25H	7	-	1	6.4	4.000		1.500	2.480	.492	10994
	6.000	RA300-152R38-25L	-	5	RA300-152R38-25M	-	7	RA300-152R38-25H	8	-	0	9.0	5.213		1.500	2.480	.492	9576
	8.000	RA300-203R63-25L	-	6	RA300-203R63-25M	-	8	RA300-203R63-25H	11	-	0	13.2	7.000		2.500	2.480	.492	7726

[1] 0 = no coolant, 1 = coolant through centre

[2] The theoretical maximum a_p for CoroMill® 300 is half the diameter of the insert. This should be used only at very small a_e.

Note!
Coolant screws are ordered separately

= Even pitch

= Differential pitch

D118

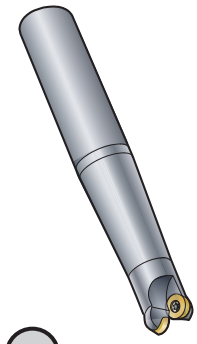
D121

G6

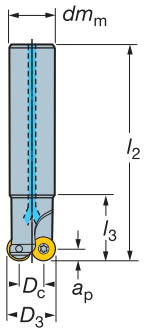
D2

Face mill with round inserts, positive design

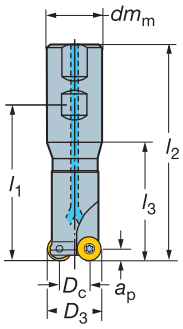
Diameter .375 - 1.500 inch



Cylindrical



Weldon



l_1 = programming length

Inch version

		Ordering code							Coolant[1]	Dimensions, inch							
	D_3	Coarse pitch		Close pitch		Extra close pitch					D_c	dm_m	l_1	l_2	l_3	Max a_p[2]	n_{max}
		Cylindrical shank															
05	.400	RA300-010O13L-05L	2	-	-	-	-	-	0	0.5	.178	.500		6.000	2.000	.028	12500
07	.500	RA300-013O16L-07L	2	-	-	-	-	-	0	0.9	.224	.625		8.000	2.500	.050	8500
08	.600	RA300-016O19L-08L	2	-	-	-	-	-	0	1.7	.310	.750		9.000	3.000	.060	8300
09	1.000	-	-	-	-	RA300-025O25-09H	3	-	1	1.5	.625	1.000		6.000	1.400	.177	27400
	1.000	-	-	RA300-025O25-09M	2	-	-	-	1	2.0	.625	1.000		7.500	1.500	.177	14500
	1.200	-	-	-	-	RA300-032O32-09H	4	-	1	1.5	.905	1.250		6.000	1.400	.177	27400
	1.200	-	-	RA300-032O32-09M	3	-	-	-	1	1.5	.905	1.250		10.000	1.400	.177	7400
	1.500	-	-	-	-	RA300-038O32-09H	4	-	1	2.4	1.142	1.250		6.000	1.400	.177	27400
10	.800	RA300-019O19L-10L	2	-	-	-	-	-	0	1.9	.356	.750		9.000	3.000	.078	8300
13	1.000	RA300-025O25L-13L	2	-	-	-	-	-	1	2.2	.500	1.000		10.000	3.000	.250	8800
	1.200	-	-	-	-	RA300-032O32-13H	3	-	1	1.5	.750	1.250		6.000	1.500	.248	25100
	1.200	-	-	RA300-032O32-13M	2	-	-	-	1	1.5	.750	1.250		10.000	1.500	.248	7400
	1.500	-	-	-	-	RA300-038O32-13H	4	-	1	2.4	1.000	1.250		6.000	1.500	.248	21600
	1.500	-	-	RA300-038O32-13M	3	-	-	-	1	3.3	1.000	1.250		10.000	1.500	.248	7400
16	1.200	RA300-032O32L-16L	2	-	-	-	-	-	1	3.3	.625	1.250		10.000	3.000	.276	8700
		Weldon															
05	.400	RA300-010M13-05L	2	-	-	-	-	-	0	0.3	.178	.500	2.139	3.030	1.250	.028	24700
07	.500	RA300-013M16-07L	2	-	-	-	-	-	0	0.5	.224	.625	3.122	4.075	2.000	.050	35200
08	.600	RA300-016M19-08L	2	-	-	-	-	-	0	0.6	.310	.750	3.226	4.281	2.250	.060	24900
09	1.000	-	-	-	-	RA300-025M25-09H	3	-	0	1.5	.625	1.000	4.142	5.284	2.685	.177	27400
	1.000	-	-	RA300-025M25-09M	2	-	-	-	0	1.5	.625	1.000	4.142	5.284	2.685	.177	14500
	1.200	-	-	-	-	RA300-032M32-09H	4	-	1	1.5	.905	1.250	4.807	5.949	3.354	.177	27400
	1.200	-	-	RA300-032M32-09M	3	-	-	-	1	3.5	.905	1.250	4.807	5.949	3.354	.177	7400
	1.500	-	-	-	-	RA300-038M32-09H	-	4	1	2.0	1.142	1.250	5.141	6.284	4.000	.177	27400
10	.800	RA300-019M25-10L	2	-	-	-	-	-	0	1.1	.356	1.000	3.641	4.781	2.500	.078	35900
13	1.200	-	-	RA300-032M32-13M	2	RA300-032M32-13H	3	-	1	1.5	.750	1.250	4.807	5.949	3.354	.248	25100
	1.500	-	-	RA300-038M32-13M	3	RA300-038M32-13H	4	-	1	2.0	1.000	1.250	5.142	6.284	3.685	.248	21600

[1] 0 = no coolant, 1 = coolant through centre

[2] The theoretical maximum a_p for CoroMill® 300 is half the diameter of the insert. This should be used only at very small a_e.

Note!
Coolant screws are ordered separately

= Even pitch

= Differential pitch

D118
D121
G6
D2

SANDVIK Coromant

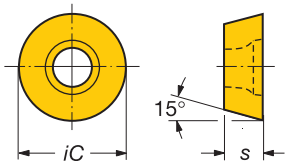
Inserts for CoroMill® 300

E-xL

E-xM

M-xM

M-xH



Metric version

	iO	Ordering code	P					M					K				N			S									H					Dimensions, mm	
			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	GC	GC		
			1025	1030	4220	4230	4240	1030	1040	2030	2040	3040	4220	4240	H13A	1025	1030	H13A	1010	1025	1030	2030	2040	H13A	S30T	S40T	1010	1025	1030	3040	4220	*iC*	*s*
Light	08	R300-0828E-PL		★				☆									☆			☆	☆				★	★	★		☆				8	2.78
		R300-0828E-KL													☆			☆					☆										8	2.78
	10	R300-1032E-PL		★				☆									☆			☆	☆				★	★	★		☆				10	3.18
		R300-1032E-KL													☆			☆					☆										10	3.18
	12	R300-1240E-PL		★			☆	☆									☆			☆	☆				★	★	★		☆				12	3.97
		R300-1240E-ML							★	☆	☆											☆											12	3.97
	16	R300-1648E-PL		★			☆	☆									☆			☆					★	★			☆				16	4.76
		R300-1648E-ML							★	☆	☆											☆	☆										16	4.76
	20	R300-2060E-PL		★			☆	☆									☆			☆					★				☆				20	6.48
		R300-2060E-ML							★	☆	☆											☆	☆										20	6.48
Medium	08	R300-0828M-PM		★			☆										☆			☆					★	★			☆				8	2.78
		R300-0828M-MM							★	☆	☆											☆	☆										8	2.78
		R300-0828E-PM	☆	★			☆							☆			☆	☆		☆	☆	☆				★	★	★	☆	☆				8	2.78
		R300-0828E-MM							★		☆												☆											8	2.78
	10	R300-1032M-PM		☆		★	☆										☆			☆					★	★			☆				10	3.18
		R300-1032M-MM							★	☆	☆											★	☆										10	3.18
		R300-1032E-PM	☆	★			☆							☆			☆	☆		☆	☆	☆				★	★	★	☆	☆				10	3.18
		R300-1032E-MM							★		☆												☆											10	3.18
	12	R300-1240M-PM		☆	☆	★	☆						☆	☆								☆				★	★			☆		☆		12	3.97
		R300-1240M-MM							★	☆	☆											☆	☆										12	3.97
		R300-1240E-PM	☆	★			☆										☆	☆		☆	☆	☆				★	★	★	☆	☆				12	3.97
		R300-1240E-MM							★	☆	☆											★	☆										12	3.97
	16	R300-1648M-PM		☆		★	☆							☆								☆				★	★			☆				16	4.76
		R300-1648M-MM							★	☆	☆											☆	☆										16	4.76
		R300-1648E-PM	☆	★			☆										☆	☆		☆	☆	☆				★	★	★	☆	☆				16	4.76
		R300-1648E-MM							★		☆												☆											16	4.76
	20	R300-2060M-PM		☆		★	☆							☆								☆				★				☆				20	6.48
		R300-2060M-MM							★	☆	☆											☆	☆										20	6.48
		R300-2060E-PM		★			☆										☆			☆					★	★			☆				20	6.48
		R300-2060E-MM							★	☆	☆											☆	☆										20	6.48
Heavy	08	R300-0828M-PH		☆	☆	★	☆						☆				☆			☆										☆		☆		8	2.78
		R300-0828M-MH									★												☆											8	2.78
		R300-0828M-KH										☆						☆						☆								☆			8	2.78
	10	R300-1032M-PH		☆	☆	★	☆						☆							☆					★				☆		☆		10	3.18
		R300-1032M-MH								☆	★											★	☆										10	3.18
		R300-1032M-KH										☆																			☆			10	3.18
	12	R300-1240M-PH		☆	☆	★	☆						☆							☆					★		★		☆		☆		12	3.97
		R300-1240M-MH								☆	★											★	☆										12	3.97
		R300-1240M-KH										☆																			★			12	3.97
	16	R300-1648M-PH		☆	☆	★	☆						☆							☆					★		★		☆		☆		16	4.76
		R300-1648M-MH								☆	★											★	☆										16	4.76
		R300-1648M-KH										☆																			★			16	4.76
	20	R300-2060M-PH		☆	☆	★	☆						☆							☆					★		★		☆		☆		20	6.48
		R300-2060M-MH								☆	★											☆	☆										20	6.48
		R300-2060M-KH										☆																							20	6.48
			P30	P30	P20	P20	P40	M15	M30	M25	M40	K30	K25	K40	K20	N15	N15	N15	S10	S15	S15	S20	S30	S20	S25	S35	H10	H15	H10	H25	H25				

★= First choice

D334 D327

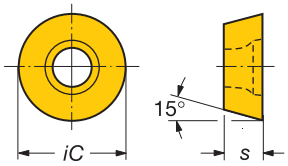
Inserts for CoroMill® 300

E-xL

E-xM

M-xM

M-xH



Inch version

			P					M					K			N		S									H					Dimensions, inch	
			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	GC	GC		
	i.C.	Ordering code	1025	1030	4220	4230	4240	1030	1040	2030	2040		3040	4220	4240	1025	1030	1010	1025	1030	2030	2040	S30T	S40T	1010	1025	1030	3040	4220			*iC*	*s*
Light	13	R300-1340E-ML							★	☆	☆										☆	☆										.500	.156
		R300-1340E-PL		★			☆	☆									☆	☆		☆			★	★	★		☆					.500	.156
	25	R300-2570E-ML							★	☆	☆										☆	☆										1.000	.313
		R300-2570E-PL		★			☆	☆									☆	☆		☆				★	★		☆					1.000	.313
Medium	05	R300-0517E-MM									☆										☆											.197	.067
		R300-0517E-PM	☆	★			☆								☆	☆	☆		☆	★						☆	☆					.197	.067
	07	R300-0720E-MM							★		☆										☆											.276	.078
		R300-0720E-PM	☆	★			☆								☆	☆	☆		☆	★						☆	☆					.276	.078
		R300-0724E-MM							★		☆										☆											.276	.094
		R300-0724E-PM	☆	★			☆								☆	☆	☆		☆	★						☆	☆					.276	.094
	09	R300-0932E-MM									☆										☆											.375	.125
		R300-0932E-PM	☆	☆												☆	☆	☆	☆	☆					★	☆	☆					.375	.125
		R300-0932M-MM								☆	☆										☆	☆										.375	.125
		R300-0932M-PM		☆			☆										☆			☆							☆					.375	.125
	13	R300-1340E-MM							★	☆	☆										☆	☆										.500	.156
		R300-1340E-PM	☆	☆												☆	☆	☆	☆	☆			★	★	★	☆	☆					.500	.156
		R300-1340M-MM							★	☆	☆										☆	☆										.500	.156
		R300-1340M-PM		☆		☆	☆													☆			★	★			☆					.500	.156
	25	R300-2570M-MM							★		☆										☆											1.000	.313
		R300-2570M-PM		☆		★	☆								☆					☆				★			☆					1.000	.313
Heavy	09	R300-0932M-KH											☆																☆			.375	.125
		R300-0932M-MH								☆	★										☆	☆										.375	.125
		R300-0932M-PH		☆	☆	☆	☆							☆			☆			☆							☆			☆		.375	.125
	13	R300-1340M-KH											☆																☆			.500	.156
		R300-1340M-MH								☆	★										☆	☆										.500	.156
		R300-1340M-PH		☆	☆	☆	☆							☆			☆	☆		☆					★		☆			☆		.500	.156
	25	R300-2570M-KH											☆																			1.000	.313
		R300-2570M-MH								☆	★										☆	☆										1.000	.313
		R300-2570M-PH		☆	☆	★	☆							☆			☆	☆		☆				★	★		☆			☆		1.000	.313
			P30	P30	P20	P20	P40	M15	M30	M25	M40		K30	K25	K40	N15	N15	S10	S15	S15	S20	S30	S25	S35	H10	H15	H10	H25	H25				

★= First choice

D334 D327

SANDVIK Coromant

Feed recommendations for CoroMill® 300

Feed recommendations for insert size 08 (*iC*)

f_z (mm/insert, inch/insert)

a_p mm	a_p inch	E-xL rec. (min.- max.) mm	E-xL rec. (min.- max.) inch	E-xM rec. (min.- max.) mm	E-xM rec. (min.- max.) inch	M-xM rec. (min.- max.) mm	M-xM rec. (min.- max.) inch	M-xH rec. (min.- max.) mm	M-xH rec. (min.- max.) inch
0.10	.004	0.54 (0.23-0.68)	.021 (.009-.027)	0.59 (0.23-0.90)	.023 (.009-.035)	0.59 (0.32-0.90)	.023 (.013-.035)	0.68 (0.32-1.13)	.027 (.013-.044)
0.50	.020	0.25 (0.10-0.31)	.010 (.004-.012)	0.27 (0.10-0.41)	.011 (.004-.016)	0.27 (0.14-0.41)	.011 (.006-.016)	0.31 (0.14-0.52)	.012 (.006-.020)
1.00	.039	0.18 (0.08-0.23)	.007 (.003-.009)	0.20 (0.08-0.30)	.008 (.003-.012)	0.20 (0.11-0.30)	.008 (.004-.012)	0.23 (0.11-0.38)	.009 (.004-.015)
1.50	.059	0.15 (0.06-0.19)	.006 (.002-.007)	0.17 (0.06-0.26)	.007 (.002-.010)	0.17 (0.09-0.26)	.007 (.004-.010)	0.19 (0.09-0.32)	.007 (.004-.013)
2.00	.079	0.14 (0.06-0.17)	.006 (.002-.007)	0.15 (0.06-0.23)	.006 (.002-.009)	0.15 (0.08-0.23)	.006 (.003-.009)	0.17 (0.08-0.29)	.007 (.003-.011)
3.00	.118	0.12 (0.05-0.15)	.005 (.002-.006)	0.13 (0.05-0.21)	.005 (.002-.008)	0.13 (0.07-0.21)	.005 (.003-.008)	0.15 (0.07-0.26)	.006 (.003-.010)
4.00	.157	0.12 (0.05-0.15)	.005 (.002-.006)	0.13 (0.05-0.20)	.005 (.002-.008)	0.13 (0.07-0.20)	.005 (.003-.008)	0.15 (0.07-0.25)	.006 (.003-.010)

Feed recommendations for insert size 09 - 10 (iC)

f_z (mm/insert, inch/insert)

a_p mm	a_p inch	E-xL rec. (min.- max.) mm	E-xL rec. (min.- max.) inch	E-xM rec. (min.- max.) mm	E-xM rec. (min.- max.) inch	M-xM rec. (min.- max.) mm	M-xM rec. (min.- max.) inch	M-xH rec. (min.- max.) mm	M-xH rec. (min.- max.) inch
0.10	.004	0.75 (0.25-0.90)	.030 (.010-.035)	0.90 (0.25-1.26)	.035 (.010-.050)	0.75 (0.35-1.26)	.030 (.014-.050)	1.01 (0.35-1.51)	.040 (.014-.059)
0.50	.020	0.34 (0.11-0.41)	.013 (.004-.016)	0.41 (0.11-0.57)	.016 (.004-.022)	0.34 (0.16-0.57)	.013 (.006-.022)	0.46 (0.16-0.69)	.018 (.006-.027)
1.00	.039	0.25 (0.08-0.30)	.010 (.003-.012)	0.30 (0.08-0.42)	.012 (.003-.017)	0.25 (0.12-0.42)	.010 (.005-.017)	0.33 (0.12-0.50)	.013 (.005-.020)
1.50	.059	0.21 (0.07-0.25)	.008 (.003-.010)	0.25 (0.07-0.35)	.010 (.003-.014)	0.21 (0.10-0.35)	.008 (.004-.014)	0.28 (0.10-0.42)	.011 (.004-.017)
2.00	.079	0.19 (0.06-0.23)	.007 (.002-.009)	0.23 (0.06-0.31)	.009 (.002-.012)	0.19 (0.09-0.31)	.007 (.004-.012)	0.25 (0.09-0.38)	.010 (.004-.015)
3.00	.118	0.16 (0.05-0.20)	.006 (.002-.008)	0.20 (0.05-0.27)	.008 (.002-.011)	0.16 (0.08-0.27)	.006 (.003-.011)	0.22 (0.08-0.33)	.009 (.003-.013)
4.00	.157	0.15 (0.05-0.18)	.006 (.002-.007)	0.18 (0.05-0.26)	.007 (.002-.010)	0.15 (0.07-0.26)	.006 (.003-.010)	0.20 (0.07-0.31)	.008 (.003-.012)
5.00	.197	0.15 (0.05-0.18)	.006 (.002-.007)	0.18 (0.05-0.25)	.007 (.002-.010)	0.15 (0.07-0.25)	.006 (.003-.010)	0.20 (0.07-0.30)	.008 (.003-.012)

Feed recommendations for insert size 12 - 13 (iC)

f_z (mm/insert, inch/insert)

a_p mm	a_p inch	E-xL rec. (min.- max.) mm	E-xL rec. (min.- max.) inch	E-xM rec. (min.- max.) mm	E-xM rec. (min.- max.) inch	M-xM rec. (min.- max.) mm	M-xM rec. (min.- max.) inch	M-xH rec. (min.- max.) mm	M-xH rec. (min.- max.) inch
0.10	.004	0.83 (0.28-1.10)	.033 (.011-.043)	0.99 (0.28-1.38)	.039 (.011-.054)	0.83 (0.39-1.38)	.033 (.015-.054)	1.10 (0.39-1.65)	.043 (.015-.065)
0.50	.020	0.38 (0.13-0.50)	.015 (.005-.020)	0.45 (0.13-0.63)	.018 (.005-.025)	0.38 (0.18-0.63)	.015 (.007-.025)	0.50 (0.18-0.75)	.020 (.007-.030)
1.00	.039	0.27 (0.09-0.36)	.011 (.004-.014)	0.33 (0.09-0.45)	.013 (.004-.018)	0.27 (0.13-0.45)	.011 (.005-.018)	0.36 (0.13-0.54)	.014 (.005-.021)
1.50	.059	0.23 (0.08-0.30)	.009 (.003-.012)	0.27 (0.08-0.38)	.011 (.003-.015)	0.23 (0.11-0.38)	.009 (.004-.015)	0.30 (0.11-0.45)	.012 (.004-.018)
2.00	.079	0.20 (0.07-0.27)	.008 (.003-.011)	0.24 (0.07-0.34)	.009 (.003-.013)	0.20 (0.09-0.34)	.008 (.004-.013)	0.27 (0.09-0.40)	.011 (.004-.016)
3.00	.118	0.17 (0.06-0.23)	.007 (.002-.009)	0.21 (0.06-0.29)	.008 (.002-.011)	0.17 (0.08-0.29)	.007 (.003-.011)	0.23 (0.08-0.35)	.009 (.003-.014)
4.00	.157	0.16 (0.05-0.21)	.006 (.002-.008)	0.19 (0.05-0.27)	.007 (.002-.011)	0.16 (0.07-0.27)	.006 (.003-.011)	0.21 (0.07-0.32)	.008 (.003-.013)
5.00	.197	0.15 (0.05-0.20)	.006 (.002-.008)	0.18 (0.05-0.25)	.007 (.002-.010)	0.15 (0.07-0.25)	.006 (.003-.010)	0.20 (0.07-0.30)	.008 (.003-.012)
6.00	.236	0.15 (0.05-0.20)	.006 (.002-.008)	0.18 (0.05-0.25)	.007 (.002-.010)	0.15 (0.07-0.25)	.006 (.003-.010)	0.20 (0.07-0.30)	.008 (.003-.012)

Feed recommendations for insert size 16 (*iC*)

f_z (mm/insert, inch/insert)

a_p mm	a_p inch	E-xL rec. (min.- max.) mm	E-xL rec. (min.- max.) inch	E-xM rec. (min.- max.) mm	E-xM rec. (min.- max.) inch	M-xM rec. (min.- max.) mm	M-xM rec. (min.- max.) inch	M-xH rec. (min.- max.) mm	M-xH rec. (min.- max.) inch
0.10	.004	1.14 (0.32-1.59)	.045 (.013-.063)	1.27 (0.32-1.90)	.050 (.013-.075)	1.14 (0.44-1.59)	.045 (.017-.063)	1.59 (0.44-2.54)	.063 (.017-.100)
0.50	.020	0.52 (0.14-0.72)	.020 (.006-.028)	0.57 (0.14-0.86)	.022 (.006-.034)	0.52 (0.20-0.72)	.020 (.008-.028)	0.72 (0.20-1.15)	.028 (.008-.045)
1.00	.039	0.37 (0.10-0.52)	.015 (.004-.020)	0.41 (0.10-0.62)	.016 (.004-.024)	0.37 (0.14-0.52)	.015 (.006-.020)	0.52 (0.14-0.83)	.020 (.006-.033)
1.50	.059	0.31 (0.09-0.43)	.012 (.004-.017)	0.34 (0.09-0.51)	.013 (.004-.020)	0.31 (0.12-0.43)	.012 (.005-.017)	0.43 (0.12-0.69)	.017 (.005-.027)
2.00	.079	0.27 (0.08-0.38)	.011 (.003-.015)	0.30 (0.08-0.45)	.012 (.003-.018)	0.27 (0.11-0.38)	.011 (.004-.015)	0.38 (0.11-0.60)	.015 (.004-.024)
3.00	.118	0.23 (0.06-0.32)	.009 (.002-.013)	0.26 (0.06-0.38)	.010 (.002-.015)	0.23 (0.09-0.32)	.009 (.004-.013)	0.32 (0.09-0.51)	.013 (.004-.020)
4.00	.157	0.21 (0.06-0.29)	.008 (.002-.011)	0.23 (0.06-0.35)	.009 (.002-.014)	0.21 (0.08-0.29)	.008 (.003-.011)	0.29 (0.08-0.46)	.011 (.003-.018)
5.00	.197	0.19 (0.05-0.27)	.007 (.002-.011)	0.22 (0.05-0.32)	.009 (.002-.013)	0.19 (0.08-0.27)	.007 (.003-.011)	0.27 (0.08-0.43)	.011 (.003-.017)
6.00	.236	0.19 (0.05-0.26)	.007 (.002-.010)	0.21 (0.05-0.31)	.008 (.002-.012)	0.19 (0.07-0.26)	.007 (.003-.010)	0.26 (0.07-0.41)	.010 (.003-.016)
7.00	.276	0.18 (0.05-0.25)	.007 (.002-.010)	0.20 (0.05-0.30)	.008 (.002-.012)	0.18 (0.07-0.25)	.007 (.003-.010)	0.25 (0.07-0.40)	.010 (.003-.016)
8.00	.315	0.18 (0.05-0.25)	.007 (.002-.010)	0.20 (0.05-0.30)	.008 (.002-.012)	0.18 (0.07-0.25)	.007 (.003-.010)	0.25 (0.07-0.40)	.010 (.003-.016)

Feed recommendations for CoroMill® 300

Hex recommendation

	iC 20mm Hex rec. (min-max)	*iC* .787 inch	*iC* 25.4 mm *iC* 1.000 inch Hex rec. (min-max)
E-xL	0.20 (0.05-0.25)	.008 (.002-.010)	.009 (.002-.011)
E-xM	0.25 (0.05-0.40)	.010 (.002-.016)	
M-xM	0.20 (0.07-0.30)	.008 (.003-.012)	.009 (.003-.013)
M-xH	0.35 (0.07-0.55)	.014 (.003-.022)	.016 (.003-.024)

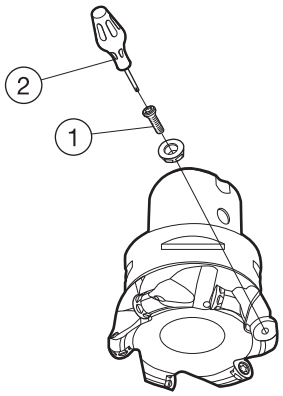
Feed recommendations for insert size 20mm (*iC* .787 inch)

		f_z (insert)							
		E-xL		**E-xM**		**M-xM**		**M-xH**	
a_p mm	inch	rec. (min.- max.) mm	**rec.** (min.- max.) inch	rec. (min.- max.) mm	**rec.** (min.- max.) inch	rec. (min.- max.) mm	**rec.** (min.- max.) inch	rec. (min.- max.) mm	**rec.** (min.- max.) inch
0.10	**.004**	1.42 (0.35-1.77)	.056 (.014-.070)	1.77 (0.35-2.84)	.070 (.014-.112)	1.42 (0.50-2.13)	.056 (.020-.084)	2.48 (0.50-3.90)	.098 (.020-.154)
0.50	**.020**	0.64 (0.16-0.80)	.025 (.006-.031)	0.80 (0.16-1.28)	.031 (.006-.050)	0.64 (0.22-0.96)	.025 (.009-.038)	1.12 (0.22-0.76)	.044 (.009-.069)
1.00	**.039**	0.46 (0.11-0.57)	.018 (.004-.022)	0.57 (0.11-0.92)	.022 (.004-.036)	0.46 (0.16-0.69)	.018 (.006-.027)	0.80 (0.16-1.26)	.031 (.006-.050)
1.50	**.059**	0.38 (0.09-0.47)	.015 (.004-.019)	0.47 (0.09-0.76)	.019 (.004-.030)	0.38 (0.13-0.57)	.015 (.005-.022)	0.66 (0.13-1.04)	.026 (.005-.041)
2.00	**.079**	0.33 (0.08-0.42)	.013 (.003-.017)	0.42 (0.08-0.67)	.017 (.003-.026)	0.33 (0.12-0.50)	.013 (.005-.020)	0.58 (0.12-0.92)	.023 (.005-.036)
3.00	**.118**	0.28 (0.07-0.35)	.011 (.003-.014)	0.35 (0.07-0.56)	.014 (.003-.022)	0.28 (0.10-0.42)	.011 (.004-.017)	0.49 (0.10-0.77)	.019 (.004-.030)
4.00	**.157**	0.25 (0.06-0.31)	.010 (.002-.012)	0.31 (0.06-0.50)	.012 (.002-.020)	0.25 (0.09-0.38)	.010 (.004-.015)	0.44 (0.09-0.69)	.017 (.004-.027)
5.00	**.197**	0.23 (0.06-0.29)	.009 (.002-.011)	0.29 (0.06-0.46)	.011 (.002-.018)	0.23 (0.08-0.35)	.009 (.003-.014)	0.40 (0.08-0.64)	.016 (.003-.025)
6.00	**.236**	0.22 (0.05-0.27)	.009 (.002-.011)	0.27 (0.05-0.44)	.011 (.002-.017)	0.22 (0.08-0.33)	.009 (.003-.013)	0.38 (0.08-0.60)	.015 (.003-.024)
7.00	**.276**	0.21 (0.05-0.26)	.008 (.002-.010)	0.26 (0.05-0.42)	.010 (.002-.017)	0.21 (0.07-0.31)	.008 (.003-.012)	0.37 (0.07-0.58)	.015 (.003-.023)
8.00	**.315**	0.20 (0.05-0.26)	.008 (.002-.010)	0.26 (0.05-0.41)	.010 (.002-.016)	0.20 (0.07-0.31)	.008 (.003-.012)	0.36 (0.07-0.56)	.014 (.003-.022)
9.00	**.354**	0.20 (0.05-0.25)	.008 (.002-.010)	0.25 (0.05-0.40)	.010 (.002-.016)	0.20 (0.07-0.30)	.008 (.003-.012)	0.35 (0.07-0.55)	.014 (.003-.022)
10.00	**.394**	0.20 (0.05-0.25)	.008 (.002-.010)	0.25 (0.05-0.40)	.010 (.002-.016)	0.20 (0.07-0.30)	.008 (.003-.012)	0.35 (0.07-0.55)	.014 (.003-.022)

Feed recommendations for insert size 25.4mm (*iC* 1.000 inch)

	f_z (insert)					
a_p	**E-xL**		**M-xM**		**M-xH**	
(inch)	rec.	(min.- max.)	rec.	(min.- max.)	rec.	(min.- max.)
.004	.069	(.016-.090)	.069	(.022-.104)	.126	(.022-.189)
.020	.031	(.007-.040)	.031	(.010-.047)	.057	(.010-.085)
.039	.022	(.005-.028)	.022	(.007-.033)	.041	(.007-.061)
.059	.019	(.004-.023)	.019	(.006-.028)	.033	(.006-.050)
.079	.016	(.004-.020)	.016	(.005-.024)	.029	(.005-.044)
.118	.013	(.003-.017)	.013	(.004-.020)	.024	(.004-.037)
.157	.012	(.003-.015)	.012	(.004-.018)	.022	(.004-.032)
.197	.011	(.002-.014)	.011	(.004-.016)	.020	(.004-.030)
.236	.010	(.002-.013)	.010	(.003-.015)	.019	(.003-.028)
.276	.010	(.002-.012)	.010	(.003-.015)	.018	(.003-.026)
.315	.009	(.002-.012)	.009	(.003-.014)	.017	(.003-.026)
.354	.009	(.002-.011)	.009	(.003-.013)	.017	(.003-.025)
.394	.009	(.002-.011)	.009	(.003-.013)	.016	(.003-.024)
.433	.009	(.002-.011)	.009	(.003-.013)	.016	(.003-.024)
.472	.009	(.002-.011)	.009	(.003-.013)	.016	(.003-.024)
.500	.009	(.002-.011)	.009	(.003-.013)	.016	(.003-.024)

Spare parts for CoroMill® 300



*

D3 < 32 = 5513 020-43
D3 ≥ 32 = 5513 020-09

Cutter		1	2			
Insert size				Torque value		
		Insert screw	Key (Torx Plus)	Nm	In-lbs	Molykote
5		5513 020-40	5680 051-01 (6IP)	0.6	5	5683 010-01
7	20	5513 020-41	5680 046-03 (7IP)	0.9	8	5683 010-01
7	24	5513 020-42	5680 046-03 (7IP)	0.9	8	5683 010-01
8		5513 020-36	5680 046-01 (8IP)	1.2	10	5683 010-01
9/10		*	5680 046-02 (15IP)	3.0	26	5683 010-01
12/13		5513 020-09	5680 046-02 (15IP)	3.0	26	5683 010-01
16[1)]		5513 020-50	5680 046-06 (20IP)	5.0	44	5683 010-01
20		5513 020-31	5680 048-06 (25IP)	7.5	66	5683 010-01
25.4		5513 020-71	5680 048-07 (30IP)	10.2	90	5683 010-01

1) Arbor mounting screw with coolant hole 5512 073-03 (M8), key 3021 010-060

Coolant screws

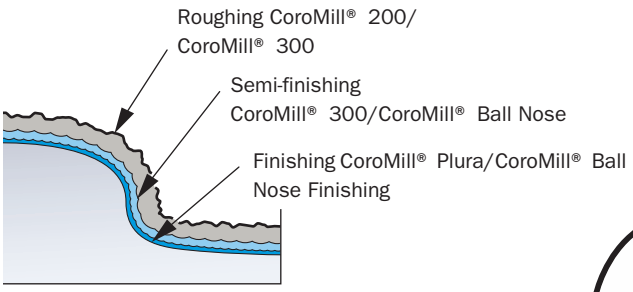
			Hex wrench			Fits following cutter codes
	Screw code	Thread	Size	Key code	Arbor size	
Metric	5512 073-01	M10	8 mm	3021 010-080	22	R300-063Q22-16x
	5512 073-02	M12	10 mm	3021 010-100	27	R300-080Q27-20x
	5512 073-05	M16	14 mm	3021 010-140	32	R300-100Q32-20x
	5512 098-01	M20	14 mm	5680 043-18	40	R300-125Q40-20x
Inch	5512 074-01	3/8-224	5/16"	3021 011-516	.750	RA300-063R19-16x
	5512 074-02	1/2-20	3/8"	3021 011-380	1.000	RA300-076R25-20x RA300-076R25-25x
	5512 074-05	3/4-16	5/8"	3021 011-580	1.500	RA300-102R38-20x RA300-102R38-25x
	5512 099-01	3/4-16	1/2"	3021 011-120	1.500	RA300-127R38-20x RA300-127R38-25x

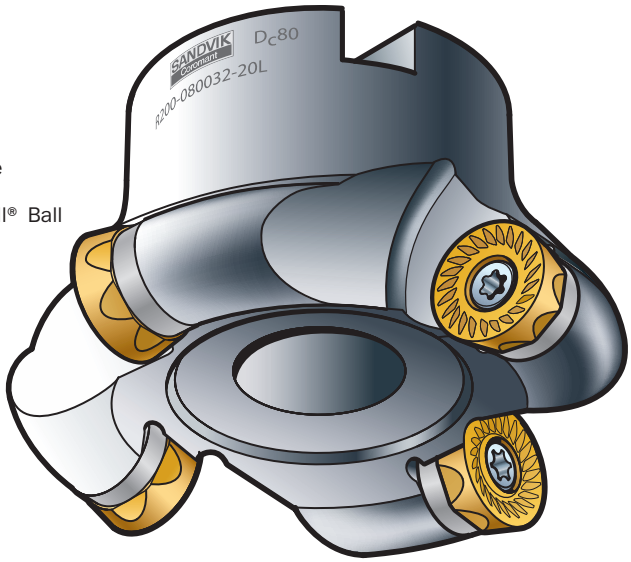
CoroMill® 200

Robust face milling and profiling cutter

A concept for secure roughing

Diameter 25 - 160 mm (1.000 - 10.000 inch)

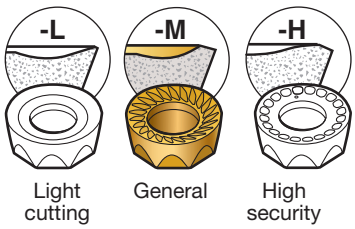


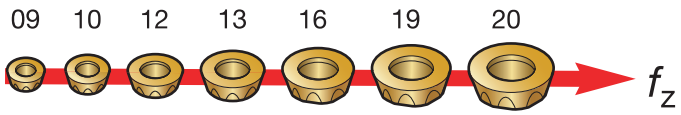


Pitch: L M H

Condition: Unstable General Stable

Geometries:





Tailor Made

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

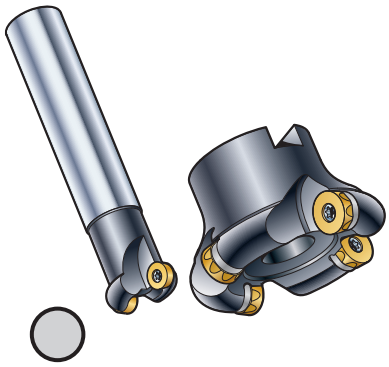
ISO application areas:

P K H M S

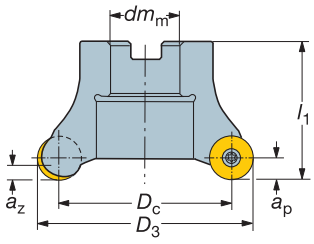
SANDVIK Coromant

Round insert face mill and end mill

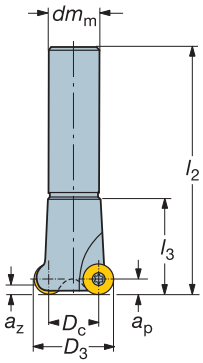
Diameter 25 – 160 mm



Arbor



Cylindrical shank



l_1 = programming length

Metric version

		Ordering code									Dimensions, mm								
																		Max	
l_1	D_3	Coarse pitch			Close pitch			Extra close pitch			kg	D_c	dm_m	l_1	l_2	l_3	a_z	a_p	n_{max} [1]
		Cylindrical shank																	
10	25	-	-	-	R200-015A20-10M [2]	2	-	R200-015A20-10H [2]	3	-	0.5	15	20		150	30	2.9	5.0	37500
12	32	-	-	-	R200-020A25-12M [2]	2	-	R200-020A25-12H [2]	3	-	0.8	20	25		190	35	3.7	6.0	31100
	40	R200-028A32-12L [2]	2	-	R200-028A32-12M [2]	3	-	-	-	-	1.7	28	32		240	63	3.7	6.0	26300
	50	R200-038A32-12L [2]	3	-	R200-038A32-12M [2]	4	-	-	-	-	1.7	38	32		240	63	3.7	6.0	22500
16	40	R200-024A32-16L [2]	2	-	R200-024A32-16M [2]	3	-	-	-	-	1.6	24	32		240	63	4.9	8.0	21800
	50	R200-034A32-16L [2]	2	-	R200-034A32-16M [2]	3	-	-	-	-	1.7	34	32		240	63	4.9	8.0	18300
20	50	R200-030A32-20L [2]	2	-	R200-030A32-20M [2]	3	-	-	-	-	1.7	30	32		240	63	6.1	10.0	20900
		Arbor																	
12	50	R200-038Q22-12L	-	3	R200-038Q22-12M	-	4	R200-038Q22-12H [2]	5	-	0.7	38	22	50			3.7	6.0	18800
	52	R200-040Q22-12L	-	3	R200-040Q22-12M	-	4	R200-040Q22-12H [2]	5	-	0.4	40	22	50			3.7	6.0	18000
	63	R200-051Q22-12L	-	3	R200-051Q22-12M	-	4	R200-051Q22-12H [2]	5	-	0.8	51	22	50			3.7	6.0	16200
	80	R200-068Q27-12L	-	4	R200-068Q27-12M	-	6	-	-	-	0.8	68	27	50			3.7	6.0	14000
	100	R200-088Q32-12L	-	4	R200-088Q32-12M	-	6	-	-	-	1.6	88	32	50			3.7	6.0	12300
16	63	R200-047Q22-16L [2]	-	3	R200-047Q22-16M [2]	-	4	-	-	-	0.5	47	22	50			4.9	8.0	15300
	66	R200-050Q27-16L [2]	-	3	R200-050Q27-16M [2]	-	4	R200-050Q27-16H [2]	5	-	0.9	50	27	50			4.9	8.0	14500
	80	R200-064Q27-16L	-	4	R200-064Q27-16M	-	5	R200-064Q27-16H [2]	6	-	1.0	64	27	50			4.9	8.0	13100
	100	R200-084Q32-16L	-	4	R200-084Q32-16M	-	6	-	-	-	1.3	84	32	50			4.9	8.0	11400
	125	R200-109Q32-16L	-	5	R200-109Q32-16M	-	6	-	-	-	2.1	109	32	50			4.9	8.0	10000
20	80	R200-060Q27-20L	-	3	R200-060Q27-20M [2]	4	-	-	-	-	1.1	60	27	50			6.1	10.0	10600
	100	R200-080Q32-20L	-	4	R200-080Q32-20M [2]	6	-	-	-	-	1.4	80	32	63			6.1	10.0	9200
	125	R200-105Q32-20L	-	5	R200-105Q32-20M [2]	6	-	-	-	-	2.2	105	32	63			6.1	10.0	8000
	160	R200-140Q40-20L	-	6	R200-140Q40-20M [2]	8	-	-	-	-	3.5	140	40	63			6.1	10.0	6900
		CIS Arbor																	
12	80	RA200-068J25.4-12L	4	-	RA200-068J25.4-12M	6	-	-	-	-	1.0	68	25.4	50			3.7	6.0	14000
	100	RA200-088J31.75-12L	4	-	RA200-088J31.75-12M	6	-	-	-	-	1.5	88	31.75	63			3.7	6.0	12300
16	66	RA200-050J25.4-16L [2]	3	-	RA200-050J25.4-16M	4	-	-	-	-	0.7	50	25.4	50			4.9	8.0	14500
	80	RA200-064J25.4-16L	4	-	RA200-064J25.4-16M	5	-	-	-	-	1.0	64	25.4	50			4.9	8.0	13100
	100	RA200-084J31.75-16L	4	-	RA200-084J31.75-16M	6	-	-	-	-	1.5	84	31.75	63			4.9	8.0	11400
	125	RA200-109J38.1-16L	5	-	RA200-109J38.1-16M	6	-	-	-	-	3.0	109	38.1	63			4.9	8.0	10000
20	80	RA200-060J25.4-20L	3	-	RA200-060J25.4-20M [2]	4	-	-	-	-	1.0	60	25.4	50			6.1	10.0	10600
	100	RA200-080J31.75-20L	4	-	RA200-080J31.75-20M [2]	6	-	-	-	-	1.5	80	31.75	63			6.1	10.0	9200
	125	RA200-105J38.1-20L	5	-	RA200-105J38.1-20M [2]	6	-	-	-	-	3.0	105	38.1	63			6.1	10.0	8000
	160	RA200-140J50.8-20L	6	-	RA200-140J50.8-20M [2]	8	-	-	-	-	5.0	140	50.8	63			6.1	10.0	6900

1) n_{max} (max. rev/min) for holders must also be considered.

2) Without shim

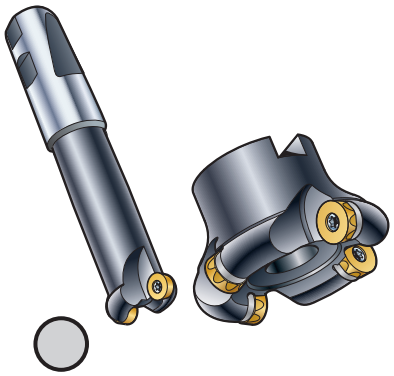
= Even pitch

= Differential pitch

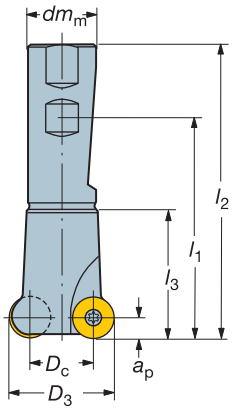
D125 D127 G6 D2

Round insert face mill and end mill

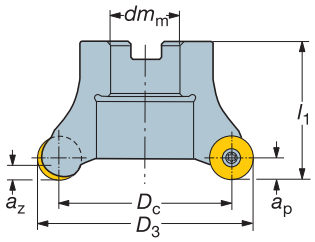
Diameter 1.000 - 10.000 inch



Weldon/Whistle Notch



Arbor



l_1 = programming length

Inch version

		Ordering code						Dimensions, inch								
	D_3	Coarse pitch			Close pitch			Lbs	D_c	dm_m	l_1	l_2	l_3	a_z	Max a_p	n_{max}[1]
		Whistle Notch/Weldon														
.375	1.000	-	-	-	RA200-016MN25-09M[2]	2	-	2.2	.625	1.000	4.146	5.207	3.000	.110	.187	37500
.500	1.250	-	-	-	RA200-019MN32-13M[2]	2	-	2.2	.750	1.250	4.896	6.035	3.750	.150	.250	31000
	1.500	-	-	-	RA200-025MN32-13M[2]	3	-	2.2	1.000	1.250	5.140	6.280	4.000	.150	.250	26300
	2.000	RA200-038MN32-13L[2]	3	-	RA200-038MN32-13M[2]	4	-	2.2	1.500	1.250	2.886	4.026	1.125	.140	.250	22500
.750	2.000	RA200-032MN32-19L[2]	2	-	RA200-032MN32-19M[2]	3	-	2.2	1.250	1.250	2.886	4.026	1.625	.240	.375	20900

		Ordering code									Dimensions, inch					
	D_3	Coarse pitch			Close pitch			Extra close pitch			Lbs	D_c	dm_m	l_1	a_z	Max a_p	n_{max}[1]
		Arbor															
.500	2.000	RA200-038R19-13L	-	3	RA200-038R19-13M	-	4	RA200-038R19-13H	5	-	1.0	1.500	.750	1.969	.140	.250	18800
	2.000	-	-	-	-	-	-	RA200-038R19-13H-HD[3]	5	-	1.0	1.500	.750	1.969	.140	.250	18800
	3.000	RA200-063R25-13L	-	4	RA200-063R25-13M	-	5	RA200-063R25-13H	6	-	2.2	2.500	1.000	1.969	.140	.250	18000
	4.000	RA200-089R38-13L	-	5	RA200-089R38-13M	-	8	-	-	-	2.2	3.500	1.500	1.969	.140	.250	16200
	5.000	RA200-114R38-13L	-	6	RA200-114R38-13M	-	10	-	-	-	4.4	4.500	1.500	2.480	.140	.250	14000
	6.000	RA200-140R38-13L	-	8	RA200-140R38-13M	-	12	-	-	-	7.6	5.500	1.500	2.480	.140	.250	12300
.750	3.000	RA200-057R25-19L[2]	-	4	RA200-057R25-19M[2]	-	5	-	-	-	1.0	2.250	1.000	1.969	.240	.375	10600
	4.000	RA200-083R38-19L	-	4	RA200-083R38-19M[2]	-	6	-	-	-	2.2	3.250	1.500	2.480	.240	.375	9200
	5.000	RA200-108R38-19L	-	5	RA200-108R38-19M[2]	-	6	-	-	-	3.3	4.250	1.500	2.480	.230	.375	8000
	6.000	RA200-133R38-19L	-	6	RA200-133R38-19M[2]	-	8	-	-	-	6.2	5.250	1.500	2.480	.230	.375	6900
	8.000	RA200-184R63-19L	-	8	RA200-184R63-19M[2]	-	10	-	-	-	13.	7.250	2.500	2.480	.230	.375	4700
	10.00	RA200-235R63-19L	-	10	RA200-235R63-19M[2]	-	12	-	-	-	15.	9.250	2.500	2.480	.230	.375	2500

1) n_{max} (max. rev/min) for holders must also be considered.
2) Without shim
3) Thicker pockets for heavier feed rates over standard-13H cutter

Note:
Bolt circle for cutters 8" and 10" = 4"

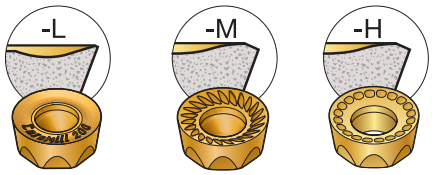
= Even pitch
= Differential pitch

D125
D127
G6
D2

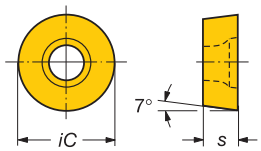
SANDVIK Coromant

Inserts for CoroMill® 200

Cemented carbide/Cermet



Light Medium Heavy



Metric version

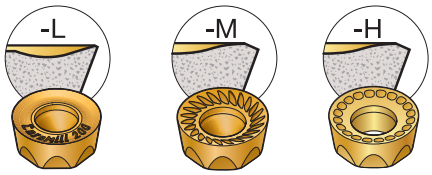
			P						M							K					N				S										H						Dimensions, mm	
			GC	GC	GC	GC	GC	CT	GC	GC	GC	GC	GC	GC	CT	GC	GC	GC	GC	-	GC	GC	-	-	GC	GC	GC	GC	GC	-	-	GC	GC	GC	GC	GC	GC	GC	GC	CT		
	ISO	Ordering code	1025	1030	4220	4230	4240	530	1025	1030	1040	2030	2040	235	530	1020	3040	3220	4220	H13A	1025	1030	H10F	H13A	1010	1025	1030	2030	2040	H10F	H13A	S30T	S40T	1010	1025	1030	3040	4220	530	*iC*	*s*
Light	10	RCHT 10 T3 M0-PL	☆	★				☆	☆	☆					☆						☆	☆			☆	☆	☆							★	☆	☆			☆	10	3.97
		RCHT 10 T3 M0-ML									★	☆	☆															☆	☆											10	3.97
		RCHT 10 T3 M0-KL																	☆				☆								☆									10	3.97
	12	RCHT 12 04 M0-PL	☆	★				☆	☆	☆					☆						☆	☆			☆	☆	☆							★	☆	☆			☆	12	4.76
		RCHT 12 04 M0-ML									★	☆	☆															☆	☆											12	4.76
		RCHT 12 04 M0-KL																	☆				☆								☆									12	4.76
	16	RCHT 16 06 M0-PL	☆	★					☆	☆											☆	☆				☆	☆								☆	☆				16	6.35
		RCHT 16 06 M0-ML									★	☆	☆															☆	☆											16	6.35
		RCHT 16 06 M0-KL																	☆				☆								☆									16	6.35
	20	RCHT 20 06 M0-PL	☆	★					☆	☆											☆	☆				☆	☆								☆	☆				20	6.35
		RCHT 20 06 M0-ML									★	☆	☆															☆	☆											20	6.35
		RCHT 20 06 M0-KL																	☆				☆								☆									20	6.35
Medium	10	RCKT 10 T3 M0-WM						☆						☆	☆								☆							☆										☆	10	3.97
		RCKT 10 T3 M0-PM		☆	☆	★	☆			☆									☆			☆					☆				★	★			☆		☆		10	3.97
		RCKT 10 T3 M0-MM									★	☆	☆															☆	☆											10	3.97
		RCKT 10 T3 M0-KM															☆	☆																			☆				10	3.97
	12	RCKT 12 04 M0-WM						☆						☆	☆								☆							☆										☆	12	4.76
		RCKT 12 04 M0-PM		☆	☆	★	☆			☆									☆			☆					☆				★	★			☆		☆		12	4.76
		RCKT 12 04 M0-MM									★	☆	☆															☆	☆											12	4.76
		RCKT 12 04 M0-KM														★	☆	☆																			☆				12	4.76
	16	RCKT 16 06 M0-WM												☆									☆							☆											16	6.35
		RCKT 16 06 M0-PM		☆	☆	★	☆			☆									☆			☆					☆				★	★			☆		☆		16	6.35
		RCKT 16 06 M0-MM									★	☆	☆															☆	☆											16	6.35
		RCKT 16 06 M0-KM															☆	☆																			☆				16	6.35
	20	RCKT 20 06 M0-WM												☆									☆							☆											20	6.35
		RCKT 20 06 M0-PM		☆	☆	★	☆			☆									☆			☆					☆				★	★			☆		☆		20	6.35
		RCKT 20 06 M0-MM									★	☆	☆															☆	☆											20	6.35
		RCKT 20 06 M0-KM															☆	☆																			☆				20	6.35
Heavy	10	RCKT 10 T3 M0-PH		☆	☆	☆	★			☆									☆								☆									☆		☆		10	3.97
		RCKT 10 T3 M0-KH															☆	☆																			☆				10	3.97
	12	RCKT 12 04 M0-PH		☆	☆	☆	★			☆									☆								☆									☆		☆		12	4.76
		RCKT 12 04 M0-KH															☆	☆																			☆				12	4.76
	16	RCKT 16 06 M0-PH		☆	☆	☆	★			☆									☆								☆									☆		☆		16	6.35
		RCKT 16 06 M0-KH															☆	☆																			☆				16	6.35
	20	RCKT 20 06 M0-PH		☆	☆	☆	★			☆									☆								☆									☆		☆		20	6.35
		RCKT 20 06 M0-KH															☆	☆																			☆				20	6.35
			P30	P30	P20	P20	P40	P15	M15	M15	M30	M25	M40	M35	M10	K20	K30	K15	K25	K20	N15	N15	N15	N15	S10	S15	S15	S20	S30	S25	S20	S25	S35	H10	H15	H10	H25	H25	H25		

★= First choice

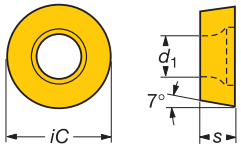
D334 D327 D356 D2

Inserts for CoroMill® 200

Cemented carbide/Cermet



Light Medium Heavy



Inch version

	ISO	Ordering code	P						M					K				N				S									H					Dimensions, inch	
			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	GC		
			1025	1030	235	4220	4230	4240	1030	1040	2030	2040	235	3040	3220	4220	H13A	1025	1030	H10F	H13A	1010	1025	1030	2030	2040	H10F	H13A	S30T	S40T	1010	1025	1030	3040	4220	*iC*	*s*
Light	09	RCHT 09 T3 00-KL															☆				☆						☆									.375	.156
		RCHT 09 T3 00-ML							★		☆														☆											.375	.156
		RCHT 09 T3 00-PL	☆	★					☆									☆	☆			☆	☆	☆							★	☆	☆			.375	.156
	13	RCHT 13 04 00-KL															☆				☆						☆									.500	.188
		RCHT 13 04 00-ML							★	☆	☆														☆	☆										.500	.188
		RCHT 13 04 00-PL	☆	★					☆									☆	☆			☆	☆	☆							★	☆	☆			.500	.188
	19	RCHT 19 06 00-KL															☆				☆						☆									.750	.250
		RCHT 19 06 00-ML							★	☆	☆														☆	☆										.750	.250
		RCHT 19 06 00-PL	☆	★					☆									☆	☆				☆	☆								☆	☆			.750	.250
Medium	09	RCKT 09 T3 00-MM							★	☆	☆														☆	☆										.375	.156
		RCKT 09 T3 00-PM		☆		☆	☆	☆	☆							☆			☆					☆									☆		☆	.375	.156
		RCKT 09 T3 00-WM																		☆							☆									.375	.156
	13	RCKT 13 04 00-KM												☆	☆																			☆		.500	.188
		RCKT 13 04 00-MM							★	☆	☆														☆	☆										.500	.188
		RCKT 13 04 00-PM		☆		☆	★	☆	☆							☆			☆					☆						★	★			☆		☆	.500	.188
		RCKT 13 04 00-WM			☆								☆							☆							☆									.500	.188
	19	RCKT 19 06 00-KM												☆	☆																			☆		.750	.250
		RCKT 19 06 00-MM							★	☆	☆														☆	☆										.750	.250
		RCKT 19 06 00-PM		☆		☆	★	☆	☆							☆			☆					☆						★	★			☆		☆	.750	.250
		RCKT 19 06 00-WM			☆								☆							☆							☆									.750	.250
Heavy	09	RCKT 09 T3 00-KH												☆																				☆		.375	.156
		RCKT 09 T3 00-PH		☆		☆	☆	☆	☆							☆								☆									☆		☆	.375	.156
	13	RCKT 13 04 00-KH												☆	☆																			☆		.500	.188
		RCKT 13 04 00-PH		☆		☆	☆	★	☆							☆								☆									☆		☆	.500	.188
	19	RCKT 19 06 00-KH												☆	☆																			☆		.750	.250
		RCKT 19 06 00-PH		☆		☆	☆	★	☆							☆								☆									☆		☆	.750	.250
			P30	P30	P40	P20	P20	P40	M15	M30	M25	M40	M35	K30	K15	K25	K20	N15	N15	N15	N15	S10	S15	S15	S20	S30	S25	S20	S25	S35	H10	H15	H10	H25	H25		

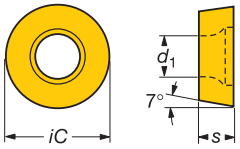
★= First choice

D334 D327 D356 D2

SANDVIK Coromant

Inserts for CoroMill® 200

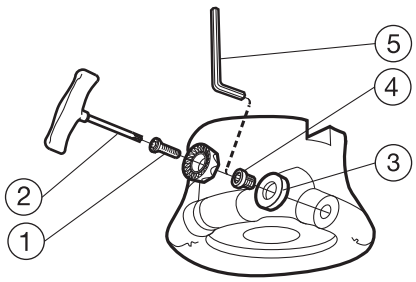
Ceramic **Boron nitride**



Advanced cutting materials

	iC	Ordering code	Max a_p mm	Max a_p inch	K CC 6190	K CB CB50	H CB CB50	Dimensions, millimeter, inch (mm, in.) iC mm	iC in.	s mm	s in.
Light	12	RCHT 12 04 M0	6	.236		☆	☆	12	.472	4.76	.188
Medium	12	RCKT 12 04 MO	6	.236	☆			12	.472	4.76	.188
	16	RCKT 16 06 MO	8	.315	☆			16	.630	6.35	.250
					K05	K10	H05				

Spare parts for CoroMill® 200



Arbor mounting screws

Cutter D_c inch	Arbor screw
2.000-2.500	5512 065-01
3.000	5512-065-05
4.000	5512-065-04
5.000-6.000	5512-065-10
8.000-10.000	5512 065-11

Cutter	Insert size mm *inch* iC	Without shim 1 Insert screw	2 Key1) (Torx Plus)	Torque value Nm (in-lbs)	With shim 1 Insert screw	2 Key (Torx Plus)	3 Shim	4 Shim screw	5 Key (mm)
R200	10	5513 020-09	5680 046-02 (15IP)	3.0 (26)	-	-	-	-	-
	12	5513 020-09	5680 048-01 (15IP)	3.0 (26)	5513 020-01	5680 048-01 (15IP)	5322 110-02	5512 090-09	5680 010-01 (3.5)
	16	5513 020-07	5680 048-03 (20IP)	5.0 (44)	5513 020-26	5680 048-03 (20IP)	5322 110-03	5512 090-06	5680 010-050 (5.0)
	20	5513 020-08	5680 045-06 (25IP)	7.6 (66)	5513 020-14	5680 048-06 (25IP)	5322 110-04	5512 090-08	5680 010-060 (6.0)
RA200	*.375*	5513 020-30	5680 046-05 (10IP)	2.0 (18)	-	-	-	-	-
	.500	5513 020-09	5680 048-01 (15IP)	3.0 (26)	5513 020-01	5680 048-02 (15IP)	5322 110-06	5512 090-09	5680 010-01 (3.5)
	.750	5513 020-08	5680 048-06 (25IP)	7.6 (66)	5513 020-14	5680 048-06 (25IP)	5322 110-07	5512 090-08	3021 010-050 (6.0)

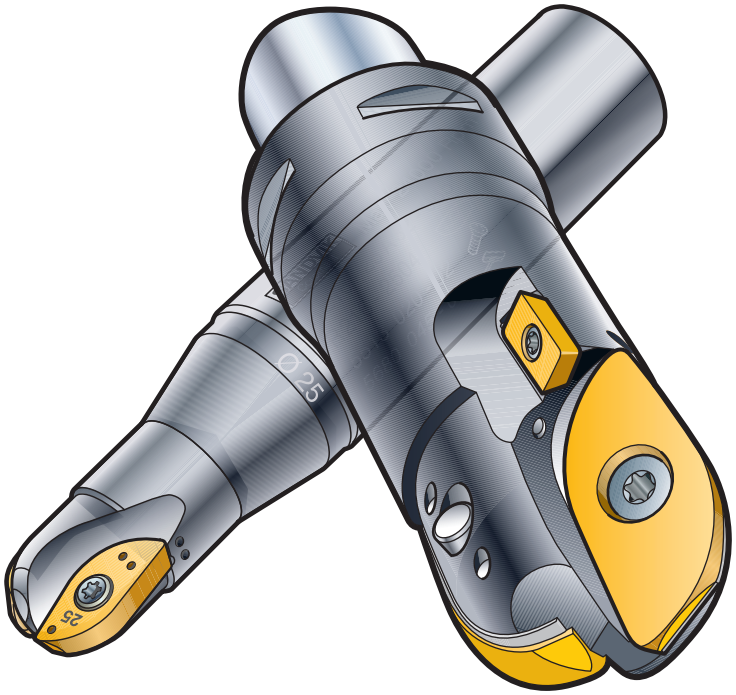
Cutter	Insert size mm iC	Inch iC	Torque wrench1)
R200	10	-	5680 100-06
	12	-	5680 100-06
	16	-	5680 100-07
	20	-	5680 100-08
RA200	-	.375	5680 100-05
	-	.500	5680 100-06
	-	.750	5680 100-08

1) Accessories, must be ordered separately

CoroMill® Ball Nose

Robust ball nose end mill

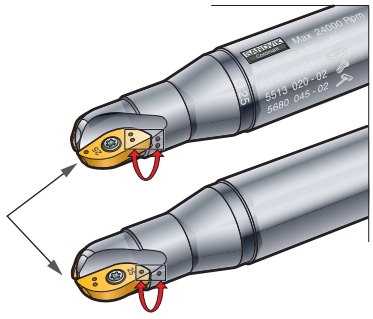
A metal remover for semi-finish profiling



M - inserts for higher security

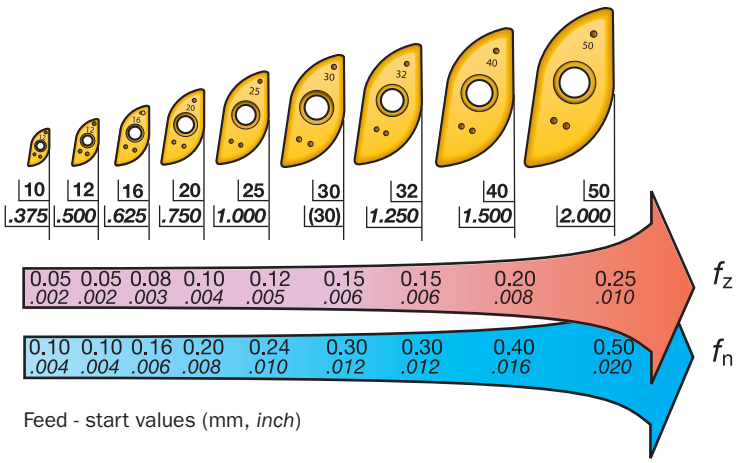
E - inserts with sharper edges and higher precision

Peripheral location



Identical inserts

Central location

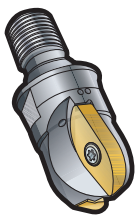


Feed - start values (mm, *inch*)

ISO application areas:

P **M** **K** **N** **S** **H**

Flexibility and long reach



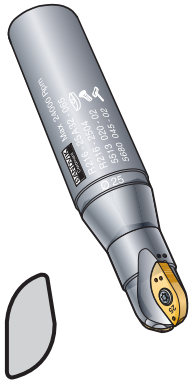
Modular cutting heads in combination with a variety of shanks

SANDVIK Coromant

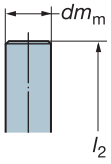
CoroMill® Ball Nose end mill

Diameter 10 – 50 mm

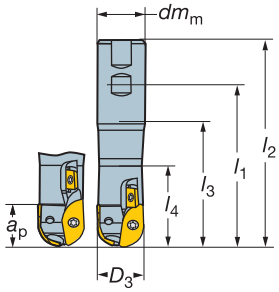
Metric version



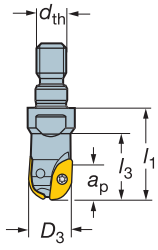
Cylindrical



Weldon



Threaded coupling



l_1 = programming length

D_3	Ordering code	Dimensions, mm kg	l_1	l_2	l_3	l_4	dm_m	Max a_p	d_{th}	n_{max} [2]	Inserts [1] Gauge inserts	Shank protection insert
	Cylindrical shank											
10	R216-10A16-050	0.3		160	50	20	16	8.6		15900	R216-1002E	
12	R216-12A20-045	0.4		200	45	20	20	10.8		21000	R216-1202M	
16	R216-16A20-045	0.4		200	45	27	20	14.4		20000	R216-1603M	
20	R216-20A25-055	0.6		200	55	33	25	17.9		24000	R216-20T3M	
25	R216-25A32-065	1.3		250	65	40	32	22.3		24000	R216-2504M	
30	R216-30A32-070	1.4		250	70	50	32	26.9		19500	R216-3006M	APMT160408-M
32	R216-32A32-070	1.4		250	70	50	32	28.6		18500	R216-3206M	
	Weldon											
12	R216-12B20-040	0.2	66	91	40	20	20	10.8		21000	R216-1202M	
	R216-12B20-060	0.2	86	111	60	20	20	10.8		21000	R216-1202M	
16	R216-16B20-040	0.2	66	91	40	27	20	14.4		20000	R216-1603M	
	R216-16B20-060	0.2	86	111	60	27	20	14.4		20000	R216-1603M	
20	R216-20B25-050	0.3	75	107	50	33	25	17.9		24000	R216-20T3M	
	R216-20B25-070	0.4	95	127	70	33	25	17.9		24000	R216-20T3M	
25	R216-25B25-060	0.4	85	117	60	40	25	22.3		24000	R216-2504M	
	R216-25B25-080	0.4	105	137	80	70	25	22.3		24000	R216-2504M	
30	R216-30B32-070	0.6	95	131	70	50	32	26.9		19500	R216-3006M	APMT160408-M
	R216-30B32-100	0.7	125	161	100	80	32	26.9		19500	R216-3006M	APMT160408-M
32	R216-32B32-070	0.6	95	131	70	50	32	28.6		18500	R216-3206M	
	R216-32B32-100	0.8	125	161	100	82	32	28.6		18500	R216-3206M	
40	R216-40B40-100	1.3	131	171	100	69	40	36.5		8000	R216-4007M	APMT160408-M
	R216-40B40-150	1.7	181	221	150	120	40	36.5		8000	R216-4007M	APMT160408-M
50	R216-50B40-100	2	131	171	100		40	44.6		7000	R216-5007M	
	R216-50B50-125	2.5	161	207	125	95	50	44.6		7000	R216-5007M	APMT160408-M
	R216-50B50-175	3.1	211	257	175	145	50	44.6		7000	R216-5007M	APMT160408-M
	Threaded coupling											
10	R216-10T08	0.1	25		18			8.6	M8		R216-1002M	
12	R216-12T08	0.1	25		18			10.8	M8		R216-1202M	
16	R216-16T08	0.1	25					14.4	M8		R216-16T3M	
20	R216-20T10	0.1	30					17.9	M10		R216-20T3M	
25	R216-25T12	0.2	35					22.3	M12		R216-2504M	
30	R216-30T16	0.2	45					26.9	M16		R216-3006M	
32	R216-32T16	0.2	45					28.6	M16		R216-3206M	

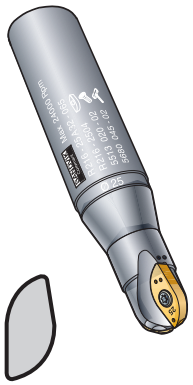
[1] Inserts are ordered separately.

[2] n_{max} (max. rev/min) for holders must also be considered.

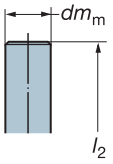
D133 D134 G6 D2

CoroMill® Ball Nose end mill

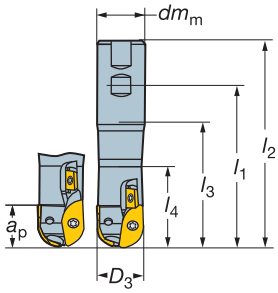
Diameter .375 - 2.000 inch



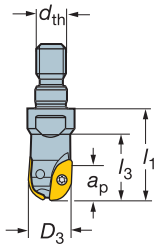
Cylindrical



Weldon



Threaded coupling



l_1 = programming length

Inch version

D_3	Ordering code	Dimensions, inch Lbs	l_1	l_2	l_3	l_4	dm_m/ D_{5m}	Max a_p	d_{th}	n_{max}[2]	Inserts[1] Gauge inserts	Shank protection insert
	Cylindrical shank											
.375	**RA216-10O16-038**	0.9		6.000	1.500	.625	.625	.310			RA216-1002E-M	
.500	**RA216-13O16L-051**	0.7		9.000	2.000	1.370	.625	.444			RA216-1302M	
.625	**RA216-16O16L-043**	1.7		9.000	1.689		.625	.559			RA216-1603M	
.750	**RA216-19O19L-051**	1.2		10.000	2.000		.750	.669			RA216-19T3M	
1.000	**RA216-25O25L-067**	2.5		12.000	2.620		1.000	.893			RA216-2504M	
1.250	**RA216-32O32L-083**	4.0		14.000	3.250		1.250	1.114			RA216-3206M	APMT160408-M
	Weldon											
.500	**RA216-13M19-038**	0.9	2.516	3.531	1.500	.750	.750	.444		21000	RA216-1302M	
.500	**RA216-13M19-057**	0.9	3.268	4.281	2.250	.750	.750	.444		21000	RA216-1302M	
.625	**RA216-16M19-038**	0.9	2.516	3.531	1.500	1.000	.750	.559		20000	RA216-1603M	
.625	**RA216-16M19-057**	0.9	3.266	4.281	2.250	1.000	.750	.559		20000	RA216-1603M	
.750	**RA216-19M25-051**	1.5	3.142	4.281	2.000	1.250	1.000	.669		24000	RA216-19T3M	
.750	**RA216-19M25-076**	2.0	4.142	5.281	3.000	1.250	1.000	.669		24000	RA216-19T3M	
1.000	**RA216-25M25-057**	2.0	3.390	4.531	2.250	1.500	1.000	.893		24000	RA216-2504M	
1.000	**RA216-25M25-089**	2.2	4.642	5.780	3.500	3.000	1.000	.893		24000	RA216-2504M	
1.250	**RA216-32M32-070**	2.9	3.891	5.031	2.750	2.250	1.250	1.114		18500	RA216-3206M	APMT160408-M
1.250	**RA216-32M32-101**	3.7	5.141	6.281	4.000	3.250	1.250	1.114		18500	RA216-3206M	APMT160408-M
1.500	**RA216-38M38-101**	6.6	5.500	6.687	4.000	2.750	1.500	1.299		8000	RA216-3807M	APMT160408-M
1.500	**RA216-38M38-152**	8.4	7.500	8.687	6.000	4.750	1.500	1.299		8000	RA216-3807M	APMT160408-M
2.000	**RA216-51M38-101**	9.9	5.500	6.687	4.000		1.500	1.791		7000	RA216-5107M	
2.000	**RA216-51M51-127**	11.9	6.409	8.250	5.000	3.500	2.000	1.791		7000	RA216-5107M	APMT160408-M
2.000	**RA216-51M51-178**	15.0	8.409	10.250	7.000	5.750	2.000	1.791		7000	RA216-5107M	APMT160408-M
	Threaded coupling											
.375	**RA216-10T08**	0.5	.906		.630			.310	M8		RA216-1002	
.500	**RA216-13T08**	0.5	.906		.630			.444	M8		RA216-1302	
.625	**RA216-16T08**	0.5	.906					.559	M8		RA216-1603	
.750	**RA216-19T10**	0.5	1.181					.669	M10		RA216-19T3	
1.000	**RA216-25T12**	1.0	1.378					.893	M12		RA216-2504	
1.250	**RA216-32T16**	1.0	1.693					1.114	M16		RA216-3206	

[1] Inserts are ordered separately.

[2] n_{max} (max. rev/min) for holders must also be considered.

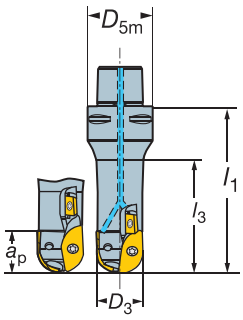
D133
D134
G6
D2

SANDVIK Coromant

CoroMill® Ball Nose end mill

Diameter 30 - 50 mm (1.250 - 2.000 inch)

Coromant Capto®



l_1 = programming length

Metric version

D_3	Ordering code	Coolant[1]	Dimensions, mm KG	l_1	l_3	l_4	Max a_p	n_{max}[2]	Inserts[3] Gauge inserts	Shank protection insert
	Coromant Capto									
30	**R216-30C3-070**	1	0.4	70	50	50	28.3	18500	**R216-3206M**	
32	**R216-32C3-070**	1	0.4	70	50	50	28.6	18500	**R216-3206M**	
40	**R216-40C4-080**	1	0.8	80	58	58	31.6	8000	**R216-4007M**	
50	**R216-50C5-125**	1	1.2	125	95	95	44.6	7000	**R216-5007M**	**APMT160408-M**

Inch version

D_3	Ordering code	Coolant[1]	Dimensions, inch Lbs	l_1	l_3	l_4	Max a_p	n_{max}[2]	Inserts[3] Gauge inserts	Shank protection insert
	Coromant Capto									
1.250	**RA216-32C3-070**	1	1.0	2.756	1.968	1.968	1.114	18500	**RA216-3206**	
1.500	**RA216-38C4-080**	1	1.7	3.150	2.284	2.284	1.299	8000	**RA216-3807M**	
2.000	**RA216-51C5-125**	1	2.6	4.921	3.740	3.500	1.791	7000	**RA216-5107M**	**APMT160408-M**

1) 1 = coolant through centre

2) n_{max} (max. rev/min) for holders must also be considered.

3) Inserts are ordered separately.

J3

D133

G6

D134

Inserts for CoroMill® Ball Nose

Main inserts

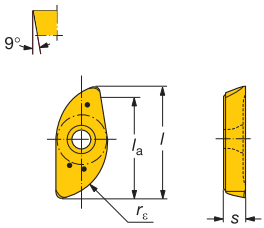
Main inserts

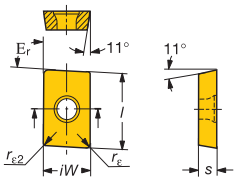
M-M

E-M

Shank protection insert

M





Metric version

	For cutter dia.	r_ε	Ordering code	P					M				K			N			S						H				Dimensions, mm		
				GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	-	GC	GC	-	GC	GC	GC	GC	-	GC	GC	GC	GC	GC			
				1025	1030	2040	4220	4240	1025	1030	2040	4240	4220	4240	H13A	1025	1030	H13A	1010	1025	1030	2040	H13A	S30T	1010	1025	1030	4220	l_a	l	s
Medium	10	5	R216-10 02 E-M	☆	☆	☆			☆	☆	☆					☆	☆		☆	☆	☆	☆			☆	☆	☆		8.6	9.8	1.70
	12	6	R216-12 02 E-M	☆	☆	☆			☆	☆	☆					☆	☆			☆	☆	☆	★		☆	☆			10.8	12	2.38
			R216-12 02 M-M	☆	☆	☆		☆	☆	☆	☆	☆		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆		☆	☆	☆		10.8	12	2.38
	16	8	R216-16 03 E-M	☆	☆	☆			☆	☆	☆					☆	☆			☆	☆	☆	★			☆	☆		14.4	16	3.18
			R216-16 03 M-M	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆		☆	☆	☆	☆	14.4	16	3.18
	20	10	R216-20 T3 E-M	☆	☆	☆			☆	☆	☆					☆	☆			☆	☆	☆	★			☆	☆		17.9	20	3.97
			R216-20 T3 M-M	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆		☆	☆	☆	☆	17.9	20	3.97
	25	12.5	R216-25 04 E-M	☆	☆	☆			☆	☆	☆					☆	☆			☆	☆	☆	★			☆	☆		22.3	24.9	4.76
			R216-25 04 M-M	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆		☆	☆	☆	☆	22.3	24.9	4.76
	30	15	R216-30 06 E-M	☆	☆	☆			☆	☆	☆					☆	☆			☆	☆	☆	★			☆	☆		26.9	29.9	6.35
			R216-30 06 M-M	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆		☆	☆	☆	☆	26.9	29.9	6.35
	32	16	R216-32 06 E-M	☆	☆	☆			☆	☆	☆					☆	☆			☆	☆	☆	★			☆	☆		28.6	31.8	6.35
			R216-32 06 M-M	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆		☆	☆	☆	☆	28.6	31.8	6.35
	40	20	R216-40 07 E-M	☆	☆	☆			☆	☆	☆					☆	☆			☆	☆	☆	★			☆	☆		36.5	39.9	7.94
			R216-40 07 M-M	☆	☆			☆	☆	☆		☆		☆	☆	☆	☆	☆		☆	☆		☆			☆	☆			36.5	39.9	7.94
	50	25	R216-50 07 E-M	☆	☆	☆			☆	☆	☆					☆	☆			☆	☆	☆	★			☆	☆		44.6	49.7	7.94
			R216-50 07 M-M	☆	☆			☆	☆	☆		☆		☆	☆	☆	☆	☆		☆	☆		☆			☆	☆			44.6	49.7	7.94
				P30	P30	P45	P20	P40	M15	M15	M40	M40	K25	K40	K20	N15	N15	N15	S10	S15	S15	S30	S20	S25	H10	H15	H10	H25			

★= First choice

Shank protection insert

	For cutter dia.	Ordering code	P	M	K	Dimensions, millimeter, inch (mm, in.)								
			GC	GC	GC									
			4240	4240	4240	l mm	l in.	iW mm	iW in.	E_r	r_ε mm	r_ε in.	$r_{\varepsilon 2}$ mm	$r_{\varepsilon 2}$ in.
Medium	30-50	APMT 16 04 08-M	☆	☆	☆	16.4	.646	9.25	.364	85°	0.8	.032	0.4	.016
			P40	M40	K40									

R216-10 02 E-M
|
E = Highest edge sharpness and precision
M = Highest edge security

D334 D327 D356 D2

SANDVIK Coromant

Inserts for CoroMill® Ball Nose

Main inserts

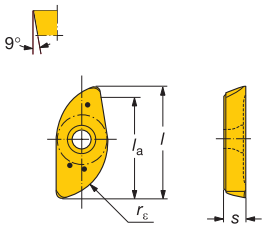
Main inserts

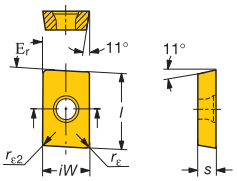
M-M

E-M

Shank protection insert

M





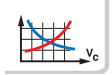
Inch version

	For cutter dia.	r_ε	Ordering code	P				M				K		N			S					H			Dimensions, inch		
				GC	GC	GC	GC	GC	GC	GC	GC	GC	-	GC	GC	-	GC	GC	GC	GC	-	GC	GC	GC			
				1025	1030	2040	4240	1025	1030	2040	4240	4240	H13A	1025	1030	H13A	1010	1025	1030	2040	H13A	1010	1025	1030	l_a	l	s
Medium	.375	.188	**RA216-10 02 E-M**	☆	☆	☆		☆	☆	☆				☆	☆		☆	☆	☆	☆		☆	☆	☆	.310	.370	.067
	.500	.250	**RA216-13 02 E-M**	☆	☆			☆	☆					☆	☆			☆	☆				☆	☆	.444	.494	.094
			RA216-13 02 M-M	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆		☆	☆	☆	☆	☆	☆	☆	.444	.494	.094
	.625	.312	**RA216-16 03 E-M**	☆	☆			☆	☆					☆	☆			☆	☆				☆	☆	.559	.630	.125
			RA216-16 03 M-M	☆	☆	☆	☆	☆	☆	☆	☆	☆		☆	☆		☆	☆	☆	☆		☆	☆	☆	.559	.630	.125
	.750	.375	**RA216-19 T3 E-M**	☆	☆			☆	☆					☆	☆			☆	☆				☆	☆	.669	.745	.156
			RA216-19 T3 M-M	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	.669	.745	.156
	1.000	.500	**RA216-25 04 E-M**	☆	☆			☆	☆					☆	☆			☆	☆				☆	☆	.893	.984	.188
			RA216-25 04 M-M	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	.893	.984	.188
	1.250	.625	**RA216-32 06 E-M**	☆	☆			☆	☆					☆	☆			☆	☆				☆	☆	1.114	1.247	.250
			RA216-32 06 M-M	☆	☆	☆	☆	☆	☆	☆	☆	☆		☆	☆		☆	☆	☆	☆		☆	☆	☆	1.114	1.247	.250
	1.500	.750	**RA216-38 07 M-M**	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆		☆	☆	☆	☆		☆	☆	1.299	1.502	.250
	2.000	1.000	**RA216-51 07 M-M**	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆		☆	☆	☆	☆		☆	☆	1.791	1.996	.312
				P30	P30	P45	P40	M15	M15	M40	M40	K40	K20	N15	N15	N15	S10	S15	S15	S30	S20	H10	H15	H10			

Shank protection insert

	For cutter dia.		Ordering code	P	M	K	Dimensions, millimeter, inch (mm, in.)									
				GC	GC	GC										
	mm	inch		4240	4240	4240	l mm	l in.	iW mm	iW in.	E_r	r_ε mm	r_ε in.	$r_{\varepsilon 2}$ mm	$r_{\varepsilon 2}$ in.	
Medium	30-50	1.181-1.968	**APMT 16 04 08-M**	☆	☆	☆	16.4	.646	9.25	.364	85°	0.8	.032	0.4	.016	
				P40	M40	K40										

R216-10 02 E-M
|
E = Highest edge sharpness and precision
M = Highest edge security


D334

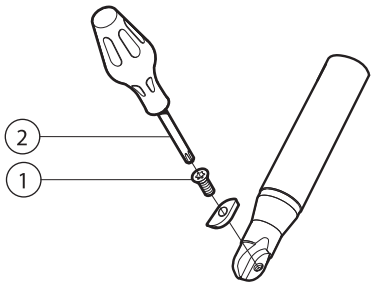
D327

D356

D2

Spare parts for CoroMill® Ball Nose end mill

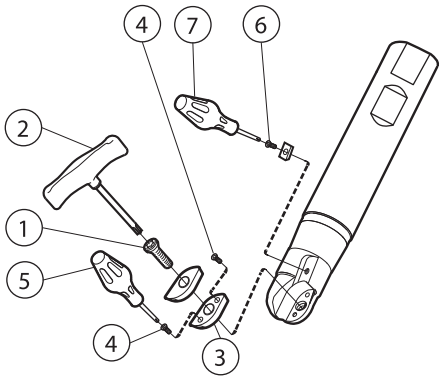
R216



D_3 12-25 and 32 mm
.500-1.000 Inch

Cutter	D_3 mm/inch		1 Insert screw	2 Key (Torx Plus)	Torque value Nm/in.lbs	Molykote	Torque wrench[1]
R216/ RA216	10	-	5513 020-40	5680 051-01 (6IP)	0.6/5	5683 010-01	5680 100-01
	12	1/2"	5513 020-36	5680 046-01 (8IP)	1.2/10	5683 010-01	5680 100-03
	16	5/8"	5513 020-36	5680 046-01 (8IP)	1.2/10	5683 010-01	5680 100-03
	20	3/4"	5513 020-16	5680 048-02 (10IP)	2.0/18	5683 010-01	5680 100-05
	25	1"	5513 020-52	5680 048-01 (15IP)	3.0/26	5683 010-01	5680 100-06
	30	-	5513 020-07	5680 048-04 (20IP)	5.0/44	5683 010-01	5680 100-07
	32	1 1/4"	5513 020-07	5680 048-04 (20IP)	5.0/44	5683 010-01	5680 100-07
	40	1 1/2"	5513 020-31	5680 048-06 (25IP)	7.5/66	5683 010-01	5680 100-08
	50	2"	5513 021-03	5680 048-07 (30IP)	10.0/90	5683 010-01	-

[1] Accessories, must be ordered separately

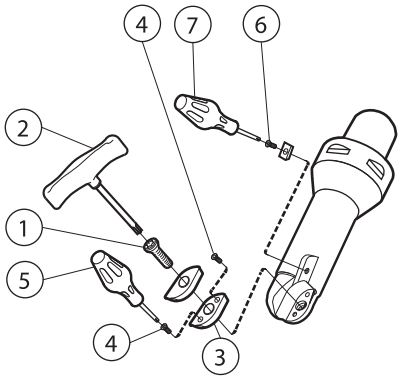


D_3 30, 40 and 50 mm
1.250-2.000 Inch

Cutter	D_3 mm/inch		3 Shim	4 Shim screw	5 Key (Torx Plus)	6 Protection insert screw	7 Key (Torx Plus)	Torque wrench[1]	Torque value Nm/in.lbs
R216/ RA216	30	-	–	–	–	5513 020-09	5680 046-02 (15IP)	5680 100-06	3.0/26
	40/32	1½"/1¼"	–	–	–	5513 020-09	5680 046-02 (15IP)	5680 100-06	3.0/26
	50	2"	5322 475-01	5513 020-09	5680 046-02 (15IP)	5513 020-09	5680 046-02 (15IP)	5680 100-06	3.0/26

[1] Accessories, must be ordered separately

Spare parts



D_3 mm/inch		1 Insert screw	2 Key (Torx Plus)	Torque value Nm	In-lbs	Molykote	Torque wrench[1]
30	-	5513 020-07	5680 048-04 (20IP)	5.0	44	5683 010-01	5680 100-07
32	1 1/4"	5513 020-07	5680 048-04 (20IP)	5.0	44	5683 010-01	5680 100-07
40	1 1/2"	5513 020-31	5680 048-06 (25IP)	7.5	66	5683 010-01	5680 100-08
50	2"	5513 021-03	5680 048-07 (30IP)	10.0	90	5683 010-01	-

[1] Accessories, must be ordered separately

D_3 mm/inch		3 Shim	4 Shim screw	5 Key (Torx Plus)	6 Protection insert screw	7 Key (Torx Plus)	Torque wrench[1]	Torque value Nm	ft-lbs
50	2"	5322 475-01	5513 020-09	5680 046-02 (15IP)	5513 020-09	5680 046-02 (15IP)	5680 100-06	3.0	2.2

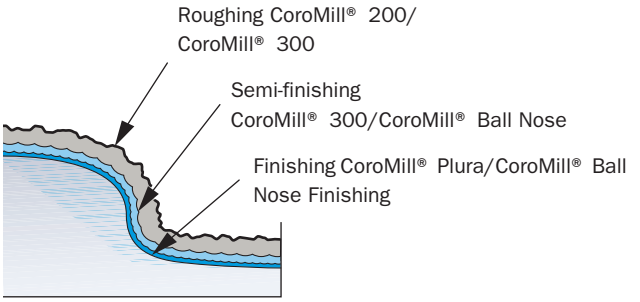
[1] Accessories, must be ordered separately

CoroMill® Ball Nose Finishing

Ball Nose Finishing end mill

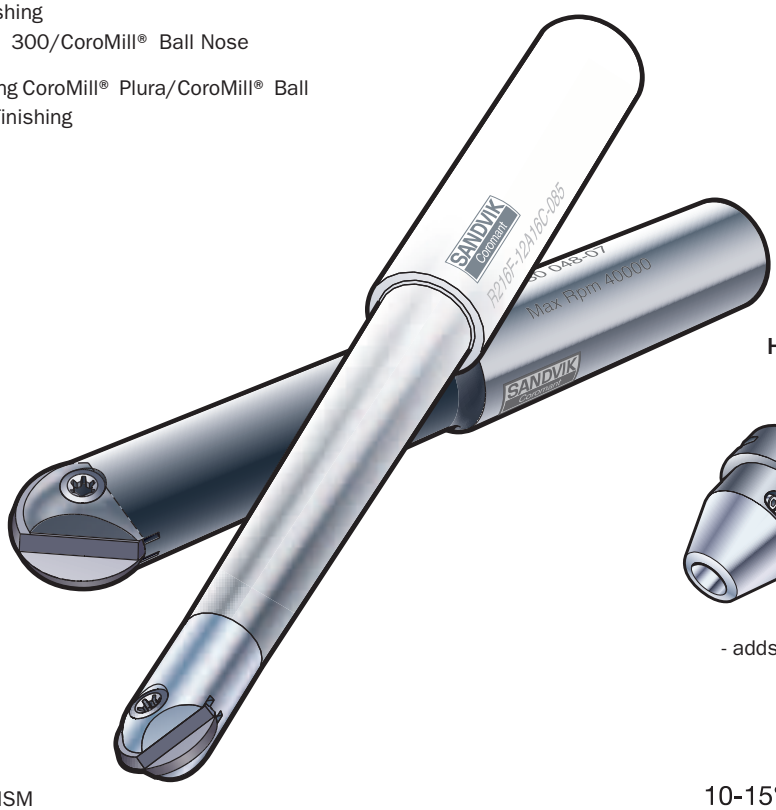
A cutter for high finish profiling

Diameter 8 - 32 mm (.3125 - 1.250 inch)

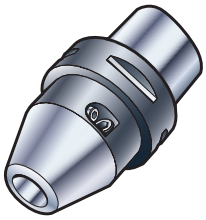


Constant stock allows near net shape milling

Carbide shank option

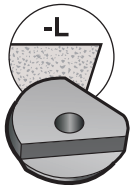


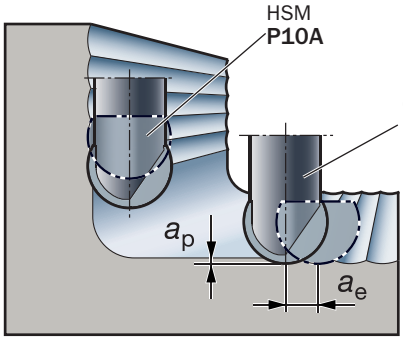
Hydro-Grip®

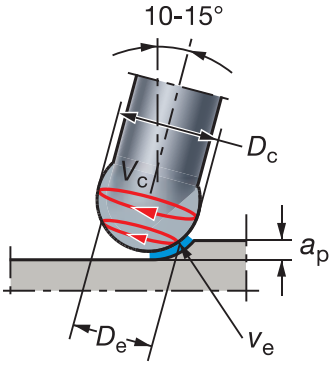


- adds even more precision

Sharp -L geometry







Use shallow axial and radial cuts for safe productivity. Always calculate the true cutting speed (V_e) based on the effective diameter in cut (D_e)

ISO application areas:

P M K N S H

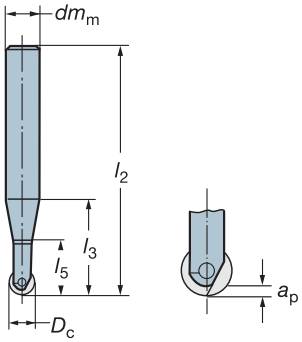
CoroMill® Ball Nose Finishing end mill

Steel and Carbide shank

Diameter 8 - 32 mm

Tolerance
D_c = h9
dm_m = h6

Cylindrical



Metric version

Insert size	D_c mm	Ordering code	Dimensions, mm KG	l_2	l_3	l_5	dm_m	Max a_p	n_{max} [1]
		Cylindrical shank							
8	8	R216F-08A12C-035	0.2	92	35	19	12	1.2	40000
		R216F-08A12C-053	0.2	110	53	19	12	1.2	40000
		R216F-08A12C-075	0.2	132	75	19	12	1.2	23400
		R216F-08A12S-035	0.2	92	35	19	12	1.2	40000
		R216F-08A12S-053	0.2	110	53	33.5	12	1.2	33600
		R216F-08A12S-075	0.2	132	75	19	12	1.2	16800
10	10	R216F-10A12C-053	0.2	110	53	22	12	1.5	40000
		R216F-10A12C-075	0.3	132	75	22	12	1.5	23400
		R216F-10A12S-038	0.2	95	38	22.4	12	1.5	40000
		R216F-10A12S-053	0.2	110	53	38.7	12	1.5	40000
		R216F-10A12S-075	0.2	132	75	21.8	12	1.5	20300
12	12	R216F-12A12C-053	0.3	110	53		12	1.8	40000
		R216F-12A12S-026	0.2	83	26		12	1.8	40000
		R216F-12A12S-053	0.2	110	53		12	1.8	40000
		R216F-12A16C-085	0.4	145	85	21.5	16	1.8	21000
		R216F-12A16S-085	0.3	145	85	22.5	16	1.8	19800
16	16	R216F-16A16C-063	0.4	123	63		16	2.4	43000
		R216F-16A16S-032	0.3	92	32		16	2.4	36000
		R216F-16A16S-063	0.3	123	63		16	2.4	36000
		R216F-16A20C-100	0.7	166	100	29.5	20	2.4	25500
		R216F-16A20S-100	0.4	166	100	29.5	20	2.4	20000
20	20	R216F-20A20S-038	0.4	104	38		20	3.0	40000
		R216F-20A20S-075	0.4	141	75		20	3.0	40000
		R216F-20A25C-115	1.1	191	115	35	25	3.0	18500
		R216F-20A25S-115	0.7	191	115	35	25	3.0	18400
25	25	R216F-25A25S-045	0.5	121	45		25	3.8	40000
		R216F-25A25S-090	0.7	166	90		25	3.8	37100
		R216F-25A32S-135	1.1	215	135	42.5	32	3.8	16500
30/32	30/32	R216F-32A32S-054	0.8	134	54		32	4.8	35500
		R216F-32A32S-107	1.7	187	107		32	4.8	32500
		R216F-32A32S-160	1.6	240	160	54	32	4.8	14500

[1] n_{max} (max. rev/min) for holders must also be considered.

R216F-08A12S-035
|
S = Steel shank
C = Carbide shank

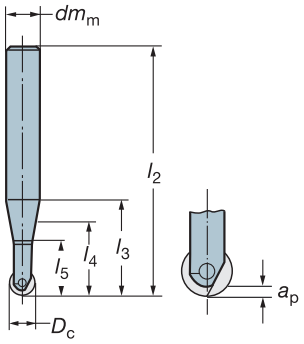
D138
D138
G6
D2

SANDVIK Coromant

CoroMill® Ball Nose Finishing end mill

Steel and Carbide shank

Diameter .3125 - 1.250 inch



Tolerance
D_c = h9
dm_m = h6

Inch version

			Dimensions, inch							
	D_c inch	**Ordering code**	Lbs	l_2	l_3	l_4	l_5	dm_m	Max a_p	n_{max}[1]
		Cylindrical shank								
.312	.313	**RA216F-08O13C-075**	0.9	5.196	2.952	1.429	.748	.500	.047	40000
		RA216F-08O13S-035	0.9	3.622	1.398	.906	.748	.500	.047	40000
		RA216F-08O13S-053	0.9	4.331	2.091	1.618	1.319	.500	.047	33100
		RA216F-08O13S-075	0.9	5.197	2.957	1.610	.748	.500	.047	16500
.375	.375	**RA216F-10O13C-075**	0.9	5.187	2.937	1.736	.850	.500	.056	40000
		RA216F-10O13S-038	0.9	3.732	1.508	1.102	.874	.500	.056	40000
		RA216F-10O13S-053	0.9	4.323	2.083	1.937	1.516	.500	.056	40000
		RA216F-10O13S-075	0.9	5.189	2.949	2.417	.850	.500	.056	20400
.500	.500	**RA216F-13O13S-026**	0.9	3.282	1.047		.961	.500	.075	40000
		RA216F-13O13S-053	0.9	4.344	2.110		2.022	.500	.075	40000
		RA216F-13O16C-085	1.5	5.722	3.360	3.189	.862	.625	.075	40000
		RA216F-13O16S-085	1.5	5.722	3.360	3.102	.898	.625	.075	19800
.625	.625	**RA216F-16O16S-032**	1.5	3.620	1.257		1.179	.625	.094	36000
		RA216F-16O16S-063	1.5	4.840	2.478		2.400	.625	.094	36000
		RA216F-16O19C-100	1.4	6.532	3.933	3.425	1.122	.750	.094	24000
		RA216F-16O19S-100	2.0	6.533	3.935	2.850	1.158	.750	.094	20000
.750	.750	**RA216F-19O19S-038**	2.0	4.076	1.477		1.396	.750	.112	40000
		RA216F-19O19S-075	2.0	5.532	2.934		2.853	.750	.112	40000
		RA216F-19O25C-115	4.9	7.501	4.509	2.460	1.362	1.000	.112	40000
		RA216F-19O25S-115	3.3	7.500	4.512	2.602	1.358	1.000	.112	18400
1.000	1.000	**RA216F-25O25S-045**	2.4	4.772	1.780		1.682	1.000	.150	40000
		RA216F-25O25S-090	3.3	6.543	3.551		3.453	1.000	.150	37100
		RA216F-25O32S-135	5.3	8.472	5.323	4.047	1.681	1.250	.150	16500
1.250	1.250	**RA216F-32O32S-054**	4.0	5.271	2.121		2.003	1.250	.188	35500
		RA216F-32O32S-107	5.3	7.357	4.208		4.089	1.250	.188	32500
		RA216F-32O32S-160	7.7	9.444	6.294		2.122	1.250	.188	14500

[1] n_{max} (max. rev/min) for holders must also be considered.

R216F-08A12S-035
|
S = Steel shank
C = Carbide shank

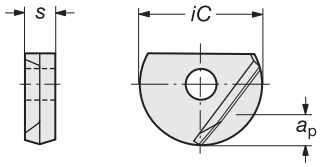
D138

D138

G6

D2

Inserts for CoroMill® Ball Nose Finishing end mill



Tolerances, mm (inch):
iC = +0/-0.016 (+0/-.00063)

E

Metric version

	iC	Ordering code	P GC P20A	M GC P20A	K GC P20A	S GC 1010	H GC 1010	H GC P20A	Dimensions, mm Max a_p	*iC*	*s*
Light	8	R216F-08 24 E-L	☆	☆	☆	☆	☆	☆	4	8	2.4
	10	R216F-10 26 E-L				☆	☆		5	10	2.6
	12	R216F-12 30 E-L				☆	☆		6	12	3
	16	R216F-16 40 E-L	☆	☆	☆	☆	☆	☆	8	16	4
	20	R216F-20 50 E-L	☆	☆	☆	☆	☆	☆	10	20	5
	25	R216F-25 60 E-L				☆	☆		12.5	25	6
	30	R216F-30 70 E-L				☆	☆		15	30	7
	32	R216F-32 70 E-L				☆	☆		16	32	7
			P15	M15	K15	S10	H10	H15			

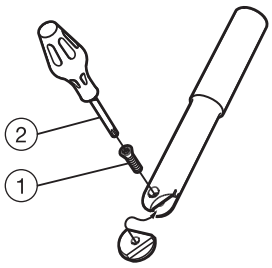
Inch version

F

	iC	Ordering code	P GC P20A	M GC P20A	K GC P20A	S GC 1010	H GC 1010	H GC P20A	Dimensions, inch Max a_p	*iC*	*s*
Light	.312	RA216F-08 24 E-L	☆	☆	☆	☆	☆	☆	.156	.312	.094
	.375	RA216F-10 26 E-L				☆	☆		.188	.375	.100
	.500	RA216F-13 30 E-L				☆	☆		.250	.500	.118
	.625	RA216F-16 40 E-L	☆	☆	☆	☆	☆	☆	.312	.625	.157
	.750	RA216F-19 50 E-L	☆	☆	☆	☆	☆	☆	.375	.750	.197
	1.000	RA216F-25 60 E-L				☆	☆		.500	1.000	.236
	1.250	RA216F-32 70 E-L	☆	☆	☆	☆	☆	☆	.625	1.250	.276
			P15	M15	K15	S10	H10	H15			

Spare parts for CoroMill® Ball Nose Finishing end mill

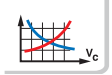
G



	1	2[1]					
Cutter	Insert screw	Key (Torx Plus)	Torque value Nm	Torque value In-lbs	Torque wrench[1]	Molykote
R216F-08...	5513 040-01	5680 046-03 (7IP)	0.9		5680 100-02	5683 010-01
R216F-10...	5513 040-02	5680 046-01 (8IP)	1.2		5680 100-03	5683 010-01
R216F-12...	5513 040-03	5680 046-05 (10IP)	2.0		5680 100-05	5683 010-01
R216F-16...	5513 040-04	5680 046-02 (15IP)	3.0		5680 100-06	5683 010-01
R216F-20...	5513 040-05	5680 048-03 (20IP)	5.0		5680 100-07	5683 010-01
R216F-25...	5513 040-06	5680 048-06 (25IP)	7.5		5680 100-08	5683 010-01
R216F-30/32...	5513 040-07	5680 048-08 (40IP)	26.0		-	5683 010-01
RA216F-08	5513 040-01	5680 046-03 (7IP)		7	5680 100-02	5683 010-01
RA216F-10	5513 040-02	5680 046-01 (8IP)		10	5680 100-03	5683 010-01
RA216F-13	5513 040-03	5680 046-05 (10IP)		18	5680 100-05	5683 010-01
RA216F-16	5513 040-04	5680 046-02 (15IP)		26	5680 100-06	5683 010-01
RA216F-19	5513 040-05	5680 048-03 (20IP)		44	5680 100-07	5683 010-01
RA216F-25	5513 040-06	5680 048-06 (25IP)		66	5680 100-08	5683 010-01
RA216F-30/32	5513 040-07	5680 048-08 (40IP]		230	-	5683 010-01

[1] Accessories, must be ordered separately

J

 D334
D327
D356
D2

SANDVIK Coromant

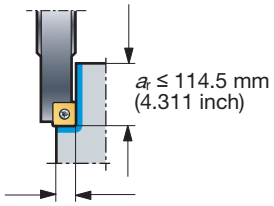
CoroMill® 331

Multi-purpose side and face milling cutter

High precision capability

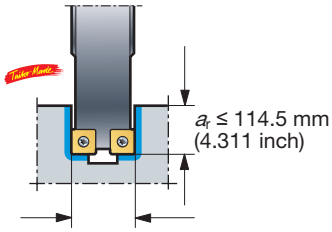
Diameter 80 - 315 mm (3.150 - 12.000 inch)

Half side

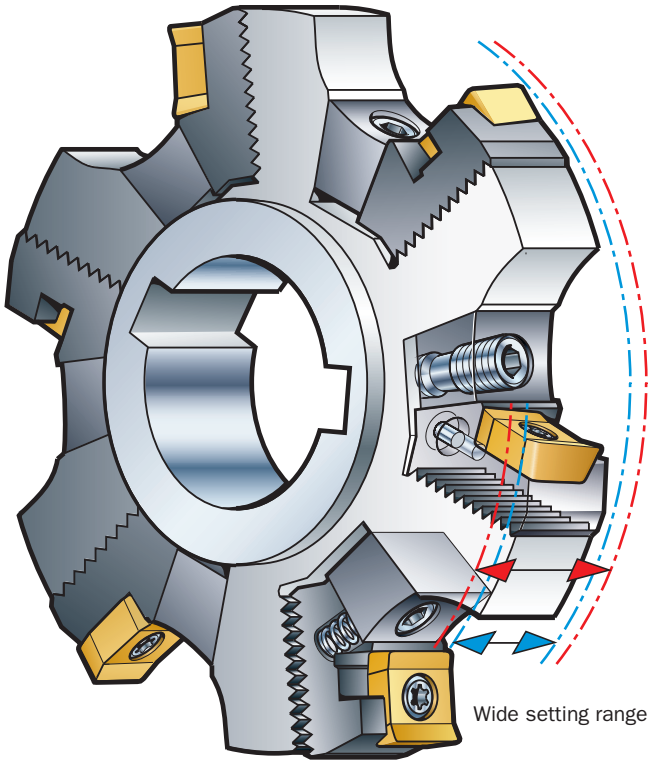


a_p 10.6 mm (.417 inch)

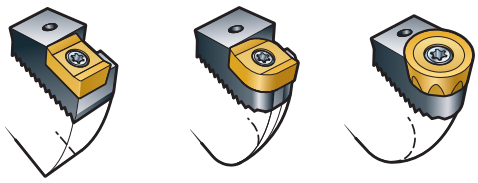
Double half side Tailor Made



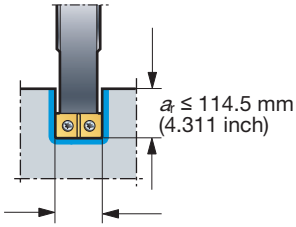
a_p = 27.2 - 33.8 mm (1.071 - 1.331 inch)



Wide setting range

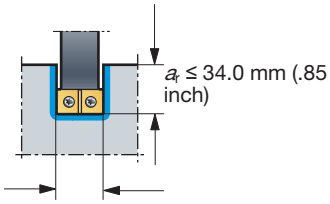


Full slot Cassette version



a_p = 6 - 26.5 mm (.236 - 1.043 inch)

Full slot Fixed pocket version

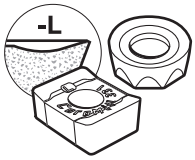


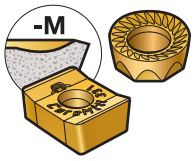
a_p = 6 - 10 mm (.250 - .500 inch)

ISO application areas:

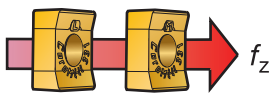
P M K
N S H

Geometries:





General



0.03 mm (.002 inch) 0.40 mm (.016 inch)

N S

Tailor Made

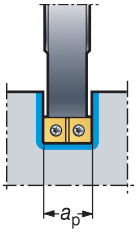
Tool options designed to individual customer requirements are available. For information on our Tailor Made programme see page J4.

Inserts for CoroMill® 331

Only five insert sizes needed

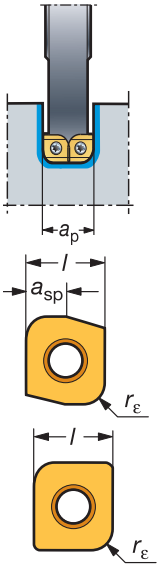
A comprehensive programme of standard and Tailor Made inserts for the manufacturing of all types of grooves shoulders, backfaces and bores

Insert size and Min - Max width of slot



Insert size	04	05	08	11	14
	Groove width (a_p)				
Min. width, mm, inch	6.0 .236	8.0 .315	10.0 .394	15.0 .591	20.5 .807
Cutter widths, mm/inch CM a_p = 6.0 - 8.0 .236 - .315 DM a_p = 8.0 - 10.0 .315 - .394 EM a_p = 10.0 - 12.0 .394 - .472 KM a_p = 15.0 - 17.5 .591 - .689 QM a_p = 20.5 - 23.5 .807 - .925		-CM	-DM	-EM	-KM	-QM
Max. width, mm, inch	8.0 .315	10.0 .394	12.0 .472	17.5 .689	23.5 .925
Min. width, mm, inch	8.0 .315	10.0 .394	12.0 .472	17.5 .689	23.5 .925
Cutter widths, mm/inch FM a_p = 12.0 - 15.0 .472 - .591 LM a_p = 17.5 - 20.5 .689 - .807 RM a_p = 23.5 - 26.5 .925 - 1.043			-FM	-LM	-RM
Max. width, mm, inch			15.0 .591	20.5 .807	26.5 1.043

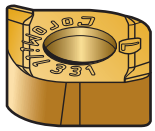
Insert size and the radii available



$$a_{sp} \approx \frac{a_p}{2} + 0.2\ (.008)$$

Tailor Made

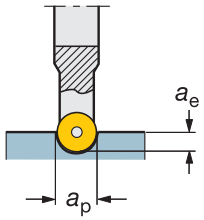
Other radii available as TailorMade option



Light cutting radius inserts in H tolerance for most materials

	N331.A		R/L331.A				
r_ε mm	0.5	0.8	1.52	2.29	3.05	4.83	6.35
r_ε inch	.020	.031	.060	.090	.120	.190	.250
Insert size							
04	●		●	●			
05		●	●	●	●		
08		●	●	●	●		
11		●	●	●	●	●	●
14		●	●	●	●	●	●

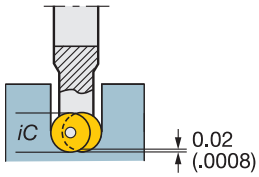
Recommendations for full slot milling with round inserts



Max axial depth of cut (a_p) = insert size (*iC*)

Max radial depth of cut (a_e) = 1/2 iC

Note!
The contact length of the cutting edge is 180°



Note: Crest of 0.02 mm (.0008 inch)

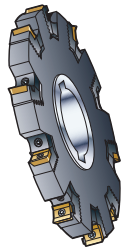
Max depht of slot (ae) > Insert size (*iC*)

For slots deeper than iC a 0.5 mm (.020 inch) adjustment of each cassette is recommended. This will widen the groove 0.5+0.5 mm (.020+.020 inch) and reduce the contact length for each insert to 90°.

Full side and face mill

Diameter 80 – 315 mm

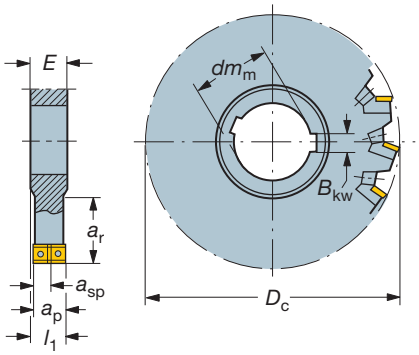
Positive rake



Cassettes, see page D167.

Width 6.0-12.0 mm

Bore with keyway*)



N331.32 type shown

*) Number of keyways, see page D159.

l_1 = programming length

Metric version

Slot width a_p mm	Mounting	D_c mm	z_n	N331.1A	a_p	R/L331.1A	r_ε 2)	a_p	D_c mm	z_n		0.2-1.54	r_ε 6)
	Bore with keyway											**Insert size**	
		80	6	N331.32-080S27CM	*xx.xx*	N331.32-080S27CMx		*xx.xx*			–	04	
		100	8	N331.32-100S32CM	*xx.xx*	N331.32-100S32CMx		*xx.xx*			–	04	
		125	10	N331.32-125S40CM	*xx.xx*	N331.32-125S40CMx		*xx.xx*			–	04	
		160	12	N331.32-160S40CM	*xx.xx*	N331.32-160S40CMx		*xx.xx*			–	04	
		200	16	N331.32-200S50CM	*xx.xx*	N331.32-200S50CMx		*xx.xx*			–	04	
6.0– 8.0	**Arbor**	80	6	R331.32-080Q27CM	*xx.xx*	R331.32-080Q27CMx		*xx.xx*			–	04	
		100	8	R331.32-100Q27CM	*xx.xx*	R331.32-100Q27CMx		*xx.xx*			–	04	
		125	10	R331.32-125Q32CM	*xx.xx*	R331.32-125Q32CMx		*xx.xx*			–	04	
		160	12	R331.32-160Q40CM	*xx.xx*	R331.32-160Q40CMx		*xx.xx*			–	04	
		200	16	R331.32-200Q40CM	*xx.xx*	R331.32-200Q40CMx		*xx.xx*			–	04	
	Cylindrical	80	6	R331.32-080A32CM	*xx.xx*	-		*xx.xx*			–	04	
		100	8	R331.32-100A42CM	*xx.xx*	-		*xx.xx*			–	04	
	Bore with keyway	80	6	N331.32-080S27DM	*xx.xx*	N331.32-080S27DMx		*xx.xx*			–	05	
		100	8	N331.32-100S32DM	*xx.xx*	N331.32-100S32DMx		*xx.xx*			–	05	
		125	10	N331.32-125S40DM	*xx.xx*	N331.32-125S40DMx		*xx.xx*			–	05	
		160	12	N331.32-160S40DM	*xx.xx*	N331.32-160S40DMx		*xx.xx*			–	05	
		200	16	N331.32-200S50DM	*xx.xx*	N331.32-200S50DMx		*xx.xx*			–	05	
7.9–10.0	**Arbor**	80	6	R331.32-080Q27DM	*xx.xx*	R331.32-080Q27DMx		*xx.xx*			–	05	
		100	8	R331.32-100Q27DM	*xx.xx*	R331.32-100Q27DMx		*xx.xx*			–	05	
		125	10	R331.32-125Q32DM	*xx.xx*	R331.32-125Q32DMx		*xx.xx*			–	05	
		160	12	R331.32-160Q40DM	*xx.xx*	R331.32-160Q40DMx		*xx.xx*			–	05	
		200	16	R331.32-200Q40DM	*xx.xx*	R331.32-200Q40DMx		*xx.xx*			–	05	
	Cylindrical	80	6	R331.32-080A32DM	*xx.xx*	-		*xx.xx*			–	05	
		100	8	R331.32-100A42DM	*xx.xx*	-		*xx.xx*			–	05	
	Bore with keyway	80	6	N331.32-080S27EM	*xx.xx*	N331.32-080S27EMx		*xx.xx*	82	6	N331.32-082S27EMQ1)	08	
		100	8	N331.32-100S32EM	*xx.xx*	N331.32-100S32EMx		*xx.xx*	102	8	N331.32-102S32EMQ1)	08	
		125	10	N331.32-125S40EM	*xx.xx*	N331.32-125S40EMx		*xx.xx*	127	10	N331.32-127S40EMQ1)	08	
		160	12	N331.32-160S40EM	*xx.xx*	N331.32-160S40EMx		*xx.xx*	162	12	N331.32-162S40EMQ1)	08	
		200	16	N331.32-200S50EM	*xx.xx*	N331.32-200S50EMx		*xx.xx*	202	16	N331.32-202S50EMQ1)	08	
10.0–12.0	**Arbor**	80	6	R331.32-080Q27EM	*xx.xx*	R331.32-080Q27EMx		*xx.xx*	82	6	R331.32-082Q27EMQ1)	08	
		100	8	R331.32-100Q27EM	*xx.xx*	R331.32-100Q27EMx		*xx.xx*	102	8	R331.32-102Q27EMQ1)	08	
		125	10	R331.32-125Q32EM	*xx.xx*	R331.32-125Q32EMx		*xx.xx*	127	10	R331.32-127Q32EMQ1)	08	
		160	12	R331.32-160Q40EM	*xx.xx*	R331.32-160Q40EMx		*xx.xx*	162	12	R331.32-162Q40EMQ1)	08	
		200	16	R331.32-200Q40EM	*xx.xx*	R331.32-200Q40EMx		*xx.xx*	202	16	R331.32-202Q40EMQ1)	08	
	Cylindrical	80	6	R331.32-080A32EM	*xx.xx*	-		*xx.xx*			–	08	
		100	8	R331.32-100A42EM	*xx.xx*	-		*xx.xx*			–	08	

1) Slot width, a_p = insert size

xx.xx = in the ordering code indicates the width a_p in mm to two decimal places.

2) x = in the ordering code indicates the insert radius range (r_ε) A, B, D, E or Q.

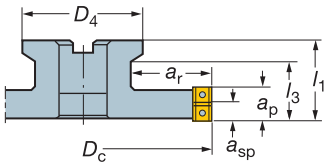
6) For insert radius range 0.2-1.54, no prefix is read at x in the ordering code. Example: 2 pieces N331.32-080S27CM.

D162
D167
G6
D2
J4

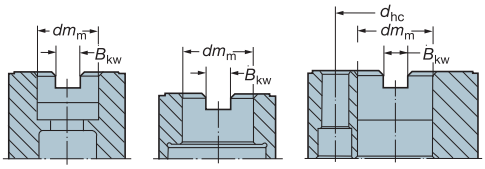
SANDVIK Coromant

Full side and face mill

Arbor

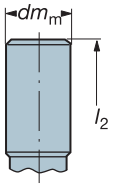


R331.32 type shown



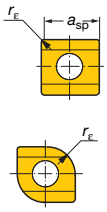
ISO A ISO B ISO C

Cylindrical



Effective number of teeth:

$$z_c = \frac{z_n}{2}$$



Effective number of teeth:

$$z_c = z_n$$

l_1 = programming length

For insert radius range, r_ε[2]					Dimensions, mm												
A 1.55-2.60	B 2.61-3.50	D 4.51-5.50	E 5.51-6.50	Q Round		a_r	dm_m	ISO	E	B_{kw}	l_1[3] min.–max	l_2	l_3	a_{sp}	D_4	d_{hc}	n_{max}[4]
Insert size	Insert size	Insert size	Insert size	Insert size													
04					0.3	19.5	27		14	7	10–11	–	–	4.4	–	–	19 300
04					0.8	25.5	32		14	8	10–11	–	–	4.4	–	–	17 100
04					0.8	34.0	40		14	10	10–11	–	–	4.4	–	–	15 100
04					1.1	51.5	40		14	10	10–11	–	–	4.4	–	–	13 200
04					2.1	64.5	50		14	12	10–11	–	–	4.4	–	–	11 700
04					0.8	20	27	A	–	12.4	63–64	–	40	4.4	54.0	–	19 300
04					1.6	22	27	A	–	12.4	63–64	–	–	4.4	54.0	–	17 100
04					1.8	29.5	32	B	–	14.4	63–64	–	–	4.4	64.0	–	15 100
04					2.6	41	40	B	–	16.4	63–64	–	–	4.4	76.0	–	13 200
04					6.7	51	40	C	–	16.4	63–64	–	–	4.4	96.0	66.7	11 700
					1	23	32		–	–	–	132	–	4.4	–	–	19 300
					1	28	42		–	–	–	152	–	4.4	–	–	17 100
05	05				0.3	19.5	27		16	7	12–13	–	–	5.6	–	–	15 000
05	05				0.5	25.5	32		16	8	12–13	–	–	5.6	–	–	13 200
05	05				0.8	34.0	40		16	10	12–13	–	–	5.6	–	–	11 700
05	05				1.3	51.5	40		16	10	12–13	–	–	5.6	–	–	10 200
05	05				2.1	64.5	50		16	12	12–13	–	–	5.6	–	–	9 100
05	05				0.8	20	27	A	–	12.4	63–64	–	40	5.6	54.0	–	15 000
05	05				1.2	22	27	A	–	12.4	63–64	–	–	5.6	54.0	–	13 200
05	05				1.8	29.5	32	B	–	14.4	63–64	–	–	5.6	64.0	–	11 700
05	05				2.6	41	40	B	–	16.4	63–64	–	–	5.6	76.0	–	10 200
05	05				7	51	40	C	–	16.4	63–64	–	–	5.6	96.0	66.7	9 100
					1	23	32		–	–	–	132	–	6.2	–	–	15 000
					1.9	28	42		–	–	–	152	–	6.2	–	–	13 200
08	08			10	0.3	19.5[5]	27		16	7	13–14	–	–	6.2	–	–	18 100
08	08			10	0.5	25.5[5]	32		16	8	13–14	–	–	6.2	–	–	15 900
08	08			10	0.8	34.0[5]	40		16	10	13–14	–	–	6.2	–	–	14 100
08	08			10	1.3	51.5[5]	40		16	10	13–14	–	–	6.2	–	–	12 400
08	08			10	2.1	64.5[5]	50		16	12	13–14	–	–	6.2	–	–	11 000
08	08			10	1.1	20[5]	27	A	–	12.4	63–64	–	40	6.2	54.0	–	18 100
08	08			10	1.7	22[5]	27	A	–	12.4	63–64	–	–	6.2	54.0	–	15 900
08	08			10	1.8	29.5[5]	32	B	–	14.4	63–64	–	–	6.2	64.0	–	14 100
08	08			10	2.6	41[5]	40	B	–	16.4	63–64	–	–	6.2	76.0	–	12 400
08	08			10	4.3	51[5]	40	C	–	16.4	63–64	–	–	6.2	96.0	66.7	11 000
					1	23	32		–	–	–	132	–	6.2	–	–	18 100
					1.9	28	42		–	–	–	152	–	6.2	–	–	15 900

[3] The programming length, l_1, depends on cutter width setting.

[4] n_{max} (max. rev/min) for holders must also be considered.

[5] Cutters with round inserts = a_r + 1mm

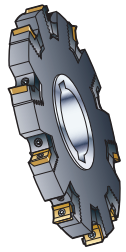
Ordering example for a size 80 cutter pre-set to 6.26 mm:
2 pieces N331.32-080S27CM*06.26*

Orders without width specifications are delivered set to minimum dimensions.
Ordering example: 2 pieces N331.32-080S27CM

Full side and face mill

Diameter 80 – 315 mm

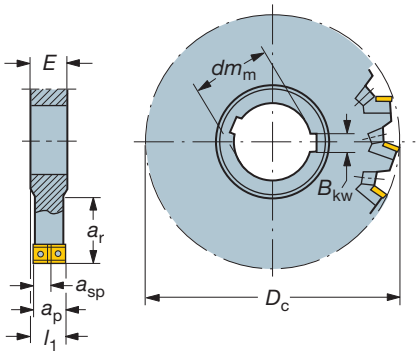
Positive rake



Cassettes, see page D167.

Width 12.0-26.5 mm

Bore with keyway*)



N331.32 type shown

*) Number of keyways, see page D159.

l_1 = programming length

Metric version

Slot width a_p mm	Mounting	D_c mm	z_n	N331.1A	a_p	R/L331.1A	r_ε [5]	a_p	D_c	z_n		0.2-1.54 r_ε [6]
	Bore with keyway											Insert size
		80	6	N331.32-080S27FM	*xx.xx*	N331.32-080S27FMx		*xx.xx*	82	6	N331.32-082S27FMQ[1]	08
		100	8	N331.32-100S32FM	*xx.xx*	N331.32-100S32FMx		*xx.xx*	102	8	N331.32-102S32FMQ[1]	08
		125	10	N331.32-125S40FM	*xx.xx*	N331.32-125S40FMx		*xx.xx*	127	10	N331.32-127S40FMQ[1]	08
		160	12	N331.32-160S40FM	*xx.xx*	N331.32-160S40FMx		*xx.xx*	162	12	N331.32-162S40FMQ[1]	08
		200	16	N331.32-200S50FM	*xx.xx*	N331.32-200S50FMx		*xx.xx*	202	16	N331.32-202S50FMQ[1]	08
12.0–15.0	**Arbor**	80	6	R331.32-080Q27FM	*xx.xx*	R331.32-080Q27FMx		*xx.xx*	82	6	R331.32-082Q27FMQ[1]	08
		100	8	R331.32-100Q27FM	*xx.xx*	R331.32-100Q27FMx		*xx.xx*	102	8	R331.32-102Q27FMQ[1]	08
		125	10	R331.32-125Q32FM	*xx.xx*	R331.32-125Q32FMx		*xx.xx*	127	10	R331.32-127Q32FMQ[1]	08
		160	12	R331.32-160Q40FM	*xx.xx*	R331.32-160Q40FMx		*xx.xx*	162	12	R331.32-162Q40FMQ[1]	08
		200	16	R331.32-200Q40FM	*xx.xx*	R331.32-200Q40FMx		*xx.xx*	202	16	R331.32-202Q40FMQ[1]	08
	Bore with keyway	100	6	N331.32-100S32KM	*xx.xx*	N331.32-100S32KMx		*xx.xx*	102	6	N331.32-102S32KMQ[1]	11
		125	8	N331.32-125S40KM	*xx.xx*	N331.32-125S40KMx		*xx.xx*	127	8	N331.32-127S40KMQ[1]	11
		160	10	N331.32-160S40KM	*xx.xx*	N331.32-160S40KMx		*xx.xx*	162	10	N331.32-162S40KMQ[1]	11
		200	12	N331.32-200S50KM	*xx.xx*	N331.32-200S50KMx		*xx.xx*	202	12	N331.32-202S50KMQ[1]	11
		250	16	N331.32-250S50KM	*xx.xx*	N331.32-250S50KMx		*xx.xx*			–	11
15.0–17.5		315	20	N331.32-315S60KM	*xx.xx*	N331.32-315S60KMx		*xx.xx*			–	11
	Arbor	100	6	R331.32-100Q27KM	*xx.xx*	R331.32-100Q27KMx		*xx.xx*	102	6	R331.32-102Q27KMQ[1]	11
		125	8	R331.32-125Q32KM	*xx.xx*	R331.32-125Q32KMx		*xx.xx*	127	8	R331.32-127Q32KMQ[1]	11
		160	10	R331.32-160Q40KM	*xx.xx*	R331.32-160Q40KMx		*xx.xx*	162	10	R331.32-162Q40KMQ[1]	11
		200	12	R331.32-200Q40KM	*xx.xx*	R331.32-200Q40KMx		*xx.xx*	202	12	R331.32-202Q40KMQ[1]	11
		250	16	R331.32-250Q60KM	*xx.xx*	R331.32-250Q60KMx		*xx.xx*			–	11
		315	20	R331.32-315Q60KM	*xx.xx*	R331.32-315Q60KMx		*xx.xx*			–	11
	Bore with keyway	125	8	N331.32-125S40LM	*xx.xx*	N331.32-125S40LMx		*xx.xx*			–	11
		160	10	N331.32-160S40LM	*xx.xx*	N331.32-160S40LMx		*xx.xx*			–	11
		200	12	N331.32-200S50LM	*xx.xx*	N331.32-200S50LMx		*xx.xx*			–	11
		250	16	N331.32-250S50LM	*xx.xx*	N331.32-250S50LMx		*xx.xx*			–	11
		315	20	N331.32-315S60LM	*xx.xx*	N331.32-315S60LMx		*xx.xx*			–	11
17.5–20.5	**Arbor**	125	8	R331.32-125Q32LM	*xx.xx*	R331.32-125Q32LMx		*xx.xx*			–	11
		160	10	R331.32-160Q40LM	*xx.xx*	R331.32-160Q40LMx		*xx.xx*			–	11
		200	12	R331.32-200Q40LM	*xx.xx*	R331.32-200Q40LMx		*xx.xx*			–	11
		250	16	R331.32-250Q60LM	*xx.xx*	R331.32-250Q60LMx		*xx.xx*			–	11
		315	20	R331.32-315Q60LM	*xx.xx*	R331.32-315Q60LMx		*xx.xx*			–	11
	Bore with keyway	160	10	N331.32-160S40QM	*xx.xx*	N331.32-160S40QMx		*xx.xx*			–	14
		200	12	N331.32-200S50QM	*xx.xx*	N331.32-200S50QMx		*xx.xx*			–	14
		250	16	N331.32-250S50QM	*xx.xx*	N331.32-250S50QMx		*xx.xx*			–	14
		315	20	N331.32-315S60QM	*xx.xx*	N331.32-315S60QMx		*xx.xx*			–	14
20.5–23.5	**Arbor**	160	10	R331.32-160Q40QM	*xx.xx*	R331.32-160Q40QMx		*xx.xx*			–	14
		200	12	R331.32-200Q40QM	*xx.xx*	R331.32-200Q40QMx		*xx.xx*			–	14
		250	16	R331.32-250Q60QM	*xx.xx*	R331.32-250Q60QMx		*xx.xx*			–	14
		315	20	R331.32-315Q60QM	*xx.xx*	R331.32-315Q60QMx		*xx.xx*			–	14
	Bore with keyway	160	10	N331.32-160S40RM	*xx.xx*	N331.32-160S40RMx		*xx.xx*			–	14
		200	12	N331.32-200S50RM	*xx.xx*	N331.32-200S50RMx		*xx.xx*			–	14
		250	16	N331.32-250S50RM	*xx.xx*	N331.32-250S50RMx		*xx.xx*			–	14
		315	20	N331.32-315S60RM	*xx.xx*	N331.32-315S60RMx		*xx.xx*			–	14
23.5–26.5	**Arbor**	160	10	R331.32-160Q40RM	*xx.xx*	R331.32-160Q40RMx		*xx.xx*			–	14
		200	12	R331.32-200Q40RM	*xx.xx*	R331.32-200Q40RMx		*xx.xx*			–	14
		250	16	R331.32-250Q60RM	*xx.xx*	R331.32-250Q60RMx		*xx.xx*			–	14
		315	20	R331.32-315Q60RM	*xx.xx*	R331.32-315Q60RMx		*xx.xx*			–	14

[1] Slot width, a_p = insert size

xx.xx = in the ordering code indicates the width a_p in mm to two decimal places.

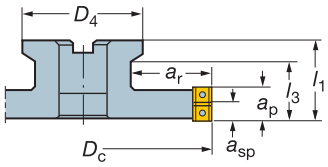
[5] x = in the ordering code indicates the insert radius range (r_ε) A, B, D, E or Q.

[6] For insert radius range 0.2-1.54, no prefix is read at x in the ordering code. Example: 2 pieces N331.32-080S27CM.

SANDVIK Coromant

Full side and face mill

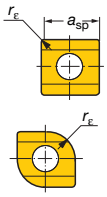
Arbor

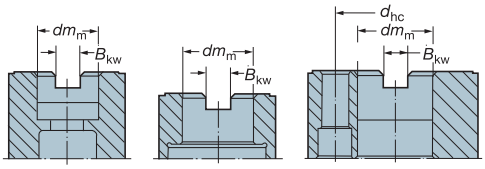


R331.32 type shown

Effective number of teeth:

$z_c = \frac{z_n}{2}$

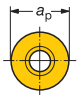




ISO A ISO B ISO C

Effective number of teeth:

$z_c = z_n$



l_1 = programming length

For insert radius range, rε[5]					Dimensions, mm												
A 1.55-2.60	B 2.61-3.50	D 4.51-5.50	E 5.51-6.50	Q		a_r	dm_m	ISO	E	B_{KW}	l_1[2] min.–max	l_2	l_3	a_{sp}	D_4	d_{ch}	n_{max}[3]
Insert size	Insert size	Insert size	Insert size	Insert size													
08	08			12	0.4	19.5[4]	27		16	7	14–15.5	–	–	7.6	–	–	18 100
08	08			12	0.6	25.5[4]	32		16	8	14–15.5	–	–	7.6	–	–	15 900
08	08			12	0.9	34.0[4]	40		16	10	14–15.5	–	–	7.6	–	–	14 100
08	08			12	1.6	51.5[4]	40		16	10	14–15.5	–	–	7.6	–	–	12 400
08	08			12	2.5	64.5[4]	50		16	12	14–15.5	–	–	7.6	–	–	11 000
08				12	1.2	20.0[4]	27	A	–	12.4	63–64.5	–	40	7.6	54.0	–	18 100
08				12	1.8	22.0[4]	27	A	–	12.4	63–64.5	–	–	7.6	54.0	–	15 900
08				12	2	29.5[4]	32	B	–	14.4	63–64.5	–	–	7.6	64.0	–	14 100
08				12	3	41.0[4]	40	B	–	16.4	63–64.5	–	–	7.6	76.0	–	12 400
08				12	7.6	51.0[4]	40	C	–	16.4	63–64.5	–	–	7.6	96.0	66.7	11 000
11	11	11	11	16	0.8	25.5[4]	32		18.5	8	16.8–18	–	–	10.6	–	–	14 000
11	11	11	11	16	1.2	34.0[4]	40		18.5	10	16.8–18	–	–	10.6	–	–	12 400
11	11	11	11	16	2	51.5[4]	40		18.5	10	16.8–18	–	–	10.6	–	–	10 800
11	11	11	11	16	3.2	64.5[4]	50		18.5	12	16.8–18	–	–	10.6	–	–	9 600
11	11	11	11		5.1	89.5	50		18.5	12	16.8–18	–	–	10.6	–	–	8 500
11	11	11			8.1	114.5	60		18.5	14	16.8–18	–	–	10.6	–	–	7 600
11	11	11	11	16	1.7	25.7[4]	27	A	–	12.4	63–64.25	–	40	10.6	54.0	–	14 000
11	11	11	11	16	2.3	29.5[4]	32	B	–	14.4	63–64.25	–	–	10.6	64.0	–	12 400
11	11	11	11	16	3.3	41.0[4]	40	B	–	16.4	63–64.25	–	–	10.6	76.0	–	10 800
11	11	11	11	16	8	51.0[4]	40	C	–	16.4	63–64.25	–	–	10.6	96.0	66.7	9 600
11	11	11	11		9.5	56.0	60	C	–	25.7	63–64.25	–	–	10.6	136.0	101.6	8 500
11	11	11	11		16.7	88.5	60	C	–	25.7	63–64.25	–	–	10.6	136.0	101.6	7 600
11	11	11	11		1.4	34.0	40		21.5	10	19.5–21	–	–	10.6	–	–	12 400
11	11	11	11		2.4	51.5	40		21.5	10	19.5–21	–	–	10.6	–	–	10 800
11	11	11	11		3.7	64.5	50		21.5	12	19.5–21	–	–	10.6	–	–	9 600
11	11	11	11		6	89.5	50		21.5	12	19.5–21	–	–	10.6	–	–	8 500
11	11	11	11		9.5	114.5	60		21.5	14	19.5–21	–	–	10.6	–	–	7 600
11	11	11	11		2.5	29.5	32	B	–	14.4	63–64.5	–	–	10.6	64.0	–	12 400
11	11	11	11		3.7	41.0	40	B	–	16.4	63–64.5	–	–	10.6	76.0	–	10 800
11	11	11	11		5.9	51.0	40	C	–	16.4	63–64.5	–	–	10.6	96.0	66.7	9 600
11	11	11	11		10	56.0	60	C	–	25.7	63–64.5	–	–	10.6	136.0	101.6	8 500
11	11	11	11		13.6	88.5	60	C	–	25.7	63–64.5	–	–	10.6	136.0	101.6	7 600
14	14	14	14		2.8	51.5	40		24.5	10	22.5–24	–	–	13.6	–	–	9 000
14	14	14	14		4.4	64.5	50		24.5	12	22.5–24	–	–	13.6	–	–	8 000
14	14	14	14		7.1	89.5	50		24.5	12	22.5–24	–	–	13.6	–	–	7 100
14	14	14	14		11.3	114.5	60		24.5	14	22.5–24	–	–	13.6	–		6 300
14	14	14	14		3.6	41.0	40	B	–	16.4	63–64.5	–	–	13.6	76.0	–	9 000
14	14	14	14		8.8	51.0	40	C	–	16.4	63–64.5	–	–	13.6	96.0	66.7	8 000
14	14	14	14		13.3	56.0	60	C	–	25.7	63–64.5	–	–	13.6	136.0	101.6	7 100
14	14	14	14		19.2	88.5	60	C	–	25.7	63–64.5	–	–	13.6	136.0	101.6	6 300
14	14	14	14		3.3	51.5	40		27.5	10	25.5–27	–	–	13.6	–	–	9 000
14	14	14	14		4.3	64.5	50		27.5	12	25.5–27	–	–	13.6	–	–	8 000
14	14	14	14		8.2	89.5	50		27.5	12	25.5–27	–	–	13.6	–	–	7 100
14	14	14	14		13.1	114.5	60		27.5	14	25.5–27	–	–	13.6	–	–	6 300
14	14	14	14		4.5	41.0	40	B	–	16.4	63–64.5	–	–	13.6	76.0	–	9 000
14	14	14	14		9.2	51.0	40	C	–	16.4	63–64.5	–	–	13.6	96.0	66.7	8 000
14	14	14	14		13.9	56.0	60	C	–	25.7	63–64.5	–	–	13.6	136.0	101.6	7 100
14	14	14	14		20.4	88.5	60	C	–	25.7	63–64.5	–	–	13.6	136.0	101.6	6 300

[2] The programming length, l_1, depends on cutter width setting.

[3] n_{max} (max. rev/min) for holders must also be considered.

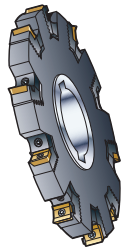
[4] Cutters with round inserts = ar + 1 mm

Ordering example for a size 80 cutter pre-set to 13.05 mm:
2 pieces N331.32-080S27FM*13.05*
Orders without width specifications are delivered set to minimum dimensions.
Ordering example: 2 pieces N331.32-080S27FM

Full side and face mill

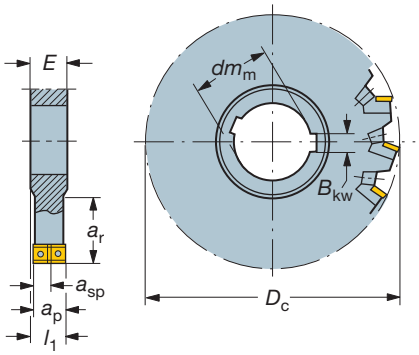
Diameter 3.150 - 8.000 inch

Positive rake



Cassettes, see page D167.

Bore with keyway*)



N331.32 type shown

*) Number of keyways, see page D159.

Width .236 - .394 inch

l_1 = programming length

Inch version

Slot width	Mounting	N331.1A				R/L331.1A								
		Ordering code				Ordering code					D_c		Ordering code	
a_p inch		D_c inch	Zn		a_p		r_ε[5]	a_p	a_r	Style	inch	Zn	r_ε[6]	a_r Style
	Bore with keyway													
		3.150	6	N331.32-080T25CM	0.236	-							–	
		3.150	6	N331.32-080T25CM	*x.xxx*	N331.32-080T25CMx		*x.xxx*	.768				–	
		4.000	8	N331.32-101T32CM	0.236	-							–	
		4.000	8	N331.32-101T32CM	*x.xxx*	N331.32-101T32CMx		*x.xxx*	1.043				–	
		5.000	10	N331.32-127T38CM	*x.xxx*	N331.32-127T38CMx		*x.xxx*	1.437				–	
		6.000	12	N331.32-152T38CM	0.236	-							–	
		6.000	12	N331.32-152T38CM	*x.xxx*	N331.32-152T38CMx		*x.xxx*	1.929				–	
		8.000	16	N331.32-203T51CM	*x.xxx*	N331.32-203T51CMx		*x.xxx*	2.618				–	
.236-.315	**Arbor**	3.150	6	R331.32-080R25CM	0.236	-							–	
		3.150	6	R331.32-080R25CM	*x.xxx*	R331.32-080R25CMx		*x.xxx*	.787	A			–	
		4.000	8	R331.32-101R25CM	0.236	-							–	
		4.000	8	R331.32-101R25CM	*x.xxx*	R331.32-101R25CMx		*x.xxx*	.866	A			–	
		5.000	10	R331.32-127R32CM	*x.xxx*	R331.32-127R32CMx		*x.xxx*	1.201	B			–	
		6.000	12	R331.32-152R38CM	*x.xxx*	R331.32-152R38CMx		*x.xxx*	1.465	B			–	
		8.000	16	R331.32-203R38CM	*x.xxx*	R331.32-203R38CMx		*x.xxx*	2.071	B			–	
	Weldon	3.150	6	R331.32-080M38CM	*x.xxx*	-							–	
		4.000	8	R331.32-101M51CM	*x.xxx*	-							–	
	Bore with keyway	3.150	6	N331.32-080T25DM	0.312	-							–	
		3.150	6	N331.32-080T25DM	*x.xxx*	N331.32-080T25DMx		*x.xxx*	.768				–	
		4.000	8	N331.32-101T32DM	0.312	-		*x.xxx*	1.043				–	
		4.000	8	N331.32-101T32DM	*x.xxx*	N331.32-101T32DMx		*x.xxx*	1.043				–	
		5.000	10	N331.32-127T38DM	0.312	-							–	
		5.000	10	N331.32-127T38DM	*x.xxx*	N331.32-127T38DMx		*x.xxx*	1.437				–	
		6.000	12	N331.32-152T38DM	*x.xxx*	N331.32-152T38DMx		*x.xxx*	1.929				–	
		8.000	16	N331.32-203T51DM	*x.xxx*	N331.32-203T51DMx		*x.xxx*	2.618				–	
.312-.394	**Arbor**	3.150	6	R331.32-080R25DM	0.312	-			.787	A			–	
		3.150	6	R331.32-080R25DM	*x.xxx*	R331.32-080R25DMx		*x.xxx*	.787	A			–	
		4.000	8	R331.32-101R25DM	0.312	-			.866	A			–	
		4.000	8	R331.32-101R25DM	*x.xxx*	R331.32-101R25DMx		*x.xxx*	.866	A			–	
		5.000	10	R331.32-127R32DM	*x.xxx*	R331.32-127R32DMx		*x.xxx*	1.201	B			–	
		6.000	12	R331.32-152R38DM	*x.xxx*	R331.32-152R38DMx		*x.xxx*	1.465	B			–	
		8.000	16	R331.32-203R38DM	*x.xxx*	R331.32-203R38DMx		*x.xxx*	2.071	B			–	
	Weldon	3.150	6	R331.32-080M38DM	*x.xxx*	-							–	
		4.000	8	R331.32-101M51DM	*x.xxx*	-							–	

1) Slot width, a_p = insert size

x.xxx = in the ordering code indicates the width a_{Bp} in inch to three decimal places.

5) x = in the ordering code indicates the insert radius range (r_ε) A, B, D, E or Q.

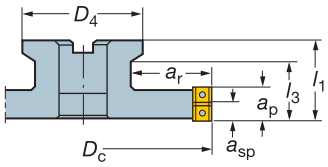
6) For insert radius range 0.2-1.54, no prefix is read at x in the ordering code. Example: 2 pieces N331.32-080S27CM.

D162
D167
G6
D2
J4

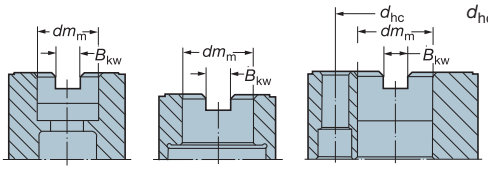
SANDVIK Coromant

Full side and face mill

Arbor

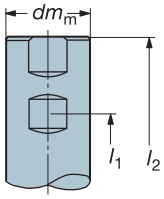


R331.32 type shown



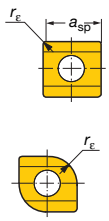
Style A Style B Style C

Weldon



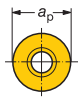
Effective number of teeth:

$$z_c = \frac{z_n}{2}$$



Effective number of teeth:

For slots deeper than iC a .020 inch adjustment of each cassette is recomended. This will widen the groon .020+.020 inch (0.5+0.5 mm) and reduce the contact length for each insert to 90°.



l_1 = programming length

For insert radius range, r_ε[5]						Dimensions								
.008-.061	A .060-.102	B .103-.177	D .178-.217	E .217-.256	Q Round	E	dm_m	B_{KW}	l_1[2] min.–max	l_2	l_3	a_{sp}	D_4	n_{max}[3]
Insert size	Insert size	Insert size	Insert size	Insert size	Insert size									
	04					.551	1.000	.250	.394-.433	–	–	.173	–	19 300
	04					.551	1.000	.250	.394-.433	–	–	.173	–	19 300
	04					.551	1.250	.312	.394-.433	–	–	.173	–	17 100
	04					.551	1.250	.312	.394-.433	–	–	.173	–	17 100
	04					.551	1.500	.375	.394-.433	–	–	.173	–	15 100
	04					.551	1.500	.375	.394-.433	–	–	.173	–	13 200
	04					.551	1.500	.375	.394-.433	–	–	.173	–	13 200
	04					.551	2.000	.500	.394-.433	–	–	.173	–	11 700
	04					–	1.000	.384	2.480-2.520	–	1.525	.173	2.126	19 300
	04					–	1.000	.384	2.480-2.520	–	1.525	.173	2.126	19 300
	04					–	1.000	.384	2.480-2.520	–	–	.173	2.126	17 100
	04					–	1.000	.384	2.480-2.520	–	–	.173	2.126	17 100
	04					–	1.250	.509	2.480-2.520	–	–	.173	2.522	15 100
	04					–	1.500	.633	2.480-2.520	–	–	.173	2.992	13 200
	04					–	1.500	.633	2.480-2.520	–	–	.173	3.779	11 700
						–	1.500	–	3.734-3.774	4.921	–	.173	–	19 300
						–	2.000	–	3.670-3.711	5.575	–	.173	–	17 100
	05	05				.630	1.000	.250	.472-.512	–	–	.221	–	15 000
	05	05				.630	1.000	.250	.472-.512	–	–	.221	–	15 000
	05	05				.630	1.250	.312	.472-.512	–	–	.221	–	13 200
	05	05				.630	1.250	.312	.472-.512	–	–	.221	–	13 200
	05	05				.630	1.500	.375	.472-.512	–	–	.221	–	11 700
	05	05				.630	1.500	.375	.472-.512	–	–	.221	–	11 700
	05	05				.630	1.500	.375	.472-.512	–	–	.221	–	10 200
	05	05				.630	2.000	.500	.472-.512	–	–	.221	–	9 100
	05	05				–	1.000	.384	2.480-2.520	–	1.575	.221	2.126	15 000
	05	05				–	1.000	.384	2.480-2.520	–	1.575	.221	2.126	15 000
	05	05				–	1.000	.384	2.480-2.520	–	–	.221	2.126	13 200
	05	05				–	1.000	.384	2.480-2.520	–	–	.221	2.126	13 200
	05	05				–	1.250	.509	2.480-2.520	–	–	.221	2.522	11 700
	05	05				–	1.500	.633	2.480-2.520	–	–	.221	2.992	10 200
	05	05				–	1.500	.633	2.480-2.520	–	–	.221	3.779	9 100
						–	1.500	–	3.734-3.774	4.921	–	.221	–	15 000
						–	2.000	–	3.670-3.711	5.575	–	.221	–	13 200

[2] The programming length, l_1, depends on cutter width setting.

[3] n_{max} (max. rev/min) for holders must also be considered.

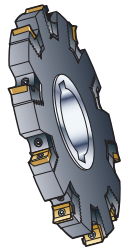
Ordering example for a size 3.150 cutter pre-set to 0.315 inch: 2 pieces N331.32-080T25CM*0.315*

Orders without width specifications are delivered set to minimum dimensions.
Ordering example: 2 pieces N331.32-080T25CM

Full side and face mill

Diameter 3.150 - 8.000 inch

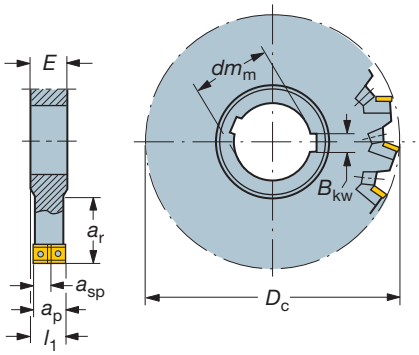
Positive rake



Cassettes, see page D167.

Width .394 - .472 inch

Bore with keyway*)



N331.32 type shown

*) Number of keyways, see page D159.

l_1 = programming length

Inch version

Slot width a_p inch	Mounting	N331.1A D_c inch	Zn	Ordering code	a_p	R/L331.1A Ordering code	r_c[5]	a_p	a_r	Style	D_c inch	Zn	Ordering code	a_r	Style
	Bore with keyway	3.150	6	N331.32-080T25EM	*x.xxx*	N331.32-080T25EMx		*x.xxx*	.768		3.228	6	N331.32-082T25EMQ[1]	.807	
		4.000	8	N331.32-101T32EM	0.394	-									
		4.000	8	N331.32-101T32EM	*x.xxx*	N331.32-101T32EMx		*x.xxx*	1.043		4.079	8	N331.32-103T32EMQ[1]	1.083	
		5.000	10	N331.32-127T38EM	*x.xxx*	N331.32-127T38EMx		*x.xxx*	1.437		5.079	10	N331.32-129T38EMQ[1]	1.476	
		6.000	12	N331.32-152T38EM	*x.xxx*	N331.32-152T38EMx		*x.xxx*	1.929		6.079	12	N331.32-154T38EMQ[1]	1.970	
		8.000	16	N331.32-203T51EM	*x.xxx*	N331.32-203T51EMx		*x.xxx*	2.618		8.079	16	N331.32-205T51EMQ[1]	2.657	
.394-.472	**Arbor**	3.150	6	R331.32-080R25EM	*x.xxx*	R331.32-080R25EMx		*x.xxx*	.787	A	3.228	6	R331.32-082R25EMQ[1]	.827	A
Round Inserts		4.000	8	R331.32-101R25EM	0.394	-									
.375-.453		4.000	8	R331.32-101R25EM	*x.xxx*	R331.32-101R25EMx		*x.xxx*	.866	A	4.079	8	R331.32-103R25EMQ[1]	.925	A
		5.000	10	R331.32-127R32EM	*x.xxx*	R331.32-127R32EMx		*x.xxx*	1.201	B	5.079	10	R331.32-129R32EMQ[1]	1.200	B
		6.000	12	R331.32-152R38EM	*x.xxx*	R331.32-152R38EMx		*x.xxx*	1.465	B	6.079	12	R331.32-154R38EMQ[1]	1.504	B
		8.000	16	R331.32-203R38EM	*x.xxx*	R331.32-203R38EMx		*x.xxx*	2.071	B	8.079	16	R331.32-205R38EMQ[1]	2.106	B
	Weldon	3.150	6	R331.32-080M38EM	*x.xxx*	-							–		
		4.000	8	R331.32-101M51EM	*x.xxx*	-							–		

[1] Slot width, a_p = insert size

x.xxx = in the ordering code indicates the width a_{Bp} in inch to three decimal places.

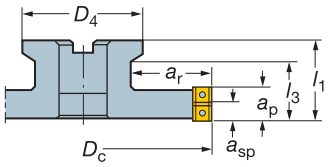
[5] x = in the ordering code indicates the insert radius range (r_ε) A, B, D, E or Q.

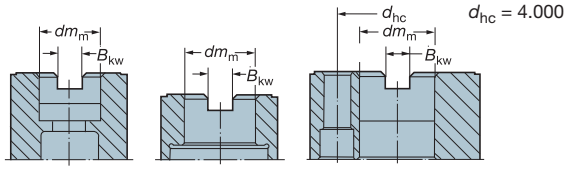
D162
D167
G6
D2
J4

SANDVIK Coromant

Full side and face mill

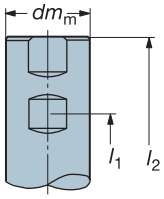
Arbor R331.32 type shown





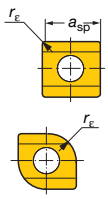
Style A Style B Style C

Weldon



Effective number of teeth:

$$z_c = \frac{z_n}{2}$$



Effective number of teeth:

For slots deeper than iC a .020 inch adjustment of each cassette is recomended. This will widen the groove .020+.020 inch (0.5+0.5 mm) and reduce the contact length for each insert to 90°.

l_1 = programming length

For insert radius range, rε[5]						Dimensions								
.008-.061	A .060-.102	B .103-.177	D .178-.217	E .217-.256	Q Round	*E*	dm_m	B_{KW}	l_1[2] min.–max	l_2	l_3	a_{sp}	D_4	n_{max}[3]
08	08	08			09	.630	1.000	.250	.502-.541	–	–	.299	–	18 100
08	08	08			09	.630	1.250	.312	.502-.541	–	–	.299	–	15 900
08	08	08			09	.630	1.250	.312	.502-.541	–	–	.299	–	15 900
08	08	08			09	.630	1.500	.375	.502-.541	–	–	.299	–	14 100
08	08	08			09	.630	1.500	.375	.502-.541	–	–	.299	–	12 400
08	08	08			09	.630	2.000	.500	.502-.541	–	–	.299	–	11 000
08	08	08			09	–	1.000	.384	2.471-2.510	–	1.575	.299	2.126	18 100
08	08	08			09	–	1.000	.384	2.471-2.510	–	–	.299	2.126	15 900
08	08	08			09	–	1.000	.384	2.471-2.510	–	–	.299	2.126	15 900
08	08	08			09	–	1.250	.509	2.471-2.510	–	–	.299	2.522	14 100
08	08	08			09	–	1.500	.633	2.471-2.510	–	–	.299	2.992	12 400
08	08	08			09	–	1.500	.633	2.471-2.510	–	–	.299	3.779	11 000
08						–	1.500	–	3.734-3.774	5.197	–	.299	–	18 100
08						–	2.000	–	3.670-3.711	5.984	–	.299	–	15 900

[2] The programming length, l_1, depends on cutter width setting.

[3] n_{max} (max. rev/min) for holders must also be considered.

Ordering example for a size 80 cutter pre-set to 0.472 inch: 2 pieces N331.32-080T25EM*0.472*

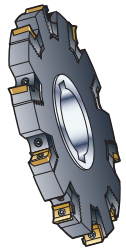
Orders without width specifications are delivered set to minimum dimensions.

Ordering example: 2 pieces N331.32-080T25EM

Full side and face mill

Diameter 3.150 - 12.000 inch

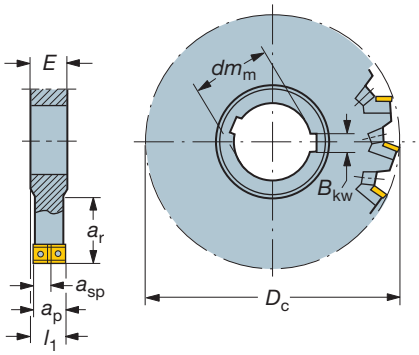
Positive rake



Cassettes, see page D167.

Width .472 - .807 inch

Bore with keyway*)



*) Number of keyways, see page D159.

l_1 = programming length

Inch version

Slot width	Mounting	N331.1A				R/L331.1A									
		Ordering code				Ordering code						Ordering code			
a_p inch		D_c inch			a_p		r_ε 5)	a_p	a_r	Style	D_c			a_r	Style
	Bore with keyway														
		3.150	6	N331.32-080T25FM	*x.xxx*	N331.32-080T25FMx	*x.xxx*	.768			3.228	6	N331.32-082T25FMQ 1)	.807	
		4.000	8	N331.32-101T32FM	0.472	-		1.043					–		
		4.000	8	N331.32-101T32FM	*x.xxx*	N331.32-101T32FMx	*x.xxx*	1.043			4.079	8	N331.32-103T32FMQ 1)	1.083	
		5.000	10	N331.32-127T38FM	0.472	-							–		
		5.000	10	N331.32-127T38FM	*x.xxx*	N331.32-127T38FMx	*x.xxx*	1.437			5.079	10	N331.32-129T38FMQ 1)	1.476	
		6.000	12	N331.32-152T38FM	*x.xxx*	N331.32-152T38FMx	*x.xxx*	1.929			6.079	12	N331.32-154T38FMQ 1)	1.970	
.472-.591		8.000	16	N331.32-203T51FM	*x.xxx*	N331.32-203T51FMx	*x.xxx*	2.618			8.079	16	N331.32-205T51FMQ 1)	2.657	
	Arbor	3.150	6	R331.32-080R25FM	*x.xxx*	R331.32-080R25FMx	*x.xxx*	.787	A		3.228	6	R331.32-082R25FMQ 1)	.827	A
Round inserts		4.000	8	R331.32-101R25FM	0.472	-							–		
		4.000	8	R331.32-101R25FM	*x.xxx*	R331.32-101R25FMx	*x.xxx*	.866	A		4.079	8	R331.32-103R25FMQ 1)	.925	A
		5.000	10	R331.32-127R32FM	0.472	-							–		
.500-.618		5.000	10	R331.32-127R32FM	*x.xxx*	R331.32-127R32FMx	*x.xxx*	1.201	B		5.079	10	R331.32-129R32FMQ 1)	1.200	B
		6.000	12	R331.32-152R38FM	*x.xxx*	R331.32-152R38FMx	*x.xxx*	1.465	B		6.079	12	R331.32-154R38FMQ 1)	1.504	B
		8.000	16	R331.32-203R38FM	*x.xxx*	R331.32-203R38FMx	*x.xxx*	2.071	B		8.079	16	R331.32-205R38FMQ 1)	2.106	C
	Bore with keyway	4.000	6	N331.32-101T32KM	0.591	-							–		
		4.000	6	N331.32-101T32KM	*x.xxx*	N331.32-101T32KMx	*x.xxx*	1.043			4.079	6	N331.32-103T32KMQ 1)	1.083	
		5.000	8	N331.32-127T38KM	*x.xxx*	N331.32-127T38KMx	*x.xxx*	1.437			5.079	8	N331.32-129T38KMQ 1)	1.476	
		6.000	10	N331.32-152T38KM	0.591	-							–		
		6.000	10	N331.32-152T38KM	*x.xxx*	N331.32-152T38KMx	*x.xxx*	1.929			6.079	10	N331.32-154T38KMQ 1)	1.970	
		8.000	12	N331.32-203T51KM	0.591	-							–		
		8.000	12	N331.32-203T51KM	*x.xxx*	N331.32-203T51KMx	*x.xxx*	2.618			8.079	12	N331.32-205T51KMQ 1)	2.657	
		10.000	16	N331.32-254T51KM	*x.xxx*	N331.32-254T51KMx	*x.xxx*	3.622					–		
.591-.689		12.000	20	N331.32-305T63KM	*x.xxx*	N331.32-305T63KMx	*x.xxx*	4.311					–		
	Arbor	4.000	6	R331.32-101R25KM	0.591	-							–		
		4.000	6	R331.32-101R25KM	*x.xxx*	R331.32-101R25KMx	*x.xxx*	1.024	A		4.079	6	R331.32-103R25KMQ 1)	1.051	A
		5.000	8	R331.32-127R32KM	*x.xxx*	R331.32-127R32KMx	*x.xxx*	1.201	B		5.079	8	R331.32-129R32KMQ 1)	1.200	B
		6.000	10	R331.32-152R38KM	*x.xxx*	R331.32-152R38KMx	*x.xxx*	1.465	B		6.079	10	R331.32-154R38KMQ 1)	1.504	B
		8.000	12	R331.32-203R38KM	*x.xxx*	R331.32-203R38KMx	*x.xxx*	2.071	B		8.079	12	R331.32-205R38KMQ 1)	2.106	C
		10.000	16	R331.32-254R63KM	*x.xxx*	R331.32-254R63KMx	*x.xxx*	2.283	C				–		
		12.000	20	R331.32-305R63KM	*x.xxx*	R331.32-305R63KMx	*x.xxx*	3.283	C				–		
	Bore with keyway	5.000	8	N331.32-127T38LM	*x.xxx*	N331.32-127T38LMx	*x.xxx*	1.437					–		
		6.000	10	N331.32-152T38LM	*x.xxx*	N331.32-152T38LMx	*x.xxx*	1.929					–		
		8.000	12	N331.32-203T51LM	*x.xxx*	N331.32-203T51LMx	*x.xxx*	2.618					–		
		10.000	16	N331.32-254T51LM	*x.xxx*	N331.32-254T51LMx	*x.xxx*	3.622					–		
		12.000	20	N331.32-305T63LM	*x.xxx*	N331.32-305T63LMx	*x.xxx*	4.311					–		
.689-.807	**Arbor**	5.000	8	R331.32-127R32LM	*x.xxx*	R331.32-127R32LMx	*x.xxx*	1.201	B				–		
		6.000	10	R331.32-152R38LM	*x.xxx*	R331.32-152R38LMx	*x.xxx*	1.465	B				–		
		8.000	12	R331.32-203R38LM	*x.xxx*	R331.32-203R38LMx	*x.xxx*	2.071	B				–		
		10.000	16	R331.32-254R63LM	*x.xxx*	R331.32-254R63LMx	*x.xxx*	2.283	C				–		
		12.000	20	R331.32-305R63LM	*x.xxx*	R331.32-305R63LMx	*x.xxx*	3.283	C				–		

1) Slot width, a_p = insert size

x.xxx = in the ordering code indicates the width a_{Bp} in inch to three decimal places.

5) x = in the ordering code indicates the insert radius range (r_ε) A, B, D, E or Q.

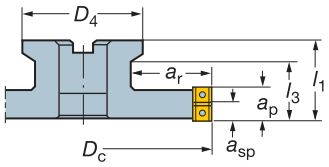
D162 D167 G6 D2 J4

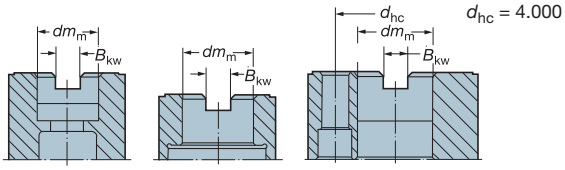
SANDVIK Coromant

Full side and face mill

Arbor

R331.32 type shown



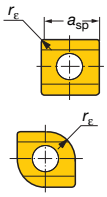


d_{hc} = 4.000

Style A Style B Style C

Effective number of teeth:

$$z_c = \frac{z_n}{2}$$



Effective number of teeth:

For slots deeper than iC a .020 inch adjustment of each cassette is recomended. This will widen the groove .020+.020 inch (0.5+0.5 mm) and reduce the contact length for each insert to 90°.

l_1 = programming length

For insert radius range, rε[5]						Dimensions							
.008-.061	A .060-.102	B .103-.177	D .178-.217	E .217-.256	Q Round	*E*	dm_m	B_{KW}	l_1[2] min.–max	l_3	a_{sp}	D_4	n_{max}[3]
Insert size	Insert size	Insert size	Insert size	Insert size	Insert size								
08	08	08			13	.630	1.000	.250	.565- .624	–	.500	–	18 100
08	08	08			13	.630	1.250	.312	.565- .624	–	.500	–	15 900
08	08	08			13	.630	1.250	.312	.565- .624	–	.500	–	15 900
08	08	08			13	.630	1.500	.375	.565- .624	–	.500	–	14 100
08	08	08			13	.630	1.500	.375	.565- .624	–	.500	–	14 100
08	08	08			13	.630	1.500	.375	.565- .624	–	.500	–	12 400
08	08	08			13	.630	2.000	.500	.565- .624	–	.500	–	11 000
08	08				13	–	1.000	.383	2.494-2-553	1.575	.500	2.126	18 100
08	08				13	–	1.000	.383	2.494-2-553	–	.500	2.116	15 900
08	08				13	–	1.000	.383	2.494-2-553	–	.500	2.116	15 900
08	08				13	–	1.250	.509	2.494-2-553	–	.500	2.520	14 100
08	08				13	–	1.250	.509	2.494-2-553	–	.500	2.520	14 100
08	08				13	–	1.500	.633	2.494-2-553	–	.500	2.992	12 400
08	08				13	–	1.500	.633	2.494-2-553	–	.500	3.779	11 000
11	11	11	11	11	16	.728	1.250	.312	.681- .730	–	.630	–	14 000
11	11	11	11	11	16	.728	1.250	.312	.681- .730	–	.630	–	14 000
11	11	11	11	11	16	.728	1.500	.375	.681- .730	–	.630	–	12 400
11	11	11	11	11	16	.728	1.500	.375	.681- .730	–	.630	–	10 800
11	11	11	11	11	16	.728	1.500	.375	.681- .730	–	.630	–	10 800
11	11	11	11	11	16	.728	2.000	.500	.681- .730	–	.630	–	9 600
11	11	11	11	11	16	.728	2.000	.500	.681- .730	–	.630	–	9 600
11	11	11	11	11		.728	2.000	.500	.681- .730	–	.630	–	8 500
11	11	11	11			.728	2.500	.625	.681- .730	–	.630	–	7 600
11	11	11	11	11	16	–	1.000	.383	2.500-2.549	1.575	.630	2.116	14 000
11	11	11	11	11	16	–	1.000	.383	2.500-2.549	1.575	.630	2.116	14 000
11	11	11	11	11	16	–	1.250	.509	2.500-2.549	–	.630	2.520	12 400
11	11	11	11	11	16	–	1.500	.633	2.500-2.549	–	.630	2.992	10 800
11	11	11	11	11	16	–	1.500	.633	2.500-2.549	–	.630	3.779	9 600
11	11	11	11	11		–	2.500[4]	1.012	2.500-2.549	–	.630	5.354	8 500
11	11	11	11	11		–	2.500[4]	1.012	2.500-2.549	–	.630	5.354	7 600
11	11	11	11	11		.847	1.500	.375	.768- .827	–	.417	–	12 400
11	11	11	11	11		.847	1.500	.375	.768- .827	–	.417	–	10 800
11	11	11	11	11		.847	2.000	.500	.768- .827	–	.417	–	9 600
11	11	11	11	11		.847	2.000	.500	.768- .827	–	.417	–	8 500
11	11	11	11	11		.847	2.500	.625	.768- .827	–	.417	–	7 600
11	11	11	11	11		–	1.250	.509	2.480- .2.539	–	.417	2.520	12 400
11	11	11	11	11		–	1.500	.633	2.480- .2.539	–	.417	2.992	10 800
11	11	11	11	11		–	1.500	.633	2.480- .2.539	–	.417	3.779	9 600
11	11	11	11	11		–	2.500[4]	1.012	2.480- .2.539	–	.417	5.354	8 500
11	11	11	11	11		–	2.500[4]	1.012	2.480- .2.539	–	.417	5.354	7 600

2) The programming length, l_1, depends on cutter width setting.

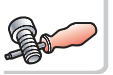
Ordering example for a size 80 cutter pre-set to 0.591 inch:
2 pieces N331.32-080T25FM*0.591*

3) n_{max} (max. rev/min) for holders must also be considered.

Orders without width specifications are delivered set to minimum dimensions.

4) Has 4" bolt hole circle.

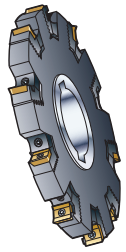
Ordering example: 2 pieces N331.32-080T25FM

D162  D167 G6 D2 J4

Full side and face mill

Diameter 6.000 - 12.000 inch

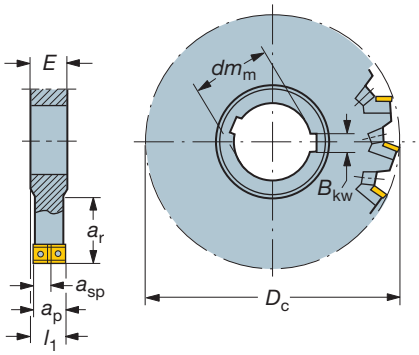
Positive rake



Cassettes, see page D167.

Width .807 - 1.043 inch

Bore with keyway*)



*) Number of keyways, see page D159.

l_1 = programming length

Inch version

Slot width	Mounting		N331.1A		R/L331.1A							
			Ordering code		Ordering code						Ordering code	
a_p inch		D_c inch		a_p		r_ε[5]	a_p	a_r	Style	D_c inch		Style
.807-.925	**Bore with keyway**	6.000 10	N331.32-152T38QM	*x.xxx*	N331.32-152T38QMx		*x.xxx*	1.929			–	
		8.000 12	N331.32-203T51QM	*x.xxx*	N331.32-203T51QMx		*x.xxx*	2.618			–	
		10.000 16	N331.32-254T51QM	*x.xxx*	N331.32-254T51QMx		*x.xxx*	3.622			–	
		12.000 20	N331.32-305T63QM	*x.xxx*	N331.32-305T63QMx		*x.xxx*	4.311			–	
	Arbor	6.000 10	R331.32-152R38QM	*x.xxx*	R331.32-152R38QMx		*x.xxx*	1.465	B		–	
		8.000 12	R331.32-203R38QM	*x.xxx*	R331.32-203R38QMx		*x.xxx*	2.071	B		–	
		10.000 16	R331.32-254R63QM	*x.xxx*	R331.32-254R63QMx		*x.xxx*	2.283	C		–	
		12.000 20	R331.32-305R63QM	*x.xxx*	R331.32-305R63QMx		*x.xxx*	3.283	C		–	
.925-1.043	**Bore with keyway**	6.000 10	N331.32-152T38RM	*x.xxx*	N331.32-152T38RMx		*x.xxx*	1.929			–	
		8.000 12	N331.32-203T51RM	*x.xxx*	N331.32-203T51RMx		*x.xxx*	2.618			–	
		10.000 16	N331.32-254T51RM	*x.xxx*	N331.32-254T51RMx		*x.xxx*	3.622			–	
		12.000 20	N331.32-305T63RM	*x.xxx*	N331.32-305T63RMx		*x.xxx*	4.311			–	
	Arbor	6.000 10	R331.32-152R38RM	*x.xxx*	R331.32-152R38RMx		*x.xxx*	1.465	B		–	
		8.000 12	R331.32-203R38RM	*x.xxx*	R331.32-203R38RMx		*x.xxx*	2.071	B		–	
		10.000 16	R331.32-254R63RM	*x.xxx*	R331.32-254R63RMx		*x.xxx*	2.283	C		–	
		12.000 20	R331.32-305R63RM	*x.xxx*	R331.32-305R63RMx		*x.xxx*	3.283	C		–	

1) Slot width, a_p = insert size

x.xxx = in the ordering code indicates the width a_{Bp} in inch to three decimal places.

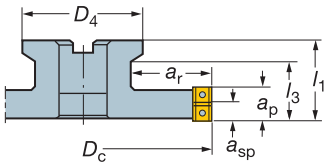
5) x = in the ordering code indicates the insert radius range (r_ε) A, B, D, E or Q.

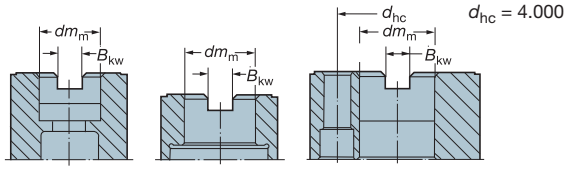
D162
D167
G6
D2
J4

SANDVIK Coromant

Full side and face mill

Arbor





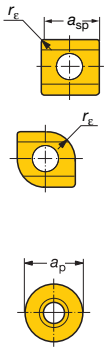
Style A Style B Style C

Effective number of teeth:

$$z_c = \frac{z_n}{2}$$

Effective number of teeth:

For slots deeper than iC a .020 inch adjustment of each cassette is recomended. This will widen the groove .020+.020 inch (0.5+0.5 mm) and reduce the contact length for each insert to 90°.



l_1 = programming length

For insert radius range, rε[5]						Dimensions							
.008-.061	A .060-.102	B .103-.177	D .178-.217	E .217-.256	Q Round	*E*	dm_m	B_{KW}	l_1[2] min.–max	l_3	a_{sp}	D_4	n_{max}[3]
14	14	14	14	14		.965	1.500	.375	.886- .945	–	.535	–	9 000
14	14	14	14	14		.965	2.000	.500	.886- .945	–	.535	–	8 000
14	14	14	14	14		.965	2.000	.500	.886- .945	–	.535	–	7 100
14	14	14	14	14		.965	2.500	.625	.886- .945	–	.535	–	6 300
14	14	14	14	14		–	1.500	.633	2.480-2.539	–	.535	2.992	9 000
14	14	14	14	14		–	1.500	.633	2.480-2.539	–	.535	3.779	8 000
14	14	14	14	14		–	2.500[4]	1.012	2.480-2.539	–	.535	5.354	7 100
14	14	14	14	14		–	2.500[4]	1.012	2.480-2.539	–	.535	5.354	6 300
14	14	14	14	14		1.083	1.500	.375	1.004-1.063	–	.535	–	9 000
14	14	14	14	14		1.083	2.000	.500	1.004-1.063	–	.535	–	8 000
14	14	14	14	14		1.083	2.000	.500	1.004-1.063	–	.535	–	7 100
14	14	14	14	14		1.083	2.500	.625	1.004-1.063	–	.535	–	6 300
14	14	14	14	14		–	1.500	.633	2.480-2.539	–	.535	2.992	9 000
14	14	14	14	14		–	1.500	.633	2.480-2.539	–	.535	3.779	8 000
14	14	14	14	14		–	2.500[4]	1.012	2.480-2.539	–	.535	5.354	7 100
14	14	14	14	14		–	2.500[4]	1.012	2.480-2.539	–	.535	5.354	6 300

[2] The programming length, l_1, depends on cutter width setting.

[3] n_{max} (max. rev/min) for holders must also be considered.

[4] Has 4" bolt hole circle.

Ordering example for a size 6 cutter pre-set to 0.925 inch:
2 pieces N331.32-152T38QM*0.925*

Orders without width specifications are delivered set to minimum dimensions.
Ordering example: 2 pieces N331.32-152T38QM

D162 D167 G6 D2 J4

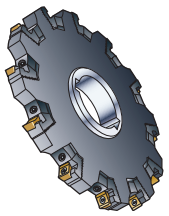
Half side and face mill

Diameter 80 – 160 mm

Max. axial depth 7.6 mm

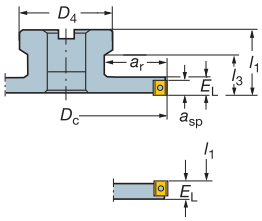
Positive rake

Cassettes, see page D168.



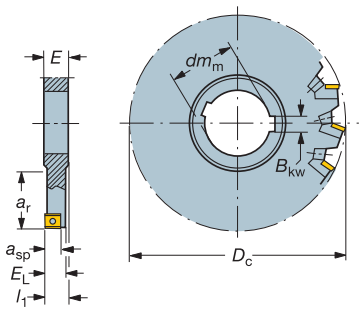
Arbor

R331.52...R

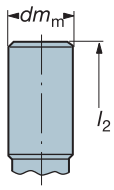


R331.52...L

Bore with keyway*)

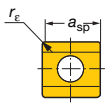


Cylindrical



Effective number of teeth: $z_c = z_n$

R331.52 type shown



l_1 = programming length

Metric version

Mounting					Insert size[1]	Dimensions											
Max. a_{sp}		D_c mm	Zn	Ordering code		KG	a_r	dm_m D_{5m}	ISO	E	B_{KW}	E_L	l_1	l_2	l_3	D_4	n_{max}[2]
7.6	**Bore with keyway**	80	6	**R/L331.52-080S27EM**	08	0.3	19.5	27		16	7	9.5	13	–	–	–	18 100
		100	8	**R/L331.52-100S32EM**	08	0.5	25.5	32		16	8	9.5	13	–	–	–	15 900
		125	10	**R/L331.52-125S40EM**	08	0.8	34.0	40		16	10	9.5	13	–	–	–	14 100
		160	12	**R/L331.52-160S40EM**	08	1.3	51.5	40		16	10	9.5	13	–	–	–	12 400
		80	6	**R/L331.52-080S27FM**	08	0.4	19.5	27		16	7	11.5	14	–	–	–	18 100
		100	8	**R/L331.52-100S32FM**	08	0.6	25.5	32		16	8	11.5	14	–	–	–	15 900
		125	10	**R/L331.52-125S40FM**	08	0.9	34.0	40		16	10	11.5	14	–	–	–	14 100
		160	12	**R/L331.52-160S40FM**	08	1.6	51.5	40		16	10	11.5	14	–	–	–	12 400
	Arbor	80	6	**R331.52-080Q27EMR**	08	0.8	20.0	27	A	–	12.4	9.5	63	–	40.0	54.0	18 100
		80	6	**R331.52-080Q27EML**	08	0.8	20.0	27	A	–	12.4	9.5	53	–	40.0	54.0	18 100
		100	8	**R331.52-100Q27EMR**	08	1.3	22.0	27	A	–	12.4	9.5	63	–	–	54.0	15 900
		100	8	**R331.52-100Q27EML**	08	1.2	22.0	27	A	–	12.4	9.5	53	–	–	54.0	15 900
		125	10	**R331.52-125Q32EMR**	08	2	29.5	32	B	–	14.4	9.5	63	–	–	64.0	14 100
		125	10	**R331.52-125Q32EML**	08	1.8	29.5	32	B	–	14.4	9.5	53	–	–	64.0	14 100
		160	12	**R331.52-160Q40EMR**	08	2.9	41.0	40	B	–	16.4	9.5	63	–	–	76.0	12 400
		160	12	**R331.52-160Q40EML**	08	2.6	41.0	40	B	–	16.4	9.5	53	–	–	76.0	12 400
		80	6	**R331.52-080Q27FMR**	08	0.9	20.0	27	A	–	12.4	11.5	63	–	40.0	54.0	18 100
		80	6	**R331.52-080Q27FML**	08	0.9	20.0	27	A	–	12.4	11.5	51	–	40.0	54.0	18 100
		100	8	**R331.52-100Q27FMR**	08	1.3	22.0	27	A	–	12.4	11.5	63	–	–	54.0	15 900
		100	8	**R331.52-100Q27FML**	08	1.3	22.0	27	A	–	12.4	11.5	51	–	–	54.0	15 900
		125	10	**R331.52-125Q32FMR**	08	2.3	29.5	32	B	–	14.4	11.5	63	–	–	64.0	14 100
		125	10	**R331.52-125Q32FML**	08	2	29.5	32	B	–	14.4	11.5	51	–	–	64.0	14 100
		160	12	**R331.52-160Q40FMR**	08	3.3	41.0	40	B	–	16.4	11.5	63	–	–	76.0	12 400
		160	12	**R331.52-160Q40FML**	08	2.9	41.0	40	B	–	16.4	11.5	51	–	–	76.0	12 400
	Cylindrical	80	6	**R331.52-080A32EMR**	08	1.0	19.5	32		–	–	9.5	–	132.0	–	–	18 100
		80	6	**R331.52-080A32EML**	08	1.0	19.5	32		–	–	9.5	–	131.5	–	–	18 100
		100	8	**R331.52-100A42EMR**	08	1.9	25.5	42		–	–	9.5	–	152	–	–	15 900
		100	8	**R331.52-100A42EML**	08	1.9	25.5	42		–	–	9.5	–	151.5	–	–	15 900

[1] Inserts are ordered separately.

Ordering example: 2 pieces R331.52-080S27EM

[2] n_{max} (max. rev/min) for holders must also be considered.

*) Number of keyways, see page D159.

D162
D167
G6
D2
J4

SANDVIK Coromant

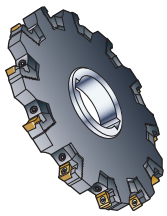
Half side and face mill

Diameter 100 - 315 mm

Max. axial depth 10.6 mm

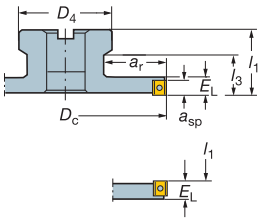
Positive rake

Cassettes, see page D167.



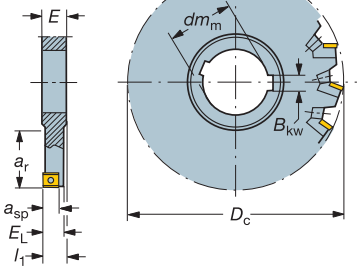
Arbor

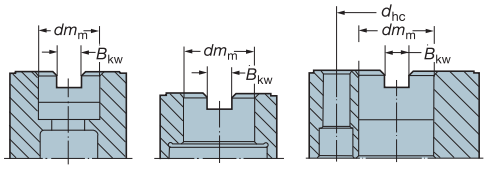
R331.52...R



R331.52...L

Bore with keyway*)

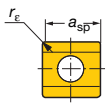




ISO A ISO B ISO C

Effective number of teeth: $z_c = z_n$

R331.52 type shown



l_1 = programming length

Metric version

Mounting					Insert size[2]	Dimensions											
Max. a_{sp}		D_c mm	Zn	Ordering code		kg	a_r	dm_m	ISO	E	B_{KW}	E_L	l_1	l_3	D_4	d_{hc}	n_{max}[3]
	Bore with keyway	100	6	**R/L331.52-100S32KM**	11	0.8	25.5	32		18.5	8	14.4	16.8	–	–	–	14 000
		125	8	**R/L331.52-125S40KM**	11	1.2	34.0	40		18.5	10	14.4	16.8	–	–	–	12 400
		160	10	**R/L331.52-160S40KM**	11	2	51.5	40		18.5	10	14.4	16.8	–	–	–	10 800
		200[1]	12	**R/L331.52-200S50MM**	11	9.5	64.5	50		31.2	12	26.6	29.2	–	–	–	9 600
		250[1]	16	**R/L331.52-250S50MM**	11	17.3	89.5	50		31.2	12	26.6	29.2	–	–	–	8 500
10.6		315[1]	20	**R/L331.52-315S60NM**	11	18.5	114.5	60		34.8	14	30.2	32.8	–	–	–	7 600
	Arbor	100	6	**R331.52-100Q27KMR**	11	1.3	25.7	27	A	–	12.4	14.4	63.0	–	54.0	–	14 000
		100	6	**R331.52-100Q27KML**	11	1.2	25.7	27	A	–	12.4	14.4	48.0	–	54.0	–	14 000
		125	8	**R331.52-125Q32KMR**	11	1.8	29.5	32	B	–	12.4	14.4	63.0	–	64.0	–	12 400
		125	8	**R331.52-125Q32KML**	11	2.3	29.5	32	B	–	12.4	14.4	48.0	–	64.0	–	12 400
		160	10	**R331.52-160Q40KMR**	11	8	41.0	40	B	–	16.4	14.4	63.0	–	76.0	–	10 800
		160	10	**R331.52-160Q40KML**	11	3.3	41.0	40	B	–	16.4	14.4	48.0	–	76.0	–	10 800
		200[1]	12	**R331.52-200Q40MMR**	11	8	51.0	40	C	–	16.4	26.6	63.0	–	96.0	66.7	9 600
		200[1]	12	**R331.52-200Q40MML**	11	8	51.0	40	C	–	16.4	26.6	35.8	–	96.0	66.7	9 600
		250[1]	16	**R331.52-250Q60MMR**	11	20.3	56.0	60	C	–	25.7	26.6	63.0	–	136.0	101.6	8 500
		250[1]	16	**R331.52-250Q60MML**	11	12.7	56.0	60	C	–	25.7	26.6	35.8	–	136.0	101.6	8 500
		315[1]	20	**R331.52-315Q60NMR**	11	8	88.5	60	C	–	25.7	30.2	63.0	–	136.0	101.6	7 600
		315[1]	20	**R331.52-315Q60NML**	11	20.3	88.5	60	C	–	25.7	30.2	32.2	–	136.0	101.6	7 600

1) Note: Cutters dia 200–315 mm are delivered without covers. If serrations need to be protected, covers should be used. Ordering information on page D167.

Ordering example: 2 pieces R331.52-100S32KM

2) Inserts are ordered separately.

3) n_{max} (max. rev/min) for holders must also be considered.

*) Number of keyways, see page D159.

D162 D167 G6 D2 J4

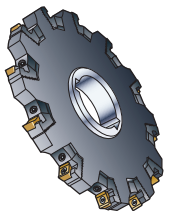
Half side and face mill

Diameter 3.150 - 6.000 inch

Max. axial depth .299 inch

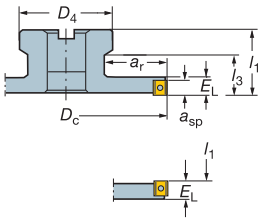
Positive rake

Cassettes, see page D168.



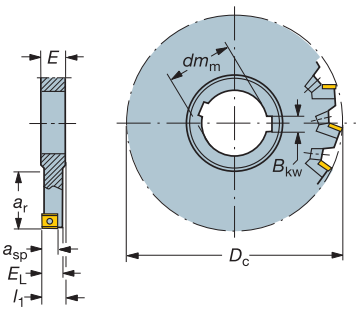
Arbor

R331.52...R

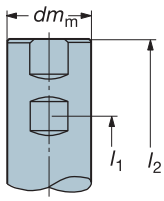


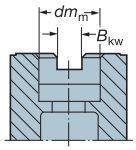
R331.52...L

Bore with keyway*)

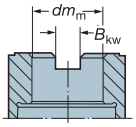


Weldon





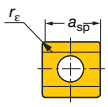
ISO A



ISO B

Effective number of teeth: $z_c = z_n$

R331.52 type shown



l_1 = programming length

Inch version

Mounting		Dc						Insert size[1]	Dimensions								
Max. asp		inch	Zn	Ordering code	ar	dmm	ISO		E	BKW	Ci	EL	l1	l2	l3	D4	nmax[2]
	Bore with keyway	3.150	6	**R/L331.52-080T25EM**	.768	1.000		08	.630	.250	1.102	.374	.512	–	–	–	18 100
		4.000	8	**R/L331.52-101T32EM**	1.043	1.250		08	.630	.312	1.136	.374	.512	–	–	–	15 900
		5.000	10	**R/L331.52-127T38EM**	1.437	1.500		08	.630	.375	1.666	.374	.512	–	–	–	14 100
		6.000	12	**R/L331.52-152T38EM**	1.929	1.500		08	.630	.375	1.666	.374	.512	–	–	–	12 400
		3.150	6	**R/L331.52-080T25FM**	.768	1.000		08	.630	.250	1.102	.453	.551	–	–	–	18 100
		4.000	8	**R/L331.52-101T32FM**	1.043	1.250		08	.630	.312	1.136	.453	.551	–	–	–	15 900
		5.000	10	**R/L331.52-127T38FM**	1.437	1.500		08	.630	.375	1.666	.453	.551	–	–	–	14 100
		6.000	12	**R/L331.52-152T38FM**	1.929	1.500		08	.630	.375	1.666	.453	.551	–	–	–	12 400
	Arbor	3.150	6	**R331.52-080R25EMR**	.787	1.000	A	08	–	.384		.374	2.480	–	1.575	2.126	18 100
		3.150	6	**R331.52-080R25EML**	.787	1.000	A	08	–	.384		.374	2.087	–	1.181	2.126	18 100
		4.000	8	**R331.52-101R25EMR**	.866	1.000	A	08	–	.384		.374	2.480	–	–	2.126	15 900
		4.000	8	**R331.52-101R25EML**	.866	1.000	A	08	–	.384		.374	2.087	–	–	2.126	15 900
.299		5.000	10	**R331.52-127R32EMR**	1.201	1.250	B	08	–	.509		.374	2.480	–	–	2.520	14 100
		5.000	10	**R331.52-127R32EML**	1.201	1.250	B	08	–	.509		.374	2.087	–	–	2.520	14 100
		6.000	12	**R331.52-152R38EMR**	1.464	1.500	B	08	–	.633		.374	2.480	–	–	2.992	12 400
		6.000	12	**R331.52-152R38EML**	1.464	1.500	B	08	–	.633		.374	2.087	–	–	2.992	12 400
		3.150	6	**R331.52-080R25FMR**	.787	1.000	A	08	–	.384		.453	2.480	–	1.575	2.126	18 100
		3.150	6	**R331.52-080R25FML**	.787	1.000	A	08	–	.384		.453	2.008	–	1.102	2.126	18 100
		4.000	8	**R331.52-101R25FMR**	.866	1.000	A	08	–	.384		.453	2.480	–	–	2.126	15 900
		4.000	8	**R331.52-101R25FML**	.866	1.000	A	08	–	.384		.453	2.008	–	–	2.126	15 900
		5.000	10	**R331.52-127R32FMR**	1.201	1.250	B	08	–	.509		.453	2.480	–	–	2.520	14 100
		5.000	10	**R331.52-127R32FML**	1.201	1.250	B	08	–	.509		.453	2.008	–	–	2.520	14 100
		6.000	12	**R331.52-152R38FMR**	1.464	1.500	B	08	–	.633		.453	2.480	–	–	2.992	12 400
		6.000	12	**R331.52-152R38FML**	1.464	1.500	B	08	–	.633		.453	2.008	–	–	2.992	12 400
	Weldon	3.150	6	**R331.52-080M38EMR**	.787	1.250		08	–	–		.374	3.734	4.921	–	–	18 100
		3.150	6	**R331.52-080M38EML**	.787	1.250		08	–	–		.374	3.734	4.921	–	–	18 100
		4.000	8	**R331.52-101M51EMR**	.945	2.000		08	–	–		.374	3.670	5.512	–	–	15 900
		4.000	8	**R331.52-101M51EML**	.945	2.000		08	–	–		.374	3.276	5.512	–	–	15 900

[1] Inserts are ordered separately.

Ordering example: 2 pieces R331.52-080T25EM

[2] n_{max} (max. rev/min) for holders must also be considered.

*) Number of keyways, see page D159.

D162 D167 G6 D2 J4

SANDVIK Coromant

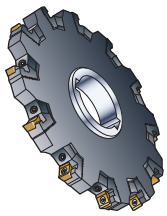
Half side and face mill

Diameter 4.000 - 12.000 inch

Max. axial depth .417 inch

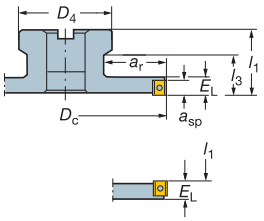
Positive rake

Cassettes, see page D167.



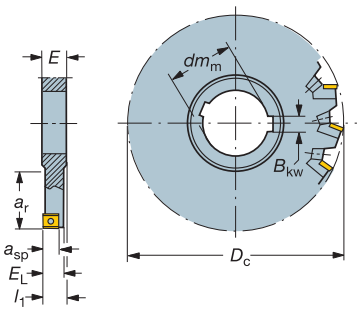
Arbor

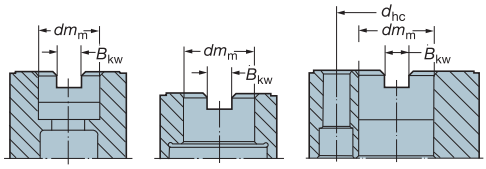
R331.52...R



R331.52...L

Bore with keyway*)

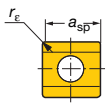




ISO A ISO B ISO C

Effective number of teeth: $z_c = z_n$

R331.52 type shown



l_1 = programming length

Inch version

Mounting				Ordering code				Insert size[1]	Dimensions							
Max. a_{sp}		D_c inch	Zn		a_r	dm_m	ISO		E	B_{KW}	C_i	E_L	l_1	l_3	D_4	n_{max}[2]
	Bore with keyway	4.000	6	**R/L331.52-101T32KM**	1.043	1.250		11	.728	.312	1.386	.567	.661	–	–	14 000
		5.000	8	**R/L331.52-127T38KM**	1.437	1.500		11	.728	.375	1.666	.567	.661	–	–	12 400
		6.000	10	**R/L331.52-152T38KM**	1.929	1.500		11	.728	.375	1.666	.567	.661	–	–	10 800
		8.000[3]	12	**R/L331.52-203T51MM**	2.618	2.000		11	1.228	.500	2.197	1.047	1.150	–	–	9 600
		10.000[3]	16	**R/L331.52-254T51MM**	3.622	2.000		11	1.228	.500	2.197	1.047	1.150	–	–	8 500
.417		12.000[3]	20	**R/L331.52-305T63NM**	4.311	2.500		11	1.370	.625	2.732	1.189	1.291	–	–	7 600
	Arbor	4.000	6	**R331.52-101R25KMR**	1.024	1.000	A	11	–	.384		.567	2.480	1.575	2.126	14 000
		4.000	6	**R331.52-101R25KML**	1.024	1.000	A	11	–	.384		.567	1.890	.984	2.126	14 000
		5.000	8	**R331.52-127R32KMR**	1.201	1.250	B	11	–	.509		.567	2.480	–	2.520	12 400
		5.000	8	**R331.52-127R32KML**	1.201	1.250	B	11	–	.509		.567	1.890	–	2.520	12 400
		6.000	10	**R331.52-152R38KMR**	1.464	1.500	B	11	–	.633		.567	2.480	–	2.992	10 800
		6.000	10	**R331.52-152R38KML**	1.464	1.500	B	11	–	.633		.567	1.890	–	2.992	10 800
		8.000[3]	12	**R331.52-203R38MMR**	2.067	1.500	B	11	–	.633		1.047	2.480	–	3.779	9 600
		8.000[3]	12	**R331.52-203R38MML**	2.067	1.500	B	11	–	.633		1.047	1.409	–	3.779	9 600
		10.000[3]	16	**R331.52-254R63MMR**	2.283	2.500[4]	C	11	–	1.012		1.047	2.480	–	5.354	8 500
		10.000[3]	16	**R331.52-254R63MML**	2.283	2.500[4]	C	11	–	1.012		1.047	1.409	–	5.354	8 500
		12.000[3]	20	**R331.52-305R63NMR**	3.283	2.500[4]	C	11	–	1.012		1.189	2.480	–	5.354	7 600
		12.000[3]	20	**R331.52-305R63NML**	3.283	2.500[4]	C	11	–	1.012		1.189	1.268	–	5.354	7 600

1) Inserts are ordered separately.

Ordering example: 2 pieces R331.52-101T32KM

2) n_{max} (max. rev/min) for holders must also be considered.

*) Number of keyways, see page D159.

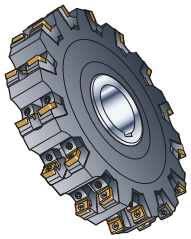
D162 D167 G6 D2 J4

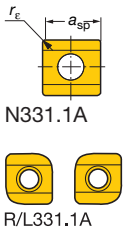
Double half side and face mill

Diameter 200 - 315 mm

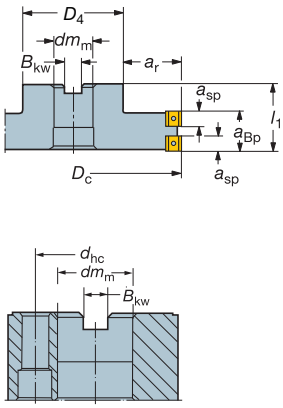
Positive rake

Cassettes, see page D167.

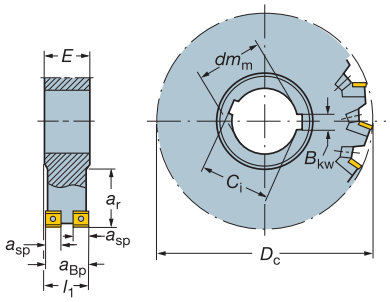




Arbor



Bore with keyway



Effective number of teeth: $z_c = z_n$

Width 27.2 - 33.8 mm | ISO C | l_1 = programming length

Metric version

Slot width a_{Bp} mm	Mounting	D_c mm	z_n		a_{Bp}	Insert size[1]	Dimensions, mm kg	a_r	dm_m	ISO	E	B_{KW}	l_1 min.–max	a_{sp}	D_4	d_{ch}	n_{max}[2]
27.2–30.2	**Bore with keyway**	200	24	N331.52-200S50MM*xx.xx*	11		9.5	64.5	50		31.2	12	29.2–30.7	10.6	–	–	9600
		250	32	N331.52-250S50MM*xx.xx*	11		17.3	89.5	50		31.2	12	29.2–30.7	10.6	–	–	8500
	Arbor	200	24	R331.52-200Q40MM*xx.xx*	11		8.0	51.0	40	C	–	16.4	63.0–64.5	10.6	96.0	66.7	9600
		250	32	R331.52-250Q60MM*xx.xx*	11		12.7	56.0	60	C	–	25.7	63.0–64.5	10.6	136.0	101.6	8500
30.8–33.8	**Bore with keyway**	315	40	N331.52-315S60NM*xx.xx*	11		18.5	114.5	60		34.8	14	32.8–34.3	10.6	–		7600
	Arbor	315	40	R331.52-315Q60NM*xx.xx*	11		20.3	88.5	60	C	–	25.7	63.0–64.5	10.6	136.0	101.6	8500

1) Inserts are ordered separately.

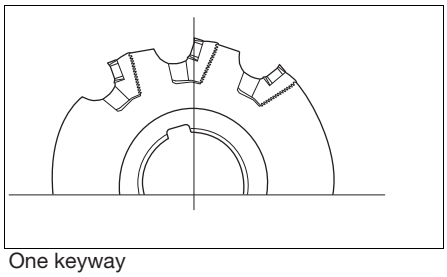
2) n_{max} (max. rev/min) for holders must also be considered.

Ordering example for a cutter pre-set to 27.32 mm:
2 pieces N331.52-200S50MM*27.32*

Orders without width specifications are delivered set to minimum dimensions.

Ordering example: 2 pieces N331.52-200S50MM

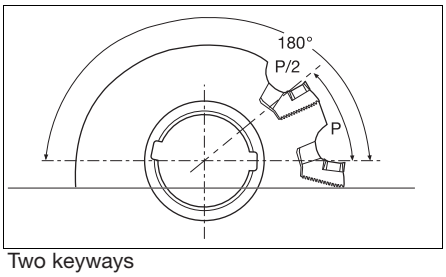
xx.xx in the ordering code indicates the width a_{Bp} in mm to two decimal places.



One keyway

Position of the keyways for standard, Tailor Made and special 331 S/F milling cutters.

Cutters with a diameter smaller than 124 mm and insert size 04, 05 or 08 and cutters with a diameter smaller than 140 mm and insert size 11 or 14, have one keyway.



Two keyways

Cutters with a diameter larger than 124 mm and insert size 04, 05 or 08, and cutters with a diameter larger than 140 mm and insert size 11 or 14, have two keyways. The distance between the keyways is 180° minus half a pitch.

D162
D167
G6
D2
J4

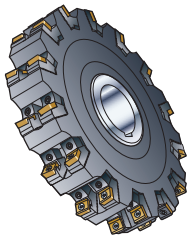
SANDVIK Coromant

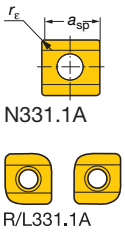
Double half side and face mill

Diameter 8.000 - 12.000 inch

Positive rake

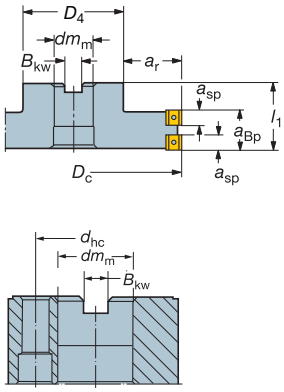
Cassettes, see page D167.





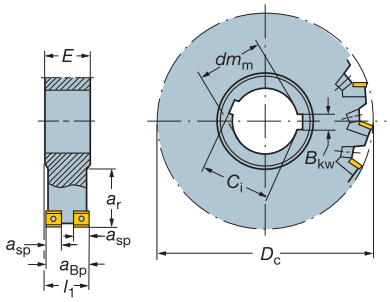
Width 1.071 - 1.331 inch

Arbor



ISO C

Bore with keyway



Effective number of teeth: $z_c = z_n$

l_1 = programming length

Inch version

Slot width a_{Bp} inch	Mounting	D_c inch	Zn		a_{Bp}	a_r	dm_m	ISO	Insert size[1]	Dimensions E	B_{KW}	C_i	l_1 min.–max	a_{sp}	n_{max}[2]
1.071-1.189	**Bore with keyway**	8.000	24	N331.52-203T51MM*x.xxx*	2.618	2.000			11	1.228	.500	2.106	1.150-1.209	.417	9 600
		10.000	32	N331.52-254T51MM*x.xxx*	3.622	2.000			11	1.228	.500	2.106	1.150-1.209	.417	8500
	Arbor	8.000	24	R331.52-203R38MM*x.xxx*	2.067	1.500		C	11	–	.646	–	2.480-2.539	.417	9 600
		10.000	32	R331.52-254R63MM*x.xxx*	2.283	2.500		C	11	–	1.012	–	2.480-2.539	.417	8500
1.213-1.331	**Bore with keyway**	12.000	40	N331.52-305T63NM*x.xxx*	4.311	2.500			11	1.370	.625	2.528	1.291-1.350	.417	7 600
	Arbor	12.000	40	R331.52-305R63NM*x.xxx*	3.283	2.500		C	11	–	1.012	–	2.480-2.539	.417	8 500

[1] Inserts are ordered separately.

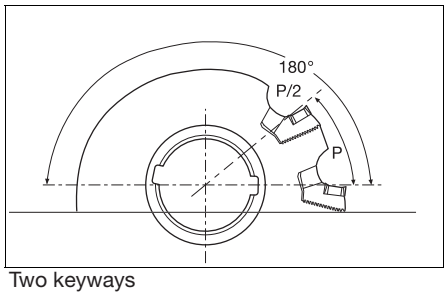
[2] n_{max} (max. rev/min) for holders must also be considered.

Ordering example for a cutter pre-set to 1.189 inch: 2 pieces N331.52-203T51MM*1.189*

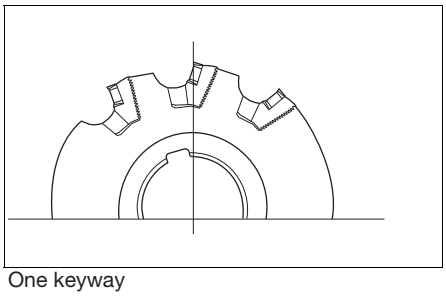
Orders without width specifications are delivered set to minimum dimensions.

Ordering example: 2 pieces N331.52-203T51MM

x.xxx in the ordering code indicates the width a_{Bp} in inch to three decimal places.



Two keyways



One keyway

Position of the keyways for standard, Tailor Made and special 331 S/F milling cutters.

Following cutters have two keyways:
- Cutters with diameter 5 inch or larger and insert size 04, 05 or 08.
- Cutters with diameter 6 inch or larger and insert size 11 or 14.
- All others have one keyway.

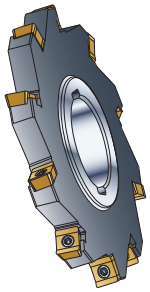
The distance between the keyway is 180° minus half a pitch

D162 D167 G6 D2 J4

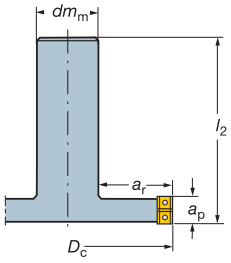
Full side and face mill with fixed pockets

Diameter 40 - 125 mm

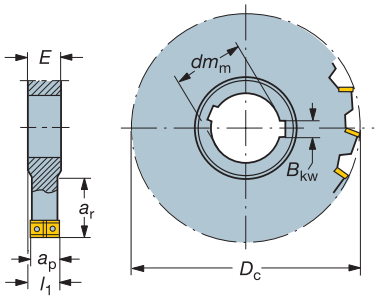
Positive rake



Cylindrical

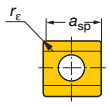


Bore with keyway



Effective number of teeth:

$Z_c = \frac{Z_n}{2}$



Width 6 - 10 mm

l_1 = programming length

Metric version

Slot width				Insert size[1]	Dimensions, mm							
a_p mm	D_c mm	z_n	**Ordering code**		KG	a_r	dm_m	E	B_{KW}	l_1	l_2	n_{max}[2]
			Cylindrical									
6	40	4	**R331.35-040A16CM060**	04	0.5	11	16	–	–	–	120	29 000
8	40	4	**R331.35-040A16DM080**	05	0.5	11	16	–	–	–	120	22 300
10	40	4	**R331.35-040A16EM100**	08	0.5	11	16	–	–	–	120	27 000
6	50	6	**R331.35-050A20CM060**	04	0.7	14	20	–	–	–	130	25 000
8	50	6	**R331.35-050A20DM080**	05	0.7	14	20	–	–	–	130	19 500
10	50	6	**R331.35-050A20EM100**	08	0.7	14	20	–	–	–	130	23 500
6	63	6	**R331.35-063A25CM060**	04	1.1	18	25	–	–	–	140	22 000
8	63	6	**R331.35-063A25DM080**	05	1.1	18	25	–	–	–	140	17 000
10	63	6	**R331.35-063A25EM100**	08	1.1	18	25	–	–	–	140	21 000
6	80	8	**R331.35-080A32CM060**	04	1.5	23	32	–	–	–	150	19 000
8	80	8	**R331.35-080A32DM080**	05	1.5	23	32	–	–	–	150	15 000
10	80	8	**R331.35-080A32EM100**	08	1.5	23	32	–	–	–	150	18 000
			Bore with keyway									
6	100	10	**N331.35-100S32CM060**	04	0.7	25.5	32	8	8	6	–	17 000
8	100	10	**N331.35-100S32DM080**	05	0.9	25.5	32	10	8	8	–	13 000
8	125	12	**N331.35-125S40DM080**	05	1.0	34	40	10	10	8	–	15 000
10	125	12	**N331.35-125S40EM100**	08	1.0	34	40	12	10	10	–	11 500

[1] Inserts are ordered separately.

Ordering example: 2 pieces R331.35-040A16CM060

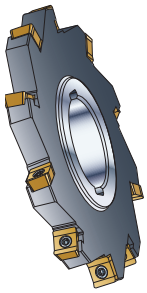
[2] n_{max} (max. rev/min) for holders must also be considered.

D162 D167 G6 D2 J4

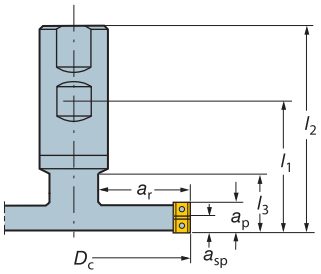
SANDVIK Coromant

Full side and face mill with fixed pockets

Diameter 1.500 - 3.000 inch
Positive rake

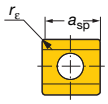


Weldon



Effective number of teeth:

$$Z_c = \frac{Z_n}{2}$$



Width .250 - .500 inch
Width 6 - 10 mm

l_1 = programming length

Inch version

Slot width				Insert size[1]	Dimensions								
a_p	D_c	Zn	Ordering code		KG	a_r	dm_m	E	B_{KW}	l_1	l_2	l_3	n_{max}[2]
			Weldon										
.250	1.500	4	R331.35-038M25CMA04	04	0.6	.409	1.000	–	–	3.000	4.142	1.500	30000
	2.000	6	R331.35-051M25CMA04	04	0.7	.583	1.000	–	–	3.000	4.142	1.500	25000
	2.500	6	R331.35-063M32CMA04	04	1.1	.732	1.250	–	–	3.000	4.142	1.500	22000
	3.000	8	R331.35-076M32CMA04	04	1.3	.850	1.250	–	–	3.000	4.142	–	19500
.312	1.500	4	R331.35-038M25DMA05	04	0.6	.409	1.000	–	–	3.000	4.142	1.500	30000
	2.000	6	R331.35-051M25DMA05	04	0.7	.583	1.000	–	–	3.000	4.142	1.500	25000
	2.500	6	R331.35-063M32DMA05	04	1.1	.732	1.250	–	–	3.000	4.142	1.500	22000
	3.000	8	R331.35-076M32DMA05	04	1.3	.850	1.250	–	–	3.000	4.142	–	19500
.375	1.500	4	R331.35-038M25EMA06	05	0.6	.409	1.000	–	–	3.000	4.142	1.500	23500
	2.000	6	R331.35-051M25EMA06	05	0.7	.583	1.000	–	–	3.000	4.142	1.500	19500
	2.500	6	R331.35-063M32EMA06	05	1.1	.732	1.250	–	–	3.000	4.142	1.500	17000
	3.000	8	R331.35-076M32EMA06	05	1.3	.850	1.250	–	–	3.000	4.142	–	15000
.500	1.500	4	R331.35-038M25EMA08	08	0.6	.409	1.000	–	–	3.000	4.142	1.500	28000
	2.000	6	R331.35-051M25EMA08	08	0.7	.583	1.000	–	–	3.000	4.142	1.500	23500
	2.500	6	R331.35-063M32EMA08	08	1.2	.732	1.250	–	–	3.000	4.142	1.500	20500
	3.000	8	R331.35-076M32EMA08	08	1.4	.850	1.250	–	–	3.000	4.142	–	18500

[1] Inserts are ordered separately.

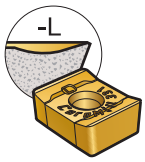
Ordering example: 2 pieces R331.35-038M25CMA04

[2] n_{max} (max. rev/min) for holders must also be considered.

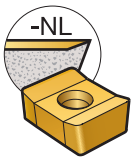
D162 D167 G6 D2 J4

Inserts for CoroMill® 331

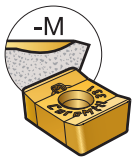
Neutral design



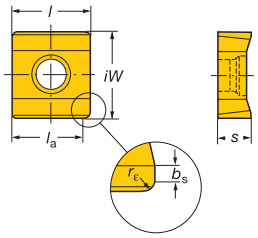
Light -PL
-ML
-KL
-WL



Light -NL



Medium



Neutral design
Dimensions, mm (inch)

Size	l_a	l	iW	s
04	4.6 (.181)	5.1 (.201)	9.5 (.374)	3.5 (.138)
05	5.7 (.224)	6.5 (.256)	9.5 (.374)	4.45 (.175)
08	7.7 (.303)	8.5 (.335)	9.5 (.374)	4.95 (.195)
11	10.7 (.421)	11.5 (.453)	11.5 (.453)	4.95 (.195)
14	13.7 (.539)	14.5 (.571)	11.5 (.453)	4.95 (.195)

			P				M					K				N			S						H			Dimensions, millimeter, inch (mm, in.)			
			GC	GC	GC	CT	GC	GC	GC	GC	CT	GC	GC	GC	-	GC	-	-	GC	GC	GC	-	GC	GC	GC	GC	CT				
			1025	4230	4240	530	1025	1040	2030	2040	530	1020	3040	3220	H13A	1025	H10	H13A	1025	2030	2040	H13A	S30T	S40T	1025	3040	530				
	↕ □	Ordering code																										b_s mm	b_s in.	r_ε mm	r_ε in.
Light	04	N331.1A-04 35 05E-KL										☆	☆	☆												☆		0.4	.016	0.5	.020
		N331.1A-04 35 05H-ML						★	☆	☆										☆	☆							0.4	.016	0.5	.020
		N331.1A-04 35 05H-NL	☆													☆	★		☆						☆			0.2	.008	0.5	.020
		N331.1A-04 35 05H-PL		☆	☆																		★					0.4	.016	0.5	.020
		N331.1A-04 35 05H-WL	☆				☆								☆	☆		☆	☆			☆			☆			0.4	.016	0.5	0.5
	05	N331.1A-05 45 08E-KL										☆	☆	☆												☆		1.2	.047	0.8	.032
		N331.1A-05 45 08H-ML						★	☆	☆										☆	☆							1.2	.047	0.8	.032
		N331.1A-05 45 08H-NL	☆													☆	★		☆						☆			0.8	.032	0.8	.032
		N331.1A-05 45 08H-PL		☆	☆																		★					1.2	.047	0.8	.032
		N331.1A-05 45 08H-WL	☆				☆								☆	☆		☆	☆			☆			☆			1.2	.047	0.8	.032
	08	N331.1A-08 45 08E-KL										☆	☆	☆												☆		1.2	.047	0.8	.032
		N331.1A-08 45 08H-ML						★	☆	☆										☆	☆							1.2	.047	0.8	.032
		N331.1A-08 45 08H-NL	☆													☆	★		☆						☆			0.9	.035	0.8	.032
		N331.1A-08 45 08H-PL		☆	☆																		★					1.2	.047	0.8	.032
		N331.1A-08 45 08H-WL	☆				☆								☆	☆		☆	☆			☆			☆			1.2	.047	0.8	.032
	11	N331.1A-11 50 08E-KL										☆	☆	☆												☆		1.2	.047	0.8	.032
		N331.1A-11 50 08H-ML						★	☆	☆										☆	☆							1.2	.047	0.8	.032
		N331.1A-11 50 08H-NL	★													☆	★		★						☆			1.3	.051	0.8	.032
		N331.1A-11 50 08H-PL		☆	☆																		★					1.2	.047	0.8	.032
		N331.1A-11 50 08H-WL	☆				☆								☆	☆		☆	☆			☆			☆			1.2	.047	0.8	.032
	14	N331.1A-14 50 08E-KL										☆	☆	☆												☆		1.2	.047	0.8	.032
		N331.1A-14 50 08H-ML						★	☆	☆										☆	☆							1.2	.047	0.8	.032
		N331.1A-14 50 08H-NL	☆													☆	★		☆						☆			1.1	.043	0.8	.032
		N331.1A-14 50 08H-PL		☆	☆																		★					1.2	.047	0.8	.032
		N331.1A-14 50 08H-WL	☆				☆								☆	☆		☆	☆			☆			☆			1.2	.047	0.8	.032
Medium	04	N331.1A-04 35 05H-MM						★	☆	☆										☆	☆			★				0.4	.016	0.5	.020
		N331.1A-04 35 05M-KM										★	☆	☆												☆		0.4	.016	0.5	.020
		N331.1A-04 35 05M-PM		★	☆																							0.4	.016	0.5	.020
	05	N331.1A-05 45 08E-KM										★	☆	☆												☆		1.2	.047	0.8	.032
		N331.1A-05 45 08H-MM						★	☆	☆										☆	☆			★				1.2	.047	0.8	.032
		N331.1A-05 45 08H-PM		☆																								1.2	.047	0.8	.032
		N331.1A-05 45 08M-KM										☆	☆	☆												☆		1.2	.047	0.8	.032
		N331.1A-05 45 08M-PM		★	☆																							1.2	.047	0.8	.032
	08	N331.1A-08 45 08E-KM										★	☆	☆												☆		1.2	.047	0.8	.032
		N331.1A-08 45 08H-MM						★	☆	☆										☆	☆			★				1.2	.047	0.8	.032
		N331.1A-08 45 08H-PM		★																								1.2	.047	0.8	.032
		N331.1A-08 45 08H-WM				☆					☆				☆			☆				☆					☆	1.2	.047	0.8	.032
		N331.1A-08 45 08M-KM										★	☆	☆												☆		1.2	.047	0.8	.032
		N331.1A-08 45 08M-PM		★	☆																							1.2	.047	0.8	.032
	11	N331.1A-11 50 08E-KM										★	☆	☆												☆		1.2	.047	0.8	.032
		N331.1A-11 50 08H-MM						★	☆	☆										☆	☆			★				1.2	.047	0.8	.032
		N331.1A-11 50 08H-PM		★																								1.2	.047	0.8	.032
		N331.1A-11 50 08H-WM				☆					☆				☆			☆				☆					☆	1.2	.047	0.8	.032
		N331.1A-11 50 08M-KM										☆	☆	☆												☆		1.2	.047	0.8	.032
		N331.1A-11 50 08M-PM		★	☆																							1.2	.047	0.8	.032
	14	N331.1A-14 50 08E-KM										☆	☆	☆												☆		1.2	.047	0.8	.032
		N331.1A-14 50 08H-MM						★	☆	☆										☆	☆			★				1.2	.047	0.8	.032
		N331.1A-14 50 08H-PM		☆																								1.2	.047	0.8	.032
		N331.1A-14 50 08H-WM													☆			☆				☆						1.2	.047	0.8	.032
		N331.1A-14 50 08M-KM										☆	☆	☆												☆		1.2	.047	0.8	.032
		N331.1A-14 50 08M-PM		★	☆																							1.2	.047	0.8	.032
			P30	P20	P40	P15	M15	M30	M25	M40	M10	K20	K30	K15	K20	N15	N10	N15	S15	S20	S30	S20	S25	S35	H15	H25	H25				

N331.1A-04 35 05M-PM
|
M = Highest edge security
E = Highest edge sharpness and precision
H = Highest edge sharpness and higher precision

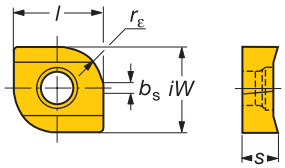
★= First choice

D334 D327

SANDVIK Coromant

Inserts for CoroMill® 331

Radius insert



Right and left hand design
Dimensions, mm (inch)

Size	*l*	*iW*	*s*
04	5.1 (.201)	9.5 (.374)	3.5 (.138)
05	6.5 (.256)	9.5 (.374)	4.45 (.175)
08	8.5 (.335)	9.5 (.374)	4.95 (.195)
11	11.5 (.453)	11.5 (.453)	4.95 (.195)
14	14.5 (.571)	11.5 (.453)	4.95 (.195)

Radius – WL

			P			M		N			S			H		Dimensions, millimeter, inch (mm, in.)			
			GC	GC	GC	GC	GC	GC	GC	-	GC	GC	-	GC	GC				
	□	Ordering code	1025	1030	4240	1030	1040	1025	1030	H10F	1025	1030	H10F	1025	1030	b_s mm	b_s in.	r_ε mm	r_ε in.
Light	04	R/L331.1A-04 35 15H-WL	☆	☆			★	☆	☆		☆	☆		☆	☆	0.4	.016	1.52	.060
		R/L331.1A-04 35 23H-WL	☆	☆			★	☆	☆		☆	☆		☆	☆	0.4	.016	2.29	.090
	05	R/L331.1A-05 45 15H-WL	☆	☆			★	☆	☆		☆	☆		☆	☆	1.2	.047	1.52	.060
		R/L331.1A-05 45 23H-WL	☆	☆			★	☆	☆	☆	☆	☆	☆	☆	☆	1.2	.047	2.29	.090
		R/L331.1A-05 45 30H-WL	☆	☆			★	☆	☆		☆	☆		☆	☆	1.3	.051	3.05	.120
	08	R/L331.1A-08 45 30H-WL	☆	☆			★	☆	☆	☆	☆	☆	☆	☆	☆	1.3	.051	3.05	.120
		R/L331.1A-08 45 15H-WL	☆	☆			★	☆	☆		☆	☆		☆	☆	1.2	.047	1.52	.060
		R/L331.1A-08 45 23H-WL	☆	☆			★	☆	☆	☆	☆	☆	☆	☆	☆	1.2	.047	2.29	.090
	11	R/L331.1A-11 50 15H-WL	☆	☆			★	☆	☆		☆	☆		☆	☆	1.2	.047	1.52	.060
		R/L331.1A-11 50 23H-WL	☆	☆			★	☆	☆	☆	☆	☆	☆	☆	☆	1.2	.047	2.29	.090
		R/L331.1A-11 50 30H-WL	☆	☆			★	☆	☆		☆	☆		☆	☆	1.3	.051	3.05	.120
		R/L331.1A-11 50 48H-WL	☆	☆			★	☆	☆		☆	☆		☆	☆	1.5	.059	4.83	.190
		R/L331.1A-11 50 63H-WL	☆	☆			★	☆	☆		☆	☆		☆	☆	1.6	.063	6.35	.250
	14	R/L331.1A-14 50 48H-WL	☆	☆	☆		★	☆	☆	☆	☆	☆	☆	☆	☆	1.5	.059	4.83	.190
		R/L331.1A-14 50 15H-WL	☆	★		☆	★	☆	☆		☆	☆		☆	☆	1.2	.047	1.52	.060
		R/L331.1A-14 50 23H-WL	☆	☆			★	☆	☆		☆	☆		☆	☆	1.2	.047	2.29	.090
		R/L331.1A-14 50 30H-WL	☆	☆	☆		★	☆	☆	☆	☆	☆	☆	☆	☆	1.3	.051	3.05	.120
		R/L331.1A-14 50 63H-WL	☆	☆	☆		★	☆	☆		☆	☆		☆	☆	1.6	.063	6.35	.250
			P30	P30	P40	M15	M30	N15	N15	N15	S15	S15	S25	H15	H10				

N331.1A-04 35 05M-PM
|
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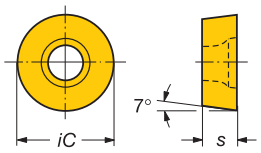
★= First choice

D334 D327

Inserts for CoroMill® 331

Round insert



Round Inserts
Dimensions, mm (inch)

Size	*iC*	*s*
09	(.375)	3.95 (.156)
10	(.394)	3.95 (.156)
12	(.472)	4.76 (.187)
13	(.500)	4.77 (.188)
16	(.629)	6.35 (.250)

Metric version

	iC	Ordering code	P						M							K					N				S									H					
			GC	GC	GC	GC	GC	CT	GC	GC	GC	GC	GC	GC	CT	GC	GC	GC	GC	-	GC	GC	-	-	GC	GC	GC	GC	GC	-	-	GC	GC	GC	GC	GC	GC	GC	CT
			1025	1030	4220	4230	4240	530	1025	1030	1040	2030	2040	235	530	1020	3040	3220	4220	H13A	1025	1030	H10F	H13A	1010	1025	1030	2030	2040	H10F	H13A	S30T	S40T	1010	1025	1030	3040	4220	530
Light	10	RCHT 10 T3 M0-KL																		☆				☆							☆								
		RCHT 10 T3 M0-ML									★	☆	☆															☆	☆										
		RCHT 10 T3 M0-PL	☆	★				☆	☆	☆					☆						☆	☆			☆	☆	☆							★	☆	☆			☆
	12	RCHT 12 04 M0-KL																		☆				☆							☆								
		RCHT 12 04 M0-ML									★	☆	☆															☆	☆										
		RCHT 12 04 M0-PL	☆	★				☆	☆	☆					☆						☆	☆			☆	☆	☆							★	☆	☆			☆
	16	RCHT 16 06 M0-KL																		☆				☆							☆								
		RCHT 16 06 M0-ML									★	☆	☆															☆	☆										
		RCHT 16 06 M0-PL	☆	★					☆	☆											☆	☆				☆	☆								☆	☆			
Medium	10	RCKT 10 T3 M0-KM															☆	☆																			☆		
		RCKT 10 T3 M0-MM									★	☆	☆															☆	☆										
		RCKT 10 T3 M0-PM		☆	☆	★	☆			☆									☆			☆					☆					★	★			☆		☆	
		RCKT 10 T3 M0-WM						☆						☆	☆								☆							☆										☆
	12	RCKT 12 04 M0-KM														★	☆	☆																			☆		
		RCKT 12 04 M0-MM									★	☆	☆															☆	☆										
		RCKT 12 04 M0-PM		☆	☆	★	☆			☆									☆			☆					☆					★	★			☆		☆	
		RCKT 12 04 M0-WM						☆						☆	☆								☆							☆										☆
	16	RCKT 16 06 M0-KM															☆	☆																			☆		
		RCKT 16 06 M0-MM									★	☆	☆															☆	☆										
		RCKT 16 06 M0-PM		☆	☆	★	☆			☆									☆			☆					☆					★	★			☆		☆	
		RCKT 16 06 M0-WM												☆									☆							☆										
Heavy	10	RCKT 10 T3 M0-KH															☆	☆																			☆		
		RCKT 10 T3 M0-PH		☆	☆	☆	★			☆									☆								☆									☆		☆	
	12	RCKT 12 04 M0-KH															☆	☆																			☆		
		RCKT 12 04 M0-PH		☆	☆	☆	★			☆									☆								☆									☆		☆	
	16	RCKT 16 06 M0-KH															☆	☆																			☆		
		RCKT 16 06 M0-PH		☆	☆	☆	★			☆									☆								☆									☆		☆	
			P30	P30	P20	P20	P40	P15	M15	M15	M30	M25	M40	M35	M10	K20	K30	K15	K25	K20	N15	N15	N15	N15	S10	S15	S15	S20	S30	S25	S20	S25	S35	H10	H15	H10	H25	H25	H25

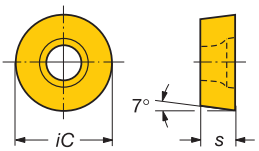
★= First choice

D334 D327

SANDVIK Coromant

Inserts for CoroMill® 331

Round insert



Round Inserts
Dimensions, mm (inch)

Size	*iC*	*s*
09	(.375)	3.95 (.156)
10	(.394)	3.95 (.156)
12	(.472)	4.76 (.187)
13	(.500)	4.77 (.188)
16	(.629)	6.35 (.250)

Inch version

	iC	Ordering code	P						M					K				N				S									H				
			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	GC	GC	GC
			1025	1030	235	4220	4230	4240	1030	1040	2030	2040	235	3040	3220	4220	H13A	1025	1030	H10F	H13A	1010	1025	1030	2030	2040	H10F	H13A	S30T	S40T	1010	1025	1030	3040	4220
Light	09	RCHT 09 T3 00-KL															☆				☆							☆							
		RCHT 09 T3 00-ML								★		☆														☆									
		RCHT 09 T3 00-PL	☆	★					☆									☆	☆			☆	☆	☆							★	☆	☆		
	13	RCHT 13 04 00-KL															☆				☆							☆							
		RCHT 13 04 00-ML								★	☆	☆													☆	☆									
		RCHT 13 04 00-PL	☆	★					☆									☆	☆			☆	☆	☆							★	☆	☆		
Medium	09	RCKT 09 T3 00-MM								★	☆	☆													☆	☆									
		RCKT 09 T3 00-PM		☆		☆	☆	☆	☆							☆			☆					☆									☆		☆
		RCKT 09 T3 00-WM																		☆							☆								
	13	RCKT 13 04 00-KM												☆	☆																			☆	
		RCKT 13 04 00-MM								★	☆	☆													☆	☆									
		RCKT 13 04 00-PM		☆		☆	★	☆	☆							☆			☆					☆					★	★			☆		☆
		RCKT 13 04 00-WM			☆								☆							☆							☆								
Heavy	09	RCKT 09 T3 00-KH												☆																			☆	
		RCKT 09 T3 00-PH		☆		☆	☆	☆	☆							☆								☆									☆		☆
	13	RCKT 13 04 00-KH												☆	☆																			☆	
		RCKT 13 04 00-PH		☆		☆	☆	★	☆							☆								☆									☆		☆
			P30	P30	P40	P20	P20	P40	M15	M30	M25	M40	M35	K30	K15	K25	K20	N15	N15	N15	N15	S10	S15	S15	S20	S30	S25	S20	S25	S35	H10	H15	H10	H25	H25

★= First choice

Advanced cutting materials

	iC	Ordering code	K		H	Dimensions, millimeter, inch (mm, in.)			
			CC	CB	CB				
			6190	CB50	CB50	*iC* mm	*iC* in.	*s* mm	*s* in.
Light	12	RCHT 12 04 M0		☆	☆	12	.472	4.76	.188
Medium	12	RCKT 12 04 MO	☆			12	.472	4.76	.188
	16	RCKT 16 06 MO	☆			16	.630	6.35	.250
			K05	K10	H05				

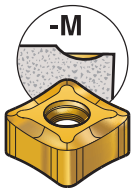
N331.1A-04 35 05M-PM
|
M = Highest edge security
E = Highest edge sharpness and precision
H = Highest edge sharpness and higher precision

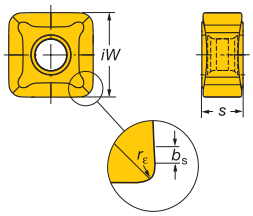
Ordering example: 10 pieces N331.1A-11 50 08H-PM 4030
★= First choice

D334 D327 D356 D2 J4

Inserts for CoroMill® 331

8 cutting edges





Medium

			P				K				Dimensions, millimeter, inch (mm, in.)			
			GC	GC	GC	GC	GC	GC	GC	GC				
	i.□	Ordering code	1030	4220	4230	4240	1020	1030	3040	4220	b_s mm	b_s in.	r_ε mm	r_ε in.
Medium	13	N331.1D-136508E-PM	☆	☆	☆	★	★	☆	☆	☆	1.2	.047	0.8	.032
		N331.1D-136520E-PM	☆	☆	☆	★	★	☆	☆	☆	1.2	.047	2.0	.079
			P30	P20	P20	P40	K20		K30	K25				

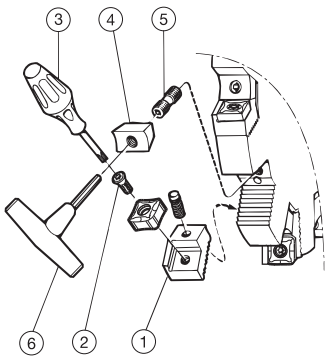
N331.1A-04 35 05M-PM

★= First choice

M = Highest edge security
E = Highest edge sharpness and precision
H = Highest edge sharpness and higher precision

Spare parts

8-edge insert type



Note that the diameter of the cutter increases by 3.2 mm when using the new 8 cutting edge cassettes.

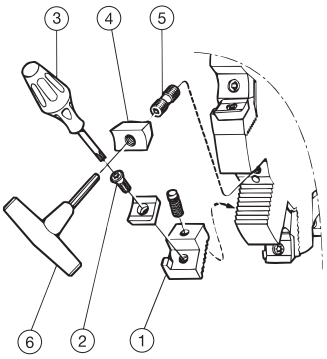
Cutter type	1	1	2	3		4	5	6
	Cassette Right	Cassette Left	Screw	Key (Torx Plus)	Torque wrench[1)]	Wedge	Screw	Key (mm)
QM	5321 260-01	5321 260-02	5513 020-25	5680 046-02 (15IP)	5680 100-06	5431 105-05	339-831	265.2-817 (3.0)
RM	5321 260-01	5321 260-02	5513 020-25	5680 046-02 (15IP)	5680 100-06	5431 105-05	339-831	265.2-817 (3.0)

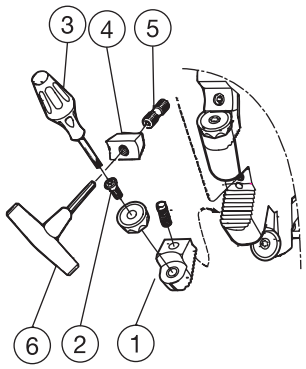
1) Optional part to be ordered separately.

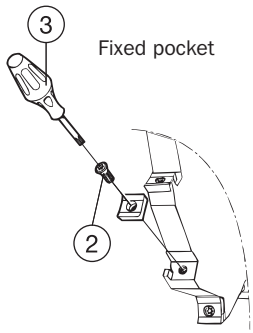
Note!
Cutter bodies can be ordered separately. For further information contact your Sandvik Coromant sales representative.

D334 D327

Spare parts for CoroMill® 331







R331.32, R331.35, N331.32, Full side and face mill

Cutter type	1	2	3		4	5	6
	Cassette Right	Left	Insert screw	Key (Torx Plus)	Torque wrench[4]	Wedge	Screw	Key (mm)
CM/CMX	5321 240-15	5321 240-16	5513 020-19	5680 046-03 (7IP)	5680 100-02	5431 105-07	5516 014-06	5680 048-02 (10IP)
DM/DMX	5321 240-13	5321 240-14	5513 020-34	5680 046-01 (8IP)	5680 100-03	5431 105-06	5516 014-04[1]	5680 048-01 (15IP)
EM/EMX	5321 240-01	5321 240-02	5513 020-24	5680 046-04 (9IP)	5680 100-04	5431 105-01	339-831[2]	265.2-817 (3.0)
FM/FMX	5321 240-03	5321 240-04	5513 020-24	5680 046-04 (9IP)	5680 100-04	5431 105-02	339-831[2]	265.2-817 (3.0)
KM/KMX	5321 240-07	5321 240-08	5513 020-29	5680 046-02 (15IP)	5680 100-06	5431 105-04	339-831[3]	265.2-817 (3.0)
LM/LMX	5321 240-07	5321 240-08	5513 020-29	5680 046-02 (15IP)	5680 100-06	5431 105-04	339-831	265.2-817 (3.0)
QM/QMX	5321 240-09	5321 240-10	5513 020-29	5680 046-02 (15IP)	5680 100-06	5431 105-05	339-831	265.2-817 (3.0)
RM/RMX	5321 240-09	5321 240-10	5513 020-29	5680 046-02 (15IP)	5680 100-06	5431 105-05	339-831	265.2-817 (3.0)

1) For cutters N331.32-080S27DM/DMX and R331.32-080Q27DM/DMX, use screw 5516 014-05.

2) For cutters N331.32-080S27EM/EMX/FM/FMX and R331.32-080Q27EM/EMX/FM/FMX, use screw 269-832.

3) For cutter N331.32-100S32KM/KMX, use screw 5516 010-02.

Ordering example: 10 pieces 5321 240-15

R/L331.52, Half side and face mill and R/N331.52, Double half side and face mill

Cutter type	1	2	3		4	5	6	7
	Cassette Right	Left	Insert screw	Key (Torx Plus)	Torque wrench[4]	Wedge	Screw	Key (mm)	Cover[3]
EM, EMR/L	5321 240-01	5321 240-02	5513 020-24	5680 046-04 (9IP)	5680 100-04	5431 105-01	339-831[1]	265.2-817 (3.0)	5321 240-11
FM, FMR/L	5321 240-03	5321 240-04	5513 020-24	5680 046-04 (9IP)	5680 100-04	5431 105-02	339-831[1]	265.2-817 (3.0)	5321 240-11
KM, KMR/L	5321 240-07	5321 240-08	5513 020-29	5680 046-02	5680 100-06	5431 105-04	339-831[2]	265.2-817 (3.0)	5321 240-12
MM, MMR/L	5321 240-05	5321 240-06	5513 020-29	5680 046-02	5680 100-06	5431 105-03	339-831	265.2-817 (3.0)	5321 240-12
NM, NMR/L	5321 240-07	5321 240-08	5513 020-29	5680 046-02	5680 100-06	5431 105-04	339-831	265.2-817 (3.0)	5321 240-12

1) For cutters R/L331.52-080S27EM/FM and R/L331.52-080Q27EM/FM, use screw 269-832.

2) For cutter R/L331.52-100S32KM, use screw 5516 010-02.

3) Only for Half side and face mill cutter

Ordering example: 10 pieces 5321 240-01

N331.32, R331.32, Full side and face mill for round inserts

Cutter type		1	2	3		4	5	6
	Insert size draw	Cassette Neutral	Insert screw	Key (Torx Plus)	Torque wrench[4]	Wedge	Screw	Key (mm)
EMQ	10	5321 250-02	5513 020-09	5680 046-02 (15IP)	5680 100-06	5431 105-01	339-831[1]	265.2-817 (3.0)
FMQ	12	5321 250-03	5513 020-09	5680 046-02 (15IP)	5680 100-06	5431 105-02	339-831[1]	265.2-817 (3.0)
KMQ	16	5321 250-05	5513 020-07	5680 046-06 (20IP)	5680 100-07	5431 105-04	339-831[2]	265.2-817 (3.0)

1) For cutters N331.32-082S27EMQ/FMQ and R331.32-082Q27EMQ/FMQ, use screw 269-832.

2) For cutter N331.32-102S32KMQ, use screw 5516 010-02.

Ordering example: 10 pieces 5321 240-02

R331.35, N331.35 Fixed pocket

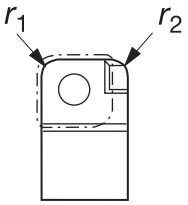
Insert size	2	3	
	Insert screw	Key (Torx Plus)	Torque wrench[4]
04	5513 020-19	5680 046-03 (7IP)	5680 100-02
05	5513 020-34	5680 046-01 (8IP)	5680 100-03
08	5513 020-24	5680 046-04 (9IP)	5680 100-04

4) To be ordered separately.

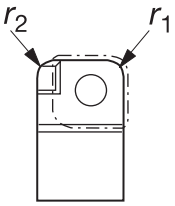
Spare parts for CoroMill® 331

Standard cassettes for radius inserts

Left hand cassette radius



Right hand cassette radius



Cutter body radius

Insert size		For insert radius		Cassette		Dimensions, mm/inch						Modified cutter body radius		
						For insert chamfer		Cassette radius						
□	Cutter type	Metric	Inch	Right	Left	Metric	Inch	r1		r2		r		Insert screw
04	CMA	1.55–2.6	.061-.098	5321 240-15.11	5321 240-16.11	0.81-1.3	.032-.052	1	.039	1	.039	–	–	5513 020-19
05	DMA	1.55–2.6	.061-.098	5321 240-13.11	5321 240-14.11	0.81-1.3	.032-.052	1	.039	1	.039	–	–	5513 020-34
	DMB	2.61–3.5	.099-.138	5321 240-13.22	5321 240-14.22	1.31-2.0	.052-.079	2	.079	2	.079	2	.079	5513 020-34
08	EMA	1.55–2.6	.061-.098	5321 240-01.11	5321 240-02.11	0.81-1.3	.032-.052	1	.039	1	.039	–	–	5513 020-24
	EMB	2.61–3.5	.099-.138	5321 240-01.22	5321 240-02.22	1.31-2.0	.052-.079	2	.079	2	.079	2	.079	5513 020-24
	–	3.51–4.0	.138-.157	5321 240-01.33	5321 240-02.33	–	–	3	.118	3	.118	3	.118	
	FMA	1.55–2.6	.061-.098	5321 240-03.11	5321 240-04.11	0.81-1.3	.032-.052	1	.039	1	.039	–	–	5513 020-24
	FMB	2.61–3.5	.099-.138	5321 240-03.22	5321 240-04.22	1.31-2.0	.052-.079	2	.079	2	.079	2	.079	5513 020-24
	–	3.51–4.0	.138-.157	5321 240-03.33	5321 240-04.33	–	–	3	.118	3	.118	3	.118	
11	KMA,LMA	1.55–2.6	.061-.098	5321 240-07.11	5321 240-08.11	1.01-1.5	.040-.059	1	.039	1	.039	–	–	5513 020-29
	KMB,LMB	2.61–3.5	.099-.138	5321 240-07.22	5321 240-08.22	1.51-2.0	.059-.079	2	.079	2	.079	2	.079	
	–	3.51–4.5	.138-.177	5321 240-07.33	5321 240-08.33	–	–	3	.118	3	.118	3	.118	
	KMD,LMD	4.51–5.5	.178-.217	5321 240-07.40	5321 240-08.40	–	–	4	.157	0	0	4	.157	5513 020-29
	–	4.51–5.5	.178-.217	5321 240-07.44	5321 240-08.44	–	–	4	.157	4	.157	4	.157	
	KME,LME	5.51–6.5	.217-.256	5321 240-07.50	5321 240-08.50	–	–	5	.197	0	0	5	.197	
	–	5.51–6.5	.217-.256	5321 240-07.55	5321 240-08.55	–	–	5	.197	5	.197	5	.197	
14	QMA, RMA	1.55–2.6	.061-.098	5321 240-09.11	5321 240-10.11	1.01-1.5	.040-.059	1	.039	1	.039	–	–	5513 020-29
	QMB,RMB	2.61–3.5	.099-.138	5321 240-09.22	5321 240-10.22	1.51-2.0	.059-.079	2	.079	2	.079	2	.079	
	–	3.51–4.5	.138-.177	5321 240-09.33	5321 240-10.33	–	–	3	.118	3	.118	3	.118	
	QMD,RMD	4.51–5.5	.178-.217	5321 240-09.40	5321 240-10.40	–	–	4	.157	0	0	4	.157	5513 020-29
	–	4.51–5.5	.178-.217	5321 240-09.44	5321 240-10.44	–	–	4	.157	4	.157	4	.157	
	QME,RME	5.51–6.5	.217-.256	5321 240-09.50	5321 240-10.50	–	–	5	.197	0	0	5	.197	
	–	5.51–6.5	.217-.256	5321 240-09.55	5321 240-10.55	–	–	5	.197	5	.197	5	.197	

Ordering example: 10 pieces 5321 240-15.11

Standard cassettes for round inserts

Neutral cassette radius

Cutter body radius

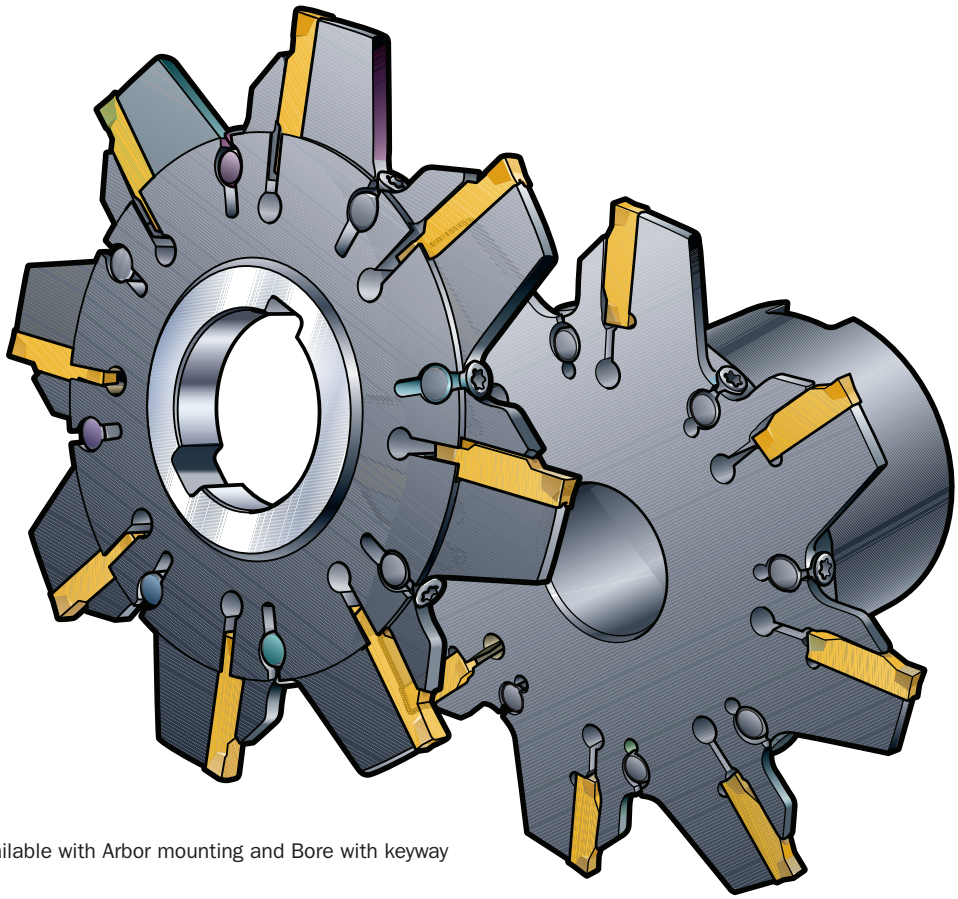
Insert size				Cassette	Dimensions, mm/inch		
					Modified cutter body radius		
○	Cutter type	For insert radius		Neutral	r		Insert screw
09	EMQ	4	.187	5321 250-01	4	.157	5513 020-30
10	EMQ	5	.197	5321 250-02	4	.157	5513 020-09
12	FMQ	6	.236	5321 250-03	5	.197	5513 020-09
13	FMQ	7	.250	5321 250-04	5	.197	5513 020-09
16	KMQ	8	.315	5321 250-05	6	.236	5513 020-07

Ordering example: 10 pieces 5321 250-02

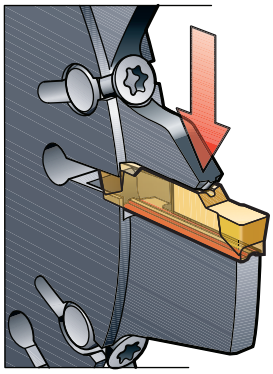
CoroMill® 329

Slot milling cutter

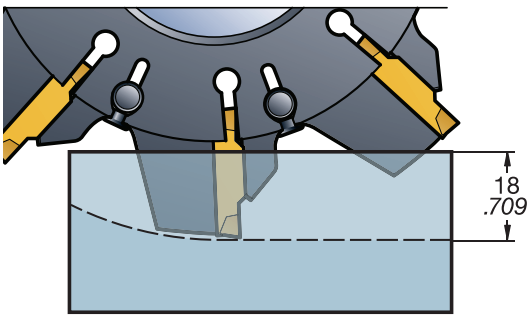
Accurate slots and high speed capability



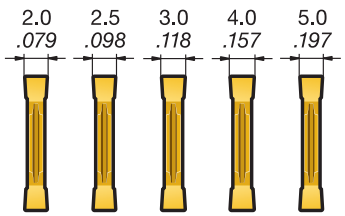
Available with Arbor mounting and Bore with keyway



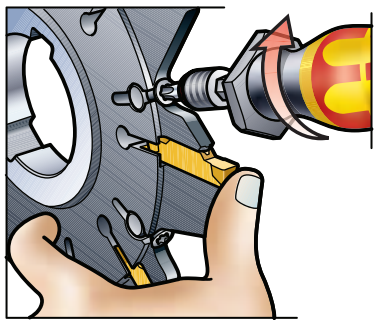
Mechanical fixturing ensures secure clamping



Maximum depth of cut (mm)



Available insert widths (mm)

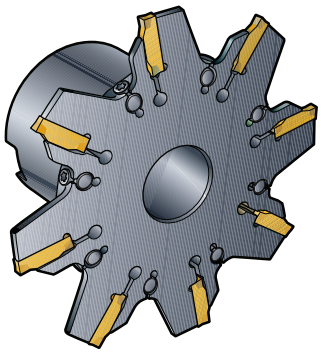


When mounting the inserts in the cutter body, press down the insert to make sure it reaches the bottom before fixing the screw.

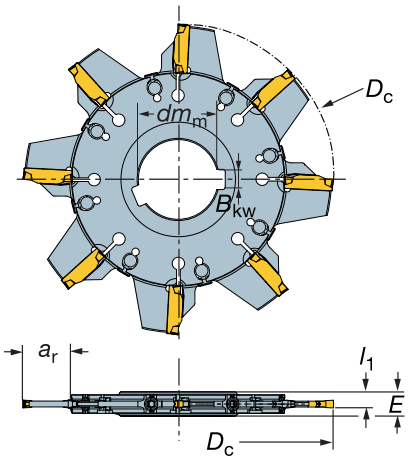
Grooving cutter

Diameter 100 - 160 mm

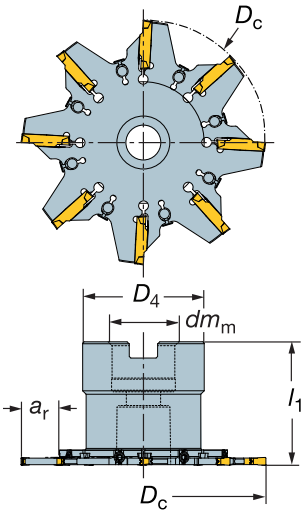
Positive geometry



Bore with keyway



Arbor



Metric version

D_c mm	Ordering code	kg	Seat size[1]		Dimensions, mm a_r	dm_m	D_4	l_1	E	B_{KW}	n_{max}[2]
	Arbor										
100	329-100Q22-E	0.7	E	6	15	22	43	50		10.4	4700
	329-100Q22-F	1.1	F	6	15	22	42	50		10.4	4400
	329-100Q22-G	1.0	G	6	15	22	42	50		10.4	4300
	329-100Q22-H	1.0	H	6	15	22	42	50		10.4	3600
	329-100Q22-J	1.1	J	6	15	22	43	50		10.4	3350
125	329-125Q32-E	1.7	E	9	18	32	60	63		14.4	4100
	329-125Q32-F	1.8	F	9	18	32	60	63		14.4	3800
	329-125Q32-G	1.8	G	8	18	32	60	63		14.4	3700
	329-125Q32-H	1.8	H	8	18	32	63	63		14.4	3150
	329-125Q32-J	1.8	J	7	18	32	63	63		14.4	2900
160	329-160Q40-G	2.1	G	11	18	40	72	63		16.4	3300
	Bore with 1 keyway										
100	329-100S22-E	1.1	G	6	15	22		6	10	14.4	4700
	329-100S22-F	0.6	G	6	15	22		6.25	10	14.4	4400
	329-100S22-G	0.6	G	6	15	22		6.5	10	14.4	4300
	329-100S22-H	0.6	G	6	15	22		7	10	14.4	3600
	329-100S22-J	0.6	G	6	15	22		7.5	10	14.4	3350
	Bore with 2 keyways										
125	329-125S32-E	0.7	H	9	18	32		6	10	8	4100
	329-125S32-F	0.7	F	9	18	32		6.25	10	8	3800
	329-125S32-G	0.7	G	8	18	32		6.5	10	8	3700
	329-125S32-H	0.7	H	8	18	32		7	10	8	3150
	329-125S32-J	0.7	J	7	18	32		7.5	10	8	2900
160	329-160S40-G	1.0	G	11	18	40		6.5	10	10	3300
	329-160S40-H	1.0	H	10	18	40		7	10	10	2700

1) To correspond with seat size on insert.
2) n_{max} (max. rev/min) for holders must also be considered.

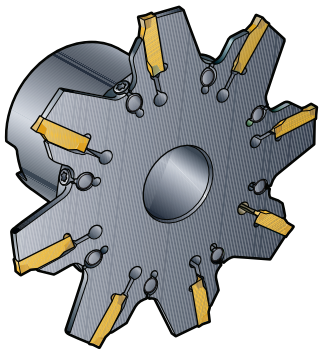
G6
D172
D171

SANDVIK Coromant

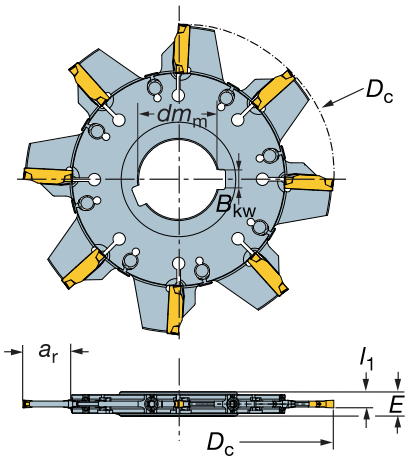
Grooving cutter

Diameter 4.000-5.000 inch

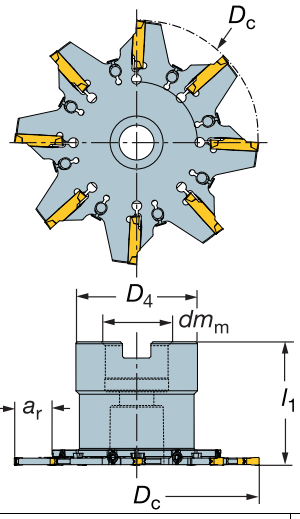
Positive geometry



Bore with keyway



Arbor



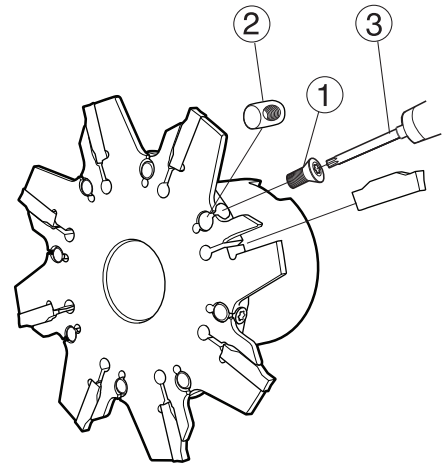
Inch version

D_c inch	Ordering code	Lbs	Seat size[1]		Dimensions, inch a_r	dm_m	D_4	l_1	E	B_{kw}	n_{max}[2]
	Arbor										
4.000	A329-102R25-E	2.4	E	6	.591	1.000	1.968	1.968		.384	4700
	A329-102R25-F	2.5	F	5	.591	1.000	1.968	1.968		.384	4300
	A329-102R25-G	2.6	G	6	.591	1.000	1.968	1.968		.384	4200
	A329-102R19-H	2.4	H	6	.591	.750	1.654	1.968		.321	3500
	A329-102R19-J	2.1	J	6	.591	.750	1.693	1.968		.321	3350
5.000	A329-127R32-E	3.9	E	9	.709	1.250	2.362	2.480		.509	4100
	A329-127R32-F	3.9	F	9	.709	1.250	2.362	2.480		.567	3700
	A329-127R32-G	4.0	G	8	.709	1.250	2.362	2.480		.509	3600
	A329-127R32-H	3.8	H	8	.709	1.250	2.362	2.480		.509	3050
	A329-127R32-J	4.1	J	7	.709	1.250	2.480	2.480		.509	2900
	Bore with 1 keyway										
4.000	A329-102T25-E	2.2	E	6	.591	1.000		.236	.394	.250	4700
	A329-102T25-F	1.2	F	6	.591	1.000		.246	.394	.250	4400
	A329-102T25-G	2.2	G	6	.591	1.000		.256	.394	.250	4300
	Bore with 2 keyways										
5.000	A329-127T38-E	1.5	E	9	.709	1.500		.295	.394	.375	4100
	A329-127T38-F	1.7	F	9	.709	1.500		.236	.394	.375	3700
	A329-127T38-G	1.5	G	8	.709	1.500		.246	.394	.375	3600
	A329-127T32-H	1.5	H	8	.709	1.250		.266	.394	.312	3050
	A329-127T32-J	1.7	H	7	.709	1.250		.295	.394	.312	2900

[1] To correspond with seat size on insert.

[2] n_{max} (max. rev/min) for holders must also be considered.

Spare parts



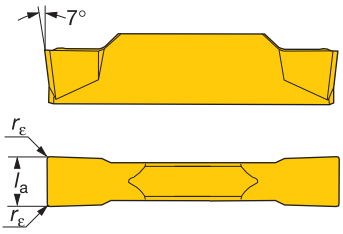
G6

D172

1	2		3	Torque value	
Screw	Locking nut	Molykote	Screwdriver	Nm	In-lbs
5513 017-03	5534 021-02	5683 010-01	5680 046-02 (15IP)	3	26

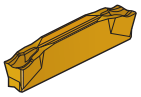
Note: Always apply Molykote 1000 to screw prior to use.

Inserts for CoroMill® 329

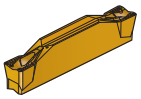


Tolerances, mm (inch):
l_a = +0.10/0 (+.004/0)
r_ε = ±0.10 (±.004)

For ISO application areas, see bottom of the page.

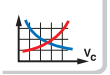
	Selection criteria l_a mm	l_a inch	r_ε mm	r_ε inch	Seat size[1]	Ordering code	P GC 1125	P GC 1145	P GC 2135	P GC 3115	P GC 4225	P CT 525	M GC 1105	M GC 1125	M GC 1145	M GC 2135	K GC 1125	K GC 3115	K GC 4225	S GC 1105	S GC 1125	S GC 1145	S GC 2135
						CoroCut® 2-edge																	
 123-CM	2.00	.079	0.20	.008	E	**N123E2-0200-0002-CM**	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
	2.50	.098	0.20	.008	F	**N123F2-0250-0002-CM**	☆	☆	☆	☆	☆		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
	3.00	.118	0.20	.008	G	**N123G2-0300-0002-CM**	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
	4.00	.158	0.20	.008	H	**N123H2-0400-0002-CM**	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
	5.00	.197	0.20	.008	J	**N123J2-0500-0002-CM**	☆	☆	☆					☆	☆	☆	☆				☆	☆	☆

For ISO application areas, see bottom of the page.

	Selection criteria l_a mm	l_a inch	r_ε mm	r_ε inch	Seat size[1]	Ordering code	P GC 1125	P GC 1145	P GC 2135	P GC 3115	P GC 4225	P CT 525	M GC 1005	M GC 1105	M GC 1125	M GC 1145	M GC 2135	M - H13A	K GC 1125	K GC 3115	K GC 4225	K - H13A	N - H13A	S GC 1005	S GC 1105	S GC 1125	S GC 2135	S - H13A
						CoroCut® 2-edge																						
 123-TF	3.00	.118	0.30	.012	G	**N123G2-0300-0003-TF**	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆		☆
	4.00	.158	0.40	.016	H	**N123H2-0400-0004-TF**	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆		☆
	5.00	.197	0.40	.016	J	**N123J2-0500-0004-TF**	☆	☆	☆	☆	☆		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆

[1] To correspond with seat size on holder.

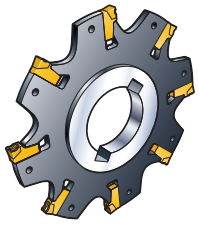
Note: For further geometries, see Parting and Grooving chapter in Turning tools catalogue.

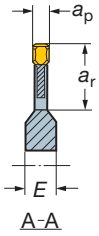
 D334
D327

Slitting cutter

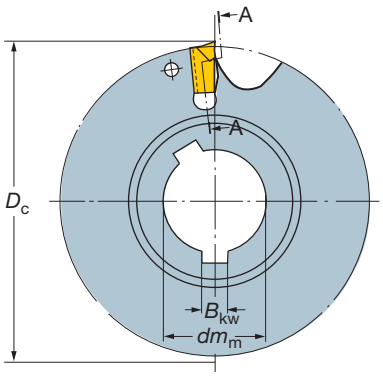
Diameter 80-315 mm

Positive geometry





Bore with keyway



Ø80 mm: One keyway only

Metric version

Slot width Max a_p	D_c mm	**Ordering code**	Seat size		Dimensions, mm kg	a_r	dm_m	E	B_{KW}	n_{max} [1]
2.08	80	**330.20-080020-220**	20	8	0.4	17	27	8	7	1000
	100	**330.20-100020-220**	20	10	0.5	24	32	8	8	800
2.6	80	**330.20-080025-225**	25	7	0.4	17	27	8	7	1000
	100	**330.20-100025-225**	25	9	0.5	24	32	8	8	800
	125	**330.20-125025-225**	25	11	0.3	31	40	8	10	640
	160	**330.20-160025-225**	25	14	0.5	49	40	8	10	500
3.12	80	**330.20-080030-230**	30	7	0.4	17	27	8	7	1000
	100	**330.20-100030-230**	30	9	0.2	24	32	8	8	800
	125	**330.20-125030-230**	30	11	0.3	31	40	8	10	640
	160	**330.20-160030-230**	30	14	0.5	49	40	8	10	500
	200	**330.20-200030-230**	30	18	0.7	62	50	8	12	400
4.12	80	**330.20-080040-240**	40	7	0.4	18	27	8	7	1000
	100	**330.20-100040-240**	40	8	0.2	24	32	8	8	800
	125	**330.20-125040-240**	40	10	0.4	32	40	8	10	640
	160	**330.20-160040-240**	40	13	0.5	49	40	8	10	500
	200	**330.20-200040-240**	40	17	0.9	62	50	8	12	400
	250	**330.20-250040-240**	40	21	1.4	87	50	8	12	320
5.12	80	**330.20-080050-250**	50	7	0.4	18	27	8	7	800
	100	**330.20-100050-250**	50	8	0.4	24	32	10	8	640
	125	**330.20-125050-250**	50	10	0.4	31	40	10	10	510
	160	**330.20-160050-250**	50	13	1.0	49	40	10	10	400
	200	**330.20-200050-250**	50	17	1.0	62	50	10	12	320
	250	**330.20-250050-250**	50	21	1.5	87	50	10	12	250
6.12	100	**330.20-100060-260**	60	8	0.3	24	32	12	8	640
	125	**330.20-125060-260**	60	10	0.4	31	40	12	10	510
	160	**330.20-160060-260**	60	12	0.7	49	40	12	10	400
	200	**330.20-200060-260**	60	16	1.1	62	50	12	12	320
	250	**330.20-250060-260**	60	19	1.8	87	50	12	12	250
	315	**330.20-315060-260**	60	24	2.7	119	50	12	12	200

[1] n_{max} (max. rev/min) for holders must also be considered.

D23

D175

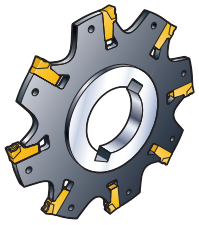
G6

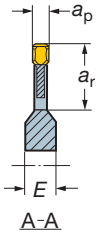
D2

Slitting cutter

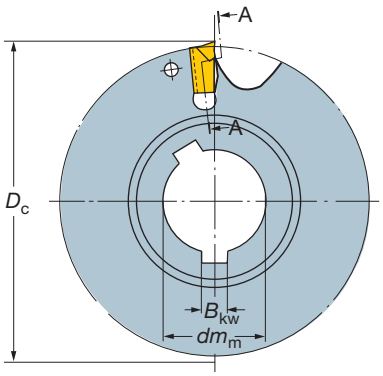
Diameter 3.000 - 10.000 inch

Positive geometry





Bore with keyway



Ø80 mm: One keyway only

Inch version

Slot width					Dimensions, inch					
Max a_p	D_c inch	**Ordering code**	Seat size		Lbs	a_r	dm_m	E	B_{KW}	n_{max} [1]
.084	3.000	**A330.20-076020-220**	20	8	0.9	.659	1.000	.315	.250	1000
	4.000	**A330.20-101020-220**	20	10	1.1	.982	1.250	.315	.312	800
.104	3.000	**A330.20-076025-225**	25	7	0.9	.664	1.000	.315	.250	1000
	4.000	**A330.20-101025-225**	25	9	1.1	.987	1.250	.315	.312	800
.125	3.000	**A330.20-076030-230**	30	7	0.9	.670	1.000	.315	.250	1000
	4.000	**A330.20-101030-230**	30	9	1.1	.993	1.250	.315	.312	800
	5.000	**A330.20-127030-230**	30	11	1.4	1.375	1.500	.315	.375	640
	6.000	**A330.20-152030-230**	30	14	1.6	1.875	1.500	.315	.375	500
	8.000	**A330.20-203030-230**	30	18	1.5	2.560	2.000	.315	.500	400
.164	3.000	**A330.20-076040-240**	40	7	0.9	.678	1.000	.315	.250	1000
	4.000	**A330.20-101040-240**	40	8	1.1	1.000	1.250	.315	.312	800
	5.000	**A330.20-127040-240**	40	10	1.4	1.382	1.500	.315	.375	640
	6.000	**A330.20-152040-240**	40	13	1.8	1.882	1.500	.315	.375	510
	8.000	**A330.20-203040-240**	40	17	1.9	2.567	2.000	.315	.500	400
	10.000	**A330.20-254040-240**	40	21	2.9	3.567	2.000	.315	.500	320
.204	3.000	**A330.20-076050-250**	50	7	1.0	.666	1.000	.394	.250	800
	4.000	**A330.20-101050-250**	50	8	1.1	.989	1.250	.394	.312	640
	5.000	**A330.20-127050-250**	50	10	1.7	1.371	1.500	.394	.375	510
	6.000	**A330.20-152050-250**	50	13	1.9	1.871	1.500	.394	.375	400
	8.000	**A330.20-203050-250**	50	17	2.1	2.556	2.000	.394	.500	320
	10.000	**A330.20-254050-250**	50	21	3.3	3.556	2.000	.394	.500	250
.243	4.000	**A330.20-101060-260**	60	8	1.3	.978	1.250	.472	.312	640

[1] n_{max} (max. rev/min) for holders must also be considered.

D23
D175
G6
D2

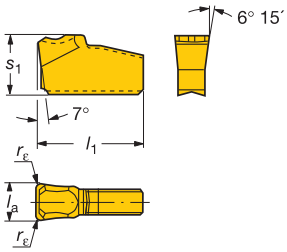
SANDVIK Coromant

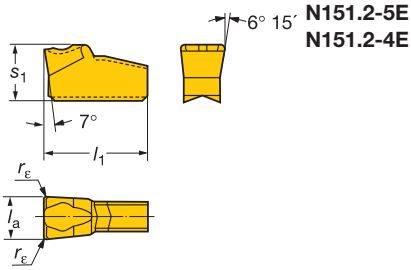
Inserts for T-MAX Q-cutter

330.20

N151.2-4E

N151.2-5E





			P							M							K						N	S					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	-								
			1125	1145	2135	235	4225	4230	4240	1125	1145	2135	235	4230	4240	H13A	1125	3020	4225	4230	4240	H13A	H13A	1005	1125	1145	2135	H13A								
		Ordering code																											l_a mm	l_a in.	l_1 mm	l_1 in.	s_1 mm	s_1 in.	r_ε mm	r_ε in.
Medium	20	N151.2-200-5E	☆	☆	☆	☆	☆			☆	☆	☆	☆				☆		☆			☆	☆	☆	☆	☆	☆	☆	2.0	.079	4.4	.173	4.2	.164	0.2	.008
	25	N151.2-250-4E	☆	☆	☆	☆	☆			☆	☆	☆	☆			☆	☆		☆			☆	☆		☆	☆	☆	☆	2.5	.098	5.5	.216	5.6	.220	0.3	.012
	25	N151.2-250-5E	☆	☆	☆	☆	☆			☆	☆	☆	☆				☆	☆	☆			☆	☆	☆	☆	☆	☆	☆	2.5	.098	5.5	.216	5.5	.216	0.2	.008
	30	N151.2-300-4E	☆	☆	☆	☆	☆			☆	☆	☆	☆			☆	☆	☆	☆			☆	☆		☆	☆	☆	☆	3.0	.118	5.5	.216	5.6	.220	0.3	.012
	30	N151.2-300-5E	☆	☆	☆	☆	☆			☆	☆	☆	☆				☆	☆	☆			☆	☆	☆	☆	☆	☆	☆	3.0	.118	5.5	.216	5.6	.220	0.2	.008
	40	N151.2-400-4E	☆	☆	☆	☆	☆			☆	☆	☆	☆			☆	☆	☆	☆			☆	☆		☆	☆	☆	☆	4.0	.158	6.8	.268	7.2	.284	0.3	.012
	40	N151.2-400-5E	☆	☆	☆	☆	☆			☆	☆	☆	☆				☆	☆	☆			☆	☆	☆	☆	☆	☆	☆	4.0	.158	6.8	.268	7.2	.284	0.2	.008
	50	N151.2-500-4E	☆	☆	☆	☆	☆			☆	☆	☆	☆			☆	☆	☆	☆			☆	☆		☆	☆	☆	☆	5.0	.197	6.8	.268	7.4	.289	0.4	.016
	50	N151.2-500-5E	☆	☆	☆	☆	☆			☆	☆	☆	☆				☆	☆	☆			☆	☆	☆	☆	☆	☆	☆	5.0	.197	6.8	.268	7.4	.289	0.2	.008
	60	N151.2-600-4E	☆	☆	☆	☆	☆			☆	☆	☆	☆			☆	☆	☆	☆			☆	☆		☆	☆	☆	☆	6.0	.236	8.4	.331	8.8	.347	0.4	.016
	60	N151.2-600-5E	☆	☆	☆	☆	☆			☆	☆	☆	☆				☆		☆			☆	☆	☆	☆	☆	☆	☆	6.0	.236	8.4	.331	8.7	.341	0.2	.008
	20	330.20-20-AA						☆	☆					☆	☆					☆	☆	☆	☆					☆	2.1	.081	8.0	.315	4.2	.164	0.19	.008
	25	330.20-25-AA						☆	☆					☆	☆					☆	☆	☆	☆					☆	2.6	.102	10.0	.394	5.5	.216	0.2	.008
	30	330.20-30-AA						☆	☆					☆	☆					☆	☆	☆	☆					☆	3.1	.123	10.0	.394	5.6	.220	0.3	.012
	40	330.20-40-AA						☆	☆					☆	☆					☆	☆	☆	☆					☆	4.1	.162	12.8	.504	7.2	.282	0.3	.012
	50	330.20-50-AA						☆	☆					☆	☆					☆	☆	☆	☆					☆	5.1	.202	12.8	.504	7.3	.289	0.37	.015
	60	330.20-60-AA						☆	☆					☆	☆					☆	☆	☆	☆					☆	6.1	.241	15.3	.602	8.8	.347	0.37	.015
						P40		P20	P40				M35	M30	M40	M15		K20		K30	K40	K20	N15					S20								

330.20 is a close tolerance insert with geometry and grade programme adapted for milling operations.

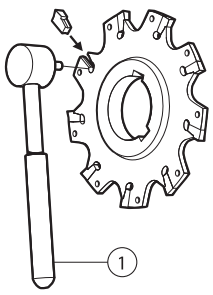
N151.2-4E is a Q-Cut turning insert which can be used for milling low carbon materials.

N151.2-5E is a Q-Cut turning insert but also useful for milling copper and aluminium.

Note!
For grade description, see page D356.

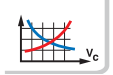
Spare parts for T-Max Q-Cutter

330.20



Insert size		1
Seat size		Key [1]
20	2.0	5680 056-02
25.30.40.50	2.5-5.0	5680 056-01
60	6.0	5680 056-03

[1] Delivered with the tool



D334

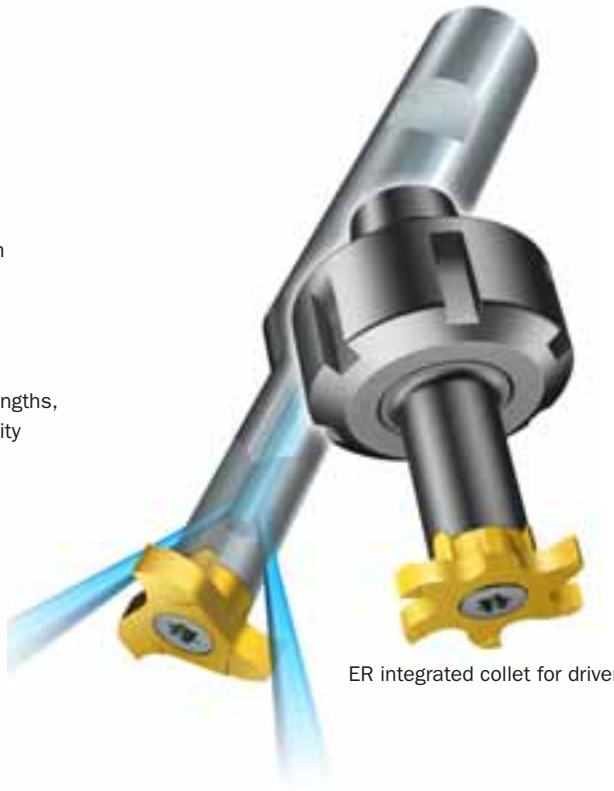
D327

CoroMill® 327

Grooving/Threading cutter

Slot and thread milling for holes over dia. 10 mm

Grooving widths 0.7-5.15 mm



ER integrated collet for driven tools

Application areas

For use in internal machining of eccentric components e.g. gearbox casings, high volume assemblies, mainly on machining centres.

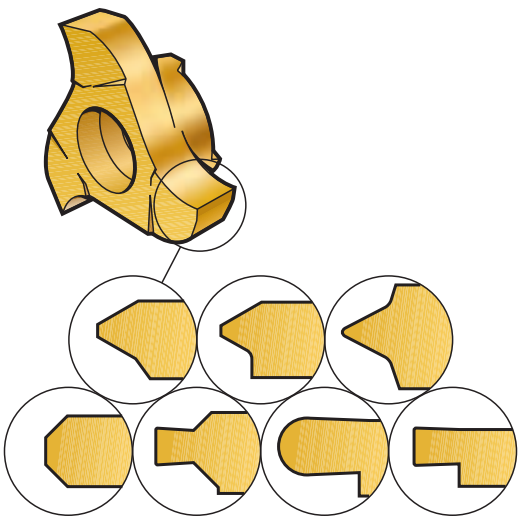
Features

- A universal cutter for use in all materials
- Sharp cutting edges for high quality grooves
- One grade: PVD coated GC1025 for all materials
- Multiple edges for high productive economic machining

Weldon shank

Steel and carbide shank with different lengths, giving stable set up and higher productivity

Four different sizes of cutter all with three or six cutting edges for high metal removal rate



Insert programme

- Grooving
- Grooving / Full radius
- Chamfering
- Circlip grooves with chamfer
- Threading
- V-Profile 60°
- Metric 60°
- Withworth 55°
- UN 60°

ISO application areas:

P M K N S

SANDVIK Coromant

Code key for CoroMill® 327

CoroMill 327 insert

Grooving and chamfering

327	R	12	–	22	130	45	08	–	GC
1	2	3		4	5	9	12		7

Threading

327	R	06	–	12	100	VM	–	TH
1	2	3		4	10	11		7

Profiling

327	R	06	–	12	220	11	–	RM
1	2	3		4	5	6		7

Grooving

327	R	12	–	28	150	01	–	GM	M
1	2	3		4	5	6		7	8

1 Product name
2 Right-hand insert
3 Coupling size (interface)
4 D_{min} (mm)
5 Insert width
6 Radius ex 02 = radius 0.2 mm (.008 inch)
7 Type of insert
- GM = Grooving
- RM = Fullnose radius
- CH = Chamfering
- GC = Grooving and chamfering
- TH = Threading

8 M = Close pitch
9 Chamfer 45°
10 Thread pitch
- mm: pitch x 100
- inch: No. of threads per inch

11 Type of thread
- VM = V-Profile 60°
- MM = Metric 60°
- WH = Whitworth 55°

12 Max cutting depth a_r in mm

CoroMill® 327 holders

327	–	12	B	15	S	C	–	06
1		2	3	4	5	6		7

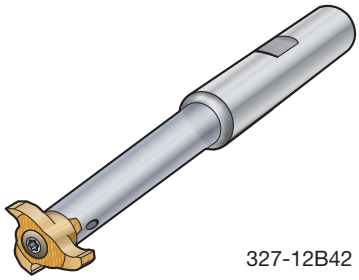
1 Product name
2 Shank diameter (d_{mm})
3 Shank type
- B = Weldon

4 Reach length
5 Shank materials
- S = steel
- E = solid carbide

6 Internal coolant
7 Coupling size (interface)

CoroMill® 327

Grooving cutter

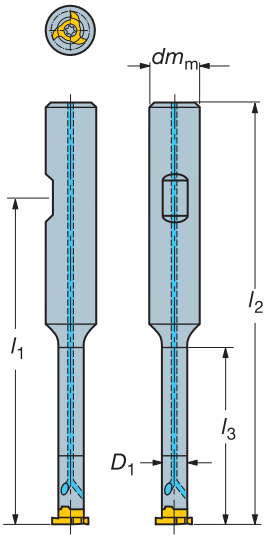


327-12B42 EC-06
|
E= Solid carbide shank

Tolerance dm_m
Solid carbide shank : h6

Steel shank : g6

Weldon



l_1 = programming length

Metric version

Insert size[1]	Ordering code	Dimensions, mm KG	dm_m	D_1	l_1	l_2	l_3	Gauge insert	Nm[2]
06	327-12B15SC-06	0.1	12	6	52	74	15	327R06-10 100 00-GM	1.8
	327-12B21EC-06	0.1	12	6	58	80	21	327R06-10 100 00-GM	1.8
	327-12B30EC-06	0.1	12	6	68	90	30	327R06-10 100 00-GM	1.8
	327-12B42EC-06	0.1	12	6	78	100	42	327R06-10 100 00-GM	1.8
09	327-16B18SC-09	0.1	16	9	56	80	18	327R09-18 150 02-GM	4.3
	327-16B32EC-09	0.2	16	9	76	100	32	327R09-18 150 02-GM	4.3
	327-16B45EC-09	0.2	16	9	86	110	45	327R09-18 150 02-GM	4.3
	327-16B64EC-09	0.2	16	9	106	130	64	327R09-18 150 02-GM	4.3
12	327-16B24SC-12	0.1	16	12	56	80	24	327R12-22 150 02-GM	6.5
	327-16B42EC-12	0.2	16	12	76	100	42	327R12-22 150 02-GM	6.5
	327-16B60EC-12	0.2	16	12	106	130	60	327R12-22 150 02-GM	6.5
	327-16B85EC-12	0.3	16	12	136	160	85	327R12-22 150 02-GM	6.5
14	327-16B42EC-14	0.2	16	14.3	76	100	42	327R14-28 150 02-GM	6.5
	327-16B60EC-14	0.2	16	14.3	106	130	60	327R14-28 150 02-GM	6.5
	327-16B85EC-14	0.4	16	14.3	136	160	85	327R14-28 150 02-GM	6.5
	327-20B35SC-14	0.2	20	14.3	75	100	36	327R14-28 150 02-GM	6.5

Inch version

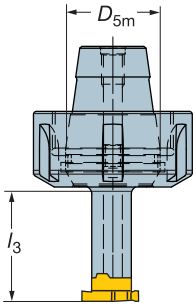
Insert size[1]	Ordering code	Dimensions, inch Lbs	dm_m	D_1	l_1	l_2	l_3	Gauge insert	ft-lbs[3]
06	A327-13B21EC-06	0.2	.500	.236	2.264	3.150	.827	327R06-10 100 00-GM	1.3
	A327-13B30EC-06	0.2	.500	.236	2.658	3.543	1.181	327R06-10 100 00-GM	1.3
	A327-13B42EC-06	0.2	.500	.236	3.051	3.937	1.654	327R06-10 100 00-GM	1.3
09	A327-16B18SC-09	0.2	.625	.354	2.205	3.150	.709	327R09-18 150 02-GM	3.2
	A327-16B32EC-09	0.4	.625	.354	2.992	3.937	1.260	327R09-18 150 02-GM	3.2
	A327-16B45EC-09	0.4	.625	.354	3.386	4.331	1.772	327R09-18 150 02-GM	3.2
	A327-16B64EC-09	0.4	.625	.354	4.173	5.118	2.520	327R09-18 150 02-GM	3.2
12	A327-16B24SC-12	0.2	.625	.472	2.205	3.150	.945	327R12-22 150 02-GM	4.8
	A327-16B42EC-12	0.4	.625	.472	2.992	3.937	1.654	327R12-22 150 02-GM	4.8
	A327-16B60EC-12	0.6	.625	.472	4.173	5.118	2.362	327R12-22 150 02-GM	4.8
	A327-16B85EC-12	0.7	.625	.472	5.354	6.299	3.346	327R12-22 150 02-GM	4.8
14	A327-16B42EC-14	0.4	.625	.563	2.992	3.937	1.654	327R14-28 150 02-GM	4.8
	A327-16B60EC-14	0.6	.625	.563	4.173	5.118	2.362	327R14-28 150 02-GM	4.8
	A327-16B85EC-14	0.7	.625	.563	5.354	6.299	3.346	327R14-28 150 02-GM	4.8

1) To correspond with insert size on insert.
2) Insert tightening torque Nm.
3) Insert tightening torque ft-lbs.

G6
D180
D184

CoroMill® 327

ER integrated collet for driven tools



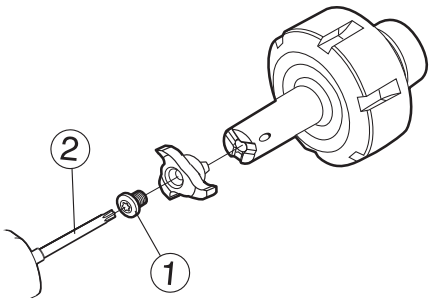
l_1 = programming length

Insert size	Ordering code	Collet size	Dimensions, millimeter, inch (mm, in.) D_{5m} mm	D_{5m} in.	l_3 mm	l_3 in.	kg	Gauge insert	Nm[1]
06	**392.ER327-11 06 016**	ER 11	11.4	.449	16	.630	0.1	327R06-10 100 00-GM	1.8
09	**392.ER327-11 09 022**		11.4	.449	22	.866	0.1	327R09-18 150 02-GM	4.3
09	**392.ER327-16 09 022**	ER 16	17	.669	22	.866	0.1	327R09-18 150 02-GM	4.3
12	**392.ER327-16 12 030**		17	.669	30	1.181	0.1	327R12-22 150 02-GM	6.5
09	**392.ER327-20 09 022**	ER 20	21	.827	22	.866	0.1	327R09-18 150 02-GM	4.3
12	**392.ER327-20 12 030**		21	.827	30	1.181	0.1	327R12-22 150 02-GM	6.5
14	**392.ER327-20 14 035**		21	.827	35	1.378	0.2	327R14-28 150 02-GM	6.5
09	**392.ER327-25 09 022**	ER 25	26	1.024	22	.866	0.1	327R09-18 150 02-GM	4.3
12	**392.ER327-25 12 030**		26	1.024	30	1.181	0.1	327R12-22 150 02-GM	6.5
14	**392.ER327-25 14 019**		26	1.024	19	.748	0.2	327R14-28 150 02-GM	6.5
14	**392.ER327-25 14 035**		26	1.024	35	1.378	0.2	327R14-28 150 02-GM	6.5
12	**392.ER327-32 12 030**	ER 32	33	1.299	30	1.181	0.2	327R12-22 150 02-GM	6.5
14	**392.ER327-32 14 019**		33	1.299	19	.748	0.2	327R14-28 150 02-GM	6.5
14	**392.ER327-32 14 035**		33	1.299	35	1.378	0.2	327R14-28 150 02-GM	6.5

[1] Insert tightening torque Nm.

Note!
The nut is not a standard ER nut and therefore not exchangeable with the spare part series 5533 050-0X. The nut is always included in the package!

Spare parts for CoroMill® 327



Insert size	1 Screw	2 Screwdriver (Torx Plus)
06	5513 039-03	5680 046-01 (8IP)
09	5513 039-02	5680 046-02 (15IP)
12	5513 039-04	5680 046-06 (20IP)
14	5513 039-04	5680 046-06 (20IP)

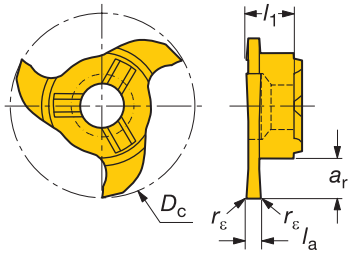
Key for integrated collet

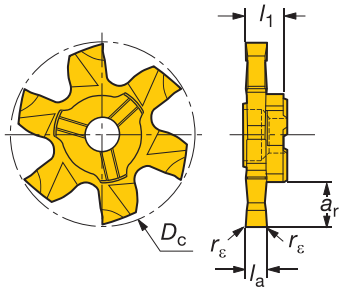
ER size	Key[3]
ER11	5680 091-03
ER16	5680 096-06
ER20	5680 096-01
ER25	5680 096-02
ER32	5680 096-03

[3] To be ordered separately

Inserts for CoroMill® 327

Grooving





Tolerances, mm (inch):
l_a = +0.02 (.0008)

Insert size[1]	Ordering code	Number of teeth z	P GC 1025	M GC 1025	K GC 1025	N GC 1025	S GC 1025	D_c mm	D_c in.	a_r max mm	a_r max in.	l_a mm	l_a in.	l_1 mm	l_1 in.	r_ε mm	r_ε in.
06	327R06-10 10000-GM	3	★	★	★	★	★	9.7	.382	1.5	.059	1.0	.039	3.5	.138		
	327R06-10 15002-GM	3	★	★	★	★	★	9.7	.382	1.5	.059	1.5	.059	3.5	.138	0.2	.008
	327R06-10 20002-GM	3	★	★	★	★	★	9.7	.382	1.5	.059	2.0	.079	3.5	.138	0.2	.008
	327R06-10 25002-GM	3	★	★	★	★	★	9.7	.382	1.5	.059	2.5	.098	3.5	.138	0.2	.008
09	327R09-18 15002-GM	3	★	★	★	★	★	17.7	.697	3.5	.138	1.5	.059	5.75	.226	0.2	.008
	327R09-18 20002-GM	3	★	★	★	★	★	17.7	.697	3.5	.138	2.0	.079	5.75	.226	0.2	.008
	327R09-18 25002-GM	3	★	★	★	★	★	17.7	.697	3.5	.138	2.5	.098	5.75	.226	0.2	.008
	327R09-18 30002-GM	3	★	★	★	★	★	17.7	.697	3.5	.138	3.0	.118	5.75	.226	0.2	.008
	327R09-18 15001-GMM	6	★	★	★	★	★	17.7	.697	3.5	.138	1.5	.059	5.75	.226	0.1	.004
	327R09-18 20002-GMM	6	★	★	★	★	★	17.7	.697	3.5	.138	2.0	.079	5.75	.226	0.2	.008
	327R09-18 25002-GMM	6	★	★	★	★	★	17.7	.697	3.5	.138	2.5	.098	5.75	.226	0.2	.008
	327R09-18 30002-GMM	6	★	★	★	★	★	17.7	.697	3.5	.138	3.0	.118	5.75	.226	0.2	.008
12	327R12-22 15002-GM	3	★	★	★	★	★	21.7	.854	4.5	.177	1.5	.059	5.7	.224	0.2	.008
	327R12-22 20002-GM	3	★	★	★	★	★	21.7	.854	4.5	.177	2.0	.079	5.7	.224	0.2	.008
	327R12-22 25002-GM	3	★	★	★	★	★	21.7	.854	4.5	.177	2.5	.098	5.7	.224	0.2	.008
	327R12-22 30002-GM	3	★	★	★	★	★	21.7	.854	4.5	.177	3.0	.118	5.7	.224	0.2	.008
	327R12-22 40002-GM	3	★	★	★	★	★	21.7	.854	4.5	.177	4.0	.157	5.7	.224	0.2	.008
	327R12-28 15001-GMM	6	★	★	★	★	★	27.7	1.091	6.5	.256	1.5	.059	6.2	.244	0.1	.004
	327R12-28 20002-GMM	6	★	★	★	★	★	27.7	1.091	6.5	.256	2.0	.079	6.2	.244	0.2	.008
	327R12-28 25002-GMM	6	★	★	★	★	★	27.7	1.091	6.5	.256	2.5	.098	6.2	.244	0.2	.008
	327R12-28 30002-GMM	6	★	★	★	★	★	27.7	1.091	6.5	.256	3.0	.118	6.25	.246	0.2	.008
	327R12-28 40002-GMM	6	★	★	★	★	★	27.7	1.091	6.5	.256	4.0	.157	6.25	.246	0.2	.008
14	327R14-28 15000-GM	3	★	★	★	★	★	27.7	1.091	6.5	.256	1.5	.059	6.5	.256	0.2	.008
	327R14-28 20002-GM	3	★	★	★	★	★	27.7	1.091	6.5	.256	2.0	.079	6.5	.256	0.2	.008
	327R14-28 25002-GM	3	★	★	★	★	★	27.7	1.091	6.5	.256	2.5	.098	6.5	.256	0.2	.008
	327R14-28 30002-GM	3	★	★	★	★	★	27.7	1.091	6.5	.256	3.0	.118	6.5	.256	0.2	.008
	327R14-28 35002-GM	3	★	★	★	★	★	27.7	1.091	6.5	.256	3.5	.138	6.5	.256	0.2	.008
	327R14-28 40002-GM	3	★	★	★	★	★	27.7	1.091	6.5	.256	4.0	.157	6.5	.256	0.2	.008
	327R14-35 15001-GMM	6	★	★	★	★	★	34.7	1.366	10.0	.394	1.5	.059	6.25	.246	0.1	.004
	327R14-35 20002-GMM	6	★	★	★	★	★	34.7	1.366	10.0	.394	2.0	.079	6.25	.246	0.2	.008
	327R14-35 25002-GMM	6	★	★	★	★	★	34.7	1.366	10.0	.394	2.5	.098	6.25	.246	0.2	.008
	327R14-35 30002-GMM	6	★	★	★	★	★	34.7	1.366	10.0	.394	3.0	.118	6.25	.246	0.2	.008
			P30	M15		N15	S15										

1) To correspond with insert size on holder.

★= First choice

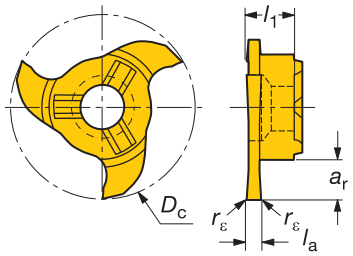
D334 D327 D356 D2

SANDVIK Coromant

Inserts for CoroMill® 327

Grooving

For circlip grooves



Tolerances for circlip grooves, mm (inch)
l_a 0.7-0.9 (.028-.035)

l_a = +0.07(+.00276)
+0.05 (+.00197)

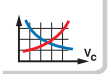
l_a 1.1-5.15 (.043-.203)

l_a = +0.11 (+.0043)
+0.09 (+.0035)

Insert size[1]	Ordering code	Number of teeth z	P GC 1025	M GC 1025	K GC 1025	N GC 1025	S GC 1025	Dimensions, millimeter, inch (mm, in.) D_c mm	D_c in.	a_r max mm	a_r max in.	l_a mm	l_a in.	l_1 mm	l_1 in.	r_ε mm	r_ε in.
06	327R06-10 07000-GM	3	★	★	★	★	★	9.7	.382	1.5	.059	0.7	.028	3.5	.138	0.2	.008
	327R06-10 08000-GM	3	★	★	★	★	★	9.7	.382	1.5	.059	0.8	.032	3.5	.138	0.2	.008
	327R06-10 09000-GM	3	★	★	★	★	★	9.7	.382	1.5	.059	0.9	.035	3.5	.138	0.2	.008
	327R06-10 11000-GM	3	★	★	★	★	★	9.7	.382	1.5	.059	1.1	.043	3.5	.138	0.2	.008
	327R06-10 13000-GM	3	★	★	★	★	★	9.7	.382	1.5	.059	1.3	.051	3.5	.138	0.2	.008
	327R06-10 16000-GM	3	★	★	★	★	★	9.7	.382	1.5	.059	1.6	.063	3.5	.138	0.2	.008
09	327R09-18 11000-GM	3	★	★	★	★	★	17.7	.697	3.5	.138	1.1	.043	5.75	.226	0.2	.008
	327R09-18 13000-GM	3	★	★	★	★	★	17.7	.697	3.5	.138	1.3	.051	5.75	.226	0.2	.008
	327R09-18 16000-GM	3	★	★	★	★	★	17.7	.697	3.5	.138	1.6	.063	5.75	.226	0.2	.008
12	327R12-22 16000-GM	3	★	★	★	★	★	21.7	.854	4.5	.177	1.6	.063	5.7	.224	0.2	.008
	327R12-22 18502-GM	3	★	★	★	★	★	21.7	.854	4.5	.177	1.85	.073	5.7	.224	0.2	.008
	327R12-22 21502-GM	3	★	★	★	★	★	21.7	.854	4.5	.177	2.15	.085	5.7	.224	0.2	.008
	327R12-22 26502-GM	3	★	★	★	★	★	21.7	.854	4.5	.177	2.65	.104	5.7	.224	0.2	.008
	327R12-22 31502-GM	3	★	★	★	★	★	21.7	.854	4.5	.177	3.15	.124	5.7	.224	0.2	.008
	327R12-22 41502-GM	3	★	★	★	★	★	21.7	.854	4.5	.177	4.15	.163	5.7	.224	0.2	.008
	327R12-22 51502-GM	3	★	★	★	★	★	21.7	.854	4.5	.177	5.15	.203	5.7	.224	0.2	.008
			P30	M15		N15	S15										

1) To correspond with insert size on holder.

★= First choice


D334

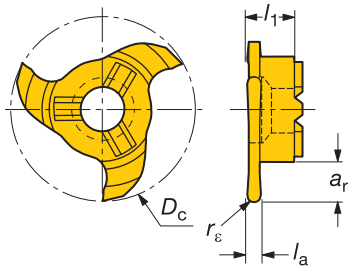
D327

D356

D2

Inserts for CoroMill® 327

Grooving - full radius



Tolerances, mm (inch):
l_a = +0.03 (.0001)

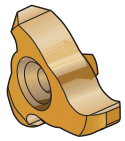
Insert size[1]	Ordering code	Number of teeth z	P GC 1025	M GC 1025	K GC 1025	N GC 1025	S GC 1025	D_c mm	D_c in.	a_r max mm	a_r max in.	l_a mm	l_a in.	l_1 mm	l_1 in.	r_ε mm	r_ε in.
06	327R06-12 22011-RM	3	★	★	★	★	★	11.7	.461	2.5	.098	2.2	.087	3.5	.138	1.1	.043
09	327R09-18 22011-RM	3	★	★	★	★	★	17.7	.697	3.5	.138	2.2	.087	5.75	.226	1.1	.043
12	327R12-22 10005-RM	3	★	★	★	★	★	21.7	.854	4.5	.177	1.0	.039	5.75	.226	0.5	.020
	327R12-22 20010-RM	3	★	★	★	★	★	21.7	.854	4.5	.177	2.0	.079	5.75	.226	1.0	.039
	327R12-22 30015-RM	3	★	★	★	★	★	21.7	.854	4.5	.177	3.0	.118	5.75	.226	1.5	.059
	327R12-22 40020-RM	3	★	★	★	★	★	21.7	.854	4.5	.177	4.0	.157	5.75	.226	2.0	.079
			P10	M15		N15	S15										

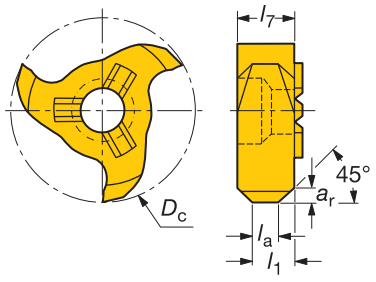
1) To correspond with insert size on holder.

★= First choice

Inserts for CoroMill® 327

Chamfering





Insert size[1]	Ordering code	Number of teeth z	P GC 1025	M GC 1025	K GC 1025	N GC 1025	S GC 1025	D_c mm	D_c in.	a_r max mm	a_r max in.	l_a mm	l_a in.	l_1 mm	l_1 in.	l_7 mm	l_7 in.
06	327R06-12 12045-CH	3	★	★	★	★	★	11.7	.461	0.8	.032	1.2	.047	2.5	.098	3.5	.138
12	327R12-22 20045-CH	3	★	★	★	★	★	21.7	.854	1.7	.067	2.0	.079	4.1	.161	5.85	.230
			P10	M15		N15	S15										

1) To correspond with insert size on holder.

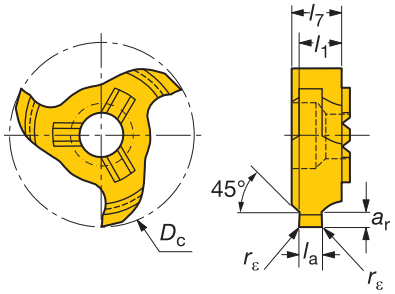
★= First choice

D334 D327 D356 D2

SANDVIK Coromant

Inserts for CoroMill® 327

Circlip grooves with chamfer



Tolerances, mm (inch):
l_a = +0.11 (.0043)
= +0.09 (.0035)

Insert size[1]	Ordering code	Number of teeth z	P GC 1025	M GC 1025	K GC 1025	N GC 1025	S GC 1025	Dimensions, millimeter, inch (mm, in.) D_c mm	D_c in.	a_r mm	a_r in.	l_a mm	l_a in.	l_1 mm	l_1 in.	l_7 mm	l_7 in.	r_ε mm	r_ε in.
12	**327R12-22 11045-GC**	3	★	★	★	★	★	21.7	.854	0.5	.020	1.1	.043	5.07	.200	5.85	.230		
	327R12-22 1304508-GC	3	★	★	★	★	★	21.7	.854	0.8	.031	1.3	.051	5.17	.204	5.85	.230		
	327R12-22 13045-GC	3	★	★	★	★	★	21.7	.854	0.7	.026	1.3	.051	5.17	.204	5.85	.230		
	327R12-22 1604508-GC	3	★	★	★	★	★	21.7	.854	0.8	.031	1.6	.063	5.07	.200	5.85	.230		
	327R12-22 16045-GC	3	★	★	★	★	★	21.7	.854	1.0	.039	1.6	.063	5.17	.204	5.85	.230		
	327R12-22 18545-GC	3	★	★	★	★	★	21.7	.854	1.25	.049	1.85	.073	5.19	.204	5.85	.230		
	327R12-22 21545-GC	3	★	★	★	★	★	21.7	.854	1.5	.059	2.15	.085	5.34	.210	5.85	.230	0.2	.006
	327R12-22 2654518-GC	3	★	★	★	★	★	21.7	.854	1.8	.071	2.65	.104	5.09	.200	5.85	.230	0.2	.008
	327R12-22 26545-GC	3	★	★	★	★	★	21.7	.854	1.5	.059	2.65	.104	5.09	.200	5.85	.230	0.2	.006
	327R12-22 31545-GC	3	★	★	★	★	★	21.7	.854	1.75	.069	3.15	.124	5.34	.210	5.85	.230	0.2	.008
	327R12-22 4154525-GC	3	★	★	★	★	★	21.7	.854	2.5	.098	4.15	.163	5.34	.210	5.85	.230	0.2	.008
	327R12-22 41545-GC	3	★	★	★	★	★	21.7	.854	2.0	.079	4.15	.163	5.34	.210	5.85	.230	0.2	.008
			P30	M15		N15	S15												

[1] To correspond with insert size on holder.

★= First choice

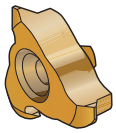
D334 D327 D356 D2

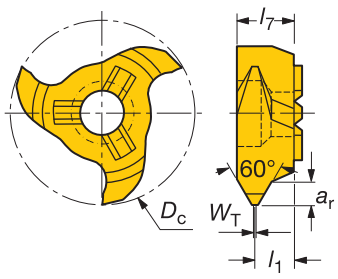
Inserts for CoroMill® 327

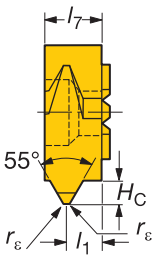
Thread milling

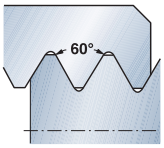
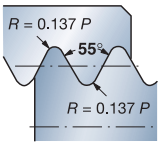
V-profile 60°
Partial profile
Internal

Whitworth 55°
Full profile
External/internal







	Insert size[1]	Pitch, mm min	Pitch, mm max	Pitch, TPI min	Pitch, TPI max	Ordering code	Number of teeth z_n	P GC 1025	M GC 1025	K GC 1025	N GC 1025	S GC 1025	Dimensions, mm, inch D_c	l_1	l_7	a_r max	W_T	H_C	r_ε
						**V-profile 60°**													
	06	1	2	12	24	327R06-12 100VM-TH	3	★	★	★	★	★	11.7	2.45	3.6	1.2	0.12		
													.461	*.096*	*.142*	*.049*	*.005*		
		2.5	3	8	10	327R06-12 250VM-TH	3	★	★	★	★	★	11.7	2.1	3.6	1.7	0.31		
													.461	*.083*	*.142*	*.066*	*.012*		
	09	1	2	12	24	327R09-18 100VM-TH	3	★	★	★	★	★	17.7	5	5.85	1.2	0.12		
													.697	*.197*	*.230*	*.049*	*.005*		
						327R09-18 100VM-THM	6	★	★	★	★	★	17.7	2.95	5.85	1.2	0.12		
													.697	*.116*	*.230*	*.049*	*.005*		
		2.5	3.5	7	10	327R09-18 250VM-TH	3	★	★	★	★	★	17.7	4.1	5.85	2.6	0.31		
													.697	*.161*	*.230*	*.101*	*.012*		
						327R09-18 250VM-THM	6	★	★	★	★	★	17.7	2.95	5.85	2.6	0.31		
													.697	*.116*	*.230*	*.101*	*.012*		
	12	1	2	12	24	327R12-22 100VM-TH	3	★	★	★	★	★	21.7	4.6	5.85	1.2	0.12		
													.854	*.181*	*.230*	*.049*	*.005*		
						327R12-22 100VM-THM	6	★	★	★	★	★	21.7	4.6	5.95	1.2	0.12		
													.854	*.181*	*.234*	*.049*	*.005*		
		2.5	4.5	5	10	327R12-22 250VM-TH	3	★	★	★	★	★	21.7	3.7	5.85	2.6	0.31		
													.854	*.146*	*.230*	*.101*	*.012*		
						327R12-22 250VM-THM	6	★	★	★	★	★	21.7	3.7	5.95	2.6	0.31		
													.854	*.146*	*.234*	*.101*	*.012*		
						**Whitworth 55°**													
	06			19		327R06-12 19WH-TH	3	★	★	★	★	★	11.7	2.45	3.6			0.86	0.18
													.461	*.096*	*.142*			*.034*	*.007*
				14		327R06-12 14WH-TH	3	★	★	★	★	★	11.7	2.3	3.6			1.16	0.24
													.461	*.091*	*.142*			*.046*	*.009*
				11		327R06-12 11WH-TH	3	★	★	★	★	★	11.7	2	3.6			1.48	0.31
													.461	*.079*	*.142*			*.058*	*.012*
	09			19		327R09-18 19WH-TH	3	★	★	★	★	★	17.7	4.85	5.85			0.86	0.18
													.697	*.191*	*.230*			*.034*	*.007*
				14		327R09-18 14WH-TH	3	★	★	★	★	★	17.7	4.65	5.85			1.16	0.24
													.697	*.183*	*.230*			*.046*	*.009*
				11		327R09-18 11WH-TH	3	★	★	★	★	★	17.7	4.4	5.85			1.48	0.31
													.697	*.173*	*.230*			*.058*	*.012*
								P30	M15		N15	S15							

[1] To correspond with insert size on holder.

★= First choice

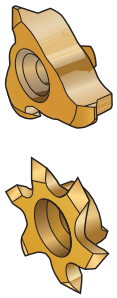
D334 D327 D356 D2

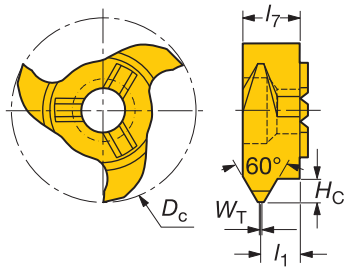
SANDVIK Coromant

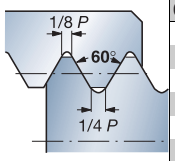
Inserts for CoroMill® 327

Thread milling

UN 60°
Full profile
Internal





	Insert size[1]	Pitch, TPI	Ordering code	z_n[2]	P GC 1025	M GC 1025	K GC 1025	N GC 1025	S GC 1025	Dimensions, mm, inch D_c	l_1	l_7	W_T	H_C
	**09**		**UN 60°**											
		24	327R09-18 24UN-TH	3	★	★	★	★	★	17.7	5.2	5.85	0.13	0.58
										.697	*.205*	*.230*	*.005*	*.023*
			327R09-18 24UN-THM	6	★	★	★	★	★	17.7	5.2	5.85	0.13	0.58
										.697	*.205*	*.230*	*.005*	*.023*
		20	327R09-18 20UN-TH	3	★	★	★	★	★	17.7	5.15	5.85	0.16	0.69
										.697	*.203*	*.230*	*.006*	*.027*
			327R09-18 20UN-THM	6	★	★	★	★	★	17.7	5.15	5.85	0.16	0.69
										.697	*.203*	*.230*	*.006*	*.027*
		18	327R09-18 18UN-TH	3	★	★	★	★	★	17.7	5.1	5.85	0.18	0.76
										.697	*.201*	*.230*	*.007*	*.030*
			327R09-18 18UN-THM	6	★	★	★	★	★	17.7	5.1	5.85	0.18	0.76
										.697	*.201*	*.230*	*.007*	*.030*
		16	327R09-18 16UN-TH	3	★	★	★	★	★	17.7	5	5.85	0.2	0.86
										.697	*.197*	*.230*	*.008*	*.034*
			327R09-18 16UN-THM	6	★	★	★	★	★	17.7	5	5.85	0.2	0.86
										.697	*.197*	*.230*	*.008*	*.034*
		14	327R09-18 14UN-TH	3	★	★	★	★	★	17.7	4.95	5.85	0.23	0.99
										.697	*.195*	*.230*	*.009*	*.039*
			327R09-18 14UN-THM	6	★	★	★	★	★	17.7	4.95	5.85	0.23	0.99
										.697	*.195*	*.230*	*.009*	*.039*
		12	327R09-18 12UN-TH	3	★	★	★	★	★	17.7	4.85	5.85	0.26	1.14
										.697	*.191*	*.230*	*.010*	*.045*
			327R09-18 12UN-THM	6	★	★	★	★	★	17.7	4.85	5.85	0.26	1.14
										.697	*.191*	*.230*	*.010*	*.045*
		11	327R09-18 11UN-TH	3	★	★	★	★	★	17.7	4.75	5.85	0.29	1.24
										.697	*.187*	*.230*	*.011*	*.049*
			327R09-18 11UN-THM	6	★	★	★	★	★	17.7	4.75	5.85	0.29	1.24
										.697	*.187*	*.230*	*.011*	*.049*
		10	327R09-18 10UN-TH	3	★	★	★	★	★	17.7	4.65	5.85	0.32	1.37
										.697	*.183*	*.230*	*.013*	*.054*
			327R09-18 10UN-THM	6	★	★	★	★	★	17.7	4.65	5.85	0.32	1.37
										.697	*.183*	*.230*	*.013*	*.054*
		8	327R09-18 08UN-TH	3	★	★	★	★	★	17.7	4.4	5.85	0.4	1.73
										.697	*.173*	*.230*	*.016*	*.068*
			327R09-18 08UN-THM	6	★	★	★	★	★	17.7	4.4	5.85	0.4	1.73
										.697	*.173*	*.230*	*.016*	*.068*
					P30	M15	K15	N15	S15					

1) To correspond with insert size on holder.

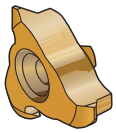
★= First choice

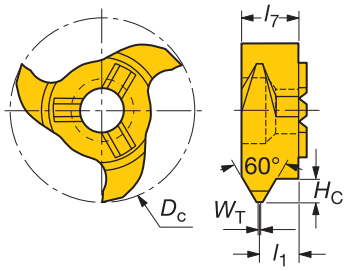
D334 D327 D356 D2

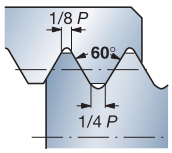
Inserts for CoroMill® 327

Thread milling

Metric 60°
Full profile
Internal



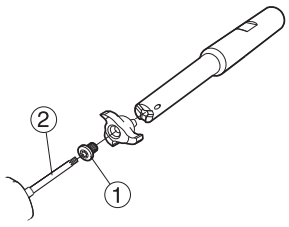


	Insert size[1]	Pitch, mm	Ordering code	Number of teeth z_n	P GC 1025	M GC 1025	K GC 1025	N GC 1025	S GC 1025	Dimensions, mm, inch D_c	l_1	l_7	W_T	H_C
			**Metric 60°**											
	09	1.5	**327R09-18 150MM-TH**	3	★	★	★	★	★	17.7	4.8	5.85	0.18	0.81
										.697	*.189*	*.230*	*.007*	*.032*
			327R09-18 150MM-THM	6	★	★	★	★	★	17.7	4.8	5.85	0.18	0.81
										.697	*.189*	*.230*	*.007*	*.032*
		2	**327R09-18 200MM-TH**	3	★	★	★	★	★	17.7	4.6	5.85	0.25	1.08
										.697	*.181*	*.230*	*.010*	*.043*
			327R09-18 200MM-THM	6	★	★	★	★	★	17.7	4.6	5.85	0.25	1.08
										.697	*.181*	*.230*	*.010*	*.043*
		3	**327R09-18 300MM-TH**	3	★	★	★	★	★	17.7	4.3	5.85	0.37	1.62
										.697	*.169*	*.230*	*.015*	*.064*
			327R09-18 300MM-THM	6	★	★	★	★	★	17.7	4.3	5.85	0.37	1.62
										.697	*.169*	*.230*	*.015*	*.064*
		3.5	**327R09-18 350MM-TH**	3	★	★	★	★	★	17.7	4.1	5.85	0.43	1.89
										.697	*.161*	*.230*	*.017*	*.074*
			327R09-18 350MM-THM	6	★	★	★	★	★	17.7	4.1	5.85	0.43	1.89
										.697	*.161*	*.230*	*.017*	*.074*
	12	1.5	**327R12-22 150MM-TH**	3	★	★	★	★	★	21.7	4.8	5.85	0.18	0.81
										.854	*.189*	*.230*	*.007*	*.032*
		1.75	**327R12-22 175MM-TH**	3	★	★	★	★	★	21.7	4.7	5.85	0.21	0.95
										.854	*.185*	*.230*	*.008*	*.037*
		2	**327R12-22 200MM-TH**	3	★	★	★	★	★	21.7	4.6	5.85	0.25	1.08
										.854	*.181*	*.230*	*.010*	*.043*
		3	**327R12-22 300MM-TH**	3	★	★	★	★	★	21.7	4.3	5.85	0.37	1.62
										.854	*.169*	*.230*	*.015*	*.064*
		3.5	**327R12-22 350MM-TH**	3	★	★	★	★	★	21.7	4.1	5.85	0.43	1.89
										.854	*.161*	*.230*	*.017*	*.074*
		4	**327R12-22 400MM-TH**	3	★	★	★	★	★	21.7	3.9	5.85	0.5	2.16
										.854	*.154*	*.230*	*.020*	*.085*
		4.5	**327R12-22 450MM-TH**	3	★	★	★	★	★	21.7	3.7	5.85	0.56	2.43
										.854	*.146*	*.230*	*.022*	*.096*
					P30	M15		N15	S15					

1) To correspond with insert size on holder.

★= First choice

Spare parts for CoroMill® 327



	1	2
Insert size	Screw	Screwdriver (Torx Plus)
06	5513 039-03	5680 046-01 (8IP)
09	5513 039-02	5680 046-02 (15IP)
12	5513 039-04	5680 046-06 (20IP)
14	5513 039-04	5680 046-06 (20IP)

D334 D327 D356 D2

SANDVIK Coromant

CoroMill® 325

Thread whirling cutter

For threading of long slender components

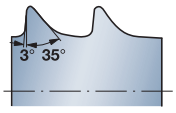
Ideal for medical bone screws and implants

The growing use of medical bone screws, implants and other micro-components creates a need for techniques that produce special thread forms quickly and at high tolerances.

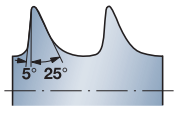
New thread whirling inserts and holders from Sandvik Coromant meet this need and are compatible with a large number of sliding head machines. They can thread long, slender components from rough stock at high speeds, without the need for a dedicated thread whirling machine.

Standard and special inserts

Standard inserts for HA and HB threads fit all thread whirling rings and follow thread standard ISO 5835-1991 for medical screws.



HA thread



HB thread

Wide range of sliding head machine types

Whirling ring codes	MTM	Spindle producer
325-12AP40-16M	Citizen	PCM
325-12AQ40-16M	Citizen	Jarvis
325-12BB40-16M	Star	Star
325-12CC52-16M	Tsugami	Tsugami
325-12DD40-16M	Tornos	Tornos
325-12EE32-16M	-	WTO

Insert assortment

Insert code and grade	For thread
325R16-150HAF01, GC1105	HA 4
325R16-175HAF01, GC1105	HA 4.5; HA 5
325R16-175HBF01, GC1105	HB 4
325R16-275HBF01, GC1105	HB 6.5

ISO application areas:

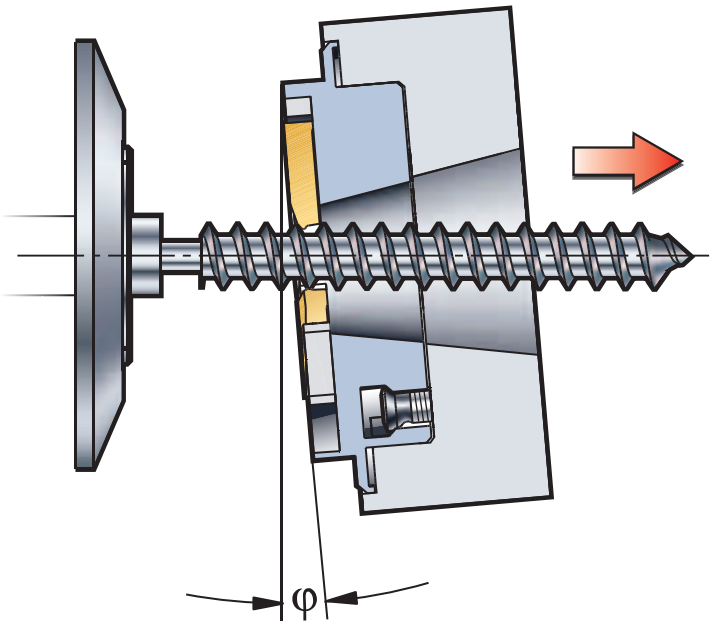
M N S

The thread whirling process

A thread whirling ring with inserts on the inner-diameter rotates around a cylindrical component to cut the thread. The smooth, tangential cutting action minimizes cutting forces to give high metal removal rates.

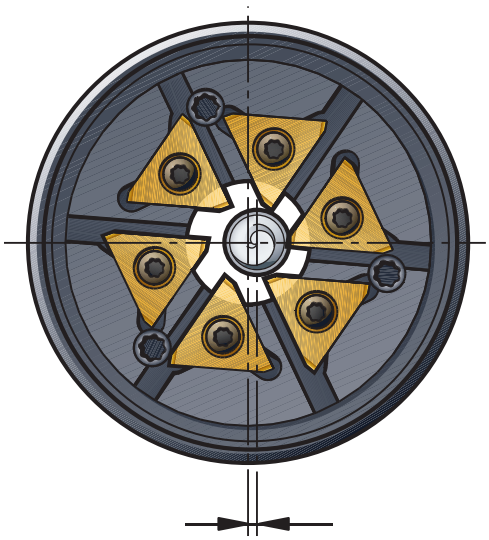
1. Mount the whirling ring onto the spindle unit.
2. Tilt the spindle unit to the desired helix angle of the screw.
3. Program the ring off-centre, in relation to the thread diameter.
4. Rotate the whirling ring and component in the same direction (climb milling) for optimum tool life.
5. Rotate the workpiece at a slower speed, determined by its diameter and the lead of the thread being made.
6. Coordinate movement of the whirling ring with the rotation of the component for best surface and productivity (chip thickness is determined by the feed rate of the whirling ring).

The spindle and ring rotate in the same direction to achieve climb milling and productivity



The whirling rings are designed with a differential pitch insert layout to avoid vibrations!

The spindle unit is tilted to the helix angle of the thread



Off-centre positioning

Specials

Inserts and whirling rings with dedicated thread form are delivered within 5 weeks for first order and 3 weeks for following order.
Following information is required for inserts.

- Profile drawing with thread diameters.
- Dimension of the start bar dimension.
- Material specification.
- One start or two start thread.

The following information is required for whirling rings.

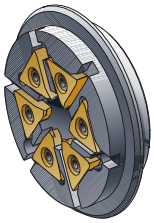
- Type of machine.
- Type of spindle producer.
- Maximum tilting angle of the whirling system.
- Outer diameter of the whirling ring dm_m.
- Required cutting diameter of the whirling ring d_c.

Cutting data for ISO-S materials

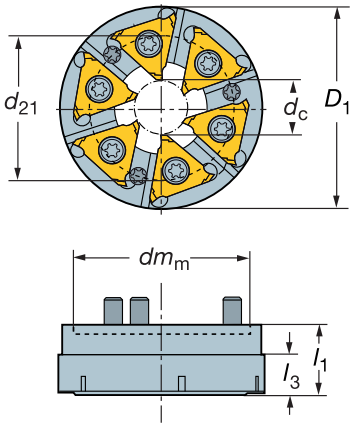
v_c = 40-60 m/min (130-200 ft/min)
h_{ex} = 0.02-0.05 mm (0.001-0.002")
Max f_z = 0.15 mm/tooth (0.006"/tooth)

CoroMill® 325

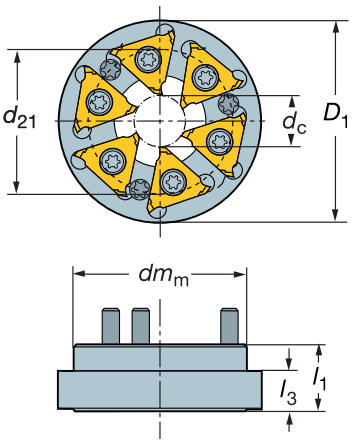
Thread whirling cutters



Design 1



Design 2



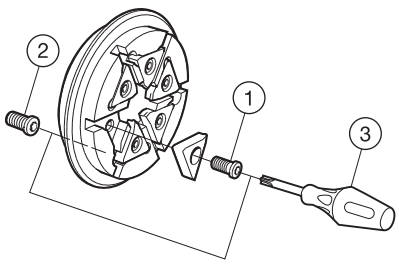
l_1 = programming length

Machine type	Spindle		iC	d_c	Ordering code	Design		Dimensions, mm, inch					Gauge insert	Nm[1]
								kg	dm_m	d_{21}	D_1	l_1	l_3	
Citizen	PCM	16	3/8	12	**325-12AP40-16M**	1	6	0.12	40	32.5	46	15.5	-	325R16-150HAF01	6.5
				.472					*1.575*	*1.280*	*1.811*	*.610*	-		
Citizen	Jarvis			12	**325-12AQ40-16M**	1	6	0.12	40	32	46	13.5	-	325R16-150HAF01	6.5
				.472					*1.575*	*1.260*	*1.811*	*.531*	-		
Star	Star			12	**325-12BB40-16M**	2	6	0.12	40	32	47	15	9	325R16-150HAF01	6.5
				.472					*1.575*	*1.260*	*1.850*	*.591*	*.354*		
Tsugami	Tsugami			20	**325-20CC52-16M**	2	6	0.15	52	42	65	17	6	325R16-150HAF01	6.5
				.787					*2.047*	*1.654*	*2.559*	*.669*	*.236*		
Tornos	Tornos			12	**325-12DD40-16M**	2	6	0.12	40	31	57	15	6	325R16-150HAF01	6.5
				.472					*1.575*	*1.220*	*2.244*	*.591*	*.236*		
	WTO			12	**325-12EE32-16M**	2	6	0.12	32	28	43.8	18.2	10.5	325R16-150HAF01	6.5
				.472					*1.260*	*1.102*	*1.724*	*.717*	*.413*		

[1] Insert tightening torque Nm.

Whirling rings for other machines/spindle units can also be ordered. See your local Sandvik Coromant representative for more information.

Spare parts for CoroMill® 325



Cutter	1	2	3
	Insert screw	Mounting screw	Screwdriver (Torx Plus)
325-12AP40-16M	5513 020-02	5513 039-02	5680 046-02 (15IP)
325-12AQ40-16M	5513 020-02	5513 039-02	5680 046-02 (15IP)
325-12BB40-16M	5513 020-02	5513 039-02	5680 046-02 (15IP)
325-12CC52-16M	5513 020-02	5513 039-05	5680 046-02 (15IP)
325-12DD40-16M	5513 020-02	5513 039-02	5680 046-02 (15IP)
325-12EE32-16M	5513 020-02	5513 039-02	5680 046-02 (15IP)

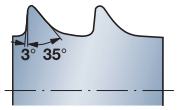
J3

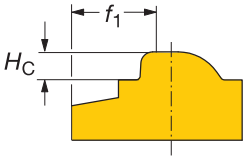
D190

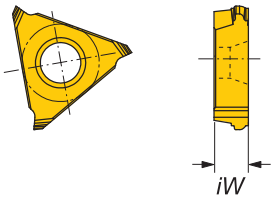
Inserts for CoroMill® 325

Thread whirling inserts

HA threads







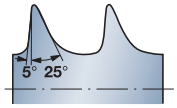
ISO 5835-1991

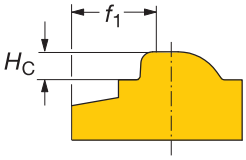
Tolerances, mm (inch):
H_c = ±0.01 (±.0004)
f_1 = ±0.02 (±.0008)

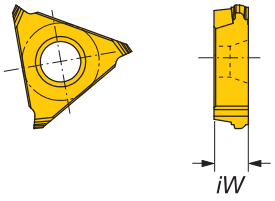
		Pitch, mm		Dimensions, millimeter, inch (mm, in.)							M	N	S
											GC	GC	GC
											1105	1105	1105
△	*iC*		**Ordering code**	H_C mm	H_C in.	f_1 mm	f_1 in.	*iW* mm	*iW* in.	For thread			
16	3/8	1.50	**325R16-150HAF01**	0.480	.0189	2.680	.1055	4.100	.1614	HA 4	★	☆	★
		1.75	**325R16-175HAF01**	0.750	.0295	2.620	.1031	4.100	.1614	HA 4.5/HA 5	★	☆	★
											M20	N20	S20

★= First choice

HB threads





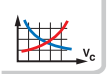


ISO 5835-1991

		Pitch, mm		Dimensions, millimeter, inch (mm, in.)							M	N	S
											GC	GC	GC
											1105	1105	1105
△	*iC*		**Ordering code**	H_C mm	H_C in.	f_1 mm	f_1 in.	*iW* mm	*iW* in.	For thread			
16	3/8	1.75	**325R16-175HBF01**	1.025	.0404	2.660	.1047	4.100	.1614	HB 4	★	☆	★
		2.75	**325R16-275HBF01**	1.750	.0689	2.080	.0819	4.100	.1614	HB 6.5	★	☆	★
											M20	N20	S20

★= First choice

Specially-formed inserts can also be ordered. See your local Sandvik Coromant representative for more information.



D334

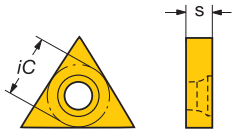
D327

SANDVIK Coromant

Inserts for CoroMill® 325

Thread whirling inserts

Blanks



Tolerances, mm (inch):
s = ±0.02 (±.0008)

△	*iC*	Ordering code	Dimensions, millimeter, inch (mm, in.) *s* mm	*s* in.	P - H10F	M - H10F	K - H10F	N - H10F	S - H10F
16	3/8	325R16-0400-BG	4.0	.157	★	★	★	★	★
		325R16-0500-BG	5.5	.217	★	★	★	★	★

★= First choice

Code key for CoroMill® 325

Inserts

325	R	16	-	150	HA	F	01
1	2	3		4	5	6	7

1	Product family
2	R = Right hand L = Left hand
3	Insert size, mm
4	Pitch, mm
5	Thread type HA = HA profile HB = HB profile
6	Edge performance F = Sharp cutting edge
7	Number of teeth

Cutters

325	-	12	AP	40	-	16	M
1		2	3	4		5	6

1	Product family	
2	Diameter D_c mm	
3	Machine type / Spindle maker	
	A = Citizen	E = WTO
	B = Star	P = PCM
	C = Tsugami	Q = Jarvis
	D = Tornos	
4	Mounting size, mm	
5	Insert sizes, mm	
6	Close pitch	

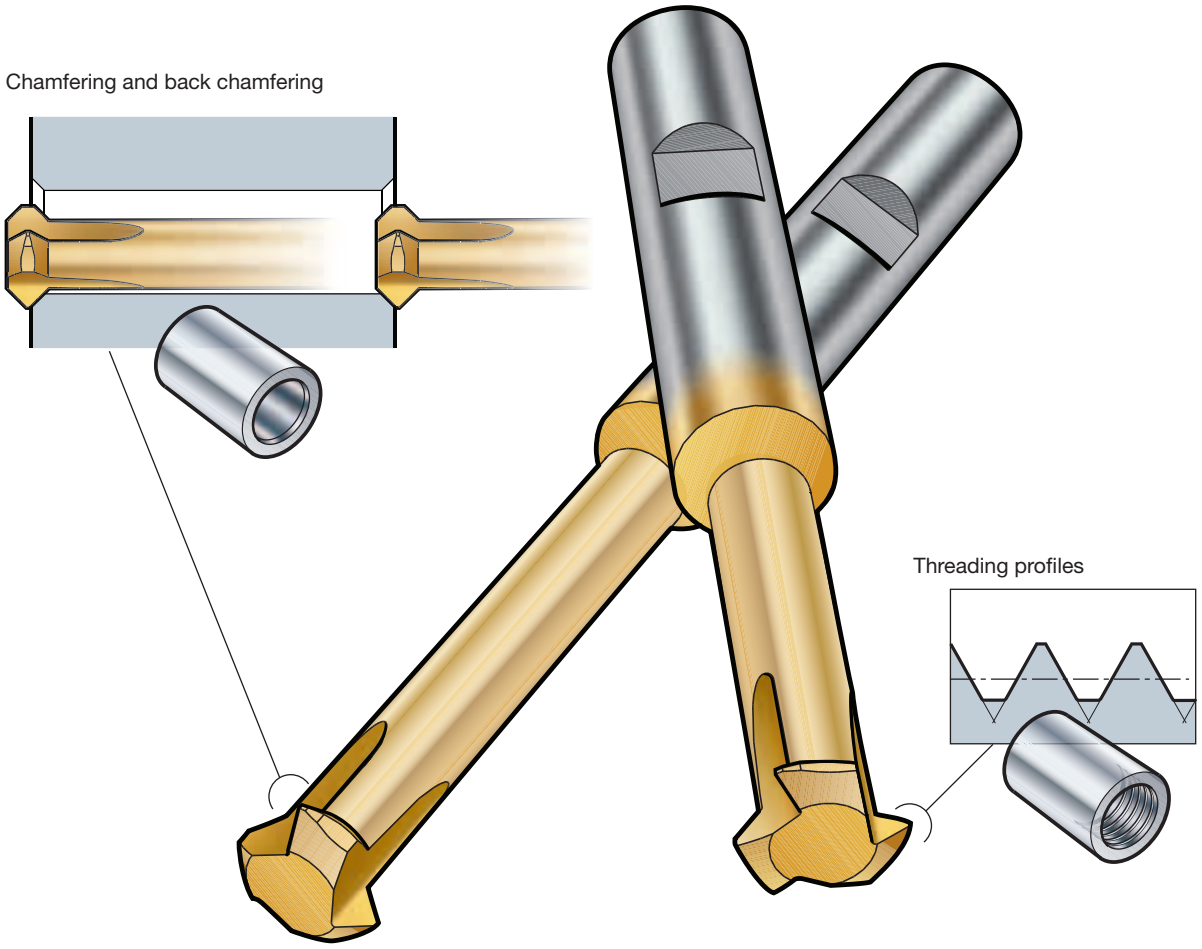
CoroMill® 326

Solid end mill

Chamfer and threading applications

Weldon shank

Chamfering and back chamfering

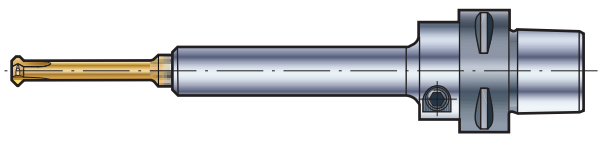


Threading profiles

Grade GC1025

ISO application area:

P M K N S H

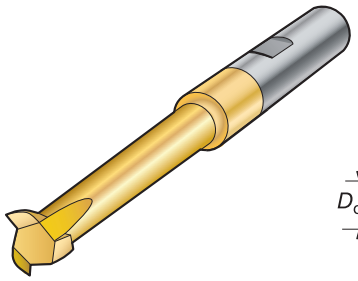


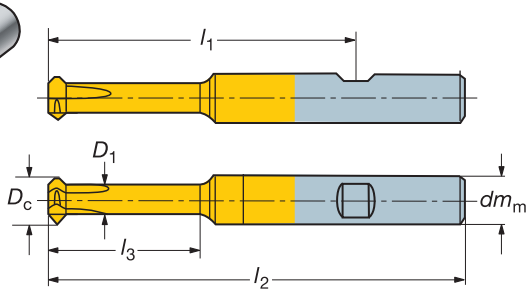
Hydro-Grip® pencil chuck

SANDVIK Coromant

CoroMill® 326

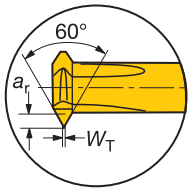
Solid carbide end mills



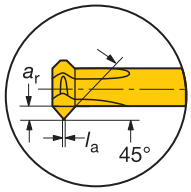


Solid carbide: h6

Internal threading



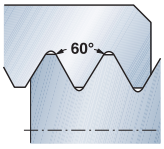
Chamfering



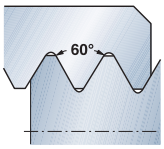
l_1 = programming length

Internal thread milling tools

Metric version

	D_c mm	Pitch, mm min	Pitch, mm max	Pitch, t.p.i. min	Pitch, t.p.i. max	Number of teeth z	Ordering code	Dimensions, mm dm_m	D_1	l_1	l_2	l_3	a_r max	W_T	P GC 1025	M GC 1025	K GC 1025	N GC 1025	S GC 1025
							**V-profile 60°**												
	5.8	0.5	1.5	16	50	3	**326R06-B15050VM-TH**	6	3.5	39.7	58	15	0.91	0.06	☆	☆	☆	☆	☆
	7.8	0.5	1.5	16	50	3	**326R08-B25050VM-TH**	8	5.5	49.5	68	25	0.91	0.06	☆	☆	☆	☆	☆
		1	2	12	24	3	**326R08-B25100VM-TH**	8	5	49.5	68	25	1.19	0.12	☆	☆	☆	☆	☆

Inch version

	D_c inch	Pitch, mm min	Pitch, mm max	Pitch, t.p.i. min	Pitch, t.p.i. max	Number of teeth z	Ordering code	Dimensions, inch dm_m	D_1	l_1	l_2	l_3	a_r max	W_T	P GC 1025	M GC 1025	K GC 1025	N GC 1025	S GC 1025
							**V-profile 60°**												
	.228	0.5	1.5	16	50	3	**A326R06-M15050VM-TH**	.250	.138	1.563	2.284	.591	.036	.002	☆	☆	☆	☆	☆
	.307	0.5	1.5	16	50	3	**A326R08-M25050VM-TH**	.312	.216	1.949	2.677	.984	.036	.002	☆	☆	☆	☆	☆
		1	2	12	24	3	**A326R08-M25100VM-TH**	.312	.197	1.949	2.677	.984	.047	.005	☆	☆	☆	☆	☆

Chamfering tools

Metric version

D_c mm	Number of teeth z	Ordering code	Dimensions, mm dm_m	D_1	l_1	l_2	l_3	l_a	a_r max	P GC 1025	M GC 1025	K GC 1025	N GC 1025	S GC 1025
5.8	3	**326R06-B1502006-CH**	6	4.2	39.5	58	15	0.2	0.6	☆	☆	☆	☆	☆
	3	**326R06-B2502006-CH**	6	4.2	49.5	68	25	0.2	0.6	☆	☆	☆	☆	☆
7.8	3	**326R08-B2502012-CH**	8	5	49	68	25	0.2	1.2	☆	☆	☆	☆	☆
	3	**326R08-B3502012-CH**	8	5	59	78	35	0.2	1.2	☆	☆	☆	☆	☆

Inch version

D_c inch	Number of teeth z	Ordering code	Dimensions, inch dm_m	D_1	l_1	l_2	l_3	l_a	a_r max	P GC 1025	M GC 1025	K GC 1025	N GC 1025	S GC 1025
.228	3	**A326R06-M1502006-CH**	.250	.165	1.555	2.284	.591	.008	.024	☆	☆	☆	☆	☆
	3	**A326R06-M2502006-CH**	.250	.165	1.949	2.677	.984	.008	.024	☆	☆	☆	☆	☆
.307	3	**A326R08-M2502012-CH**	.312	.197	1.929	2.677	.984	.008	.047	☆	☆	☆	☆	☆
	3	**A326R08-M3502012-CH**	.312	.197	2.323	3.071	1.378	.008	.047	☆	☆	☆	☆	☆

CoroMill® 328

Grooving/Threading cutter

Circlip grooving for holes over dia 39 mm (1.535 inch)

Grooving widths 1.30-5.15 mm (.051-.203 inch)

Weldon, arbor and bore with keyway mounting

Insert programme

- Grooving / Circlip grooving
- Circlip grooves with chamfer
- Threading inserts, 60° V-profile

Application areas

For use in internal machining of eccentric components e.g. gearbox casings, high volume assemblies, mainly on machining centres.

Cutter bodies with: 2 - 8 inserts each with 3 cutting edges for high productivity and economy.

Features

- A universal cutter for use in all materials
- Sharp cutting edges for high quality grooves
- One grade: PVD coated GC1025 for all materials
- Multiple edges for high productive economic machining

ISO application areas:

P M K N S

Code key for CoroMill® 328

CoroMill® 328 insert

Chamfering

328	R	13	–	110	45	–	GC
1	2	3		4	7		6

Threading

328	R	13	–	150	VM	–	TH
1	2	3		8	9		6

Grooving

328	R	13	–	110	01	–	GM
1	2	3		4	5		6

1 Product name
2 Right-hand insert
3 Insert size
4 Insert width
5 Radius ex 02 = radius 0.2 mm (.008 inch)
6 Geometry
GM = Grooving
GC = Grooving and chamfering
TH = Threading
7 Chamfer 45°
8 Thread pitch mm: pitch x 100
9 Type of thread VM = V-Profile 60°

CoroMill® 328 cutters

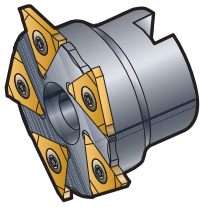
328	–	039	B	25	–	13	M
1		2	3	4		5	6

1 Product name
2 Cutting diameter, D_c
3 Shank type B = Weldon
Q = Arbor
S = Bore with keyway
4 Shank/couplings diameter (d_{mm})
5 Insert size
6 Pitch

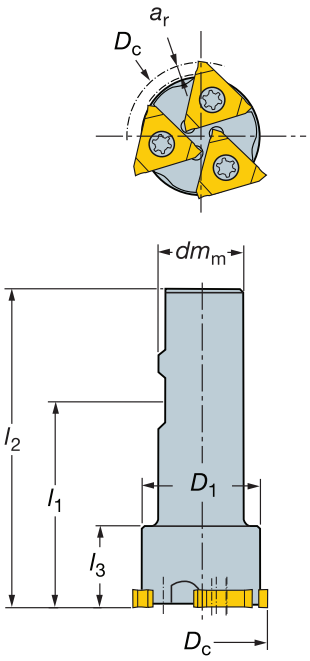
CoroMill® 328

Grooving cutter

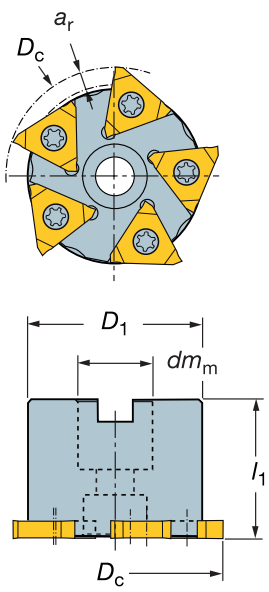
Diameter 39 - 80 mm (1.535 - 3.150 inch)



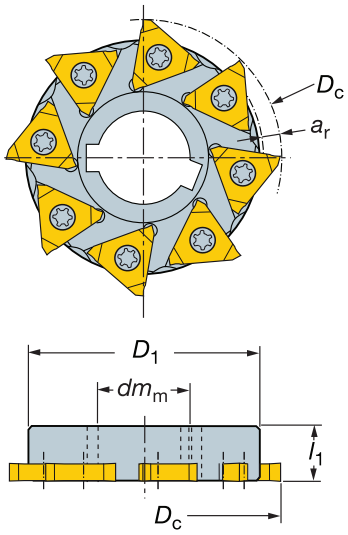
Weldon



Arbor



Bore with keyway



l_1 = programming length

Metric version

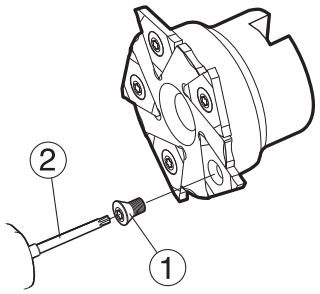
Ordering code	Insert size[1]		Dimensions, mm								Gauge insert	Nm[2]
			KG	dm_m	D_c	D_1	l_1	l_2	l_3	a_r max		
Weldon												
328-039B25-13M	13	2	0.5	25	39	32	93	125	23	3	328R13-130	6.5
328-044B25-13M		3	0.5	25	44	34	93	125	23	4	328R13-130	6.5
Arbor												
328-063Q22-13M	13	5	0.5	22	63	51	40			5	328R13-130	6.5
Bore with keyway												
328-063S22-13M	13	5	0.1	22	63	51	14.2			5	328R13-130	6.5
328-080S27-13M		8	0.3	27	80	68	16.2			5	328R13-130	6.5

Inch version

Ordering code	Insert size[1]		Dimensions, inch								Gauge insert	ft-lbs[3]
			Lbs	dm_m	D_c	D_1	l_1	l_2	l_3	a_r max		
Weldon												
A328-039B19-13M	13	2	1.1	.750	1.535	1.260	3.898	4.921	.906	.118	328R13-130	4.8
A328-044B19-13M		3	1.1	.750	1.732	1.339	3.898	4.921	.906	.157	328R13-130	4.8
Arbor												
A328-063Q19-13M	13	5	1.1	.750	2.480	2.008	1.575			.197	328R13-130	4.8

1) To correspond with insert size on insert.
2) Insert tightening torque Nm.
3) Insert tightening torque ft-lbs.

Spare parts



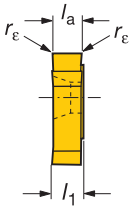
Cutter	1	2	
	Screw	Key (Torx Plus)	Screwdriver (Torx Plus) [1]
328	5513 039-05	5680 048-04(20IP)	5680 046-06 (20IP)

1) Optional part, to be ordered separately

D197
D196
G6
D2

Inserts for CoroMill® 328

For circlip grooves



Tolerances, mm (inch):
l_a = + 0.11 (.0043)
+0.09 (.0035)

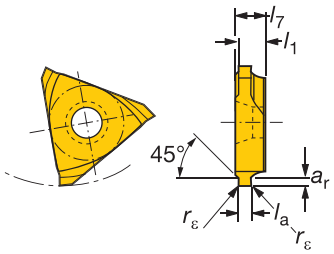
	Insert size[1]	Ordering code	P GC 1025	M GC 1025	K GC 1025	N GC 1025	S GC 1025	Dimensions, millimeter, inch (mm, in.) l_a mm	l_a in.	l_1 mm	l_1 in.	r_ε mm	r_ε in.
Medium	13	328R13-130 00-GM	★	★	★	★	★	1.3	.051	5.4	.213	0.1	.004
		328R13-160 00-GM	★	★	★	★	★	1.6	.063	5.4	.213	0.1	.004
		328R13-185 02-GM	★	★	★	★	★	1.85	.073	5.4	.213	0.15	.006
		328R13-215 02-GM	★	★	★	★	★	2.15	.085	5.4	.213	0.15	.006
		328R13-265 02-GM	★	★	★	★	★	2.65	.104	5.4	.213	0.15	.006
		328R13-315 02-GM	★	★	★	★	★	3.15	.124	5.4	.213	0.15	.006
		328R13-415 02-GM	★	★	★	★	★	4.15	.163	5.4	.213	0.15	.006
		328R13-515 02-GM	★	★	★	★	★	5.15	.203	5.4	.213	0.15	.006
			P30	M15		N15	S15						

1) To correspond with insert size on holder.

★= First choice

Inserts for CoroMill® 328

Circlip grooves with chamfer

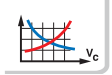


Tolerances, mm (inch):
l_a = +0.11(.0043)
+0.09 (.0035)

	Insert size[1]	Ordering code	P GC 1025	M GC 1025	K GC 1025	N GC 1025	S GC 1025	Dimensions, millimeter, inch (mm, in.) l_1 mm	l_1 in.	l_7 mm	l_7 in.	l_a mm	l_a in.	a_r max mm	a_r max in.	r_ε mm	r_ε in.
Medium	13	328R13-110 45-GC	★	★	★	★	★	4.42	.174	5.45	.215	1.1	.043	0.5	.020	0.1	.004
		328R13-130 45-GC	★	★	★	★	★	4.52	.178	5.45	.215	1.3	.051	0.7	.028	0.1	.004
		328R13-130 4509-GC	★	★	★	★	★	4.5	.177	5.45	.215	1.3	.051	0.85	.034	0.1	.004
		328R13-160 45-GC	★	★	★	★	★	4.42	.174	5.45	.215	1.6	.063	1	.039	0.15	.006
		328R13-160 4509-GC	★	★	★	★	★	4.4	.173	5.45	.215	1.6	.063	0.85	.034	0.2	.008
		328R13-185 45-GC	★	★	★	★	★	4.54	.179	5.45	.215	1.85	.073	1.25	.049	0.15	.006
		328R13-215 45-GC	★	★	★	★	★	4.7	.185	5.45	.215	2.15	.085	1.5	.059	0.15	.006
		328R13-265 45-GC	★	★	★	★	★	4.44	.175	5.45	.215	2.65	.104	1.75	.069	0.15	.006
		328R13-265 4515-GC	★	★	★	★	★	4.4	.173	5.45	.215	2.65	.104	1.5	.059	0.2	.008
		328R13-315 45-GC	★	★	★	★	★	4.69	.185	5.45	.215	3.15	.124	1.75	.069	0.15	.006
		328R13-415 45-GC	★	★	★	★	★	4.89	.192	5.45	.215	4.15	.163	2.5	.098	0.15	.006
		328R13-415 4520-GC	★	★	★	★	★	4.9	.193	5.45	.215	4.15	.163	2	.079	0.2	.008
		328R13-515 45-GC	★	★	★	★	★	5.85	.230	6.1	.240	5.15	.203	3	.118	0.15	.006
			P30	M15		N15	S15										

1) To correspond with insert size on holder.

★= First choice


D334

D327

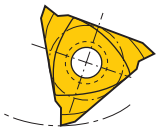
D356

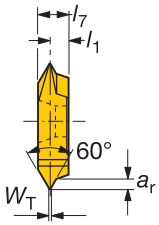
D2

Inserts for CoroMill® 328

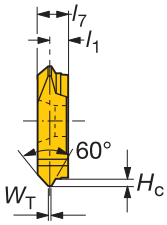
Threading

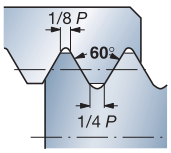
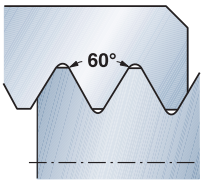
V-profile 60°
Partial profile
Internal





Metric 60°
UN 60°
Full profile
Internal



	Insert size[1]	Pitch, mm min	Pitch, mm max	Pitch, t.p.i. min	Pitch, t.p.i. max	Ordering code	P GC 1025	M GC 1025	K GC 1025	N GC 1025	S GC 1025	Dimensions, mm, inch l_1	l_7	a_r max	W_T	H_c
						**UN 60°**										
	13			4		**328R13-04 UN-TH**	★	★	★	★	★	5.05	7.6		0.79	3.43
												.199	*.299*		*.031*	*.135*
				6		**328R13-06 UN-TH**	★	★	★	★	★	3.45	5.25		0.53	2.29
												.136	*.207*		*.021*	*.090*
				8		**328R13-08 UN-TH**	★	★	★	★	★	3.85	5.25		0.4	1.73
												.152	*.207*		*.016*	*.068*
				10		**328R13-10 UN-TH**	★	★	★	★	★	4.1	5.25		0.32	1.37
												.161	*.207*		*.013*	*.054*
				11		**328R13-11 UN-TH**	★	★	★	★	★	4.2	5.25		0.29	1.24
												.165	*.207*		*.011*	*.049*
				12		**328R13-12 UN-TH**	★	★	★	★	★	4.25	5.25		0.26	1.14
												.167	*.207*		*.010*	*.045*
				14		**328R13-14 UN-TH**	★	★	★	★	★	4.35	5.25		0.23	0.99
												.171	*.207*		*.009*	*.039*
				16		**328R13-16 UN-TH**	★	★	★	★	★	4.45	5.25		0.2	0.86
												.175	*.207*		*.008*	*.034*
				18		**328R13-18 UN-TH**	★	★	★	★	★	4.5	5.25		0.18	0.76
												.177	*.207*		*.007*	*.030*
				20		**328R13-20 UN-TH**	★	★	★	★	★	4.6	5.25		0.16	0.69
												.181	*.207*		*.006*	*.027*
						Metric 60°										
	13	1.5				**328R13-150 MM-TH**	★	★	★	★	★	4.4	5.25		0.18	0.81
												.173	*.207*		*.007*	*.032*
		2.0				**328R13-200 MM-TH**	★	★	★	★	★	4.2	5.25		0.25	1.08
												.165	*.207*		*.010*	*.042*
		3.0				**328R13-300 MM-TH**	★	★	★	★	★	3.9	5.25		0.37	1.62
												.154	*.207*		*.015*	*.064*
		3.5				**328R13-350 MM-TH**	★	★	★	★	★	3.7	5.25		0.43	1.89
												.146	*.207*		*.017*	*.074*
		4.0				**328R13-400 MM-TH**	★	★	★	★	★	3.5	5.25		0.5	2.17
												.138	*.207*		*.020*	*.085*
		4.5				**328R13-450 MM-TH**	★	★	★	★	★	3.3	5.25		0.56	2.44
												.130	*.207*		*.022*	*.096*
		5.0				**328R13-500 MM-TH**	★	★	★	★	★	3.75	5.85		0.63	2.71
												.148	*.230*		*.025*	*.107*
		5.5				**328R13-550 MM-TH**	★	★	★	★	★	3.55	5.85		0.69	2.98
												.140	*.230*		*.027*	*.117*
		6.0				**328R13-600 MM-TH**	★	★	★	★	★	5.15	7.6		0.75	3.25
												.203	*.299*		*.030*	*.128*
						**V-profile 60°**										
	13	1.5	3.5	7	16	**328R13-150 VM-TH**	★	★	★	★	★	3.3	5.45	2.1	0.19	
												.130	*.215*	*.083*	*.008*	
		4	6	5	6	**328R13-400 VM-TH**	★	★	★	★	★	2.7	5.45	3.5	0.5	
												.106	*.215*	*.136*	*.020*	
							P30	M15		N15	S15					

[1] To correspond with insert size on holder.

★= First choice

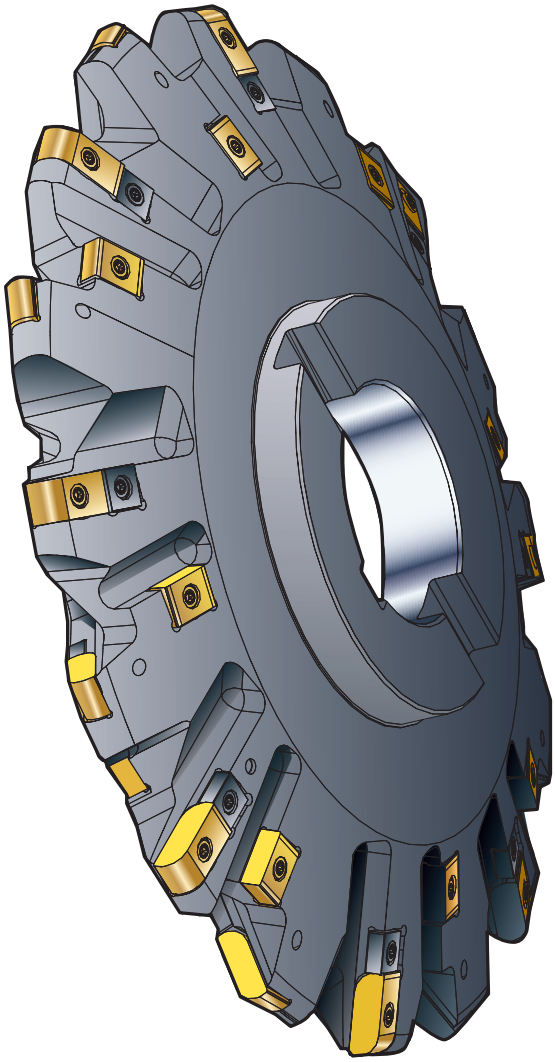
D334 D327 D356 D2

SANDVIK Coromant

CoroMill® 170

Rough gear milling with precision

Tool profile according to DIN3972-4



High productivity

- Secure and stable insert seats
- High feed rates
- High cutting speeds

Insert geometries

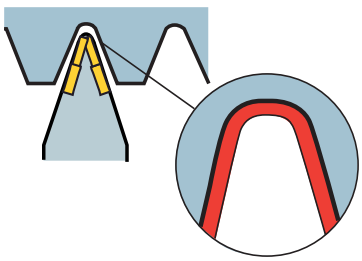
-L

-M

-H

High precision cutter body and inserts

Minimal and even finishing allowance

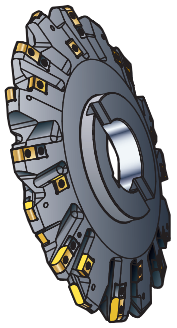


ISO application areas:

P

CoroMill® 170

Rough gear milling with precision
Profile in accordance with DIN3972-4



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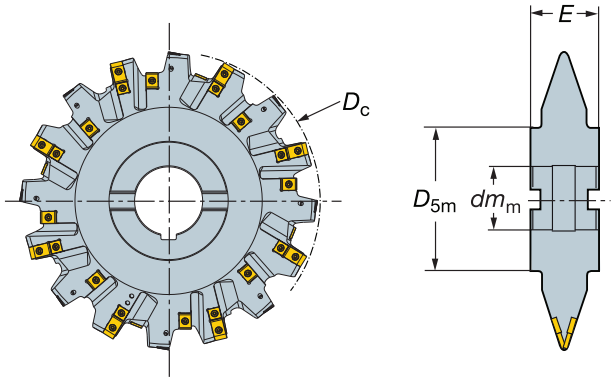


Module	D_c	Ordering code	Dimensions, mm, inch dm_m[2]	D_{5m}	E	Number of inserts, z_n	Number of root inserts, z_r	Number of flank inserts, z_f	Root insert	Flank insert
12	210	S-170-12-210Q50N018A	50	120	70	18	12	6	170-12-240740...	170-00-200801...
	8.268		*1.969*	*4.724*	*2.756*					
	270	S-170-12-270Q60N018C	60	140	70	18	12	6	170-12-240740...	170-00-200801...
	10.630		*2.362*	*5.512*	*2.756*					
	350	S-170-12-350Q80N024C	80	170	90	24	16	8	170-12-240740...	170-00-200801...
	13.780		*3.150*	*6.693*	*3.543*					
	400	S-170-12-400Q90N030D	90[1]	170	100	30	20	10	170-12-240740...	170-00-200801...
	15.748		*3.543*[1]	*6.693*	*3.937*					
	410	S-170-12-410Q100N030E	100	190	90	30	20	10	170-12-240740...	170-00-200801...
	16.142		*3.937*	*7.480*	*3.543*					
	480	S-170-12-480Q100N036E	100	190	90	36	24	12	170-12-240740...	170-00-200801...
	18.898		*3.937*	*7.480*	*3.543*					
14	210	S-170-14-210Q50N018A	50	120	70	18	12	6	170-14-240750...	170-00-200801...
	8.268		*1.969*	*4.724*	*2.756*					
	270	S-170-14-270Q60N018C	60	140	70	18	12	6	170-14-240750...	170-00-200801...
	10.630		*2.362*	*5.512*	*2.756*					
	350	S-170-14-350Q80N024D	80	170	90	24	16	8	170-14-240750...	170-00-200801...
	13.780		*3.150*	*6.693*	*3.543*					
	400	S-170-14-400Q90N030D	90[1]	170	100	30	20	10	170-14-240750...	170-00-200801...
	15.748		*3.543*[1]	*6.693*	*3.937*					
	450	S-170-14-450Q100N036E	100	190	90	36	24	12	170-14-240750...	170-00-200801...
	17.717		*3.937*	*7.48*	*3.543*					
16	270	S-170-16-270Q60N024C	60	140	90	24	12	12	170-16-240860...	170-00-200801...
	10.63		*2.362*	*5.512*	*3.543*					
	350	S-170-16-350Q80N032D	80	170	90	32	16	16	170-16-240860...	170-00-200801...
	13.78		*3.150*	*6.693*	*3.543*					
	400	S-170-16-400Q90N032D	90[1]	170	100	32	16	16	170-16-240860...	170-00-200801...
	15.748		*3.543*[1]	*6.693*	*3.937*					
	450	S-170-16-450Q100N040E	100	190	100	40	20	20	170-16-240860...	170-00-200801...
	17.717		*3.937*	*7.48*	*3.937*					
	500	S-170-16-500Q100N048E	100	190	100	48	24	24	170-16-240860...	170-00-200801...
	19.685		*3.937*	*7.480*	*3.937*					
18	270	S-170-18-270Q60N024C	60	140	90	24	12	12	170-18-240870...	170-00-200801...
	10.63		*2.362*	*5.512*	*3.543*					
	350	S-170-18-350Q80N032D	80	170	90	32	16	16	170-18-240870...	170-00-200801...
	13.780		*3.150*	*6.693*	*3.543*					
	400	S-170-18-400Q90N032D	90[1]	170	100	32	16	16	170-18-240870...	170-00-200801...
	15.748		*3.543*[1]	*6.693*	*3.937*					
	450	S-170-18-450Q100N040E	100	190	100	40	20	20	170-18-240870...	170-00-200801...
	17.717		*3.937*	*7.480*	*3.937*					
	500	S-170-18-500Q100N048E	100	190	100	48	24	24	170-18-240870...	170-00-200801...
	19.685		*3.937*	*7.480*	*3.937*					

[1] Cutter bodies only have radial keyways.
[2] Coupling dimensions in accordance with DIN138

Continued...

J3

D202

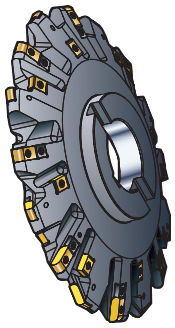
D202

SANDVIK Coromant

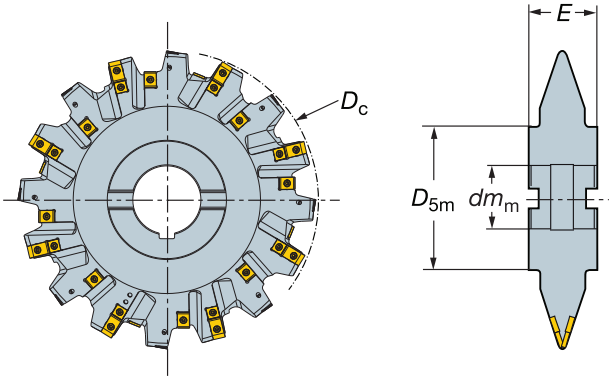
CoroMill® 170

Precision cutter for rough gear milling

Profile in accordance with DIN3972-4



TO BE QUOTED



Continued...

Module	D_c	Ordering code	Dimensions, mm, inch dm_m[2]	D_{5m}	E	Number of inserts, z_n	Number of root inserts, z_r	Number of flank inserts, z_f	Root insert	Flank insert
20	270	S-170-20-270Q60N024B	60	130	90	24	12	12	170-20-281075...	170-00-200801...
	10.630		*2.362*	*5.118*	*3.543*					
	350	S-170-20-350Q80N032D	80	170	100	32	16	16	170-20-281075...	170-00-200801...
	13.78		*3.150*	*6.693*	*3.937*					
	400	S-170-20-400Q90N032D	90[1]	170	100	32	16	16	170-20-281075...	170-00-200801...
	15.748		*3.543*[1]	*6.693*	*3.937*					
	450	S-170-20-450Q100N040E	100	190	110	40	20	20	170-20-281075...	170-00-200801...
	17.717		*3.937*	*7.480*	*4.331*					
	500	S-170-20-500Q100N048E	100	190	110	48	24	24	170-20-281075...	170-00-200801...
	19.685		*3.937*	*7.480*	*4.331*					
22	270	S-170-22-270Q60N024B	60	130	90	24	12	12	170-22-281085...	170-00-200801...
	10.63		*2.362*	*5.118*	*3.543*					
	350	S-170-22-350Q80N032D	80	170	100	32	16	16	170-22-281085...	170-00-200801...
	13.78		*3.150*	*6.693*	*3.937*					
	400	S-170-22-400Q90N032D	90[1]	170	100	32	16	16	170-22-281085...	170-00-200801...
	15.748		*3.543*[1]	*6.693*	*3.937*					
	450	S-170-22-450Q100N040E	100	190	110	40	20	20	170-22-281085...	170-00-200801...
	17.717		*3.937*	*7.480*	*4.331*					
	500	S-170-22-500Q100N048E	100	190	110	48	24	24	170-22-281085...	170-00-200801...
	19.685		*3.937*	*7.480*	*4.331*					

[1] Cutter bodies only have radial keyways.

[2] Coupling dimensions in accordance with DIN138

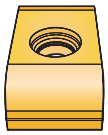
Continued...

J3

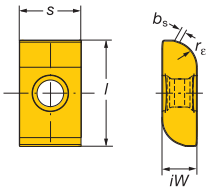
D202

D202

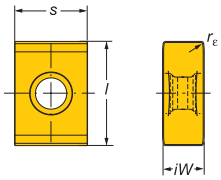
Inserts for CoroMill® 170



Root insert

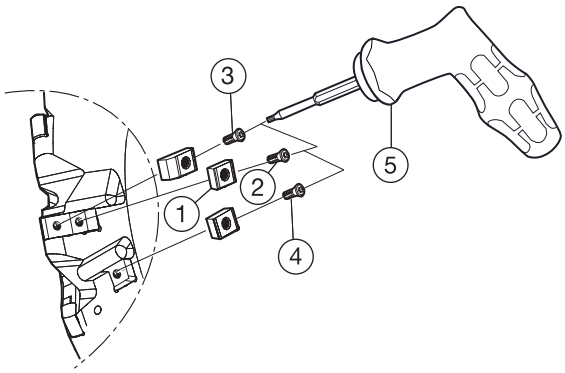


Flank insert



Module	Ordering code	P GC 1030	P GC 4240	Dimensions, millimeter, inch (mm, in.) l mm	l in.	s mm	s in.	iW mm	iW in.	b_s mm	b_s in.	r_ε mm	r_ε in.
	Root insert												
12	170-12-240740E-PRMN	★	☆	24	.945	14	.551	7	.276	1.0	.039	4.0	.157
	170-12-240740E-PRHN	★	☆	24	.945	14	.551	7	.276	1.0	.039	4.0	.157
14	170-14-240750E-PRMN	★	☆	24	.945	14	.551	7	.276	1.0	.039	5.0	.197
	170-14-240750E-PRHN	★	☆	24	.945	14	.551	7	.276	1.0	.039	5.0	.197
16	170-16-240860E-PRMN	★	☆	24	.945	14	.551	8	.315	1.0	.039	6.0	.236
	170-16-240860E-PRHN	★	☆	24	.945	14	.551	8	.315	1.0	.039	6.0	.236
18	170-18-240870E-PRMN	★	☆	24	.945	14	.551	8	.315	1.0	.039	7.0	.276
	170-18-240870E-PRHN	★	☆	24	.945	14	.551	8	.315	1.0	.039	7.0	.276
20	170-20-281075E-PRMN	★	☆	28	1.102	14	.551	10	.394	1.0	.039	7.5	.295
	170-20-281075E-PRHN	★	☆	28	1.102	14	.551	10	.394	1.0	.039	7.5	.295
22	170-22-281085E-PRMN	★	☆	28	1.102	14	.551	10	.394	1.0	.039	8.5	.335
	170-22-281085E-PRHN	★	☆	28	1.102	14	.551	10	.394	1.0	.039	8.5	.335
	Flank insert												
12-22	170-00-200801E-PFLN	★		20	.787	14	.551	8	.315	1.0	.039	0.5	.020
	170-00-200801E-PFMN	★	☆	20	.787	14	.551	8	.315	1.0	.039	0.5	.020
	170-00-200801E-PFHN	★	☆	20	.787	14	.551	8	.315	1.0	.039	0.5	.020
		P30	P40										

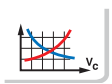
★= First choice



Spare parts

Module	1. Shim	2. Shim screw	3. Root insert screw	4. Flank insert screw	5. Torque wrench[1)]
12-18	5322 520-01	5513 020-55	5513 020-55	5513 020-55	5680 100-07 (20IP)
20-22	5322 520-01	5513 020-55	5513 020-26	5513 020-26	5680 100-07 (20IP)

[1)] Accessories must be ordered separately.

 D334 D327

SANDVIK Coromant

Feed recommendations, metric

Starting values

Module	Diameter	z_c[1)]	a_{e1} mm	a_{e2} mm	Geometry ..H. f_{z1} mm	Geometry ..H. f_{z2} mm	Geometry ..M. f_{z1} mm	Geometry ..M. f_{z2} mm	Geometry ..L. f_{z1} mm	Geometry ..L. f_{z2} mm
12	210	6/3	27	-	0.31-0.43	-	0.24-0.36	-	0.16-0.28	
	270	6/3	27	-	0.36-0.48	-	0.27-0.39	-	0.19-0.31	
	350	8/4	27	-	0.41-0.53	-	0.31-0.43	-	0.22-0.34	
	400	10/5	27	-	0.44-0.56	-	0.34-0.46	-	0.24-0.36	
	410	10/5	27	-	0.44-0.56	-	0.34-0.46	-	0.24-0.36	
	480	12/6	27	-	0.48-0.60	-	0.37-0.49	-	0.27-0.39	
14	210	6/3	31.5	-	0.29-0.41	-	0.22-0.34	-	0.15-0.27	
	270	6/3	31.5	-	0.33-0.45	-	0.25-0.37	-	0.17-0.29	
	350	8/4	31.5	-	0.38-0.50	-	0.29-0.41	-	0.20-0.32	
	400	10/5	31.5	-	0.40-0.52	-	0.31-0.43	-	0.22-0.34	
	450	12/6	31.5	-	0.43-0.55	-	0.33-0.45	-	0.23-0.35	
16	270	6/3	36	-	0.31-0.43	-	0.23-0.35	-	0.16-0.28	
	350	8/4	36	-	0.35-0.47	-	0.27-0.39	-	0.19-0.31	
	400	8/4	36	-	0.38-0.50	-	0.29-0.41	-	0.20-0.32	
	450	10/5	36	-	0.40-0.52	-	0.31-0.43	-	0.22-0.34	
	500	12/6	36	-	0.42-0.54	-	0.33-0.45	-	0.23-0.35	
18	270	6/3	40.5	-	0.29-0.41	-	0.22-0.34	-	0.15-0.27	
	350	8/4	40.5	-	0.33-0.45	-	0.25-0.37	-	0.17-0.29	
	400	8/4	40.5	-	0.35-0.47	-	0.27-0.39	-	0.19-0.31	
	450	10/5	40.5	-	0.38-0.50	-	0.29-0.41	-	0.20-0.32	
	500	12/6	40.5	-	0.40-0.52	-	0.31-0.43	-	0.21-0.33	
20	270	6/3	45	-	0.28-0,40	-	0.21-0.33	-	0.14-0.26	
	350	8/4	45	-	0.31-0.43	-	0.24-0.36	-	0.16-0.28	
	400	8/4	45	-	0.34-0.46	-	0.26-0.38	-	0.18-0.30	
	450	10/5	45	-	0.36-0.48	-	0.27-0.39	-	0.19-0.31	
	500	12/6	45	-	0.38-0.50	-	0.29-0.41	-	0.20-0.32	
22	270	6/3	40	10	0.29-0.41	0.60-0.72	0.22-0.34	0.47-0.59	0.15-0.27	0.34-0.46
	350	8/4	40	10	0.33-0.45	0.69-0.81	0.25-0.37	0.54-0.66	0.18-0.30	0.39-0.51
	400	8/4	40	10	0.36-0.48	0.74-0.86	0.27-0.39	0.58-0.70	0.19-0.31	0.42-0.54
	450	10/5	40	10	0.38-0.5	0.79-0.91	0.29-0.41	0.62-0.74	0.20-0.32	0.45-0.57
	500	12/6	40	10	0.40-0.52	0.83-0.95	0.31-0.43	0.65-0.77	0.22-0.34	0.48-0.60

1) Effective number of inserts, root inserts/flank inserts

Recommendations based on maximum chip thickness (h_{ex}) of approximatly 0.25 mm, 0.20 mm and 0.15 mm for the different geometries.

Cutting speed recommendations

Starting values

P	v_c m/min
GC1030	120-160
GC4240	100-140

Feed recommendations, inch

Starting values

Module	Diameter	z_c [1]	a_{e1} inch	a_{e2} inch	Geometry ..H. f_{z1} inch	Geometry ..H. f_{z2} inch	Geometry ..M. f_{z1} inch	Geometry ..M. f_{z2} inch	Geometry ..L. f_{z1} inch	Geometry ..L. f_{z2} inch
12	8.268	6/3	1.063	-	.013-.017	-	.010-.014	-	.007-.011	
	10.630	6/3	1.063	-	.014-.018	-	.011-.015	-	.008-.012	
	13.780	8/4	1.063	-	.016-.020	-	.013-.017	-	.009-.013	
	15.748	10/5	1.063	-	.018-.022	-	.014-.018	-	.010-.014	
	16.142	10/5	1.063	-	.018-.022	-	.014-.018	-	.010-.014	
	18.898	12/6	1.063	-	.019-.023	-	.015-.019	-	.011-.015	
14	8.268	6/3	1.240	-	.012-.016	-	.009-.013	-	.006-.010	
	10.630	6/3	1.240	-	.013-.017	-	.010-.014	-	.007-.011	
	13.780	8/4	1.240	-	.015-.019	-	.012-.016	-	.008-.012	
	15.748	10/5	1.240	-	.016-.020	-	.013-.017	-	.009-.013	
	17.717	12/6	1.240	-	.017-.021	-	.013-.017	-	.010-.014	
16	10.630	6/3	1.417	-	.012-.016	-	.010-.014	-	.007-.011	
	13.780	8/4	1.417	-	.014-.018	-	.011-.015	-	.008-.012	
	15.748	8/4	1.417	-	.015-.019	-	.012-.016	-	.008-.012	
	17.717	10/5	1.417	-	.016-.020	-	.013-.017	-	.009-.013	
	19.685	12/6	1.417	-	.017-.021	-	.013-.017	-	.009-.013	
18	10.630	6/3	1.594	-	.012-.016	-	.009-.013	-	.006-.010	
	13.780	8/4	1.594	-	.013-.017	-	.010-.014	-	.007-.011	
	15.748	8/4	1.594	-	.014-.018	-	.011-.015	-	.008-.012	
	17.717	10/5	1.594	-	.015-.019	-	.012-.016	-	.008-.012	
	19.685	12/6	1.594	-	.016-.020	-	.012-.016	-	.009-.013	
20	10.630	6/3	1.772	-	.011-.015	-	.009-.013	-	.006-.010	
	13.780	8/4	1.772	-	.013-.017	-	.010-.014	-	.007-.011	
	15.748	8/4	1.772	-	.014-.018	-	.010-.014	-	.007-.011	
	17.717	10/5	1.772	-	.014-.018	-	.011-.015	-	.008-.012	
	19.685	12/6	1.772	-	.015-.019	-	.012-.016	-	.008-.012	
22	10.630	6/3	1.575	.394	.012-.016	.024-.028	.009-.013	.019-.023	.006-.010	.014-.018
	13.780	8/4	1.575	.394	.013-.017	.028-.032	.010-.014	.022-.026	.007-.011	.016-.020
	15.748	8/4	1.575	.394	.014-.018	.030-.034	.011-.015	.023-.027	.008-.012	.017-.021
	17.717	10/5	1.575	.394	.015-.019	.031-.035	.012-.016	.025-.029	.008-.012	.018-.022
	19.685	12/6	1.575	.394	.016-.020	.033-.037	.013-.017	.026-.030	.009-.013	.019-.023

[1] Effective number of inserts, root inserts/flank inserts

Recommendations based on maximum chip thickness (h_{ex}) of approximatly 0.25 mm, 0.20 mm and 0.15 mm for the different geometries.

Cutting speed recommendations

Starting values

P	v_c ft/min
GC1030	395-525
GC4240	330-460

Code key for CoroMill® 170

Cutter

S	–	170	–	12	–	350	Q	080	N	032	C
		1		2		3	4	5	6	7	8

1 Product family

2 Module

3 Diameter Dc, mm

4 Mounting

Q = Arbor metric
R = Arbor inch
J = Arbor CIS

5 Mounting size

e.g. 080 = 80 mm

6 N = Neutral style

7 Number of inserts

8 Diameter of radial keyway

A = 120 mm (4.724 inch)
B = 130 mm (5.118 inch)
C = 140 mm (5.512 inch)
D = 170 mm (6.693 inch)
E = 190 mm (7.480 inch)

Insert

170	–	12	–	24	07	40	E	–	P	R	H	N
1		2		3	4	5	6		7	8	9	10

1 Product family

2 Module

3 Insert size

20 = 20 mm (.787 inch)
24 = 24 mm (.945 inch)
28 = 28 mm (1.102 inch)

4 Insert thickness

07 = 7 mm (.276 inch)
08 = 8 mm (.315 inch)
10 = 10 mm (.394 inch)

5 Radius

E.g. 40 = 4.0 mm

6 Edge performance

E = Highest sharpness and precision

7 Main ISO applications area

P = Steel

8 Type of insert

F = Flank insert
R = Root insert

9 Operation

L = Light
M = Medium
H = Heavy

10 Geometry

N = Neutral

CoroMill® 176

Cost efficient gear milling

Tool profile according to DIN3972-2

iLock™ ingenious locking interface

Locked-in precision with rigid stability higher productivity from product consistency

Easy and repeatable tool indexing and handling

High productivity

- High number of effective inserts
- High cutting speeds
- Capable of high feed rates

Reduces total cost of gear wheel manufacture compared to HSS tools

ISO application areas:

P

SANDVIK Coromant

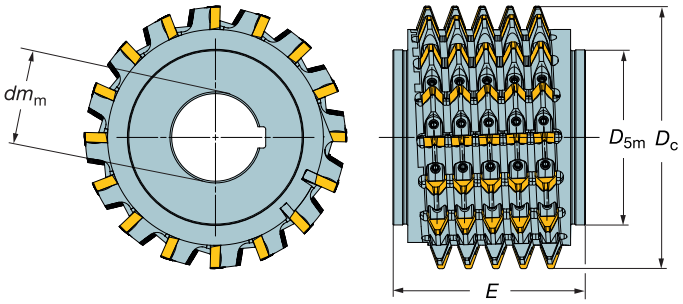
CoroMill® 176

Profile in accordance with DIN3972-2

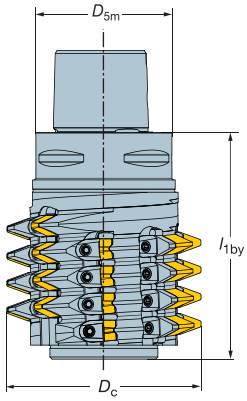
Quality class B in accordance with DIN3968.

TO BE QUOTED

Bore with axial keyway



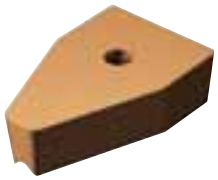
Coromant Capto®

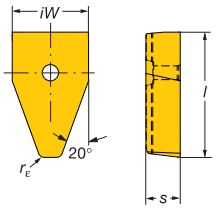


Module	D_c	Ordering code	Dimensions, mm, inch dm_m[1]	D_{5m}	l_{1by}	E	Number of inserts, z_n	Number of effective inserts, z_c
		Bore with axial keyway					**5 windings**	
4	100	S-176R-M40-100S32105	32	65		90	45	9
	3.937		*1.260*	*2.559*		*3.543*		
	150	S-176R-M40-150S40105	40	110		90	70	14
	5.906		*1.575*	*4.331*		*3.543*		
	210	S-176R-M40-210S50105	50	170		90	100	20
	8.268		*1.968*	*6.693*		*3.543*		
5	100	S-176R-M50-100S32105	32	57		110	45	9
	3.937		*1.260*	*2.244*		*4.331*		
	150	S-176R-M50-150S40105	40	100		110	70	14
	5.906		*1.575*	*3.937*		*4.331*		
	210	S-176R-M50-210S50105	50	160		110	100	20
	8.268		*1.968*	*6.299*		*4.331*		
6	120	S-176R-M60-120S32105	32	70		130	40	8
	4.724		*1.260*	*2.756*		*5.118*		
	150	S-176R-M60-150S40105	40	70		130	70	14
	5.906		*1.575*	*2.756*		*5.118*		
	210	S-176R-M60-210S50105	50	150		130	100	20
	8.268		*1.968*	*5.906*		*5.118*		
7	150	S-176R-M70-150S40105	40	95		150	60	12
	5.906		*1.575*	*3.740*		*5.906*		
	210	S-176R-M70-210S50105	50	155		150	90	18
	8.268		*1.968*	*6.102*		*5.906*		
8	150	S-176R-M80-150S40105	40	85		160	60	12
	5.906		*1.575*	*3.346*		*6.299*		
	210	S-176R-M80-210S50105	50	145		160	90	18
	8.268		*1.968*	*5.709*		*6.299*		
		Coromant Capto®					**4 windings**	
4	90	S-176R-M40-090C6104		63	105		32	8
	3.543			*2.480*	*4.134*			
5	100	S-176R-M50-100C6104		63	120		32	8
	3.937			*2.480*	*4.724*			
6	110	S-176R-M60-110C6104		63	135		32	8
	4.331			*2.480*	*5.315*			

[1] Coupling dimensions in accordance with DIN138

Inserts for CoroMill® 176

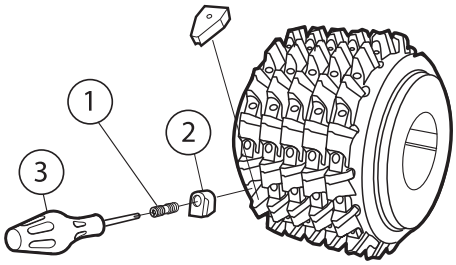




Profile in accordance with DIN3972-2

Module	Ordering code	P GC 1030	Dimensions, millimeter, inch (mm, in.) l mm	l in.	s mm	s in.	iW mm	iW in.	r_ε mm	r_ε in.
4	**176M40-N100608E-PM**	★	16.0	.630	5.5	.217	9.8	0.386	0.8	.031
5	**176M50-N120610E-PM**	★	20.1	.791	5.5	.217	12.2	0.480	1.0	.039
6	**176M60-N150612E-PM**	★	22.5	.886	5.5	.217	14.7	0.578	1.2	.047
7	**176M70-N170614E-PM**	★	26.3	1.035	5.5	.217	17.1	0.673	1.4	.055
8	**176M80-N210616E-PM**	★	30.0	1.181	5.5	.217	19.6	0.772	1.6	.063
		P30								

★= First choice



Spare parts

Module	1. Wedge screw	2. Wedge	3. Torque wrench (Torx Plus)
4	5516 014-05	5431 058-02	5680 100-06 (15IP)
5	5516 014-05	5431 058-03	5680 100-06 (15IP)
6	339-831	5431 058-04	5680 100-06 (15IP)
7	339-831	5431 058-04	5680 100-06 (15IP)
8	5516 014-01	5431 058-06	5680 100-08 (25IP)

J3

Feed recommendations

Starting values

Module	Tool diameter mm	Tool diameter inch	Effective number of teeth: z_c	Radial depth of cut a_e mm	Radial depth of cut a_e inch	Axial feed, f_a mm/rev z<50	Axial feed, f_a mm/rev z=50-100	Axial feed, f_a mm/rev z>100	Axial feed, f_a inch/rev z<50	Axial feed, f_a inch/rev z=50-100	Axial feed, f_a inch/rev z>100
4	100	3.937	9	9.0	.354	1.00-1.70	1.70-3.50	3.50-6.50	.039-.067	.067-.138	.138-.256
	150	5.906	14	9.0	.354	2.50-4.00	4.00-5.80	5.80-9.00	.098-.157	.157-.228	.228-.354
	210	8.268	20	9.0	.354	4.00-6.50	6.50-8.00	8.00-13.00	.157-.256	.256-.315	.315-.512
5	100	3.937	9	11.25	.443	0.80-1.60	1.60-3.40	3.90-6.40	.031-.063	.063-.134	.154-.252
	150	5.906	14	11.25	.443	1.70-2.90	2.90-5.70	5.70-8.80	.067-.114	.114-.224	.224-.346
	210	8.268	20	11.25	.443	2.50-3.50	3.50-7.00	7.00-11.50	.098-.138	.138-.276	.276-.453
6	120	4.724	8	13.5	.531	0.70-1.20	1.20-3.30	3.30-5.70	.028-.047	.047-.130	.130-.224
	150	5.906	14	13.5	.531	1.60-2.50	2.50-5.50	5.50-8.20	.063-.098	.098-.217	.217-.323
	210	8.268	20	13.5	.531	1.80-3.50	3.50-6.00	6.00-10.00	.071-.138	.138-.236	.236-.394
7	150	5.906	12	15.75	.620	1.40-2.40	2.40-4.40	4.40-7.60	.055-.094	.094-.173	.173-.299
	210	8.268	18	15.75	.620	1.50-3.20	3.20-5.50	5.50-9.50	.059-.126	.126-.217	.217-.374
8	150	5.906	12	18	.709	1.10-2.10	2.10-3.70	3.70-6.20	.043-.083	.083-.146	.146-.244
	210	8.268	18	18	.709	1.30-3.00	3.00-5.50	5.50-9.00	.051-.118	.118-.217	.217-.354

Cutting speed recommendations

Starting values

P	v_c m/min (ft/min)
GC1030	160-200 (525-655)

Code key for CoroMill® 176

Cutter

S	–	176	R	–	M	40	–	150	S	50	1	05
		1	2		3	4		5	6	7	8	9

1 Product family

2 Hand of tool

R = Right hand, L = Left hand

3 Profile type

M = Module, D = Diametral pitch

4 Profile size

40 = 4.0 mm (.157 inch)

5 Diameter, D_c mm

6 Mounting type

S = Bore with keyway
C = Coromant Capto®

7 Mounting size

50 = 50 mm (1.968 inch)

8 Number of starts

9 Number of complete windings

05 = 5 windings

Insert

176	M	50	–	N	12	06	10	E	–	P	M
1	2	3		4	5	6	7	8		9	10

1 Product family

2 Profile type

M = Module, D = Diametral pitch

3 Profile size

50 = 5.0 mm (.197 inch)

4 Geometry

N = Neutral, i.e. for both right and left hand tools.

5 Insert width

12 = 12 mm (.472 inch)

6 Insert thickness

06 = 6 mm (.236 inch)

7 Corner radius

10 = 1.0 mm (.039 inch)

8 Edge performance

E = Highest sharpness and precision

9 Main ISO applications area

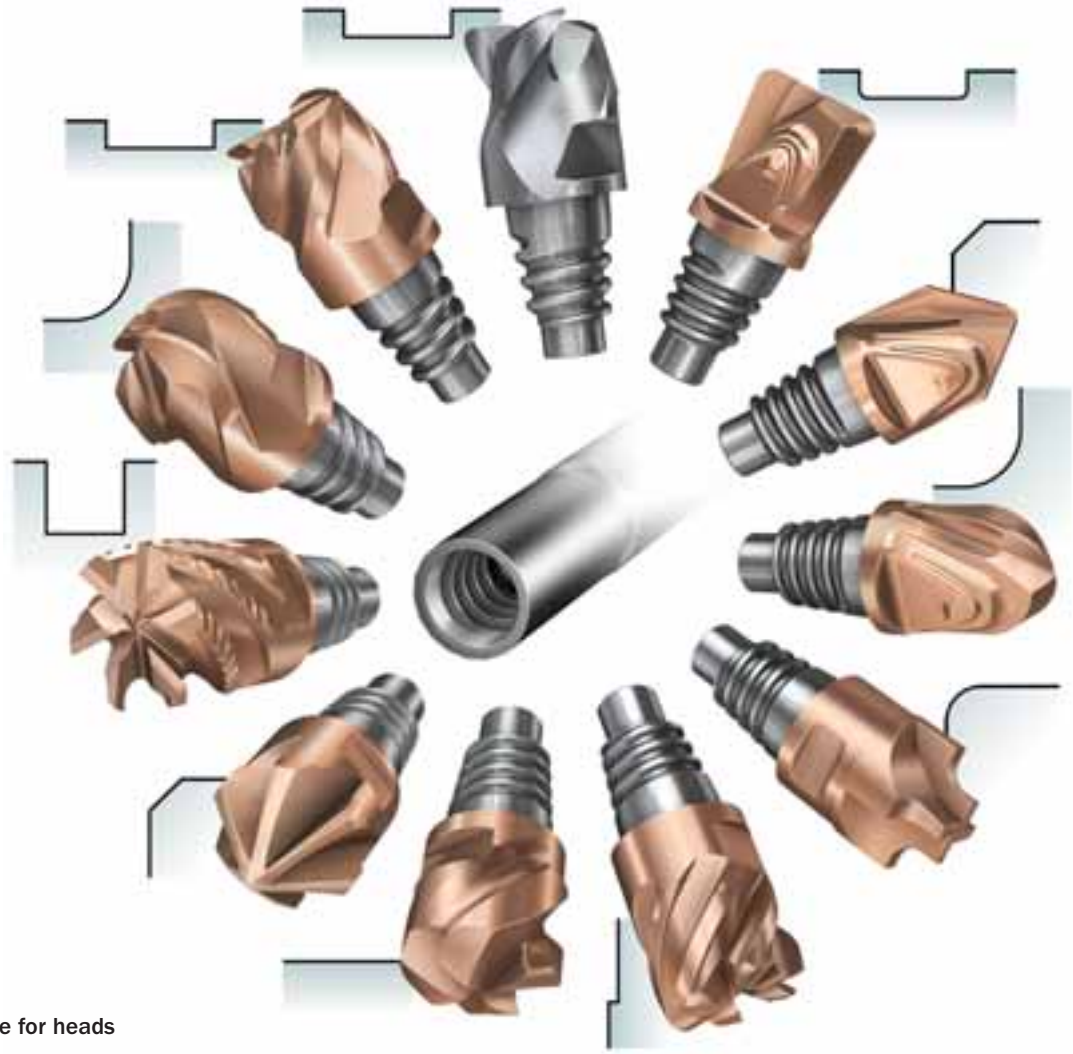
P = Steel

10 Operation

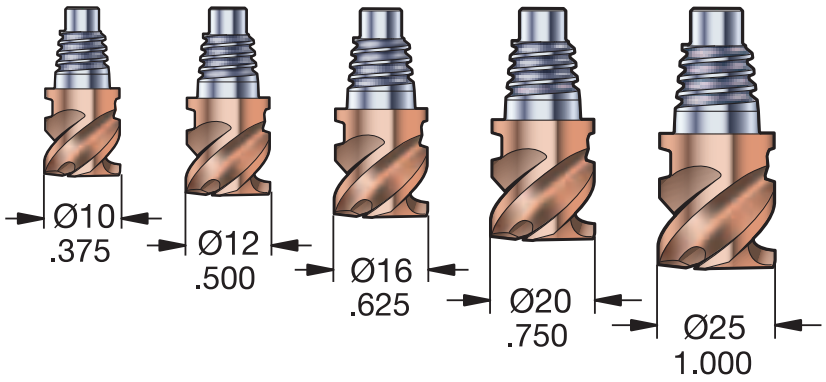
L = Light
M = Medium
H = Heavy

CoroMill® 316

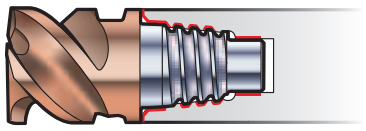
The exchangeable-head milling system



Diameter range for heads



Flexible system with assortment of heads



Interface

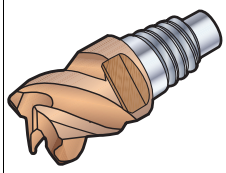
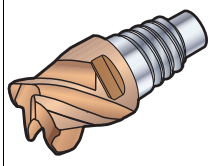
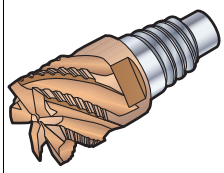
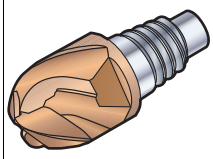
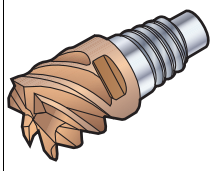
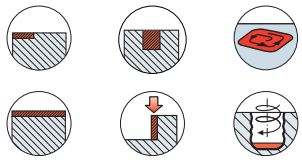
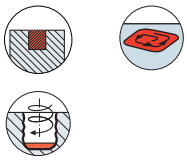
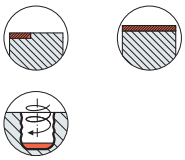
Self-centering screw thread

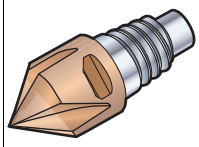
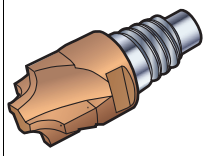
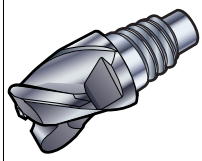
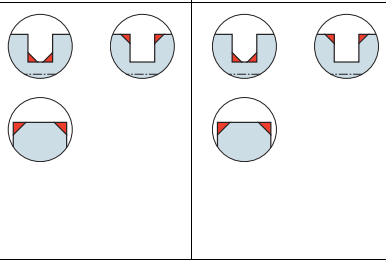
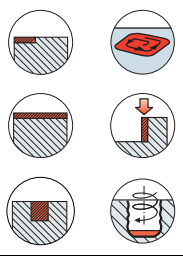
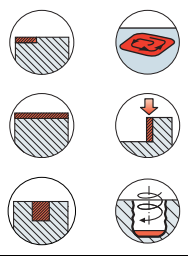
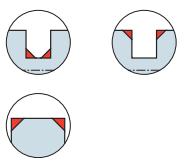
For CoroMill® 316 holders see page G97

ISO application areas:

P M K N S

Tool guide and selection

	Roughing/semi - finishing First choice	Roughing, high feed	Roughing Kordell[1)]	Profiling	Finishing
					
Page	D214	D218	D219	D221	D220
Design	Corner radius Centre cutting	High feed cutter Non centre cutting	Kordell design Centre cutting	Ball nose end mill Centre cutting	Multi edge Non centre cutting with/without radius
Geometry	P	P	K	G	L
Cutter diameter (Dc)	10-25 mm .375-1.000 inch	10-25 mm .375-1.000 inch	10-25 mm .375-1.000 inch	10-25 mm .375-1.000 inch	10-25 mm .375-1.000 inch
Corner radius (r_ε), dia. mm (inch)	0.5-4 mm .015-.250 inch	1.5-3 mm .060-.080 inch	0.4 mm .015-.062 inch	5-12 mm .188-.500 inch	0-1.5 mm .015-.250 inch
Application					

	Chamfering	Chamfering	Aluminium milling	2 cutting edges Roughing/semi - finishing	2 cutting edges Profiling	2 cutting edges Chamfering
						
Page	D223	D225	D217	D215	D222	D225
Design	Chamfer 15, 30, 45, 49, 60	Chamfer radius	Corner radius Centre cutting	Corner radius Centre cutting	Ball nose end mill Centre cutting	Chamfer 15, 30, 45, 49, 60
Geometry	G	G	A	P	G	G
Cutter diameter (Dc)	10-16 mm .375-.625 inch	10-25 mm .375-1.000 inch	10-25 mm -	10-16 mm .375-.625 inch	10-25 mm .375-1.000 inch	10-16 mm .375-.625 inch
Corner radius (r_ε), dia. mm (inch)	No radius	1.5-8 mm .062-.313 inch	0-4 mm -	0.5-4 mm .015-.062 inch	5-12.5 mm .188-.312 inch	No radius
Application						

[1)] Note: Cutters with zn more than 4 are not recommended for full slot milling

Shoulder milling

Slot milling

Face milling

Axial / plunge milling

Pocket milling

Ramping

Profiling

Chamfering

Chamfering inside

Chamfering outside

Code key for exchangeable milling heads, CoroMill® 316

A	316	–	12	S	M	4	50	–	120	05	P
1	2		3	4	5	6	7		8	9	10

1 System of measurement
A = Inch version

2 Family name
E.g.: 316 = CoroMill® 316

3 Size of interface
EH coupling size E.g.: 12 = E12

4 Basic design
S = Straight = 90° F = Straight no centre cutting B = Ball nose C = Chamfer tools H = HFC (high feed cutter) U = Chamfer radius

5 Length of head
M = Medium

6 Number of edges
E.g.: z_n = 4

7 Helix angle
Degree of helix rounded to nearest 5 degree

8 Cutting diameter
Metric tools E.g.: 120 = 12.0 mm **Inch tools** E.g.: 050 = 0.5 inch

9 Corner radius
Metric tools E.g.: 05 = r_e 0.5 mm **Inch tools** E.g.: 04 = r_e 0.4 mm (.015 inch)

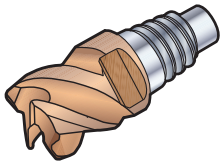
10 Geometry

Geometry	Rake angle	Core diameter	
P	9-12°	50%	
L	4-12°	70%	
G	-3-3°	70%	
K	9-12°	60%	Kordell
A	12-15°		

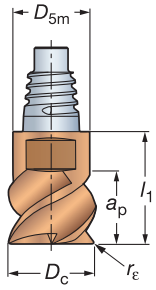
Corner radius end mill

General milling first choice

Centre cutting



Helix angle: 50°
Tolerances: D_c = h9



Metric version

D_c mm	Ordering code	Coupling size	z_n	Dimensions, mm D_{5m}	l_1	r_ε	Max a_p	kg	P GC 1030	M GC 1030	K GC 1030	S GC 1030
10	316-10SM350-10005P	E10	3	9.7	12.4	0.5	5.5	0.02	☆	☆	☆	☆
	316-10SM350-10010P		3	9.7	12.4	1.0	5.5	0.02	☆	☆	☆	☆
	316-10SM450-10005P		4	9.7	12.4	0.5	5.5	0.02	☆	☆	☆	☆
	316-10SM450-10010P		4	9.7	12.4	1.0	5.5	0.02	☆	☆	☆	☆
	316-10SM450-10015P		4	9.7	12.4	1.5	5.5	0.02	☆	☆	☆	☆
	316-10SM450-10020P		4	9.7	12.4	2.0	5.5	0.02	☆	☆	☆	☆
	316-10SM450-10030P		4	9.7	12.4	3.0	5.5	0.02	☆	☆	☆	☆
12	316-12SM350-12005P	E12	3	11.7	14.5	0.5	6.5	0.04	☆	☆	☆	☆
	316-12SM350-12010P		3	11.7	14.5	1.0	6.5	0.04	☆	☆	☆	☆
	316-12SM450-12005P		4	11.7	14.5	0.5	6.5	0.04	☆	☆	☆	☆
	316-12SM450-12010P		4	11.7	14.5	1.0	6.5	0.04	☆	☆	☆	☆
	316-12SM450-12015P		4	11.7	14.5	1.5	6.5	0.04	☆	☆	☆	☆
	316-12SM450-12020P		4	11.7	14.5	2.0	6.5	0.04	☆	☆	☆	☆
	316-12SM450-12030P		4	11.7	14.5	3.0	6.5	0.04	☆	☆	☆	☆
	316-12SM450-12040P		4	11.7	14.5	4.0	6.5	0.04	☆	☆	☆	☆
16	316-16SM350-16005P	E16	3	15.5	18.7	0.5	8.5	0.07	☆	☆	☆	☆
	316-16SM350-16010P		3	15.5	18.7	1.0	8.5	0.07	☆	☆	☆	☆
	316-16SM450-16005P		4	15.5	18.7	0.5	8.5	0.07	☆	☆	☆	☆
	316-16SM450-16010P		4	15.5	18.7	1.0	8.5	0.07	☆	☆	☆	☆
	316-16SM450-16015P		4	15.5	18.7	1.5	8.5	0.07	☆	☆	☆	☆
	316-16SM450-16020P		4	15.5	18.7	2.0	8.5	0.07	☆	☆	☆	☆
	316-16SM450-16030P		4	15.5	18.7	3.0	8.5	0.07	☆	☆	☆	☆
	316-16SM450-16040P		4	15.5	18.7	4.0	8.5	0.07	☆	☆	☆	☆
20	316-20SM350-20005P	E20	3	19.3	21.3	0.5	11.0	0.13	☆	☆	☆	☆
	316-20SM350-20010P		3	19.3	21.3	1.0	11.0	0.13	☆	☆	☆	☆
	316-20SM450-20005P		4	19.3	21.3	0.5	11.0	0.13	☆	☆	☆	☆
	316-20SM450-20010P		4	19.3	21.3	1.0	11.0	0.13	☆	☆	☆	☆
	316-20SM450-20015P		4	19.3	21.3	1.5	11.0	0.13	☆	☆	☆	☆
	316-20SM450-20020P		4	19.3	21.3	2.0	11.0	0.13	☆	☆	☆	☆
	316-20SM450-20030P		4	19.3	21.3	3.0	11.0	0.13	☆	☆	☆	☆
	316-20SM450-20040P		4	19.3	21.3	4.0	11.0	0.13	☆	☆	☆	☆
25	316-25SM550-25010P	E25	5	24.2	25.6	1.0	13.5	0.21	☆	☆	☆	☆
	316-25SM550-25015P		5	24.2	25.6	1.5	13.5	0.21	☆	☆	☆	☆
	316-25SM550-25020P		5	24.2	25.6	2.0	13.5	0.21	☆	☆	☆	☆

z_n = number of cutting edges

D228 J3 G97

SANDVIK Coromant

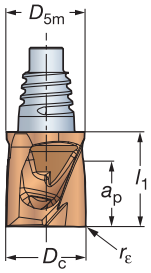
Corner radius end mill

General milling

Centre cutting

Two cutting edges

Helix angle: 10°
Tolerances: D_c = h10



Metric version

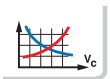
D_c mm	Ordering code	Coupling size	z_n	Dimensions, mm D_{5m}	l_1	r_ε	Max a_p	kg	P GC 1030	M GC 1030	K GC 1030	S GC 1030
10	316-10SM210-10005P	E10	2	9.7	11.8	0.5	8.0	0.01	☆	☆	☆	☆
	316-10SM210-10008P		2	9.7	11.8	0.8	8.0	0.01	☆	☆	☆	☆
	316-10SM210-10010P		2	9.7	11.8	1.0	8.0	0.01	☆	☆	☆	☆
	316-10SM210-10015P		2	9.7	11.8	1.5	8.0	0.01	☆	☆	☆	☆
	316-10SM210-10020P		2	9.7	11.8	2.0	8.0	0.01	☆	☆	☆	☆
	316-10SM210-10030P		2	9.7	11.8	3.0	8.0	0.01	☆	☆	☆	☆
12	316-12SM210-12005P	E12	2	11.7	14	0.5	10.0	0.02	☆	☆	☆	☆
	316-12SM210-12008P		2	11.7	14	0.8	10.0	0.02	☆	☆	☆	☆
	316-12SM210-12010P		2	11.7	14	1.0	10.0	0.02	☆	☆	☆	☆
	316-12SM210-12015P		2	11.7	14	1.5	10.0	0.02	☆	☆	☆	☆
	316-12SM210-12020P		2	11.7	14	2.0	10.0	0.02	☆	☆	☆	☆
	316-12SM210-12030P		2	11.7	14	3.0	10.0	0.02	☆	☆	☆	☆
16	316-16SM210-16005P	E16	2	15.5	18.1	0.5	13.0	0.05	☆	☆	☆	☆
	316-16SM210-16008P		2	15.5	18.1	0.8	13.0	0.05	☆	☆	☆	☆
	316-16SM210-16010P		2	15.5	18.1	1.0	13.0	0.05	☆	☆	☆	☆
	316-16SM210-16015P		2	15.5	18.1	1.5	13.0	0.05	☆	☆	☆	☆
	316-16SM210-16020P		2	15.5	18.1	2.0	13.0	0.05	☆	☆	☆	☆
	316-16SM210-16030P		2	15.5	18.1	3.0	13.0	0.05	☆	☆	☆	☆
	316-16SM210-16040P		2	15.5	18.1	4.0	13.0	0.05	☆	☆	☆	☆

z_n = number of cutting edges

Inch version

D_c	Ordering code	Coupling size	z_n	Dimensions, inch D_{5m}	l_1	r_ε	Max a_p	Lbs	P GC 1030	M GC 1030	K GC 1030	S GC 1030
.375	A316-10SM210-03704P	E10	2	.364	.465	.015	.315	0.02	☆	☆	☆	☆
	A316-10SM210-03708P		2	.364	.465	.031	.315	0.02	☆	☆	☆	☆
	A316-10SM210-03715P		2	.364	.465	.062	.315	0.02	☆	☆	☆	☆
.500	A316-12SM210-05004P	E12	2	.484	.551	.015	.413	0.05	☆	☆	☆	☆
	A316-12SM210-05008P		2	.484	.551	.031	.413	0.05	☆	☆	☆	☆
	A316-12SM210-05015P		2	.484	.551	.062	.413	0.05	☆	☆	☆	☆
.625	A316-16SM210-06204P	E16	2	.610	.713	.015	.512	0.10	☆	☆	☆	☆
	A316-16SM210-06208P		2	.610	.713	.031	.512	0.10	☆	☆	☆	☆
	A316-16SM210-06215P		2	.610	.713	.062	.512	0.10	☆	☆	☆	☆

z_n = number of cutting edges

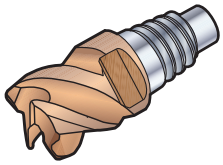

D228

J3

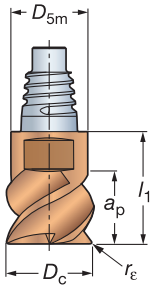
Corner radius end mill

General milling first choice

Centre cutting



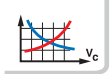
Helix angle: 50°
Tolerances: D_c = h9



Inch version

D_c	Ordering code	Coupling size	z_n	Dimensions, inch D_{5m}	l_1	r_ε	Max a_p	Lbs	P GC 1030	M GC 1030	K GC 1030	S GC 1030
.375	A316-10SM350-03704P	E10	3	.364	.488	.015	.209	0.04	☆	☆	☆	☆
	A316-10SM350-03708P		3	.364	.488	.031	.209	0.04	☆	☆	☆	☆
	A316-10SM350-03715P		3	.364	.488	.062	.209	0.04	☆	☆	☆	☆
	A316-10SM450-03704P		4	.364	.488	.015	.209	0.04	☆	☆	☆	☆
	A316-10SM450-03708P		4	.364	.488	.031	.209	0.04	☆	☆	☆	☆
	A316-10SM450-03715P		4	.364	.488	.062	.209	0.04	☆	☆	☆	☆
.500	A316-12SM350-05004P	E12	3	.484	.575	.015	.276	0.09	☆	☆	☆	☆
	A316-12SM350-05008P		3	.484	.575	.031	.276	0.09	☆	☆	☆	☆
	A316-12SM350-05015P		3	.484	.575	.062	.276	0.09	☆	☆	☆	☆
	A316-12SM450-05004P		4	.484	.575	.015	.276	0.09	☆	☆	☆	☆
	A316-12SM450-05008P		4	.484	.575	.031	.276	0.09	☆	☆	☆	☆
	A316-12SM450-05015P		4	.484	.575	.062	.276	0.09	☆	☆	☆	☆
.625	A316-16SM350-06204P	E16	3	.610	.736	.015	.335	0.15	☆	☆	☆	☆
	A316-16SM350-06208P		3	.610	.736	.031	.335	0.15	☆	☆	☆	☆
	A316-16SM350-06215P		3	.610	.736	.062	.335	0.15	☆	☆	☆	☆
	A316-16SM450-06204P		4	.610	.736	.015	.335	0.15	☆	☆	☆	☆
	A316-16SM450-06208P		4	.610	.736	.031	.335	0.15	☆	☆	☆	☆
	A316-16SM450-06215P		4	.610	.736	.062	.335	0.15	☆	☆	☆	☆
.750	A316-20SM350-07508P	E20	3	.728	.839	.031	.413	0.29	☆	☆	☆	☆
	A316-20SM350-07515P		3	.728	.839	.062	.413	0.29	☆	☆	☆	☆
	A316-20SM350-07532P		3	.728	.839	.125	.413	0.29	☆	☆	☆	☆
	A316-20SM450-07508P		4	.728	.839	.031	.413	0.29	☆	☆	☆	☆
	A316-20SM450-07515P		4	.728	.839	.062	.413	0.29	☆	☆	☆	☆
	A316-20SM450-07532P		4	.728	.839	.125	.413	0.29	☆	☆	☆	☆
	A316-20SM450-07563P		4	.728	.839	.250	.413	0.29	☆	☆	☆	☆
1.000	A316-25SM350-10015P	E25	3	.965	1.008	.062	.551	0.46	☆	☆	☆	☆
	A316-25SM350-10032P		3	.965	1.008	.125	.551	0.46	☆	☆	☆	☆
	A316-25SM350-10063P		3	.965	1.008	.250	.551	0.46	☆	☆	☆	☆
	A316-25SM550-10015P		5	.965	1.008	.062	.551	0.46	☆	☆	☆	☆
	A316-25SM550-10032P		5	.965	1.008	.125	.551	0.46	☆	☆	☆	☆
	A316-25SM550-10047P		5	.965	1.008	.188	.551	0.46	☆	☆	☆	☆
	A316-25SM550-10063P		5	.965	1.008	.250	.551	0.46	☆	☆	☆	☆

z_n = number of cutting edges


D228

J3

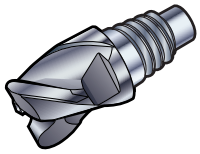
G97

SANDVIK Coromant

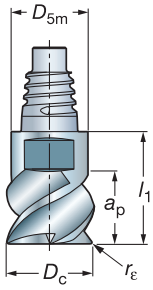
Corner radius end mill

Aluminium milling

Centre cutting



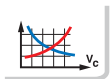
Helix angle: 45°
Tolerances: D_c = h9



Metric version

D_c mm	Ordering code	Coupling size	z_n	Dimensions, mm D_{5m}	l_1	r_ε	Max a_p	kg	P GC 1030	M GC 1030	K GC 1030	N - H10F	S GC 1030
10	316-10SM345-10000A	E10	3	9.7	12.4	0.0	5.5	0.02				☆	
	316-10SM345-10010A		3	9.7	12.4	1.0	5.5	0.02				☆	
	316-10SM345-10025A		3	9.7	12.4	2.5	5.5	0.02				☆	
12	316-12SM345-12000A	E12	3	11.7	14.5	0.0	6.5	0.04				☆	
	316-12SM345-12010A		3	11.7	14.5	1.0	6.5	0.04				☆	
	316-12SM345-12025A		3	11.7	14.5	2.5	6.5	0.04				☆	
	316-12SM345-12040A		3	11.7	14.5	4.0	6.5	0.04				☆	
16	316-16SM345-16000A	E16	3	15.5	18.7	0.0	8.5	0.07				☆	
	316-16SM345-16015A		3	15.5	18.7	1.5	8.5	0.07				☆	
	316-16SM345-16025A		3	15.5	18.7	2.5	8.5	0.07				☆	
	316-16SM345-16040A		3	15.5	18.7	4.0	8.5	0.07				☆	
20	316-20SM345-20000A	E20	3	19.3	21.3	0.0	11.0	0.13				☆	
	316-20SM345-20025A		3	19.3	21.3	2.5	11.0	0.13				☆	
	316-20SM345-20040A		3	19.3	21.3	4.0	11.0	0.13				☆	
25	316-25SM345-25000A	E25	3	24.2	25.6	0.0	13.5	0.21				☆	
	316-25SM345-25040A		3	24.2	25.6	4.0	13.5	0.21				☆	

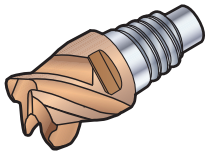
z_n = number of cutting edges

 D228 J3 G97

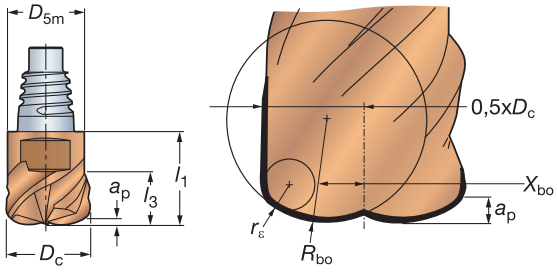
High feed end mill

Rough milling

Non centre cutting



Helix angle: 50°
Tolerances: D_c = h9



Metric version

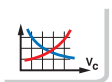
D_c mm	Ordering code	Coupling size	z_n	Dimensions, mm D_{5m}	l_1	l_3	r_ε	R_{comp} [1]	R_{bo}	X_{bo}	Max a_p	KG	P GC 1030	M GC 1030	K GC 1030	S GC 1030
10	316-10HM350-10015P	E10	4	9.7	12.4	5.5	1.5	1.99	5.00	1.70	0.7	0.02	☆	☆	☆	☆
	316-10HM450-10015P		4	9.7	12.4	5.5	1.5	1.99	5.00	1.70	0.7	0.02	☆	☆	☆	☆
12	316-12HM350-12015P	E12	3	11.7	14.5	6.5	1.5	2.10	6.00	2.25	0.8	0.04	☆	☆	☆	☆
	316-12HM450-12015P		4	11.7	14.5	6.5	1.5	2.10	6.00	2.25	0.8	0.04	☆	☆	☆	☆
16	316-16HM350-16020P	E16	3	15.5	18.7	8.5	2.0	2.75	8.00	3.10	1.0	0.07	☆	☆	☆	☆
	316-16HM450-16020P		4	15.5	18.7	8.5	2.0	2.75	8.00	3.10	1.0	0.07	☆	☆	☆	☆
20	316-20HM350-20020P	E20	3	19.3	21.3	11.0	2.0	3.07	10.00	4.00	1.3	0.13	☆	☆	☆	☆
	316-20HM450-20020P		4	19.3	21.3	11.0	2.0	3.07	10.00	4.00	1.3	0.13	☆	☆	☆	☆
25	316-25HM450-25030P	E25	4	24.2	25.6	13.0	3.0	4.21	12.00	5.00	1.6	0.21	☆	☆	☆	☆

[1] R_{comp} = value to be programmed when machining radius
z_n = number of cutting edges

Inch version

D_c	Ordering code	Coupling size	z_n	Dimensions, inch D_{5m}	l_1	l_3	r_ε	R_{comp} [1]	R_{bo}	X_{bo}	Max a_p	Lbs	P GC 1030	M GC 1030	K GC 1030	S GC 1030
.375	A316-10HM450-03715P	E10	4	.364	.488	.209	.060	.076	.181	.070	.024	0.04	☆	☆	☆	☆
.500	A316-12HM450-05015P	E12	4	.484	.575	.276	.060	.086	.236	.100	.033	0.09	☆	☆	☆	☆
.625	A316-16HM450-06220P	E16	4	.610	.736	.335	.080	.110	.315	.120	.039	0.15	☆	☆	☆	☆
.750	A316-20HM450-07520P	E20	4	.728	.839	.413	.080	.117	.354	.160	.047	0.29	☆	☆	☆	☆

[1] R_{comp} = value to be programmed when machining radius
z_n = number of cutting edges


D228

J3

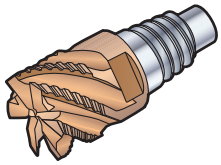
G97

SANDVIK Coromant

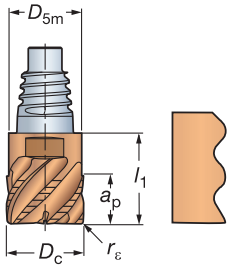
Roughing end mill

Kordell

Centre cutting



Helix angle: 40° - 45°
Tolerances: D_c = h12



Note: Cutters with zn more than 4 are not recommended for full slot milling

Metric version

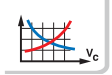
D_c mm	Ordering code	Coupling size	z_n	Dimensions, mm D_{5m}	l_1	r_ε	Max a_p	kg	P GC 1030	M GC 1030	K GC 1030	S GC 1030
10	**316-10SM440-10004K**	E10	4	9.7	12.4	0.4	5.5	0.02	☆	☆	☆	☆
	316-10SM545-10004K		5	9.7	12.4	0.4	5.5	0.02	☆	☆	☆	☆
12	**316-12SM440-12004K**	E12	4	11.7	14.5	0.4	6.5	0.04	☆	☆	☆	☆
	316-12SM545-12004K		5	11.7	14.5	0.4	6.5	0.04	☆	☆	☆	☆
16	**316-16SM440-16004K**	E16	4	15.5	18.7	0.4	8.5	0.07	☆	☆	☆	☆
	316-16SM645-16004K		6	15.5	18.7	0.4	8.5	0.07	☆	☆	☆	☆
20	**316-20SM645-20004K**	E20	6	19.3	21.3	0.4	11.0	0.13	☆	☆	☆	☆
25	**316-25SM845-25004K**	E25	8	24.2	25.6	0.4	13.5	0.21	☆	☆	☆	☆

z_n = number of cutting edges

Inch version

D_c	Ordering code	Coupling size	z_n	Dimensions, inch D_{5m}	l_1	r_ε	Max a_p	Lbs	P GC 1030	M GC 1030	K GC 1030	S GC 1030
.375	**A316-10SM440-03704K**	E10	4	.364	.488	.015	.209	0.04	☆	☆	☆	☆
.500	**A316-12SM440-05004K**	E12	4	.484	.575	.015	.276	0.09	☆	☆	☆	☆
.500	**A316-12SM440-05015K**		4	.484	.575	.062	.276	0.09	☆	☆	☆	☆
.625	**A316-16SM440-06204K**	E16	4	.610	.736	.015	.335	0.15	☆	☆	☆	☆
.625	**A316-16SM440-06215K**		4	.610	.736	.062	.335	0.15	☆	☆	☆	☆
.750	**A316-20SM440-07504K**	E20	4	.728	.839	.015	.413	0.29	☆	☆	☆	☆
.750	**A316-20SM645-07504K**		6	.728	.839	.015	.413	0.29	☆	☆	☆	☆
1.000	**A316-25SM845-10004K**	E25	8	.965	1.008	.015	.551	0.46	☆	☆	☆	☆

z_n = number of cutting edges


D228

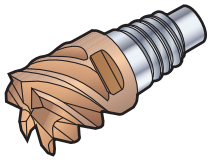
J3

G97

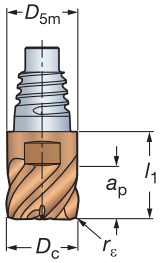
Finishing end mill

Multi edge

Non centre cutting



Helix angle: 50°
Tolerances: D_c = h9



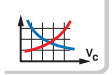
Metric version

D_c mm	Ordering code	Coupling size	z_n	Dimensions, mm D_{5m}	l_1	r_ε	Max a_p	kg	P GC 1030	M GC 1030	K GC 1030	S GC 1030
10	316-10FM650-10000L	E10	6	9.7	12.4	0.0	5.5	0.02	☆	☆	☆	☆
	316-10FM650-10010L		6	9.7	12.4	1.0	5.5	0.02	☆	☆	☆	☆
12	316-12FM650-12000L	E12	6	11.7	14.5	0.0	6.5	0.04	☆	☆	☆	☆
	316-12FM650-12010L		6	11.7	14.5	1.0	6.5	0.04	☆	☆	☆	☆
16	316-16FM650-16000L	E16	6	15.5	18.7	0.0	8.5	0.07	☆	☆	☆	☆
	316-16FM650-16015L		6	15.5	18.7	1.5	8.5	0.07	☆	☆	☆	☆
20	316-20FM850-20000L	E20	8	19.3	21.3	0.0	11.0	0.13	☆	☆	☆	☆
	316-20FM850-20015L		8	19.3	21.3	1.5	11.0	0.13	☆	☆	☆	☆
25	316-25FM850-25010L	E25	8	24.2	25.6	1.0	13.5	0.21	☆	☆	☆	☆

Inch version

D_c	Ordering code	Coupling size	z_n	Dimensions, inch D_{5m}	l_1	r_ε	Max a_p	Lbs	P GC 1030	M GC 1030	K GC 1030	S GC 1030
.375	A316-10FM650-03704L	E10	6	.364	.488	.015	.209	0.04	☆	☆	☆	☆
.375	A316-10FM650-03708L		6	.364	.488	.031	.209	0.04	☆	☆	☆	☆
.375	A316-10FM650-03715L		6	.364	.488	.062	.209	0.04	☆	☆	☆	☆
.500	A316-12FM650-05004L	E12	6	.484	.575	.015	.276	0.09	☆	☆	☆	☆
.500	A316-12FM650-05008L		6	.484	.575	.031	.276	0.09	☆	☆	☆	☆
.500	A316-12FM650-05015L		6	.484	.575	.062	.276	0.09	☆	☆	☆	☆
.625	A316-16FM650-06208L	E16	6	.610	.736	.031	.335	0.15	☆	☆	☆	☆
.625	A316-16FM650-06215L		6	.610	.736	.062	.335	0.15	☆	☆	☆	☆
.625	A316-16FM850-06208L		8	.610	.736	.031	.335	0.15	☆	☆	☆	☆
.625	A316-16FM850-06215L		8	.610	.736	.062	.335	0.15	☆	☆	☆	☆
.750	A316-20FM850-07508L	E20	8	.728	.839	.031	.413	0.29	☆	☆	☆	☆
.750	A316-20FM850-07515L		8	.728	.839	.062	.413	0.29	☆	☆	☆	☆
.750	A316-20FM850-07532L		8	.728	.839	.125	.413	0.29	☆	☆	☆	☆
.750	A316-20FMA50-07508L		10	.728	.839	.031	.413	0.29	☆	☆	☆	☆
.750	A316-20FMA50-07515L		10	.728	.839	.062	.413	0.29	☆	☆	☆	☆
.750	A316-20FMA50-07532L		10	.728	.839	.125	.413	0.29	☆	☆	☆	☆
1.000	A316-25FMA50-10015L	E25	10	.965	1.008	.062	.551	0.46	☆	☆	☆	☆
1.000	A316-25FMA50-10032L		10	.965	1.008	.125	.551	0.46	☆	☆	☆	☆
1.000	A316-25FMA50-10063L		10	.965	1.008	.250	.551	0.46	☆	☆	☆	☆
1.000	A316-25FMC50-10015L		12	.965	1.008	.062	.551	0.46	☆	☆	☆	☆
1.000	A316-25FMC50-10032L		12	.965	1.008	.125	.551	0.46	☆	☆	☆	☆
1.000	A316-25FMC50-10063L		12	.965	1.008	.250	.551	0.46	☆	☆	☆	☆

z_n = number of cutting edges

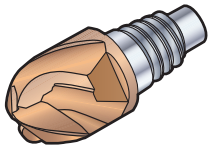
 D228
J3
G97

SANDVIK Coromant

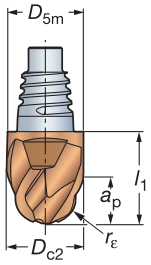
Ball nose end mill

Profile milling

Centre cutting



Helix angle: 40°
Tolerances: D_c = h9



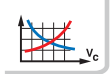
Metric version

D_{c2} mm	Ordering code	Coupling size	z_n	Dimensions, mm D_{5m}	l_1	r_ε	Max a_p	kg	P GC 1030	M GC 1030	K GC 1030	S GC 1030
10	**316-10BM440-10050G**	E10	4	9.7	12.4	5.0	5.5	0.02	☆	☆	☆	☆
12	**316-12BM440-12060G**	E12	4	11.7	14.5	6.0	6.5	0.04	☆	☆	☆	☆
16	**316-16BM440-16080G**	E16	4	15.5	18.7	8.0	8.5	0.07	☆	☆	☆	☆
20	**316-20BM440-200AG**	E20	4	19.3	21.3	10.0	11.0	0.13	☆	☆	☆	☆
25	**316-25BM440-250DG**	E25	4	24.2	25.6	12.5	13.5	0.21	☆	☆	☆	☆

Inch version

D_{c2}	Ordering code	Coupling size	z_n	Dimensions, inch D_{5m}	l_1	r_ε	Max a_p	Lbs	P GC 1030	M GC 1030	K GC 1030	S GC 1030
.375	**A316-10BM440-03750G**	E10	4	.364	.488	.188	.209	0.04	☆	☆	☆	☆
.500	**A316-12BM440-05060G**	E12	4	.484	.575	.250	.276	0.09	☆	☆	☆	☆
.625	**A316-16BM440-06280G**	E16	4	.610	.736	.312	.335	0.15	☆	☆	☆	☆
.750	**A316-20BM440-075AG**	E20	4	.728	.839	.375	.413	0.29	☆	☆	☆	☆
1.000	**A316-25BM440-100CG**	E25	4	.965	1.008	.500	.551	0.44	☆	☆	☆	☆

z_n = number of cutting edges

 D228 J3 G97

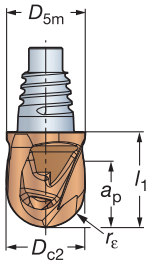
Ball nose end mill

Profile milling

Centre cutting

Two cutting edges

Helix angle: 10°
Tolerances: D_{c2} = h9



Metric version

D_{c2} mm	Ordering code	Coupling size	z_n	Dimensions, mm D_{5m}	l_1	r_ε	Max a_p	kg	P GC 1030	M GC 1030	K GC 1030	N - H10F	S GC 1030
10	316-10BM210-10050G	E10	2	9.7	12.2	5.0	8.0	0.01	☆	☆	☆	☆	☆
12	316-12BM210-12060G	E12	2	11.7	14	6.0	10.0	0.02	☆	☆	☆	☆	☆
16	316-16BM210-16080G	E16	2	15.5	18.1	8.0	13.0	0.05	☆	☆	☆	☆	☆
20	316-20BM240-200AG	E20	2	19.3	21.3	10.0	11.0	0.13	☆	☆	☆		☆
25	316-25BM240-250DG	E25	2	24.2	25.6	12.5	13.5	0.20	☆	☆	☆		☆

Inch version

D_{c2}	Ordering code	Coupling size	z_n	Dimensions, inch D_{5m}	l_1	r_ε	Max a_p	Lbs	P GC 1030	M GC 1030	K GC 1030	S GC 1030
.375	A316-10BM210-03750G	E10	2	.364	.465	.188	.315	0.02	☆	☆	☆	☆
.500	A316-12BM210-05060G	E12	2	.484	.551	.250	.413	0.05	☆	☆	☆	☆
.625	A316-16BM210-06280G	E16	2	.610	.713	.312	.512	0.10	☆	☆	☆	☆

z_n = number of cutting edges

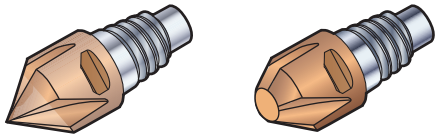
D228 J3

SANDVIK Coromant

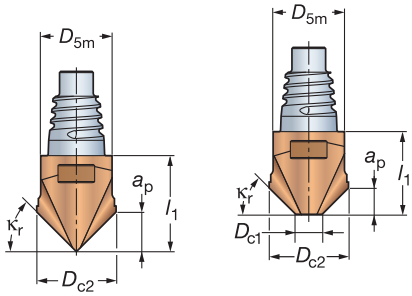
Chamfering end mill

Chamfer milling

Centre and non-centre cutting



Helix angle: 0°
Tolerances: D_c = h10



Angle 15°, 30°, 45° Angle 49°, 60°

Metric version

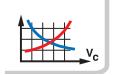
D_{c2}	Ordering code	Coupling size	z_n	Dimensions, mm D_{5m}	l_1	D_{c1}	κ_r	Max a_p	kg	P GC 1030	M GC 1030	K GC 1030	S GC 1030
10	316-10CM400-10045G	E10	4	9.7	12.4		45	4.25	0.02	☆	☆	☆	☆
	316-10CM400-10060G		4	9.7	12.4	3.5	60	5.6	0.02	☆	☆	☆	☆
12	316-12CM600-12015G	E12	6	11.7	14.5		15	1.2	0.04	☆	☆	☆	☆
	316-12CM600-12030G		6	11.7	14.5		30	2.6	0.04	☆	☆	☆	☆
	316-12CM600-12045G		6	11.7	14.5		45	4.5	0.04	☆	☆	☆	☆
	316-12CM600-12060G		6	11.7	14.5	4.5	60	6.5	0.04	☆	☆	☆	☆
16	316-16CM800-16045G	E16	8	15.5	18.7		45	6.5	0.07	☆	☆	☆	☆

z_n = number of cutting edges

Inch version

D_{c2}	Ordering code	Coupling size	z_n	Dimensions, inch D_{5m}	l_1	D_{c1}	κ_r	Max a_p	lbs	P GC 1030	M GC 1030	K GC 1030	S GC 1030
.375	A316-10CM400-03730G	E10	4	.364	.488		30	.073	0.04	☆	☆	☆	☆
	A316-10CM400-03745G		4	.364	.488		45	.128	0.04	☆	☆	☆	☆
	A316-10CM400-03749G		4	.364	.488	.118	49	.148	0.04	☆	☆	☆	☆
	A316-10CM400-03760G		4	.364	.488	.118	60	.222	0.04	☆	☆	☆	☆
.500	A316-12CM600-05030G	E12	6	.484	.575		30	.110	0.09	☆	☆	☆	☆
	A316-12CM600-05045G		6	.484	.575		45	.191	0.09	☆	☆	☆	☆
	A316-12CM600-05049G		6	.484	.575	.118	49	.220	0.09	☆	☆	☆	☆
	A316-12CM600-05060G		6	.484	.575	.177	60	.280	0.09	☆	☆	☆	☆
.625	A316-16CM800-06230G	E16	8	.610	.736		30	.146	0.15	☆	☆	☆	☆
	A316-16CM800-06245G		8	.610	.736		45	.256	0.15	☆	☆	☆	☆
	A316-16CM800-06249G		8	.610	.736	.118	49	.291	0.15	☆	☆	☆	☆
	A316-16CM800-06260G		8	.610	.736	.276	60	.303	0.15	☆	☆	☆	☆

z_n = number of cutting edges

 D228 J3 G97

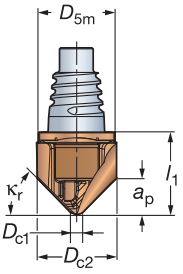
Chamfering end mill

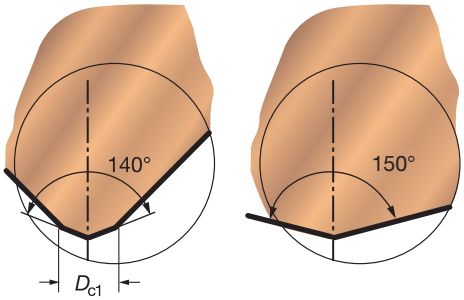
Chamfering end mill

Chamfer milling and spot drilling

Centre cutting

Helix angle: 10°
Tolerances: D_{c2} = h10





316-12CM210-12015G

Metric version

D_{c2} mm	Ordering code	Coupling size	z_n	Dimensions, mm D_{5m}	l_1	D_{c1}	κ_r	Max a_p	kg	P GC 1030	M GC 1030	K GC 1030	S GC 1030
10	316-10CM210-10045G	E10	2	9.7	11.8	1.5	45	4.5	0.01	☆	☆	☆	☆
12	316-12CM210-12015G	E12	2	11.7	14		15	1.6	0.02	☆	☆	☆	☆
	316-12CM210-12030G		2	11.7	14	1.5	30	3.3	0.02	☆	☆	☆	☆
	316-12CM210-12045G		2	11.7	14	1.5	45	5.5	0.02	☆	☆	☆	☆
16	316-16CM210-16045G	E16	2	15.5	18.1	1.5	45	7.5	0.05	☆	☆	☆	☆

z_n = number of cutting edges

Inch version

D_{c2} inch	Ordering code	Coupling size	z_n	Dimensions, inch D_{5m}	l_1	D_{c1}	κ_r	Max a_p	lbs	P GC 1030	M GC 1030	K GC 1030	S GC 1030
.375	A316-10CM210-03745G	E10	2	.364	.465	.059	45	.169	0.02	☆	☆	☆	☆
.500	A316-12CM210-05045G	E12	2	.484	.551	.059	45	.230	0.05	☆	☆	☆	☆
.625	A316-16CM210-06245G	E16	2	.610	.713	.059	45	.293	0.10	☆	☆	☆	☆

z_n = number of cutting edges

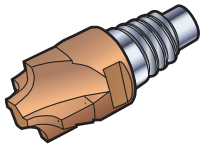
D228 J3

SANDVIK Coromant

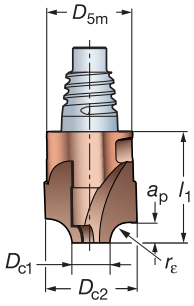
Chamfering radius end mill

Chamfer radius milling

Non centre cutting



Helix angle: 0°
Tolerances: D_{c2}= h10



Metric version

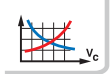
D_{c2}	Ordering code	Coupling size	z_n	Dimensions, mm D_{5m}	l_1	D_{c1}	r_ε	Max a_p	kg	P GC 1030	M GC 1030	K GC 1030	S GC 1030
10	316-10UM400-10015G	E10	4	9.7	12.4	5	1.5	1.5	0.02	☆	☆	☆	☆
	316-10UM400-10030G		4	9.7	12.4	4	3	3	0.02	☆	☆	☆	☆
12	316-12UM400-12030G	E12	4	11.7	14.5	5	3	3	0.04	☆	☆	☆	☆
	316-12UM400-12040G		4	11.7	14.5	4	4	4	0.04	☆	☆	☆	☆
16	316-16UM400-16040G	E16	4	15.5	18.7	6	4	4	0.07	☆	☆	☆	☆
	316-16UM400-16050G		4	15.5	18.7	6	5	5	0.07	☆	☆	☆	☆
20	316-20UM400-20060G	E20	4	19.3	21.3	8	6	6	0.13	☆	☆	☆	☆
25	316-25UM400-25080G	E25	4	24.2	25.6	8	8	8	0.21	☆	☆	☆	☆

z_n = number of cutting edges

Inch version

D_{c2}	Ordering code	Coupling size	z_n	Dimensions, inch D_{5m}	l_1	D_{c1}	r_ε	Max a_p	lbs	P GC 1030	M GC 1030	K GC 1030	S GC 1030
.375	A316-10UM400-03715G	E10	4	.364	.488	.236	.062	.062	0.04	☆	☆	☆	☆
	A316-10UM400-03732G		4	.364	.488	.118	.125	.125	0.04	☆	☆	☆	☆
.500	A316-12UM400-05032G	E12	4	.484	.575	.197	.125	.125	0.09	☆	☆	☆	☆
	A316-12UM400-05040G		4	.484	.575	.177	.156	.156	0.09	☆	☆	☆	☆
.625	A316-16UM400-06247G	E16	4	.610	.736	.236	.188	.188	0.15	☆	☆	☆	☆
.750	A316-20UM400-07563G	E20	4	.728	.839	.236	.250	.250	0.29	☆	☆	☆	☆
1.000	A316-25UM400-10080G	E25	4	.965	1.008	.315	.313	.313	0.46	☆	☆	☆	☆

z_n = number of cutting edges


D228

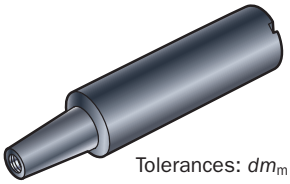
J3

G97

Cylindrical holder for exchangeable head

Steel shank for all applications

Solid Carbide shank for semi finishing and finishing applications

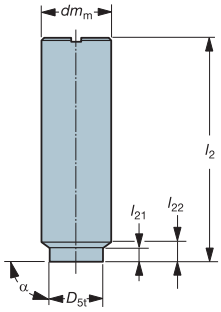


Tolerances: dm_m = h6

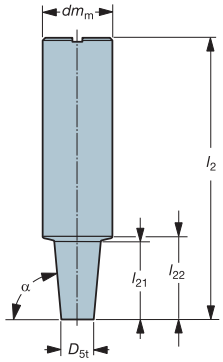
Tailor Made

Even more possibilities thanks to tailored design! See page J4.

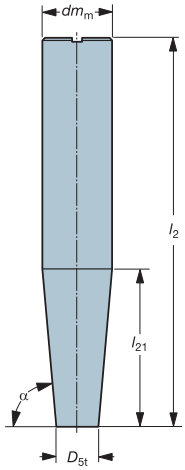
Design 1



Design 2



Design 3



Metric version

Ordering code	Coupling size	Design	Coolant[1]	Dimensions, mm dm_m	D_{5t}	l_2	l_{21}	l_{22}	α	kg	n_{max}
Steel											
E10-A16-SS-065	E10	1	1	16	9.6	65	5	7	90	0.1	40000
E10-A10-SS-075		1	1	10	9.6	75	20	21	90	0.1	40000
E10-A16-CS-140		3	1	16	9.6	140	36.5		85	0.2	16000
E10-A16-CS-160		2	1	16	9.6	160	50	52	89	0.3	12000
E10-A32-CS-250		3	1	32	9.6	250	63.5		80	1.5	10000
E12-A16-SS-065	E12	1	1	16	11.6	65	5	7	90	0.1	40000
E12-A12-SS-100		1	1	12	11.6	100	22	23	90	0.1	31000
E12-A16-CS-140		3	1	16	11.6	140	25.1		85	0.2	16000
E12-A16-CS-170		2	1	16	11.6	170	60	62	89	0.3	12000
E12-A32-CS-250		3	1	32	11.6	250	57.8		80	1.5	10000
E16-A20-SS-070	E16	1	1	20	15.4	70	5	7	90	0.2	40000
E16-A20-SS-110		1	1	20	15.4	110	25	27	90	0.3	40000
E16-A25-CS-170		3	1	25	15.4	170	54.8		85	0.6	18000
E16-A20-CS-190		2	1	20	15.4	190	75	78	89	0.4	13000
E20-A25-SS-080	E20	1	1	25	19.2	80	5	7	90	0.3	40000
E20-A20-SS-120		1	1	20	19.2	120	30	31	90	0.3	34000
E20-A32-CS-180		3	1	32	19.2	180	73.1		85	1.1	20000
E25-A32-SS-080	E25	1	1	32	24.1	80	5	7	90	0.5	40000
E25-A25-SS-140		1	1	25	24.1	140	40	41	90	0.5	25000
E25-A32-CS-200		3	1	32	24.1	200	45.1		85	1.2	15000
Carbide											
E10-A10-SE-100	E10	1	1	10	9.6	100	50	51	90	0.1	35000
E10-A16-CE-155		2	1	16	9.6	155	100	103	89	0.4	22000
E12-A12-SE-100	E12	1	1	12	11.6	100	48	49	90	0.2	40000
E12-A16-CE-150		2	1	16	11.6	150	90	92	89	0.4	23000
E16-A16-SE-135	E16	1	1	16	15.4	135	80	81	90	0.4	27000
E16-A20-CE-175		2	1	20	15.4	175	118	120	89	0.8	22000
E20-A20-SE-095	E20	1	1	20	19.2	95	38	39	90	0.4	40000
E20-A20-SE-180		1	1	20	19.2	180	110	111	90	0.8	20000
E25-A25-SE-200	E25	1	1	25	24.1	200	120	121	90	1.4	19000

1) 1 = coolant through centre

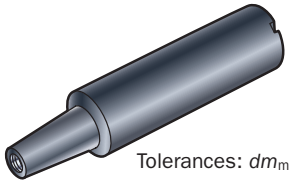
Assortment of exchangeable heads
See page G97

SANDVIK Coromant

Cylindrical holder for exchangeable head

Steel shank for all applications

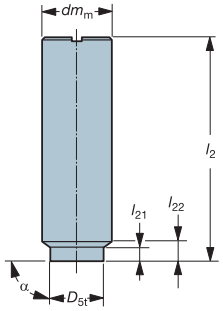
Solid Carbide shank for semi finishing and finishing applications



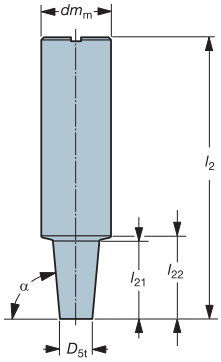
Tolerances: dm_m = h6

Tailor Made

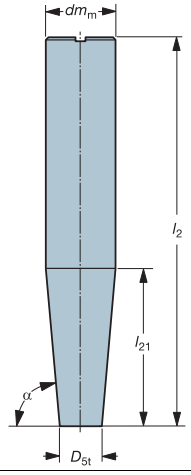
Design 1



Design 2



Design 3



Even more possibilities thanks to tailored design! See page J4.

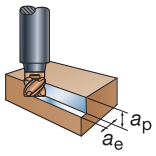
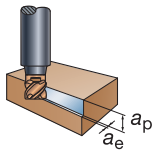
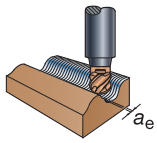
Inch version

Ordering code	Coupling size	Design	Coolant[1]	Dimensions, inch dm_m	D_{5t}	l_2	l_{21}	l_{22}	α	Lbs	n_{max}
Steel											
AE10-A12-SS-025	E10	1	1	.500	.360	2.500	.250	.330	90	0.2	40000
AE10-A10-SS-030		1	1	.375	.360	3.000	.799	.839	90	0.1	40000
AE10-A12-SS-030		1	1	.500	.360	3.000	1.000	1.080	90	0.2	40000
AE10-A16-CS-055		3	1	.625	.360	5.500	1.512		85	0.4	17000
AE10-A16-CS-065		2	1	.625	.360	6.500	2.000	2.080	89	0.4	12000
AE12-A12-SS-030	E12	1	1	.500	.480	3.000	.250	.290	90	0.2	40000
AE12-A12-SS-045		1	1	.500	.480	4.500	1.000	1.040	90	0.2	30000
AE12-A16-CS-065		3	1	.625	.480	6.500	.827		85	0.4	12000
AE12-A16-CS-075		2	1	.625	.480	7.500	2.400	2.480	89	0.7	10000
AE16-A16-SS-030	E16	1	1	.625	.606	3.000	.250	.290	90	0.2	40000
AE16-A16-SS-045		1	1	.625	.606	4.500	1.000	1.040	90	0.2	30000
AE16-A19-CS-065		3	1	.750	.606	6.500	.823		85	0.9	16000
AE16-A19-CS-075		2	1	.750	.606	7.500	3.000	3.080	89	0.9	12000
AE20-A19-SS-030	E20	1	1	.750	.724	3.000	.250	.290	90	0.4	40000
AE20-A19-SS-045		1	1	.750	.724	4.500	1.000	1.040	90	0.7	40000
AE20-A25-CS-060		3	1	1.000	.724	6.000	1.575		85	1.3	23000
AE20-A32-CS-070		3	1	1.250	.724	7.000	3.000		85	2.4	20000
AE20-A25-CS-080		2	1	1.000	.724	8.000	3.150	3.250	89	1.5	12000
AE25-A25-SS-035	E25	1	1	1.000	.961	3.500	.250	.290	90	0.7	40000
AE25-A25-SS-045		1	1	1.000	.961	4.500	1.500	1.540	90	0.9	40000
AE25-A32-SS-065		1	1	1.250	.961	6.500	2.500	2.580	90	2.1	23000
AE25-A32-CS-075		3	1	1.250	.961	7.500	1.650		85	2.4	17000
AE25-A32-CS-085		3	1	1.250	.961	8.500	1.650		85	2.7	11000
Carbide											
AE10-A16-CE-055	E10	3	1	.625	.360	5.500	1.512		85	0.9	28000
AE10-A16-CE-065		2	1	.625	.360	6.500	2.000	2.080	89	1.1	19000
AE12-A16-CE-065	E12	3	1	.625	.480	6.500	.827		85	1.1	18000
AE12-A16-CE-075		2	1	.625	.480	7.500	2.400	2.480	89	1.2	13000
AE16-A19-CE-065	E16	3	1	.750	.606	6.500	.823		85	1.5	25000
AE16-A19-CE-075		2	1	.750	.606	7.500	3.000	3.080	89	1.7	18000
AE20-A25-CE-060	E20	3	1	1.000	.724	6.000	1.575		85	2.4	36000
AE20-A32-CE-070		3	1	1.250	.724	7.000	3.000		85	4.6	33000
AE20-A25-CE-080		2	1	1.000	.724	8.000	3.150	3.250	89	3.2	19000
AE25-A32-CE-075	E25	3	1	1.250	.961	7.500	1.650		85	3.8	21000
AE25-A32-CE-085		3	1	1.250	.961	8.500	1.650		85	4.4	18000
AE25-A32-SE-065		1	1	1.250	.961	6.500	2.500	2.580	90	3.3	37000

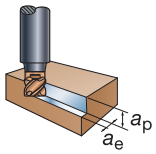
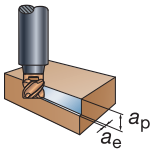
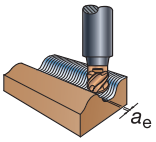
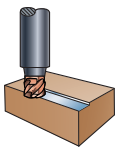
[1] 1 = coolant through centre

CoroMill® 316 cutting data

Speed recommendations

CoroMill® 316									
				a_p<=Max a_p[1]	$a_e \le 1.0 \times D_c$	a_p<=Max a_p[1]	$a_e \le 0.3 \times D_c$	$a_e \le 0.005 \times D_c$	
ISO	MC	CMC	HB	v_c m/min	v_c feet/min	v_c m/min	v_c feet/min	v_c m/min	v_c feet/min
P	P1.1.Z.AN	01.1	125	190	625	280	920	630	2065
	P1.2.Z.AN	01.2	150	170	560	255	835	580	1905
	P1.3.Z.AN	01.4	210	150	490	225	740	510	1675
	P2.1.Z.AN	02.1	175	165	540	245	805	555	1820
	P2.5.Z.HT	02.2	300	100	330	150	490	340	1115
	P3.0.Z.AN	03.11	200	170	560	250	820	570	1870
	P3.0.Z.HT	03.22	380	80	260	120	395	280	920
M	P5.0.Z.AN	05.11	200	70	230	110	360	240	785
	M1.0.Z.AQ	05.21	200	55	180	85	280	190	625
	M3.1.Z.AQ	05.51	230	45	150	70	230	155	510
K		07.1	130	120	395	180	590	395	1295
	K2.1.C.UT	08.1	180	130	425	190	625	420	1380
	K2.2.C.UT	08.2	245	110	360	160	525	360	1180
	K3.1.C.UT	09.1	250	105	345	155	510	350	1150
N	N1.3.C.AG	30.22	90	1000	3280	1100	3610	1300	4265
S	S2.0.Z.AG	20.22	350	25	80	35	115	80	260
	S4.3.Z.AG	23.22	350	40	150	80	260	150	490

Feed recommendations

CoroMill® 316 GC1030/H10F									
								High feed	
		a_p<=Max a_p[1]	$a_e \le 1.0 \times D_c$	a_p<=Max a_p[1]	$a_e \le 0.3 \times D_c$	$a_e \le 0.005 \times D_c$	$a_e \le 0.005 \times D_c$	*316-**H**50-****P	
D_c mm	D_c inch	f_z mm/tooth	f_z inch/tooth	f_z mm/tooth	f_z inch/tooth	f_z mm/tooth	f_z inch/tooth	f_z mm/tooth	f_z inch/tooth
10	.375	0.045	.0018	0.070	.0028	0.120	.0047	0.25	.0098
12	.500	0.055	.0022	0.085	.0033	0.140	.0055	0.30	.0118
16	.625	0.065	.0026	0.110	.0043	0.160	.0063	0.40	.0157
20	.750	0.080	.0031	0.130	.0051	0.180	.0071	0.50	.0197
25	1.000	0.100	.0039	0.160	.0063	0.200	.0079	0.60	.0236

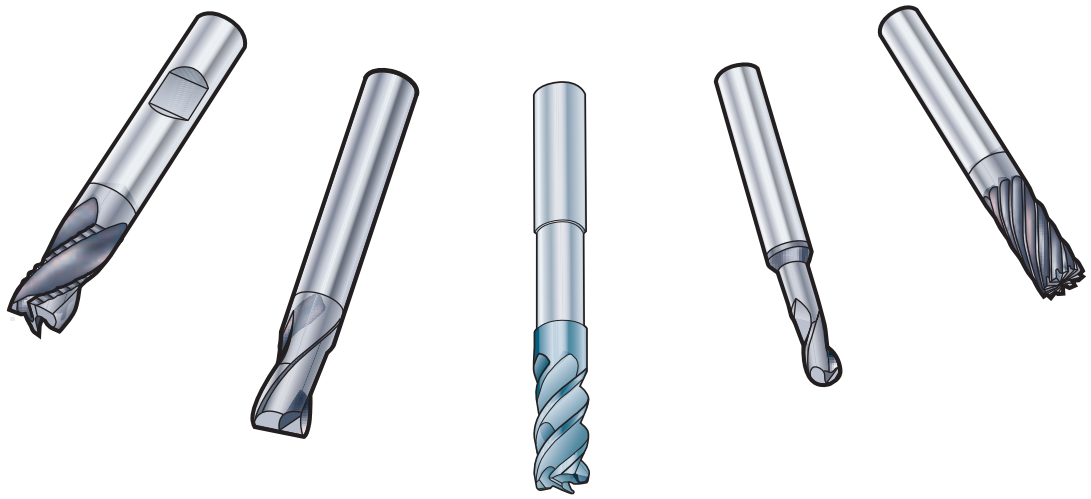
[1] For max a_p value, see ordering pages.

CoroMill® Plura

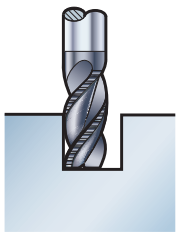
Solid carbide end mills

Highest productivity in all materials and applications

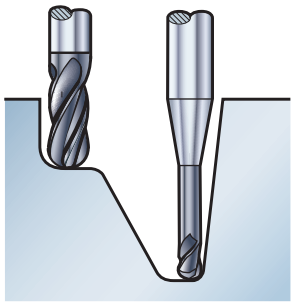
Diameter 0.1 - 25 mm (.004 - .984 inch)



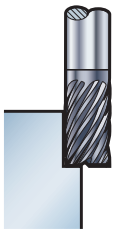
Roughing



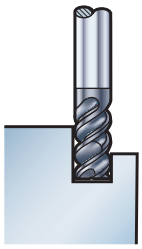
Semi-finishing



Finishing



Variable flute depth



Cutting data and programming

Use the PluraGuide for selection of tool, and correct cutting data and for programming

Order number C-2948-117

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.

Code key for solid carbide end mills

R	A	21	5	.	3	A	-	100	30	–	A	C	22	H
1	2	3	4		5	6	7	8	9	10	11	12	13	14

1 Direction of rotation

R Right hand
L Left hand

2 System of measurement

A Inch version

3 Type of tool

21 Endmill

4 Drilling function

5 Non drilling
6 Drilling

6 Number of teeth

1- 1 to 9 teeth
A- 10 to 32 teeth

8 Cutting diameter

Inch tools
Cutting diameter Dc or D3 in 1/64 inch.

Example: 10 = 5/32 inch

Metric tools
Cutting diameter Dc or D3 in 1/10 mm.

Example: 100 = 10.0 mm

9 Helix angle

Degree of helix rounded to nearest 5 degree

7 **Coolant**

C Internal coolant supply
- External coolant supply

12 Length of shank

S Short shank length
C Long shank length
K Shank length > "C"
L Shank length > "K"
X Shank length > "L"
E Short l_2 and l_3 or l_{22}
I Medium l_2, medium l_3 or l_{22}
J Medium l_2, long l_3 or l_{22}
O Long l_2, medium l_3 or l_{22}
P Long l_2, long l_3 or l_{22}

13 Max cutting depth, a_p

Inch tools
Cutting length in 1/16 inch
If Dc or Dc2 < 1/8 in 1/64 inch
Example: 09 = 9/16 inch for Dc 3/16 inch

Metric tools
Cutting length in mm
If D_c or D_{c2} < 3mm in 1/10 mm
Example:
07 = 7 mm for D_c 6 mm
70 = 7 mm for D_c 2.5 mm

5 Basic design of endmill

0 Concave chamfer endmill	**6** Full radius (ball nose) with spherical form
1 Square form with/without corner chamfer, tight tolerance at D_c	**7** Conical straight form
2 Square form with corner radius	**8** 45° chamfer endmill
3 Square form with/without corner chamfer	**9** 30° chamfer endmill
4 Full radius (ball nose) form (6 or less teeth)	**H** High feed end mill
5 Conical full radius (ball nose) form (6 or less teeth)	**T** Turn-mill endmill

10 Corner radius/Conical angle

Corner radius		**Conical angle**
Metric tools	Inch tools	Metric tools
– No radius	– No radius	– No radius/Angle
A <0.5 mm	A 1/64 inch	M 0.5°
B 0.5 mm	B 1/32 inch	N 1°
C 1.0 mm	C 3/64 inch	O 1.5°
D 1.5 mm	D 1/16 inch	P 2°
E 2.0 mm	E 5/64 inch	Q 2.5°
F 2.5 mm	F 3/32 inch	R 3°
etc.	etc.	S 3.5°
		T 4°
		etc.

11 Shank type

A Cylindrical

B Weldon

C Cylindrical with neck

E-J Cylindrical with neck (Necklength/D_c, mm)

E = 0.1 - 1.9 H = 6.0 - 7.9

F = 2.0 - 3.9 I = 8.0 - 9.9

G = 4.0 - 5.9 J = 10 - 11.9

Y = Cylindrical with iLock

14 Geometry type

	Cutting edge	**TW % of D_c or D_{c2}**	**Rake angle γ°**
K	Kordell	50-60	9°-12°
B	Chip breaker	60	4°-7°
U	Kordell	<50	9°-12°
A	Straight	<45	12°-15°
P	Straight	45-55	9°-12°
N	Straight	56-65	9°-12°
L	Straight	66-75	4°-12°
G	Straight	50-75	-3°-3°
H	Straight	>75	<-3°
C	Compression router		

TW = Core diameter

Select your CoroMill® Plura end mill

Step 1: Select the Plura grade for your workpiece material

Grade recommendations

ISO P M K

GC1620, GC1630, GC1640	**Dry**	Wet
Finishing	GC1620	GC1620
Semi-finishing	GC1630	GC1630
Roughing	GC1640	GC1640

ISO N

H10F	**Dry**	Wet
Finishing	H10F	GC1620
Semi-finishing	H10F	GC1630
Roughing	H10F	GC1640

ISO S

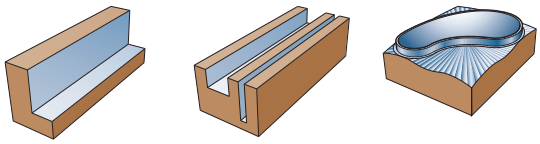
GC1620, GC1630, GC1640	Dry	**Wet**
Finishing		GC1620
Semi-finishing		GC1630
Roughing		GC1640

ISO H

GC1610, GC1700	**Dry**	Wet
Finishing	GC1610/GC1700	
Semi-finishing	GC1610/GC1700	
Roughing	GC1610/GC1700	

Step 2: Classify your machining operation

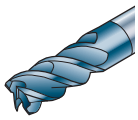
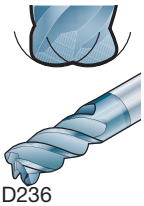
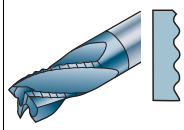
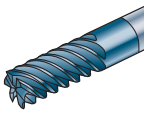
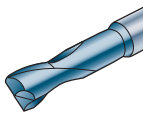
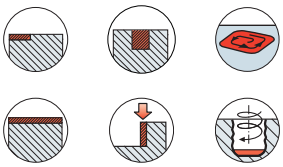
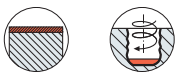
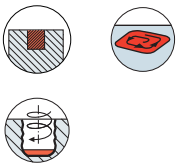
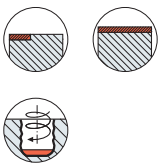
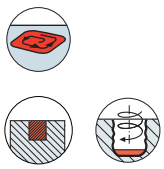
Milling of straight surfaces, grooving or profiling.

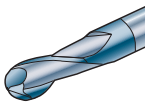
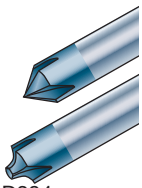
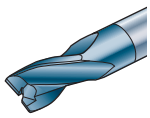
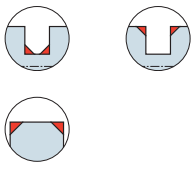
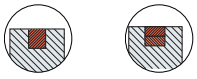
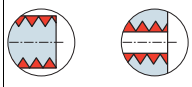


Cutting data and programming

Use the PluraGuide for selection of tool, and correct cutting data and for programming

Select your CoroMill® Plura end mill

	Roughing/semi - finishing First choice	Roughing, high feed	Roughing Kordell	Finishing	Hard steel milling
					
Page	D234	D236	D254	D258	D264
Design	Variable flute depth (VFD), helix angle -50°	High feed cutter (HFC, helix angle - 50°)	Kordell, helix angle - 40°	Multi-edge end mill, helix angle - 50°	Corner radius
Cutter diameter (Dc) mm (inch)	2-25 (.079-.984)	4-20 (.157-.787)	6-25 (.236-.984)	3-20 (.118-.787)	2-16 (.079-.630)
Corner radius (r_ε), dia. mm (inch)	0.2-4 (.008-.157)	0.5-2 (.020-.079)	Non-radius	0.5-2 (.020-.079)	0.2-3 (.008-.118)
Application					

	Profiling	Chamfering	Key slot-milling	Turn-milling	Thread milling
					
Page	D268	D284	D286	D288	D297
Design	Ball Nose end mill (BNE), helix angle -30°	Chamfering/chamfering radius end mill, 45°,60°	Slotting end mill, helix angle -30°	Flat end, helix angle - 30°	Metric 60° Pitch 0,5-3 mm
Cutter diameter (Dc) mm (inch)	0.1-20 (.004-.787)	4-8 (.157-.315)	2-20 (.079-.787)	6-12 (.236-.472)	3.2-19 (.126-.748),M4-M24
Corner radius (r_ε), dia. mm (inch)	0.1-10 (.004-.394)	0.5-6 (.020-.236)	Non-radius	0.5-1 (.020-.039)	
Application					

Shoulder milling

Pocket milling

Chamfering

Turn-milling

Slot milling

Ramping

Chamfering inside

Thread milling, external

Face milling

Profiling

Chamfering outside

Thread milling, internal

Axial / plunge milling

Slotting

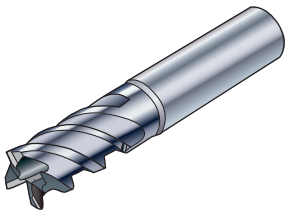
Deep slotting

Roughing, semi-finishing end mill

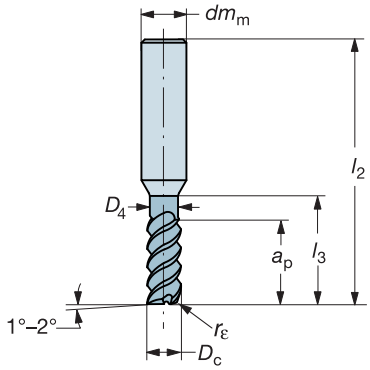
Centre cutting

First choice

Cylindrical with neck
Hardness ≤ 48HRc
Differential pitch



Helix angle: -50°
Tolerances: D_c: h9
dm_m: h6



Metric version

D_c mm	D_c inch	Ordering code	z_n 3)	Dimensions, mm dm_m	l_2	l_3	D_4	r_ε	Helix l_{sh} mm 2)	Max a_p 1)	P GC 1640	M GC 1640	K GC 1640	S GC 1640
3	.118	R216.24-03050ACC05P	4	6	57	8.5	2.9	0.2	8.00	5.0	☆	☆	☆	☆
		R216.24-03050BCC05P	4	6	57	8.5	2.9	0.5	8.00	5.0	☆	☆	☆	☆
4	.157	R216.24-04050ACC07P	4	6	57	8.5	3.8	0.2	16.00	7.0	☆	☆	☆	☆
		R216.24-04050BCC07P	4	6	57	11	3.8	0.5	11.20	7.0	☆	☆	☆	☆
5	.197	R216.24-05050BCC08P	4	6	57	14	4.75	0.5	14.00	8.0	☆	☆	☆	☆
		R216.24-05050CCC08P	4	6	57	14	4.75	1	14.00	8.0	☆	☆	☆	☆
6	.236	R216.24-06050BCC10P	4	6	57	16	5.7	0.5	16.00	10.0	☆	☆	☆	☆
		R216.24-06050CCC10P	4	6	57	16	5.7	1	16.00	10.0	☆	☆	☆	☆
8	.315	R216.24-08050BCC13P	4	8	63	22	7.6	0.5	16.00	13.0	☆	☆	☆	☆
		R216.24-08050CCC13P	4	8	63	22	7.6	1	16.00	13.0	☆	☆	☆	☆
		R216.24-08050ECC13P	4	8	63	22	7.6	2	16.00	13.0	☆	☆	☆	☆
10	.394	R216.24-10050BCC16P	4	10	72	28	9.5	0.5	22.40	16.0	☆	☆	☆	☆
		R216.24-10050CCC16P	4	10	72	28	9.5	1	22.40	16.0	☆	☆	☆	☆
		R216.24-10050ECC16P	4	10	72	28	9.5	2	22.40	16.0	☆	☆	☆	☆
12	.472	R216.24-12050BCC19P	4	12	83	33	11.4	0.5	35.50	19.0	☆	☆	☆	☆
		R216.24-12050CCC19P	4	12	83	33	11.4	1	35.50	19.0	☆	☆	☆	☆
		R216.24-12050ECC19P	4	12	83	33	11.4	2	35.50	19.0	☆	☆	☆	☆
16	.630	R216.24-16050BCC26P	4	16	92	42	15.2	0.5	45.00	26.0	☆	☆	☆	☆
		R216.24-16050CCC26P	4	16	92	42	15.2	1	45.00	26.0	☆	☆	☆	☆
		R216.24-16050ECC26P	4	16	92	42	15.2	2	45.00	26.0	☆	☆	☆	☆
20	.787	R216.24-20050CCC32P	4	20	104	52	19	1	56.00	32.0	☆	☆	☆	☆
		R216.24-20050ECC32P	4	20	104	52	19	2	56.00	32.0	☆	☆	☆	☆
		R216.24-20050ICC32P	4	20	104	52	19	4	56.00	32.0	☆	☆	☆	☆
3	.118	R216.34-03050-CC05P	4	6	57	8.5	2.9		8.00	5.0	☆	☆	☆	☆
4	.157	R216.34-04050-CC07P	4	6	57	11	3.8		11.20	7.0	☆	☆	☆	☆
6	.236	R216.34-06050-CC10P	4	6	57	16	5.7		16.00	10.0	☆	☆	☆	☆
8	.315	R216.34-08050-CC13P	4	8	57	7.6	5.7		16.00	13.0	☆	☆	☆	☆
10	.394	R216.34-10050-CC16P	4	10	63	22	7.6		22.40	16.0	☆	☆	☆	☆
14	.551	R216.34-14050-CC22P	4	14	83	36	11.4		35.50	22.0	☆	☆	☆	☆
16	.630	R216.34-16050-CC26P	4	16	92	42	15.2		45.00	26.0	☆	☆	☆	☆
18	.709	R216.34-18050-CC29P	4	18	92	42	17.1		56.00	29.0	☆	☆	☆	☆
20	.787	R216.34-20050-CC32P	4	20	104	52	19		56.00	32.0	☆	☆	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

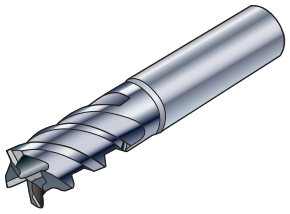
D350 D356 D229 G6 D2

SANDVIK Coromant

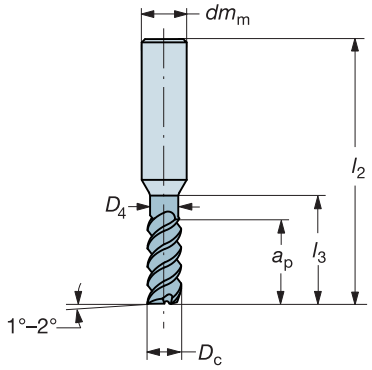
Roughing, semi-finishing end mill

Centre cutting

First choice
Cylindrical with neck
Hardness ≤ 48HRc



Helix angle: -50°
Tolerances: D_c: h9
dm_m: h6



Inch version

D_c mm	D_c inch	Ordering code	z_n[3]	Dimensions, inch dm_m	l_2	l_3	D_4	Max a_p[1]	P GC 1640	M GC 1640	K GC 1640	S GC 1640
6.35	.250	**RA216.34-1650-CK06P**	4	.375	3.000	.608	.237	.405	☆	☆	☆	☆
7.94	.312	**RA216.34-2050-CK08P**	4	.375	3.000	.759	.297	.506	☆	☆	☆	☆
9.52	.375	**RA216.34-2450-CK09P**	4	.375	3.000	.911	.356	.608	☆	☆	☆	☆
11.11	.438	**RA216.34-2850-CK11P**	4	.500	3.500	1.063	.416	.709	☆	☆	☆	☆
12.70	.500	**RA216.34-3250-CK12P**	4	.500	3.500	1.215	.475	.810	☆	☆	☆	☆
15.88	.625	**RA216.34-4050-CK16P**	4	.625	3.500	1.519	.594	1.013	☆	☆	☆	☆
19.05	.750	**RA216.34-4850-CK19P**	4	.750	4.000	1.822	.713	1.215	☆	☆	☆	☆

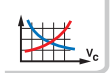
1) Maximum cutting edge length.

2) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117


D350

D356

D229

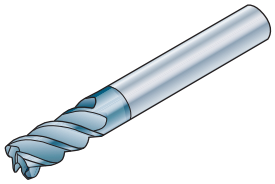
G6

D2

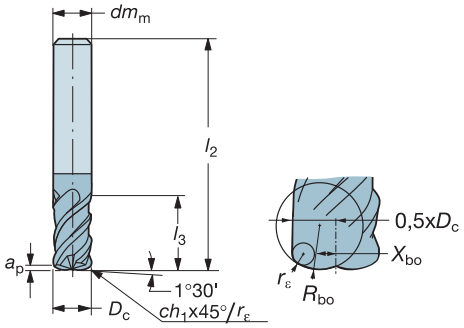
High feed end mill

Non centre cutting

Hardness 43≤HRc≤63



Helix angle: -50°
Tolerances: D_c: h9
dm_m: h6



Metric version

D_c mm	D_c inch	Ordering code	z_n [2]	Dimensions, mm dm_m	l_2	l_3	r_ε	R_{comp} [1]	R_{bo}	X_{bo}	Max a_p	P GC 1620	M GC 1620	K GC 1620	S GC 1620	H GC 1610
		Cylindrical shank														
4	.157	**R215.H4-04050BAC01H**	4	6	57	11	0.5	0.620	4.0	0.6	0.1					☆
4	.157	**R215.H4-04050BAC02P**	4	6	57	11	0.5	0.670	2.0	0.8	0.2	☆	☆	☆	☆	
6	.236	**R215.H4-06050BAC02H**	4	6	57	15	0.5	0.690	9.0	0.7	0.2					☆
6	.236	**R215.H4-06050BAC03P**	4	6	57	15	0.5	0.750	3.0	1.4	0.3	☆	☆	☆	☆	
6	.236	**R215.H4-06050BAK02P**	4	6	100	15	0.5	0.750	3.0	1.4	0.2	☆	☆	☆	☆	
8	.315	**R215.H4-08050CAC02H**	4	8	63	20	1	1.230	12.0	0.78	0.2					☆
8	.315	**R215.H4-08050CAC05P**	4	8	63	20	1	1.380	4.0	1.54	0.5	☆	☆	☆	☆	
8	.315	**R215.H4-08050CAK02P**	4	8	120	20	1	1.380	4.0	1.54	0.2	☆	☆	☆	☆	
10	.394	**R215.H4-10050DAC03H**	4	10	72	26	1.5	1.770	15.0	0.8	0.3					☆
10	.394	**R215.H4-10050DAC07P**	4	10	72	26	1.5	1.990	5.0	1.7	0.7	☆	☆	☆	☆	
10	.394	**R215.H4-10050DAK03P**	4	10	150	26	1.5	1.990	5.0	1.7	0.3	☆	☆	☆	☆	
12	.472	**R215.H4-12050DAC04H**	4	12	30	30	1.5	1.880	18.0	1	0.4					☆
12	.472	**R215.H4-12050DAC08P**	4	12	83	30	1.5	2.100	6.0	2.25	0.8	☆	☆	☆	☆	
12	.472	**R215.H4-12050DAK08P**	4	12	93	16	1.5	2.100	6.0	2.25	0.8	☆	☆	☆	☆	
16	.630	**R215.H4-16050EAC05H**	4	16	92	36	2	2.460	24.0	1.5	0.5					☆
16	.630	**R215.H4-16050EAC10P**	4	16	92	36	2	2.750	8.0	3.1	1.0	☆	☆	☆	☆	
16	.630	**R215.H4-16050EAK10P**	4	16	112	36	2	2.750	8.0	3.1	1.0	☆	☆	☆	☆	
20	.787	**R215.H4-20050EAC06H**	4	20	104	45	2	2.610	30.0	2.2	0.6					☆
20	.787	**R215.H4-20050EAC13P**	4	20	104	45	2	3.070	10.0	4	1.3	☆	☆	☆	☆	
20	.787	**R215.H4-20050EAK13P**	4	20	130	45	2	3.070	10.0	4	1.3	☆	☆	☆	☆	

1) R_{comp} = value to be programmed when machining radius
2) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

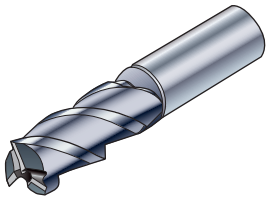
D350 D356 D229 G6 D2

SANDVIK Coromant

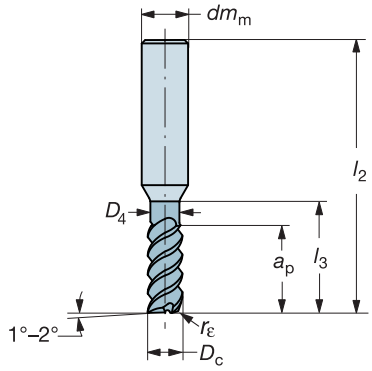
Roughing, semi-finishing end mill

Centre cutting

First choice
Cylindrical with neck
Hardness ≤ 48HRc



Helix angle: 45°
Tolerances: D_c: h9
dm_m: h6



Metric version

D_c mm	D_c inch	Ordering code	z_n 3)	Dimensions, mm dm_m	l_2	l_3	D_4	r_ε	Helix l_{sh} mm 2)	Max a_p 1)	P GC 1640	M GC 1640	K GC 1640	S GC 1640
2	.079	R216.23-02045ACC05P	3	6	57	7.5	1.92	0.08	5.60	5.0	☆	☆	☆	☆
2	.079	R216.33-02045-CC05P	3	6	57	7.5	1.92		6.30	5.0	☆	☆	☆	☆
3	.118	R216.23-03045ACC07P	3	6	57	10.5	2.9	0.08	8.00	7.0	☆	☆	☆	☆
3	.118	R216.33-03045-CC07P	3	6	57	10.5	2.9		10.00	7.0	☆	☆	☆	☆
4	.157	R216.23-04045ACC09P	3	6	57	13.5	3.8	0.16	11.20	9.0	☆	☆	☆	☆
4	.157	R216.33-04045-CC09P	3	6	57	15	3.8		12.50	9.0	☆	☆	☆	☆
5	.197	R216.23-05045ACC11P	3	6	57	16.5	4.75	0.16	14.00	11.0	☆	☆	☆	☆
5	.197	R216.33-05045-CC11P	3	6	57	16	4.75		16.00	11.0	☆	☆	☆	☆
6	.236	R216.23-06045ACC13P	3	6	57	19.5	5.7	0.16	16.00	13.0	☆	☆	☆	☆
6	.236	R216.33-06045-CC13P	3	6	57	19	5.7		20.00	13.0	☆	☆	☆	☆
8	.315	R216.23-08045ACC18P	3	8	63	25	7.6	0.16	22.40	18.0	☆	☆	☆	☆
8	.315	R216.33-08045-CC18P	3	8	63	25	7.6		25.00	18.0	☆	☆	☆	☆
10	.394	R216.23-10045ACC22P	3	10	72	30	9.5	0.25	28.00	22.0	☆	☆	☆	☆
10	.394	R216.33-10045-CC22P	3	10	72	30	9.5		31.50	22.0	☆	☆	☆	☆
12	.472	R216.23-12045ACC26P	3	12	83	36	11.4	0.25	35.00	26.0	☆	☆	☆	☆
12	.472	R216.33-12045-CC26P	3	12	83	36	11.4		40.00	26.0	☆	☆	☆	☆
16	.630	R216.23-16045ACC34P	3	16	92	42	15.2	0.25	45.00	34.0	☆	☆	☆	☆
16	.630	R216.33-16045-CC34P	3	16	92	42	15.2		50.00	34.0	☆	☆	☆	☆
20	.787	R216.23-20045ACC42P	3	20	104	52	15.2	0.4	56.00	42.0	☆	☆	☆	☆
20	.787	R216.33-20045-CC42P	3	20	104	52	19		63.00	42.0	☆	☆	☆	☆

Inch version

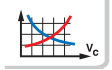
D_c mm	D_c inch	Ordering code	z_n 3)	Dimensions, inch dm_m	l_2	l_3	D_4	Max a_p 1)	P GC 1640	M GC 1640	K GC 1640	S GC 1640
1.59	.062	RA216.33-0445-CK03P	3	.250	2.000	.246	.059	.164	☆	☆	☆	☆
2.38	.094	RA216.33-0645-CK03P	3	.250	2.500	.341	.089	.227	☆	☆	☆	☆
3.18	.125	RA216.33-0845-CK04P	3	.250	2.500	.434	.118	.289	☆	☆	☆	☆
4.76	.188	RA216.33-1245-CK06P	3	.250	2.500	.622	.178	.414	☆	☆	☆	☆
6.35	.250	RA216.33-1645-CK08P	3	.375	3.000	.809	.237	.539	☆	☆	☆	☆
7.94	.312	RA216.33-2045-CK10P	3	.375	3.000	.996	.297	.664	☆	☆	☆	☆
9.52	.375	RA216.33-2445-CK13P	3	.375	3.000	1.243	.356	.829	☆	☆	☆	☆
11.11	.438	RA216.33-2845-CK15P	3	.500	3.500	1.431	.416	.954	☆	☆	☆	☆
12.70	.500	RA216.33-3245-CK17P	3	.500	3.500	1.431	.475	1.079	☆	☆	☆	☆
15.88	.625	RA216.33-4045-CK21P	3	.625	3.500	1.535	.594	1.329	☆	☆	☆	☆
19.05	.750	RA216.33-4845-CK25P	3	.750	4.000	1.890	.713	1.579	☆	☆	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117



D350

D356

D229

G6

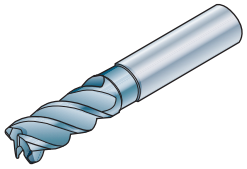
D2

Roughing, semi-finishing end mill

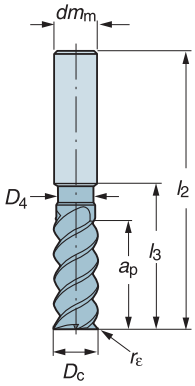
Centre cutting

Variable flute depth tools

Hardness ≤ 48HRc
Differential pitch



Helix angle: -50°
Tolerances: D_c: h9
dm_m: h6



Metric version

D_c mm	D_c inch	Ordering code	z_n 3)	Dimensions, mm dm_m	l_2	l_3	D_4	r_ε	Helix l_{sh} mm 2)	Max a_p 1)	P GC 1620	M GC 1620	K GC 1620	S GC 1620
		Cylindrical shank												
2	.079	R216.23-02050ACC07P	3	6	57	9.5	1.92	0.2	5.60	7.0	☆	☆	☆	☆
3	.118	R216.23-03050ACC08P	3	6	57	10	2.9	0.3	8.00	8.0	☆	☆	☆	☆
4	.157	R216.23-04050BCC11P	3	6	57	15	3.8	0.5	11.20	11.0	☆	☆	☆	☆
5	.197	R216.23-05050BCC13P	3	6	57	16	4.75	0.5	14.00	13.0	☆	☆	☆	☆
6	.236	R216.24-06050BCC13P	4	6	57	19	5.7	0.5	16.00	13.0	☆	☆	☆	☆
6	.236	R216.24-06050CCC13P	4	6	57	19	5.7	1	16.00	13.0	☆	☆	☆	☆
8	.315	R216.24-08050BCC19P	4	8	63	25	7.6	0.5	22.40	19.0	☆	☆	☆	☆
8	.315	R216.24-08050CCC19P	4	8	63	25	7.7	1	22.40	19.0	☆	☆	☆	☆
8	.315	R216.24-08050DCC19P	4	8	63	25	7.7	1.5	22.40	19.0	☆	☆	☆	☆
8	.315	R216.24-08050ECC19P	4	8	63	25	7.7	2	22.40	19.0	☆	☆	☆	☆
10	.394	R216.24-10050BCC22P	4	10	72	30	9.5	0.5	28.00	22.0	☆	☆	☆	☆
10	.394	R216.24-10050CCC22P	4	10	72	30	9.5	1	28.00	22.0	☆	☆	☆	☆
10	.394	R216.24-10050DCC22P	4	10	72	30	9.5	1.5	28.00	22.0	☆	☆	☆	☆
10	.394	R216.24-10050ECC22P	4	10	72	30	9.5	2	28.00	22.0	☆	☆	☆	☆
12	.472	R216.24-12050BCC26P	4	12	83	36	11.4	0.5	35.50	26.0	☆	☆	☆	☆
12	.472	R216.24-12050CCC26P	4	12	83	36	11.4	1	35.50	26.0	☆	☆	☆	☆
12	.472	R216.24-12050DCC26P	4	12	83	36	11.4	1.5	35.50	26.0	☆	☆	☆	☆
12	.472	R216.24-12050ECC26P	4	12	83	36	11.4	2	35.50	26.0	☆	☆	☆	☆
12	.472	R216.24-12050FCC26P	4	12	83	36	11.4	2.5	35.50	26.0	☆	☆	☆	☆
12	.472	R216.24-12050GCC26P	4	12	83	36	11.4	3	35.50	26.0	☆	☆	☆	☆
16	.630	R216.24-16050BCC32P	4	16	92	42	15.2	0.5	45.00	32.0	☆	☆	☆	☆
16	.630	R216.24-16050CCC32P	4	16	92	42	15.2	1	45.00	32.0	☆	☆	☆	☆
16	.630	R216.24-16050ECC32P	4	16	92	42	15.2	2	45.00	32.0	☆	☆	☆	☆
16	.630	R216.24-16050FCC32P	4	16	92	42	15.2	2.5	45.00	32.0	☆	☆	☆	☆
16	.630	R216.24-16050ICC32P	4	16	92	42	15.2	4	45.00	32.0	☆	☆	☆	☆
20	.787	R216.24-20050CCC38P	4	20	104	52	19	1	56.00	38.0	☆	☆	☆	☆
20	.787	R216.24-20050ECC38P	4	20	104	52	19	2	56.00	38.0	☆	☆	☆	☆
20	.787	R216.24-20050FCC38P	4	20	104	52	19	2.5	56.00	38.0	☆	☆	☆	☆
20	.787	R216.24-20050GCC38P	4	20	104	52	19	3	56.00	38.0	☆	☆	☆	☆
20	.787	R216.24-20050ICC38P	4	20	104	52	19	4	56.00	38.0	☆	☆	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

D350 D356 D229 G6 D2

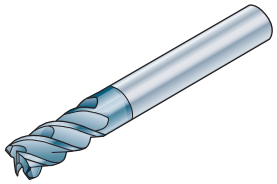
SANDVIK Coromant

Roughing, semi-finishing end mill

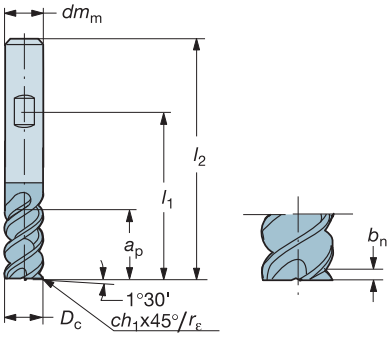
Centre cutting

Variable flute depth tools

Hardness ≤ 48HRc



Helix angle: -50°
Tolerances: D_c: h10/h9
dm_m: h6



Metric version

D_c mm	D_c inch	Ordering code	z_n[3]	Dimensions, mm dm_m	l_1	l_2	ch_1	b_n	r_ε	Helix l_{sh} mm[2]	Max a_p[1]	P GC1620	P GC1630	P GC1640	M GC1620	M GC1630	M GC1640	K GC1620	K GC1630	K GC1640	S GC1620	S GC1630	S GC1640
		Cylindrical shank with radius																					
4	.157	R216.23-04050CAK11P	3	6		57			1	11.20	11.0	☆	☆		☆	☆		☆	☆		☆	☆	
5	.197	R216.23-05050CAK13P	3	6		57			1	14.00	13.0	☆	☆		☆	☆		☆	☆		☆	☆	
6	.236	R216.24-06050CAK13P	4	6		65			1	16.00	13.0	☆	☆		☆	☆		☆	☆		☆	☆	
8	.315	R216.24-08050EAK19P	4	8		80			2	22.40	19.0	☆	☆		☆	☆		☆	☆		☆	☆	
10	.394	R216.24-10050CCK22P	4	10		100			1	28.00	22.0	☆			☆			☆			☆		
10	.394	R216.24-10050DCK22P	4	10		100			1.5	28.00	22.0	☆			☆			☆			☆		
10	.394	R216.24-10050EAK22P	4	10		100			2	28.00	22.0	☆	☆		☆	☆		☆	☆		☆	☆	
12	.472	R216.24-12050GAK26P	4	12		100			3	35.50	26.0	☆	☆		☆	☆		☆	☆		☆	☆	
14	.551	R216.24-14050GAK26P	4	14		104			3	40.00	26.0	☆	☆		☆	☆		☆	☆		☆	☆	
16	.630	R216.24-16050IAK32P	4	16		115			4	45.00	32.0	☆	☆		☆	☆		☆	☆		☆	☆	
20	.787	R216.24-20050IAK38P	4	20		125			4	56.00	38.0	☆	☆		☆	☆		☆	☆		☆	☆	
		Cylindrical																					
4	.157	R216.33-04050-AK11P	3	6		57	0.10	0.25		11.20	11.0	☆	☆		☆	☆		☆	☆		☆	☆	
5	.197	R216.33-05050-AK13P	3	6		57	0.10	0.25		14.00	13.0	☆	☆		☆	☆		☆	☆		☆	☆	
6	.236	R216.34-06050-AK13P	4	6		65	0.10	0.25		16.00	13.0	☆	☆		☆	☆		☆	☆		☆	☆	
8	.315	R216.34-08050-AK19P	4	8		80	0.10	0.25		22.40	19.0	☆	☆		☆	☆		☆	☆		☆	☆	
10	.394	R216.34-10050-AK22P	4	10		100	0.10	0.25		28.00	22.0	☆	☆		☆	☆		☆	☆		☆	☆	
12	.472	R216.34-12050-AK26P	4	12		100	0.10	0.25		35.50	26.0	☆	☆		☆	☆		☆	☆		☆	☆	
14	.551	R216.34-14050-AK26P	4	14		104	0.15	0.35		40.00	26.0	☆	☆		☆	☆		☆	☆		☆	☆	
16	.630	R216.34-16050-AK32P	4	16		115	0.15	0.35		45.00	32.0	☆	☆		☆	☆		☆	☆		☆	☆	
20	.787	R216.34-20050-AK38P	4	20		125	0.15	0.35		56.00	38.0	☆	☆		☆	☆		☆	☆		☆	☆	
		Weldon with radius																					
6	.236	R216.24-06050CBC13P	4	6	39	57			1	16.00	13.0	☆	☆		☆	☆		☆	☆		☆	☆	
8	.315	R216.24-08050EBC19P	4	8	45	63			2	22.40	19.0	☆	☆		☆	☆		☆	☆		☆	☆	
10	.394	R216.24-10050EBC22P	4	10	52	72			2	28.00	22.0	☆	☆		☆	☆		☆	☆		☆	☆	
12	.472	R216.24-12050GBC26P	4	12	61	83			3	35.50	26.0	☆	☆		☆	☆		☆	☆		☆	☆	
14	.551	R216.24-14050GBC26P	4	14	61	83			3	40.00	26.0	☆	☆		☆	☆		☆	☆		☆	☆	
16	.630	R216.24-16050IBC32P	4	16	68	92			4	45.00	32.0	☆	☆		☆	☆		☆	☆		☆	☆	
20	.787	R216.24-20050IBC38P	4	20	79	104			4	56.00	38.0	☆	☆		☆	☆		☆	☆		☆	☆	
		Weldon																					
6	.236	R216.34-06050-BC13P	4	6	39	57	0.10	0.25		16.00	13.0	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
8	.315	R216.34-08050-BC19P	4	8	45	63	0.10	0.25		22.40	19.0	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
10	.394	R216.34-10050-BC22P	4	10	52	72	0.10	0.25		28.00	22.0	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
12	.472	R216.34-12050-BC26P	4	12	61	83	0.10	0.25		35.50	26.0	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
14	.551	R216.34-14050-BC26P	4	14	61	83	0.12	0.35		40.00	26.0	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
16	.630	R216.34-16050-BC32P	4	16	68	92	0.12	0.35		45.00	32.0	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
20	.787	R216.34-20050-BC38P	4	20	79	104	0.12	0.35		56.00	38.0	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆

1) Maximum cutting edge length.

2) Pitch per rev.

3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

D350

D356

D229

G6

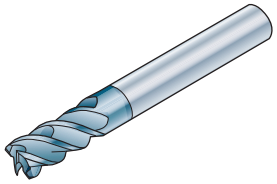
D2

Roughing, semi-finishing end mill

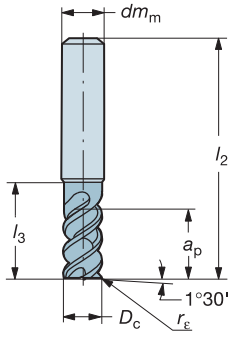
Centre cutting

Variable flute depth

Hardness ≤ 48HRc
Differential pitch



Helix angle: -50°
Tolerances: D_c: h10
dm_m: h6



Inch version

D_c mm	D_c inch	Ordering code	z_n [2]	Dimensions, inch dm_m	l_2	l_3	r_ε	Max a_p [1]	P GC 1620	P GC 1630	M GC 1630	K GC 1630	H GC 1630
		Cylindrical shank with radius											
4.75	.187	**RA216.23-1250AAK06P**	3	.250	3.000	.500	.015	.375		☆	☆	☆	
4.75	.187	**RA216.23-1250AAK09P**	3	.250	3.000	.750	.015	.562	☆				
4.75	.187	**RA216.23-1250BAK09P**	3	.250	3.000	.750	.031	.562	☆				
6.35	.250	**RA216.24-1650AAK08P**	4	.250	3.000		.015	.500					☆
6.35	.250	**RA216.24-1650AAK12P**	4	.250	3.000		.015	.750	☆				
6.35	.250	**RA216.24-1650BAK12P**	4	.250	3.000		.031	.750	☆				
7.92	.312	**RA216.24-2050AAK10P**	4	.375	3.500	.750	.015	.625		☆	☆	☆	
7.92	.312	**RA216.24-2050AAK15P**	4	.375	3.500	1.250	.015	.937	☆				
7.92	.312	**RA216.24-2050BAK15P**	4	.375	3.500		.031	.937	☆				
9.52	.375	**RA216.24-2450AAK12P**	4	.375	3.500		.015	.750		☆	☆	☆	
9.52	.375	**RA216.24-2450AAK18P**	4	.375	3.500		.015	1.125	☆				
9.52	.375	**RA216.24-2450BAK18P**	4	.375	3.500		.031	1.125	☆				
12.70	.500	**RA216.24-3250BAK16P**	4	.500	4.000		.031	1.000		☆	☆	☆	
12.70	.500	**RA216.24-3250BAK24P**	4	.500	4.000		.031	1.500	☆				
12.70	.500	**RA216.24-3250DAK24P**	4	.500	4.000		.062	1.500	☆				
15.88	.625	**RA216.24-4050BAK20P**	4	.625	4.500		.031	1.250		☆	☆	☆	
15.88	.625	**RA216.24-4050DAK30P**	4	.625	4.500		.062	1.875	☆				
19.05	.750	**RA216.24-4850BAK24P**	4	.750	5.000		.031	1.500					☆
19.05	.750	**RA216.24-4850DAK36P**	4	.750	5.000		.062	2.250	☆				

1) Maximum cutting edge length.
2) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

D350 D356 D229 G6 D2

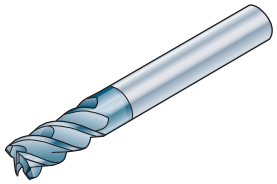
SANDVIK Coromant

Roughing, semi-finishing end mill

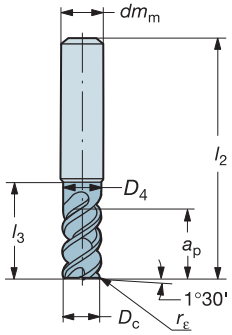
VFD

Centre cutting

Hardness 43≤HRc≤63



Helix angle: -50°
Tolerances: D_c: h10
dm_m: h6



Metric version

D_c mm	D_c inch	Ordering code	z_n[3]	Dimensions, mm dm_m	l_2	l_3	D_4	$r_ε$	Helix l_{sh} mm[2]	Max a_p[1]	P GC 1620	M GC 1620	K GC 1620	N GC 1620	S GC 1620	H GC 1620
		Cylindrical shank														
12	.472	**R216.24-12050GCL26P**	4	12	105	60	11.4	3	35.50	26.0	☆	☆	☆	☆	☆	☆
16	.630	**R216.24-16050OCK36P**	4	16	115	67	15.2	6.35	45.00	36.0	☆	☆	☆	☆	☆	☆
16	.630	**R216.24-16050GCL36P**	4	16	128	80	15.2	3	45.00	36.0	☆	☆	☆	☆	☆	
16	.630	**R216.24-16050OCL36P**	4	16	128	80	15.2	6.35	45.00	36.0	☆	☆	☆	☆	☆	☆
20	.787	**R216.24-20050FCC44P**	4	20	104	52	19	2.5	56.00	44.0	☆					☆
20	.787	**R216.24-20050GCC44P**	4	20	110	58	19	3	56.00	44.0	☆					☆
20	.787	**R216.24-20050ICC44P**	4	20	110	58	19	4	56.00	44.0	☆					☆
20	.787	**R216.24-20050OCC44P**	4	20	104	52	19	6.35	56.00	44.0	☆					☆
20	.787	**R216.24-20050OCK44P**	4	25	145	80	19	6.35	56.00	44.0	☆	☆	☆	☆	☆	☆
20	.787	**R216.24-20050GCL44P**	4	20	150	100	19	3	56.00	44.0	☆	☆	☆	☆	☆	☆
20	.787	**R216.24-20050OCL44P**	4	20	150	100	19	6.35	56.00	44.0	☆	☆	☆	☆	☆	☆
25	.984	**R216.25-25050OCK54P**	5	25	156	99	24	6.35	71.00	54.0	☆	☆	☆	☆	☆	☆
25	.984	**R216.25-25050GCL54P**	5	25	181	125	24	3	71.00	54.0	☆	☆	☆	☆	☆	☆
25	.984	**R216.25-25050OCL54P**	5	25	181	125	24	6.35	71.00	54.0	☆	☆	☆	☆	☆	☆

1) Maximum cutting edge length.

2) Pitch per rev.

3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

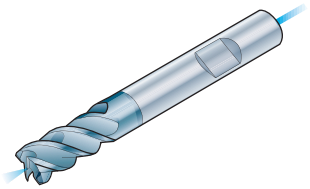
D350 D356 D229 G6 D2

Roughing, semi-finishing end mill

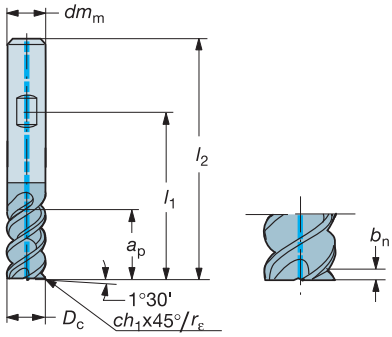
Non centre cutting

Variable flute depth tools

With internal coolant supply
Hardness <48 HRc
Differential pitch



Helix angle: -50°
Tolerances: D_c: h12
dm_m: h6



l_1 = programming length

Metric version

D_c mm	D_c inch	Ordering code	z_n[3]	Coolant[4]	Dimensions, mm dm_m	l_1	l_2	b_n	ch_1	Helix l_{sh} mm[2]	Max a_p[1]	P GC 1640	M GC 1640	K GC 1640	S GC 1640
		Weldon													
6	.236	R215.34C06050-BC13P	4	1	6	39	57	0.25	0.1	16.00	13.0	☆	☆	☆	☆
8	.315	R215.34C08050-BC19P	4	1	8	45	63	0.25	0.1	22.40	19.0	☆	☆	☆	☆
10	.394	R215.34C10050-BC22P	4	1	10	52	72	0.25	0.1	28.00	22.0	☆	☆	☆	☆
12	.472	R215.34C12050-BC26P	4	1	12	61	83	0.25	0.1	35.50	26.0	☆	☆	☆	☆
16	.630	R215.34C16050-BC32P	4	1	16	68	92	0.35	0.12	45.00	32.0	☆	☆	☆	☆
20	.787	R215.34C20050-BC38P	4	1	20	79	104	0.35	0.12	56.00	38.0	☆	☆	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges
4) 1 = coolant through centre

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

D350 D356 D229 G6 D2

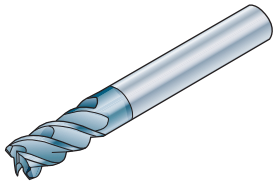
SANDVIK Coromant

Roughing, semi-finishing end mill

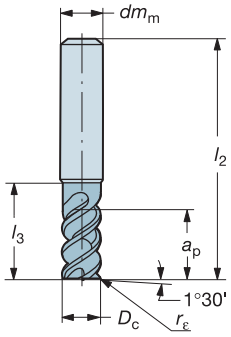
Centre cutting

Variable flute depth tools

Hardness 43HRc to 63HRc



Helix angle: -50°
Tolerances: D_c: h10
dm_m: h6



Inch version

D_c mm	D_c inch	Ordering code	z_n[2]	Dimensions, inch dm_m	l_2	l_3	r_ε	Max a_p[1]	P GC 1620	H GC 1620
		Cylindrical shank with radius								
4.75	.187	**RA216.23-1250AAK06H**	3	.250	3.000		.015	.375	☆	☆
4.75	.187	**RA216.23-1250BAK06H**	3	.250	3.000		.031	.375	☆	☆
6.35	.250	**RA216.24-1650AAK08H**	4	.250	3.000		.015	.500	☆	☆
6.35	.250	**RA216.24-1650BAK08H**	4	.250	3.000		.031	.500	☆	☆
7.92	.312	**RA216.24-2050AAK10H**	4	.375	3.500	1.000	.015	.625	☆	☆
7.92	.312	**RA216.24-2050BAK10H**	4	.375	3.500	1.000	.031	.625	☆	☆
9.52	.375	**RA216.24-2450AAK12H**	4	.375	3.500		.015	.750	☆	☆
9.52	.375	**RA216.24-2450BAK12H**	4	.375	3.500		.031	.750	☆	☆
12.70	.500	**RA216.24-3250BAK16H**	4	.500	4.000		.031	1.000	☆	☆
12.70	.500	**RA216.24-3250DAK16H**	4	.500	4.000		.062	1.000	☆	☆
15.88	.625	**RA216.24-4050DAK20H**	4	.625	4.500		.062	1.250	☆	☆
19.05	.750	**RA216.24-4850DAK24H**	4	.750	5.000		.062	1.500	☆	☆

1) Maximum cutting edge length.

2) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

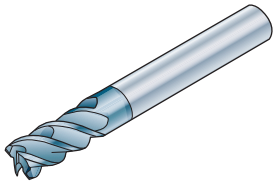
D350 D356 D229 G6 D2

Roughing, semi-finishing end mill

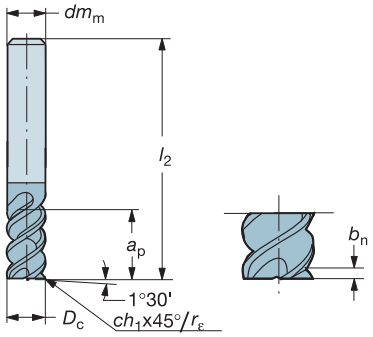
Centre cutting

Variable flute depth tools

Hardness 43≤HRc≤63



Helix angle: -50°
Tolerances: D_c: h8
dm_m: h6



Metric version

D_c mm	D_c inch	Ordering code	z_n 3)	Dimensions, mm dm_m	l_2	ch_1	b_n	r_ε	Helix l_{sh} mm 2)	Max a_p 1)	P GC 1620	M GC 1620	K GC 1620	S GC 1620	H GC 1620
		Cylindrical shank with radius													
2	.079	R216.23-02050BAK70H	3	6	57			0.5	5.60	7.0	☆	☆	☆	☆	☆
3	.118	R216.23-03050BAK08H	3	6	57			0.5	8.00	8.0	☆				☆
4	.157	R216.23-04050CAK11H	3	6	57			1	11.20	11.0	☆				☆
5	.197	R216.23-05050CAK13H	3	6	57			1	14.00	13.0	☆				☆
6	.236	R216.24-06050CAK13H	4	6	65			1	16.00	13.0	☆				☆
8	.315	R216.24-08050EAK19H	4	8	80			2	22.40	19.0	☆				☆
10	.394	R216.24-10050EAK22H	4	10	100			2	28.00	22.0	☆				☆
12	.472	R216.24-12050GAK26H	4	12	100			3	35.50	26.0	☆				☆
14	.551	R216.24-14050GAK26H	4	14	104			3	40.00	26.0	☆				☆
16	.630	R216.24-16050IAK32H	4	16	115			4	45.00	32.0	☆				☆
20	.787	R216.24-20050IAK38H	4	20	125			4	56.00	38.0	☆				☆
		Cylindrical shank													
2	.079	R216.33-02050-AK70H	3	6	57		0.25		5.60	7.0	☆				☆
3	.118	R216.33-03050-AK08H	3	6	57		0.25		8.00	8.0	☆				☆
4	.157	R216.33-04050-AK11H	3	6	57	0.10	0.25		11.20	11.0	☆				☆
5	.197	R216.33-05050-AK13H	3	6	57	0.10	0.25		14.00	13.0	☆				☆
6	.236	R216.34-06050-AK13H	4	6	65	0.10	0.25		16.00	13.0	☆				☆
8	.315	R216.34-08050-AK19H	4	8	80	0.10	0.25		22.40	19.0	☆				☆
10	.394	R216.34-10050-AK22H	4	10	100	0.10	0.25		28.00	22.0	☆				☆
12	.472	R216.34-12050-AK26H	4	12	100	0.10	0.25		35.50	26.0	☆				☆
14	.551	R216.34-14050-AK26H	4	14	104	0.15	0.35		40.00	26.0	☆				☆
16	.630	R216.34-16050-AK32H	4	16	115	0.15	0.35		45.00	32.0	☆				☆
20	.787	R216.34-20050-AK38H	4	20	125	0.15	0.35		56.00	38.0	☆				☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

D350 D356 D229 G6 D2

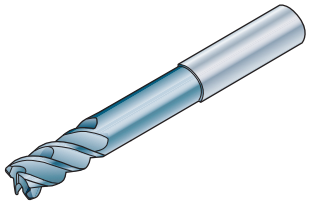
SANDVIK Coromant

Roughing, semi-finishing end mill

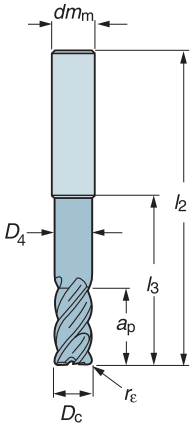
Centre cutting

Variable flute depth tools

Hardness ≤ 48HRc



Helix angle: -50°
Tolerances: D_c: h9
dm_m: h8



Metric version

D_c mm	D_c inch	Ordering code	z_n[3]	Dimensions, mm dm_m	l_2	l_3	D_4	r_ε	Helix l_{sh} mm[2]	Max a_p[1]	P GC 1620	M GC 1620	K GC 1620	N GC 1620	S GC 1620	H GC 1620
10	.394	R216.24-10050CCK22P	4	10	100	42	9.5	1	28.00	22.0	☆	☆	☆		☆	
10	.394	R216.24-10050DCK22P	4	10	100	42	9.5	1.5	28.00	22.0	☆	☆	☆		☆	
10	.394	R216.24-10050ECK22P	4	10	100	42	9.5	2	28.00	22.0	☆	☆	☆		☆	
10	.394	R216.24-10050FCK22P	4	10	100	42	9.5	2.5	28.00	22.0	☆	☆	☆		☆	
10	.394	R216.24-10050GCK22P	4	10	100	42	9.5	3	28.00	22.0	☆	☆	☆		☆	
12	.472	R216.24-12050CCK26P	4	12	100	53	11.4	1	35.50	26.0	☆	☆	☆		☆	
12	.472	R216.24-12050DCK26P	4	12	100	53	11.4	1.5	35.50	26.0	☆	☆	☆		☆	
12	.472	R216.24-12050ECK26P	4	12	100	53	11.4	2	35.50	26.0	☆	☆	☆		☆	
12	.472	R216.24-12050FCK26P	4	12	100	53	11.4	2.5	35.50	26.0	☆	☆	☆		☆	
12	.472	R216.24-12050GCK26P	4	12	100	55	11.4	3	35.50	26.0	☆					☆
12	.472	R216.24-12050ICK26P	4	12	100	53	11.4	4	35.50	26.0	☆	☆	☆		☆	
12	.472	R216.24-12050GCL26P	4	12	105	60	11.4	3	35.50	26.0	☆	☆	☆	☆	☆	☆
16	.630	R216.24-16050CCK36P	4	16	115	65	15.2	1	45.00	36.0	☆	☆	☆		☆	
16	.630	R216.24-16050DCK36P	4	16	115	65	15.2	1.5	45.00	36.0	☆	☆	☆		☆	
16	.630	R216.24-16050ECK36P	4	16	115	65	15.2	2	45.00	36.0	☆	☆	☆		☆	
16	.630	R216.24-16050FCK36P	4	16	115	65	15.2	2.5	45.00	36.0	☆	☆	☆		☆	
16	.630	R216.24-16050GCK36P	4	16	115	65	15.2	3	45.00	36.0	☆	☆	☆		☆	
16	.630	R216.24-16050ICK36P	4	16	115	65	15.2	4	45.00	36.0	☆	☆	☆		☆	
16	.630	R216.24-16050OCK36P	4	16	115	67	15.2	6.35	45.00	36.0	☆	☆	☆	☆	☆	☆
16	.630	R216.24-16050GCL36P	4	16	128	80	15.2	3	45.00	36.0	☆	☆	☆	☆	☆	
16	.630	R216.24-16050OCL36P	4	16	128	80	15.2	6.35	45.00	36.0	☆	☆	☆	☆	☆	☆
20	.787	R216.24-20050FCK44P	4	20	145	80	19	2.5	56.00	44.0	☆	☆	☆		☆	
20	.787	R216.24-20050GCK44P	4	20	145	80	19	3	56.00	44.0	☆	☆	☆		☆	
20	.787	R216.24-20050ICK44P	4	20	145	80	19	4	56.00	44.0	☆	☆	☆		☆	
20	.787	R216.24-20050OCK44P	4	25	145	80	19	6.35	56.00	44.0	☆	☆	☆	☆	☆	☆
20	.787	R216.24-20050GCL44P	4	20	150	100	19	3	56.00	44.0	☆	☆	☆	☆	☆	☆
20	.787	R216.24-20050OCL44P	4	20	150	100	19	6.35	56.00	44.0	☆	☆	☆	☆	☆	☆
25	.984	R216.25-25050GCK54P	5	25	156	99	24	3	71.00	54.0	☆	☆	☆		☆	
25	.984	R216.25-25050ICK54P	5	25	156	99	24	4	71.00	54.0	☆	☆	☆		☆	
25	.984	R216.25-25050OCK54P	5	25	156	99	24	6.35	71.00	54.0	☆	☆	☆	☆	☆	☆
25	.984	R216.25-25050GCL54P	5	25	181	125	24	3	71.00	54.0	☆	☆	☆	☆	☆	☆
25	.984	R216.25-25050OCL54P	5	25	181	125	24	6.35	71.00	54.0	☆	☆	☆	☆	☆	☆

1) Maximum cutting edge length.

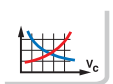
2) Pitch per rev.

3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117


D350

D356

D229

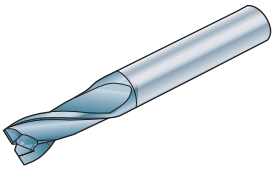
G6

D2

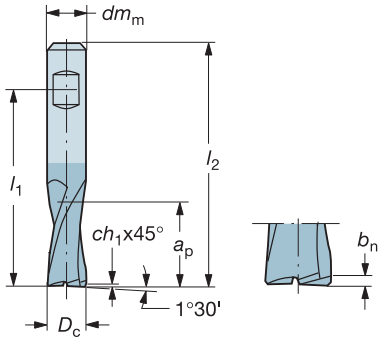
Roughing, semi-finishing end mill

Centre cutting

Hardness <48HRc



Helix angle: -30°
Tolerances: D_c: h10
dm_m: h6



l_1 = programming length

Metric version

D_c mm	D_c inch	Ordering code	z_n 3)	Dimensions, mm dm_m	l_1	l_2	ch_1	b_n	Helix l_{sh} mm 2)	Max a_p 1)	P GC 1630	M GC 1630	K GC 1630	S GC 1630
		Cylindrical shank												
1	.039	R216.32-01030-AC30P	2	6		57			5.60	3.0	☆	☆	☆	☆
1.5	.059	R216.32-01530-AC30P	2	6		57			9.00	3.0	☆	☆	☆	☆
2	.079	R216.32-02030-AC60P	2	6		57			11.20	6.0	☆	☆	☆	☆
2.5	.098	R216.32-02530-AC70P	2	6		57			14.00	7.0	☆	☆	☆	☆
3	.118	R216.32-03030-AC07P	2	6		57			16.00	7.0	☆	☆	☆	☆
3.5	.138	R216.32-03530-AC07P	2	6		57			20.00	7.0	☆	☆	☆	☆
4	.157	R216.32-04030-AC08P	2	6		57		0.25	22.40	8.0	☆	☆	☆	☆
4.5	.177	R216.32-04530-AC08P	2	6		57		0.25	25.00	8.0	☆	☆	☆	☆
5	.197	R216.32-05030-AC10P	2	6		57		0.25	28.00	10.0	☆	☆	☆	☆
6	.236	R216.32-06030-AC10P	2	6		57		0.25	35.50	10.0	☆	☆	☆	☆
7	.276	R216.32-07030-AC13P	2	8		63		0.25	40.00	13.0	☆	☆	☆	☆
8	.315	R216.32-08030-AC16P	2	8		63		0.25	45.00	16.0	☆	☆	☆	☆
9	.354	R216.32-09030-AC16P	2	10		72	0.10	0.25	50.00	16.0	☆	☆	☆	☆
10	.394	R216.32-10030-AC19P	2	10		72	0.10	0.25	56.00	19.0	☆	☆	☆	☆
11	.433	R216.32-11030-AC22P	2	11		83	0.10	0.25	63.00	22.0	☆	☆	☆	☆
12	.472	R216.32-12030-AC22P	2	12		83	0.10	0.25	71.00	22.0	☆	☆	☆	☆
14	.551	R216.32-14030-AC22P	2	14		83	0.15	0.35	80.00	22.0	☆	☆	☆	☆
16	.630	R216.32-16030-AC26P	2	16		92	0.15	0.35	90.00	26.0	☆	☆	☆	☆
18	.709	R216.32-18030-AC26P	2	18		92	0.15	0.35	100.00	26.0	☆	☆	☆	☆
20	.787	R216.32-20030-AC32P	2	20		104	0.15	0.35	112.00	32.0	☆	☆	☆	☆
		Weldon												
10	.394	R216.32-10030-BC19P	2	10	52	72	0.12	0.25	56.00	19.0	☆	☆	☆	☆
12	.472	R216.32-12030-BC22P	2	12	60.5	83	0.12	0.25	71.00	22.0	☆	☆	☆	☆
16	.630	R216.32-16030-BC26P	2	16	68	92	0.15	0.35	90.00	26.0	☆	☆	☆	☆
18	.709	R216.32-18030-BC26P	2	18	68	92	0.15	0.35	100.00	26.0	☆	☆	☆	☆
20	.787	R216.32-20030-BC32P	2	20	79	104	0.15	0.35	112.00	32.0	☆	☆	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

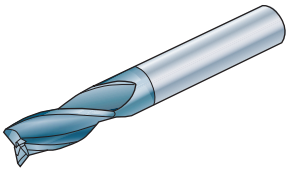
D350 D356 D229 G6 D2

SANDVIK Coromant

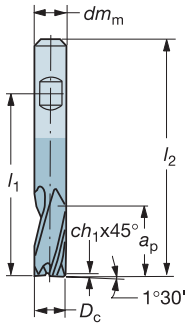
Roughing, semi-finishing end mill

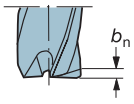
Centre cutting

Hardness <48HRc



Helix angle: -30°
Tolerances: D_c: h10
dm_m: h6





l_1 = programming length

Metric version

D_c mm	D_c inch	Ordering code	z_n[3]	Dimensions, mm dm_m	l_1	l_2	ch_1	b_n	Helix l_{sh} mm[2]	Max a_p[1]	P GC 1630	M GC 1630	K GC 1630	S GC 1630
		Cylindrical shank												
1	.039	R216.33-01030-AC30P	3	6		57			5.60	3.0	☆	☆	☆	☆
1.5	.059	R216.33-01530-AC30P	3	6		57			9.00	3.0	☆	☆	☆	☆
2	.079	R216.33-02030-AC60P	3	6		57			11.20	6.0	☆	☆	☆	☆
2.5	.098	R216.33-02530-AC70P	3	6		57			14.00	7.0	☆	☆	☆	☆
3	.118	R216.33-03030-AC07P	3	6		57			16.00	7.0	☆	☆	☆	☆
3.5	.138	R216.33-03530-AC07P	3	6		57			16.00	7.0	☆	☆	☆	☆
4	.157	R216.33-04030-AC08P	3	6		57		0.25	22.40	8.0	☆	☆	☆	☆
4.5	.177	R216.33-04530-AC08P	3	6		57		0.25	25.00	8.0	☆	☆	☆	☆
5	.197	R216.33-05030-AC10P	3	6		57		0.25	28.00	10.0	☆	☆	☆	☆
5.5	.216	R216.33-05530-AC10P	3	6		57		0.25	31.50	10.0	☆	☆	☆	☆
6	.236	R216.33-06030-AC10P	3	6		57		0.25	35.50	10.0	☆	☆	☆	☆
6.5	.256	R216.33-06530-AC13P	3	8		63		0.25	35.50	13.0	☆	☆	☆	☆
7	.276	R216.33-07030-AC13P	3	8		63		0.25	40.00	13.0	☆	☆	☆	☆
7.5	.295	R216.33-07530-AC16P	3	8		63		0.25	45.00	16.0	☆	☆	☆	☆
8	.315	R216.33-08030-AC16P	3	8		63		0.25	45.00	16.0	☆	☆	☆	☆
9	.354	R216.33-09030-AC16P	3	10		72	0.10	0.25	50.00	16.0	☆	☆	☆	☆
10	.394	R216.33-10030-AC19P	3	10		72	0.10	0.25	56.00	19.0	☆	☆	☆	☆
11	.433	R216.33-11030-AC22P	3	12		83	0.10	0.25	63.00	22.0	☆	☆	☆	☆
12	.472	R216.33-12030-AC22P	3	12		83	0.10	0.25	71.00	22.0	☆	☆	☆	☆
13	.512	R216.33-13030-AC22P	3	14		83	0.15	0.35	71.00	22.0	☆	☆	☆	☆
14	.551	R216.33-14030-AC22P	3	14		83	0.15	0.35	80.00	22.0	☆	☆	☆	☆
15	.591	R216.33-15030-AC26P	3	16		92	0.15	0.35	90.00	26.0	☆	☆	☆	☆
16	.630	R216.33-16030-AC26P	3	16		92	0.15	0.35	90.00	26.0	☆	☆	☆	☆
18	.709	R216.33-18030-AC26P	3	18		92	0.15	0.35	100.00	26.0	☆	☆	☆	☆
20	.787	R216.33-20030-AC32P	3	20		104	0.15	0.35	112.00	32.0	☆	☆	☆	☆
		Cylindrical shank, extra long												
1	.039	R216.33-01030-AK40P	3	6		57			5.60	4.0	☆	☆	☆	☆
1.5	.059	R216.33-01530-AK60P	3	6		57			9.00	6.0	☆	☆	☆	☆
2	.079	R216.33-02030-AK80P	3	6		57			11.20	8.0	☆	☆	☆	☆
3	.118	R216.33-03030-AK12P	3	6		57			18.00	12.0	☆	☆	☆	☆
4	.157	R216.33-04030-AK14P	3	6		57		0.25	22.40	14.0	☆	☆	☆	☆
5	.197	R216.33-05030-AK16P	3	6		57		0.25	28.00	16.0	☆	☆	☆	☆
6	.236	R216.33-06030-AK22P	3	6		65		0.25	35.50	22.0	☆	☆	☆	☆
8	.315	R216.33-08030-AK28P	3	8		80		0.25	45.00	28.0	☆	☆	☆	☆
10	.394	R216.33-10030-AK32P	3	10		100	0.10	0.25	56.00	32.0	☆	☆	☆	☆
16	.630	R216.33-16030-AK50P	3	16		115	0.15	0.35	90.00	50.0	☆	☆	☆	☆
		Weldon												
6	.236	R216.33-06030-BC10P	3	6	39	57		0.25	35.50	10.0	☆	☆	☆	☆
8	.315	R216.33-08030-BC16P	3	8	45	63		0.25	45.00	16.0	☆	☆	☆	☆
9	.354	R216.33-09030-BC16P	3	10	52	72	0.10	0.25	50.00	16.0	☆	☆	☆	☆
10	.394	R216.33-10030-BC19P	3	10	52	72	0.10	0.25	56.00	19.0	☆	☆	☆	☆
12	.472	R216.33-12030-BC22P	3	12	60.5	83	0.10	0.25	71.00	22.0	☆	☆	☆	☆
14	.551	R216.33-14030-BC22P	3	14	60.5	83	0.15	0.35	80.00	22.0	☆	☆	☆	☆
16	.630	R216.33-16030-BC26P	3	16	68	92	0.15	0.35	90.00	26.0	☆	☆	☆	☆
18	.709	R216.33-18030-BC26P	3	18	68	92	0.15	0.35	100.00	26.0	☆	☆	☆	☆
20	.787	R216.33-20030-BC32P	3	20	79	104	0.15	0.35	112.00	32.0	☆	☆	☆	☆

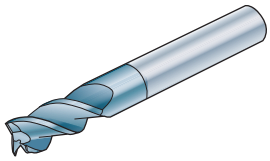
1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

D350 D356 D229 G6 D2

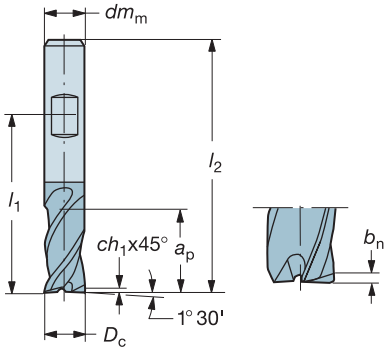
Roughing, semi-finishing end mill

Centre cutting

Hardness <48 HRc



Helix angle: -45°
Tolerances: D_c: h10
dm_m: h6



l_1 = programming length

Metric version

D_c mm	D_c inch	Ordering code	z_n 3)	Dimensions, mm dm_m	l_1	l_2	ch_1	b_n	Helix l_{sh} mm 2)	Max a_p 1)	P GC 1620	P GC 1630	M GC 1620	M GC 1630	K GC 1620	K GC 1630	S GC 1620	S GC 1630
		Cylindrical shank																
2	.079	R216.33-02045-AC60P	3	6		57			6.30	6.0	☆	☆	☆	☆	☆	☆	☆	☆
3	.118	R216.33-03045-AC07P	3	6		57			10.00	7.0	☆	☆	☆	☆	☆	☆	☆	☆
4	.157	R216.33-04045-AC08P	3	6		57	0.10	0.25	12.50	8.0	☆	☆	☆	☆	☆	☆	☆	☆
5	.197	R216.33-05045-AC10P	3	6		57	0.10	0.25	16.00	10.0	☆	☆	☆	☆	☆	☆	☆	☆
6	.236	R216.33-06045-AC10P	3	6		57	0.10	0.25	20.00	10.0	☆	☆	☆	☆	☆	☆	☆	☆
7	.276	R216.33-07045-AC13P	3	8		63	0.10	0.25	22.40	13.0	☆	☆	☆	☆	☆	☆	☆	☆
8	.315	R216.33-08045-AC16P	3	8		63	0.10	0.25	25.00	16.0	☆	☆	☆	☆	☆	☆	☆	☆
9	.354	R216.33-09045-AC16P	3	10		72	0.10	0.25	28.00	16.0	☆	☆	☆	☆	☆	☆	☆	☆
10	.394	R216.33-10045-AC19P	3	10		72	0.10	0.25	31.50	19.0	☆	☆	☆	☆	☆	☆	☆	☆
12	.472	R216.33-12045-AC22P	3	12		83	0.10	0.25	40.00	22.0	☆	☆	☆	☆	☆	☆	☆	☆
14	.551	R216.33-14045-AC22P	3	14		83	0.15	0.35	45.00	22.0	☆	☆	☆	☆	☆	☆	☆	☆
16	.630	R216.33-16045-AC26P	3	16		92	0.15	0.35	50.00	26.0	☆	☆	☆	☆	☆	☆	☆	☆
18	.709	R216.33-18045-AC26P	3	18		92	0.15	0.35	56.00	26.0	☆	☆	☆	☆	☆	☆	☆	☆
20	.787	R216.33-20045-AC32P	3	20		104	0.15	0.35	63.00	32.0	☆	☆	☆	☆	☆	☆	☆	☆
		Weldon																
6	.236	R216.33-06045-BC10P	3	6	39	57	0.10	0.25	20.00	10.0		☆		☆		☆		☆
8	.315	R216.33-08045-BC16P	3	8	45	63	0.10	0.25	25.00	16.0		☆		☆		☆		☆
10	.394	R216.33-10045-BC19P	3	10	52	72	0.10	0.25	31.50	19.0		☆		☆		☆		☆
12	.472	R216.33-12045-BC22P	3	12	60.5	83	0.10	0.25	40.00	22.0		☆		☆		☆		☆
14	.551	R216.33-14045-BC22P	3	14	60.5	83	0.15	0.35	45.00	22.0		☆		☆		☆		☆
16	.630	R216.33-16045-BC26P	3	16	68	92	0.15	0.35	50.00	26.0		☆		☆		☆		☆
18	.709	R216.33-18045-BC26P	3	18	68	92	0.15	0.35	56.00	26.0		☆		☆		☆		☆
20	.787	R216.33-20045-BC32P	3	20	79	104	0.15	0.35	63.00	32.0		☆		☆		☆		☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

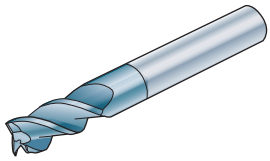
D350 D356 D229 G6 D2

SANDVIK Coromant

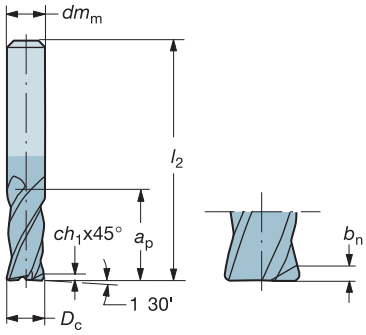
Roughing, semi-finishing end mill

Centre cutting

Hardness <48HRc



Helix angle: -30°
Tolerances: D_c: h10
dm_m: h6



l_1 = programming length

Metric version

D_c mm	D_c inch	Ordering code	z_n[3]	Dimensions, mm dm_m	l_2	ch_1	b_n	Helix l_{sh} mm[2]	Max a_p[1]	P GC1620	P GC1630	M GC1620	M GC1630	K GC1620	K GC1630	S GC1620	S GC1630
		Cylindrical shank, short															
2	.079	R216.34-02030-AS40N	4	6	50			11.20	4.0	☆	☆	☆	☆	☆	☆	☆	☆
3	.118	R216.34-03030-AS05N	4	6	50			18.00	5.0	☆	☆	☆	☆	☆	☆	☆	☆
4	.157	R216.34-04030-AS08N	4	6	54		0.25	22.40	8.0	☆	☆	☆	☆	☆	☆	☆	☆
5	.197	R216.34-05030-AS09N	4	6	54		0.25	28.00	9.0	☆	☆	☆	☆	☆	☆	☆	☆
6	.236	R216.34-06030-AS10N	4	6	54		0.25	35.50	10.0	☆	☆	☆	☆	☆	☆	☆	☆
7	.276	R216.34-07030-AS11N	4	8	58		0.25	40.00	11.0	☆	☆	☆	☆	☆	☆	☆	☆
8	.315	R216.34-08030-AS12N	4	8	58		0.25	45.00	12.0	☆	☆	☆	☆	☆	☆	☆	☆
10	.394	R216.34-10030-AS14N	4	10	66	0.10	0.25	56.00	14.0	☆	☆	☆	☆	☆	☆	☆	☆
12	.472	R216.34-12030-AS16N	4	12	73	0.10	0.25	71.00	16.0	☆	☆	☆	☆	☆	☆	☆	☆
14	.551	R216.34-14030-AS18N	4	14	75	0.15	0.35	80.00	18.0	☆	☆	☆	☆	☆	☆	☆	☆
16	.630	R216.34-16030-AS22N	4	16	82	0.15	0.35	90.00	22.0	☆	☆	☆	☆	☆	☆	☆	☆
18	.709	R216.34-18030-AS24N	4	18	84	0.15	0.35	100.00	24.0	☆	☆	☆	☆	☆	☆	☆	☆
20	.787	R216.34-20030-AS26N	4	20	92	0.15	0.35	112.00	26.0	☆	☆	☆	☆	☆	☆	☆	☆
		Cylindrical shank, long															
2	.079	R216.34-02030-AC70N	4	6	57			11.20	7.0	☆	☆	☆	☆	☆	☆	☆	☆
3	.118	R216.34-03030-AC08N	4	6	57			16.00	8.0	☆	☆	☆	☆	☆	☆	☆	☆
3.5	.138	R216.34-03530-AC10N	4	6	57			20.00	10.0	☆	☆	☆	☆	☆	☆	☆	☆
4	.157	R216.34-04030-AC11N	4	6	57		0.25	22.40	11.0	☆	☆	☆	☆	☆	☆	☆	☆
4.5	.177	R216.34-04530-AC11N	4	6	57		0.25	25.00	11.0	☆	☆	☆	☆	☆	☆	☆	☆
5	.197	R216.34-05030-AC13N	4	6	57		0.25	28.00	13.0	☆	☆	☆	☆	☆	☆	☆	☆
5.5	.216	R216.34-05530-AC13N	4	6	57		0.25	31.50	13.0	☆	☆	☆	☆	☆	☆	☆	☆
6	.236	R216.34-06030-AC13N	4	6	57		0.25	35.50	13.0	☆	☆	☆	☆	☆	☆	☆	☆
6.5	.256	R216.34-06530-AC16N	4	8	63		0.25	35.50	16.0	☆	☆	☆	☆	☆	☆	☆	☆
7	.276	R216.34-07030-AC16N	4	8	63		0.25	40.00	16.0	☆	☆	☆	☆	☆	☆	☆	☆
8	.315	R216.34-08030-AC19N	4	8	63		0.25	45.00	19.0	☆	☆	☆	☆	☆	☆	☆	☆
9	.354	R216.34-09030-AC19N	4	10	72	0.10	0.25	50.00	19.0	☆	☆	☆	☆	☆	☆	☆	☆
10	.394	R216.34-10030-AC22N	4	10	72	0.10	0.25	56.00	22.0	☆	☆	☆	☆	☆	☆	☆	☆
12	.472	R216.34-12030-AC26N	4	12	83	0.10	0.25	71.00	26.0	☆	☆	☆	☆	☆	☆	☆	☆
14	.551	R216.34-14030-AC30N	4	14	92	0.15	0.35	90.00	30.0	☆	☆	☆	☆	☆	☆	☆	☆
16	.630	R216.34-16030-AC32N	4	16	92	0.15	0.35	90.00	32.0	☆	☆	☆	☆	☆	☆	☆	☆
18	.709	R216.34-18030-AC36N	4	18	92	0.15	0.35	100.00	32.0	☆	☆	☆	☆	☆	☆	☆	☆
20	.787	R216.34-20030-AC38N	4	20	104	0.15	0.35	112.00	38.0	☆	☆	☆	☆	☆	☆	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

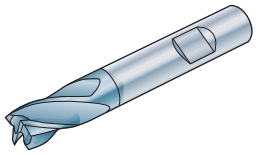
First choice: Use Plura Guide. Order number C-2948-117

D350 D356 D229 G6 D2

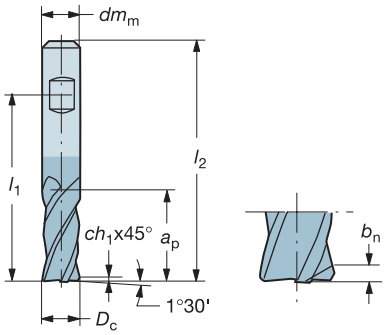
Roughing, semi-finishing end mill

Centre cutting

Hardness <48HRc



Helix angle: -30°
Tolerances: D_c: h10
dm_m: h6



l_1 = programming length

Metric version

D_c mm	D_c inch	Ordering code	z_n 3)	Dimensions, mm dm_m	l_1	l_2	ch_1	b_n	Helix l_{sh} mm 2)	Max a_p 1)	P GC 1630	M GC 1630	K GC 1630	S GC 1630
		Weldon, Short												
6	.236	R216.34-06030-BS10N	4	6	36	54		0.25	35.50	10.0	☆	☆	☆	☆
8	.315	R216.34-08030-BS12N	4	8	40	58		0.25	45.00	12.0	☆	☆	☆	☆
10	.394	R216.34-10030-BS14N	4	10	46	66	0.10	0.25	56.00	14.0	☆	☆	☆	☆
12	.472	R216.34-12030-BS16N	4	12	50.5	73	0.10	0.25	71.00	16.0	☆	☆	☆	☆
14	.551	R216.34-14030-BS18N	4	14	52.5	75	0.15	0.35	80.00	18.0	☆	☆	☆	☆
16	.630	R216.34-16030-BS22N	4	16	58	82	0.15	0.35	90.00	22.0	☆	☆	☆	☆
18	.709	R216.34-18030-BS24N	4	18	60	84	0.15	0.35	100.00	24.0	☆	☆	☆	☆
20	.787	R216.34-20030-BS26N	4	20	67	92	0.15	0.35	112.00	26.0	☆	☆	☆	☆
		Weldon, Long												
6	.236	R216.34-06030-BC13N	4	6	39	57		0.25	35.50	13.0	☆	☆	☆	☆
8	.315	R216.34-08030-BC19N	4	8	45	63		0.25	45.00	19.0	☆	☆	☆	☆
10	.394	R216.34-10030-BC22N	4	10	52	72	0.10	0.25	56.00	22.0	☆	☆	☆	☆
12	.472	R216.34-12030-BC26N	4	12	60.5	83	0.10	0.25	71.00	26.0	☆	☆	☆	☆
14	.551	R216.34-14030-BC26N	4	14	60.5	83	0.15	0.35	80.00	26.0	☆	☆	☆	☆
16	.630	R216.34-16030-BC32N	4	16	68	92	0.15	0.35	90.00	32.0	☆	☆	☆	☆
18	.709	R216.34-18030-BC32N	4	18	68	92	0.15	0.35	100.00	32.0	☆	☆	☆	☆
20	.787	R216.34-20030-BC38N	4	20	79	104	0.15	0.35	112.00	38.0	☆	☆	☆	☆
25	.984	R216.34-25030-BC45N	4	25	89	121	0.15	0.35	140.00	45.0	☆	☆	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

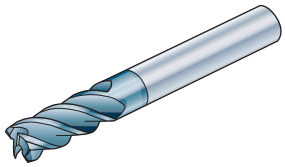
D350 D356 D229 G6 D2

SANDVIK Coromant

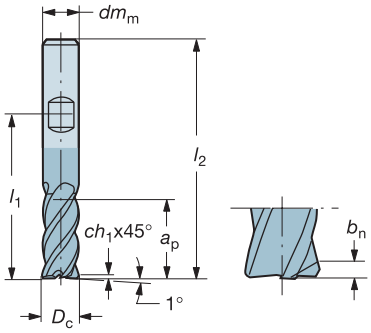
Roughing, semi-finishing end mill

Centre cutting

Hardness <48HRc



Helix angle: -45°
Tolerances: D_c: h10
dm_m: h6



l_1 = programming length

Metric version

D_c mm	D_c inch	Ordering code	z_n[3]	Dimensions, mm dm_m	l_1	l_2	ch_1	b_n	Helix l_{sh} mm[2]	Max a_p[1]	P GC 1620	P GC 1630	M GC 1620	M GC 1630	K GC 1620	K GC 1630	S GC 1620	S GC 1630
		Cylindrical shank, long																
2	.079	R216.34-02045-AC70N	4	6		57			6.30	7.0	☆	☆	☆	☆	☆	☆	☆	☆
3	.118	R216.34-03045-AC08N	4	6		57			10.50	8.0	☆	☆	☆	☆	☆	☆	☆	☆
4	.157	R216.34-04045-AC11N	4	6		57	0.10	0.25	12.50	11.0	☆	☆	☆	☆	☆	☆	☆	☆
5	.197	R216.34-05045-AC13N	4	6		57	0.10	0.25	16.00	13.0	☆	☆	☆	☆	☆	☆	☆	☆
6	.236	R216.34-06045-AC13N	4	6		57	0.10	0.25	20.00	13.0	☆	☆	☆	☆	☆	☆	☆	☆
8	.315	R216.34-08045-AC19N	4	8		63	0.10	0.25	25.00	19.0	☆	☆	☆	☆	☆	☆	☆	☆
10	.394	R216.34-10045-AC22N	4	10		72	0.10	0.25	31.50	22.0	☆	☆	☆	☆	☆	☆	☆	☆
12	.472	R216.34-12045-AC26N	4	12		83	0.10	0.25	40.00	26.0	☆	☆	☆	☆	☆	☆	☆	☆
14	.551	R216.34-14045-AC26N	4	14		83	0.15	0.35	45.00	26.0	☆	☆	☆	☆	☆	☆	☆	☆
16	.630	R216.34-16045-AC32N	4	16		92	0.15	0.35	50.00	32.0	☆	☆	☆	☆	☆	☆	☆	☆
18	.709	R216.35-18045-AC32N	5	18		92	0.15	0.35	56.00	32.0	☆	☆	☆	☆	☆	☆	☆	☆
20	.787	R216.35-20045-AC38N	5	20		104	0.15	0.35	63.00	38.0	☆	☆	☆	☆	☆	☆	☆	☆
		Cylindrical shank, extra long																
6	.236	R216.34-06045-AK22N	4	6		65	0.10	0.25	20.00	22.0	☆		☆		☆		☆	
8	.315	R216.34-08045-AK28N	4	8		80	0.10	0.25	28.00	28.0	☆		☆		☆		☆	
10	.394	R216.34-10045-AK32N	4	10		100	0.10	0.25	31.50	32.0	☆		☆		☆		☆	
12	.472	R216.34-12045-AK40N	4	12		100	0.10	0.25	40.00	40.0	☆		☆		☆		☆	
14	.551	R216.34-14045-AK50N	4	14		104	0.15	0.35	45.00	50.0	☆		☆		☆		☆	
16	.630	R216.35-16045-AK50N	5	16		115	0.15	0.35	56.00	50.0	☆		☆		☆		☆	
20	.787	R216.35-20045-AK55N	5	20		125	0.15	0.35	63.00	55.0	☆		☆		☆		☆	
20	.787	R216.36-20045-AK75N	6	20		145	0.15	0.35	63.00	75.0	☆		☆		☆		☆	
25	.984	R216.38-25045-AK90N	8	25		153	0.15	0.35	80.00	90.0	☆		☆		☆		☆	
		Weldon																
6	.236	R216.34-06045-BC13N	4	6	39	57	0.10	0.25	20.00	13.0		☆		☆		☆		☆
8	.315	R216.34-08045-BC19N	4	8	45	63	0.10	0.25	25.00	19.0		☆		☆		☆		☆
10	.394	R216.34-10045-BC22N	4	10	52	72	0.10	0.25	31.50	22.0		☆		☆		☆		☆
12	.472	R216.34-12045-BC26N	4	12	60.5	83	0.10	0.25	40.00	26.0		☆		☆		☆		☆
14	.551	R216.34-14045-BC26N	4	14	60.5	83	0.15	0.35	45.00	26.0		☆		☆		☆		☆
16	.630	R216.34-16045-BC32N	4	16	68	92	0.15	0.35	50.00	32.0		☆		☆		☆		☆
20	.787	R216.35-20045-BC38N	5	20	79	104	0.15	0.35	63.00	38.0		☆		☆		☆		☆

1) Maximum cutting edge length.

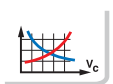
2) Pitch per rev.

3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117


D350

D356

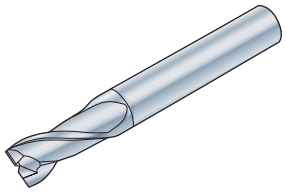
D229

G6

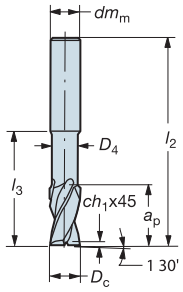
D2

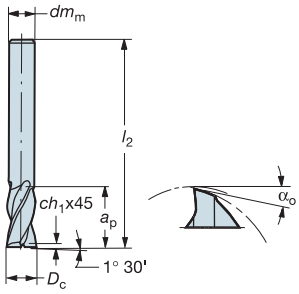
Roughing, semi-finishing end mill

Centre cutting



Helix angle: -30°, -25°
Tolerances: D_c: h10
dm_m: h6





This cutter has a new design improving drilling capability.

Metric version

D_c mm	D_c inch	Ordering code	z_n 3)	Dimensions, mm dm_m	l_2	l_3	D_4	Helix l_{sh} mm 2)	ch_1	α^o	Max a_p 1)	N H10F -
		Cylindrical shank										
2	.079	R216.32-02030-AC60A	2	6	57	9.5		11.20		13	6.0	☆
3	.118	R216.32-03030-AC07A	2	6	57	10.4		18.00		13	7.0	☆
4	.157	R216.32-04030-AC08A	2	6	57	15.3		22.40		13	8.0	☆
5	.197	R216.32-05030-AC10A	2	6	57	16.1		28.00		13	10.0	☆
6	.236	R216.32-06030-AC10A	2	6	57			35.50		13	10.0	☆
8	.315	R216.32-08030-AC16A	2	8	63			45.00		13	16.0	☆
10	.394	R216.32-10030-AC19A	2	10	72			56.00	0.1	13	19.0	☆
12	.472	R216.32-12030-AC22A	2	12	83			71.00	0.1	13	22.0	☆
2	.079	R216.32-02025-AK80A	2	6	57	10		14.00		20	8.0	☆
3	.118	R216.32-03025-AK12A	2	6	57	15		22.40		20	12.0	☆
4	.157	R216.32-04025-AK14A	2	6	57	18		28.00		14	14.0	☆
5	.197	R216.32-05025-AK16A	2	6	57			35.50		14	16.0	☆
6	.236	R216.32-06025-AK22A	2	6	65			45.00		14	22.0	☆
8	.315	R216.32-08025-AK28A	2	8	80			56.00		14	28.0	☆
10	.394	R216.32-10025-AK32A	2	10	90			71.00	0.1	12	32.0	☆
12	.472	R216.32-12025-AK38A	2	12	100			90.00	0.1	12	38.0	☆
2	.079	R216.32-02025-AP30A	2	6	57	9	1.9	14.00		20	3.0	☆
3	.118	R216.32-03025-AP04A	2	6	57	7	2.9	22.40		20	4.0	☆
4	.157	R216.32-04025-AP06A	2	6	57	10	3.8	28.00		14	6.0	☆
5	.197	R216.32-05025-AP08A	2	6	57	16	4.8	35.50		14	8.0	☆
6	.236	R216.32-06025-AP10A	2	6	65	28	5.7	45.00		14	10.0	☆
8	.315	R216.32-08025-AP12A	2	8	80	35	7.7	56.00		14	12.0	☆
10	.394	R216.32-10025-AP14A	2	10	90	45	9.7	71.00	0.1	12	14.0	☆
12	.472	R216.32-12025-AP16A	2	12	100	50	11.7	90.00	0.1	12	16.0	☆
16	.630	R216.32-16025-AP20A	2	16	115	63	15.5	112.00	0.15	12	20.0	☆
20	.787	R216.32-20025-AP20A	2	20	125	70	19.5	140.00	0.15	10	20.0	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

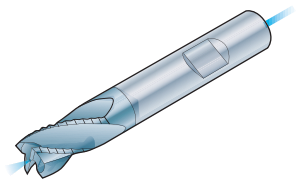
D350 D356 D229 G6 D2

SANDVIK Coromant

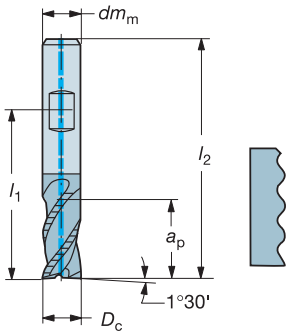
Roughing end mill

Kordell with internal coolant

Non centre cutting
Hardness <28HRc



Helix angle: -40°
Tolerances: D_c: h12
dm_m: h6



l_1 = programming length

Metric version

D_c mm	D_c inch	Ordering code	z_n[3]	Coolant[4]	Dimensions, mm dm_m	l_1	l_2	Helix l_{sh} mm[2]	Max a_p[1]	P GC 1640	M GC 1640	K GC 1640	S GC 1640
		Weldon											
6	.236	R215.34C06040-DS07K	4	1	6	36	54	25.00	7.0	☆	☆	☆	☆
6	.236	R215.34C06040-DC13K	4	1	6	39	57	25.00	13.0	☆	☆	☆	☆
8	.315	R215.34C08040-DS09K	4	1	8	40	58	31.50	9.0	☆	☆	☆	☆
8	.315	R215.34C08040-DC19K	4	1	8	45	63	31.50	19.0	☆	☆	☆	☆
10	.394	R215.34C10040-DS11K	4	1	10	46	66	40.00	11.0	☆	☆	☆	☆
10	.394	R215.34C10040-DC22K	4	1	10	52	72	40.00	22.0	☆	☆	☆	☆
12	.472	R215.34C12040-DS12K	4	1	12	50.5	73	45.00	12.0	☆	☆	☆	☆
12	.472	R215.34C12040-DC26K	4	1	12	60.5	83	45.00	26.0	☆	☆	☆	☆
16	.630	R215.34C16040-DS16K	4	1	16	58	82	63.00	16.0	☆	☆	☆	☆
16	.630	R215.34C16040-DC32K	4	1	16	68	92	63.00	32.0	☆	☆	☆	☆
18	.709	R215.34C18040-DC32K	4	1	18	68	92	71.00	32.0	☆	☆	☆	☆
20	.787	R215.34C20040-DS20K	4	1	20	67	92	80.00	20.0	☆	☆	☆	☆
20	.787	R215.34C20040-DC38K	4	1	20	79	104	80.00	38.0	☆	☆	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges
4) 1 = coolant through centre

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

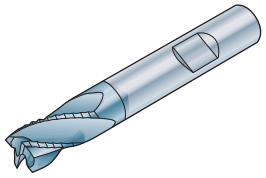
D350 D356 D229 G6 D2

Roughing end mill

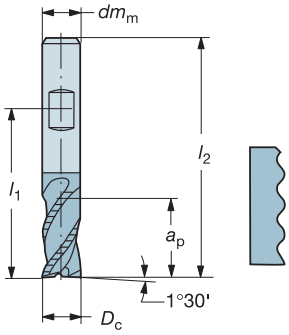
Centre cutting

Kordell

Hardness <28HRc



Helix angle: -30°,-40°
Tolerances: D_c: h12
dm_m: h6



l_1 = programming length

Metric version

D_c mm	D_c inch	Ordering code	z_n[3]	Dimensions, mm dm_m	l_1	l_2	Helix l_{sh} mm[2]	Max a_p[1]	P GC 1640	M GC 1640	K GC 1640
		Weldon, Short									
6	.236	R216.33-06030-BS07K	3	6	36	54	35.50	7.0	☆	☆	☆
8	.315	R216.33-08030-BS09K	3	6	40	58	45.00	9.0	☆	☆	☆
10	.394	R216.33-10030-BS11K	3	10	46	66	56.00	11.0	☆	☆	☆
12	.472	R216.33-12030-BS12K	3	12	50.5	73	71.00	12.0	☆	☆	☆
14	.551	R216.33-14030-BS14K	3	14	52.5	75	80.00	14.0	☆	☆	☆
16	.630	R216.33-16030-BS16K	3	16	58	82	90.00	16.0	☆	☆	☆
20	.787	R216.33-20030-BS20K	3	20	67	92	112.00	20.0	☆	☆	☆
		Weldon, Long									
6	.236	R216.34-06040-BC13K	4	6	39	57	25.00	13.0	☆	☆	☆
8	.315	R216.34-08040-BC19K	4	8	45	63	31.50	19.0	☆	☆	☆
10	.394	R216.34-10040-BC22K	4	10	52	72	40.00	22.0	☆	☆	☆
12	.472	R216.34-12040-BC26K	4	12	60.5	83	45.00	26.0	☆	☆	☆
14	.551	R216.34-14040-BC26K	4	14	60.5	83	56.00	26.0	☆	☆	☆
16	.630	R216.34-16040-BC32K	4	16	68	92	63.00	32.0	☆	☆	☆
18	.709	R216.34-18040-BC32K	4	18	68	92	71.00	32.0	☆	☆	☆
20	.787	R216.34-20040-BC38K	4	20	79	104	80.00	38.0	☆	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

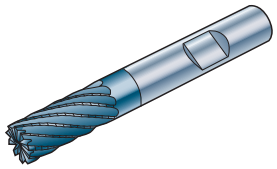
D350 D356 D229 G6 D2

SANDVIK Coromant

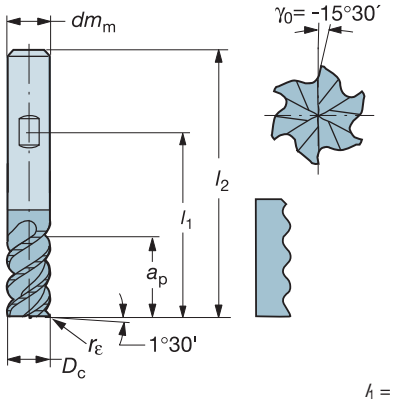
Roughing end mill

Centre cutting

Kordell



Helix angle: -45°
Tolerances: D_c: h12
dm_m: h6



l_1 = programming length

Metric version

D_c mm	D_c inch	Ordering code	z_n 3)	Dimensions, mm dm_m	l_1	l_2	r_ε	Helix l_{sh} mm 2)	Max a_p 1)	P GC 1640	M GC 1640	K GC 1640	S GC 1640
		Cylindrical shank											
16	.630	R216.36-16045ICC32K	6	16	68	92	4	63.00	32.0	☆	☆	☆	☆
16	.630	R216.36-16045ICK32K	6	16	68	112	4	63.00	32.0	☆	☆	☆	☆
20	.787	R216.36-20045ICC38K	6	20	79	104	4	80.00	38.0	☆	☆	☆	☆
20	.787	R216.36-20045ICK38K	6	20	79	130	4	80.00	38.0	☆	☆	☆	☆
25	.984	R216.38-25045ICC45K	8	25	89	121	4	80.00	45.0	☆	☆	☆	☆
25	.984	R216.38-25045ICK45K	8	25	89	156	4	80.00	45.0	☆	☆	☆	☆
		Weldon											
12	.472	R216.35-12045-BC28K	5	12	60.5	83		45.00	28.0	☆	☆	☆	☆
16	.630	R216.36-16045-BC32K	6	16	68	92		63.00	32.0	☆	☆	☆	☆
20	.787	R216.36-20045-BC38K	6	20	79	104		80.00	38.0	☆	☆	☆	☆
25	.984	R216.38-25045-BC45K	8	25	89	121		80.00	45.0	☆	☆	☆	☆

1) Maximum cutting edge length.

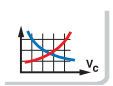
2) Pitch per rev.

3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117


D350

D356

D229

G6

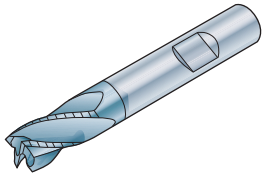
D2

Roughing end mill

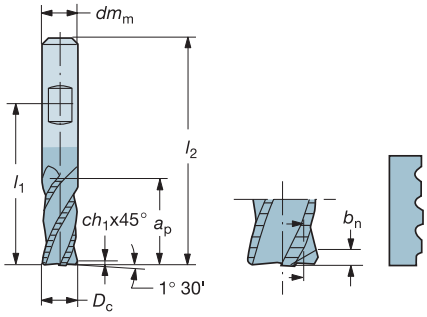
Centre cutting

Chip dividing

Kordell
Hardness <48HRc



Helix angle: -30°
Tolerances: D_c: h10
dm_m: h6



l_1 = programming length

Metric version

D_c mm	D_c inch	Ordering code	z_n 3)	Dimensions, mm dm_m	l_1	l_2	ch_1	b_n	Helix l_{sh} mm 2)	Max a_p 1)	S GC 1620
		Weldon									
6	.236	**R216.34-06030-BC13B**	4	6	39	57		0.25	35.50	13.0	☆
8	.315	**R216.34-08030-BC19B**	4	8	45	63		0.25	45.00	19.0	☆
10	.394	**R216.34-10030-BC22B**	4	10	52	72	0.10	0.25	56.00	22.0	☆
12	.472	**R216.34-12030-BC26B**	4	12	60.5	83	0.10	0.25	71.00	26.0	☆
14	.551	**R216.34-14030-BC26B**	4	14	60.5	83	0.15	0.35	80.00	26.0	☆
16	.630	**R216.34-16030-BC32B**	4	16	68	92	0.15	0.35	90.00	32.0	☆
18	.709	**R216.34-18030-BC32B**	4	18	68	92	0.15	0.35	100.00	32.0	☆
20	.787	**R216.34-20030-BC38B**	4	20	79	104	0.15	0.35	112.00	38.0	☆
25	.984	**R216.35-25030-BC45B**	5	25	93	125	0.15	0.35	140.00	45.0	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

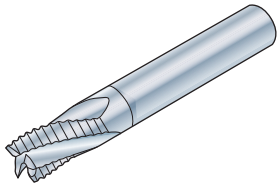
D350 D356 D229 G6 D2

Roughing end mill

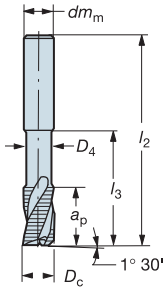
Centre cutting

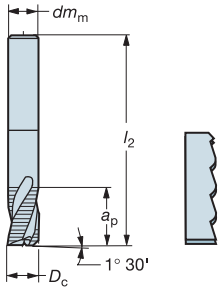
Roughing

Kordell design



Helix angle: -40°
Tolerances: D_c: h12
dm_m: h5





Metric version

D_c mm	D_c inch	Ordering code	z_n[3]	Dimensions, mm dm_m	l_2	l_3	D_4	Helix l_{sh} mm[2]	Max a_p[1]	N - H10F
		Cylindrical shank								
6	.236	**R216.33-06040-AC13U**	3	6	57			25.00	13.0	☆
8	.315	**R216.33-08040-AC19U**	3	8	63			31.50	19.0	☆
10	.394	**R216.33-10040-AC22U**	3	10	72			40.00	22.0	☆
12	.472	**R216.33-12040-AC26U**	3	12	83			45.00	26.0	☆
14	.551	**R216.33-14040-AC26U**	3	14	83			56.00	26.0	☆
16	.630	**R216.33-16040-AC32U**	3	16	92			63.00	32.0	☆
18	.709	**R216.33-18040-AC32U**	3	18	92			71.00	32.0	☆
20	.787	**R216.33-20040-AC38U**	3	20	104			80.00	38.0	☆
		Cylindrical shank, long								
6	.236	**R216.33-06040-AJ10U**	3	8	63	24	5.6	25.00	10.0	☆
8	.315	**R216.33-08040-AJ12U**	3	10	72	29	7.5	31.50	12.0	☆
10	.394	**R216.33-10040-AJ14U**	3	12	83	35	9.3	40.00	14.0	☆
12	.472	**R216.33-12040-AJ16U**	3	12	100	50	11.5	45.00	16.0	☆
16	.630	**R216.33-16040-AJ20U**	3	16	115	63	15.5	63.00	20.0	☆
20	.787	**R216.33-20040-AJ20U**	3	20	125	70	19.5	80.00	20.0	☆
25	.984	**R216.33-25040-AJ25U**	3	25	135	75	24	100.00	25.0	☆

1) Maximum cutting edge length.

2) Pitch per rev.

3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

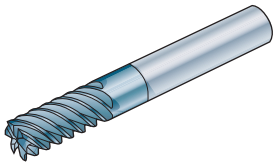
First choice: Use Plura Guide. Order number C-2948-117

D350 D356 D229 G6 D2

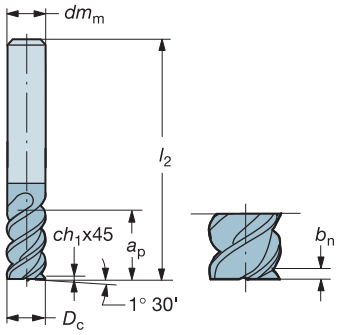
Finishing end mill

Non centre cutting

Hardness <48HRc



Helix angle: -50°
Tolerances: D_c: h7
dm_m: h5



Metric version

D_c mm	D_c inch	Ordering code	z_n[3]	Dimensions, mm dm_m	l_2	ch_1	b_n	Helix l_{sh} mm[2]	Max a_p[1]	P GC 1620	M GC 1620	K GC 1620	S GC 1620
		Cylindrical shank											
3	.118	**R215.34-03050-AC08L**	4	6	57	0.12	0.25	8.00	8.0	☆	☆	☆	☆
4	.158	**R215.34-04050-AC11L**	4	6	57	0.12	0.25	11.20	11.0	☆	☆	☆	☆
5	.197	**R215.35-05050-AC13L**	5	6	57	0.12	0.25	14.00	13.0	☆	☆	☆	☆
6	.236	**R215.36-06050-AC13L**	6	6	57	0.12	0.25	16.00	13.0	☆	☆	☆	☆
8	.315	**R215.36-08050-AC19L**	6	8	63	0.12	0.25	22.40	19.0	☆	☆	☆	☆
10	.394	**R215.36-10050-AC22L**	6	10	72	0.12	0.25	28.00	22.0	☆	☆	☆	☆
12	.472	**R215.36-12050-AC26L**	6	12	83	0.12	0.12	35.20	26.0	☆	☆	☆	☆
16	.630	**R215.36-16050-AC32L**	6	16	92	0.19	0.35	45.00	32.0	☆	☆	☆	☆
20	.787	**R215.38-20050-AC38L**	8	20	104	0.19	0.35	56.00	38.0	☆	☆	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

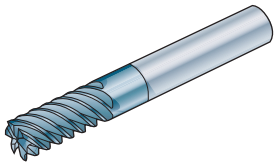
D350 D356 D229 G6 D2

SANDVIK Coromant

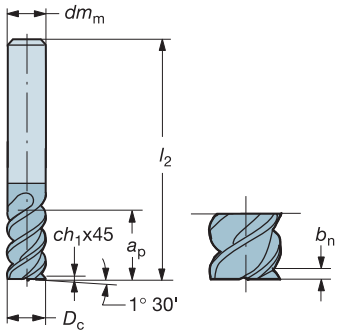
Finishing end mill

Non centre cutting

Hardness <48HRc



Helix angle: -60°
Tolerances: D_c: h10
dm_m: h6



Metric version

D_c mm	D_c inch	Ordering code	z_n[3]	Dimensions, mm dm_m	l_2	ch_1	b_n	Helix l_{sh} mm[2]	Max a_p[1]	P GC 1620	M GC 1620	K GC 1620	S GC 1620
		Cylindrical shank											
6	.236	**R215.36-06060-AC13L**	6	6	57	0.10	0.25	11.20	13.0	☆	☆	☆	☆
8	.315	**R215.36-08060-AC19L**	6	8	63	0.10	0.25	16.00	19.0	☆	☆	☆	☆
10	.394	**R215.36-10060-AC22L**	6	10	72	0.10	0.25	20.00	22.0	☆	☆	☆	☆
12	.472	**R215.36-12060-AC26L**	6	12	83	0.10	0.25	22.40	26.0	☆	☆	☆	☆
14	.551	**R215.36-14060-AC26L**	6	14	83	0.15	0.35	28.00	26.0	☆	☆	☆	☆
16	.630	**R215.36-16060-AC32L**	6	16	92	0.15	0.35	31.50	32.0	☆	☆	☆	☆
18	.709	**R215.36-18060-AC32L**	6	18	92	0.15	0.35	35.50	32.0	☆	☆	☆	☆
20	.787	**R215.36-20060-AC38L**	6	20	104	0.15	0.35	40.00	38.0	☆	☆	☆	☆

1) Maximum cutting edge length.

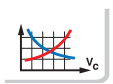
2) Pitch per rev.

3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117


D350

D356

D229

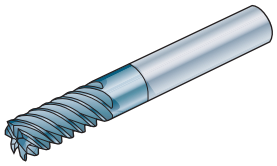
G6

D2

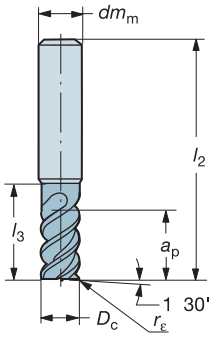
Finishing end mill

Non centre cutting

Hardness <48HRc



Helix angle: -50°
Tolerances: D_c: h10
dm_m: h6



Inch version

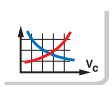
D_c mm	D_c inch	Ordering code	z_n3)	Dimensions, inch dm_m	l_2	l_3	r_ε	Helix l_{sh}2)	Max a_p1)	P GC 1620	M GC 1620	K GC 1620	S GC 1620
		Cylindrical shank with radius											
1.57	.062	**RA215.24-0450AAK13L**	4	.250	3.000	.250	.015	.007	.200	☆	☆	☆	☆
2.36	.093	**RA215.24-0650AAK18L**	4	.250	3.000	.375	.015	.010	.286	☆	☆	☆	☆
2.36	.093	**RA215.24-0650BAK18L**	4	.250	3.000	.375	.031	.010	.286	☆	☆	☆	☆
3.18	.125	**RA215.24-0850AAK06L**	4	.250	3.000	.500	.015	.014	.375	☆	☆	☆	☆
3.18	.125	**RA215.24-0850BAK06L**	4	.250	3.000	.500	.031	.014	.375	☆	☆	☆	☆
3.96	.156	**RA215.24-1050AAK08L**	4	.250	3.000	.625	.015	.017	.500	☆	☆	☆	☆
3.96	.156	**RA215.24-1050BAK08L**	4	.250	3.000	.625	.031	.017	.500	☆	☆	☆	☆
4.75	.187	**RA215.26-1250AAK09L**	6	.250	3.000	.750	.015	.022	.571	☆	☆	☆	☆
4.75	.187	**RA215.26-1250BAK09L**	6	.250	3.000	.750	.031	.022	.571	☆	☆	☆	☆
6.35	.250	**RA215.26-1650AAK12L**	6	.250	3.000		.015	.028	.750	☆	☆	☆	☆
6.35	.250	**RA215.26-1650BAK12L**	6	.250	3.000		.031	.028	.750	☆	☆	☆	☆
6.35	.250	**RA215.26-1650BAL18L**	6	.250	4.000		.031	.028	1.125	☆	☆	☆	☆
7.92	.312	**RA215.26-2050AAK15L**	6	.375	3.500	1.250	.015	.035	1.000	☆	☆	☆	☆
7.92	.312	**RA215.26-2050BAK15L**	6	.375	3.500	1.250	.031	.035	1.000	☆	☆	☆	☆
7.92	.312	**RA215.26-2050BAL23L**	6	.375	4.500	1.750	.031	.035	1.400	☆	☆	☆	☆
9.52	.375	**RA215.26-2450BAK18L**	6	.375	3.500		.031	.043	1.125	☆	☆	☆	☆
9.52	.375	**RA215.26-2450DAK18L**	6	.375	3.500		.062	.043	1.125	☆	☆	☆	☆
9.52	.375	**RA215.26-2450DAL27L**	6	.375	4.500		.062	.043	1.666	☆	☆	☆	☆
12.70	.500	**RA215.26-3250BAK24L**	6	.500	4.000		.031	.055	1.500	☆	☆	☆	☆
12.70	.500	**RA215.26-3250DAK24L**	6	.500	4.000		.062	.055	1.500	☆	☆	☆	☆
12.70	.500	**RA215.26-3250DAL36L**	6	.500	5.000		.062	.055	2.250	☆	☆	☆	☆
15.88	.625	**RA215.26-4050DAK30L**	6	.625	4.500		.062	.070	1.875	☆	☆	☆	☆
15.88	.625	**RA215.26-4050HAK30L**	6	.625	4.500		.125	.070	1.875	☆	☆	☆	☆
15.88	.625	**RA215.26-4050HAL45L**	6	.625	5.500		.125	.070	2.800	☆	☆	☆	☆
19.05	.750	**RA215.28-4850DAK36L**	8	.750	5.000		.062	.087	2.250	☆	☆	☆	☆
19.05	.750	**RA215.28-4850HAK36L**	8	.750	5.000		.125	.087	2.250	☆	☆	☆	☆
19.05	.750	**RA215.28-4850HAL54L**	8	.750	6.000		.125	.087	3.375	☆	☆	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117


D350

D356

D229

G6

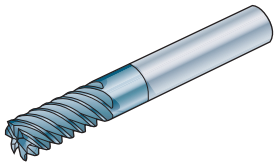
D2

SANDVIK Coromant

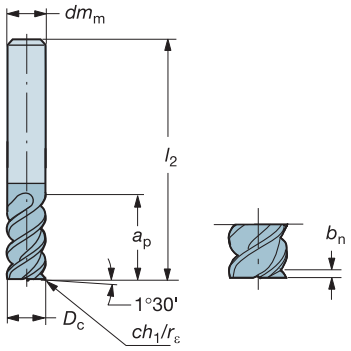
Finishing end mill

Non centre cutting

Hardness 43≤HRc≤63



Helix angle: -50°
Tolerances: D_c: h10
dm_m: h6



Metric version

D_c mm	D_c inch	Ordering code	z_n 3)	Dimensions, mm dm_m	l_2	ch_1	b_n	r_ε	Helix l_{sh} mm 2)	Max a_p 1)	P GC 1610	H GC 1610
		Cylindrical shank with radius										
3	.118	R215.24-03050BAC08H	4	6	57			0.5	10.00	8.0	☆	☆
4	.158	R215.24-04050BAC11H	4	6	57			0.5	14.00	11.0	☆	☆
6	.236	R215.26-06050BAC13H	6	6	57			0.5	20.00	13.0	☆	☆
8	.315	R215.26-08050BAC19H	6	8	63			0.5	28.00	19.0	☆	☆
10	.394	R215.26-10050CAC22H	6	10	72			1	31.50	22.0	☆	☆
10	.394	R215.26-10050DAC22H	6	10	72			1.5	31.50	22.0	☆	☆
10	.394	R215.26-10050EAC22H	6	10	72			2	31.50	22.0	☆	☆
12	.472	R215.26-12050CAC26H	6	12	83			1	35.50	26.0	☆	☆
16	.630	R215.26-16050DAC32H	6	16	92			1.5	56.00	32.0	☆	☆
20	.787	R215.28-20050DAC38H	8	20	104			1.5	63.00	38.0	☆	☆
		Cylindrical shank										
3	.118	R215.34-03050-AC08H	4	6	57				10.00	8.0	☆	☆
4	.158	R215.34-04050-AC11H	4	6	57	0.10	0.25		14.00	11.0	☆	☆
6	.236	R215.36-06050-AC13H	6	6	57	0.10	0.25		20.00	13.0	☆	☆
8	.315	R215.36-08050-AC19H	6	6	63	0.10	0.25		28.00	19.0	☆	☆
10	.394	R215.36-10050-AC22H	6	10	72	0.10	0.25		31.50	22.0	☆	☆
12	.472	R215.36-12050-AC26H	6	12	83	0.10	0.25		40.00	26.0	☆	☆
16	.630	R215.36-16050-AC32H	6	16	92	0.20	0.35		56.00	32.0	☆	☆
20	.787	R215.38-20050-AC38H	8	20	104	0.12	0.35		63.00	38.0	☆	☆

1) Maximum cutting edge length.

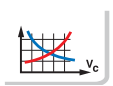
2) Pitch per rev.

3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117


D350

D356

D229

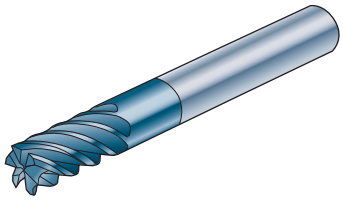
G6

D2

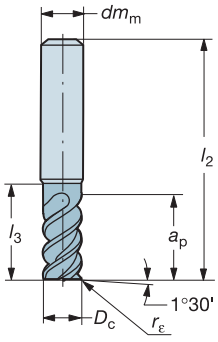
Finishing end mill

Non centre cutting

Hardness from 43HRc to 63HRc



Helix angle: -50°
Tolerances: D_c: h10
dm_m: h6



Inch version

D_c mm	D_c inch	Ordering code	z_n 3)	Dimensions, inch dm_m	l_2	l_3	r_ε	Helix l_{sh} 2)	Max a_p 1)	P GC 1610	H GC 1610
		Cylindrical shank with radius									
3.18	.125	**RA215.24-0850AAK04H**	4	.250	3.000	.500	.015	.014	.250	☆	☆
4.78	.188	**RA215.26-1250AAK06H**	6	.250	3.000	.750	.015	.022	.375	☆	☆
6.35	.250	**RA215.26-1650AAK08H**	6	.250	3.000		.015	.028	.500	☆	☆
9.52	.375	**RA215.26-2450BAK12H**	6	.375	3.500		.031	.043	.750	☆	☆
12.70	.500	**RA215.26-3250BAK16H**	6	.500	4.000		.031	.055	1.000	☆	☆
15.88	.625	**RA215.26-4050DAK20H**	6	.625	4.500		.062	.070	1.250	☆	☆
19.05	.750	**RA215.28-4850DAK24H**	8	.750	5.000		.062	.087	1.500	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

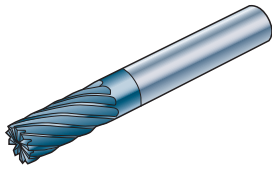
D350 D356 D229 G6 D2

SANDVIK Coromant

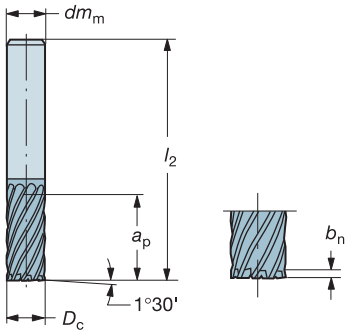
Finishing end mill

Non centre cutting

Hardness 43≤HRc≤63



Helix angle: -30°
Tolerances: D_c: h9
dm_m: h6



Metric version

D_c mm	D_c inch	Ordering code	z_n 3)	Dimensions, mm dm_m	l_2	b_n	Helix l_{sh} mm 2)	Max a_p 1)	P GC 1610	H GC 1610
		Cylindrical shank with radius								
5	.197	**R215.36-05030-AC13H**	6	6	57	0.25	28.00	13.0	☆	☆
6	.236	**R215.36-06030-AC13H**	6	6	57	0.25	35.50	13.0	☆	☆
8	.315	**R215.38-08030-AC19H**	8	8	63	0.25	45.00	19.0	☆	☆
10	.394	**R215.3A-10030-AC22H**	10	10	72	0.25	56.00	22.0	☆	☆
12	.472	**R215.3C-12030-AC26H**	12	12	83	0.25	71.00	26.0	☆	☆
14	.551	**R215.3E-14030-AC26H**	14	14	83	0.35	80.00	26.0	☆	☆
16	.630	**R215.3G-16030-AC32H**	16	16	92	0.35	90.00	32.0	☆	☆
20	.787	**R215.3G-20030-AC38H**	16	20	104	0.35	112.00	38.0	☆	☆

Inch version

D_c mm	D_c inch	Ordering code	z_n 3)	Dimensions, inch dm_m	l_2	ch_1	Helix l_{sh} 2)	Max a_p 1)	P GC 1610	H GC 1610
		Cylindrical shank with radius								
6.35	.250	**RA215.36-1630-AK08H**	6	.250	2.000	.015	.055	.500	☆	☆
9.52	.375	**RA215.3A-2430-AK12H**	10	.375	2.500	.015	.087	.750	☆	☆
12.70	.500	**RA215.3C-3230-AK16H**	12	.500	3.000	.015	.110	1.000	☆	☆
15.88	.625	**RA215.3G-4030-AK20H**	16	.625	3.500	.015	.140	1.250	☆	☆
19.05	.750	**RA215.3G-4830-AK24H**	16	.750	4.000	.015	.174	1.500	☆	☆

1) Maximum cutting edge length.

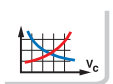
2) Pitch per rev.

3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

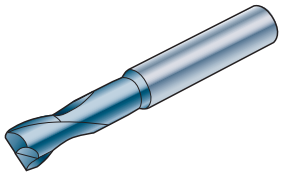
First choice: Use Plura Guide. Order number C-2948-117

 D350 D356 D229 G6 D2

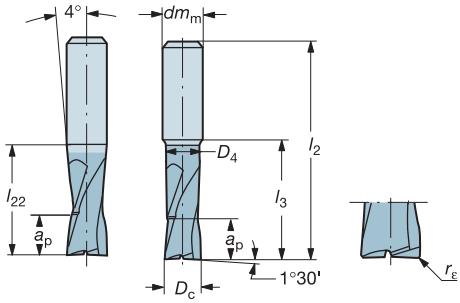
Corner radius end mill

Centre cutting

Hardness 43≤HRc≤63



Helix angle: -30°
Tolerances: D_c: h7
dm_m: h5



Metric version

D_c mm	D_c inch	Ordering code	z_n3)	Dimensions, mm dm_m	l_2	l_3	D_4	r_ε	Helix l_{sh} mm2)	Max a_p1)	P GC 1610	H GC 1610
		Cylindrical shank with radius										
2	.079	**R216.22-02030AAI20G**	2	6	57	18		0.2	11.20	2.0	☆	☆
2	.079	**R216.22-02030AAJ20G**	2	6	72	20	1.9	0.2	11.20	2.0	☆	☆
3	.118	**R216.22-03030BAI03G**	2	6	57	19		0.5	18.00	3.0	☆	☆
3	.118	**R216.22-03030AAJ03G**	2	6	75	20	2.9	0.3	18.00	3.0	☆	☆
4	.157	**R216.22-04030BAI04G**	2	6	57	20		0.5	22.40	4.0	☆	☆
4	.157	**R216.24-04030AAJ04G**	4	6	75	20	3.8	0.4	22.40	4.0	☆	☆
5	.197	**R216.22-05030BAI05G**	2	6	57	20	4.7	0.5	28.00	5.0	☆	☆
5	.197	**R216.24-05030BAJ05G**	4	6	72	20	4.7	0.5	28.00	5.0	☆	☆
6	.236	**R216.22-06030CAI06G**	2	8	57	21	5.7	1	35.50	6.0	☆	☆
6	.236	**R216.24-06030CAI06G**	4	8	57	21	5.7	1	35.50	6.0	☆	☆
6	.236	**R216.24-06030BAJ06G**	4	6	75	24	5.7	0.5	35.50	6.0	☆	☆
8	.315	**R216.22-08030CAI08G**	2	10	63	27	7.7	1	45.00	8.0	☆	☆
8	.315	**R216.24-08030CAI08G**	4	8	63	27	7.7	1	45.00	8.0	☆	☆
8	.315	**R216.24-08030BAJ08G**	4	8	80	29	7.7	0.5	45.00	8.0	☆	☆
8	.315	**R216.24-08030CAJ08G**	4	8	80	29	7.7	1	45.00	8.0	☆	☆
8	.315	**R216.24-08030DAJ08G**	4	8	80	29	7.7	1.5	45.00	8.0	☆	☆
10	.394	**R216.22-10030DAI10G**	2	12	72	32	9.7	1.5	56.00	10.0	☆	☆
10	.394	**R216.24-10030DAI10G**	4	10	72	32	9.7	1.5	56.00	10.0	☆	☆
10	.394	**R216.24-10030BAJ10G**	4	10	100	35	9.7	0.5	56.00	10.0	☆	☆
10	.394	**R216.24-10030CAJ10G**	4	10	100	35	9.7	1	56.00	10.0	☆	☆
12	.472	**R216.22-12030DAI12G**	2	12	83	36	11.7	1.5	71.00	12.0	☆	☆
12	.472	**R216.24-12030DAI12G**	4	12	83	36	11.7	1.5	71.00	12.0	☆	☆
12	.472	**R216.24-12030BAJ12G**	4	12	100	36	11.7	0.5	71.00	12.0	☆	☆
12	.472	**R216.24-12030CAJ12G**	4	12	100	36	11.7	1	71.00	12.0	☆	☆
12	.472	**R216.24-12030EAJ12G**	4	12	100	36	11.7	2	71.00	12.0	☆	☆
16	.630	**R216.24-16030EAI16G**	4	16	92	42	15.5	2	90.00	16.0	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

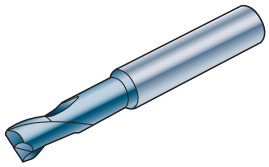
D350 D356 D229 G6 D2

SANDVIK Coromant

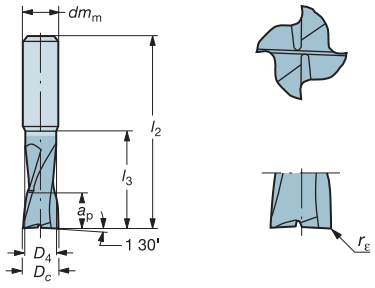
Corner radius end mill

Centre cutting

Hardness from 43HRc to 58HRc



Helix angle: -30°
Tolerances: D_c: h7
dm_m: h5



Inch version

D_c mm	D_c inch	Ordering code	z_n[3]	Dimensions, inch dm_m	l_2	l_3	D_4	$r_ε$	Helix l_{sh}[2]	Max a_p[1]	P GC 1610	H GC 1610
		Cylindrical shank										
3.18	.125	**RA216.24-0830BAK02G**	4	.250	3.000	.750	.120	.031	.028	.125	☆	☆
3.96	.156	**RA216.24-1030BAK02G**	4	.250	3.000	.750	.150	.031	.055	.156	☆	☆
4.78	.188	**RA216.24-1230DAK03G**	4	.250	3.000	.750	.182	.062	.043	.188	☆	☆
6.35	.250	**RA216.24-1630DAK04G**	4	.250	3.000	1.000	.242	.062	.055	.250	☆	☆
9.52	.375	**RA216.24-2430DAK06G**	4	.375	3.500	1.250	.365	.062	.087	.375	☆	☆
9.52	.375	**RA216.24-2430HAK06G**	4	.375	3.500	1.250	.365	.125	.087	.375	☆	☆
12.70	.500	**RA216.24-3230HAK08G**	4	.500	4.000	1.500	.485	.125	.110	.500	☆	☆

1) Maximum cutting edge length.

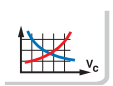
2) Pitch per rev.

3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117


D350

D356

D229

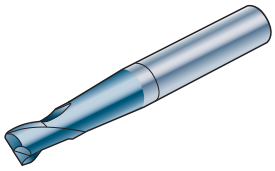
G6

D2

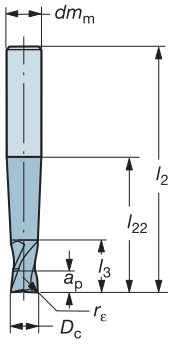
Corner radius end mill

Centre cutting

Hardness 43≤HRc≤63



Helix angle: -30°
Tolerances: D_c: h7
dm_m: h5



Metric version

D_c mm	D_c inch	Ordering code	z_n[3]	Dimensions, mm dm_m	l_2	l_3	l_{22}	r_ε	Helix l_{sh} mm[2]	Max a_p[1]	P GC 1610	H GC 1610
		Cylindrical shank with radius, extra long										
3	.118	**R216.22-03030BAP03G**	2	6	80	4	38.4	0.5	16.00	3.0	☆	☆
4	.157	**R216.22-04030BAP04G**	2	6	90	5	50.8	0.5	22.40	4.0	☆	☆
6	.236	**R216.22-06030BAP06G**	2	10	100	7	52.8	0.5	35.50	6.0	☆	☆
6	.236	**R216.24-06030CAP06G**	4	8	100	7	52.8	1	35.50	6.0	☆	☆
8	.315	**R216.24-08030CAP08G**	4	10	100	10	53.0	1	45.00	8.0	☆	☆
10	.394	**R216.24-10030CAP10G**	4	12	125	12	57.8	1	56.00	10.0	☆	☆
10	.394	**R216.24-10030GAP10G**	4	12	125	12	57.8	3	56.00	10.0	☆	☆
12	.472	**R216.24-12030CAP12G**	4	14	140	14	59.8	1	71.00	12.0	☆	☆
12	.472	**R216.24-12030GAP12G**	4	14	140	14	59.8	3	71.00	12.0	☆	☆
16	.630	**R216.24-16030CAP16G**	4	16	150	18	63.9	1	90.00	16.0	☆	☆
16	.630	**R216.24-16030GAP16G**	4	16	150	18	63.9	3	90.00	16.0	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

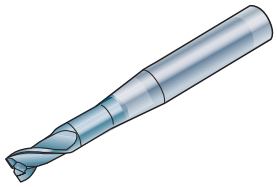
D350 D356 D229 G6 D2

SANDVIK Coromant

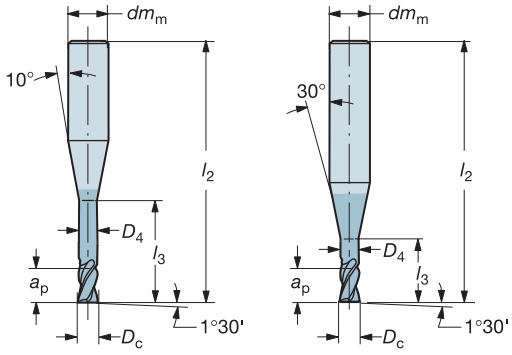
General purpose end mill

Centre cutting

Hardness <63 HRc



Helix angle: -30°
Tolerances: D_c: h10
dm_m: h6



Metric version

D_c mm	D_c inch	Ordering code	z_n 3)	Dimensions, mm dm_m	l_2	l_3	D_4	Helix l_{sh} mm2)	Max a_p 1)	P GC 1620	M GC 1620	K GC 1620	N GC 1620	S GC 1620	H GC 1620
		Cylindrical shank, 2.5 x D_c													
0.4	.016	R216.32-00430-AE04G	2	6	54	1	0.36	2.24	0.4	☆	☆	☆	☆	☆	☆
0.5	.020	R216.32-00530-AE05G	2	6	54	1.2	0.46	2.80	0.5	☆	☆	☆	☆	☆	☆
0.6	.024	R216.32-00630-AE06G	2	6	54	1.5	0.56	3.55	0.6	☆	☆	☆	☆	☆	☆
0.8	.032	R216.32-00830-AE08G	2	6	54	2	0.76	4.50	0.8	☆	☆	☆	☆	☆	☆
1	.039	R216.32-01030-AE10G	2	6	54	2.5	0.96	5.60	1.0	☆	☆	☆	☆	☆	☆
		Cylindrical shank, 5 x D_c													
0.5	.020	R216.32-00530-AI05G	2	6	57	2.5	0.46	2.80	0.5	☆	☆	☆	☆	☆	☆
0.6	.024	R216.32-00630-AI06G	2	6	57	3	0.56	3.55	0.6	☆	☆	☆	☆	☆	☆
0.8	.032	R216.32-00830-AI08G	2	6	57	4	0.76	4.50	0.8	☆	☆	☆	☆	☆	☆
1	.039	R216.32-01030-AI10G	2	6	57	5	0.96	5.60	1.0	☆	☆	☆	☆	☆	☆
		Cylindrical shank, 10 x D_c													
0.5	.020	R216.32-00530-AJ05G	2	6	57	5	0.46	2.80	0.5	☆	☆	☆	☆	☆	☆
0.6	.024	R216.32-00630-AJ06G	2	6	57	6	0.56	3.55	0.6	☆	☆	☆	☆	☆	☆
0.8	.032	R216.32-00830-AJ08G	2	6	57	8	0.76	4.50	0.8	☆	☆	☆	☆	☆	☆
1	.039	R216.32-01030-AJ10G	2	6	57	10	0.96	5.60	1.0	☆	☆	☆	☆	☆	☆

1) Maximum cutting edge length.

2) Pitch per rev.

3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

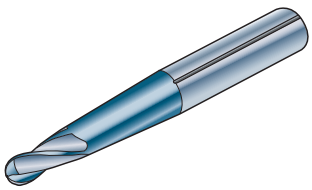
First choice: Use Plura Guide. Order number C-2948-117

D350 D356 D229 G6 D2

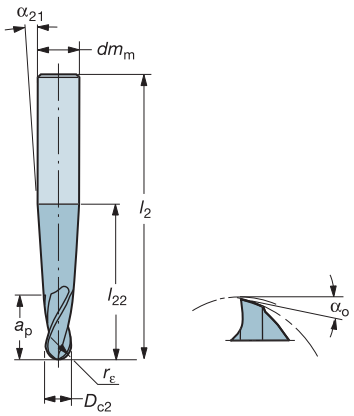
Conical ball nose end mill

Centre cutting

Spherical design



Helix angle: 40°

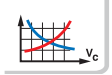


Metric version

			Dimensions, mm							P		M		K		N		S		H
										GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC
D_{c2}	**Ordering code**	z_n[1]	dm_m	l_2	l_{22}	r_ε	α^o	α_{21}	Max a_p	1620	1630	1620	1630	1620	1630	1620	1630	1620	1630	1620
	Cylindrical shank																			
4.0	**R216.52-04040RAL10G**	2	8.0	80	42.9	2.0	16°	3°	10.0		☆		☆		☆		☆		☆	
4.0	**R216.53-04040RAL40G**	3	8.0	80	39.6	2.0	16°	3°	40.0	☆		☆		☆		☆		☆		☆
6.0	**R216.52-06040RAL12G**	2	10.0	100	43.9	3.0	14°	3°	12.0		☆		☆		☆		☆		☆	
6.0	**R216.54-06040RAL40G**	4	10.0	100	40.6	3.0	14°	3°	40.0	☆		☆		☆		☆		☆		☆
8.0	**R216.53-08040RAL15G**	3	12.0	100	44.9	4.0	14°	3°	15.0		☆		☆		☆		☆		☆	
8.0	**R216.54-08040RAL40G**	4	12.0	100	40.6	4.0	14°	3°	40.0	☆		☆		☆		☆		☆		☆
10.0	**R216.53-10040RAL18G**	3	14.0	115	45.9	5.0	12°	3°	18.0		☆		☆		☆		☆		☆	
10.0	**R216.54-10040RAL40G**	4	14.0	115	42.6	5.0	12°	3°	40.0	☆		☆		☆		☆		☆		☆
12.0	**R216.53-12040RAL20G**	3	16.0	115	46.8	6.0	12°	3°	20.0		☆		☆		☆		☆		☆	
12.0	**R216.54-12040RAL42G**	4	16.0	115	43.5	6.0	12°	3°	42.0	☆		☆		☆		☆		☆		☆
16.0	**R216.53-16040RAL22G**	3	20.0	125	48.8	8.0	12°	3°	22.0		☆		☆		☆		☆		☆	
16.0	**R216.54-16040RAL45G**	4	20.0	125	46.0	8.0	12°	3°	45.0	☆		☆		☆		☆		☆		☆

[1] z_n = total number of cutting edges

For cutting data and tool recommendation, please consult PluraGuide (C-2948-117).


D350

D356

D229

G6

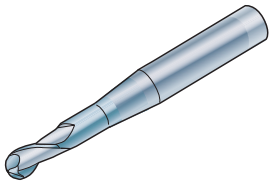
D2

SANDVIK Coromant

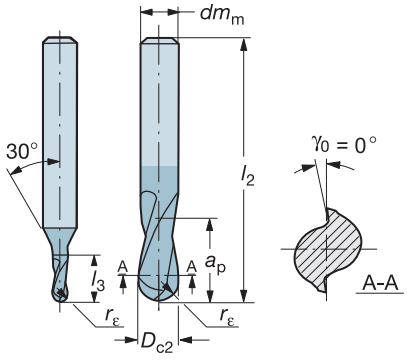
Ball nose end mill

Centre cutting

Hardness 43HRc to 63HRc



Helix angle: -30°
Tolerances: D_{c2} : h7
dm_m : h5



Inch version

D_{c2} mm	D_{c2} inch	Ordering code	z_n[2]	Dimensions, inch dm_m	l_2	l_3	r_ε	Max a_p[1]	P GC 1610	H GC 1610
		Cylindrical shank								
1.57	.062	**RA216.42-0430-AK08G**	2	.250	3.000	.250	.031	.125	☆	☆
2.36	.093	**RA216.42-0630-AK12G**	2	.250	3.000	.375	.046	.187	☆	☆
3.18	.125	**RA216.42-0830-AK04G**	2	.250	3.000	.500	.062	.250	☆	☆
3.96	.156	**RA216.42-1030-AK05G**	2	.250	3.000	.650	.078	.312	☆	☆
4.75	.187	**RA216.42-1230-AK06G**	2	.250	3.000	.750	.093	.375	☆	☆
6.35	.250	**RA216.42-1630-AK08G**	2	.250	3.000		.125	.500	☆	☆
7.92	.312	**RA216.42-2030-AK10G**	2	.375	3.500	1.250	.156	.625	☆	☆
9.53	.375	**RA216.42-2430-AK12G**	2	.375	3.500		.188	.750	☆	☆
12.70	.500	**RA216.42-3230-AK16G**	2	.500	4.000		.250	1.000	☆	☆

1) Maximum cutting edge length.

2) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

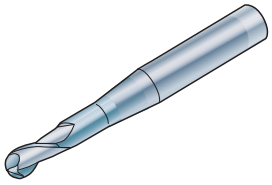
First choice: Use Plura Guide. Order number C-2948-117

D350 D356 D229 G6 D2

Ball nose end mill

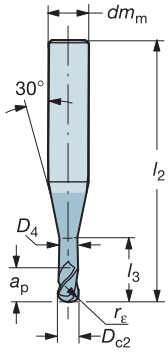
Centre cutting

Hardness <63 HRc

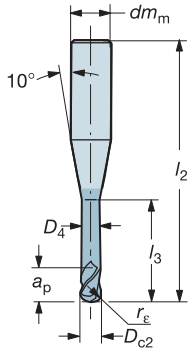


Helix angle: -30°
Tolerances: D_{c2} : h7
dm_m : h5

2.5 - 5 x D_c



10 x D_c



Metric version

D_{c2} mm	D_{c2} inch	Ordering code	z_n3)	Dimensions, mm dm_m	l_2	l_3	D_4	r_ε	Helix l_{sh} mm2)	Max a_p1)	P GC 1620	M GC 1620	K GC 1620	N GC 1620	S GC 1620	H GC 1620
		Cylindrical shank, 2.5 x D_c														
0.4	.016	R216.42-00430-AE04G	2	6	54	1	0.36	0.2	2.24	0.3	☆	☆	☆	☆	☆	☆
0.5	.020	R216.42-00530-AE05G	2	6	54	1.2	0.46	0.25	2.80	0.5	☆	☆	☆	☆	☆	☆
0.6	.024	R216.42-00630-AE06G	2	6	54	1.5	0.56	0.3	3.55	0.6	☆	☆	☆	☆	☆	☆
0.8	.032	R216.42-00830-AE08G	2	6	54	2	0.76	0.4	4.50	0.8	☆	☆	☆	☆	☆	☆
1	.039	R216.42-01030-AE10G	2	6	54	2.5	0.96	0.5	5.60	1.0	☆	☆	☆	☆	☆	☆
		Cylindrical shank, 10 x D_c														
0.5	.020	R216.42-00530-AJ05G	2	6	57	5	0.46	0.25	2.80	0.5	☆	☆	☆	☆	☆	☆
0.6	.024	R216.42-00630-AJ06G	2	6	57	3	0.56	0.3	3.55	0.6	☆	☆	☆	☆	☆	☆
0.8	.032	R216.42-00830-AJ08G	2	6	57	4	0.76	0.4	4.50	0.8	☆	☆	☆	☆	☆	☆
1	.039	R216.42-01030-AJ10G	2	6	57	10	0.96	0.5	5.60	1.0	☆	☆	☆	☆	☆	☆
		Cylindrical shank, 5 x D_c														
0.5	.020	R216.42-00530-AO05G	2	6	57	2.5	0.46	0.25	2.80	0.5	☆	☆	☆	☆	☆	☆
0.6	.024	R216.42-00630-AO06G	2	6	57	3	0.56	0.3	3.55	0.6	☆	☆	☆	☆	☆	☆
0.8	.032	R216.42-00830-AO08G	2	6	57	4	0.76	0.4	4.50	0.8	☆	☆	☆	☆	☆	☆
1	.039	R216.42-01030-AO10G	2	6	57	10	0.96	0.5	5.60	1.0	☆	☆	☆	☆	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

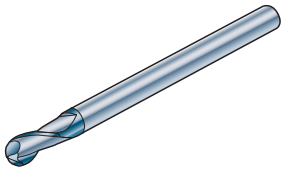
D350 D356 D229 G6 D2

SANDVIK Coromant

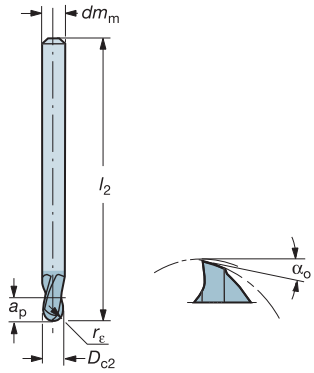
Ball nose end mill

Centre cutting

Hardness 43≤HRc≤63



Helix angle: -30°
Tolerances: dm_m: h5
D_{c2}: h7



Metric version

D_{c2} mm	D_{c2} inch	Ordering code	z_n[3]	Dimensions, mm dm_m	l_2	r_ε	Helix l_{sh} mm[2]	α^o	Max a_p[1]	P - P10	M - P10	K - P10	N - P10	S - P10	H - P10
		Cylindrical shank													
3	.118	**R216.42-03030-AQ05G**	2	3	100	1.5	18.00	20	5.0	☆	☆	☆	☆	☆	☆
4	.157	**R216.42-04030-AQ06G**	2	4	100	2	22.40	14	6.0	☆	☆	☆	☆	☆	☆
6	.236	**R216.42-06030-AQ09G**	2	6	125	3	35.50	14	9.0	☆	☆	☆	☆	☆	☆
8	.315	**R216.42-08030-AQ12G**	2	8	150	4	45.00	14	12.0	☆	☆	☆	☆	☆	☆
10	.394	**R216.42-10030-AQ15G**	2	10	150	5	56.00	12	15.0	☆	☆	☆	☆	☆	☆
12	.472	**R216.42-12030-AQ18G**	2	12	150	6	71.00	12	18.0	☆	☆	☆	☆	☆	☆

1) Maximum cutting edge length.

2) Pitch per rev.

3) z_n = total number of cutting edges

Plura Guide

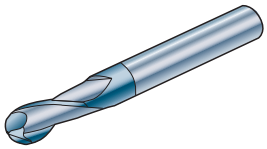
Cutting data
First choice: Use Plura Guide. Order number C-2948-117

D350 D356 D229 G6 D2

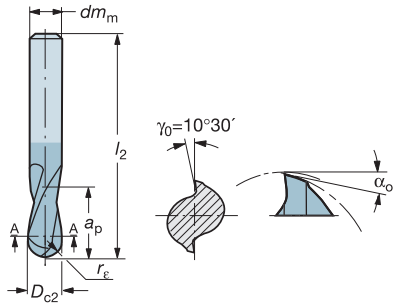
Ball nose end mill

Centre cutting

Hardness <48HRc



Helix angle: -30°
Tolerances: D_{c2} : h7
dm_m : h5



Metric version

D_{c2} mm	D_{c2} inch	Ordering code	z_n3)	Dimensions, mm dm_m	l_2	r_ε	Helix l_{sh} mm2)	α^o	Max a_p1)	P GC 1620	M GC 1620	K GC 1620	S GC 1620
		Cylindrical shank											
1	.039	**R216.42-01030-AC30P**	2	6	57	0.5	5.60	20	3.0	☆	☆	☆	☆
1.5	.059	**R216.42-01530-AC30P**	2	6	57	0.75	9.00	20	3.0	☆	☆	☆	☆
2	.079	**R216.42-02030-AC60P**	2	6	57	1	11.20	20	6.0	☆	☆	☆	☆
2.5	.098	**R216.42-02530-AC70P**	2	6	57	1.25	14.00	20	7.0	☆	☆	☆	☆
3	.118	**R216.42-03030-AC07P**	2	6	57	1.5	16.00	20	7.0	☆	☆	☆	☆
4	.157	**R216.42-04030-AC08P**	2	6	57	2	22.40	14	8.0	☆	☆	☆	☆
5	.197	**R216.42-05030-AC10P**	2	6	57	2.5	28.00	14	10.0	☆	☆	☆	☆
6	.236	**R216.42-06030-AC10P**	2	6	57	3	35.50	14	10.0	☆	☆	☆	☆
7	.276	**R216.42-07030-AC13P**	2	8	63	3.5	40.00	14	13.0	☆	☆	☆	☆
8	.315	**R216.42-08030-AC16P**	2	8	63	4	45.00	14	16.0	☆	☆	☆	☆
9	.354	**R216.42-09030-AC16P**	2	10	72	4.5	50.00	12	16.0	☆	☆	☆	☆
10	.394	**R216.42-10030-AC19P**	2	10	72	5	56.00	12	19.0	☆	☆	☆	☆
12	.472	**R216.42-12030-AC22P**	2	12	83	6	71.00	12	22.0	☆	☆	☆	☆
14	.551	**R216.42-14030-AC22P**	2	14	83	7	80.00	12	22.0	☆	☆	☆	☆
16	.630	**R216.42-16030-AC26P**	2	16	92	8	90.00	12	26.0	☆	☆	☆	☆
18	.709	**R216.42-18030-AC26P**	2	18	92	9	100.00	12	26.0	☆	☆	☆	☆
20	.787	**R216.42-20030-AC32P**	2	20	104	10	112.00	10	32.0	☆	☆	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

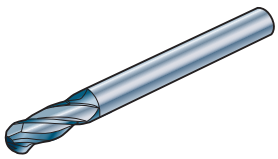
D350 D356 D229 G6 D2

SANDVIK Coromant

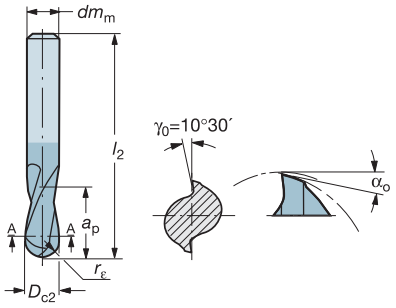
Ball nose end mill

Centre cutting

Hardness <48HRc



Helix angle: -30°
Tolerances: D_{c2} : h7
dm_m : h5



Metric version

D_{c2} mm	D_{c2} inch	Ordering code	z_n 3)	Dimensions, mm dm_m	l_2	r_ε	Helix l_{sh} mm 2)	α^o	Max a_p 1)	P GC 1620	M GC 1620	K GC 1620	S GC 1620
		Cylindrical shank											
3	.118	**R216.44-03030-AK08N**	4	6	80	1.5	16.00	20	8.0	☆	☆	☆	☆
4	.158	**R216.44-04030-AK11N**	4	6	80	2	22.40	14	11.0	☆	☆	☆	☆
5	.197	**R216.44-05030-AK13N**	4	6	80	2.5	28.00	14	13.0	☆	☆	☆	☆
6	.236	**R216.44-06030-AK13N**	4	6	80	3	35.50	14	13.0	☆	☆	☆	☆
7	.276	**R216.44-07030-AK16N**	4	8	100	3.5	40.00	14	16.0	☆	☆	☆	☆
8	.315	**R216.44-08030-AK19N**	4	8	100	4	45.00	14	19.0	☆	☆	☆	☆
9	.354	**R216.44-09030-AK19N**	4	10	100	4.5	50.00	12	19.0	☆	☆	☆	☆
10	.394	**R216.44-10030-AK22N**	4	10	100	5	56.00	12	22.0	☆	☆	☆	☆
12	.472	**R216.44-12030-AK26N**	4	12	100	6	71.00	12	26.0	☆	☆	☆	☆
16	.630	**R216.44-16030-AK32N**	4	16	100	8	90.00	12	32.0	☆	☆	☆	☆
20	.787	**R216.44-20030-AK38N**	4	20	125	10	112.00	10	38.0	☆	☆	☆	☆

Inch version

D_{c2} mm	D_{c2} inch	Ordering code	z_n 3)	Dimensions, inch dm_m	l_2	r_ε	Helix l_{sh} mm 2)	α^o	Max a_p 1)	P GC 1620	M GC 1620	K GC 1620	N GC 1620	S GC 1620	H GC 1620
		Cylindrical shank													
1.57	.062	**RA216.44-0430-AK08N**	4	.250	3.000	.031	.014	20	.125	☆	☆	☆	☆	☆	☆
2.36	.093	**RA216.44-0630-AK12N**	4	.250	3.000	.046	.022	20	.187	☆	☆	☆	☆	☆	☆
3.18	.125	**RA216.44-0830-AK04N**	4	.250	3.000	.062	.028	20	.250	☆	☆	☆	☆	☆	☆
3.96	.156	**RA216.44-1030-AK05N**	4	.250	3.000	.078	.035	14	.312	☆	☆	☆	☆	☆	☆
4.75	.187	**RA216.44-1230-AK06N**	4	.250	3.000	.093	.043	14	.375	☆	☆	☆	☆	☆	☆
6.35	.250	**RA216.44-1630-AK08N**	4	.250	3.000	.125	.055	14	.500	☆	☆	☆	☆	☆	☆
7.92	.312	**RA216.44-2030-AK10N**	4	.375	3.500	.156	.070	14	.625	☆	☆	☆	☆	☆	☆
9.52	.375	**RA216.44-2430-AK12N**	4	.375	3.500	.187	.087	12	.750	☆	☆	☆	☆	☆	☆
12.70	.500	**RA216.44-3230-AK16N**	4	.500	4.000	.250	.110	12	1.000	☆	☆	☆	☆	☆	☆

1) Maximum cutting edge length.

2) Pitch per rev.

3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

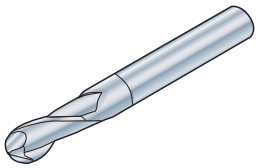
Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

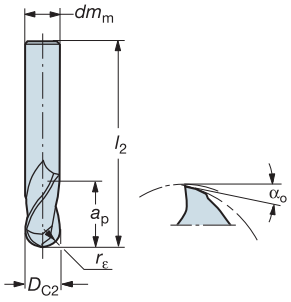
D350 D356 D229 G6 D2

Ball nose end mill

Centre cutting



Helix angle: -30°
Tolerances: D_{c2}: h9
dm_m: h5



Metric version

D_{c2} mm	D_{c2} inch	Ordering code	z_n[3]	Dimensions, mm dm_m	l_2	r_ε	Helix l_{sh} mm[2]	α^o	Max a_p[1]	N - H10F
		Cylindrical shank								
2	.079	**R216.42-02030-AK60A**	2	6	60	1	11.20	20	6.0	☆
3	.118	**R216.42-03030-AK07A**	2	6	80	1.5	18.00	20	7.0	☆
4	.158	**R216.42-04030-AK08A**	2	6	80	2	22.40	14	8.0	☆
5	.197	**R216.42-05030-AK10A**	2	6	80	2.5	28.00	14	10.0	☆
6	.236	**R216.42-06030-AK10A**	2	6	80	3	35.50	14	10.0	☆
8	.315	**R216.42-08030-AK16A**	2	8	100	4	45.00	14	16.0	☆
10	.394	**R216.42-10030-AK19A**	2	10	100	5	56.00	12	19.0	☆
12	.472	**R216.42-12030-AK22A**	2	12	100	6	71.00	12	22.0	☆
16	.630	**R216.42-16030-AK26A**	2	16	100	8	90.00	12	26.0	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

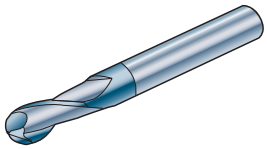
D350 D356 D229 G6 D2

SANDVIK Coromant

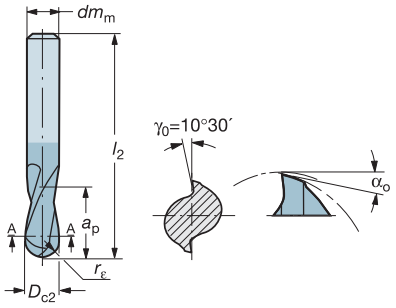
Ball nose end mill

Centre cutting

Hardness <48HRc



Helix angle: -30°
Tolerances: D_{c2} : h7
dm_m : h5



Inch version

D_{c2} mm	D_{c2} inch	Ordering code	z_n[3]	Dimensions, inch dm_m	l_2	r_ε	Helix l_{sh}[2]	α^o	Max a_p[1]	P GC 1620	M GC 1620	K GC 1620	N GC 1620	S GC 1620	H GC 1620
		Cylindrical shank, long													
1.57	.062	RA216.42-0430-AK08P	2	.250	3.000	.031	.014	20	.125	☆	☆	☆	☆	☆	☆
2.36	.093	RA216.42-0630-AK12P	2	.250	3.000	.046	.022	20	.187	☆	☆	☆	☆	☆	☆
3.18	.125	RA216.42-0830-AK04P	2	.250	3.000	.062	.028	20	.250	☆	☆	☆	☆	☆	
3.96	.156	RA216.42-1030-AK05P	2	.250	3.000	.078	.035	14	.312	☆	☆	☆	☆	☆	☆
4.75	.187	RA216.42-1230-AK06P	2	.250	3.000	.093	.043	14	.375	☆	☆	☆	☆	☆	☆
6.35	.250	RA216.42-1630-AK08P	2	.250	3.000	.125	.055	14	.500	☆	☆	☆	☆	☆	☆
7.92	.312	RA216.42-2030-AK10P	2	.375	3.500	.156	.070	14	.625	☆	☆	☆	☆	☆	☆
9.52	.375	RA216.42-2430-AK12P	2	.375	3.500	.187	.087	12	.750	☆	☆	☆	☆	☆	☆
12.70	.500	RA216.42-3230-AK16P	2	.500	4.000	.250	.110	12	1.000	☆	☆	☆	☆	☆	☆
		Cylindrical shank, short													
1.57	.062	RA216.42-0430-AS08P	2	.250	2.000	.031	.014	20	.125	☆	☆	☆	☆	☆	☆
2.36	.093	RA216.42-0630-AS12P	2	.250	2.000	.046	.022	20	.187	☆	☆	☆	☆	☆	
3.18	.125	RA216.42-0830-AS04P	2	.250	2.000	.062	.028	20	.250	☆	☆	☆	☆	☆	☆
3.96	.156	RA216.42-1030-AS05P	2	.250	2.000	.078	.035	14	.312	☆	☆	☆	☆	☆	☆
4.75	.187	RA216.42-1230-AS06P	2	.250	2.000	.093	.043	14	.375	☆	☆	☆	☆	☆	☆
6.35	.250	RA216.42-1630-AS08P	2	.250	2.000	.125	.055	14	.500	☆	☆	☆	☆	☆	☆
7.92	.312	RA216.42-2030-AS10P	2	.375	2.500	.156	.070	14	.625	☆	☆	☆	☆	☆	☆
9.52	.375	RA216.42-2430-AS12P	2	.375	2.500	.187	.087	12	.750	☆	☆	☆	☆	☆	☆
12.70	.500	RA216.42-3230-AS16P	2	.500	3.000	.250	.110	12	1.000	☆	☆	☆	☆	☆	☆

1) Maximum cutting edge length.

2) Pitch per rev.

3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

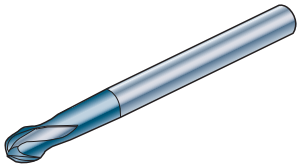
D350 D356 D229 G6 D2

Ball nose end mill

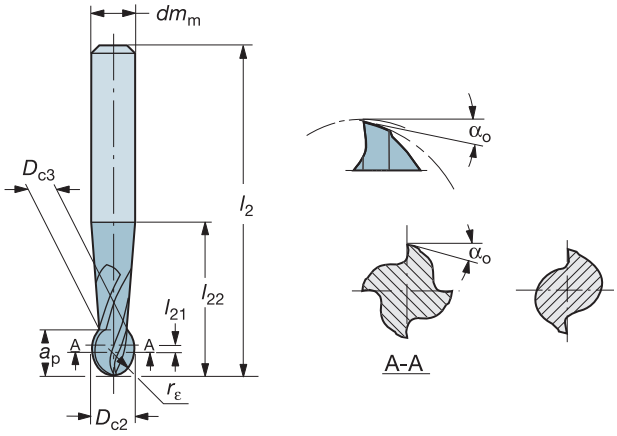
Centre cutting

Hardness 43≤HRc≤63

Spherical design



Helix angle: -30°
Tolerances: D_{c2} : h7
dm_m : h5



Metric version

D_{c2} mm	D_{c2} inch	Ordering code	z_n 3)	Dimensions, mm dm_m	D_{c3}	l_2	l_{21}	l_{22}	r_ε	Helix l_{sh} mm 2)	α^o	Max a_p 1)	P GC 1610	H GC 1610
		Cylindrical shank												
1	.039	**R216.62-01030-AO20G**	2	6		75	1.5	20	0.5	5.60	20	2.0	☆	☆
2	.079	**R216.62-02030-AO30G**	2	6	1.7	75	1.5	20	1	11.20	20	3.0	☆	☆
3	.118	**R216.62-03030-AO04G**	2	6	2.5	80	1.5	30	1.5	16.00	20	4.0	☆	☆
4	.157	**R216.62-04030-AO05G**	2	6	3.3	80	1.5	30	2	22.40	14	5.0	☆	☆
5	.197	**R216.62-05030-AO07G**	2	6	4.1	80	2	43	2.5	28.00	14	7.0	☆	☆
5	.197	**R216.64-05030-AO07G**	4	6	4.1	80	2	43	2.5	28.00	14	7.0	☆	☆
6	.236	**R216.62-06030-AO07G**	2	6	4.7	100	2	30	3	35.50	14	7.0	☆	☆
6	.236	**R216.64-06030-AO07G**	4	6	4.7	100	2	30	3	35.50	14	7.0	☆	☆
8	.315	**R216.62-08030-AO09G**	2	8	6.5	100	3	36	4	45.00	14	9.0	☆	☆
8	.315	**R216.64-08030-AO09G**	4	8	6.5	100	3	36	4	45.00	14	9.0	☆	☆
10	.394	**R216.62-10030-AO11G**	2	10	8.2	100	3	43	5	56.00	12	11.0	☆	☆
10	.394	**R216.64-10030-AO11G**	4	10	8.2	100	3	43	5	56.00	12	11.0	☆	☆
12	.472	**R216.62-12030-AO13G**	2	12	9.8	100	3	52	6	71.00	12	13.0	☆	☆
12	.472	**R216.64-12030-AO13G**	4	12	9.8	100	3	52	6	71.00	12	13.0	☆	☆
16	.630	**R216.62-16030-AO15G**	2	16	13.4	150	3	61	8	90.00	12	15.0	☆	☆
16	.630	**R216.64-16030-AO15G**	4	16	13.4	150	3	61	8	90.00	12	15.0	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

D350 D356 D229 G6 D2

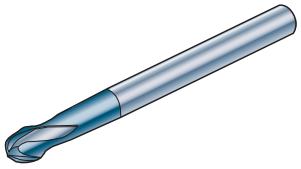
SANDVIK Coromant

Ball nose end mill

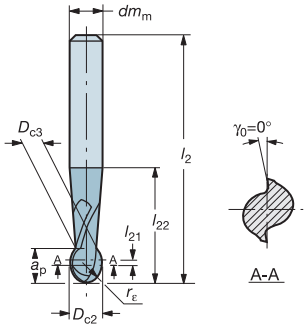
Centre cutting

Hardness 43HRc to 63HRc

Spherical design



Helix angle: -30°
Tolerances: D_{c2} : h9
dm_m : h6



Inch version

D_{c2} mm	D_{c2} inch	Ordering code	z_n 3)	Dimensions, inch dm_m	D_{c3}	l_2	l_{21}	l_{22}	r_ε	Helix l_{sh} 2)	Max a_p 1)	P GC 1610	H GC 1610
		Cylindrical shank											
1.57	.062	**RA216.62-0430-AK04G**	2	.250	.046	3.000		.125	.031	.014	.062	☆	☆
2.36	.093	**RA216.62-0630-AK06G**	2	.250	.078	3.000		.187	.046	.022	.093	☆	☆
3.18	.125	**RA216.62-0830-AK02G**	2	.250	.109	3.000		.250	.062	.028	.125	☆	☆
3.96	.156	**RA216.62-1030-AK02G**	2	.250	.140	3.000		.312	.078	.035	.156	☆	☆
4.75	.187	**RA216.62-1230-AK03G**	2	.250	.156	3.000		.375	.093	.043	.187	☆	☆
6.35	.250	**RA216.62-1630-AK04G**	2	.250	.203	3.000		.500	.125	.055	.250	☆	☆
7.92	.312	**RA216.62-2030-AK07G**	2	.375	.250	3.500	.125	.625	.156	.070	.437	☆	☆
9.52	.375	**RA216.62-2430-AK08G**	2	.375	.343	3.500	.125	.750	.187	.087	.500	☆	☆
12.70	.500	**RA216.62-3230-AK10G**	2	.500	.406	4.000	.125	1.000	.250	.110	.625	☆	☆

1) Maximum cutting edge length.

2) Pitch per rev.

3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

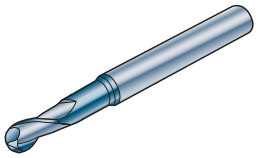
First choice: Use Plura Guide. Order number C-2948-117

D350 D356 D229 G6 D2

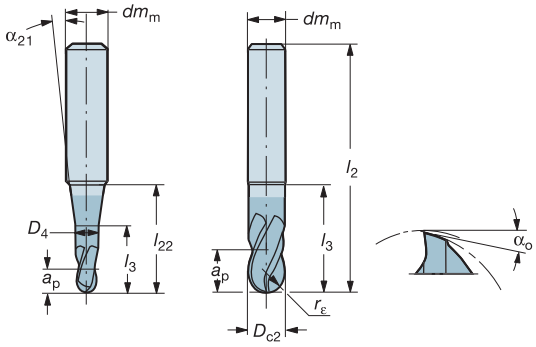
Ball nose end mill

Centre cutting

Hardness 43≤HRc≤63



Helix angle: -30°
Tolerances: D_{c2} : h7
dm_m : h5



Metric version

D_{c2} mm	D_{c2} inch	Ordering code	z_n[3]	Dimensions, mm dm_m	l_2	l_3	l_{22}	D_4	r_ε	Helix l_{sh} mm[2]	α^o	α_{21}	Max a_p[1]	P GC 1610	P GC 1620	M GC 1620	K GC 1620	N GC 1620	S GC 1620	H GC 1610	H GC 1620
		Cylindrical shank																			
1	.039	R216.42-01030-AI10G	2	6	57	2	20		0.5	5.60	20	4°	1.0	☆	☆	☆	☆	☆	☆	☆	☆
1.5	.059	R216.42-01530-AI15G	2	6	57	3	20		0.75	9.00	20	4°	1.5	☆						☆	
2	.079	R216.42-02030-AI20G	2	6	57	4	20		1	11.20	20	4°	2.0	☆	☆	☆	☆	☆	☆	☆	☆
2.5	.098	R216.42-02530-AI25G	2	6	57	4	20		1.25	14.00	20	4°	2.5	☆						☆	
3	.118	R216.42-03030-AI03G	2	6	57	5	20		1.5	16.00	20	4°	3.0	☆	☆	☆	☆	☆	☆	☆	☆
4	.157	R216.42-04030-AI04G	2	6	57	6	20		2	22.40	14	4°	4.0	☆	☆	☆	☆	☆	☆	☆	☆
5	.197	R216.42-05030-AI05G	2	6	57	20		4.7	2.5	28.00	14	4°	5.0	☆	☆	☆	☆	☆	☆	☆	☆
6	.236	R216.42-06030-AI06G	2	8	57	21		5.7	3	35.50	14	4°	6.0	☆	☆	☆	☆	☆	☆	☆	☆
8	.315	R216.42-08030-AI08G	2	8	63	27		7.7	4	45.00	14	4°	8.0	☆	☆	☆	☆	☆	☆	☆	☆
10	.394	R216.42-10030-AI10G	2	10	72	32		9.7	5	56.00	12	4°	10.0	☆	☆	☆	☆	☆	☆	☆	☆
12	.472	R216.42-12030-AI12G	2	12	83	36		11.7	6	71.00	12	4°	12.0	☆	☆	☆	☆	☆	☆	☆	☆
		Cylindrical shank, long																			
1	.039	R216.42-01030-AP10G	2	6	80	2			0.5	5.60	20	2°30'	1.0	☆	☆	☆	☆	☆	☆	☆	☆
2	.079	R216.42-02030-AP20G	2	6	80	3			1	11.20	20	2°30'	2.0	☆	☆	☆	☆	☆	☆	☆	☆
3	.118	R216.42-03030-AP03G	2	6	80	4			1.5	18.00	20	2°30'	3.0	☆	☆	☆	☆	☆	☆	☆	☆
4	.157	R216.42-04030-AP04G	2	8	90	5			2	22.40	14	2°30'	4.0	☆	☆	☆	☆	☆	☆	☆	☆
5	.197	R216.42-05030-AP05G	2	8	100	6			2.5	28.00	14	2°30'	5.0	☆	☆	☆	☆	☆	☆	☆	☆
6	.236	R216.42-06030-AP06G	2	10	100	7			3	35.50	14	2°30'	6.0	☆	☆	☆	☆	☆	☆	☆	☆
8	.315	R216.42-08030-AP08G	2	12	100	10			4	45.00	14	2°30'	8.0	☆	☆	☆	☆	☆	☆	☆	☆
10	.394	R216.42-10030-AP10G	2	14	125	12			5	56.00	12	2°30'	10.0	☆	☆	☆	☆	☆	☆	☆	☆
12	.472	R216.42-12030-AP12G	2	16	140	14			6	71.00	12	2°30'	12.0	☆	☆	☆	☆	☆	☆	☆	☆
6	.236	R216.44-06030-AI06G	4	8	57	20			3	35.50	14	4°	6.0	☆						☆	
8	.315	R216.44-08030-AI08G	4	8	63	26			4	45.00	14	4°	8.0	☆						☆	
10	.394	R216.44-10030-AI10G	4	10	72	30			5	56.00	12	4°	10.0	☆						☆	
12	.472	R216.44-12030-AI12G	4	12	83	36			6	71.00	12	4°	12.0	☆						☆	
16	.630	R216.44-16030-AI16G	4	16	92	42			8	90.00	12	4°	16.0	☆						☆	

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

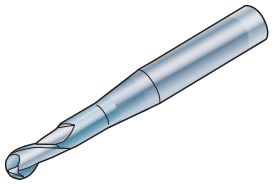
D350 D356 D229 G6 D2

SANDVIK Coromant

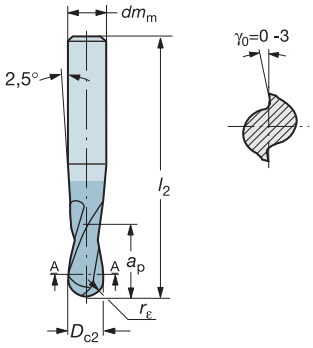
Ball nose end mill

Centre cutting

Hardness from 43HRc to 58HRc



Helix angle: -30°
Tolerances: D_{c2} : h9
dm_m : h6



Inch version

D_{c2} mm	D_{c2} inch	Ordering code	z_n 2)	Dimensions, inch dm_m	l_2	r_ε	Max a_p 1)	P GC 1620	M GC 1620	K GC 1620	N GC 1620	S GC 1620	H GC 1620
		Cylindrical shank											
1.57	.062	**RA216.42-0430-AL04G**	2	.250	4.000	.031	.063	☆	☆	☆	☆	☆	☆
2.36	.093	**RA216.42-0630-AL06G**	2	.250	4.000	.047	.094	☆	☆	☆	☆	☆	☆
3.18	.125	**RA216.42-0830-AL03G**	2	.250	4.000	.063	.125	☆	☆	☆	☆	☆	☆
3.96	.156	**RA216.42-1030-AL04G**	2	.250	4.000	.078	.156	☆	☆	☆	☆	☆	☆
4.75	.187	**RA216.42-1230-AL05G**	2	.250	4.000	.094	.188	☆	☆	☆	☆	☆	☆
6.35	.250	**RA216.42-1630-AL06G**	2	.375	4.500	.125	.250	☆	☆	☆	☆	☆	☆
7.92	.312	**RA216.42-2030-AL08G**	2	.500	5.000	.156	.313	☆	☆	☆	☆	☆	☆
9.52	.375	**RA216.42-2430-AL09G**	2	.500	5.000	.188	.375	☆	☆	☆	☆	☆	☆
12.70	.500	**RA216.42-3230-AL12G**	2	.625	5.500	.250	.500	☆	☆	☆	☆	☆	☆

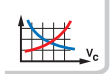
1) Maximum cutting edge length.

2) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

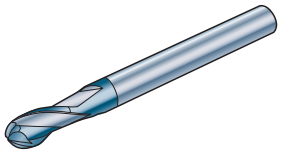
First choice: Use Plura Guide. Order number C-2948-117


D350 D356 D229 G6 D2

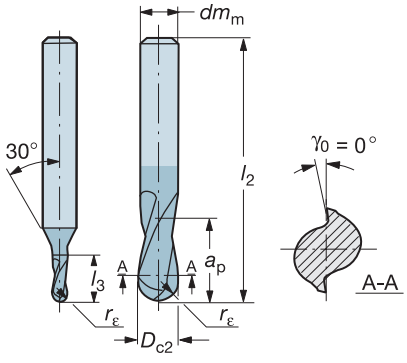
Ball nose end mill

Centre cutting

Hardness from 43HRc to 63HRc



Helix angle: -30°
Tolerances: D_{c2} : h7
dm_m : h5



Metric version

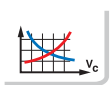
D_{c2} mm	D_{c2} inch	Ordering code	z_n[3]	Dimensions, mm dm_m	l_2	l_3	r_ε	Helix l_{sh} mm[2]	$\alpha°$	Max a_p[1]	P GC 1610	P GC 1620	M GC 1620	K GC 1620	N GC 1620	S GC 1620	H GC 1610	H GC 1620
		Cylindrical shank																
1	.039	**R216.42-01030-AC15G**	2	6	57	4.5	0.5	5.60	20	1.5	☆						☆	
1	.039	**R216.42-01030-AK15G**	2	6	57	3	0.5	5.60	20	1.5	☆	☆	☆	☆	☆	☆	☆	☆
1.5	.059	**R216.42-01530-AK20G**	2	6	57	4	0.75	9.00	20	2.0	☆	☆	☆	☆	☆	☆	☆	☆
2	.079	**R216.42-02030-AC30G**	2	6	57	6	1	11.20	20	3.0	☆						☆	
2	.079	**R216.42-02030-AK30G**	2	6	57	6	1	11.20	20	3.0	☆	☆	☆	☆	☆	☆	☆	☆
2.5	.098	**R216.42-02530-AK30G**	2	6	57	6	1.25	14.00	20	3.0	☆	☆	☆	☆	☆	☆	☆	☆
3	.118	**R216.42-03030-AK04G**	2	6	57	7	1.5	16.00	20	4.0	☆	☆	☆	☆	☆	☆	☆	☆
4	.157	**R216.42-04030-AC05G**	2	6	57	14	2	22.40	14	5.0	☆						☆	
4	.157	**R216.42-04030-AK05G**	2	6	80	8	2	22.40	14	5.0	☆	☆	☆	☆	☆	☆	☆	☆
5	.197	**R216.42-05030-AC06G**	2	6	57	15	2.5	28.00	14	6.0	☆						☆	
5	.197	**R216.42-05030-AK06G**	2	6	80	6	2.5	28.00	14	6.0	☆	☆	☆	☆	☆	☆	☆	☆
6	.236	**R216.42-06030-AC10G**	2	6	57		3	35.50	14	10.0	☆						☆	
6	.236	**R216.42-06030-AK10G**	2	6	80		3	35.50	14	10.0	☆	☆	☆	☆	☆	☆	☆	☆
8	.315	**R216.42-08030-AC16G**	2	8	63		4	45.00	14	16.0	☆						☆	
8	.315	**R216.42-08030-AK16G**	2	8	100		4	45.00	14	16.0	☆	☆	☆	☆	☆	☆	☆	☆
10	.394	**R216.42-10030-AC19G**	2	10	72		5	56.00	12	19.0	☆						☆	
10	.394	**R216.42-10030-AK19G**	2	10	100		5	56.00	12	19.0	☆	☆	☆	☆	☆	☆	☆	☆
12	.472	**R216.42-12030-AC22G**	2	12	83		6	71.00	12	22.0	☆						☆	
12	.472	**R216.42-12030-AK22G**	2	12	100		6	71.00	12	22.0	☆	☆	☆	☆	☆	☆	☆	☆
16	.630	**R216.42-16030-AK32G**	2	16	125		8	90.00	12	32.0	☆	☆	☆	☆	☆	☆	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

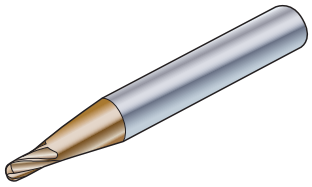
 D350 D356 D229 G6 D2

SANDVIK Coromant

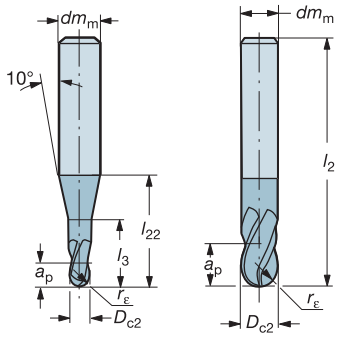
Ball nose end mill

Centre cutting

Hardness from 43HRc to 63HRc



Helix angle: 30°
Tolerances: D_{c2} : 0/-0.01
dm_m : h4
r_ε: +0.003
-0.007



Metric version

D_{c2} mm	D_{c2} inch	Ordering code	z_n[2]	Dimensions, mm dm_m	l_2	l_3	l_{22}	r_ε	Max a_p[1]	P GC 1610	H GC 1610	H GC 1700
		Cylindrical shank										
3	.118	R216.42-03030-AL04G	2	6	70	5.5	14	1.5	4.5			☆
3	.118	R216.42-03030-AC04G	2	6	57	7		1.5	4.0	☆	☆	
3	.118	R216.42-03030-AS04G	2	6	57	5.5	14	1.5	4.5			☆
4	.157	R216.42-04030-AC06G	2	6	70	7	13	3	6.0			☆
4	.157	R216.42-04030-AS06G	2	6	57	7	12	3	6.0			☆
5	.197	R216.42-05030-AC07G	2	6	80	8.5	11	2.5	7.5			☆
5	.197	R216.42-05030-AS07G	2	6	57	8.5	11	2.5	7.5			☆
6	.236	R216.42-06030-AC09G	2	6	90			3	9.0			☆
6	.236	R216.42-06030-AS09G	2	6	57			3	9.0			☆
8	.315	R216.42-08030-AC12G	2	8	100			4	12.0			☆
8	.315	R216.42-08030-AS12G	2	8	63			4	12.0			☆
10	.394	R216.42-10030-AC15G	2	10	100			5	15.0			☆
10	.394	R216.42-10030-AS15G	2	10	72			5	15.0			☆
12	.472	R216.42-12030-AC18G	2	12	110			6	18.0			☆
12	.472	R216.42-12030-AS18G	2	12	83			6	18.0			☆

1) Maximum cutting edge length.

2) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

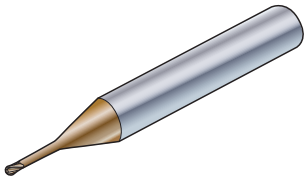
First choice: Use Plura Guide. Order number C-2948-117

D350 D356 D229 G6 D2

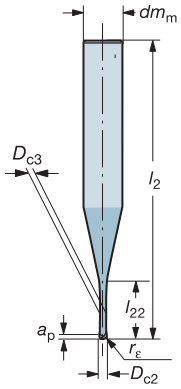
Ball nose end mill

Centre cutting

Hardness from 43HRc to 63HRc



Helix angle: 30°
Tolerances: D_{c2} : 0/-0.01
dm_m : h4
r_ε: +0.003
-0.007



Metric version

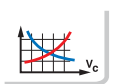
D_{c2} mm	D_{c2} inch	Ordering code	z_n 2)	Dimensions, mm D_{c3}	dm_m	l_2	l_{22}	r_ε	Max a_p 1)	H GC 1700
		Cylindrical shank								
0.1	.004	R216.42-00130-EC01G	2	0.08	4	45	0.15	0.05	0.1	☆
0.1	.004	R216.42-00130-FC01G	2	0.08	4	45	0.3	0.05	0.1	☆
0.1	.004	R216.42-00130-HC01G	2	0.08	4	45	0.75	0.05	0.1	☆
0.2	.008	R216.42-00230-EC02G	2	0.17	4	45	0.3	0.1	0.2	☆
0.2	.008	R216.42-00230-FC02G	2	0.17	4	45	0.6	0.1	0.2	☆
0.2	.008	R216.42-00230-GC02G	2	0.17	4	45	1	0.1	0.2	☆
0.2	.008	R216.42-00230-HC02G	2	0.17	4	45	1.5	0.1	0.2	☆
0.2	.008	R216.42-00230-IC02G	2	0.17	4	45	2	0.1	0.2	☆
0.3	.012	R216.42-00330-EC03G	2	0.27	4	45	0.45	0.15	0.2	☆
0.3	.012	R216.42-00330-FC03G	2	0.27	4	45	0.9	0.15	0.2	☆
0.3	.012	R216.42-00330-GC03G	2	0.27	4	45	1.5	0.15	0.2	☆
0.3	.012	R216.42-00330-HC03G	2	0.27	4	45	2	0.15	0.2	☆
0.3	.012	R216.42-00330-JC03G	2	0.27	4	45	3	0.15	0.2	☆
0.4	.016	R216.42-00430-EC04G	2	0.37	4	45	0.6	0.2	0.3	☆
0.4	.016	R216.42-00430-FC04G	2	0.37	4	45	1.2	0.2	0.3	☆
0.4	.016	R216.42-00430-GC04G	2	0.37	4	45	2	0.2	0.3	☆
0.4	.016	R216.42-00430-HC04G	2	0.37	4	45	3	0.2	0.3	☆
0.4	.016	R216.42-00430-IC04G	2	0.37	4	45	3.5	0.2	0.3	☆
0.4	.016	R216.42-00430-JC04G	2	0.37	4	45	4	0.2	0.3	☆
0.5	.020	R216.42-00530-EC05G	2	0.47	4	45	0.75	0.25	0.4	☆
0.5	.020	R216.42-00530-FC05G	2	0.47	4	45	1.5	0.25	0.4	☆
0.5	.020	R216.42-00530-HC05G	2	0.47	4	45	3	0.25	0.4	☆
0.5	.020	R216.42-00530-JC05G	2	0.47	4	45	5	0.25	0.4	☆
0.6	.024	R216.42-00630-EC06G	2	0.57	4	45	0.9	0.3	0.4	☆
0.6	.024	R216.42-00630-FC06G	2	0.57	4	45	1.8	0.3	0.4	☆
0.6	.024	R216.42-00630-GC06G	2	0.57	4	45	3	0.3	0.4	☆
0.6	.024	R216.42-00630-IC06G	2	0.57	4	45	5	0.3	0.4	☆
0.6	.024	R216.42-00630-JC06G	2	0.57	4	45	6	0.3	0.4	☆
0.8	.032	R216.42-00830-EC08G	2	0.77	4	45	1.2	0.4	0.5	☆
0.8	.032	R216.42-00830-FC08G	2	0.77	4	45	2.4	0.4	0.5	☆
0.8	.032	R216.42-00830-GC08G	2	0.77	4	45	4	0.4	0.5	☆
0.8	.032	R216.42-00830-HC08G	2	0.77	4	45	6	0.4	0.5	☆
1	.039	R216.42-01030-EC10G	2	0.96	6	45	1.5	0.5	0.8	☆
1	.039	R216.42-01030-FC10G	2	0.96	6	45	3	0.5	0.8	☆
1	.039	R216.42-01030-HC10G	2	0.96	6	45	6	0.5	0.8	☆
1	.039	R216.42-01030-IC10G	2	0.96	6	45	8	0.5	0.8	☆
1	.039	R216.42-01030-JC10G	2	0.96	6	50	10	0.5	0.8	☆

1) Maximum cutting edge length.
2) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117


D350

D356

D229

G6

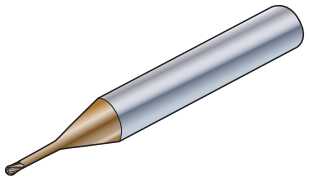
D2

SANDVIK Coromant

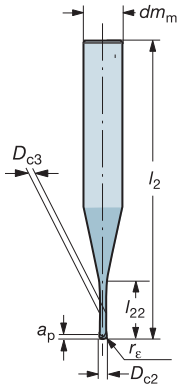
Ball nose end mill

Centre cutting

Hardness from 43HRc to 63HRc



Helix angle: 30°
Tolerances: D_{c2} : 0/-0.01
dm_m : h4
r_ε: +0.003
-0.007



Metric version

D_{c2} mm	D_{c2} inch	Ordering code	z_n[2]	Dimensions, mm D_{c3}	dm_m	l_2	l_{22}	r_ε	Max a_p[1]	H GC 1700
1.2	.047	**R216.42-01230-EC12G**	2	1.15	6	45	1.8	0.6	1.1	☆
1.2	.047	**R216.42-01230-FC12G**	2	1.15	6	45	3.6	0.6	1.1	☆
1.5	.059	**R216.42-01530-EC15G**	2	1.44	6	45	2.25	0.75	1.4	☆
1.5	.059	**R216.42-01530-FC15G**	2	1.44	6	45	4.5	0.75	1.4	☆
1.5	.059	**R216.42-01530-GC15G**	2	1.44	6	45	8	0.75	1.4	☆
1.5	.059	**R216.42-01530-IC15G**	2	1.44	6	50	12	0.75	1.4	☆
2	.079	**R216.42-02030-EC20G**	2	1.92	6	45	3	1	1.7	☆
2	.079	**R216.42-02030-FC20G**	2	1.92	6	45	6	1	1.7	☆
2	.079	**R216.42-02030-GC20G**	2	1.92	6	45	8	1	1.7	☆
2	.079	**R216.42-02030-HC20G**	2	1.92	6	50	12	1	1.7	☆
2	.079	**R216.42-02030-IC20G**	2	1.92	6	50	16	1	1.7	☆
2	.079	**R216.42-02030-JC20G**	2	1.92	6	55	20	1	1.7	☆
2.5	.098	**R216.42-02530-EC25G**	2	2.42	6	45	3.75	1.25	2.0	☆
2.5	.098	**R216.42-02530-FC25G**	2	2.42	6	45	7.5	1.25	2.0	☆
2.5	.098	**R216.42-02530-GC25G**	2	2.42	6	50	12.5	1.25	2.0	☆
2.5	.098	**R216.42-02530-HC25G**	2	2.42	6	50	15	1.25	2.0	☆
2.5	.098	**R216.42-02530-IC25G**	2	2.42	6	55	20	1.25	2.0	☆

1) Maximum cutting edge length.

2) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

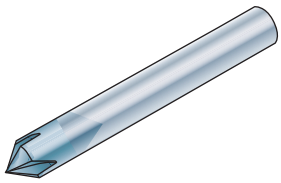
Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

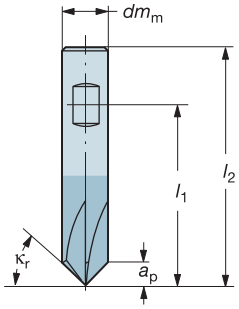
D350 D356 D229 G6 D2

Chamfering end mill

Hardness <63 HRc



Tolerances: D_c: h10
dm_m: h6



Metric version

Ordering code	z_n[1]	Dimensions, mm dm_m	κ_r	l_1	l_2	Max a_p	P GC 1620	M GC 1620	K GC 1620	N GC 1620	S GC 1620	H GC 1620
Cylindrical shank												
R215.84-01000-AC25G	4	6	45	21	57	2.5	☆	☆	☆	☆	☆	☆
R215.84-01500-AC43G	4	10	45	60	100	4.25	☆	☆	☆	☆	☆	☆
R215.85-02000-AC30G	5	8	45	44	80	3	☆	☆	☆	☆	☆	☆
R215.86-03000-AC05G	6	12	45	38	83	4.5	☆	☆	☆	☆	☆	☆
R215.94-01500-AC74G	4	10	60	60	100	7.35	☆	☆	☆	☆	☆	☆
Weldon												
R215.84-01500-BC43G	4	10	45	80	100	4.25	☆	☆	☆	☆	☆	☆
R215.86-03000-BC05G	6	12	45	60.5	83	4.5	☆	☆	☆	☆	☆	☆
R215.94-01500-BC74G	4	10	60	80	100	7.35	☆	☆	☆	☆	☆	☆

[1] z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

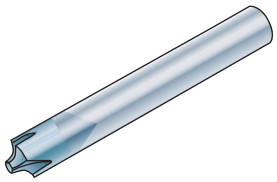
First choice: Use Plura Guide. Order number C-2948-117

D350 D356 D229 G6 D2

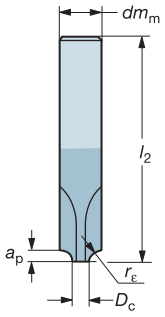
SANDVIK Coromant

Chamfering radius end mill

Hardness <63HRc



Tolerances: dm_m: h6



Metric version

D_c mm	D_c inch	Ordering code	z_n[2]	Dimensions, mm dm_m	l_2	r_ε	Max a_p[1]	P GC 1620	M GC 1620	K GC 1620	N GC 1620	S GC 1620	H GC 1620
		Cylindrical shank											
4	.157	**R215.03-04000BAC01G**	3	6	57	0.5	0.5	☆	☆	☆	☆	☆	☆
4	.157	**R215.03-04000CAC01G**	3	6	57	0.75	0.8	☆	☆	☆	☆	☆	☆
4	.157	**R215.04-04000CAC01G**	4	8	63	1	1.0	☆	☆	☆	☆	☆	☆
4	.157	**R215.04-04000DAC02G**	4	8	63	1.5	1.5	☆	☆	☆	☆	☆	☆
5	.197	**R215.04-05000EAC02G**	4	10	72	2	2.0	☆	☆	☆	☆	☆	☆
5	.197	**R215.04-05000FAC03G**	4	10	72	2.5	2.5	☆	☆	☆	☆	☆	☆
5	.197	**R215.04-05000GAC03G**	4	12	83	3	3.0	☆	☆	☆	☆	☆	☆
6	.236	**R215.04-06000IAC04G**	4	14	83	4	4.0	☆	☆	☆	☆	☆	☆
6	.236	**R215.04-06000KAC05G**	4	16	92	5	5.0	☆	☆	☆	☆	☆	☆
8	.315	**R215.04-08000MAC06G**	4	20	104	6	6.0	☆	☆	☆	☆	☆	☆

1) Maximum cutting edge length.

2) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

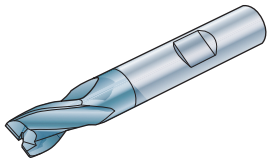
First choice: Use Plura Guide. Order number C-2948-117

D350 D356 D229 G6 D2

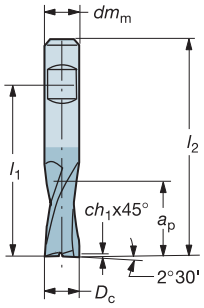
Slotting end mill

Hardness <48 HRc

Key slot



Helix angle: -30°
Tolerances: D_c: h10
dm_m: h6



Metric version

D_c mm	D_c inch	Ordering code	z_n[3]	Dimensions, mm dm_m	l_1	l_2	ch_1	Helix l_{sh} mm[2]	Max a_p[1]	P GC 1630	M GC 1630	K GC 1630	N GC 1630	S GC 1630
		Weldon												
2	.079	R216.12-02030-BS30P	2	6	32	50	0.10	11.20	3.0	☆	☆	☆	☆	☆
2.5	.098	R216.12-02530-BS30P	2	6	32	50	0.10	14.00	3.0	☆	☆	☆	☆	☆
2.8	.110	R216.12-02830-BS40P	2	6	32	50	0.10	16.00	4.0	☆	☆	☆	☆	☆
3	.118	R216.12-03030-BS04P	2	6	14	50	0.10	16.00	4.0	☆	☆	☆	☆	☆
3.5	.138	R216.12-03530-BS04P	2	6	32	50	0.10	20.00	4.0	☆	☆	☆	☆	☆
3.8	.150	R216.12-03830-BS05P	2	6	36	54	0.10	22.40	5.0	☆	☆	☆	☆	☆
4	.157	R216.12-04030-BS05P	2	6	36	54	0.10	22.40	5.0	☆	☆	☆	☆	☆
4.8	.189	R216.12-04830-BS06P	2	6	36	54	0.15	28.00	6.0	☆	☆	☆	☆	☆
5	.197	R216.12-05030-BS06P	2	6	36	54	0.15	28.00	6.0	☆	☆	☆	☆	☆
5.75	.226	R216.12-05830-BS07P	2	6	36	54	0.15	35.50	7.0	☆	☆	☆	☆	☆
6	.236	R216.12-06030-BS07P	2	6	36	54	0.15	35.50	7.0	☆	☆	☆	☆	☆
6.75	.266	R216.12-06830-BS08P	2	8	40	58	0.15	40.00	8.0	☆	☆	☆	☆	☆
7	.276	R216.12-07030-BS08P	2	8	40	58	0.15	40.00	8.0	☆	☆	☆	☆	☆
7.75	.305	R216.12-07830-BS09P	2	8	40	58	0.15	45.00	9.0	☆	☆	☆	☆	☆
8	.315	R216.12-08030-BS09P	2	8	40	58	0.15	45.00	9.0	☆	☆	☆	☆	☆
9	.354	R216.12-09030-BS10P	2	10	46	66	0.25	50.00	10.0	☆	☆	☆	☆	☆
9.7	.382	R216.12-09730-BS11P	2	10	46	66	0.15	56.00	11.0	☆	☆	☆	☆	☆
10	.394	R216.12-10030-BS11P	2	10	46	66	0.25	56.00	11.0	☆	☆	☆	☆	☆
11.7	.461	R216.12-11730-BS12P	2	12	50.5	73	0.25	71.00	12.0	☆	☆	☆	☆	☆
12	.472	R216.12-12030-BS12P	2	12	50.5	73	0.25	71.00	12.0	☆	☆	☆	☆	☆
13.7	.539	R216.12-13730-BS14P	2	14	52.5	75	0.25	80.00	14.0	☆	☆	☆	☆	☆
14	.551	R216.12-14030-BS14P	2	14	52.5	75	0.25	80.00	14.0	☆	☆	☆	☆	☆
15.7	.618	R216.12-15730-BS16P	2	16	58	82	0.25	90.00	16.0	☆	☆	☆	☆	☆
16	.630	R216.12-16030-BS16P	2	16	58	82	0.25	90.00	16.0	☆	☆	☆	☆	☆
17.7	.697	R216.12-17730-BS18P	2	18	60	84	0.25	100.00	18.0	☆	☆	☆	☆	☆
18	.709	R216.12-18030-BS18P	2	18	60	84	0.25	100.00	18.0	☆	☆	☆	☆	☆
19.7	.776	R216.12-19730-BS20P	2	20	67	92	0.25	112.00	20.0	☆	☆	☆	☆	☆
20	.787	R216.12-20030-BS20P	2	20	67	92	0.35	112.00	20.0	☆	☆	☆	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

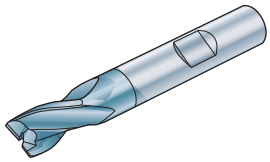
D350 D356 D229 G6 D2

SANDVIK Coromant

Slotting end mill

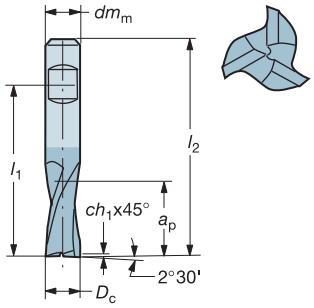
Hardness <48 HRc

Key slot



Helix angle: -30°
Tolerances: D_c: e8[4)]
dm_m: h6

4) Valid for end mills without decimals on D_c, for end mills with decimals on D_c the tolerance is h10



Metric version

D_c mm	D_c inch	Ordering code	z_n[3)]	Dimensions, mm dm_m	l_1	l_2	ch_1	Helix l_{sh} mm[2)]	Max a_p[1)]	P GC 1630	M GC 1630	K GC 1630	N GC 1630	S GC 1630
		Weldon												
1.8	.071	R216.13-01830-BS30P	3	6	32	50	0.10	10.00	3.0	☆	☆	☆	☆	☆
2	.079	R216.13-02030-BS30P	3	6	32	50	0.10	11.20	3.0	☆	☆	☆	☆	☆
2.8	.110	R216.13-02830-BS40P	3	6	32	50	0.10	16.00	4.0	☆	☆	☆	☆	☆
3	.118	R216.13-03030-BS04P	3	6	32	50	0.10	16.00	4.0	☆	☆	☆	☆	☆
3.8	.150	R216.13-03830-BS05P	3	6	36	54	0.10	22.40	5.0	☆	☆	☆	☆	☆
4	.157	R216.13-04030-BS05P	3	6	36	54	0.10	22.40	5.0	☆	☆	☆	☆	☆
4.8	.189	R216.13-04830-BS06P	3	6	36	54	0.15	28.00	6.0	☆	☆	☆	☆	☆
5	.197	R216.13-05030-BS06P	3	6	36	54	0.15	28.00	6.0	☆	☆	☆	☆	☆
5.75	.226	R216.13-05830-BS07P	3	6	36	54	0.15	35.50	7.0	☆	☆	☆	☆	☆
6	.236	R216.13-06030-BS07P	3	6	36	54	0.15	35.50	7.0	☆	☆	☆	☆	☆
6.75	.266	R216.13-06830-BS08P	3	8	40	58	0.15	40.00	8.0	☆	☆	☆	☆	☆
7	.276	R216.13-07030-BS08P	3	8	40	58	0.15	40.00	8.0	☆	☆	☆	☆	☆
7.75	.305	R216.13-07830-BS09P	3	8	40	58	0.15	45.00	9.0	☆	☆	☆	☆	☆
8	.315	R216.13-08030-BS09P	3	8	40	58	0.15	45.00	9.0	☆	☆	☆	☆	☆
9	.354	R216.13-09030-BS10P	3	10	46	66	0.25	50.00	10.0	☆	☆	☆	☆	☆
9.7	.382	R216.13-09730-BS11P	3	10	46	66	0.25	56.00	11.0	☆	☆	☆	☆	☆
10	.394	R216.13-10030-BS11P	3	10	46	66	0.25	56.00	11.0	☆	☆	☆	☆	☆
11.7	.461	R216.13-11730-BS12P	3	12	50.5	73	0.25	71.00	12.0	☆	☆	☆	☆	☆
12	.472	R216.13-12030-BS12P	3	12	50.5	73	0.25	71.00	12.0	☆	☆	☆	☆	☆
13.7	.539	R216.13-13730-BS14P	3	14	52.5	75	0.25	80.00	14.0	☆	☆	☆	☆	☆
14	.551	R216.13-14030-BS14P	3	14	52.5	75	0.25	80.00	14.0	☆	☆	☆	☆	☆
15.7	.618	R216.13-15730-BS16P	3	16	58	82	0.25	90.00	16.0	☆	☆	☆	☆	☆
16	.630	R216.13-16030-BS16P	3	16	58	82	0.25	90.00	16.0	☆	☆	☆	☆	☆
17.7	.697	R216.13-17730-BS18P	3	18	60	84	0.25	100.00	18.0	☆	☆	☆	☆	☆
18	.709	R216.13-18030-BS18P	3	18	60	84	0.25	100.00	18.0	☆	☆	☆	☆	☆
19.7	.776	R216.13-19730-BS20P	3	20	67	92	0.25	112.00	20.0	☆	☆	☆	☆	☆
20	.787	R216.13-20030-BS20P	3	20	67	92	0.35	112.00	20.0	☆	☆	☆	☆	☆

1) Maximum cutting edge length.

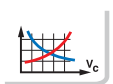
2) Pitch per rev.

3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117


D350

D356

D229

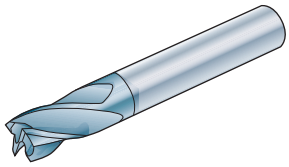
G6

D2

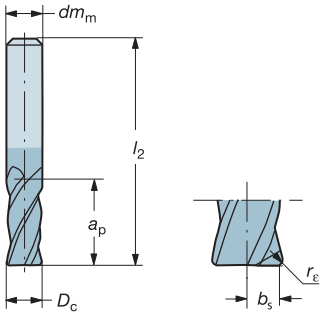
End mills for Turn-Milling

Centre cutting

Hardness <48 HRc



Helix angle: -30°
Tolerances: D_c: h10
dm_m: h6



Metric version

D_c mm	D_c inch	Ordering code	z_n [3]	Dimensions, mm dm_m	l_2	b_s	r_ε	Helix l_{sh} mm [2]	Max a_p [1]	P GC 1620	M GC 1620	K GC 1620	S GC 1620
		Cylindrical shank											
6	.236	**R216.T4-06030BAS10N**	4	6	54	2.5	0.5	35.50	10	☆	☆	☆	☆
8	.315	**R216.T4-08030BAS12N**	4	8	58	3.5	0.5	45.00	12	☆	☆	☆	☆
10	.394	**R216.T4-10030CAS14N**	4	10	66	4	1	56.00	14	☆	☆	☆	☆
12	.472	**R216.T4-12030CAS16N**	4	12	73	5	1	71.00	16	☆	☆	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

Note: A specialised CoroMill® Plura end mill with a cutting geometry designed for use in turn-mill operations. See Metalcutting Technical guide.

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

D350 D356 D229 G6 D2

SANDVIK Coromant

CoroMill® Plura with iLock

Solid carbide end mills

Offers a combination of pull out security and optimized productivity

- High performance grades GC1620, GC1640 maintains cutting edge sharpness for long times in cut in titanium
- Complementary applications can be found in steel, stainless steel
- Radius for typical fillets in aerospace frame components
- Pocket milling with high axial engagement

iLock™ ingenious locking interface

Typical fillets in aerospace frame components

	r_ε							
D_c, mm	0.5	1.0	1.5	2.0	2.5	3.0	4.0	6.3
12	x	x	x	x	x	x	x	
16	x	x	x	x	x	x	x	x
20		x		x		x	x	x
25						x	x	x

Shrink fit holders:

- Coromant Capto
- HSK A/C
- ISO 7388.1
- MAS-BT 403
- CAT-V

- iLock spiral groove on CoroMill Plura end mills for absolutely secure tool holding
- Spiral shape on tool shank is directed to pull the tool into the chuck
- Drive keys in ShrinkFit chuck that guides and locks end mill in position
- High precision ShrinkFit chuck clamping with low tool run-out ± 0.005 mm (.0002 inch) at 3 x D

ISO application areas:

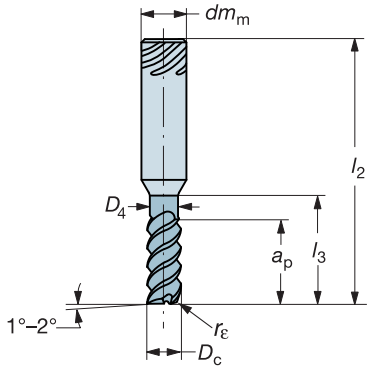
S

Roughing, semi-finishing end mill

Centre cutting

First choice
Cylindrical with neck
Hardness ≤ 48HRc

Helix angle: -50°
Tolerances: D_c: h9
dm_m: h6



Metric version

D_c mm	D_c inch	Ordering code	z_n 3)	Dimensions, mm dm_m	l_2	l_3	D_4	r_ε	Helix l_{sh} mm 2)	Max a_p 1)	P GC 1640	M GC 1640	S GC 1640
12	.472	R216.24-12050BYC19P	4	12	83	33	11.4	0.5	35.50	19.0	☆	☆	☆
		R216.24-12050CYC19P	4	12	83	33	11.4	1	35.50	19.0	☆	☆	☆
		R216.24-12050EYC19P	4	12	83	33	11.4	2	35.50	19.0	☆	☆	☆
16	.630	R216.24-16050BYC26P	4	16	92	42	15.2	0.5	45.00	26.0	☆	☆	☆
		R216.24-16050CYC26P	4	16	92	42	15.2	1	45.00	26.0	☆	☆	☆
		R216.24-16050EYC26P	4	16	92	42	15.2	2	45.00	26.0	☆	☆	☆
20	.787	R216.24-20050CYC32P	4	20	104	52	19	1	56.00	32.0	☆	☆	☆
		R216.24-20050EYC32P	4	20	104	52	19	2	56.00	32.0	☆	☆	☆
		R216.24-20050IYC32P	4	20	104	52	19	4	56.00	32.0	☆	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

D350 D356 D229 G6 D2 J3

SANDVIK Coromant

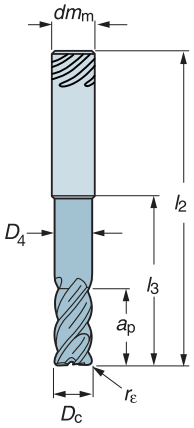
Roughing, semi-finishing end mill

Centre cutting

Variable flute depth tools

Hardness ≤ 48HRc
Differential pitch

Helix angle: -50°
Tolerances: D_c: h9
dm_m: h8



Metric version

D_c mm	D_c inch	Ordering code	z_n 3)	Dimensions, mm dm_m	l_2	l_3	D_4	r_ε	Helix l_{sh} mm 2)	Max a_p 1)	P GC 1620	M GC 1620	S GC 1620
12	.472	R216.24-12050CYK26P	4	12	100	53	11.4	1	35.50	26.0	☆	☆	☆
		R216.24-12050DYK26P	4	12	100	53	11.4	1.5	35.50	26.0	☆	☆	☆
		R216.24-12050EYK26P	4	12	100	53	11.4	2	35.50	26.0	☆	☆	☆
		R216.24-12050FYK26P	4	12	100	53	11.4	2.5	35.50	26.0	☆	☆	☆
		R216.24-12050GYK26P	4	12	100	55	11.4	3	35.50	26.0	☆	☆	☆
		R216.24-12050IYK26P	4	12	100	53	11.4	4	35.50	26.0	☆	☆	☆
16	.630	R216.24-16050CYK36P	4	16	115	65	15.2	1	45.00	36.0	☆	☆	☆
		R216.24-16050DYK36P	4	16	115	65	15.2	1.5	45.00	36.0	☆	☆	☆
		R216.24-16050EYK36P	4	16	115	65	15.2	2	45.00	36.0	☆	☆	☆
		R216.24-16050FYK36P	4	16	115	65	15.2	2.5	45.00	36.0	☆	☆	☆
		R216.24-16050GYK36P	4	16	115	65	15.2	3	45.00	36.0	☆	☆	☆
		R216.24-16050IYK36P	4	16	115	65	15.2	4	45.00	36.0	☆	☆	☆
		R216.24-16050OYK36P	4	16	115	67	15.2	6.35	45.00	36.0	☆	☆	☆
20	.787	R216.24-20050FYK44P	4	20	145	80	19	2.5	56.00	44.0	☆	☆	☆
		R216.24-20050GYK44P	4	20	145	80	19	3	56.00	44.0	☆	☆	☆
		R216.24-20050IYK44P	4	20	145	80	19	4	56.00	44.0	☆	☆	☆
		R216.24-20050OYK44P	4	20	145	80	19	6.35	56.00	44.0	☆	☆	☆
25	.984	R216.25-25050GYK54P	5	25	156	99	24	3	71.00	54.0	☆	☆	☆
		R216.25-25050IYK54P	5	25	156	99	24	4	71.00	54.0	☆	☆	☆
		R216.25-25050OYK54P	5	25	156	99	24	6.35	71.00	54.0	☆	☆	☆
12	.472	R216.24-12050GYL26P	4	12	105	60	11.4	3	35.50	26.0	☆	☆	☆
16	.630	R216.24-16050GYL36P	4	16	128	80	15.2	3	45.00	36.0	☆	☆	☆
		R216.24-16050OYL36P	4	16	128	80	15.2	6.35	45.00	36.0	☆	☆	☆
20	.787	R216.24-20050GYL44P	4	20	150	100	19	3	56.00	44.0	☆	☆	☆
		R216.24-20050OYL44P	4	20	150	100	19	6.35	56.00	44.0	☆	☆	☆
25	.984	R216.25-25050GYL54P	5	25	181	125	24	3	71.00	54.0	☆	☆	☆
		R216.25-25050OYL54P	5	25	181	125	24	6.35	71.00	54.0	☆	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

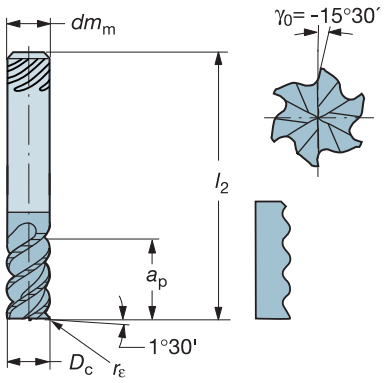
D350 D356 D229 G6 D2 J3

Roughing end mill

Centre cutting

Kordell

Helix angle: -45°
Tolerances: D_c: h12
dm_m: h6



l_1 = programming length

Metric version

D_c mm	D_c inch	Ordering code	z_n[3]	Dimensions, mm dm_m	l_2	r_ε	Helix l_{sh} mm[2]	Max a_p[1]	P GC 1640	M GC 1640	S GC 1640
16	.630	R216.36-16045IYC32K	6	16	92	4	63.00	32.0	☆	☆	☆
		R216.36-16045IYK32K	6	16	112	4	63.00	32.0	☆	☆	☆
20	.787	R216.36-20045IYC38K	6	20	104	4	80.00	38.0	☆	☆	☆
		R216.36-20045IYK38K	6	20	130	4	80.00	38.0	☆	☆	☆
25	.984	R216.38-25045IYC45K	8	25	121	4	80.00	45.0	☆	☆	☆
		R216.38-25045IYK45K	8	25	156	4	80.00	45.0	☆	☆	☆

1) Maximum cutting edge length.
2) Pitch per rev.
3) z_n = total number of cutting edges

For more technical information, see our Metalcutting Technical guide

Plura Guide

First choice: Use Plura Guide. Order number C-2948-117

D350 D356 D229 G6 D2 J3

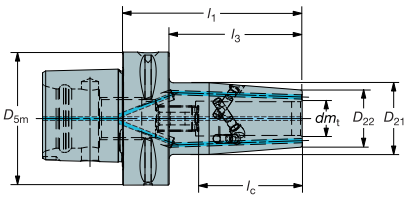
SANDVIK Coromant

Coromant Capto® shrink fit adaptor with iLock

For cylindrical shanks

Cx-391.19Y

Short design



Coupling size	Ordering code	Coolant[1]	Dimensions, millimeter, inch (mm, in.)																
			D_{5m} mm	D_{5m} in.	dm_t mm	dm_t in.	D_{21} mm	D_{21} in.	D_{22} mm	D_{22} in.	l_c min mm	l_c min in.	l_c max mm	l_c max in.	l_1 mm	l_1 in.	l_3 mm	l_3 in.	KG
C6	**C6-391.19Y-12 080**	1	63	2.480	12	.472	32	1.260	24	.945	36	1.417	46	1.811	80	3.150	58	2.284	1.0
	C6-391.19Y-16 085	1	63	2.480	16	.630	34	1.339	27	1.063	39	1.535	49	1.929	85	3.346	63	2.480	1.1
	C6-391.19Y-20 085	1	63	2.480	20	.787	42	1.654	33	1.299	41	1.614	51	2.008	85	3.346	63	2.480	1.2
	C6-391.19Y-25 090	1	63	2.480	25	.984	53	2.087	44	1.732	47	1.850	57	2.244	95	3.740	68	2.677	1.5
C8	**C8-391.19Y-12 090**	1	80	3.150	12	.472	32	1.260	24	.945	36	1.417	46	1.811	90	3.543	60	2.362	2.0
	C8-391.19Y-16 095	1	80	3.150	16	.630	34	1.339	27	1.063	49	1.929	49	3.740	95	3.740	65	2.559	2.0
	C8-391.19Y-20 095	1	80	3.150	20	.787	42	1.654	33	1.299	41	1.614	51	2.008	95	3.740	65	2.559	2.45
	C8-391.19Y-25 100	1	80	3.150	25	.984	53	2.087	44	1.732	47	1.850	57	2.244	100	3.937	70	2.756	2.5

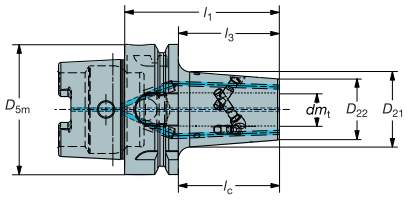
[1] 1 = coolant through centre

HSK solid shrink fit adaptor with iLock

For cylindrical shanks

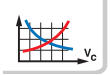
392.41019Y

Short version



HSK size	Ordering code	Coolant[1]	Dimensions, millimeter, inch (mm, in.)																
			D_{5m} mm	D_{5m} in.	dm_t mm	dm_t in.	D_{21} mm	D_{21} in.	D_{22} mm	D_{22} in.	l_c min mm	l_c min in.	l_c max mm	l_c max in.	l_1 mm	l_1 in.	l_3 mm	l_3 in.	KG
63	**392.41019Y-6312070**	1	63	2.480	12	.472	33.5	1.319	26.5	1.043	46	1.811	46	1.811	70	2.756	44	1.732	0.9
	392.41019Y-6316075	1	63	2.480	16	.630	37.3	1.468	29.5	1.161	49	1.929	49	1.929	75	2.953	49	1.929	0.9
	392.41019Y-6320075	1	63	2.480	20	.787	43.3	1.705	35.5	1.398	49	1.929	49	1.929	75	2.953	49	1.929	1.0
	392.41019Y-6325085	1	63	2.480	25	.984	51	2.008	45	1.772	57	2.244	57	2.244	85	3.346	59	2.323	1.3
100	**392.41019Y-10012095**	1	100	3.937	12	.472	73	2.874	27	1.063	37	1.457	47	1.850	95	3.740	66	2.598	4.0
	392.41019Y-10016100	1	100	3.937	16	.630	60	2.362	33	1.299	37	1.457	47	1.850	100	3.937	71	2.795	3.1
	392.41019Y-10020105	1	100	3.937	20	.787	85	3.346	44	1.732	42	1.654	52	2.047	105	4.134	76	2.992	3.6
	392.41019Y-10025115	1	100	3.937	25	.984	85	3.346	44	1.732	48	1.890	58	2.284	115	4.528	86	3.386	3.7

[1] 1 = coolant through centre


D350

D356

D229

G6

D2

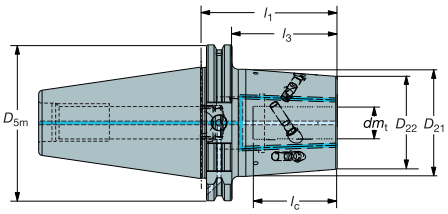
J3

Coromant solid shrink fit adaptor with iLock

For cylindrical shanks

391.45019/391.55019/391.14019

Short design



Machine design	Taper	Ordering code	Coolant[1]	Dimensions, mm D_{5m}	dm_1	D_{21}	D_{22}	l_c min	l_c max	l_1	l_3	kg
ISO7388.1	40	**392.14019Y-4012065**	7	44.45	12	34	26.5	37	47	65	45.9	1.2
		392.14019Y-4016065	7	44.45	16	37	29.5	40	50	65	45.9	1.0
		392.14019Y-4020065	7	44.45	20	43	35.5	42	52	65	45.9	1.5
		392.14019Y-4025075	7	44.45	25	50	45.5	48	58	75	55.9	1.7
	50	**392.14019Y-5012080**	7	69.85	12	55	27	37	47	80	60.9	3.0
		392.14019Y-5016080	7	69.85	16	43	33.3	40	50	80	60.9	3.1
		392.14019Y-5020080	7	69.85	20	54.3	44.7	42	52	80	60.9	3.4
		392.14019Y-5025100	7	69.85	25	78	44	48	58	100	80.9	3.8
MAS-BT 403	40	**392.5519Y-40 12 070**	7	44.45	12	33.3	26.5	37	47	70	43	1.2
		392.5519Y-40 16 075	7	44.45	16	37	29.5	40	50	75	48	1.4
		392.5519Y-40 20 075	7	44.45	20	43	35.5	42	52	75	48	1.5
		392.5519Y-40 25 085	7	44.45	25	54.7	45.5	47	57	85	58	1.7
	50	**392.5519Y-50 12 100**	7	69.85	12	55	27	37	47	100	62	1.2
		392.5519Y-50 16 100	7	69.85	16	43.1	33.3	40	50	100	62	1.2
		392.5519Y-50 20 100	7	69.85	20	54.5	44.7	42	52	100	62	1.2
		392.5519Y-50 25 100	7	69.85	25	54.5	44.7	48	58	100	62	1.2

Machine design	Taper	Ordering code	Coolant[1]	Dimensions, inch D_{5m}	dm_1	D_{21}	D_{22}	l_c min	l_c max	l_1	l_3	Lbs
CAT V	40	**392.4519Y-40 12 065**	7	1.750	.472	1.331	1.043	1.457	1.850	2.559	1.807	2.6
		392.4519Y-40 16 065	1	1.750	.630	1.449	1.161	1.575	1.968	2.559	1.807	2.6
		392.4519Y-40 20 065	1	1.750	.787	1.724	1.398	1.575	1.968	2.559	1.795	2.6
		392.4519Y-40 25 075	1	1.750	.984	1.791	1.713	1.890	2.284	2.953	2.201	2.9
	50	**392.4519Y-50 12 080**	1	2.750	.472	2.165	1.063	1.457	1.850	3.150	2.398	6.5
		392.4519Y-50 16 080	7	2.750	.630	1.697	1.311	1.575	1.968	3.150	2.398	6.7
		392.4519Y-50 20 080	7	2.750	.787	2.146	1.760	1.654	2.047	3.150	2.398	8.0
		392.4519Y-50 25 125	7	2.750	.984	2.146	1.760	1.890	2.284	4.921	4.169	8.1

[1] 1 = coolant through centre, 7 = coolant through centre and through flange

The cylindrical tool shank should be kept free from dirt and burrs before mounting into the adaptor to maintain a safe grip and precision. It should be mounted without use of any collets.

Note: Tolerance on tool shank diameter must be h6, or closer.

Heating equipment

- Controlled heat from the shrink fit machine expands inner diameter of the tool holder bore
- Tool shank inserted into adaptor
- Natural cooling contracts the bore to grip tool with high clamping force for strong tool holding and safe machining

Shrink fit adaptors are an essential link in the machining chain:
High technology machines, secure adaptors and productive tools

D350 D356 D229 G6 D2 J3

SANDVIK Coromant

CoroMill® Plura

Thread milling cutter

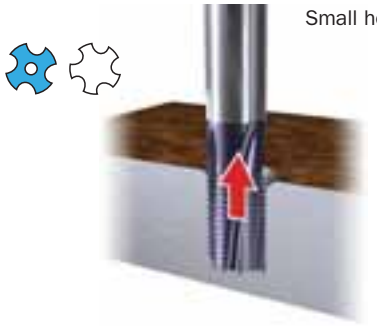
Completes a thread in only one pass

Diameter 3.2 - 19 mm (.189 - .783 inch)

Just one tool for most threads with the same pitch

Right hand threads

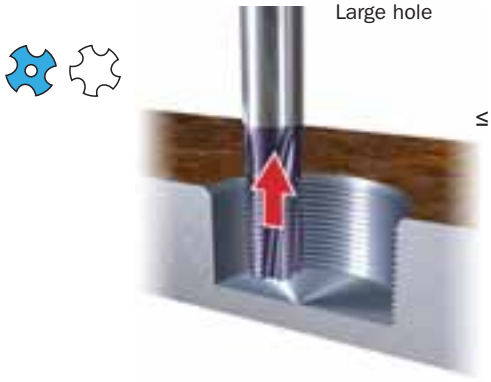
Small hole



≤ 48 HRC

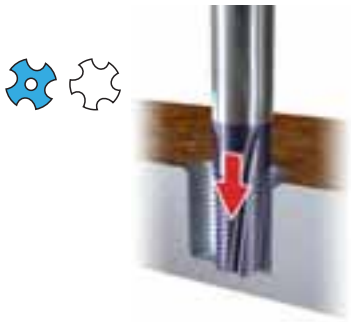
Right hand threads

Large hole



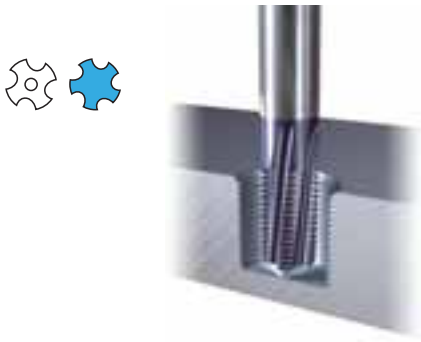
≤ 48 HRC

Left hand threads

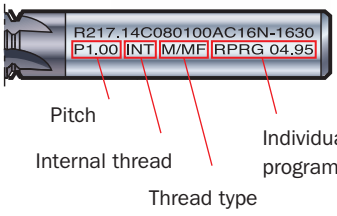


≤ 48 HRC

Right hand threads



≤ 56 HRC
- requires more than one pass



Secure performance

- Cutting small chips - easy to evacuate.
- Easy to remove tool in the event of breakage.

Common machine tool and set-up requirements

- Capability for simultaneous helical interpolation on three axes (x- y- z).
- Tool mounting in conventional chucks.

Cutting data and programming

Use the PluraGuide for selection of tool, and correct cutting data and for programming

Please contact your local Sandvik Coromant office for more information.

PluraGuide

For cutting data and tool recommendation, please consult PluraGuide (C-2948-117).

ISO application areas:

P M K N S H

Code key for CoroMill® Plura thread milling endmills

R	21	7	.	1	5	C	100	300	A	K	30	N
1	2	3		4	5	6	7	8	9	10	11	12

1 Direction of rotation

R Right hand

2 Type of tool

21 Endmill

3 Function

7 Thread milling

4 Type of thread

1= Metric/Metric Fine internal thread

2= Metric/Metric Fine external thread

3= UNC/UNF internal thread

4= UNC/UNF external thread

5= NPT internal thread

6= NPT external thread

7= NPTF internal thread

8= NPTF external thread

5 Number of teeth

1-9 1 to 9 teeth

6 Cutting fluid supply

C Internal coolant

- No coolant through

7 Diameter of tool

Cutting diameter in 1/10 mm

8 Pitch

Pitch in 1/10 mm

9 Shank type

A Cylindrical shank

B Weldon shank

10 Length of shank

S Short shank length
C Long shank length
K Shank length > "C"
L Shank length > "K"
X Shank length > "L"

11 Max cutting depth, a_p

Cutting length in mm
(If D_c or D_{c2} < 3 mm in 1/10 mm)

12 Geometry type

N 10° helix, 9-12° rake angle internal thread

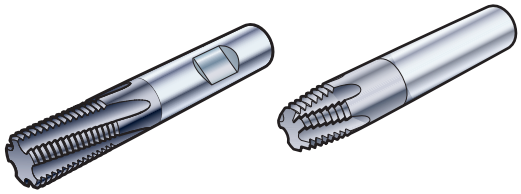
H 30° helix, < 0° rake angle internal thread

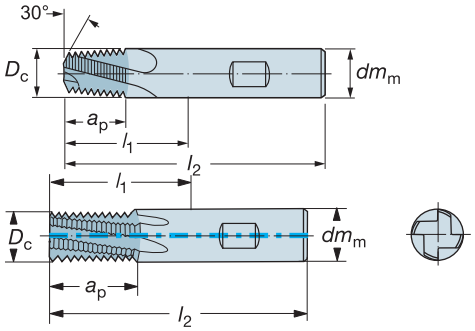
CoroMill® Plura Thread milling cutter

Internal threads

Inch, 60°

Hardness <48HRc





Ordering code	Thread	Coolant[1]	Front type z_n	Dimensions, inch Pitch P_{th}[2]	D_c	dm_m	l_1	l_2	Max a_p	P GC 1630	M GC 1630	K GC 1630	N GC 1630	S GC 1630
Weldon														
R217.53-079270AC11N	1/8-27 NPT	0	3	27	.311	.375	.866	2.284	.453	☆	☆	☆	☆	☆
R217.53-099180AC15N	1/4-18 NPT	0	3	18	.390	.394	1.024	2.598	.627	☆	☆	☆	☆	☆
R217.54-159140AC20N	1/2-14 NPT	0	4	14	.626	.630	1.339	3.228	.806	☆	☆	☆	☆	☆
R217.55-199115AC27N	1/2-14 NPT	0	5	11.5	.784	.787	1.654	3.622	1.068	☆	☆	☆	☆	☆
R217.73-079270AC11N	1/8-27 NPTF	0	3	27	.311	.315	.866	2.284	.453	☆	☆	☆	☆	☆
R217.73-099180AC15N	1/4-18 NPTF	0	3	18	.390	.394	1.024	2.598	.627	☆	☆	☆	☆	☆
R217.74-159140AC20N	1/2-14 NPTF	0	4	14	.626	.630	1.339	3.228	.806	☆	☆	☆	☆	☆
R217.75-199115AC27N	1/2-14 NPTF	0	5	11.5	.784	.787	1.654	3.622	1.068	☆	☆	☆	☆	☆
R217.33C048200AC13N	1/4-20 UNC	1	3	20	.189	.236	.827	2.244	.551	☆	☆	☆	☆	☆
R217.33C048280AC13N	1/4-28 UNF	1	3	28	.189	.236	.827	2.244	.536	☆	☆	☆	☆	☆
R217.33C055180AC14N	5/16-18 UNC	1	3	18	.216	.236	.827	2.244	.556	☆	☆	☆	☆	☆
R217.33C060240AC13N	5/16-24 UNF	1	3	24	.236	.236	.827	2.244	.541	☆	☆	☆	☆	☆
R217.34C075160AC19N	3/8-16 UNC	1	4	16	.295	.315	1.063	2.480	.750	☆	☆	☆	☆	☆
R217.34C080140AC19N	7/16-14 UNC	1	4	14	.315	.315	1.063	2.480	.785	☆	☆	☆	☆	☆
R217.34C080200AC19N	7/16-20 UNF	1	4	20	.315	.315	1.063	2.480	.750	☆	☆	☆	☆	☆
R217.34C100120AC21N	9/16-12 UNC	1	4	12	.394	.394	1.260	2.835	.833	☆	☆	☆	☆	☆
R217.34C100130AC21N	1/2-13 UNC	1	4	13	.394	.394	1.260	2.835	.846	☆	☆	☆	☆	☆
R217.34C100180AC22N	9/16-18 UNF	1	4	18	.394	.394	1.260	2.835	.889	☆	☆	☆	☆	☆
R217.34C120110AC25N	5/8-11 UNC	1	4	11	.472	.472	1.496	3.268	1.000	☆	☆	☆	☆	☆
R217.35C140100AC33N	3/4-10 UNC	1	5	10	.551	.551	1.496	3.268	1.300	☆	☆	☆	☆	☆
R217.35C140160AC31N	3/4-16 UNF	1	5	16	.551	.551	1.496	3.268	1.250	☆	☆	☆	☆	☆

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

2) Pitch numbers are given per inch (TPI).

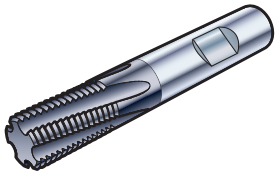
D355 D356 D229 G6 D2

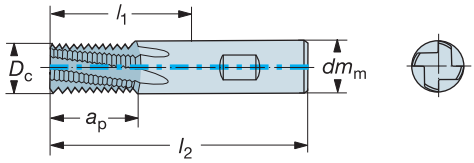
CoroMill® Plura Thread milling cutter

Internal threads

Metric/Metric Fine, 60°

Hardness <48HRc





Thread type	Ordering code	Coolant[1)]	Front type z_n	Dimensions, mm Pitch P_{th}	D_c	dm_m	l_1	l_2	Max a_p	P GC 1630	M GC 1630	K GC 1630	N GC 1630	S GC 1630
	Cylindrical shank													
M4x0.7	**R217.13-032070AC08N**	0	3	0.7	3.2	6	21	57	8.4	☆	☆	☆	☆	☆
M5x0.8	**R217.13-041080AC11N**	0	3	0.8	4.1	6	21	57	11.2	☆	☆	☆	☆	☆
M6x0,5	**R217.13C048050AC10N**	1	3	0.5	4.8	6	21	57	10	☆	☆	☆	☆	☆
M6x1.0	**R217.14C045100AC13N**	1	4	1	4.5	6	21	57	13	☆	☆	☆	☆	☆
M8x0,75	**R217.13C060075AC12N**	1	3	0.75	6	6	21	57	12	☆	☆	☆	☆	☆
M8x1.25	**R217.14C060125AK17N**	1	4	1.25	6	6	29	65	17.5	☆	☆	☆	☆	☆
M10x1,0	**R217.14C080100AC16N**	1	4	1	8	8	27	63	16	☆	☆	☆	☆	☆
M10x1.5	**R217.14C075150AK21N**	1	4	1.5	7.5	8	36	72	21	☆	☆	☆	☆	☆
M12x1.75	**R217.14C095175AK26N**	1	4	1.75	9.5	10	40	80	26.25	☆	☆	☆	☆	☆
M14x1,5	**R217.14C120150AC22N**	1	4	1.5	12	12	38	83	22.5	☆	☆	☆	☆	☆
M14x2.0	**R217.15C100200AK30N**	1	5	2	10	10	43	83	30	☆	☆	☆	☆	☆
M16x2.0	**R217.15C120200AK34N**	1	5	2	12	12	47	92	34	☆	☆	☆	☆	☆
M18x1,5	**R217.15C160150AC30N**	1	5	1.5	16	16	44	92	30	☆	☆	☆	☆	☆
M20x2,5	**R217.15C160250AK42N**	1	5	2.5	16	16	57	105	42.5	☆	☆	☆	☆	☆
M24x3,0	**R217.15C190300AK50N**	1	5	3	19	20	75	125	50	☆	☆	☆	☆	☆

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

D355 D356 D229 G6 D2

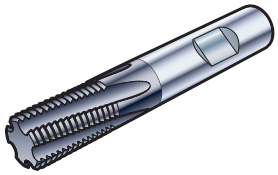
SANDVIK Coromant

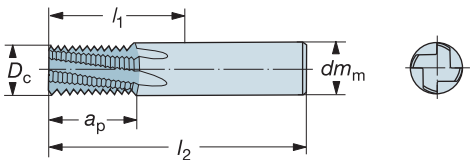
CoroMill® Plura Thread milling cutter

Internal threads

Metric/Metric Fine, 60°

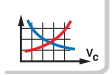
Hardness 48-63HRc





Thread type	Ordering code	Coolant[1]	Front type z_n	Dimensions, mm Pitch P_{th}	D_c	dm_m	l_1	l_2	Max a_p	P GC 1620	H GC 1620
	Cylindrical shank										
M6x1.0	**R217.14-045100AC10H**	0	4	1	4.5	6	21	57	10	☆	☆
M8x1.25	**R217.15-060125AC12H**	0	5	1.25	6	6	21	57	12.5	☆	☆
M10x1.5	**R217.15-080150AC16H**	0	5	1.5	8	8	27	63	16.5	☆	☆
M12x1.75	**R217.15-090175AC19H**	0	5	1.75	9	10	32	72	19.25	☆	☆
M16x2.0	**R217.15-120200AC26H**	0	5	2	12	12	38	83	26	☆	☆
>=M12x1.0	**R217.15-100100AC20H**	0	5	1	10	10	32	72	20	☆	☆
>=M14x1.5	**R217.16-120150AC27H**	0	6	1.5	12	12	38	83	27	☆	☆

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


D355

D356

D229

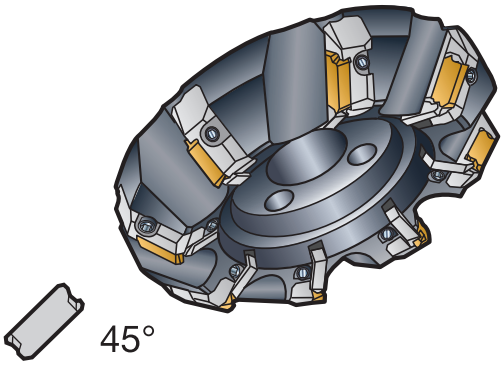
G6

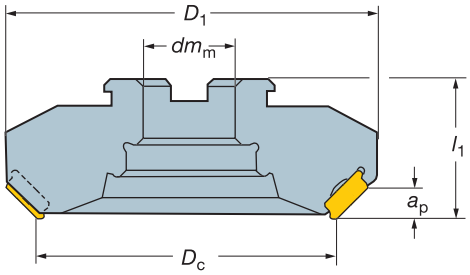
D2

Heavy duty face mill T-Max 45

Face mill

Diameter 100-400 mm (3.937-15.748inch)
Adjustable
Positive/negative rake





l_1 = programming length

Metric version

		Ordering code						Dimensions, mm					
	D_c mm	Coarse pitch			Close pitch				dm_m	D_1	l_1	Max a_p	n_{max} [1]
		Arbor											
18	100	-	-	-	R260.7-100-30	6	-	3.5	32	135	63	12	5000
	125	-	-	-	R260.7-125-30	8	-	4.5	40	158.6	63	12	4500
		R260.7-125-40	-	6	-	-	-	4.5	40	158.6	63	12	4500
	160	-	-	-	R260.7-160-30	10	-	7.0	40	192.2	63	12	4000
		R260.7-160-40	-	8	-	-	-	7.0	40	192.2	63	12	4000
	200	-	-	-	R260.7-200-30	14	-	12.0	60	231.1	63	12	3500
		R260.7-200-40	-	10	-	-	-	12.0	60	231.1	63	12	3500
	250	R260.7-250-40	-	10	-	-	-	16.0	60	280.2	63	12	3000
	315	R260.7-315-40	-	12	-	-	-	25.0	60	344.4	80	12	2800
	400	R260.7-400-40	-	16	-	-	-	40.5	60	428.7	80	12	2500

Inch version

		Ordering code						Dimensions, inch					
	D_c inch	Coarse pitch			Close pitch				dm_m	D_1	l_1	Max a_p	n_{max} [1]
		Arbor											
18	3.937	-	-	-	RA260.7-100-30	6	-	7.7	1.250	5.314	2.480	.470	5000
	4.921	-	-	-	RA260.7-125-30	8	-	9.9	1.500	6.244	2.480	.470	4500
		RA260.7-125-40	-	6	-	-	-	9.9	1.500	6.244	2.480	.470	4500
	6.299	-	-	-	RA260.7-160-30	10	-	15.4	1.500	7.566	2.480	.470	4000
		RA260.7-160-40	-	8	-	-	-	15.4	1.500	7.566	2.480	.470	4000
	7.874	-	-	-	RA260.7-200-30	14	-	26.5	2.500	9.098	2.480	.470	3500
		RA260.7-200-40	-	10	-	-	-	26.5	2.500	9.098	2.480	.470	3500
	9.843	RA260.7-250-40	-	10	-	-	-	35.3	2.500	11.031	2.480	.470	3000
	12.402	RA260.7-315-40	-	12	-	-	-	55.1	2.500	13.559	3.150	.470	2800
	15.748	RA260.7-400-40	-	16	-	-	-	89.3	2.500	16.878	3.150	.470	2500

1) n_{max} (max. rev/min) for holders must also be considered.

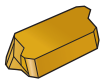
Note!
Mounting dimensions, see Metal cutting Technical guide.
Bolt circle for cutters 200 and 250mm = 4"

= Even pitch
= Differential pitch

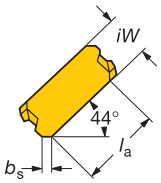
GC D356 D302 G6 D2

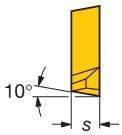
SANDVIK Coromant

Inserts for heavy duty face mill T-MAX 45

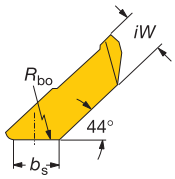


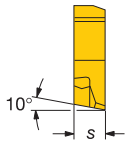
LNCX -11





LNCX-1W
Wiper





LNCX -32

		P									M						K						N		S			H		Dimensions, mm, inch				
		GC	GC	GC	GC	GC	GC	-	-	-	GC	GC	GC	-	-	-	GC	GC	GC	GC	GC	-	-	GC	-	GC	-	GC	GC					
		2040	235	3040	4220	4230	4240	S6	SM30	SMA	2040	235	4240	S6	SM30	SMA	3020	3040	4220	4230	4240	H13A	H13A	2040	H13A	3040	4220							
	Ordering code																													l_a	s	iW	b_s	R_{bo}
18	**LNCX 18 06 AZ L-11**			☆	☆	★	☆					☆	☆					☆	☆	☆	☆					☆	☆			18.77	6.4	10	2	
																														.739	*.252*	*.394*	*.079*	
	LNCX 18 06 AZ R-11	☆	☆	☆	☆	★	☆	☆	☆	☆	★	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆			18.77	6.4	10	2	
																														.739	*.252*	*.394*	*.079*	
	LNCX 18 06 AZ R-1W								☆						☆																10.5	9.28	10	400
																															.413	*.365*	*.394*	*15.748*
	LNCX 18 06 AZ R-32		☆			★						☆								☆										18.62	6.8	10	2.2	
																														.733	*.268*	*.394*	*.087*	
		P45	P40	P20	P20	P20	P40	P40	P35	P25	M40	M35	M40	M35		M10	K20	K30	K25	K30	K40	K20	N15	S30	S20	H25	H25							

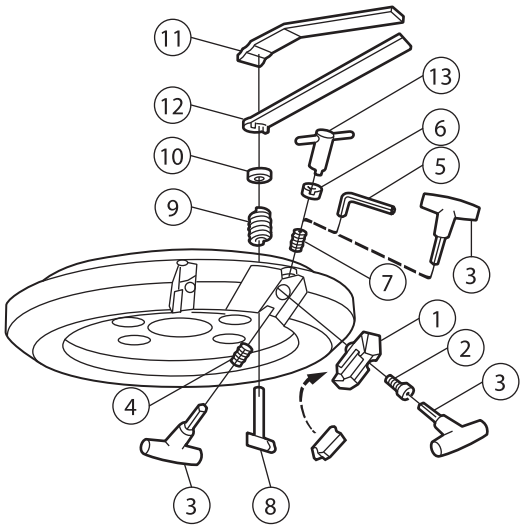
★= First choice

Note!
For grade description, see page D356.

D334 D356

Spare parts for T-Max 45

RA260.7
R260.7



Cutter			1	2	3	4	5	6	7
	D_c mm		Seat	Screw	Key (mm)	Screw	Key (mm)	Nut	Screw
R260.7-	100 | 200	R	260.7-830M	3212 010-310	265.2-821 (4.0)	3214 010-409	3021 010-040 (4.0)	260.7-842	3214 010-408
R260.7-	125 | 400	L	260.7-831M	3212 010-310	265.2-821 (4.0)	3214 010-409	3021 010-040 (4.0)	260.7-842	3214 010-408

Cutter			8	9	10	11		**Accessories[2]** 12[2]	13[2]
	D_c mm		Clamp	Spring	Bayonet washer	Indexing lever	Seat for wiper inserts	Clamp removal key for bayonet washer	Locking key for relocking shim location in event of the cutter re-setting
R260.7-	100 | 200	R	260.7-820	260.7-841	260.7-840	260.7-856M	5321-046-01	260.7-857[1]	260.7-855M
R260.7-	125 | 400	L	260.7-821	260.7-841	260.7-840	260.7-856M	5321-046-02	260.7-857[1]	260.7-855M

1) For cutters with diameter 100 mm, use key 260.7-858.
2) Accessories, must be ordered separately

Ordering example: 10 pieces 260.7-830M

Cutter			1	2	3	4	5	6	7
	D_c inch		Seat	Screw	Key (mm)	Screw	Key (mm)	Nut	Screw
RA260.7-	3.973 | 7.874	**R**	260.7-830M	3212 010-310	265.2-821 (4.0)	3214 010-409	3021 010-040 (4.0)	260.7-842	3214 010-408
RA260.7-	4.921 | 15.748	**L**	260.7-831M	3212 010-310	265.2-821 (4.0)	3214 010-409	3021 010-040 (4.0)	260.7-842	3214 010-408

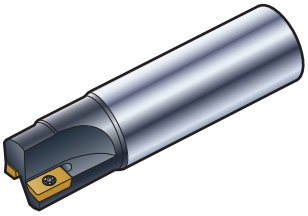
Cutter			8	9	10	11		**Accessories[2]** 12[2]	13[2]
	D_c inch		Clamp	Spring	Bayonet washer	Indexing lever	Seat for wiper inserts	Clamp removal key for bayonet washer	Locking key for relocking shim location in event of the cutter re-setting
RA260.7-	3.973 | 7.874	**R**	260.7-820	260.7-841	260.7-840	260.7-856M	5321-046-01	260.7-857[1]	260.7-855M
RA260.7-	4.921 | 15.748	**L**	260.7-821	260.7-841	260.7-840	260.7-856M	5321-046-02	260.7-857[1]	260.7-855M

1) For cutters with diameter 100 mm, use key 260.7-858.
2) Accessories, must be ordered separately

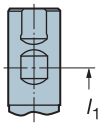
Ordering example: 10 pieces 260.7-830M

U-Max® drilling end mill

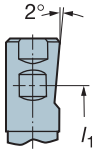
Diameter 12 - 40 mm (.500 - 1.500 inch)



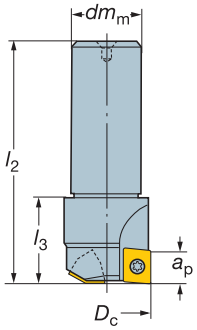
Weldon



Weldon/Whistle Notch



Cylindrical threaded



l_1 = programming length

Metric version

D_c mm	Ordering code Coarse pitch			Dimensions, mm KG	l_1	l_2	l_3	dm_m	Max a_p	n_{max} 2)	Inserts 1) Peripheral	Central
	Cylindrical shank											
20	**R216.2-020**	1	-	0.3	115	115	39.7	20	15.0	15120	**R216.2-170308-2**	
25	**R216.2-025**	2	-	0.5	120	120	39.9	25	15.0	12095	**R216.2-15T308-1**	**R216.2-07T3**
32	**R216.2-032**	2	-	0.8	130	130	39.9	32	15.0	9460	**R216.2-15T308-1**	**R216.2-07T3**
40	**R216.2-040**	2	-	1.1	160	160	39.9	32	15.0	8460	**R216.2-15T312-2**	**R216.2-09T3**
	Whistle Notch/Weldon											
12	**R216.2-712**	1	-	0.1	49	73	20	16	8.0	25200	**R216.2-080204-1A**	
16	**R216.2-716**	1	-	0.2	54	78	25	16	10.0	18900	**R216.2-100204**	
20	**R216.2-520**	1	-	0.4	65	90	37.3	20	15.0	15120	**R216.2-170308-2**	
25	**R216.2-525**	2	-	0.4	64	96	39.9	25	15.0	12095	**R216.2-15T308-1**	**R216.2-07T3**
32	**R216.2-532**	2	-	0.6	64	100	40.3	32	15.0	9460	**R216.2-15T308-1**	**R216.2-07T3**
40	**R216.2-540**	2	-	0.7	67	103	40.6	32	15.0	8460	**R216.2-15T312-2**	**R216.2-09T3**

Inch version

D_c inch	Ordering code Coarse pitch			Dimensions, inch Lbs	l_1	l_2	l_3	dm_m	Max a_p	n_{max} 2)	Inserts 1) Peripheral	Central
	Weldon											
.500	**R216.2-313**	1	-	0.3	1.921	2.874	.787	.625	.315	25200	**R216.2-080204-2A**	
.625	**R216.2-316**	1	-	0.1	2.118	3.071	.984	.625	.393	18900	**R216.2-100204**	
.750	**R216.2-319**	1	-	0.5	2.485	3.500	1.469	.750	.591	15120	**R216.2-170308-1**	
1.000	**R216.2-325**	2	-	0.6	2.672	3.678	1.571	.750	.591	12095	**R216.2-15T308-1**	**R216.2-07T3**
1.250	**R216.2-332**	2	-	1.3	2.735	3.884	1.588	1.250	.591	9460	**R216.2-15T308-1**	**R216.2-07T3**
1.500	**R216.2-338**	2	-	0.9	2.859	4.000	1.598	1.250	.591	8460	**R216.2-15T312-2**	**R216.2-09T3**

1) Inserts are ordered separately.

2) n_{max} (max. rev/min) for holders must also be considered.

3) Weldon/Plain parallel only.

= Even pitch

= Differential pitch

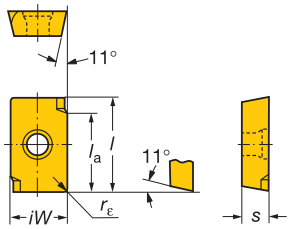
GC D356 D304 G6 D2

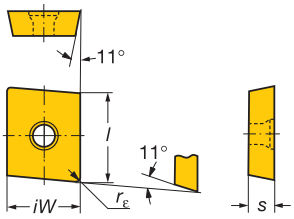
Inserts for U-MAX drilling end mill

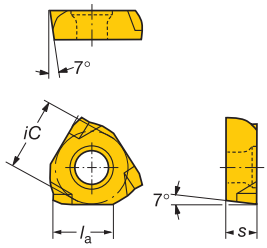
-08
-10
-17
Combi insert

-15
Peripheral insert

-07
-09
Central insert



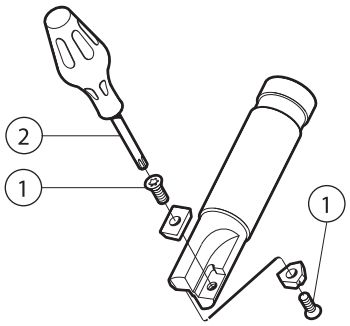




	Ordering code	P SM30 -	M SM30 -	Dimensions, millimeter, inch (mm, in.) l_a mm	l_a in.	l mm	l in.	iW mm	iW in.	s mm	s in.	r_ε mm	r_ε in.	iC mm	iC in.
07	R216.2-07 T3	☆	☆	7.6	.299	7	.276			3.97	.156			9.5	.374
08	R216.2-08 02 04-1A	☆	☆	8.2	.323	9.5	.374	6.3	.248	2.38	.094	0.4	.016		
09	R216.2-09 T3	☆	☆	9.3	.366	9	.354			3.97	.156			13	.512
10	R216.2-10 02 04	☆	☆	10.2	.402	11.5	.453	8.3	.327	2.38	.094	0.4	.016		
15	R216.2-15 T3 08-1	☆	☆			15.2	.598	9.5	.374	3.97	.156	0.8	.032		
	R216.2-15 T3 12-2	☆	☆			15.2	.598	12.5	.492	3.97	.156	1.2	.047		
17	R216.2-17 03 08-1	☆	☆	15	.591	17.5	.689	9.52	.375	3.18	.125	0.8	.032		
	R216.2-17 03 08-2	☆	☆	15	.591	17.5	.689	10	.394	3.18	.125	0.8	.032		
		P35													

Spare parts for U-Max drilling end mill

R216.2



Cutter	D_c mm	D_c inch	1 Insert screw	2 Key (Torx Plus)	Torque value Nm (in-lbs)	Torque wrench	Molykote
R216.2-	12 | 16	.500 .625	5513 020-21	5680 046-03 (7IP)	6 (0.9)	5680 100-02[1]	5683 010-01
R216.2-	20 | 32	.750 1.250	5513 020-16	5680 046-05 (10IP)	18 (2.0)	5680 100-05[1]	5683 010-01
R216.2-	40	1.500	5513 020-02	5680 046-02 (15IP)	26 (3.0)	5680 100-06[1]	5683 010-01

1) Accessories, must be ordered separately

D334

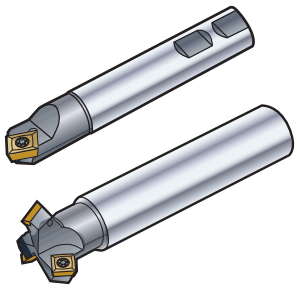
D356

SANDVIK Coromant

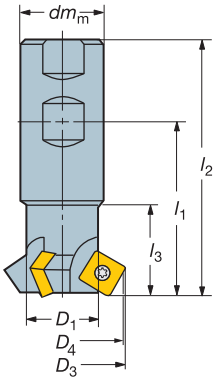
U-Max® chamfering end mill

Diameter 11.7-36.5 mm (.470-1.440 inch)

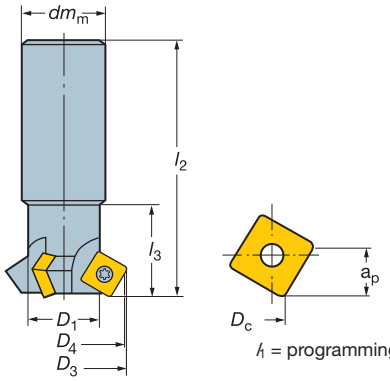
Negative rake



Weldon



Cylindrical



l_1 = programming length

Metric version

□	κ_r	D_c mm	Ordering code Coarse pitch			Dimensions, mm D_1	D_3	D_4	l_2	l_3	dm_m	Max a_p	Max a_p	n_{max} [1]
			Cylindrical shank											
12	45°	11.68	R215.64-12A20-4512	1	-	19.4	27.13	26.7	175	37.8	20	7.9	8.08	25200
	60°	11.68	R215.64-12A20-6012	1	-	19.4	27.13	26.7	175	37.8	20	7.9	8.08	25200
	45°	32.5	R215.64-32A32-4512	3	-	31.4	48.65	48.22	175	36	32	7.9	8.08	9385
	60°	36.47	R215.64-36A32-6012	3	-	27.2	47.78	47.58	175	36	32	9.6	9.99	8855

Inch version

□	κ_r	D_c inch	Ordering code Coarse pitch			Dimensions, inch D_1	D_3	D_4	l_1	l_2	l_3	dm_m	Max a_p	Max a_p	n_{max} [1]
			Weldon												
12	45°	.460	RA215.64-12M19-4512	1	-	.724	1.068	1.051	3.513	4.528	1.091	.750	.309	.319	20845
	60°	.472	RA215.64-12M19-6012	1	-	.724	.903	.874	3.513	4.528	1.091	.750	.379	.393	25200
	45°	1.280	RA215.64-32M32-4512	3	-	1.224	1.915	1.898	4.139	5.280	1.091	1.250	.309	.319	9385
	60°	1.436	RA215.64-36M32-6012	3	-	1.071	1.881	1.873	4.139	5.280	1.091	1.250	.379	.394	8855

[1] n_{max} (max. rev/min) for holders must also be considered.

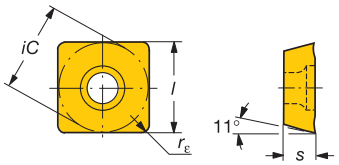
= Even pitch

= Differential pitch

Inserts for U-Max® chamfering end mill

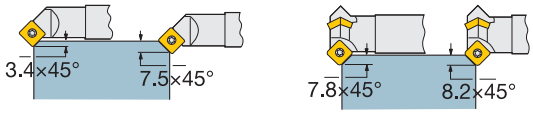
SPMT -WL

SPMT -WH



Maximum chamfer size

U-MAX 45°



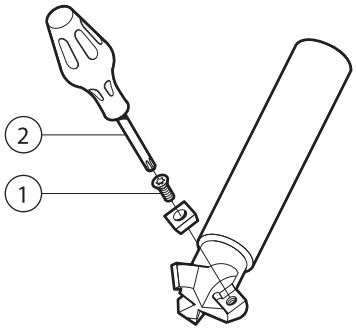
U-MAX 60°

□	Ordering code	P			M		K		N	S	Dimensions, millimeter, inch (mm, in.) l mm	l in.	d_1 mm	d_1 in.	s mm	s in.	r_ε mm	r_ε in.	iC mm	iC in.
		GC	GC	-	GC	-	GC	-	-	-										
		4030	4040	SM30	4040	SM30	4030	H13A	H13A	H13A										
12	SPMT 12 04 08-WH	☆	☆	☆	☆	☆	☆	☆	☆	☆	12.7	.500	4.4	.173	4.76	.188	0.8	.032	12.7	.500
	SPMT 12 04 08-WL	☆	☆		☆		☆	☆	☆	☆	12.7	.500	4.4	.173	4.76	.188	0.8	.032	12.7	.500
		P25	P40	P35	M40		K30	K20	N15	S20										

D334 D356 D306 G6 D2

Spare parts for U-Max® chamfering end mill

RA215.64
R215.64



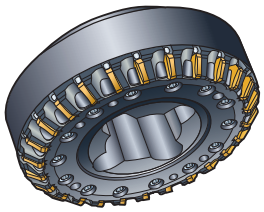
Cutter	D_c mm	D_c inch	1	2			
			Insert screw	Key (Torx Plus)	Torque value Nm (in-lbs)	Torque wrench	Molykote
RA215.64	**12**	**.460**					
R215.64-	**|**	**|**	5513 020-29	5680 046-02 (15IP)	3.0 (26)	5680 100-06[1)]	5683 010-01
	36.5	**1.440**					

1) Accessories, must be ordered separately

Sandvik AUTO

Sandvik AUTO – Roughing

45°

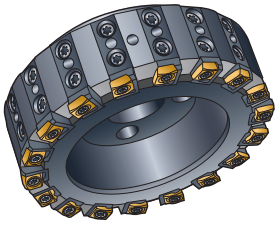


$\kappa_r = 45°$

R/LA260.3
R/L260.3
R/L260.31
Negative rake
Diameter 125-500 mm (3.150-19.685 inch)
Page D308

AUTO-AF – Finishing

75° (15°)

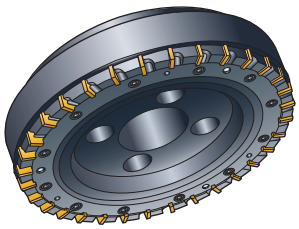


$\kappa_r = 75°$

R/LA 260.8
R/L260.8
R/L260.82
Sandvik AUTO -AF adjustable cutter for face milling
Positive rake
Diameter 80-500mm (3.150-19.685 inch)
Page D311

AUTO-FS – Finishing

90° (0°)



$\kappa_r = 90°$

R/LA262.4
R/L262.42
R/262.4
R/262.42
Negative rake
Diameter 80-500mm (3.150-19.685 inch)
Page D311

Cylinder boring

Tailor Made

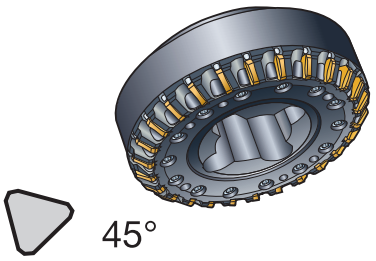
R/L260.20
Positive rake
Diameter 63-101.6 mm (2.480-4.000 inch)
Page D318

For more technical information, see our Metalcutting Technical guide

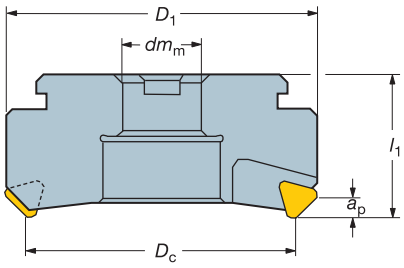
Sandvik AUTO – Roughing

Face mill

Diameter 125-500 mm (3.150-19.685 inch)

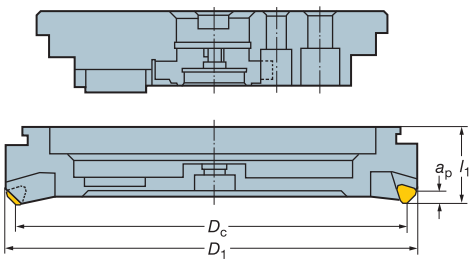


Arbor



R/L260.3

Arbor



R/L260.31 (Cap design)

Note!

Support body for Cap design must be ordered separately, see page D320.

l_1 = programming length

Metric version

	D_c mm	Ordering code Close pitch			Dimensions, mm KG	dm_m	D_1	l_1 1)	Max a_p	n_{max} 2)	Support body
		Arbor									
12	125	R/L260.3-125M-10	20	-	5.7	40	145.2	63	6.0	1400	
	160	R/L260.3-160M-10	26	-	8.9	40	180.2	63	6.0	1250	
	200	R/L260.3-200M-10	32	-	17.5	60	220.2	63	6.0	1100	
		Cap mounting									
12	250	R/L260.31-250-10	40	-	19.0		270.2	63	6.0	1000	260-425M-1
	315	R/L260.31-315-10	50	-	25.0		335.2	63	6.0	900	260-431M-1
	355	R/L260.31-355-10	56	-	30.0		375.2	63	6.0	800	260-435M-1
	400	R/L260.31-400-10	64	-	35.0		420.2	63	6.0	800	260-440M-1
	500	R/L260.31-500-10	80	-	51.0		520.2	63	6.0	700	260-450M-1

Inch version

	D_c inch	Ordering code Close pitch			Dimensions, inch Lbs	dm_m	D_1	l_1 1)	Max a_p	n_{max} 2)
		Arbor								
12	3.150	R/LA260.3-080M-10	10	-	5.5	1.000	3.945	2.375	.236	1700
	3.937	R/LA260.3-100M-10	14	-	7.9	1.250	4.732	2.375	.236	1550
	4.921	R/LA260.3-125M-10	20	-	11.9	1.500	5.716	2.375	.236	1400
	6.299	R/LA260.3-160M-10	26	-	26.9	1.500	7.094	2.375	.236	1250
	7.874	R/LA260.3-200M-10	32	-	38.6	2.500	8.669	2.375	.236	1100
	9.843	R/LA260.3-250M-10	40	-	55.1	2.500	10.638	2.375	.236	1000
	12.402	R/LA260.3-315M-10	50	-	88.2	2.500	13.197	2.375	.236	900
	13.976	R/LA260.3-355M-10	56	-	105.8	2.500	14.772	2.375	.236	800
	15.748	R/LA260.3-400M-10	64	-	121.3	2.500	16.543	2.375	.236	800
	19.685	R/LA260.3-500M-10	80	-	198.4	2.500	20.480	2.375	.236	700

1) With precision inserts.

2) n_{max} (max. rev/min) for holders must also be considered.

Note!
Support body dimensions, see page D320.
Mounting dimensions, see Metal cutting Technical guide.

Bolt circle for cutters 200 and 250mm = 4"

= Even pitch

= Differential pitch

D309
D310
G6
D2

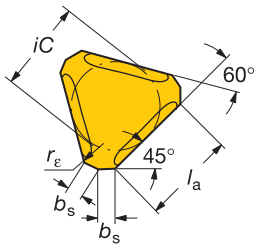
SANDVIK Coromant

Inserts for Sandvik AUTO cutters

WL
KM
KX

CA

AN
ANE

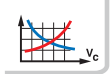


	△	Ordering code	P			M		K					H	Dimensions, millimeter, inch (mm, in.)									
			GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC											
			3040	4230	4240	4230	4240	3040	4230	4240	K20D	K20B	3040	Max a_p mm	Max a_p in.	iC mm	iC in.	s mm	s in.	b_s mm	b_s in.	l_a mm	l_a in.	r_ε mm	r_ε in.
Light	12	TNEF 12 04 AN-WL	☆					☆				☆	☆	6	.236	12.7	.500	4.76	.188	1.75	.069	12	.472	2	.079
Medium	12	TNEF 12 04 AN-KM									☆	☆		6	.236	12.7	.500	4.76	.188	1.25	.049	12	.472	2	.079
		TNEF 12 04 AN-KX										☆		6	.236	12.7	.500	4.76	.188	1.25	.049	12	.472		
		TNEF 12 04 AN-CA	☆					☆				☆	☆	6	.236	12.7	.500	4.76	.188	1.5	.059	12	.472	3	.118
		TNHF 12 04 AN-CA		☆	☆	☆	☆		☆	☆				6	.236	12.7	.500	4.76	.188	1.5	.059	12	.472	3	.118
		TNEN 12 04 AN	☆					☆				☆	☆	6	.236	12.7	.500	4.76	.188	2.5	.098	12	.472		
			P20	P20	P40	M30	M40	K30	K30	K40	K15	K20	H25												

Advanced cutting materials

TNCN
ANE
AN

	△	Ordering code	K	H	Dimensions, millimeter, inch (mm, in.)									
			CC	CC										
			6190	6190	Max a_p mm	Max a_p in.	iC mm	iC in.	s mm	s in.	b_s mm	b_s in.	l_a mm	l_a in.
Light	12	TNCN 12 04 ANE	☆	☆	6	.236	12.7	.500	4.76	.188	2.5	.098	12	.472
Medium	12	TNCN 12 04 AN	☆	☆	6	.236	12.7	.500	4.76	.188	2.5	.098	12	.472
			K05	H10										


D334

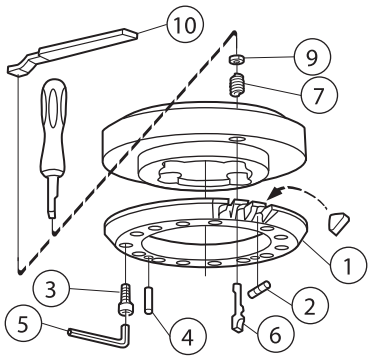
D327

D356

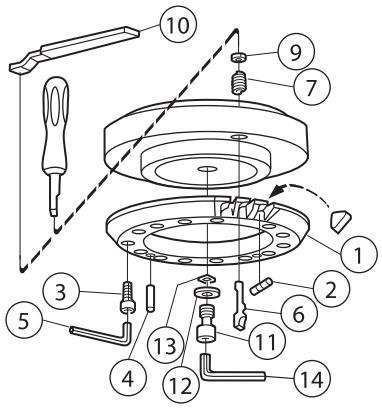
D2

Spare parts for Sandvik AUTO

R/L260.3



R/L260.31
Cap design

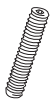


Cutter	D_c mm (inch)			1 Seating ring	2 Location roller	3 Screw	4 Taper pin	5 Key (mm)	6 Wedge
R/LA260.3- R/L260.3	080M 200M	(3.150) (7.874)	R L	R260.3-D[2] M-80[1] L260.3-D[2] M-80[1]	260.3-846 260.3-847	3212 010-361	3112 010-563	3021 010-050 (5.0)	260.3-822 260.3-823
R/L260.31-	250 500	(9.843) (19.68	R L	R260.3-D[2] M-80[1] L260.3-D[2] M-80[1]	260.3-846 260.3-847	3212 010-361	3112 010-563	3021 010-050 (5.0)	260.3-822 260.3-823

Cutter	D_c mm (inch)		7 Spring	9 Bayonet washer	10 Indexing lever	11[3] Screw	12 Washer	13 Locking ring	14 Key (mm)
R/LA260.3- R/L260.3-	080M-200M (3.150-7.874)	-10	260.3-831	260.4-830	260.3-833M	–	–	–	–
R/LA260.31 R/L260.31-	250-500 (9.843-19.685)	-10	260.3-831	260.4-830	260.3-833M	260.31-831	3411 011-170	260.31-840	3021 010-140 (14.0)

1) Incl. location rollers.
2) D = D_c = Cutter diameter.
3) Torque ≤ 120 Nm

Accessories[1]

Cutter		Mounting fixture for mounting location roller in seating ring	Location screw for location seating ring during assembly	Key (mm)	 Puller screw for removing seating	Key (mm)
R/LA260.3, R/LA260.31 R/L260.3, R/L260.31	R	260.3-850	68/660	3021 010-050	3214 010-416	3021 010-040
	L			(5.0)		(4.0)

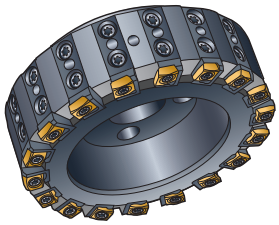
Cutter		Dummy insert Used when the recommended feed per tooth cannot be used.	Wedge	Nut	Wedge-key for removing bayonet washer
R/LA260.3, R/LA260.31 R/L260.3, R/L260.31	R	260.3-845	260.3-824	260.3-844	260.3-835
	L		260.3-825		

1) Accessories, must be ordered separately

AUTO-AF – Finishing

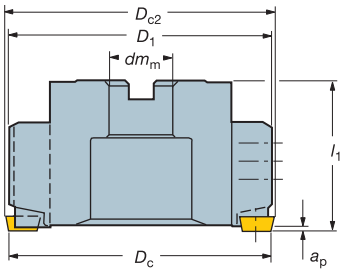
Face mill

Diameter 80 - 500 mm
Adjustable
Positive



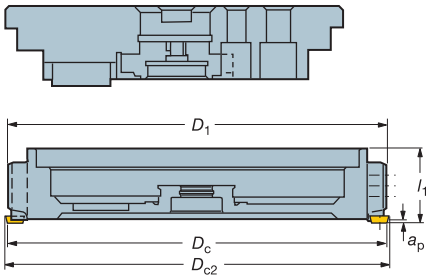
$\kappa_r = 75°$

Arbor



R/L260.8

Arbor



R/L260.82 (Cap design)

Note! Support body for Cap design must be ordered separately, see page D320.

l_1 = programming length

Metric version

	D_c	Ordering code	Insert type		Dimensions, mm							
	mm	Extra close pitch	F	L	kg	dm_m	D_1	D_{c2}	l_1	Max a_p	n_{max} [1]	Support body
		Arbor										
12	80	R/L260.8-080Q22-12H-F	8		1.5	22	84.9	84	63	1.0	5985	
		R/L260.8-080Q22-12H-FL	1	7	1.5	22	84.9	84	63	1.0	5985	
	100	R/L260.8-100Q32-12H-F	10		2.0	32	103.6	104	63	1.0	5350	
		R/L260.8-100Q32-12H-FL	1	9	2.0	32	103.6	104	63	1.0	5350	
	125	R/L260.8-125Q40-12H-F	14		3.0	40	127.6	129	63	1.0	4785	
		R/L260.8-125Q40-12H-FL	2	12	3.0	40	127.6	129	63	1.0	4785	
	160	R/L260.8-160Q40-12H-F	18		5.0	40	161.8	164	63	1.0	4230	
		R/L260.8-160Q40-12H-FL	3	15	5.0	40	161.8	164	63	1.0	4230	
	200	R/L260.8-200Q60-12H-F	24		8.0	60	201.1	204	63	1.0	3785	
		R/L260.8-200Q60-12H-FL	4	20	8.0	60	201.1	204	63	1.0	3785	
	250	R/L260.8-250Q60-12H-F	30		13.0	60	250.6	254	63	1.0	3385	
		R/L260.8-250Q60-12H-FL	5	25	13.0	60	250.6	254	63	1.0	3385	
		Cap mounting										
12	250	R/L260.82-250-12H-F	30		8.0		250.6	254	63	1.0	3385	260-425M-1
		R/L260.82-250-12H-FL	5	25	8.0		250.6	254	63	1.0	3385	260-425M-1
	315	R/L260.82-315-12H-F	32		13.0		315.2	319	63	1.0	3015	260-431M-1
		R/L260.82-315-12H-FL	4	28	13.0		315.2	319	63	1.0	3015	260-431M-1
	355	R/L260.82-355-12H-F	40		15.0		355	359	63	1.0	2840	260-435M-1
		R/L260.82-355-12H-FL	4	36	15.0		355	359	63	1.0	2840	260-435M-1
	400	R/L260.82-400-12H-F	40		18.0		399.8	404	63	1.0	2675	260-440M-1
		R/L260.82-400-12H-FL	4	36	18.0		399.8	404	63	1.0	2675	260-440M-1
	500	R/L260.82-500-12H-F	48		44.0		499.8	504	63	1.0	2395	260-450M-1
		R/L260.82-500-12H-FL	6	42	44.0		499.8	504	63	1.0	2395	260-450M-1

1) n_{max} (max. rev/min) for holders must also be considered.

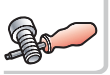
Note!
Support body dimensions, see page D320.
Mounting dimensions, see Metal cutting Technical guide.

Bolt circle for cutters 200 and 250mm = 4"

= Even pitch

= Differential pitch

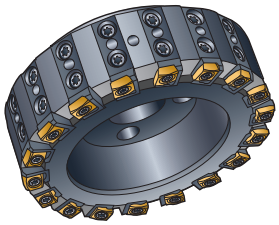
Note!
When -F and -L inserts are combined in the same cutter (FL), the -F insert should be adjusted 0.01 mm below the -L insert.

D313  D314 G6 D2

AUTO-AF – Finishing

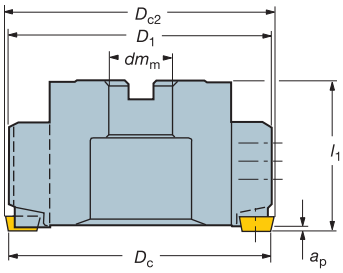
Face mill

Diameter 3.150 - 9.843 inch
Adjustable
Positive



15°

Arbor



R/L260.8

l_1 = programming length

Inch version

	D_c inch	Ordering code Extra close pitch	Insert type F	Insert type L	Lbs	dm_m	D_1	D_{c2}	l_1	Max a_p	n_{max} [1]
		Arbor									
12	3.150	R/LA260.8-080R19-12H-F	8		3.3	.750	3.342	3.307	2.480	.039	5985
		R/LA260.8-080R19-12H-FL	1	7	3.3	.750	3.342	3.307	2.480	.039	5985
	3.937	R/LA260.8-100R32-12H-F	10		4.4	1.250	4.079	4.095	2.480	.039	5350
		R/LA260.8-100R32-12H-FL	1	9	4.4	1.250	4.079	4.095	2.480	.039	5350
	4.921	R/LA260.8-125R38-12H-F	14		6.6	1.500	5.024	5.079	2.480	.039	4785
		R/LA260.8-125R38-12H-FL	2	12	6.6	1.500	5.024	5.079	2.480	.039	4785
	6.299	R/LA260.8-160R38-12H-F	18		15.3	1.500	6.370	6.457	2.480	.039	4230
		R/LA260.8-160R38-12H-FL	3	15	15.3	1.500	6.370	6.457	2.480	.039	4230
	7.874	R/LA260.8-200R63-12H-F	24		17.6	2.500	7.917	8.031	2.480	.039	3785
		R/LA260.8-200R63-12H-FL	4	20	17.6	2.500	7.917	8.031	2.480	.039	3785
	9.843	R/LA260.8-250R63-12H-F	30		28.7	2.500	9.866	10.000	2.480	.039	3385
		R/LA260.8-250R63-12H-FL	5	20	28.7	2.500	9.866	10.000	2.480	.039	3385

[1] n_{max} (max. rev/min) for holders must also be considered.

Note!
Support body dimensions, see page D320.
Mounting dimensions, see Metal cutting Technical guide.

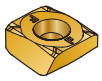
Bolt circle for cutters 200 and 250mm = 4"

= Even pitch
= Differential pitch

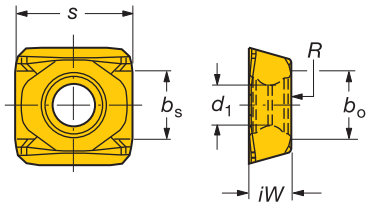
Note!
When -F and -L inserts are combined in the same cutter (FL), the -F insert should be adjusted 0.01 mm below the -L insert.

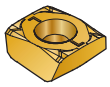
D313
D314
G6
D2

Inserts for AUTO AF Finishing

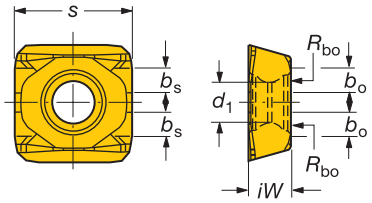


N260.8 -F





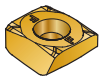
N260.8 -L



	Ordering code	P				K				N	S		H		Dimensions, millimeter, inch (mm, in.)											
			GC	GC	CB	-	-	-	GC	CB																
		3040	3040	CB50	H13A	H13A	H13A	3040	CB50																	
															s mm	s in.	d_1 mm	d_1 in.	iW mm	iW in.	b_s mm	b_s in.	b_o mm	b_o in.	R_{bo} mm	R_{bo} in.
12	N260.8-1204-F	☆	☆	☆	☆	☆	☆	☆	☆						12.7	.500	4.4	.173	4.76	.187	7.0	.276	7.0	.276	800	31.496
	N260.8-1204-L	☆	☆		☆	☆	☆	☆							12.7	.500	4.4	.173	4.76	.187	2.5	.098	2.5	.098	150	5.906
		P20	K30	K10	K20	N15	S20	H25	H05																	

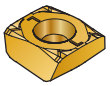
For grade description, see page D356.

Insert design



Type F, wiper

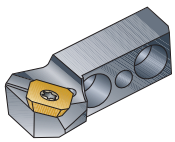
- with long parallel lands and four cutting edges/ insert, right or left hand. To be used where high quality surface finish is required.



Type L

- with shorter parallel lands, have four right and four left hand cutting edges/insert.
  Low axial cutting forces facilitate milling of modern, thin walled components on weak machines, where L inserts should be used.
  L inserts can also be used in combination with F inserts.

CoroMill® 245 cassettes



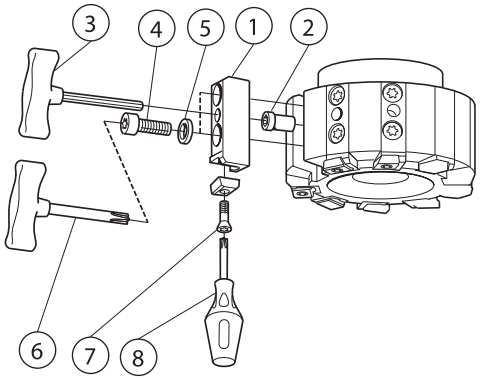
Ordering code	
R260.8-245 12	Right hand
L260.8-245 12	Left hand

D334 D327 D356 D2

Spare parts for AUTO-AF finishing

Cap design

R/LA260.8-F
R/L260.8-F R/L260.82-F
R/L260.8-FL R/L260.82-FL
R/LA260.8-FL



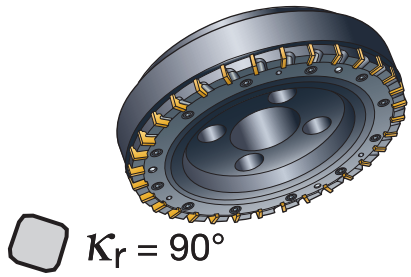
Cutter		Insert type	1	2	3	4	5	6	7	8
	D_c mm (inch)		Cassette	Eccentric pin	Key (mm)	Screw	Washer	Key (Torx Plus)	Insert screw	Key (Torx Plus)
R/LA260.8 R/L260.8-	080 (3.150) – 125 (4.921)	-F	R260.8-1-12F L260.8-1-12F	265.2-874	265.2-821 (4.0)	3212 012-359	5541014-07	5680 048-07 (30IP)	416.1-834	5680 046-02 (15IP)
R/LA260.8 R/L260.8-	160 (6.299) – 250 (7.874)	-F	R260.8-2-12F L260.8-2-12F	265.2-874	265.2-821 (4.0)	3212 012-359	5541014-07	5680 048-07 (30IP)	416.1-834	5680 046-02 (15IP)
R/L260.82-	250 (9.843) – 500	-F	R260.8-3-12F L260.8-3-12F	265.2-874	265.2-821 (4.0)	3212 012-359	5541014-07	5680 048-07 (30IP)	416.1-834	5680 046-02 (15IP)
R/LA260.8 R/L260.8-	080 (3.150) – 125 (4.921)	-FL	R260.8-1-12L L280.8-1-12L	265.2-874	265.2-821 (4.0)	3212 012-359	5541014-07	5680 048-07 (30IP)	416.1-834	5680 046-02 (15IP)
R/LA260.8 R/L260.8-	160 (6.299) – 250 (7.874)	-FL	R260.8-2-12L L260.8-2-12L	265.2-874	265.2-821 (4.0)	3212 012-359	5541014-07	5680 048-07 (30IP)	416.1-834	5680 046-02 (15IP)
R/L260.82-	250 (9.843) – 500 (19.685)	-FL	R260.8-3-12L L260.8-3-12L	265.2-874	265.2-821 (4.0)	3212 012-359	5541014-07	5680 048-07 (30IP)	416.1-834	5680 046-02 (15IP)
R/L260.82-	80 (3.150) – 500 (19.685)	-FL	R260.8-245-12 L260.8-245-12	265.2-874	265.2-821 (4.0)	3212 012-359	5541014-07	5680 048-07 (30IP)	5513 020-09	5680 046-02 (15IP)

AUTO-FS – Finishing

Square shoulder face mill

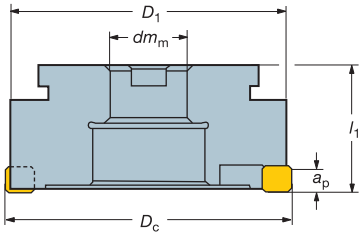
Diameter 125-500 mm (4.921-19.685 inch)

Negative rake



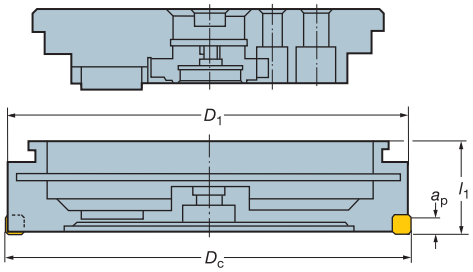
$\kappa_r = 90°$

Arbor



R/L262.4
R/LA262.4

Arbor



R/L262.42 (Cap design)

Note! Support body for Cap design must be ordered separately, see page D320.

l_1 = programming length

Metric version

		Ordering code						Dimensions, mm						
D_c mm		Close pitch			Extra close pitch				dm_m	D_1	l_1	Max a_p	n_{max} [1]	Support body
		Arbor												
12	125	R/L262.4-125A-15	20	-	-	-	-	7.0	40	124.6	63	8.0	2200	
	160	R/L262.4-160A-15	26	-	-	-	-	10.0	40	159.6	63	8.0	1950	
	200	R/L262.4-200A-15	32	-	-	-	-	14.0	60	199.6	63	8.0	1750	
	250	-	-	-	R262.4-250A-15	32	-	22.0	60	249.6	63	8.0	1550	
	315	-	-	-	R262.4-315A-15	32	-	20.0	60	314.6	63	8.0	1400	
	400	-	-	-	R/L262.4-400A-15	40	-	64.0	60	399.6	63	8.0	1250	
	500	-	-	-	R262.4-500A-15	48	-	92.0	60	499.6	63	8.0	1100	
		Cap mounting												
12	250	R/L262.42-250A-15	32	-	-	-	-	13.0		249.6	63	8.1	1550	260-425M-1
	315	R/L262.42-315A-15	32	-	-	-	-	20.0		314.6	63	8.1	1400	260-431M-1
	355	R/L262.42-355A-15	40	-	-	-	-	23.0		354.6	63	8.1	1300	260-435M-1
	400	R/L262.42-400A-15	40	-	-	-	-	27.0		399.6	63	8.1	1250	260-440M-1
	500	R/L262.42-500A-15	48	-	-	-	-	39.0		499.6	63	8.1	1100	260-450M-1

Inch version

		Ordering code			Dimensions, inch					
D_c inch		Close pitch			dm_m	D_1	l_1	Max a_p	n_{max} [1]	
		Arbor								
12	4.921	R/LA262.4-125A-15	20	-	15.4	1.500	4.882	2.375	.320	2200
	6.299	R/LA262.4-160A-15	26	-	22.0	1.500	6.260	2.375	.320	1950
	7.874	R/LA262.4-200A-15	32	-	30.9	2.500	7.835	2.375	.320	1750
	9.843	R/LA262.4-250A-15	32	-	39.7	2.500	9.803	2.480	.320	1550
	12.402	R/LA262.4-315A-15	32	-	72.8	2.500	12.362	2.480	.320	1400
	15.748	R/LA262.4-400A-15	40	-	121.3	2.500	15.709	2.480	.320	1250
	19.685	R/LA262.4-500A-15	48	-	198.4	2.500	19.646	2.480	.320	1100

1) n_{max} (max. rev/min) for holders must also be considered.

Note!
Support body dimensions, see page D320.
Mounting dimensions, see Metal cutting Technical guide.
Bolt circle for cutters 200 and 250mm = 4"

= Even pitch

= Differential pitch

D316 D317 G6 D2

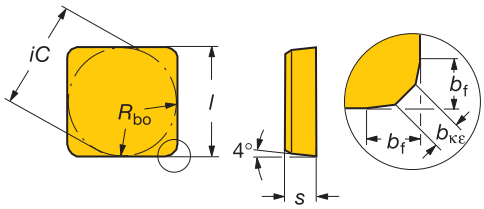
Inserts for AUTO-FS – Finishing

Finishing

SBEN

SBEX

SBEX-11



	↕□	Ordering code	P	K					N	H		Dimensions, millimeter, inch (mm, in.)									
			GC	GC	GC	-	GC	GC	GC	GC	-										
			3040	3040	3220	H1P	K15W	K20W	K15W	3040	H1P	iC mm	iC in.	s mm	s in.	b_f mm	b_f in.	$b_{κε}$ mm	$b_{κε}$ in.	R_{bo} mm	R_{bo} in.
Light	12	**SBEX 12 04 ZZ-11**	☆	☆	★		★	☆	☆	☆		12.7	.500	4.8	.188			0.7	.028		
		SBEX 12 03 ZZ-11			★		★	☆	☆			12.7	.500	3.2	.125			0.7	.028		
		SBEX 12 04 ZZ				☆					☆	12.7	.500	4.8	.188			0.7	.028		
Wiper	12	**SBEN 12 03 ZZ**			★		★	★	☆			12.7	.500	3.2	.125	1.2	.047	0.7	.028	2960	116.535
		SBEN 12 04 ZZ			★		★	★	☆			12.7	.500	4.8	.188	1.2	.047	0.7	.028	2960	116.535
			P20	K30	K15	K05	K15	K20		H25	H10										

★= First choice

For grade description, see page D356.

SBEN
- Coated grade for high cutting speed
- Wiper insert combined with SBEX -11 inserts
  As a wiper insert it will automatically be positioned 0.05 mm below the SBEX -11 inserts.
- Optimized corner geometry

SBEX
- Negative chipformer with strong cutting edges
- Use SBEN as wiper insert
- Coated grades for high cutting speeds

SBEX-11
- Positive chipformer generates lower cutting forces, appr. 30%, eliminating vibration.
- Use SBEN as wiper insert.

D334

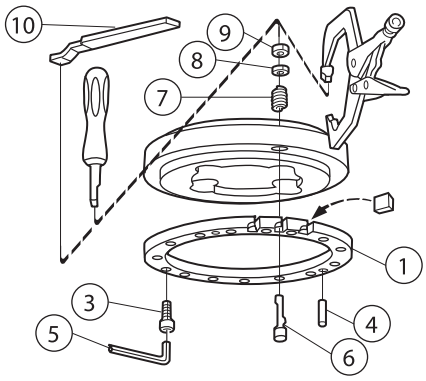
D327

D356

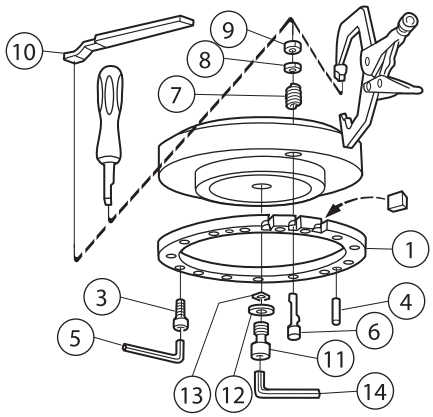
D2

Spare parts for AUTO-FS

R/L262.4
R/LA262.4



Cap design
R/L262.42



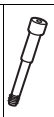
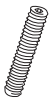
Cutter D_c mm (inch)			1 Seating ring	3 Screw	4 Taper pin	5 Key (mm)	6 Wedge	7 Spring
R/L262.42- / R/LA262.4 / R/L262.4	250A (9.843) | 500A (19.685)	R / -15 / L	R260.4-D[1] -85 / L260.4-D[1] -85	3212 010-349	3112 010-563	3021 010-040 (4.0)	260.4-821	260.4-835

Cutter D_c mm (inch)			8 Cup spring	9 Bayonet washer	10 Indexing lever	11 Screw	12 Washer	13 Lock ring	14 Key (mm)
R/L262.4-	125A (4.921) | 200A (7.874)	R / -15 / L	3846 010-033	260.4-831M	260.3-833M	–	–	–	–
R/L262.42-	250A (9.843) | 500A (19.685)	R / -15 / L	3846 010-033	260.4-831M	260.3-833M	260.31-831[2]	3411 011-170	260.31-840	3021 010-140 (14.0)

[1] D = D_c = Cutter diameter.

[2] Torque ≤ 120 Nm

Accessories[1]

Cutter	 Location screw for location seating ring during assembly	Key (mm)	 Puller screw for removing seating	Key (mm)	Tongs for removing bayonet washer
R/L262.4, R/L262.42	68/781	3021 010-040 (4.0)	3214 010-309	174.1-863 (2.5)	260.4-836

[1] Accessories, must be ordered separately

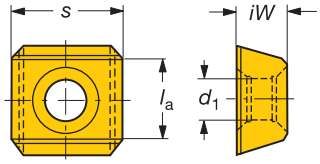
Inserts for AUTO cylinder boring cutter R/L260.20

Sandvik Auto cylinder boring cutter

Tailor Made

A positive cutter for roughing of cylinder bores.
- A Tailor Made concept for most cylinder bores currently on the market.
- Operates with low cutting forces.
- Improved bore size control, better consistency.
- Reduced tool and service costs.
- Inserts with parallel land result in better surface, i.e. reduced withdrawal marks.
- The grade profile provides the right grade for any material and cutting data.
- Recommended cutting depth .040-.240 inch.

Inserts for AUTO cylinder boring cutter R/L260.20

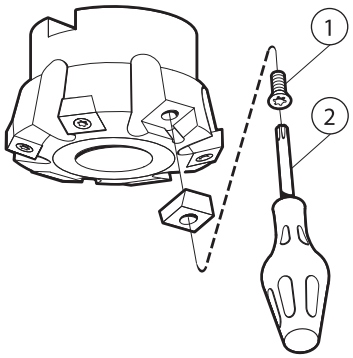


SDKX
SDMX

		P	K			N	S	H	Dimensions, millimeter, inch (mm, in.)							
		GC	GC	GC	-	-	-	GC								
□	Ordering code	3040	3015	3040	H13A	H13A	H13A	3040	s mm	s in.	l_a mm	l_a in.	D_1 mm	D_1 in.	iW mm	iW in.
15	SDMX 15 06 08	☆	☆	☆				☆	6.35	.250	11	.433	5.6	.220		
	SDMX 15 06 ZN		☆						6.35	.250	11	.433	5.6	.220	6.35	.250
	SDKX 15 06 08				☆	☆	☆		6.35	.250	11	.433	5.6	.220		
	SDKX 15 06 ZN				☆	☆	☆		6.35	.250	11	.433	5.6	.220	6.35	.250
		P20	K15	K30	K20	N15	S20	H25								

Spare parts

R/L260.20



Cutter	1	2		
	Insert screw	Key (Torx Plus)	Torque value Nm (in-lbs)	Molykote
R/L260.20	5513 016-01	5680 048-04 (20IP)	5.0 (44.3)	5683 010-01

1) Accessories, must be ordered separately

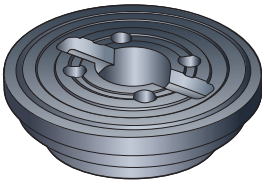
D334 D356 D2 D327

SANDVIK Coromant

Support body

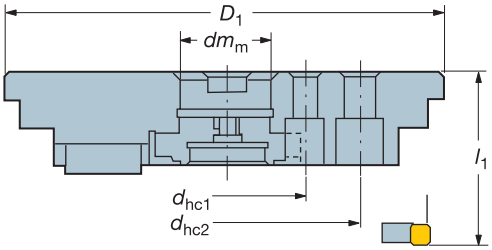
For Cap design cutters

Diameter 250 – 500 mm



Support bodies are supplied as standard with spacers mounted to compensate for a spindle inclination of 0.1:1000.

Arbor



l_1 = programming length

Metric version

Cutter dia. D_c mm	Ordering code	For Cap cutter	Dimensions, mm kg	l_1 1)	dm_m	D_1	d_{hc1}	d_{hc2}
250	**260-425M-1**	L260.31-250-10	11.5	80	60	222.4	101.6	
		R/L262.42-250A-15						
		R/L260.82-250-12H-F						
		R/L260.82-250-12H-FL						
315	**260-431M-1**	L260.31-315-10	20.0	80	60	287.4	101.6	177.8
		R/L262.42-315A-15						
		R/L260.82-315-12H-F						
		315-12H-F-315-12H-FL						
355	**260-435M-1**	L260.31-355-10	29.0	80	60	327.4	101.6	177.8
		R/L262.42-355A-15						
		R/L260.82-355-12H-F						
		R/L260.82-355-12H-FL						
400	**260-440M-1**	L260.31-400-10	39.0	80	60	372.4	101.6	177.8
		R/L262.42-400A-15						
		R/L260.82-400-12H-F						
		R/L260.82-400-12H-FL						
500	**260-450M-1**	L260.31-500-10	67.0	80	60	472.4	101.6	177.8
		R/L262.42-500A-15						
		R/L260.82-500-12H-F						
		R/L260.82-500-12H-FL						

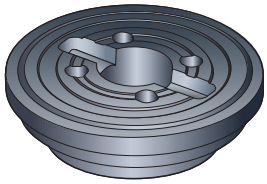
1) With cutter unit mounted.

D321

Support body

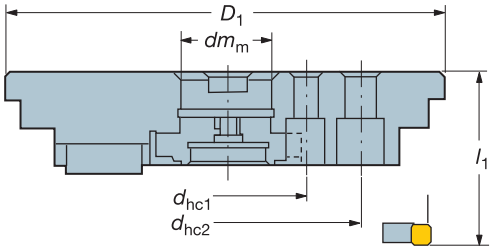
For Cap design cutters

Diameter 9.843-19.827 inch



Support bodies are supplied as standard with spacers mounted to compensate for a spindle inclination of 0.1:1000.

Arbor



l_1 = programming length

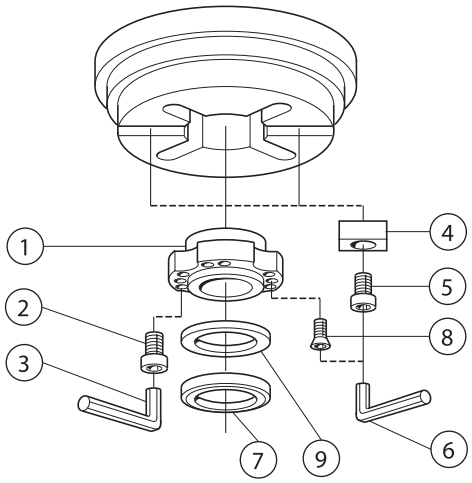
Inch version

Cutter dia. D_c inch	**Ordering code**	For Cap cutter	Dimensions, inch Lbs	l_1 1)	dm_m	D_1	d_{hc1}	d_{hc2}
9.843	**A260-425M-1**	L260.31-250-10	25.4	2.375	2.500	8.756	4	
		R/L262.42-250A-10						
		R/L260.82-250-12H-F						
		R/L260.82-250-12H-FL						
		R/L262.42-250A-05						
		R/L262.42-250A-15						
12.543	**A260-431M-1**	L260.31-315-10	44.1	2.375	2.500	8.756	4	7
		R/L262.42-315A-10						
		R/L260.82-315-12H-F						
		R/L260.82-315-12H-FL						
		R/L262.42-315A-05						
		R/L262.42-315A-15						
13.976	**A260-435M-1**	L260.31-355-10	63.9	2.375	2.500	8.756	4	7
		R/L262.42-355A-10						
		R/L260.82-355-12H-F						
		R/L260.82-355-12H-FL						
		R/L262.42-355A-05						
		R/L262.42-355A-15						
15.890	**A260-440M-1**	L260.31-400-10	86.0	2.375	2.500	8.756	4	7
		R/L262.42-400A-10						
		R/L260.82-400-12H-F						
		R/L260.82-400-12H-FL						
		R/L262.42-400A-05						
		R/L262.42-400A-15						
19.827	**A260-450M-1**	L260.31-500-10	147.7	2.375	2.500	8.756	4	7
		R/L262.42-500A-10						
		R/L260.82-500-12H-F						
		R/L260.82-500-12-H-FL						
		R/L262.42-500A-05						
		R/L262.42-500A-15						

1) With cutter unit mounted.

Spare parts for support body

260/A260



	1	2	3	4	5	6	7[1]	8[1]	9[1][2]
	Centering sleeve	Screw	Key (mm)	Driving wedge	Screw	Key (mm)	Backing ring	Screw	Spacer set
260-	260-838	3212 010-411	3021 010-060 (6.0)	260-837	3212 010-311	3021 010-040 (4.0)	260-835	3213 010-399	260 836-1
A260-	260-839	3212 010-411	3021 010-060 (6.0)	260-837	3212 010-311	3021 010-040 (4.0)	260-835	3213 010-399	260 836-1

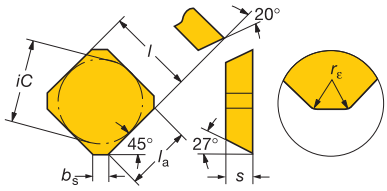
1) Accessories, must be ordered separately

2) For adjusting the support body when using R/L262.42 in milling machines with a spindle inclination larger than 0.1:1000 mm. Contains spacers 0.02. 0.05 and 0.1 mm thick. See Metalcutting Technical guide.

Face milling 45°

SEER
SEKR

SEKN/SEK
SEMN/SEM



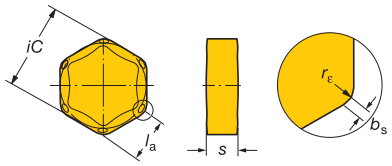
Dimensions, mm (inch)

Size	*iC*	l_a	*l*
12	12.7 (.500)	9.6 (.378)	12.7 (.500)
15	15.9 (.625)	12.7 (.500)	15.9 (.625)

	Insert size	Ordering code	P						M					K					N		S			H	Dimensions, millimeter, inch (mm, in.)						
			GC	GC	GC	GC	GC	CT	GC	GC	GC	GC	CT	GC	GC	GC	GC	-	CT	-	GC	GC	-	GC							
			2030	2040	3040	4230	4240	530	2030	2040	4230	4240	530	3020	3040	4230	4240	H13A	530	H13A	2030	2040	H13A	3040	*s* mm	*s* in.	b_s mm	b_s in.	r_ε mm	r_ε in.	ANSI
Medium	12	**SEKR 12 03 AZ-WM**				☆	☆																		3.18	.125	1.6	.063	1.5	.059	SEKR 12 03 AZ-WM
		SEKR 12 04 AZ-WM				☆	☆	☆						☆					☆						4.76	.188	1.6	.063	1.5	.059	SEKR 12 04 AZ-WM
	15	**SEKR 15 04 AZ-WM**								☆															4.76	.188	1.6	.063	1.5	.059	SEKR 15 04 AZ-WM
	12	**SEKN 12 03 AZ**	☆		☆	☆	☆	☆	☆		☆	☆	☆		☆	☆	☆		☆		☆			☆	3.18	.125	1.7	.067	1.2	.047	SEK 42A
		SEKN 12 04 AZ		☆	☆	☆	☆	☆		☆	☆	☆	☆	☆	☆	☆	☆		☆			☆		☆	4.76	.188	1.7	.067	1.2	.047	SEK 43A
		SEMN 12 04 AZ						☆				☆						☆	☆	☆			☆		4.76	.188	2.0	.079			SEM 43A
	15	**SEKN 15 04 AZ**			☆	☆	☆				☆	☆		☆	☆	☆	☆							☆	4.76	.188	1.6	.063	1.5	.059	SEK 53A
			P30	P45	P20	P20	P40	P15	M25	M40	M30	M40	M10	K20	K30	K30	K40	K20	N15	N15	S20	S30	S20	H25							

Face milling 45°/60° (45°/30°)

KM



	Insert size	Ordering code	K	Dimensions, millimeter, inch (mm, in.)									
			GC										
			K20D	Max a_p mm	Max a_p in.	*iC* mm	*iC* in.	l_a mm	l_a in.	*s* mm	*s* in.	r_ε mm	r_ε in.
Medium	09	**HNGX 09 05 20-KM**	☆	3.8	.150	15.9	.625	9.0	.354	5.56	.219	2.0	.079
			K15										

For grade description, see page D356.

★= First choice

D334 D327 D356 D2

SANDVIK Coromant

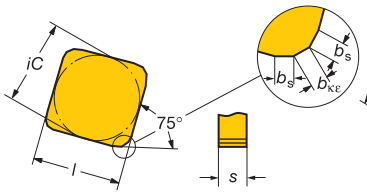
Face milling 75° (15°)

SPKR -WH

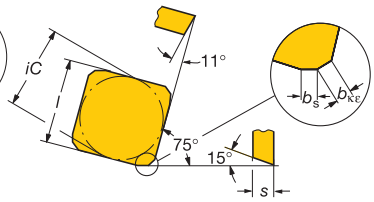
SPKN/SMK

SPEX/SME

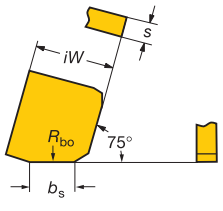
SNKN/SNK



SNKN



SPKN
SPKR-WH



SPEX

Dimensions, mm (inch)

Size	*iC*	*l*	*iW*	R_{bo}
12	12.7 (.500)	12.7 (.500)	12.7 (.500)	500
15	15.9 (.625)	15.9 (.625)	15.9 (.625)	500
19	19.0 (.750)	19.0 (.750)	-	-

	Insert size	Ordering code	P						M					K						N	H		Dimensions, millimeter, inch (mm, in.)						ANSI
			GC	GC	GC	GC	CT	-	GC	GC	GC	CT	-	GC	GC	GC	-	-	-	CT	GC	-							
			2040	3040	4230	4240	530	SM30	2030	2040	4230	530	SM30	3020	3040	4230	H13A	H1P	HM	530	3040	H1P	*s* mm	*s* in.	b_s mm	b_s in.	$b_{k\varepsilon}$ mm	$b_{k\varepsilon}$ in.	
Medium	12	SPKN 12 03 ED R	☆		☆	☆	☆	☆	☆			☆	☆	☆	☆		☆		☆				3.18	.125	1.4	.055	1	.039	SMK 42E2 R
		SNKN 12 04 EN N			☆										☆				☆				4.76	.188	1.5	.059	0.9	.035	SNK 43E2
		SPKN 12 03 ED L					☆					☆					☆						3.18	.125	1.4	.055	1	.039	SMK 42E2 L
		SPKN 12 04 ED R													☆								4.76	.188	1.4	.055	1	.039	SMK 43E2 R
	15	SPKN 15 04 ED R		☆	☆	☆				☆				☆	☆						☆		4.76	.188	1.4	.055	1	.039	SMK 53E2 R
		SPKN 15 04 ED L			☆									☆									4.76	.188	1.4	.055	1	.039	SMK 53E2 L
	19	SPKN 19 04 ED R						☆					☆										4.76	.188	2.7	.106	1	.039	SMK 63E3 R
Heavy	12	SPKR 12 03 ED R-WH			☆	☆					☆					☆							3.18	.125	1.4	.055			SMKR 42E2 R-WH
		SPKR 12 04 ED R-WH			☆						☆					☆							4.76	.188	1.4	.055			SMKR 43E2 R-WH
	15	SPKR 15 04 ED R-WH			☆	☆					☆					☆							4.76	.188	1.4	.055			SMKR 53E2 R-WH
	19	SPKR 19 04 ED R-WH			☆						☆					☆							4.76	.188	2.7	.106			SMKR 63E3 R-WH
Wiper	12	SPEX 12 03 ED R-1																☆				☆	3.18	.125	10.0	.394			SME 42E12 R
		SPEX 12 04 ED R-1																☆				☆	4.76	.188	10.0	.394			SME 43E12 R
	15	SPEX 15 04 ED R-1					☆					☆								☆			4.76	.188	10.0	.394			SME 53E12 R
			P45	P20	P20	P40	P15	P35	M25	M40	M30	M10		K20	K30	K30	K20	K05	K15	N15	H25	H10							

For grade description, see page D356.

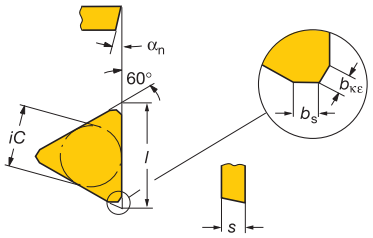
D334 D327 D356 D2

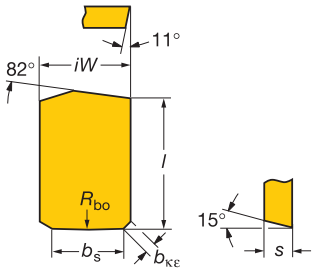
Shoulder milling 90° (0°)

TPKR

TPKN/TPK

BPKX





	ISO	Ordering code	P								M				K						N		S			H	Dimensions, mm, inch						
			GC	GC	GC	GC	GC	CT	-	-	GC	GC	CT	-	GC	GC	GC	GC	-	-	CT	-	GC	GC	-	GC						
			2030	2040	3040	4230	4240	530	S6	SM30	2030	2040	530	SM30	3020	3040	4230	4240	H13A	HM	530	H13A	2030	2040	H13A	3040	*iC*	*l*	*s*	b_s	$b_{K\varepsilon}$	α_n°	ANSI
Medium	3/8	TPKN 16 03 PP R			☆	☆	☆	☆		☆			☆	☆	☆	☆	☆	☆		☆	☆					☆	9.5	16.5	3.2	1.2	1.0	11	TPK 32P2 R
																											.375	.650	.125	.047	.039	11	
	3/4	BPKX 19 04 PD R							☆					☆														19.0	4.8	2.6	0.7	11	BPKX 19 04 PD R
																												.750	.188	.102	.028	11	
	1/2	TPKN 22 04 PD R	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	12.7	22.0	4.8	1.4	0.7	11	TPK 43P2 R
																											.500	.866	.188	.055	.028	11	
		BPKX 15 04 PD R																										15.9	4.8	2.0	0.7	11	BPKX 15 04 PD R
																												.625	.188	.079	.028	11	
Heavy	3/8	TPKR 16 03 PP R-WH			☆	☆	☆									☆	☆	☆								☆	9.5	16.5	3.2	1.2		11	TPKR 32P2 R-WH
																											.375	.650	.125	.047		11	
	1/2	TPKR 22 04 PD R-WH			☆	☆	☆									☆	☆	☆								☆	12.7	22.0	4.8	1.4		11	TPKR 43P2 R-WH
																											.500	.866	.188	.055		11	
			P30	P45	P20	P20	P40	P15	P40	P35	M25	M40	M10		K20	K30	K30	K40	K20	K15	N15	N15	S20	S30	S20	H25							

For grade description, see page D356.

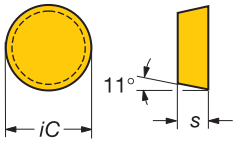
Round inserts for other cutters

Ceramic

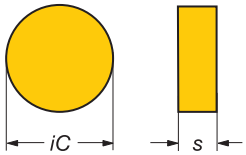
RPGN

RNGN

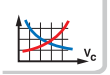
RPGN



RNGN



	ISO	⌀D1	*iC*	K	S	H	H	ANSI
				CC	CC	CC	CC	
				650	6060	650	670	
	RNGN120700E	12	12.7		☆		☆	RNG45A
	RNGN 12 07	12	12.7	☆	☆	☆	☆	RNG45T0320
	RPGN060300E	06	1/4		☆			RPG22A
	RPGN090300E	09	3/8		☆			RPG32A
	RPGN120400E	12	1/2		☆			RPG43A
				K01	S10	H05	H10	


D334

D327
GC
D356

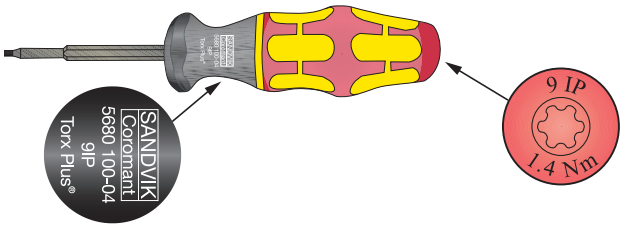
D2

Torx Plus® torque wrench

Correct torque when mounting of inserts in milling cutters is a prerequisite for a well functioning tool. Together with the Torx Plus screws the new wrench is a guarantee for improved and secure insert clamping.

The wrenches, available in several sizes and tested to withstand 10 000 insert tightenings, are each calibrated for the torque needed for correct insert clamping of Sandvik Coromant milling cutters.

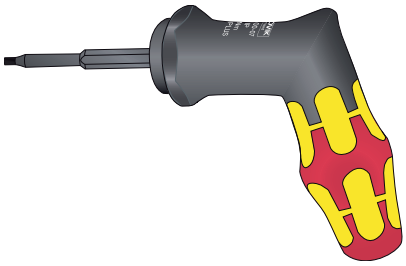
A torque wrench is always recommended for cutters with Torx plus screw. The new wrench must be ordered separately, except for CoroMill® Century, CoroMill® 790 and CoroMill® 390 long edge milling cutters, see spare parts tables.



Note! Torx Plus is a registered trademark of Camcar Textron (USA).

Note!
We want to point out to all our customers that the new Torx Plus keys and screw-drivers do NOT fit into the standard Torx screws.

However, the standard Torx keys and screwdrivers will fit the new Torx Plus screws.



5680 100-07 (20IP) and 5680 100-08 (25IP)

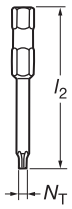
Torx Plus® torque wrench

New torque wrench	Size	Torque in-lbs	Torque Nm	Old torque wrench
5680 100-01	6IP	4	0.6	5680 086-01
5680 100-02	7IP	8	0.9	5680 086-02
5680 100-03	8IP	10	1.2	5680 086-03
5680 100-04	9IP	12	1.4	5680 086-04
5680 100-05	10IP	18	2.0	5680 086-05
5680 100-06	15IP	26	3.0	5680 086-06
5680 100-07	20IP	44	5.0	-
5680 100-08	25IP	66	7.5	-

Torx Plus® torque wrench with bits

5680 105-01
5680 105-02
5680 105-03
5680 105-04

5680 105-05
5680 105-06
5680 105-07
5680 105-08

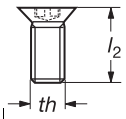


Torque wrench	Torque range Nm	In-lbs	Handle
5680 105-01	0.3 - 1.2		Straight
5680 105-02	1.2 - 3.0		Straight
5680 105-05	3.0 - 6.0		Angled
5680 105-06	4.0 - 8.8		Angled
5680 105-03		2.5 - 11.5	Straight
5680 105-04		11.0 - 26.0	Straight
5680 105-07		26.0 - 55.0	Angled
5680 105-08		35.4 - 78.0	Angled

Bit	l_2 mm	l_2 Inch	N_T Torx Plus
5680 084-01	50	1.969	8IP
5680 084-02	50	1.969	15IP
5680 084-03	89	3.504	15IP
5680 084-04	50	1.969	7IP
5680 084-05	50	1.969	9IP
5680 084-06	50	1.969	10IP
5680 084-07	50	1.969	20IP
5680 084-08	89	3.504	20IP
5680 084-09	89	3.504	25IP
5680 084-10	89	3.504	30IP
5680 084-11	50	1.969	6IP
5680 084-12	80	3.150	27IP
5680 084-13	35	1.378	50IP

Insert screw dimensions and torque values

Note: Always apply Molykote 1000 to screw prior to use.

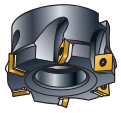
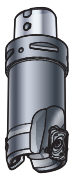
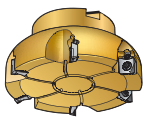


Screw							Torx Plus torque wrench
	Size	**Nm**	ft-lbs	*th*	l_2		Ordering code
416.1-831	8IP	1.2	.664	M2.5–4h	7.00	60°	5680 100-03
416.1-832	9IP	1.4	.886	M3–4h	8.50	60°	5680 100-04
416.1-833	10IP	2.0	1.476	M3.5–4h	9.40	60°	5680 100-05
416.1-834	15IP	3.0	2.214	M4–4h	11.00	60°	5680 100-06
5513 015-01	9IP	1.2	.886	M3.5–4h	8.00	90°	5680 100-03
5513 015-03	9IP	1.2	.886	M3.5–4h	4.15	90°	5680 100-04
5513 015-04	9IP	1.2	.886	M3.5–4h	5.20	90°	5680 100-04
5513 015-05	9IP	1.2	.886	M3.5–4h	7.10	90°	5680 100-04
5513 015-06	9IP	1.2	.886	M3.5–4h	9.10	90°	5680 100-04
5513 015-07	9IP	1.2	.886	M4–4h	9.00	90°	5680 100-04
5513 015-08	9IP	1.2	.886	M3.5–4h	11.40	90°	5680 100-04
5513 016-01	20IP	5.0	3.690	M5–4h	14.00	60°	5680 100-07
5513 020-01	15IP	3.0	2.214	M3.5–4h	12.10	60°	5680 100-06
5513 020-02	15IP	3.0	2.214	M4–4h	8.50	60°	5680 100-06
5513 020-03	7IP	0.8	.590	M2.5–4h	6.50	60°	5680 100-02
5513 020-04	9IP	1.2	.886	M3–4h	7.20	60°	5680 100-04
5513 020-05	7IP	0.8	.590	M2.2–4h	6.40	60°	5680 100-02
5513 020-06	20IP	5.0	3.690	M4–4h	12.20	60°	5680 100-07
5513 020-07	20IP	5.0	3.690	M5–4h	11.05	60°	5680 100-07
5513 020-08	25IP	7.5	5.535	M6–4h	12.20	60°	5680 100-08
5513 020-09	15IP	3.0	2.214	M3.5–4h	8.10	60°	5680 100-06
5513 020-10	15IP	3.0	2.214	M3.5–4h	10.10	60°	5680 100-06
5513 020-11	9IP	1.2	.886	M3.5–4h	5.20	60°	5680 100-04
5513 020-12	9IP	1.2	.886	M3.5–4h	11.00	60°	5680 100-04
5513 020-13	15IP	3.0	2.214	M4–4h	13.60	60°	5680 100-06
5513 020-14	25IP	7.5	5.535	M6–4h	18.25	60°	5680 100-08
5513 020-15	30IP	10.0	7.380	M7–4h	21.35	60°	–
5513 020-16	10IP	3.0	2.214	M3.5–4h	7.60	60°	5680 100-05
5513 020-17	15IP	3.0	2.214	M4–0.5–4h	11.00	60°	5680 100-06
5513 020-18	15IP	3.0	2.214	M4–0.5–4h	14.00	60°	5680 100-06
5513 020-19	7IP	0.8	.590	M2.2–4h	6.40	60°	5680 100-02
5513 020-20	7IP	0.8	.590	M2.5–4h	7.20	60°	5680 100-02
5513 020-21	7IP	2.0	1.476	M2.5–4h	4.70	60°	5680 100-02
5513 020-22	10IP	2.0	1.476	M3.5–0.35–4h	8.90	60°	5680 100-05
5513 020-24	9IP	1.2	.886	M3–4h	8.50	60°	5680 100-04
5513 020-25	15IP	3.0	2.214	M4–4h	12.10	60°	5680 100-06
5513 020-26	20IP	5.0	3.690	M5–4h	17.25	60°	5680 100-07
5513 020-29	15IP	3.0	2.214	M4–4h	11.00	60°	5680 100-06
5513 020-30	10IP	2.0	1.476	M3.5-4h	9.40	60°	5680 100-05
5513 020-31	25IP	7.5	5.535	M6–4h	15.25	60°	5680 100-08
5513 020-32	15IP	3.0	2.214	M3.5–4h	10.00	60°	5680 100-06
5513 020-34	8IP	1.2	.886	M2.5–4h	8.70	60°	5680 100-03
5513 020-35	8IP	1.2	.886	M2.5–4h	7.30	60°	5680 100-03
5513 020-36	8IP	1.2	.886	M2.5–4h	5.95	60°	5680 100-03
5513 020-37	15IP	3.0	2.214	M3.5–4h	6.60	60°	5680 100-06
5513 020-39	15IP	3.0	2.214	M3.5–4h	8.30	60°	5680 100-06
5513 020-40	6IP	0.6	.443	M2–4h	3.50	60°	5680 100-01
5513 020-41	7IP	0.9	.664	M2.2–4h	4.70	60°	5680 100-02
5513 020-42	7IP	0.9	.664	M2.2–4h	5.20	60°	5680 100-02
5513 020-43	15IP	3.0	2.214	M3.5–4h	7.30	60°	5680 100-06
5513 020-44	6IP	0.6	.443	M2–4h	3.85	60°	5680 100-01
5513 020-45	7IP	0.9	.664	M2.5–4h	4.20	60°	5680 100-02
5513 020-46	7IP	0.9	.664	M2.5–4h	5.20	60°	5680 100-02
5513 020-47	7IP	0.9	.664	M2.2–4h	5.20	60°	5680 100-02
5513 020-48	7IP	0.9	.664	M2.5–4h	5.70	60°	5680 100-02
5513 020-50	20IP	5.0	3.688	M5-4H	10.8	60°	5680 100-07
5513 020-52	15IP	3.0	2.214	M4–4h	3.35	60°	5680 100-02
5513 020-55	20IP	5.0	3.688	M5-4h	14.25	60°	5680 100-07
5513 020-56	8IP	1.2	.886	M2.5-4h	7	60°	5680 100-03
5513 021-03	30IP	10.0	7.380	M8-6g	18.00	62°	–
5513 022-01	15IP	3.0	2.214	6-32 UNC-3A	9.65	60°	5680 100-06
5513 036-01	15IP	3.0	2.214	M4	12.1	60°	–
5513 022-02	15IP	3.0	2.214	10-32 UNF-3A	15.88	82°	5680 100-06
5513 022-03	15IP	3.0	2.214	10-32 UNF-3A	12.70	82°	5680 100-06
5513 024-01	8IP	1.2	.886	M2.5	8.30	60°	5680 100-03
5513 040-01	7IP	0.9	.664	M2.5	6.25	41°	5680 100-02
5513 040-02	8IP	1.2	.886	M3	7.80	40°	5680 100-03
5513 040-03	10IP	2.0	1.476	M3.5	9.50	40°	5680 100-05
5513 040-04	15IP	3.0	2.214	M4	13.30	40°	5680 100-06
5513 040-05	20IP	5.0	3.690	M5	16.20	40°	–
5513 040-06	25IP	7.5	5.535	M6	20.00	40°	–
5513 040-07	40IP	26.0	19.188	M8	25.00	40°	–

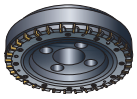
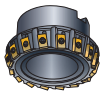
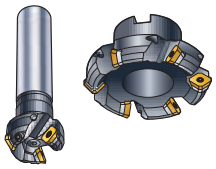
Shoulder milling

κ_r 90° (0°)	Insert geometry	Insert size	Feed per tooth, f_z (mm/tooth) Starting value	(min.- max.)	Max. chip thickness, hex, (mm) Starting value	(min.- max.)	Feed per tooth, f_z (inch/tooth) Starting value	(min.- max.)	Max. chip thickness, hex, (inch) Starting value	(min.- max.)
CoroMill® 490	M-PL	8	0.10	(0.05-0.15)	0.10	(0.05-0.15)	.004	(.002-.006)	.004	(.002-.006)
	M-PM		0.17	(0.10-0.20)	0.17	(0.10-0.20)	.007	(.004-.008)	.007	(.004-.008)
	M-PH		0.22	(0.15-0.25)	0.22	(0.15-0.25)	.006	(.006-.010)	.006	(.006-.010)
	E-ML		0.15	(0.12-0.18)	0.15	(0.12-0.18)	.006	(.005-.007)	.006	(.005-.007)
	E-MM		0.17	(0.15-0.20)	0.17	(0.15-0.20)	.007	(.006-.008)	.007	(.006-.008)
	M-MM		0.17	(0.10-0.17)	0.17	(0.10-0.17)	.007	(.006-.008)	.007	(.006-.008)
	M-KL		0.10	(0.05-0.15)	0.10	(0.05-0.15)	.004	(.002-.006)	.004	(.002-.006)
	M-KM		0.17	(0.10-0.20)	0.17	(0.10-0.20)	.007	(.004-.008)	.007	(.004-.008)
	M-KH		0.25	(0.15-0.30)	0.25	(0.15-0.30)	.010	(.006-.012)	.010	(.006-.012)
	M-PL	14	0.10	(0.05-0.15)	0.10	(0.05-0.15)	.004	(.002-.006)	.004	(.002-.006)
	M-PM		0.17	(0.12-0,25)	0.17	(0.12-0,25)	.007	(.005-.010)	.007	(.005-.010)
	M-PH		0.28	(0.20-0,35)	0.28	(0.20-0,35)	.011	(.008-.014)	.011	(.008-.014)
	E-ML		0.14	(0.08-0.18)	0.14	(0.08-0.18)	.006	(.003-.007)	.006	(.003-.007)
	E-MM		0.12	(0.12-.0.22)	0.12	(0.12-.0.22)	.007	(.005-.009)	.007	(.005-.009)
	M-MM		0.16	(0.12-0.20)	0.16	(0.12-0.20)	.006	(.005-.008)	.006	(.005-.008)
CoroMill 390®										
	E-PL	11	0.08	(0.05- 0.12)	0.08	(0.05- 0.12)	.003	(.002-.005)	.003	(.002-.005)
	E-ML		0.10	(0.05- 0.15)	0.10	(0.05- 0.15)	.004	(.002-.006)	.004	(.002-.006)
	E-KL		0.08	(0.05- 0.12)	0.08	(0.05- 0.12)	.003	(.002-.005)	.003	(.002-.005)
	E-NL		0.20	(0.10-0.30)	0.20	(0.10-0.30)	.008	(.004-.012)	.008	(.004-.012)
	M-PL	11	0.08	(0.05- 0.12)	0.08	(0.05- 0.12)	.003	(.002-.006)	.003	(.002-.006)
	M-KL		0.10	(0.05- 0.15)	0.10	(0.05- 0.15)	.004	(.003-.006)	.004	(.003-.006)
	E-PL	17	0.08	(0.05- 0.12)	0.08	(0.05- 0.12)	.003	(.002-.005)	.003	(.002-.005)
	E-ML		0.10	(0.05- 0.15)	0.10	(0.05- 0.15)	.004	(.002-.006)	.004	(.002-.006)
	E-KL		0.08	(0.05- 0.12)	0.08	(0.05- 0.12)	.003	(.002-.005)	.003	(.002-.005)
	E-NL		0.2	(0.10-0.30)	0.2	(0.10-0.30)	.008	(.004-.012)	.008	(.004-.012)
	M-PL	17	0.08	(0.05- 0.15)	0.08	(0.05- 0.15)	.003	(.002-.006)	.003	(.002-.006)
	M-KL		0.10	(0.08-0.15)	0.10	(0.08-0.15)	.004	(.003-.006)	.004	(.003-.006)
	E-PM	11	0.10	(0.08-0.15)	0.10	(0.08-0.15)	.004	(.003-.006)	.004	(.003-.006)
	E-MM		0.13	(0.08-0.20)	0.13	(0.08-0.20)	.005	(.003-.008)	.005	(.003-.008)
	E-KM		0.12	(0.12-0.20)	0.12	(0.12-0.20)	.005	(.005-.008)	.005	(.005-.008)
	M-PM	11	0.10	(0.08-0.15)	0.10	(0.08-0.15)	.004	(.003-.006)	.004	(.003-.006)
	M-MM		0.13	(0.08-0.20)	0.13	(0.08-0.20)	.005	(.003-.008)	.005	(.003-.008)
	M-KM		0.12	(0.12-0.20)	0.12	(0.12-0.20)	.005	(.005-.008)	.005	(.005-.008)
	E-PM	17	0.10	(0.08-0.15)	0.10	(0.08-0.15)	.004	(.003-.006)	.004	(.003-.006)
	E-MM		0.15	(0.08-0.20)	0.15	(0.08-0.20)	.006	(.003-.008)	.006	(.003-.008)
	E-KM		0.15	(0.12-0.20)	0.15	(0.12-0.20)	.005	(.005-.008)	.005	(.005-.008)
	M-PM	17	0.10	(0.08-0.15)	0.10	(0.08-0.15)	.004	(.003-.006)	.004	(.003-.006)
	M-MM		0.15	(0.08-0.20)	0.15	(0.08-0.20)	.006	(.003-.008)	.006	(.003-.008)
	M-KM		0.15	(0.12-0.20)	0.15	(0.12-0.20)	.006	(.005-.008)	.006	(.005-.008)
	M-PH	11	0.12	(0.08-0.15)	0.12	(0.08-0.20)	.005	(.003-.008)	.005	(.003-.008)
	M-MH		0.16	(0.08-0.22)	0.16	(0.08-0.22)	.006	(.003-.009)	.006	(.003-.009)
	M-KH		0.15	(0.12-0.22)	0.15	(0.12-0.22)	.006	(.005-.009)	.006	(.005-.009)
	M-PH	17	0.20	(0.15-0.35)	0.20	(0.15-0.35)	.008	(.006-.014)	.008	(.006-.014)
	M-KH		0.20	(0.15-0.35)	0.20	(0.15-0.35)	.008	(.006-.014)	.008	(.006-.014)
	H-PL	18	0.10	(0.05-0.19)	0.10	(0.05-0.19)	.004	(.002-.007)	.004	(.002-.007)
	H-ML		0.10	(0.05-0.19)	0.10	(0.05-0.19)	.004	(.002-.007)	.004	(.002-.007)
	H-KL		0.10	(0.05-0.19)	0.10	(0.05-0.19)	.004	(.002-.007)	.004	(.002-.007)
	M-PM	18	0.20	(0.08-0.30)	0.20	(0.08-0.30)	.008	(.003-.012)	.008	(.003-.012)
	M-MM		0.20	(0.08-0.30)	0.20	(0.08-0.30)	.008	(.003-.012)	.008	(.003-.012)
	M-KM		0.20	(0.08-0.30)	0.20	(0.08-0.30)	.008	(.003-.012)	.008	(.003-.012)
	E (PCD)	11	0.15	(0.10-0.25)	0.15	(0.10-0.25)	.006	(.004-.010)	.006	(.004-.010)
	E (PCD)	17	0.15	(0.10-0.25)	0.15	(0.10-0.25)	.006	(.004-.010)	.006	(.004-.010)

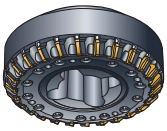
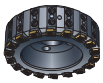
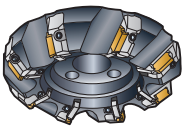
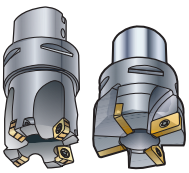
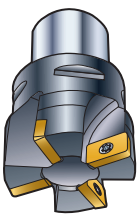
Shoulder milling

κ_r 90° (0°)	Insert geometry	Insert size	Feed per tooth, f_z (mm/tooth) Starting value	(min.- max.)	Max. chip thickness, hex, (mm) Starting value	(min.- max.)	Feed per tooth, f_z (inch/tooth) Starting value	(min.- max.)	Max. chip thickness, hex, (inch) Starting value	(min.- max.)
CoroMill® 290 	M-PL		0.08	(0.05-0.15)	0.08	(0.05-0.15)	.003	(.002-.006)	.003	(.002-.006)
	M-KL		0.10	(0.08-0.15)	0.10	(0.08-0.15)	.004	(.003-.006)	.004	(.003-.006)
	E-PL		0.06	(0.05-0.09)	0.06	(0.05-0.09)	.002	(.002-.004)	.002	(.002-.004)
	E-KL	12	0.08	(0.07-0.12)	0.08	(0.07-0.12)	.003	(.003-.005)	.003	(.003-.005)
	E-ML		0.10	(0.08-0.15)	0.10	(0.08-0.15)	.004	(.003-.006)	.004	(.003-.006)
	M-PM M-KM	12	0.17	(0.10-0.20)	0.17	(0.10-0.20)	.007	(.004-.008)	.007	(.004-.008)
	M-PL M-ML M-KL M-WL	12	0.10	(0.10-0.20)	0.10	(0.10-0.20)	.007	(.004-.008)	.007	(.004-.008)
	M-PM M-MM M-KM M-WM	12	0.12	(0.08-0.15)	0.12	(0.08-0.15)	.005	(.003-.006)	.005	(.003-.006)
	M-PH M-KH M-WH	12	0.25	(0.10-0.30)	0.25	(0.10-0.30)	.010	(.004-.012)	.010	(.004-.012)
	E		0.10	(0.05-0.15)	0.10	(0.05-0.15)	.004	(.002-.006)	.004	(.002-.006)
	E (CBN)		0.10	(0.05-0.15)	0.10	(0.05-0.15)	.004	(.002-.006)	.004	(.002-.006)
CoroMill® 690	M-P-SL M-E-SL	10	0.10	(0.05-0.2)	0.10	(0.05-0.15)	.004	(.002-.008)	.004	(.002-.006)
	M-P-SL M-E-SL	14	0.12	(0.05-0.2)	0.12	(0.05-0.15)	.005	(.002-.008)	.005	(.002-.006)
Coromant Finishing Long Edge *18 end cutting inserts	-PL2 -PL -ML2 -ML -2 -AL	18*/19	0.15	(0.05-0.2)	0.15	(0.05-0.2)	.005	(.002-.008)	.005	(.002-.008)
CoroMill® 790 	H-NL	16	0.2	(0.1-0.3)	0.2	(0.1-0.3)	.008	(.004-.012)	.008	(.004-.012)
	H-NM	16	0.3	(0.1-0.4)	0.3	(0.1-0.4)	.012	(.004-.016)	.012	(.004-.016)
	H-PL	16	0.15	(0.1-0.2)	0.15	(0.1-0.2)	.006	(.004-.008)	.006	(.004-.008)
	H-NL	22	0.3	(0.1-0.4)	0.3	(0.1-0.4)	.012	(.004-.016)	.012	(.004-.016)
	H-NM	22	0.6	(0.2-0.6)	0.6	(0.2-0.6)	.024	(.008-.024)	.024	(.008-.024)
	H-PL	22	0.15	(0.1-0.2)	0.05	(0.02-0.08)	.006	(.004-.008)	.002	(.002-.003)
CoroMill® Century  R590 RA590	-NL CD10		0.15	(0.1-0.2)	0.15	(0.1-0.2)	.006	(.002-.012)	.006	(.002-.012)
	-NL H10		0.20	(0.1-0.4)	0.20	(0.1-0.4)	.008	(.004-.016)	.008	(.004-.016)

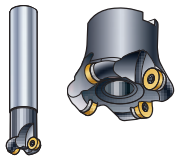
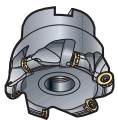
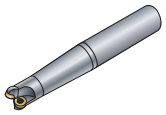
Shoulder milling

κ_r 90° (0°)	Insert geometry	Insert size	Feed per tooth, f_z (mm/tooth) Starting value	(min.- max.)	Max. chip thickness, hex, (mm) Starting value	(min.- max.)	Feed per tooth, f_z (inch/tooth) Starting value	(min.- max.)	Max. chip thickness, hex, (inch) Starting value	(min.- max.)
AUTO-FS Finishing  R/LA262.4 R/L262.4 R/L262.42	SBEN SBEX SBEX-11		0.17	(0.1-0.3)	0.17	(0.1-0.3)	.007	(.004-.012)	.007	(.004-.012)
T-Line Roughing  R260.90	CDE		0.17	(0.1-0.3)	0.17	(0.1-0.3)	.007	(.004-.012)	.007	(.004-.012)
Face milling κ_r 75° -10°	Insert geometry	Insert size	Starting value	(min. - max.)	Starting value	(min.- max.)	Starting value	(min. - max.)	Starting value	(min. - max.)
CoroMill® 345	E-PL E-ML E-KL M-PL M-KL	13	0.15	(0.07-0.20)	0.10	(0.07-0.14)	.006	(.003-.008)	.004	(.003-.006)
	M-PM M-MM M-KM		0.30	(0.15-0.45)	0.21	(0.10-0.32)	.012	(.006-.018)	.008	(.004-.013)
	M-PH		0.45	(0.35-0.55)	0.32	(0.25-0.39)	.012	(.014-.022)	.013	(.010-.015)
	M-KH		0.40	(0.30-0.50)	0.28	(0.21-0.35)	.016	(.012-.020)	.011	(.008-.014)
CoroMill® 245 	E-PL E-ML E-KL		0.14	(0.08-0.21)	0.10	(0.06-0.15)	.006	(.003-.008)	.004	(.002-.006)
	CT530 H13A H10		0.11	(0.07-0.17)	0.08	(0.06-0.12)	.004	(.003-.007)	.003	(.008-.014)
	M-PL M-KL		0.17	(0.07-0.21)	0.12	(0.06-0.15)	.007	(.003-.008)	.005	(.002-.006)
	M-PM M-KM		0.24	(0.10-0.28)	0.17	(0.07-0.20)	.009	(.004-.011)	.007	(.003-.008)
	CT530 H13A		0.12	(0.08-0.18)	0.09	(0.06-0.13)	.005	(.003-.007)	.004	(.002-.005)
	K-MM		0.23	(0.10-0.28)	0.16	(0.07-0.20)	.009	(.004-.011)	.006	(.003-.008)
	M-PH M-KH		0.35	(0.10-0.42)	0.25	(0.07-0.30)	.014	(.004-.017)	.010	(.003-.030)
	E-AL		0.24	(0.10-0.28)	0.17	(0.07-0.28)	.009	(.004-.011)	.010	(.003-.08)
	E Ceramic CC6190		0.21	(0.10-0.30)	0.15	(0.07-0.20)	.008	(.004-.012)	.006	(.003-.008)
	E CBN CB50		0.14	(0.07-0.21)	0.10	(0.06-0.15)	.006	(.003-.008)	.004	(.002-.006)
	E PCD CD10		0.14	(0.07-0.21)	0.10	(0.06-0.15)	.006	(.003-.008)	.004	(.002-.006)

Face and plunge milling

κ_r 75° -10°	Insert geometry	Insert size	Feed per tooth, f_z (mm/tooth) Starting value	(min.- max.)	Max. chip thickness, hex, (mm) Starting value	(min.- max.)	Feed per tooth, f_z (inch/tooth) Starting value	(min.- max.)	Max. chip thickness, hex, (inch) Starting value	(min.- max.)
CoroMill® 365	-PL	15	0.20	(0.12-0.28)	0.18	(0.11-0.25)	.008	(.005-.011)	.008	(.004-.010)
	-PM		0.22	(0.15-0.28)	0.20	(0.14-0.25)	.009	(.005-.011)	.008	(.006-.010)
	-KL		0.22	(0.12-0.35)	0.20	(0.11-0.32)	.009	(.004-.011)	.008	(.004-.013)
	-KM		0.25	(0.15-0.35)	0.23	(0.14-0.32)	.010	(.006-.014)	.009	(.006-.013)
Sandvik AUTO 	TNHF-WL TNEF-WL		0.17	(0.08-0.21)	0.12	(0.06-0.15)	.007	(.003-.008)	.005	(.002-.006)
	TNHF-CA TNEF-CA		0.24	(0.1-0.42)	0.17	(0.07-0.30)	.009	(.004-.017)	.007	(.003-.012)
	TNHF-65 TNEF-65		0.24	(0.1-0.28)	0.17	(0.07-0.20)	.009	(.004-.011)	.007	(.003-.008)
	TNJN		0.35	(0.1-0.70)	0.25	(0.07-0.50)	.014	(.004-.028)	.010	(.003-.020)
	TNEN		0.24	(0.1-0.28)	0.17	(0.07-0.20)	.009	(.004-.011)	.007	(.003-.008)
	TNCN									
AUTO-AF 	N260.8-F N260.8-L		0.15	(0.08-o.20)	0.15	(0.08-o.20)	.006	(.003-.008)	.006	(.003-.008)
CoroMill® 360	PH	19	0.45	(0.30-0.70)	0.40	(0.25-0.60)	.018	(.012-.028)	.016	(.010-.024)
	MH	28								
	KH									
T-MAX® 45 	LNCX -11		0.35	(0.10-1.0)	0.25	(0.07-0.70)	.014	(.004-.039)	.010	(.003-.028)
	-12		0.35	(0.10-0.70)	0.25	(0.07-0.50)	.014	(.004-.028)	.010	(.003-.020)
	-13		0.35	(0.10-0.70)	0.25	(0.07-0.50)	.014	(.004-.028)	.010	(.003-.020)
CoroMill® 210 			Face milling				Face milling			
	M-PM	09	1.0	(0.40-2.0)	0.17	(0.07-0.35)	0.039	(.003-.014)	.007	(.003-.014)
	M-KM	14	1.5	(0.5-3.0)	0.26	(0.08-0.52)	.059	(.020-.118)	.010	(.003-.020)
	M-MM									
			Plunge milling				Plunge milling			
	E-PM									
	E-MM	09	0.15	(0.01-0.2)	0.17	(0.07-0.35)	.006	(.001-.008)	.007	(.003-.014)
	E-KM	14	0.20	(0.01-0.25)	0.26	(0.08-0.52)	.008	(.001-.008)	.010	(.003-.020)
Coromant Plunge Cutter 	LPMH-PM	25	0.20	(0.10-0.30)			.008	(.004-.012)		
	LPMH-MM									

Round insert and Ball Nose

	Insert geometry	Insert size mm	inch	Feed per tooth, f_z	Max. chip thickness, hex, (mm) Starting value	(min.- max.)	Max. chip thickness, hex, (inch) Starting value	(min.- max.)
Round								
CoroMill® 200 	-PL -ML -KL	10 12 16 20	.375 .500 .750		0.08	(0.05-0.12)	.003	(.002-.005)
	-PM -KM -MM -WM	10 12 16 20	.375 .500 .750		0.17	(0.10-0.20)	.007	(.004-.008)
	-PH -KH -WH	10 12 16 20	.375 .500 .750		0.25	(0.10-0.30)	.010	(.002-.012)
	CBN	12			0.10	(0.05-0.15)	.004	(.002-.006)
	Ceramic	12 , 16			0.20	(0.07-0.30)	.008	(.003-0.30)
CoroMill® 300 	E-PL E-ML	8 10 12 13 16 20 25,4		Face milling round insert (a_p <iC/2) mm.	0.08 0.13 0.15 0.18 0.20	(0.05-0.15) (0.05-0.15) (0.05-0.20) (0.05-0.20) (0.05-0.25)	.005 .005 .006 .007 .008	(.002-.006) (.002-.006) (.002-.008) (.002-.008) (.002-.010)
	E-PM E-MM	5 7 8 9 10 12 13 16 20		$f_z = \frac{h_{ex} \times iC}{2 \times \sqrt{a_p \times iC - a_p^2}}$	0.08 0.10 0.13 0.18 0.18 0.18 0.2 0.2 0.25	(0.05-0.12) (0.05-0.15) (0.05-0.20) (0.05-0.25) (0.05-0.25) (0.05-0.25) (0.05-0.30) (0.05-0.30) (0.05-0.40)	.003 .004 .005 .007 .007 .007 .008 .008 .010	(.002-.005) (.002-.006) (.002-.008) (.002-.010) (.002-.010) (.002-.010) (.002-.012) (.002-.012) (.002-.016)
	M-PM M-MM	8 10 12 13 16 20 25.4		Side milling (a_e<D_{cap}/2) and round insert (a_p<iC/2) mm. $f_z = \frac{h_{ex} \times iC \times D_{cap}}{4 \times \sqrt{a_p \times iC \times a_p^2 \times \sqrt{D_{cap} \times a_e - a_e^2}}}$	0.13 0.15 0.15 0.18 0.2	(0.07-0.20) (0.07-0.25) (0.07-0.25) (0.07-0.25) (0.07-0.30)	.005 .006 .006 .007 .008	(.003-.008) (.003-.010) (.003-.010) (.003-.010) (.003-.012)
	M-PH M-MH	8 9 10 12 13 16 20			0.15 0.20 0.20 0.25 0.35	(0.07-0.25) (0.07-0.30) (0.07-0.30) (0.07-0.40) (0.07-0.55)	.006 .008 .008 .008 .010 .014	(.003-.010) (.003-.012) (.003-.012) (.003-.012) (.003-.016) (.003-.022)
Ball nose								
CoroMill Ball nose	M-MM	10 12 16 20 25 30 32 40 50	.375 .500 .625 .750 1.00 1.25 1.50 2.00	Feed per tooth (mm/tooth), cutter centered $f_z = \frac{D_c \times h_{ex}}{D_{cap}}$	0.10 0.10 0.15 0.15 0.17 0.17 0.20	(0.08-0.21) (0.08-0.21) (0.08-0.25) (0.08-0.25) (0.08-0.28) (0.08-0.28) (0.10-0.42)	.004 .004 .006 .006 .007 .008 .010	(.003-.008) (.003-.008) (.003-.010) (.003-.010) (.003-.011) (.004-.017) (.004-.017)
R216	E-M	10 12 16 20 25 30 32 40 50	.375 .500 .625 .750 1.00 1.25 1.5 2.00	Feed per tooth (mm/tooth), side milling $f_z = \frac{D_3 \times h_{ex}}{\sqrt{D_{cap}^2 - (D_{cap} - 2 \times a_e)^2}}$	0.10 0.10 0.10 0.15 0.15 0.17 0.17 0.2 0.20	(0.05.-0.21) (0.05.-0.21) (0.05.-0.21) (0.05.-0.25) (0.05.-0.25) (0.05-0.28) (0.05-0.28) (0.05-0.35) (0.05-0.35)	.004 .004 .004 .006 .006 .007 .007 .008 .008	(.002-0.21) (.002-0.21) (.002-0.21) (.002-0.25) (.002-0.25) (.002-0.25) (.002-0.25) (.002-0.25) (.002-0.25)

Round insert and Ball Nose

	Insert geometry	Insert size mm	Insert size Inch	Feed per tooth, f_z (mm/tooth) Starting value	(min.- max.)	Max. chip thickness, hex, (mm) Starting value	(min.- max.)	Feed per tooth, f_z (inch/tooth) Starting value	(min.- max.)	Max. chip thickness, hex, (inch) Starting value	(min.- max.)
Ball nose											
CoroMill® Ball Nose Finishing	E-L	8	.312	0.12	(0.10-0.25)	0.07	(0.05-0.18)	.005	(.004-.010)	.003	(.002-.007)
		10	.375	0.12	(0.10-0.25)	0.07	(0.05-0.18)	.005	(.004-.010)	.004	(.002-.007)
		12	.500	0.15	(0.15-0.35)	0.09	(0.07-0.22)	.006	(.006-.014)	.004	(.003-.009)
		16	.625	0.17	(0.15-0.35)	0.11	(0.07-0.25)	.007	(.006-.014)	.004	(.003-.010)
		20	.750	0.17	(0.15-0.35)	0.11	(0.07-0.25)	.007	(.006-.014)	.004	(.003-.010)
		25	1.000	0.20	(0.15-0.35)	0.13	(0.07-0.40)	.008	(.006-.016)	.005	(.003-.011)
		30	1.000	0.20	(0.15-0.35)	0.13	(0.07-0.40)	.008	(.006-.016)	.005	(.003-.011)
		32	1.250	0.20	(0.15-0.35)	0.13	(0.07-0.40)	.008	(.006-.016)	.005	(.003-.011)

Slot milling

	Insert geometry	Insert size mm	Insert size Inch	Feed per tooth, f_z (mm/tooth) Starting value	(min.- max.)	Max. chip thickness, hex, (mm) Starting value	(min.- max.)	Feed per tooth, f_z (inch/tooth) Starting value	(min.- max.)	Max. chip thickness, hex, (inch) Starting value	(min.- max.)
Side and face mills											
CoroMill® 327	-GM -GMM -GC -CH -TH -THM -RM	06,09,12,14		0.15	(0.07-0.25)	0.06	(0.02-0.1)	.006	(.003-.010)	.002	(.001-.004)
CoroMill® 328	-GM -GC -TH	13		0.15	(0.1-0.2)	0.1	(0.05-0.15)	.006	(.004-.008)	.004	(.002-.006)
CoroMill® 329	Seat size -D,-E -F,-G -H,-J,-K			0.1	(0.07-0.17)	0.07	(0.05-0.12)	.004	(.003-.007)	.003	(.002-.005)
CoroMill ® 331	-PL, -ML, -KL	04, 05		0.15	(0.05-0.22)	0.10	(0.05-0.15)	.006	(.002-.009)	.004	(.002-.006)
	-WL, -NL	08, 11, 13, 14		0.18	(0.07-0.22)	0.12	(0.08-0.15)	.007	(.003-.009)	.005	(.003-.006)
	-PM, -ML	04, 05		0.19	(0.08-0.29)	0.13	(0.08-0.20)	.007	(.003-.011)	.005	(.003-.008)
	-KM, -WM	08, 11, 14		0.25	(0.10-0.29)	0.17	(0.10-0.20)	.010	(.004-.011)	.007	(.004-.008)
	RCHT/ RCKT -PL, -ML, -KL	9, 10, 12, 13,16		0.11	(0.05-0.22)	0.10	(0.08-0.12)	.004	(.003-.007)	.003	(.002-.005)
	-WM, -PM, -MM, -KM			0.24	(0.10-0.28)	0.17	(0.10-0.20)	.009	(.004-.011)	.007	(.004-.012)
	-WH, -KH, -PH			0.35	(0.10-0.42)	0.25	(0.10-0.30)	.014	(.004-.017)	.010	(.004-.012)
T-MAX® Q-Cutter For slotting											
330.20	-AA	20-40		0.09	(0.02-0.12)	0.06	(0.02-0.06)	.004	(.001-.005)	.002	(.001-.003)
	-AA	50-60		0.09	(0.02-0.12)	0.08	(0.02-0.12)	.004	(.001-.005)	.003	(.001-.005)
N151.2	-4E,-5E			0.09	(0.02-0.12)	0.08	(0.02-0.12)	.004	(.001-.005)	.003	(.001-.005)

Milling with large engagement, metric values

ISO P MC No.	CMC No.	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	mc	CT530 Max chip thickness, h_{ex} mm 0.1 – 0.15 – 0.2 Cutting speed v_c, m/min	GC1010 Max chip thickness, h_{ex} mm 0.05 – 0.1 – 0.2 Cutting speed v_c, m/min
		Steel					
		Unalloyed					
P1.1.Z.AN	01.1	C = 0.1–0.25%	1500	125	0.25	430–390–350	-
P1.2.Z.AN	01.2	C = 0.25–0.55%	1600	150	0.25	385–350–315	-
P1.3.Z.AN	01.3	C = 0.55–0.80%	1700	170	0.25	365–330–300	-
P1.3.Z.AN	01.4		1800	210	0.25	315–290–260	-
P1.3.Z.HT	01.5		2000	300	0.25	235–210–195	-
		Low alloyed (alloying elements ≤ 5%)					
P2.1.Z.AN	02.1	Non-hardened	1700	175	0.25	300–275–245	-
P2.5.Z.HT	02.2	Hardened and tempered	1900	300	0.25	195–180–160	-
		High alloyed (alloying elements > 5%)					
P3.0.Z.AN	03.11	Annealed	1950	200	0.25	230–205–185	180-165-135
P3.1.Z.AN	03.13	Hardened tool steel	2150	200	0.25	190–170–155	150-135-110
P3.0.Z.HT	03.21		2900	300	0.25	165–150–135	130-120-100
P3.0.Z.HT	03.22		3100	380	0.25	105–95–85	80-75-60
		Castings					
P1.5.C.UT	06.1	Unalloyed	1400	150	0.25	305–280–250	245-220-180
P2.6.C.UT	06.2	Low alloyed (alloying elements ≤ 5%)	1600	200	0.25	245–220–200	195-175-145
P3.0.C.UT	06.3	High alloyed (alloying elements > 5%)	1950	200	0.25	180–160–145	140-130-105

ISO M MC No.	CMC No.	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	mc	CT530 Max chip thickness, h_{ex} mm 0.1 – 0.15 – 0.2 Cutting speed v_c, m/min	GC1025 Max chip thickness, h_{ex} mm 0.05 – 0.1 – 0.2 Cutting speed v_c, m/min
		Stainless steel					
		Ferritic/martensitic					
P5.0.Z.AN	05.11	Non-hardened	1800	200	0.21	285 –255 –230	255 –225 –180
P5.0.Z.PH	05.12	PH-hardened	2850	330	0.21	205 –185 –165	180 –160 –130
P5.0.Z.HT	05.13	Hardened	2350	330	0.21	215 –190 –170	185 –165 –135
		Austenitic					
M1.0.Z.AQ	05.21	Non-hardened	1950	200	0.21	265 –240 –215	250 –225 –180
M1.0.Z.PH	05.22	PH-hardened	2850	330	0.21	200 –175 –160	170 –155 –125
M2.0.Z.AQ	05.23	Super austenitic	2250	200		–	–
		Austenitic-ferritic (Duplex)					
M3.1.Z.AQ	05.51	Non-weldable ≥ 0.05%C	2000	230	0.21	260 –235 –210	205 –185 –145
M3.2.Z.AQ	05.52	Weldable < 0.05%C	2450	260	0.21	230 –205 –185	175 –155 –125
		Stainless steel – Cast					
		Ferritic/martensitic					
P5.0.C.UT	15.11	Non-hardened	1700	200	0.25	255 –230 –205	225 –200 –160
P5.0.C.PH	15.12	PH-hardened	2450	330	0.25	180 –160 –145	155 –140 –115
P5.0.C.HT	15.13	Hardened	2150	330	0.25	195 –175 –155	170 –155 –120
M1.0.C.UT	15.21	Non hardened	1800	200	0.25	255 –225 –205	235 –210 –170
M1.0C.PH	15.22	PH-hardened	2450	330	0.25	180 –160 –145	160 –140 –115
M2.0.C.AQ	15.23	Super austenitic	2150	200		–	–
		Austenitic-ferritic (Duplex)					
M3.1.C.AQ	15.51	Non-weldable ≥ 0.05%C	1800	230	0.25	245 –220 –195	195 –175 –140
M3.2.C.AQ	15.52	Weldable < 0.05%C	2250	260	0.25	215 –190 –170	160 –145 –115

ISO K MC No.	CMC No.	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	mc	CB50 Max chip thickness, h_{ex} mm 0.1 – 0.15 – 0.2 Cutting speed v_c, m/min	CC6190 Max chip thickness, h_{ex} mm 0.1 – 0.2 – 0.3 Cutting speed v_c, m/min
		Malleable cast iron					
	07.1	Ferritic (short chipping)	790	130	0.28	-	1300 –1050 –880
K1.1.C.NS	07.2	Pearlitic (long chipping)	900	230	0.28	-	1100 –890 –730
		Grey cast iron					
K2.1.C.UT	08.1	Low tensile strength	890	180	0.28	910 –780 –670	1600–1300–1050
K2.2.C.UT	08.2	High tensile strength	1100	245	0.28	850 –720 –620	1200–990–810
		Nodular cast iron					
K3.1.C.UT	09.1	Ferritic	900	160	0.28	-	1000–830–680
K3.3.C.UT	09.2	Pearlitic	1350	250	0.28	495 –420 –360	840 –690 –570

Conditions:
Cutter, dia. 125 mm, centered over the workpiece. Working engagement 100 mm.

GC1025	GC1030	GC4220	GC4230	GC4240	GC3040	GC2030	GC2040	SM30
Max chip thickness, h_{ex} mm								
0.05–0.1–0.2	0.05–0.1–0.2	0.1– 0.2–0.3	0.1– 0.2–0.3	0.1-0.2-0.3	0.1–0.2–0.3	0.1–0.2–0.4	0.1–0.2–0.4	0.1–0.2–0.4
Cutting speed v_c, m/min								
340-310-255	[illegible]	490–405–330	400–330–270	340-280-230	390 –320 –260	295–240–165	295 –240 –165	265 –230 –170
305-280-230	335–305–250	440–360–295	360–295–245	305-250-205	350 –285 –235	265–215–145	265 –215 –145	240 –205 –150
290-260-215	[illegible]	415–340–280	340–280–230	290-235-195	330 –270 –220	250–205–135	250 –205 –135	225 –195 –145
250-230-185	275–250–205	365–300–245	295–245–200	250-205-170	290 –235 –195	220–180–120	220 –180 –120	195 –170 –125
185-170-140	205–185–155	270–220–180	220–180–150	185-155-125	215 –175 –145	160–130–90	160 –130 –90	145 –125 –90
280-255-210	265–240–195	345–285–230	280–230–190	240-195-160	275 –225 –185	205–170–115	205 –170 –115	185 –160 –120
155-140-115	170–155–130	225–185–150	185–150–125	155-130-105	180 –145 –120	135–110–75	135 –110 –75	120 –105 –75
180-165-135	180–165–135	300–245–200	195–160–130	165-135-110	205 –170 –140	155–130–85	155 –130 –85	140 –120 –90
150–135–110	150–135–110	215–180–145	160–130–110	135-110-90	170 –140 –115	125–105–70	125 –105 –70	115 –100 –75
130–120–100	130–120–100	190–155–125	140–115–95	120-100-80	150 –125 –100	110-90–60	110 –90 –60	105 –90 –65
80–75–60	80–75–60	120–95–80	85–70–60	75-60-50	95 –75 –65	70–55–38	70 –55 –38	65 –55 –41
245–220–180	245–220–180	350–290–235	260–215–175	220-180-150	280 –230 –190	210–170–115	210 –170 –115	190 –165 –120
195–175–145	195–175–145	280–230–190	205–170–140	175-145-120	220 –180 –150	170–140–95	170 –140 –95	150 –130 –95
140–130–105	140–130–105	205–170–140	150–125–100	130-105-85	160 –135 –110	120–100–70	120 –100 –70	110 –95 –70

GC1030	1040	S30T	S40T	GC2030	GC2040	GC4230	GC4240	SM30
Max chip thickness, h_{ex} mm								
0.05-0.1-0,2	0.05-0.15-0.25	0.05-0.15-0.25	0.1-0.2-0.3	0.05 – 0.15 – 0.25	0.1 – 0.2 – 0.3	0.1 – 0.2 – 0.3	0.1-0.2-0.4	0.1 – 0.2 – 0.4
Cutting speed v_c, m/min								
255 –225 –180	185 – 140 – 105	255 – 190 – 140	250 – 200 – 160	240 –190 –155	240 –190 –155	275 –220 –175	210 –170 –110	185 –160 –115
180 –160 –130	130 – 100 – 70	180 – 135 – 100	170 – 135 – 110	170 –135 –110	165 –130 –105	190 –150 –120	140 –110 –70	105 –90 –65
185 –165 –135	135 – 100 – 75	185 – 140 – 105	180 – 145 – 115	175 –140 –115	175 –140 –110	200 –160 –125	160 –125 –80	110 –95 –70
250 –225 –180	180 – 135 – 100	250 – 185 – 140	210 – 165 – 135	235 –190 –150	200 –160 –130	-	185 –150 –95	170 –150 –110
170 –155 –125	125 – 95 – 70	170 – 130 – 95	165 – 130 – 105	165 –130 –105	160 –125 –100	-	135 –105 –70	100 –85 –65
–	125 – 90 – 70	170 – 125 – 95	145 – 115 – 95	–	–	–	–	–
205 –185 –145	150 – 115 – 85	205 – 155 – 115	175 – 140 – 110	195 –155 –125	170 –135 –105	-	170 –135 –85	100 –85 –65
175 –155 –125	125 – 95 – 70	175 – 130 – 95	140 – 115 – 90	165 –130 –105	135 –110 –85	-	135 –110 –70	130 –110 –80
225 –200 –160	165 – 125 – 90	225 – 165 – 125	220 – 175 – 140	215 –170 –135	210 –170 –135	245 –195 –155	185 –150 –95	165 –145 –105
155 –140 –115	115 – 85 – 65	155 – 115 – 85	150 – 120 – 95	150 –120 –95	145 –115 –90	165 –130 –105	120 –100 –65	90 –80 –60
170 –155 –120	125 – 90 – 70	170 – 125 – 95	165 – 135 – 105	160 –130 –105	160 –130 –100	180 –145 –115	145 –115 –75	100 –85 –65
235 –210 –170	175 – 130 – 95	235 – 175 – 130	200 – 160 – 130	225 –180 –145	190 –155 –125	-	180 –140 –90	165 –140 –105
160 –140 –115	115 – 85 – 65	160 – 115 – 85	150 – 120 – 95	150 –120 –95	145 –115 –90	-	125 –100 –65	90 –80 –60
–	110 – 85 – 60	155 – 115 – 85	130 – 105 – 85	–	–	–	–	–
195 –175 –140	145 – 105 – 80	195 – 15 – 110	165 – 130 – 105	185 –150 –120	160 –125 –100	-	160 –125 –80	160 –135 –100
160 –145 –115	115 – 85 – 65	160 – 120 – 90	135 – 105 – 85	150 –120 –95	130 –100 –80	-	125 –100 –65	120 –105 –75

GC3220	GC3040	K20W	GC4220	GC4230	GC4240	GC1020	H13A	K20D
Max chip thickness, h_{ex} mm								
0.1 – 0.2 – 0.3	0.1 – 0.2 – 0.4	0.1 – 0.2 – 0.3	0.1 – 0.2 – 0.3	0.1 – 0.2 – 0.3	0.1 – 0.2 – 0.3	0.1 – 0.2 – 0.3	0.1 – 0.2 – 0.4	0.1-0.2-0.3
Cutting speed v_c, m/min								
265–220–180	240–195–135	225–185–150	255 –210 –170	215 –175 –145	195–160–130	205–170–140	120–105–75	265-220-180
220–180–150	200–165–110	185–150–125	210 –170 –140	175 –145 –120	160–130–110	170–140–115	100– 85–65	220-180-150
290–240–195	260–215–145	245–200–165	275 –225 –185	230 –190 –155	215–175–145	225–185–150	130–110–85	290-240-195
235–190–155	210–170–115	195–160–130	220 –180 –150	185 –155 –125	170–140–115	180–145–120	105– 90–65	235-190-155
180–150–125	165–135–90	155–125–105	175 –140 –115	145 –120 –100	135–110–90	140–115–95	80– 70–50	180-150-125
170–140–115	150–125–85	140–115–95	160 –130 –110	135 –110 –90	125–100–85	130–105–90	75– 65–50	170-140-115

Milling with large engagement, metric values

ISO N MC No.	CMC No.	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	mc	CD10 Max chip thickness, h_{ex} mm 0.1 – 0.15 – 0.2 Cutting speed v_c, m/min	H10 Max chip thickness, h_{ex} mm 0.1 – 0.15 – 0.2 Cutting speed v_c, m/min
		Aluminium alloys					
N1.2.Z.UT	30.11	Wrought or wrought and coldworked, non-aging	400	60		1900 –1750 –1600	940 –870 –810
N1.2.Z.AG	30.12	Wrought or wrought and aged	650	100		1700 –1550 –1450	850 –780 –730
		Aluminium alloys					
N1.3.C.UT	30.21	Cast, non-aging	600	75	0.25	1900 –1750 –1600	940 –870 –810
N1.3.C.AG	30.22	Cast or cast and aged	700	90	0.25	1700 –1550 –1450	850 –790 –730
		Aluminium alloys					
N1.1.Z.UT	30.3	Al >99%	350	30		1900 –1750 –1600	950 –880 –810
		Aluminium alloys					
	30.41	Cast, 13–15% Si	700	130		760 –700 –650	380 –350 –325
N1.4.C.NS	30.42	Cast, 16–22% Si	700	130		570 –530 –485	285 –265 –245
		Copper and copper alloys					
N3.3.U.UT	33.1	Free cutting alloys, ≥1% Pb	550	110	0.25	940 –870 –810	470 –435 –405
N3.2.C.UT	33.2	Brass, leaded bronzes, ≤1% Pb	550	90		940 –870 –810	470 –435 –405
N3.1.U.UT	33.3	Bronze and non-leadad copper incl. electrolytic copper	1350	100	0.25	660 –610 –570	330 –305 –285

ISO S MC No.	CMC No.	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	mc	GC1025 Max chip thickness, h_{ex} mm 0.05 – 0.15 – 0.2 Cutting speed v_c, m/min	GC1030 Max chip thickness, h_{ex} mm 0.1 – 0.15 – 0.2 Cutting speed v_c, m/min
		Heat resistant super alloys					
		Iron base					
S1.0.U.AN	20.11	Annealed or solution treated	2400	200	0.25	60 –55 –50	60 –55 –50
S1.0.U.AG	20.12	Aged or solution treated and aged	2500	280	0.25	45 –40 –37	45 –40 –37
		Nickel base					
S2.0.Z.AN	20.21	Annealed or solution treated	2650	250	0.25	60 –55 –50	60 –55 –50
S2.0.Z.AG	20.22	Aged or solution treated and aged	2900	350	0.25	36 –33 –30	36 –33 –30
S2.0.C.NS	20.24	Cast or cast and aged	3000	320	0.25	45 –40 –36	45 –40 –36
		Cobalt base					
S3.0.Z.AN	20.31	Annealed or solution treated	2700	200	0.25	25 –22 –20	25 –22 –20
S3.0.Z.AG	20.32	Solution treated and aged	3000	300	0.25	18 –16 –14	18 –16 –14
S3.0.C.NS	20.33	Cast or cast and aged	3100	320	0.25	16 –14 –13	16 –14 –13
		Titanium alloys[1]		**Rm**[2]			
S4.1.Z.UT	23.1	Commercial pure (99,5% Ti)	1300	400	0.23	125 –115 –105	125 –115 –105
S4.2.Z.AN	23.21	α, near α and α + β alloys, annealed	1400	950	0.23	55 –50 –45	55 –50 –45
S4.3.Z.AG	23.22	α + β alloys in aged cond., β alloys, annealed or aged	1400	1050	0.23	45 –40 –36	45 –40 –36

ISO H MC No.	CMC No.	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	mc	CB50 Max chip thickness, h_{ex} mm 0.07 – 0.12 – 0.2 Cutting speed v_c, m/min	CT530 Max chip thickness, h_{ex} mm 0.07 – 0.12 – 0.2 Cutting speed v_c, m/min
		Extra hard steel					
H1.3.Z.HA	04.1	Hardened and tempered	4200	59 HRC	0.25	160 –140 –115	80 –75 –55
		Chilled cast iron					
H2.0.C.UT	10.1	Cast or cast and aged	2250	400	0.28	310 –270 –215	155 –140 –110

1) 45-60° entering angle. Positive cutting geometry and coolant should be used.

2) Rm = ultimate tensile strength measured in MPa.

Conditions:

Cutter, dia. 125 mm, centered over the workpiece. Working engagement 100 mm.

CT530	GC1025	GC1030	H10F	H13A				
Max chip thickness, h_{ex} mm								
0.1 – 0.15 – 0.2	0.1 – 0.15 – 0.2	0.1 – 0.15 – 0.2	0.1 – 0.15 – 0.2	0.1 – 0.15 – 0.2				
Cutting speed v_c, m/min								
1050–960–890	990–910–850	990–910–850	940–870–810	750–700–650				
930–860–800	890–820–760	890–820–760	850–780–730	680–630–580				
1050–960–890	990–910–850	990–910–850	940–870–810	1700–1600–1450				
930–860–800	990–920–850	990–920–850	850–790–730	1450–1350–1250				
1050–960–890	990–920–850	990–920–850	950–880–810	760–700–650				
415–385–355	395–370–340	395–370–340	380–350–325	300–280–260				
310–290–270	300–275–255	300–275–255	285–265–245	225–210–195				
520–480–445	495–460–425	495–460–425	470–435–405	375–350–325				
520–480–445	495–460–425	495–460–425	470–435–405	375–350–325				
365–335–310	345–320–295	345–320–295	330–305–285	265–245–225				

H13A	H10F	S30T	S40T	GC2030	GC2040			
Max chip thickness, h_{ex} mm								
0.1-0.15-0.2	0.1 – 0.15 – 0.2	0.1 – 0.15 – 0.2	0.1 – 0.15 – 0.2	0.05 – 0.15 – 0.2	0.1 – 0.15 – 0.25			
Cutting speed v_c, m/min								
60-55-50	55 –50 –45	–	–	55 –50 –45	60 –55 –45			
45-40-38	40 –37 –35	–	–	40 –38 –34	45 –39 –32			
55-55-50	50 –50 –45	–	–	55 –50 –45	55 –50 –40			
35-33-30	32 –30 –27	–	–	34 –31 –28	35 –31 –26			
45-40-38	40 –37 –34	–	–	40 –37 –34	40 –38 –31			
23-21-18	22 –19 –17	–	–	23 –21 –18	23 –21 –17			
17-15-13	15 –14 –12	–	–	17 –15 –13	17 –15 –12			
16-14-13	14 –13 –12	–	–	15 –14 –12	15 –14 –11			
125-115-110	115 –105 –100	150 –135 –125	125 –115 –110	120 –105 –95	120 –110 –100			
50-45-45	45 –40 –38	65 –60 –55	45 –40 –39	50 –45 –39	45 –39 –36			
38-36-33	34 –31 –29	50 –50 –45	38 –36 –33	40 –37 –34	37 –33 –30			

GC4220	GC3040	GC1010	GC1025	GC1030				
Max chip thickness, h_{ex} mm								
0.1 – 0.15 – 0.25	0.1 – 0.2 – 0.25	0.07 – 0.12 – 0.2	0.07 – 0.12 – 0.2	0.07-0.12-0.2				
Cutting speed v_c, m/min								
55–45–36	45–33–29	110-95-80	40–36–29	40-36-29				
100–90–70	85–65–55	215-185-150	75–70–55	75-70-55				

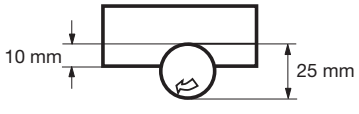
Milling with small engagement, metric values

ISO P MC No.	CMC No.	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	mc	CT530 Max chip thickness, h_{ex} mm 0.1 – 0.15 – 0.2 Cutting speed v_c, m/min	GC1010 Max chip thickness, h_{ex} mm 0.05 – 0.1 – 0.2 Cutting speed v_c, m/min
		Steel					
		Unalloyed					
P1.1.Z.AN	01.1	C = 0.1–0.25%	1500	125	0.25	500 –490 –475	-
P1.2.Z.AN	01.2	C = 0.25–0.55%	1600	150	0.25	450 –440 –430	-
P1.3.Z.AN	01.3	C = 0.55–0.80%	1700	170	0.25	425 –415 –405	-
P1.3.Z.AN	01.4		1800	210	0.25	370 –360 –355	-
P1.3.Z.HT	01.5		2000	300	0.25	275 –265 –260	-
		Low-alloy (alloying elements ≤5%)					
P2.1.Z.AN	02.1	Non-hardened	1700	175	0.25	350 –345 –335	-
P2.5.Z.HT	02.2	Hardened and tempered	1900	300	0.25	230 –225 –220	-
		High-alloy (alloying elements >5%)					
P3.0.Z.AN	03.11	Annealed	1950	200	0.25	265 –260 –255	195 –190 –185
P3.1.Z.AN	03.13	Hardened tool steel	2150	200	0.25	220 –215 –210	160 –160 –150
P3.0.Z.HT	03.21		2900	300	0.25	190 –190 –185	140 –140 –135
P3.0.Z.HT	03.22		3100	380	0.25	120 –120 –115	90 –85 –85
		Castings					
P1.5.C.UT	06.1	Unalloyed	1400	150	0.25	355 –350 –340	265 –255 –245
P2.6.C.UT	06.2	Low-alloy (alloying elements ≤5%)	1600	200	0.25	285 –280 –275	210 –205 –195
P3.0.C.UT	06.3	High-alloy (alloying elements >5%)	1950	200	0.25	210 –205 –200	155 –150 –145

ISO M MC No.	CMC No.	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	mc	CT530 Max chip thickness, h_{ex} mm 0.1 – 0.15 – 0.2 Cutting speed v_c, m/min	GC1025 Max chip thickness, h_{ex} mm 0.05 – 0.1 – 0.2 Cutting speed v_c, m/min
		Stainless steel					
		Ferritic/martensitic					
P5.0.Z.AN	05.11	Non-hardened	1800	200	0.21	340 –335 –325	275 –270 –255
P5.0.Z.PH	05.12	PH-hardened	2850	330	0.21	245 –240 –235	195 –190 –180
P5.0.Z.HT	05.13	Hardened	2350	330	0.21	255 –250 –240	200 –195 –190
		Austenitic					
M1.0.Z.AQ	05.21	Non-hardened	1950	200	0.21	320 –310 –300	270 –265 –255
M1.0.Z.PH	05.22	PH-hardened	2850	330	0.21	235 –230 –225	190 –185 –175
M2.0.Z.AQ	05.23	Super austenitic	2250	200		-	-
		Austenitic-ferritic (Duplex)					
M3.1.Z.AQ	05.51	Non-weldable ≥ 0.05%C	2000	230	0.21	310 –300 –295	225 –220 –210
M3.2.Z.AQ	05.52	Weldable < 0.05%C	2450	260	0.21	275 –270 –260	190 –185 –175
		Stainless steel – Cast					
		Ferritic/martensitic					
P5.0.C.UT	15.11	Non-hardened	1700	200	0.25	305 –295 –290	245 –240 –230
P5.0C.PH	15.12	PH-hardened	2450	330	0.25	215 –210 –205	170 –170 –160
P5.0.C.HT	15.13	Hardened	2150	330	0.25	235 –225 –220	185 –180 –175
		Austenitic					
M1.0.C.UT	15.21	Austenitic	1800	200	0.25	300 –295 –285	260 –250 –240
M1.0C.PH	15.22	PH-hardened	2450	330	0.25	215 –210 –205	170 –170 –160
M2.0.C.AQ	15.23	Super austenitic	2150	200		-	-
		Austenitic-ferritic (Duplex)					
M3.1.C.AQ	15.51	Non-weldable ≥ 0.05%C	1800	230	0.25	295 –285 –280	215 –205 –195
M3.2.C.AQ	15.52	Weldable < 0.05%C	2250	260	0.25	255 –250 –245	175 –170 –165

ISO K MC No.	CMC No.	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	mc	CB50 Max chip thickness, h_{ex} mm 0.1 – 0.15 – 0.2 Cutting speed v_c, m/min	CC6190 Max chip thickness, h_{ex} mm 0.1 – 0.2 – 0.3 Cutting speed v_c, m/min
		Malleable cast iron					
	07.1	Ferritic (short chipping)	790	130	0.28	-	1500 –1450 –1400
K1.1.C.NS	07.2	Pearlitic (long chipping)	900	230	0.28	-	1250 –1200 –1150
		Grey cast iron					
K2.1.C.UT	08.1	Low tensile strength	890	180	0.28	1150 –1100 –1100	1850 –1750 –1700
K2.2.C.UT	08.2	High tensile strength	1100	245	0.28	1100 –1050 –1000	1400 –1350 –1300
		Nodular cast iron					
K3.1.C.UT	09.1	Ferritic	900	160	0.28	-	1200 –1150 –1100
K3.3.C.UT	09.2	Pearlitic	1350	250	0.28	630 –610 –590	980 –930 –890

1) 45-60° entering angle. Positive cutting geometry and coolant should be used.



Conditions:
Side milling, cutter dia. 25 mm.
Working engagement 10 mm.

GC1025	GC1030	GC4220	GC4230	GC4240	GC3040	GC2030	GC2040	SM30
Max chip thickness, h_{ex} mm								
0.05-0.1-0.2	0.05-0.1-0.2	0.1-0.15-0.3	0.1-0.2-0.3	0.1-0.2-0.3	0.1 – 0.15 – 0.3	0.05 – 0.15 – 0.25	0.1 – 0.2 – 0.3	0.1 – 0.2 – 0.3
Cutting speed v_c, m/min								
365-360-345	405-395-380	570 –560 –520	465 –445 –425	395-380-360	455 –445 – 415	340 –335 – 320	340 –325 – 315	300 –290 –280
330-325-310	365-355-340	510 –500 –470	420 –400 –385	355-340-325	410 –400 –375	305 –300 –290	305 –295 –280	270 –260 –250
310-305-290	345-335-320	485 –475 –445	395 –380 –360	335-320-310	385 –375 –350	290 –280 –270	290 –275 –265	255 –245 –235
270-265-255	300-295-280	425 –415 –390	345 –330 –315	295-280-270	335 –330 –305	255 –250 –240	255 –245 –235	220 –215 –205
200-195-190	220-220-210	310 –305 –285	255 –245 –235	220-210-200	250 –245 –225	185 –185 –175	185 –180 –170	165 –160 –155
300-295-285	285-280-265	400 –390 –365	325 –315 –300	280-265-255	320 –310 –290	240 –235 –225	240 –230 –220	210 –205 –195
170-165-160	185-180-175	260 –255 –240	215 –205 –195	180-175-165	205 –205 –190	155 –155 –145	155 –150 –145	135 –130 –130
195-190-185	195-190-185	350 –340 –320	225 –215 –205	190-185-175	240 –235 –220	180 –175 –170	180 –175 –165	160 –155 –150
160-160-150	160-160-150	250 –245 –230	185 –180 –170	160-150-145	200 –195 –185	150 –145 –140	150 –140 –135	130 –125 –125
140-140-135	140-140-135	220 –215 –200	165 –155 –150	140-135-125	175 –170 –160	130 –125 –120	130 –125 –120	115 –110 –110
90-85-85	90-85-85	135 –135 –125	100 –95 –95	85-85-80	110 –105 –100	80 –80 –75	80 –75 –75	70 –70 –65
265-255-245	265-255-245	410 –400 –375	305 –290 –280	255-245-235	325 –315 –295	240 –235 –225	240 –230 –220	215 –205 –200
210-205-195	210-205-195	325 –320 –295	240 –230 –220	205-195-190	260 –255 –235	195 –190 –185	195 –185 –180	170 –165 –160
155-150-145	155-150-145	240 –235 –220	175 –170 –160	150-145-140	190 –185 –175	145 –140 –135	145 –135 –130	125 –120 –115

GC1030	GC1040	S30T	S40T	GC2030	GC2040	GC4230	GC4240	SM30
Max chip thickness, h_{ex} mm								
0.05-0.1-0.2	0.05-0.15-0.25	0.05-0.15-0.25	0.1-0.2-0.25	0.05-0.15-0.25	0.1-0.2-0.25	0.1-0.2-0.25	0.1-0.2-0.3	0.1-0.2-0.3
Cutting speed v_c, m/min								
275 –270 –255	210 –195 –185	285 –265 –250	295 –280 –275	260 –250 –235	285 –270 –265	325 –310 –305	250 –240 –225	210 –200 –195
195 –190 –180	145 –140 –130	200 –185 –175	205 –195 –275	185 –175 –170	195 –185 –180	225 –215 –210	165 –160 –150	120 –115 –110
200 –195 –190	155 –145 –135	210 –195 –180	215 –205 –200	195 –185 –175	205 –195 –190	235 –225 –220	190 –180 –170	125 –120 –115
270 –265 –255	205 –190 –175	280 –260 –245	250 –235 –230	255 –245 –230	240 –225 –220	-	220 –210 –200	195 –185 –180
190 –185 –175	140 –135 –125	190 –180 –170	195 –185 –180	180 –170 –160	190 –180 –175	-	160 –150 –145	115 –110 –105
-	140 –130 –120	190 –180 –170	175 –165 –160	-	-	-	-	-
225 –220 –210	170 –160 –150	230 –215 –200	205 –195 –190	215 –205 –195	200 –190 –185	-	200 –190 –180	190 –180 –175
190 –185 –175	140 –130 –125	195 –180 –170	165 –160 –155	180 –170 –160	160 –155 –150	-	160 –155 –145	145 –140 –135
245 –240 –230	185 –175 –165	250 –235 –220	2 –250 –235	235 –225 –210	250 –240 –235	290 –275 –270	225 –210 –200	185 –180 –175
170 –170 –160	130 –120 –110	175 –165 –155	180 –170 –165	160 –155 –145	170 –165 –160	195 –185 –185	145 –140 –130	105 –100 –95
185 –180 –175	185 –175 –170	190 –180 –165	200 –190 –185	175 –165 –160	190 –180 –175	215 –205 –200	175 –165 –155	115 –110 –105
260 –250 –240	195 –180 –170	265 –250 –235	240 –225 –220	245 –230 –220	230 –215 –210	-	210 –200 –190	185 –180 –170
170 –170 –160	130 –120 –110	175 –165 –155	180 –170 –165	160 –155 –145	170 –165 –160	-	145 –140 –130	105 –100 –95
-	125 –120 –110	175 –160 –150	155 –145 –145	-	-	-	-	-
215 –205 –195	160 –150 –140	220 –205 –190	195 –185 –180	205 –195 –185	190 –180 –175	-	190 –180 –170	180 –170 –165
175 –170 –165	130 –125 –115	180 –170 –160	160 –150 –145	165 –160 –150	150 –145 –140	-	150 –140 –135	135 –130 –125

GC3220	GC3040	K20W	GC4220	GC4230	GC4240	GC1020	H13A	K20D
Max chip thickness, h_{ex} mm								
0.1-0.15-0.25	0.1-0.2-0.3	0.1-0.2-0.3	0.1-0.15-0.25	0.1-0.15-0.25	0.1-0.15-0.25	0.1-0.2-0.3	0.1-0.2-0.3	0.1-0.2-0.3
Cutting speed v_c, m/min								
310–305–290	280–270–255	260–250–240	295–290–275	250–245–235	225–220–210	240–230–220	135-130-125	310-295-285
255–250–240	230–220–210	215–205–195	245–240–225	205–200–190	185–185–175	195–190–180	110-110-105	255-245-235
340–330–315	305–290–280	285–270–260	320–315–300	270–265–255	250–240–230	260–250–240	145-140-140	340-325-310
270–265–255	245–235–225	225–215–210	260–250–240	215–210–205	200–195–185	205–200–190	120-115-110	270-260-250
210–205–200	190–185–175	180–170–165	200–195–190	170–165–160	155–150–145	160–155–150	95-90-85	210-205-195
195–195–185	175–170–160	165–160–150	185–185–175	155–155–145	145–140–135	150–145–140	85-85-80	195-190-180

Milling with small engagement, metric values

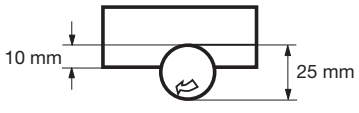
ISO N MC No.	CMC No.	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	mc	CD10 Max chip thickness, h_{ex} mm 0.1 – 0.15 – 0.2 Cutting speed v_c, m/min	CT530 Max chip thickness, h_{ex} mm 0.1 – 0.15 – 0.2 Cutting speed v_c, m/min
		Aluminium alloys					
N1.2.Z.UT	30.11	Wrought or wrought and coldworked, non-aging	400	60		2100 –2100 –2050	1150 –1150 –1100
N1.2.Z.AG	30.12	Wrought or wrought and aged	650	100		1900 –1850 –1850	1050 –1050 –1000
		Aluminium alloys					
N1.3.C.UT	30.21	Cast, non-aging	600	75	0.25	2100 –2100 –2050	1150 –1150 –1000
N1.3.C.AG	30.22	Cast or cast and aged	700	90	0.25	1900 –1900 –1850	1050 –1050 –1100
		Aluminium alloys					
N1.1.Z.UT	30.3	Al >99%	350	30		2150 –2100 –2050	1150 –1150 –1150
		Aluminium alloys					
	30.41	Cast, 13–15% Si	700	130		850 –840 –820	470 –460 –450
N1.4.C.NS	30.42	Cast, 16–22% Si	700	130		640 –630 –620	350 –345 –340
		Copper and copper alloys					
N3.3.U.UT	33.1	Free cutting alloys, ≥1% Pb	550	110	0.25	1050 –1050 –1050	580 –570 –560
N3.2.C.UT	33.2	Brass, leaded bronzes, ≤1% Pb	550	90		1050 –1050 –1000	580 –570 –560
N3.1.U.UT	33.3	Bronze and non-leadad copper incl. electrolytic copper	1350	100	0.25	740 –730 –720	410 –400 –395

ISO S MC No.	CMC No.	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	mc	GC1025 Max chip thickness, h_{ex} mm 0.5 – 0.15 – 0.2 Cutting speed v_c, m/min	GC1030 Max chip thickness, h_{ex} mm 0.05-0.15-0.2 Cutting speed v_c, m/min
		Heat resistant super alloys					
		Iron base					
S1.0.U.AN	20.11	Annealed or solution treated	2400	200	0.25	70 –70 –70	70-70-70
S1.0.U.AG	20.12	Aged or solution treated and aged	2500	280	0.25	55 –50 –50	55-50-50
		Nickel base					
S2.0.Z.AN	20.21	Annealed or solution treated	2650	250	0.25	70 –65 –65	70-65-65
S2.0.Z.AG	20.22	Aged or solution treated and aged	2900	350	0.25	45 –40 –40	45-40-40
S2.0.C.NS	20.24	Cast or cast and aged	3000	320	0.25	55 –50 –50	55-50-50
		Cobalt base					
S3.0.Z.AN	20.31	Annealed or solution treated	2700	200	0.25	30 –29 –28	30-29-28
S3.0.Z.AG	20.32	Solution treated and aged	3000	300	0.25	21 –20 –20	21-20-20
S3.0.C.NS	20.33	Cast or cast and aged	3100	320	0.25	20 –19 –18	20-19-18
		Titanium alloys[1]		**Rm**[1]			
S4.1.Z.UT	23.1	Commercial pure (99,5% Ti)	1300	400	0.23	150 –145 –140	150-145-140
S4.2.Z.AN	23.21	α, near α and α + β alloys, annealed	1400	950	0.23	65 –65 –65	65 –65 –65
S4.3.Z.AG	23.22	α + β alloys in aged cond., β alloys, annealed or aged	1400	1050	0.23	55 –50 –50	55 –50 –50

ISO H MC No.	CMC No.	Material	Specific cutting force k_{c1} N/mm²	Hardness Brinell HB	mc	CB50 Max chip thickness, h_{ex} mm 0.07 – 0.12 – 0.2 Cutting speed v_c, m/min	CT530 Max chip thickness, h_{ex} mm 0.07 – 0.1 – 0.2 Cutting speed v_c, m/min
		Extra hard steel					
H1.3.Z.HA	04.1	Hardened and tempered	4200	59 HRC	0.25	190 –180 –175	95 –90 –85
		Chilled cast iron					
H2.0.C.UT	10.1	Cast or cast and aged	2250	400	0.28	355 –345 –330	180 –175 –165

1) 45-60° entering angle. Positive cutting geometry and coolant should be used.

2) Rm = ultimate tensile strength measured in MPa.



Conditions:
Side milling, cutter dia. 25 mm.
Working engagement 10 mm.

GC1025	GC1030	H10F	H13A				
Max chip thickness, h_{ex} mm							
0.1-0.15-0.2	0.1-0.15-0.2	0.1-0.15-0.2	0.1-0.15-0.2				
Cutting speed v_c, m/min							
1100 –1100 –1050	1100 –1100 –1050	1050 –1050 –1000	850 –830 –820				
1000 –980 –970	1000 –980 –970	950 –940 –920	760 –750 –740				
1100 –1100 –1050	1100 –1100 –1050	1050 –1050 –1000	1900 –1900 –1850				
110 –1100 –1100	1100 –1100 –1100	950 –940 –920	1650 –1600 –1600				
1100 –1100 –1100	1100 –1100 –1100	1050 –1050 –1050	850 –840 –825				
445 –440 –430	445 –440 –430	425 –420 –410	340 –335 –330				
335 –330 –325	335 –330 –325	320 –315 –310	255 –250 –245				
560 –550 –540	560 –550 –540	530 –520 –510	425 –415 –410				
560 –550 –540	560 –550 –540	530 –520 –510	425 –415 –410				
390 –380 –375	390 –380 –375	370 –365 –360	295 –290 –285				

H13A	H10F	S30T	S40T	GC2030	GC2040		
Max chip thickness, h_{ex} mm							
0.1-0.15-0.2	0.1-0.2-0.3	0.1-0.15-0.2	0.1-0.15-0.2	0.05-0.15-0.2	0.05-0.15-0.25		
Cutting speed v_c, m/min							
65-65-65	60 –60 –60	–	–	65 –65 –65	70 –65 –65		
50-50-50	45 –45 –40	–	–	50 –50 –45	50 –50 –45		
65-65-60	60 –55 –55	–	–	65 –60 –60	65 –65 –60		
40-39-38	36 –35 –33	–	–	40 –38 –38	40 –39 –38		
50-50-50	45 –45 –40	–	–	50 –45 –45	50 –50 –45		
28-27-26	26 –24 –23	–	–	28 –27 –26	28 –27 –26		
20-19-19	18 –17 –16	–	–	20 –19 –19	20 –19 –19		
19-19-18	17 –16 –16	–	–	19 –18 –17	19 –18 –17		
140-140-135	130 –125 –120	170 –165 –160	145 –145 –140	140 –135 –130	145 –140 –135		
55-55-55	50 –50 –45	75 -75 -70	55-50-50	55-55-55	50 –50 –50		
45-40-40	38 –37 –36	65 –60 –66	45-45-45	50 –45 –45	45 –40 –40		

GC4220	GC3040	GC1010	GC1025	GC1030			
Max chip thickness, h_{ex} mm							
0.1-0.12-0.25	0.1-0.2-0.25	0.07-0.12-0.2	0.07-0.12-0.2	0.07-0.12-0.2			
Cutting speed v_c, m/min							
65–65–60	55-50-50	130-125-120	45–45–45	45-45-45			
125–125–115	100-95-95	250-240-230	90–85–85	90-85-85			

Milling with large engagement, inch values

ISO P MC No.	CMC No.	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	mc	CT530 Max chip thickness, h_{ex} inch .004 – .006 – .008 Cutting speed v_c, ft/min	GC1010 Max chip thickness, h_{ex} inch .002 – .004 – .008 Cutting speed v_c, ft/min
		Steel					
		Unalloyed					
P1.1.Z.AN	01.1	C = 0.10 – 0.25%	216,500	125	0.25	1400-1250-1150	-
P1.2.Z.AN	01.2	C = 0.25 – 0.55%	233,000	150	0.25	1250-1150-1050	-
P1.3.Z.AN	01.3	C = 0.55 – 0.80%	247,000	170	0.25	1200-1050-970	-
P1.3.Z.AN	01.4		260,500	210	0.25	1050-940-850	-
P1.3.Z.HT	01.5		291,500	300	0.25	770-690-630	-
		Low alloyed (alloying elements ≤ 5%)					
P2.1.Z.AN	02.1	Non-hardened	246,500	175	0.25	980-890-800	-
P2.5.Z.HT	02.2	Hardened and tempered	278,500	300	0.25	640-580-520	-
		High alloyed (alloying elements > 5%)					
P3.0.Z.AN	03.11	Annealed	282,000	200	0.25	740-670-610	590-540-440
P3.1.Z.AN	03.13	Hardened tool steel	311,000	200	0.25	620-560-500	490-445-360
P3.0.Z.HT	03.21		420,000	300	0.25	540-485-440	430-390-315
P3.0.Z.HT	03.22		448,500	380	0.25	340-305-275	270-245-200
		Castings					
P1.5.C.UT	06.1	Unalloyed	204,000	150	0.25	1000-910-820	800-720-590
P2.6.C.UT	06.2	Low alloyed (alloying elements ≤ 5%)	230,500	200	0.25	800-720-650	630-570-470
P3.0.C.UT	06.3	High alloyed (alloying elements > 5%)	283,500	200	0.25	580-530-475	465-420-345

ISO M MC No.	CMC No.	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	mc	CT530 Max chip thickness, h_{ex} inch .004 – .006 – .008 Cutting speed v_c, ft/min	GC1025 Max chip thickness, h_{ex} inch .002 – .004 – .008 Cutting speed v_c, ft/min
		Stainless steel					
		Ferritic/martensitic					
P5.0.Z.AN	05.11	Non-hardened	262,000	200	0.21	940-830-740	830-740-590
P5.0.Z.PH	05.12	PH-hardened	411,500	330	0.21	670-600-530	590-520-415
P5.0.Z.HT	05.13	Hardened	340,000	330	0.21	700-620-550	610-540-430
		Austenitic					
M1.0.Z.AQ	05.21	Non-hardened	285,000	200	0.21	870-780-690	820-730-580
M1.0.Z.PH	05.22	PH-hardened	414,000	330	0.21	640-580-510	560-500-400
M2.0.Z.AQ	05.23	Super austenitic	328,000	200		–	–
		Austenitic-ferritic (Duplex)					
M3.1.Z.AQ	05.51	Non-weldable ≥ 0.05%C	286,500	230	0.21	850-760-680	670-600-475
M3.2.Z.AQ	05.52	Weldable < 0.05%C	356,500	260	0.21	750-670-600	570-510-405
		Stainless steel – Cast					
		Ferritic/martensitic					
P5.0.C.UT	15.11	Non-hardened	246,500	200	0.25	830-740-660	740-660-520
P5.0C.PH	15.12	PH-hardened	354,500	330	0.25	590-520-465	520-460-365
P5.0.C.HT	15.13	Hardened	311,000	330	0.25	640-570-510	560-500-395
M1.0.C.UT	15.21	Non hardened	261,000	200	0.25	830-740-660	780-690-550
M1.0C.PH	15.22	PH-hardened	356,000	330	0.25	590-530-470	520-460-365
M2.0.C.AQ	15.23	Super austenitic	310,500	200		–	–
		Austenitic-ferritic (Duplex)					
M3.1.C.AQ	15.51	Non-weldable ≥ 0.05%C	258,000	230	0.25	810-720-640	640-570-450
M3.2.C.AQ	15.52	Weldable < 0.05%C	326,500	260	0.25	700-630-560	530-475-375

ISO K MC No.	CMC No.	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	mc	CB50 Max chip thickness, h_{ex} inch .004 – .006 – .008 Cutting speed v_c, ft/min	CC6190 Max chip thickness, h_{ex} inch .004 – .008 – .012 Cutting speed v_c, ft/min
		Malleable cast iron					
	07.1	Ferritic (short chipping)	115,000	130	0.28	-	4250-3500-2850
K1.1.C.NS	07.2	Pearlitic (long chipping)	131,000	230	0.28	-	3550-2900-2350
		Grey cast iron					
K2.1.C.UT	08.1	Low tensile strength	130,000	180	0.28	2950-2550-2150	5150-4200-3450
K2.2.C.UT	08.2	High tensile strength	159,500	245	0.28	2750-2350-2000	3900-3200-2600
		Nodular cast iron					
K3.1.C.UT	09.1	Ferritic	130,000	160	0.28	-	3300-2700-2200
K3.3.C.UT	09.2	Pearlitic	194,500	250	0.28	1600-1350-1150	2750-2250-1850

Conditions:

Cutter, dia. 5.000 inch (125 mm) Working engagement 4.000 inch (100 mm)

GC1025	GC1030	GC4220	GC4230	GC4240	GC3040	GC2030	GC2040	SM30
Max chip thickness, h_{ex} inch								
.002-.004-.008	.002-.004-.008	.004-.008-.012	.004-.008-.012	.004-.008-.012	.004-.008-.012	.004-.008-.016	.004-.008-.016	.004-.008-.016
Cutting speed v_c, ft/min								
1100-1000-820	1250-1100-910	1600-1300-1050	1300-1050-870	1100-910-740	1250-1050-850	960-780-520	960-780-520	870-740-540
1000-910-740	1100-1000-820	1450-1200-960	1150-960-780	1000-820-670	1150-930-760	860-700-470	860-700-470	780-670-490
950-860-700	1050-940-770	1350-1100-910	1100-900-740	940-770-630	1100-880-720	810-660-440	810-660-440	740-630-460
820-750-610	910-820-670	1200-970-790	970-790-650	820-670-550	940-770-630	710-580-390	710-580-390	650-550-405
610-550-450	670-610-500	880-720-590	710-580-475	610-500-405	700-570-465	520-430-285	520-430-285	475-405-300
920-830-680	860-780-640	1100-920-750	920-750-610	780-640-520	890-730-600	670-550-370	670-550-370	610-520-380
510-460-375	560-510-415	730-600-490	600-490-400	510-415-340	580-475-390	440-360-240	440-360-240	400-340-250
590-540-440	590-540-440	970-800-650	630-510-420	540-440-360	680-550-450	510-415-275	510-415-275	460-395-290
490-445-360	490-445-360	710-580-475	520-430-350	445-360-295	560-460-375	415-340-225	415-340-225	385-330-240
430-390-315	430-390-315	610-500-410	455-370-305	390-315-260	490-400-325	365-300-200	365-300-200	335-285-210
270-245-200	270-245-200	385-315-255	285-235-190	245-200-160	305-250-205	225-185-125	225-185-125	210-180-130
800-720-590	800-720-590	1150-940-770	850-690-570	720-590-480	910-740-610	680-560-370	680-560-370	620-530-390
630-570-470	630-570-470	910-740-610	680-550-450	570-470-385	720-590-485	550-445-300	550-445-300	495-425-310
465-420-345	465-420-345	670-550-445	495-405-330	420-345-280	530-435-355	400-325-220	400-325-220	360-310-225

GC1030	1040	S30T	S40T	GC2030	GC2040	GC4230	GC4240	SM30
Max chip thickness, h_{ex} inch								
.002-.004-.008	.002-.006-.010	.002-.006-.010	.004-.008-.012	.002-.006-.010	.004-.008-.012	.004-.008-.012	.004-.008-.016	.004-.008-.016
Cutting speed v_c, ft/min								
830-740-590	610-450-330	830-610-450	810-650-510	790-630-500	780-620-495	900-710-570	690-550-345	600-520-380
590-520-415	430-315-235	580-430-320	560-445-355	560-445-350	540-425-340	620-490-390	455-365-230	345-295-215
610-540-430	445-330-245	610-445-330	590-470-375	580-460-365	570-450-360	640-510-410	520-410-260	360-305-225
820-730-580	590-435-325	810-600-445	680-540-430	770-610-485	660-520-415		610-485-305	560-480-355
560-500-400	415-305-225	560-415-305	540-425-340	540-425-340	520-410-325		440-350-220	330-285-205
–	405-300-220	560-415-305	475-375-300	–	–	–	–	–
670-600-475	495-365-270	670-495-365	570-450-360	640-510-405	550-435-345		550-435-275	550-470-345
570-510-405	410-305-225	570-420-310	460-365-290	540-425-340	440-350-280		440-350-220	420-360-265
740-660-520	540-400-295	730-540-400	720-570-455	700-560-445	690-550-440	800-630-500	610-485-305	540-460-335
520-460-365	375-275-200	510-380-280	490-390-310	485-385-305	470-375-295	540-430-340	400-320-200	300-255-190
560-500-395	405-300-220	560-410-305	540-430-345	530-420-335	520-415-330	590-470-375	475-375-240	330-280-205
780-690-550	560-415-310	770-570-425	650-520-415	730-580-465	630-500-395		580-460-290	530-455-335
520-460-365	365-270-200	520-380-280	490-390-310	485-385-305	470-375-300		400-320-200	300-260-190
–	365-270-200	500-370-275	425-340-270	–	–	–	–	–
640-570-450	470-350-255	640-470-345	540-430-340	610-485-385	520-410-325		520-415-260	520-445-325
530-475-375	385-285-210	530-390-290	430-345-275	495-395-315	415-330-265		410-325-205	390-335-245

GC3220	GC3040	K20W	GC4220	GC4230	GC4240	GC1020	H13A	K20D
Max chip thickness, h_{ex} inch								
.004-.008-.012	.004-.008-.016	.004-.008-.012	.004-.008-.012	.004-.008-.012	.004-.008-.012	.004-.008-.016	.004-.008-.016	.004-.008-.012
Cutting speed v_c, ft/min								
870-710-580	790-640-430	730-600-490	830-680-560	700-570-465	630-520-425	670-550-445	395-335-245	870-710-580
720-590-480	650-530-355	600-495-405	680-560-455	570-470-385	520-430-350	550-450-370	325-280-205	720-590-480
950-780-630	850-700-465	800-650-530	900-740-600	760-620-510	690-570-465	730-600-485	430-365-270	950-780-630
760-620-510	680-560-375	640-520-425	720-590-485	610-495-405	550-455-370	580-475-390	340-290-215	760-620-510
590-485-395	530-435-290	500-410-335	560-460-375	475-390-320	435-355-290	455-370-305	270-230-170	590-485-395
550-450-370	495-405-270	465-380-310	520-430-350	440-360-295	405-330-270	425-350-285	250-215-155	550-450-370

Milling with large engagement, inch values

ISO N MC No.	CMC No.	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	mc	CD10 Max chip thickness, h_{ex} inch .004-.006-.008 Cutting speed v_c, ft/min	H10 Max chip thickness, h_{ex} inch .004-.006-.008 Cutting speed v_c, ft/min
		Aluminium alloys					
N1.2.Z.UT	30.11	Wrought or wrought and coldworked, non-aging	58,000	60		6150-5700-5250	3050-2850-2650
N1.2.Z.AG	30.12	Wrought or wrought and aged	94,500	100		5550-5100-4750	2750-2550-2350
		Aluminium alloys					
N1.3.C.UT	30.21	Cast, non-aging	87,000	75	0.25	6150-5700-5250	3050-2850-2650
N1.3.C.AG	30.22	Cast or cast and aged	101,500	90	0.25	5550-5150-4750	2750-2550-2350
		Aluminium alloys					
N1.1.Z.UT	30.3	Al >99%	50,500	30		6200-5700-5300	3100-2850-2650
		Aluminium alloys					
	30.41	Cast, 13–15% Si	101,500	130		2450-2300-2100	1250-1150-1050
N1.4.C.NS	30.42	Cast, 16–22% Si	101,500	130		1850-1700-1600	930-860-790
		Copper and copper alloys					
N3.3.U.UT	33.1	Free cutting alloys, ≥1% Pb	79,500	110	0.25	3100-2850-2650	1550-1450-1300
N3.2.C.UT	33.2	Brass, leaded bronzes, ≤1% Pb	80,000	90		3100-2850-2650	1550-1400-1300
N3.1.U.UT	33.3	Bronze and non-leadad copper incl. electrolytic copper	196,000	100	0.25	2150-2000-1850	1100-1000-920

ISO S MC No.	CMC No.	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	mc	GC1025 Max chip thickness, h_{ex} inch .004-.006-.008 Cutting speed v_c, ft/min	GC1030 Max chip thickness, h_{ex} inch .004-.006-.008 Cutting speed v_c, ft/min
		Heat resistant super alloys					
		Iron base					
S1.0.U.AN	20.11	Annealed or solution treated	348,000	200	0.25	200-180-160	200-180-160
S1.0.U.AG	20.12	Aged or solution treated and aged	359,000	280	0.25	150-135-120	150-135-120
		Nickel base					
S2.0.Z.AN	20.21	Annealed or solution treated	383,000	250	0.25	190-170-155	190-170-155
S2.0.Z.AG	20.22	Aged or solution treated and aged	420,500	350	0.25	120-105-95	120-105-95
S2.0.C.NS	20.24	Cast or cast and aged	436,500	320	0.25	145-130-120	150-140-120
		Cobalt base					
S3.0.Z.AN	20.31	Annealed or solution treated	391,500	200	0.25	80-70-65	80-70-65
S3.0.Z.AG	20.32	Solution treated and aged	432,000	300	0.25	55-50-45	55-50-45
S3.0.C.NS	20.33	Cast or cast and aged	450,500	320	0.25	50-45-40	50-45-40
		Titanium alloys[1]		**Rm**[2]			
S4.1.Z.UT	23.1	Commercial pure (99,5% Ti)	188,500	400	0.23	415-375-340	415-375-340
S4.2.Z.AN	23.21	α, near α and α + β alloys, annealed	203,000	950	0.23	185-165-150	185-165-150
S4.3.Z.AG	23.22	α + β alloys in aged cond., β alloys, annealed or aged	203,000	1050	0.23	145-130-120	145-130-120

ISO H MC No.	CMC No.	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	mc	CB50 Max chip thickness, h_{ex} inch .003-.005-.008 Cutting speed v_c, ft/min	CT530 Max chip thickness, h_{ex} inch .003-.004-.008 Cutting speed v_c, ft/min
		Extra hard steel					
H1.3.Z.HA	04.1	Hardened and tempered	606,500	59 HRC	0.25	520-455-370	260-245-185
		Chilled cast iron					
H2.0.C.UT	10.1	Cast or cast and aged	326,500	400	0.28	990-870-700	495-465-350

1) 45-60° entering angle. Positive cutting geometry and coolant should be used.

2) Rm = ultimate tensile strength measured in MPa.

Conditions:
Cutter, dia. 5.000 inch (125 mm) Working engagement 4.000 inch (100 mm)

CT530	GC1025	GC1030	H10F	H13A		
Max chip thickness, h_{ex} inch						
.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008		
Cutting speed v_c, ft/min						
3400-3100-2900	3200-3000-2750	3200-3000-2750	3050-2850-2650	2450-2250-2100		
3050-2800-2600	2900-2700-2500	2900-2700-2500	2750-2550-2350	2200-2050-1900		
3400-3150-2900 3050-2800-2600	3250-3000-2750 3250-3000-2750	3250-3000-2750 3250-3000-2750	3050-2850-2650 2750-2550-2350	5600-5150-4800 4750-4400-4050		
3400-3150-2900	3250-3000-2800	3250-3000-2800	3100-2850-2650	2450-2300-2100		
1350-1250-1150 1000-940-870	1300-1200-1100 970-900-830	1300-1200-1100 970-900-830	1250-1150-1050 930-860-790	990-910-850 740-690-630		
1700-1550-1450 1700-1550-1450 1200-1100-1000	1600-1500-1400 1600-1500-1400 1150-1050-970	1600-1500-1400 1600-1500-1400 1150-1050-970	1550-1450-1300 1550-1400-1300 1100-1000-920	1250-1150-1050 1250-1150-1050 860-800-740		

H13A	H10F	S30T	S40T	GC2030	GC2040	
Max chip thickness, h_{ex} inch						
.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.010	
Cutting speed v_c, ft/min						
195-180-170 145-130-120	180-165-155 130-120-115	- -	- -	185-165-150 135-125-110	190-170-140 140-125-105	
185-175-160 115-105-100 145-135-125	170-160-145 105-95-90 130-120-110	- - -	- - -	175-160-145 110-100-90 135-120-110	180-165-135 115-100-85 135-125-100	
75-65-60 55-50-45 50-45-40	70-65-55 50-45-39 45-40-37	- - -	- - -	75-65-60 55-50-45 50-45-39	75-65-55 55-50-39 50-45-35	
410-380-350 165-150-140 125-115-105	375-345-320 145-135-125 110-105-95	445-380-330 200-170-145 155-135-115	415-375-340 150-135-125 125-115-100	385-350-315 155-140-125 135-120-110	400-360-325 140-130-115 120-110-100	

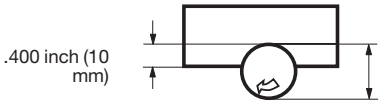
GC4220	GC3040	GC1010	GC1025	GC1030		
Max chip thickness, h_{ex} inch						
.004-.006-.010	..004-.008-.010	.003-.005-.008	.003-.005-.008	.003-.005-.008		
Cutting speed v_c, ft/min						
175-150-115	140-110-95	360-310-255	130-115-95	130-115-95		
330-285-220	270-205-180	690-600-490	250-215-175	250-215-175		

Milling with small engagement, inch values

ISO P MC No.	CMC No.	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	mc	CT530	GC1010
						Max chip thickness, h_{ex} inch	
						.004-.006-.008	.002-.004-.008
						Cutting speed v_c, ft/min	
		Steel					
		Unalloyed					
P1.1.Z.AN	01.1	C = 0.10 –0.25%	216,500	125	0.25	1650-1600-1550	-
P1.2.Z.AN	01.2	C = 0.25–0.55%	233,000	150	0.25	1450-1450-1400	-
P1.3.Z.AN	01.3	C = 0.55–0.80%	247,000	170	0.25	1400-1350-1350	-
P1.3.Z.AN	01.4		260,500	210	0.25	1200-1200-1150	-
P1.3.Z.HT	01.5		291,500	300	0.25	890-880-860	-
		Low-alloy (alloying elements ≤5%)					
P2.1.Z.AN	02.1	Non-hardened	246,500	175	0.25	1150-1100-1100	-
P2.5.Z.HT	02.2	Hardened and tempered	278,500	300	0.25	750-730-720	-
		High-alloy (alloying elements >5%)					
P3.0.Z.AN	03.11	Annealed	282,000	200	0.25	870-850-830	640-630-600
P3.1.Z.AN	03.13	Hardened tool steel	311,000	200	0.25	720-700-690	530-520-495
P3.0.Z.HT	03.21		420,000	300	0.25	630-620-600	465-455-435
P3.0.Z.HT	03.22		448,500	380	0.25	395-385-380	290-285-270
		Castings					
P1.5.C.UT	06.1	Unalloyed	204,000	150	0.25	1150-1150-1100	860-840-810
P2.6.C.UT	06.2	Low-alloy (alloying elements ≤5%)	230,500	200	0.25	930-910-890	690-670-640
P3.0.C.UT	06.3	High-alloy (alloying elements >5%)	283,500	200	0.25	680-670-650	500-490-470

ISO M MC No.	CMC No.	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	mc	CT530	GC1025
						Max chip thickness, h_{ex} inch	
						.004-.006-.008	.004-.006-.008
						Cutting speed v_c, ft/min	
		Stainless steel					
		Ferritic/martensitic					
P5.0.Z.AN	05.11	Non-hardened	262,000	200	0.21	1100-1100-1050	910-890-840
P5.0.Z.PH	05.12	PH-hardened	411,500	330	0.21	800-780-760	640-630-590
P5.0.Z.HT	05.13	Hardened	340,000	330	0.21	830-810-790	660-650-610
		Austenitic					
M1.0.Z.AQ	05.21	Non-hardened	285,000	200	0.21	1050-1000-990	890-870-830
M1.0.Z.PH	05.22	PH-hardened	414,000	330	0.21	770-750-730	620-600-570
M2.0.Z.AQ	05.23	Super austenitic	328,000	200		-	-
		Austenitic-ferritic (Duplex)					
M3.1.Z.AQ	05.51	Non-weldable ≥ 0.05%C	286,500	230	0.21	1000-990-970	740-720-680
M3.2.Z.AQ	05.52	Weldable < 0.05%C	356,500	260	0.21	900-880-860	620-610-580
		Stainless steel – Cast					
		Ferritic/martensitic					
P5.0.C.UT	15.11	Non-hardened	246,500	200	0.25	990-970-940	810-790-750
P5.0c.PH	15.12	PH-hardened	354,500	330	0.25	700-680-670	560-550-520
P5.0.C.HT	15.13	Hardened	311,000	330	0.25	760-740-720	610-590-570
		Austenitic					
M1.0.C.UT	15.21	Austenitic	261,000	200	0.25	990-960-940	850-830-790
M1.0c.PH	15.22	PH-hardened	356,000	330	0.25	700-690-670	570-550-520
M2.0.C.AQ	15.23	Super austenitic	310,500	200		-	-
		Austenitic-ferritic (Duplex)					
M3.1.C.AQ	15.51	Non-weldable ≥ 0.05%C	258,000	230	0.25	960-940-910	700-680-650
M3.2.C.AQ	15.52	Weldable < 0.05%C	326,500	260	0.25	840-820-800	580-560-540

ISO K MC No.	CMC No.	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	mc	CB50	CC6190
						Max chip thickness, h_{ex} inch	
						0.004-0.006-0.008	0.004-0.006-0.012
						Cutting speed v_c, ft/min	
		Malleable cast iron					
	07.1	Ferritic (short chipping)	115,000	130	0.28	-	5000-4800-4550
K1.1.C.NS	07.2	Pearlitic (long chipping)	131,000	230	0.28	-	4100-3950-3750
		Grey cast iron					
K2.1.C.UT	08.1	Low tensile strength	130,000	180	0.28	3800-3650-3550	6050-5750-5500
K2.2.C.UT	08.2	High tensile strength	159,500	245	0.28	3550-3400-3300	4600-4400-4200
		Nodular cast iron					
K3.1.C.UT	09.1	Ferritic	130,000	160	0.28	-	3850-3700-3550
K3.3.C.UT	09.2	Pearlitic	194,500	250	0.28	2050-2000-1900	3200-3050-2900



Conditions:

Side milling, cutter dia. 1.000 inch (25 mm). Working engagement .400 inch (10 mm).

GC1025	GC1030	GC4220	GC4230	GC4240	GC3040	GC2030	GC2040	SM30
Max chip thickness, h_{ex} inch								
.002-.004-.008	.002-.004-.008	.004-.006-.012	.004-.006-.012	.004-.008-.012	.004-.006-.012	.004- .006-.010	.004-.008-.012	.004-.008-.012
Cutting speed v_c, ft/min								
1200-1200-1150	1350-1300-1250	1850-1850-1700	1500-1450-1400	1300-1250-1200	1500-1450-1350	1100-1100-1050	1100-1050-1000	980-950-910
1100-1050-1000	1200-1150-1100	1700-1650-1550	1350-1300-1250	1150-1100-1050	1350-1300-1200	1000-990-940	1000-960-920	880-850-820
1000-1000-960	1150-1100-1050	1600-1550-1450	1300-1250-1200	1100-1050-1000	1250-1250-1150	950-930-880	950-900-860	830-800-780
890-870-830	980-960-920	1400-1350-1250	1150-1100-1050	960-920-880	1100-1050-1000	830-820-780	830-800-760	730-700-680
660-650-620	730-710-680	1000-1000-940	840-800-760	710-680-650	810-800-740	610-600-570	610-590-560	540-520-500
990-970-930	930-910-870	1300-1300-1200	1050-1000-980	910-870-830	1050-1000-950	790-770-740	790-750-720	690-660-640
550-540-520	610-590-570	860-840-780	700-670-640	590-570-540	680-660-620	510-500-480	510-490-470	450-435-420
640-630-600	640-630-600	1150-1100-1050	740-700-670	630-600-570	790-770-720	590-580-550	590-570-540	520-500-485
530-520-495	530-520-495	830-810-760	610-580-560	520-495-475	660-640-600	485-475-450	485-465-440	430-415-405
465-455-435	465-455-435	720-700-660	530-510-485	455-435-415	570-560-520	425-415-400	425-405-390	380-365-355
290-285-270	290-285-270	450-440-410	335-320-305	285-270-260	360-350-330	265-260-250	265-255-240	235-230-220
860-840-810	860-840-810	1350-1300-1200	990-950-910	840-810-770	1050-1050-970	790-780-740	790-760-730	700-680-650
690-670-640	690-670-640	1050-1050-970	790-760-720	670-640-610	850-830-770	640-630-600	640-610-580	560-540-520
500-490-470	500-490-470	780-760-710	580-550-530	490-470-450	620-610-570	465-455-435	465-445-425	410-395-380

GC1030	1040	S30T	S40T	GC2030	GC2040	GC4230	GC4240	SM30
Max chip thickness, h_{ex} inch								
.002-.004-.008	.002-.006-.010	.002-.006.010	.004-.008-.010	.002-.006-.010	.004-.008-.010	.004-.008-.010	.004-.008-.012	.004-.008-.012
Cutting speed v_c, ft/min								
910-890-840	680-640-600	930-870-810	970-920-900	860-820-780	930-890-860	1050-1000-990	820-780-740	680-660-640
640-630-590	485-450-420	660-610-570	670-630-620	610-580-550	640-610-590	740-700-680	540-520-490	390-375-360
660-650-610	500-470-440	680-540-590	710-670-650	630-600-570	680-640-630	770-730-710	620-590-560	405-390-375
890-870-830	660-640-580	910-850-800	810-770-750	840-800-760	780-740-730	-	730-690-660	630-610-590
620-600-570	465-435-405	630-590-550	640-610-590	580-560-530	620-590-570	-	520-500-475	375-360-350
-	455-425-395	630-590-550	570-540-520	-	-	-	-	-
740-720-680	560-520-490	750-710-660	680-650-630	700-670-630	650-620-610	-	650-620-590	620-600-580
620-610-580	465-435-405	640-600-560	550-520-510	590-560-530	530-500-490	-	530-500-475	475-460-445
810-790-750	610-570-530	830-770-720	860-820-800	770-730-690	830-790-770	950-900-880	730-690-660	610-590-570
560-550-520	420-390-365	580-540-500	580-550-540	530-500-475	560-530-520	650-610-600	475-455-430	340-330-315
610-590-570	455-425-400	620-580-550	650-620-600	580-550-520	620-590-580	710-670-650	570-540-510	370-360-345
850-830-790	640-590-550	870-810-760	780-740-720	800-760-720	750-710-690		690-660-630	600-580-560
570-550-520	420-395-365	580-540-510	590-560-540	530-500-480	560-540-520		480-455-430	340-330-315
-	415-385-360	570-530-495	510-480-470	-	-	-	-	-
700-680-650	530-495-460	710-670-620	640-610-600	670-630-600	620-590-570		620-590-560	590-570-550
580-560-540	430-405-375	590-560-520	520-490-480	540-520-490	495-470-460		490-465-440	440-425-410

GC3220	GC3040	K20W	GC4220	GC4230	GC4240	GC1020	H13A	K20D
Max chip thickness, h_{ex} inch								
.004-.006-.010	.004-.008-.012	.004-.008-.012	.004-.006-.010	.004-.006-.010	.004-.006-.010	.004-.008-.012	.004-.008-.012	.004-.008-.012
Cutting speed v_c, ft/min								
1000-1000-950	920-880-840	860-820-780	970-950-910	810-800-760	740-730-690	780-750-710	445-430-415	1000-970-930
840-820-790	760-720-690	710-670-650	800-780-740	670-660-630	610-600-570	640-620-590	365-355-340	840-800-770
1100-1100-1050	1000-950-910	930-890-850	1050-1050-980	890-870-830	810-790-760	850-810-780	485-465-450	1100-1050-1000
890-870-830	800-770-730	740-710-680	840-830-790	710-690-660	650-630-610	680-650-620	385-370-360	890-850-810
690-680-650	630-600-570	580-560-530	660-650-620	560-540-520	510-495-475	530-510-485	305-295-285	690-660-630
650-630-600	580-560-530	540-520-495	610-600-570	520-500-480	470-460-440	495-475-455	280-270-260	650-620-590

Milling with small engagement, inch values

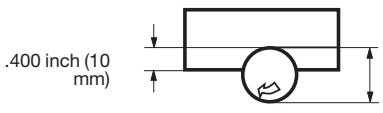
ISO N MC No.	CMC No.	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	mc	CD10 Max chip thickness, h_{ex} inch .004-.006-.008 Cutting speed v_c, ft/min	CT530 Max chip thickness, h_{ex} inch .004-.006-.008 Cutting speed v_c, ft/min
		Aluminium alloys					
N1.2.Z.UT	30.11	Wrought or wrought and coldworked, non-aging	58,000	60		6950-6800-6700	3800-3750-3700
N1.2.Z.AG	30.12	Wrought or wrought and aged	94,500	100		6250-6150-6050	3450-3400-3300
		Aluminium alloys					
N1.3.C.UT	30.21	Cast, non-aging	87,000	75	0.25	6950-6800-6700	3800-3750-3700
N1.3.C.AG	30.22	Cast or cast and aged	101,500	90	0.25	6250-6150-6050	3450-3400-3300
		Aluminium alloys					
N1.1.Z.UT	30.3	Al >99%	50,500	30		7000-6850-6750	3850-3750-3700
		Aluminium alloys					
	30.41	Cast, 13–15% Si	101,500	130		2800-2750-2700	1550-1500-1500
N1.4.C.NS	30.42	Cast, 16–22% Si	101,500	130		2100-2050-2000	1150-1150-1100
		Copper and copper alloys					
N3.3.U.UT	33.1	Free cutting alloys, ≥1% Pb	79,500	110	0.25	3500-3400-3350	1900-1900-1850
N3.2.C.UT	33.2	Brass, leaded bronzes, ≤1% Pb	80,000	90		3450-3400-3350	1900-1900-1850
N3.1.U.UT	33.3	Bronze and non-leadad copper incl. electrolytic copper	196,000	100	0.25	2450-2400-2350	1350-1300-1300

ISO S MC No.	CMC No.	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	mc	GC1025 Max chip thickness, h_{ex} inch .002-.006-.008 Cutting speed v_c, ft/min	GC1030 Max chip thickness, h_{ex} inch .002-.006-.008 Cutting speed v_c, ft/min
		Heat resistant super alloys					
		Iron base					
S1.0.U.AN	20.11	Annealed or solution treated	348,000	200	0.25	235-225-220	235-225-220
S1.0.U.AG	20.12	Aged or solution treated and aged	359,000	280	0.25	175-170-165	175-170-165
		Nickel base					
S2.0.Z.AN	20.21	Annealed or solution treated	383,000	250	0.25	225-215-210	225-215-210
S2.0.Z.AG	20.22	Aged or solution treated and aged	420,500	350	0.25	140-135-130	140-135-130
S2.0.C.NS	20.24	Cast or cast and aged	436,500	320	0.25	175-165-160	175-165-160
		Cobalt base					
S3.0.Z.AN	20.31	Annealed or solution treated	391,500	200	0.25	100-95-90	100-95-90
S3.0.Z.AG	20.32	Solution treated and aged	432,000	300	0.25	70-65-65	70-65-65
S3.0.C.NS	20.33	Cast or cast and aged	450,500	320	0.25	65-60-60	65-60-60
		Titanium alloys[1]		**Rm**[2]			
S4.1.Z.UT	23.1	Commercial pure (99,5% Ti)	188,500	400	0.23	495-470-460	495-470-460
S4.2.Z.AN	23.21	α, near α and α + β alloys, annealed	203,000	950	0.23	220-210-205	220-210-205
S4.3.Z.AG	23.22	α + β alloys in aged cond., β alloys, annealed or aged	203,000	1050	0.23	170-165-160	170-165-160

ISO H MC No.	CMC No.	Material	Specific cutting force k_{c1} lbs/in²	Hardness Brinell HB	mc	CB50 Max chip thickness, h_{ex} inch .003-.005-.008 Cutting speed v_c, ft/min	CT530 Max chip thickness, h_{ex} inch .003-.004-.008 Cutting speed v_c, ft/min
		Extra hard steel					
H1.3.Z.HA	04.1	Hardened and tempered	606,500	59 HRC	0.25	610-600-570	305-300-285
		Chilled cast iron					
H2.0.C.UT	10.1	Cast or cast and aged	326,500	400	0.28	1150-1150-1100	580-570-540

1) 45-60° entering angle. Positive cutting geometry and coolant should be used.

2) Rm = ultimate tensile strength measured in MPa.



Conditions:

Side milling, cutter dia. 1.000 inch (25 mm). Working engagement .400 inch (10 mm).

GC1025	GC1030	H10F	H13A					
Max chip thickness, h_{ex} inch								
.004-.006-.008	.004-.006-.008	.004-.006-.008	.004-.006-.008					
Cutting speed v_c, ft/min								
3650-3600-3500	3650-3600-3500	3450-3400-3350	2750-2700-2700					
3300-3200-3150	3300-3200-3150	3100-3050-3000	2500-2450-2400					
3650-3600-3500	3650-3600-3500	3450-3400-3350	6300-6200-6100					
3650-3600-3500	3650-3600-3500	3150-3050-3000	6360-5300-5200					
3650-3600-3550	3650-3600-3550	3500-3450-3350	2800-2750-2700					
1450-1450-1400	1450-1450-1400	1400-1350-1350	1100-1100-1100					
1100-1100-1050	1100-1100-1050	1050-1050-1000	840-820-810					
1850-1800-1750	1850-1800-1750	1750-1700-1700	1400-1350-1350					
1850-1800-1750	1850-1800-1750	1750-1700-1700	1400-1350-1350					
1250-1250-1250	1250-1250-1250	1200-1200-1150	970-950-940					

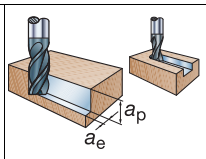
H13A	H10F	S30T	S40T	GC2030	GC2040			
Max chip thickness, h_{ex} inch								
.004-.006-.008	.004-.008-.012	.004-.006-.008	.004-.006-.008	.002-.006-.008	.002-.006-.010			
Cutting speed v_c, ft/min								
220-215-215	200-195-190	-	-	220-210-205	225-215-210			
160-160-155	150-145-140	-	-	165-155-155	165-160-150			
210-210-205	195-185-180	-	-	210-200-195	215-210-200			
130-130-125	115-115-110	-	-	130-125-125	135-130-125			
160-160-155	145-140-135	-	-	160-155-150	165-155-150			
90-90-85	85-80-75	-	-	90-90-85	90-90-85			
65-65-60	60-55-55	-	-	65-65-60	65-65-60			
60-60-60	55-55-50	-	-	60-60-55	60-60-55			
465-455-445	420-405-395	560-540-520	485-470-460	460-440-430	480-455-445			
185-180-175	165-160-155	250-245-235	175-170-170	185-180-175	170-160-160			
140-140-135	125-120-115	195-190-185	145-145-140	160-150-150	145-135-135			

GC4220	GC3040	GC1010	GC1025	GC1030				
Max chip thickness, h_{ex} inch								
.004-.005-.010	.004-.008-.010	.003-.005-.008	.003-.005-.008	.003-.005-.008				
Cutting speed v_c, ft/min								
215-215-195	175-165-160	420-405-390	155-150-140	155-150-140				
410-400-370	335-315-305	810-790-750	295-285-270	295-285-270				

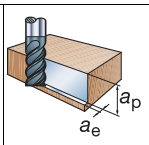
CoroMill® Plura cutting data

Speed recommendations

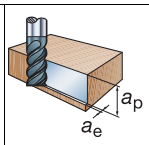
CoroMill® Plura — GC1620, GC1630, H10F



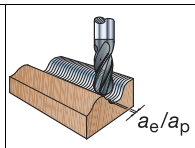
$a_p \times a_e > D_c$



$a_p \times a_e > D_c$



$a_e \leq 0.05 \times D_c$

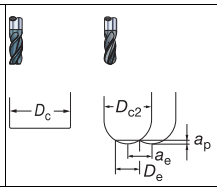


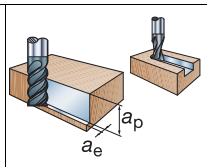
$a_e \leq 0.05 \times D_c$ or D_{c2}
$a_p \leq 0.05 \times D_c$ or D_{c2}

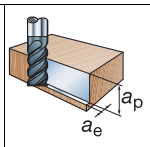
ISO	MC	CMC	HB	HRC	v_c m/min	v_c feet/min	v_c m/min	v_c feet/min	v_c m/min	v_c feet/min	v_c m/min	v_c feet/min
P	P1.1.Z.AN	01.1	125		155	510	200	660	375	1230	690	2260
	P1.2.Z.AN	01.2	150		135	440	185	610	340	1120	630	2070
	P1.3.Z.AN	01.4	200		120	390	140	460	255	840	470	1540
	P2.5.Z.HT	02.2	250		100	330	130	430	245	800	450	1480
	P2.5.Z.HT	02.2	300		90	300	120	390	220	720	410	1350
	P3.0.Z.HT	03.22	400		75	250	95	310	180	590	335	1100
	P3.0.Z.HT	03.22	450		65	210	85	280	160	520	300	980
M	P5.0.Z.AN	05.11	200		60	200	90	300	165	540	300	980
	M1.0.Z.AQ	05.21	200		60	200	75	250	145	480	270	890
	M3.1.Z.AQ	05.51	230		45	150	55	180	110	360	200	660
K		07.1	150		135	440	180	590	330	1080	610	2000
	K3.3.C.UT	09.2	200		100	330	130	430	240	790	440	1440
	K2.1.C.UT	08.1	180		85	280	110	360	210	690	385	1260
N	N1.3.C.AG	30.22	90		1000	3280	1100	3610	1250	4100	1300	4270
S	S2.0.Z.AG	20.22	350		50	165	60	195	100	330	150	490
	S4.3.Z.AG	23.22	350		70	230	80	260	160	525	300	985
H	H1.3.Z.HA	04.1		50	55	180	80	260	GC1610			
	H1.3.Z.HA	04.1		55	-	-	55	180				
	H1.3.Z.HA	04.1		60	-	-	40	130				

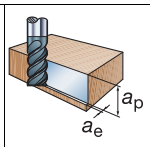
Feed recommendations

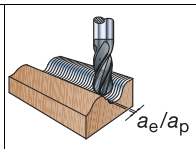
CoroMill® Plura — GC1620, GC1630, H10F











Metric

$$n = \frac{1000 \times v_c}{\pi \times D_c} \text{ (rpm)}$$

$$v_f = n \times f_z \times z_n \text{ (mm/min)}$$

$$D_e = 2 \times \sqrt{a_p \times (D_{c2} - a_p)} \text{ (mm)}$$

Inch

$$n = \frac{v_c \times 12}{\pi \times D_e} \text{ (rpm)}$$

$$v_f = n \times f_z \times z_n \text{ (inch/min)}$$

$$D_e = 2 \times \sqrt{a_p \times (D_{c2} - a_p)} \text{ (inch)}$$

Note: In the formula for n the parameters v_c and D_c can be replaced with v_e and D_{c2}.

D_c or D_{c2} mm	D_c or D_{c2} inch	f_z mm/tooth	f_z inch/tooth	f_z mm/tooth	f_z inch/tooth	f_z mm/tooth	f_z inch/tooth	f_z mm/tooth	f_z inch/tooth
		Plura Guide							
0.5	.020								
1	.039	0.002	.0001	0.002	.0001	0.013	.0005	0.023	.0009
2	.079	0.004	.0002	0.003	.0001	0.032	.0013	0.056	.0022
3	.118	0.006	.0002	0.007	.0003	0.039	.0015	0.07	.0028
3.175	.125 (1/8")	0.006	.0003	0.008	.0003	0.040	.0016	0.072	.0028
4	.157	0.008	.0003	0.014	.0006	0.045	.0018	0.08	.0031
4.76	.188 (3/16")	0.010	.0004	0.019	.0008	0.046	.0018	0.078	.0031
5	.197	0.011	.0004	0.021	.0008	0.046	.0018	0.078	.0031
6	.236	0.014	.0006	0.03	.0012	0.055	.0022	0.099	.0039
6.35	.250 (1/4")	0.015	.0006	0.031	.0012	0.056	.0022	0.102	.0040
8	.315	0.020	.0008	0.033	.0013	0.063	.0025	0.114	.0045
9.525	.375 (3/8")	0.025	.0010	0.050	.0020	0.069	.0027	0.124	.0049
10	.394	0.027	.0011	0.055	.0022	0.071	.0028	0.127	.0050
12	.472	0.036	.0014	0.071	.0028	0.077	.0030	0.139	.0055
12.7	.500 (1/2")	0.039	.0015	0.074	.0029	0.079	.0031	0.143	.0056
15.875	.625 (5/8")	0.054	.0021	0.089	.0035	0.089	.0035	0.160	.0063
16	.630	0.055	.0022	0.09	.0035	0.089	.0035	0.161	.0063
19.05	.750 (3/4")	0.073	.0029	0.105	.0041	0.097	.0038	0.175	.0069
20	.787	0.078	.0031	0.11	.0043	0.1	.0039	0.18	.0071
25	.787	0.11	.0043	0.11	.0043	0.11	.0043	-	-

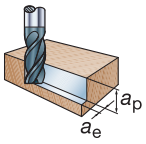
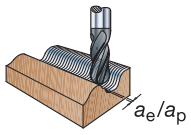
Plura Guide

First choice: Use Plura Guide. Order number C-2948-063

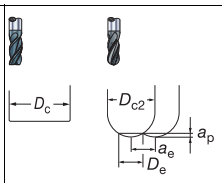
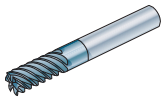
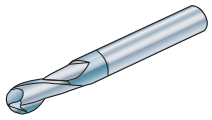
SANDVIK Coromant

CoroMill® Plura cutting data

Speed recommendations

CoroMill® Plura			GC1610									
					$a_e < 0.1 \times D_c$ $a_p < 0.05 \times D_c$		$a_e < 0.05 \times D_c$ $a_p < 0.01 \times D_c$		$a_e \leq 0.1 \times D_{c2}$ or D_e $a_p \leq 0.1 \times D_{c2}$ or D_e		$a_e \leq 0.01 \times D_{c2}$ or D_e $a_p \leq 0.1 \times D_{c2}$ or D_e	
ISO	MC	CMC	HB	HRC	v_e m/min	v_e feet/min	v_e m/min	v_e feet/min	v_e m/min	v_e feet/min	v_e m/min	v_e feet/min
P	P3.0.Z.HT	03.22	400		170	560	200	660	320	1050	815	2650
	P3.0.Z.HT	03.22	450		150	490	180	590	280	920	715	2350
K	K2.1.C.UT	08.1	200		265	870	300	980	510	1650	1300	4250
	K3.3.C.UT	09.2	250		220	720	255	840	420	1400	1070	3500
H	H1.3.Z.HA	04.1		48	130	430	170	560	270	890	680	2250
	H1.3.Z.HA	04.1		52	120	390	155	510	210	690	600	1950
	H1.3.Z.HA	04.1		55	105	340	110	360	200	660	425	1400
	H1.3.Z.HA	04.1		58	75	250	90	300	145	480	370	1200
	H1.3.Z.HA	04.1		60	65	210	80	260	130	430	320	1050
	H1.3.Z.HA	04.1		62	60	200	65	210	100	330	265	850

Feed recommendations

CoroMill® Plura GC1610								
					$a_e \leq 0.1 \times D_{c2}$ or D_e $a_p \leq 0.1 \times D_{c2}$ or D_e		$a_e \leq 0.01 \times D_{c2}$ or D_e $a_p \leq 0.1 \times D_{c2}$ or D_e	
Metric	D_c or D_{c2}		f_z	f_z	f_z	f_z	f_z	f_z
$n = \frac{v_e \times 1000}{\pi \times D_e}$ (rpm)	mm	inch	mm/tooth	inch/tooth	mm/tooth	inch/tooth	mm/tooth	inch/tooth
	1	.039	-	-	0.015	.0006	0.040	.0016
$v_f = n \times f_z \times z_n$ (mm/min)	2	.079	-	-	0.035	.0014	0.055	.0022
	3	.118	0.040	.0016	0.050	.0020	0.070	.0028
$D_e = 2 \times \sqrt{a_p \times (D_{c2} - a_p)}$ (mm)	3.175	.125 (1/8")	0.041	.0016	0.055	.0022	0.072	.0028
	4	.157	0.045	.0018	0.080	.0031	0.080	.0031
	4.76	.188 (3/16")	0.037	.0015	0.088	.0034	0.088	.0034
	5	.197	0.035	.0014	0.090	.0035	0.090	.0035
	6	.236	0.030	.0012	0.100	.0039	0.100	.0039
	6.35	.250 (1/4")	0.034	.0014	0.103	.0040	0.103	.0040
Inch	8	.315	0.055	.0022	0.115	.0045	0.115	.0045
	9.525	.375 (3/8")	0.066	.0026	0.123	.0048	0.123	.0048
$n = \frac{v_c \times 12}{\pi \times D_e}$ (rpm)	10	.394	0.070	.0028	0.125	.0049	0.125	.0049
	12	.472	0.075	.0030	0.140	.0055	0.140	.0055
$v_f = n \times f_z \times z_n$ (inch/min)	12.7	.500 (1/2")	0.078	.0031	0.144	.0056	0.144	.0056
	15.875	.625 (5/8")	0.090	.0035	-	-	-	-
$D_e = 2 \times \sqrt{a_p \times (D_{c2} - a_p)}$ (inch)	16	.630	0.090	.0035	0.160	.0063	0.160	.0063
	19.05	.750 (3/4")	0.098	.0038	-	-	-	-

High security demands in HSM

The machine tools used for HSM must be safely guarded, as splinters or parts of damaged tools might cause serious accidents. High speed machinery has to be “bullet proof”.

Dry milling extends tool life

CoroMill Plura end mills are developed to withstand constant high cutting speeds and temperatures. Their tool life and reliability are, in most cases, much better suited to a dry environment. Tool life improvements of more than 40% are not unusual.

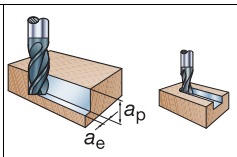
Plura Guide

First choice: Use Plura Guide. Order number C-2948-063

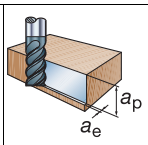
CoroMill® Plura cutting data

Speed recommendations

CoroMill® Plura — GC1640



ap × ae ≤ Dc

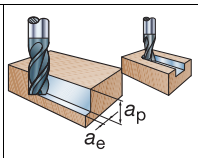


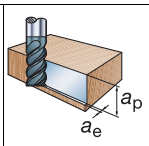
ap × ae < 0.5 × Dc

ISO	MC	CMC	HB	HRC	v_c m/min	v_c feet/min	v_c m/min	v_c feet/min
P	P1.1.Z.AN	01.1	125		145	475	160	525
	P1.2.Z.AN	01.2	150		135	445	145	475
	P1.3.Z.AN	01.4	200		100	330	110	360
	P2.5.Z.HT	02.2	250		85	280	95	310
	P2.5.Z.HT	02.2	300		80	260	85	280
	P3.0.Z.HT	03.22	350		75	245	80	260
M	P5.0.Z.AN	05.11	200		65	215	70	230
	M1.0.Z.AQ	05.21	200		50	165	55	180
	M3.1.Z.AQ	05.51	230		35	115	40	130
K		07.1	150		130	425	140	450
	K3.3.C.UT	09.2	200		105	345	115	375
	K2.2.C.UT	08.2	250		70	230	75	245
S	S2.0.Z.AG	20.22	350		25	60	25	80
	S4.3.Z.AG	23.22	350		40	130	45	150

Feed recommendations

CoroMill® Plura — GC1640





Metric

$$n = \frac{v_c \times 1000}{\pi \times D_c} \quad \text{(rpm)}$$

$$v_f = n \times f_z \times z_n \quad \text{(mm/min)}$$

Inch

$$n = \frac{v_c \times 12}{\pi \times D_e} \quad \text{(rpm)}$$

$$v_f = n \times f_z \times z_n \quad \text{(inch/min)}$$

$$D_e = 2 \times \sqrt{a_p \times (D_{c2} - a_p)} \quad \text{(inch)}$$

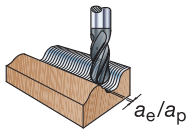
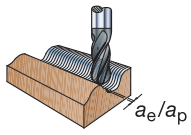
D_c mm	D_c inch	f_z mm/tooth	f_z inch/tooth	f_z mm/tooth	f_z inch/tooth
6	.236	0.013	.0005	0.019	.0007
6.35	.250 (1/4")	0.013	.0005	0.022	.0009
8	.315	0.016	.0006	0.035	.0014
9.525	.375 (3/8")	0.023	.0009	0.041	.0016
10	.394	0.025	.0010	0.043	.0017
12	.472	0.031	.0012	0.055	.0022
12.7	.500 (1/2")	0.035	.0014	0.057	.0023
15.875	.625 (5/8")	0.052	.0020	0.068	.0027
16	.630	0.053	.0021	0.069	.0027
19.05	.750 (3/4")	0.065	.0026	0.081	.0032
20	.787	0.069	.0027	0.085	.0033

Plura Guide

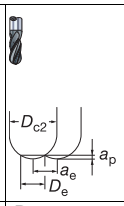
First choice: Use Plura Guide. Order number C-2948-063

CoroMill® Plura cutting data

Speed recommendations

GC1620					 a_e/a_p				GC1610					 a_e/a_p			
					$a_e \le 0.1 \times D_{c2}$ $a_p \le 0.1 \times D_{c2}$		$a_e \le 0.01 \times D_{c2}$ $a_p \le 0.01 \times D_{c2}$							$a_e \le 0.1 \times D_{c2}$ $a_p \le 0.1 \times D_{c2}$		$a_e \le 0.01 \times D_{c2}$ $a_p \le 0.01 \times D_{c2}$	
ISO	**MC**	**CMC**	**HB**	**HRC**	v_e m/min	v_e feet/min	v_e m/min	v_e feet/min	**ISO**	**MC**	**CMC**	**HB**	**HRC**	v_e m/min	v_e feet/min	v_e m/min	v_e feet/min
P	P2.5.Z.HT	02.2	300		202	663	315	1033	**P**	P3.0.Z.HT	03.22	400		320	1050	815	2673
	P3.0.Z.HT	03.22	400		162	531	260	853		P3.0.Z.HT	03.22	450		280	918	715	2345
	P3.0.Z.HT	03.22	450		140	459	225	738									
H	H1.3.Z.HA	04.1		50	107	851	171	561	**H**	H1.3.Z.HA	04.1		48	270	886	680	2230
	H1.3.Z.HA	04.1		55	98	321	156	512		H1.3.Z.HA	04.1		52	210	689	600	1968
										H1.3.Z.HA	04.1		55	200	656	425	1394
										H1.3.Z.HA	04.1		58	145	476	370	1214
										H1.3.Z.HA	04.1		60	130	426	320	1050
										H1.3.Z.HA	04.1		62	100	328	265	869

Feed recommendations

GC1610 **GC1620**						
			$a_e < 0.1 \times D_{c2}$ $a_p < 0.1 \times D_{c2}$		$a_e < 0.01 \times D_{c2}$ $a_p < 0.01 \times D_{c2}$	
Metric $n = \frac{v_e \times 1000}{\pi \times D_e}$ (rpm) (mm/min) $v_f = n \times f_z \times z_n$ (mm) $D_e = 2 \times \sqrt{a_p \times (D_{c2} - a_p)}$	D_{c2} mm	inch	f_z mm/tooth	f_z inch/tooth	f_z mm/tooth	f_z inch/tooth
			Plura Guide			
	1	.039	0.015	.0006	0.040	.0016
	2	.079	0.035	.0014	0.055	.0022
	3	.118	0.050	.0020	0.070	.0028
	3.175	.125	0.055	.0022	0.072	.0028
	4	.157	0.080	.0031	0.080	.0031
	4.76	.188	0.088	.0034	0.088	.0034
Inch $n = \frac{v_c \times 12}{\pi \times D_e}$ (rpm) $v_f = n \times f_z \times z_n$ (inch/min) $D_e = 2 \times \sqrt{a_p \times (D_{c2} - a_p)}$ (inch)	5	.197	0.090	.0035	0.090	.0035
	6	.236	0.100	.0039	0.100	.0039
	6.35	.250	0.103	.0040	0.103	.0040
	8	.315	0.115	.0045	0.115	.0045
	9.525	.375	0.123	.0048	0.123	.0048
	10	.394	0.125	.0049	0.125	.0049
	12	.472	0.140	.0055	0.140	.0055
	12.7	.500	0.144	.0056	0.144	.0056
	15.875	.625	-	-	-	-
	16	.630	0.160	.0063	0.160	.0063

Plura Guide

First choice: Use Plura Guide. Order number C-2948-063

CoroMill® Plura thread milling cutting data

Speed and feed recommendations

The cutting data in the table below are recommended starting values for selected thread diameters. For more specific data, together with programme for the thread to be made, use Plura Guide.

Metric version

ISO	Material MC	CMC No.	Hardness HB	HRC	Thread mill Thread	Dimensions, mm D_c	z_n	With internal coolant supply	$l_{Th} = 0.5 \times a_p$ Cutting speed v_c, m/min	Feed/tooth fz, mm	$l_{Th} = a_p$ Cutting speed v_c, m/min	Feed/tooth fz, mm
P		**Unalloyed steel**			M4	3.2	3	–	152	0.030	141	0.018
	P1.1.Z.AN	01.1	125		M10	8.2	4	•	132	0.052	124	0.029
					M20	16	5	•	141	0.130	131	0.069
		Low alloy steel			M4	3.2	3	–	147	0.012	137	0.006
	P2.5.Z.HT	02.2	300		M10	8.2	4	•	164	0.086	153	0.05
					M20	16	5	•	173	0.089	162	0.118
		High alloy steel			M4	3.2	3	–	163	0.035	151	0.015
	P3.0.Z.HT	03.21	450		M10	8.2	4	•	164	0.061	153	0.049
					M20	16	5	•	173	0.012	162	0.118
M		**Stainless steel**			M4	3.2	3	–	81	0.024	75	0.009
	P5.0.Z.AN	05.11	200		M10	8.2	4	•	82	0.052	76	0.036
					M20	16	5	•	86	0.089	93	0.089
					M4	3.2	3	–	53	0.018	49	0.007
	M1.0.Z.AQ	05.21	200		M10	8.2	4	•	53	0.052	50	0.027
					M20	16	5	•	56	0.089	53	0.072
					M4	3.2	3	–	53	0.018	49	0.007
	M3.1.Z.AQ	05.51	230		M10	8.2	4	•	53	0.052	50	0.027
					M20	16	5	•	56	0.131	53	0.074
K		**Malleable cast iron**			M4	3.2	3	–	80	0.020	77	0.016
	K1.1.C.NS	07.2			M10	8.2	4	•	89	0.061	83	0.036
					M20	16	5	•	82	0.084	83	0.089
		Grey cast iron			M4	3.2	3	–	76	0.018	73	0.014
	K2.2.C.UT	08.2			M10	8.2	4	•	86	0.038	79	0.034
					M20	16	5	•	79	0.075	80	0.080
		Nodular cast iron			M4	3.2	3	–	101	0.027	97	0.020
	K3.1.C.UT	09.1			M10	8.2	4	•	104	0.047	105	0.048
					M20	16	5	•	104	0.089	97	0.067
N		**Aluminium**			M4	3.2	3	–	503	0.040	503	0.035
	N1.2.Z.UT	30.11	60		M10	8.2	4	•	1120	0.089	1060	0.061
					M20	16	5	•	1130	0.089	1060	0.089
	N1.3.C.UT	30.21	95		M4	3.2	3	–	434	0.040	404	0.018
					M10	8.2	4	•	461	0.061	432	0.061
					M20	16	5	•	467	0.089	436	0.089
		33.2	150		M4	3.2	3	–	273	0.028	262	0.021
					M10	8.2	4	•	278	0.053	260	0.026
					M20	16	5	•	282	0.089	263	0.071
S		**Heat resistant alloys**			M4	3.2	3	–	35	0.006	35	0.003
	S1.0.U.AN	20.11	200		M10	8.2	4	•	37	0.023	35	0.013
					M20	16	5	•	38	0.066	38	0.063
		Titanium alloys			M4	3.2	3	–	30	0.030	29	0.020
	S2.0.Z.AG	20.22	300		M10	8,2	4	•	32	0.013	30	0.007
					M20	16	5	•	32	0.037	30	0.018
	S4.2.Z.AN	23.21	300		M4	3.2	3	–	55	0.012	51	0.060
					M10	8.2	4	•	58	0.037	54	0.020
					M20	12	6	•	59	0.089	55	0.051
H		**Hardened steel**			M4	4.5	4	–	43	0.010	40	0.005
	H1.3.Z.HA	04.1		55	M10	8.2	5	–	42	0.022	45	0.035*
					M20	12	5	–	45	0.042	42	0.021
	H1.3.Z.HA	04.1		60	M4	4.5	4	–	30	0.005	30	0.003*
					M10	8.2	5	–	29	0.011	28	0.006*
					M20	12	5	–	30	0.022	28	0.010

CoroMill® Plura thread milling cutting data

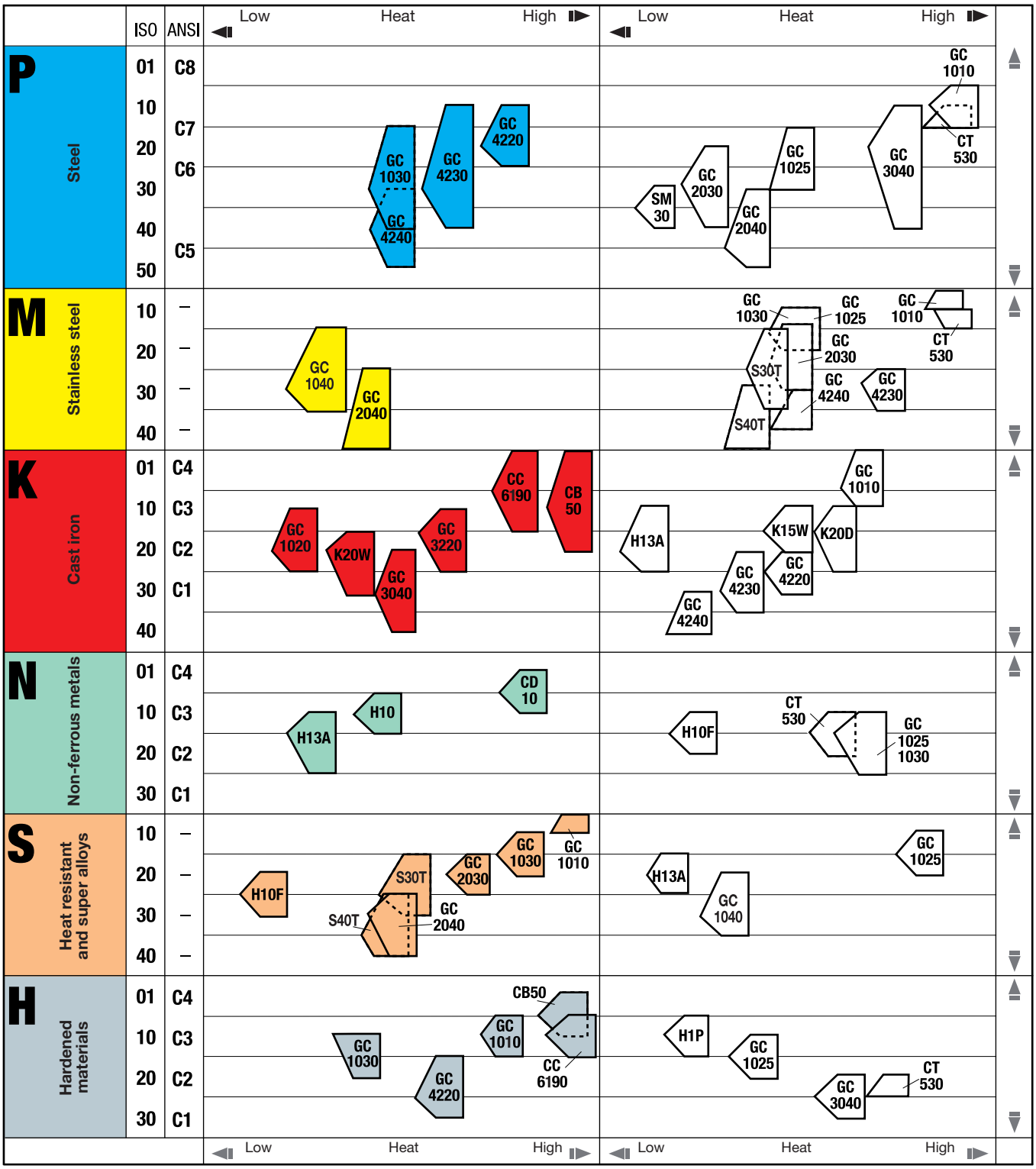
Speed and feed recommendations

The cutting data in the table below are recommended starting values for selected thread diameters. For more specific data, together with programme for the thread to be made, use Plura Guide.

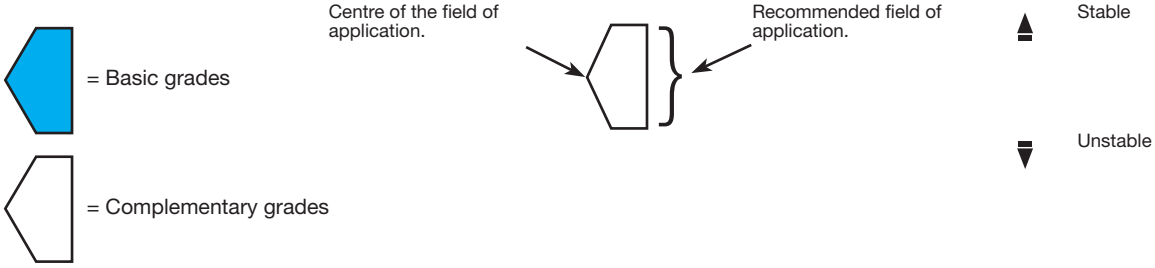
Inch version

ISO	Material MC	CMC No.	Hardness HB	HRC	Thread mill Dimensions, inch Thread	D_c	z_n	With internal coolant supply	$l_{Th} = 0.5 \times a_p$ Cutting speed v_c ft/min	$l_{Th} = 0.5 \times a_p$ Feed/tooth, fz inch	$l_{Th} = a_p$ Cutting speed v_c ft/min	$l_{Th} = a_p$ Feed/tooth, fz inch
P		**Unalloyed steel**			M4	.126	3	–	500	.0012	465	.0007
	P1.1.Z.AN	01.1	125		M10	.323	4	•	435	.0020	410	.0012
					M20	.630	5	•	465	.0051	430	.0028
		Low alloy steel			M4	.126	3	–	485	.0005	440	.0003
	P2.5.Z.HT	02.2	300		M10	.323	4	•	540	.0034	500	.0020
					M20	.630	5	•	570	.0036	535	.0046
		High alloy steel			M4	.126	3	–	540	.0014	500	.0006
	P3.0.Z.HT	03.21	450		M10	.323	4	•	550	.0024	520	.0020
					M20	.630	5	•	570	.0005	540	.0046
M		**Stainless steel**			M4	.126	3	–	265	.0010	245	.0004
	P5.0.Z.AN	05.11	200		M10	.323	4	•	270	.0020	250	.0014
					M20	.630	5	•	280	.0036	310	.0036
					M4	.126	3	–	175	.0007	160	.0007
	M1.0.Z.AQ	05.21	200		M10	.323	4	•	175	.0020	165	.0012
					M20	.630	5	•	185	.0036	175	.0029
					M4	.126	3	–	175	.0008	160	.0003
	M3.1.Z.AQ	05.51	230		M10	.323	4	•	175	.0020	165	.0012
					M20	.630	5	•	185	.0052	175	.0030
K		**Malleable cast iron**			M4	.126	3	–	265	.0008	260	.0006
	K1.1.C.NS	07.2			M10	.323	4	•	290	.0022	275	.0014
					M20	.630	5	•	270	.0032	275	.0036
		Grey cast iron			M4	.126	3	–	260	.0007	250	.0006
	K2.2.C.UT	08.2			M10	.323	4	•	310	.0014	285	.0013
					M20	.630	5	•	285	.0030	290	.0032
		Nodular cast iron			M4	.126	3	–	340	.0012	330	.0008
	K3.1.C.UT	09.1			M10	.323	4	•	345	.0020	340	.0020
					M20	.630	5	•	345	.0036	330	.0026
N		**Aluminium**			M4	.126	3	–	1660	.0016	1660	.0014
	N1.2.Z.UT	30.11	60		M10	.323	4	•	3700	.0036	3500	.0024
					M20	.630	5	•	3750	.0036	3500	.0036
	N1.3.C.UT	30.21	95		M4	.126	3	–	1430	.0016	1330	.0007
					M10	.323	4	•	1520	.0025	1420	.0034
					M20	.630	5	•	1540	.0036	1445	.0036
	N3.2.C.UT	33.2	150		M4	.126	3	–	900	.0011	890	.0009
					M10	.323	4	•	920	.0021	870	.0012
					M20	.630	5	•	930	.0036	880	.0028
S		**Heat resistant alloys**			M4	.126	3	–	115	.0002	115	.0001
	S1.0.U.AN	20.11	200		M10	.323	4	•	120	.0011	115	.0006
					M20	.630	5	•	125	.0026	125	.0025
		Titanium alloys			M4	.126	3	–	100	.0012	100	.0008
	S2.0.Z.AG	20.22	300		M10	.323	4	•	105	.0006	100	.0003
					M20	.630	5	•	105	.0015	100	.0007
	S4.2.Z.AN	23.21	300		M4	.126	3	–	180	.0005	165	.0022
					M10	.323	4	•	190	.0015	175	.0008
					M20	.472	6	•	195	.0036	180	.0022
H		**Hardened steel**			M4	.177	4	–	140	.0004	130	.0002
	H1.3.Z.HA	04.1		55	M10	.323	5	–	135	.0010	150	.0014*
					M20	.472	5	–	150	.0017	135	.0009
	H1.3.Z.HA	04.1		60	M4	.177	4	–	100	.0002	100	.0001*
					M10	.323	5	–	100	.0005	100	.0002*
					M20	.472	5	–	100	.0010	100	.0004

Grades for milling



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



SANDVIK Coromant

Grades for milling

P Steel

Basic grades

GC4230 (HC) - P30 (P10-P40)
Allround grade for modern machining with a good balance of security and productivity. Coated carbide grade for light to heavy milling (both wet and dry) in unalloyed and low alloyed steels. First choice in face milling and an optimizer for higher productivity in shoulder milling.
GC4220 (HC) - P20 (P10-P25)
Coated carbide grade optimized for best productivity in steel milling. Grade for dry machining with high chip removal rate.
GC4240 (HC) – P40 (P35 – P50)
Coated carbide grade for toughness demanding operation in steel milling. For end mill and square shoulder concepts grade GC4240 should be used in more stable conditions like short overhang , face milling, shallow shoulder milling etc. For other concepts grade GC4240 is the first or backup choice in toughness operation. Benefits of security. Suitable for small batch production of mixed material. Workes well both with or without coolant.
GC1030 (HC) – P30 (P15 – P40)
PVD-coated carbide grade. GC1030 is the first choice in unstablie conditions like Longedge, chip jamming, deep shoulder and endmilling. long overhang, Turnmill operations etc. Can be used as a backup choise in toughness operation. In combiation with perifery ground inserts first choice for sticky materials e g low-carbone steel.
CT530 (HT) – P15 (P10 – P15)
Cermet grade for light milling operations mainly without coolant. The high resistance to plastic deformation and smearing/buildt-up edges makes it suitalble for a wide cutting speed range. Ideal grade for Wiper inserts.

Complementary grades

GC1010 (HC) – P10 (P05-P15)
PVD-coated carbide grade for milling within application area of typical pre-harden and plastic mould steel from 36HRC and above.
GC2030 (HC) – P30 (P20 – P40)
PVD-coated carbide grade for milling of low-carbon steels that tends to build up edges. Also very suitable for 90 degree milling in mixed materials.
GC2040 (HC) – P45 (P30 – P50)
Coated carbide grade for milling of steels when a combination of sharp cutting edges and a tough grade is needed at low speeds. Very useful for small batch production of mixed materials.
GC3040 (HC) – P20 (P10 – P40)
Coated carbide grade with very good abrasive wear resistance for rough milling of steel at medium to high speeds.
SM30 (HW) – P35 (P30 – P40)
Uncoated carbide grade for medium to rough milling at low to moderate cutting speed. Good edge security in hard materials and at unstable conditions.
GC1025 (HC) – P30 (P15 – P30)
PVD-coated carbide grade for light milling of steel. In combination with perifery ground inserts first choice for sticky materials e.g. low-carbon steels.

M Austenitic/ferritic/martensitic stainless steel

Basic grades

GC2040 (HC) – M40 (M25 – M40)
MT-CVD coated carbide grade. 1:st choice for face milling in all stainless steels. Used at low to high cutting speeds under toughness demanding conditions.
GC1040 (HC) – M30 (M15 – M25)
A tough PVD-coated carbide grade, for milling under difficult conditions with low to intermediate cutting speed and/or feed, For application where demands on edgeline security and edge sharpness is high. Primarily for sticky austenitic and duplex stainless steels, 1:st choise is dry but also wet.

Complementary grades

GC1030 (HC) – M15 (M10 – M20)
PVD-coated carbide grade to be used when stability is good with high cutting speeds. A good complementary grade in martensitic stainless steel.
GC2030 (HC) – M25 (M15 – M30)
PVD-coated carbide grade to be used when stability is good with high cutting speeds, mainly austenitic stainless steels.
GC4240 (HC) – M40 (M30 – M40)
A very tough MT-CVD coated carbide grade for small batch production of mixed materials.
CT530 (HT) – M10 (M10 – M15)
A cermet grade to be used in light finish operations. At high cutting speed under stable conditions. Preferable dry.
GC4230 (HC) – M30 (M25 – M35)
MT-CVD coated carbide grade for productive milling in martensitic stainless steels at high cutting speeds.
GC1025 (HC) – M15 (M10 – M20)
PVD-coated carbide grade to be used when stability is good with high cutting speeds.
GC1010 (HC) – M10 (M05 – M10)
PVD coated carbide grade to be used in light finish operations at high cutting speed under stable conditions.
S30T (HC) – M25 (M15 – M35)
PVD-coated carbide grade for shoulder milling under stable conditions in austinitic and duplex stainless steels.
S40T (HC) – M40 (M30 – M40)
MT-CVD-coated carbide grade for very toughness demanding operations in all stainless steels, a tougher complement to GC2040 in face milling.

Grades for milling

K Cast iron

Basic grades

GC3040 (HC) - K30 (K20 – K40)
Coated carbide grade for toughness demanding milling of cast iron e.g. nodular cast iron, wet conditions or high tensile iron. Long predictable tool life at low to medium cutting speeds.
GC3220 (HC) – K15 (K10 – K25)
CVD-coated carbide grade for medium to rough milling of grey cast iron mainly under dry conditions.Long predictable tool life at medium to high cutting speeds.
GC1020 (HC) – K20 (K10 – K25)
PVD-coated carbide grade for medium to rough milling of grey and nodular cast iron under wet conditions. To be used at medium to high speeds with predictable tool life.
CB50 (BN) – K10 (K01 – K20)
CB50 is a cubic boron nitride tipped grade. It gives a high edge toughness combined with good wear resistance. CB50 is well suited for machining of cast iron under favourable conditions.
K20W (HC) - K20 (K15 - K30)
Coated carbide grade for medium to rough milling of grey cast iron under wet conditions. To be used at low to medium speeds.
CC6190 (CN) – K05 (K01 – K15)
Silicon nitride ceramic grade for light roughing to semifinishing of grey cast iron at high cutting speeds.

Complementary grades

K20D (HC) - K15 (K10-K25)
MTCVD coated grade for medium to rough milling of cast iron. Mainly without coolant. Long tool life with high speed capability.
H13A (HW) – K20 (K10 – K25)
Uncoated carbide grade with wear resistance and toughness for light to medium milling at moderate cutting speeds. Ideal choice for milling of ferritic nodular cast iron.
GC1010 (HC) – K05 (K01-K10)
PVD-coated carbide grade for finishing milling in grey and nodular cast iron. A long tool life can be received with a sustained surface finish.
GC4220 (HC) – K25 (K20 – K30)
Coated carbide grade for light to heavy milling of cast iron at medium speeds. To complement GC3000 grades in operations.
GC4230 (HC) – K30 (K20 – K35)
Coated carbide grade for light to heavy milling of cast iron.
GC4240 (HC) – K40 (K30 – K40)
Coated carbide grade for medium to heavy operations at low speeds where the toughness demand is high.
K15W(HC) – K15 (K10 – K25)
Coated carbide grade for milling of grey cast iron under wet conditions.To be used at medium speeds.

N Non ferrous metals, plastics, wood

Basic grades

CD10 (DP) – N05 (N01 – N10)
Polycrystalline diamond tipped grade for machining of non ferrous and non metallic materials. Gives long tool life, clean cut and good surface finish.
H10 (HW) – N10 (N05 – N15)
Uncoated finegrained carbide grade,that gives excellent edge sharpness, for milling of aluminium.
H13A (HW) – N15 (N10 – N25)
Uncoated carbide grade suitable for milling of aluminium alloys in combination with "sharp" cutting edges.

Complementary grades

CT530 (HT) – N15 (N10 – N20)
Cermet grade mainly recommended at high RPM when milling aluminium thanks to the low tendency to build up edges and low weight of the inserts.
GC1025 (HC) – N15 (N10 – N25)
PVD-coated carbide grade for rough milling of aluminium alloys in combination with ground cutting edges.
H10F (HW) – N15 (N10 – N25)
Uncoated carbide grade suitable for milling of aluminium alloys in combination with "sharp" cutting edges.
GC1030 (HC) - N15 (N10-N25)
PVD-coated carbide grade for rough milling of aluminium alloys in combination with ground cutting edges.

Grades for milling

S Heat resistant alloys Titanium alloys

Basic grades

H10F (HW) – S25 (S20 – S30)
Uncoated carbide grade with fine grain sizes. High notch wear resistance makes it suitable for milling of aerospace materials e.g. titanium.
GC2030 (HC) – S20 (S15 – S25)
PVD-coated carbide grade for semifinishing to light roughing of heat resistant superalloys.
GC1030 (HC) – S15 (S10 – S20)
PVD-coated carbide grade for milling of heat resistant super alloys at medium speeds. Good resistance to built-up edges and plastic deformation.
GC2040 (HC) – S30 (S25 – S40)
MT-CVD-coated carbide grade for milling of cast heat resistant alloys and toughness demanding titanium milling. In titanium milling prefer GC2040 when toughness demand is high combined with long contact times (high heat generation) as when large D_c and/or large a_e.
S30T (HC) – S25 (S15 – S30)
First choice grade for titanium milling. PVD TiAlN coated micro-grain cemented carbide that combines high edge strength and bulk toughness. It has good resistance to micro-chipping and keeps the cutting edge line intact longer. The grade focuses on high performance at elevated cutting speeds.
S40T (HC) – S35 (S25 – S45)
MT-CVD-coated carbide grade for milling of titanium. First choice grade during moderate to severe vibrations and in toughness demanding operations. It has high bulk toughness and high edge strength thanks to its fine grained carbide structure and high binder content. Wear grows slowly, making cutting edge duller without breaking.
GC1010 (HC) – S10 (S05 – S10)
PVD-coated carbide grade for milling of titanium during very good conditions. An optimizer with excellent wear resistance at elevated cutting speeds. Sensitive to instability and vibrations.

Complementary grades

H13A (HW) – S20 (S15 – S25)
Uncoated carbide grade with good abrasive wear resistance and toughness for milling of heat resistant alloys under moderate cutting speeds and feeds.
GC1025 (HC) – S15 (S10 – S20)
PVD-coated carbide grade for milling of heat resistant superalloys at medium speeds. Good resistance to built up edges and plastic deformation.
GC1040 (HC) – S30 (S20 – S35)
A tough PVD-coated carbide grade, for milling under difficult conditions with low to intermediate cutting speed and/or feed, For application where demands on edgeline security and edge sharpness is high. Primarily for sticky austenitic and duplex stainless steels.

H Hardened steel

Basic grades

CB50 (BN) – H05 (H01 – H10)
CB50 is a cubic boron nitride tipped grade. It gives a high edge toughness combined with good wear resistance. CB50 is well suited for machining of hardened steel under favourable conditions.
CC6190 (HC) – H10 (H05 – H15)
Silicon nitride ceramic grade suitable for semi-finish milling of chilled cast iron at medium to high speed.
GC1010 (HC) – H10 (H05-H15)
PVD-coated carbide grade for machining in hardened steel. Can handle large portion of machining demands from roughing to finishing operations. Due to exeptional plastic deformation resistance, thermal crack resistance and good wear resitans the grade can withstand long time in cut. Suitable for machining of hardened steel from 36HRC and above.
GC1030 (HC) - H10 (H10-H20)
PVD-coated carbide grade for milling of hardened components at low feeds and moderate speeds.
GC4220 (HC) – H25 (H15 – H30)
Coated carbide grade for light roughing operations.

Complementary grades

CT530 (HT) – H25 (H10 – H25)
Cermet grade for finish milling of hardened steel components at low to medium speeds.
GC3040 (HC) – H25 (H20 – H30)
Coated carbide grade for rough milling of hardened steel at fair conditions and low to medium speeds.
GC1025 (HC) – H15 (H10 – H20)
PVD-coated carbide grade for milling of hardened components at low feeds and moderate speeds.
H1P (HW) – H10 (H05 – H15)
Uncoated carbide grade for finishing chilled cast iron at medium speeds.

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.

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.