TOOLHOLDING SYSTEMS

Metric Version Catalog 2012

Member IMC Group

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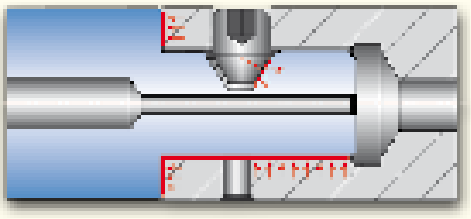
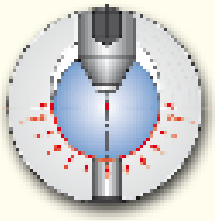
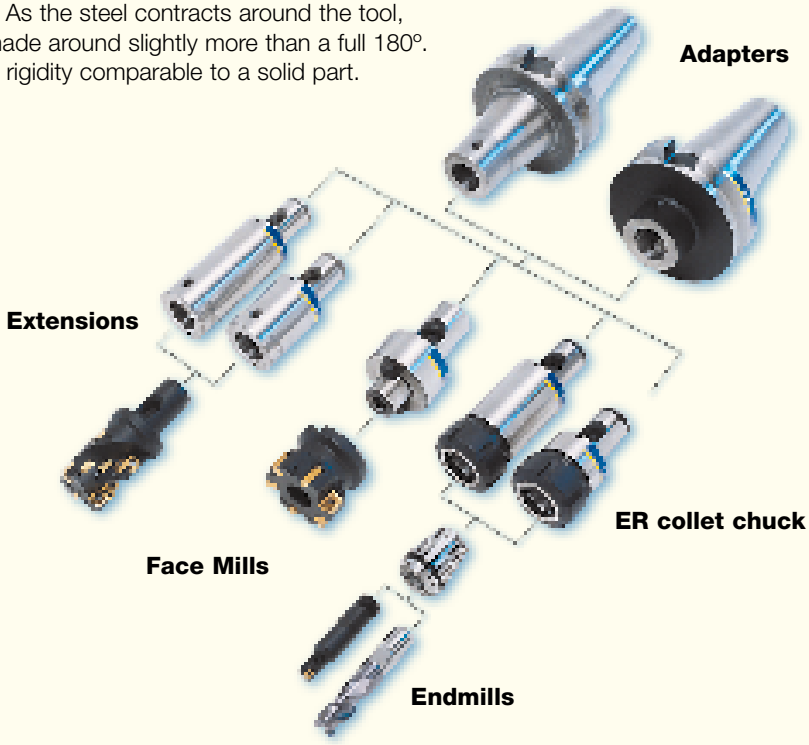




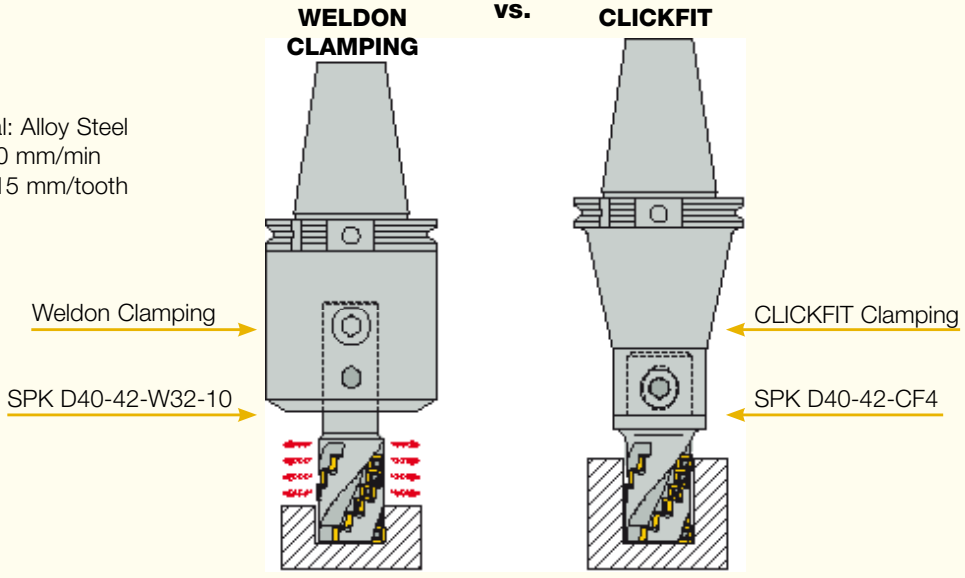
The CLICKFIT Concept

A clamping screw pushes the shank of the tool through a narrowed opening, forcing elastic deformation of the steel holder. As the steel contracts around the tool, contact is made around slightly more than a full 180°. The result is rigidity comparable to a solid part.



Modular Adaptation System

CLICKFIT Clamping Enhances the Tool's Performance



Balancing Definitions

Balancing Elements

Introduction

Balancing is the process of equalizing the mass distribution of a body so it rotates in its bearing without unbalanced centrifugal forces.

Balancing causes reduced vibration, lower spindle strain, improved machining qualities and allows for higher cutting parameters.

The measuring equipment available today enables unbalance to be reduced to low limits. However, it would be uneconomical to exaggerate the quality requirements. It has therefore become necessary to determine to what extent the unbalance should be reduced and where the optimum economic and technical compromise on balance quality requirements would be struck.

Definition

G - Balance quality (mm/s)
e - Specific unbalance (gxmm/Kg)
Ω - Speed (rad/s)
N - Speed (RPM)

M - Mass of the body (kg)
m - Mass of the unbalance (g)
r - Radius of the unbalance (mm)
U - Residual unbalance (gxmm)

$$e = \frac{U}{M} => U = M \times e$$

$$\Omega = \frac{2\pi N}{60} = \frac{\pi N}{30}$$

Operation

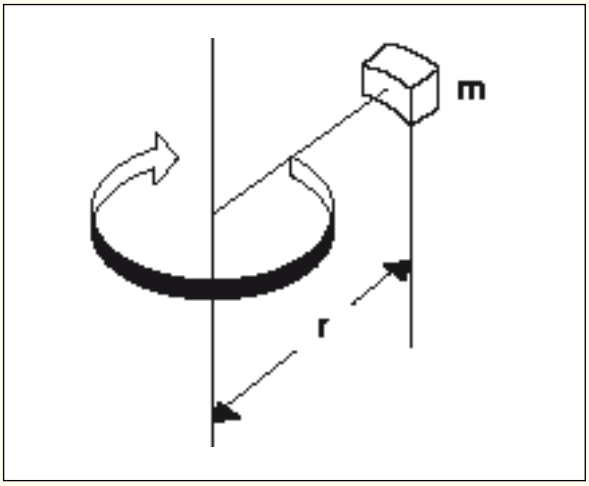
Residual unbalance equals the tool's mass (M) times its eccentricity (e).
Eccentricity measures the extent to which the tool's weight is off-center.
It is defined as the distance from the tool's center of the rotation to its true center of mass.
If eccentricity is measured in microns and tool mass is measured in kilograms, this unit yield residual unbalance in gram-millimeters.

Any two sets of mass and eccentricity that yield the same unbalance value will have the same effect on the tools, so long as the residual unbalance is in the same plane perpendicular to the rotation axis.
$U = r \times m$
The residual unbalance is independent of the speed.
This value reflects the unbalance mass and its distance from the true center of mass.
The residual unbalance value is measured on balancing machines.

Balanceable Collet Chucks

Balancing Elements

Example 1
U=2 g x mm can be treated as an unbalance mass of m=2 g in radial distance of r=1 mm or as a mass of m=0.1 g in radial distance of r=20 mm, etc.



Example 2
The residual unbalance is independent of the speed. This value reflects the unbalance mass and its distance from the true center of mass. The residual unbalance value is measured on balancing machines.

$$U = m \times r => m = \frac{U}{r} = \frac{4}{20} = 0.2g$$

G value reflects the balancing quality of a toolholder according to its rotational speed (N)

$$G = \Omega \times e = \frac{\pi \times N}{30} \times \frac{U}{M} = \frac{U \times N \times \pi}{M \times 30}$$

$$e = \frac{G \times 30}{\pi \times N}$$

Example 3
G value reflects the balancing quality of a toolholder according to its rotational speed (N).

$$G = \frac{\pi}{30} \times N \times \frac{U}{M} = \frac{\pi}{30} \times 15{,}000 \times \frac{8}{2{,}000} \approx 6.3 \text{ (mm/s)}$$

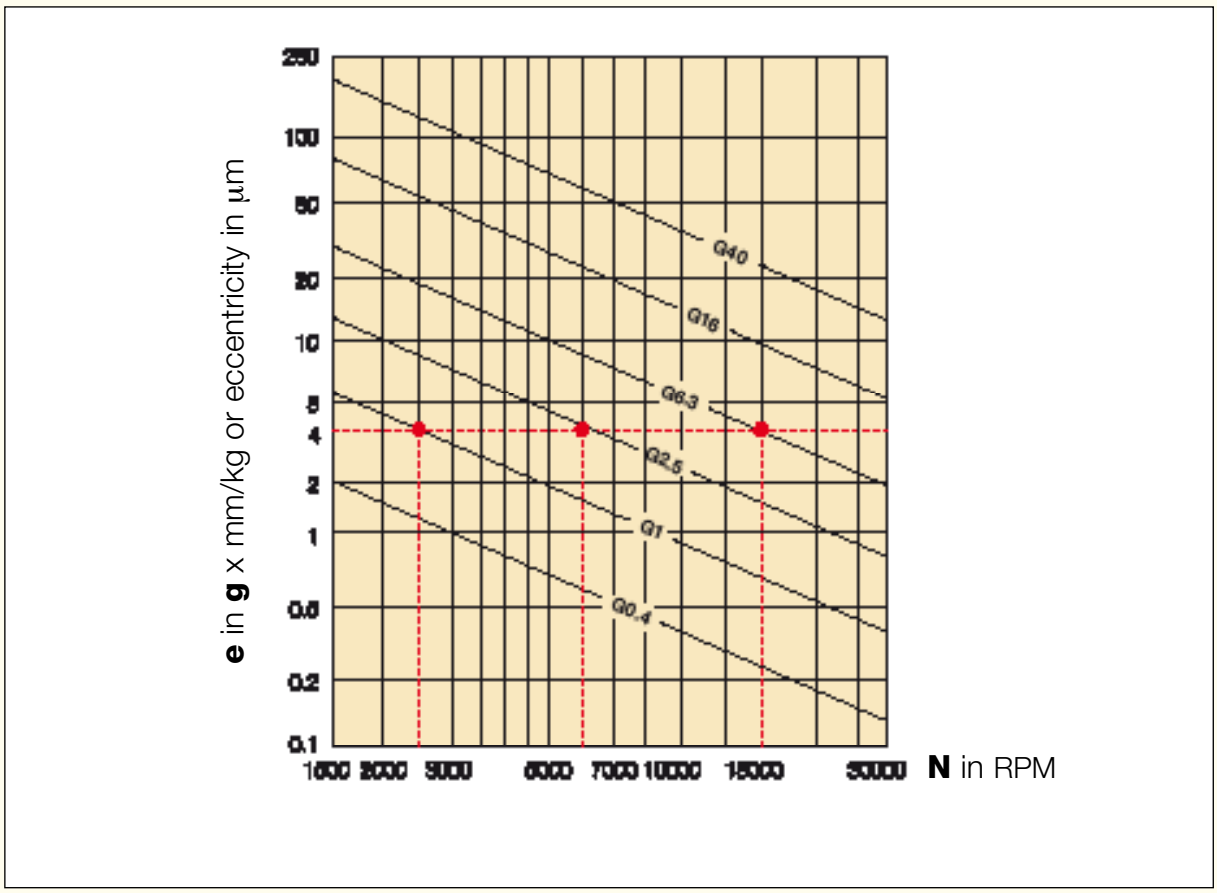
$$e = \frac{U}{M} = e = \frac{8}{2} = 4 \text{ (g x mm/kg)}$$

The G value will change to G=2.5 mm/s when using the same toolholder at a rotational speed N=6,000 rpm and to G=1.0 mm/s at N=2,500 rpm.
Balance quality grades for various groups of representative rotors:

- General machine tool parts - G6.3
- General toolholders and machine drivers - G2.5
- Grinding machine drivers - G1.0
- Spindles of precision grinders - G0.4

Balanceable Collet Chucks

Balancing Elements



Short Formula

$$U = \frac{M \cdot 9{,}545 \cdot G}{N}$$

U = Residual unbalance (gr x mm)
M = Tool mass (kg)
G = Balance grade
N = RPM

Value examples

M = 1 kg
G = G2.5
N = 15,000 RPM

$$U = \frac{1kg \cdot 9{,}545 \cdot 2.5}{15{,}000} = 1.59 \text{ gr x mm}$$

Please note: The values on the balancing rings are indicated in metric values. Therefore all guidance examples for balancing are in the metric system.

ISCAR can commit only on unbalance values larger than 1grxmm

Balanceable Collet Chucks

BALANCIN Collet Chuck & Top Nut Operating Instructions

The following procedure should be adjusted according to the specific type of balancing machine being used.

1. Loosen the 3 locking screws on the angle reference ring (blue). Align the two balancing rings (gold-colored) to the '0' position on the angle reference ring. After the rings are all aligned, tighten the 3 locking screws.
2. Insert the collet chuck into the spindle and tighten it using the pull stud. Insert the cutting tool into the collet chuck, adjust to desired projection and clamp it.
3. Enter the required parameters on the balancing machine: balancing grade (G..), RPM, etc.
4. Run a test with the assembled collet chuck on the balancing machine. Read the results for the unbalance angle orientation and the gr x mm unbalance value.
5. Loosen the 3 locking screws on the angle reference ring and align the two balancing rings with the measured unbalance value. Rotate both balancing rings to the unbalance angle on the angle reference ring (or to the laser mark on balancing machines with a laser indicator). Tighten the locking screws.
6. Run a second test with the assembled collet chuck and read the results.

   Note: The reading should be within tolerance or very close.

If the necessary balance on the machine has been achieved, the tool is ready for operation. If the balance is out of tolerance, one of the following procedures should be performed:

First Option

IF unbalance is within 0-3 gr x mm and within ± 20º from original angle,
THEN increase the original value of gr x mm on the balancing rings according to the reading on the machine, without changing the original angle position.

Second Option

IF unbalance is within 0-3 gr x mm at an angle of approximately 180º from original angle,
THEN decrease the original value of gr x mm on the balancing rings according to the reading on the machine without changing the original angle position.

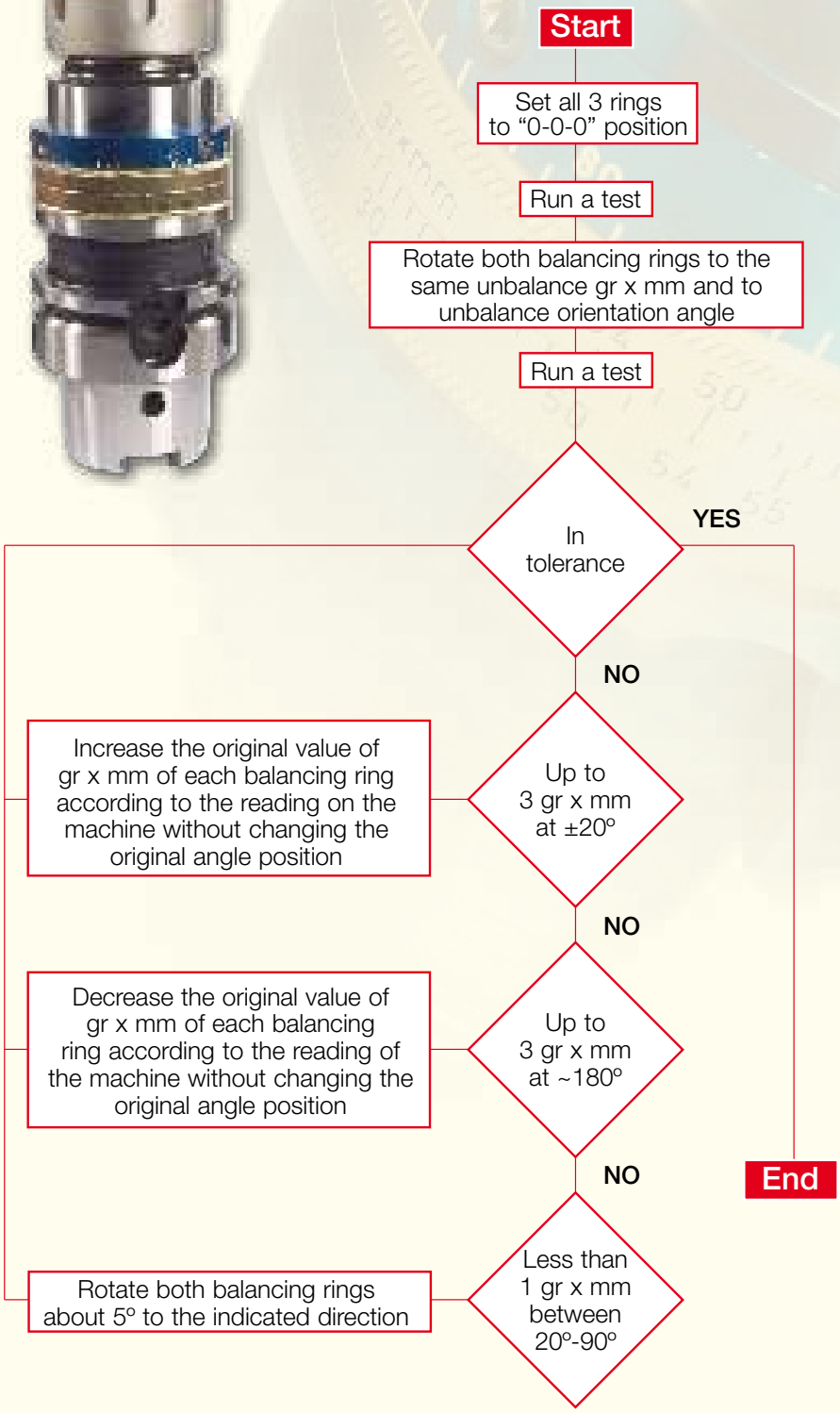
Third Option

IF unbalance is less than 1 gr x mm at an angle between 20º to 90º from the original angle,
THEN rotate both balancing rings approximately 5º towards the indicated direction.

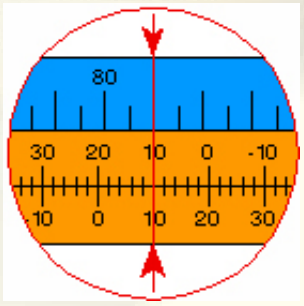
Fourth Option

On some balancing machines it is possible to adjust the unbalance by rotating the peak point marked on the balancing rings to the required angular position.

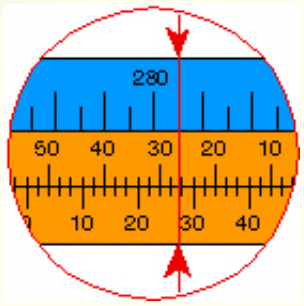
Balanceable Tooling System



Examples:



10 gr x mm at 100°



27 gr x mm at 285°

For toolholders, see pages **B7, B9, B32, B33, B35, B70, B72**

Note: The values on the balancing rings are indicated in metric values. Therefore all guidance examples for balancing are in the metric system.

Power Chucks

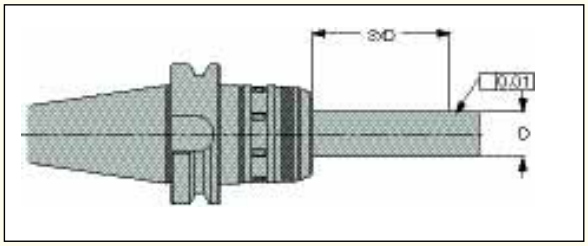
With this tool, only a small tightening torque compresses the frontal nose, providing an extremely high gripping force. It is designed for roughing and finishing applications in milling where high torque transmission, maximum accuracy, compactness and easy operation are required.

Features

- The clamping nut is not threaded (as in ER collet chucks)
- Designed for direct chucking of the tool shank – no need for intermediate collet for maximum gripping force
- Sealed nut construction
- No axial drawback of the tool shank
- as chuck is tightened
- Thick wall construction to withstand
- greater side loading forces

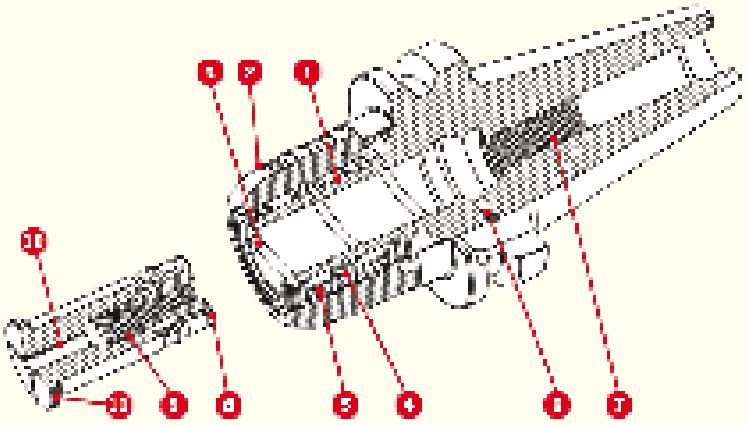
The high gripping force achieved by the **MAXIN POWER CHUCK** results from the shallow nose tapered cone (1) with helical slot (3) inside the internal chuck bore. It exerts a very high clamping force when the clamping nut (2) is rotated in the axial direction.
The shallow taper of the tool nose (1) and the angled position of the needle bearing (4) that sit in the cage create the axial movement of the clamping nut (2).

This unique clamping mechanism eliminates axial movement of the shank while clamping, simplifying the preset process.



Runout Accuracy

Maximum runout at 3XD overhang is less 0.01 mm



1. Shallow tapered front end cone
2. Clamping nut
3. Helical slot
4. Needle bearing cage
5. Front seal
6. Ventilation bore (thread M4)
7. Preset screw thread
8. Cap screw (for the preset screw)
9. Preset screw
10. Ground bore
11. Grip groove (for collet release)

Power Chucks

Assembly and Disassembly of Shank Cutter with Wrench

- Tighten the nut with the spanner wrench until clamping is achieved.
- Loosen the nut with the spanner wrench to remove the cutting tool.

Instructions for Proper Use

To avoid damage to the **MAXIN** mechanism, never tighten the clamping nut unless there is a shank inside the bore.

- After removing the cutting tool from the **MAXIN**, the clamping nut must be unscrewed one extra turn to prevent reduction of the clamping power and to ensure maximum gripping force.

Preset Screw

In order to adjust the projection length of the cutting tool you can use a preset screw inside the **MAXIN** internal bore part #9. This is supplied as an optional accessory.

Insertion of SC Collets and Shanks

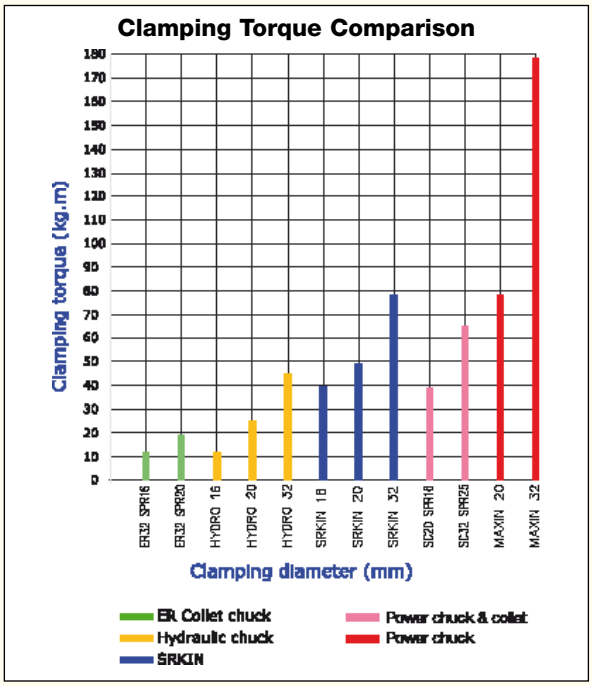
The cutting tool should be inserted into the collet before inserting it into the **MAXIN** chuck. Insert the collet into the **MAXIN** chuck until the collet reaches the front end of the chuck.

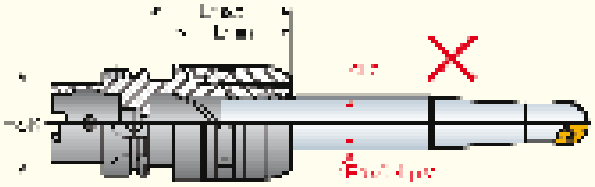
- For maximum rigidity and accuracy insert the shank cutters to the full ground area of the collet.

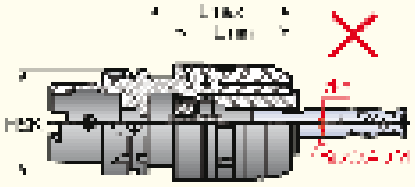
Preset Screw

In order to adjust the length of the cutting tool, use a preset screw inside the collet (optional). When using SC collet inside the **MAXIN** chuck, the runout accuracy may be affected.

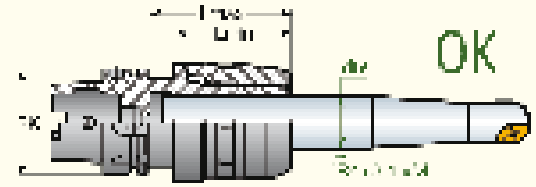
- In case of cutting tool damage or crash during machining, the **MAXIN** chuck has to be inspected for cracks and that proper runout is maintained.

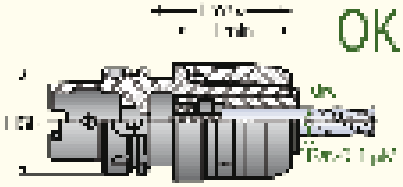






See pages **B34-35**





1. Do not use Weldon type shanks.
2. Insert shank at least Lmin into the chuck.
3. In order to maintain a firm grip, the shank's surface finish should have a roughness of at least N5.

Holder for Adjustable Drilling Diameter

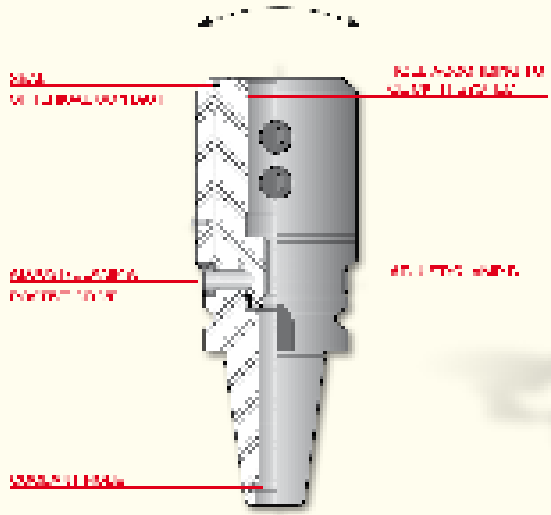
Adjustable Rotary Toolholder for Indexable Insert Drills

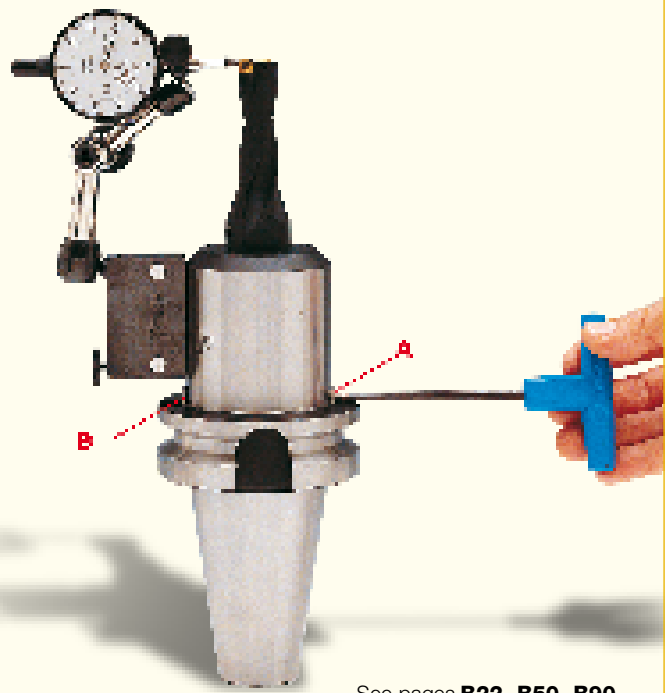
Application
Machining on center milling and drilling machines.

Features
- Eliminates use of expensive special diameter drills.
- Diameter adjustment range of -0.3 to 1.3 mm diameter.
- Ensures bore tolerance of ± 0.02 mm.
- Coolant through the shank or Type B with coolant through the flange.
- Coolant pressure up to 70 bar.

Operating Instructions
Adjust the offset by loosening the clamp screws A and B.
- Adjust with screws A or B. Preset should be made on a pre-setter to minus 0.3 mm on required diameter.
- Tighten the clamp screws A and B.
- On the machine, make a test cut, measure the bore diameter and then adjust to required diameter.
- Final adjustment to the desired diameter can be made on the machine with dial indicator or on the pre-setter.

Angular Adjustment

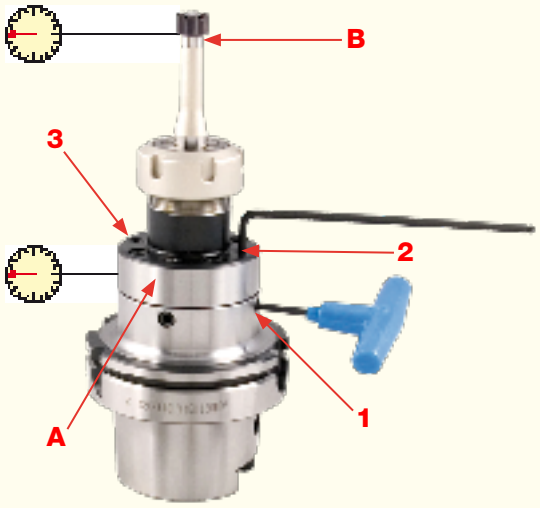




See pages **B22, B50, B90**

ADJ Operating Instructions

Radial and Angular Alignment Toolholder



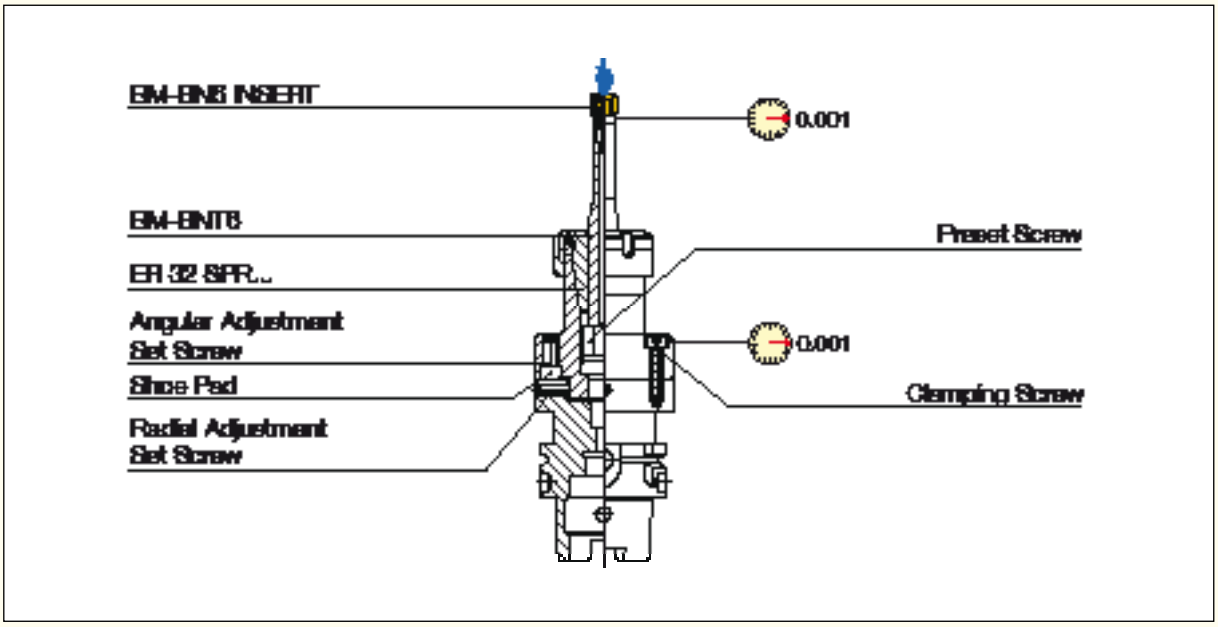
Tighten the Cutting Tool
Clamp the cutting tool into the chuck and make sure that screws no. 1 & 3 are tightened until a slight resistance is felt.

Angular Adjustment
Place the dial indicator on the ground area B. Adjust the axial runout to ≤ 0.001 mm with 4 adjustment screws (no. 2) located on the face of the chuck.

Radial Adjustment
Place the dial indicator (with a resolution of 0.001 mm) on the ground area A and adjust the runout to ≤ 0.001 mm. The adjustment should be made with the 4 screws (no. 1) located on the outer diameter of the toolholder.

Final Clamping
Slightly tighten the 4 clamping screws (no. 3) located on the face of the chuck, and then the 4 screws on the outer diameter.

Final Runout Check
After adjusting and tightening, recheck the axial and radial runout to make sure that runout of ≤ 0.001 mm is maintained. If necessary, do fine tuning.



GYRO - Radial and Angular Alignment Toolholder

Adjustable Toolholder for Easy Adjustment of Radial and Angular Misalignment

Application

Gyro is a rugged and adjustable toolholder developed by ISCAR/ETM to solve drilling, tapping and reaming problems encountered on CNC and turret lathes.
Its unique design allows smooth and easy adjustment of radial and angular misalignment between chuck and turret.

Gyro reduces total machining time by making it possible to complete machining of holes in one drilling step and to achieve tolerances as close as 0.01 mm, thereby eliminating subsequent boring or reaming operations.

- A breakthrough in drilling technology for CNC lathes
- Dramatic increase in tool performance at reduced cost

Features

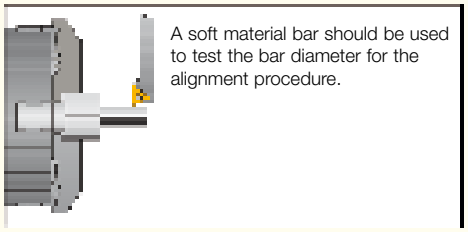
- Enables high precision drilling to a close tolerance of h6, to be performed as a final boring operation on CNC lathes
- Reduces machining time by completing the bore in one drilling step, eliminating secondary turning and boring operations
- Prolongs cutting tool life tenfold and more, especially for high performance HSS, solid and brazed carbide drills, center drills, taps and reamers
- Dramatic increase in speed and feed by up to 300%.
- Coolant supply through the shank center of the tool shoulder for oil hole cutting tools

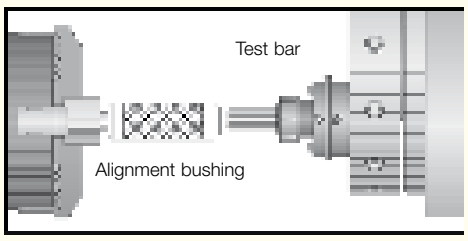
Advantages

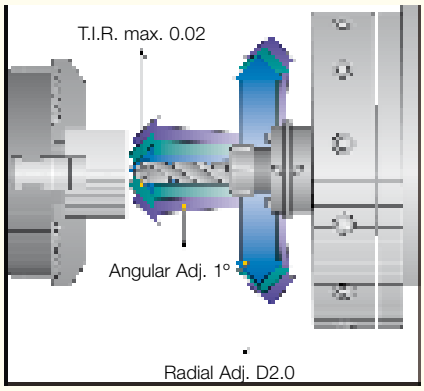
- Easy adjustment for correcting misalignment between chuck and turret axis (drill and workpiece)
- Precise and efficient tool clamping with ER collets and ER sealed Coolit Jet collets
- Quick functional adjustment is made on machine by using ISCAR/ETM plug and ring gauge kit

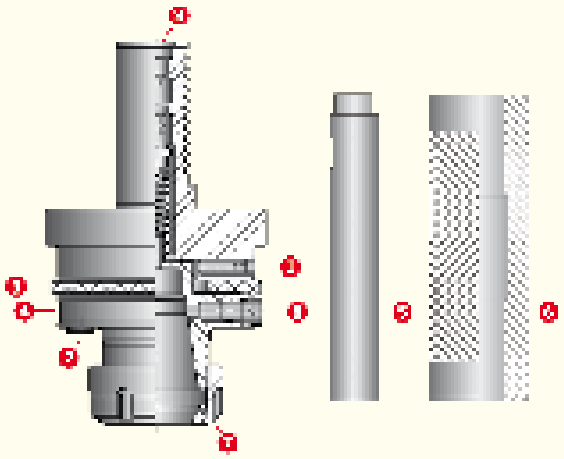
Operation

For operation instructions see the brochure packed with the tool.

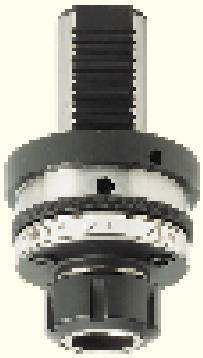








1. Radial adjustment screw
2. Clamping screw
3. Angular set ring
4. Front part
5. Alignment test bar
6. Test bushing
7. ER nut
8. Coolant connection



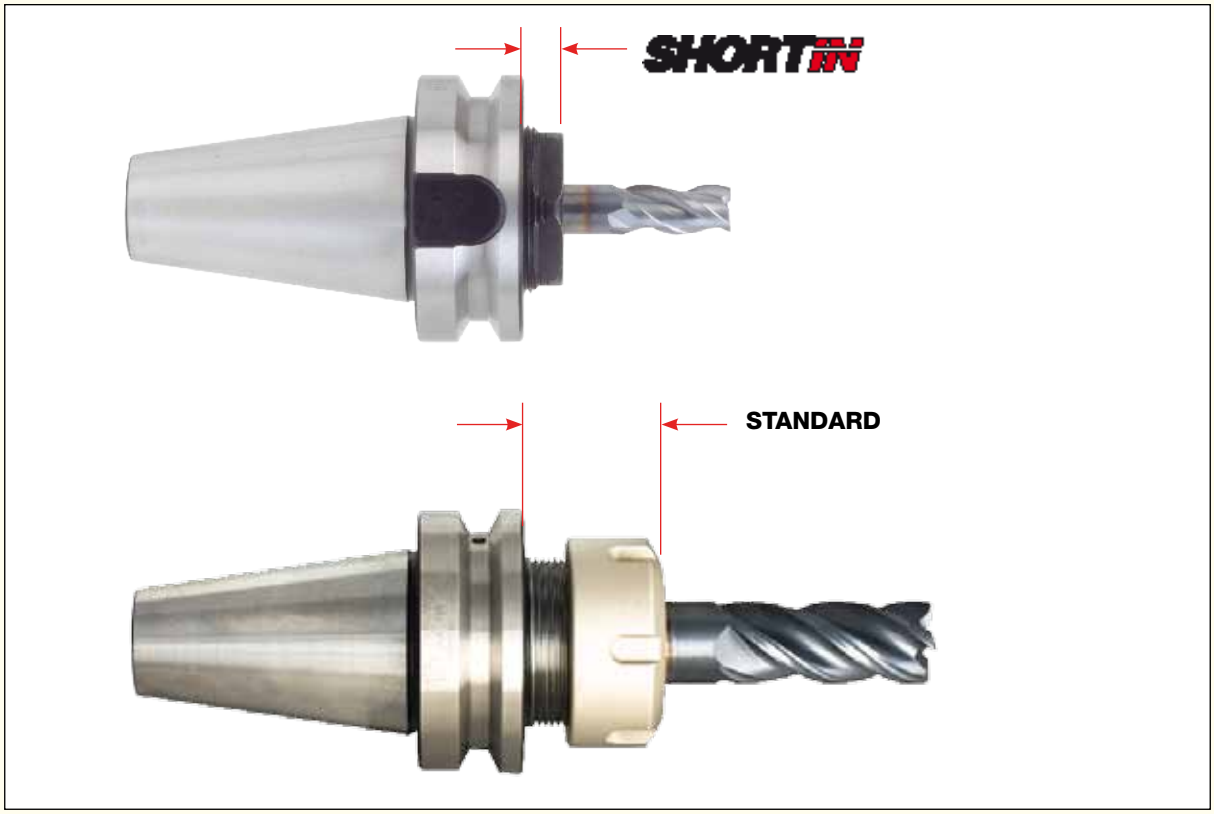
Notes

- Coolant supply should be minimum 10 bar and maximum 80 bar for small diameter oil hole drills ranging from 3-20 mm. (the normal machine pressure of 4 bar is insufficient).
- Coolant filtration is most important to eliminate chips from blocking the drill oil hole.
- To ensure maximum performance of the GYRO, the backlash of the turret indexing and support axis mechanism should be checked and readjusted according to the machine standard.

First time users should buy a GYRO kit which includes a test bar and a bushing for performing the alignment procedure.

See pages **B127-129**

Short Collet Chucks



Short Collet Chucks

BT MAS-403
page B69

HSK DIN 69893
page B33

DIN 69871
page B7

Advantages

- Shortest overhang
- Suitable for regular and shrink collets
- High gripping force
- Reduces vibration
- Better runout and repeatability
- Balanced to G2.5, 20,000 rpm
- Symmetric design for high speed machining
- Cost effective

Short Collet Chuck ER

Short holder for ER spring and shrink collets for maximum rigidity and better cutting conditions.

ER - Collet Chuck Features

ER-TOP™ NUT

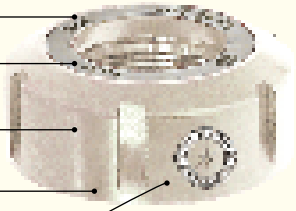
Perfect balance and accuracy

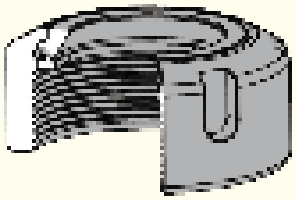
Exclusive anti-friction mechanism

Powerful gripping force, 50-100% higher than conventional design

Compact design, standard size, DIN 6499

HARD TOUCH protective coating



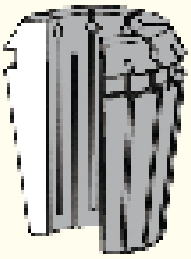


ER-COOLIT™ JET

Ultra precision runout 0.01/ 0.005

Worldwide patented sealing system

Collapsibility 1 mm



ER-COLLET CHUCK

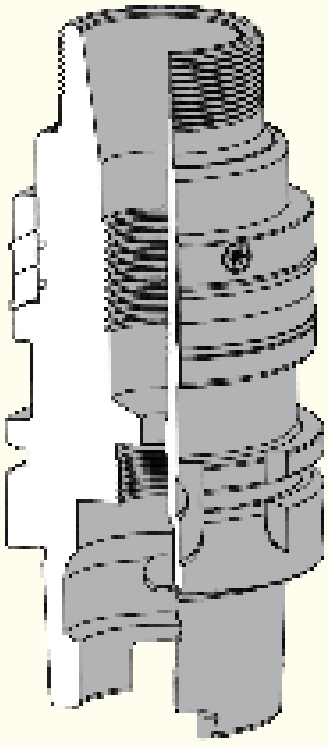
Balance rings

Runout O.D. - I.D. Max. 0.003

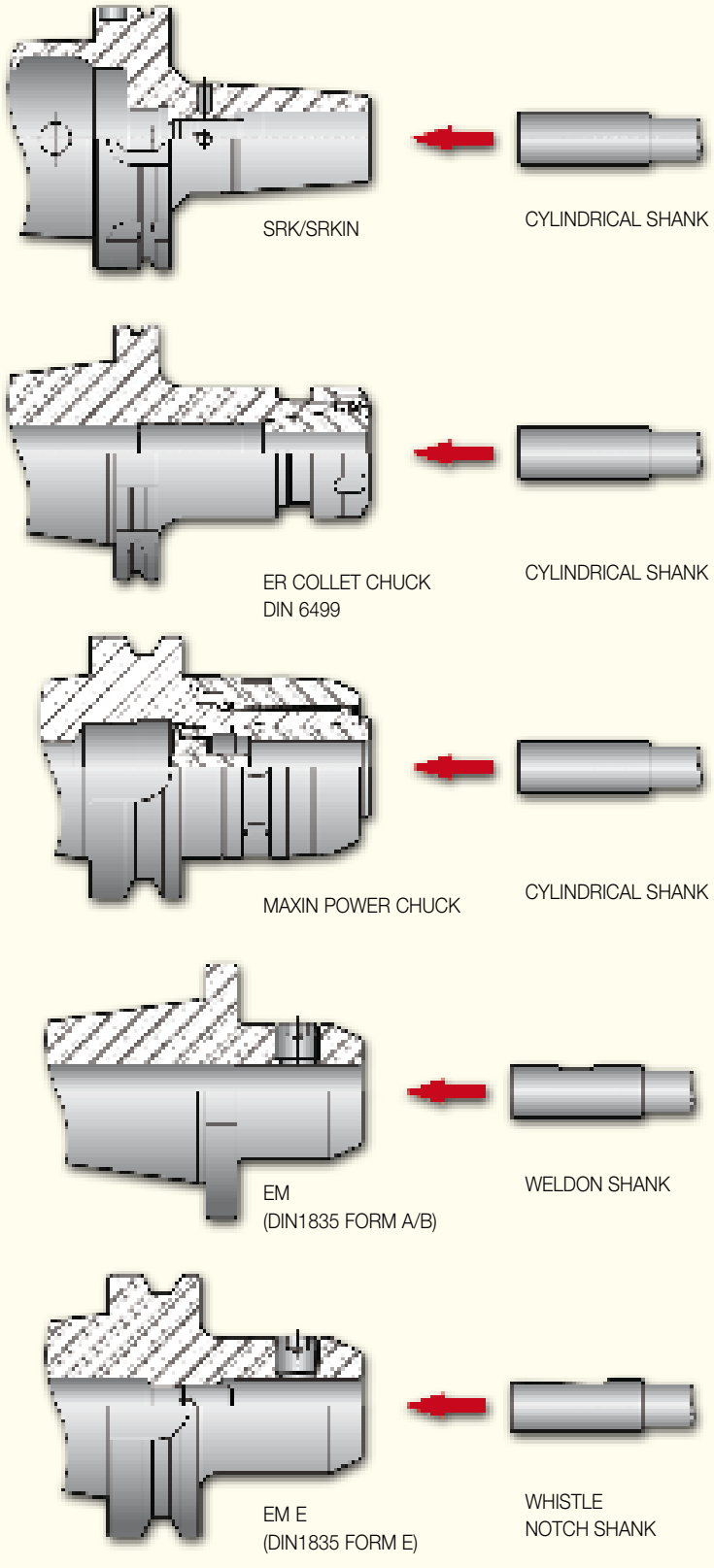
Mass symmetrical design for high spindle speed from 20,000 RPM

Superior surface finish Ra 0.0004

Taper accuracy DIN standard 85% fitness



Recommmended Toolholder for Different Shank Types



Hydraulic Chucks

ISCAR-ETM is expanding its toolholder clamping options by adding hydraulic chucks.
The new hydraulic chucks range from 6-32 mm.
This type of chucking system is used for rotating and stationary applications.

Main Applications

- Fine and accurate machining
- Reaming
- Drilling
- Finish milling
- Internal turning

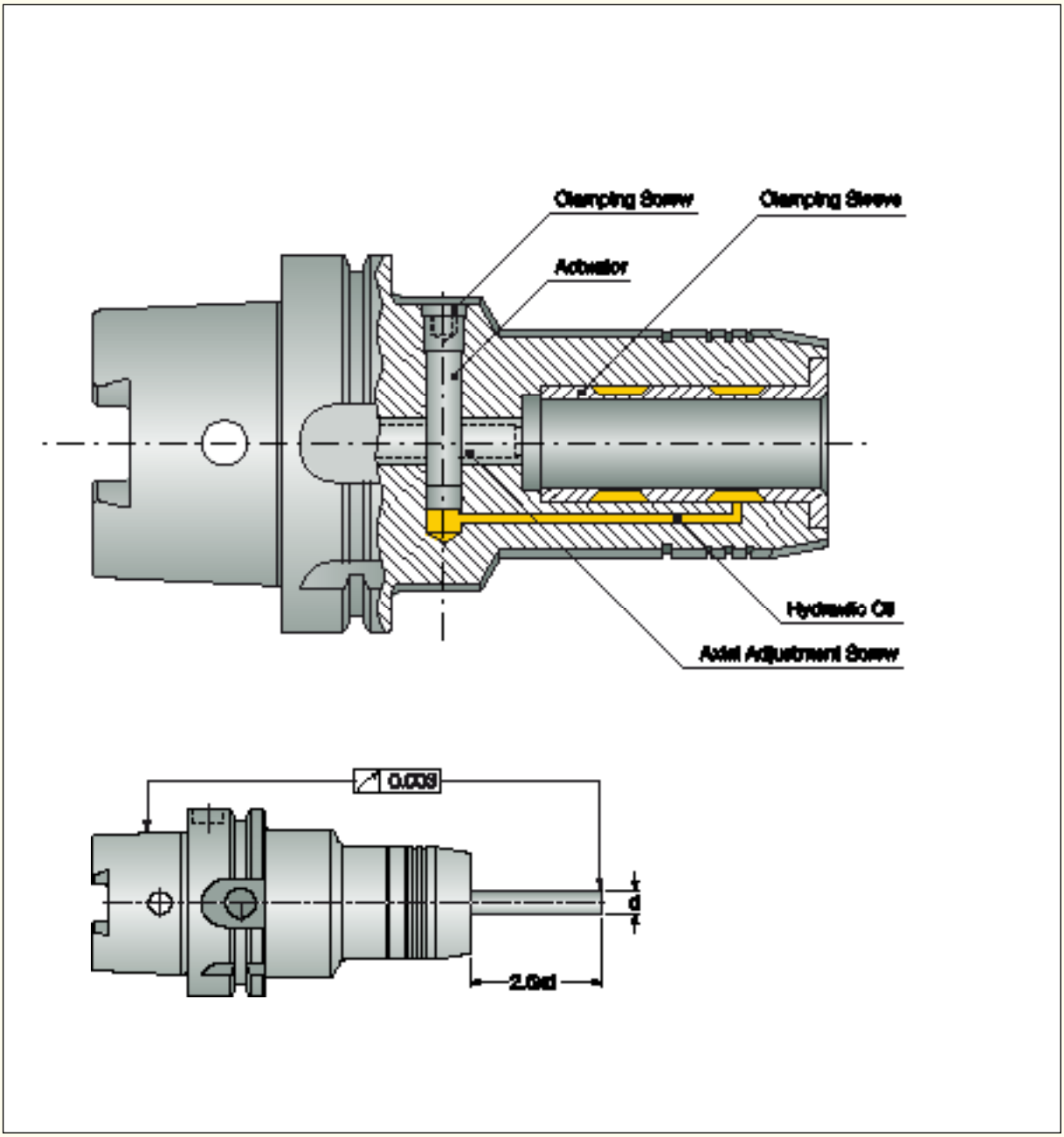
Features

- High runout accuracy of less than 0.003 mm
- Very low torque required to activate the clamping mechanism, by using a 4 mm Allen key
- Prolongs cutting tool life and improves surface finish due to vibration damping
- Easy presetting by using an internal preset screw
- All rotating chucks feature a symmetrical and balanced design for high speed machining of up to 15,000 min-1
- Available with threaded holes for fine balancing
- Consistent and secure clamping force when used within the recommended speed range
- Suitable for both Weldon and cylindrical shank clamping
- Very convenient and safe tool change on the machine

Two main HYDROFIT chuck types are available

- Taper shanks for rotating applications
- VDI DIN 69880 in sizes 30 and 40 for stationary applications on CNC lathes

Hydraulic Chucks System



Operating Instructions

To ensure correct functioning of the hydraulic chuck, the following instructions should be followed:

Tools with cylindrical shanks in accordance with DIN 1835 and DIN 6535 forms (HA) and B (HB) up to 20 mm diameters should be manufactured according to h6 tolerance and Ramin = 0.3 ground.
Tools with DIN 6535 HE (whistle notch) shanks should be used in reduction elements, to avoid damaging the chucking hole.

- Clean any grease and dirt from the chuck mounting hole and the tool shank. Insert the tool shank up to the stopper. Make sure that the minimum chucking length is maintained.
- Using the hexagonal-headed key, rotate the clamping screw in a clockwise direction until the end.
  Do not attempt to clamp the chuck without a shank inside as it may break the expansion clamping sleeve.
- To release the tool, turn the clamping screw in a counterclockwise direction by about 5 or 6 revolutions and remove the tool.

TOOLING SYSTEMS

Member IMC Group



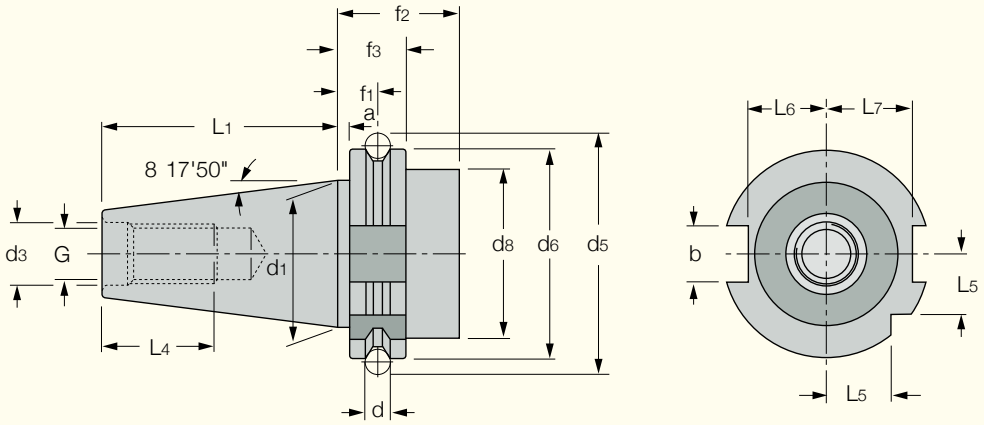

DIN69871-A/B

Member IMC Group

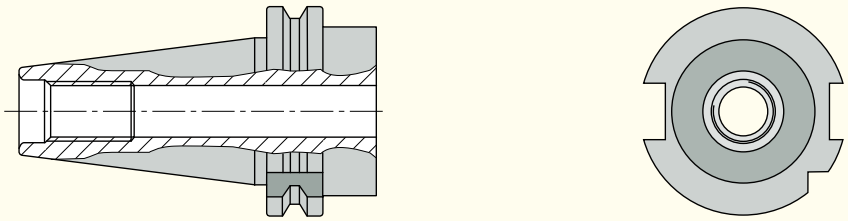
DIN69871

Toolholder Standard

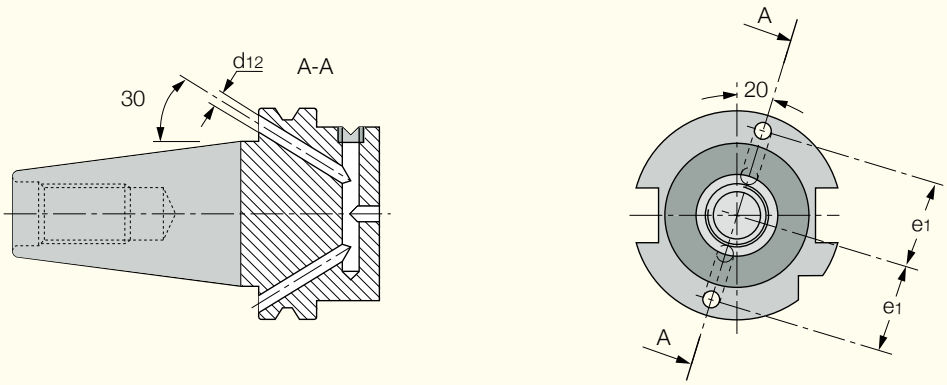
Type A



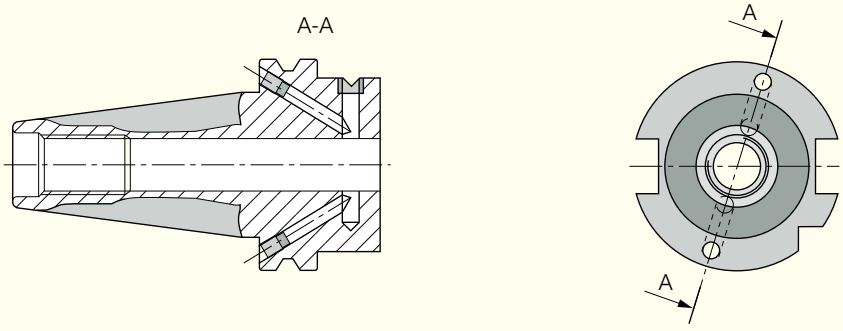
Type AD
Coolant Hole



Type B
Coolant Through
Flange



Type ADB
Coolant Hole or
Coolant through
Flange



DIN69871 Form A/AD/B/ADB

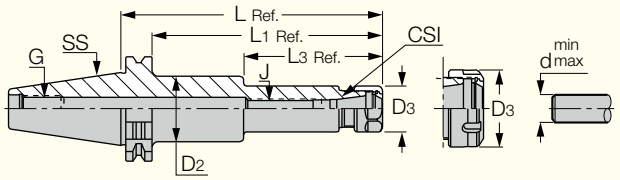
Shank	a ±0.1	b (H12)	d	d1	G	d3 (H7)	d5 ±0.05	d6	d8 max	f1 ±0.1
SK 30	3.2	16.1	7	31.75	M12	13	59.30	50	45	11.1
SK 40	3.2	16.1	7	44.45	M16	17	72.30	63.55	50	11.1
SK 50	3.2	25.7	7	69.85	M24	25	107.25	97.50	80	11.1

Shank	f2 min.	f3 -0.1	L1 -0.3	L4 min.	L5 -0.3	L6 -0.4	L7 -0.4	e1 ±0.1	d12	TAPER AT3
SK 30	35	19.1	47.80	24	15.0	16.4	19.0	21	4	0.002
SK 40	35	19.1	68.40	32	18.5	22.8	25.0	27	4	0.003
SK 50	35	19.1	101.75	47	30.0	35.5	37.7	42	6	0.004

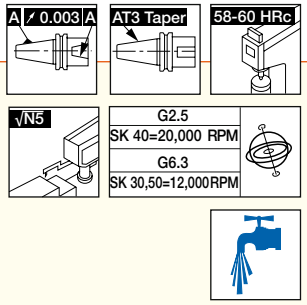
DIN69871

DIN69871-ER (Form AD or B)

DIN 6499 ER Collet Chucks with a DIN 69871 Form AD/B Taper Shanks

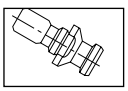


ER 16-20 ER 25-50



Designation	SS	CSI	d min	d max	L	L1	L3	D3	D2	G	J	Kg
DIN69871 30 ER16X 63	30	ER16	0.5	10.0	63.00	43.9	28.00	28.00	-	M12	M10	0.55
DIN69871 30 ER32X 65	30	ER32	2.0	20.0	65.00	45.9	32.00	50.00	40.40	M12	M18X1.5	0.48
DIN69871 40 ER16X 63	40	ER16	0.5	10.0	63.00	43.9	-	28.00	-	M16	M12	0.86
DIN69871 40 ER16X 63 B	40	ER16	0.5	10.0	63.00	43.9	-	28.00	-	M16	M12	1.31
DIN69871 40 ER16X100	40	ER16	0.5	10.0	100.00	80.9	-	28.00	-	M16	M12	1.05
DIN69871 40 ER16X100 B	40	ER16	0.5	10.0	100.00	80.9	-	28.00	-	M16	M12	1.05
DIN69871 40 ER16X160	40	ER16	0.5	10.0	160.00	140.9	85.00	28.00	40.00	M16	M12	1.52
DIN69871 40 ER16X160 B	40	ER16	0.5	10.0	160.00	140.9	85.00	28.00	40.00	M16	M12	1.54
DIN69871 40 ER20X 63	40	ER20	1.0	13.0	63.00	43.9	-	34.00	-	M16	M12	0.91
DIN69871 40 ER20X 63 B	40	ER20	1.0	13.0	63.00	43.9	-	34.00	-	M16	M12	0.93
DIN69871 40 ER20X100	40	ER20	1.0	13.0	100.00	80.9	-	34.00	-	M16	M12	1.16
DIN69871 40 ER20X100 B	40	ER20	1.0	13.0	100.00	80.9	-	34.00	-	M16	M12	1.15
DIN69871 40 ER20X160	40	ER20	1.0	13.0	160.00	140.9	91.00	34.00	44.00	M16	M12	1.89
DIN69871 40 ER20X160 B	40	ER20	1.0	13.0	160.00	140.9	91.00	34.00	44.00	M16	M12	1.75
DIN69871 40 ER25X 65	40	ER25	1.0	16.0	65.00	45.9	28.00	42.00	-	M16	M16X2	0.90
DIN69871 40 ER25X 65 B	40	ER25	1.0	16.0	65.00	45.9	28.00	42.00	-	M16	M16X2	0.90
DIN69871 40 ER25X100	40	ER25	1.0	16.0	100.00	80.9	-	42.00	-	M16	M16X2	1.32
DIN69871 40 ER25X100 B	40	ER25	1.0	16.0	100.00	80.9	-	42.00	-	M16	M16X2	0.89
DIN69871 40 ER25X150	40	ER25	1.0	16.0	150.00	130.9	-	42.00	-	M16	M16X2	1.81
DIN69871 40 ER25X150 B	40	ER25	1.0	16.0	150.00	130.9	-	42.00	-	M16	M16X2	1.81
DIN69871 40 ER32X 65	40	ER32	2.0	20.0	65.00	45.9	32.00	50.00	40.40	M16	M22X1.5	0.45
DIN69871 40 ER32X 65 B	40	ER32	2.0	20.0	65.00	45.9	32.00	50.00	40.40	M16	M22X1.5	0.88
DIN69871 40 ER32X100	40	ER32	2.0	20.0	100.00	80.9	35.00	50.00	49.00	M16	M22X1.5	1.38
DIN69871 40 ER32X100 B	40	ER32	2.0	20.0	100.00	80.9	35.00	50.00	49.00	M16	M22X1.5	1.37
DIN69871 40 ER32X150	40	ER32	2.0	20.0	150.00	130.9	35.00	50.00	49.00	M16	M22X1.5	2.17
DIN69871 40 ER32X150 B	40	ER32	2.0	20.0	150.00	130.9	35.00	50.00	49.00	M16	M22X1.5	2.08
DIN69871 40 ER40X 70	40	ER40	3.0	26.0	70.00	50.9	32.00	63.00	50.40	M16	M28X1.5	0.89
DIN69871 40 ER40X 70 B	40	ER40	3.0	26.0	70.00	50.9	32.00	63.00	50.40	M16	M28X1.5	0.89
DIN69871 40 ER40X100	40	ER40	3.0	26.0	100.00	80.9	32.00	63.00	50.40	M16	M28X1.5	1.22
DIN69871 40 ER40X100 B	40	ER40	3.0	26.0	100.00	80.9	32.00	63.00	50.40	M16	M28X1.5	1.29

• B is the designation for coolant through flange. • DIN69871 30 Balanced to G6.3 at 12,000 RPM. • DIN69871 40 Balanced to G2.5 at 20,000 RPM.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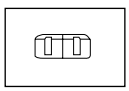
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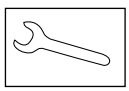
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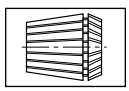
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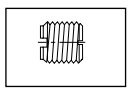
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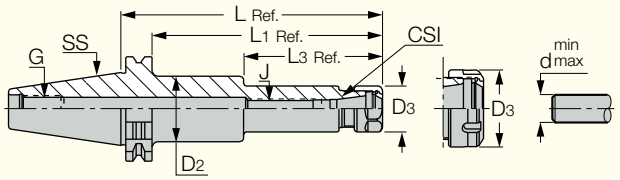
B142-144

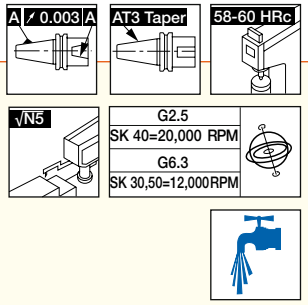
DIN69871

DIN69871-ER (Form AD or B) (continued)

DIN 6499 ER Collet Chucks with a DIN 69871 Form AD/B Taper Shanks

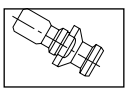


ER 16-20 ER 25-50



Designation	SS	CSI	d min	d max	L	L1	L3	D3	D2	G	J	Kg
DIN69871 50 ER16X100	50	ER16	0.5	10.0	100.00	80.9	-	28.00	-	M24	M12	2.76
DIN69871 50 ER16X100 B	50	ER16	0.5	10.0	100.00	80.9	-	28.00	-	M24	M12	2.88
DIN69871 50 ER16X160	50	ER16	0.5	10.0	160.00	140.9	85.00	28.00	40.00	M24	M12	3.34
DIN69871 50 ER16X160 B	50	ER16	0.5	10.0	160.00	140.9	85.00	28.00	40.00	M24	M12	3.33
DIN69871 50 ER16X200	50	ER16	0.5	10.0	200.00	180.9	110.00	28.00	40.00	M24	M10	3.52
DIN69871 50 ER16X200 B	50	ER16	0.5	10.0	200.00	180.9	110.00	28.00	40.00	M24	M10	3.51
DIN69871 50 ER20X100	50	ER20	1.0	13.0	100.00	80.9	-	34.00	-	M24	M12	2.89
DIN69871 50 ER20X100 B	50	ER20	1.0	13.0	100.00	80.9	-	34.00	-	M24	M12	3.11
DIN69871 50 ER20X160	50	ER20	1.0	13.0	160.00	140.9	86.00	34.00	45.00	M24	M12	3.50
DIN69871 50 ER20X160 B	50	ER20	1.0	13.0	160.00	140.9	86.00	34.00	45.00	M24	M12	3.50
DIN69871 50 ER25X100	50	ER25	1.0	16.0	100.00	80.9	-	42.00	-	M24	M16X2	3.08
DIN69871 50 ER25X100 B	50	ER25	1.0	16.0	100.00	80.9	-	42.00	-	M24	M16X2	3.07
DIN69871 50 ER25X150	50	ER25	1.0	16.0	150.00	130.9	80.90	42.00	50.00	M24	M16X2	3.75
DIN69871 50 ER25X150 B	50	ER25	1.0	16.0	150.00	130.9	80.90	42.00	50.00	M24	M16X2	3.71
DIN69871 50 ER25X200	50	ER25	1.0	16.0	200.00	180.9	85.00	42.00	55.00	M24	M16X2	4.70
DIN69871 50 ER25X200 B	50	ER25	1.0	16.0	200.00	180.9	85.00	42.00	55.00	M24	M16X2	5.27
DIN69871 50 ER32X100	50	ER32	2.0	20.0	100.00	80.9	-	50.00	-	M24	M22X1.5	3.20
DIN69871 50 ER32X100 B	50	ER32	2.0	20.0	100.00	80.9	-	50.00	-	M24	M22X1.5	3.22
DIN69871 50 ER32X150	50	ER32	2.0	20.0	150.00	130.9	-	50.00	-	M24	M22X1.5	3.83
DIN69871 50 ER32X150 B	50	ER32	2.0	20.0	150.00	130.9	-	50.00	-	M24	M22X1.5	3.86
DIN69871 50 ER32X200	50	ER32	2.0	20.0	200.00	180.9	-	50.00	-	M24	M22X1.5	4.51
DIN69871 50 ER32X200 B	50	ER32	2.0	20.0	200.00	180.9	-	50.00	-	M24	M22X1.5	4.51
DIN69871 50 ER40X100	50	ER40	3.0	26.0	100.00	80.9	-	63.00	-	M24	M28X1.5	3.45
DIN69871 50 ER40X100 B	50	ER40	3.0	26.0	100.00	80.9	-	63.00	-	M24	M28X1.5	3.44
DIN69871 50 ER40X150	50	ER40	3.0	26.0	150.00	130.9	-	63.00	-	M24	M28X1.5	4.54
DIN69871 50 ER40X150 B	50	ER40	3.0	26.0	150.00	130.9	-	63.00	-	M24	M28X1.5	4.55
DIN69871 50 ER40X200	50	ER40	3.0	26.0	200.00	180.9	-	63.00	-	M24	M28X1.5	5.60
DIN69871 50 ER40X200 B	50	ER40	3.0	26.0	200.00	180.9	-	63.00	-	M24	M28X1.5	5.58
DIN69871 50 ER50X100	50	ER50	10.0	34.0	100.00	80.9	-	78.00	-	M24	M36X1.5	3.51
DIN69871 50 ER50X100 B	50	ER50	10.0	34.0	100.00	80.9	-	78.00	-	M24	M36X1.5	3.15
DIN69871 50 ER50X150	50	ER50	10.0	34.0	150.00	130.9	-	78.00	-	M24	M36X1.5	5.22
DIN69871 50 ER50X150 B	50	ER50	10.0	34.0	150.00	130.9	-	78.00	-	M24	M36X1.5	3.15

• B is the designation for coolant through flange. • DIN69871 30 Balanced to G6.3 at 12,000 RPM. • DIN69871 40 Balanced to G2.5 at 20,000 RPM. • DIN69871 50 Balanced to G6.3 at 12,000 RPM.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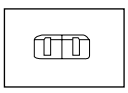
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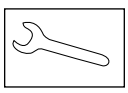
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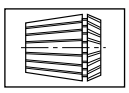
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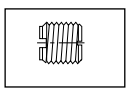
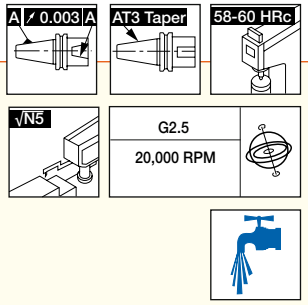

B177

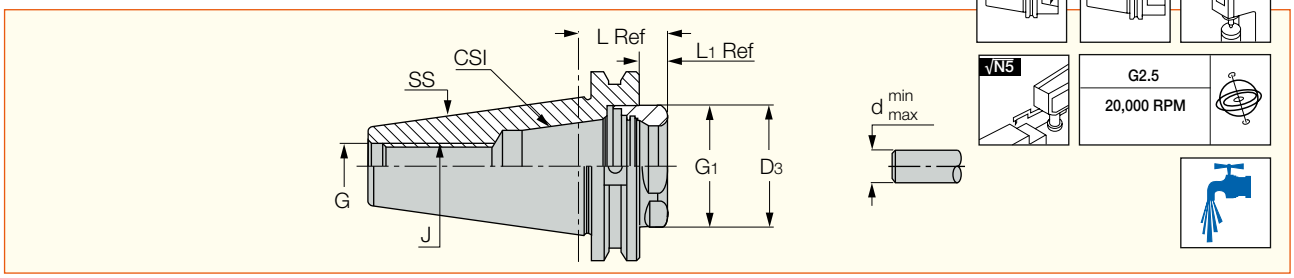

B142-144

DIN69871 • SHORTIN

DIN69871-ER-SHORT

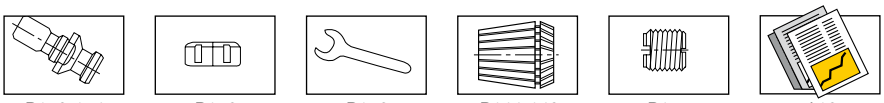
Short Front End ER Collet Chucks with a DIN 69871 Form AD/B Tapered Shanks





Designation	SS	CSI	d min	d max	L	L1	D3	G1	G	J	Kg
DIN69871 40 ER32 SHORT	40	ER32	2.0	20.0	28.60	9.5	40.00	M40X1.5	M16	M16	0.58
DIN69871 50 ER32 SHORT	50	ER32	2.0	20.0	28.60	9.5	40.00	M40X1.5	M24	M22X1.5	2.38
DIN69871 50 ER40 SHORT	50	ER40	3.0	26.0	28.60	9.5	50.00	M50X1.5	M24	M28X1.5	2.14

• Balanced to G2.5/20,000 RPM. • For user guide see page



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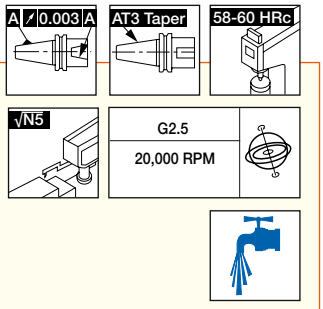
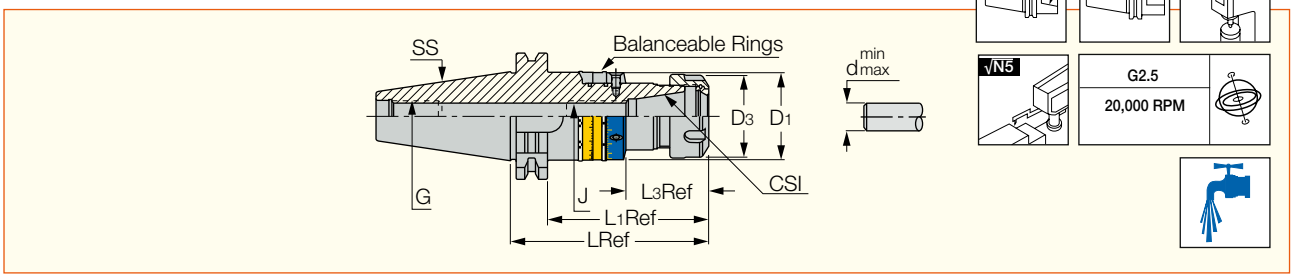
DIN69871 • BALANCIN

DIN69871-ER-BIN

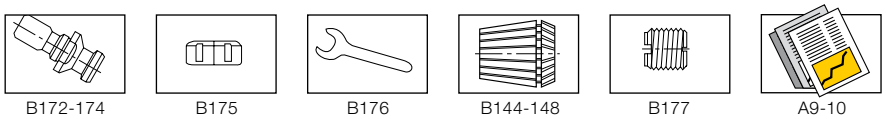
DIN 6499 Balanceable ER Collet Chucks with DIN 69871 Tapered Shanks





Designation	SS	CSI	d min	d max	L	L1	L3	D3	D1	G	J	Kg
DIN69871 40 ER16X100 BIN	40	ER16	0.5	10.0	100.00	80.9	45.00	28.00	44.0	M16	M10	1.19
DIN69871 40 ER16X160 BIN	40	ER16	0.5	10.0	160.00	140.9	86.00	28.00	44.0	M16	M10	1.55
DIN69871 40 ER20X100 BIN	40	ER20	1.0	13.0	100.00	80.9	51.00	34.00	44.0	M16	M12	1.18
DIN69871 40 ER20X160 BIN	40	ER20	1.0	13.0	160.00	140.9	87.00	34.00	44.0	M16	M12	1.67
DIN69871 40 ER25X100 BIN	40	ER25	1.0	16.0	100.00	80.9	51.00	42.00	44.0	M16	M16X1.5	1.15
DIN69871 40 ER25X160 BIN	40	ER25	1.0	16.0	160.00	140.9	88.00	42.00	44.0	M16	M16X1.5	1.63
DIN69871 40 ER32X100 BIN	40	ER32	2.0	20.0	100.00	80.9	36.00	50.00	60.0	M16	M22X1.5	1.46
DIN69871 40 ER32X160 BIN	40	ER32	2.0	20.0	160.00	140.9	96.00	50.00	60.0	M16	M22X1.5	2.32
DIN69871 40 ER40X100 BIN	40	ER40	3.0	26.0	100.00	80.9	36.00	63.00	60.0	M16	M28X1.5	1.35

• Originally set value, can be improved by using a balancing machine. • Balanced to G2.5/20,000 RPM.

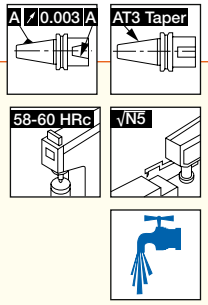


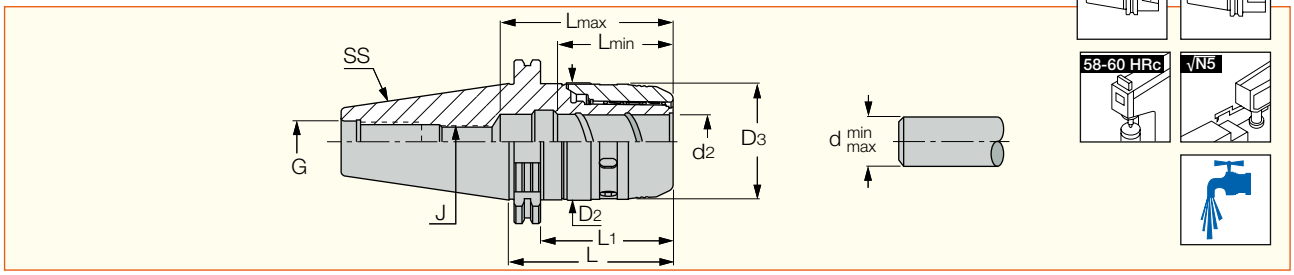
B172-174 | B175 | B176 | B144-148 | B177 | A9-10 B142-144

DIN69871 • MAXIN

DIN69871-MAXIN

Power Chucks with DIN 69871 Form AD/B Taper Shanks

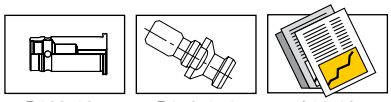




Designation	SS	d_2[2]	d min[3]	D_3	D_2	L	L_1	L min	L max	J	G	Kg
DIN69871 40 MAXIN 20X 95	40	20.00	6.0	51.00	53.00	95.00	76.0	56.0	69.0	M16	M16	1.20
DIN69871 40 MAXIN 20X 95B [1]	40	20.00	6.0	51.00	53.00	95.00	76.0	56.0	69.0	M16	M16	1.20
DIN69871 40 MAXIN 32X106	40	32.00	6.0	69.00	70.00	106.00	87.0	70.0	83.0	M16	M16	1.45
DIN69871 40 MAXIN 32X106B [1]	40	32.00	6.0	69.00	70.00	106.00	87.0	70.0	83.0	M16	M16	1.45
DIN69871 50 MAXIN 20X105	50	20.00	6.0	51.00	53.00	105.00	86.0	56.0	69.0	M16	M24	3.20
DIN69871 50 MAXIN 20X105B [1]	50	20.00	6.0	51.00	53.00	105.00	86.0	56.0	69.0	M16	M24	3.16
DIN69871 50 MAXIN 32X100	50	32.00	6.0	69.00	70.00	100.00	81.0	70.0	84.0	M20X2	M24	3.17
DIN69871 50 MAXIN 32X100B [1]	50	32.00	6.0	69.00	70.00	100.00	81.0	70.0	84.0	M20X2	M24	3.16
DIN69871 50 MAXIN 32X135	50	32.00	6.0	69.00	70.00	135.00	116.0	71.0	85.0	M20X2	M24	4.10

• Use of d2 diameter tools provides the best performance as collets reduce gripping force by 25%. • B is the designation for coolant through flange.

[1] With coolant through the flange [2] Without a collet [3] By using a reducer collet



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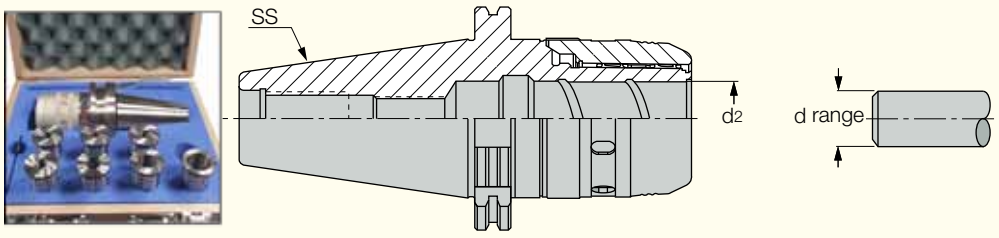
DIN69871 • MAXIN KIT

KIT SK-MAXIN

Contains a DIN 69871 Holder with MAXIN Power Chuck and a Set of Collets with Various Bore Sizes



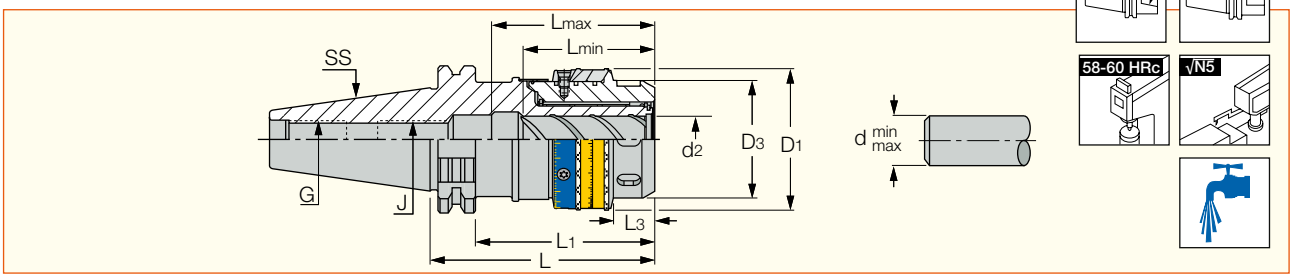
Designation	SS	d_2	Qty	d Range
KIT SK40 MAXIN 20X95 6	SK40	20.00	6	6,8,10,12,14,16
KIT SK40 MAXIN 32X106 7	SK40	32.00	7	6,8,10,12,16,20,25
KIT SK50 MAXIN 20X105 6	SK50	20.00	6	6,8,10,12,14,16
KIT SK50 MAXIN 32X100 7	SK50	32.00	7	6,8,10,12,16,20,25

• Each kit contains one power chuck, a set of SC-SPR collets, extraction hook and wrench.

DIN69871 • MAXIN (BIN)

DIN69871-MAXIN-BIN

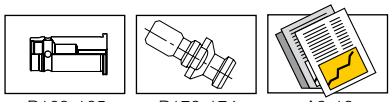
Balanceable Power Chucks with DIN 69871 Form AD/B Taper Shanks



Designation	SS	d_2(1)	d min(2)	D_3	D_1	L	L_1	L_3	L min	L max	J	G	Kg
DIN69871 40 MAXIN20X95BIN	40	20.00	6.0	50.50	60.8	95.00	76.0	17.20	56.0	69.0	M16	M16	1.20
DIN69871 40 MAXI32X106BIN	40	32.00	6.0	68.50	79.8	106.00	87.0	24.90	70.0	83.0	M16	M16	1.45
DIN69871 50MAXIN20X105BIN	50	20.00	6.0	50.50	60.8	105.00	86.0	17.50	56.0	69.0	M16	M24	3.20
DIN69871 50MAXIN32X100BIN	50	32.00	6.0	68.50	79.8	100.00	81.0	24.90	70.0	84.0	M20X2	M24	4.15

• Use of d2 diameter tools provides the best performance as collets reduce gripping force by 25% • First clamp the tool inside the chuck and then improve the system's balance by adjusting the balancing rings

(1) Without a collet (2) By using a reducer collet



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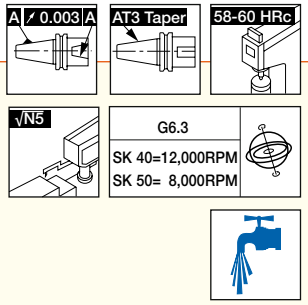
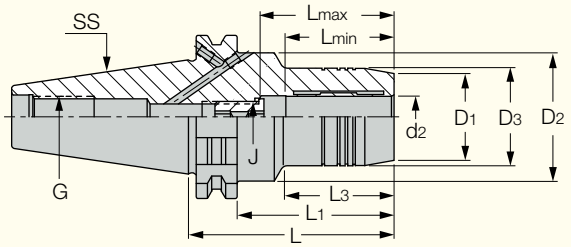
DIN69871-HYDRO

Hydraulic Chucks with DIN69781 Form ADB Shanks

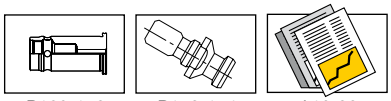




Designation	SS	d_2	D_1	D_3	D_2	L	L_1	L_3	L min	L max	J	G	Kg
DIN69871 30 HYDRO 6X60 (1)	30	6.00	23.0	26.00	45.00	60.00	41.0	25.00	27.0	37.0	M5	M12	0.60
DIN69871 30 HYDRO 8X64 (1)	30	8.00	25.0	28.00	45.00	64.00	45.0	29.00	27.0	37.0	M6	M12	0.60
DIN69871 30 HYDRO 10X64 (1)	30	10.00	27.0	30.00	45.00	64.00	45.0	35.00	32.0	42.0	M8X1	M12	0.60
DIN69871 30 HYDRO 12X72 (1)	30	12.00	29.0	32.00	45.00	72.00	53.0	43.00	37.0	47.0	M10X1	M12	0.60
DIN69871 30 HYDRO 14X72 (1)	30	14.00	30.0	34.00	45.00	72.00	53.0	42.00	37.0	47.0	M10X1	M12	0.70
DIN69871 30 HYDRO 16X90 (1)	30	16.00	34.0	38.00	45.00	90.00	71.0	43.00	42.0	52.0	M12X1	M12	0.90
DIN69871 30 HYDRO 18X90 (1)	30	18.00	36.0	40.00	45.00	90.00	71.0	43.00	42.0	52.0	M12X1	M12	0.90
DIN69871 30 HYDRO 20X90 (1)	30	20.00	38.0	42.00	45.00	90.00	71.0	-	42.0	52.0	M12X1	M12	0.90
DIN69871 40 HYDRO 6X68 (1)	40	6.00	23.0	26.00	50.00	68.00	49.0	33.00	27.0	38.0	M5	M16	1.10
DIN69871 40 HYDRO 8X68 (1)	40	8.00	25.0	28.00	50.00	68.00	49.0	33.00	27.0	37.0	M6	M16	1.10
DIN69871 40 HYDRO 10X72 (1)	40	10.00	27.0	30.00	50.00	72.00	53.0	37.00	32.0	42.0	M8X1	M16	1.20
DIN69871 40 HYDRO 12X77 (1)	40	12.00	29.0	32.00	50.00	77.00	58.0	42.00	37.0	47.0	M10X1	M16	1.20
DIN69871 40 HYDRO 14X77 (1)	40	14.00	30.0	34.00	50.00	77.00	58.0	42.00	37.0	47.0	M10X1	M16	1.20
DIN69871 40 HYDRO 16X80 (1)	40	16.00	34.0	38.00	50.00	80.00	61.0	43.00	42.0	52.0	M12X1	M16	1.30
DIN69871 40 HYDRO 18X80 (1)	40	18.00	36.0	40.00	50.00	80.00	61.0	43.00	42.0	52.0	M12X1	M16	1.30
DIN69871 40 HYDRO 20X82 (1)	40	20.00	38.0	42.00	50.00	82.00	63.0	47.00	42.0	52.0	M12X1	M16	1.40
DIN69871 40 HYDRO 25X117 (1)	40	25.00	46.0	50.00	63.00	117.00	98.0	51.00	48.0	58.0	M16X1	M16	2.00
DIN69871 40 HYDRO 32X117 (1)	40	32.00	56.0	60.00	63.00	117.00	98.0	56.00	52.0	62.0	M16X1	M16	2.40
DIN69871 50 HYDRO 6X68 (2)	50	6.00	23.0	26.00	80.00	68.00	49.0	33.00	27.0	37.0	M5	M24	3.10
DIN69871 50 HYDRO 8X68 (2)	50	8.00	25.0	28.00	80.00	68.00	49.0	33.00	27.0	37.0	M6	M24	3.10
DIN69871 50 HYDRO 10X72 (2)	50	10.00	27.0	30.00	80.00	72.00	53.0	37.00	32.0	42.0	M8X1	M24	3.20
DIN69871 50 HYDRO 12X77 (2)	50	12.00	29.0	32.00	80.00	77.00	58.0	42.00	37.0	47.0	M10X1	M24	3.20
DIN69871 50 HYDRO 14X77 (2)	50	14.00	30.0	34.00	80.00	77.00	58.0	42.00	37.0	47.0	M10X1	M24	3.20
DIN69871 50 HYDRO 16X80 (2)	50	16.00	34.0	38.00	80.00	80.00	61.0	45.00	42.0	52.0	M12X1	M24	2.60
DIN69871 50 HYDRO 18X80 (2)	50	18.00	36.0	40.00	80.00	80.00	61.0	45.00	42.0	52.0	M12X1	M24	3.30
DIN69871 50 HYDRO 20X82 (2)	50	20.00	38.0	42.00	80.00	82.00	63.0	47.00	42.0	52.0	M16X1	M24	3.40
DIN69871 50 HYDRO 25X87 (2)	50	25.00	46.0	50.00	80.00	87.00	68.0	52.00	48.0	58.0	M16X1	M24	3.60
DIN69871 50 HYDRO 32X91 (2)	50	32.00	56.0	60.00	80.00	91.00	72.0	56.00	54.0	64.0	M16X1	M24	3.80

• Chucking forces will be reduced by 25% if reduction sleeves are used. • Note: Reduction sleeves are available for 12, 20, 25 and 32 mm bore diameters (ordered separately). • The coolant passages in the B type flange are blocked with screws which can be removed when required. • Clamping wrench (wrench HYDRO HEX 4) and test bar should be ordered separately.

(1) Balanced to G6.3/12,000 RPM. (2) Balanced to G6.3/8,000 RPM.

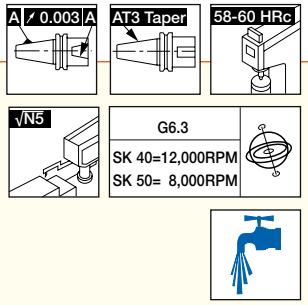


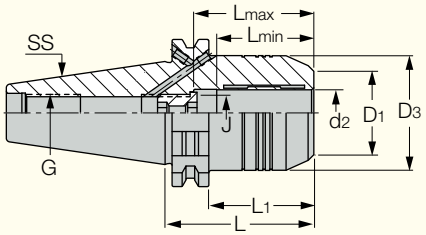
B169-170 B172-174 A19-20

DIN69871 • HYDROFIT
HOLDING LINE

DIN69871-HYDRO (heavy duty)

Short Hydraulic Chucks with DIN69781 Form ADB Shanks

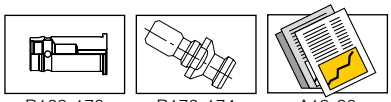




Designation	SS	d_2	D_1	D_3	L	L_1	L min	L max	J	G	Kg
DIN69871 40 HYDRO 20X64.5 (1)	40	20.00	40.0	49.50	64.50	45.0	42.0	52.0	M16X1	M16	1.34
DIN69871 50 HYDRO 32X81 (2)	50	32.00	56.0	72.00	81.00	62.0	54.0	64.0	M16X1	M24	4.10

• Chucking forces will be reduced by 25% if reduction sleeves are used. • Note: Reduction sleeves are available for 12, 20, 25 and 32 mm bore diameters (ordered separately). • The coolant passages in the B type flange are blocked with screws which can be removed when required. • Clamping wrench (wrench HYDRO HEX 4) and test bar should be ordered separately.

(1) Balanced to G6.3/12,000 RPM. (2) Balanced to G6.3/8,000 RPM.



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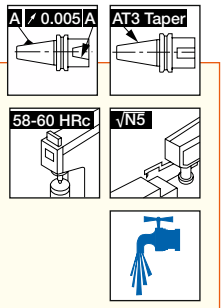
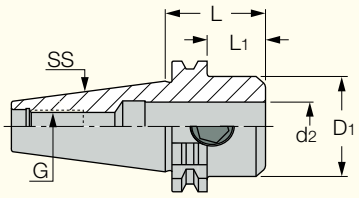
DIN69871

DIN69871-EM (DIN 6359 short)

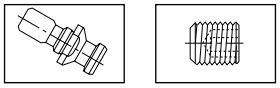
Short Side Clamp Endmill Holders (DIN 6359-HB) with DIN 69871 Form AD/B Taper Shanks for DIN 1835 Form B Weldon Shanks





Designation	SS	d_2	D_1	L	L_1	G	Kg
DIN69871 40 EM10X 45	40	10.00	35.0	45.00	25.9	M16	0.93
DIN69871 40 EM10X 45 B	40	10.00	35.0	45.00	25.9	M16	0.95
DIN69871 40 EM12X 45	40	12.00	42.0	45.00	25.9	M16	1.01
DIN69871 40 EM14X 45	40	14.00	44.0	45.00	25.9	M16	1.02
DIN69871 40 EM14X 45 B	40	14.00	44.0	45.00	25.9	M16	1.01
DIN69871 40 EM16X 45	40	16.00	48.0	45.00	25.9	M16	1.05
DIN69871 40 EM18X 45	40	18.00	49.0	45.00	25.9	M16	1.04
DIN69871 40 EM18X 45 B	40	18.00	49.0	45.00	25.9	M16	1.04
DIN69871 40 EM20X 45	40	20.00	49.0	45.00	25.9	M16	1.00
DIN69871 40 EM20X 45 B	40	20.00	49.0	45.00	25.9	M16	1.00
DIN69871 40 EM25X 45	40	25.00	49.0	45.00	25.9	M16	0.93
DIN69871 40 EM25X 45 B	40	25.00	49.0	45.00	25.9	M16	0.93

• B is the designation for coolant through flange.



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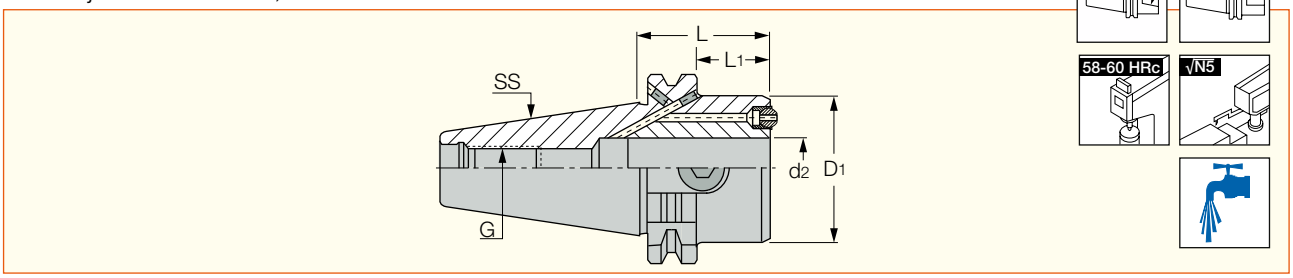
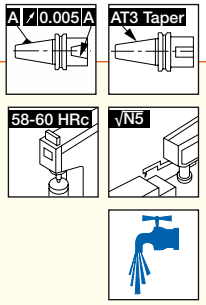
DIN69871

DIN69871-EM (coolant nozzle)

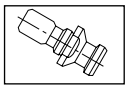
DIN 69871 Form ADB Taper Shanks Short Holders with DIN 6359-HB and Adjustable Nozzles, for DIN 1835 Form B Weldon Shanks

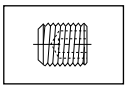




Designation	SS	d_2	D_1	L	L_1	G	Kg
DIN69871 40 EM 6X 50C	40	6.00	32.0	50.00	30.9	M16	0.97
DIN69871 40 EM 8X 50C	40	8.00	32.0	50.00	30.9	M16	0.99
DIN69871 40 EM10X 45C	40	10.00	35.0	45.00	25.9	M16	0.99
DIN69871 40 EM12X 45C	40	12.00	42.0	45.00	25.9	M16	1.03
DIN69871 40 EM16X 45C	40	16.00	48.0	45.00	25.9	M16	1.07
DIN69871 40 EM20X 45C	40	20.00	49.0	45.00	25.9	M16	1.03
DIN69871 40 EM25X 45C	40	25.00	55.0	45.00	25.9	M16	0.96

• The coolant passages in the B type flange are blocked with screws which can be removed when required.

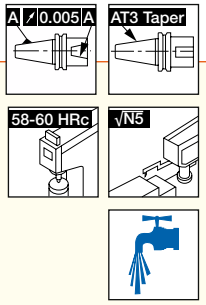

B172-174

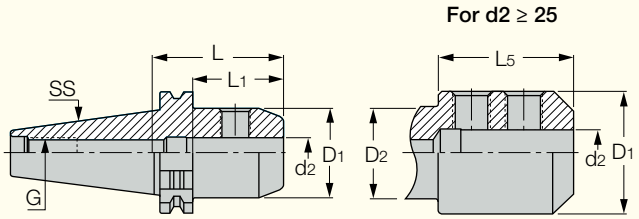

B178

DIN69871

DIN69871-EM (DIN 6359-HB)

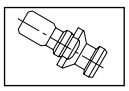
DIN 69871 Form AD/B Taper Shanks Holders with DIN 6359-HB,
for DIN 1835 Form B Weldon Shanks

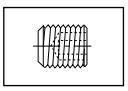




Designation	SS	d_2	D_1	D_2	L	L_1	L_5	G	Kg
DIN69871 30 EM 6X 50	30	6.00	25.0	-	50.00	30.9	-	M12	0.45
DIN69871 30 EM 8X 50	30	8.00	28.0	-	50.00	30.9	-	M12	0.49
DIN69871 30 EM10X 50	30	10.00	35.0	-	50.00	30.9	-	M12	0.55
DIN69871 30 EM12X 50	30	12.00	42.0	-	50.00	30.9	-	M12	0.62
DIN69871 30 EM14X 63	30	14.00	44.0	-	63.00	43.9	-	M12	0.78
DIN69871 30 EM16X 63	30	16.00	48.0	-	63.00	43.9	-	M12	0.81
DIN69871 30 EM18X 72	30	18.00	50.0	-	72.00	52.9	-	M12	0.96
DIN69871 30 EM20X 72	30	20.00	52.0	-	72.00	52.9	-	M12	0.96
DIN69871 40 EM 6X 50	40	6.00	25.0	-	50.00	30.9	-	M16	0.89
DIN69871 40 EM 6X 50 B	40	6.00	25.0	-	50.00	30.9	-	M16	0.88
DIN69871 40 EM 8X 50	40	8.00	28.0	-	50.00	30.9	-	M16	0.91
DIN69871 40 EM 8X 50 B	40	8.00	28.0	-	50.00	30.9	-	M16	0.91
DIN69871 40 EM10X 50	40	10.00	35.0	-	50.00	30.9	-	M16	0.96
DIN69871 40 EM10X 50 B	40	10.00	35.0	-	50.00	30.9	-	M16	0.98
DIN69871 40 EM12X 50	40	12.00	42.0	-	50.00	30.9	-	M16	1.04
DIN69871 40 EM12X 50 B	40	12.00	42.0	-	50.00	30.9	-	M16	1.05
DIN69871 40 EM14X 63	40	14.00	44.0	-	63.00	43.9	-	M16	1.20
DIN69871 40 EM14X 63 B	40	14.00	44.0	-	63.00	43.9	-	M16	1.28
DIN69871 40 EM16X 63	40	16.00	48.0	-	63.00	43.9	-	M16	1.20
DIN69871 40 EM16X 63 B	40	16.00	48.0	-	63.00	43.9	-	M16	1.28
DIN69871 40 EM18X 63	40	18.00	50.0	-	63.00	43.9	-	M16	1.29
DIN69871 40 EM18X 63 B	40	18.00	50.0	-	63.00	43.9	-	M16	0.30
DIN69871 40 EM20X 63	40	20.00	52.0	-	63.00	43.9	-	M16	1.26
DIN69871 40 EM20X 63 B	40	20.00	52.0	-	63.00	43.9	-	M16	1.29
DIN69871 40 EM25X100	40	25.00	65.0	49.00	100.00	80.9	65.00	M16	2.23
DIN69871 40 EM25X100 B	40	25.00	65.0	49.00	100.00	80.9	65.00	M16	2.23
DIN69871 40 EM32X100	40	32.00	71.0	49.00	100.00	80.9	65.00	M16	2.42
DIN69871 40 EM32X100 B	40	32.00	71.0	49.00	100.00	80.9	65.00	M16	2.42
DIN69871 50 EM 6X 63	50	6.00	25.0	-	63.00	43.9	-	M24	2.70
DIN69871 50 EM 8X 63	50	8.00	28.0	-	63.00	43.9	-	M24	2.73
DIN69871 50 EM 8X 63 B	50	8.00	28.0	-	63.00	43.9	-	M24	2.87
DIN69871 50 EM10X 63	50	10.00	35.0	-	63.00	43.9	-	M24	2.83
DIN69871 50 EM10X 63 B	50	10.00	35.0	-	63.00	43.9	-	M24	2.87
DIN69871 50 EM12X 63	50	12.00	42.0	-	63.00	43.9	-	M24	2.93
DIN69871 50 EM12X 63 B	50	12.00	42.0	-	63.00	43.9	-	M24	2.91
DIN69871 50 EM14X 63	50	14.00	44.0	-	63.00	43.9	-	M24	2.91
DIN69871 50 EM14X 63 B	50	14.00	44.0	-	63.00	43.9	-	M24	3.15
DIN69871 50 EM16X 63	50	16.00	48.0	-	63.00	43.9	-	M24	3.02
DIN69871 50 EM16X 63 B	50	16.00	48.0	-	63.00	43.9	-	M24	3.03
DIN69871 50 EM18X 63	50	18.00	50.0	-	63.00	43.9	-	M24	3.08
DIN69871 50 EM18X 63 B	50	18.00	50.0	-	63.00	43.9	-	M24	3.06
DIN69871 50 EM20X 63	50	20.00	52.0	-	63.00	43.9	-	M24	3.07
DIN69871 50 EM20X 63 B	50	20.00	52.0	-	63.00	43.9	-	M24	3.08
DIN69871 50 EM25X 80	50	25.00	65.0	-	80.00	60.9	-	M24	3.70
DIN69871 50 EM25X 80 B	50	25.00	65.0	-	80.00	60.9	-	M24	3.62
DIN69871 50 EM32X100	50	32.00	72.0	-	100.00	80.9	-	M24	4.44
DIN69871 50 EM32X100 B	50	32.00	72.0	-	100.00	80.9	-	M24	4.46
DIN69871 50 EM40X100	50	40.00	90.0	79.90	100.00	80.9	43.00	M24	5.02
DIN69871 50 EM40X100 B	50	40.00	90.0	79.90	100.00	80.9	43.00	M24	5.06
DIN69871 50 EM50X125	50	50.00	98.0	79.90	125.00	105.9	90.00	M24	6.64
DIN69871 50 EM50X125 B	50	50.00	98.0	79.90	125.00	105.9	90.00	M24	6.55

• B is the designation for coolant through flange.

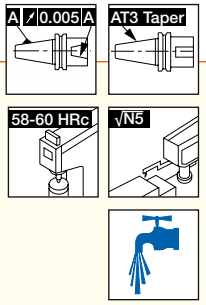

B172-174

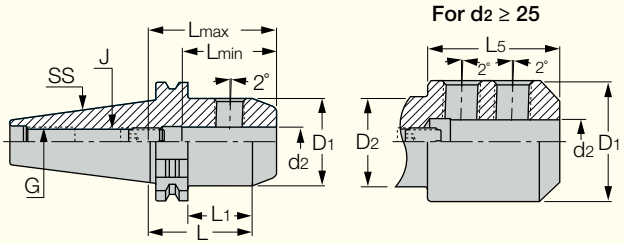

B178

DIN69871

DIN69871-EM (DIN 6359-HE)

DIN 69871 Form AD/B Taper Shank Drill Holders with DIN 6359-HE
for DIN 1835 Form E Whistle Notch Shanks

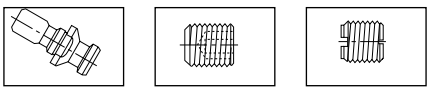




Designation	SS	d_2	D_1	D_2	L	L_1	L_5	L min	L max	J(1)	Key(2)	G	Kg
DIN69871 40 EM 6X 50E	40	6.00	25.0	-	50.00	30.9	-	30.0	40.0	M5	2.50	M16	0.92
DIN69871 40 EM 6X 50E B	40	6.00	25.0	-	50.00	30.9	-	30.0	40.0	M5	2.50	M16	0.97
DIN69871 40 EM 8X 50E	40	8.00	28.0	-	50.00	30.9	-	35.0	45.0	M6	3.00	M16	0.94
DIN69871 40 EM 8X 50E B	40	8.00	28.0	-	50.00	30.9	-	35.0	45.0	M6	3.00	M16	1.00
DIN69871 40 EM10X 50E	40	10.00	35.0	-	50.00	30.9	-	39.0	49.0	M8	4.00	M16	1.00
DIN69871 40 EM10X 50E B	40	10.00	35.0	-	50.00	30.9	-	39.0	49.0	M8	4.00	M16	1.06
DIN69871 40 EM12X 50E	40	12.00	42.0	-	50.00	30.9	-	44.0	54.0	M10	5.00	M16	1.07
DIN69871 40 EM12X 50E B	40	12.00	42.0	-	50.00	30.9	-	44.0	54.0	M10	5.00	M16	1.14
DIN69871 40 EM14X 63E	40	14.00	44.0	-	63.00	43.9	-	44.0	54.0	M10	5.00	M16	1.23
DIN69871 40 EM14X 63E B	40	14.00	44.0	-	63.00	43.9	-	44.0	54.0	M10	5.00	M16	3.15
DIN69871 40 EM16X 63E	40	16.00	48.0	-	63.00	43.9	-	47.0	57.0	M12	6.00	M16	1.28
DIN69871 40 EM16X 63E B	40	16.00	48.0	-	63.00	43.9	-	47.0	57.0	M12	6.00	M16	1.37
DIN69871 40 EM18X 63E	40	18.00	50.0	-	63.00	43.9	-	47.0	57.0	M12	6.00	M16	1.31
DIN69871 40 EM18X 63E B	40	18.00	50.0	-	63.00	43.9	-	47.0	57.0	M12	6.00	M16	3.15
DIN69871 40 EM20X 63E	40	20.00	52.0	-	63.00	43.9	-	49.0	59.0	M16	8.00	M16	1.25
DIN69871 40 EM20X 63E B	40	20.00	52.0	-	63.00	43.9	-	49.0	59.0	M16	8.00	M16	3.15
DIN69871 40 EM25X100E	40	25.00	65.0	49.00	100.00	80.9	65.00	54.0	64.0	M20X1.5	10.00	M16	2.18
DIN69871 40 EM25X100E B	40	25.00	65.0	49.00	100.00	80.9	65.00	54.0	64.0	M20X1.5	10.00	M16	2.25
DIN69871 40 EM32X100E	40	32.00	72.0	49.00	100.00	80.9	65.00	58.0	68.0	M20X1.5	10.00	M16	2.40
DIN69871 50 EM 8X 63E B	50	8.00	28.0	-	63.00	43.9	-	35.0	45.0	M6	3.00	M24	2.76
DIN69871 50 EM 8X63E	50	8.00	28.0	-	63.00	43.9	-	35.0	45.0	M6	3.00	M24	2.78
DIN69871 50 EM10X 63E	50	10.00	35.0	-	63.00	43.9	-	39.0	49.0	M8	4.00	M24	2.86
DIN69871 50 EM10X 63E B	50	10.00	35.0	-	63.00	43.9	-	39.0	49.0	M8	4.00	M24	2.87
DIN69871 50 EM12X 63E	50	12.00	42.0	-	63.00	43.9	-	44.0	54.0	M10	5.00	M24	2.98
DIN69871 50 EM12X 63E B	50	12.00	42.0	-	63.00	43.9	-	44.0	54.0	M10	5.00	M24	2.93
DIN69871 50 EM14X 63E	50	14.00	44.0	-	63.00	43.9	-	44.0	54.0	M10	5.00	M24	3.02
DIN69871 50 EM14X 63E B	50	14.00	44.0	-	63.00	43.9	-	44.0	54.0	M10	5.00	M24	3.02
DIN69871 50 EM16X 63E	50	16.00	48.0	-	63.00	43.9	-	47.0	57.0	M12	6.00	M24	3.07
DIN69871 50 EM16X 63E B	50	16.00	48.0	-	63.00	43.9	-	47.0	57.0	M12	6.00	M24	3.15
DIN69871 50 EM18X 63E	50	18.00	50.0	-	63.00	43.9	-	47.0	57.0	M12	6.00	M24	3.10
DIN69871 50 EM18X 63E B	50	18.00	50.0	-	63.00	43.9	-	47.0	57.0	M12	6.00	M24	3.10
DIN69871 50 EM20X 63E	50	20.00	52.0	-	63.00	43.9	-	49.0	59.0	M16	8.00	M24	3.11
DIN69871 50 EM20X 63E B	50	20.00	52.0	-	63.00	43.9	-	49.0	59.0	M16	8.00	M24	3.11
DIN69871 50 EM25X 80E	50	25.00	65.0	-	80.00	60.9	-	54.0	64.0	M20X1.5	10.00	M24	3.67
DIN69871 50 EM25X 80E B	50	25.00	65.0	-	80.00	60.9	-	54.0	64.0	M20X1.5	10.00	M24	3.74
DIN69871 50 EM32X100E	50	32.00	72.0	-	100.00	80.9	-	58.0	68.0	M20X1.5	10.00	M24	4.50
DIN69871 50 EM32X100E B	50	32.00	72.0	-	100.00	80.9	-	58.0	68.0	M20X1.5	10.00	M24	3.15
DIN69871 50 EM40X100E	50	40.00	90.0	79.90	100.00	80.9	43.00	68.0	78.0	M20X1.5	10.00	M24	5.05
DIN69871 50 EM40X100E B	50	40.00	90.0	79.90	100.00	80.9	43.00	68.0	78.0	M20X1.5	10.00	M24	5.08
DIN69871 50 EM50X125E B	50	50.00	98.0	79.90	125.00	105.9	68.00	78.0	88.0	M20X1.5	10.00	M24	3.21

• B is the designation for coolant through flange.

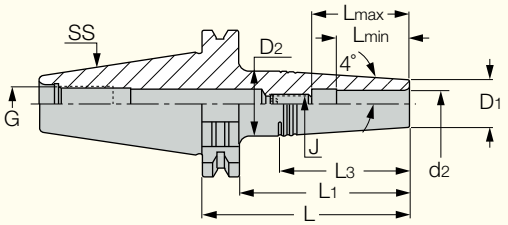
(1) Adjustment screw has an internal coolant hole. (2) Adjustment screw hexagon key size

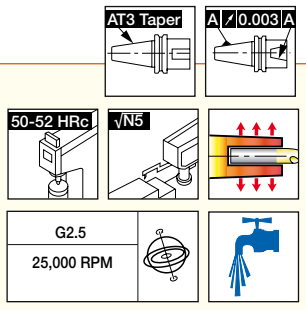


B172-174 B178 B178

DIN69871-SRK

Thermal Shrinking Chucks with DIN 69871 Form AD/B Taper Shanks, for Carbide Tools Only

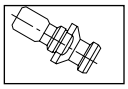




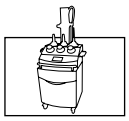
Designation	SS	d_2	D_1	D_2	L	L_1	L_3	L min	L max	J	Key(1)	G	Kg
DIN69871 40 SRK 3X50	40	3.00	10.0	15.00	69.10	50.0	35.50	10.0	16.0	M6	3.00	M16	0.83
DIN69871 40 SRK 3X85	40	3.00	10.0	19.00	104.10	85.0	64.10	10.0	16.0	M6	3.00	M16	0.96
DIN69871 40 SRK 4X50	40	4.00	10.0	15.00	69.10	50.0	35.50	12.0	18.0	M6	3.00	M16	0.82
DIN69871 40 SRK 4X85	40	4.00	10.0	19.00	104.10	85.0	64.10	12.0	18.0	M6	3.00	M16	0.89
DIN69871 40 SRK 5X50	40	5.00	10.0	15.00	69.10	50.0	35.50	15.0	21.0	M6	3.00	M16	0.84
DIN69871 40 SRK 5X85	40	5.00	10.0	19.00	104.10	85.0	64.10	12.0	18.0	M6	3.00	M16	0.97
DIN69871 40 SRK 6X50	40	6.00	11.0	16.00	69.10	50.0	35.50	18.0	24.0	M8	4.00	M16	0.84
DIN69871 40 SRK 6X85	40	6.00	11.0	20.00	104.10	85.0	64.10	18.0	24.0	M8	4.00	M16	0.82
DIN69871 40 SRK 8X50	40	8.00	20.0	14.00	69.10	50.0	42.50	25.0	31.0	M10	5.00	M16	0.84
DIN69871 40 SRK 8X85	40	8.00	23.0	14.00	104.10	85.0	63.90	25.0	31.0	M10	5.00	M16	0.94
DIN69871 40 SRK 10X50	40	10.00	16.0	22.00	69.10	50.0	42.40	30.0	36.0	M12	6.00	M16	0.87
DIN69871 40 SRK 10X85	40	10.00	16.0	24.50	104.10	85.0	60.30	30.0	36.0	M12	6.00	M16	0.94
DIN69871 40 SRK 12X50	40	12.00	20.0	26.00	69.10	50.0	42.30	32.0	42.0	M10	5.00	M16	0.89
DIN69871 40 SRK 12X85	40	12.00	20.0	28.00	104.10	85.0	56.60	32.0	42.0	M10	5.00	M16	1.05

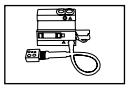
• To be used for carbide tools only. • Balanced to G2.5/25,000 RPM. • Preset screw without coolant hole.

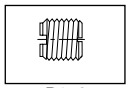
(1) Hex key size for the rear stopper screw


B172-174


B149-151

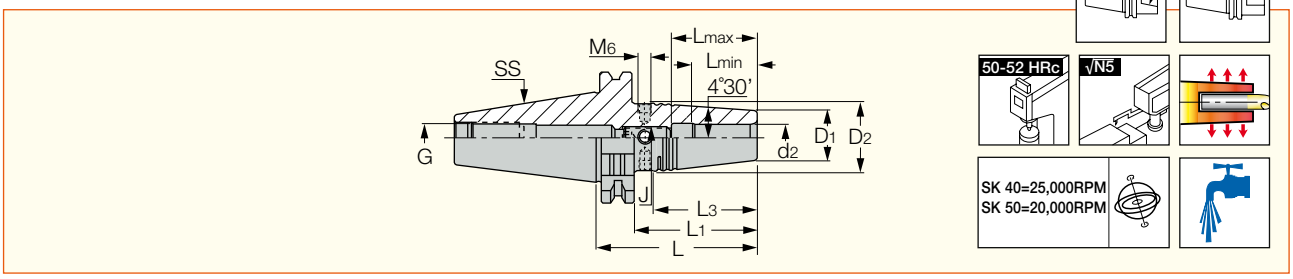

B154-155


B156


B178

DIN69871-SRKIN

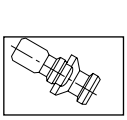
Thermal Shrinking Chucks with DIN 69871 Form AD/B Taper Shanks



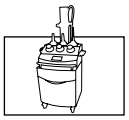
Designation	SS	d_2	D_1	D_2	L	L_1	L_3	L min	L max	J	Key(3)	G	Kg
DIN69871 40 SRKIN 6X80 (1)	40	6.00	21.0	27.00	80.00	60.9	38.00	25.0	36.0	M5	2.50	M16	0.99
DIN69871 40 SRKIN 6X80 B (1)	40	6.00	21.0	27.00	80.00	60.9	38.00	25.0	36.0	M5	2.50	M16	1.06
DIN69871 40 SRKIN 8X80 (1)	40	8.00	21.0	27.00	80.00	60.9	38.00	25.0	36.0	M6	3.00	M16	1.00
DIN69871 40 SRKIN 10X80 (1)	40	10.00	24.0	32.00	80.00	60.9	50.50	31.0	42.0	M8	4.00	M16	1.05
DIN69871 40 SRKIN 10X80 B (1)	40	10.00	24.0	32.00	80.00	60.9	50.50	31.0	42.0	M8	4.00	M16	1.05
DIN69871 40 SRKIN 12X80 (1)	40	12.00	24.0	32.00	80.00	60.9	50.50	31.0	47.0	M10	5.00	M16	1.04
DIN69871 40 SRKIN 12X80 B (1)	40	12.00	24.0	32.00	80.00	60.9	50.50	31.0	47.0	M10	5.00	M16	1.04
DIN69871 40 SRKIN 14X80 (1)	40	14.00	27.0	34.00	80.00	60.9	44.20	36.0	47.0	M10	5.00	M16	1.37
DIN69871 40 SRKIN 14X80 B (1)	40	14.00	27.0	34.00	80.00	60.9	44.20	36.0	47.0	M10	5.00	M16	1.09
DIN69871 40 SRKIN 16X80 (1)	40	16.00	27.0	34.00	80.00	60.9	44.20	39.0	50.0	M12	6.00	M16	1.07
DIN69871 40 SRKIN 16X80 B (1)	40	16.00	27.0	34.00	80.00	60.9	44.20	39.0	50.0	M12	6.00	M16	1.06
DIN69871 40 SRKIN 18X80 (1)	40	18.00	33.0	42.00	80.00	60.9	57.00	39.0	50.0	M12	6.00	M16	1.21
DIN69871 40 SRKIN 20X80 (1)	40	20.00	33.0	42.00	80.00	60.9	57.00	41.0	52.0	M16	8.00	M16	1.16
DIN69871 40 SRKIN 20X80 B (1)	40	20.00	33.0	42.00	80.00	60.9	57.00	41.0	52.0	M16	8.00	M16	1.16
DIN69871 40 SRKIN 25X100 (1)	40	25.00	44.0	53.00	100.00	80.9	57.00	47.0	58.0	M20	8.00	M16	1.71
DIN69871 50 SRKIN 6X 80 (2)	50	6.00	21.0	27.00	80.00	60.9	38.00	25.0	36.0	M5	2.50	M24	2.75
DIN69871 50 SRKIN 8X 80 (2)	50	8.00	21.0	27.00	80.00	60.9	38.00	25.0	36.0	M6	3.00	M24	2.76
DIN69871 50 SRKIN 10X 80 (2)	50	10.00	24.0	32.00	80.00	60.9	51.00	31.0	42.0	M8	4.00	M24	2.81
DIN69871 50 SRKIN 12X 80 (2)	50	12.00	24.0	32.00	80.00	60.9	51.00	36.0	47.0	M10	5.00	M24	2.79
DIN69871 50 SRKIN 14X 80 (2)	50	14.00	27.0	34.00	80.00	60.9	45.00	36.0	47.0	M10	5.00	M24	2.84
DIN69871 50 SRKIN 16X 80 (2)	50	16.00	27.0	34.00	80.00	60.9	45.00	39.0	50.0	M12	6.00	M24	2.76
DIN69871 50 SRKIN 18X 80 (2)	50	18.00	33.0	42.00	80.00	60.9	57.00	39.0	50.0	M12	6.00	M24	2.90
DIN69871 50 SRKIN 20X 80 (2)	50	20.00	33.0	42.00	80.00	60.9	57.00	41.0	52.0	M16	8.00	M24	2.92
DIN69871 50 SRKIN 20X 80B (2)	50	20.00	33.0	42.00	80.00	60.9	57.00	41.0	52.0	M16	8.00	M24	3.00
DIN69871 50 SRKIN 25X100 (2)	50	25.00	44.0	53.00	100.00	80.9	57.00	47.0	58.0	M16	8.00	M24	3.50
DIN69871 50 SRKIN 25X100B (2)	50	25.00	44.0	53.00	100.00	80.9	57.00	47.0	58.0	M16	8.00	M24	4.20
DIN69871 50 SRKIN 32X100 (2)	50	32.00	44.0	53.00	100.00	80.9	57.00	47.0	58.0	M18	8.00	M24	3.36

• Can be used for carbide and HSS tools. • Use only inductive heating device for SRKIN holders. • B is the designation for coolant through flange.

(1) Balanced to G2.5/25.000 RPM (2) Balanced to G2.5/20.000 RPM (3) Hex key size for the rear stopper screw


B172-174


B149-152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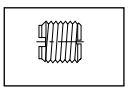
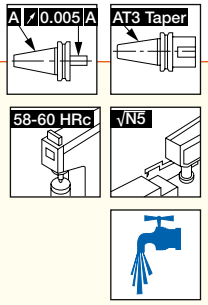
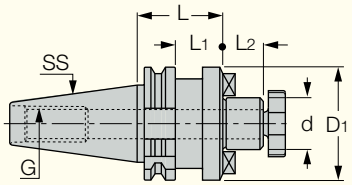

B178

DIN69871

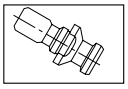
DIN69871-SEM

ISO 3937 Shell Mill Holders with DIN 69871 Form AD Taper Shanks





Designation	SS	d	D_1	L	L_2	L_1	G	Kg
DIN69871 30 SEM16X 35	30	16.00	38.0	35.00	17.00	15.9	M12	0.52
DIN69871 30 SEM22X 50	30	22.00	47.0	50.00	19.00	30.9	M12	0.80
DIN69871 30 SEM27X 50	30	27.00	58.0	50.00	21.00	30.9	M12	0.92
DIN69871 40 SEM16X35	40	16.00	38.0	35.00	17.00	15.9	M16	0.92
DIN69871 40 SEM22X 35	40	22.00	47.0	35.00	19.00	15.9	M16	1.02
DIN69871 40 SEM27X 60	40	27.00	58.0	60.00	21.00	40.9	M16	1.60
DIN69871 40 SEM32X 60	40	32.00	66.0	60.00	24.00	40.9	M16	1.78
DIN69871 40 SEM40X 60	40	40.00	82.0	60.00	27.00	40.9	M16	2.16
DIN69871 50 SEM16X 35	50	16.00	38.0	35.00	17.00	15.9	M24	2.79
DIN69871 50 SEM22X 35	50	22.00	47.0	35.00	19.00	15.9	M24	2.88
DIN69871 50 SEM22X50X200	50	22.00	50.0	200.00	19.00	180.9	M24	5.44
DIN69871 50 SEM27X 35	50	27.00	58.0	35.00	21.00	15.9	M24	2.94
DIN69871 50 SEM32X 35	50	32.00	66.0	35.00	24.00	15.9	M24	3.00
DIN69871 50 SEM32X78X370	50	32.00	78.0	370.00	24.00	350.9	M24	15.78
DIN69871 50 SEM40X 50	50	40.00	82.0	50.00	27.00	30.9	M24	3.81
DIN69871 50 SEM50X 60	50	50.00	95.0	60.00	30.00	40.9	M24	4.85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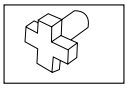
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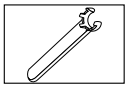
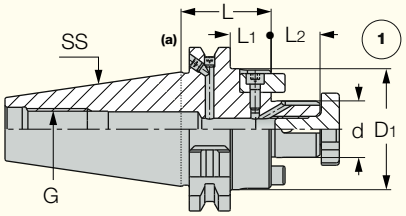
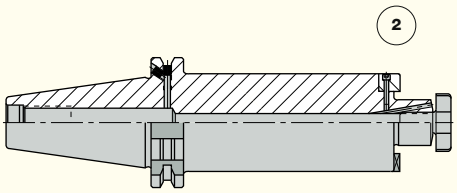

B179

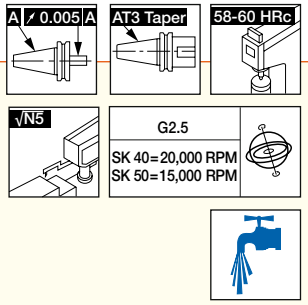
DIN69871

DIN69871-SEM-C

ISO 3937 Shell Mill Holders with Coolant Holes and DIN 69871 Form ADB Tapered Shanks



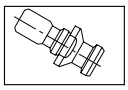




Designation	SS	d	D_1	L	L_2	L_1	G	Kg	Fig
DIN69871 40 SEM16X 35 C	40	16.00	38.0	35.00	17.00	15.9	M16	0.94	1
DIN69871 40 SEM16X100 C	40	16.00	38.0	100.00	17.00	80.9	M16	1.48	1
DIN69871 40 SEM22X 35 C	40	22.00	47.0	35.00	19.00	15.9	M16	1.02	1
DIN69871 40 SEM22X100 C	40	22.00	47.0	100.00	19.00	80.9	M16	0.94	1
DIN69871 40 SEM27X 60 C	40	27.00	58.0	60.00	21.00	40.9	M16	1.20	1
DIN69871 40 SEM27X100 C	40	27.00	58.0	100.00	21.00	80.9	M16	2.32	1
DIN69871 40 SEM32X 60 C	40	32.00	66.0	60.00	24.00	40.9	M16	1.69	1
DIN69871 50 SEM16X 35 C	50	16.00	38.0	35.00	17.00	15.9	M24	2.68	1
DIN69871 50 SEM16X100 C	50	16.00	38.0	100.00	17.00	80.9	M24	3.24	1
DIN69871 50 SEM22X 35 C	50	22.00	47.0	35.00	19.00	15.9	M24	2.77	1
DIN69871 50 SEM22X100 C	50	22.00	47.0	100.00	19.00	80.9	M24	3.59	1
DIN69871 50 SEM22X48X200C (1)	50	22.00	48.0	200.00	19.00	181.0	M24	5.00	2
DIN69871 50 SEM22X61X300C (1)	50	22.00	61.0	300.00	19.00	281.0	M24	8.75	2
DIN69871 50 SEM27X 35 C	50	27.00	58.0	35.00	21.00	15.9	M24	2.88	1
DIN69871 50 SEM27X100 C	50	27.00	58.0	100.00	21.00	80.9	M24	4.14	1
DIN69871 50 SEM27X61X300C (1)	50	27.00	61.0	300.00	21.00	281.0	M24	8.70	2
DIN69871 50 SEM32X 35 C	50	32.00	66.0	35.00	24.00	15.9	M24	3.00	1
DIN69871 50 SEM32X100 C	50	32.00	66.0	100.00	24.00	80.9	M24	4.64	1
DIN69871 50 SEM32X78X370C (1)	50	32.00	78.0	370.00	24.00	351.0	M24	15.34	2

• (a) If the B type option is required, the plug screw must be removed from the flange cooling hole (use a 2 mm hex key). • Balanced to G2.5/SK40=20,000 RPM, SK50=15,000 RPM

(1) Symmetrical design. However, the family's balance values are not guaranteed for this tool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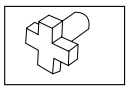
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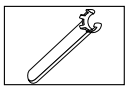
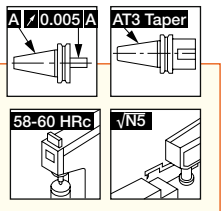
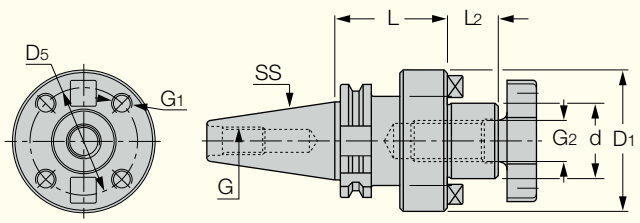

B179

DIN69871-FM

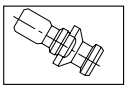
DIN 6357 Face Mill Holders with DIN 69871 Form A/AD Taper Shanks





Designation	SS	d	D_1	D_5	L	L_2	G_1	G_2	G	Kg
DIN69871 40 FM 40 (1)	40	40.00	88.0	66.70	60.00	27.00	M12	M20	M16	2.25
DIN69871 50 FM 40 (1)	50	40.00	88.0	66.70	70.00	27.00	M12	M20	M24	4.87
DIN69871 50 FM 60 (2)	50	60.00	128.0	101.60	70.00	40.00	M16	-	M24	7.32

(1) Form AD (2) Form A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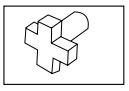
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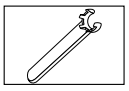
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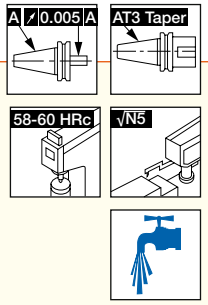
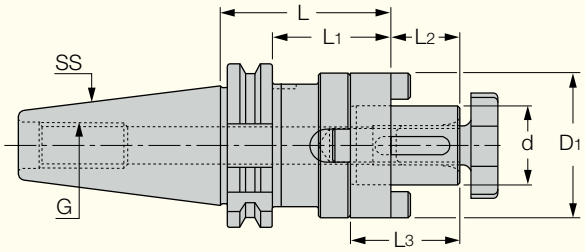
DIN69871

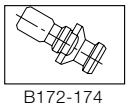
DIN69871-SEMC

DIN 6358 COMBI Shell Mill Holders with DIN 69871 Form AD Taper Shanks





Designation	SS	d	L	L_2	L_1	L_3	D_1	G	Kg
DIN69871 30 SEMC 16X 50	30	16.00	50.00	17.00	30.9	27.00	32.0	M12	0.53
DIN69871 30 SEMC 22X 50	30	22.00	50.00	19.00	30.9	31.00	40.0	M12	0.61
DIN69871 30 SEMC 27X 55	30	27.00	55.00	21.00	35.9	33.00	48.0	M12	0.77
DIN69871 30 SEMC 32X 60	30	32.00	60.00	24.00	40.9	38.00	58.0	M12	0.77
DIN69871 40 SEMC 16X 55	40	16.00	55.00	17.00	35.9	27.00	32.0	M16	1.01
DIN69871 40 SEMC 16X100	40	16.00	100.00	17.00	80.9	27.00	32.0	M16	1.30
DIN69871 40 SEMC 22X 55	40	22.00	55.00	19.00	35.9	31.00	40.0	M16	1.10
DIN69871 40 SEMC 22X100	40	22.00	100.00	19.00	80.9	31.00	40.0	M16	1.78
DIN69871 40 SEMC 27X 55	40	27.00	55.00	21.00	35.9	33.00	48.0	M16	1.25
DIN69871 40 SEMC 27X100	40	27.00	100.00	21.00	80.9	33.00	48.0	M16	1.89
DIN69871 40 SEMC 32X 60	40	32.00	60.00	24.00	45.9	38.00	58.0	M16	1.41
DIN69871 40 SEMC 32X100	40	32.00	100.00	24.00	80.9	38.00	58.0	M16	2.24
DIN69871 40 SEMC 40X 60	40	40.00	60.00	27.00	40.9	41.00	70.0	M16	1.63
DIN69871 50 SEMC 16X 55	50	16.00	55.00	17.00	35.9	27.00	32.0	M24	2.80
DIN69871 50 SEMC 16X100	50	16.00	100.00	17.00	80.9	27.00	32.0	M24	3.54
DIN69871 50 SEMC 22X 55	50	22.00	55.00	19.00	35.9	31.00	40.0	M24	2.82
DIN69871 50 SEMC 22X100	50	22.00	100.00	19.00	80.9	31.00	40.0	M24	3.60
DIN69871 50 SEMC 27X 55	50	27.00	55.00	21.00	35.9	33.00	48.0	M24	3.06
DIN69871 50 SEMC 27X100	50	27.00	100.00	21.00	80.9	33.00	48.0	M24	3.96
DIN69871 50 SEMC 32X 55	50	32.00	55.00	24.00	35.9	38.00	58.0	M24	3.23
DIN69871 50 SEMC 32X100	50	32.00	100.00	24.00	80.9	38.00	58.0	M24	4.32
DIN69871 50 SEMC 40X 55	50	40.00	55.00	27.00	35.9	41.00	70.0	M24	3.43
DIN69871 50 SEMC 40X100	50	40.00	100.00	27.00	80.9	41.00	70.0	M24	4.80
DIN69871 50 SEMC 50X 70	50	50.00	70.00	30.00	50.9	46.00	90.0	M24	4.58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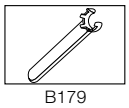
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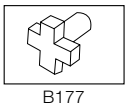
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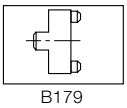
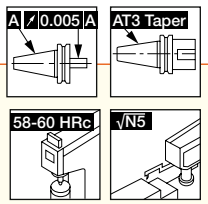
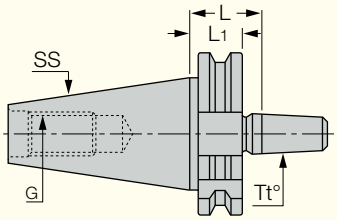

B179

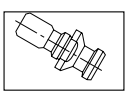
DIN69871-DC-B (Form A)

DIN 238 Drill Chuck Arbors with DIN 69871 Form A Taper Shanks





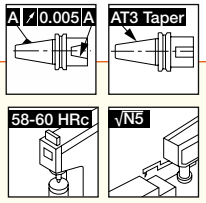
Designation	SS	T_t°	L	L_1	G	Kg
DIN69871 30 DC B12X26	30	B12	26.00	19.1	M12	0.41
DIN69871 30 DC B16X26	30	B16	26.00	19.1	M12	0.42
DIN69871 40 DC B12X26	40	B12	26.00	19.1	M16	0.84
DIN69871 40 DC B16X26	40	B16	26.00	19.1	M16	0.87
DIN69871 40 DC B18X26	40	B18	26.00	19.1	M16	0.90
DIN69871 50 DC B12X26	50	B12	26.00	19.1	M24	2.68
DIN69871 50 DC B16X26	50	B16	26.00	19.1	M24	2.67
DIN69871 50 DC B18X26	50	B18	26.00	19.1	M24	2.72

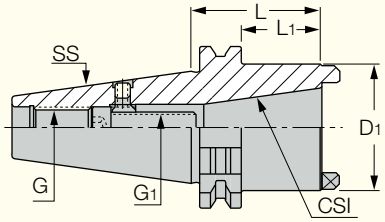

B172-174

DIN69871

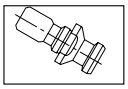
DIN69871-AD

DIN 2080, DIN 69871/A and BT MAS-403 Adapters
with DIN 69871 Form A Taper Shanks





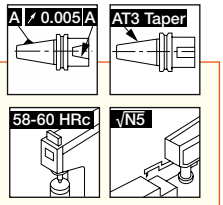
Designation	SS	CSI	L	L_1	D_1	G_1	G	Kg
DIN69871 40 AD DIN2080 30	40	DIN2080 30	50.00	30.9	50.0	M12	M16	1.07
DIN69871 50 AD BT/SK 40	50	BT/SK 40	70.00	50.9	66.0	M16	M24	3.40

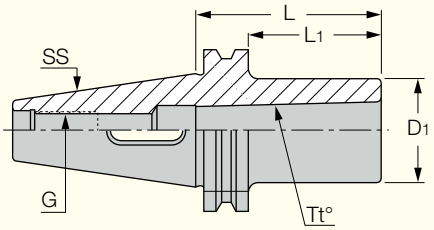


B172-174

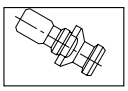
DIN69871-MT

DIN 6383 Morse Taper Adapters with DIN 228-2 Form D Tang
and DIN 69871 Form A Taper Shanks





Designation	SS	Tt°	L	L_1	D_1	G	Kg
DIN69871 30 MT1X 50	30	MT1	50.00	30.9	25.0	M12	0.47
DIN69871 30 MT2X 60	30	MT2	60.00	40.9	32.0	M12	0.56
DIN69871 30 MT3X 75	30	MT3	75.00	55.9	40.0	M12	0.52
DIN69871 40 MT1X 50	40	MT1	50.00	30.9	25.0	M16	0.88
DIN69871 40 MT2X 50	40	MT2	50.00	30.9	32.0	M16	0.90
DIN69871 40 MT3X 70	40	MT3	70.00	50.9	40.0	M16	1.04
DIN69871 40 MT4X 95	40	MT4	95.00	75.9	48.0	M16	1.30
DIN69871 50 MT1X 45	50	MT1	45.00	25.9	25.0	M24	2.65
DIN69871 50 MT2X 60	50	MT2	60.00	40.9	32.0	M24	2.72
DIN69871 50 MT3X 65	50	MT3	65.00	45.9	40.0	M24	2.79
DIN69871 50 MT4X 95	50	MT4	95.00	75.9	48.0	M24	3.04
DIN69871 50 MT5X105	50	MT5	105.00	85.9	63.0	M24	3.20

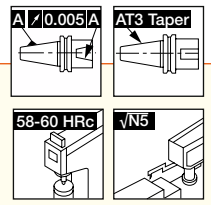


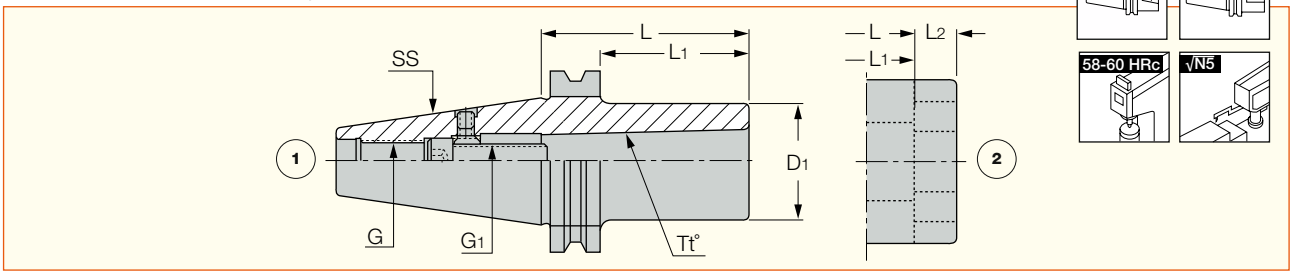
B172-174

DIN69871

DIN69871-MT-DRW

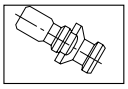
DIN 6364 Morse Taper Adapters with DIN 228-2 Form B Draw Bar
and DIN 69871 Form A Taper Shanks





Designation	SS	T_t°	L	L_1	L_2	D_1	G_1	G	Fig	Kg
DIN69871 40 MT1 DRW	40	MT1	50.00	30.9	-	25.0	M6	M16	1	0.90
DIN69871 40 MT2 DRW	40	MT2	50.00	30.9	-	32.0	M10	M16	1	0.92
DIN69871 40 MT3 DRW	40	MT3	70.00	50.9	-	40.0	M12	M16	1	1.05
DIN69871 40 MT4 DRW (1)	40	MT4	95.00	75.9	15.00	63.0	M16	M16	2	2.10
DIN69871 50 MT1 DRW	50	MT1	45.00	25.9	-	25.0	M6	M24	1	2.67
DIN69871 50 MT2 DRW	50	MT2	60.00	40.9	-	32.0	M10	M24	1	2.73
DIN69871 50 MT3 DRW	50	MT3	65.00	45.9	-	40.0	M12	M24	1	2.83
DIN69871 50 MT4 DRW (1)	50	MT4	70.00	50.9	15.00	63.0	M16	M24	2	3.57
DIN69871 50 MT5 DRW (1)	50	MT5	100.00	80.9	18.00	78.0	M20	M24	2	4.49

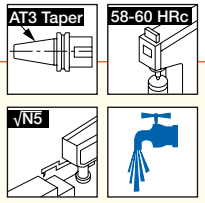
(1) DIN 2201

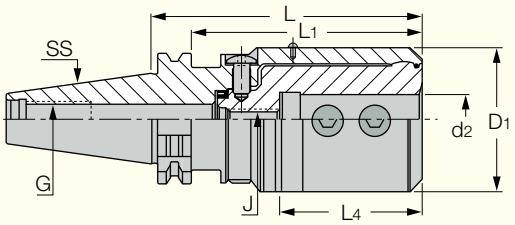


B172-174

FITBORE DIN69871-EM

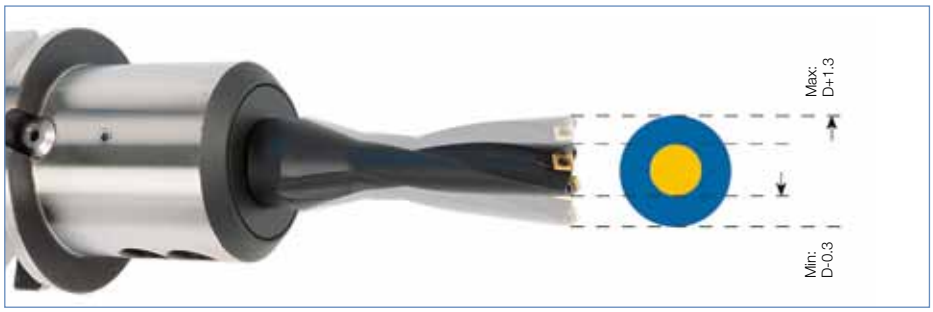
Adjustable Drilling Diameter Holders with DIN69871 Form AD/B Tapered Shanks

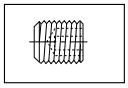


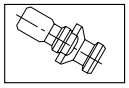


Designation	SS	d_2	D_1	L	L_1	L_4	J	G	Kg
FITBORE DIN69871 40 EM16	40	16.00	72.0	135.60	116.5	71.0	M10	M16	3.83
FITBORE DIN69871 40 EM16B	40	16.00	72.0	135.60	116.5	71.0	M10	M16	3.89
FITBORE DIN69871 40 EM20	40	20.00	72.0	135.60	116.5	71.0	M10	M16	3.80
FITBORE DIN69871 40 EM25	40	25.00	72.0	135.60	116.5	71.0	M10	M16	3.76
FITBORE DIN69871 40 EM25B	40	25.00	72.0	135.60	116.5	71.0	M10	M16	3.77
FITBORE DIN69871 40 EM32	40	32.00	72.0	135.60	116.5	71.0	M10	M16	3.63
FITBORE DIN69871 40 EM32B	40	32.00	72.0	135.60	116.5	71.0	M10	M16	3.61
FITBORE DIN69871 40 EM40	40	40.00	72.0	135.60	116.5	71.0	M10	M16	3.38
FITBORE DIN69871 50 EM16	50	16.00	72.0	115.60	96.5	71.0	M10	M24	6.00
FITBORE DIN69871 50 EM16B	50	16.00	72.0	115.60	96.5	71.0	M10	M24	0.02
FITBORE DIN69871 50 EM20	50	20.00	72.0	115.60	96.5	71.0	M10	M24	5.42
FITBORE DIN69871 50 EM20B	50	20.00	72.0	115.60	96.5	71.0	M10	M24	0.02
FITBORE DIN69871 50 EM25	50	25.00	72.0	115.60	96.5	71.0	M10	M24	5.88
FITBORE DIN69871 50 EM25B	50	25.00	72.0	115.60	96.5	71.0	M10	M24	5.32
FITBORE DIN69871 50 EM32	50	32.00	72.0	115.60	96.5	71.0	M10	M24	4.87
FITBORE DIN69871 50 EM32B	50	32.00	72.0	115.60	96.5	71.0	M10	M24	4.87
FITBORE DIN69871 50 EM40	50	40.00	72.0	115.60	96.5	71.0	M10	M24	4.63
FITBORE DIN69871 50 EM40B	50	40.00	72.0	115.60	96.5	71.0	M10	M24	4.64

- B is the designation for coolant through flange



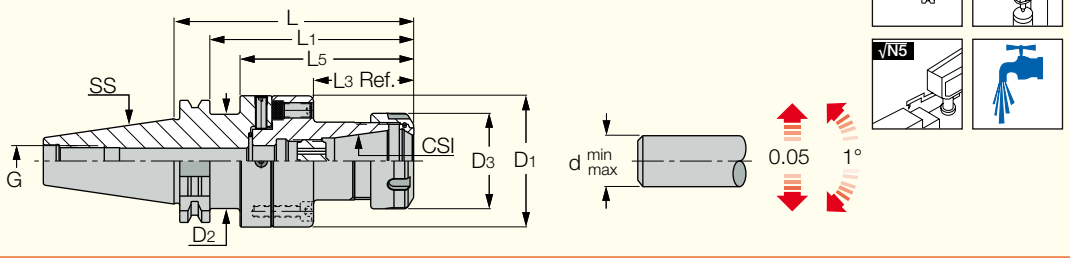

B178


B172-174


A13

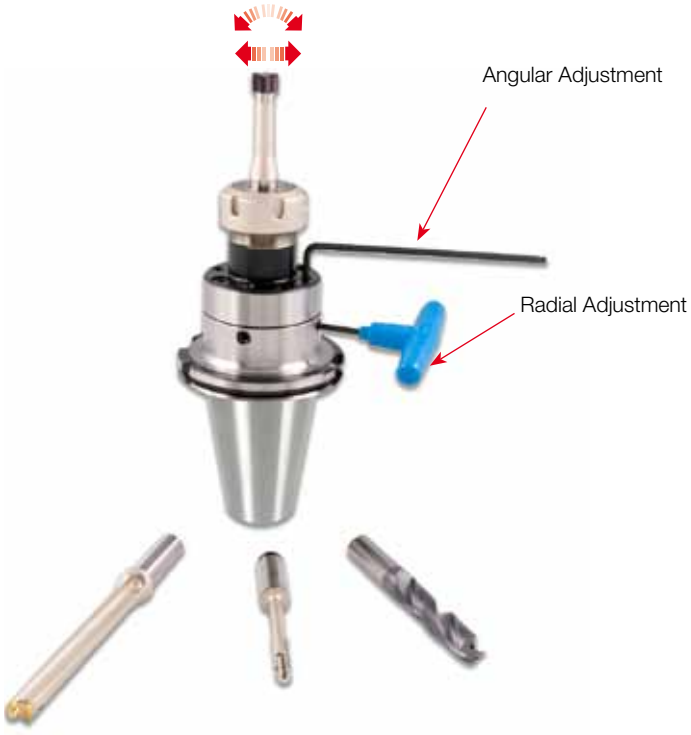
ADJ DIN69871-ER

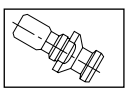
Center Alignment DIN 6499 ER Collet Chucks with
DIN 69871 Form AD/B Taper Shanks

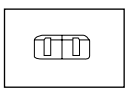


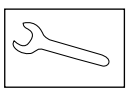
Designation	SS	CSI	d min	d max	L	L3	L1	L5	D3	D1	D2	G	Kg
ADJ DIN69871 40 D70 ER32	40	ER32	2.0	20.0	124.50	52.50	105.4	89.50	50.00	70.0	46.00	M16	2.36
ADJ DIN69871 50 D70 ER32	50	ER32	2.0	20.0	124.50	52.50	105.4	89.50	50.00	70.0	46.00	M24	4.47

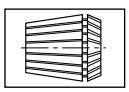
• Radial adjustment 0.1 mm. Angular adjustment 1°.

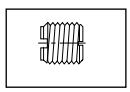



B172-174


B175


B176


B145-148

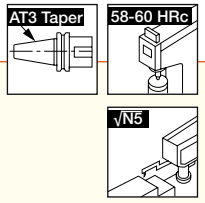

B177

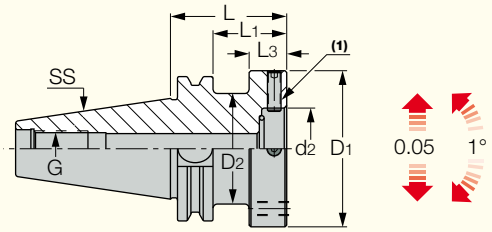

A14
B142-144

DIN69871

ADJ DIN69871

FINEFIT Center Alignment Shank and Base with a DIN 69871 Form AD Taper Shank
(For specially tailored toolholders)





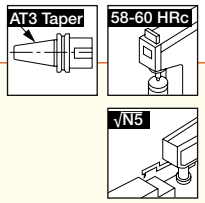
Designation	SS	d_2	L	L_1	L_3	D_1	D_2	G	Kg
ADJ DIN69871 40 D70	40	35.00	50.00	30.9	15.00	70.0	46.00	M16	1.28
ADJ DIN69871 50 D70	50	35.00	50.00	30.9	-	70.0	-	M24	3.32

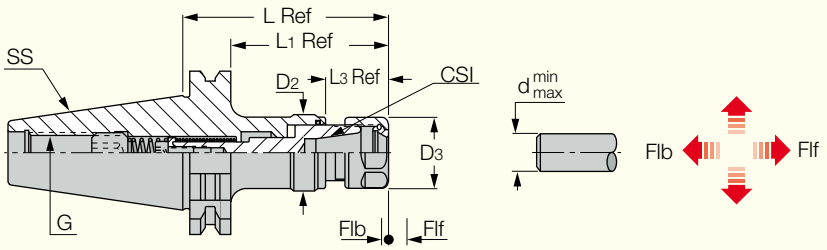
• (1) Use 4 mm hex key for screw adjustment.

DIN69871 • GTI

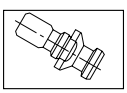
GTI DIN69871-ER (tapping)

DIN 6499 ER Tapping Attachments with DIN 69871 Form A Tapered Shanks





Designation	SS	CSI	Tap min	Tap max	d min	d max	L	L_1	L_3	D_3	D_2	Flf	Flb	G	Kg
GTI DIN69871 40 ER16	40	ER16	M3	M10	0.5	10.0	81.20	62.1	24.60	28.00	29.50	8.0	3.0	M16	0.24
GTI DIN69871 40 ER32	40	ER32	M6	M20	2.0	20.0	112.60	93.5	33.00	50.00	56.50	9.0	4.0	M16	2.28
GTI DIN69871 40 ER40	40	ER40	M6	M28	3.0	26.0	130.60	111.5	51.00	63.00	56.50	9.0	4.0	M16	2.90
GTI DIN69871 50 ER16	50	ER16	M3	M10	0.5	10.0	106.80	87.7	24.60	28.00	29.50	8.0	3.0	M24	2.95
GTI DIN69871 50 ER32	50	ER32	M6	M20	2.0	20.0	115.30	96.2	33.00	50.00	56.50	9.0	4.0	M24	3.90
GTI DIN69871 50 ER40	50	ER40	M6	M28	3.0	26.0	133.30	114.2	51.00	63.00	56.50	9.0	4.0	M24	4.20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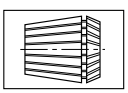
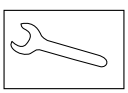

B145-148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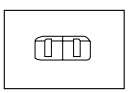
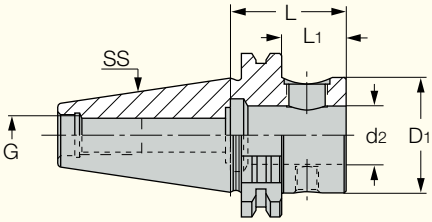

B175

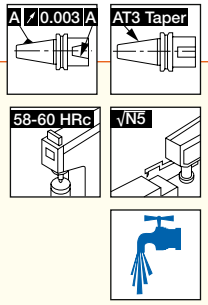

B136
B142-144

DIN69871 • CLICKFIT

DIN69871-CF

DIN69871 Form AD Tapered Shanks to CLICKFIT Adapters

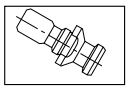


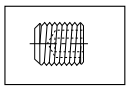


Designation	SS	d_2	L	L_1	D_1	G	Kg
DIN69871 40 CF4-S	40	25.00	44.10	25.0	44.5	M16	0.93
DIN69871 40 CF4-L	40	25.00	100.00	80.9	44.5	M16	1.54
DIN69871 50 CF4-S	50	25.00	44.10	25.0	44.5	M24	2.67
DIN69871 50 CF4-S B (1)	50	25.00	44.10	25.0	44.5	M24	2.73
DIN69871 50 CF4-L	50	25.00	100.00	80.9	44.5	M24	3.54
DIN69871 50 CF4-L B (1)	50	25.00	100.00	80.9	44.5	M24	3.53

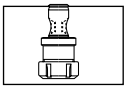
• Tightening torque: 6 Kgxm

(1) B for coolant through flange.


B172-174


B178

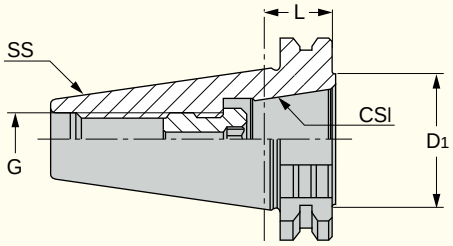

A5

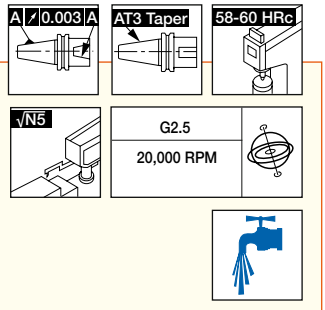

B117, B121, B122

DIN69871 • CLICKIN

DIN69871-ER-CLICKIN

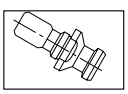
DIN69871 Form AD Tapered Shanks to CLICKIN Quick Change Connection Adapters





Designation	SS	CSI	L	D_1	G	Kg
DIN69871 40 ER32 CLICK-IN	40	32 SRF	20.10	41.0	M16	0.67
DIN69871 50 ER32 CLICK-IN	50	32 SRF	20.10	41.0	M24	2.49

• Tightening torque: 24 Kgxm • Balanced to G2.5/20,000 RPM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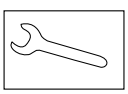
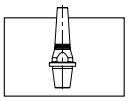
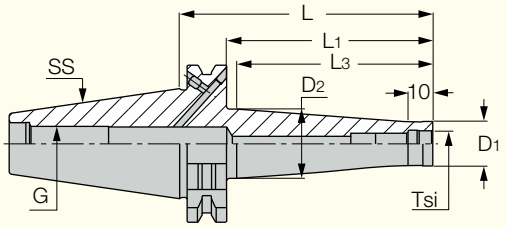

B176

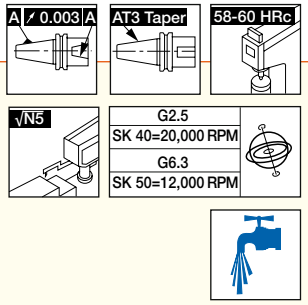

B158-160


B158-160

DIN69871-ODP

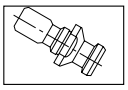
FLEXFIT Threaded Connection Shanks with Integral DIN69871 Form ADB Taper Adaptation





Designation	SS	Tsi	D_1	D_2	L	L_1	L_3	G	Kg
DIN69871 40 ODP 6X58 (1)	40	M06	9.8	13.00	58.00	38.9	32.00	M16	0.82
DIN69871 40 ODP 6X98 (1)	40	M06	9.8	23.00	98.00	78.9	74.00	M16	0.91
DIN69871 40 ODP 8X58 (1)	40	M08	13.1	15.00	58.00	38.9	32.00	M16	0.82
DIN69871 40 ODP 8X98 (1)	40	M08	13.1	23.00	98.00	78.9	74.00	M16	0.92
DIN69871 40 ODP10X58 (1)	40	M10	18.0	20.00	58.00	38.9	32.00	M16	0.86
DIN69871 40 ODP10X98 (1)	40	M10	18.0	28.00	98.00	78.9	74.00	M16	1.01
DIN69871 40 ODP12X58 (1)	40	M12	21.0	24.00	58.00	38.9	34.00	M16	0.88
DIN69871 40 ODP12X98 (1)	40	M12	21.0	31.00	98.00	78.9	75.00	M16	1.07
DIN69871 40 ODP16X58 (1)	40	M16	29.0	28.60	58.00	38.9	33.00	M16	0.91
DIN69871 40 ODP16X98 (1)	40	M16	29.0	34.00	98.00	78.9	75.00	M16	1.16
DIN69871 50 ODP12X 78 (2)	50	M12	23.0	30.00	78.00	58.9	50.00	M24	2.74
DIN69871 50 ODP12X128 (2)	50	M12	23.0	40.00	128.00	108.9	100.00	M24	3.14
DIN69871 50 ODP12X178 (2)	50	M12	23.0	40.00	178.00	158.9	150.00	M24	4.60
DIN69871 50 ODP12X228 (2)	50	M12	23.0	46.00	228.00	208.9	200.00	M24	4.21
DIN69871 50 ODP16X 78 (2)	50	M16	29.0	34.00	78.00	58.9	50.00	M24	2.96
DIN69871 50 ODP16X128 (2)	50	M16	29.0	40.00	128.00	108.9	100.00	M24	3.20
DIN69871 50 ODP16X178 (2)	50	M16	29.0	55.00	178.00	158.9	150.00	M24	4.08
DIN69871 50 ODP16X228 (2)	50	M16	29.0	55.00	228.00	208.9	200.00	M24	4.80

(1) Balanced to G2.5/25,000 RPM. (2) Balanced to G6.3/12,000 RPM.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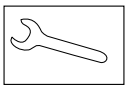
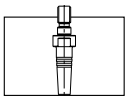

B176


B118-120

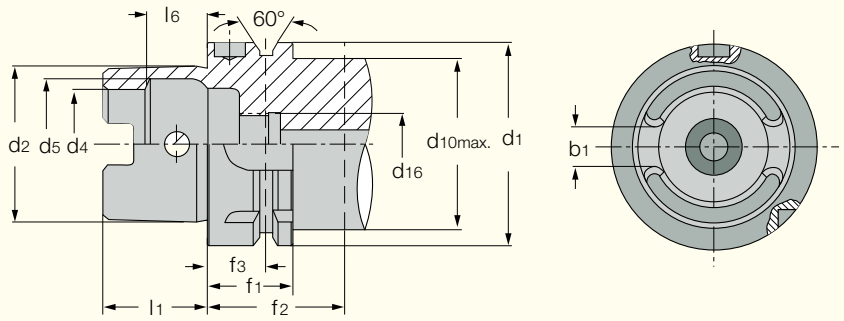

B116

DIN69893 HSK A/E

Member IMC Group

HSK DIN 69893 Standard

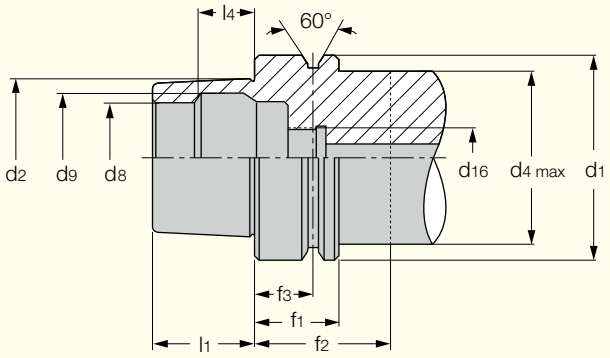
DIN 69893 Form A



HSK-A	d_1 h10	d_2	d_4 H10	d_5 H11	d_{10} max	d_{16}	$l_{1-0.2}$	l_6 Js10	$b_1^{\pm 0.04(1)}$	f_1 -0.1	f_2 min	f_3 ±0.1
40	40	30	21	25.5	34	M12x1	20	11.42	8.05	20	35	16
50	50	38	26	32.0	42	M16x1	25	14.13	10.54	26	42	18
63	63	48	34	40.0	53	M18x1	32	18.13	12.54 (12.42)	26	42	18
80	80	60	42	50.0	67	M20x1.5	40	22.85	16.04	26	42	18
100	100	75	53	63.0	85	M24x1.5	50	28.56	20.02 (19.9)	29	45	20

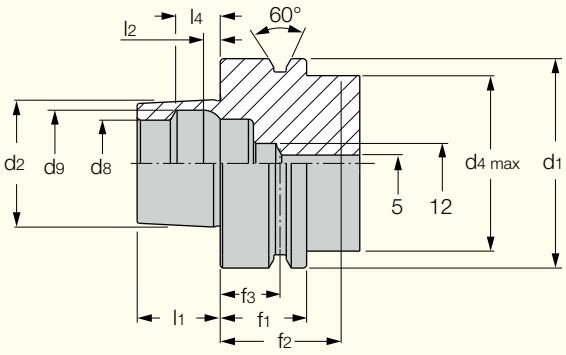
(1) The dimensions in parentheses refer to dimension b1 only for HSK A...WH tools. These tools feature key slot gap and tolerance, used on turning tools for accurate cutting edge height position, (according to Japanese ICTM standard and ISO 12164/3 standard).

DIN 69893 Form E



HSK-E	d_1 h10	d_2	d_4 max	d_8 H10	d_9 H11	d_{16}	$l_{1-0.2}$	L_4 Js10	$f_{1-0.1}$	f_2 min	$f_3^{\pm 0.1}$
32	32	24	26	17	19	M10X1	16	8.92	20	35	16
40	40	30	34	21	25.5	M12X1	20	11.42	20	35	16
50	50	38	42	26	32.0	M16X1	25	14.13	26	42	18
63	63	48	53	34	40.0	M18X1	32	18.13	26	42	18

DIN 69893 Form F (1)

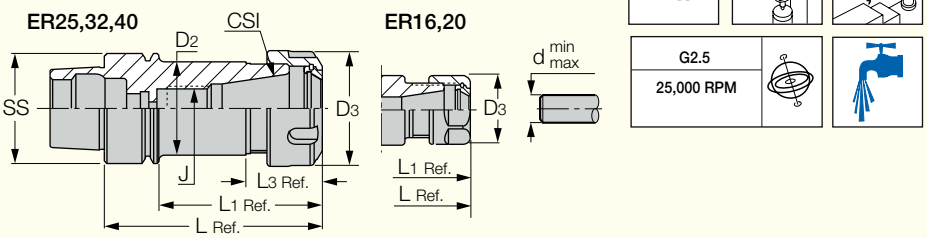


HSK-F	d_1 h10	d_2	d_4 max	d_8 H10	d_9 H11	$l_{1-0.2}$	l_2	l_4 Js10	$f_{1-0.1}$	f_2 min	$f_3^{\pm 0.1}$
63	63	38	53	26	32	25	5.0	14.13	26	42	18

(1) Without crosshole.

HSK E-ER

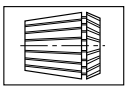
DIN6499 ER Collet Chucks with HSK DIN69893 Form E Taper Shanks

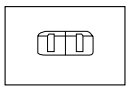


Designation	SS	CSI	d min	d max	D_3	D_2	L	L_1	L_3	J	Kg
HSK E 32 ER16X 60	32	ER16	0.5	10.0	28.00	22.40	60.00	40.0	21.50	-	0.22
HSK E 32 ER20X 60	32	ER20	1.0	13.0	34.00	25.40	60.00	40.0	26.00	-	0.18
HSK E 32 ER25X 65	32	ER25	1.0	16.0	42.00	25.80	65.00	45.0	30.00	-	0.20
HSK E 40 ER16X 60	40	ER16	0.5	10.0	28.00	-	60.00	40.0	-	-	0.28
HSK E 40 ER16X 80	40	ER16	0.5	10.0	28.00	-	80.00	60.0	-	M10	0.36
HSK E 40 ER20X 80	40	ER20	1.0	13.0	34.00	-	80.00	60.0	-	M12	0.44
HSK E 40 ER25X 80	40	ER25	1.0	16.0	42.00	34.00	80.00	60.0	28.00	M18X1.5	0.42
HSK E 40 ER32X 80	40	ER32	2.0	20.0	50.00	40.10	80.00	60.0	31.00	M22X1.5	0.41
HSK E 50 ER16X 80	50	ER16	0.5	10.0	28.00	-	80.00	54.0	-	M10	0.55
HSK E 50 ER16X100	50	ER16	0.5	10.0	28.00	-	100.00	74.0	-	M10	0.64
HSK E 50 ER16X100 M [1]	50	ER16	0.5	10.0	22.00	-	100.00	74.0	-	M10	0.55
HSK E 50 ER20X 80	50	ER20	1.0	13.0	34.00	-	80.00	54.0	-	M12	0.60
HSK E 50 ER25X 80	50	ER25	1.0	16.0	42.00	32.40	80.00	54.0	28.00	M16	0.72
HSK E 50 ER32X 80	50	ER32	2.0	20.0	50.00	40.40	80.00	54.0	31.00	-	0.65
HSK E 50 ER32X100	50	ER32	2.0	20.0	50.00	40.40	100.00	74.0	31.00	M22X1.5	0.78
HSK E 63 ER16X 80	63	ER16	0.5	10.0	28.00	-	80.00	54.0	-	M10	0.92
HSK E 63 ER16X100	63	ER16	0.5	10.0	28.00	-	100.00	74.0	-	M10	1.00
HSK E 63 ER20X 75	63	ER20	1.0	13.0	34.00	-	75.00	49.0	-	-	1.10
HSK E 63 ER32X 80	63	ER32	2.0	20.0	50.00	40.40	80.00	54.0	31.00	-	0.91
HSK E 63 ER32X100	63	ER32	2.0	20.0	50.00	-	100.00	75.0	-	M22X1.5	1.28
HSK E 63 ER40X 80	63	ER40	3.0	26.0	63.00	-	80.00	54.0	34.00	-	0.99

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • Balanced to G2.5/25,000 RPM.

[1] Equipped with nut ER 16 MINI.


B145-148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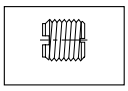
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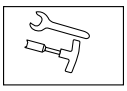
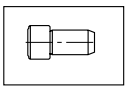
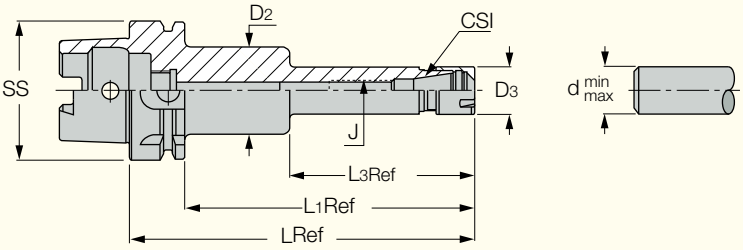

B176, B180

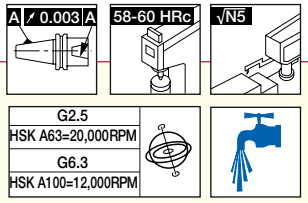

B180


B142-144

HSK A-ER-M (Mini)

DIN6499 ER Mini Collet Chucks with a DIN69893 Form A HSK Taper Shanks

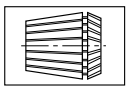




Designation	SS	CSI	d min	d max	D3	D2	L	L1	L3	J	Kg
HSK A 50 ER16X100 M (1)	50	ER16	0.5	10.0	22.00	-	100.00	74.0	-	M10	0.60
HSK A 50 ER16X120 M (1)	50	ER16	0.5	10.0	22.00	-	120.00	94.0	-	M10	0.60
HSK A 50 ER20X100 M (1)	50	ER20	1.0	13.0	28.00	-	100.00	74.0	-	M12	0.61
HSK A 50 ER20X120 M (1)	50	ER20	1.0	13.0	28.00	-	120.00	94.0	-	M12	0.69
HSK A 63 ER16X100 M (1)	63	ER16	0.5	10.0	22.00	-	100.00	74.0	-	M10	0.80
HSK A 63 ER16X120 M (1)	63	ER16	0.5	10.0	22.00	40.00	120.00	94.0	78.00	M10	0.94
HSK A 63 ER16X160 M (1)	63	ER16	0.5	10.0	22.00	40.00	160.00	134.0	85.00	M10	1.26
HSK A 63 ER20X100 M (1)	63	ER20	1.0	13.0	28.00	-	100.00	74.0	-	M12	0.85
HSK A 63 ER20X120 M (1)	63	ER20	1.0	13.0	28.00	-	120.00	94.0	-	M12	0.92
HSK A 63 ER20X160 M (1)	63	ER20	1.0	13.0	28.00	45.00	160.00	134.0	85.00	M12	1.48
HSK A 100 ER16X100 M (2)	100	ER16	0.5	10.0	22.00	-	100.00	71.0	-	M10	2.16
HSK A 100 ER16X160 M (2)	100	ER16	0.5	10.0	22.00	40.00	160.00	131.0	85.00	M10	2.65
HSK A 100 ER20X100 M (2)	100	ER20	1.0	13.0	28.00	-	100.00	71.0	-	M12	2.22
HSK A 100 ER20X160 M (2)	100	ER20	1.0	13.0	28.00	50.00	160.00	131.0	85.00	M12	2.82

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately).

(1) Balanced to G2.5/20,000 RPM. (2) Balanced to G6.3/12,000 RPM.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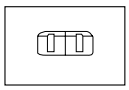
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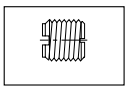
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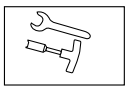
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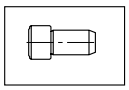
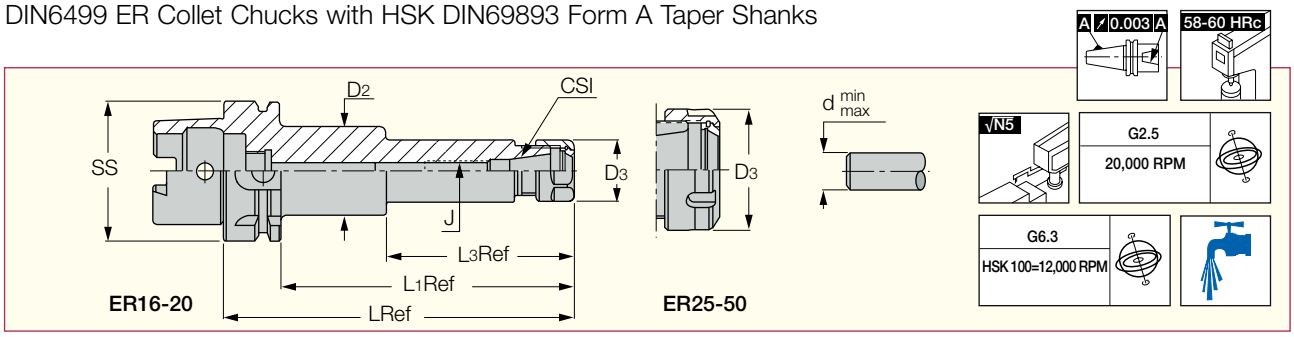

B180


B142-144

HSK A-ER

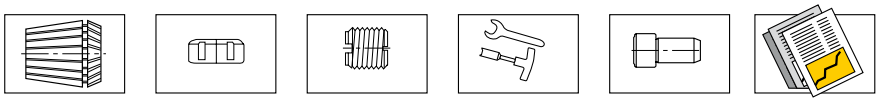
DIN6499 ER Collet Chucks with HSK DIN69893 Form A Taper Shanks



Designation	SS	CSI	d min	d max	D3	D2	L	L1	L3	J	Kg
HSK A 40 ER16X 60 (1)	40	ER16	0.5	10.0	28.00	-	60.00	40.0	-	-	0.27
HSK A 40 ER16X 80 (1)	40	ER16	0.5	10.0	28.00	-	80.00	60.0	-	M10	0.36
HSK A 40 ER16X100 (1)	40	ER16	0.5	10.0	28.00	-	100.00	80.0	-	M10	0.45
HSK A 40 ER25X 60 (1)	40	ER25	1.0	16.0	42.00	32.40	60.00	40.0	28.00	-	0.28
HSK A 40 ER25X 80 (1)	40	ER25	1.0	16.0	42.00	32.40	80.00	60.0	28.00	M18X1.5	0.38
HSK A 40 ER25X100 (1)	40	ER25	1.0	16.0	42.00	32.40	100.00	80.0	28.00	M16	0.49
HSK A 40 ER32X100 (1)	40	ER32	2.0	20.0	50.00	40.40	100.00	80.0	31.00	M22X1.5	0.58
HSK A 50 ER16X100 (1)	50	ER16	0.5	10.0	28.00	-	100.00	74.0	-	M10	0.62
HSK A 50 ER16X120 (1)	50	ER16	0.5	10.0	28.00	-	120.00	94.0	-	M10	0.72
HSK A 50 ER20X100 (1)	50	ER20	1.0	13.0	34.00	-	100.00	74.0	-	M12	0.70
HSK A 50 ER20X120 (1)	50	ER20	1.0	13.0	34.00	-	120.00	94.0	-	M12	0.84
HSK A 50 ER25X 80 (1)	50	ER25	1.0	16.0	42.00	32.40	80.00	54.0	28.00	M8	0.56
HSK A 50 ER25X100 (1)	50	ER25	1.0	16.0	42.00	41.80	100.00	74.0	28.50	M16	0.84
HSK A 50 ER32X100 (1)	50	ER32	2.0	20.0	50.00	40.40	100.00	74.0	31.00	M22X1.5	0.76
HSK A 50 ER32X120 (1)	50	ER32	2.0	20.0	50.00	41.80	120.00	94.0	35.00	M22X1.5	0.96
HSK A 63 ER16X100 (1)	63	ER16	0.5	10.0	28.00	-	100.00	74.0	-	M10	0.82
HSK A 63 ER16X120 (1)	63	ER16	0.5	10.0	28.00	-	120.00	94.0	-	M10	0.96
HSK A 63 ER16X160 (1)	63	ER16	0.5	10.0	28.00	40.00	160.00	134.0	85.60	M10	1.38
HSK A 63 ER20X100 (1)	63	ER20	1.0	13.0	34.00	-	100.00	74.0	-	M12	0.94
HSK A 63 ER20X120 (1)	63	ER20	1.0	13.0	34.00	-	120.00	94.0	-	M12	1.09
HSK A 63 ER20X160 (1)	63	ER20	1.0	13.0	34.00	45.00	160.00	134.0	85.00	M12	1.61
HSK A 63 ER25X 80 (1)	63	ER25	1.0	16.0	42.00	-	80.00	54.0	-	M8	0.92
HSK A 63 ER25X100 (1)	63	ER25	1.0	16.0	42.00	-	100.00	74.0	-	M16	1.10
HSK A 63 ER25X120 (1)	63	ER25	1.0	16.0	42.00	-	120.00	94.0	-	M16	1.29
HSK A 63 ER25X160 (1)	63	ER25	1.0	16.0	42.00	-	160.00	134.0	-	M16	1.68
HSK A 63 ER32X 80 (1)	63	ER32	2.0	20.0	50.00	40.40	80.00	54.0	31.00	M22X1.5	0.84
HSK A 63 ER32X100 (1)	63	ER32	2.0	20.0	50.00	-	100.00	74.0	-	M22X1.5	1.19
HSK A 63 ER32X120 (1)	63	ER32	2.0	20.0	50.00	-	120.00	94.0	-	M22X1.5	1.46
HSK A 63 ER32X160 (1)	63	ER32	2.0	20.0	50.00	-	160.00	134.0	-	M22X1.5	1.99
HSK A 63 ER40X 80 (1)	63	ER40	3.0	26.0	63.00	50.40	80.00	54.0	34.00	-	0.92
HSK A 63 ER40X100 (1)	63	ER40	3.0	26.0	63.00	50.40	100.00	74.0	34.00	M28X1.5	1.16
HSK A 63 ER40X120 (1)	63	ER40	3.0	26.0	63.00	50.40	120.00	94.0	34.00	M28X1.5	1.38
HSK A 100 ER16X100 (2)	100	ER16	0.5	10.0	28.00	-	100.00	71.0	-	M10	2.21
HSK A 100 ER16X160 (2)	100	ER16	0.5	10.0	28.00	40.00	160.00	131.0	85.00	M10	2.71
HSK A 100 ER20X100 (2)	100	ER20	1.0	13.0	34.00	-	100.00	71.0	-	M12	2.31
HSK A 100 ER20X160 (2)	100	ER20	1.0	13.0	34.00	50.00	160.00	131.0	85.00	M12	3.08
HSK A 100 ER25X100 (2)	100	ER25	1.0	16.0	42.00	-	100.00	71.0	-	M16	2.47
HSK A 100 ER25X120 (2)	100	ER25	1.0	16.0	42.00	-	120.00	91.0	-	M16	2.65
HSK A 100 ER25X160 (2)	100	ER25	1.0	16.0	42.00	-	160.00	134.0	-	M16	3.06
HSK A 100 ER32X100 (2)	100	ER32	2.0	20.0	50.00	-	100.00	71.0	-	M22X1.5	2.54
HSK A 100 ER32X120 (2)	100	ER32	2.0	20.0	50.00	-	120.00	91.0	-	M22X1.5	2.80
HSK A 100 ER32X160 (2)	100	ER32	2.0	20.0	50.00	-	160.00	131.0	-	M22X1.5	3.32
HSK A 100 ER40X100 (2)	100	ER40	3.0	26.0	63.00	-	100.00	71.0	-	M28X1.5	2.80
HSK A 100 ER40X120 (2)	100	ER40	3.0	26.0	63.00	-	120.00	91.0	-	M28X1.5	3.17
HSK A 100 ER40X160 (2)	100	ER40	3.0	26.0	63.00	-	160.00	131.0	-	M28X1.5	4.08
HSK A 100 ER50X100 (2)	100	ER50	10.0	34.0	78.00	-	100.00	71.0	-	M22X1.5	2.88

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately).

(1) Balanced to G2.5/20,000 RPM. (2) Balanced to G6.3/12,000 RPM.

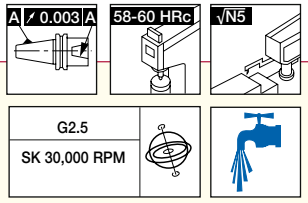


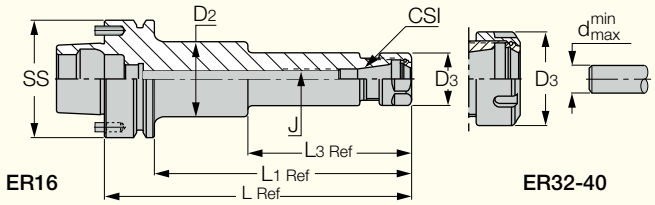
B145-148 | B175 | B177 | B176, B180 | B180 | B142-144

HSK

HSK FM-ER

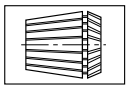
DIN6499 ER Collet Chucks with HSK DIN69893 FM Taper Shanks
with Two Drive Pins for Improved Torque Transmission

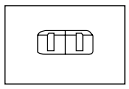




Designation	CSI	L	SS	d min	d max	D3	D2	L1	L3	J	Kg
HSK FM 63 ER16X 80	ER16	80.00	63	0.5	10.0	28.00	-	54.0	-	M10	0.81
HSK FM 63 ER16X 100	ER16	100.00	63	0.5	10.0	28.00	-	74.0	-	M10	0.87
HSK FM 63 ER16X 120	ER16	120.00	63	0.5	10.0	28.00	-	94.0	-	M10	0.98
HSK FM 63 ER16X 160	ER16	160.00	63	0.5	10.0	28.00	40.00	134.0	85.60	M10	1.32
HSK FM 63 ER32X 80	ER32	80.00	63	2.0	20.0	50.00	-	54.0	-	-	0.96
HSK FM 63 ER32X 100	ER32	100.00	63	2.0	20.0	50.00	-	74.0	-	M22X1.5	1.19
HSK FM 63 ER40X 80	ER40	80.00	63	3.0	26.0	63.00	50.00	54.0	32.00	-	0.94
HSK FM 63 ER40X 100	ER40	100.00	63	3.0	26.0	63.00	50.00	74.0	32.00	M22X1.5	1.16

• Used on Makino MAG3, MAG4 and V77 machines • The driving pins can be removed, turning the toolholders into a standard HSK F63 type • A cooling tube must be used with all coolant through HSK spindles (should be ordered separately) • Balanced to G2.5/33,000 RPM


B145-148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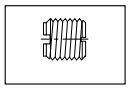
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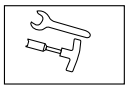
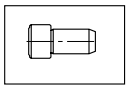

B176, B180

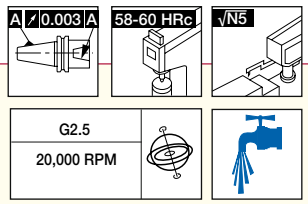

B180

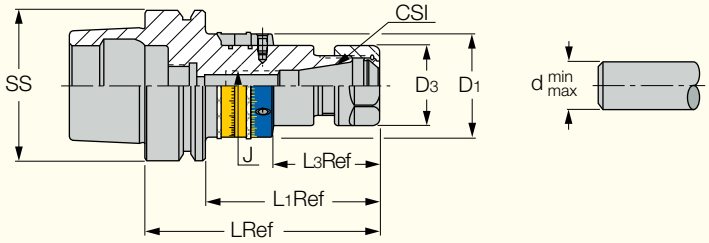

B142-144

HSK • BALANCIN

HSK E-ER-BIN (BALANCIN)

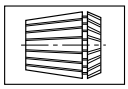
DIN6499 ER Collet Chucks with HSK DIN69893 Form E
Balanceable Taper Shanks





Designation	SS	CSI	d min	d max	D3	D1	L	L1	L3	J	Kg
HSK E 63 ER16X100 BIN	63	ER16	0.5	10.0	28.00	44.0	100.00	74.0	45.00	M10	1.00
HSK E 63 ER20X100 BIN	63	ER20	1.0	13.0	34.00	44.0	100.00	74.0	45.10	M12	1.03
HSK E 63 ER25X100 BIN	63	ER25	1.0	13.0	42.00	44.0	100.00	74.0	45.20	M16	1.01
HSK E 63 ER32X120 BIN	63	ER32	2.0	20.0	50.00	60.0	120.00	94.0	48.00	M22X1.5	1.59

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • Balanced to G2.5/20,000 RPM (preset balanced value) - can be balanced by the balancing rings up to G2.5 at 30,000RPM.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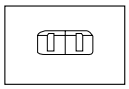
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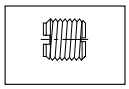
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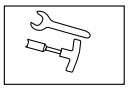
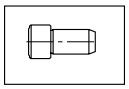

B176, B180

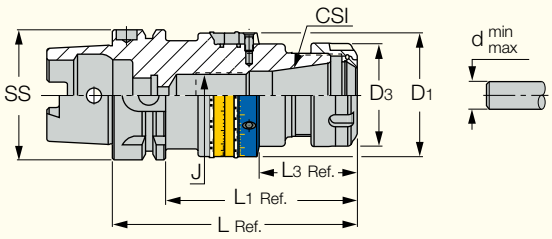

B180

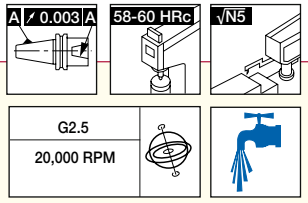

A9-10
B142-144

HSK • BALANCIN

HSK A-ER-BIN (BALANCIN)

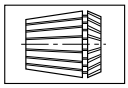
DIN6499 ER Collet Chucks with HSK DIN69893 Form A
Balanceable Taper Shanks





Designation	SS	CSI	d min	d max	D3	D1	L	L1	L3	J	Kg
HSK A 63 ER16X100 BIN	63	ER16	0.5	10.0	28.00	44.0	100.00	74.0	45.00	M10	0.97
HSK A 63 ER16X160 BIN	63	ER16	0.5	10.0	28.00	44.0	160.00	134.0	75.00	M10	1.45
HSK A 63 ER20X100 BIN	63	ER20	1.0	13.0	34.00	44.0	100.00	74.0	45.10	M12	0.99
HSK A 63 ER20X160 BIN	63	ER20	1.0	13.0	34.00	44.0	160.00	134.0	86.10	M12	1.48
HSK A 63 ER25X100 BIN	63	ER25	1.0	16.0	42.00	44.0	100.00	74.0	45.20	M16	0.97
HSK A 63 ER25X160 BIN	63	ER25	1.0	16.0	42.00	44.0	160.00	134.0	86.20	M16	1.42
HSK A 63 ER32X120 BIN	63	ER32	2.0	20.0	50.00	60.0	120.00	94.0	48.00	M22X1.5	1.55
HSK A 63 ER32X160 BIN	63	ER32	2.0	20.0	50.00	60.0	160.00	134.0	85.00	M22X1.5	2.09
HSK A 63 ER40X120 BIN	63	ER40	3.0	26.0	63.00	60.0	120.00	94.0	46.00	M28X1.5	1.49

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • Balanced to G2.5/20,000 RPM, (preset balanced value) can be improved by using a balancing machine.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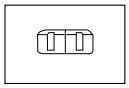
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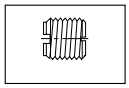
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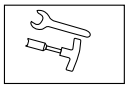
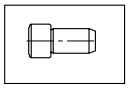

B176, B180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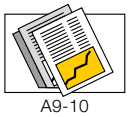
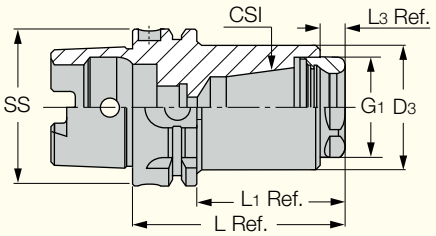

A9-10

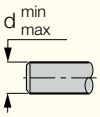
B142-144

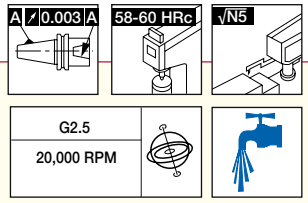
HSK • SHORTIN

HSK A-ER-SHORT

Short, DIN6499 ER Collet Chucks with HSK DIN69893 Form A Taper Shanks

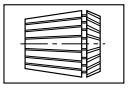






Designation	SS	CSI	d min	d max	D3	L	L1	L3	G1	Kg
HSK A 63 ER32 SHORT	63	ER32	2.0	20.0	50.00	84.50	56.1	9.50	M40X1.5	1.13
HSK A 100 ER32 SHORT	100	ER32	2.0	20.0	50.00	89.50	60.5	9.50	M40X1.5	2.54
HSK A 100 ER40 SHORT	100	ER40	3.0	26.0	70.00	104.50	75.5	9.50	M50X1.5	3.51

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • Balanced to G2.5/20,000 RPM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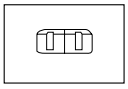
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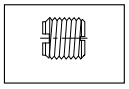
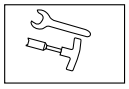
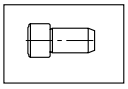
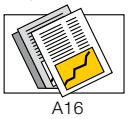

B177


B176, B180


B180

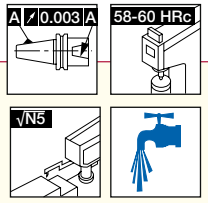

A16

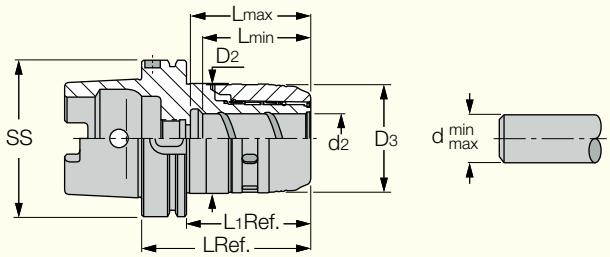
B142-144

HSK • MAXIN

HSK A-MAXIN

Power Chucks with HSK DIN69893 Form A Taper Shanks

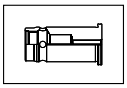




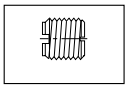
Designation	SS	d_2(1)	d min(2)	D_3	D_2	L	L_1	L min	L max	Kg
HSK A 63 MAXIN 20X 95	63	20.00	6.0	51.00	53.00	95.00	69.0	56.0	56.0	1.02
HSK A 63 MAXIN 32X113	63	32.00	6.0	69.00	70.00	113.00	87.0	70.0	85.0	1.32
HSK A 100 MAXIN 20X115	100	20.00	6.0	51.00	53.00	115.00	86.0	56.0	69.0	2.63
HSK A 100 MAXIN 32X110	100	32.00	6.0	69.00	70.00	110.00	81.0	70.0	78.0	2.70
HSK A 100 MAXIN 32X135	100	32.00	6.0	69.00	70.00	135.00	106.0	71.0	87.0	3.45

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • Use of dmax diameter tools provide best performance as collets reduce gripping force by 25%.

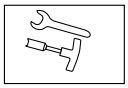
(1) Without a collet (2) By using a reducer collet



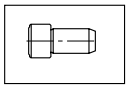
B163-165
B176



B177



B176, B180



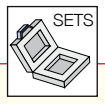
B180

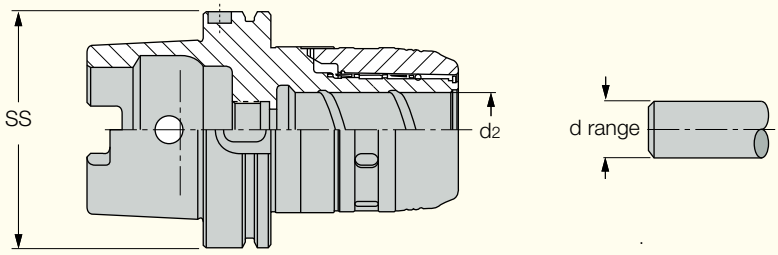
A11-12

HSK • MAXIN KIT

KIT HSK A-MAXIN

Contains a Power Chuck with an HSK Taper Shank and a Set of Collets in Various Bore Sizes





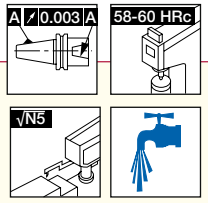
Designation	SS	d_2	Qty	d Range
KIT HSK A 63 MAXIN20X95 6	63	20.00	6	6,8,10,12,14,16
KIT HSK A 63MAXIN32X113 7	63	32.00	7	6,8,10,12,16,20,25
KIT HSK A100MAXIN20X115 6	100	20.00	6	6,8,10,12,14,16
KIT HSK A100MAXIN32X106 7	100	32.00	7	6,8,10,12,16,20,25

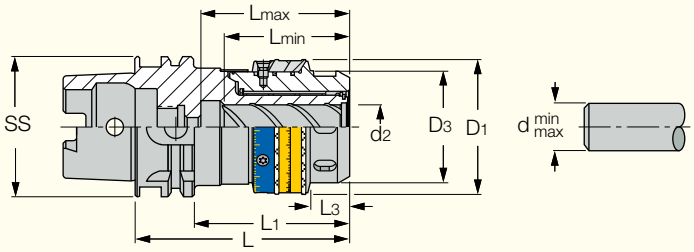
• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • Each kit contains one power chuck, a set of SC-SPR collets, extraction hook and wrench.

HSK • MAXIN (BIN)

HSK A-MAXIN-BIN (BALANCIN)

Balanceable Power Chucks with HSK DIN69893 Form A Taper Shanks

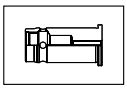




Designation	SS	d_2 (1)	d min (2)	D_3	D_1	L	L_1	L_3	L min	L max	Kg
HSK A 63 MAXIN 20X 95BIN	63	20.00	6.0	51.00	61.0	95.00	69.0	17.50	56.0	66.0	1.00
HSK A 63 MAXIN 32X113BIN	63	32.00	6.0	69.00	80.0	113.00	87.0	24.90	70.0	85.0	1.32
HSK A 100 MAXIN 20X115BIN	100	20.00	6.0	51.00	61.0	115.00	86.0	17.50	56.0	69.0	2.63
HSK A 100 MAXIN 32X110BIN	100	32.00	6.0	69.00	80.0	110.00	81.0	24.90	70.0	78.0	2.75

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • Use of dmax diameter tools provide best performance as collets reduce gripping force by 25% • First clamp the tool inside the chuck and then improve the system's balance by adjusting the balancing rings

(1) Without a collet (2) By using a reducer collet

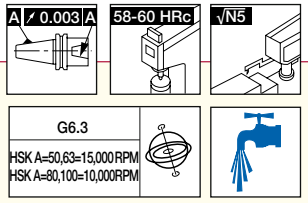


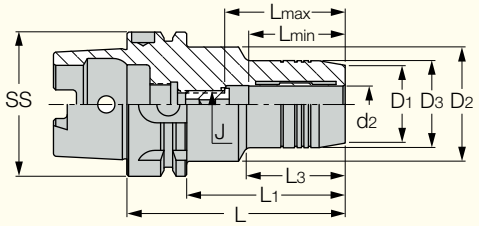
B163-165
B176

A9-12

HSK A-HYDRO

Hydraulic Chucks with HSK DIN69893 Form A Taper Shanks

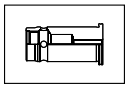




Designation	SS	d_2	D_1	D_3	D_2	L	L_1	L_3	L min	L max	J	Kg
HSK A 50 HYDRO 6X80 (1)	50	6.00	23.0	26.00	42.00	80.00	54.0	35.00	27.0	37.0	M5	0.40
HSK A 50 HYDRO 8X80 (1)	50	8.00	25.0	28.00	42.00	80.00	54.0	36.00	27.0	37.0	M6	0.77
HSK A 50 HYDRO 10X85 (1)	50	10.00	27.0	30.00	42.00	85.00	59.0	41.00	32.0	42.0	M8X1	0.81
HSK A 50 HYDRO 12X90 (1)	50	12.00	29.0	32.00	42.00	90.00	64.0	47.00	37.0	47.0	M10X1	0.00
HSK A 50 HYDRO 14X90 (1)	50	14.00	30.0	34.00	42.00	90.00	64.0	49.00	37.0	47.0	M10X1	0.00
HSK A 50 HYDRO 16X95 (1)	50	16.00	34.0	38.00	42.00	95.00	69.0	52.00	42.0	52.0	M12X1	2.80
HSK A 50 HYDRO 18X95 (1)	50	16.00	36.0	40.00	42.00	95.00	69.0	52.00	42.0	52.0	M12X1	0.00
HSK A 50 HYDRO 20X100 (1)	50	20.00	38.0	42.00	42.00	100.00	74.0	74.00	42.0	52.0	M10X1	1.08
HSK A 63 HYDRO 6X 80 (1)	63	6.00	23.0	26.00	50.00	80.00	54.0	33.00	27.0	37.0	M5	1.09
HSK A 63 HYDRO 8X 80 (1)	63	8.00	25.0	28.00	50.00	80.00	54.0	33.00	27.0	37.0	M6	1.10
HSK A 63 HYDRO 10X 85 (1)	63	10.00	27.0	30.00	50.00	85.00	59.0	39.00	32.0	42.0	M8X1	1.13
HSK A 63 HYDRO 12X 90 (1)	63	12.00	29.0	32.00	50.00	90.00	64.0	44.00	37.0	47.0	M10X1	1.17
HSK A 63 HYDRO 14X 90 (1)	63	14.00	30.0	34.00	50.00	90.00	64.0	46.00	37.0	47.0	M10X1	1.18
HSK A 63 HYDRO 16X 95 (1)	63	16.00	34.0	38.00	50.00	95.00	69.0	52.00	42.0	52.0	M12X1	1.28
HSK A 63 HYDRO 18X 95 (1)	63	18.00	36.0	40.00	50.00	95.00	69.0	52.00	42.0	52.0	M12X1	1.34
HSK A 63 HYDRO 20X100 (1)	63	20.00	38.0	42.00	50.00	100.00	74.0	58.00	42.0	52.0	M16X1	1.39
HSK A 63 HYDRO 25X120 (1)	63	25.00	46.0	50.00	50.00	120.00	94.0	94.00	48.0	58.0	M16X1	1.84
HSK A 63 HYDRO 32X125 (1)	63	32.00	56.0	60.00	50.00	125.00	99.0	83.00	52.0	62.0	M16X1	2.32
HSK A 80 HYDRO 6X85 (2)	80	6.00	23.0	26.00	50.00	85.00	59.0	37.00	27.0	37.0	M5	1.25
HSK A 80 HYDRO 8X85 (2)	80	8.00	25.0	28.00	50.00	85.00	59.0	37.00	27.0	37.0	M6	0.00
HSK A 80 HYDRO 10X90 (2)	80	10.00	27.0	30.00	50.00	90.00	64.0	42.00	32.0	42.0	M8X1	1.20
HSK A 80 HYDRO 12X95 (2)	80	12.00	29.0	32.00	50.00	95.00	69.0	47.00	37.0	47.0	M10X1	0.00
HSK A 80 HYDRO 14X95 (2)	80	14.00	30.0	34.00	50.00	95.00	69.0	47.00	37.0	47.0	M10X1	0.01
HSK A 80 HYDRO 16X100 (2)	80	16.00	34.0	38.00	50.00	100.00	74.0	52.00	42.0	52.0	M12X1	0.01
HSK A 80 HYDRO 18X100 (2)	80	18.00	36.0	40.00	50.00	100.00	74.0	52.00	42.0	52.0	M12X1	0.01
HSK A 80 HYDRO 20X105 (2)	80	20.00	38.0	42.00	50.00	105.00	79.0	52.00	42.0	52.0	M16X1	3.00
HSK A 80 HYDRO 25X115 (2)	80	25.00	46.0	50.00	50.00	115.00	89.0	58.00	48.0	58.0	M16X1	0.01
HSK A 80 HYDRO 32X120 (2)	80	32.00	56.0	60.00	50.00	120.00	94.0	62.00	52.0	62.0	M16X1	0.00
HSK A 100 HYDRO 6X 85 (2)	100	6.00	23.0	26.00	63.00	85.00	56.0	29.00	27.0	37.0	M5	2.58
HSK A 100 HYDRO 8X 85 (2)	100	8.00	25.0	28.00	63.00	85.00	56.0	29.00	27.0	37.0	M6	2.54
HSK A 100 HYDRO 10X 90 (2)	100	10.00	27.0	30.00	63.00	90.00	61.0	35.00	32.0	42.0	M8X1	2.55
HSK A 100 HYDRO 12X 95 (2)	100	12.00	29.0	32.00	63.00	95.00	66.0	40.00	37.0	47.0	M10X1	2.60
HSK A 100 HYDRO 14X 95 (2)	100	14.00	30.0	34.00	63.00	95.00	66.0	42.00	37.0	47.0	M10X1	2.80
HSK A 100 HYDRO 16X100 (2)	100	16.00	34.0	38.00	63.00	100.00	71.0	47.00	42.0	52.0	M12X1	2.73
HSK A 100 HYDRO 18X100 (2)	100	18.00	36.0	40.00	63.00	100.00	71.0	48.00	42.0	52.0	M12X1	2.75
HSK A 100 HYDRO 20X105 (2)	100	20.00	38.0	42.00	63.00	105.00	76.0	54.00	42.0	52.0	M16X1	2.15
HSK A 100 HYDRO 25X115 (2)	100	25.00	46.0	50.00	63.00	115.00	86.0	51.00	48.0	58.0	M16X1	1.12
HSK A 100 HYDRO 32X120 (2)	100	32.00	56.0	60.00	63.00	120.00	91.0	59.00	52.0	62.0	M16X1	3.75

• Chucking forces will be reduced by 25% if reduction sleeves are used. • A cooling tube must be used with coolant through HSK spindles (ordered separately). • Reduction sleeves are available for 12, 20, 25 and 32 mm bore diameters (must be ordered separately). • Clamping wrench (wrench HYDRO HEX 4) and test bar should be ordered separately.

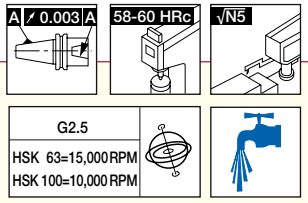
(1) Balanced to G6.3/15,000 RPM. (2) Balanced to G6.3/10,000 RPM.

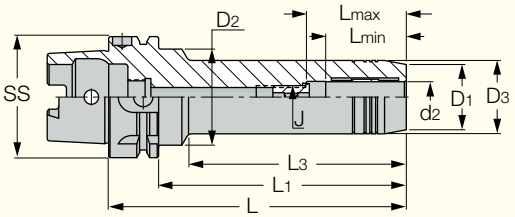

B169-170


A19-20

HSK A-HYDRO (long)

Long Projection Hydraulic Chucks with HSK DIN69893 Form A Taper Shanks

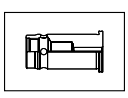




Designation	SS	d_2	D_1	D_3	D_2	L	L_1	L_3	L min	L max	J	Kg
HSK A 63 HYDRO 6X150 (1)	63	6.00	23.0	26.00	50.00	150.00	124.0	103.00	27.0	37.0	M5	0.01
HSK A 63 HYDRO 6X200 (1)	63	6.00	23.0	26.00	50.00	200.00	174.0	153.00	27.0	37.0	M5	0.12
HSK A 63 HYDRO 8X150 (1)	63	8.00	25.0	28.00	50.00	150.00	124.0	104.00	27.0	37.0	M6	0.12
HSK A 63 HYDRO 8X200 (1)	63	8.00	25.0	28.00	50.00	200.00	174.0	154.00	27.0	37.0	M6	1.69
HSK A 63 HYDRO 10X150 (1)	63	10.00	27.0	30.00	50.00	150.00	124.0	104.00	32.0	42.0	M8X1	0.01
HSK A 63 HYDRO 10X200 (1)	63	10.00	27.0	30.00	50.00	200.00	174.0	154.00	32.0	42.0	M8X1	1.75
HSK A 63 HYDRO 12X150 (1)	63	12.00	29.0	32.00	50.00	150.00	124.0	105.00	37.0	47.0	M10X1	1.50
HSK A 63 HYDRO 12X200 (1)	63	12.00	29.0	32.00	50.00	200.00	174.0	155.00	37.0	47.0	M10X1	1.90
HSK A 63 HYDRO 14X150 (1)	63	14.00	30.0	34.00	50.00	150.00	124.0	105.00	37.0	47.0	M10X1	0.32
HSK A 63 HYDRO 14X200 (1)	63	14.00	30.0	34.00	50.00	200.00	174.0	155.00	37.0	47.0	M10X1	0.00
HSK A 63 HYDRO 16X150 (1)	63	16.00	34.0	38.00	50.00	150.00	124.0	106.50	42.0	52.0	M12X1	1.73
HSK A 63 HYDRO 16X200 (1)	63	16.00	34.0	38.00	50.00	200.00	174.0	156.50	42.0	52.0	M12X1	0.00
HSK A 63 HYDRO 18X150 (1)	63	18.00	36.0	40.00	50.00	150.00	124.0	107.00	42.0	52.0	M12X1	1.32
HSK A 63 HYDRO 18X200 (1)	63	18.00	36.0	40.00	50.00	200.00	174.0	157.00	42.0	52.0	M12X1	0.00
HSK A 63 HYDRO 20X150 (1)	63	20.00	38.0	42.00	50.00	150.00	124.0	108.00	42.0	52.0	M12X1	1.88
HSK A 63 HYDRO 20X200 (1)	63	20.00	38.0	42.00	50.00	200.00	174.0	158.00	42.0	52.0	M12X1	2.45
HSK A 63 HYDRO 25X150 (1)	63	25.00	46.0	50.00	50.00	150.00	124.0	-	48.0	58.0	M16X1	2.56
HSK A 63 HYDRO 25X200 (1)	63	25.00	46.0	50.00	50.00	200.00	174.0	-	48.0	58.0	M16X1	0.50
HSK A 100 HYDRO 6X150 (2)	100	6.00	23.0	26.00	50.00	150.00	124.0	94.00	27.0	37.0	M6	2.75
HSK A 100 HYDRO 6X200 (2)	100	6.00	23.0	26.00	50.00	200.00	174.0	144.00	27.0	37.0	M6	3.19
HSK A 100 HYDRO 8X150 (2)	100	8.00	25.0	28.00	50.00	150.00	124.0	94.50	27.0	37.0	M6	3.04
HSK A 100 HYDRO 8X200 (2)	100	8.00	25.0	28.00	50.00	200.00	174.0	144.50	27.0	37.0	M6	0.00
HSK A 100 HYDRO 10X150 (2)	100	10.00	27.0	30.00	50.00	150.00	124.0	95.00	32.0	42.0	M8X1	3.10
HSK A 100 HYDRO 10X200 (2)	100	10.00	27.0	30.00	50.00	200.00	174.0	145.00	32.0	42.0	M8X1	2.59
HSK A 100 HYDRO 12X150 (2)	100	12.00	29.0	32.00	50.00	150.00	124.0	95.50	37.0	47.0	M10X1	3.14
HSK A 100 HYDRO 12X200 (2)	100	12.00	29.0	32.00	50.00	200.00	174.0	145.50	37.0	47.0	M10X1	3.42
HSK A 100 HYDRO 14X150 (2)	100	14.00	30.0	34.00	50.00	150.00	124.0	97.00	37.0	47.0	M10X1	0.00
HSK A 100 HYDRO 14X200 (2)	100	14.00	30.0	34.00	50.00	200.00	174.0	147.00	37.0	47.0	M10X1	5.20
HSK A 100 HYDRO 16X150 (2)	100	16.00	38.0	38.00	50.00	150.00	124.0	97.50	42.0	52.0	M12X1	5.20
HSK A 100 HYDRO 16X200 (2)	100	16.00	38.0	38.00	50.00	200.00	174.0	147.50	42.0	52.0	M12X1	3.73
HSK A 100 HYDRO 18X150 (2)	100	18.00	36.0	40.00	50.00	150.00	124.0	98.00	42.0	52.0	M12X1	3.20
HSK A 100 HYDRO 18X200 (2)	100	18.00	36.0	40.00	50.00	200.00	174.0	148.00	42.0	52.0	M12X1	5.22
HSK A 100 HYDRO 20X150 (2)	100	20.00	38.0	42.00	50.00	150.00	124.0	99.00	42.0	52.0	M12X1	2.63
HSK A 100 HYDRO 20X200 (2)	100	20.00	38.0	42.00	50.00	200.00	174.0	149.00	42.0	52.0	M12X1	3.94
HSK A 100 HYDRO 25X150 (2)	100	25.00	46.0	50.00	50.00	150.00	124.0	-	48.0	58.0	M16X1	3.65
HSK A 100 HYDRO 25X200 (2)	100	25.00	46.0	50.00	50.00	200.00	174.0	-	48.0	58.0	M16X1	4.67
HSK A 100 HYDRO 32X150 (2)	100	32.00	56.0	60.00	60.00	150.00	124.0	-	52.0	62.0	M16X1	2.50
HSK A 100 HYDRO 32X200 (2)	100	32.00	56.0	60.00	60.00	200.00	174.0	-	52.0	62.0	M16X1	5.38

• Chucking forces will be reduced by 25% if reduction sleeves are used. • A cooling tube must be used with coolant through HSK spindles (ordered separately).
• Reduction sleeves are available for 12, 20, 25 and 32 mm bore diameters (must be ordered separately). • Clamping wrench (wrench HYDRO HEX4) and test bar should be ordered separately.

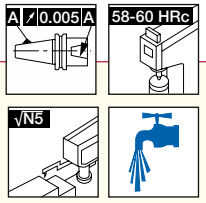
(1) Balanced to G6.3/15,000 RPM. (2) Balanced to G6.3/10,000 RPM.

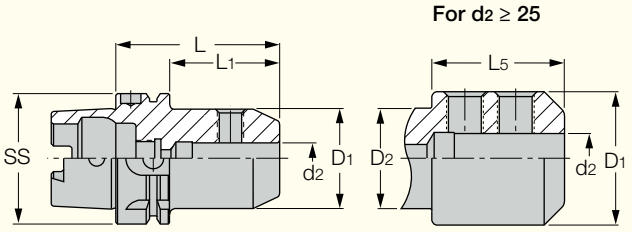

B169-170


A19-20

HSK A-EM (DIN 1835 Form B)

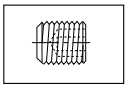
DIN6359 Side Clamp Holders for DIN 1835 Form B Weldon Shanks
with HSK DIN69893 Form A Taper Shanks

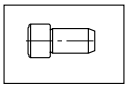


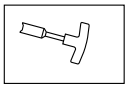


Designation	SS	d_2	D_1	D_2	L	L_1	L_5	Kg
HSK A 50 EM 6X 65	50	6.00	25.0	-	65.00	39.0	-	0.52
HSK A 50 EM 8X 65	50	8.00	28.0	-	65.00	39.0	-	0.56
HSK A 50 EM 10X 65	50	10.00	35.0	-	65.00	39.0	-	0.63
HSK A 50 EM 12X 80	50	12.00	42.0	-	80.00	54.0	-	0.88
HSK A 50 EM 14X 80	50	14.00	44.0	-	80.00	54.0	-	0.89
HSK A 50 EM 16X 80	50	16.00	48.0	-	80.00	54.0	-	0.96
HSK A 50 EM 18X 80	50	18.00	50.0	-	80.00	54.0	-	0.97
HSK A 50 EM 20X 80	50	20.00	52.0	-	80.00	54.0	-	0.99
HSK A 63 EM 6X 65	63	6.00	25.0	-	65.00	39.0	-	0.77
HSK A 63 EM 8X 65	63	8.00	28.0	-	65.00	39.0	-	0.81
HSK A 63 EM 10X 65	63	10.00	35.0	-	65.00	39.0	-	0.88
HSK A 63 EM 12X 80	63	12.00	42.0	-	80.00	54.0	-	1.13
HSK A 63 EM 14X 80	63	14.00	44.0	-	80.00	54.0	-	1.16
HSK A 63 EM 16X 80	63	16.00	48.0	-	80.00	54.0	-	1.28
HSK A 63 EM 18X 80	63	18.00	50.0	-	80.00	54.0	-	1.29
HSK A 63 EM 20X 80	63	20.00	52.0	-	80.00	54.0	-	1.33
HSK A 63 EM 25X110	63	25.00	65.0	52.00	110.00	84.0	65.50	2.23
HSK A 63 EM 32X110	63	32.00	72.0	52.00	110.00	84.0	65.50	2.42
HSK A 100 EM 6X 80	100	6.00	25.0	-	80.00	51.0	-	2.20
HSK A 100 EM 8X 80	100	8.00	28.0	-	80.00	51.0	-	2.24
HSK A 100 EM 10X 80	100	10.00	35.0	-	80.00	51.0	-	2.36
HSK A 100 EM 12X 80	100	12.00	42.0	-	80.00	51.0	-	2.45
HSK A 100 EM 14X 80	100	14.00	44.0	-	80.00	51.0	-	2.50
HSK A 100 EM 16X100	100	16.00	48.0	-	100.00	71.0	-	2.86
HSK A 100 EM 18X100	100	18.00	50.0	-	100.00	71.0	-	2.93
HSK A 100 EM 20X100	100	20.00	52.0	-	100.00	71.0	-	2.96
HSK A 100 EM 25X100	100	25.00	65.0	-	100.00	71.0	-	3.45
HSK A 100 EM 32X100	100	32.00	72.0	-	100.00	71.0	-	3.67
HSK A 100 EM 40X110	100	40.00	85.0	-	110.00	81.0	-	4.50

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately).

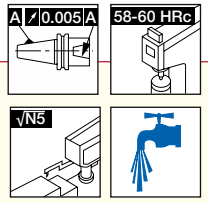

B178

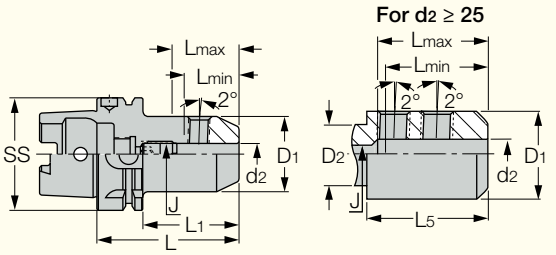

B180


B180

HSK A-EM (DIN 1835 Form E)

DIN6359 Side Clamp Holders for DIN 1835 Form E Whistle Notch Shanks with HSK DIN69893 Form A Taper Shanks

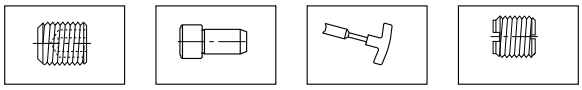




Designation	SS	d_2	D_1	D_2	L	L_1	L_5	L min	L max	J(1)	Key(2)	Kg
HSK A 50 EM 6X 80 E	50	6.00	25.0	-	80.00	54.0	-	30.0	38.0	M5	2.50	0.57
HSK A 50 EM 8X 80 E	50	8.00	28.0	-	80.00	54.0	-	35.0	40.0	M6	3.00	0.63
HSK A 50 EM 10X 80 E	50	10.00	35.0	-	80.00	54.0	-	39.0	44.0	M8	4.00	0.74
HSK A 50 EM 12X 90 E	50	12.00	42.0	-	90.00	64.0	-	44.0	49.0	M10	5.00	0.93
HSK A 50 EM 14X 90 E	50	14.00	44.0	-	90.00	64.0	-	44.0	49.0	M10	5.00	1.01
HSK A 50 EM 16X 90 E	50	16.00	48.0	-	90.00	64.0	-	47.0	52.0	M12	6.00	1.08
HSK A 50 EM 18X 90 E	50	18.00	50.0	-	90.00	64.0	-	47.0	52.0	M12	6.00	1.26
HSK A 50 EM 20X100 E	50	20.00	52.0	-	100.00	74.0	-	49.0	54.0	M16	8.00	1.30
HSK A 63 EM 6X 80 E	63	6.00	25.0	-	80.00	54.0	-	32.0	40.0	M5	2.50	0.83
HSK A 63 EM 8X 80 E	63	8.00	28.0	-	80.00	54.0	-	35.0	40.0	M6	3.00	0.86
HSK A 63 EM 10X 80 E	63	10.00	35.0	-	80.00	54.0	-	39.0	44.0	M8	4.00	1.00
HSK A 63 EM 12X 90 E	63	12.00	42.0	-	90.00	64.0	-	44.0	49.0	M10	5.00	1.23
HSK A 63 EM 14X 90 E	63	14.00	44.0	-	90.00	64.0	-	44.0	49.0	M10	5.00	1.29
HSK A 63 EM 16X100 E	63	16.00	48.0	-	100.00	74.0	-	47.0	52.0	M12	6.00	1.51
HSK A 63 EM 18X100 E	63	18.00	50.0	-	100.00	74.0	-	47.0	55.0	M12	6.00	1.60
HSK A 63 EM 20X100 E	63	20.00	52.0	-	100.00	74.0	-	49.0	54.0	M16	8.00	1.65
HSK A 63 EM 25X110 E	63	25.00	65.0	52.00	110.00	84.0	65.50	54.0	61.0	M16	8.00	2.23
HSK A 63 EM 32X110 E	63	32.00	72.0	52.00	110.00	84.0	65.50	58.0	63.0	M20X1.5	10.00	2.43
HSK A 100 EM 6X 90 E	100	6.00	25.0	-	90.00	61.0	-	35.0	40.0	M5	2.50	2.27
HSK A 100 EM 8X 90 E	100	8.00	28.0	-	90.00	61.0	-	35.0	40.0	M6	3.00	2.29
HSK A 100 EM 10X 90 E	100	10.00	35.0	-	90.00	61.0	-	39.0	44.0	M8	4.00	2.44
HSK A 100 EM 12X100 E	100	12.00	42.0	-	100.00	71.0	-	44.0	54.0	M10	5.00	2.74
HSK A 100 EM 14X100 E	100	14.00	44.0	-	100.00	71.0	-	44.0	54.0	M10	5.00	2.71
HSK A 100 EM 16X100 E	100	16.00	48.0	-	100.00	71.0	-	47.0	52.0	M12	6.00	2.88
HSK A 100 EM 18X100 E	100	18.00	50.0	-	100.00	71.0	-	47.0	52.0	M12	6.00	2.93
HSK A 100 EM 20X110 E	100	20.00	52.0	-	110.00	81.0	-	49.0	54.0	M16	8.00	3.10
HSK A 100 EM 25X120 E	100	25.00	65.0	-	120.00	91.0	-	54.0	61.0	M20X1.5	10.00	3.91
HSK A 100 EM 32X120 E	100	32.00	72.0	-	120.00	91.0	-	58.0	63.0	M20X1.5	10.00	4.32

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately).

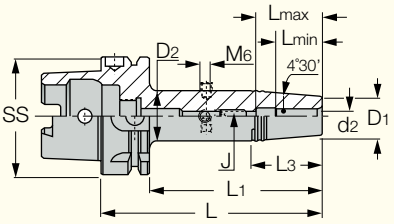
(1) Adjustment screw has an internal coolant hole. (2) Adjustment screw hexagon key size

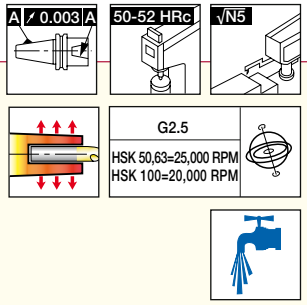


B178 B180 B180 B178

HSK A-SRKIN

Thermal Chuck Collets with HSK DIN69893 Form A Taper Shanks,
for Solid Carbide and HSS Tools





Designation	SS	d_2	D_1	D_2	L	L_1	L_3	L min	L max	J	Key(3)	Kg
HSK A 50 SRKIN 6X80 (1)	50	6.00	21.0	27.00	80.00	54.0	38.00	25.0	36.0	M5	2.50	0.57
HSK A 50 SRKIN 8X80 (1)	50	8.00	21.0	27.00	80.00	54.0	38.00	25.0	36.0	M6	3.00	0.57
HSK A 50 SRKIN 10X85 (1)	50	10.00	24.0	32.00	85.00	59.0	51.00	31.0	42.0	M8	4.00	0.64
HSK A 50 SRKIN 12X90 (1)	50	12.00	24.0	32.00	90.00	64.0	51.00	36.0	47.0	M10	5.00	0.65
HSK A 50 SRKIN 14X90 (1)	50	14.00	27.0	34.00	90.00	64.0	45.00	36.0	47.0	M10	5.00	0.70
HSK A 50 SRKIN 16X95 (1)	50	16.00	27.0	34.00	95.00	69.0	45.00	39.0	50.0	M10	5.00	0.71
HSK A 63 SRKIN 6X 80 (1)	63	6.00	21.0	27.00	80.00	54.0	38.00	25.0	36.0	M5	2.50	0.83
HSK A 63 SRKIN 6X120 (1)	63	6.00	21.0	27.00	120.00	94.0	38.00	25.0	36.0	M5	2.50	1.00
HSK A 63 SRKIN 6X160 (1)	63	6.00	21.0	27.00	160.00	134.0	38.00	25.0	36.0	M5	2.50	1.19
HSK A 63 SRKIN 8X 80 (1)	63	8.00	21.0	27.00	80.00	54.0	38.00	25.0	36.0	M6	3.00	0.92
HSK A 63 SRKIN 8X120 (1)	63	8.00	21.0	27.00	120.00	94.0	38.00	25.0	36.0	M6	3.00	0.98
HSK A 63 SRKIN 8X160 (1)	63	8.00	21.0	27.00	160.00	134.0	38.00	25.0	36.0	M6	3.00	1.16
HSK A 63 SRKIN 10X 85 (1)	63	10.00	24.0	32.00	85.00	59.0	51.00	31.0	42.0	M8	4.00	0.89
HSK A 63 SRKIN 10X120 (1)	63	10.00	24.0	32.00	120.00	94.0	51.00	31.0	42.0	M8	4.00	1.11
HSK A 63 SRKIN 10X160 (1)	63	10.00	24.0	32.00	160.00	134.0	51.00	31.0	42.0	M8	4.00	1.36
HSK A 63 SRKIN 12X 90 (1)	63	12.00	24.0	32.00	90.00	64.0	51.00	36.0	42.0	M8	4.00	0.91
HSK A 63 SRKIN 12X120 (1)	63	12.00	24.0	32.00	120.00	94.0	51.00	36.0	47.0	M10	5.00	1.00
HSK A 63 SRKIN 12X160 (1)	63	12.00	24.0	32.00	160.00	134.0	51.00	36.0	47.0	M10	5.00	1.33
HSK A 63 SRKIN 14X 90 (1)	63	14.00	27.0	34.00	90.00	64.0	45.00	36.0	47.0	M10	5.00	0.94
HSK A 63 SRKIN 14X120 (1)	63	14.00	27.0	34.00	120.00	94.0	45.00	36.0	47.0	M10	5.00	1.15
HSK A 63 SRKIN 14X160 (1)	63	14.00	27.0	34.00	160.00	134.0	45.00	36.0	47.0	M10	5.00	1.44
HSK A 63 SRKIN 16X 75 (1)	63	16.00	27.0	34.00	75.00	49.0	-	39.0	50.0	-	-	0.85
HSK A 63 SRKIN 16X 95 (1)	63	16.00	27.0	34.00	95.00	69.0	44.00	39.0	50.0	M12	6.00	0.96
HSK A 63 SRKIN 16X120 (1)	63	16.00	27.0	34.00	120.00	94.0	44.00	39.0	50.0	M12	6.00	1.11
HSK A 63 SRKIN 16X160 (1)	63	16.00	27.0	34.00	160.00	134.0	44.00	39.0	50.0	M12	6.00	1.41
HSK A 63 SRKIN 18X 95 (1)	63	18.00	33.0	42.00	95.00	69.0	57.00	39.0	50.0	M12	6.00	1.14
HSK A 63 SRKIN 18X120 (1)	63	18.00	33.0	42.00	120.00	94.0	57.00	39.0	50.0	M12	6.00	3.14
HSK A 63 SRKIN 18X160 (1)	63	18.00	33.0	42.00	160.00	134.0	57.00	39.0	50.0	M12	6.00	1.82
HSK A 63 SRKIN 20X 75 (1)	63	20.00	33.0	41.00	75.00	49.0	-	41.0	50.0	-	-	0.93
HSK A 63 SRKIN 20X100 (1)	63	20.00	33.0	42.00	100.00	74.0	57.00	41.0	52.0	M16	8.00	1.11
HSK A 63 SRKIN 20X120 (1)	63	20.00	33.0	42.00	120.00	94.0	57.00	41.0	52.0	M16	8.00	1.36
HSK A 63 SRKIN 20X160 (1)	63	20.00	33.0	42.00	160.00	134.0	57.00	41.0	52.0	M16	8.00	1.77
HSK A 63 SRKIN 25X 85 (1)	63	25.00	44.0	53.00	85.00	59.0	-	47.0	58.0	-	-	1.27
HSK A 63 SRKIN 25X115 (1)	63	25.00	44.0	53.00	115.00	89.0	55.00	47.0	58.0	M16	8.00	1.70
HSK A 63 SRKIN 32X 85 (1)	63	32.00	44.0	53.00	85.00	59.0	-	47.0	58.0	-	-	1.11
HSK A 63 SRKIN 32X120 (1)	63	32.00	44.0	53.00	120.00	94.0	55.00	47.0	58.0	M16	8.00	1.68

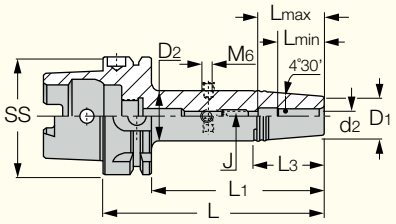
• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • Use only inductive heating device for SRKIN holders.

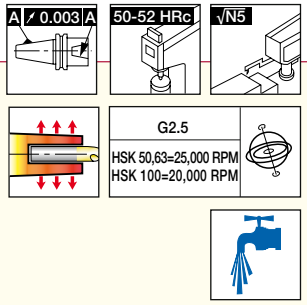
(1) Balanced to G2.5/25,000 RPM. (2) Balanced to G2.5/20,000 RPM. (3) Adjustment screw hexagon key size

B180 B180 B154-155 B149-151 B178

HSK A-SRKIN (continued)

Thermal Chuck Collets with HSK DIN69893 Form A Taper Shanks,
for Solid Carbide and HSS Tools

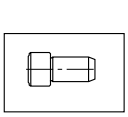




Designation	SS	d_2	D_1	D_2	L	L_1	L_3	L min	L max	J	Key(3)	Kg
HSK A 100 SRKIN 6X 85 (2)	100	6.00	21.0	27.00	85.00	56.0	38.00	25.0	36.0	M5	2.50	2.18
HSK A 100 SRKIN 6X120 (2)	100	6.00	21.0	27.00	120.00	91.0	38.00	25.0	36.0	M5	2.50	2.32
HSK A 100 SRKIN 6X160 (2)	100	6.00	21.0	27.00	160.00	131.0	38.00	25.0	36.0	M6	3.00	2.54
HSK A 100 SRKIN 8X 85 (2)	100	8.00	21.0	27.00	85.00	56.0	38.00	25.0	36.0	M6	3.00	2.18
HSK A 100 SRKIN 8X120 (2)	100	8.00	21.0	27.00	120.00	91.0	38.00	25.0	36.0	M6	3.00	2.36
HSK A 100 SRKIN 8X160 (2)	100	8.00	21.0	27.00	160.00	131.0	38.00	25.0	36.0	M6	3.00	2.55
HSK A 100 SRKIN 10X 90 (2)	100	10.00	24.0	32.00	90.00	61.0	51.00	31.0	42.0	M8	4.00	2.20
HSK A 100 SRKIN 10X120 (2)	100	10.00	24.0	32.00	120.00	91.0	51.00	31.0	42.0	M8	4.00	2.45
HSK A 100 SRKIN 10X160 (2)	100	10.00	24.0	32.00	160.00	131.0	51.00	31.0	42.0	M8	4.00	2.71
HSK A 100 SRKIN 12X 95 (2)	100	12.00	24.0	32.00	95.00	66.0	51.00	36.0	47.0	M10	5.00	2.28
HSK A 100 SRKIN 12X120 (2)	100	12.00	24.0	32.00	120.00	91.0	51.00	36.0	47.0	M10	5.00	2.47
HSK A 100 SRKIN 12X160 (2)	100	12.00	24.0	32.00	160.00	131.0	51.00	36.0	47.0	M10	5.00	2.70
HSK A 100 SRKIN 14X 95 (2)	100	14.00	27.0	34.00	95.00	66.0	45.00	36.0	47.0	M10	5.00	2.27
HSK A 100 SRKIN 14X120 (2)	100	14.00	27.0	34.00	120.00	91.0	45.00	36.0	47.0	M10	5.00	2.51
HSK A 100 SRKIN 14X160 (2)	100	14.00	27.0	34.00	160.00	131.0	45.00	36.0	47.0	M10	5.00	2.79
HSK A 100 SRKIN 16X100 (2)	100	16.00	27.0	34.00	100.00	71.0	45.00	39.0	50.0	M12	6.00	2.35
HSK A 100 SRKIN 16X120 (2)	100	16.00	27.0	34.00	120.00	91.0	45.00	39.0	50.0	M12	6.00	2.50
HSK A 100 SRKIN 16X160 (2)	100	16.00	27.0	34.00	160.00	131.0	45.00	39.0	50.0	M12	6.00	2.74
HSK A 100 SRKIN 18X100 (2)	100	18.00	33.0	42.00	100.00	71.0	57.00	39.0	50.0	M12	6.00	2.50
HSK A 100 SRKIN 18X160 (2)	100	18.00	33.0	42.00	160.00	131.0	57.00	39.0	50.0	M12	6.00	3.14
HSK A 100 SRKIN 20X105 (2)	100	20.00	33.0	42.00	105.00	76.0	57.00	41.0	52.0	M16	8.00	2.50
HSK A 100 SRKIN 20X160 (2)	100	20.00	33.0	42.00	160.00	131.0	57.00	41.0	52.0	M16	8.00	3.01
HSK A 100 SRKIN 25X115 (2)	100	25.00	44.0	53.00	115.00	86.0	57.00	47.0	58.0	M16	8.00	3.04
HSK A 100 SRKIN 32X120 (2)	100	32.00	44.0	53.00	120.00	91.0	57.00	47.0	58.0	M16	8.00	2.99

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • Use only inductive heating device for SRKIN holders.

(1) Balanced to G2.5/25,000 RPM. (2) Balanced to G2.5/20,000 RPM. (3) Adjustment screw hexagon key size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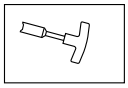
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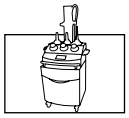
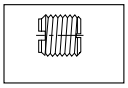
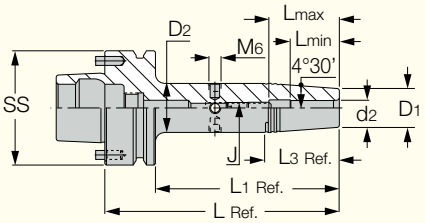

B154-155

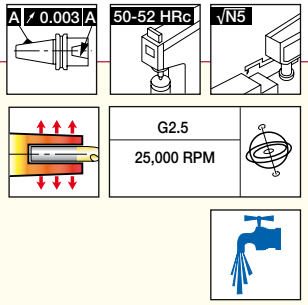

B149-151


B178

HSK FM-SRKIN

Thermal Chuck Collets with High Torque HSK DIN69893 Form FM
Taper Shanks, for Solid Carbide and HSS Tools

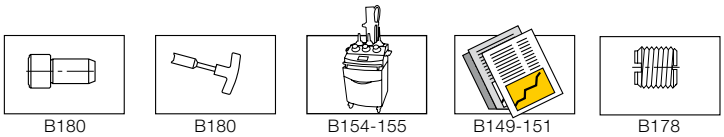




Designation	SS	d_2	D_1	D_2	L	L_1	L_3	L_{min}	L_{max}	J	Key(1)	Kg
HSK FM 63 SRKIN 6X 80	63	6.00	21.0	27.00	80.00	54.0	38.00	25.0	36.0	M5	2.50	0.83
HSK FM 63 SRKIN 8X 80	63	8.00	21.0	27.00	80.00	54.0	38.00	25.0	36.0	M6	3.00	0.88
HSK FM 63 SRKIN 10X 85	63	10.00	24.0	32.00	85.00	59.0	50.50	31.0	42.0	M8	4.00	0.89
HSK FM 63 SRKIN 12X 90	63	12.00	24.0	32.00	90.00	64.0	50.50	36.0	47.0	M10	5.00	0.91
HSK FM 63 SRKIN 14X 90	63	14.00	27.0	34.00	90.00	64.0	44.50	36.0	47.0	M10	5.00	0.96
HSK FM 63 SRKIN 16X 95	63	16.00	27.0	34.00	95.00	69.0	44.50	39.0	50.0	M12	6.00	0.95
HSK FM 63 SRKIN 18X 95	63	18.00	33.0	42.00	95.00	69.0	57.00	39.0	50.0	M12	6.00	1.13
HSK FM 63 SRKIN 20X100	63	20.00	33.0	42.00	100.00	74.0	57.00	41.0	52.0	M16	8.00	1.14
HSK FM 63 SRKIN 25X115	63	25.00	44.0	52.70	115.00	89.0	55.00	47.0	58.0	M16	8.00	1.72
HSK FM 63 SRKIN 32X120	63	32.00	44.0	52.70	120.00	94.0	55.00	47.0	58.0	M16	8.00	1.67

• Used for Makino's machine models MAG3, MAG4, and V77. • A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • Can be used for carbide and HSS tools. • The driving pins which improve torque transmission can be removed, turning the toolholder into a standard HSK F 63 type. • Balanced to G2.5/25,000 RPM.

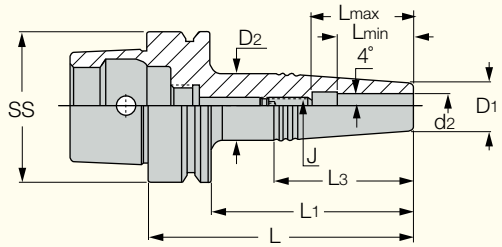
(1) Hex key size for the rear stopper screw

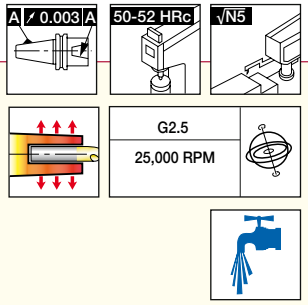


B180 B180 B154-155 B149-151 B178

HSK E-SRK

Thermal Chuck Collets with HSK DIN69893 Form E Taper Shanks, for Solid Carbide Tools Only

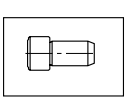




Designation	SS	d_2	D_1	D_2	L	L_1	L_3	L min	L max	J	Key(1)	Kg
HSK E 32 SRK 3X 45	32	3.00	10.0	13.00	65.00	45.0	30.00	10.0	16.0	M4	2.00	0.17
HSK E 32 SRK 4X 45	32	4.00	10.0	15.00	65.00	45.0	35.00	12.0	18.0	M5	2.00	0.17
HSK E 32 SRK 5X 45	32	5.00	10.0	15.00	65.00	45.0	35.00	15.0	25.0	M4	2.00	0.17
HSK E 32 SRK 6X 45	32	6.00	11.0	16.00	65.00	45.0	35.00	18.0	28.0	M4	2.00	0.17
HSK E 32 SRK 8X 45	32	8.00	14.0	20.00	65.00	45.0	42.00	25.0	35.0	M4	2.00	0.19
HSK E 32 SRK 10X 45	32	10.00	16.0	22.00	65.00	45.0	42.00	30.0	40.0	M4	2.00	0.20
HSK E 32 SRK 12X 45	32	12.00	20.0	25.00	65.00	45.0	35.60	32.0	40.0	M4	2.00	0.23
HSK E 40 SRK 3X 45	40	3.00	10.0	13.00	65.00	45.0	30.00	10.0	16.0	M5	2.50	0.24
HSK E 40 SRK 3X 80	40	3.00	10.0	19.00	100.00	80.0	64.00	10.0	16.0	M5	2.50	1.71
HSK E 40 SRK 4X 45	40	4.00	10.0	15.00	65.00	45.0	35.00	12.0	18.0	M5	2.50	0.25
HSK E 40 SRK 4X 80	40	4.00	10.0	19.00	100.00	80.0	64.00	12.0	18.0	M5	2.50	0.31
HSK E 40 SRK 5X 45	40	5.00	10.0	15.00	65.00	45.0	35.00	15.0	25.0	M4	2.00	0.24
HSK E 40 SRK 5X 80	40	5.00	10.0	19.00	100.00	80.0	64.00	15.0	25.0	M4	2.00	0.29
HSK E 40 SRK 6X 45	40	6.00	11.0	16.00	65.00	45.0	35.00	18.0	28.0	M5	2.50	0.24
HSK E 40 SRK 6X 80	40	6.00	11.0	20.00	100.00	80.0	64.00	18.0	28.0	M5	2.50	0.32
HSK E 40 SRK 8X 45	40	8.00	14.0	20.00	65.00	45.0	42.00	25.0	35.0	M5	2.50	0.27
HSK E 40 SRK 8X 80	40	8.00	14.0	23.00	100.00	80.0	64.00	25.0	35.0	M6	3.00	0.37
HSK E 40 SRK 10X 45	40	10.00	16.0	22.00	65.00	45.0	42.00	30.0	40.0	M5	2.50	0.28
HSK E 40 SRK 10X 80	40	10.00	16.0	24.50	100.00	80.0	60.00	30.0	40.0	M8	4.00	0.40
HSK E 40 SRK 12X 45	40	12.00	20.0	26.00	65.00	45.0	42.00	32.0	42.0	M5	2.50	0.32
HSK E 40 SRK 12X 80	40	12.00	20.0	28.00	100.00	80.0	56.00	32.0	42.0	M10	5.00	0.46
HSK E 50 SRK 3X 45	50	3.00	10.0	15.00	71.00	45.0	36.00	10.0	16.0	M5	2.50	0.45
HSK E 50 SRK 3X 80	50	3.00	10.0	19.00	106.00	80.0	64.00	10.0	16.0	M5	2.50	0.56
HSK E 50 SRK 4X 45	50	4.00	10.0	15.00	71.00	45.0	36.00	12.0	18.0	M5	2.50	0.44
HSK E 50 SRK 4X 80	50	4.00	10.0	19.00	106.00	80.0	64.00	12.0	18.0	M5	2.50	0.51
HSK E 50 SRK 5X 45	50	5.00	10.0	15.00	71.00	45.0	36.00	15.0	25.0	M6	3.00	0.45
HSK E 50 SRK 5X 80	50	5.00	10.0	19.00	106.00	80.0	64.00	15.0	25.0	M6	3.00	0.51
HSK E 50 SRK 6X 45	50	6.00	11.0	16.00	71.00	45.0	36.00	18.0	28.0	M5	2.50	0.45
HSK E 50 SRK 6X 80	50	6.00	11.0	20.00	106.00	80.0	64.00	18.0	28.0	M5	2.50	0.57
HSK E 50 SRK 8X 45	50	8.00	14.0	20.00	71.00	45.0	43.00	25.0	35.0	M6	3.00	0.47
HSK E 50 SRK 8X 80	50	8.00	14.0	23.00	106.00	80.0	64.00	25.0	35.0	M6	3.00	0.63
HSK E 50 SRK 10X 45	50	10.00	16.0	22.00	71.00	45.0	42.00	30.0	40.0	M6	3.00	0.48
HSK E 50 SRK 10X 80	50	10.00	16.0	24.50	106.00	80.0	60.00	30.0	40.0	M8	4.00	0.60
HSK E 50 SRK 12X 45	50	12.00	20.0	26.00	76.00	45.0	42.00	32.0	42.0	M6	3.00	0.52
HSK E 50 SRK 12X 80	50	12.00	20.0	28.00	106.00	80.0	57.00	32.0	42.0	M10	5.00	0.66
HSK E 63 SRK 3X 50	63	3.00	10.0	17.00	76.00	50.0	48.00	10.0	16.0	M6	3.00	0.72
HSK E 63 SRK 3X 80	63	3.00	10.0	19.00	106.00	80.0	64.00	10.0	16.0	M6	3.00	0.78
HSK E 63 SRK 4X 50	63	4.00	10.0	17.00	76.00	50.0	48.00	12.0	18.0	M6	3.00	0.71
HSK E 63 SRK 4X 80	63	4.00	10.0	19.00	106.00	80.0	64.00	12.0	18.0	M6	3.00	0.77
HSK E 63 SRK 5X 50	63	5.00	10.0	15.00	71.00	50.0	47.00	15.0	21.0	M6	3.00	0.72
HSK E 63 SRK 5X 80	63	5.00	10.0	19.00	106.00	80.0	64.00	15.0	21.0	M6	3.00	0.78
HSK E 63 SRK 6X 50	63	6.00	11.0	18.00	76.00	50.0	48.00	18.0	24.0	M8	4.00	0.72
HSK E 63 SRK 6X 80	63	6.00	11.0	20.00	106.00	80.0	64.00	18.0	24.0	M8	4.00	0.78
HSK E 63 SRK 8X 50	63	8.00	14.0	21.00	76.00	50.0	48.00	25.0	35.0	M6	3.00	0.74
HSK E 63 SRK 8X 80	63	8.00	14.0	23.00	106.00	80.0	64.00	25.0	35.0	M6	3.00	0.83
HSK E 63 SRK 10X 50	63	10.00	16.0	23.00	76.00	50.0	48.00	30.0	40.0	M8	4.00	0.65
HSK E 63 SRK 10X 80	63	10.00	16.0	24.50	106.00	80.0	60.00	30.0	40.0	M8	4.00	0.86
HSK E 63 SRK 12X 50	63	12.00	20.0	27.00	76.00	50.0	48.00	32.0	42.0	M8	4.00	0.78
HSK E 63 SRK 12X 80	63	12.00	20.0	28.00	106.00	80.0	57.00	32.0	42.0	M10	5.00	1.00
HSK E 63 SRK 12X 90	63	12.00	20.0	28.00	116.00	90.0	57.00	32.0	43.0	M10	5.00	0.98

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • To be used for carbide tools only. • Balanced to G2.5/25,000 RPM.

(1) Adjustment screw hexagon key size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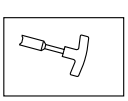
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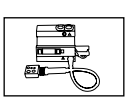
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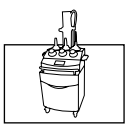
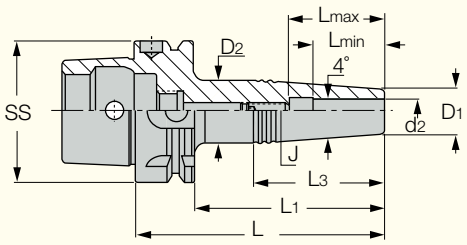
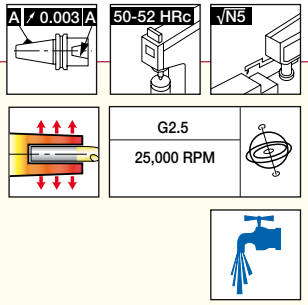

B154-155


B149-151

HSK A-SRK

Thermal Chuck Collets with HSK DIN69893 Form A Taper Shanks, for Solid Carbide Tools Only

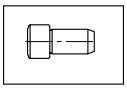




Designation	SS	d_2	D_1	D_2	L	L_1	L_3	L min	L max	J	Key(1)	Kg
HSK A 63 SRK 3X 50	63	3.00	10.0	17.00	76.00	50.0	-	10.0	16.0	M6	3.00	0.68
HSK A 63 SRK 3X 85	63	3.00	10.0	21.00	111.00	85.0	79.00	10.0	16.0	M6	3.00	0.75
HSK A 63 SRK 4X 50	63	4.00	10.0	17.00	76.00	50.0	-	12.0	18.0	M6	3.00	0.68
HSK A 63 SRK 4X 85	63	4.00	10.0	21.00	111.00	85.0	79.00	12.0	18.0	M6	3.00	0.73
HSK A 63 SRK 5X 50	63	5.00	10.0	17.00	76.00	50.0	-	15.0	21.0	M6	3.00	0.68
HSK A 63 SRK 5X 85	63	5.00	10.0	21.00	111.00	85.0	79.00	15.0	21.0	M6	3.00	0.75
HSK A 63 SRK 6X 50	63	6.00	11.0	18.00	76.00	50.0	-	18.0	24.0	M8	4.00	0.67
HSK A 63 SRK 6X 85	63	6.00	11.0	22.00	111.00	85.0	79.00	18.0	24.0	M8	4.00	0.76
HSK A 63 SRK 8X 50	63	8.00	14.0	20.00	76.00	50.0	43.00	25.0	36.0	M6	3.00	0.71
HSK A 63 SRK 8X 85	63	8.00	14.0	23.00	111.00	85.0	64.00	25.0	36.0	M6	3.00	0.80
HSK A 63 SRK 10X 50	63	10.00	16.0	23.00	76.00	50.0	-	30.0	41.0	M8	4.00	0.72
HSK A 63 SRK 10X 85	63	10.00	16.0	26.00	111.00	85.0	72.00	30.0	41.0	M8	4.00	0.82
HSK A 63 SRK 12X 50	63	12.00	20.0	27.00	76.00	50.0	-	32.0	43.0	M8	4.00	0.75
HSK A 63 SRK 12X 85	63	12.00	20.0	30.00	111.00	85.0	72.00	32.0	43.0	M8	4.00	0.94

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • To be used for carbide tools only. • Balanced to G2.5/25,000 RPM.

(1) Key for the adjustment screw.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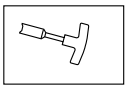
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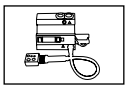
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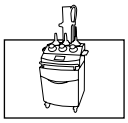
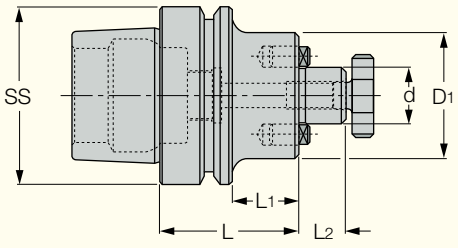

B154-155

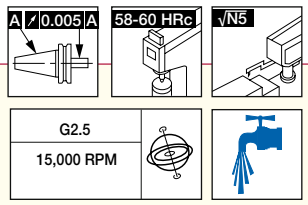

B149-151

HSK

HSK E-SEM

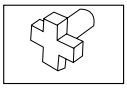
ISO 3937 Shell Mill Holders with HSK E DIN69893 Form E Taper Shanks





Designation	SS	d	D_1	L	L_1	L_2	Kg
HSK E 40 SEM 16X50	40	16.00	38.0	50.00	30.0	17.00	0.45
HSK E 40 SEM 22X50	40	22.00	47.0	50.00	30.0	19.00	0.54
HSK E 50 SEM 22X 60	50	22.00	47.0	60.00	34.0	19.00	0.85
HSK E 63 SEM 16X 50	63	16.00	38.0	50.00	24.0	17.00	0.90
HSK E 63 SEM 22X 50	63	22.00	47.0	50.00	24.0	19.00	1.03

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • Balanced to G2.5/15,000 RPM.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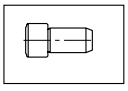
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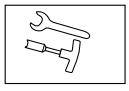
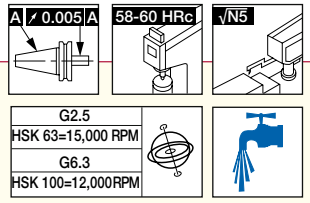
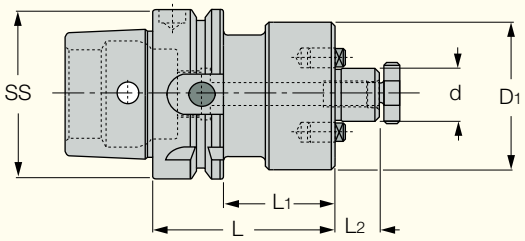

B180

HSK A-SEM

ISO 3937 Shell Mill Holders with HSK DIN69893 Form A Taper Shanks

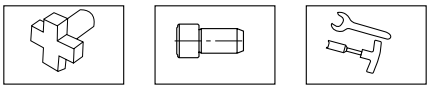




Designation	SS	d	D_1	L	L_2	L_1	Kg
HSK A 40 SEM 22 (1)	40	22.00	47.0	50.00	19.00	30.0	0.52
HSK A 40 SEM 27 (1)	40	27.00	58.0	55.00	21.00	35.0	0.75
HSK A 50 SEM 16X 50 (1)	50	16.00	38.0	50.00	17.00	24.0	0.60
HSK A 50 SEM 22X 60 (1)	50	22.00	47.0	60.00	19.00	34.0	0.80
HSK A 50 SEM 27X 60 (1)	50	27.00	58.0	60.00	21.00	34.0	0.96
HSK A 63 SEM 16X 50 (1)	63	16.00	38.0	50.00	17.00	24.0	0.86
HSK A 63 SEM 22X 50 (1)	63	22.00	47.0	50.00	19.00	24.0	0.98
HSK A 63 SEM 27X 60 (1)	63	27.00	58.0	60.00	21.00	34.0	1.30
HSK A 63 SEM 32X 60 (1)	63	32.00	66.0	60.00	24.00	34.0	1.42
HSK A 63 SEM 40X 60 (1)	63	40.00	82.0	60.00	27.00	24.0	1.76
HSK A 100 SEM 22X 50 (2)	100	22.00	47.0	50.00	19.00	21.0	2.30
HSK A 100 SEM 27X 50 (2)	100	27.00	58.0	50.00	21.00	21.0	2.48
HSK A 100 SEM 32X 50 (2)	100	32.00	66.0	50.00	24.00	21.0	2.65
HSK A 100 SEM 40X 60 (2)	100	40.00	82.0	60.00	27.00	31.0	3.38
HSK A 100 SEM 50X 70 (2)	100	50.00	95.0	70.00	30.00	41.0	4.29

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately).

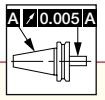
(1) Balanced to G2.5/15,000 RPM. (2) Balanced to G6.3/12,000 RPM.

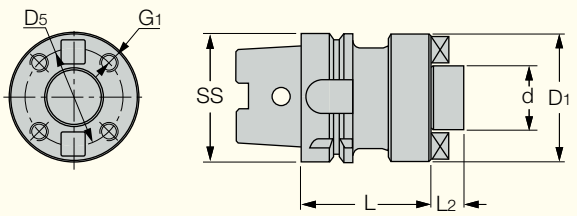


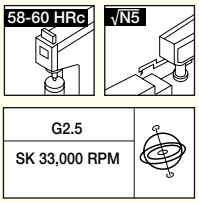
B177 B180 B180

HSK A-FM

DIN 6353 Face Mill Holders with HSK DIN69893 Form A Taper Shanks

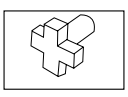






Designation	SS	d	D_1	L	L_2	D_5	G_1	Kg
HSK A 100 FM 60X 70	100	60.00	128.0	70.00	40.00	101.60	M16	5.77

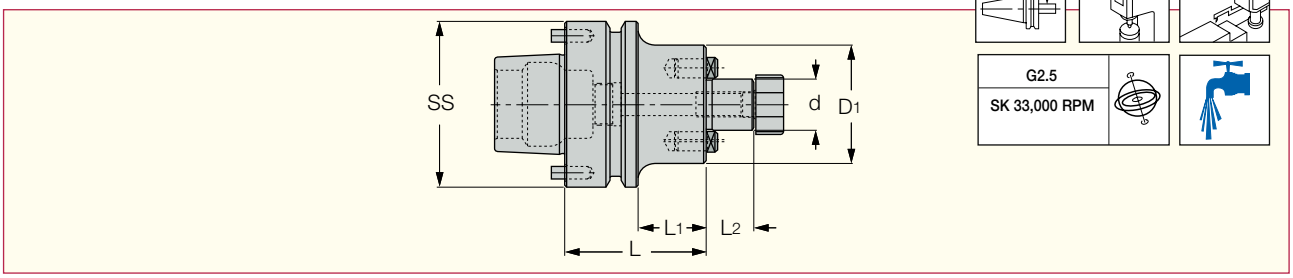
• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately).



B177

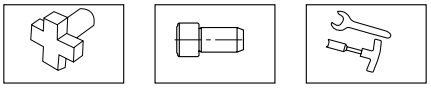
HSK FM-SEM

Shell Mill Adapter with HSK High Torque Features



Designation	SS	d	L	D_1	L_2	L_1	Kg
HSK FM63 SEM 22X 60	63	22.00	60.00	47.0	34.00	19.0	1.30
HSK FM63 SEM 27X 60	63	27.00	60.00	58.0	34.00	21.0	1.47
HSK FM63 SEM 32X 60	63	32.00	60.00	66.0	34.00	24.0	1.45

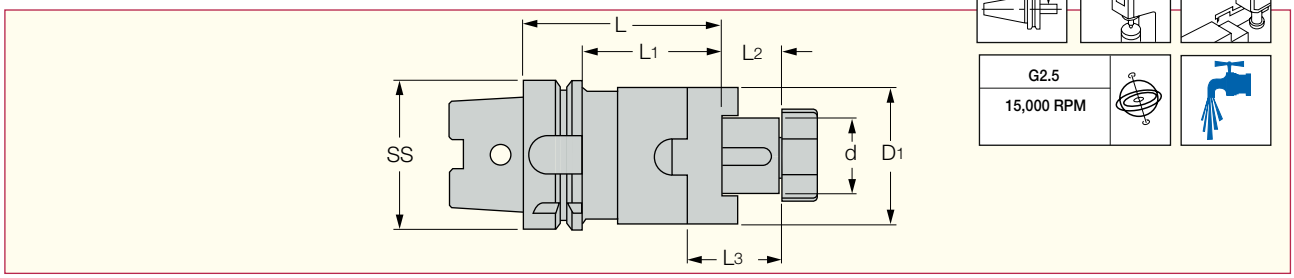
• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • The driving pins can be removed, turning the toolholder into a standard HSK F63 type. • Balanced to G2.5/33,000 RPM.



B177 B180 B180

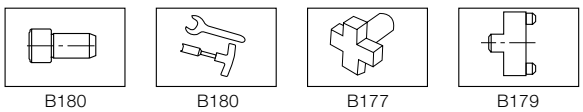
HSK A-SEMC

DIN 6358 COMBI Shell Mill Holders with HSK DIN69893 Form A Taper Shanks



Designation	SS	d	D_1	L	L_1	L_2	L_3	Kg
HSK A 50 SEMC 16X50	50	16.00	32.0	50.00	24.0	17.00	27.00	0.49
HSK A 50 SEMC 22X50	50	22.00	40.0	50.00	24.0	19.00	31.00	0.56
HSK A 50 SEMC 27X65	50	27.00	48.0	65.00	39.0	21.00	33.00	0.80
HSK A 50 SEMC 32X65	50	32.00	58.0	65.00	39.0	24.00	38.00	0.88
HSK A 63 SEMC 16X60	63	16.00	32.0	60.00	34.0	17.00	21.00	0.82
HSK A 63 SEMC 22X60	63	22.00	40.0	60.00	34.0	19.00	31.00	0.91
HSK A 63 SEMC 27X60	63	27.00	48.0	60.00	34.0	21.00	33.00	1.00
HSK A 63 SEMC 32X60	63	32.00	58.0	60.00	34.0	24.00	38.00	1.13
HSK A 63 SEMC 40X70	63	40.00	70.0	70.00	44.0	27.00	41.00	1.52
HSK A 100 SEMC 16X60	100	16.00	32.0	60.00	31.0	17.00	27.00	2.17
HSK A 100 SEMC 22X60	100	22.00	40.0	60.00	31.0	19.00	31.00	2.24
HSK A 100 SEMC 27X60	100	27.00	48.0	60.00	31.0	21.00	33.00	2.35
HSK A 100 SEMC 32X60	100	32.00	58.0	60.00	31.0	24.00	38.00	2.50
HSK A 100 SEMC 40X70	100	40.00	70.0	70.00	41.0	27.00	41.00	3.04
HSK A 100 SEMC 50X80	100	50.00	90.0	80.00	51.0	30.00	46.00	4.03

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • Balanced to G2.5/15,000 RPM.



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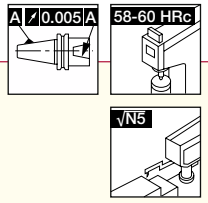
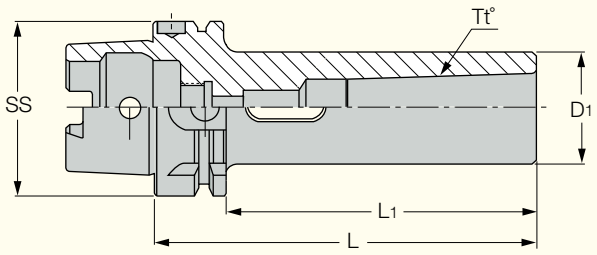
HSK A-MT

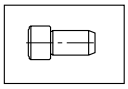
DIN 6383/DIN228-2 Form D Tang Morse Taper Adapters with
DIN 69893/A HSK Taper Shanks





Designation	SS	T_t°	D_1	L	L_1	Kg
HSK A 50 MT1X100	50	MT1	25.0	100.00	74.0	0.62
HSK A 50 MT2X120	50	MT2	32.0	120.00	94.0	0.83
HSK A 50 MT3X140	50	MT3	40.0	140.00	114.0	1.19
HSK A 63 MT1X110	63	MT1	25.0	110.00	84.0	0.92
HSK A 63 MT2X120	63	MT2	32.0	120.00	94.0	1.09
HSK A 63 MT3X140	63	MT3	40.0	140.00	114.0	1.45
HSK A 63 MT4X160	63	MT4	48.0	160.00	134.0	1.89
HSK A 100 MT1X110	100	MT1	25.0	110.00	81.0	2.27
HSK A 100 MT2X120	100	MT2	32.0	120.00	91.0	2.43
HSK A 100 MT3X150	100	MT3	40.0	150.00	121.0	2.83
HSK A 100 MT4X170	100	MT4	48.0	170.00	141.0	3.31
HSK A 100 MT5X200	100	MT5	63.0	200.00	171.0	4.60

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately).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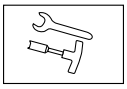
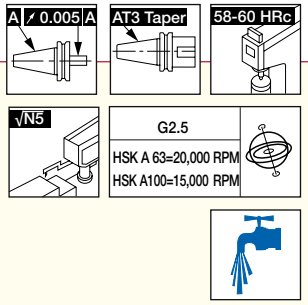
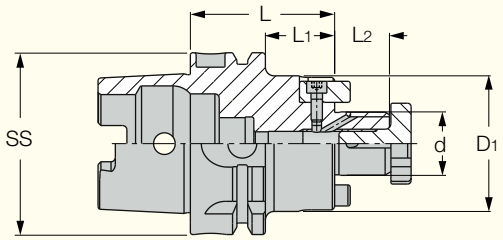

B180

HSK A-SEM...C

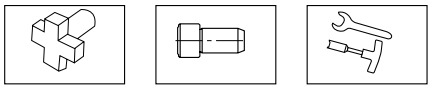
Shell Mill Holders with Coolant Holes and DIN69893 form A HSK Taper Shanks





Designation	SS	d	D_1	L	L_1	L_2	Kg
HSK A 63 SEM 16X 50 C	63	16.00	38.0	50.00	24.0	17.00	0.84
HSK A 63 SEM 16X100 C	63	16.00	38.0	100.00	74.0	17.00	1.28
HSK A 63 SEM 22X 50 C	63	22.00	47.0	50.00	24.0	19.00	0.97
HSK A 63 SEM 22X100 C	63	22.00	47.0	100.00	74.0	19.00	1.68
HSK A 63 SEM 27X 60 C	63	27.00	58.0	60.00	34.0	21.00	1.28
HSK A 63 SEM 27X100 C	63	27.00	58.0	100.00	74.0	21.00	2.10
HSK A 63 SEM 32X 60 C	63	32.00	66.0	60.00	34.0	24.00	1.38
HSK A 100 SEM 16X 50 C	100	16.00	38.0	50.00	21.0	17.00	2.12
HSK A 100 SEM 16X100 C	100	16.00	38.0	100.00	71.0	17.00	2.60
HSK A 100 SEM 22X 50 C	100	22.00	47.0	50.00	21.0	19.00	1.50
HSK A 100 SEM 22X100 C	100	22.00	47.0	100.00	71.0	19.00	2.94
HSK A 100 SEM 27X 50 C	100	27.00	58.0	50.00	21.0	21.00	2.50
HSK A 100 SEM 27X100 C	100	27.00	58.0	100.00	71.0	21.00	3.60
HSK A 100 SEM 32X 50 C	100	32.00	66.0	50.00	21.0	24.00	2.60
HSK A 100 SEM 32X100 C	100	32.00	66.0	100.00	71.0	24.00	4.62

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • Blanced to G2.5/ HSK A63=20,000 RPM HSK A100=15,000 RPM

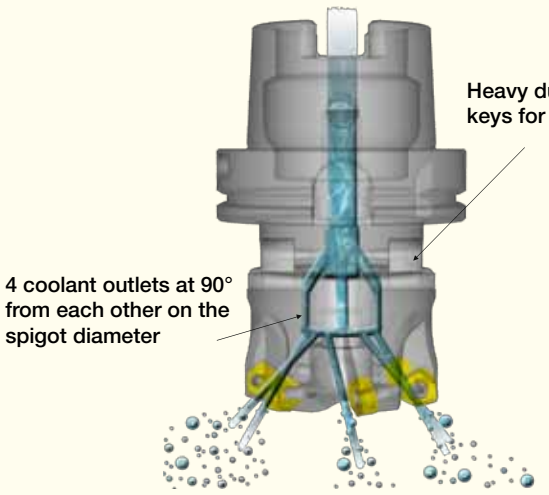


B177 B180 B180

HSK A-SEM...C

Advantages

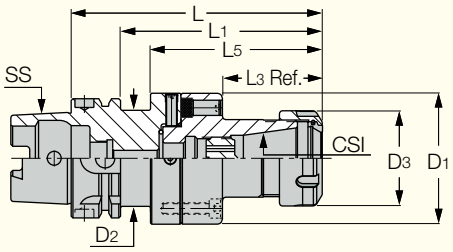
- Prolonged insert life (especially when milling titanium and aluminum)
- Symmetrical design – may be used at high RPM
- Heavy duty driving keys for higher torque transfer
- Dramatically improved chip evacuation
- Improved surface finish

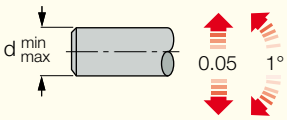


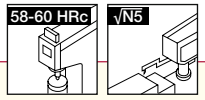
4 coolant outlets located on the spigot, 90° from each other

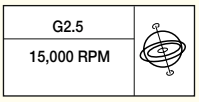
ADJ HSK A-ER

DIN6499 ER Collet Chucks with Center Alignment (FINEFIT) and HSK DIN69893/A Taper Shanks



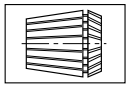






Designation	SS	CSI	d min	d max	D1	D2	D3	L	L1	L3	L5	Kg
ADJ HSK A 63 D70 ER32	63	ER32	2.0	20.0	70.0	46.00	50.00	134.50	108.5	52.50	92.50	1.33
ADJ HSK A 100 D70 ER32	100	ER32	2.0	20.0	70.0	46.00	50.00	129.50	100.5	52.50	82.50	3.81

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • Radial adjustment 0.1 mm. Angular adjustment 1°.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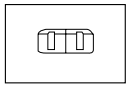
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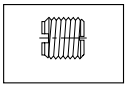
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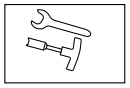
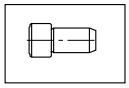
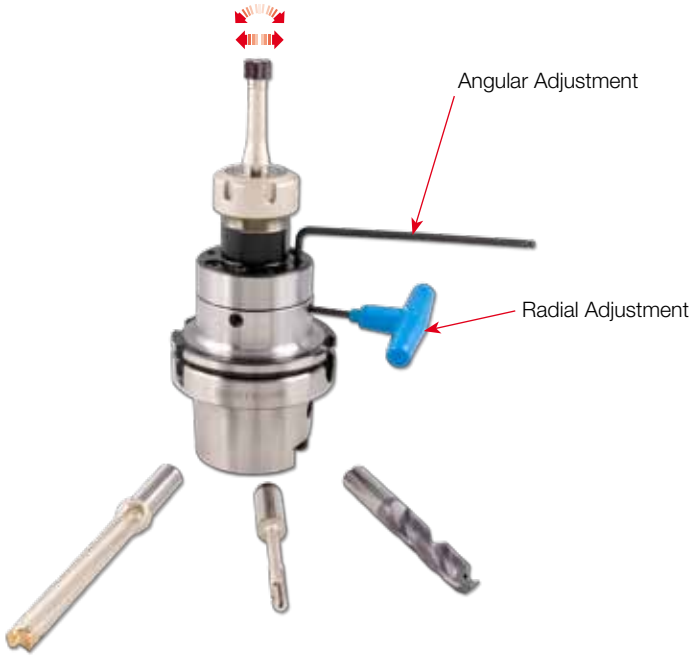

B180

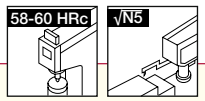

B180

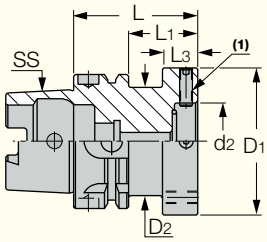

A14
B142-144



ADJ HSK A

FINEFIT Center Alignment Shank and Base with a DIN69893 HSK Taper Shank, for Specially Tailored Toolholders





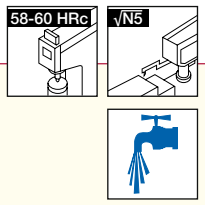
Designation	SS	L	L1	L3	d2	D1	D2	Kg
ADJ HSK A 63 D70	63	60.00	34.0	18.00	35.00	70.0	46.00	1.24
ADJ HSK A 100 D70	100	55.00	26.0	-	35.00	70.0	-	2.63

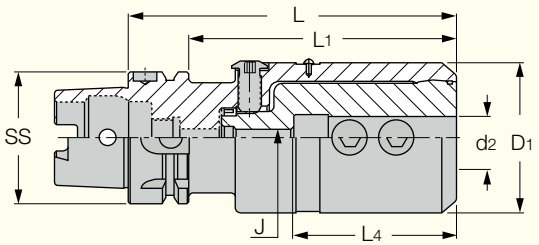
• (1) Use 4 mm hex key for screw adjustment. • A cooling tube must be used with all coolant through HSK spindles (should be ordered separately).

HSK • FITBORE

FITBORE HSK A-EM

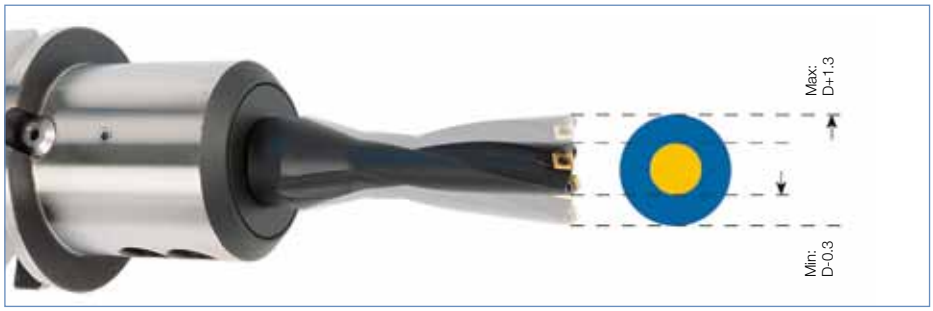
Adjustable Drilling Diameter Holders (by center offsetting)
with HSK DIN69893/A Tapered Shanks

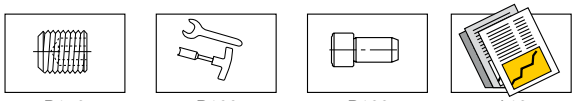




Designation	SS	d_2	D_1	L	L_1	L_4	J	Kg
FITBORE HSK A 63 EM25	63	25.00	72.0	142.00	116.0	71.0	M10	3.68
FITBORE HSK A 63 EM32	63	32.00	72.0	142.00	116.0	71.0	M10	3.87
FITBORE HSK A 63 EM40	63	40.00	72.0	142.00	116.0	71.0	M10	2.50

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately).



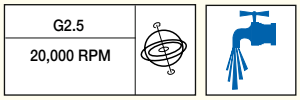


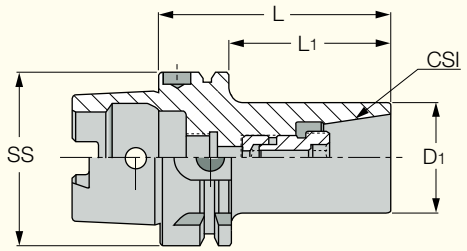
B178 B180 B180 A13

HSK • CLICKIN

HSK A-ER-CLICKIN

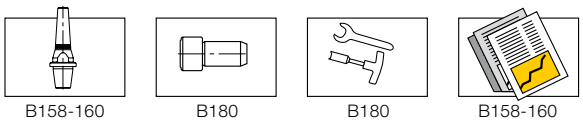
HSK DIN69893/A Tapered Shanks to CLICKIN Quick Change
Connection Adapters





Designation	SS	CSI	L	L_1	D_1	Kg
HSK A 63 ER32 CLICK-IN	63	32 SRF	85.00	59.0	41.0	1.06
HSK A 100 ER32 CLICK-IN	100	32 SRF	90.00	61.0	41.0	2.40

• Tightening torque: 24 Kgxm • A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • Balanced to G2.5/20,000 RPM.

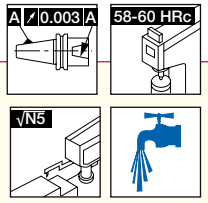


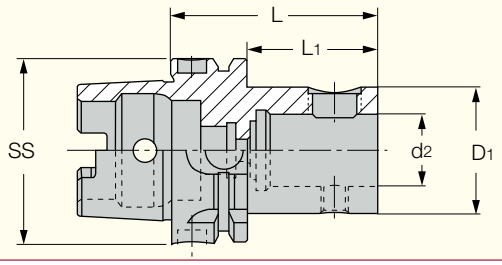
B158-160 B180 B180 B158-160

HSK • CLICKFIT

HSK A-CF (CLICKFIT)

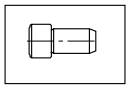
Modular Connections (CLICKFIT) with HSK DIN69893/A Taper Shanks





Designation	SS	d_2	L	L_1	D_1	Kg
HSK A 63 CF4-S	63	25.00	70.00	44.0	44.5	1.00
HSK A 80 CF4-S	80	25.00	73.00	47.0	44.5	1.50
HSK A 100 CF4-S	100	25.00	76.00	47.0	44.5	2.42

• Tightening torque: 6 Kgxm • A cooling tube must be used with all coolant through HSK spindles (should be ordered separately).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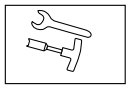
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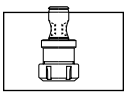
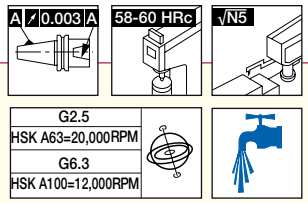

B117, B121, B122

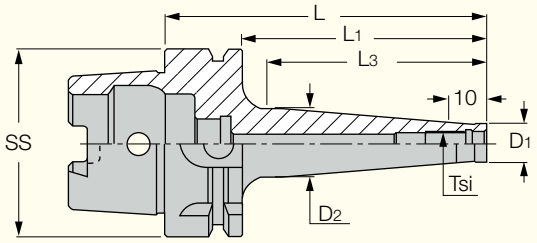

A5

HSK • FLEXFIT

HSK A-ODP (FLEXFIT)

Threaded Adaptations (FLEXFIT) with HSK DIN69893/A Taper Shanks

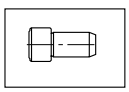




Designation	SS	Tsi	D_1	D_2	L	L_1	L_3	Kg
HSK A 63 ODP 6X 59 (1)	63	M06	9.8	11.50	59.00	33.0	25.00	0.66
HSK A 63 ODP 6X109 (1)	63	M06	9.8	23.00	109.00	83.0	75.00	0.74
HSK A 63 ODP 8X 59 (1)	63	M08	13.1	15.00	59.00	33.0	25.00	0.68
HSK A 63 ODP 8X109 (1)	63	M08	13.1	23.00	109.00	83.0	75.00	0.76
HSK A 63 ODP10X 59 (1)	63	M10	18.0	20.00	59.00	33.0	25.00	0.70
HSK A 63 ODP10X109 (1)	63	M10	18.0	28.00	109.00	83.0	75.00	0.87
HSK A 63 ODP12X 59 (1)	63	M12	21.0	24.00	59.00	33.0	25.00	0.72
HSK A 63 ODP12X109 (1)	63	M12	21.0	31.00	109.00	83.0	75.00	0.93
HSK A 63 ODP16X 59 (1)	63	M16	29.0	34.60	59.00	33.0	25.00	0.79
HSK A 63 ODP16X109 (1)	63	M16	29.0	34.00	109.00	83.0	75.00	1.06
HSK A 100 ODP12X 87 (2)	100	M12	23.0	30.00	87.00	58.0	50.00	2.23
HSK A 100 ODP12X137 (2)	100	M12	23.0	30.00	137.00	108.0	100.00	2.00
HSK A 100 ODP12X187 (2)	100	M12	23.0	40.00	187.00	158.0	150.00	4.00
HSK A 100 ODP12X237 (2)	100	M12	23.0	46.00	237.00	208.0	200.00	4.50
HSK A 100 ODP16X 87 (2)	100	M16	29.0	31.50	87.00	58.0	50.00	2.20
HSK A 100 ODP16X137 (2)	100	M16	29.0	41.50	137.00	108.0	100.00	2.68
HSK A 100 ODP16X187 (2)	100	M16	29.0	55.00	187.00	158.0	150.00	3.59
HSK A 100 ODP16X237 (2)	100	M16	29.0	55.00	237.00	208.0	200.00	4.52

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately).

(1) Balanced to G2.5/20,000 RPM. (2) Balanced to G6.3/12,000 RPM.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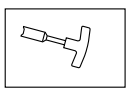
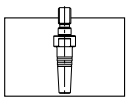

B180

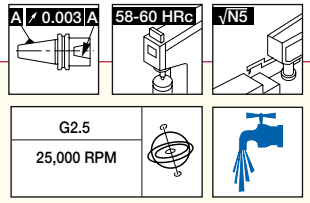

B116

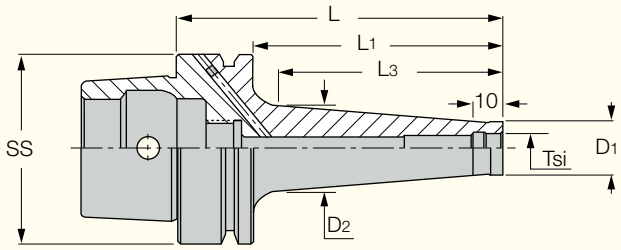

B118-120

HSK • FLEXFIT

HSK E-ODP (FLEXFIT)

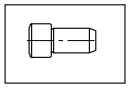
Threaded Adaptations (FLEXFIT) with HSK DIN69893/E Taper Shanks





Designation	SS	Tsi	D_1	D_2	L	L_1	L_3	Kg
HSK E 40 ODP10X 53	40	M10	18.0	20.00	53.00	33.0	25.00	0.26
HSK E 40 ODP10X103	40	M10	18.0	28.00	103.00	83.0	75.00	0.30
HSK E 40 ODP12X 53	40	M12	21.0	24.00	53.00	33.0	25.00	0.28
HSK E 40 ODP12X103	40	M12	21.0	31.00	103.00	83.0	75.00	0.51
HSK E 50 ODP10X 59	50	M10	18.0	20.00	59.00	33.0	25.00	0.46
HSK E 50 ODP10X109	50	M10	18.0	28.00	109.00	83.0	75.00	0.64
HSK E 50 ODP12X 59	50	M12	21.0	24.00	59.00	33.0	25.00	0.48
HSK E 50 ODP12X109	50	M12	21.0	31.00	109.00	83.0	75.00	0.71
HSK E 50 ODP16X 59	50	M16	29.0	34.00	59.00	33.0	25.00	0.56
HSK E 50 ODP16X109	50	M16	29.0	34.00	109.00	83.0	75.00	0.85
HSK E 63 ODP10X 59	63	M10	18.0	20.00	59.00	33.0	25.00	0.75
HSK E 63 ODP10X109	63	M10	18.0	28.00	109.00	83.0	75.00	0.96
HSK E 63 ODP12X 59	63	M12	21.0	24.00	59.00	33.0	25.00	0.77
HSK E 63 ODP12X109	63	M12	21.0	31.00	109.00	83.0	75.00	0.96
HSK E 63 ODP16X 59	63	M16	29.0	34.00	59.00	33.0	25.00	0.72
HSK E 63 ODP16X109	63	M16	29.0	34.00	109.00	83.0	75.00	1.10

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately). • For adaptation see pages... • Balanced to G2.5/25,000 RPM. • ISCAR can not guarantee an unbalance value less than 1 gr x mm.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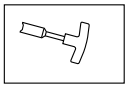
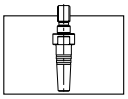

B180

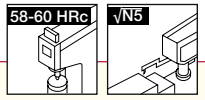

B116

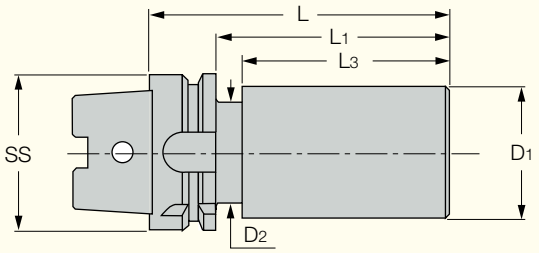

B118-120

HSK

HSK A-B-MN (blanks)

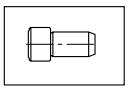
Blanks with HSK DIN69893/A Taper Shanks





Designation	SS	D_1	D_2	L	L_1	L_3	Kg
HSK A 50 B16MN 100	50	53.0	41.80	100.00	74.0	58.00	1.56
HSK A 50 B16MN 200	50	53.0	41.80	200.00	174.0	158.00	3.29
HSK A 63 B16MN 100	63	63.0	52.80	100.00	74.0	55.50	2.31
HSK A 63 B16MN 200	63	63.0	52.80	200.00	174.0	155.50	4.75
HSK A 100 B16MN 100	100	102.0	85.00	100.00	71.0	54.80	6.22
HSK A 100 B16MN 200	100	102.0	85.00	200.00	171.0	154.80	12.60

• Material: Case hardened alloy steel. • Shank hardness 58 HRc minimum. • Nose hardness 35-37 HRc. • A cooling tube must be used with all coolant through HSK spindles (should be ordered separately).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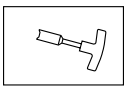
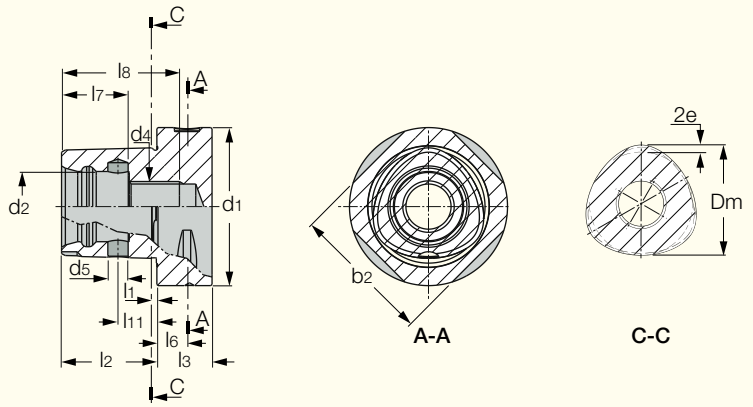

B180

CAMFIX DIN 26623-1

Member IMC Group

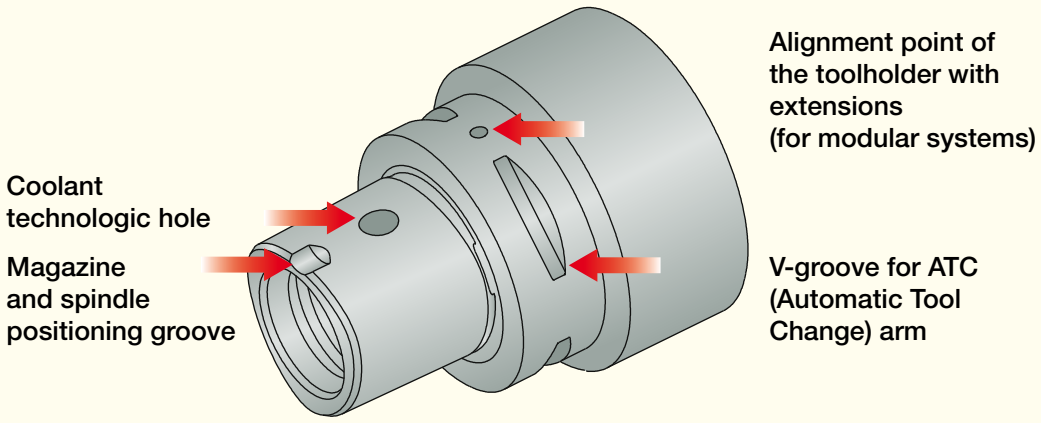
CAMFIX ISO 26623-1

Toolholder Standard



CAMFIX	b_2	d_1 ±0.1	d_2	d_4	d_5 ±0.1	D_m	e	l_1	l_2 ±0.1	l_3 min	l_6 ±0.15	l_7 ±0.15	l_8 min	l_{11} ±0.1
C3	28,3	32	15	M12x1.5	3,6	22	0,7	2,5	19	15	6	13	25	8
C4	35,3	40	18	M14x1.5	4,6	28	0,9	2,5	24	20	8	15	30	11,5
C5	44,4	50	21	M16x1.5	6,1	35	1,12	3	30	20	10	20	37	14
C6	55,8	63	28	M20x2	8,1	44	1,4	3	38	22	12	27	47	15,5
C8	71,1	80	32	M20x2	9,1	55	2	3	48	30	12	28	48	25
C8X	88,7	100	32	M20x2	9,1	55	2	3	48	32	16	28	48	25

CAMFIX - ISO 26623-1 Standard Quick Change Shanks

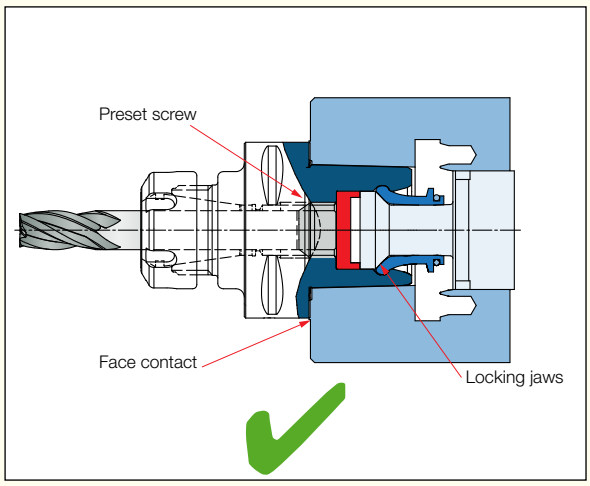


Features

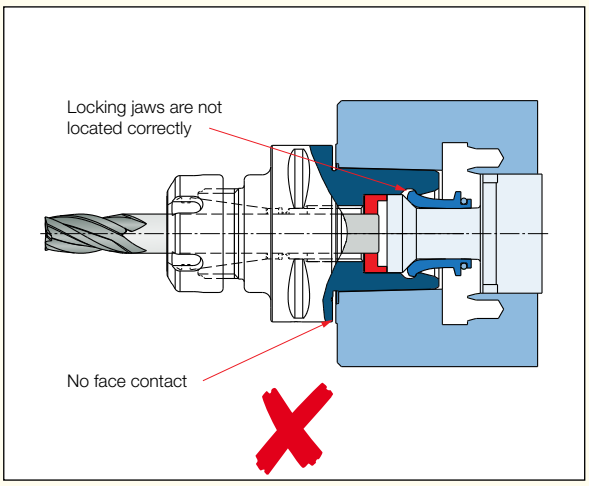
- **Symmetrical design:** Due to the symmetrical design, the torque load is distributed on the polygon, providing a self-centering effect.
- **Rigidity:** The CAMFIX clamping mechanism is extremely rigid against bending forces.
- **Accuracy:** The taper and face contact ensure high repeatability within 2 microns, when operated with an automatic tool changer.

CAMFIX Chucking Instructions

Please be careful when clamping cylindrical shank cutting tools into CAMFIX holders such as ER collet chucks or EM holders. In cases when the diameter of the shank is smaller than the CAMFIX through hole, it may penetrate into the drawbar mechanism area and prevent proper clamping.

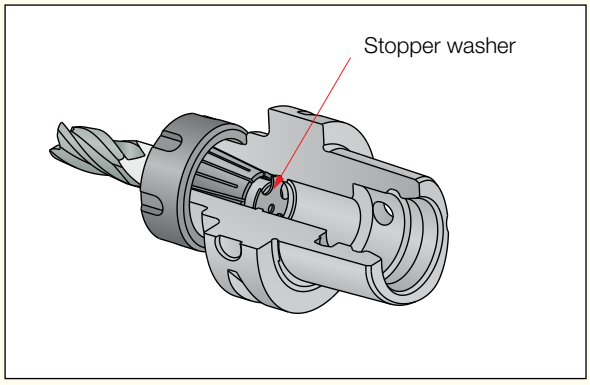


Correct clamping
Use a preset screw to prevent the cutter shank from entering into the clamping mechanism zone, so the drawbar locking jaws can function correctly.

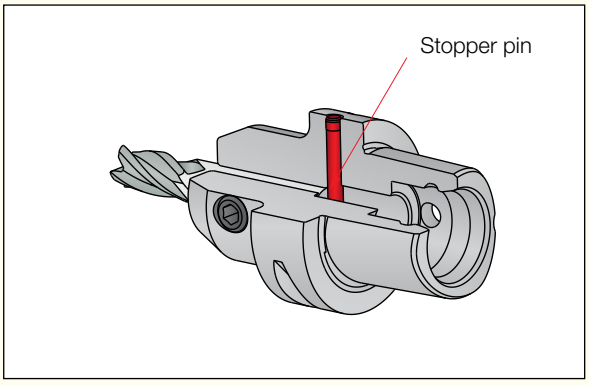


Wrong clamping
The cutter shank enters into the locking mechanism zone, preventing the drawbar locking jaws to reach their correct clamping position.

In order to prevent too deep insertion of the cutting tools, the short length ER16, 20, 25, 32, 40 collet chucks and EM 6-50 mm endmill holders are equipped with permanent stoppers.



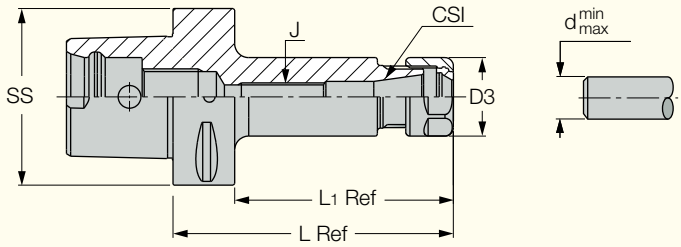
ER chucks
A special washer is installed as a permanent stopper.

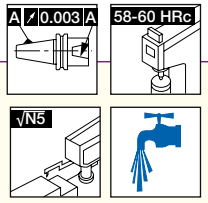


EM holders
A special pin is installed as a permanent stopper.

C#-ER

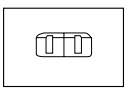
ER Collet Chucks (DIN 6499) with CAMFIX (ISO 26623-1) Exchangeable, Tapered Shanks

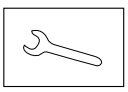


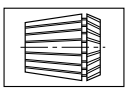


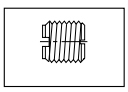
Designation	SS	CSI	d min	d max	D3	L	L1	J
C4 ER16X 70	40	ER16	1.0	10.0	28.00	70.00	50.0	M10
C4 ER20X 35 (1)	40	ER20	1.0	13.0	34.00	35.00	27.0	-
C4 ER20X 52	40	ER20	1.0	13.0	34.00	52.00	32.0	-
C4 ER25X 38 (1)	40	ER25	1.0	16.0	42.00	38.00	30.0	-
C4 ER25X 52	40	ER25	1.0	16.0	42.00	52.00	32.0	-
C4 ER32X 54	40	ER32	2.0	20.0	50.00	54.00	34.0	-
C5 ER16X100	50	ER16	1.0	10.0	28.00	100.00	80.0	M10
C5 ER16X130	50	ER16	1.0	10.0	28.00	130.00	120.0	M10
C5 ER20X055	50	ER20	1.0	13.0	34.00	55.00	35.0	-
C5 ER20X100	50	ER20	1.0	13.0	34.00	100.00	80.0	M12
C5 ER20X130	50	ER20	1.0	13.0	34.00	130.00	120.0	M12
C5 ER25X055	50	ER25	1.0	16.0	42.00	55.00	35.0	-
C5 ER25X100	50	ER25	1.0	16.0	42.00	100.00	80.0	M16
C5 ER32X057	50	ER32	2.0	20.0	50.00	57.00	36.0	-
C5 ER32X100	50	ER32	2.0	20.0	50.00	100.00	80.0	M22X1.5
C6 ER16X100	63	ER16	1.0	10.0	28.00	100.00	78.0	M10
C6 ER16X130	63	ER16	1.0	10.0	28.00	130.00	108.0	M10
C6 ER16X160	63	ER16	1.0	10.0	28.00	160.00	138.0	M10
C6 ER20X060	63	ER20	1.0	13.0	34.00	60.00	38.0	-
C6 ER20X100	63	ER20	1.0	13.0	34.00	100.00	78.0	M12
C6 ER20X130	63	ER20	1.0	13.0	34.00	130.00	108.0	M12
C6 ER20X160	63	ER20	1.0	13.0	34.00	160.00	138.0	M12
C6 ER25X060	63	ER25	1.0	16.0	42.00	60.00	38.0	-
C6 ER25X100	63	ER25	1.0	16.0	42.00	100.00	78.0	M16
C6 ER25X130	63	ER25	1.0	16.0	42.00	130.00	108.0	M16
C6 ER25X160	63	ER25	1.0	16.0	42.00	160.00	138.0	M16
C6 ER32X060	63	ER32	2.0	20.0	50.00	60.00	36.0	-
C6 ER32X100	63	ER32	2.0	20.0	50.00	100.00	78.0	M22X1.5
C6 ER32X130	63	ER32	2.0	20.0	50.00	130.00	108.0	M22X1.5
C6 ER32X160	63	ER32	2.0	20.0	50.00	160.00	138.0	M22X1.5
C6 ER40X065	63	ER40	3.0	26.0	63.00	65.00	37.0	-
C6 ER40X100	63	ER40	3.0	26.0	63.00	100.00	78.0	M28X1.5
C6 ER40X130	63	ER40	3.0	26.0	63.00	130.00	108.0	M28X1.5
C8 ER32X 70	80	ER32	2.0	20.0	50.00	70.00	40.0	-
C8 ER32X100	80	ER32	2.0	20.0	50.00	100.00	70.0	M22x1.5
C8 ER32X160	80	ER32	2.0	20.0	50.00	160.00	130.0	M22x1.5
C8 ER40X 70	80	ER40	3.0	26.0	63.00	70.00	40.0	-
C8 ER40X100	80	ER40	3.0	26.0	63.00	100.00	70.0	M28x1.5
C8 ER40X160	80	ER40	3.0	26.0	63.00	160.00	130.0	M28x1.5

(1) Without V grooves, for manual use only.


B175


B176


B145-148

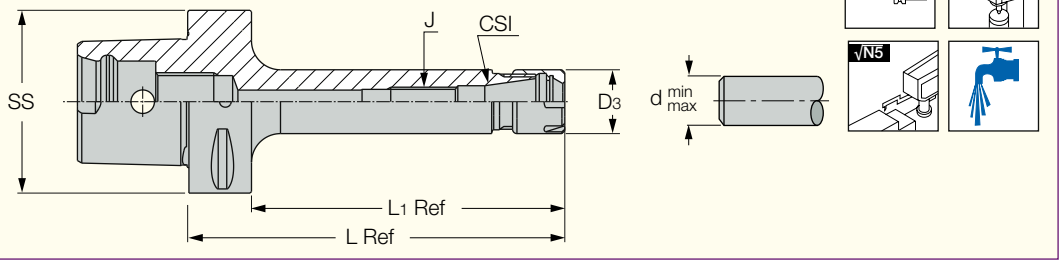

B177


B142-144

CAMFIX

C#-ER-M

DIN 6499 ER Long Mini Collet Chucks with CAMFIX (ISO 26623-1 standard) Exchangeable, Tapered Shanks



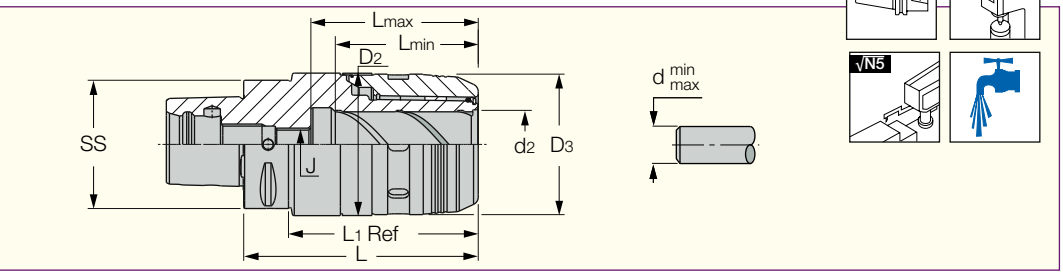
Designation	SS	CSI	d min	d max	D3	L	L1	J
C4 ER16X 70 M	40	ER16	0.5	10.0	22.00	70.00	50.0	M10
C5 ER16X100 M	50	ER16	0.5	10.0	22.00	100.00	80.0	M10
C5 ER16X130 M	50	ER16	0.5	10.0	22.00	130.00	120.0	M10
C6 ER16X100 M	63	ER16	0.5	10.0	22.00	100.00	78.0	M10
C6 ER16X130 M	63	ER16	0.5	10.0	22.00	130.00	108.0	M10
C6 ER16X160 M	63	ER16	0.5	10.0	22.00	160.00	138.0	M10

For spare parts, see pages B175-177
For collets, see pages B145-148
For user guide, see pages B142-144

CAMFIX • MAXIN

C#-MAXIN

MAXIN Power Chuck with CAMFIX (ISO 26623-1 standard) Exchangeable Shank



Designation	SS	d min(1)	d2	D3	D2	L	L1	L min	L max	J
C5 MAXIN 20X100	50	6.0	20.00	51.00	53.00	96.00	75.0	55.0	67.0	M16
C6 MAXIN 20X95	63	6.0	20.00	51.00	53.00	96.00	73.0	55.0	67.0	M16
C6 MAXIN 32X115	63	6.0	32.00	69.00	70.00	115.00	93.0	70.0	82.0	M16
C8 MAXIN 20X95	80	6.0	20.00	51.00	53.00	96.00	65.0	55.0	67.0	M16
C8 MAXIN 32X102	80	6.0	32.00	69.00	70.00	115.00	85.0	70.0	82.0	M16

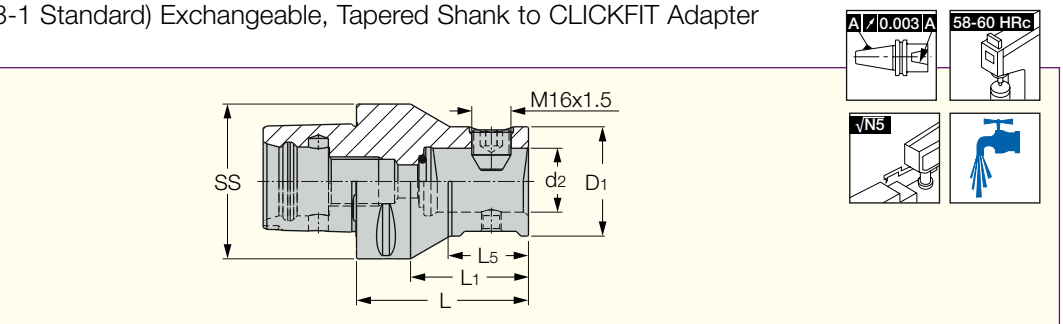
(1) By using a reduction collet

For collets, see pages B163-165, B176
For user guide, see pages A11-12

CAMFIX • CLICKFIT

C#-CF4 (CLICKFIT)

CAMFIX (ISO 26623-1 Standard) Exchangeable, Tapered Shank to CLICKFIT Adapter

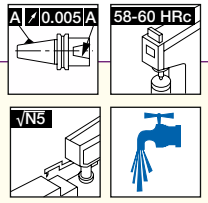


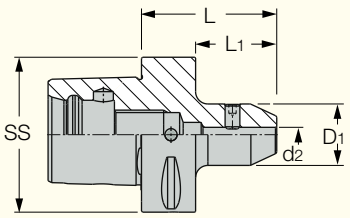
Designation	SS	d2	L	L1	L5	D1	G	Coolant
C5 CF4-S	50	25.00	60.00	40.0	35.00	44.5	M16	Y
C6 CF4-S	63	25.00	70.00	48.0	32.00	44.5	M20	Y

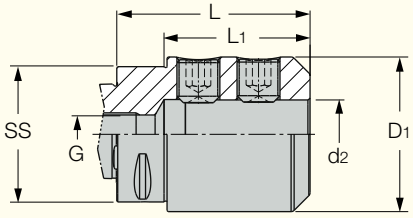
For spare parts, see page B178
For adapters, see pages B117, B121, B122
For user guide, see pages A5

C#-EM

Weldon Endmill Holders (DIN1835 Form B) with CAMFIX (ISO 26623-1)
Exchangeable, Tapered Shanks

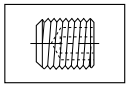






$d_2 \geq 25$

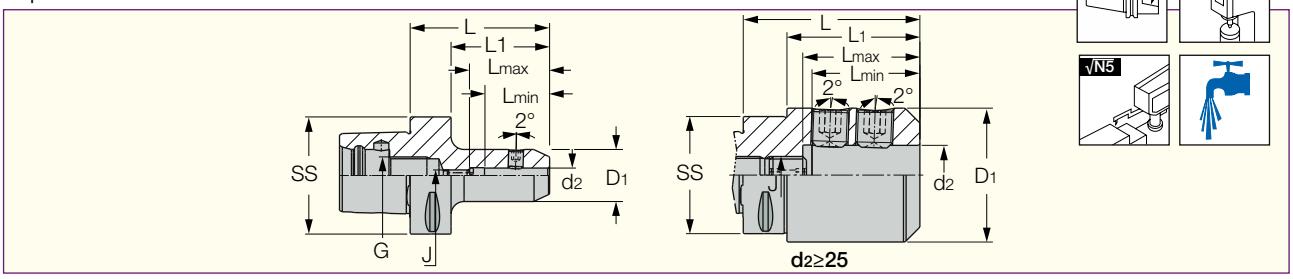
Designation	SS	d_2	D_1	L	L_1	G
C4 EM06X50	40	6.00	25.0	50.00	30.0	M14
C4 EM08X50	40	8.00	28.0	50.00	30.0	M14
C4 EM10X50	40	10.00	35.0	50.00	30.0	M14
C4 EM12X55	40	12.00	42.0	55.00	35.0	M14
C4 EM14X55	40	14.00	44.0	55.00	35.0	M14
C4 EM16X60	40	16.00	48.0	60.00	40.0	M14
C5 EM06X50	50	6.00	25.0	50.00	30.0	M16
C5 EM08X50	50	8.00	28.0	50.00	30.0	M16
C5 EM10X55	50	10.00	35.0	55.00	35.0	M16
C5 EM12X60	50	12.00	42.0	60.00	40.0	M16
C5 EM14X60	50	14.00	44.0	60.00	40.0	M16
C5 EM16X60	50	16.00	48.0	60.00	40.0	M16
C5 EM18X60	50	18.00	50.0	60.00	40.0	M16
C5 EM20X60	50	20.00	52.0	60.00	40.0	M16
C5 EM25X85	50	25.00	65.0	85.00	65.0	M16
C6 EM 6X55	63	6.00	25.0	55.00	33.0	M20
C6 EM 8X55	63	8.00	28.0	55.00	33.0	M20
C6 EM10X60	63	10.00	35.0	60.00	38.0	M20
C6 EM12X60	63	12.00	42.0	60.00	38.0	M20
C6 EM14X60	63	14.00	44.0	60.00	38.0	M20
C6 EM16X65	63	16.00	48.0	65.00	43.0	M20
C6 EM18X65	63	18.00	50.0	65.00	43.0	M20
C6 EM20X65	63	20.00	52.0	65.00	43.0	M20
C6 EM25X80	63	25.00	65.0	80.00	58.0	M20
C6 EM32X90	63	32.00	72.0	90.00	68.0	M20
C6 EM40X100	63	40.00	90.0	100.00	78.0	M20
C8 EM06X70	80	6.00	25.0	70.00	40.0	M20
C8 EM08X70	80	8.00	28.0	70.00	40.0	M20
C8 EM10X70	80	10.00	35.0	70.00	40.0	M20
C8 EM12X70	80	12.00	42.0	70.00	40.0	M20
C8 EM14X70	80	14.00	44.0	70.00	40.0	M20
C8 EM16X70	80	16.00	48.0	70.00	40.0	M20
C8 EM18X70	80	18.00	50.0	70.00	40.0	M20
C8 EM20X70	80	20.00	52.0	70.00	40.0	M20
C8 EM25X90	80	25.00	65.0	90.00	60.0	M20
C8 EM32X95	80	32.00	72.0	95.00	65.0	M20
C8 EM40X110	80	40.00	90.0	110.00	80.0	M20
C8 EM50X120	80	50.00	98.0	120.00	90.0	M20



B178

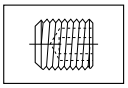
C#-EM-E

Drill Holders (DIN1835 Form E) with CAMFIX (ISO 26623-1) Exchangeable, Tapered Shanks



Designation	SS	d_2	D_1	L	L_{min}	L_{max}	L_1	G	J
C4 EM06X70 E	40	6.00	25.0	70.00	30.0	35.0	50.0	M14	M5
C4 EM08X70 E	40	8.00	28.0	70.00	35.0	43.0	50.0	M14	M6
C4 EM10X70 E	40	10.00	35.0	70.00	39.0	45.0	50.0	M14	M8
C4 EM12X75 E	40	12.00	42.0	75.00	44.0	49.0	55.0	M14	M10
C4 EM14X75 E	40	14.00	44.0	75.00	44.0	49.0	55.0	M14	M10
C5 EM06X70 E	50	6.00	25.0	70.00	30.0	35.0	50.0	M16	M5
C5 EM08X70 E	50	8.00	28.0	70.00	35.0	43.0	50.0	M16	M6
C5 EM10X70 E	50	10.00	35.0	70.00	39.0	45.0	50.0	M16	M8
C5 EM12X75 E	50	12.00	42.0	75.00	44.0	49.0	55.0	M16	M10
C5 EM14X75 E	50	14.00	44.0	75.00	44.0	49.0	55.0	M16	M10
C5 EM16X80 E	50	16.00	48.0	80.00	47.0	52.0	60.0	M16	M12
C5 EM18X80 E	50	18.00	50.0	80.00	47.0	52.0	60.0	M16	M12
C5 EM20X85 E	50	20.00	52.0	85.00	49.0	55.0	65.0	M16	M16
C6 EM 6X75 E	63	6.00	25.0	75.00	30.0	36.0	53.0	M20	M5
C6 EM 8X75 E	63	8.00	28.0	75.00	35.0	43.0	53.0	M20	M6
C6 EM10X75 E	63	10.00	35.0	75.00	39.0	46.0	53.0	M20	M8
C6 EM12X80 E	63	12.00	42.0	80.00	44.0	49.0	58.0	M20	M10
C6 EM14X80 E	63	14.00	44.0	80.00	44.0	49.0	58.0	M20	M10
C6 EM16X85 E	63	16.00	48.0	85.00	47.0	52.0	63.0	M20	M12
C6 EM18X85 E	63	18.00	50.0	85.00	47.0	52.0	63.0	M20	M12
C6 EM20X85 E	63	20.00	52.0	85.00	49.0	55.0	63.0	M20	M16
C6 EM25X90 E	63	25.00	65.0	90.00	54.0	60.0	68.0	M20	M20
C6 EM32X95 E	63	32.00	72.0	95.00	58.0	63.0	73.0	M20	M20
C8 EM06X65E	80	6.00	25.0	65.00	30.0	36.0	35.0	M20	M5
C8 EM08X65E	80	8.00	28.0	65.00	35.0	43.0	35.0	M20	M6
C8 EM10X65E	80	10.00	35.0	65.00	39.0	46.0	35.0	M20	M8
C8 EM12X70E	80	12.00	42.0	70.00	44.0	49.0	40.0	M20	M10
C8 EM14X70E	80	14.00	44.0	70.00	44.0	49.0	40.0	M20	M10
C8 EM16X75E	80	16.00	48.0	75.00	47.0	52.0	45.0	M20	M12
C8 EM18X75E	80	18.00	50.0	75.00	47.0	52.0	45.0	M20	M12
C8 EM20X80E	80	20.00	52.0	80.00	49.0	57.0	50.0	M20	M16
C8 EM25X90E	80	25.00	65.0	90.00	54.0	60.0	60.0	M20	M20
C8 EM32X95E	80	32.00	72.0	95.00	58.0	64.0	65.0	M20	M20

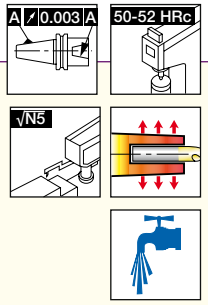
• The adjustment screw has an internal coolant hole.

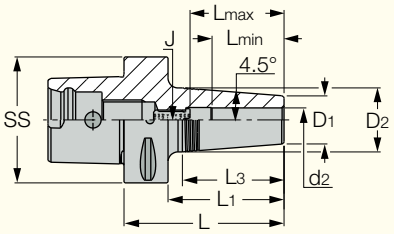


B178

C#-SRKIN

SHRINKIN Thermal Chuck Collets with Integral ISO 26623-1 Exchangeable, Tapered Shanks

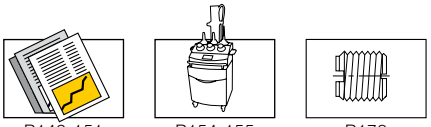




Designation	SS	d_2	D_1	D_2	L	L_1	L_3	L min	L max	J	Key(1)
C4 SRKIN 6X75	40	6.00	21.0	27.00	75.00	55.0	38.10	25.0	36.0	M5	2.50
C4 SRKIN 8X75	40	8.00	21.0	27.00	75.00	55.0	38.10	25.0	36.0	M6	3.00
C4 SRKIN 10X75	40	10.00	24.0	32.00	75.00	55.0	50.80	31.0	42.0	M8	4.00
C4 SRKIN 12X75	40	12.00	24.0	32.00	75.00	55.0	50.80	36.0	47.0	M10	5.00
C4 SRKIN 14X80	40	14.00	27.0	34.00	80.00	60.0	44.50	36.0	47.0	M10	5.00
C4 SRKIN 16X80	40	16.00	27.0	34.00	80.00	60.0	44.50	39.0	50.0	M12	6.00
C4 SRKIN 18X80	40	18.00	33.0	42.00	80.00	60.0	57.20	39.0	50.0	M12	6.00
C4 SRKIN 20X85	40	20.00	33.0	42.00	85.00	65.0	57.20	41.0	52.0	M16	8.00
C5 SRKIN 6X75	50	6.00	21.0	27.00	75.00	55.0	38.10	25.0	36.0	M5	2.50
C5 SRKIN 8X75	50	8.00	21.0	27.00	75.00	55.0	38.10	25.0	36.0	M6	3.00
C5 SRKIN 10X75	50	10.00	24.0	32.00	75.00	55.0	51.30	31.0	42.0	M8	4.00
C5 SRKIN 12X75	50	12.00	24.0	32.00	75.00	55.0	51.30	36.0	47.0	M10	5.00
C5 SRKIN 14X80	50	14.00	27.0	34.00	80.00	60.0	44.50	36.0	47.0	M10	5.00
C5 SRKIN 16X80	50	16.00	27.0	34.00	80.00	60.0	44.50	39.0	50.0	M12	6.00
C5 SRKIN 18X80	50	18.00	33.0	42.00	80.00	60.0	57.20	39.0	50.0	M12	6.00
C5 SRKIN 20X85	50	20.00	33.0	42.00	85.00	65.0	57.20	41.0	52.0	M16	8.00
C5 SRKIN 25X90	50	25.00	44.0	53.00	90.00	70.0	57.20	47.0	58.0	M16	8.00
C6 SRKIN 6X80	63	6.00	21.0	27.00	80.00	58.0	38.10	25.0	36.0	M5	2.50
C6 SRKIN 8X80	63	8.00	21.0	27.00	80.00	58.0	38.10	25.0	36.0	M6	3.00
C6 SRKIN 10X80	63	10.00	24.0	32.00	80.00	58.0	50.80	31.0	42.0	M8	4.00
C6 SRKIN 12X80	63	12.00	24.0	32.00	80.00	58.0	50.80	36.0	47.0	M10	5.00
C6 SRKIN 14X85	63	14.00	27.0	34.00	85.00	63.0	44.50	36.0	47.0	M10	5.00
C6 SRKIN 16X85	63	16.00	27.0	34.00	85.00	63.0	44.50	39.0	50.0	M12	6.00
C6 SRKIN 18X85	63	18.00	33.0	42.00	85.00	63.0	57.20	39.0	50.0	M12	6.00
C6 SRKIN 20X85	63	20.00	33.0	42.00	85.00	63.0	57.20	41.0	52.0	M16	8.00
C6 SRKIN 25X90	63	25.00	44.0	53.00	90.00	68.0	57.20	47.0	58.0	M16	8.00
C6 SRKIN 32X95	63	32.00	44.0	53.00	95.00	73.0	57.20	47.0	58.0	M16	8.00

• Can be used for carbide and HSS tools. • The adjustment screw has an internal coolant hole.

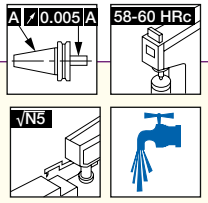
(1) Hex key size for the rear stopper screw

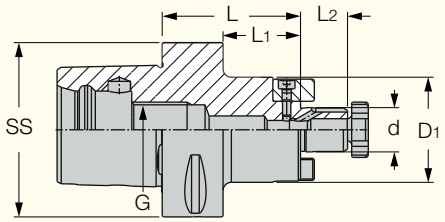


B149-151 B154-155 B178

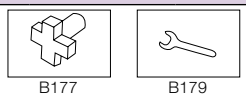
C#-SEM

ISO 3937 Shell Mill Holders with coolant holes ISO 26623-1 Exchangeable, Tapered Shanks





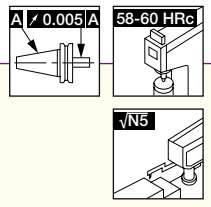
Designation	SS	d	D_1	L	L_2	L_1	G
C4 SEM 16X 32 C	40	16.00	38.0	32.00	12.00	17.0	M14
C4 SEM 16X 55 C	40	16.00	38.0	55.00	35.00	17.0	M14
C4 SEM 22X 40 C	40	22.00	47.0	40.00	20.00	19.0	M14
C4 SEM 22X 55 C	40	22.00	47.0	55.00	35.00	19.0	M14
C5 SEM 16X 35 C	50	16.00	38.0	35.00	17.00	15.0	M16
C5 SEM 16X 70 C	50	16.00	38.0	70.00	17.00	50.0	M16
C5 SEM 22X 35 C	50	22.00	47.0	35.00	19.00	15.0	M16
C5 SEM 22X 70 C	50	22.00	47.0	70.00	19.00	50.0	M16
C5 SEM 27X 40 C	50	27.00	58.0	40.00	21.00	20.0	M16
C5 SEM 32X 40 C	50	32.00	63.0	40.00	24.00	20.0	M16
C6 SEM 16X 50 C	63	16.00	38.0	50.00	17.00	28.0	M20
C6 SEM 16X100 C	63	16.00	38.0	100.00	17.00	78.0	M20
C6 SEM 22X 50 C	63	22.00	47.0	50.00	19.00	28.0	M20
C6 SEM 22X100 C	63	22.00	47.0	100.00	19.00	78.0	M20
C6 SEM 27X 60 C	63	27.00	58.0	60.00	21.00	38.0	M20
C6 SEM 27X100 C	63	27.00	58.0	100.00	21.00	78.0	M20
C6 SEM 32X 60 C	63	32.00	66.0	60.00	24.00	38.0	M20
C6 SEM 40X 60 C	63	40.00	82.0	60.00	27.00	38.0	M20
C8 SEM 16X50 C	80	16.00	38.0	50.00	20.00	17.0	M20
C8 SEM 16X100C	80	16.00	38.0	100.00	70.00	17.0	M20
C8 SEM 22X50 C	80	22.00	47.0	50.00	20.00	19.0	M20
C8 SEM 22X100C	80	22.00	47.0	100.00	70.00	19.0	M20
C8 SEM 27X50 C	80	27.00	58.0	50.00	20.00	21.0	M20
C8 SEM 27X100C	80	27.00	58.0	100.00	70.00	21.0	M20
C8 SEM 32X50 C	80	32.00	66.0	50.00	20.00	24.0	M20
C8 SEM 32X100C	80	32.00	66.0	100.00	70.00	24.0	M20
C8 SEM 40X60 C	80	40.00	82.0	60.00	30.00	27.0	M20

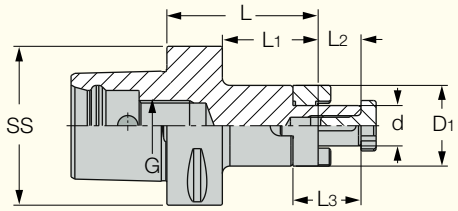


B177 B179

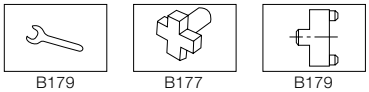
C#-SEMC

DIN 6358 COMBI Shell Mill Holders with ISO 26623-1 Exchangeable, Tapered Shanks





Designation	SS	d	L	D_1	L_1	L_2	L_3	G
C4 SEMC16X 45	40	16.00	45.00	32.0	25.0	17.00	27.00	M14
C4 SEMC22X 45	40	22.00	45.00	40.0	25.0	19.00	31.00	M14
C4 SEMC27X 50	40	27.00	50.00	48.0	30.0	21.00	33.00	M14
C5 SEMC 16X55	50	16.00	55.00	32.0	35.0	17.00	27.00	M16
C5 SEMC 16X85	50	16.00	85.00	32.0	65.0	17.00	27.00	M16
C5 SEMC 22X65	50	22.00	65.00	40.0	45.0	19.00	31.00	M16
C5 SEMC 27X85	50	27.00	85.00	48.0	65.0	21.00	33.00	M16
C6 SEMC 16X60	63	16.00	60.00	32.0	38.0	17.00	27.00	M20
C6 SEMC 16X100	63	16.00	100.00	32.0	78.0	17.00	27.00	M20
C6 SEMC 22X60	63	22.00	60.00	40.0	38.0	19.00	31.00	M20
C6 SEMC 22X100	63	22.00	100.00	40.0	78.0	19.00	31.00	M20
C6 SEMC 27X60	63	27.00	60.00	48.0	38.0	21.00	33.00	M20
C6 SEMC 27X100	63	27.00	100.00	48.0	78.0	21.00	33.00	M20
C6 SEMC 32X60	63	32.00	60.00	58.0	38.0	24.00	38.00	M20
C6 SEMC 40X70	63	40.00	70.00	70.0	48.0	27.00	41.00	M20

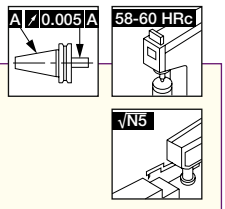


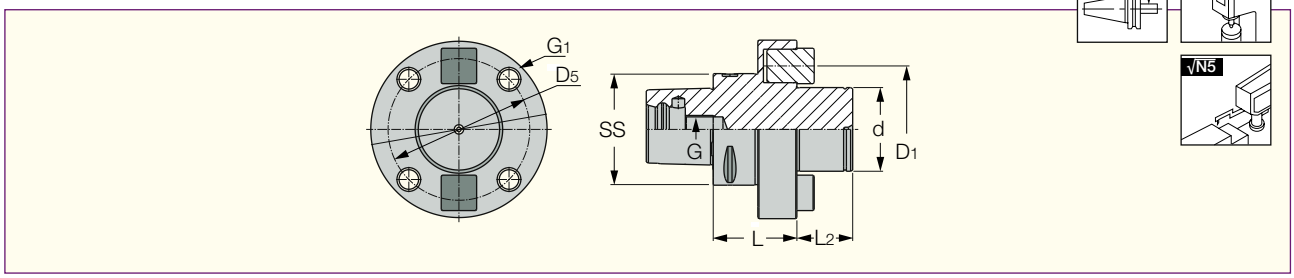
B179 B177 B179

CAMFIX

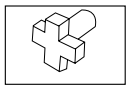
C#-FM

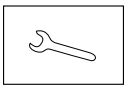
DIN 6357 Face Mill Holders with ISO 26623-1 Tapered Shanks





Designation	SS	d	L_2	L	D_1	D_5	G_1	G
C8 FM 60X60	80	60.00	20.00	40.00	128.0	101.60	M16	M20

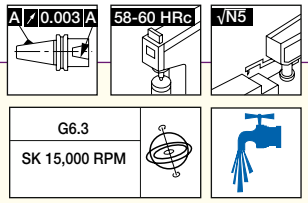

B177

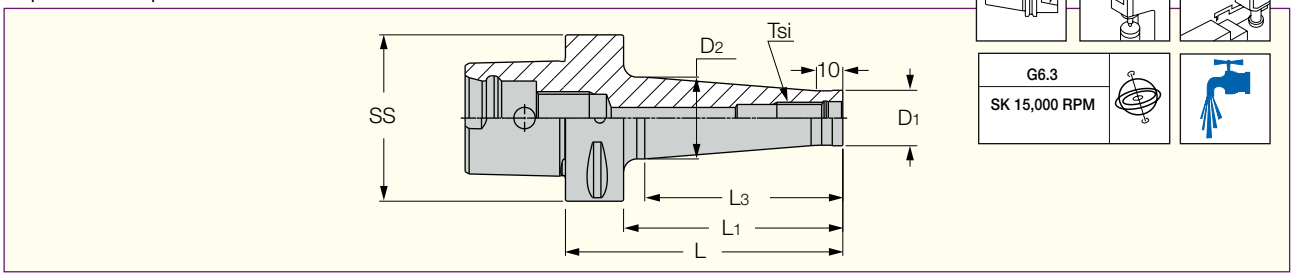

B179

CAMFIX • FLEXFIT

C#-ODP (FLEXFIT)

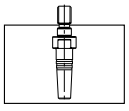
FLEXFIT Threaded Connection Shanks with CAMFIX (ISO 26623-1) Exchangeable, Tapered Adaptations





Designation	SS	Tsi	D_2	D_1	L	L_1	L_3
C4 ODP 10X 53	40	M10	23.00	18.0	53.00	33.0	23.00
C4 ODP 12X 53	40	M12	26.00	21.0	53.00	33.0	23.00
C4 ODP 16X 53	40	M16	34.00	29.0	53.00	33.0	23.00
C5 ODP 10X 53	50	M10	19.50	18.0	53.00	33.0	25.00
C5 ODP 10X103	50	M10	28.00	18.0	103.00	83.0	75.00
C5 ODP 12X 53	50	M12	23.50	21.0	53.00	33.0	25.00
C5 ODP 12X103	50	M12	31.00	21.0	103.00	83.0	75.00
C5 ODP 16X 53	50	M16	34.00	29.0	53.00	33.0	25.00
C5 ODP 16X103	50	M16	36.00	29.0	103.00	83.0	75.00
C6 ODP 10X 55	63	M10	19.50	18.0	55.00	33.0	25.00
C6 ODP 10X105	63	M10	28.00	18.0	105.00	83.0	75.00
C6 ODP 10X130	63	M10	32.00	18.0	130.00	108.0	100.00
C6 ODP 12X 55	63	M12	23.50	21.0	55.00	33.0	25.00
C6 ODP 12X105	63	M12	31.00	21.0	105.00	83.0	75.00
C6 ODP 12X130	63	M12	36.00	21.0	130.00	108.0	100.00
C6 ODP 16X 55	63	M16	34.00	29.0	55.00	33.0	25.00
C6 ODP 16X105	63	M16	34.00	29.0	105.00	83.0	75.00
C6 ODP 16X130	63	M16	41.00	29.0	130.00	108.0	100.00

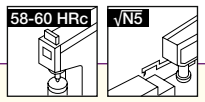
• Balanced to G6.3/15,000 RPM.

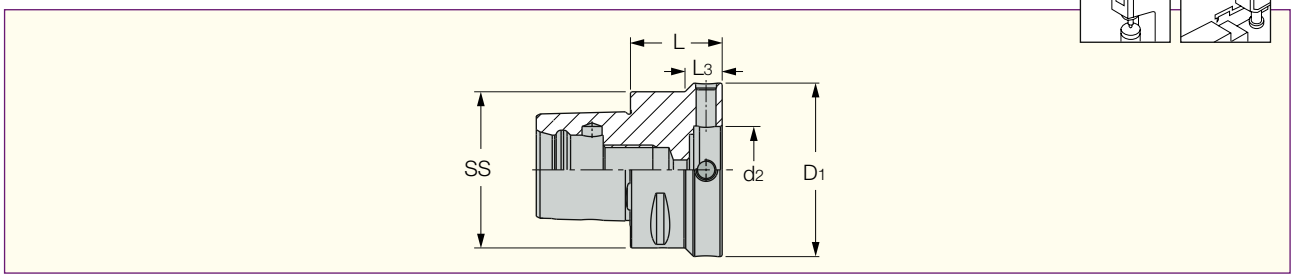

B118-120


B116

ADJ C#

FINEFIT DIN 6499 ER Collet Chuck with a CAMFIX Adaptations





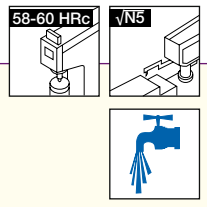
Designation	SS	d_2	D_1	L	L_3
ADJ C5 D70	50	35.00	70.0	40.50	20.50
ADJ C6 D70	63	35.00	70.0	37.00	15.00

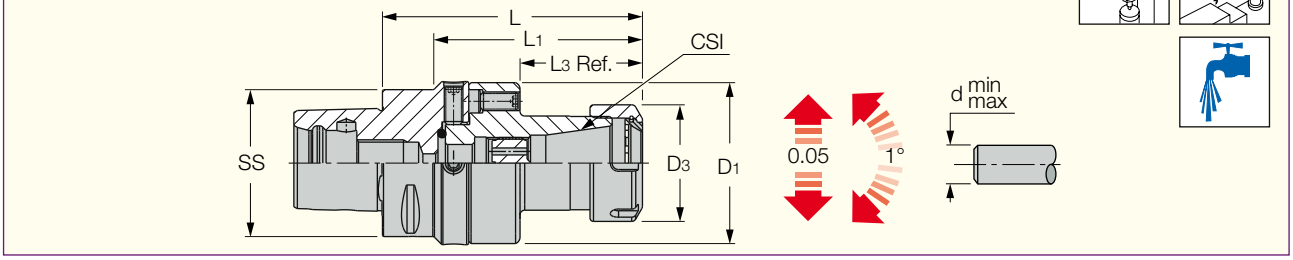
• Radial adjustment 0.1 mm. Angular adjustment 1°.

CAMFIX • FINEFIT

ADJ C-ER

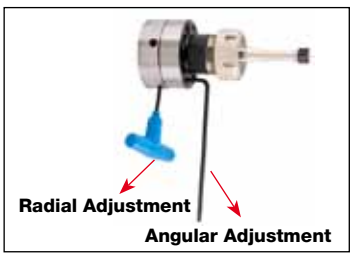
FINEFIT Center Alignment Shank and Base with a CAMFIX Adaptations, for Specially Tailored Toolholders





Designation	SS	CSI	d min	d max	D_1	D_3	L	L_1	L_3
ADJ C5 ER32	50	ER32	2.0	20.0	70.0	50.00	115.00	95.0	52.50
ADJ C6 ER32	63	ER32	2.0	20.0	70.0	50.00	111.50	89.5	52.50

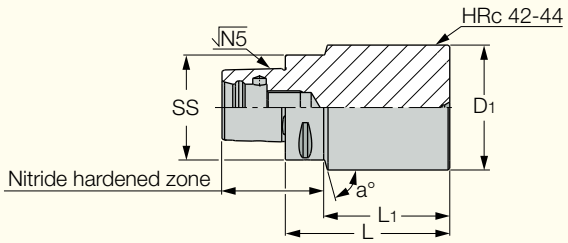
• Radial adjustment 0.1 mm. Angular adjustment 1°.



B175 B176 B145-148 B177 B142-144

C#-B4340 (Blank)

Blanks with CAMFIX (ISO 26623-1 Standard) Exchangeable, Tapered Shanks



Designation	SS	D_1	L	L_1	a°
C4 B4340 040095	40	40.0	95.00	75.0	-
C4 B4340 060165	40	60.0	165.00	144.0	75
C4 B4340 080075	40	80.0	75.00	54.0	75
C4 B4340 100085	40	100.0	85.00	64.0	75
C5 B4340 050125	50	50.0	125.00	105.0	-
C5 B4340 075175	50	75.0	175.00	154.0	90
C5 B4340 090080	50	90.0	80.00	59.0	75
C5 B4340 110090	50	110.0	90.00	69.0	75
C6 B4340 075195	63	75.0	195.00	172.0	75
C6 B4340 110085	63	110.0	85.00	62.0	75
C6 B4340 120180	63	120.0	180.00	157.0	90
C6 B4340 130095	63	130.0	95.00	72.0	75
C8 B4340 080200	80	80.0	200.00	170.0	90
C8 B4340 120160	80	120.0	160.00	129.0	90
C8 B4340 130090	80	130.0	90.00	59.0	90
C8 B4340 145200	80	145.0	200.00	169.0	90

• Material SAE 4340

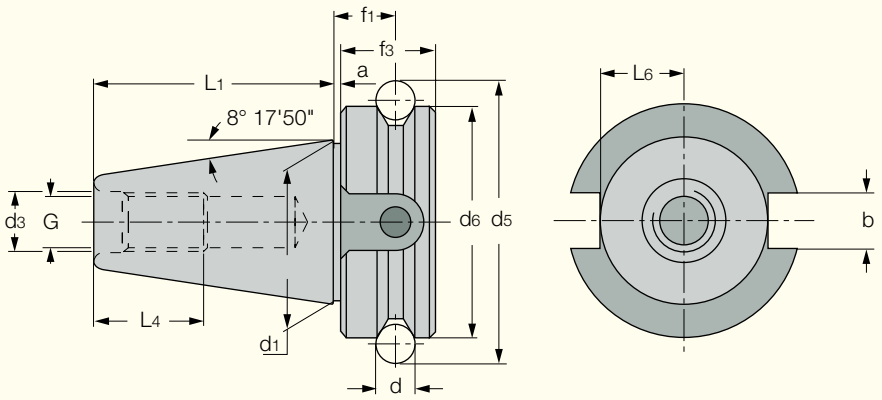
BT MAS-403

Member IMC Group

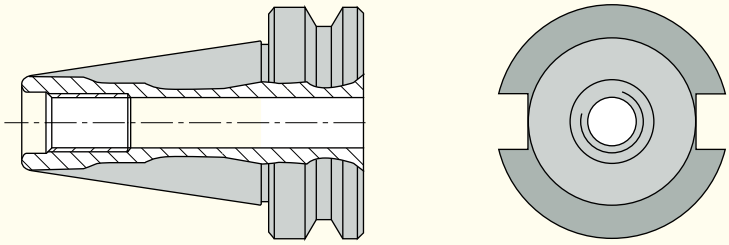
BT MAS

Toolholder Standard

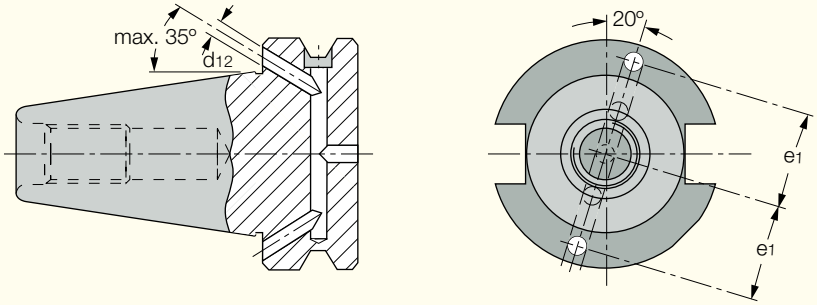
Type A



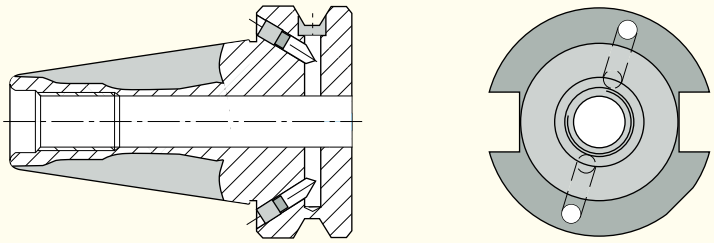
Type AD
Coolant Hole



Type B
Coolant Through
Flange



Type ADB
Coolant Hole or Coolant
through Flange



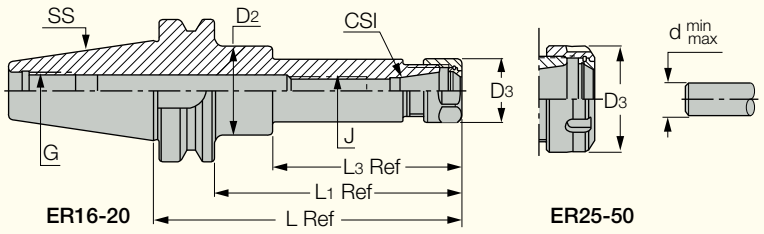
Shank	a	b (H12)	d	d_1	G	d_3 (H8)	d_5	d_6 (H8)	f_1 ±0.1
BT 30	2	16.1	8	31.75	M12	12.5	56.144	46	13.6
BT 40	2	16.1	10	44.45	M16	17.0	75.679	63	16.6
BT 50	3	25.7	15	69.85	M24	25.0	119.020	100	23.2

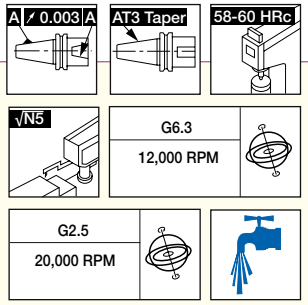
Shank	f_3	L_1 ±0.2	L_4 MIN	$L_{6-0.2}$	e_1 ±0.1	d_{12}	Taper AT3
BT 30	20	48.4	24	16.3	21	4	0.002
BT 40	25	65.4	30	22.6	27	4	0.003
BT 50	35	101.8	45	35.4	42	6	0.004

BT MAS

BT-ER

DIN6499 ER Collet Chucks with BT MAS-403 AD/B Tapered Shanks

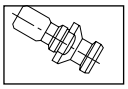


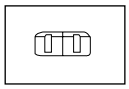


Designation	SS	CSI	d min	d max	L	L1	L3	D3	D2	J	G	Kg
BT30 ER16X 70 (1)	30	ER16	0.5	10.0	70.00	48.0	-	28.00	-	M10	M12	0.47
BT30 ER16X100 (1)	30	ER16	0.5	10.0	100.00	73.0	-	28.00	-	M10	M12	0.61
BT30 ER20X 70 (1)	30	ER20	1.0	13.0	70.00	48.0	-	34.00	-	M12	M12	0.61
BT30 ER25X 60 (1)	30	ER25	1.0	16.0	60.00	38.0	-	42.00	-	M16	M12	0.46
BT30 ER32X 60 (1)	30	ER32	2.0	20.0	60.00	38.0	-	50.00	-	M18X1.5	M12	0.42
BT40 ER11X100M (2)	40	ER11	0.5	7.0	100.00	73.0	-	16.00	-	M6	M16	1.06
BT40 ER16X 70 (2)	40	ER16	0.5	10.0	70.00	43.0	-	28.00	-	M12	M16	1.06
BT40 ER16X 70 B (2)	40	ER16	0.5	10.0	70.00	43.0	-	28.00	-	M12	M16	1.06
BT40 ER16X100 (2)	40	ER16	0.5	10.0	100.00	73.0	-	28.00	-	M12	M16	1.20
BT40 ER16X100 B (2)	40	ER16	0.5	10.0	100.00	73.0	-	28.00	-	M12	M16	1.16
BT40 ER16X150 (1)	40	ER16	0.5	10.0	150.00	123.0	110.00	28.00	40.00	M12	M16	1.56
BT40 ER16X150 B (1)	40	ER16	0.5	10.0	150.00	123.0	110.00	28.00	40.00	M12	M16	1.56
BT40 ER16X200 (1)	40	ER16	0.5	10.0	200.00	173.0	85.00	28.00	40.00	M10	M16	1.84
BT40 ER16X200 B (1)	40	ER16	0.5	10.0	200.00	173.0	85.00	28.00	40.00	M10	M16	1.86
BT40 ER16X200 M (1)	40	ER16	0.5	10.0	200.00	173.0	85.00	22.00	40.00	M10	M16	1.77
BT40 ER20X 70 (2)	40	ER20	1.0	13.0	70.00	43.0	-	34.00	-	M12	M16	1.07
BT40 ER20X 70 B (2)	40	ER20	1.0	13.0	70.00	43.0	-	34.00	-	M12	M16	1.08
BT40 ER20X100 (2)	40	ER20	1.0	13.0	100.00	73.0	-	34.00	-	M12	M16	1.27
BT40 ER20X100 B (2)	40	ER20	1.0	13.0	100.00	73.0	-	34.00	-	M12	M16	1.26
BT40 ER20X120 (2)	40	ER20	1.0	13.0	120.00	93.0	-	34.00	-	M12	M16	1.39
BT40 ER20X150 (1)	40	ER20	1.0	13.0	150.00	123.0	-	34.00	-	M12	M16	1.61
BT40 ER20X150 B (1)	40	ER20	1.0	13.0	150.00	123.0	-	34.00	-	M12	M16	1.61
BT40 ER25X 60 (2)	40	ER25	1.0	13.0	60.00	33.0	-	42.00	-	M16	M16	1.00
BT40 ER25X 60 B (2)	40	ER25	1.0	13.0	60.00	33.0	-	42.00	-	M16	M16	1.00
BT40 ER25X100 (2)	40	ER25	1.0	16.0	100.00	73.0	-	42.00	-	M16	M16	1.40
BT40 ER25X100 B (2)	40	ER25	1.0	16.0	100.00	73.0	-	42.00	-	M16	M16	1.36
BT40 ER25X150 (1)	40	ER25	1.0	16.0	150.00	123.0	-	42.00	-	M16	M16	2.07
BT40 ER25X150 B (1)	40	ER25	1.0	16.0	150.00	123.0	-	42.00	-	M16	M16	1.88
BT40 ER32X 60 (2)	40	ER32	2.0	20.0	60.00	33.0	-	50.00	-	M22X1.5	M16	0.92
BT40 ER32X 60 B (2)	40	ER32	2.0	20.0	60.00	33.0	-	50.00	-	M22X1.5	M16	0.92
BT40 ER32X100 (2)	40	ER32	2.0	20.0	100.00	73.0	-	50.00	-	M22X1.5	M16	1.45
BT40 ER32X100 B (2)	40	ER32	2.0	20.0	100.00	73.0	-	50.00	-	M22X1.5	M16	1.49
BT40 ER32X120 (2)	40	ER32	2.0	20.0	120.00	93.0	-	50.00	-	M22X1.5	M16	1.74
BT40 ER32X150 (1)	40	ER32	2.0	20.0	150.00	123.0	-	50.00	-	M22X1.5	M16	2.19
BT40 ER32X150 B (1)	40	ER32	2.0	20.0	150.00	123.0	-	50.00	-	M22X1.5	M16	2.10
BT40 ER40X 80 (2)	40	ER40	3.0	26.0	80.00	53.0	-	63.00	-	M28X1.5	M16	1.10
BT40 ER40X 80 B (2)	40	ER40	3.0	26.0	80.00	53.0	-	63.00	-	M28X1.5	M16	1.10
BT40 ER40X100 (2)	40	ER40	3.0	26.0	100.00	73.0	-	63.00	-	M28X1.5	M16	1.32
BT40 ER40X100 B (2)	40	ER40	3.0	26.0	100.00	73.0	-	63.00	-	M28X1.5	M16	1.35
BT40 ER40X150 (1)	40	ER40	3.0	26.0	150.00	123.0	-	63.00	-	M28X1.5	M16	2.03
BT40 ER40X150 B (1)	40	ER40	3.0	26.0	150.00	123.0	-	63.00	-	M28X1.5	M16	2.07
BT40 ER50X 90 (2)	40	ER50	10.0	34.0	90.00	63.0	-	78.00	-	M28X1.5	M16	1.27
BT40 ER50X 90 B (2)	40	ER50	10.0	34.0	90.00	63.0	-	78.00	-	M28X1.5	M16	1.28

• B suffix stands for coolant through flange

(1) Balanced to G6.3/12,000 RPM. (2) Balanced to G2.5/20,000 RPM.


B172-174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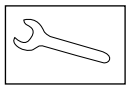
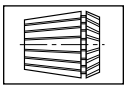
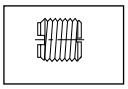

B176


B145-148

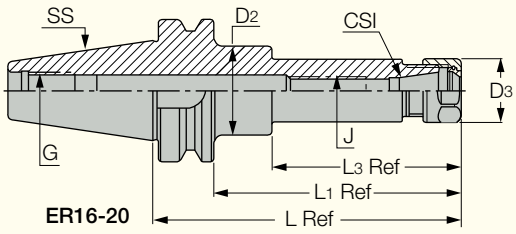

B177

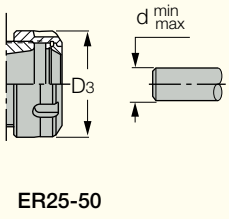

B142-144

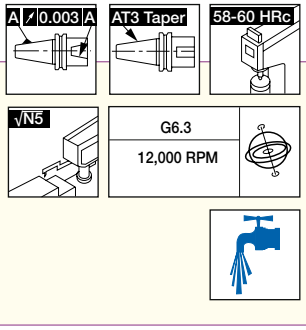
BT MAS

BT-ER (continued)

DIN6499 ER Collet Chucks with BT MAS-403 AD Tapered Shanks



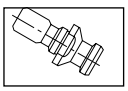


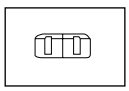


Designation	SS	CSI	d min	d max	L	L1	L3	D3	D2	J	G	Kg
BT50 ER16X100 (1)	50	ER16	0.5	10.0	100.00	62.0	-	28.00	-	M12	M24	3.70
BT50 ER16X100 B (1)	50	ER16	0.5	10.0	100.00	62.0	-	28.00	-	M12	M24	3.76
BT50 ER16X125 (1)	50	ER16	0.5	10.0	125.00	87.0	-	28.00	-	M12	M24	3.94
BT50 ER16X125 B (1)	50	ER16	0.5	10.0	125.00	87.0	-	28.00	-	M12	M24	0.00
BT50 ER16X150 (1)	50	ER16	0.5	10.0	150.00	112.0	-	28.00	-	M12	M24	4.00
BT50 ER16X150 B (1)	50	ER16	0.5	10.0	150.00	112.0	-	28.00	-	M12	M24	4.03
BT50 ER16X200 (1)	50	ER16	0.5	10.0	200.00	162.0	85.00	28.00	40.00	M10	M24	4.51
BT50 ER16X200 B (1)	50	ER16	0.5	10.0	200.00	162.0	85.00	28.00	40.00	M10	M24	4.53
BT50 ER20X100 (1)	50	ER20	1.0	10.0	100.00	62.0	-	34.00	-	M12	M24	3.81
BT50 ER20X125 (1)	50	ER20	1.0	13.0	125.00	87.0	-	34.00	-	M12	M24	3.94
BT50 ER20X150 (1)	50	ER20	1.0	13.0	150.00	112.0	-	34.00	-	M12	M24	4.06
BT50 ER20X150 B (1)	50	ER20	1.0	13.0	150.00	112.0	-	34.00	-	M12	M24	4.09
BT50 ER20X200 (1)	50	ER20	1.0	13.0	200.00	162.0	85.00	34.00	50.00	M12	M24	5.00
BT50 ER20X200 B (1)	50	ER20	1.0	13.0	200.00	162.0	85.00	34.00	50.00	M12	M24	5.36
BT50 ER25X100 (1)	50	ER25	1.0	16.0	100.00	62.0	-	42.00	-	M16	M24	3.90
BT50 ER25X100 B (1)	50	ER25	1.0	16.0	100.00	62.0	-	42.00	-	M16	M24	3.91
BT50 ER25X150 (1)	50	ER25	1.0	16.0	150.00	112.0	-	42.00	-	M16	M24	4.38
BT50 ER25X150 B (1)	50	ER25	1.0	16.0	150.00	112.0	-	42.00	-	M16	M24	4.35
BT50 ER25X200 (1)	50	ER25	1.0	16.0	200.00	162.0	87.00	42.00	55.00	M16	M24	5.29
BT50 ER25X200 B (1)	50	ER25	1.0	16.0	200.00	162.0	87.00	42.00	55.00	M16	M24	5.29
BT50 ER32X100 (1)	50	ER32	2.0	20.0	100.00	62.0	-	50.00	-	M22X1.5	M24	4.01
BT50 ER32X100 B (1)	50	ER32	2.0	20.0	100.00	62.0	-	50.00	-	M22X1.5	M24	3.94
BT50 ER32X125 (1)	50	ER32	2.0	20.0	125.00	87.0	-	34.00	-	M12	M24	4.24
BT50 ER32X150 (1)	50	ER32	2.0	20.0	150.00	112.0	-	50.00	-	M22X1.5	M24	4.64
BT50 ER32X150 B (1)	50	ER32	2.0	20.0	150.00	112.0	-	50.00	-	M22X1.5	M24	4.63
BT50 ER32X200 (1)	50	ER32	2.0	20.0	200.00	162.0	88.00	50.00	63.00	M22X1.5	M24	5.80
BT50 ER32X200 B (1)	50	ER32	2.0	20.0	200.00	162.0	88.00	50.00	63.00	M22X1.5	M24	5.87
BT50 ER40X100 (1)	50	ER40	3.0	26.0	100.00	62.0	-	63.00	-	M28X1.5	M24	4.03
BT50 ER40X100 B (1)	50	ER40	3.0	26.0	100.00	62.0	-	63.00	-	M28X1.5	M24	3.95
BT50 ER40X150 (1)	50	ER40	3.0	26.0	150.00	112.0	-	63.00	-	M28X1.5	M24	5.05
BT50 ER40X150 B (1)	50	ER40	3.0	26.0	150.00	112.0	-	63.00	-	M28X1.5	M24	5.12
BT50 ER40X200 (1)	50	ER40	3.0	26.0	200.00	162.0	-	63.00	-	M28X1.5	M24	6.23
BT50 ER40X200 B (1)	50	ER40	3.0	26.0	200.00	162.0	-	63.00	-	M28X1.5	M24	6.21
BT50 ER50X100 (1)	50	ER50	3.0	26.0	100.00	62.0	-	78.00	-	M36X1.5	M24	3.65
BT50 ER50X150 (1)	50	ER50	10.0	34.0	150.00	112.0	-	78.00	-	M36X1.5	M24	5.50

• B suffix stands for coolant through flange

(1) Balanced to G6.3/12,000 RPM.


B172-174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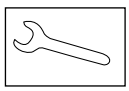
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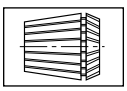
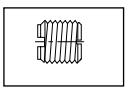

B145-148

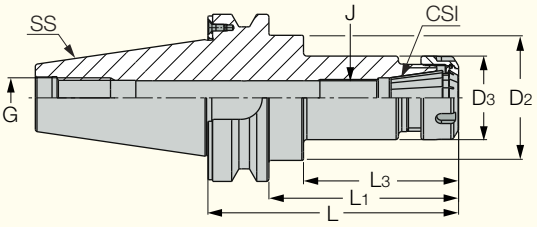

B177

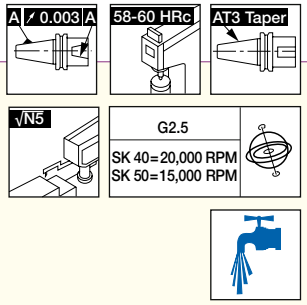

B142-144

BT MAS

BT-FC-ER

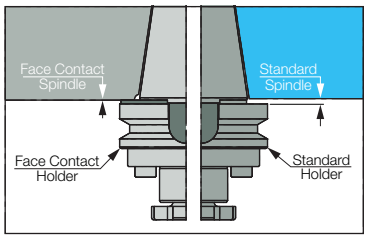
ER Collet Chucks with BT MAS-403 Face Contact AD Tapered Shanks

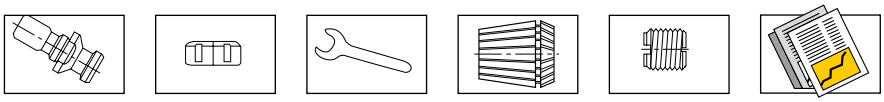




Dimensions	SS	D	CSI	D1	L	L1	L2	J	G
BT40 FC ER16X70		28	16		70	44		M12	
BT40 FC ER16X100		28	16		100	74		M12	
BT40 FC ER32X60	40	50	32		60	34		M22x1.5	M16
BT40 FC ER32X100		50	32		100	74		M22x1.5	
BT40 FC ER40X80		63	40		80	54		M28x1.5	
BT50 FC ER16X100		28	16		100	63.5		M12	
BT50 FC ER16X150		28	16		150	113.5		M12	
BT50 FC ER16X200		28	16	40	200	163.5	85	M10	
BT50 FC ER32X100		50	32		100	63.5		M22x1.5	
BT50 FC ER32X150	50	50	32		150	113.5		M22x1.5	M24
BT50 FC ER32X200		50	32	63	200	163.5	88	M22x1.5	
BT50 FC ER40X100		63	40		100	63.5		M28x1.5	
BT50 FC ER40X150		63	40		150	113.5		M28x1.5	
BT50 FC ER40X200		63	40		200	163.5		M28x1.5	

BT-FC Face Contact Taper



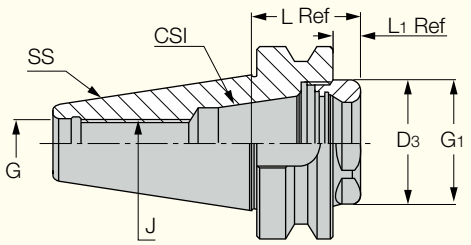


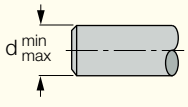
B172-174 | B175 | B176 | B145-148 | B177 | B142-144

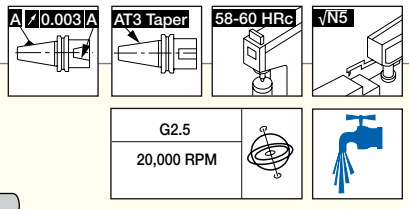
BT MAS • SHORTIN

BT-ER-SHORT

Short ER Collet Chucks with BT MAS-403 AD Tapered Shanks

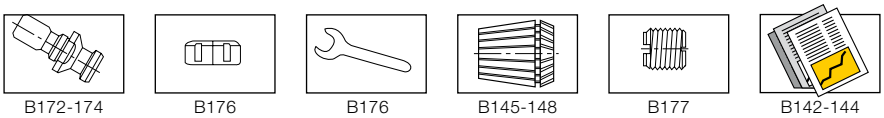






Designation	SS	CSI	d min	d max	L	L1	D3	J	G	G1	Kg
BT30 ER20 SHORT	30	ER20	1.0	13.0	27.20	5.2	25.00	M12	M12	M25X1.5	0.30
BT40 ER32 SHORT	40	ER32	2.0	20.0	36.50	9.5	40.00	M16	M16	M40X1.5	0.74
BT40 ER32 SHORT B	40	ER32	2.0	20.0	36.50	9.5	40.00	M16	M16	M40X1.5	1.80
BT40 ER40 SHORT	40	ER40	3.0	26.0	46.50	9.5	50.00	M16	M16	M50X1.5	0.78
BT50 ER32 SHORT	50	ER32	2.0	20.0	47.50	9.5	40.00	M22X1.5	M24	M40X1.5	3.36
BT50 ER40 SHORT	50	ER40	3.0	26.0	47.50	9.5	50.00	M28X1.5	M24	M50X1.5	3.09

• B is the designation for coolant through flange. • Balanced to G2.5/20,000 RPM.

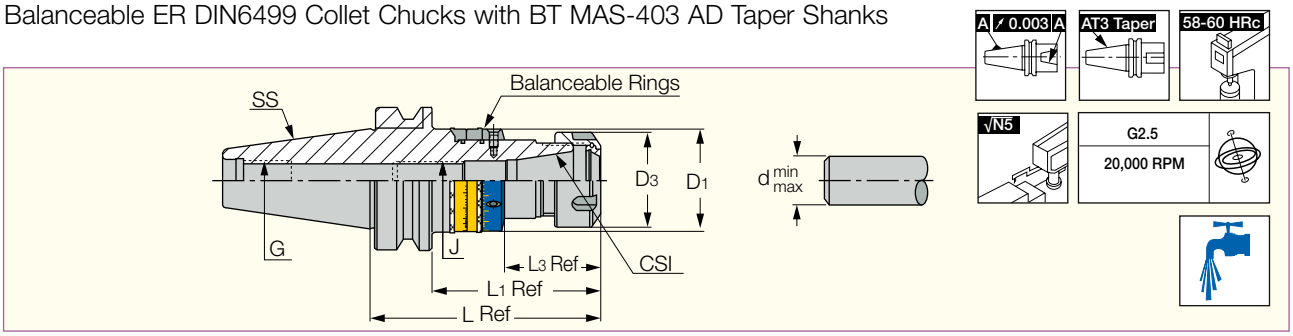


B172-174 | B176 | B176 | B145-148 | B177 | B142-144

A16

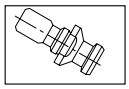
BT-ER-BIN (BALANCIN)

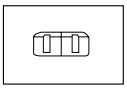
Balanceable ER DIN6499 Collet Chucks with BT MAS-403 AD Taper Shanks



Designation	SS	CSI	d min	d max	L	L1	L3	D3	D1	G	J	Kg
BT40 ER16X100 BIN	40	ER16	0.5	10.0	100.00	73.0	44.00	28.00	44.0	M16	M10	1.26
BT40 ER16X150 BIN	40	ER16	0.5	10.0	150.00	123.0	78.70	28.00	44.0	M16	M10	1.56
BT40 ER20X100 BIN	40	ER20	1.0	13.0	100.00	73.0	44.60	34.00	44.0	M16	M12	1.30
BT40 ER20X150 BIN	40	ER20	1.0	13.0	150.00	123.0	79.60	34.00	44.0	M16	M12	1.67
BT40 ER25X100 BIN	40	ER25	1.0	16.0	100.00	73.0	43.00	42.00	44.0	M16	M16	1.26
BT40 ER25X150 BIN	40	ER25	1.0	16.0	150.00	123.0	79.00	42.00	44.0	M16	M16	1.64
BT40 ER32X100 BIN	40	ER32	2.0	20.0	100.00	73.0	44.00	50.00	60.0	M16	M22X1.5	1.53
BT40 ER32X150 BIN	40	ER32	2.0	20.0	150.00	123.0	94.00	50.00	60.0	M16	M22X1.5	2.24
BT40 ER40X100 BIN	40	ER40	3.0	26.0	100.00	73.0	44.00	63.00	60.0	M16	M28X1.5	1.42

• Preset balanced to G2.5/20,000 RPM (can be balanced by the balancing ring up to G2.5 at 30,000 RPM).


B172-174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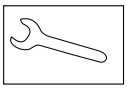
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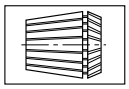
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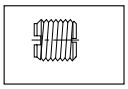
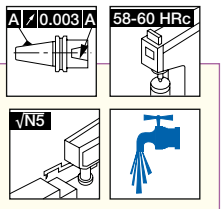

B177

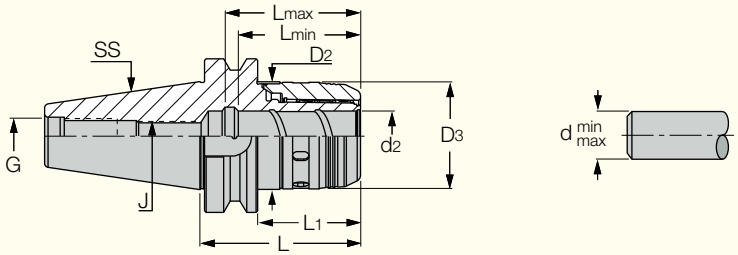

A9-10
B142-144

BT MAS • MAXIN

BT-MAXIN

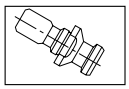
Power Chucks with BT MAS-403 AD Taper Shanks





Designation	SS	d_2 (2)	d min (3)	D_3	D_2	L	L_1	L min	L max	J	G	Coolant	Kg
BT40 MAXIN 20X 85	40	20.00	6.0	51.00	53.00	85.00	58.0	56.0	68.0	M16	M16	N	1.12
BT40 MAXIN 20X 85 B (1)	40	20.00	6.0	51.00	53.00	85.00	58.0	56.0	68.0	M16	M16	Y	1.12
BT40 MAXIN 32X108	40	32.00	6.0	69.00	70.00	108.00	81.0	70.0	83.0	M16	M16	N	1.60
BT40 MAXIN 32X108 B (1)	40	32.00	6.0	69.00	70.00	108.00	81.0	70.0	83.0	M16	M16	Y	1.59
BT50 MAXIN 20X105	50	20.00	6.0	51.00	53.00	105.00	67.0	56.0	69.0	M16	M24	N	3.90
BT50 MAXIN 20X105 B	50	20.00	6.0	51.00	53.00	105.00	67.0	56.0	69.0	M16	M24	Y	5.00
BT50 MAXIN 32X106	50	32.00	6.0	69.00	70.00	106.00	68.0	69.0	83.0	M20X2	M24	N	3.80
BT50 MAXIN 32X106 B (1)	50	32.00	6.0	69.00	70.00	106.00	68.0	69.0	83.0	M20X2	M24	Y	7.30
BT50 MAXIN 32X135	50	32.00	6.0	69.00	70.00	135.00	97.0	69.0	84.0	M20X2	M24	N	4.60
BT50 MAXIN 32X135 B (1)	50	32.00	6.0	69.00	70.00	135.00	97.0	69.0	84.0	M20X2	M24	Y	4.58

(1) With coolant through the flange (2) Without a collet (3) By using a reducer collet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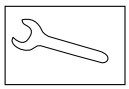
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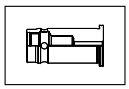
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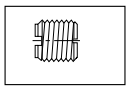
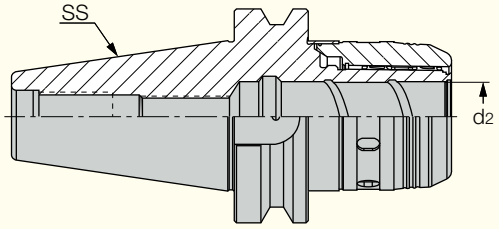

B177


A11-12

BT MAS • MAXIN KIT

KIT BT-MAXIN

Contains a Power Chuck with a BT Tapered Shank and a Set of Collets in Various Bore Sizes



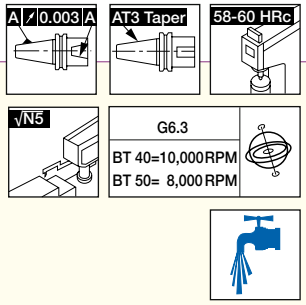
Designation	SS	d_2	Qty	d Range
KIT BT40 MAXIN 20X85 6	40	20.00	6	6,8,10,12,14,16
KIT BT40 MAXIN 32X108 7	40	32.00	7	6,8,10,12,16,20,25
KIT BT50 MAXIN 20X105 6	50	20.00	6	6,8,10,12,14,16
KIT BT50 MAXIN 32X106 7	50	32.00	7	6,8,10,12,16,20,25

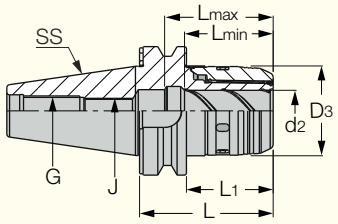
• Each kit contains one power chuck, a set of SC-SPR collets, extraction hook and wrench.

MAXIN • BT MAS

BT-FC-MAXIN

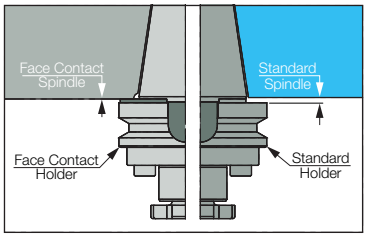
Power Chucks with BT MAS-403 Face Contact AD Tapered Shanks

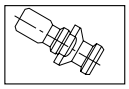




Designation	SS	d	D_1	L	L_1	L_{min}	L_{max}	J	G
BT40 FC MAXIN20X85	40	20	53	85	58	55.5	68.25	M16	M16
BT40 FC MAXIN32X108		32	70.0	108	80.5	70	83.0	M16	M16
BT50 FC MAXIN20X105	50	20	53	105	67	55.5	68.55	M16	M24
BT50 FC MAXIN32X106		32	69.9	106	68.0	69	83.3	M20X2	M24

BT-FC Face Contact Taper

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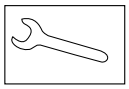
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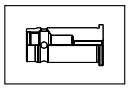
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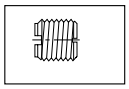
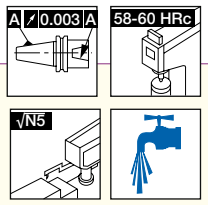

B177

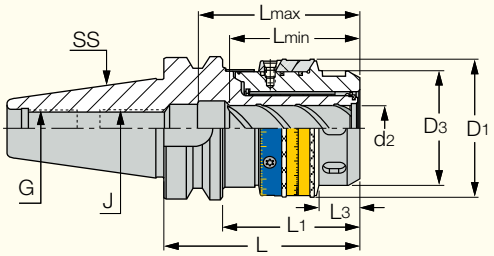

A11-12

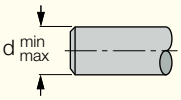
BT MAS • MAXIN (BIN)

BT-MAXIN-BIN (BALANCIN)

Balanceable Power Chucks with BT MAS-403 AD Tapered Shanks



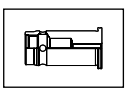




Designation	SS	d_2(1)	d min(2)	D_3	D_1	L	L_1	L_3	L min	L max	J	G	Kg
BT40 MAXIN 20X 85 BIN	40	20.00	6.0	51.00	61.0	85.00	58.0	18.00	56.0	68.0	M16	M16	1.12
BT40 MAXIN 32X108 BIN	40	32.00	6.0	69.00	80.0	108.00	81.0	25.00	70.0	83.0	M16	M16	1.60
BT50 MAXIN 20X105 BIN	50	20.00	6.0	51.00	61.0	105.00	67.0	18.00	56.0	69.0	M16	M24	3.89
BT50 MAXIN 32X106 BIN	50	32.00	6.0	69.00	80.0	106.00	68.0	25.00	69.0	83.0	M20X2	M24	3.79

• Use of d2 diameter tools provide best performance as collets reduce gripping force by 25%. • Add B as suffix to the designation for coolant through flange
• First clamp the tool inside the chuck and then improve the system's balance by adjusting the balancing rings

(1) Without a collet (2) By using a reducer collet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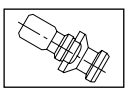
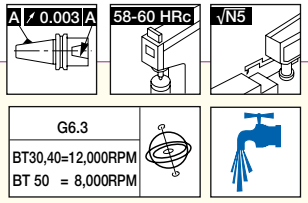
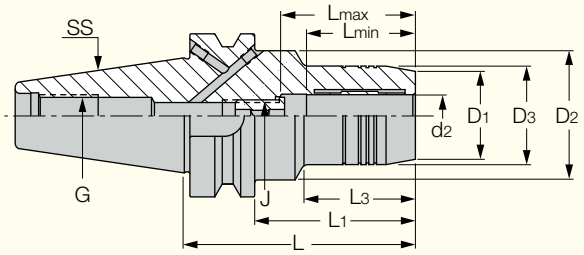

B172-174


A9-12

BT-HYDRO

Hydraulic Chucks with MAS-BT Form ADB Shanks

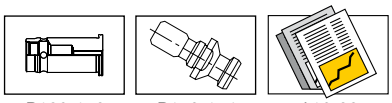




Designation	SS	d_2	D_1	D_3	D_2	L	L_1	L_3	L min	L max	J	G	Kg
BT30 HYDRO 6 X 60 (1)	30	6.00	23.0	26.00	-	60.00	33.0	-	27.0	37.0	M5	M12	0.58
BT30 HYDRO 8 X 64 (1)	30	8.00	25.0	28.00	45.00	64.00	37.0	-	27.0	37.0	M6	M12	0.20
BT30 HYDRO 10 X 64 (1)	30	10.00	27.0	30.00	-	64.00	37.0	-	32.0	42.0	M8X1	M12	0.60
BT30 HYDRO 12 X 72 (1)	30	12.00	29.0	32.00	-	72.00	45.0	-	37.0	47.0	M10X1	M12	0.16
BT30 HYDRO 14 X 70 (1)	30	14.00	30.0	34.00	-	70.00	43.0	-	37.0	47.0	M10X1	M12	0.67
BT30 HYDRO 16 X 90 (1)	30	16.00	34.0	38.00	50.00	90.00	68.0	47.50	42.0	52.0	M12X1	M12	1.02
BT30 HYDRO 18 X 90 (1)	30	18.00	36.0	40.00	42.00	90.00	68.0	47.50	42.0	52.0	M12X1	M12	0.00
BT30 HYDRO 20 X 90 (1)	30	20.00	38.0	42.00	-	90.00	68.0	47.50	42.0	52.0	M12X1	M12	1.00
BT40 HYDRO 6 X 90 (1)	40	6.00	23.0	26.00	50.00	90.00	63.0	43.00	27.0	37.0	M5	M16	1.39
BT40 HYDRO 8 X 90 (1)	40	8.00	25.0	28.00	50.00	90.00	63.0	43.50	27.0	37.0	M6	M16	1.42
BT40 HYDRO 10 X 90 (1)	40	10.00	27.0	30.00	50.00	90.00	63.0	44.00	32.0	42.0	M8X1	M16	1.44
BT40 HYDRO 12 X 90 (1)	40	12.00	29.0	32.00	50.00	90.00	63.0	44.50	37.0	47.0	M10X1	M16	1.46
BT40 HYDRO 14 X 90 (1)	40	14.00	30.0	34.00	50.00	90.00	63.0	47.50	37.0	47.0	M10X1	M16	1.44
BT40 HYDRO 16 X 90 (1)	40	16.00	34.0	38.00	50.00	90.00	63.0	47.50	42.0	52.0	M12X1	M16	1.51
BT40 HYDRO 18 X 90 (1)	40	18.00	36.0	40.00	50.00	90.00	63.0	47.50	42.0	52.0	M12X1	M16	1.53
BT40 HYDRO 20 X 90 (1)	40	20.00	38.0	42.00	50.00	90.00	63.0	47.50	42.0	52.0	M12X1	M16	1.56
BT40 HYDRO 25 X 90 (1)	40	25.00	46.0	50.00	63.00	90.00	51.0	51.00	48.0	58.0	M12X1	M16	1.67
BT40 HYDRO 32 X110 (1)	40	32.00	56.0	60.00	60.00	110.00	81.5	81.50	52.0	62.0	M16X1	M16	2.34
BT50 HYDRO 6 X110 (2)	50	6.00	23.0	26.00	80.00	110.00	72.0	43.00	27.0	37.0	M5	M24	1.20
BT50 HYDRO 8 X100 (2)	50	8.00	25.0	28.00	80.00	110.00	72.0	43.50	27.0	37.0	M6	M24	4.50
BT50 HYDRO 10 X110 (2)	50	10.00	27.0	30.00	80.00	110.00	72.0	44.00	32.0	42.0	M8X1	M24	4.70
BT50 HYDRO 12 X110 (2)	50	12.00	29.0	32.00	80.00	110.00	72.0	42.00	37.0	47.0	M10X1	M24	4.85
BT50 HYDRO 14 X110 (2)	50	14.00	30.0	34.00	80.00	110.00	72.0	42.00	37.0	47.0	M10X1	M24	4.80
BT50 HYDRO 16 X110 (2)	50	16.00	34.0	38.00	80.00	110.00	72.0	45.00	42.0	52.0	M12X1	M24	4.82
BT50 HYDRO 18 X110 (2)	50	18.00	36.0	40.00	80.00	110.00	72.0	45.00	42.0	52.0	M12X1	M24	3.20
BT50 HYDRO 20 X110 (2)	50	20.00	38.0	42.00	80.00	110.00	72.0	47.50	42.0	52.0	M12X1	M24	4.80
BT50 HYDRO 25 X110 (2)	50	25.00	46.0	50.00	80.00	110.00	72.0	47.50	48.0	58.0	M12X1	M24	5.00
BT50 HYDRO 32 X110 (2)	50	32.00	56.0	60.00	80.00	110.00	72.0	47.50	54.0	64.0	M12X1	M24	5.10

• Chucking forces will be reduced by 25% if reduction sleeves are used. • Reduction sleeves are available for 12, 20, 25 and 32 mm bore diameters (ordered separately). • The coolant passages in the B type flange are blocked with screws which can be removed when required. • Clamping wrench (wrench HYDRO HEX 4) and test bar should be ordered separately.

(1) Balanced to G6.3/12,000 RPM. (2) Balanced to G6.3/8,000 RPM.

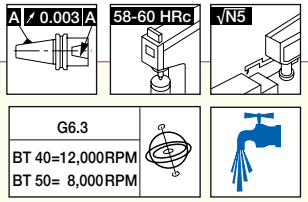


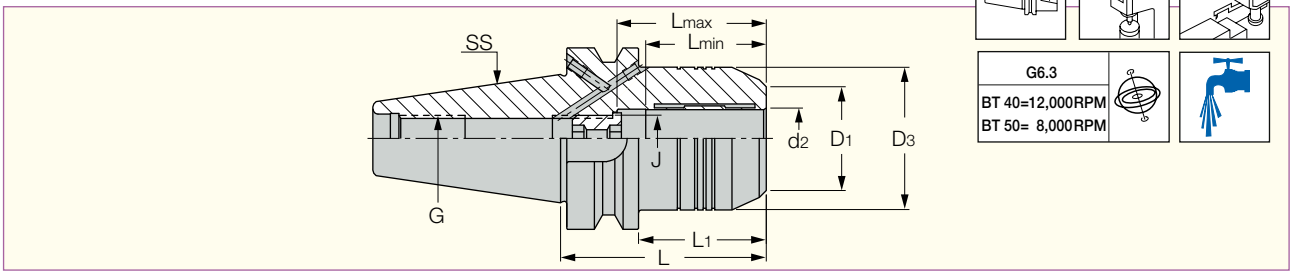
B169-170 B172-174 A19-20

BT MAS • HYDROFIT
HOLDING LINE

BT-HYDRO (heavy duty)

Heavy Duty, Short Hydraulic Chucks with MAS-BT Form ADB Shanks

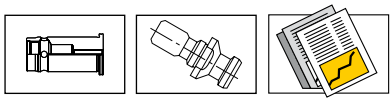




Designation	SS	d_2	D_1	D_3	L	L_1	L min	L max	J	G	Kg
BT40 HYDRO 20 X 72.5 (1)	40	20.00	40.0	49.50	72.50	45.5	52.0	62.0	M16X1	M16	1.43
BT50 HYDRO 32 X 90 (2)	50	32.00	56.0	72.00	90.00	52.0	65.0	75.0	M16X1	M24	4.80

• Chucking forces will be reduced by 25% if reduction sleeves are used. • Reduction sleeves are available for 12, 20, 25 and 32 mm bore diameters (ordered separately). • The coolant passages in the B type flange are blocked with screws which can be removed when required. • Clamping wrench (wrench HYDRO HEX 4) and test bar should be ordered separately.

(1) Balanced to G6.3/12,000 RPM. (2) Balanced to G6.3/8,000 RPM.

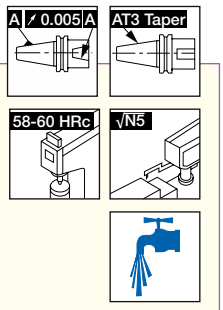


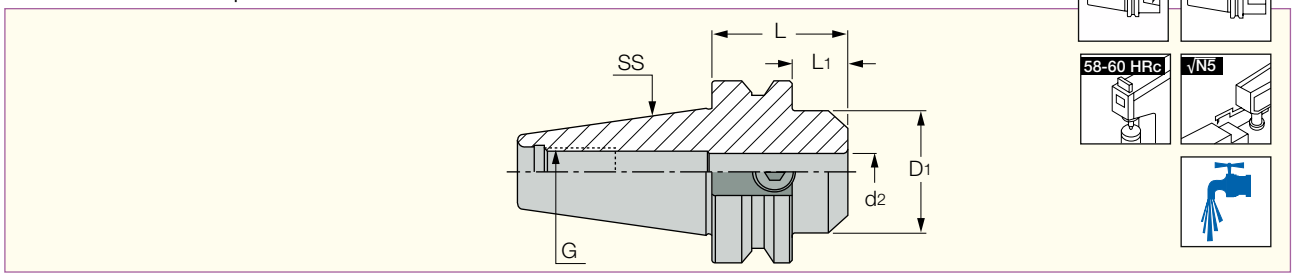
B169-170 B172-174 A19-20

BT MAS

BT-EM (short)

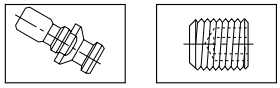
Short DIN6359 / DIN 1835 form B Weldon Endmill Holders with
BT MAS-403 AD Tapered Shanks





Designation	SS	d_2	L	L_1	D_1	G	Kg
BT40 EM 10X 45	40	10.00	45.00	18.0	35.0	M16	1.05
BT40 EM 10X 45 B	40	10.00	45.00	18.0	35.0	M16	1.04
BT40 EM 12X 45	40	12.00	45.00	18.0	42.0	M16	1.08
BT40 EM 12X 45 B	40	12.00	45.00	18.0	42.0	M16	0.89
BT40 EM 14X 45	40	14.00	45.00	18.0	44.0	M16	1.09
BT40 EM 16X 45	40	16.00	45.00	18.0	48.0	M16	1.08
BT40 EM 16X 45 B	40	16.00	45.00	18.0	48.0	M16	1.08
BT40 EM 18X 45	40	18.00	45.00	18.0	50.0	M16	1.10
BT40 EM 18X 45 B	40	18.00	45.00	18.0	50.0	M16	1.09
BT40 EM 20X 45	40	20.00	45.00	18.0	52.0	M16	1.08
BT40 EM 20X 45 B	40	20.00	45.00	18.0	52.0	M16	1.08
BT40 EM 25X 45	40	25.00	45.00	-	63.0	M16	1.12
BT40 EM 25X 45 B	40	25.00	45.00	-	63.0	M16	1.11

• B is the designation for coolant through flange.

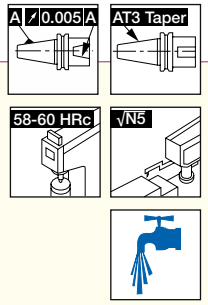


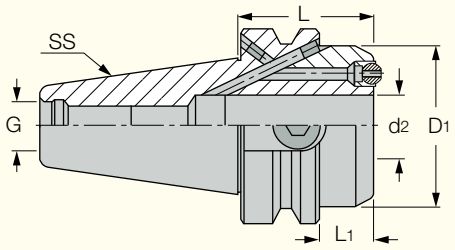
B172-174 B178

BT MAS

BT-EM (coolant nozzle)

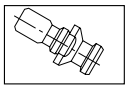
Short DIN6359 ADB Type/ DIN 1835 Form B Weldon Endmill Holders
with Adjustable Nozzles and BT MAS-403 Tapered Shanks

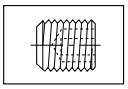




Designation	SS	d_2	L	L_1	D_1	G	Kg
BT40 EM 6X 50 C	40	6.00	50.00	23.0	32.0	M16	1.08
BT40 EM 8X 50 C	40	8.00	50.00	23.0	28.0	M16	1.05
BT40 EM 10X 45 C	40	10.00	45.00	18.0	35.0	M16	1.05
BT40 EM 12X 45 C	40	12.00	45.00	18.0	42.0	M16	1.10
BT40 EM 16X 45 C	40	16.00	45.00	18.0	48.0	M16	1.11
BT40 EM 20X 45 C	40	20.00	45.00	18.0	52.0	M16	1.11
BT40 EM 25X 45 C	40	25.00	45.00	22.0	63.0	M16	1.11

• The coolant passages in the B type flange are blocked with screws which can be removed when required.

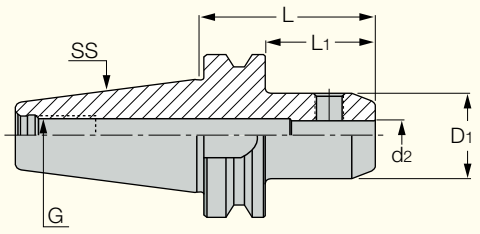

B172-174

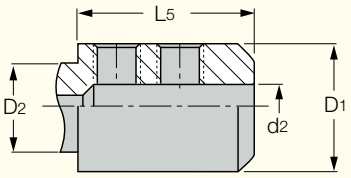

B178

BT MAS

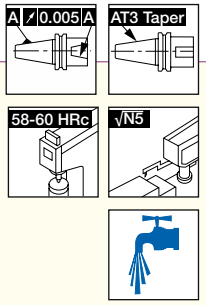
BT-EM

DIN6359 / DIN 1835 form B Weldon Endmill Holders
with BT MAS-403 AD/B Tapered Shanks



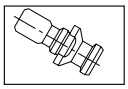


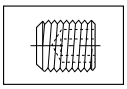
For d2 ≥ 25



Designation	SS	d_2	D_1	D_2	L	L_1	L_5	G	Kg
BT30 EM 6X 50	30	6.00	25.0	-	50.00	28.0	-	M12	0.46
BT30 EM 8X 60	30	8.00	28.0	-	60.00	38.0	-	M12	0.52
BT30 EM 10X 60	30	10.00	35.0	-	60.00	38.0	-	M12	0.61
BT30 EM 12X 60	30	12.00	42.0	-	60.00	38.0	-	M12	0.73
BT30 EM 14X 60	30	14.00	44.0	-	60.00	38.0	-	M12	0.73
BT30 EM 16X 60	30	16.00	46.0	-	60.00	38.0	-	M12	0.79
BT30 EM 18X 60	30	18.00	50.0	-	60.00	38.0	-	M12	0.82
BT30 EM 20X 80	30	20.00	52.0	-	80.00	53.0	-	M12	1.04
BT40 EM 6X 50	40	6.00	25.0	-	50.00	23.0	-	M16	1.02
BT40 EM 6X 50 B	40	6.00	25.0	-	50.00	23.0	-	M16	1.03
BT40 EM 8X 50	40	8.00	28.0	-	50.00	23.0	-	M16	1.02
BT40 EM 8X 50 B	40	8.00	28.0	-	50.00	23.0	-	M16	1.04
BT40 EM 10X 65	40	10.00	35.0	-	65.00	38.0	-	M16	1.17
BT40 EM 10X 65 B	40	10.00	35.0	-	65.00	38.0	-	M16	1.18
BT40 EM 12X 65	40	12.00	42.0	-	65.00	38.0	-	M16	1.29
BT40 EM 12X 65 B	40	12.00	42.0	-	65.00	38.0	-	M16	1.29
BT40 EM 14X 65	40	14.00	44.0	-	65.00	38.0	-	M16	1.30
BT40 EM 14X 65 B	40	14.00	44.0	-	65.00	38.0	-	M16	1.33
BT40 EM 16X 65	40	16.00	48.0	-	65.00	38.0	-	M16	1.35
BT40 EM 16X 65 B	40	16.00	48.0	-	65.00	38.0	-	M16	1.37
BT40 EM 18X 65	40	18.00	50.0	-	65.00	38.0	-	M16	1.39
BT40 EM 18X 65 B	40	18.00	50.0	-	65.00	38.0	-	M16	1.45
BT40 EM 20X 75	40	20.00	52.0	-	75.00	48.0	-	M16	1.54
BT40 EM 20X 75 B	40	20.00	52.0	-	75.00	48.0	-	M16	1.55
BT40 EM 25X105	40	25.00	65.0	61.00	105.00	78.0	68.00	M16	2.50
BT40 EM 25X105 B	40	25.00	65.0	61.00	105.00	78.0	68.00	M16	2.54
BT40 EM 32X110	40	32.00	72.0	61.00	110.00	83.0	73.00	M16	2.84
BT40 EM 32X110 B	40	32.00	72.0	61.00	110.00	83.0	73.00	M16	2.80
BT50 EM 6X 70	50	6.00	25.0	-	70.00	32.0	-	M24	3.68
BT50 EM 6X 70 B	50	6.00	25.0	-	70.00	32.0	-	M24	3.67
BT50 EM 8X 70 B	50	8.00	28.0	-	70.00	32.0	-	M24	10.68
BT50 EM 8X 70	50	8.00	28.0	-	70.00	32.0	-	M24	3.65
BT50 EM 10X 70	50	10.00	35.0	-	70.00	32.0	-	M24	3.71
BT50 EM 10X 70 B	50	10.00	35.0	-	70.00	32.0	-	M24	3.71
BT50 EM 12X100	50	12.00	42.0	-	100.00	62.0	-	M24	4.06
BT50 EM 12X100 B	50	12.00	42.0	-	100.00	62.0	-	M24	4.05
BT50 EM 14X100	50	14.00	44.0	-	100.00	62.0	-	M24	4.13
BT50 EM 16X100	50	16.00	48.0	-	100.00	62.0	-	M24	4.21
BT50 EM 16X100 B	50	16.00	48.0	-	100.00	62.0	-	M24	4.24
BT50 EM 18X100	50	18.00	50.0	-	100.00	62.0	-	M24	4.29
BT50 EM 20X100	50	20.00	52.0	-	100.00	62.0	-	M24	4.28
BT50 EM 20X100 B	50	20.00	52.0	-	100.00	62.0	-	M24	4.33
BT50 EM 25X115	50	25.00	65.0	-	115.00	77.0	-	M24	5.06
BT50 EM 25X115 B	50	25.00	65.0	-	115.00	77.0	-	M24	5.10
BT50 EM 32X115	50	32.00	72.0	-	115.00	77.0	-	M24	5.28
BT50 EM 32X115 B	50	32.00	72.0	-	115.00	77.0	-	M24	5.37
BT50 EM 40X115	50	40.00	90.0	-	115.00	77.0	-	M24	6.18
BT50 EM 40X115 B	50	40.00	90.0	-	115.00	77.0	-	M24	6.23
BT50 EM 50X125	50	50.00	100.0	-	125.00	87.0	-	M24	6.94
BT50 EM 50X125 B	50	50.00	100.0	-	125.00	87.0	-	M24	10.68

• B is the designation for coolant through flange.

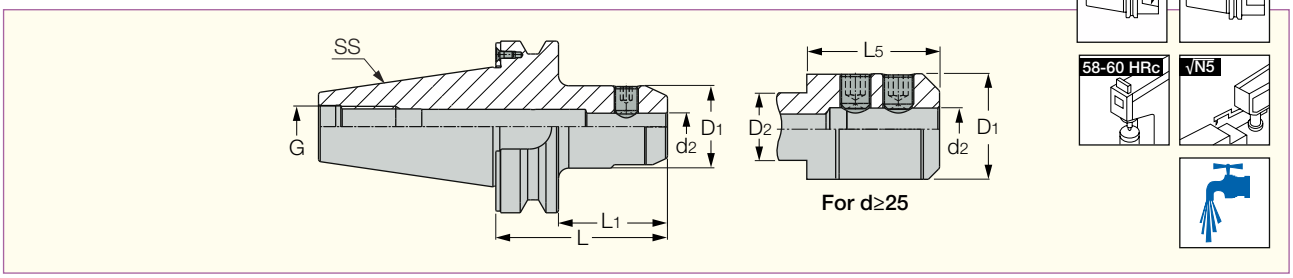

B172-174


B178

BT MAS

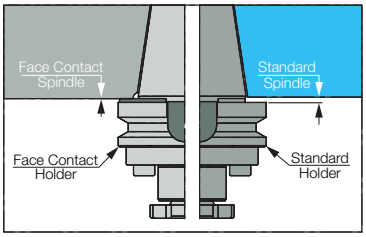
BT-FC-EM

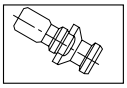
DIN 1835 Form B Endmills with BT MAS-403 Face Contact AD Tapered Shanks

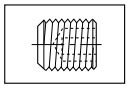


Designation	SS	d	D	D1	L	L1	L2	G
BT40 FC EM10X65	40	10	35		65	39		M16
BT40 FC EM12X65		12	42		65	39		
BT40 FC EM16X65		16	48		65	39		
BT40 FC EM20X75		20	52		75	49		
BT40 FC EM25X105		25	65	61	105	79	68	
BT40 FC EM32X110		32	71	61	110	83	73	
BT50 FC EM12X100	50	12	42		100	62		M24
BT50 FC EM16X100		16	48		100	63.5		
BT50 FC EM20X100		20	52		100	63.5		
BT50 FC EM25X115		25	65		115	78.5		
BT50 FC EM32X115		32	72		115	78.5		
BT50 FC EM40X115		40	90		115	78.5		
BT50 FC EM50X125		50	100		125	87		

BT-FC Face Contact Taper



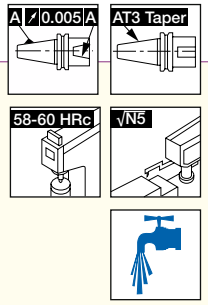

B172-174

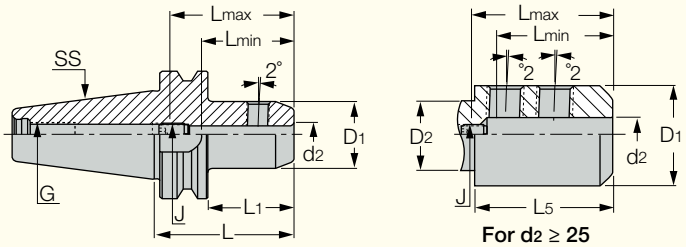

B178

BT MAS

BT-EM (DIN 1835 Form E)

DIN6359 / DIN 1835 form E Drill Holders with BT MAS-403 AD Tapered Shanks

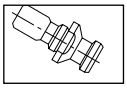


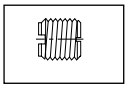


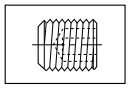
Designation	SS	d_2	D_1	D_2	L	L_1	L_5	L min	L max	J(1)	Key(2)	G	Kg
BT40 EM 6X 50 E	40	6.00	25.0	-	50.00	23.0	-	35.0	45.0	M5	2.50	M16	1.06
BT40 EM 6X 50 E B	40	6.00	25.0	-	50.00	23.0	-	35.0	45.0	M5	2.50	M16	10.68
BT40 EM 8X 50 E	40	8.00	28.0	-	50.00	23.0	-	35.0	45.0	M6	3.00	M16	1.08
BT40 EM 8X 50 E B	40	8.00	28.0	-	50.00	23.0	-	35.0	45.0	M6	3.00	M16	1.03
BT40 EM 10X 65 E	40	10.00	35.0	-	65.00	38.0	-	39.0	49.0	M8	4.00	M16	1.21
BT40 EM 10X 65 E B	40	10.00	35.0	-	65.00	38.0	-	39.0	49.0	M8	4.00	M16	10.68
BT40 EM 12X 65 E	40	12.00	42.0	-	65.00	38.0	-	44.0	54.0	M10	5.00	M16	1.27
BT40 EM 12X 65 E B	40	12.00	42.0	-	65.00	38.0	-	44.0	54.0	M10	5.00	M16	10.68
BT40 EM 14X 65 E	40	14.00	44.0	-	65.00	38.0	-	44.0	54.0	M10	5.00	M16	1.33
BT40 EM 14X 65 E B	40	14.00	44.0	-	65.00	38.0	-	44.0	54.0	M10	5.00	M16	0.00
BT40 EM 16X 65 E	40	16.00	48.0	-	65.00	38.0	-	47.0	57.0	M12	6.00	M16	1.38
BT40 EM 16X 65 E B	40	16.00	48.0	-	65.00	38.0	-	47.0	57.0	M12	6.00	M16	1.38
BT40 EM 18X 65 E	40	18.00	50.0	-	65.00	38.0	-	47.0	57.0	M12	6.00	M16	1.39
BT40 EM 20X 75 E	40	20.00	52.0	-	75.00	48.0	-	49.0	59.0	M16	8.00	M16	1.55
BT40 EM 25X105 E	40	25.00	65.0	61.00	105.00	78.0	68.00	54.0	64.0	M20X1.5	10.00	M16	2.47
BT40 EM 25X105 E B	40	25.00	65.0	61.00	105.00	78.0	68.00	54.0	64.0	M20X1.5	10.00	M16	2.47
BT40 EM 32X110 E	40	32.00	72.0	61.00	110.00	83.0	73.00	58.0	68.0	M20X1.5	10.00	M16	2.80
BT40 EM 32X110 E B	40	32.00	72.0	61.00	110.00	83.0	73.00	58.0	68.0	M20X1.5	10.00	M16	2.85
BT50 EM 6X 70 E	50	6.00	25.0	-	70.00	32.0	-	35.0	45.0	M5	2.50	M24	3.70
BT50 EM 6X 70 E B	50	6.00	25.0	-	70.00	32.0	-	35.0	45.0	M5	2.50	M24	3.70
BT50 EM 8X 70 E	50	8.00	28.0	-	70.00	32.0	-	35.0	45.0	M6	3.00	M24	10.68
BT50 EM 8X 70 E B	50	8.00	28.0	-	70.00	32.0	-	35.0	45.0	M6	3.00	M24	3.74
BT50 EM 10X 70 E	50	10.00	35.0	-	70.00	32.0	-	39.0	49.0	M8	4.00	M24	3.70
BT50 EM 10X 70 E B	50	10.00	35.0	-	70.00	32.0	-	39.0	49.0	M8	4.00	M24	3.78
BT50 EM 12X100 E	50	12.00	42.0	-	100.00	62.0	-	44.0	54.0	M10	5.00	M24	4.06
BT50 EM 12X100 E B	50	12.00	42.0	-	100.00	62.0	-	44.0	54.0	M10	5.00	M24	10.68
BT50 EM 14X100 E	50	14.00	44.0	-	100.00	62.0	-	44.0	54.0	M10	5.00	M24	4.20
BT50 EM 14X100 E B	50	14.00	44.0	-	100.00	62.0	-	44.0	54.0	M10	5.00	M24	4.20
BT50 EM 16X100 E	50	16.00	48.0	-	100.00	62.0	-	47.0	57.0	M12	6.00	M24	4.27
BT50 EM 16X100 E B	50	16.00	48.0	-	100.00	62.0	-	47.0	57.0	M12	6.00	M24	4.28
BT50 EM 18X100 E	50	18.00	50.0	-	100.00	62.0	-	47.0	57.0	M12	6.00	M24	4.33
BT50 EM 18X100 E B	50	18.00	50.0	-	100.00	62.0	-	47.0	57.0	M12	6.00	M24	4.34
BT50 EM 20X100 E	50	20.00	52.0	-	100.00	62.0	-	49.0	59.0	M16	8.00	M24	4.36
BT50 EM 20X100 E B	50	20.00	52.0	-	100.00	62.0	-	49.0	59.0	M16	8.00	M24	4.36
BT50 EM 25X115 E	50	25.00	65.0	-	115.00	77.0	-	54.0	64.0	M20X1.5	10.00	M24	5.08
BT50 EM 32X115 E	50	32.00	72.0	-	115.00	77.0	-	58.0	68.0	M20X1.5	10.00	M24	5.25
BT50 EM 32X115 E B	50	32.00	72.0	-	115.00	77.0	-	58.0	68.0	M20X1.5	10.00	M24	5.31
BT50 EM 40X115 E	50	40.00	90.0	-	115.00	77.0	-	68.0	78.0	M20X1.5	10.00	M24	6.19
BT50 EM 40X115 E B	50	40.00	90.0	-	115.00	77.0	-	68.0	78.0	M20X1.5	10.00	M24	6.27
BT50 EM 50X125 E	50	50.00	98.0	-	125.00	67.0	-	78.0	88.0	M20X1.5	10.00	M24	6.94
BT50 EM 50X125 E B	50	50.00	98.0	-	125.00	67.0	-	78.0	88.0	M20X1.5	10.00	M24	7.00

• B is the designation for coolant through flange.

(1) Adjustment screw has an internal coolant hole. (2) Adjustment screw hexagon key size

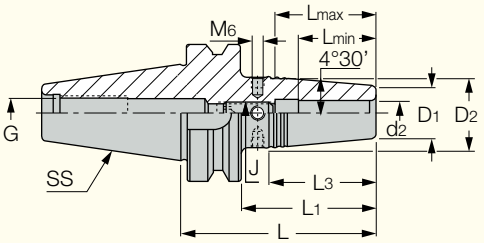

B172-174

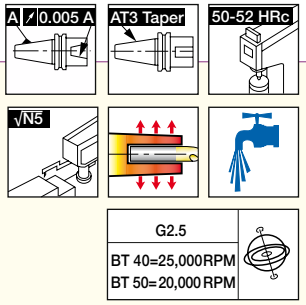

B178


B178

BT-SRKIN

Thermal Chuck Collets with BT MAS-403 AD Tapered Shanks,
for Carbide and HSS Tools

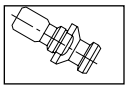




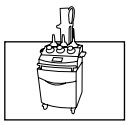
Designation	SS	d_2	D_2	D_1	L	L_1	L_3	L min	L max	J	Key(3)	G	Kg
BT40 SRKIN 6X 90 (1)	40	6.00	27.00	21.0	90.00	63.0	38.00	25.0	36.0	M5	2.50	M16	1.13
BT40 SRKIN 8X 90 (1)	40	8.00	27.00	21.0	90.00	63.0	38.00	25.0	36.0	M6	3.00	M16	1.07
BT40 SRKIN 10X 90 (1)	40	10.00	32.00	24.0	90.00	63.0	50.50	31.0	42.0	M8	4.00	M16	1.23
BT40 SRKIN 12X 90 (1)	40	12.00	32.00	24.0	90.00	63.0	50.50	36.0	47.0	M10	5.00	M16	1.13
BT40 SRKIN 14X 90 (1)	40	14.00	34.00	27.0	90.00	63.0	44.50	36.0	47.0	M10	5.00	M16	1.26
BT40 SRKIN 16X 90 (1)	40	16.00	34.00	27.0	90.00	63.0	44.50	39.0	50.0	M12	6.00	M16	1.23
BT40 SRKIN 18X 90 (1)	40	18.00	42.00	33.0	90.00	63.0	57.00	39.0	50.0	M12	6.00	M16	1.40
BT40 SRKIN 20X 90 (1)	40	20.00	42.00	33.0	90.00	63.0	57.00	41.0	52.0	M16	8.00	M16	1.30
BT40 SRKIN 25X110 (1)	40	25.00	53.00	44.0	110.00	83.0	57.00	47.0	58.0	M16	8.00	M16	1.84
BT50 SRKIN 6X100 (2)	50	6.00	26.00	21.0	100.00	62.0	32.00	25.0	36.0	M5	2.50	M24	3.67
BT50 SRKIN 8X100 (2)	50	8.00	27.00	21.0	100.00	62.0	38.00	25.0	36.0	M6	3.00	M24	3.78
BT50 SRKIN 10X100 (2)	50	10.00	32.00	24.0	100.00	62.0	51.00	31.0	42.0	M8	4.00	M24	3.78
BT50 SRKIN 12X100 (2)	50	12.00	32.00	24.0	100.00	62.0	51.00	36.0	47.0	M10	5.00	M24	3.74
BT50 SRKIN 14X100 (2)	50	14.00	34.00	27.0	100.00	62.0	44.50	36.0	47.0	M10	5.00	M24	3.80
BT50 SRKIN 16X100 (2)	50	16.00	34.00	27.0	100.00	62.0	44.50	39.0	50.0	M12	6.00	M24	3.78
BT50 SRKIN 18X100 (2)	50	18.00	42.00	33.0	100.00	62.0	57.00	39.0	50.0	M12	6.00	M24	3.92
BT50 SRKIN 20X100 (2)	50	20.00	42.00	33.0	100.00	62.0	57.00	41.0	52.0	M16	8.00	M24	3.77
BT50 SRKIN 25X120 (2)	50	25.00	53.00	44.0	120.00	82.0	57.00	47.0	58.0	M16	8.00	M24	4.50
BT50 SRKIN 32X120 (2)	50	32.00	53.00	44.0	120.00	82.0	57.00	47.0	58.0	M16	8.00	M24	4.34

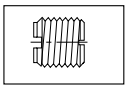
• Use only inductive heating device for SRKIN holders.

(1) Balanced to G2.5/25,000 RPM. (2) Balanced to G2.5/20,000 RPM. (3) Hex key size for the rear stopper screw


B172-174

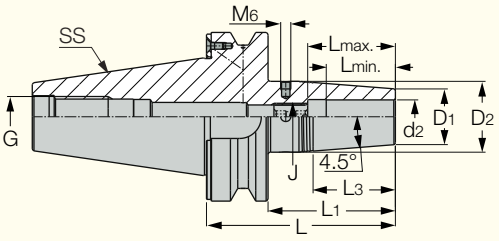

B149-151

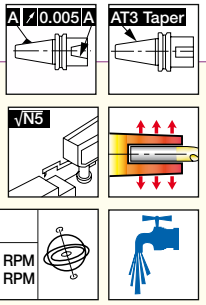

B154-155


B178

BT-FC-SRKIN

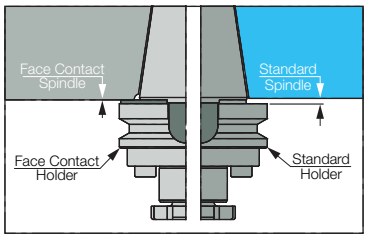
Thermal Shrink Holders with BT MAS-403 Face Contact Tapered Shanks

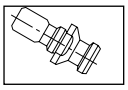




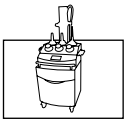
Designation	SS	d	D	L	L	L_1	L_2	L_{min}	L_{max}	J	G
BT40 FC SRKIN 6X90	40	6	21	27	90	64	38	25	36	M5	M16
BT40 FC SRKIN 8x90		8	21	27	90	64	38	25	36	M6	
BT40 FC SRKIN10x90		10	24	32	90	64	50.8	31	42	M8	
BT40 FC SRKIN12x90		12	24	32	90	64	50.8	36	47	M10	
BT40 FC SRKIN14x90		14	27	34	90	64	44.5	36	47	M10	
BT40 FC SRKIN16x90		16	27	34	90	64	44.5	39	50	M12	
BT40 FC SRKIN18x90		18	33	42	90	64	57.2	39	50	M12	
BT40 FC SRKIN20x90		20	33	42	90	64	57.2	41	52	M16	
BT40 FC SRKIN25x110		25	44	53	110	84	57.2	47	58	M16	
BT50 FC SRKIN 6x100	50	6	21	27	100	63.5	38	25	36	M5	M24
BT50 FC SRKIN 8x100		8	21	27	100	63.5	38	25	36	M6	
BT50 FC SRKIN10x100		10	24	32	100	63.5	50.8	31	42	M8	
BT50 FC SRKIN12x100		12	24	32	100	63.5	50.8	36	47	M10	
BT50 FC SRKIN14x100		14	27	34	100	63.5	44.5	36	47	M10	
BT50 FC SRKIN16x100		16	27	34	100	63.5	44.5	39	50	M12	
BT50 FC SRKIN18x100		18	33	42	100	63.5	57.2	39	50	M12	
BT50 FC SRKIN20x100		20	33	42	100	63.5	57.2	41	52	M16	
BT50 FC SRKIN25x120		25	44	53	120	83.5	57.2	47	58	M16	
BT50 FC SRKIN32x120		32	44	53	120	83.5	57.2	47	58	M16	

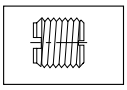
BT-FC Face Contact Taper




B172-174

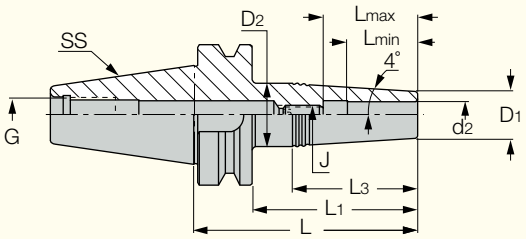

B149-151

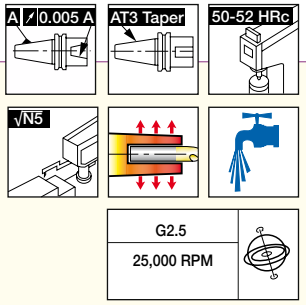

B154-155


B178

BT-SRK

Thermal Chuck Collets with BT MAS-403 Tapered Shanks
for Carbide Tools

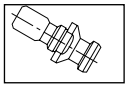




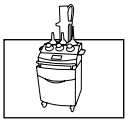
Designation	SS	d_2	D_1	D_2	L	L_1	L_3	L min	L max	J	Key(1)	G	Kg
BT40 SRK 3X 50	40	3.00	10.0	15.00	77.00	50.0	35.55	10.0	16.0	M6	3.00	M16	1.00
BT40 SRK 3X 85	40	3.00	10.0	19.00	112.00	85.0	64.15	10.0	16.0	M6	3.00	M16	1.00
BT40 SRK 4X 50	40	4.00	10.0	15.00	77.00	50.0	35.55	12.0	18.0	M6	3.00	M16	0.98
BT40 SRK 4X 85	40	4.00	10.0	19.00	112.00	85.0	64.15	12.0	18.0	M6	3.00	M16	1.06
BT40 SRK 5X 50	40	5.00	10.0	15.00	77.00	50.0	35.55	15.0	21.0	M6	3.00	M16	1.00
BT40 SRK 5X 85	40	5.00	10.0	19.00	112.00	85.0	64.15	15.0	21.0	M6	3.00	M16	1.00
BT40 SRK 6X 50	40	6.00	11.0	16.00	77.00	50.0	35.50	18.0	24.0	M8	4.00	M16	0.98
BT40 SRK 6X 85	40	6.00	11.0	20.00	112.00	85.0	64.15	18.0	24.0	M8	4.00	M16	1.00
BT40 SRK 8X 50	40	8.00	14.0	20.00	77.00	50.0	42.50	25.0	31.0	M10	5.00	M16	1.02
BT40 SRK 8X 85	40	8.00	14.0	23.00	112.00	85.0	63.95	25.0	31.0	M10	5.00	M16	0.55
BT40 SRK 10X 50	40	10.00	16.0	22.00	77.00	50.0	42.40	30.0	36.0	M12	6.00	M16	1.04
BT40 SRK 10X 85	40	10.00	16.0	25.00	112.00	85.0	60.28	30.0	36.0	M12	6.00	M16	1.12
BT40 SRK 12X 50	40	12.00	20.0	26.00	77.00	50.0	42.30	32.0	42.0	M10	5.00	M16	1.06
BT40 SRK 12X 85	40	12.00	20.0	28.00	112.00	85.0	56.60	32.0	42.0	M10	5.00	M16	1.20

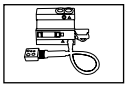
• Balanced to G2.5/25,000 RPM. • To be used for carbide tools only. • Preset screw without coolant hole.

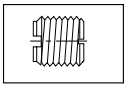
(1) Hex key size for the rear stopper screw


B172-174


B149-151


B154-155

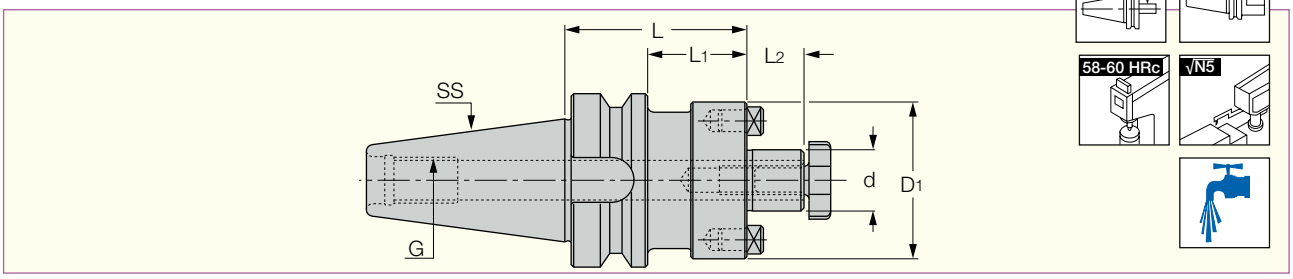

B156


B178

BT MAS

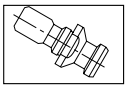
BT-SEM

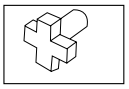
ISO 3937 Shell Mill Holders with BT MAS-403 AD Tapered Shanks

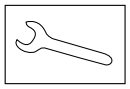


Designation	SS	d	D_1	L	L_2	L_1	G	Kg
BT30 SEM 16X 50	30	16.00	38.0	50.00	17.00	28.0	M12	0.62
BT30 SEM 22X 50	30	22.00	47.0	50.00	19.00	18.0	M12	0.77
BT30 SEM 27X 50	30	27.00	58.0	50.00	21.00	18.0	M12	0.88
BT40 SEM 16X 60	40	16.00	38.0	60.00	17.00	33.0	M16	1.29
BT40 SEM 16X120	40	16.00	38.0	120.00	17.00	93.0	M16	1.82
BT40 SEM 22X 60	40	22.00	47.0	60.00	19.00	33.0	M16	1.45
BT40 SEM 22X120	40	22.00	47.0	120.00	19.00	93.0	M16	2.38
BT40 SEM 27X 45	40	27.00	58.0	45.00	21.00	18.0	M16	1.39
BT40 SEM 27X105	40	27.00	58.0	105.00	21.00	78.0	M16	2.63
BT40 SEM 32X 60	40	32.00	65.0	60.00	24.00	23.0	M16	1.88
BT40 SEM 32X 75	40	32.00	65.0	75.00	24.00	36.0	M16	2.26
BT40 SEM 40X 60	40	40.00	82.0	60.00	27.00	23.0	M16	2.25
BT40 SEM 40X 75	40	40.00	82.0	75.00	27.00	38.0	M16	3.10
BT50 SEM 16X 75	50	16.00	38.0	75.00	17.00	37.0	M24	3.86
BT50 SEM 16X120	50	16.00	38.0	120.00	17.00	82.0	M24	4.40
BT50 SEM 22X 50X220	50	22.00	50.0	220.00	19.00	182.0	M24	6.52
BT50 SEM 22X 64X320	50	22.00	64.0	320.00	19.00	282.0	M24	10.84
BT50 SEM 22X 75	50	22.00	47.0	75.00	19.00	37.0	M24	4.10
BT50 SEM 22X120	50	22.00	47.0	120.00	19.00	82.0	M24	4.63
BT50 SEM 27X 60	50	27.00	58.0	60.00	21.00	22.0	M24	4.15
BT50 SEM 27X105	50	27.00	58.0	105.00	21.00	67.0	M24	5.08
BT50 SEM 32X 48	50	32.00	66.0	48.00	24.00	10.0	M24	3.96
BT50 SEM 32X 75	50	32.00	66.0	75.00	24.00	37.0	M24	4.65
BT50 SEM 40X 48	50	40.00	82.0	48.00	27.00	10.0	M24	4.10
BT50 SEM 40X 75	50	40.00	82.0	75.00	27.00	37.0	M24	5.13

• Add B as suffix to the designation for coolant through flange.


B172-174

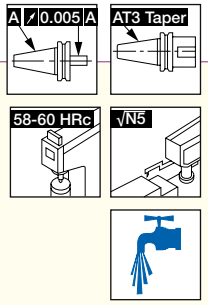

B177

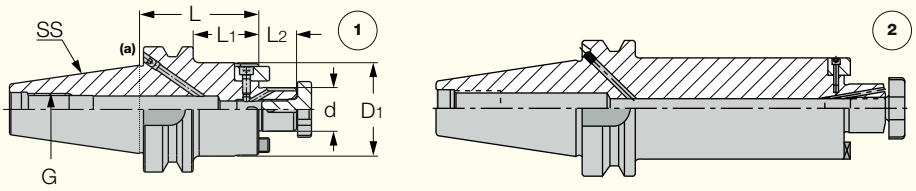

B179

BT MAS

BT-SEM-C

ISO 3937 Shell Mill Holders with Coolant Holes and BT MAS-403 ADB Tapered Shanks

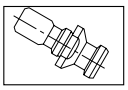


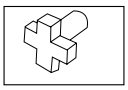


Designation	SS	d	D_1	L	L_2	L_1	G	Fig
BT40 SEM 16X 60 C	40	16.00	38.0	60.00	17.00	33.0	M16	1
BT40 SEM 16X100 C	40	16.00	38.0	100.00	17.00	73.0	M16	1
BT40 SEM 22X 60 C	40	22.00	47.0	60.00	19.00	33.0	M16	1
BT40 SEM 22X100 C	40	22.00	47.0	100.00	19.00	73.0	M16	1
BT40 SEM 27X 45 C	40	27.00	58.0	45.00	21.00	18.0	M16	1
BT40 SEM 27X100 C	40	27.00	58.0	100.00	21.00	73.0	M16	1
BT40 SEM 32X 60 C	40	32.00	66.0	60.00	24.00	33.0	M16	1
BT50 SEM 16X 75 C	50	16.00	38.0	75.00	17.00	37.0	M24	1
BT50 SEM 16X100 C	50	16.00	38.0	100.00	17.00	62.0	M24	1
BT50 SEM 22X 75 C	50	22.00	47.0	75.00	19.00	37.0	M24	1
BT50 SEM 22X100 C	50	22.00	47.0	100.00	19.00	62.0	M24	1
BT50 SEM 22X48X220C (1)	50	22.00	48.0	200.00	19.00	182.0	M24	2
BT50 SEM 22X61X320C (1)	50	22.00	61.0	320.00	19.00	282.0	M24	2
BT50 SEM 27X 60 C	50	27.00	58.0	60.00	21.00	22.0	M24	1
BT50 SEM 27X100 C	50	27.00	58.0	100.00	21.00	62.0	M24	1
BT50 SEM 27X61X320C (1)	50	27.00	61.0	320.00	21.00	282.0	M24	2
BT50 SEM 32X 75 C	50	32.00	66.0	75.00	24.00	37.0	M24	1
BT50 SEM 32X100 C	50	32.00	66.0	100.00	24.00	62.0	M24	1
BT50 SEM 32X78X390C (1)	50	32.00	78.0	390.00	24.00	352.0	M24	2

• (a) For coolant through flange the plug screw must be removed from the flange cooling hole (use a 2 mm hex key). • Balanced to G2.5/BT40=20,000 RPM, BT50=15,000 RPM

(1) Symmetrical design. However, the family's balance values are not guaranteed for this tool


B172-174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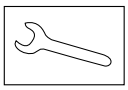
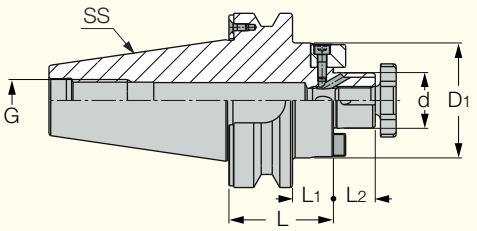
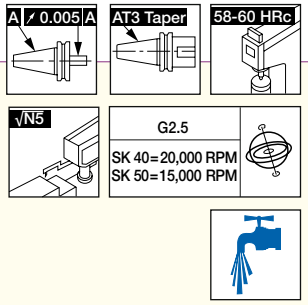

B179

BT MAS

BT-FC-SEM-C

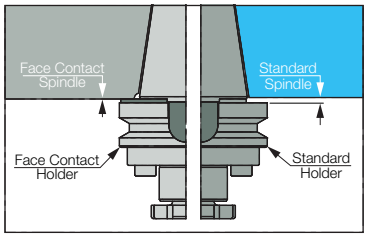
Shell-End Mill Holders with Coolant Holes and BT MAS-403 Face Contact AD Tapered Shanks

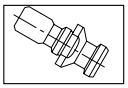




Designation	SS	D_1	D	l	l_1	l_2	G
BT40 FC SEM16X60C	40	16	38	60	17	34	M16
BT40 FC SEM16X120C		16	38	120	17	94	
BT40 FC SEM22X60C		22	47	60	19	34	
BT40 FC SEM22X120C		22	47	120	19	94	
BT40 FC SEM27X45C		27	58	45	21	19	
BT40 FC SEM27X105C		27	58	105	21	79	
BT40 FC SEM32X60C		32	66	60	24	34	
BT40 FC SEM32X75C		32	66	75	24	49	
BT50 FC SEM16X75C	50	16	38	75	17	38.5	M24
BT50 FC SEM16X120C		16	38	120	17	83.5	
BT50 FC SEM22X75C		22	47	75	19	38.5	
BT50 FC SEM22X120C		22	47	120	19	83.5	
BT50 FC SEM27X60C		27	58	60	21	23.5	
BT50 FC SEM27X105C		27	58	105	21	68.5	
BT50 FC SEM32X48C		32	66	48	24	11.5	
BT50 FC SEM32X75C		32	66	75	24	38.5	
BT50 FC SEM40X48C		40	82	48	27	11.5	
BT50 FC SEM40X75C		40	82	75	27	38.5	

BT-FC Face Contact Taper

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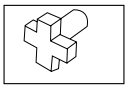
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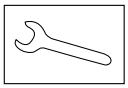
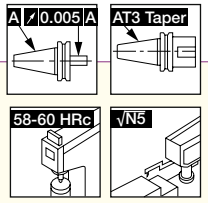
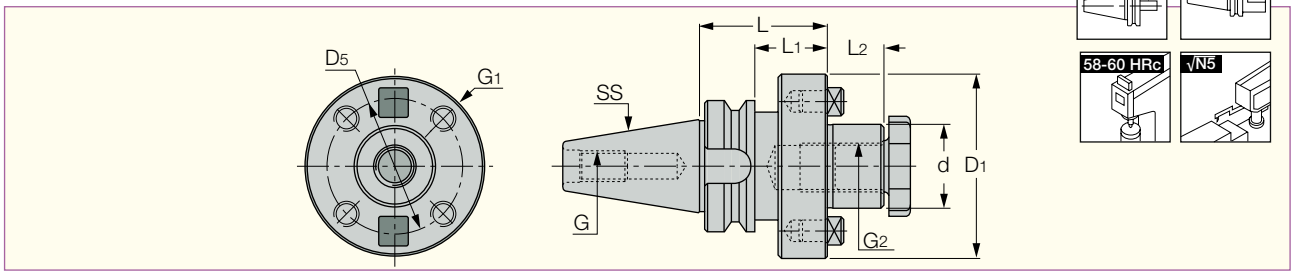

B179

BT MAS

BT-FM

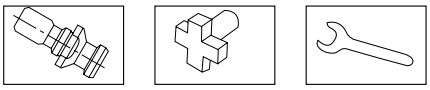
DIN 6357 Face Mill Holders with BT MAS-403 A/AD Tapered Shanks





Designation	SS	d	L_2	L	L_1	D_1	D_5	G_1	G_2	G	Kg
BT40 FM 40 (1)	40	40.00	27.00	60.00	22.0	88.0	66.70	M12	M20	M16	2.33
BT50 FM 40 (1)	50	40.00	27.00	50.00	12.0	88.0	66.70	M12	M20	M24	4.19
BT50 FM 60 (2)	50	60.00	38.00	88.00	40.0	128.0	101.60	M16	-	M24	0.46

(1) Form AD (2) Form A



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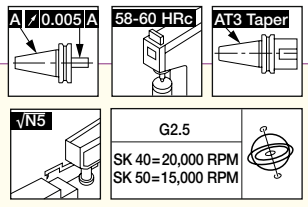
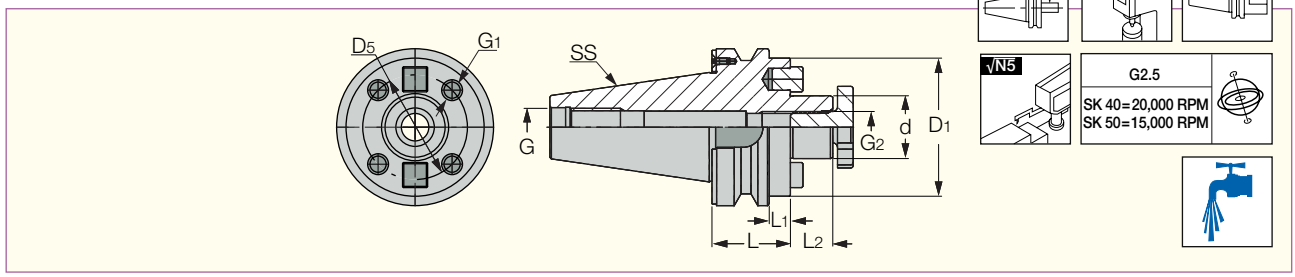
BT MAS

BT-FC-FM

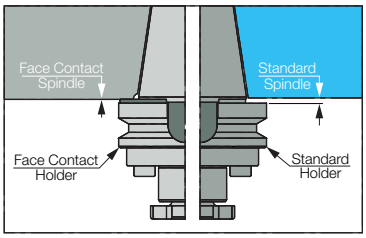
Face Mill Holders with BT MAS-403 Face Contact A/AD Tapered Shanks

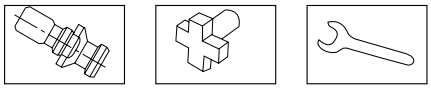




Designation	D	D_1	D_2	L	L_1	L_2	G	G_1	G_2
BT40 FC FM40	88	40	66.7	60	27	23	M16	M20	M12
BT50 FC FM40	88	40	66.7	50	27	13.5	M24	M20	M12
BT50 FC FM60	128	60	101.6	88	40	41.5	M24		M16

BT-FC Face Contact Taper





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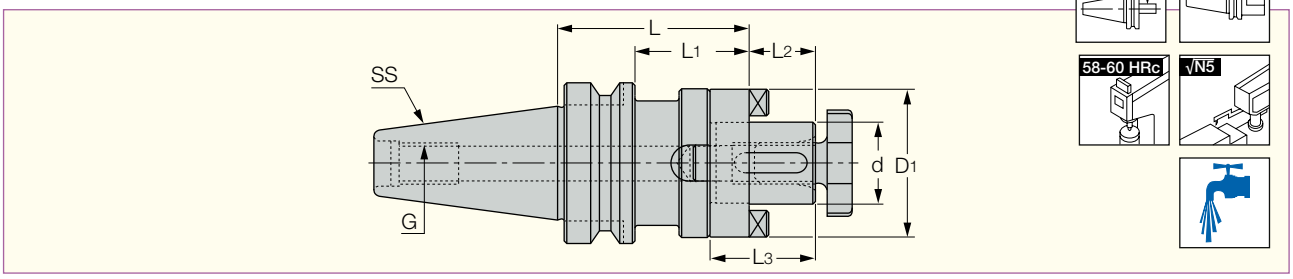
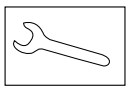
BT MAS

BT-SEMC

COMBI Shell Mill Holders with BT MAS-403 A/AD Tapered Shanks



Designation	SS	d	L_2	D_1	L	L_1	L_3	G	Kg
BT40 SEMC 16X 50	40	16.00	17.00	32.0	50.00	23.0	27.00	M16	1.09
BT40 SEMC 16X100	40	16.00	17.00	32.0	100.00	73.0	27.00	M16	1.42
BT40 SEMC 22X 53	40	22.00	19.00	40.0	53.00	26.0	31.00	M16	1.18
BT40 SEMC 22X100	40	22.00	19.00	40.0	100.00	73.0	31.00	M16	1.68
BT40 SEMC 27X 55	40	27.00	21.00	48.0	55.00	28.0	33.00	M16	1.29
BT40 SEMC 27X100	40	27.00	21.00	48.0	100.00	73.0	33.00	M16	1.83
BT40 SEMC 32X 60	40	32.00	24.00	58.0	60.00	33.0	38.00	M16	1.51
BT40 SEMC 32X100	40	32.00	24.00	58.0	100.00	73.0	38.00	M16	2.26
BT40 SEMC 40X 80	40	40.00	27.00	70.0	80.00	53.0	41.00	M16	2.29
BT50 SEMC 16X100	50	16.00	17.00	32.0	100.00	62.0	27.00	M24	3.86
BT50 SEMC 16X150	50	16.00	17.00	32.0	150.00	112.0	27.00	M24	4.27
BT50 SEMC 22X 68	50	22.00	19.00	40.0	68.00	30.0	31.00	M24	4.16
BT50 SEMC 22X100	50	22.00	19.00	40.0	100.00	62.0	31.00	M24	4.50
BT50 SEMC 22X150	50	22.00	19.00	40.0	150.00	112.0	31.00	M24	5.44
BT50 SEMC 27X 78	50	27.00	21.00	48.0	78.00	40.0	33.00	M24	3.97
BT50 SEMC 27X100	50	27.00	21.00	48.0	100.00	62.0	33.00	M24	4.32
BT50 SEMC 27X150	50	27.00	21.00	48.0	150.00	112.0	33.00	M24	5.48
BT50 SEMC 32X 78	50	32.00	24.00	58.0	78.00	40.0	38.00	M24	4.80
BT50 SEMC 32X100	50	32.00	24.00	58.0	100.00	62.0	38.00	M24	4.60
BT50 SEMC 32X150	50	32.00	24.00	58.0	150.00	112.0	38.00	M24	5.82
BT50 SEMC 40X 78	50	40.00	27.00	70.0	78.00	40.0	41.00	M24	4.62
BT50 SEMC 40X100	50	40.00	27.00	70.0	100.00	62.0	41.00	M24	5.10
BT50 SEMC 40X150	50	40.00	27.00	70.0	150.00	112.0	41.00	M24	6.46
BT50 SEMC 50X 79	50	50.00	30.00	90.0	79.00	41.0	46.00	M24	8.00
BT50 SEMC 50X150	50	50.00	30.00	90.0	150.00	112.0	46.00	M24	8.41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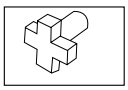
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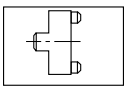
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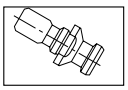
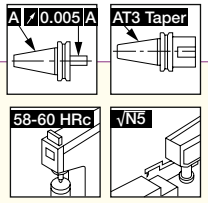
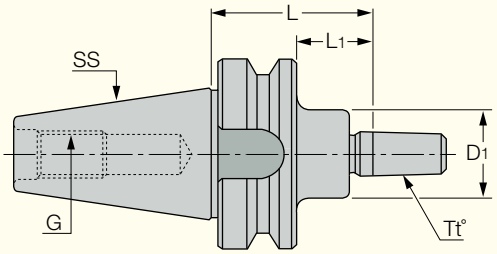

B172-174

BT MAS

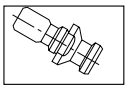
BT-DC-B

DIN 238 Drill Chuck Arbors with BT MAS-403 A Tapered Shanks





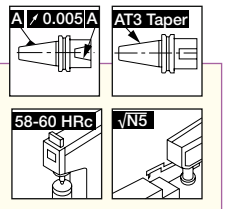
Designation	SS	T_t°	L	D_1	L_1	G	Kg
BT30 DC B12X 30	30	B12	30.00	-	8.0	M12	0.42
BT30 DC B16X 30	30	B16	30.00	-	8.0	M12	0.44
BT40 DC B12X 45	40	B12	45.00	24.0	18.0	M16	1.04
BT40 DC B12X 90	40	B12	90.00	24.0	63.0	M16	1.22
BT40 DC B16X 45	40	B16	45.00	30.0	18.0	M16	1.09
BT40 DC B16X 90	40	B16	90.00	30.0	63.0	M16	1.34
BT40 DC B18X 45	40	B18	45.00	30.0	18.0	M16	1.11
BT40 DC B18X 90	40	B18	90.00	30.0	63.0	M16	1.38
BT50 DC B12X 45	50	B12	45.00	-	6.7	M24	3.67
BT50 DC B12X105	50	B12	105.00	24.0	67.0	M24	3.90
BT50 DC B16X 45	50	B16	45.00	-	7.0	M24	3.72
BT50 DC B16X105	50	B16	105.00	50.0	67.0	M24	4.64
BT50 DC B18X 45	50	B18	45.00	-	7.0	M24	3.73
BT50 DC B18X105	50	B18	105.00	30.0	67.0	M24	4.08

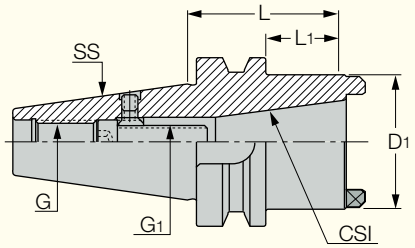


B172-174

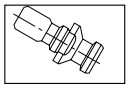
BT-AD

DIN 2080, DIN 69871/A and BT MAS-403 Adapters
with BT MAS-403 A Tapered Shanks





Designation	SS	CSI	L	L_1	D_1	G_1	G	Kg
BT40 AD 30	40	DIN2080	60.00	33.0	50.0	M12	M16	1.26
BT50 AD 40	50	DIN2080	75.00	32.0	63.0	M16	M24	3.85
BT50 AD BT/SK40	50	DIN69871/A, BT MAS	75.00	37.0	66.0	M16	M24	4.05

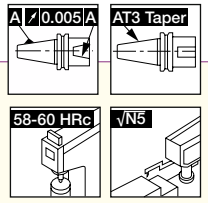


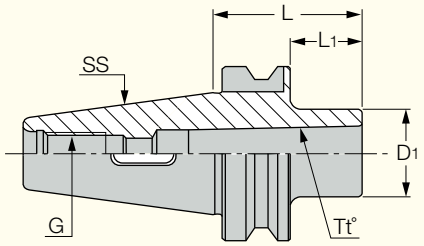
B172-174

BT MAS

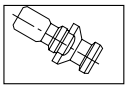
BT-MT

DIN 6383 / DIN228-2 Form D Tang Morse Tapered Adapters
with BT MAS-403 A Tapered Shanks





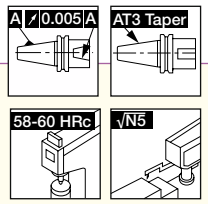
Designation	SS	Tt°	L	L1	D1	G	Kg
BT30 MT1X 45	30	MT1	45.00	23.0	25.0	M12	0.43
BT30 MT2X 60	30	MT2	60.00	38.0	32.0	M12	0.51
BT40 MT1X 45	40	MT1	45.00	25.0	25.0	M16	1.00
BT40 MT1X120	40	MT1	120.00	25.0	25.0	M16	1.28
BT40 MT2X 60	40	MT2	60.00	32.0	32.0	M16	0.50
BT40 MT2X120	40	MT2	120.00	32.0	32.0	M16	1.43
BT40 MT3X 75	40	MT3	75.00	40.0	40.0	M16	1.24
BT40 MT3X139	40	MT3	139.00	40.0	40.0	M16	1.78
BT40 MT4X 95	40	MT4	95.00	50.0	50.0	M16	1.44
BT50 MT1X 45	50	MT1	45.00	7.0	25.0	M24	3.59
BT50 MT1X120	50	MT1	120.00	82.0	25.0	M24	3.94
BT50 MT1X180	50	MT1	180.00	142.0	25.0	M24	4.18
BT50 MT2X 45	50	MT2	45.00	7.0	32.0	M24	3.50
BT50 MT2X135	50	MT2	135.00	97.0	32.0	M24	4.14
BT50 MT2X180	50	MT2	180.00	142.0	32.0	M24	4.40
BT50 MT3X 45	50	MT3	45.00	7.0	40.0	M24	3.49
BT50 MT3X150	50	MT3	150.00	112.0	40.0	M24	4.46
BT50 MT3X180	50	MT3	180.00	142.0	40.0	M24	4.79
BT50 MT4X 75	50	MT4	75.00	37.0	50.0	M24	3.64
BT50 MT4X180	50	MT4	180.00	142.0	50.0	M24	5.20
BT50 MT5X105	50	MT5	105.00	67.0	70.0	M24	4.17

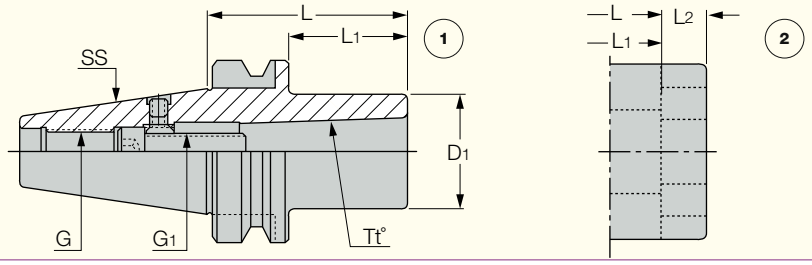


B172-174

BT-MT-DRW

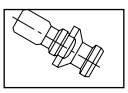
DIN 6364 / DIN 228-2 Form B Draw Bar Morse Tapered Adapters
with BT MAS-403 A Tapered Shanks





Designation	SS	Tt°	L	L1	L2	D1	G1	G	Fig	Kg
BT40 MT1 DRW	40	MT1	50.00	23.0	-	25.0	M6	M16	1	1.04
BT40 MT2 DRW	40	MT2	50.00	23.0	-	32.0	M10	M16	1	1.04
BT40 MT3 DRW	40	MT3	70.00	43.0	-	40.0	M12	M16	1	1.16
BT40 MT4 DRW (1)	40	MT4	95.00	68.0	15.00	63.0	M16	M16	2	2.27
BT50 MT1 DRW	50	MT1	45.00	7.0	-	25.0	M6	M24	1	3.64
BT50 MT2 DRW	50	MT2	60.00	22.0	-	32.0	M10	M24	1	3.63
BT50 MT3 DRW	50	MT3	65.00	27.0	-	40.0	M12	M24	1	3.67
BT50 MT4 DRW (1)	50	MT4	70.00	32.0	15.00	63.0	M16	M24	2	4.35
BT50 MT5 DRW (1)	50	MT5	100.00	62.0	18.00	78.0	M20	M24	2	4.81

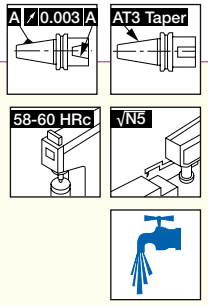
(1) DIN 2201

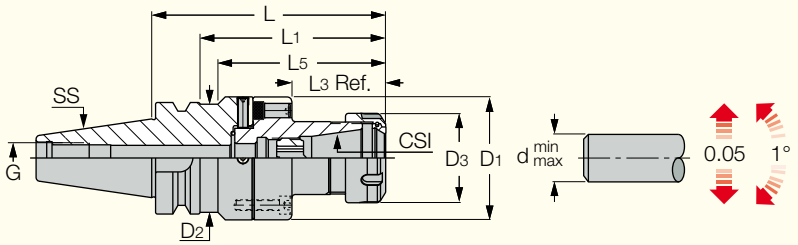


B172-174

ADJ BT-ER

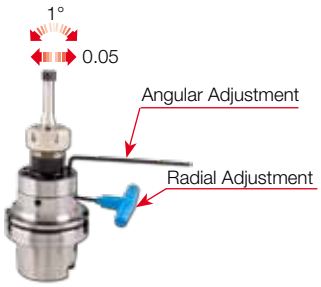
DIN 6499 ER Collet Chucks with Center Alignment and BT MAS-403 AD Tapered Shanks

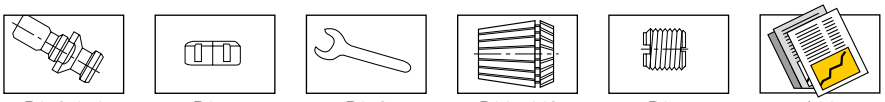




Designation	SS	CSI	d min	d max	L	L1	L5	L3	D3	D1	D2	J	G	Kg
ADJ BT40 D70 ER32	40	ER32	2.0	20.0	129.50	102.5	92.50	52.50	50.00	70.0	62.50	M22X1.5	M16	2.56
ADJ BT50 D70 ER32	50	ER32	2.0	20.0	144.50	106.5	92.50	52.50	50.00	70.0	62.50	M22X1.5	M24	5.90

• Radial adjustment 0.1 mm. Angular adjustment 1°.





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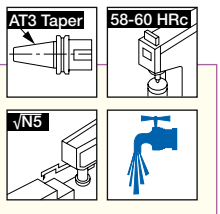
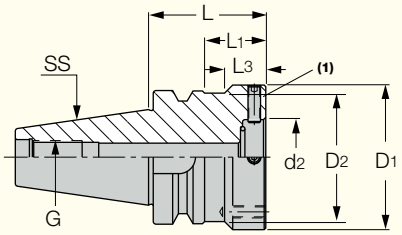
ADJ BT

Center Alignment Shanks and Bases with BT MAS-403 AD Tapered Shanks for Specially Tailored Toolholders



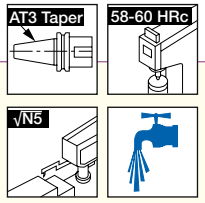


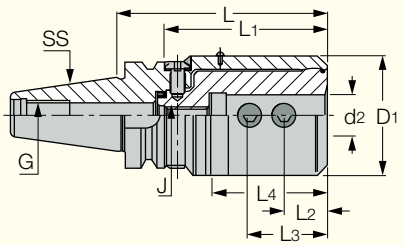
Designation	SS	L	L1	L3	D1	d2	D2	G	Kg
ADJ BT40 D70	40	55.00	28.0	18.00	70.0	35.00	62.50	M16	1.56
ADJ BT50 D70	50	70.00	32.0	-	70.0	35.00	-	M24	4.34

• (1) Use 4 mm hex key for screw adjustment.

FITBORE BT-EM

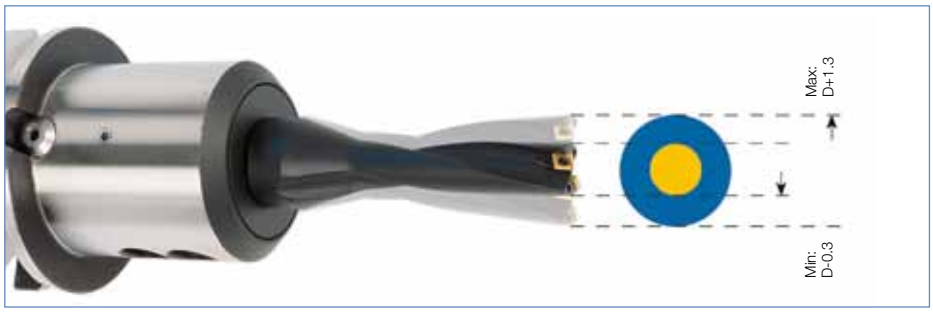
ISO 9766 Holders with BT MAS AD/B Tapered Shanks, for Adjustment of the Drilling Diameter by Center Offsetting

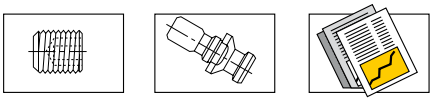




Designation	SS	d_2	D_1	L	L_1	L_4	L_2	L_3	J	G	Kg
FITBORE BT40 EM16	40	16.00	72.0	123.50	96.5	71.0	26.50	46.50	M10	M16	3.74
FITBORE BT40 EM16 B	40	16.00	72.0	123.50	96.5	71.0	26.50	46.50	M10	M16	0.02
FITBORE BT40 EM20	40	20.00	72.0	123.50	96.5	71.0	26.50	46.50	M10	M16	3.41
FITBORE BT40 EM20 B	40	20.00	72.0	123.50	96.5	71.0	26.50	46.50	M10	M16	0.02
FITBORE BT40 EM25	40	25.00	72.0	123.50	96.5	71.0	26.50	46.50	M10	M16	3.32
FITBORE BT40 EM25 B	40	25.00	72.0	123.50	96.5	71.0	26.50	46.50	M10	M16	3.60
FITBORE BT40 EM32	40	32.00	72.0	123.50	96.5	71.0	26.50	46.50	M10	M16	3.15
FITBORE BT40 EM32 B	40	32.00	72.0	123.50	96.5	71.0	26.50	46.50	M10	M16	3.14
FITBORE BT40 EM40	40	40.00	72.0	123.50	96.5	71.0	26.50	46.50	M10	M16	2.91
FITBORE BT50 EM16	50	16.00	72.0	134.50	96.5	71.0	26.50	46.50	M10	M24	6.40
FITBORE BT50 EM20	50	20.00	72.0	134.50	96.5	71.0	26.50	46.50	M10	M24	6.38
FITBORE BT50 EM25	50	25.00	72.0	134.50	96.5	71.0	26.50	46.50	M10	M24	5.97
FITBORE BT50 EM32	50	32.00	72.0	134.50	96.5	71.0	26.50	46.50	M10	M24	6.10
FITBORE BT50 EM40	50	40.00	72.0	134.50	96.5	71.0	26.50	46.50	M10	M24	5.57

• B is the designation for coolant through flange.





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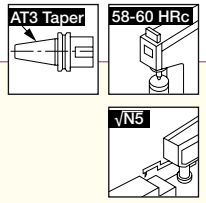
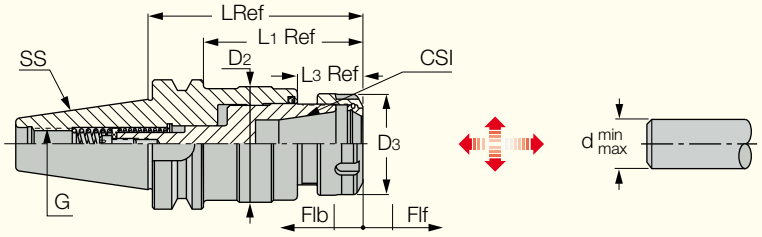
BT MAS • GTI

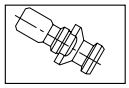
GTI BT-ER (Tapping)

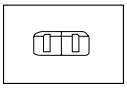
DIN 6499 ER Tapping Attachments with BT MAS-403 A Tapered Shanks

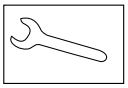


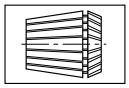


Designation	SS	CSI	Tap min	Tap max	d min	d max	L	L1	L3	D3	D2	Flf	Flb	G	Kg
GTI BT40 ER16	40	ER16	M3	M10	0.5	10.0	84.20	52.7	24.60	28.00	29.50	8.0	3.0	M16	1.17
GTI BT40 ER32	40	ER32	M6	M20	2.0	20.0	106.80	79.8	33.00	50.00	56.50	9.0	4.0	M16	2.52
GTI BT40 ER40	40	ER40	M6	M28	3.0	26.0	124.80	97.8	51.00	63.00	56.50	9.0	4.0	M16	2.24
GTI BT50 ER16	50	ER16	M3	M10	0.5	10.0	106.80	68.8	24.60	28.00	29.50	8.0	3.0	M24	3.85
GTI BT50 ER32	50	ER32	M6	M20	2.0	20.0	114.20	77.2	33.00	50.00	56.50	9.0	4.0	M24	2.28
GTI BT50 ER40	50	ER40	M6	M28	3.0	26.0	133.20	95.2	51.00	63.00	56.50	9.0	4.0	M24	2.28


B172-174


B175


B176

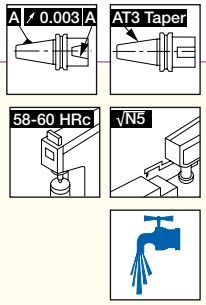

B145-148

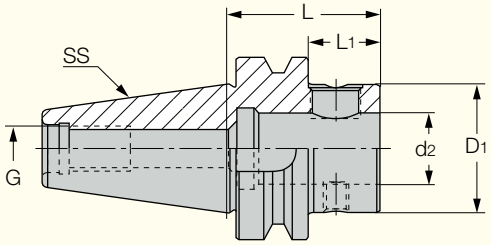

B136
B142-144

BT MAS • CLICKFIT

BT-CF (CLICKFIT)

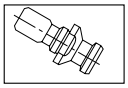
Modular System Connections with BT MAS-403 AD Tapered Shanks

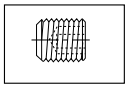




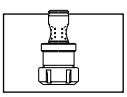
Designation	SS	d2	L	L1	D1	G	Kg
BT40 CF4-L	40	25.00	110.00	83.0	44.5	M16	1.74
BT40 CF4-S	40	25.00	52.00	25.0	44.5	M16	1.08
BT50 CF4-L	50	25.00	115.00	77.0	44.5	M24	4.52
BT50 CF4-S	50	25.00	63.00	25.0	44.5	M24	3.71

• B is the designation for coolant through flange. • Tightening torque: 6 Kgxm


B172-174


B178

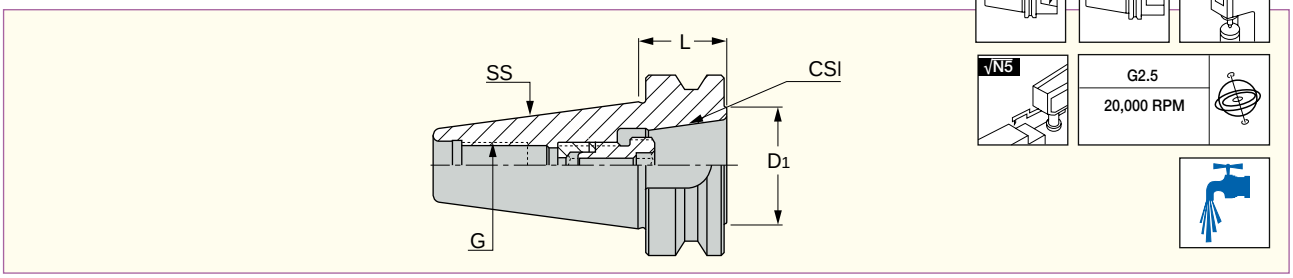

A5


B117,
B121, B122

BT MAS • CLICKIN

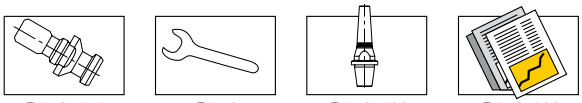
BT-ER-CLICKIN

BT MAS 403 AD Tapered Shanks to CLICKIN Quick Change Connection Adapters



Designation	SS	CSI	L	D_1	G	Kg
BT40 ER32 CLICK-IN	40	32 SRF	28.00	41.0	M16	0.83
BT50 ER32 CLICK-IN	50	32 SRF	39.00	41.0	M24	3.46

• Tightening torque: 24 Kgxm • Balanced to G2.5/20,000 RPM.



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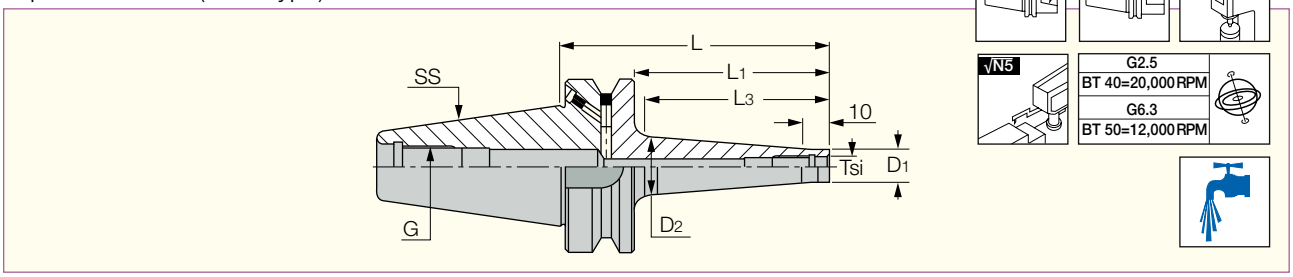
BT MAS • FLEXFIT

BT-ODP (FLEXFIT)

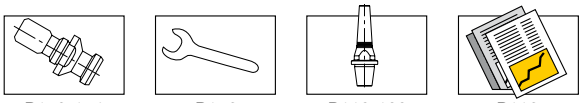
FLEXFIT Threaded Adaptation with Integral BT MAS-403 Tapered Shanks (ADB Type)



Designation	SS	Tsi	D_1	D_2	L	L_1	L_3	G	Kg
BT40 ODP 6X 66 (1)	40	M06	9.8	13.00	66.00	39.0	30.00	M16	0.98
BT40 ODP 6X106 (1)	40	M06	9.8	23.00	106.00	79.0	70.00	M16	1.08
BT40 ODP 8X 66 (1)	40	M08	13.0	15.00	66.00	30.0	30.00	M16	0.99
BT40 ODP 8X106 (1)	40	M08	13.0	23.00	106.00	70.0	70.00	M16	1.09
BT40 ODP10X 66 (1)	40	M10	18.0	20.00	66.00	30.0	30.00	M16	1.03
BT40 ODP10X106 (1)	40	M10	18.0	28.00	106.00	79.0	70.00	M16	1.80
BT40 ODP12X 66 (1)	40	M12	21.0	24.00	66.00	39.0	30.00	M16	1.05
BT40 ODP12X106 (1)	40	M12	21.0	31.00	106.00	79.0	70.00	M16	1.23
BT40 ODP16X 66 (1)	40	M16	29.0	28.60	66.00	39.0	-	M16	1.06
BT40 ODP16X106 (1)	40	M16	29.0	34.00	106.00	79.0	70.00	M16	1.33
BT50 ODP 12X 94 (2)	50	M12	23.0	30.00	94.00	56.0	50.00	M24	3.85
BT50 ODP 12X144 (2)	50	M12	23.0	40.00	144.00	106.0	100.00	M24	4.25
BT50 ODP 12X194 (2)	50	M12	23.0	40.00	194.00	156.0	150.00	M24	4.22
BT50 ODP 12X244 (2)	50	M12	23.0	46.00	244.00	206.0	200.00	M24	5.10
BT50 ODP 16X 94 (2)	50	M16	29.0	34.00	94.00	56.0	50.00	M24	3.80
BT50 ODP 16X144 (2)	50	M16	29.0	40.00	144.00	106.0	100.00	M24	4.19
BT50 ODP 16X194 (2)	50	M16	29.0	55.00	194.00	156.0	150.00	M24	4.60
BT50 ODP 16X244 (2)	50	M16	29.0	60.00	244.00	206.0	200.00	M24	5.60

• The coolant passages in the B type flange are blocked with screws which can be removed when required.

(1) Balanced to G2.5/20,000 RPM. (2) Balanced to G6.3/12,000 RPM.



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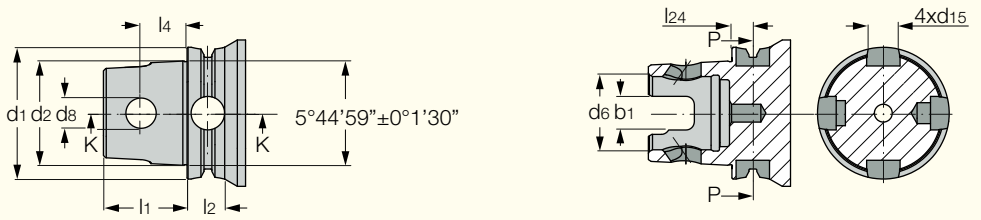
ISO 26622-1 IM63 XMZ

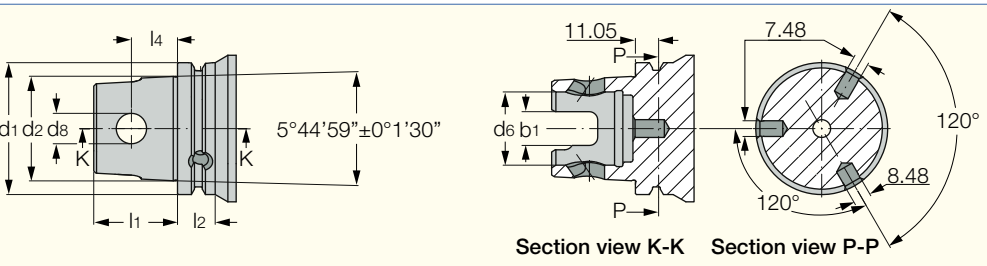
Member IMC Group

IM ISO 26622-1 Standard



IM UT	d_1 -0.1	d_2 ±0.0075	d_6	d_8	d_{15} H11	l_1 -0.1	l_2 min	l_4	l_{24}	b_1
32	32	23.9975	17.65 +0.1	7.5	-	20	10	10.8	-	8.9
40	40	29.9975	21 +0.1	9.5	9	25	12	13.6	5.95	10
50	50	39.9975	28.2 +0.15	12.5	12	32	18	17.2	8.95	14
63	63	49.9975	35.2 +0.15	14.5	16	40	20	22.4	9.95	16
80	80	63.9975	48 +0.15	18.5	16	45	22	24.9	10.95	20

IM 63 XMZ Mazak Standard for Integrex Series 4/54

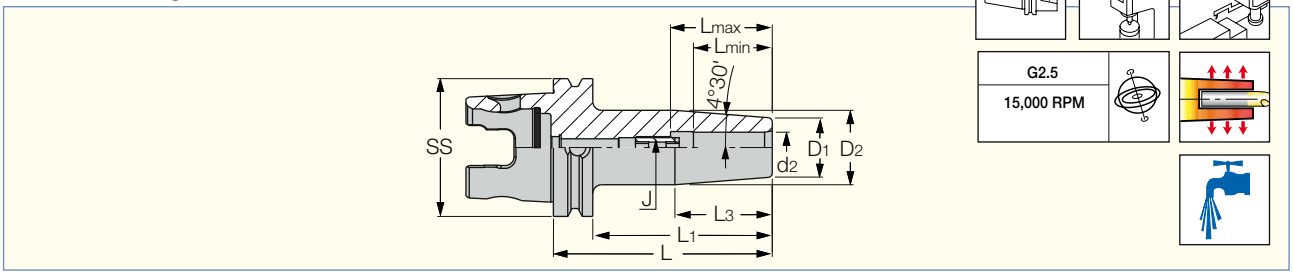


IM XMZ	d_1 -0.1	d_2 ±0.0075	d_6	d_8	l_1 -0.1	l_2 min	l_4	b_1 +0.15
63	63	49.9975	35.2 +0.15	14.5	40	18	22.4	16

IM63 XMZ is MAZAK's modification for their turn-mill machines, based on MAZAK KM63 XMZ standard, with 3 holes added on the V-flange located 120° from each other.

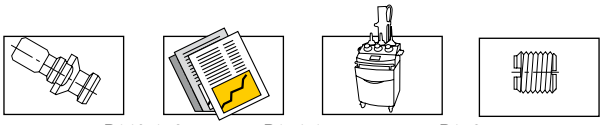
IM63 XMZ-SRKIN

Thermal Shrink Chucks with ISO 26622-1 XMZ Tapered Shank
for Mazak Integrex Machines



Designation	SS	d_2	D_1	D_2	L	L_1	L_3	L_{max}	L_{min}	J	Key(1)
IM63 XMZ SRKIN 04X080	63	4.00	10.0	17.00	80.00	62.0	-	12.0	-	-	-
IM63 XMZ SRKIN 06X080	63	6.00	21.0	27.00	80.00	62.0	38.00	36.0	22.0	M5	2.50
IM63 XMZ SRKIN 06X120	63	6.00	21.0	27.00	120.00	102.0	38.00	36.0	22.0	M5	2.50
IM63 XMZ SRKIN 08X080	63	8.00	21.0	27.00	80.00	62.0	38.00	36.0	26.0	M6	3.00
IM63 XMZ SRKIN 08X120	63	8.00	21.0	27.00	120.00	102.0	38.00	36.0	26.0	M6	3.00
IM63 XMZ SRKIN 10X080	63	10.00	24.0	32.00	80.00	62.0	51.00	41.0	31.0	M8X1	4.00
IM63 XMZ SRKIN 10X120	63	10.00	24.0	32.00	120.00	102.0	51.00	41.0	31.0	M8X1	4.00
IM63 XMZ SRKIN 12X080	63	12.00	24.0	32.00	80.00	62.0	51.00	46.0	36.0	M10X1	5.00
IM63 XMZ SRKIN 12X120	63	12.00	24.0	32.00	120.00	102.0	51.00	46.0	36.0	M10X1	5.00
IM63 XMZ SRKIN 14X080	63	14.00	27.0	34.00	80.00	62.0	44.00	46.0	36.0	M10X1	5.00
IM63 XMZ SRKIN 14X120	63	14.00	27.0	34.00	120.00	102.0	44.00	46.0	36.0	M10X1	5.00
IM63 XMZ SRKIN 16X080	63	16.00	27.0	34.00	80.00	62.0	44.00	49.0	39.0	M12X1	6.00
IM63 XMZ SRKIN 16X120	63	16.00	27.0	34.00	120.00	102.0	44.00	49.0	39.0	M12X1	6.00
IM63 XMZ SRKIN 18X080	63	18.00	33.0	41.00	80.00	62.0	51.00	49.0	39.0	M12X1	6.00
IM63 XMZ SRKIN 18X120	63	18.00	33.0	41.00	120.00	102.0	51.00	49.0	39.0	M12X1	6.00
IM63 XMZ SRKIN 20X080	63	20.00	33.0	41.00	80.00	62.0	51.00	51.0	41.0	M12X1	6.00
IM63 XMZ SRKIN 20X120	63	20.00	33.0	41.00	120.00	102.0	51.00	51.0	41.0	M12X1	6.00
IM63 XMZ SRKIN 25X080	63	25.00	44.0	53.00	80.00	62.0	57.00	57.0	47.0	M12X1	6.00
IM63 XMZ SRKIN 25X120	63	25.00	44.0	53.00	120.00	102.0	57.00	57.0	47.0	M12X1	6.00
IM63 XMZ SRKIN 32X080	63	32.00	44.0	53.00	80.00	62.0	57.00	61.0	51.0	M12X1	6.00

(1) Hex key size for the rear stopper screw

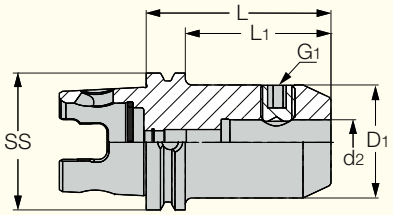


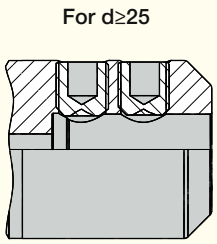
B149-152 B154-155 B178

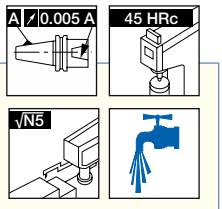
ISO 26622-1 XMZ

IM63 XMZ-EM

DIN1835 Form B Endmill Holders with ISO 26622-1 XMZ Tapered Shank
for Mazak Integrex Machines

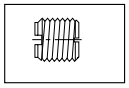






Designation	d_2	L	L_1	D_1	SS	G_1	Key(1)
IM63 XMZ EM 06X60	6.00	60.00	42.0	25.0	63	M6	3.00
IM63 XMZ EM 06X100	6.00	100.00	82.0	25.0	63	M6	3.00
IM63 XMZ EM 08X60	8.00	60.00	42.0	28.0	63	M8	4.00
IM63 XMZ EM 08X100	8.00	100.00	82.0	28.0	63	M8	4.00
IM63 XMZ EM 10X60	10.00	60.00	42.0	35.0	63	M10	5.00
IM63 XMZ EM 10X100	10.00	100.00	82.0	35.0	63	M10	5.00
IM63 XMZ EM 12X60	12.00	60.00	42.0	42.0	63	M12	6.00
IM63 XMZ EM 12X100	12.00	100.00	82.0	42.0	63	M12	6.00
IM63 XMZ EM 14X60	14.00	60.00	42.0	45.0	63	M12	6.00
IM63 XMZ EM 14X100	14.00	100.00	82.0	45.0	63	M12	6.00
IM63 XMZ EM 16X60	16.00	60.00	42.0	48.0	63	M14	6.00
IM63 XMZ EM 16X100	16.00	100.00	82.0	48.0	63	M14	6.00
IM63 XMZ EM 18X60	18.00	60.00	42.0	48.0	63	M14	6.00
IM63 XMZ EM 18X100	18.00	100.00	82.0	48.0	63	M14	6.00
IM63 XMZ EM 20X65	20.00	65.00	47.0	52.0	63	M16	8.00
IM63 XMZ EM 20X100	20.00	100.00	82.0	52.0	63	M16	8.00
IM63 XMZ EM 25X80	25.00	80.00	62.0	65.0	63	M18X2	10.00
IM63 XMZ EM 32X90	32.00	90.00	72.0	72.0	63	M20X2	10.00

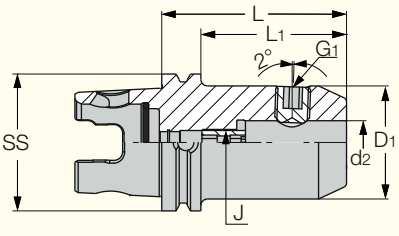
(1) Hex key size

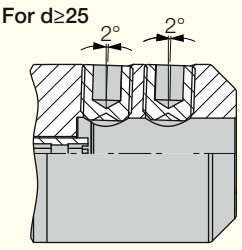


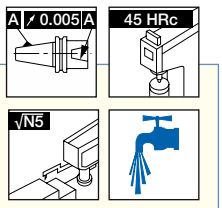
B178

IM63 XMZ-EM-E

Endmill Holder DIN1835-E (Whistle Notch) with ISO 26622-1 XMZ Tapered Shanks
for Mazak Integrex Machines

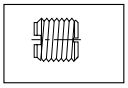






Designation	SS	d_2	D_1	L	L_1	J	Key $_1$(1)	G_1	Key $_2$(1)
IM63 XMZ EM 06X60 E	63	6.00	25.0	60.00	42.0	M5	2.50	M6	3.00
IM63 XMZ EM 08X65 E	63	8.00	28.0	65.00	47.0	M6	8.00	M8	4.00
IM63 XMZ EM 10X70 E	63	10.00	35.0	70.00	52.0	M8X1	4.00	M10	5.00
IM63 XMZ EM 12X75 E	63	12.00	42.0	75.00	57.0	M10X1	5.00	M12	6.00
IM63 XMZ EM 14X75 E	63	14.00	45.0	75.00	57.0	M10X1	5.00	M12	6.00
IM63 XMZ EM 16X80 E	63	16.00	48.0	80.00	62.0	M12X1	6.00	M14	6.00
IM63 XMZ EM 18X80 E	63	18.00	48.0	80.00	62.0	M12X1	6.00	M14	6.00
IM63 XMZ EM 20X80 E	63	20.00	52.0	80.00	62.0	M12X1	6.00	M16	8.00
IM63 XMZ EM 25X85 E	63	25.00	63.0	85.00	67.0	M12X1	6.00	M18X2	10.00
IM63 XMZ EM 32X95 E	63	32.00	72.0	95.00	77.0	M12X1	6.00	M20X2	10.00

(1) Hex key size

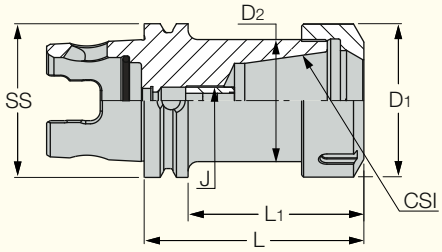


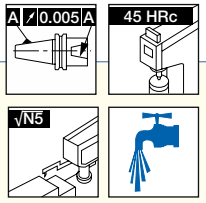
B178

ISO 26622-1 XMZ

IM63 XMZ-ER

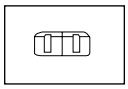
ER Collet Chucks with ISO 26622-1 XMZ Tapered Shank
for Mazak Integrex Machines

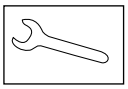


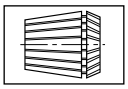


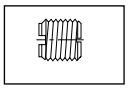
Designation	SS	CSI	d min	d max	D1	D2	L	L1	J
IM63 XMZ ER16X60 (1)	63	16	0.5	10.0	28.0	22.00	60.00	42.0	-
IM63 XMZ ER16X120	63	16	0.5	10.0	28.0	22.00	120.00	102.0	M10
IM63 XMZ ER20X60 (1)	63	20	0.5	13.0	34.0	25.00	60.00	42.0	-
IM63 XMZ ER20X120	63	20	0.5	13.0	34.0	25.00	120.00	102.0	M12
IM63 XMZ ER25X60 (1)	63	25	0.5	16.0	42.0	32.00	60.00	42.0	-
IM63 XMZ ER25X120	63	25	0.5	16.0	42.0	32.00	120.00	102.0	M16
IM63 XMZ ER32X60 (1)	63	32	1.0	20.0	50.0	50.00	60.00	42.0	-
IM63 XMZ ER32X90	63	32	1.0	20.0	50.0	50.00	90.00	72.0	M22X1.5
IM63 XMZ ER32X120	63	32	1.0	20.0	50.0	50.00	120.00	102.0	M22X1.5
IM63 XMZ ER40X90 (1)	63	40	2.0	30.0	63.0	50.00	90.00	72.0	-
IM63 XMZ ER40X120	63	40	2.0	30.0	63.0	50.00	120.00	102.0	M28X1.5

(1) Without adjustment screw.


B175


B176

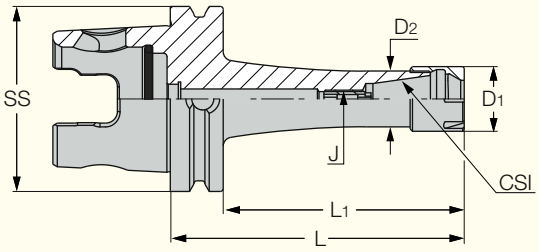

B145-148

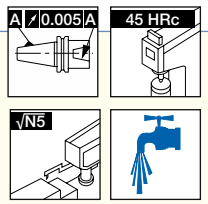

B177


B142-144

IM63 XMZ-ER-M

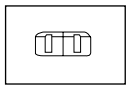
ER Mini Collet Chucks with ISO 26622-1 XMZ Tapered Shank
for Mazak Integrex Machines

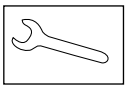




Designation	SS	CSI	d min	d max	D1	D2	L	L1	J
IM63 XMZ ER11X60 M (1)	63	11	0.5	7.0	16.0	13.00	60.00	42.0	-
IM63 XMZ ER11X90 M	63	11	0.5	7.0	16.0	13.00	90.00	72.0	M6
IM63 XMZ ER16X60 M (1)	63	16	0.5	10.0	22.0	19.00	60.00	42.0	-
IM63 XMZ ER16X100 M	63	16	0.5	10.0	22.0	19.00	100.00	82.0	M10
IM63 XMZ ER16X120 M	63	16	0.5	10.0	22.0	19.00	120.00	102.0	M10

(1) Without adjustment screw.


B175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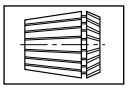
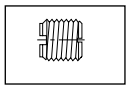

B145-148

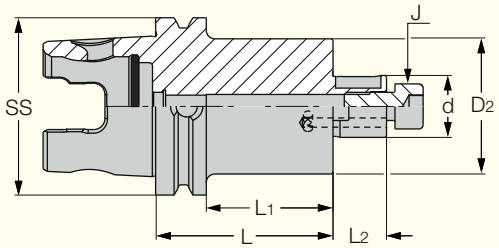

B177

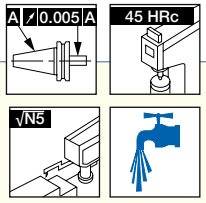

B142-144

ISO 26622-1 XMZ

IM63 XMZ-SEM-C

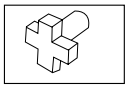
Shell Endmill Holder with Coolant Holes and ISO 26622-1 XMZ Tapered Shank for Mazak Integrex Machines

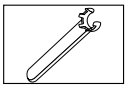




Designation	SS	d	D_2	L	L_1	L_2	J	Key(1)
IM63 XMZ SEM16X28 C	63	16.00	38.00	28.00	10.0	17.00	M8	6.00
IM63 XMZ SEM16X63 C	63	16.00	38.00	63.00	45.0	17.00	M8	6.00
IM63 XMZ SEM16X110 C	63	16.00	38.00	110.00	92.0	17.00	M8	6.00
IM63 XMZ SEM22X30 C	63	22.00	48.00	30.00	12.0	19.00	M10	8.00
IM63 XMZ SEM22X63 C	63	22.00	48.00	63.00	45.0	19.00	M10	8.00
IM63 XMZ SEM22X110 C	63	22.00	48.00	110.00	92.0	19.00	M10	8.00
IM63 XMZ SEM27X32 C	63	27.00	58.00	32.00	14.0	21.00	M12	10.00
IM63 XMZ SEM27X63 C	63	27.00	58.00	63.00	45.0	21.00	M12	10.00
IM63 XMZ SEM27X110 C	63	27.00	58.00	110.00	92.0	21.00	M12	10.00
IM63 XMZ SEM32X40 C	63	32.00	72.00	40.00	22.0	24.00	M16	14.00
IM63 XMZ SEM32X63 C	63	32.00	72.00	63.00	45.0	24.00	M16	14.00
IM63 XMZ SEM32X110 C	63	32.00	72.00	110.00	92.0	24.00	M16	14.00

(1) Hex key size

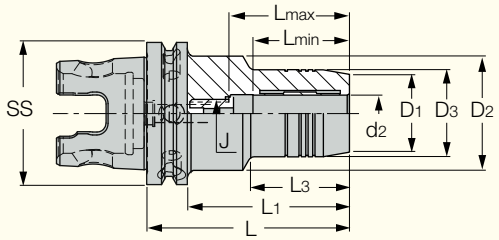

B177

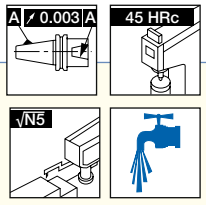

B179

ISO 26622-1 XMZ • HYDROFIT HOLDING LINE

IM63 XMZ-HYDRO

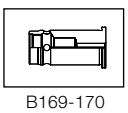
Hydraulic Chucks with ISO 26622-1 XMZ Tapered Shank for Mazak Integrex Machines





Designation	SS	d_2	D_1	D_3	D_2	L	L_1	L_3	L min	L max	J
IM63 XMZ HYDRO 20X85	63	20.00	38.0	42.00	50.00	85.00	65.0	58.00	42.0	52.0	M12X1
IM63 XMZ HYDRO 32X100	63	32.00	56.0	60.00	60.00	100.00	80.0	-	52.0	62.0	M16X1

• Chucking forces will be reduced by 25% if reduction sleeves are used. • Reduction sleeves are available for 12, 20, 25 and 32 mm bore diameters(must be ordered separately).


B169-170

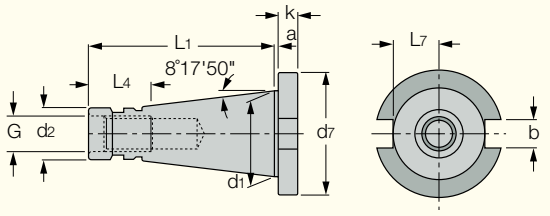

A19-20

DIN2080, R-8 BRIGEPORT, MORSE TAPER

Member IMC Group

DIN2080

Toolholder Standard

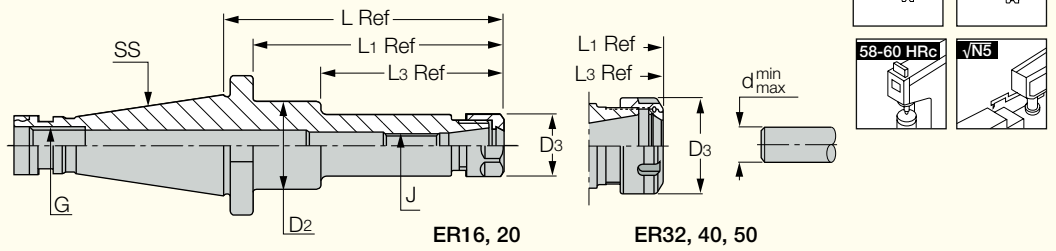


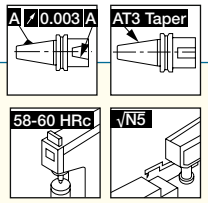
Shank	a±0.2	b (H12)	d1	d2	G	d7	K±0.15
SK 30	1.6	16.1	31.75	17.4	M12	50	8
SK 40	1.6	16.1	44.45	25.3	M16	63	10
SK 50	3.2	25.7	69.85	39.6	M24	97.5	12

Shank	L1	L4	L7 MAX	Taper AT3
SK 30	68.4	24	16.2	0.002
SK 40	93.4	32	22.5	0.003
SK 50	126.8	47	35.3	0.004

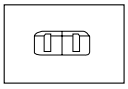
DIN2080-ER

DIN 6499 ER Collet Chucks with DIN 2080 AD Tapered Shanks





Designation	SS	CSI	d min	d max	L	L1	L3	D3	D2	J	G	Kg
DIN2080 30 ER16X 75	30	ER16	0.5	10.0	75.00	65.4	-	28.00	-	M10	M12	0.48
DIN2080 30 ER32X 55	30	ER32	2.0	20.0	55.00	45.4	-	50.00	-	M18X1.5	M12	0.36
DIN2080 30 ER40X 83	30	ER40	3.0	26.0	83.00	69.4	-	63.00	-	M22X1.5	M12	0.79
DIN2080 40 ER16X 63	40	ER16	0.5	10.0	63.00	51.4	-	28.00	-	M12	M16	0.85
DIN2080 40 ER16X100	40	ER16	0.5	10.0	100.00	88.4	-	28.00	-	M12	M16	0.99
DIN2080 40 ER16X160	40	ER16	0.5	10.0	160.00	148.4	85.00	28.00	40.00	M12	M16	1.55
DIN2080 40 ER20X 63	40	ER20	1.0	13.0	63.00	51.4	-	34.00	-	M12	M16	0.90
DIN2080 40 ER20X100	40	ER20	1.0	13.0	100.00	88.4	-	34.00	-	M12	M16	1.14
DIN2080 40 ER25X 50	40	ER25	1.0	16.0	50.00	38.4	-	42.00	-	M16X1.5	M16	0.82
DIN2080 40 ER32X 50	40	ER32	2.0	20.0	50.00	38.4	-	50.00	-	M22X1.5	M16	0.75
DIN2080 40 ER40X 55	40	ER40	3.0	26.0	55.00	43.4	-	63.00	-	M22X1.5	M16	0.80
DIN2080 40 ER50X 80	40	ER50	10.0	34.0	80.00	68.4	-	78.00	-	M22X1.5	M24	1.20
DIN2080 50 ER16X100	50	ER16	0.5	10.0	100.00	84.8	-	28.00	-	M12	M24	2.80
DIN2080 50 ER16X160	50	ER16	0.5	10.0	160.00	144.8	95.00	28.00	40.00	M12	M24	3.28
DIN2080 50 ER20X100	50	ER20	1.0	13.0	100.00	84.8	-	34.00	-	M16	M24	2.89
DIN2080 50 ER20X160	50	ER20	1.0	13.0	160.00	144.8	-	34.00	-	M12	M24	3.30
DIN2080 50 ER40X 58	50	ER40	3.0	26.0	58.00	42.8	-	63.00	-	M28X1.5	M24	2.51
DIN2080 50 ER50X 63	50	ER50	10.0	34.0	63.00	47.8	-	78.00	-	M36X1.5	M24	2.40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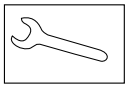
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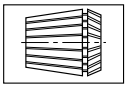
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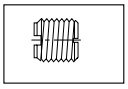
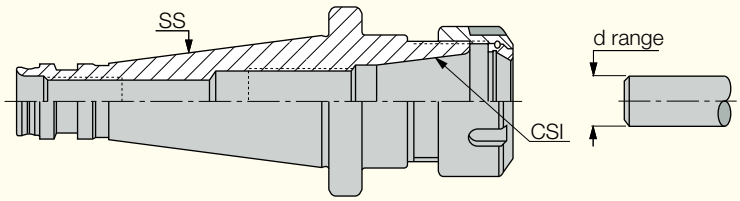
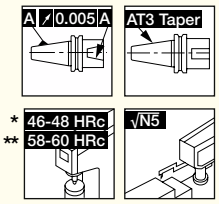

B177

DIN2080

KIT DIN2080-ER

Contains 1 DIN 2080 Taper Shank with ER Collet Chuck and a Set of ER Spring Collets





Designation	SS	CSI	d Range	Qty	Kg
KIT DIN2080 30 18 ER32	30	ER32	2-20	18	3.98
KIT DIN2080 40 18 ER32	40	ER32	2-20	18	4.38
KIT DIN2080 40 23 ER40	40	ER40	3-26	23	8.40
KIT DIN2080 50 23 ER40	50	ER40	3-26	23	0.01

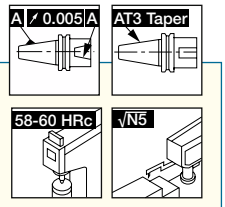
• Each kit contains one collet chuck, a full set of ER collets and a wrench.

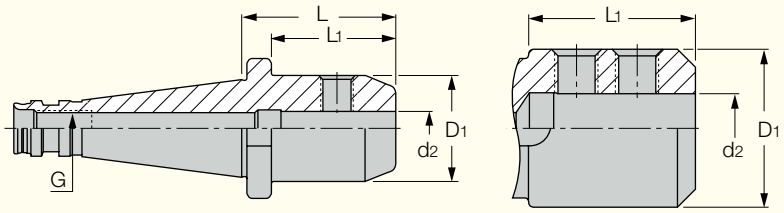
* Collet

** Toolholder

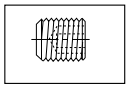
DIN2080-EM

DIN 6359/DIN1835 Form B Endmill Weldon Holders
with DIN 2080 AD Tapered Shanks





Designation	SS	d_2	D_1	L	L_1	G	Kg
DIN2080 30 EM 6X 40	30	6.00	25.0	40.00	30.4	M12	0.39
DIN2080 30 EM 8X 40	30	8.00	28.0	40.00	30.4	M12	0.41
DIN2080 30 EM10X 40	30	10.00	35.0	40.00	30.4	M12	0.47
DIN2080 30 EM16X 50	30	16.00	48.0	50.00	40.4	M12	0.71
DIN2080 30 EM20X 63	30	20.00	52.0	63.00	53.4	M12	0.96
DIN2080 40 EM 6X 50	40	6.00	25.0	50.00	38.4	M16	0.84
DIN2080 40 EM 8X 50	40	8.00	28.0	50.00	38.4	M16	0.87
DIN2080 40 EM10X 50	40	10.00	35.0	50.00	38.4	M16	0.95
DIN2080 40 EM12X 50	40	12.00	42.0	50.00	38.4	M16	1.05
DIN2080 40 EM16X 63	40	16.00	48.0	63.00	51.4	M16	1.30
DIN2080 40 EM20X 63	40	20.00	52.0	63.00	51.4	M16	1.42
DIN2080 40 EM25X 80	40	25.00	65.0	80.00	68.4	M16	2.08
DIN2080 40 EM32X 80	40	32.00	72.0	80.00	68.4	M16	2.24
DIN2080 50 EM 6X 63	50	6.00	25.0	63.00	47.8	M24	2.69
DIN2080 50 EM 8X 63	50	8.00	28.0	63.00	47.8	M24	2.75
DIN2080 50 EM10X 63	50	10.00	35.0	63.00	47.8	M24	2.82
DIN2080 50 EM12X 63	50	12.00	42.0	63.00	47.8	M24	2.95
DIN2080 50 EM16X 63	50	16.00	48.0	63.00	47.8	M24	3.03
DIN2080 50 EM20X 63	50	20.00	52.0	63.00	47.8	M24	3.12
DIN2080 50 EM25X 80	50	25.00	65.0	80.00	64.8	M24	3.78
DIN2080 50 EM32X 80	50	32.00	72.0	80.00	64.8	M24	4.00
DIN2080 50 EM40X 90	50	40.00	90.0	90.00	74.8	M24	5.08
DIN2080 50 EM50X100	50	50.00	100.0	100.00	84.8	M24	5.94

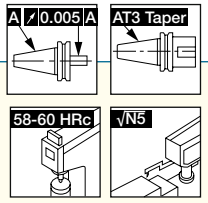


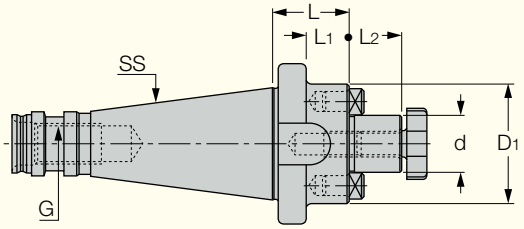
B178

DIN2080

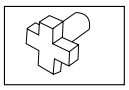
DIN2080-SEM

DIN 3937 Shell Mill Holders with DIN 2080 A Tapered Shanks





Designation	SS	d	L_2	L	L_1	D_1	G	Kg
DIN2080 30 SEM 16X 28	30	16.00	17.00	28.00	18.4	38.0	M12	0.47
DIN2080 30 SEM 22X 28	30	22.00	19.00	28.00	18.4	47.0	M12	0.57
DIN2080 30 SEM 27X 32	30	27.00	21.00	32.00	22.4	58.0	M12	0.76
DIN2080 30 SEM 32X 32	30	32.00	24.00	32.00	22.4	66.0	M12	0.91
DIN2080 40 SEM 16X 28	40	16.00	17.00	28.00	16.4	38.0	M16	0.86
DIN2080 40 SEM 22X 27	40	22.00	19.00	27.00	15.4	47.0	M16	0.94
DIN2080 40 SEM 27X 26	40	27.00	21.00	26.00	14.4	58.0	M16	1.08
DIN2080 40 SEM 32X 23	40	32.00	24.00	23.00	11.4	66.0	M16	1.05
DIN2080 40 SEM 40X 34	40	40.00	27.00	34.00	22.4	82.0	M16	1.65
DIN2080 50 SEM 16X 38	50	16.00	17.00	38.00	22.8	38.0	M24	3.07
DIN2080 50 SEM 22X 38	50	22.00	19.00	38.00	22.8	47.0	M24	3.20
DIN2080 50 SEM 27X 38	50	27.00	21.00	38.00	22.8	58.0	M24	3.18
DIN2080 50 SEM 32X 36	50	32.00	24.00	36.00	20.8	66.0	M24	3.28
DIN2080 50 SEM 40X 40	50	40.00	27.00	40.00	24.8	82.0	M24	3.76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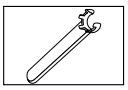
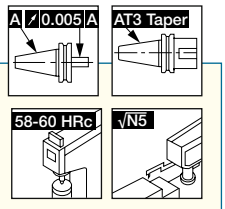
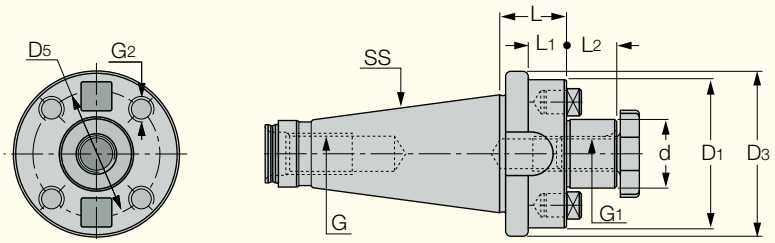

B179

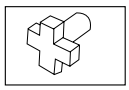
DIN2080-FM

DIN6357 Face Mill Holders with DIN2080 A Tapered Shanks





Designation	SS	d	L_2	L	L_1	D_3	D_1	D_5	G_1	G_2	G	Kg
DIN2080 40 FM 40	40	40.00	27.00	20.00	-	88.00	66.7	-	M20	M12	M16	1.35
DIN2080 50 FM 40	50	40.00	27.00	36.00	20.8	97.50	66.7	88.00	M20	M12	M24	3.61
DIN2080 50 FM 60	50	60.00	40.00	35.80	-	128.00	101.6	-	-	M16	M24	5.60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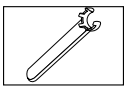
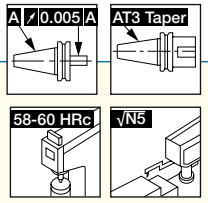
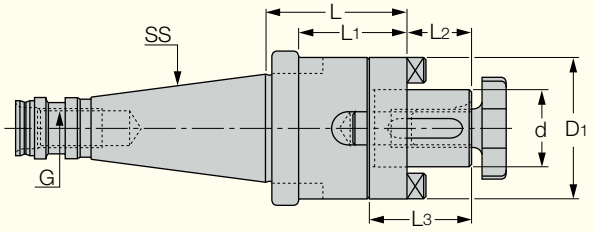

B179

DIN2080

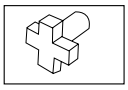
DIN2080-SEMC

DIN6358 COMBI Shell Mill Holders with DIN2080 A Tapered Shanks





Designation	SS	d	L_2	L	L_1	L_3	D_1	G	Kg
DIN2080 30 SEMC 16X 35	30	16.00	17.00	35.00	25.4	27.00	32.0	M12	0.42
DIN2080 30 SEMC 22X 35	30	22.00	19.00	35.00	25.4	31.00	40.0	M12	0.47
DIN2080 30 SEMC 27X 35	30	27.00	21.00	35.00	25.4	33.00	48.0	M12	0.56
DIN2080 30 SEMC 32X 50	30	32.00	24.00	50.00	40.4	38.00	58.0	M12	0.65
DIN2080 40 SEMC 16X 52	40	16.00	17.00	52.00	40.4	27.00	32.0	M16	0.99
DIN2080 40 SEMC 22X 52	40	22.00	19.00	52.00	40.4	31.00	40.0	M16	1.01
DIN2080 40 SEMC 27X 52	40	27.00	21.00	52.00	40.4	33.00	48.0	M16	1.26
DIN2080 40 SEMC 32X 52	40	32.00	24.00	52.00	40.4	38.00	58.0	M16	1.42
DIN2080 40 SEMC 40X 52	40	40.00	27.00	52.00	40.4	41.00	70.0	M16	1.76
DIN2080 50 SEMC 16X 55	50	16.00	17.00	55.00	39.8	27.00	32.0	M24	2.89
DIN2080 50 SEMC 22X 55	50	22.00	19.00	55.00	39.8	31.00	40.0	M24	3.28
DIN2080 50 SEMC 27X 55	50	27.00	21.00	55.00	39.8	33.00	48.0	M24	3.13
DIN2080 50 SEMC 32X 55	50	32.00	24.00	55.00	39.8	38.00	58.0	M24	3.35
DIN2080 50 SEMC 40X 55	50	40.00	27.00	55.00	39.8	41.00	70.0	M24	3.66
DIN2080 50 SEMC 50X 55	50	50.00	30.00	55.00	39.8	46.00	90.0	M24	4.18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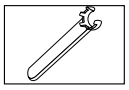
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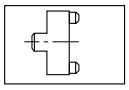
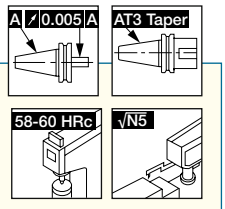
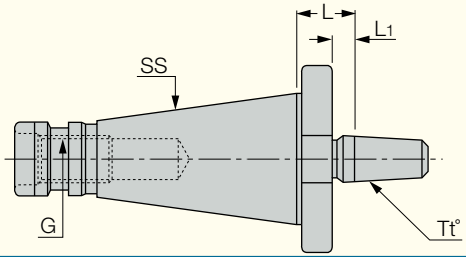

B179

DIN2080-DC

DIN238 Drill Chuck Arbors with DIN2080 A Tapered Shanks



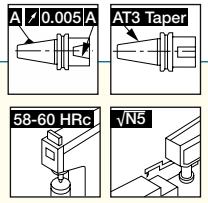


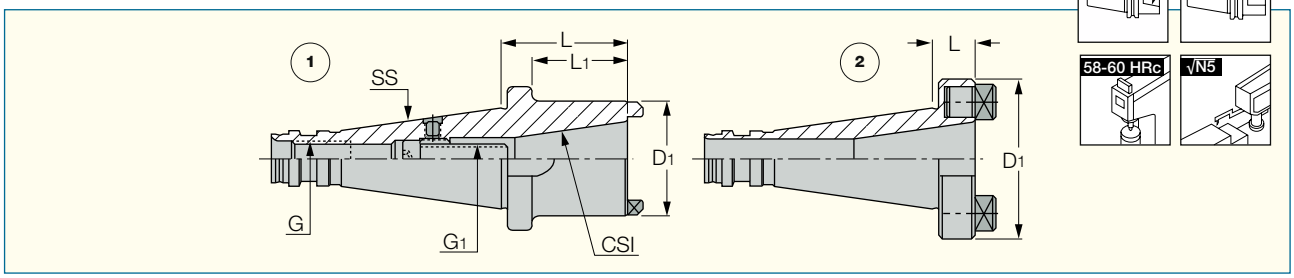
Designation	SS	$T_t°$	L	L_1	G	Kg
DIN2080 30 DC B16X 20	30	B16	20.00	5.4	M12	0.36
DIN2080 40 DC B16X 22	40	B16	22.00	10.4	M16	0.81
DIN2080 40 DC B18X 25	40	B18	25.00	13.4	M16	0.86
DIN2080 50 DC B16X 25	50	B16	25.00	9.8	M24	2.73
DIN2080 50 DC B18X 25	50	B18	25.00	9.8	M24	2.76

DIN2080

DIN2080-AD

Various Reducers and Adapters with DIN 2080 A Tapered Shanks

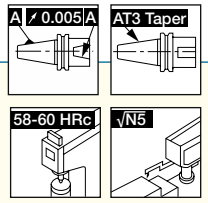


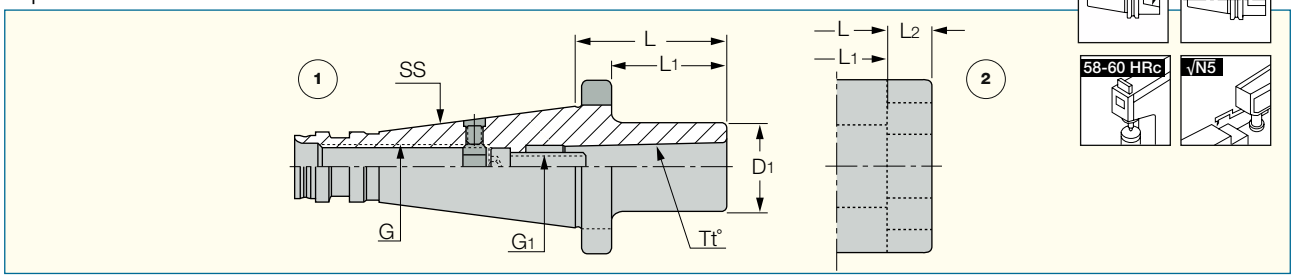


Designation	SS	CSI	L	L_1	D_1	G_1	G	Fig	Kg
DIN2080 50 AD 40	50	DIN2080	50.00	34.8	63.0	M16	M24	1	2.88
DIN2080 50 ADO 40	50	DIN2080	20.00	-	97.5	-	-	2	2.31

DIN2080-MT-DRW

DIN 6364 Morse Taper Adapters with DIN228-2 Form B Draw Bar and DIN 2080 A Tapered Shanks





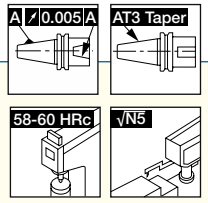
Designation	SS	T_t°	L	L_1	L_2	D_1	G_1	G	Fig	Kg
DIN2080 40 MT1 DRW	40	MT1	50.00	38.4	-	25.0	M6	M16	1	0.84
DIN2080 40 MT2 DRW	40	MT2	50.00	38.4	-	32.0	M10	M16	1	0.87
DIN2080 40 MT3 DRW	40	MT3	65.00	53.4	-	40.0	M12	M16	1	1.00
DIN2080 40 MT4 DRW	40	MT4	95.00	-	15.00	63.0	M16	M16	2 (1)	2.36
DIN2080 50 MT1 DRW	50	MT1	60.00	44.8	-	25.0	M6	M24	1	2.65
DIN2080 50 MT2 DRW	50	MT2	60.00	44.8	-	32.0	M10	M24	1	2.74
DIN2080 50 MT3 DRW	50	MT3	65.00	49.8	-	40.0	M12	M24	1	2.81
DIN2080 50 MT4 DRW	50	MT4	65.00	49.8	15.00	63.0	M16	M24	2 (1)	3.52
DIN2080 50 MT5 DRW	50	MT5	100.00	84.4	18.00	78.0	M20	M24	2 (1)	4.59

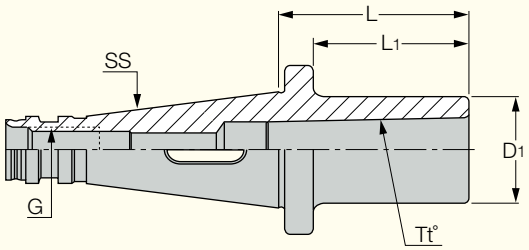
(1) DIN 2201

DIN2080

DIN2080-MT

DIN 6383 Morse Taper Adapters with DIN 2080 A Shanks

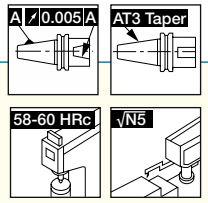


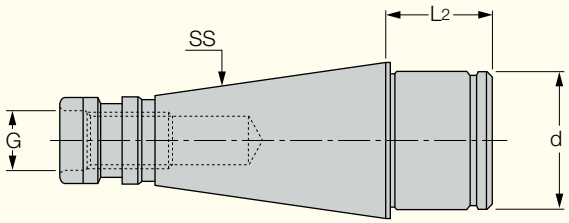


Designation	SS	Tt°	L	L1	D1	G	Kg
DIN2080 30 MT1X 50	30	MT1	50.00	40.4	25.0	M12	0.42
DIN2080 30 MT2X 50	30	MT2	50.00	40.4	32.0	M12	0.44
DIN2080 30 MT3 X70	30	MT3	70.00	60.4	40.0	M12	0.62
DIN2080 40 MT1X 50	40	MT1	50.00	38.4	25.0	M16	0.82
DIN2080 40 MT2X 50	40	MT2	50.00	38.4	32.0	M16	0.87
DIN2080 40 MT3X 65	40	MT3	65.00	53.4	40.0	M16	0.99
DIN2080 40 MT4X 95	40	MT4	95.00	83.4	48.0	M16	1.31
DIN2080 50 MT1X 45	50	MT1	45.00	29.8	25.0	M24	2.63
DIN2080 50 MT2X 60	50	MT2	60.00	44.8	32.0	M24	2.71
DIN2080 50 MT3X 65	50	MT3	65.00	49.8	40.0	M24	2.81
DIN2080 50 MT4X 70	50	MT4	70.00	54.8	48.0	M24	2.80
DIN2080 50 MT5X105	50	MT5	105.00	89.2	63.0	M24	3.31

DIN2080-CP (centering plug)

DIN 6356 Centering Plugs with DIN 2080 A Tapered Shanks



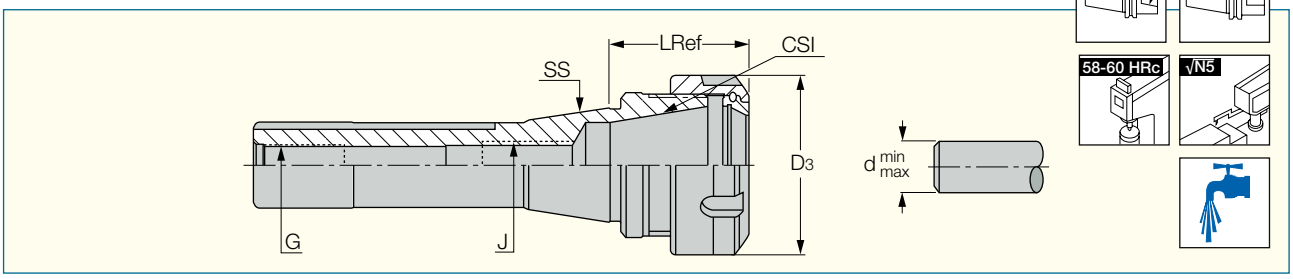


Designation	SS	L2	d	G	Kg
DIN2080 40 CP 40	40	29.00	40.00	M16	0.82
DIN2080 50 CP 60	50	39.00	60.00	M24	2.79

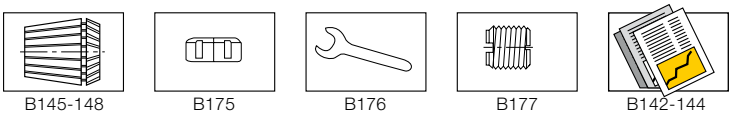
R-8 Bridgeport Tooling

R-8 ER

DIN 6499 ER Collet Chucks with Bridgeport Shanks



Designation	SS	CSI	d min	d max	L	D3	J	G	Kg
R-8 ER16X38	R-8	ER16	0.5	10.0	38.00	28.00	M10	7/16-20	0.54
R-8 ER32X40	R-8	ER32	2.0	20.0	40.00	50.00	M12	7/16-20	0.42
R-8 ER40X72	R-8	ER40	3.0	26.0	72.00	63.00	M12	7/16-20	0.84



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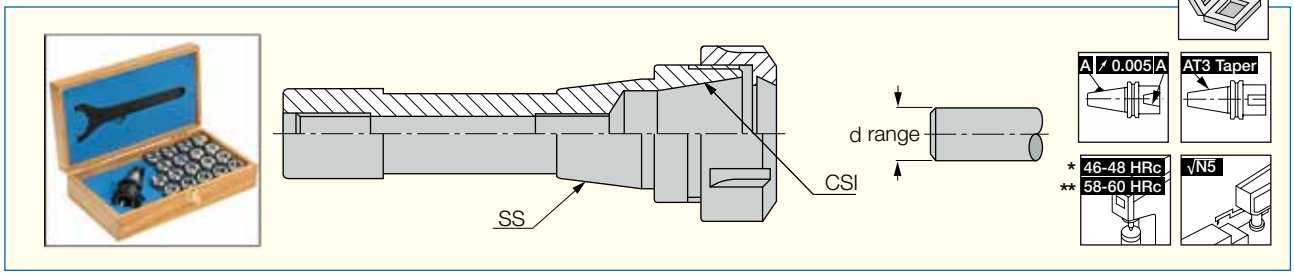
R-8 Bridgeport Tooling • ER Collet

KIT R-8 ER

Contains 1 ER Collet Chuck with a Bridgeport Shank and a Set of Collets in Various Bore Sizes



Designation	SS	Qty	d Range	CSI
KIT R-8 10 ER16	R-8	10	0.5-10	ER16
KIT R-8 18 ER32	R-8	18	2-20	ER32

• Each kit contains one collet chuck, a full set of ER collets and a wrench.

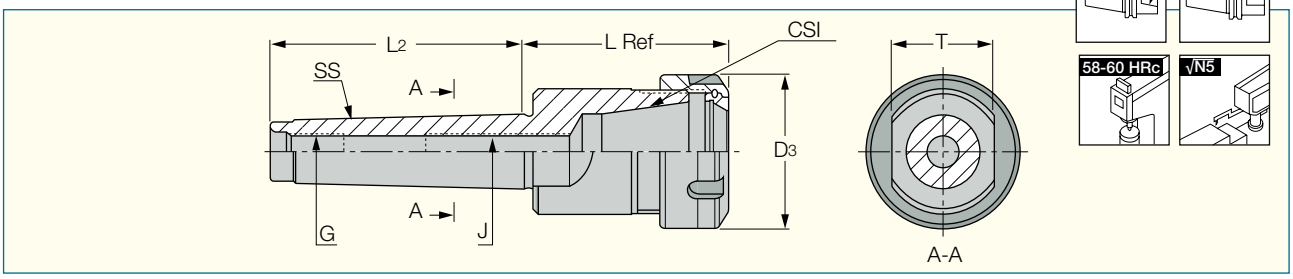
* Collet

** Toolholder

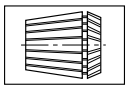
Morse Taper

MT-ER

DIN 6499 ER Collet Chucks with DIN 228-2 Morse Taper Shanks



Designation	SS	CSI	d min	d max	L	L2	D3	J	G	T	Kg
MT 2 ER20X 56	2	ER20	1.0	13.0	48.50	64.00	34.00	M10	M10	22.0	0.16
MT 2 ER25X 60	2	ER25	1.0	16.0	52.00	64.00	42.00	M10	M10	28.0	0.21
MT 3 ER32X 69	3	ER32	2.0	20.0	69.00	81.00	50.00	M12	M12	24.0	0.47
MT 3 ER40X 79	3	ER40	3.0	26.0	79.00	81.00	63.00	M12	M12	24.0	0.64
MT 4 ER32X 61	4	ER32	2.0	20.0	60.50	102.50	50.00	M16	M16	32.0	0.62
MT 4 ER40X 82	4	ER40	3.0	26.0	81.50	102.50	63.00	M16	M16	32.0	0.90
MT 4 ER50X108	4	ER50	10.0	34.0	107.50	102.50	78.00	M16	M16	32.0	1.44
MT 5 ER40X 82	5	ER40	3.0	26.0	82.00	129.50	63.00	M28X1.5	M20	45.0	1.53
MT 5 ER50X 85	5	ER50	10.0	34.0	85.00	129.50	78.00	M28X1.5	M20	45.0	1.74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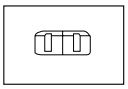
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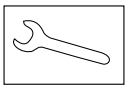
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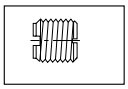
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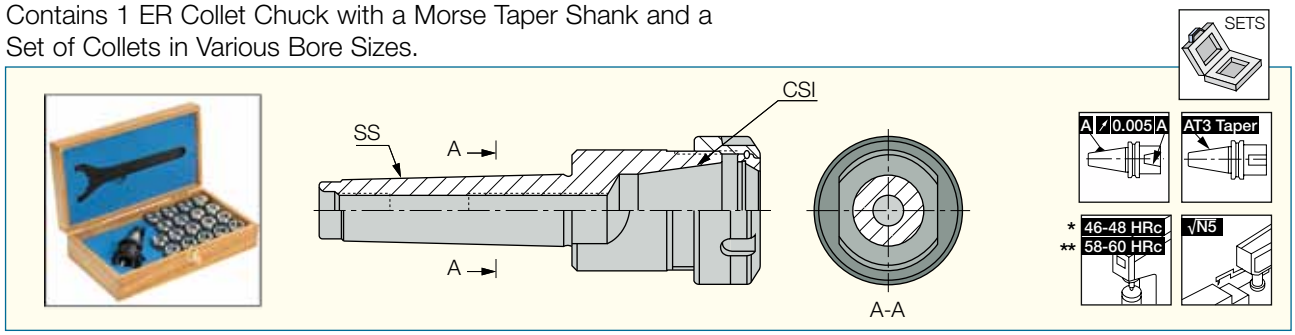
B142-144

Morse Taper

KIT MT-ER

Contains 1 ER Collet Chuck with a Morse Taper Shank and a Set of Collets in Various Bore Sizes.



Designation	SS	CSI	d Range
KIT MT3 18 ER32	3	ER32	2-20
KIT MT4 18 ER32	4	ER32	2-20
KIT MT4 23 ER40	4	ER40	3-26

• Each kit contains one collet chuck, a full set of ER collets and a wrench.

* Collet

** Toolholder

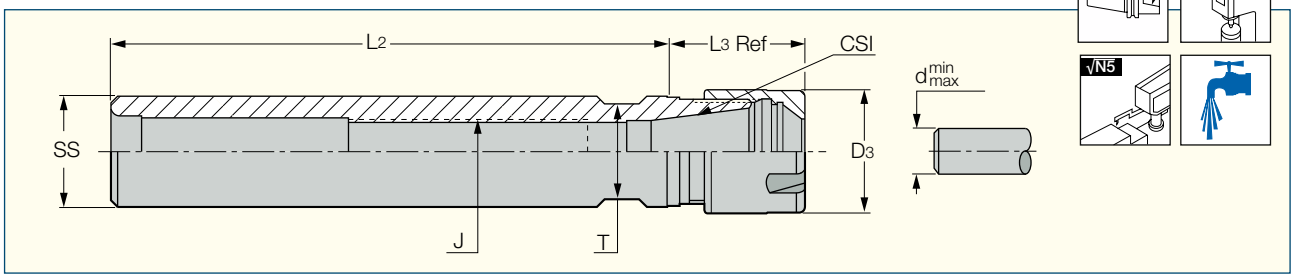
STRAIGHT & VDI SHANKS

Member IMC Group

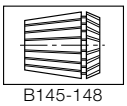
Straight Shank

ST-ER-M (mini)

DIN 6499 ER Mini Collet Chucks with Cylindrical Shanks



Designation	SS	CSI	d min	d max	L_2	L_3	J	D_3	T	Kg
ST 12X 80 ER11 M	12	ER11	0.5	7.0	80.00	26.50	-	16.00	11.0	0.07
ST 16X100 ER11 M	16	ER11	0.5	7.0	100.00	18.50	M8	16.00	13.0	0.12
ST 16X150 ER11 M	16	ER11	0.5	7.0	150.00	18.50	M8	16.00	13.0	0.20
ST 12X 80 ER16 M	12	ER16	0.5	10.0	80.00	36.50	-	22.00	17.0	0.09
ST 20X100 ER16 M	20	ER16	0.5	10.0	100.00	25.00	M12	22.00	17.0	0.19
ST 20X150 ER16 M	20	ER16	0.5	10.0	150.00	25.00	M12	22.00	17.0	0.24
ST 20X100 ER20 M	20	ER20	1.0	13.0	100.00	40.00	M12	28.00	21.0	0.22
ST 20X150 ER20 M	20	ER20	1.0	13.0	150.00	40.00	M12	28.00	21.0	0.31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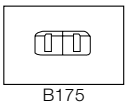
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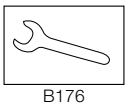
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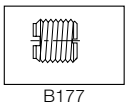
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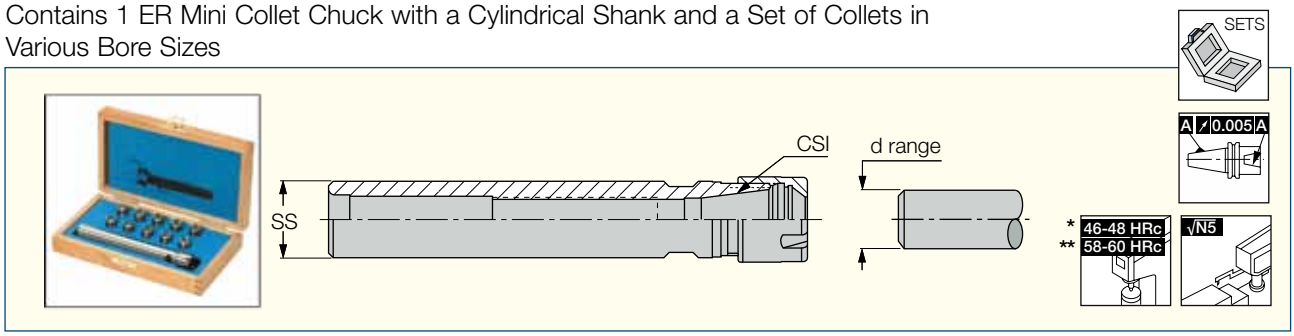
B142-144

KIT ST-ER-M/MF

Contains 1 ER Mini Collet Chuck with a Cylindrical Shank and a Set of Collets in Various Bore Sizes



Designation	SS	CSI	d Range	Qty
KIT ST12X80 7 ER11 M	12	ER11	0.5-7	7
KIT ST12X80 10 ER16 M	12	ER16	0.5-10	10
KIT ST16X50 7 ER11MF	16	ER11	0.5-7	7
KIT ST16X100 7 ER11 M	16	ER11	0.5-7	7
KIT ST16X150 7 ER11 M	16	ER11	0.5-7	7
KIT ST20X100 10 ER16 M	20	ER16	0.5-10	10
KIT ST20X150 10 ER16 M	20	ER16	0.5-10	10
KIT ST20X100 12 ER20 M	20	ER20	1-12	12
KIT ST20X150 12 ER20 M	20	ER20	1-12	12

• Each kit contains one collet chuck, a full set of ER collets and a wrench. • F suffix indicates a flat on the shank.

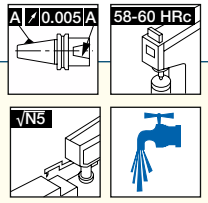
* Collet

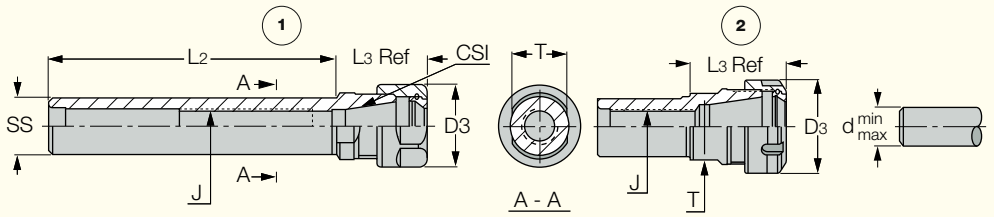
** Toolholder

Straight Shank

ST-ER

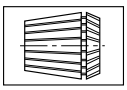
DIN 6499 ER Collet Chucks with Straight Shanks





Designation	SS	CSI	d min	d max	L2	L3	J	D3	T	Fig	Kg
ST 16X 50 ER11 F (1)	16	ER11	0.5	7.0	50.00	18.50	M8	19.00	13.0	1	0.09
ST 20X 50 ER11 (1)	20	ER11	0.5	7.0	50.00	18.50	M10	19.00	17.0	1	0.10
ST 20X100 ER11	20	ER11	0.5	7.0	100.00	18.50	M10	19.00	17.0	1	0.20
ST 20X100 ER11 F (1)	20	ER11	0.5	7.0	100.00	18.50	M10	19.00	17.0	1	0.09
ST 20X150 ER11	20	ER11	0.5	7.0	150.00	18.50	M10	19.00	17.0	1	0.29
ST 20X 50 ER16 F (1)	20	ER16	0.5	10.0	50.00	32.30	M12	28.00	19.0	1	0.12
ST 20X100 ER16	20	ER16	0.5	10.0	100.00	30.00	M12	28.00	19.0	1	0.20
ST 20X100 ER16 F (1)	20	ER16	0.5	10.0	100.00	30.00	M12	28.00	19.0	1	0.30
ST 20X150 ER16	20	ER16	0.5	10.0	150.00	30.00	M12	28.00	19.0	1	0.26
ST 20X 50 ER20 F (1)	20	ER20	1.0	13.0	50.00	42.50	M12	34.00	22.0	1	0.16
ST 25X100 ER20	25	ER20	1.0	13.0	100.00	36.00	M16	34.00	22.0	1	0.30
ST 25X150 ER20	25	ER20	1.0	13.0	150.00	36.00	M16	34.00	22.0	1	0.39
ST 20X 50 ER25 F (1)	20	ER25	1.0	16.0	50.00	46.00	M12	42.00	28.0	2	0.21
ST 20X100 ER25	20	ER25	1.0	16.0	100.00	46.00	M12	42.00	28.0	2	0.28
ST 20X100 ER25 F (1)	20	ER25	1.0	16.0	100.00	46.00	M12	42.00	28.0	2	0.09
ST 25X 50 ER25 F (1)	25	ER25	1.0	16.0	50.00	46.00	M16	42.00	28.0	2	0.24
ST 25X100 ER25	25	ER25	1.0	16.0	100.00	46.00	M16	42.00	28.0	2	0.36
ST 20X 50 ER32 F (1)	20	ER32	2.0	20.0	50.00	54.00	M12	50.00	36.0	2	0.31
ST 20X100 ER32	20	ER32	2.0	20.0	100.00	54.00	M12	50.00	36.0	2	0.41
ST 20X100 ER32 F (1)	20	ER32	2.0	20.0	100.00	54.00	M12	50.00	36.0	2	0.39
ST 25X 50 ER32 F (1)	25	ER32	2.0	20.0	50.00	52.00	M16X2	50.00	36.0	2	0.33
ST 30X 50 ER32 F (1)	30	ER32	2.0	20.0	50.00	52.00	M18X1.5	50.00	36.0	2	0.39
ST 32X 50 ER32 F (1)	32	ER32	2.0	20.0	50.00	52.00	M18X1.5	50.00	36.0	2	0.00
ST 32X150 ER32	32	ER32	2.0	20.0	150.00	52.00	M18X1.5	50.00	36.0	2	0.88
ST 40X 75 ER32 F (1)	40	ER32	2.0	20.0	75.00	46.00	M22X1.5	50.00	44.0	2	0.65
ST 25X 50 ER40 F (1)	25	ER40	3.0	26.0	50.00	60.00	M16X2	63.00	45.0	2	0.52
ST 30X 50 ER40 F (1)	30	ER40	3.0	26.0	50.00	60.00	M18X1.5	63.00	45.0	2	0.57
ST 32X 50 ER40 F (1)	32	ER40	3.0	26.0	50.00	60.00	M18X1.5	63.00	45.0	2	0.60
ST 40X 75 ER40 F (1)	40	ER40	3.0	26.0	75.00	55.00	M22X1.5	63.00	45.0	2	0.81
ST 50X 80 ER40 F (1)	50	ER40	3.0	26.0	80.00	60.00	M28X1.5	63.00	54.0	2	1.28
ST 50X 80 ER50 F (1)	50	ER50	10.0	34.0	80.00	77.00	M36X1.5	78.00	58.0	2	1.34

(1) With a clamping flat.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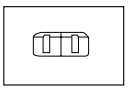
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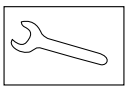
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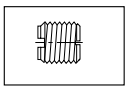
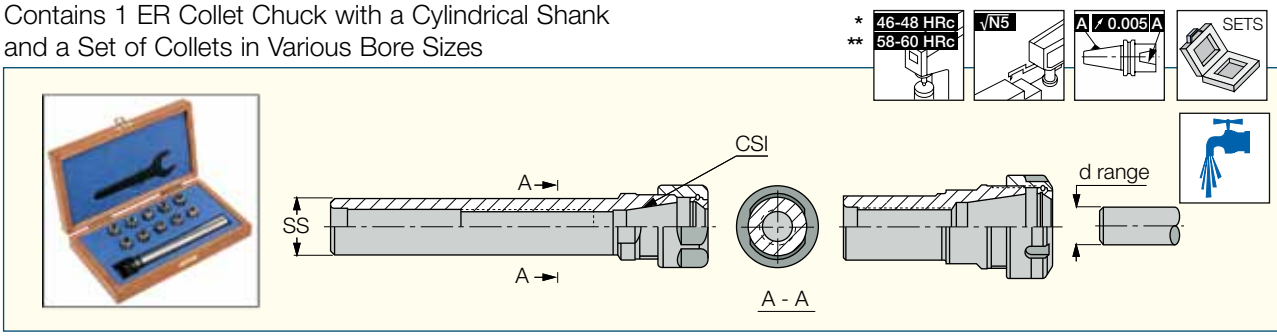

B177


B142-144

Straight Shank

KIT ST-ER

Contains 1 ER Collet Chuck with a Cylindrical Shank and a Set of Collets in Various Bore Sizes



Designation		SS	CSI	d Range	Qty
KIT ST16X50	7 ER11 F	16	ER11	0.5-7	7
KIT ST20X50	7 ER11 F	20	ER11	0.5-7	7
KIT ST20X100	7 ER11	20	ER11	0.5-7	7
KIT ST20X150	7 ER11	20	ER11	0.5-7	7
KIT ST20X50	10 ER16 F	20	ER16	0.5-10	10
KIT ST20X100	10 ER16	20	ER16	0.5-10	10
KIT ST20X150	10 ER16	20	ER16	0.5-10	10
KIT ST20X50	12 ER20 F	20	ER20	1.0-12	12
KIT ST25X100	12 ER20	25	ER20	1.0-12	12
KIT ST25X150	ER20	25	ER20	1.0-12	12

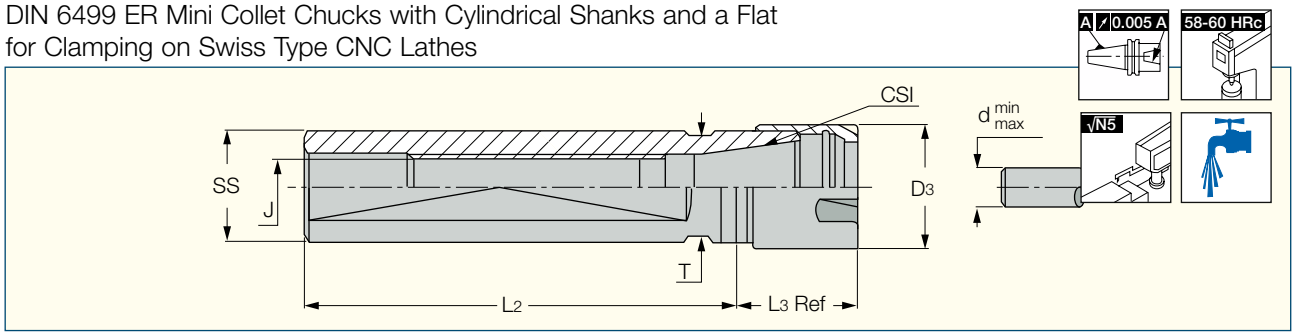
• Each kit contains one collet chuck, a full set of ER collets and a wrench. • F suffix indicates a flat on the shank.

* Collet

** Toolholder

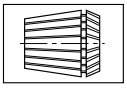
ST-ER-MF (Mini Flat)

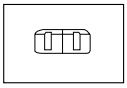
DIN 6499 ER Mini Collet Chucks with Cylindrical Shanks and a Flat for Clamping on Swiss Type CNC Lathes

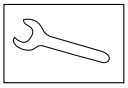


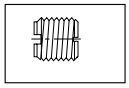
Designation	SS	CSI	d min	d max	L2	L3	J	D3	T	Kg
ST 16X 38 ER11 MF (1)	16	ER11	0.5	7.0	38.00	18.50	M8X1	16.00	14.0	0.06
ST 16X 50 ER11 MF	16	ER11	0.5	7.0	50.00	18.50	M8X1	16.00	13.0	0.07
ST 16X140 ER11 MF	16	ER11	0.5	7.0	140.00	18.50	M8X1	16.00	14.0	0.18
ST 16X 35 ER16 MF (1)	16	ER16	0.5	10.0	35.00	36.00	M8X1	22.00	17.0	0.07
ST 20X 50 ER16 MF (2)	20	ER16	0.5	10.0	50.00	26.00	M12X1	22.00	17.0	0.10
ST 20X 70 ER16 MF (2)	20	ER16	0.5	10.0	70.00	26.00	M12X1	22.00	17.0	0.13
ST 20X120 ER16 MF (2)	20	ER16	0.5	10.0	120.00	26.00	M12X1	22.00	17.0	0.20
ST 20X140 ER16 MF (2)	20	ER16	0.5	10.0	140.00	26.00	M12X1	22.00	17.0	0.25
ST 22X 38 ER16 MF (1)	22	ER16	0.5	10.0	38.00	26.00	M12X1	22.00	19.0	0.10
ST 22X 70 ER16 MF (1)	22	ER16	0.5	10.0	70.00	26.00	M12X1	22.00	19.0	0.16
ST 22X100 ER16 MF (1)	22	ER16	0.5	10.0	100.00	28.00	M12X1	22.00	19.0	0.23
ST 22X 80 ER20 MF (1)	22	ER20	1.0	13.0	80.00	39.00	M12X1	28.00	21.0	0.22
ST 22X 70 ER25 MF (1)	22	ER25	1.0	16.0	70.00	47.00	M12X1	35.00	27.0	0.25
ST 25X 65 ER16 MF	25	ER16	0.5	10.0	65.00	28.00	M14X1	22.00	22.0	0.22
ST 25X100 ER20 MF (3)	25	ER20	1.0	13.0	100.00	28.00	M14X1	28.00	22.0	0.27
ST 25X154 ER20 MF (3)	25	ER20	1.0	13.0	154.00	28.00	M14X1	28.00	22.0	0.40
ST 25X 75 ER25 MF (4)	25	ER25	1.0	16.0	75.00	48.00	M14X1	35.00	27.0	0.30
ST 25X145 ER25 MF (3)	25	ER25	1.0	16.0	145.00	36.00	M14X1	35.00	27.0	0.47
ST 32X 70 ER25 MF (5)	32	ER25	1.0	16.0	70.00	30.00	M18X1	35.00	27.0	0.34

(1) For Star machines. (2) For Citizen machines. (3) For Tornos-Bechler machines. (4) For Manurhin machines. (5) For Schutte machines.


B145-148


B175


B176

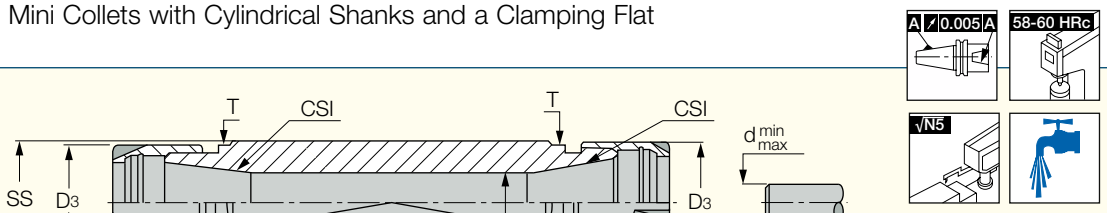

B177

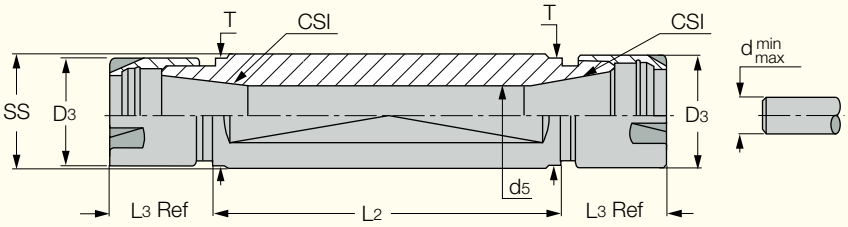

B142-144

Straight Shank

ST-ER-MF-D (double-ended)

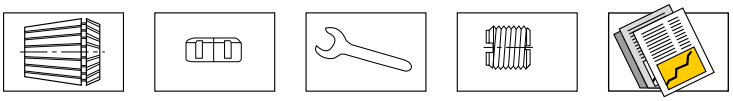
Double-Ended Mini Collets with Cylindrical Shanks and a Clamping Flat





Designation	SS	CSI	d min	d max	D3	d5	L2	L3	T	Kg
ST 16X 50 ER11 MF D	16	ER11	0.5	7.0	16.00	7.5	50.00	18.50	14.0	0.09
ST 20X 30 ER11 MF D (1)	20	ER11	0.5	7.0	16.00	7.5	30.00	18.50	17.0	0.09
ST 20X 50 ER11 MF D (1)	20	ER11	0.5	7.0	16.00	7.5	50.00	18.50	17.0	0.13
ST 20X 55 ER16 MF D (1)	20	ER16	0.5	10.0	22.00	10.5	55.00	25.00	17.0	0.13
ST 22X 55 ER16 MF D (2)	22	ER16	0.5	10.0	22.00	10.5	55.00	28.00	19.0	0.17
ST 22X 75 ER16 MF D (2)	22	ER16	0.5	10.0	22.00	10.5	75.00	28.00	19.0	0.21
ST 25X 62 ER16 MF D	25	ER16	0.5	10.0	22.00	10.5	62.00	28.00	22.0	0.23
ST 32X 55 ER20 MF D (2)	32	ER20	1.0	13.0	28.00	13.5	55.00	28.00	27.0	0.34
ST 32X 75 ER20 MF D (2)	32	ER20	1.0	13.0	28.00	13.5	75.00	28.00	27.0	0.44

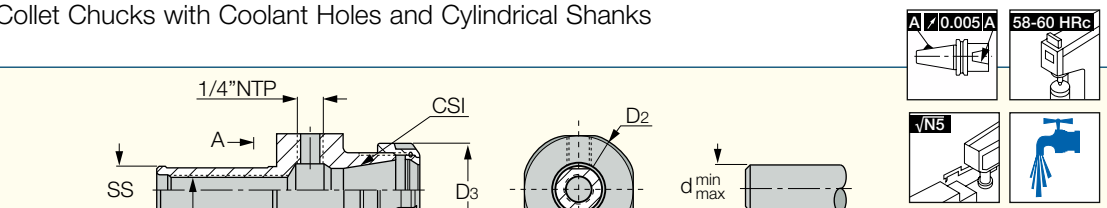
(1) For Citizen machines. (2) For Star machines.



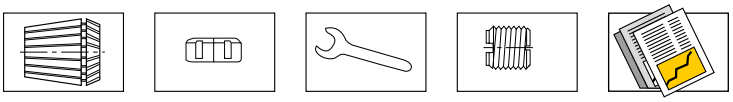
B145-148 B175 B176 B177 B142-144

ST-ER-S

DIN 6499 ER Collet Chucks with Coolant Holes and Cylindrical Shanks



Designation	SS	CSI	d min	d max	L2	L3	L1	J	D3	D2	T	Kg
ST 20X 65 ER16S	20	ER16	0.5	10.0	65.00	54.00	29.6	M12	28.00	40.00	34.0	0.33
ST 20X 65 ER20S	20	ER20	1.0	13.0	65.00	63.00	31.0	M12	34.00	40.00	34.0	0.43
ST 20X 65 ER25S	20	ER25	1.0	16.0	65.00	72.00	32.0	M12	42.00	54.00	51.0	0.76
ST 20X 65 ER32S	20	ER32	2.0	20.0	65.00	77.00	41.0	M12	50.00	63.00	59.0	0.96
ST 25X 65 ER25S	25	ER25	1.0	16.0	65.00	72.00	32.0	M12	42.00	54.00	50.0	0.87
ST 25X 65 ER32S	25	ER32	2.0	20.0	65.00	77.00	41.0	M16	50.00	63.00	59.0	1.00
ST 32X 65 ER32S	32	ER32	2.0	20.0	65.00	77.00	41.0	M18X1.5	50.00	63.00	59.0	1.14
ST 40X 75 ER32S	40	ER32	2.0	20.0	75.00	77.00	41.0	M22X1.5	50.00	63.00	59.0	1.34

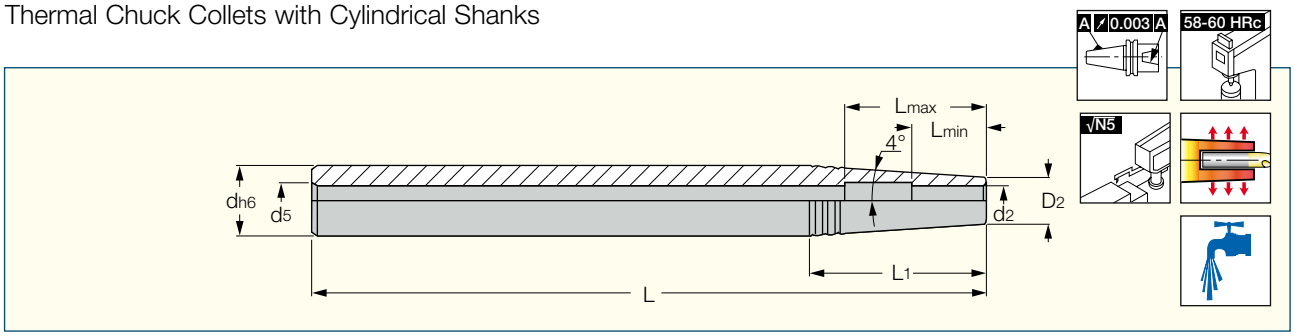


B145-148 B175 B176 B177 B142-144

Straight Shank • SHRINKIN

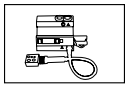
ST-SRK

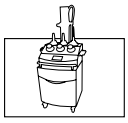
Thermal Chuck Collets with Cylindrical Shanks



Designation	d	d_2	D_1	d_5	L	L_1	L min	L max	Kg
ST 12X160 SRK 3	12.00	3.00	10.0	4.0	160.00	14.3	10.0	-	0.12
ST 12X160 SRK 4	12.00	4.00	10.0	4.0	160.00	14.3	12.0	27.0	0.12
ST 16X160 SRK 3	16.00	3.00	10.0	6.0	160.00	43.0	10.0	-	0.20
ST 16X160 SRK 4	16.00	4.00	10.0	6.0	160.00	43.0	12.0	-	0.20
ST 16X160 SRK 5	16.00	5.00	10.0	6.0	160.00	43.0	15.0	-	0.20
ST 16X160 SRK 6	16.00	6.00	11.0	6.0	160.00	35.5	18.0	35.0	0.20
ST 20X200 SRK 5	20.00	5.00	10.0	6.0	200.00	71.5	15.0	-	0.38
ST 20X200 SRK 6	20.00	6.00	11.0	6.0	200.00	64.5	18.0	40.0	0.38
ST 20X200 SRK 8	20.00	8.00	14.0	6.0	200.00	43.0	25.0	40.0	0.21
ST 25X200 SRK 6	25.00	6.00	11.0	8.0	200.00	100.0	18.0	35.0	0.53
ST 25X200 SRK 8	25.00	8.00	14.0	8.0	200.00	78.6	25.0	40.0	0.58
ST 25X200 SRK10	25.00	10.00	16.0	8.0	200.00	64.3	30.0	50.0	0.61
ST 25X200 SRK12	25.00	12.00	20.0	8.0	200.00	35.7	32.0	52.0	0.65

• To be used for carbide tools only.

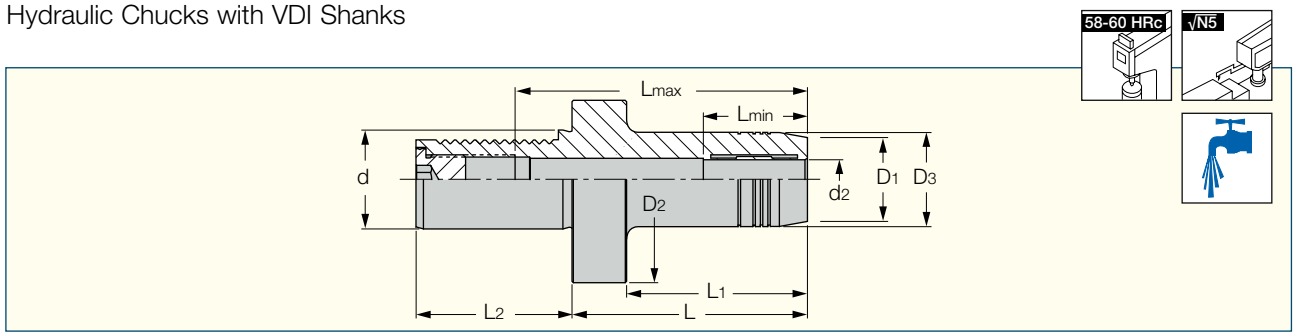

B156


B154-155

VDI • HYDROFIT HOLDING LINE

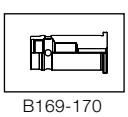
DIN69880-HYDRO

Hydraulic Chucks with VDI Shanks



Designation	SS	d_2	D_1	D_3	D_2	d	L_2	L	L_1	L min	L max	Kg
DIN69880 30 HYDRO 20X95	VDI30	20.00	38.0	42.00	68.00	30.00	55.00	95.00	73.0	48.0	85.0	1.24
DIN69880 30 HYDRO 25X100	VDI30	25.00	46.0	50.00	68.00	30.00	55.00	100.00	78.0	54.0	85.0	0.32
DIN69880 30 HYDRO 32X100	VDI30	32.00	56.0	60.00	68.00	30.00	55.00	100.00	78.0	58.0	90.0	2.04
DIN69880 40 HYDRO 20X95	VDI40	20.00	38.0	42.00	83.00	40.00	63.00	95.00	73.0	48.0	130.0	2.00
DIN69880 40 HYDRO 25X95	VDI40	25.00	46.0	50.00	83.00	40.00	63.00	95.00	73.0	54.0	130.0	0.57
DIN69880 40 HYDRO 32X95	VDI40	32.00	56.0	60.00	83.00	40.00	63.00	95.00	73.0	58.0	90.0	2.41

• Chucking forces will be reduced by 25% if reduction sleeves are used. • Reduction sleeves are available for 12, 20, 25 and 32 mm bore diameters (ordered separately). • Clamping wrench (wrench HYDRO HEX 4) and test bar should be ordered separately.

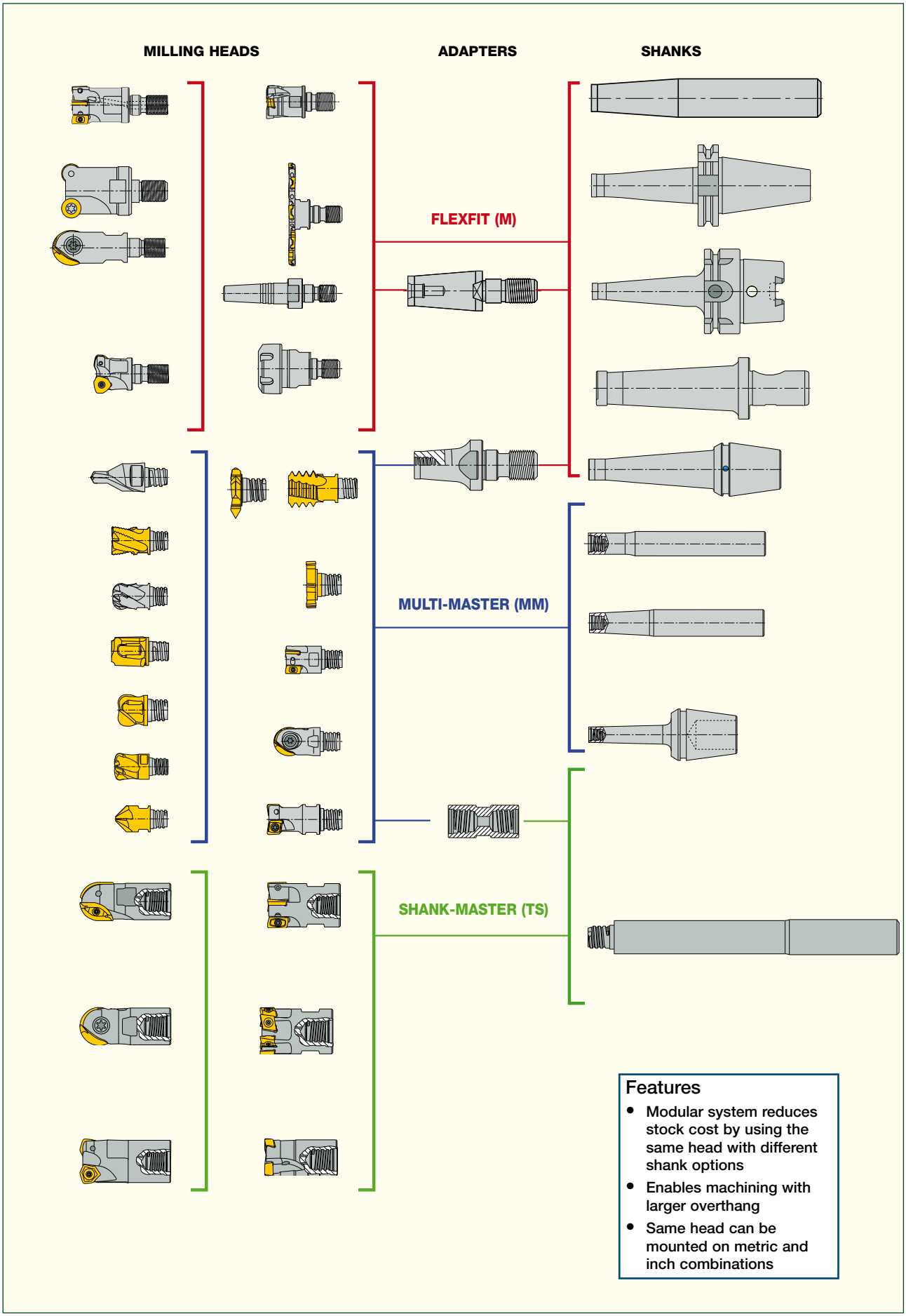

B169-170


A19-20

FLEXFIT, CLICKFIT

Member IMC Group

MULTI-MASTER, SHANK-MASTER and FLEXFIT
Connection Options



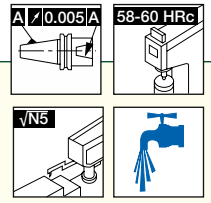
Features

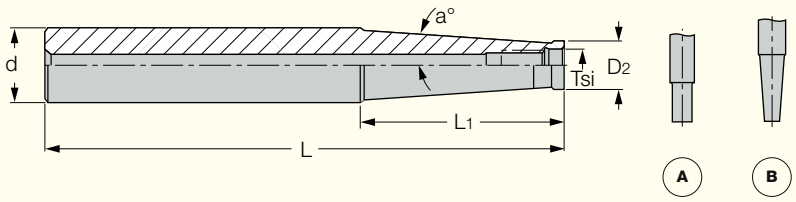
- Modular system reduces stock cost by using the same head with different shank options
- Enables machining with larger overthang
- Same head can be mounted on metric and inch combinations

Straight Shank • FLEXFIT

S M

Shanks for Tools with FLEXFIT Threaded Connection





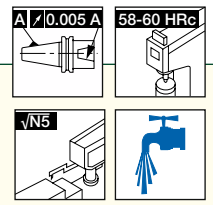
Designation	L	L1	d	Shank	D2	a°	Tsi	Type	Kg
S M06-L60 C10	60.00	20.0	10.00	C	9.70	0	M06	A	0.04
S M06-L105-C12	105.00	60.0	12.00	C	9.70	1.2	M06	B	0.07
S M06-L125-C16	125.00	60.0	16.00	C	9.70	3.3	M06	B	0.13
S M08-L73 C16	73.00	25.0	16.00	C	13.00	0	M08	A	0.09
S M08-L128-C16	128.00	80.0	16.00	C	13.00	0.9	M08	B	0.15
S M08-L170-C20	170.00	66.8	20.00	C	13.00	3.3	M08	B	0.33
S M10-L80 C20	80.00	30.0	20.00	C	18.00	0	M10	A	0.16
S M10-L130-C20	130.00	80.0	20.00	C	18.00	0.6	M10	B	0.25
S M10-L200-C25	200.00	57.2	25.00	C	19.00	3.3	M10	B	0.66
S M12-L86-C25	86.00	30.0	25.00	C	21.00	5.1	M12	A	0.27
S M12-L200-C32	200.00	78.0	32.00	C	21.00	4.4	M12	B	1.02
S M16-L95-C32	95.00	35.0	32.00	C	29.00	1.7	M16	A	0.49
S M16-L230-C32	230.00	50.0	32.00	C	29.00	1.8	M16	B	1.31

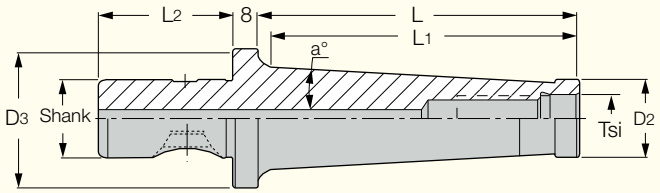
B116

CLICKFIT • FLEXFIT

S M-CF

CLICKFIT to FLEXFIT Adapters

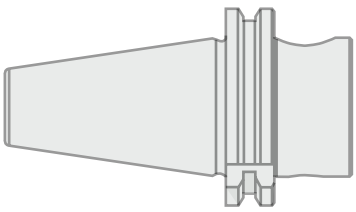




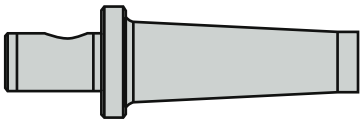
Designation	D2	L	L1	Tsi	Shank	D3	L2	a°	Kg
S M12-L85/3.30-CF4	21.00	85.00	81.3	M12	CF4	44.00	42.00	4.4	0.23
S M12-L140/5.50-CF4	21.00	140.00	139.1	M12	CF4	44.00	42.00	4.4	0.96
S M16-L130/5.11-CF4	29.00	130.00	126.8	M16	CF4	44.00	42.00	2.6	0.23
S M16-L170/6.70-CF4	29.00	170.00	168.6	M16	CF4	44.00	42.00	2	1.30

• For adaptation options see pages A5, B116.

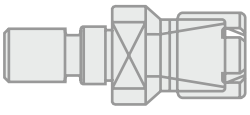
SHANK



SM...CF4

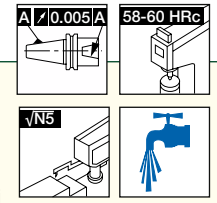


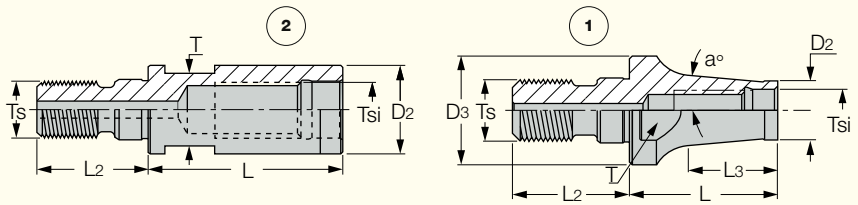
CDP...



CAB M-M (FLEXFIT)

Reducers and Extensions with Coolant Holes for the Modular FLEXFIT System





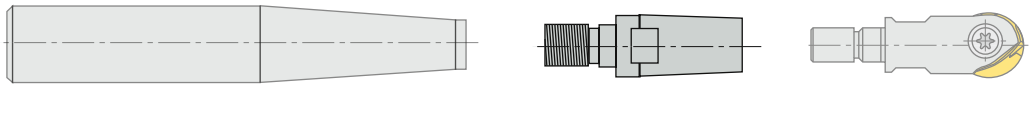
CAB M-M-C CAB M-M

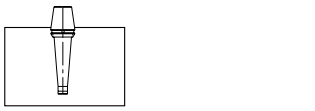
Designation	Ts	Tsi	D_2	L	L_3	D_3	L_2	T(1)	Fig	a°	Kg
CAB M06M08	M08	M06	9.70	30.00	24.80	13.00	17.50	9.5	1	5.7	0.18
CAB M08M08-C	M08	M08	13.00	30.00	-	-	17.50	9.6	2	-	0.02
CAB M08M10	M10	M08	13.00	40.00	33.40	18.00	20.20	15.0	1	5.2	0.07
CAB M10M10-C	M10	M10	18.00	35.00	-	-	20.00	15.0	2	-	0.06
CAB M10M12	M12	M10	18.00	45.00	36.40	21.00	22.00	22.0	1	2.5	0.09
CAB M12M12-C	M12	M12	15.80	40.00	-	-	22.00	17.0	2	-	0.08
CAB M12M16	M16	M12	21.00	50.00	42.50	29.00	25.00	25.0	1	6.3	0.18
CAB M16M16-C	M16	M16	29.00	40.00	-	-	25.00	25.0	2	-	0.16

• For adaptation options, see page B116.

(1) Clamping wrench size

SHANK CAB... HCM-M

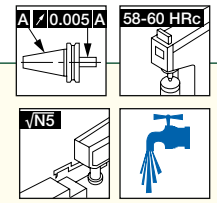


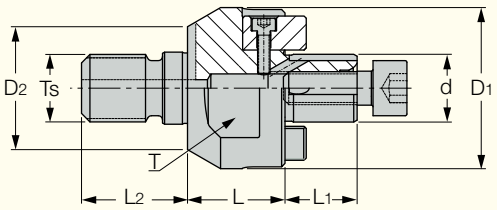


B26, B51, B52, B62, B92, B117, B120

CAB M-SEM

FLEXFIT - Shell Mill Holder Adaptation With Coolant Holes



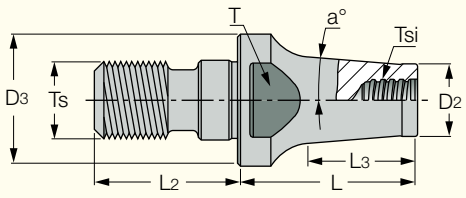


Designation	Ts	d	L	D_1	L_1	D_2	L_2	T(1)
CAB M16 SEM 16 C	M16	16.00	23.00	38.0	17.0	29.00	25.00	30.0

(1) Clamping wrench size

FLEXFIT • MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

MM CAB
Adapters for Connecting FLEXFIT Shanks and MULTI-MASTER Milling Heads



Designation	Tsi	Ts	L	L_3	D_2	D_3	L_2	T(1)	a°	Kg
MM CAB T06M06-16/.63	T06	M06	16.00	11.60	9.30	9.70	14.50	8.0	1.5	0.01
MM CAB T06M08-16/.63	T06	M08	16.00	13.70	9.60	13.00	17.50	11.0	6	0.02
MM CAB T06M08-25/1.0	T06	M08	25.00	11.30	9.30	13.00	17.50	11.0	1.5	0.02
MM CAB T06M10-25/1.0	T06	M10	25.00	16.60	9.60	18.00	20.00	11.0	5	0.04
MM CAB T08M08-16/.63	T08	M08	16.00	5.40	11.70	13.00	17.50	11.0	11.4	0.08
MM CAB T08M08-25/1.0	T08	M08	25.00	19.50	11.70	13.00	17.50	11.0	1.5	0.03
MM CAB T08M10-20/.75	T08	M10	20.00	11.30	11.70	18.00	20.00	13.0	7	0.03
MM CAB T08M10-25/1.0	T08	M10	25.00	14.20	11.70	18.00	20.00	11.0	1.5	0.03
MM CAB T08M12-20/.75	T08	M12	20.00	9.30	11.70	21.00	22.00	13.0	7	0.05
MM CAB T08M12-25/1.0	T08	M12	25.00	12.50	11.70	21.00	22.00	13.0	1.5	0.04

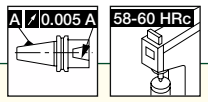
• Do not apply lubricant to the threaded connection.

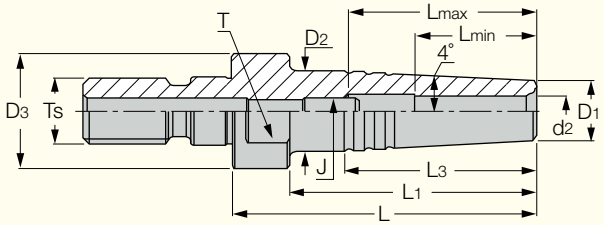
(1) Clamping wrench size


B116

FLEXFIT • SHRINKIN

CDP M-SRK
Thermal Shrink Collet Chucks with FLEXFIT Adaptation
for Clamping Solid Carbide Endmills

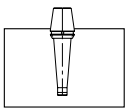


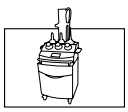


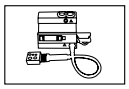
Designation	d_2	L	L_1	L_3	L min	L max	D_1	D_2	D_3	J	Key(1)	Ts	T	Kg
CDP M10 SRK 3X40	3.00	40.00	31.5	28.40	10.0	16.0	10.0	14.00	18.00	M4	2.00	M10	15.0	0.05
CDP M10 SRK 4X40	4.00	40.00	31.5	28.40	12.0	19.0	10.0	14.00	18.00	M4	2.00	M10	15.0	0.05
CDP M10 SRK 5X40	5.00	40.00	31.5	28.40	15.0	25.0	10.0	14.00	18.00	M4	2.00	M10	15.0	0.05
CDP M12 SRK 3X45	3.00	45.00	36.5	28.80	10.0	16.0	10.0	14.00	21.00	M5	2.50	M12	17.0	0.06
CDP M12 SRK 4X45	4.00	45.00	36.5	28.80	12.0	18.0	10.0	14.00	21.00	M5	2.50	M12	17.0	0.06
CDP M12 SRK 5X45	5.00	45.00	36.5	28.80	15.0	25.0	10.0	14.00	21.00	M5	2.50	M12	17.0	0.06
CDP M12 SRK 6X45	6.00	45.00	36.5	28.40	18.0	28.0	11.0	15.00	21.00	M5	2.50	M12	17.0	0.06
CDP M12 SRK 8X45	8.00	45.00	36.5	28.80	25.0	35.0	14.0	18.00	21.00	M5	2.50	M12	17.0	0.08
CDP M12 SRK 10X45	10.00	45.00	-	35.60	30.0	40.0	16.0	21.00	21.00	M5	2.50	M12	17.0	0.09
CDP M12 SRK 12X45	12.00	45.00	-	36.00	32.0	42.0	20.0	25.00	21.00	M5	2.50	M12	18.0	0.11

• To be used for carbide tools only.

(1) Adjustment screw hexagon key size


B26, B51, B52, B62, B92, B117, B120


B154-155

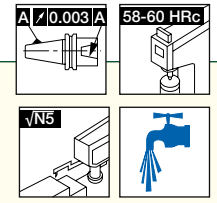

B156

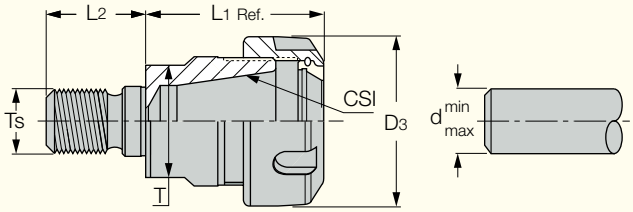

B149-151

FLEXFIT

CDP ER-M

DIN 6499 ER Collet Chucks with Threaded FLEXFIT Adaptations

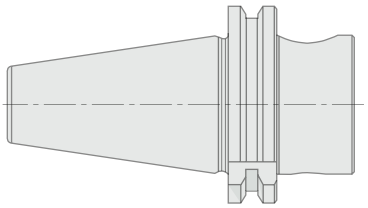




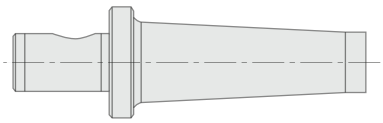
Designation	CSI	d min	d max	L1	L2	D3	Ts	T	Kg
CDP ER11 M10 M	ER11	0.5	7.0	27.0	20.00	16.00	M10	15.0	0.03
CDP ER11 M12 M	ER11	0.5	7.0	27.0	22.00	16.00	M12	17.0	0.04
CDP ER16 M10 M	ER16	0.5	10.0	38.1	20.00	22.00	M10	17.0	0.05
CDP ER16 M12 M	ER16	0.5	10.0	37.1	22.00	22.00	M12	17.0	0.06
CDP ER16 M16	ER16	0.5	10.0	36.6	25.00	28.00	M16	25.0	0.10
CDP ER20 M16	ER20	1.0	13.0	45.5	25.00	34.00	M16	25.0	0.15
CDP ER25 M16	ER25	1.0	16.0	44.5	25.00	42.00	M16	28.0	0.15

• For adaptation options see page B116.

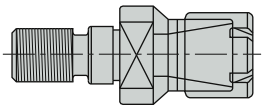
SHANK

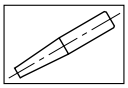


S M...-CF4

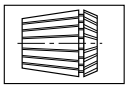


CDP

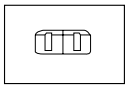




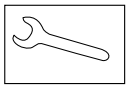
B26, B51, B52, B62, B92, B117, B118, B120



B145-148



B175

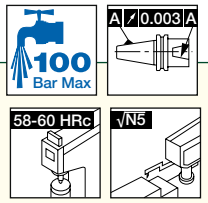


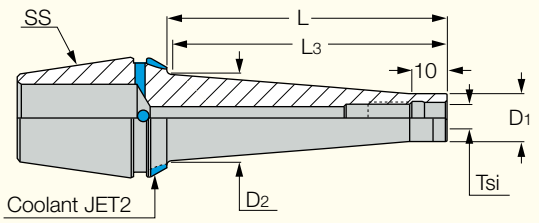
B176

ER Collet • FLEXFIT

ER-ODP

FLEXFIT Threaded Adaptation with Integral ER Collet ER for Collet Chucks



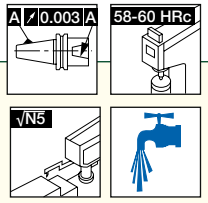


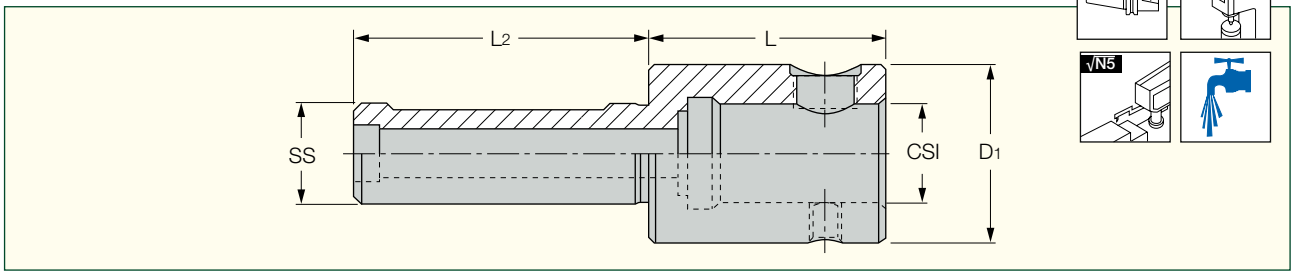
Designation	SS	Tsi	D1	D2	L	L3	Kg
ER32 ODP M 6X25	ER32	M06	9.8	14.00	25.00	22.00	0.15
ER32 ODP M 6X50	ER32	M06	9.8	20.00	50.00	48.00	0.19
ER32 ODP M 6X75	ER32	M06	9.8	23.00	75.00	74.00	0.24
ER32 ODP M 8X25	ER32	M08	13.1	15.00	25.00	22.00	0.15
ER32 ODP M 8X50	ER32	M08	13.1	23.00	50.00	49.00	0.21
ER32 ODP M 8X75	ER32	M08	13.1	23.00	75.00	74.00	0.26
ER32 ODP M10X25	ER32	M10	18.0	20.00	25.00	23.00	0.17
ER32 ODP M10X50	ER32	M10	18.0	24.00	50.00	49.00	0.24
ER32 ODP M12X25	ER32	M12	21.0	24.00	25.00	24.00	0.18
ER32 ODP M12X50	ER32	M12	21.0	24.00	50.00	49.00	0.26

Straight Shank • CLICKFIT

ST-CF (CLICKFIT)

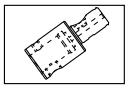
Female CLICKFIT Adapters with Cylindrical Shanks





Designation	SS	CSI	L	L2	D1	Kg
ST 25 CF4	25	CF4	60.00	80.00	44.0	0.80
ST 32 CF4	32	CF4	60.00	80.00	44.0	0.97

• Tightening torque: 6 Kgxm.



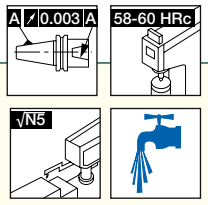
B117, B121, B122

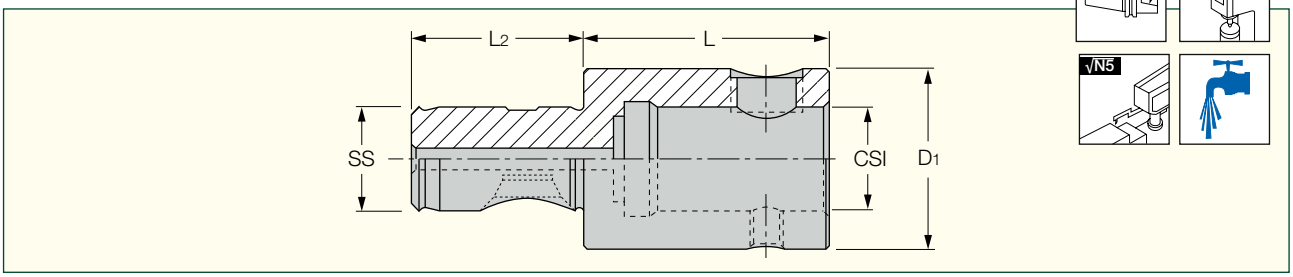
A5

CLICKFIT

EX CF (CLICKFIT extension)

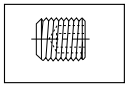
CLICKFIT Extension Adapters



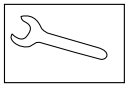


Designation	SS	CSI	L	L2	D1	Kg
EX CF4-L	CF4	CF4	100.00	42.00	44.0	1.10
EX CF4-S	CF4	CF4	60.00	42.00	44.0	0.68

• Tightening torque: 6 Kgxm



B178

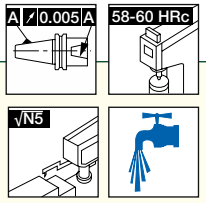


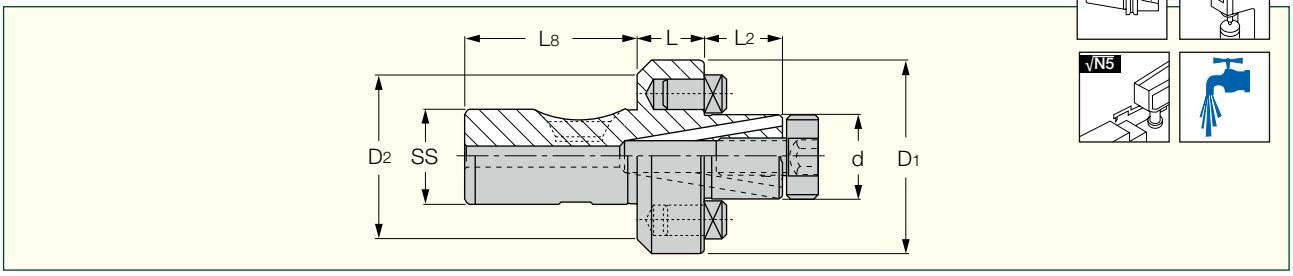
B178

A5

SEM CF (CLICKFIT)

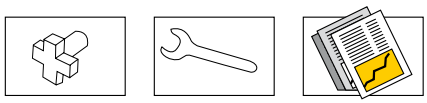
DIN 3937 Shell Mill Holder with a CLICKFIT Quick Change Adaptation and Coolant Holes





Designation	SS	d	D_1	D_2	L_2	L	L_8	Kg
SEM 22 CF4 C	CF4	22.00	47.0	44.00	19.00	16.00	42.0	0.39

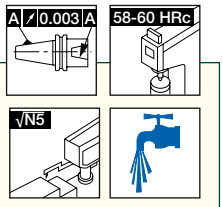
• Tightening torque: 6 Kgxm.

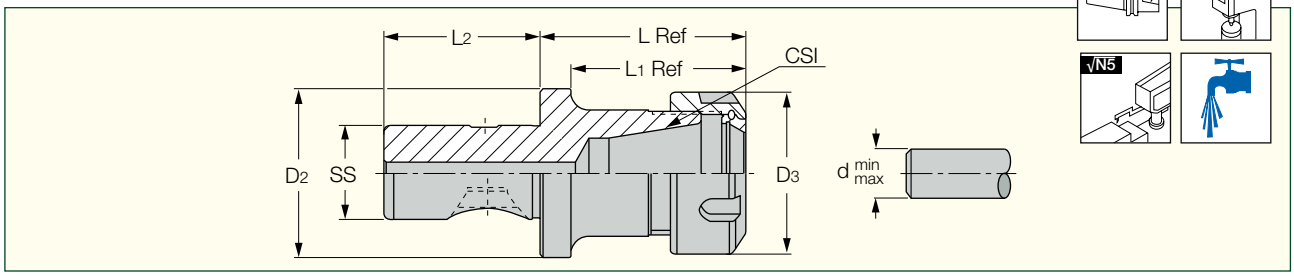


B179 B178 A5

ER-CF (CLICKFIT)

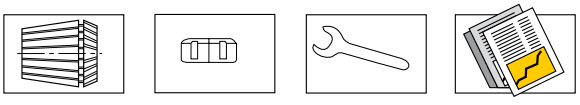
DIN 6499 ER Collet Chucks with CLICKFIT Quick Change Adaptations





Designation		SS	CSI	d min	d max	L	L_1	L_2	D_3	D_2	Kg
ER11	CF4-S	CF4	ER11	0.5	7.0	55.00	47.0	42.00	19.00	44.00	0.32
ER16	CF4-L	CF4	ER16	0.5	10.0	100.00	92.0	42.00	28.00	44.00	0.65
ER16	CF4-S	CF4	ER16	0.5	10.0	55.00	47.0	42.00	28.00	44.00	0.37
ER20	CF4-S	CF4	ER20	1.0	13.0	55.00	47.0	42.00	34.00	44.00	0.39
ER25	CF4-S	CF4	ER25	1.0	16.0	55.00	47.0	42.00	42.00	44.00	0.38
ER32	CF4-L	CF4	ER32	2.0	20.0	100.00	92.0	42.00	50.00	44.00	0.77
ER32	CF4-S	CF4	ER32	2.0	20.0	55.00	47.0	42.00	50.00	44.00	0.40

• Tightening torque: 6 Kgxm



B145-148 B175 B176 A5, B142-144

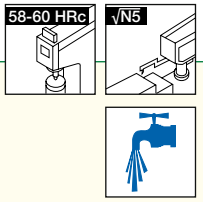
CENTER ALIGNMENT DEVICE

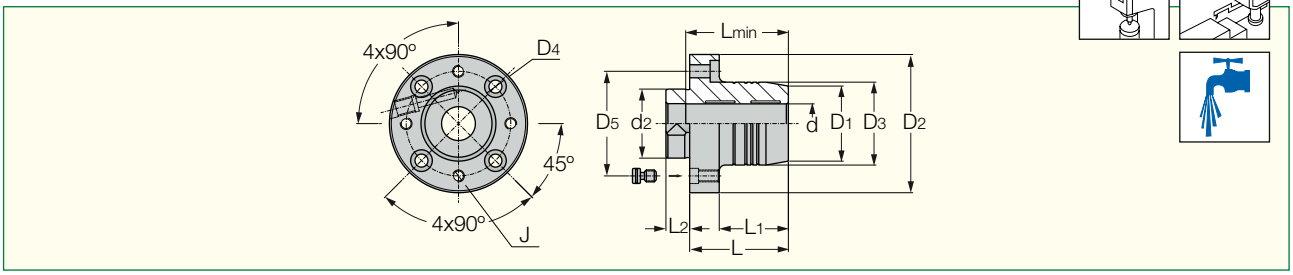
Member IMC Group

HYDROFIT
HOLDING LINE

ADJ HYDRO

Radial and Angular Adjustable Hydraulic Flanges





Designation	d_2	D_1	D_3	D_2	L	L_1	L_{min}	d	L_2	D_5	D_4	J
ADJ HYDRO 20 D70	35.00	38.0	42.00	70.00	50.00	35.0	52.0	20.00	10.00	53.00	11.00	M6

• Chucking forces will be reduced by 25% if reduction sleeves are used. • Reduction sleeves are available for 12, 20, 25 and 32 mm bore diameters (ordered separately).

Designation

ADJ ST25 D70
ADJ ST32 D70

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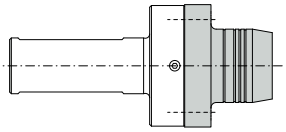

ADJ HSK A 63 D70
ADJ HSK A 100 D70

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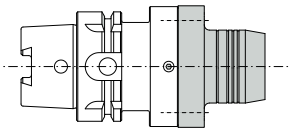
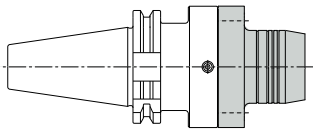
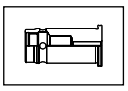


ADJ DIN69871 40 D70
ADJ DIN69871 50 D70
ADJ BT40 D70
ADJ BT50 D70

PAGE B23, B89





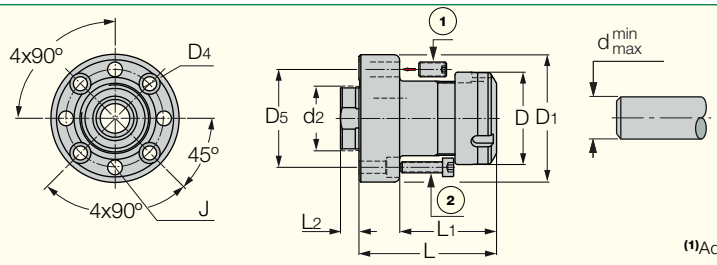
B169-170

A19-20

ADJ ER NOSE

Radial and Angular Adjustable Collet Chuck Flanges

58-60 HRc √N5



(1)Adjustment screw (2)Clamping screw

Designation	d min	d max	L	L1	L2	D3	D1	D5	d2	D4	J
ADJ ER32 NOSE	2.0	20.0	75.00	53.0	10.00	50.00	70.0	53.00	35.00	6.60	M6

Spare Parts

1 - Adjustment screw
2 - Clamping screw

Designation

ADJ ST25 D70
ADJ ST32 D70

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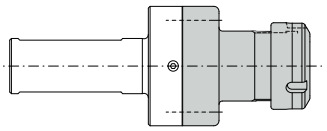

ADJ HSK A 63 D70
ADJ HSK A 100 D70

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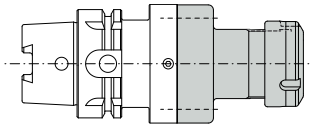
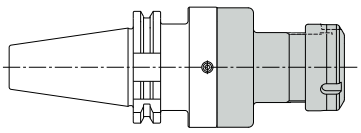
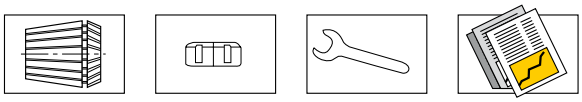


ADJ DIN69871 40 D70
ADJ DIN69871 50 D70
ADJ BT40 D70
ADJ BT50 D70

Pages B23, B89





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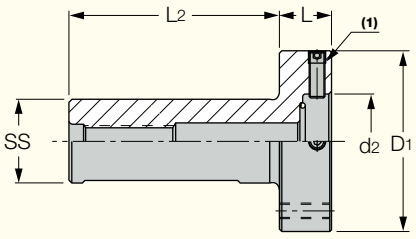
Straight Shank

ADJ ST

FINEFIT Center Alignment Cylindrical Shanks with Bases for Specially Tailored Toolholders

58-60 HRc √N5

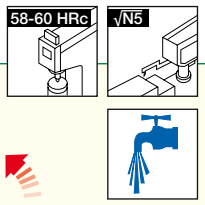


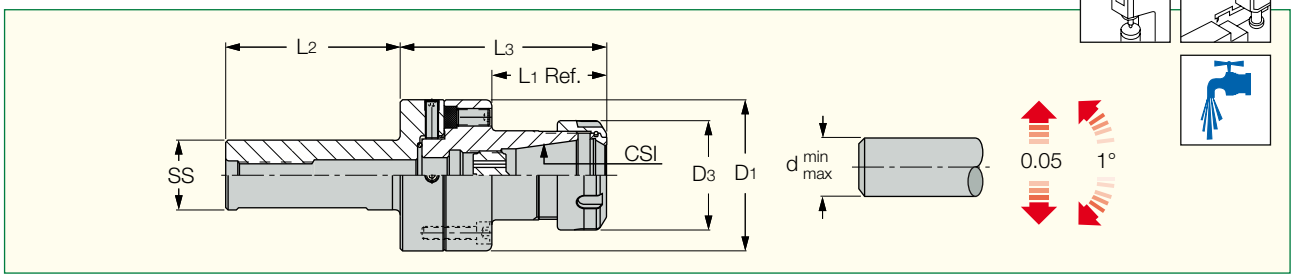
Designation	SS	L	L2	D1	d2
ADJ ST25 D70	25	20.00	80.00	70.0	35.00
ADJ ST32 D70	32	20.00	80.00	70.0	35.00

• (1) Use 4 mm hex key for screw adjustment.

ADJ ST-ER

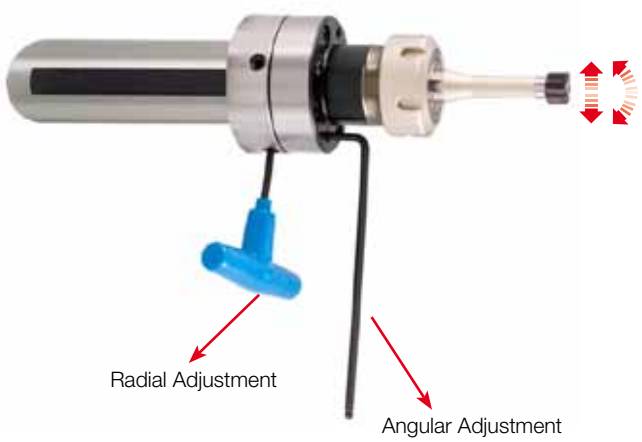
FINEFIT DIN 6499 ER Collet Chucks with Center Alignment and Cylindrical Shanks

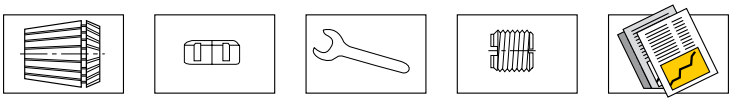




Designation	SS	CSI	d min	d max	L3	L1	L2	D3	D1	Kg
ADJ ST25 D70 ER32	25	ER32	2.0	20.0	94.50	52.5	80.00	50.00	70.0	1.74
ADJ ST32 D70 ER32	32	ER32	2.0	20.0	94.50	52.5	80.00	50.00	70.0	1.91

• Radial adjustment 0.1 mm. Angular adjustment 1°.





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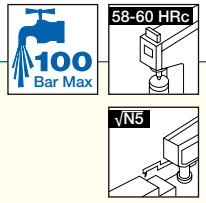
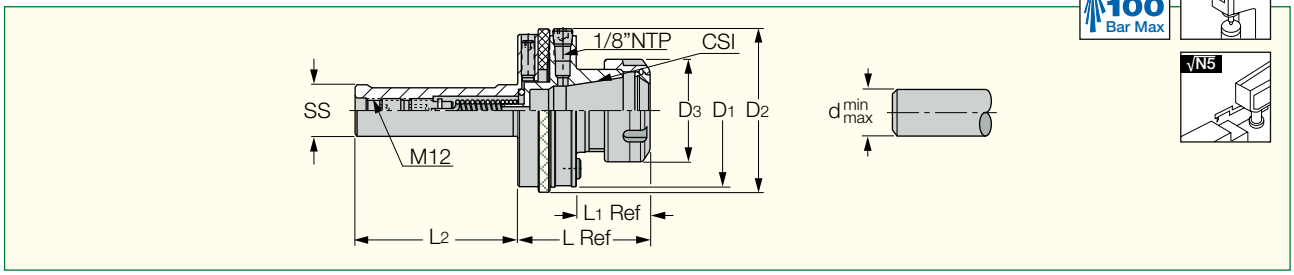
Straight Shank • GYRO

GYRO ST-ER

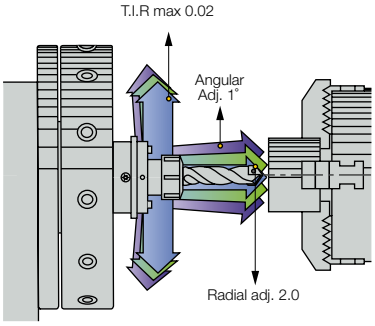
GYRO ER Collet Center Alignment Device with a Cylindrical Shank

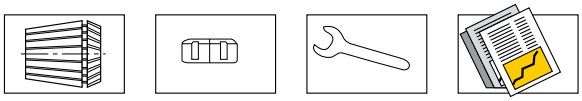




Designation	SS	CSI	d min	d max	D3	D1	D2	L1	L	L2	Kg
GYRO ST20 ER20	20	ER20	1.0	13.0	34.00	57.0	63.00	28.5	58.80	80.00	0.76
GYRO ST20 ER25	20	ER25	1.0	16.0	34.00	57.0	63.00	28.5	58.80	80.00	1.20
GYRO ST25 ER25	25	ER25	1.0	16.0	42.00	74.0	79.00	35.5	65.65	80.00	1.31
GYRO ST25 ER32	25	ER32	2.0	20.0	50.00	74.0	79.00	36.5	66.65	80.00	1.22
GYRO ST32 ER32	32	ER32	2.0	20.0	50.00	74.0	79.00	36.5	66.65	80.00	1.55
GYRO ST40 ER32	40	ER32	2.0	26.0	50.00	74.0	79.00	36.5	66.65	80.00	1.83

• For adaptation see page A15 • Radial adjustment 2.0 mm. Angular adjustment 1°. • First-time users should buy a GYRO kit which includes a test bar and a bushing for performing the alignment procedure.





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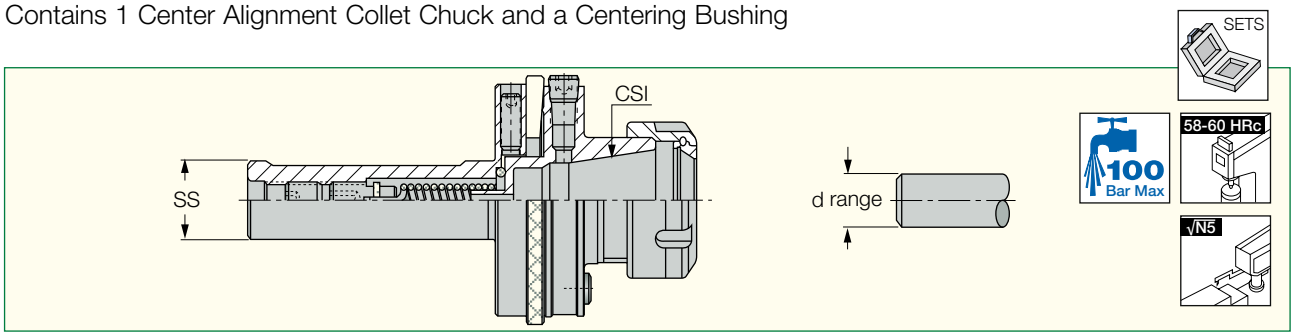
Straight Shank • GYRO

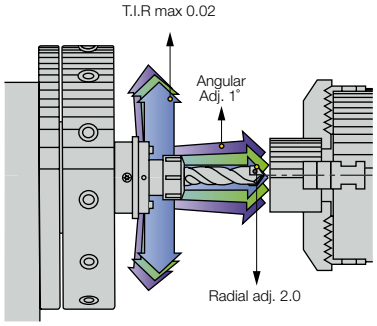
KIT GYRO-ST-ER

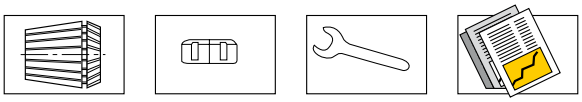
Contains 1 Center Alignment Collet Chuck and a Centering Bushing



Designation	SS	CSI	d Range
KIT GYRO ST20 ER20	20	ER20	1-13
KIT GYRO ST20 ER25	20	ER25	1-16
KIT GYRO ST25 ER25	25	ER25	1-16
KIT GYRO ST25 ER32	25	ER32	2-20
KIT GYRO ST32 ER32	32	ER32	2-20
KIT GYRO ST40 ER32	40	ER32	2-20

• Kit includes GYRO, test bar and bushing.





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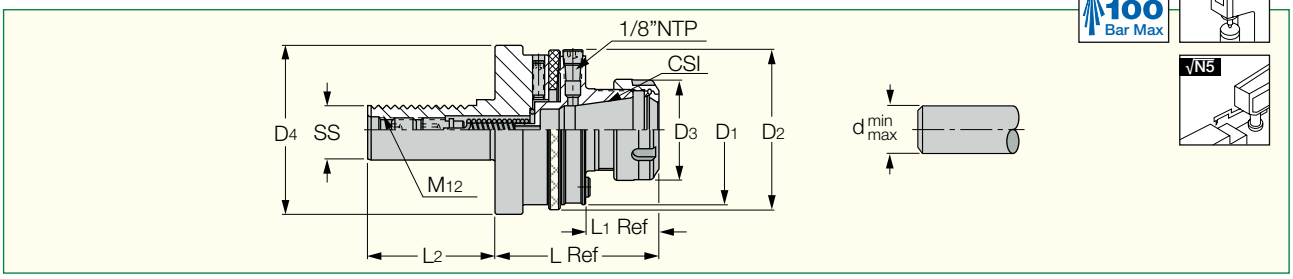
GYRO DIN69880-ER

GYRO Center Alignment ER Collet Chucks with VDI DIN 69880 Shanks

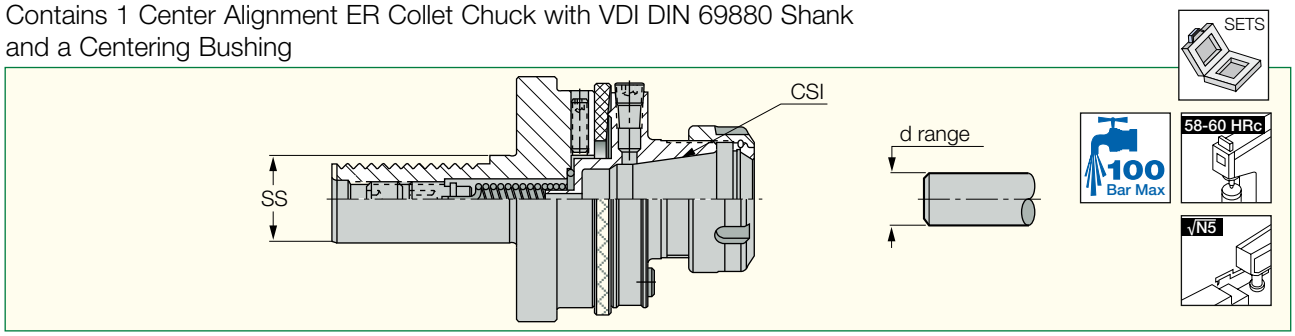


Designation	SS	CSI	d min	d max	D3	D1	D2	D4	L1	L	L2	Kg
GYRO DIN69880 30 ER25	VDI30	ER25	1.0	16.0	42.00	74.0	79.00	68.00	35.5	80.65	55.00	1.20
GYRO DIN69880 30 ER32	VDI30	ER32	2.0	20.0	50.00	74.0	79.00	68.00	36.5	81.65	55.00	1.91
GYRO DIN69880 40 ER32	VDI40	ER32	2.0	20.0	50.00	74.0	79.00	83.20	36.5	81.65	63.00	2.24
GYRO DIN69880 50 ER32	VDI50	ER32	2.0	20.0	50.00	74.0	79.00	98.00	36.5	81.65	78.00	2.98

• For adaptation see page A15 • Radial adjustment 2.0 mm. Angular adjustment 1°. • First-time users should buy a GYRO kit which includes a test bar and a bushing for performing the alignment procedure.

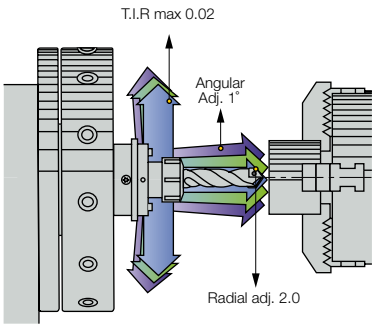
KIT GYRO-DIN69880-ER

Contains 1 Center Alignment ER Collet Chuck with VDI DIN 69880 Shank and a Centering Bushing



Designation	SS	CSI	d Range
KIT GYRO 40 D69880 ER32	VDI40	ER32	2-20
KIT GYRO 50 D69880 ER32	VDI50	ER32	2-20

• Kit includes GYRO, test bar and bushing.



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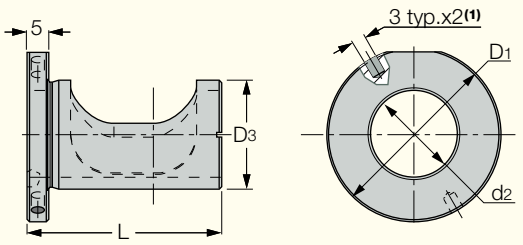
Accessories

Drilling Eccenter Sleeves

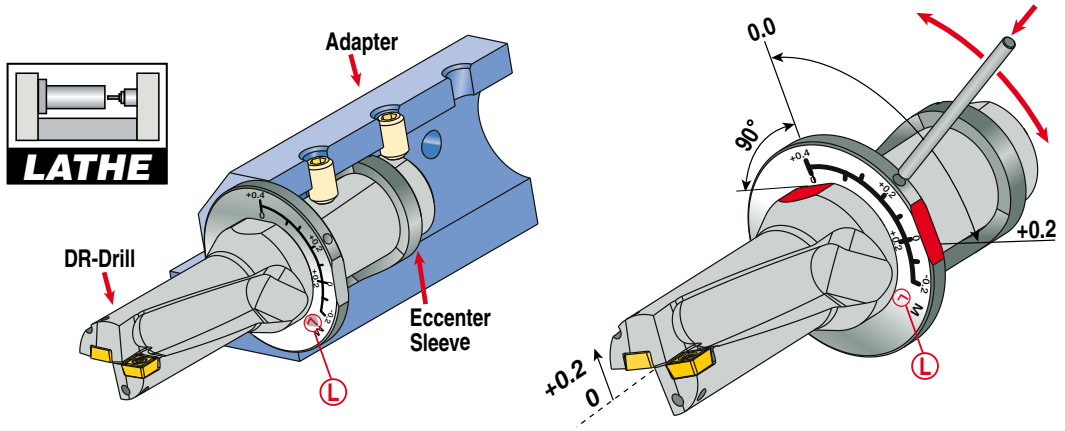
Used for Enlarging or Reducing DR Nominal Drilling Diameter by Shifting the Drill Off-center



Designation	d_2	D_3	D_1	L
ECCENTER SLEEVE 20X25	20.00	25.00	40.0	44.00
ECCENTER SLEEVE 25X32	25.00	32.00	50.0	46.00
ECCENTER SLEEVE 32X40	32.00	40.00	65.0	67.00
ECCENTER SLEEVE 40X50	40.00	50.00	75.0	77.00

• (1) Holes for inserting a pin, used to facilitate radial adjustment of the sleeve (pin not supplied).

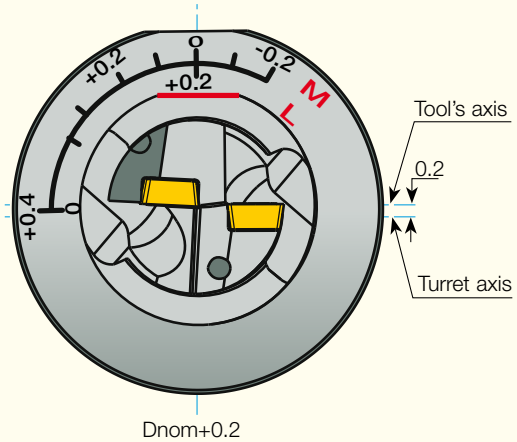
Eccenter Sleeve Operating Instructions



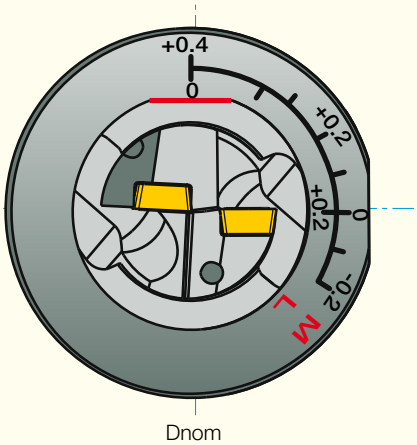
On a lathe the eccenter sleeve can shift the drill's axis to coincide with the spindle axis.

The eccentric sleeve enables alignment of the drill's axis with the spindle axis within a 0.2 mm range (turn the sleeve counterclockwise to raise it).

Operation on a Lathe

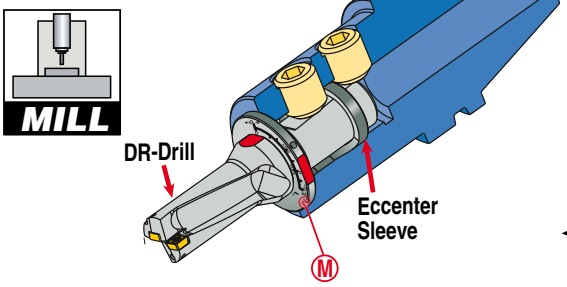


Dnom+0.2



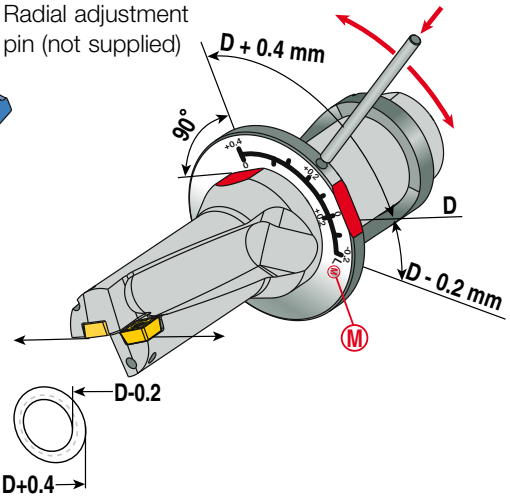
Dnom
Tool and turret axes coincide

On a milling machine the drill's nominal diameter can be changed by shifting the drill's axis out of the tool spindle.

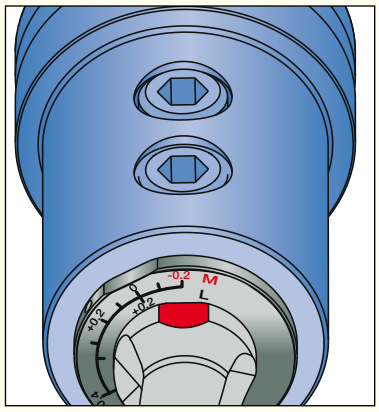


To enlarge the diameter, turn the sleeve clockwise.

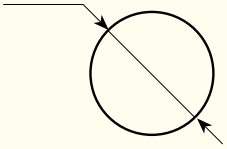
Radial adjustment pin (not supplied)



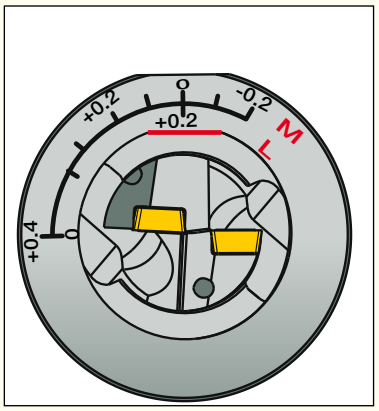
Operation on a Milling Machine



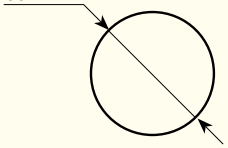
Hole Diameter
29.8 mm



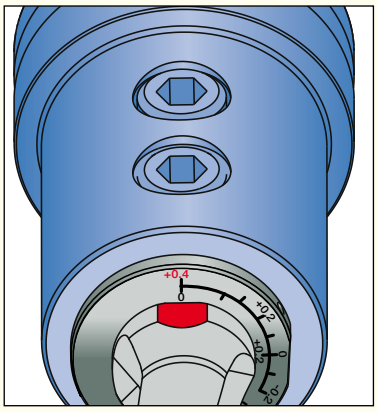
Drill Diameter = 30 mm



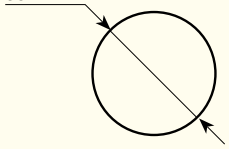
Hole Diameter
30 mm



Drill Diameter = 30 mm

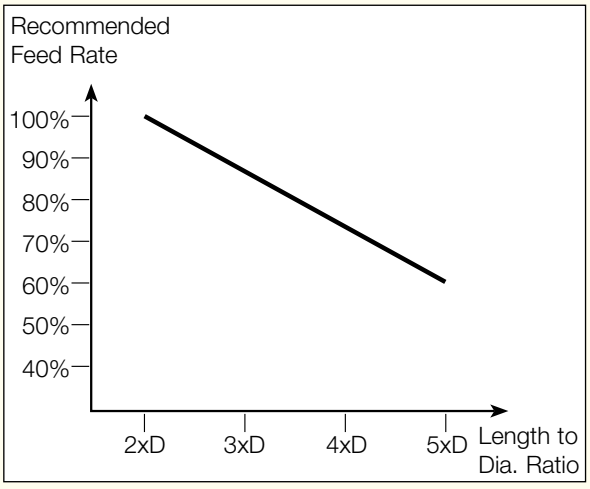


Hole Diameter
30.4 mm



Drill Diameter = 30 mm

Recommended Feed When Using Eccenter Sleeves



The adjustment markings should be located perpendicular to the flat on the circumference of the DR flange.

To facilitate the rotation of the sleeve, a metal rod or a screw key may be inserted into a hole on the eccentric sleeve flange. Unlock adapter screw before adjusting sleeve.

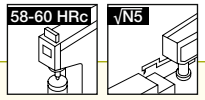
TAPPING & REAMING DEVICE

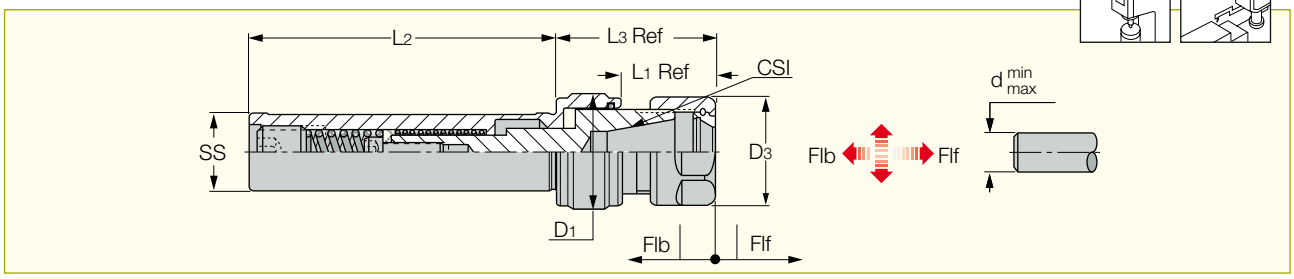
Member IMC Group

Straight Shank • GTI

GTI ER-ST (tapping)

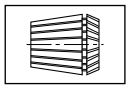
DIN 6499 ER Tapping Attachments with Straight Shanks

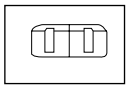




Designation	SS	CSI	Tap min	Tap max	d min	d max	D3	D1	L1	L3	L2	Flf	Flb	Kg
GTI ER11 ST16X150 M (1)	ST16	ER11	M2	M7	0.5	7.0	16.00	-	19.0	-	150.00	6.0	3.0	0.18
GTI ER16 ST20X80	ST20	ER16	M3	M10	0.5	10.0	28.00	29.5	24.6	41.60	80.00	8.0	3.0	0.30
GTI ER20 ST20X80	ST20	ER20	M4	M14	1.0	13.0	34.00	33.5	28.0	49.00	80.00	8.0	3.0	0.35
GTI ER25 ST25X80	ST25	ER25	M5	M16	1.0	16.0	42.00	40.5	32.0	53.00	80.00	9.0	4.0	0.55
GTI ER32 ST25X80	ST25	ER32	M6	M20	1.0	16.0	50.00	56.5	32.0	77.20	80.00	9.0	4.0	1.16
GTI ER40 ST32X80	ST32	ER40	M6	M27	2.0	20.0	63.00	56.5	51.0	95.20	80.00	9.0	4.0	1.66

(1) Without a clamping flat.


B144-146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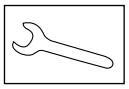
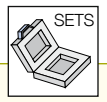
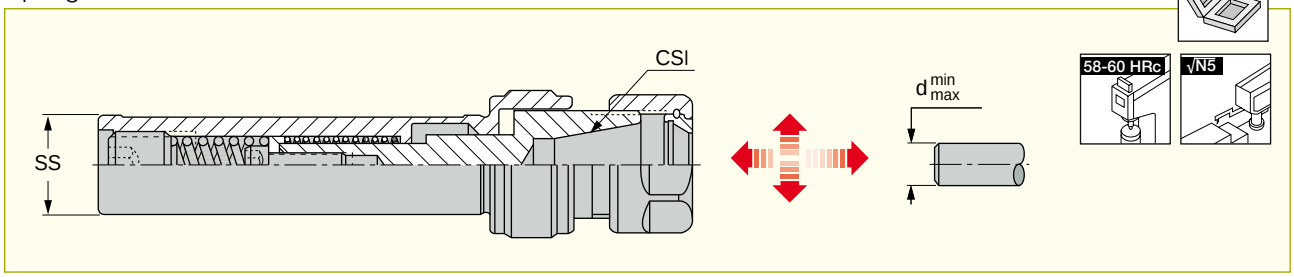

B176


B136

KIT GTI ER-ST

Contains a DIN 6499 ER Tapping Attachment with Straight Shank and a Set of Spring Collets in Various Bore Sizes

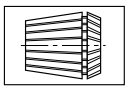




Designation	SS	CSI	d Range
KIT GTI ER11 ST16X150 4M	16	ER11	3,4,5,6
KIT GTI ER16 ST20X80 4	20	ER16	4,5,6,7
KIT GTI ER20 ST20X80 4	20	ER20	5,6,8,9
KIT GTI ER25 ST25X80 5	25	ER25	6,7,9,11,12
KIT GTI ER32 ST25X80 6	32	ER32	6,7,9,11,12,16

• Kit includes GTI,collets and wrench.

Kit GTI ER11 - ER32
Tapping Attachment Kit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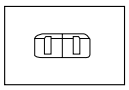
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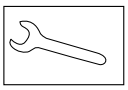
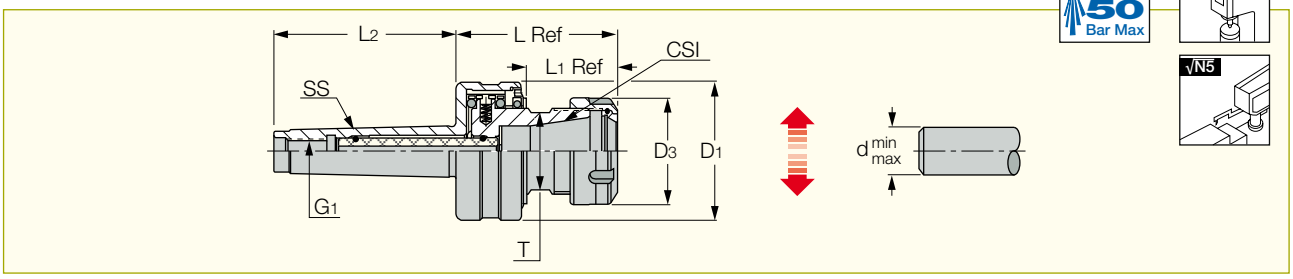

B176


B136

Straight Shank • GFI

GFI MT-ER

Floating Reamer DIN 6499 Collet Chucks with Morse Tapered Shanks



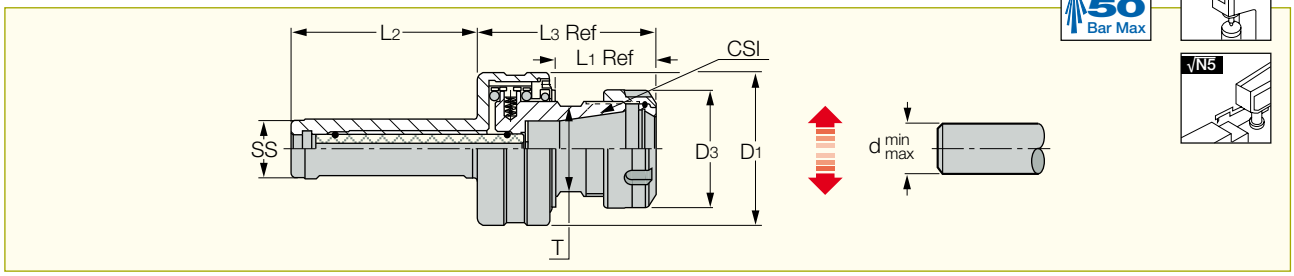
Designation	SS	CSI	d min	d max	L1	L	L2	D1	D3	G1	RFI	T	Kg
GFI MT 2 ER20 (1)	2	ER20	1.0	13.0	34.5	60.50	64.00	50.0	34.00	M10	1.0	22.0	0.22
GFI MT 3 ER32 (2)	3	ER32	2.0	20.0	45.9	81.90	81.00	65.0	50.00	M12	1.6	36.0	1.46

• ! Maximum RPM 2000.

(1) Radial float 1 mm. (2) Radial float 1.6 mm.

GFI ST-ER

Floating Reamer DIN 6499 Collet Chucks with Cylindrical Shanks



Designation	SS	CSI	d min	d max	L2	L3	L1	D3	D1	RFI	T	Kg
GFI ST20 ER20 (1)	20	ER20	1.0	13.0	65.00	55.50	34.5	34.00	50.0	1.0	22.0	0.30
GFI ST25 ER32 (2)	25	ER32	2.0	20.0	80.00	76.90	45.9	50.00	65.0	1.6	36.0	1.21

• ! Maximum RPM 2000.

(1) Radial float 1 mm. (2) Radial float 1.6 mm.

GFI ER - Floating Reamer Collet Chuck

Floating chuck - adjusts the misalignment between reamer and workpiece hole to ensure the same accuracy as the reamer itself.

Application

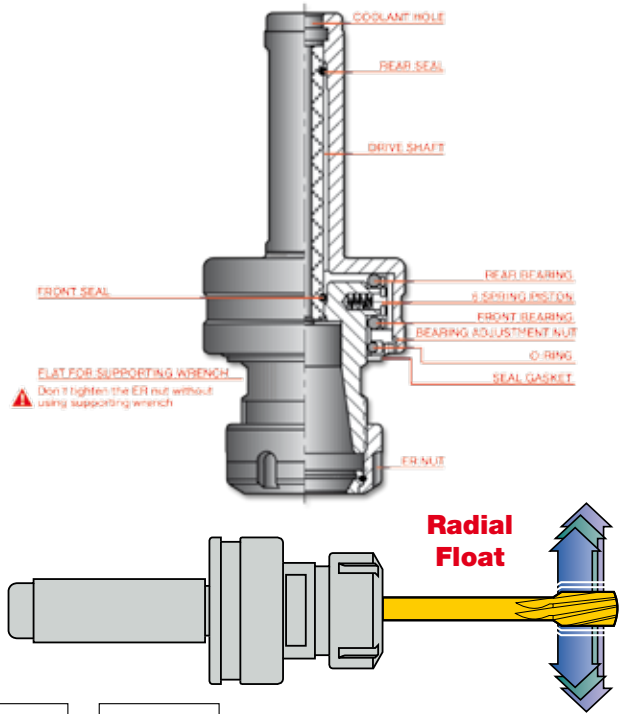
The GFI floating chuck is a unique holder that compensates for the radial misalignment existing in the reaming operations carried out on vertical and horizontal machine tools.

Features

Radial self-floating mechanism compensates for misalignment between reamer and workpiece to ensure the same tolerance as the reamer itself.
The special self-centering mechanism eliminates tapered and oversized bores.

Advantages

Unique ball bearing and axle drive shaft structure enables vertical and horizontal machining.
Precise and efficient clamping with ER spring collets or ER COOLIT collets.



B144-148 B175 B176

GTI / GTIN - Tapping Attachment

GTIN ER32 – Tapping Collet

Compact tapping collet with tension and compression floating mechanism for ER32 collet chucks

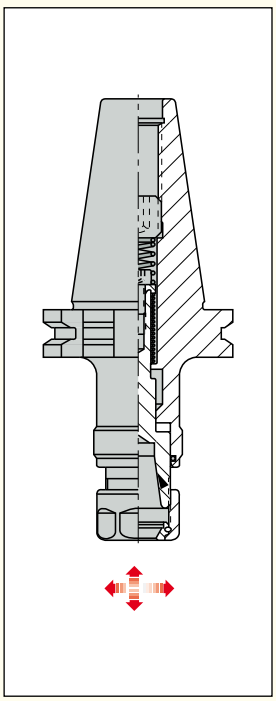
A tapping collet for standard and rigid tapping operations.
The GTIN ER32 collet makes tap removal and replacement easy, quick and reliable. Designed for stationary and rotating applications, the GTIN ER32 collets are economical and efficient due to the ability to use existing ER32 collet chucks (with various shank sizes and types).

Applications

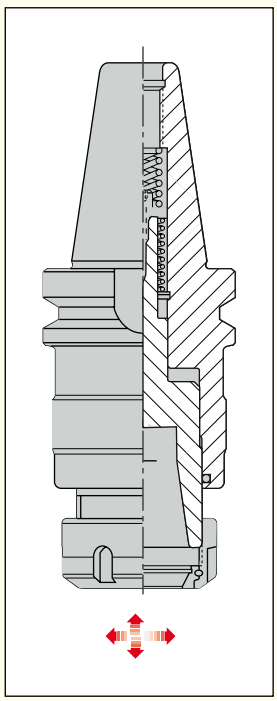
The GTIN ER32 tapping collet is designed especially for CNC mill/turn centers, for regular and rigid tapping.

Advantages

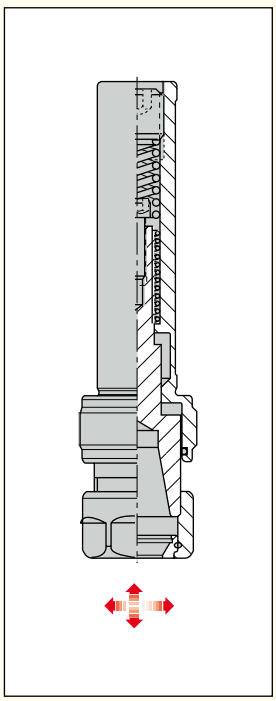
- Quick tap change by a front clamping nut
- Compact design for minimal clearance between the turret and chuck
- Fits every type of stationary and rotating ER32 collet chuck
- Positive tap drive with internal square driver
- Compensates for machine feed and tap pitch variance, resulting in greater thread accuracy
- Floating mechanism compensates for misalignment between tap and workpiece
- High accuracy due to tension and compression mechanism
- Available for all tap shank standards (DIN, ISO, ANSI, JIS)
- Tapping range M1-M16 (#0 to 5/8")
- Saves setup time by quick tap changing without removing GTIN from the machine
- Optimal for machines which have limited space between turret and workpiece



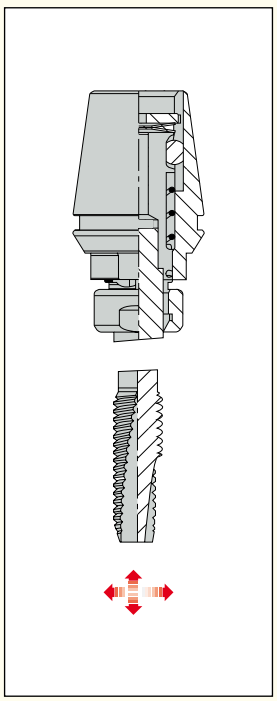
GTI DIN69871
Page B24



BT MAS-403
Page B91



Straight Shank
Page B134



GTIN
Pages B138-139

GTI/GTIN - Tapping Attachment

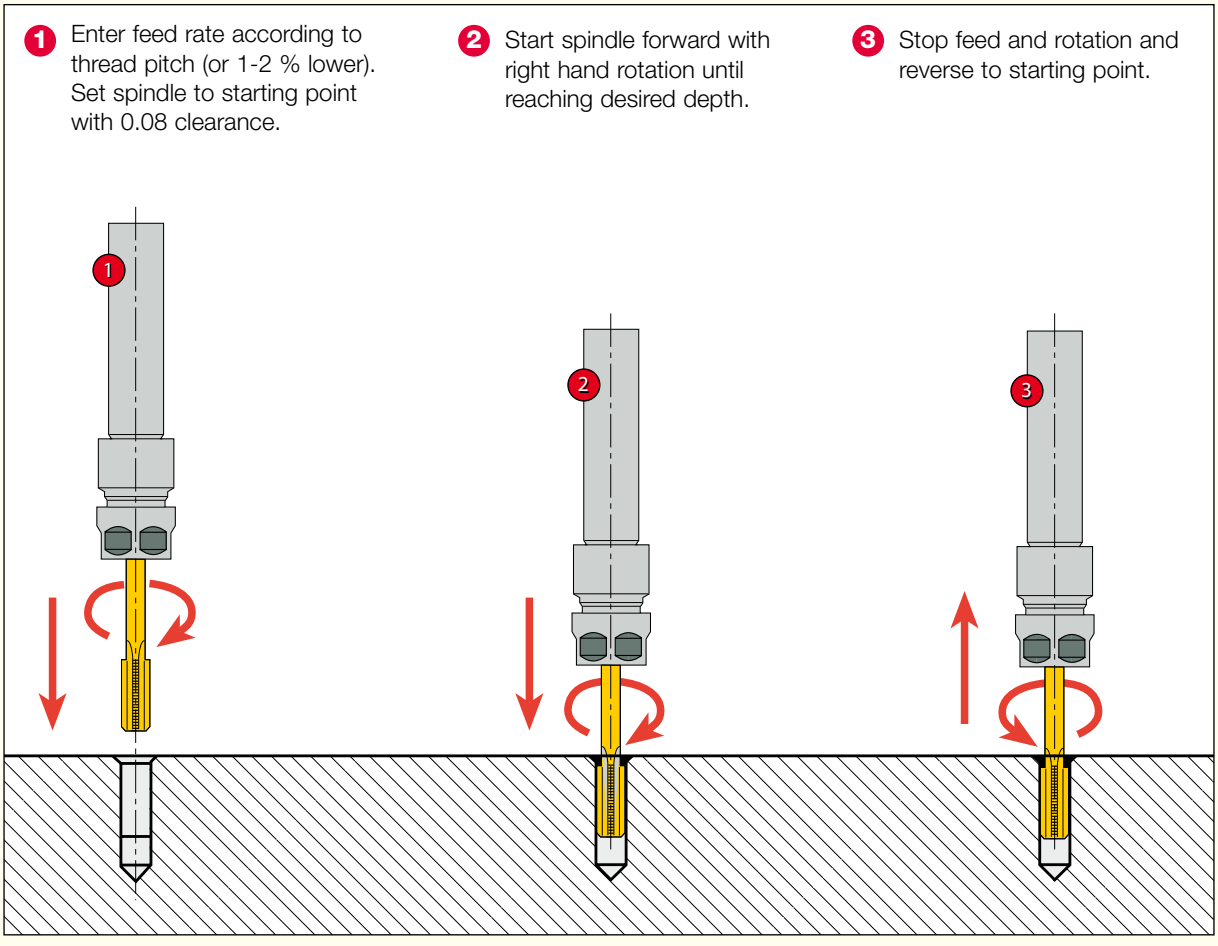
Description
Short tap chucks for ER collets.

Applications
Axial float/tension/compression type for CNC milling machines and lathes with reversing motors and rigid tapping.

Features
- Compensates for machine feed and tap pitch variance.
- Floating mechanism compensates for misalignment between tap and workpiece.
- Right- and left-hand tapping.

Advantages
- Practical and efficient tap holding by the ER spring collet without using jaw drive.
- Compact design for minimal clearance applications.
- Heavy duty design for high torque drive ensures the same accuracy as the tap itself.

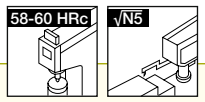
Operation
For through- and blind-hole tapping:

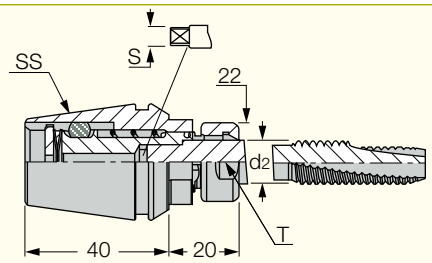


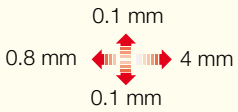
GTIN

GTIN ER-ISO (tapping)

ER Collet Tapping Attachments, Tension and Compression ISO Type
for CNC Milling and Turret Lathe Machines





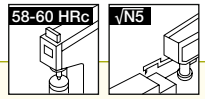


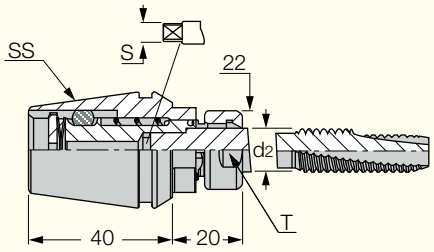
Designation	SS	d_2	S	Tap min	Tap max	T	Kg
GTIN ER32 ISO 2.24X1.80	ER32	2.24	1.80	M3	M3	20.0	0.22
GTIN ER32 ISO 2.50X2.00	ER32	2.50	2.00	M3.5	M3.5	20.0	1.74
GTIN ER32 ISO 2.80X2.24	ER32	2.80	2.24	M2.2	M2.5	20.0	0.12
GTIN ER32 ISO 3.15X2.50	ER32	3.15	2.50	M3	M4	20.0	0.22
GTIN ER32 ISO 3.55X2.80	ER32	3.55	2.80	M3.5	M4.5	20.0	0.22
GTIN ER32 ISO 4.00X3.15	ER32	4.00	3.15	M4	M5	20.0	0.22
GTIN ER32 ISO 4.50X3.55	ER32	4.50	3.55	M6	M6	20.0	0.22
GTIN ER32 ISO 5.00X4.00	ER32	5.00	4.00	M5	M5	20.0	0.22
GTIN ER32 ISO 5.60X4.50	ER32	5.60	4.50	UNC#12-24	UNC (ONLY)	20.0	0.23
GTIN ER32 ISO 6.30X5.00	ER32	6.30	5.00	M6	M8	20.0	0.22
GTIN ER32 ISO 7.10X5.60	ER32	7.10	5.60	UNC#3/8-16	UNC (ONLY)	20.0	0.20
GTIN ER32 ISO 8.00X6.30	ER32	8.00	6.30	M8	M10	20.0	0.01
GTIN ER32 ISO 9.00X7.10	ER32	9.00	7.10	M12	M12	20.0	0.22
GTIN ER32 ISO 10.00X8.00	ER32	10.00	8.00	M10	M10	20.0	0.02
GTIN ER32 ISO 11.20X9.00	ER32	11.20	9.00	M14	M14	20.0	0.22
GTIN ER32 ISO 12.50X10.00	ER32	12.50	10.00	M16	M16	20.0	0.22

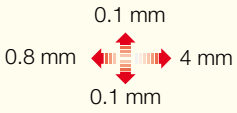
• For adaptation see pages B136, B142. • No coolant should be induced through the tapping collet, as it will cause malfuncation of the mechanism. • Fits every type of ER 32 collet chuck, stationary and rotating. • Compensates for machine feed and tap pitch variance. • Floating mechanism compensates for misalignment between tap and workpiece. • Hard start for rigid tapping. • Compact design for minimal clearance.

GTIN ER-DIN (tapping)

ER Collet Tapping Attachments, Tension and Compression DIN Type
for CNC Milling and Turret Lathe Machines





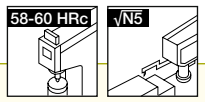


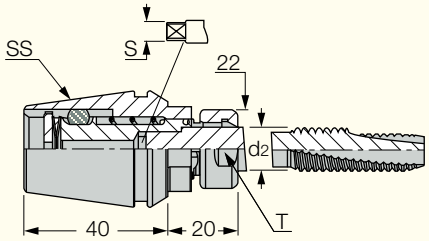
Designation	SS	d_2	S	Tap min	Tap max	T	Kg
GTIN ER32 DIN 2.50X2.10	ER32	2.50	2.10	M1	M1.8	20.0	0.20
GTIN ER32 DIN 2.80X2.10	ER32	2.80	2.10	M2	M4	20.0	0.22
GTIN ER32 DIN 3.50X2.70	ER32	3.50	2.70	M3	M5	20.0	0.22
GTIN ER32 DIN 4.00X3.00	ER32	4.00	3.00	M3.5	M3.5	20.0	0.21
GTIN ER32 DIN 4.50X3.40	ER32	4.50	3.40	M4	M6	20.0	0.20
GTIN ER32 DIN 6.00X4.90	ER32	6.00	4.90	M5	M8	20.0	0.20
GTIN ER32 DIN 7.00X5.50	ER32	7.00	5.50	M10	M10	20.0	0.20
GTIN ER32 DIN 8.00X6.20	ER32	8.00	6.20	M8	M8	20.0	0.02
GTIN ER32 DIN 9.00X7.00	ER32	9.00	7.00	M12	M12	20.0	0.22
GTIN ER32 DIN 10.00X8.00	ER32	10.00	8.00	M10	M10	20.0	0.22
GTIN ER32 DIN 11.00X9.00	ER32	11.00	9.00	M14	M14	20.0	0.02
GTIN ER32 DIN 12.00X9.00	ER32	12.00	9.00	M16	M16	20.0	0.20

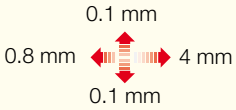
• For adaptation see pages B136, B142.• No coolant should be induced through the tapping collet, as it will cause malfuncationing of the mechanism. • Fits every type of ER 32 collet chuck, stationary and rotating. • Compensates for machine feed and tap pitch variance. • Floating mechanism compensates for misalignment between tap and work piece. • Hard start for rigid tapping. • Compact design for minimal clearance.

GTIN ER-JIS (tapping)

ER Collet Tapping Attachments, Tension and Compression JIS Type for CNC Milling and Turret Lathe Machines







Designation	SS	d_2	S	Tap min	Tap max	T	Kg
GTIN ER32 JIS 3.00X2.50	ER32	3.00	2.50	M1	M2.6	20.0	0.23
GTIN ER32 JIS 4.00X3.20	ER32	4.00	3.20	M3	M3.5	20.0	0.22
GTIN ER32 JIS 5.00X4.00	ER32	5.00	4.00	M4	M4	20.0	0.23
GTIN ER32 JIS 5.50X4.50	ER32	5.50	4.50	M5	M5	20.0	0.36
GTIN ER32 JIS 6.00X4.50	ER32	6.00	4.50	M6	M6	20.0	0.22
GTIN ER32 JIS 6.20X5.00	ER32	6.20	5.00	M8	M8	20.0	0.22
GTIN ER32 JIS 7.00X5.50	ER32	7.00	5.50	M10	M10	20.0	0.22
GTIN ER32 JIS 8.50X6.50	ER32	8.50	6.50	M12	M12	20.0	0.22
GTIN ER32 JIS 10.50X8.00	ER32	10.50	8.00	M14	M14	20.0	0.22
GTIN ER32 JIS 12.50X10.00	ER32	12.50	10.00	M16	M16	20.0	0.20

• For adaptation see pages B136, B142. • No coolant should be induced through the tapping collet, as it will cause malfuncationing of the mechanism.

• Fits every type of ER 32 collet chuck, stationary and rotating. • Compensates for machine feed and tap pitch variance. • Floating mechanism compensates for misalignment between tap and work piece. • Hard start for rigid tapping. • Compact design for minimal clearance.

ER, SC & SHRINK COLLETS

Member IMC Group

ER Collet

Shanks

DIN 69871

HSK DIN 69893 Form A/E

BT MAS-403

ISO A.N.S.I B5.18-DIN 2080

R-8 Bridgeport

ST Straight Shank

MT Morse Taper

Collet Options

ER-SPR

ER-SEAL

ER-SEAL JET2

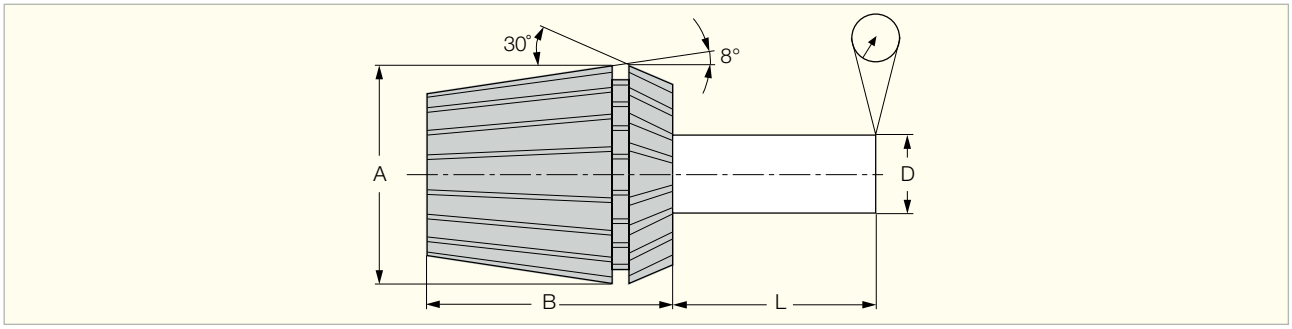
ER-SRK

GTIN ER32

ER-ODP

ER Collet

Standard



ER Collet Type DIN 6499

Basic Dimensions

Type	A	B
ER-11	11.5	18
ER-16	17	27
ER-20	21	31
ER-25	26	35
ER-32	33	40
ER-40	41	46
ER-50	52	60

Concentricity Tolerances

L mm	D mm	Standard Precision	AA Ultra Precision	DIN 6499
6	1.0-1.6	0.01	0.005	
10	1.6-3.0	0.01	0.005	0.015
16	3.0-6.0	0.01	0.005	0.015
25	6.0-10.0	0.01	0.005	0.015
40	10.0-18.0	0.01	0.005	0.020
50	18.0-26.0	0.01	0.005	0.020
60	26.0-34.0			0.025

ER - Coolit Sealed Collet

Two Types

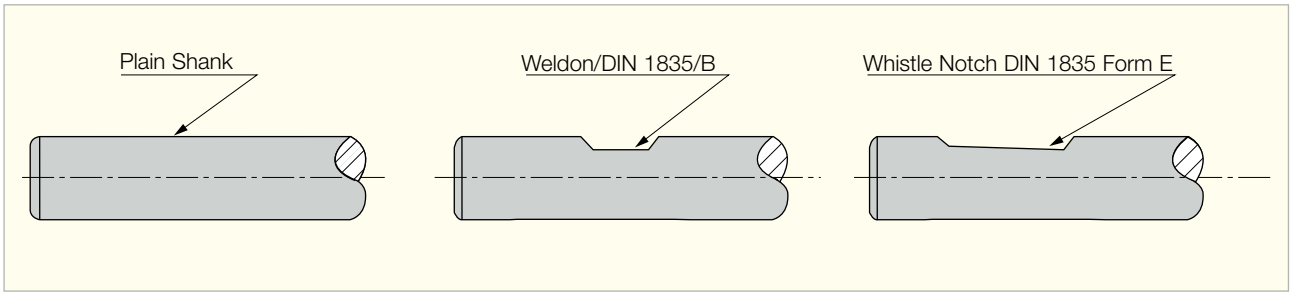
Sealed Collet Jet

For straight shank cutting tools with internal coolant supply.

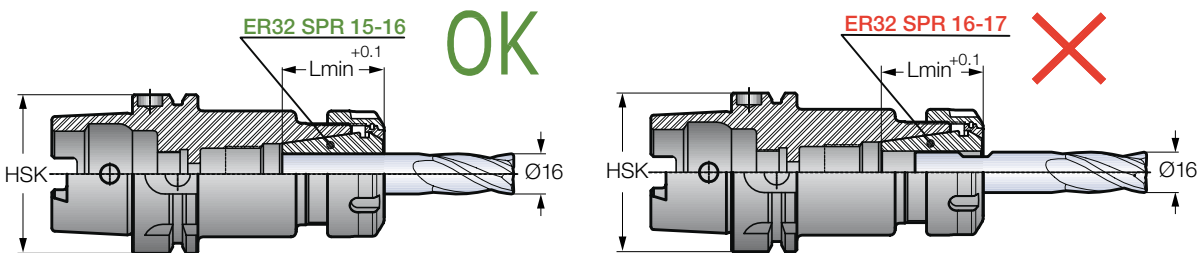
Sealed Collet JET2

With angular double nozzles. Coolant flow is direct to the cutting edge - for use with standard straight shank cutting tools (without coolant hole).

Standard Shank for use in Sealed Collets



Note: The front end of the sealed collet should be located beyond Weldon or the whistle notch.



ER Collet

ER - Top Clamping Nut for DIN 6499 Collets

Description

Friction bearing ER nut is a nut with a unique two-piece exclusive friction mechanism, combining radial and angular self-centering movements.

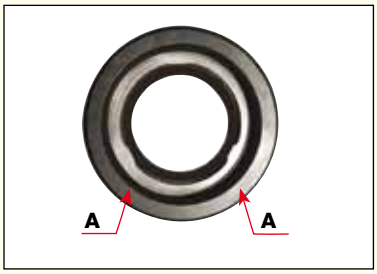
Features

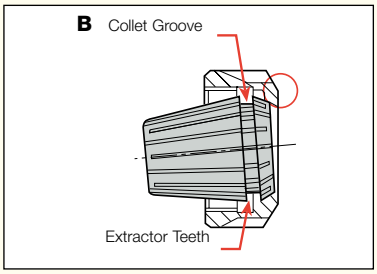
- Unique two-piece friction bearing.
- Radial and angular float for better concentricity.
- Powerful gripping force, 50-100% higher than the standard ER nut, due to the friction bearing mechanism.
- Balanced for higher spindle spin due to unique extractor teeth design.
- Compact design - general dimensions and size range are the same as the standard nut.
- Designed for use with sealed collets.

Always assemble the collet into the nut before mounting onto the collet chuck.

Insertion Procedure

1. Insert the collet at an angle, fitting the two extractor teeth which protrude **(A)** into the collet's groove **(B)**.
2. Place the two parts on a clean and horizontal work surface.
3. Press down with your thumb on the back end of the collet until it clicks into place **(C)**.



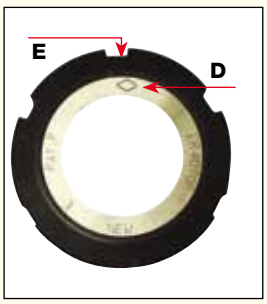


C

Important: Never insert the collet parallel to the extractor ring. Doing this will chip or break the extractor's teeth.
When unclamping the nut, the collet will self-release from the chuck by means of extractor teeth.

Extraction Procedure

1. Align the engraved diamond shape which is on the silver ring **(D)**, with any of the key slots **(E)** of the nut.
2. Place the nut with the collet facing down on a clean and horizontal work surface.
3. Insert a screwdriver vertically between the nut slots and the collet on the reverse side of the engraved diamond shape **(D)**.
4. Tilt the screwdriver outwards, while helping the extraction by pushing the collet's back end in the opposite direction **(F)**.



Nut type	Kgxm
ER-11	5
ER-11M	3
ER-16	7
ER-16M	4
ER-20	12
ER-20M	8
ER-25	20
ER-32	22
ER-40	25
ER-50	35

Note:
For maximum performance the clamping nut thread and collet taper must be cleaned and oiled before use.

⚠ **Recommended Clamping Torque for Standard ER & ER-Top Clamping Nut**

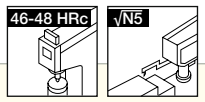
Important:
This torque is calculated with the maximum diameter capacity per collet which should be gradually reduced when used with a smaller shank size.

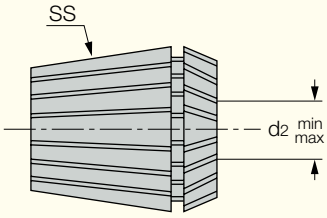
F

ER Collet

ER-SPR

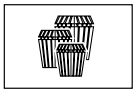
DIN 6499 ER Spring Collets with HARD TOUCH Coating





Designation	SS	$d_{2\ min}$	$d_{2\ max}$
ER11 SPR 0.5- 1	ER11	0.50	1.00
ER11 SPR 1-2	ER11	1.00	2.00
ER11 SPR 2-3	ER11	2.00	3.00
ER11 SPR 3-4	ER11	3.00	4.00
ER11 SPR 4-5	ER11	4.00	5.00
ER11 SPR 5-6	ER11	5.00	6.00
ER11 SPR 6-7	ER11	6.00	7.00
ER16 SPR 0.5-1	ER16	0.50	1.00
ER16 SPR 1-2	ER16	1.00	2.00
ER16 SPR 2-3	ER16	2.00	3.00
ER16 SPR 3-4	ER16	3.00	4.00
ER16 SPR 4-5	ER16	4.00	5.00
ER16 SPR 5-6	ER16	5.00	6.00
ER16 SPR 6-7	ER16	6.00	7.00
ER16 SPR 7-8	ER16	7.00	8.00
ER16 SPR 8-9	ER16	8.00	9.00
ER16 SPR 9-10	ER16	9.00	10.00
ER20 SPR 1-2	ER20	1.00	2.00
ER20 SPR 2-3	ER20	2.00	3.00
ER20 SPR 3-4	ER20	3.00	4.00
ER20 SPR 4-5	ER20	4.00	5.00
ER20 SPR 5-6	ER20	5.00	6.00
ER20 SPR 6-7	ER20	6.00	7.00
ER20 SPR 7-8	ER20	7.00	8.00
ER20 SPR 8-9	ER20	8.00	9.00
ER20 SPR 9-10	ER20	9.00	10.00
ER20 SPR 10-11	ER20	10.00	11.00
ER20 SPR 11-12	ER20	11.00	12.00
ER20 SPR 12-13	ER20	12.00	13.00
ER25 SPR 1-2	ER25	1.00	2.00
ER25 SPR 2-3	ER25	2.00	3.00
ER25 SPR 3-4	ER25	3.00	4.00
ER25 SPR 4-5	ER25	4.00	5.00
ER25 SPR 5-6	ER25	5.00	6.00
ER25 SPR 6-7	ER25	6.00	7.00
ER25 SPR 7-8	ER25	7.00	8.00
ER25 SPR 8-9	ER25	8.00	9.00
ER25 SPR 9-10	ER25	9.00	10.00
ER25 SPR 10-11	ER25	10.00	11.00
ER25 SPR 11-12	ER25	11.00	12.00
ER25 SPR 12-13	ER25	12.00	13.00
ER25 SPR 13-14	ER25	13.00	14.00
ER25 SPR 14-15	ER25	14.00	15.00
ER25 SPR 15-16	ER25	15.00	16.00
ER32 SPR 2-3	ER32	2.00	3.00
ER32 SPR 3-4	ER32	3.00	4.00
ER32 SPR 4-5	ER32	4.00	5.00
ER32 SPR 5-6	ER32	5.00	6.00
ER32 SPR 6-7	ER32	6.00	7.00

Designation	SS	$d_{2\ min}$	$d_{2\ max}$
ER32 SPR 7-8	ER32	7.00	8.00
ER32 SPR 8-9	ER32	8.00	9.00
ER32 SPR 9-10	ER32	9.00	10.00
ER32 SPR 10-11	ER32	10.00	11.00
ER32 SPR 11-12	ER32	11.00	12.00
ER32 SPR 12-13	ER32	12.00	13.00
ER32 SPR 13-14	ER32	13.00	14.00
ER32 SPR 14-15	ER32	14.00	15.00
ER32 SPR 15-16	ER32	15.00	16.00
ER32 SPR 16-17	ER32	16.00	17.00
ER32 SPR 17-18	ER32	17.00	18.00
ER32 SPR 18-19	ER32	18.00	19.00
ER32 SPR 19-20	ER32	19.00	20.00
ER40 SPR 3-4	ER40	3.00	4.00
ER40 SPR 4-5	ER40	4.00	5.00
ER40 SPR 5-6	ER40	5.00	6.00
ER40 SPR 6-7	ER40	6.00	7.00
ER40 SPR 7-8	ER40	7.00	8.00
ER40 SPR 8-9	ER40	8.00	9.00
ER40 SPR 9-10	ER40	9.00	10.00
ER40 SPR 10-11	ER40	10.00	11.00
ER40 SPR 11-12	ER40	11.00	12.00
ER40 SPR 12-13	ER40	12.00	13.00
ER40 SPR 13-14	ER40	13.00	14.00
ER40 SPR 14-15	ER40	14.00	15.00
ER40 SPR 15-16	ER40	15.00	16.00
ER40 SPR 16-17	ER40	16.00	17.00
ER40 SPR 17-18	ER40	17.00	18.00
ER40 SPR 18-19	ER40	18.00	19.00
ER40 SPR 19-20	ER40	19.00	20.00
ER40 SPR 20-21	ER40	20.00	21.00
ER40 SPR 21-22	ER40	21.00	22.00
ER40 SPR 22-23	ER40	22.00	23.00
ER40 SPR 23-24	ER40	23.00	24.00
ER40 SPR 24-25	ER40	24.00	25.00
ER40 SPR 25-26	ER40	25.00	26.00
ER50 SPR 10-12	ER50	10.00	12.00
ER50 SPR 12-14	ER50	12.00	14.00
ER50 SPR 14-16	ER50	14.00	16.00
ER50 SPR 16-18	ER50	16.00	18.00
ER50 SPR 18-20	ER50	18.00	20.00
ER50 SPR 20-22	ER50	20.00	22.00
ER50 SPR 22-24	ER50	22.00	24.00
ER50 SPR 24-26	ER50	24.00	26.00
ER50 SPR 26-28	ER50	26.00	28.00
ER50 SPR 28-30	ER50	28.00	30.00
ER50 SPR 30-32	ER50	30.00	32.00
ER50 SPR 32-34	ER50	32.00	34.00

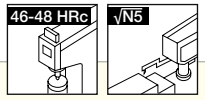


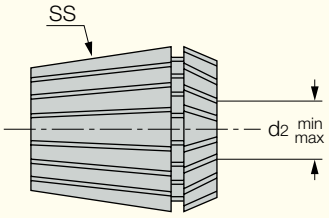
B161, B162

ER Collet

ER-SPR-AA

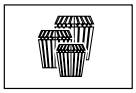
DIN 6499 'AA' Ultra Precise ER Spring Collets with HARD TOUCH Coating





Designation	SS	$d_{2\ min}$	$d_{2\ max}$
ER11 SPR 0.5- 1 AA	ER11	0.50	1.00
ER11 SPR 1-2 AA	ER11	1.00	2.00
ER11 SPR 2-3 AA	ER11	2.00	3.00
ER11 SPR 3-4 AA	ER11	3.00	4.00
ER11 SPR 4-5 AA	ER11	4.00	5.00
ER11 SPR 5-6 AA	ER11	5.00	6.00
ER11 SPR 6-7 AA	ER11	6.00	7.00
ER16 SPR 0.5-1 AA	ER16	0.50	1.00
ER16 SPR 1-2 AA	ER16	1.00	2.00
ER16 SPR 2-3 AA	ER16	2.00	3.00
ER16 SPR 3-4 AA	ER16	3.00	4.00
ER16 SPR 4-5 AA	ER16	4.00	5.00
ER16 SPR 5-6 AA	ER16	5.00	6.00
ER16 SPR 6-7 AA	ER16	6.00	7.00
ER16 SPR 7-8 AA	ER16	7.00	8.00
ER16 SPR 8-9 AA	ER16	8.00	9.00
ER16 SPR 9-10 AA	ER16	9.00	10.00
ER20 SPR 1-2 AA	ER20	1.00	2.00
ER20 SPR 2-3 AA	ER20	2.00	3.00
ER20 SPR 3-4 AA	ER20	3.00	4.00
ER20 SPR 4-5 AA	ER20	4.00	5.00
ER20 SPR 5-6 AA	ER20	5.00	6.00
ER20 SPR 6-7 AA	ER20	6.00	7.00
ER20 SPR 7-8 AA	ER20	7.00	8.00
ER20 SPR 8-9 AA	ER20	8.00	9.00
ER20 SPR 9-10 AA	ER20	9.00	10.00
ER20 SPR 10-11 AA	ER20	10.00	11.00
ER20 SPR 11-12 AA	ER20	11.00	12.00
ER20 SPR 12-13 AA	ER20	12.00	13.00
ER25 SPR 1-2 AA	ER25	1.00	2.00
ER25 SPR 2-3 AA	ER25	2.00	3.00
ER25 SPR 3-4 AA	ER25	3.00	4.00
ER25 SPR 4-5 AA	ER25	4.00	5.00
ER25 SPR 5-6 AA	ER25	5.00	6.00
ER25 SPR 6-7 AA	ER25	6.00	7.00
ER25 SPR 7-8 AA	ER25	7.00	8.00
ER25 SPR 8-9 AA	ER25	8.00	9.00
ER25 SPR 9-10 AA	ER25	9.00	10.00
ER25 SPR 10-11 AA	ER25	10.00	11.00
ER25 SPR 11-12 AA	ER25	11.00	12.00
ER25 SPR 12-13 AA	ER25	12.00	13.00
ER25 SPR 13-14 AA	ER25	13.00	14.00
ER25 SPR 14-15 AA	ER25	14.00	15.00
ER25 SPR 15-16 AA	ER25	15.00	16.00

Designation	SS	$d_{2\ min}$	$d_{2\ max}$
ER32 SPR 2-3 AA	ER32	2.00	3.00
ER32 SPR 3-4 AA	ER32	3.00	4.00
ER32 SPR 4-5 AA	ER32	4.00	5.00
ER32 SPR 5-6 AA	ER32	5.00	6.00
ER32 SPR 6-7 AA	ER32	6.00	7.00
ER32 SPR 7-8 AA	ER32	7.00	8.00
ER32 SPR 8-9 AA	ER32	8.00	9.00
ER32 SPR 9-10 AA	ER32	9.00	10.00
ER32 SPR 10-11 AA	ER32	10.00	11.00
ER32 SPR 11-12 AA	ER32	11.00	12.00
ER32 SPR 12-13 AA	ER32	12.00	13.00
ER32 SPR 13-14 AA	ER32	13.00	14.00
ER32 SPR 14-15 AA	ER32	14.00	15.00
ER32 SPR 15-16 AA	ER32	15.00	16.00
ER32 SPR 16-17 AA	ER32	16.00	17.00
ER32 SPR 17-18 AA	ER32	17.00	18.00
ER32 SPR 18-19 AA	ER32	18.00	19.00
ER32 SPR 19-20 AA	ER32	19.00	20.00
ER40 SPR 3-4 AA	ER40	3.00	4.00
ER40 SPR 4-5 AA	ER40	4.00	5.00
ER40 SPR 5-6 AA	ER40	5.00	6.00
ER40 SPR 6-7 AA	ER40	6.00	7.00
ER40 SPR 7-8 AA	ER40	7.00	8.00
ER40 SPR 8-9 AA	ER40	8.00	9.00
ER40 SPR 9-10 AA	ER40	9.00	10.00
ER40 SPR 10-11 AA	ER40	10.00	11.00
ER40 SPR 11-12 AA	ER40	11.00	12.00
ER40 SPR 12-13 AA	ER40	12.00	13.00
ER40 SPR 13-14 AA	ER40	13.00	14.00
ER40 SPR 14-15 AA	ER40	14.00	15.00
ER40 SPR 15-16 AA	ER40	15.00	16.00
ER40 SPR 16-17 AA	ER40	16.00	17.00
ER40 SPR 17-18 AA	ER40	17.00	18.00
ER40 SPR 18-19 AA	ER40	18.00	19.00
ER40 SPR 19-20 AA	ER40	19.00	20.00
ER40 SPR 20-21 AA	ER40	20.00	21.00
ER40 SPR 21-22 AA	ER40	21.00	22.00
ER40 SPR 22-23 AA	ER40	22.00	23.00
ER40 SPR 23-24 AA	ER40	23.00	24.00
ER40 SPR 24-25 AA	ER40	24.00	25.00
ER40 SPR 25-26 AA	ER40	25.00	26.00

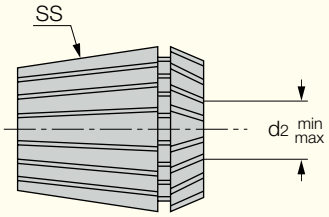


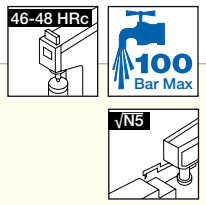
B161

ER Collet

ER-SEAL

DIN 6499 ER COOLIT, Sealed Spring Collets with HARD TOUCH Coating,
for up to 100 Bar





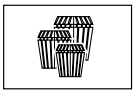
Designation	SS	$d_{2\ min}$	$d_{2\ max}$
ER16 SEAL 3- 4	ER16	3.00	4.00
ER16 SEAL 4- 5	ER16	4.00	5.00
ER16 SEAL 5- 6	ER16	5.00	6.00
ER16 SEAL 6- 7	ER16	6.00	7.00
ER16 SEAL 7- 8	ER16	7.00	8.00
ER16 SEAL 8- 9	ER16	8.00	9.00
ER16 SEAL 9-10	ER16	9.00	10.00
ER20 SEAL 3-4	ER20	3.00	4.00
ER20 SEAL 4-5	ER20	4.00	5.00
ER20 SEAL 5-6	ER20	5.00	6.00
ER20 SEAL 6-7	ER20	6.00	7.00
ER20 SEAL 7-8	ER20	7.00	8.00
ER20 SEAL 8-9	ER20	8.00	9.00
ER20 SEAL 9-10	ER20	9.00	10.00
ER20 SEAL 10-11	ER20	10.00	11.00
ER20 SEAL 11-12	ER20	11.00	12.00
ER20 SEAL 12-13	ER20	12.00	13.00
ER25 SEAL 3-4	ER25	3.00	4.00
ER25 SEAL 4-5	ER25	4.00	5.00
ER25 SEAL 5-6	ER25	5.00	6.00
ER25 SEAL 6-7	ER25	6.00	7.00
ER25 SEAL 7-8	ER25	7.00	8.00
ER25 SEAL 8-9	ER25	8.00	9.00
ER25 SEAL 9-10	ER25	9.00	10.00
ER25 SEAL 10-11	ER25	10.00	11.00
ER25 SEAL 11-12	ER25	11.00	12.00
ER25 SEAL 12-13	ER25	12.00	13.00
ER25 SEAL 13-14	ER25	13.00	14.00
ER25 SEAL 14-15	ER25	14.00	15.00
ER25 SEAL 15-16	ER25	15.00	16.00
ER32 SEAL 3- 4	ER32	3.00	4.00
ER32 SEAL 4- 5	ER32	4.00	5.00
ER32 SEAL 5- 6	ER32	5.00	6.00
ER32 SEAL 6- 7	ER32	6.00	7.00
ER32 SEAL 7- 8	ER32	7.00	8.00

Designation	SS	$d_{2\ min}$	$d_{2\ max}$
ER32 SEAL 8- 9	ER32	8.00	9.00
ER32 SEAL 9-10	ER32	9.00	10.00
ER32 SEAL 10-11	ER32	10.00	11.00
ER32 SEAL 11-12	ER32	11.00	12.00
ER32 SEAL 12-13	ER32	12.00	13.00
ER32 SEAL 13-14	ER32	13.00	14.00
ER32 SEAL 14-15	ER32	14.00	15.00
ER32 SEAL 15-16	ER32	15.00	16.00
ER32 SEAL 16-17	ER32	16.00	17.00
ER32 SEAL 17-18	ER32	17.00	18.00
ER32 SEAL 18-19	ER32	18.00	19.00
ER32 SEAL 19-20	ER32	19.00	20.00
ER40 SEAL 3- 4	ER40	3.00	4.00
ER40 SEAL 4- 5	ER40	4.00	5.00
ER40 SEAL 5- 6	ER40	5.00	6.00
ER40 SEAL 6- 7	ER40	6.00	7.00
ER40 SEAL 7- 8	ER40	7.00	8.00
ER40 SEAL 8- 9	ER40	8.00	9.00
ER40 SEAL 9-10	ER40	9.00	10.00
ER40 SEAL 10-11	ER40	10.00	11.00
ER40 SEAL 11-12	ER40	11.00	12.00
ER40 SEAL 12-13	ER40	12.00	13.00
ER40 SEAL 13-14	ER40	13.00	14.00
ER40 SEAL 14-15	ER40	14.00	15.00
ER40 SEAL 15-16	ER40	15.00	16.00
ER40 SEAL 16-17	ER40	16.00	17.00
ER40 SEAL 17-18	ER40	17.00	18.00
ER40 SEAL 18-19	ER40	18.00	19.00
ER40 SEAL 19-20	ER40	19.00	20.00
ER40 SEAL 20-21	ER40	20.00	21.00
ER40 SEAL 21-22	ER40	21.00	22.00
ER40 SEAL 22-23	ER40	22.00	23.00
ER40 SEAL 23-24	ER40	23.00	24.00
ER40 SEAL 24-25	ER40	24.00	25.00
ER40 SEAL 25-26	ER40	25.00	26.00

• The HARD TOUCH coating increases wear resistance, improves corrosion protection, prolongs the surface finish quality and maintains longer runout accuracy.

Sealed Collet JET

For straight shank cutting tools with
internal coolant oil hole.

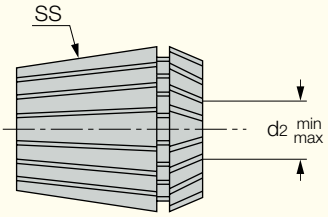


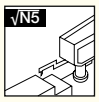
B161, B162

ER Collet

ER-SEAL-JET2

DIN 6499 ER COOLIT, Sealed Collets with Cooling Jets and HARD TOUCH coating, for up to 100 Bars

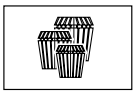




Designation	SS	$d_{2\ min}$	$d_{2\ max}$
ER16 SEAL 3- 4 JET2	ER16	3.00	4.00
ER16 SEAL 4- 5 JET2	ER16	4.00	5.00
ER16 SEAL 5- 6 JET2	ER16	5.00	6.00
ER16 SEAL 6- 7 JET2	ER16	6.00	7.00
ER16 SEAL 7- 8 JET2	ER16	7.00	8.00
ER16 SEAL 8- 9 JET2	ER16	8.00	9.00
ER16 SEAL 9-10 JET2	ER16	9.00	10.00
ER20 SEAL 3-4 JET2	ER20	3.00	4.00
ER20 SEAL 4-5 JET2	ER20	4.00	5.00
ER20 SEAL 5-6 JET2	ER20	5.00	6.00
ER20 SEAL 6-7 JET2	ER20	6.00	7.00
ER20 SEAL 7-8 JET2	ER20	7.00	8.00
ER20 SEAL 8-9 JET2	ER20	8.00	9.00
ER20 SEAL 9-10 JET2	ER20	9.00	10.00
ER20 SEAL 10-11 JET2	ER20	10.00	11.00
ER20 SEAL 11-12 JET2	ER20	11.00	12.00
ER20 SEAL 12-13 JET2	ER20	12.00	13.00
ER25 SEAL 3-4 JET2	ER25	3.00	4.00
ER25 SEAL 4-5 JET2	ER25	4.00	5.00
ER25 SEAL 5-6 JET2	ER25	5.00	6.00
ER25 SEAL 6-7 JET2	ER25	6.00	7.00
ER25 SEAL 7-8 JET2	ER25	7.00	8.00
ER25 SEAL 8-9 JET2	ER25	8.00	9.00
ER25 SEAL 9-10 JET2	ER25	9.00	10.00
ER25 SEAL 10-11 JET2	ER25	10.00	11.00
ER25 SEAL 11-12 JET2	ER25	11.00	12.00
ER25 SEAL 12-13 JET2	ER25	12.00	13.00
ER25 SEAL 13-14 JET2	ER25	13.00	14.00
ER25 SEAL 14-15 JET2	ER25	14.00	15.00
ER25 SEAL 15-16 JET2	ER25	15.00	16.00
ER32 SEAL 3- 4 JET2	ER32	3.00	4.00
ER32 SEAL 4- 5 JET2	ER32	4.00	5.00
ER32 SEAL 5- 6 JET2	ER32	5.00	6.00
ER32 SEAL 6- 7 JET2	ER32	6.00	7.00
ER32 SEAL 7- 8 JET2	ER32	7.00	8.00

Designation	SS	$d_{2\ min}$	$d_{2\ max}$
ER32 SEAL 8- 9 JET2	ER32	8.00	9.00
ER32 SEAL 9-10 JET2	ER32	9.00	10.00
ER32 SEAL 10-11 JET2	ER32	10.00	11.00
ER32 SEAL 11-12 JET2	ER32	11.00	12.00
ER32 SEAL 12-13 JET2	ER32	12.00	13.00
ER32 SEAL 13-14 JET2	ER32	13.00	14.00
ER32 SEAL 14-15 JET2	ER32	14.00	15.00
ER32 SEAL 15-16 JET2	ER32	15.00	16.00
ER32 SEAL 16-17 JET2	ER32	16.00	17.00
ER32 SEAL 17-18 JET2	ER32	17.00	18.00
ER32 SEAL 18-19 JET2	ER32	18.00	19.00
ER32 SEAL 19-20 JET2	ER32	19.00	20.00
ER40 SEAL 3- 4 JET2	ER40	3.00	4.00
ER40 SEAL 4- 5 JET2	ER40	4.00	5.00
ER40 SEAL 5- 6 JET2	ER40	5.00	6.00
ER40 SEAL 6- 7 JET2	ER40	6.00	7.00
ER40 SEAL 7- 8 JET2	ER40	7.00	8.00
ER40 SEAL 8- 9 JET2	ER40	8.00	9.00
ER40 SEAL 9-10 JET2	ER40	9.00	10.00
ER40 SEAL 10-11 JET2	ER40	10.00	11.00
ER40 SEAL 11-12 JET2	ER40	11.00	12.00
ER40 SEAL 12-13 JET2	ER40	12.00	13.00
ER40 SEAL 13-14 JET2	ER40	13.00	14.00
ER40 SEAL 14-15 JET2	ER40	14.00	15.00
ER40 SEAL 15-16 JET2	ER40	15.00	16.00
ER40 SEAL 16-17 JET2	ER40	16.00	17.00
ER40 SEAL 17-18 JET2	ER40	17.00	18.00
ER40 SEAL 18-19 JET2	ER40	18.00	19.00
ER40 SEAL 19-20 JET2	ER40	19.00	20.00
ER40 SEAL 20-21 JET2	ER40	20.00	21.00
ER40 SEAL 21-22 JET2	ER40	21.00	22.00
ER40 SEAL 22-23 JET2	ER40	22.00	23.00
ER40 SEAL 23-24 JET2	ER40	23.00	24.00
ER40 SEAL 24-25 JET2	ER40	24.00	25.00
ER40 SEAL 25-26 JET2	ER40	25.00	26.00

• The HARD TOUCH coating increases wear resistance, improve corrosion protection, prolongs the surface finish quality and maintains longer runout accuracy.

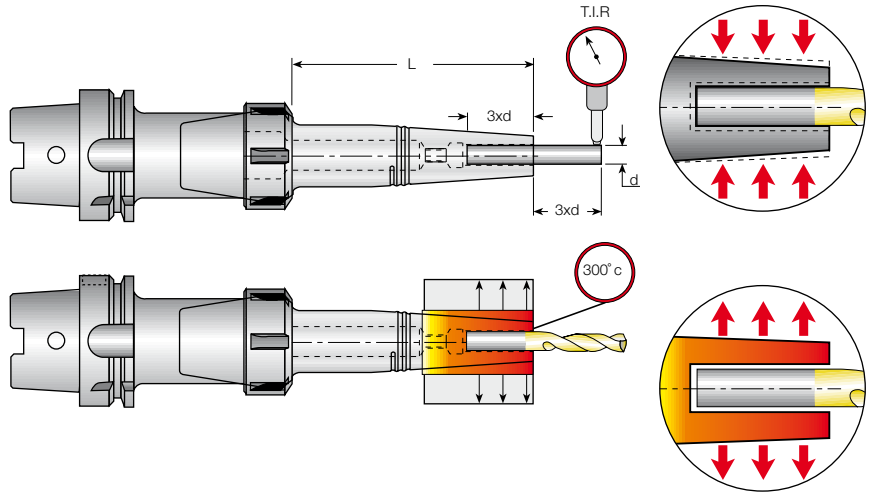


B162, B163

Thermal Shrink Chucking Systems

SHRINKIN thermal shrinking collets are an enhancement to the existing popular collet system. The SHRINKIN collets utilize the thermal expansion and shrink phenomenon for rigid clamping of steel, HSS and solid carbide tools. SHRINKIN collets provide high torque, precision runout and excellent repeatability. The SHRINKIN collets with their slim design and various projection lengths allow the user to reach deep cavities and perform narrow milling applications.

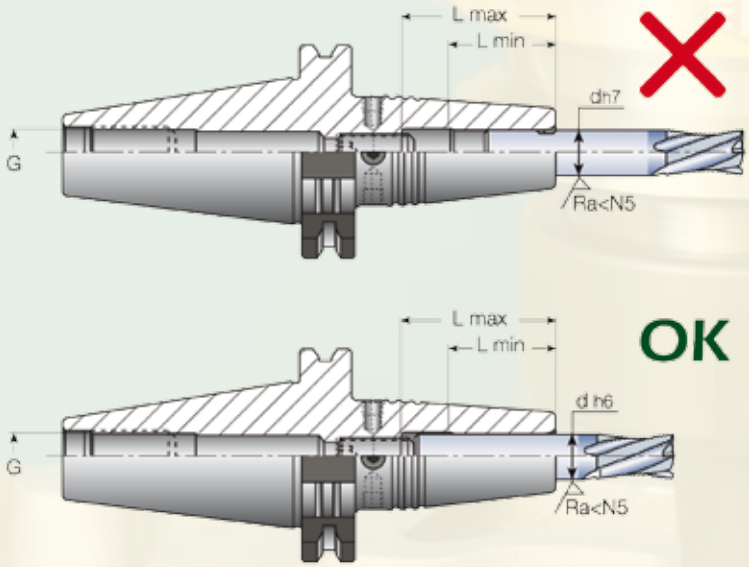
ISCAR offers a complete system for the SHRINKIN collets with integral ER or other standard, integral tapered shanks.
The conventional, thermal shrink chucking unit can be used only for solid carbide tools, clamped into SRK ER collets. The induction thermal unit can be used for steel, HSS and solid carbide tools. It can be used for both SRK and SRKIN collets with ER or other integral tapered shanks.



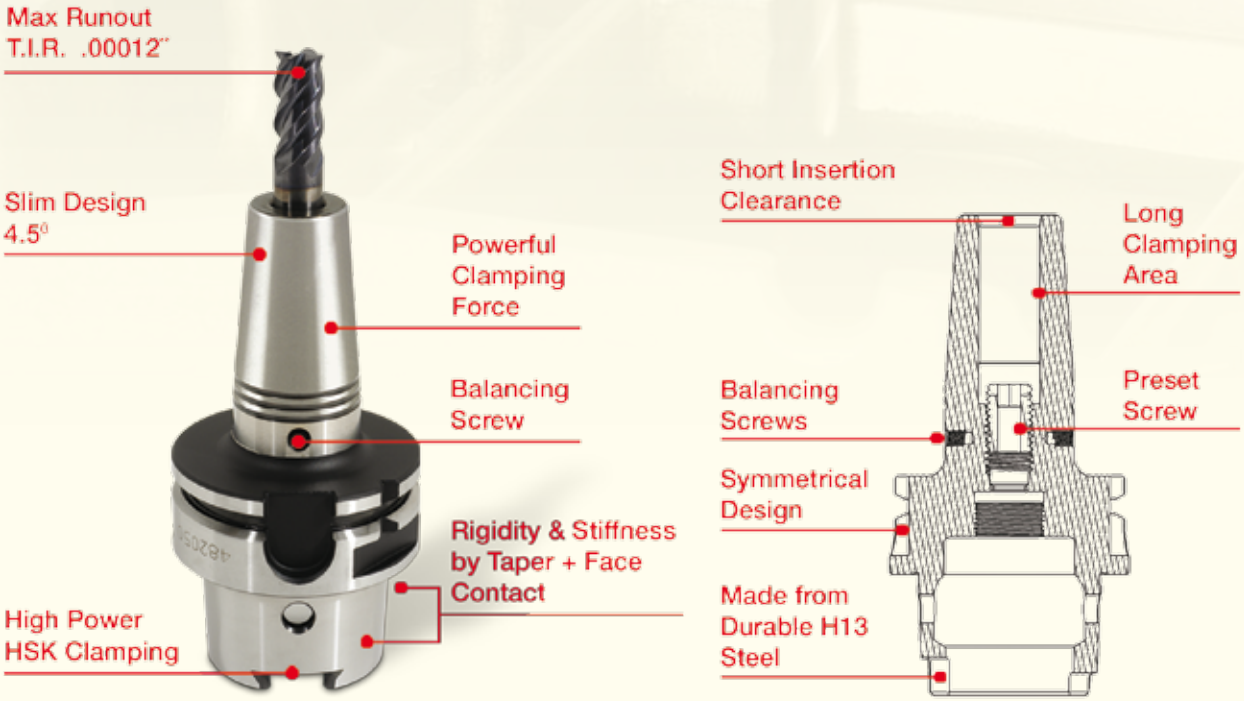
Features

- Slim design with various projections
- Flexible - fits into standard ER chucks
- High torque transfer
- Rigid clamping of carbide tools
- Low runout
- Perfect repeatability
- Vibration damping
- Internal coolant
- Coolant Jet2 available
- Symmetrical design for high speed machining
- Quick and easy tool changing
- Unique SHRINKIN thermal heating and induction units

L (mm)	Max T.I.R.
35	7µm
60	9µm
85	10µm



1. Do not use Weldon type shanks.
2. Insert shank at least Lmin into the chuck.
3. In order to maintain a firm grip, shank's surface finish should have a roughness of at least N5.



Thermal Shrink ER... SRK Chucking System

Standard ER Collet Chuck
☐...HSK 40, 50, 63, 100

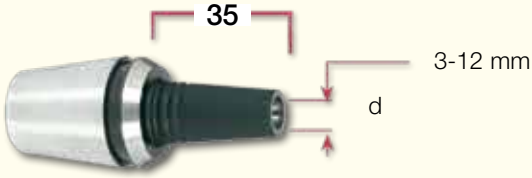
☐...BT 30, 40, 50

☐DIN 69871 30, 40, 50

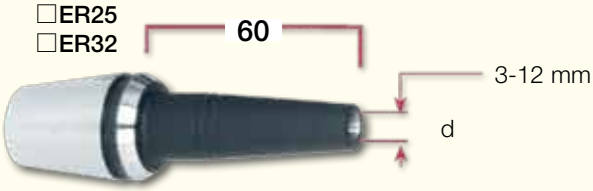
☐DIN 2080 30, 40, 50

SHORTIN
☐DIN69871 40, 50
☐BT 40, 50
☐HSK 63, 100

SHRINKIN ER SRK Collet
Compatible with Standard
ER Collets DIN 6499



☐ER20
☐ER25
☐ER32

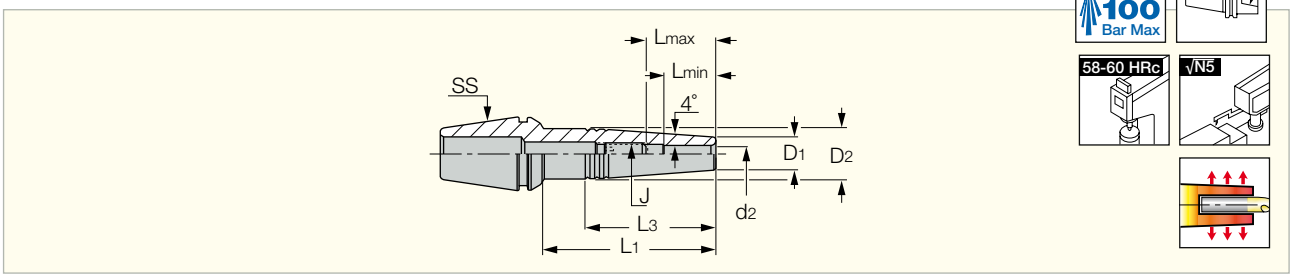


☐HSK E-SRK
32-40-50-63

BT40-SRK
DIN69871-40 SRK

ER-SRK (SHRINKIN)

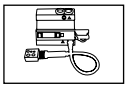
Thermal Shrink Chuck with an Integral ER Collet

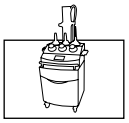


Designation	SS	d_2	L_1	L_3	L_{min}	L_{max}	D_2	D_1	J	Key(1)	Kg
ER20 SRK 3X35	ER20	3.00	35.0	24.50	10.0	16.0	13.50	10.0	M6	3.00	0.07
ER20 SRK 3X60	ER20	3.00	60.0	24.50	10.0	16.0	13.50	10.0	M6	3.00	0.09
ER20 SRK 4X35	ER20	4.00	35.0	24.50	12.0	18.0	13.50	10.0	M6	3.00	0.07
ER20 SRK 4X60	ER20	4.00	60.0	24.50	12.0	18.0	13.50	10.0	M6	3.00	0.10
ER20 SRK 5X35	ER20	5.00	35.0	24.50	15.0	21.0	13.50	10.0	M6	3.00	0.07
ER20 SRK 5X60	ER20	5.00	60.0	24.50	15.0	21.0	13.50	10.0	M6	3.00	0.10
ER20 SRK 6X35	ER20	6.00	35.0	25.50	18.0	24.0	14.70	11.0	M8	4.00	0.07
ER20 SRK 6X60	ER20	6.00	60.0	29.50	18.0	24.0	15.20	11.0	M8	4.00	0.09
ER25 SRK 3X35	ER25	3.00	35.0	24.50	10.0	16.0	13.50	10.0	M6	3.00	0.10
ER25 SRK 3X60	ER25	3.00	60.0	44.50	10.0	16.0	16.30	10.0	M6	3.00	0.13
ER25 SRK 4X35	ER25	4.00	35.0	24.50	12.0	18.0	13.50	10.0	M6	3.00	0.10
ER25 SRK 4X60	ER25	4.00	60.0	44.50	12.0	18.0	16.30	10.0	M6	3.00	0.15
ER25 SRK 5X35	ER25	5.00	35.0	24.50	15.0	21.0	13.50	10.0	M6	3.00	0.10
ER25 SRK 5X60	ER25	5.00	60.0	44.50	15.0	21.0	16.30	10.0	M6	3.00	0.14
ER25 SRK 6X35	ER25	6.00	35.0	26.00	18.0	24.0	14.70	11.0	M8	4.00	0.10
ER25 SRK 6X60	ER25	6.00	60.0	44.50	18.0	24.0	17.30	11.0	M8	4.00	0.14
ER25 SRK 8X35	ER25	8.00	35.0	26.50	25.0	30.0	17.80	14.0	M10	5.00	0.12
ER25 SRK 8X60	ER25	8.00	60.0	39.50	25.0	31.0	19.70	14.0	M10	5.00	0.15
ER32 SRK 3X35	ER32	3.00	35.0	22.50	10.0	16.0	13.20	10.0	M6	3.00	0.16
ER32 SRK 3X60	ER32	3.00	60.0	44.50	10.0	16.0	16.30	10.0	M6	3.00	0.20
ER32 SRK 3X85	ER32	3.00	85.0	70.00	10.0	16.0	19.80	10.0	M6	3.00	0.25
ER32 SRK 4X35	ER32	4.00	35.0	23.50	12.0	18.0	13.40	10.0	M6	3.00	0.17
ER32 SRK 4X60	ER32	4.00	60.0	44.50	12.0	18.0	16.30	10.0	M6	3.00	0.19
ER32 SRK 4X85	ER32	4.00	85.0	70.00	12.0	18.0	19.80	10.0	M6	3.00	0.24
ER32 SRK 5X35	ER32	5.00	35.0	24.50	15.0	21.0	13.50	10.0	M6	3.00	0.16
ER32 SRK 5X60	ER32	5.00	60.0	44.50	15.0	21.0	16.30	10.0	M6	3.00	0.20
ER32 SRK 5X85	ER32	5.00	85.0	70.00	15.0	21.0	19.80	10.0	M6	3.00	0.24
ER32 SRK 6X35	ER32	6.00	35.0	25.50	18.0	24.0	14.70	11.0	M8	4.00	0.16
ER32 SRK 6X60	ER32	6.00	60.0	45.00	18.0	24.0	17.30	11.0	M8	4.00	0.19
ER32 SRK 6X85	ER32	6.00	85.0	69.50	18.0	26.0	20.80	11.0	M8	4.00	0.26
ER32 SRK 8X35	ER32	8.00	35.0	33.00	25.0	31.0	18.80	14.0	M10	5.00	0.18
ER32 SRK 8X60	ER32	8.00	60.0	45.00	25.0	31.0	20.40	14.0	M10	5.00	0.21
ER32 SRK 8X85	ER32	8.00	85.0	65.00	25.0	31.0	23.20	14.0	M10	5.00	0.28
ER32 SRK 10X35	ER32	10.00	35.0	34.00	30.0	35.0	20.80	16.0	M12	6.00	0.18
ER32 SRK 10X60	ER32	10.00	60.0	44.50	30.0	36.0	22.40	16.0	M12	6.00	0.24
ER32 SRK 10X85	ER32	10.00	85.0	49.50	30.0	36.0	23.00	16.0	M12	6.00	0.29
ER32 SRK 12X35	ER32	12.00	35.0	28.00	32.0	-	24.00	20.0	-	-	0.21
ER32 SRK 12X60	ER32	12.00	60.0	28.00	32.0	38.0	24.00	20.0	M14	6.00	0.27
ER32 SRK 12X85	ER32	12.00	85.0	28.00	32.0	38.0	24.00	20.0	M14	6.00	0.33

• For carbide tools only.

(1) Hex key size for the rear stopper screw

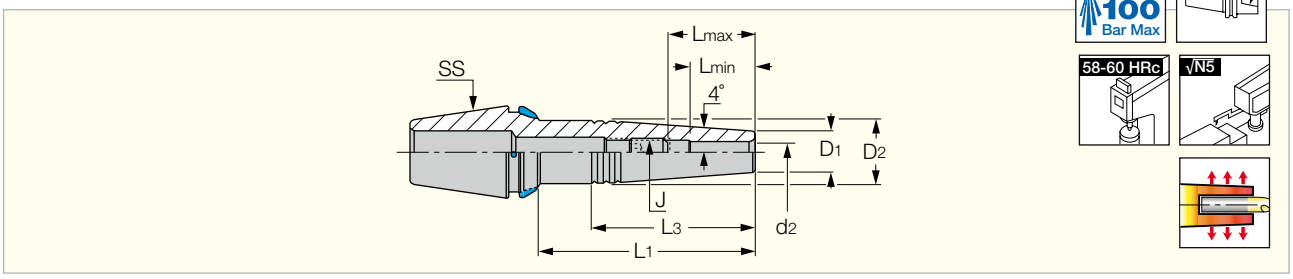

B156-157


B154-155


B149-151

ER-SRK-JET2 (SHRINKIN)

Thermal Shrink Chuck with Two Internal Cooling Jets and an Integral ER Collet



Designation	SS	d_2	L_1	L_3	L_{min}	L_{max}	D_2	D_1	J	Key(1)	Kg
ER20 SRK 3X35 JET2	ER20	3.00	35.0	24.50	10.0	16.0	13.50	10.0	M6	3.00	0.07
ER20 SRK 4X35 JET2	ER20	4.00	35.0	24.50	12.0	18.0	13.50	10.0	M6	3.00	0.09
ER20 SRK 5X35 JET2	ER20	5.00	35.0	24.50	15.0	21.0	13.50	10.0	M6	3.00	17.18
ER20 SRK 6X35 JET2	ER20	6.00	35.0	25.50	18.0	24.0	13.50	11.0	M8	4.00	0.07
ER20 SRK 6X60 JET2	ER20	6.00	60.0	29.50	18.0	24.0	13.50	11.0	M8	4.00	17.18
ER25 SRK 3X35 JET2	ER25	3.00	35.0	24.50	10.0	16.0	13.50	10.0	M6	3.00	0.10
ER25 SRK 3X60 JET2	ER25	3.00	60.0	44.50	10.0	16.0	16.30	10.0	M6	3.00	0.14
ER25 SRK 4X35 JET2	ER25	4.00	35.0	24.50	12.0	18.0	13.50	10.0	M6	3.00	0.10
ER25 SRK 4X60 JET2	ER25	4.00	60.0	44.50	12.0	18.0	16.30	10.0	M6	3.00	0.14
ER25 SRK 5X35 JET2	ER25	5.00	35.0	24.50	15.0	21.0	13.50	10.0	M6	3.00	0.10
ER25 SRK 5X60 JET2	ER25	5.00	60.0	44.50	15.0	21.0	16.30	10.0	M6	3.00	0.14
ER25 SRK 6X35 JET2	ER25	6.00	35.0	26.00	18.0	24.0	14.70	11.0	M8	4.00	0.11
ER25 SRK 6X60 JET2	ER25	6.00	60.0	44.50	18.0	24.0	17.30	11.0	M8	4.00	0.14
ER25 SRK 8X35 JET2	ER25	8.00	35.0	26.50	25.0	30.0	17.80	14.0	M10	5.00	0.12
ER25 SRK 8X60 JET2	ER25	8.00	60.0	39.50	25.0	31.0	17.90	14.0	M10	5.00	0.16
ER32 SRK 3X35 JET2	ER32	3.00	35.0	22.50	10.0	16.0	13.20	10.0	M6	3.00	0.16
ER32 SRK 3X60 JET2	ER32	3.00	60.0	44.50	10.0	16.0	16.30	10.0	M6	3.00	0.19
ER32 SRK 3X85 JET2	ER32	3.00	85.0	70.00	10.0	16.0	19.80	10.0	M6	3.00	0.25
ER32 SRK 4X35 JET2	ER32	4.00	35.0	23.50	12.0	18.0	13.40	10.0	M6	3.00	0.16
ER32 SRK 4X60 JET2	ER32	4.00	60.0	44.50	12.0	18.0	16.30	10.0	M6	3.00	0.20
ER32 SRK 4X85 JET2	ER32	4.00	85.0	70.00	12.0	18.0	19.80	10.0	M6	3.00	0.20
ER32 SRK 5X35 JET2	ER32	5.00	35.0	24.50	15.0	21.0	13.50	10.0	M6	3.00	0.15
ER32 SRK 5X60 JET2	ER32	5.00	60.0	44.50	15.0	21.0	16.30	10.0	M6	3.00	0.19
ER32 SRK 5X85 JET2	ER32	5.00	85.0	70.00	15.0	21.0	19.80	10.0	M6	3.00	0.25
ER32 SRK 6X35 JET2	ER32	6.00	35.0	25.50	18.0	24.0	14.70	11.0	M8	4.00	0.15
ER32 SRK 6X60 JET2	ER32	6.00	60.0	45.00	18.0	24.0	17.30	11.0	M8	4.00	0.19
ER32 SRK 6X85 JET2	ER32	6.00	85.0	69.50	18.0	26.0	20.80	11.0	M8	4.00	0.25
ER32 SRK 8X35 JET2	ER32	8.00	35.0	33.00	25.0	31.0	18.80	14.0	M10	5.00	0.17
ER32 SRK 8X60 JET2	ER32	8.00	60.0	45.00	25.0	31.0	20.40	14.0	M10	5.00	0.22
ER32 SRK 8X85 JET2	ER32	8.00	85.0	65.00	25.0	31.0	23.20	14.0	M10	5.00	0.29
ER32 SRK 10X35 JET2	ER32	10.00	35.0	34.00	30.0	35.0	20.80	16.0	M12	6.00	0.18
ER32 SRK 10X60 JET2	ER32	10.00	60.0	44.50	30.0	36.0	22.40	16.0	M12	6.00	0.24
ER32 SRK 10X85 JET2	ER32	10.00	85.0	49.50	30.0	36.0	23.00	16.0	M12	6.00	0.30
ER32 SRK 12X35 JET2	ER32	12.00	35.0	28.00	32.0	-	24.00	20.0	-	-	0.21
ER32 SRK 12X60 JET2	ER32	12.00	60.0	28.00	32.0	38.0	24.00	20.0	M14	6.00	0.32
ER32 SRK 12X85 JET2	ER32	12.00	85.0	28.00	32.0	38.0	24.00	20.0	M14	6.00	0.32

• For carbide tools only.

(1) Hex key size for the rear stopper screw

B156-157 B154-155 B149-151

Induction Heating Unit

- Easy and efficient to operate
- Quick tool change (5 sec.)
- Short cooling time (30-90 sec)
- Solid carbide range 3-32 mm
- H.S.S. cutter range 6-32 mm

Suitable for:

- Integral SRKIN tooling
- Integral heavy duty tooling
- Extensions
- ER..SRK... unique collets

Technical Specifications		
Clamping range	3-32 mm	Carbide tool shank
Clamping range	6-32 mm	HSS & steel shank
Main power supply	3 x 380-500V 50/60Hz	
Nominal power	13 kW	
Nominal current	16 AMP	
Cooling unit power supply	220V 50Hz	
Nominal power	0.5 kW	
Max. tool length	440 mm (from gauge line)	
Max. dia. clamping chuck	52 mm	
Effective induction field length	45 mm	
Expansion time	Approx. 5-12 seconds	
Cooling time	Approx. 30-90 seconds	
Weight	150 kg	
Overall dimensions	170 x 73 x 60 cm	

⚠ Can be used for carbide and HSS tools.

Induction Heating Unit

Designation
IND SHRINKIN UNIT EUR

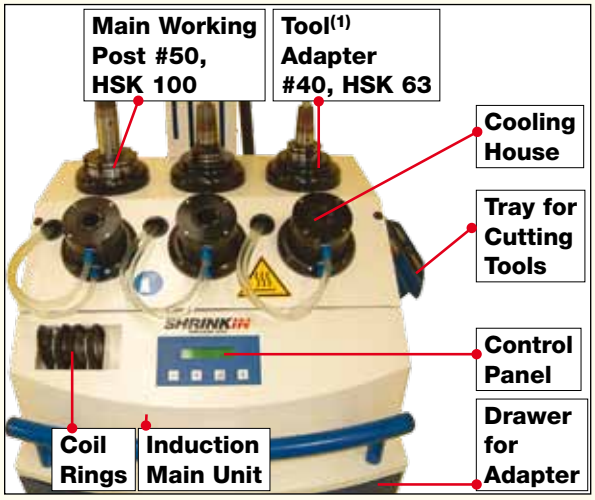
Includes:
Induction unit
Cooling unit
Trolley
3 Tool Adapter[1]

Cooling Sleeves	Used for
IND COOLING COLLET 6-8 IND COOLING COLLET 10-12 IND COOLING COLLET 14-16 IND COOLING COLLET 18-20	SRKIN
IND COOLING COLLET ER 3-5 IND COOLING COLLET ER 6 IND COOLING COLLET ER 8 IND COOLING COLLET ER 10 IND COOLING COLLET ER 12	SRK
IND S DISC 3-5 13kW IND S DISC 6-12 13kW IND S DISC 14-16 13kW IND S DISC 18-20 13kW IND S DISC 25-32 13kW	

Optional Tool Adapter for HSK
IND 32 TOOL ADAPTER IND 40 TOOL ADAPTER IND 50 TOOL ADAPTER[2] IND 63 TOOL ADAPTER[1] IND 80 TOOL ADAPTER

[1] For taper #40

[2] For taper #30



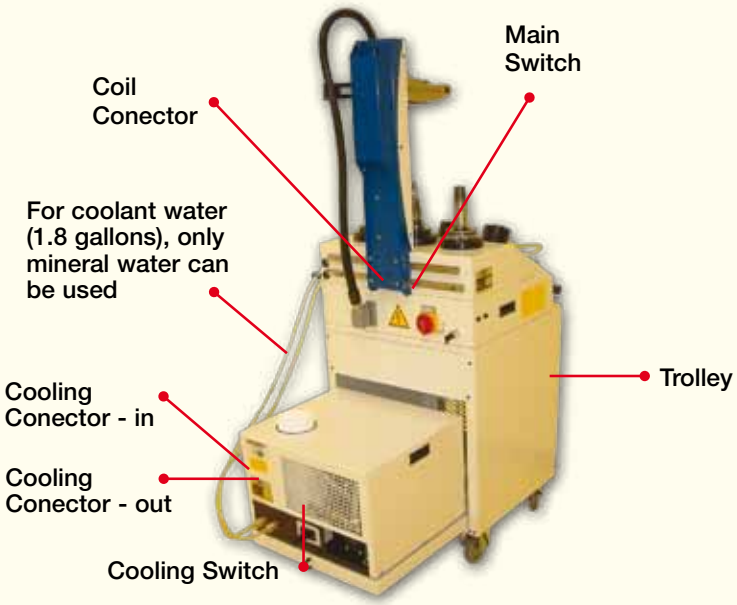
INDUCTION Starter Unit

The induction starter unit is an economical starter version of the SHRINKIN induction unit. It was designed to help the enduser to purchase the modern shrink chucking technology in a low cost device. The starter unit is actually a simplified and limited version of the complete inductive system that we offer today.

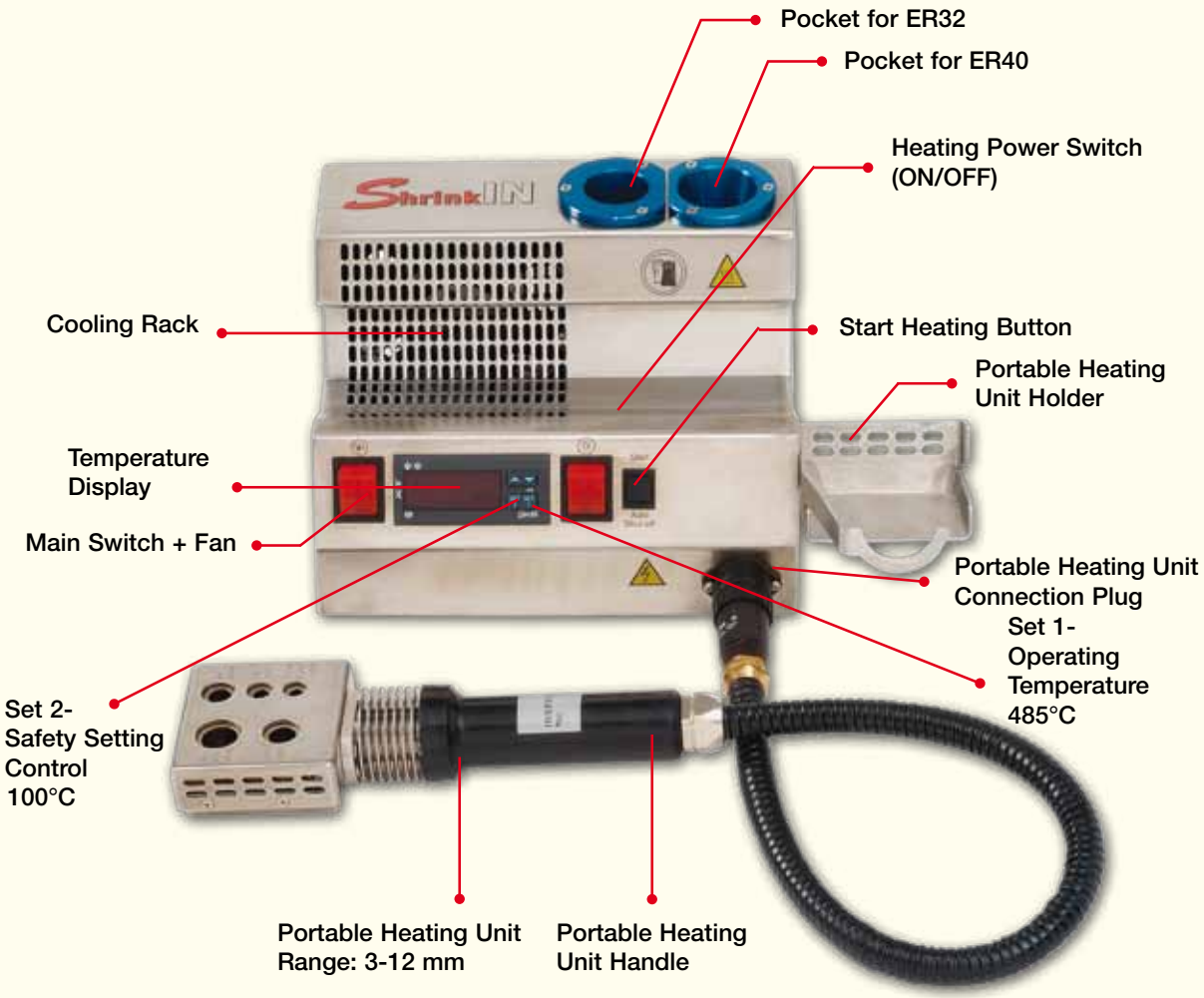
Designation:

4505585 IND SHRINK START UNIT EUR

⚠ Can be used for carbide and HSS tools.



Thermal Heating Unit
V2 Version



SHRINKIN Thermal Electric Unit

Designation
SHRINKIN UNIT V2 EUR

220V 50/60 HZ

Portable Heating Unit Handle

Designation	
HEATING HANDLE 220V	V2

Important Note: To be used for carbide tools only (use only SRK/SRF collet chucks)

Thermal Shrink Chucks with ER32 Shanks

ER32 SHRINKIN Set 6 Collets (4-12)

Designation	Collet Sizes
SET ER32 SRK S 6 EUR	4, 5, 6, 8, 10, 12
SET ER32 SRK M 6 EUR	4, 5, 6, 8, 10, 12
SET ER32 SRK L 6 EUR	4, 5, 6, 8, 10, 12

SHRINKIN Thermal Electric Unit Kit with ER32 SHRINKIN 6 Piece Collet Set (4-12)

Designation	Power Supply	Collet Sizes
KIT SHRINKIN S EUR	220V 50/60 HZ	4, 5, 6, 8, 10, 12
KIT SHRINKIN M EUR	220V 50/60 HZ	4, 5, 6, 8, 10, 12
KIT SHRINKIN L EUR	220V 50/60 HZ	4, 5, 6, 8, 10, 12

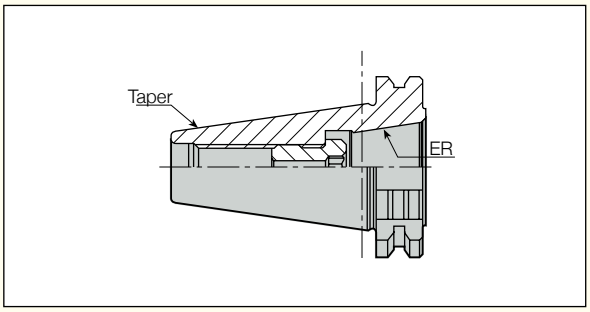
Quick-Change System

The concept utilizes contacts on both the taper and the tool face for maximum rigidity. This system may be used to connect a SHRINKIN toolholder with a mounted tool to a large taper shank holder for mounting in the machine.

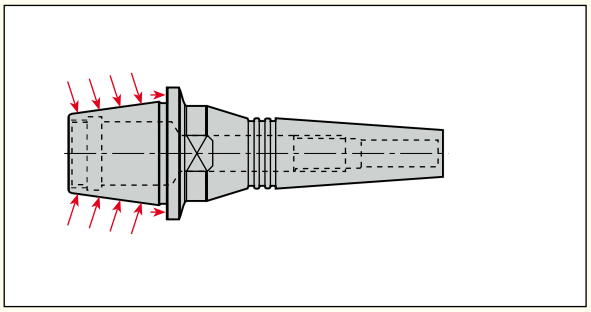
G2.5
20,000 RPM

Face Contact Advantages

1. Taper and face contact
2. Ideal for high speed machining
3. High precision runout
4. High rigidity
5. Quick and easy clamping



See pages B25, B50, B92



See pages B159-160

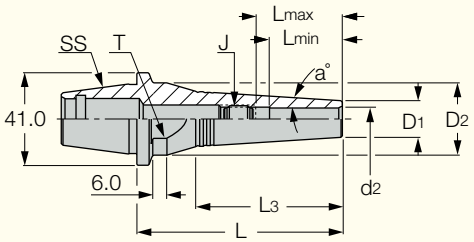
Quick-Change Advantages

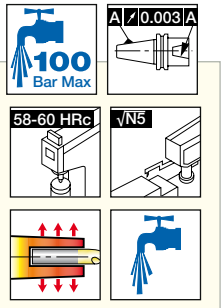
1. Quick cutting tool change. The taper shank and holder connect in a quick half turn
2. No thermal shock on holder taper
3. Flexibility in diameter and length
4. Eliminates the use of extension chuck
5. No spare parts needed
6. CLICKIN blanks for custom made tools and collets
7. Shrink clamping for solid carbide tools

Tightening torque: 235 N.m

ER-SRF

SHRINKIN Thermal Shrink Chuck with a CLICKIN Quick Change Adaptation

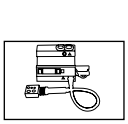


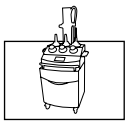


Designation	SS	d_2	L	L_3	L min	L max	D_2	D_1	J	Key(1)	a°	T	Kg
ER32 SRF 3X50	32 SRF	3.00	50.00	31.00	10.0	16.0	32.00	10.0	M6	3.00	4	27.0	0.25
ER32 SRF 3X85	32 SRF	3.00	85.00	60.50	10.0	16.0	32.00	10.0	M6	3.00	4	27.0	0.28
ER32 SRF 4X50	32 SRF	4.00	50.00	31.00	12.0	18.0	32.00	10.0	M6	3.00	4	27.0	0.22
ER32 SRF 4X85	32 SRF	4.00	85.00	60.50	12.0	18.0	32.00	10.0	M6	3.00	4	27.0	0.28
ER32 SRF 5X50	32 SRF	5.00	50.00	31.00	15.0	21.0	32.00	10.0	M6	3.00	4	27.0	0.22
ER32 SRF 5X85	32 SRF	5.00	85.00	60.50	15.0	21.0	32.00	10.0	M6	3.00	4	27.0	0.28
ER32 SRF 6X50	32 SRF	6.00	50.00	31.00	18.0	24.0	32.00	11.0	M8	4.00	4	27.0	0.22
ER32 SRF 6X85	32 SRF	6.00	85.00	60.50	18.0	24.0	32.00	11.0	M8	4.00	4	27.0	0.28
ER32 SRF 8X50	32 SRF	8.00	50.00	33.00	25.0	31.0	32.00	14.0	M10	5.00	4	27.0	0.23
ER32 SRF 8X85	32 SRF	8.00	85.00	60.50	25.0	31.0	32.00	14.0	M10	5.00	4	27.0	0.31
ER32 SRF 10X50	32 SRF	10.00	50.00	35.00	30.0	35.0	32.00	16.0	M12	6.00	4	27.0	0.23
ER32 SRF 10X85	32 SRF	10.00	85.00	60.50	30.0	36.0	32.00	16.0	M12	6.00	4	27.0	0.33
ER32 SRF 12X50	32 SRF	12.00	50.00	35.00	32.0	37.0	32.00	20.0	M14	6.00	4	27.0	0.26
ER32 SRF 12X85	32 SRF	12.00	85.00	50.00	32.0	38.0	32.00	20.0	M14	6.00	4	27.0	0.38

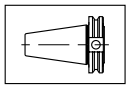
• Tightening torque: 24 Kgxm. • For carbide tools only.

(1) Adjustment screw hexagon key size


B156

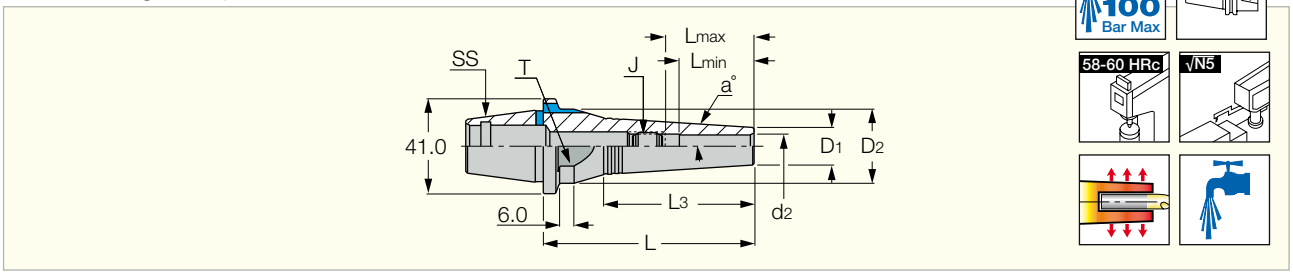

B154


B149-150
B158


B25, B50,
B92

ER-SRF-JET2

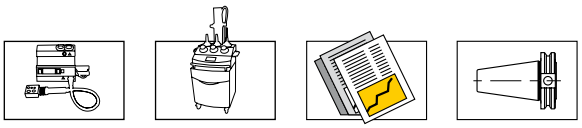
SHRINKIN Thermal Shrink Chuck with Two Internal Cooling Jets with a CLICKIN Quick Change Adaptation



Designation	SS	d_2	L	L_3	L_{min}	L_{max}	D_2	D_1	a°	J	Key(1)	T	Kg
ER32 SRF 3X50 JET2	32 SRF	3.00	50.00	31.00	10.0	16.0	32.00	10.0	4	M6	3.00	27.0	0.22
ER32 SRF 3X85 JET2	32 SRF	3.00	85.00	60.50	10.0	16.0	32.00	10.0	4	M6	3.00	27.0	0.28
ER32 SRF 4X50 JET2	32 SRF	4.00	50.00	31.00	12.0	18.0	32.00	10.0	4	M6	3.00	27.0	0.22
ER32 SRF 4X85 JET2	32 SRF	4.00	85.00	60.50	12.0	18.0	32.00	10.0	4	M6	3.00	27.0	0.28
ER32 SRF 5X50 JET2	32 SRF	5.00	50.00	31.00	15.0	21.0	32.00	10.0	4	M6	3.00	27.0	0.22
ER32 SRF 5X85 JET2	32 SRF	5.00	85.00	60.50	15.0	21.0	32.00	10.0	4	M6	3.00	27.0	0.28
ER32 SRF 6X50 JET2	32 SRF	6.00	50.00	31.00	18.0	24.0	32.00	11.0	4	M8	4.00	27.0	0.22
ER32 SRF 6X85 JET2	32 SRF	6.00	85.00	60.50	18.0	24.0	32.00	11.0	4	M8	4.00	27.0	0.28
ER32 SRF 8X50 JET2	32 SRF	8.00	50.00	33.00	25.0	31.0	32.00	14.0	4	M10	5.00	27.0	0.23
ER32 SRF 8X85 JET2	32 SRF	8.00	85.00	60.50	25.0	31.0	32.00	14.0	4	M10	5.00	27.0	0.31
ER32 SRF 10X50 JET2	32 SRF	10.00	50.00	35.00	30.0	35.0	32.00	16.0	4	M12	6.00	27.0	0.23
ER32 SRF 10X85 JET2	32 SRF	10.00	85.00	60.50	30.0	36.0	32.00	16.0	4	M12	6.00	27.0	0.32
ER32 SRF 12X50 JET2	32 SRF	12.00	50.00	35.00	32.0	37.0	32.00	20.0	4	M14	6.00	27.0	0.26
ER32 SRF 12X85 JET2	32 SRF	12.00	85.00	50.00	32.0	38.0	32.00	20.0	4	M14	6.00	27.0	0.37

• Tightening torque: 24 Kgxm. • For carbide tools only.

(1) Adjustment screw hexagon key size

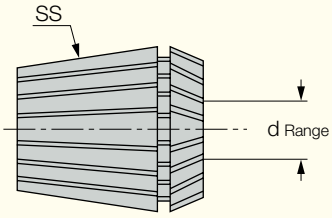


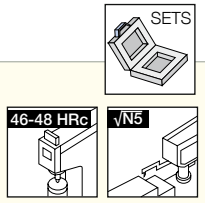
B156 | B154 | B149-150 B158 | B25, B50, B92

ER Collet

SET ER-SPR

Sets of DIN 6499 ER Spring Collets with HARD TOUCH Coating

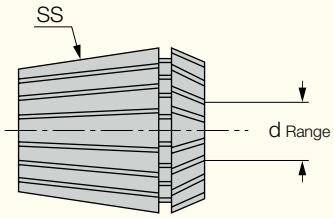


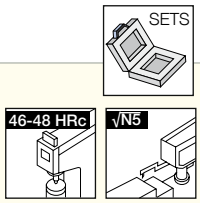


Designation	SS	Qty	d Range
SET ER11 SPR 7	ER11	7	0.5-7
SET ER16 SPR 10	ER16	10	0.5-10
SET ER20 SPR 12	ER20	12	1-13
SET ER25 SPR 15	ER25	15	1-16
SET ER32 SPR 18	ER32	18	2-20
SET ER40 SPR 23	ER40	23	3-26
SET ER50 SPR 12	ER50	12	10-34

SET ER-SPR-AA

Sets of DIN 6499 ER 'AA' Ultra Precise Spring Collets with HARD TOUCH Coating

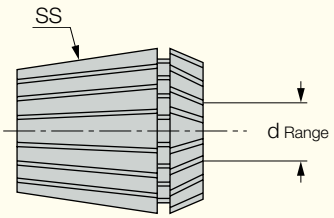


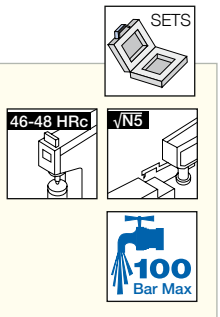


Designation		SS	Qty	d Range
SET ER11 SPR 7	AA	ER11	7	0.5-7
SET ER16 SPR 10	AA	ER16	10	0.5-10
SET ER20 SPR 12	AA	ER20	12	1-13
SET ER25 SPR 15	AA	ER25	15	1-16
SET ER32 SPR 18	AA	ER32	18	2-20
SET ER40 SPR 23	AA	ER40	23	3-26

SET ER-SEAL

Sets of DIN 6499 ER COOLIT Collets with HARD TOUCH Coating, Sealed for 100 Bar



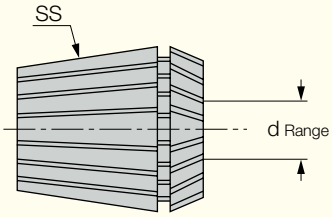


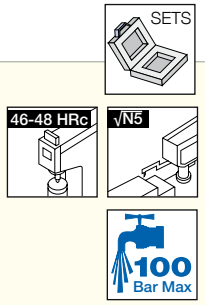
Designation	SS	Qty	d Range
SET ER16 SEAL 7	ER16	7	3-10
SET ER20 SEAL 10	ER20	10	3-13
SET ER25 SEAL 13	ER25	13	3-16
SET ER32 SEAL 17	ER32	17	3-20
SET ER40 SEAL 23	ER40	23	3-26

ER Collet

SET ER-SEAL-JET2

Sets of DIN 6499 ER COOLIT Collets with HARD TOUCH Coating, Sealed for 100 Bar

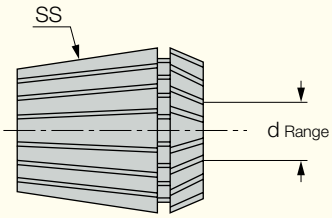


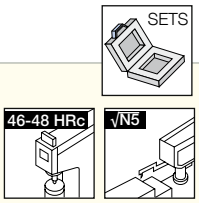


Designation	SS	Qty	d Range
SET ER16 SEAL 7 JET2	ER16	7	3-10
SET ER20 SEAL 10 JET2	ER20	10	3-13
SET ER25 SEAL 13 JET2	ER25	13	3-16
SET ER32 SEAL 17 JET2	ER32	17	3-20
SET ER40 SEAL 23 JET2	ER40	23	3-26

SET ER-SPR-EM

Sets of ER Spring Collets DIN 6499 with HARD TOUCH Coating



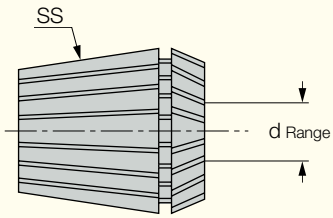


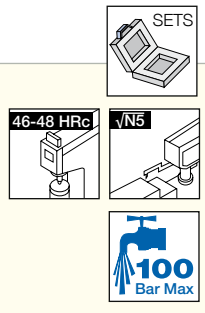
Designation	SS	Qty	d Range
SET ER16 SPR 8 EM	ER16	8	3, 4, 5, 6, 7, 8, 9, 10
SET ER20 SPR 5 EM	ER20	5	4, 6, 8, 10, 12
SET ER25 SPR 6 EM	ER25	6	4, 6, 8, 10, 12, 16
SET ER32 SPR 6 EM	ER32	6	6, 8, 10, 12, 20
SET ER40 SPR 7 EM	ER40	7	6, 8, 10, 12, 16, 20, 25

• Contains popular endmill size only.

SET ER-SEAL-EM

Sets of DIN 6499 ER COOLIT JET Collets with HARD TOUCH Coating, Sealed for 100 Bar





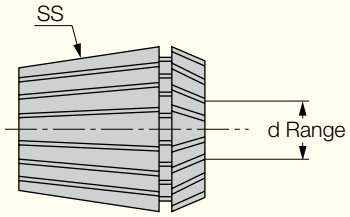
Designation	SS	Qty	d Range
SET ER16 SEAL 5 EM	ER16	5	4, 5, 6, 8, 10
SET ER20 SEAL 5 EM	ER20	5	4, 6, 8, 10, 12
SET ER25 SEAL 6 EM	ER25	6	4, 6, 8, 10, 12, 16
SET ER32 SEAL 6 EM	ER32	6	6, 8, 10, 12, 16, 20
SET ER40 SEAL 7 EM	ER40	7	6, 8, 10, 12, 16, 20, 25

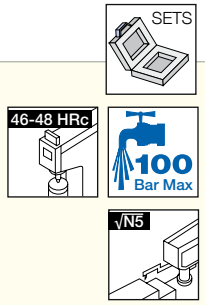
• Contain popular endmill size only. • The HARD TOUCH coating increases wear resistance, improves corrosion protection, prolongs the surface finish quality and maintains longer runout accuracy.

ER Collet

SET ER-SEAL-EM JET2

Sets of ER COOLIT, JET2 Collets, Sealed for up to 100 Bars





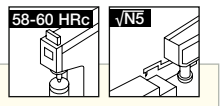
Designation	SS	Qty	d Range
SET ER25 SEAL 6 EM JET2	ER25	6	4, 6, 8, 10, 12, 16
SET ER32 SEAL 6 EM JET2	ER32	6	6, 8, 10, 12, 16, 20
SET ER40 SEAL 7 EM JET2	ER40	7	6, 8, 10, 12, 16, 20, 25

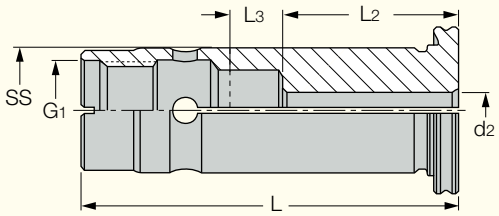
• Contains collets for popular endmill sizes.

MAXIN • Power Chuck

SC-SPR

SC Straight Collets for MAXIN Power Chucks



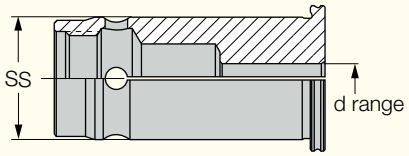


Designation	d_2	SS	L	L_2	L_3[1]	G_1
SC 20 SPR 6	6.00	20.00	60.00	28.00	7.00	M16
SC 20 SPR 8	8.00	20.00	60.00	28.00	7.00	M16
SC 20 SPR 10	10.00	20.00	60.00	35.00	13.00	M16
SC 20 SPR 12	12.00	20.00	60.00	40.00	8.00	M16
SC 20 SPR 14	14.00	20.00	60.00	40.00	8.00	M16
SC 20 SPR 15	15.00	20.00	60.00	40.00	8.00	M16
SC 20 SPR 16	16.00	20.00	60.00	39.00	9.00	M16
SC 32 SPR 6	6.00	32.00	72.00	28.00	17.00	M24X1.5
SC 32 SPR 8	8.00	32.00	72.00	28.00	17.00	M24X1.5
SC 32 SPR 10	10.00	32.00	72.00	35.00	13.00	M24X1.5
SC 32 SPR 12	12.00	32.00	72.00	40.00	5.00	M24X1.5
SC 32 SPR 14	14.00	32.00	72.00	40.00	5.00	M24X1.5
SC 32 SPR 15	15.00	32.00	72.00	40.00	19.50	M24X1.5
SC 32 SPR 16	16.00	32.00	72.00	44.00	17.50	M24X1.5
SC 32 SPR 18	18.00	32.00	72.00	44.00	17.50	M24X1.5
SC 32 SPR 19	19.00	32.00	72.00	44.00	17.50	M24X1.5
SC 32 SPR 20	20.00	32.00	72.00	46.00	15.50	M24X1.5
SC 32 SPR 24	24.00	32.00	72.00	45.00	10.50	M24X1.5
SC 32 SPR 25	25.00	32.00	72.00	51.00	10.50	M24X1.5

[1] Preset range

SET SC-SPR

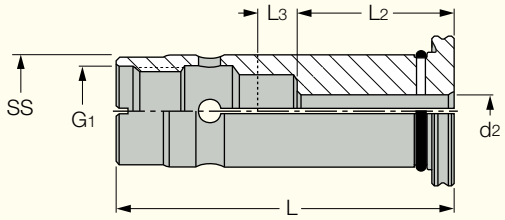
Sets of SC Straight Collets for MAXIN Power Chucks



Designation	SS	Qty	d Range
SET SC20 SPR 6	SC20	6	6, 8, 10, 12, 14, 16
SET SC32 SPR 9	SC32	9	6, 8, 10, 12, 16, 20, 25

SC-SEAL

Sealed Collets for MAXIN Power Chucks

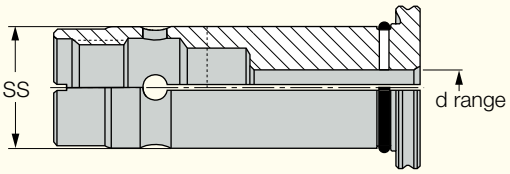


Designation	d_2	SS	L	L_2	L_3	G_1
SC 20 SEAL 6	6.00	20.00	60.00	28.00	7.00	M16
SC 20 SEAL 8	8.00	20.00	60.00	28.00	7.00	M16
SC 20 SEAL 10	10.00	20.00	60.00	35.00	13.00	M16
SC 20 SEAL 12	12.00	20.00	60.00	40.00	8.00	M16
SC 20 SEAL 14	14.00	20.00	60.00	40.00	8.00	M16
SC 20 SEAL 15	15.00	20.00	60.00	40.00	8.00	M16
SC 20 SEAL 16	16.00	20.00	60.00	39.00	9.00	M16
SC 32 SEAL 6	6.00	32.00	72.00	28.00	17.00	M24X1.5
SC 32 SEAL 8	8.00	32.00	72.00	28.00	17.00	M24X1.5
SC 32 SEAL 10	10.00	32.00	72.00	35.00	13.00	M24X1.5
SC 32 SEAL 12	12.00	32.00	72.00	40.00	5.00	M24X1.5
SC 32 SEAL 14	14.00	32.00	72.00	40.00	5.00	M24X1.5
SC 32 SEAL 15	15.00	32.00	72.00	40.00	5.00	M24X1.5
SC 32 SEAL 16	16.00	32.00	72.00	44.00	17.50	M24X1.5
SC 32 SEAL 18	18.00	32.00	72.00	44.00	17.50	M24X1.5
SC 32 SEAL 19	19.00	32.00	72.00	44.00	17.50	M24X1.5
SC 32 SEAL 20	20.00	32.00	72.00	46.00	15.50	M24X1.5
SC 32 SEAL 24	24.00	32.00	72.00	46.00	15.50	M24X1.5
SC 32 SEAL 25	25.00	32.00	72.00	51.00	10.50	M24X1.5

SET SC-SEAL

Sets of SC Straight Collets with Coolant Holes for MAXIN Power Chuck

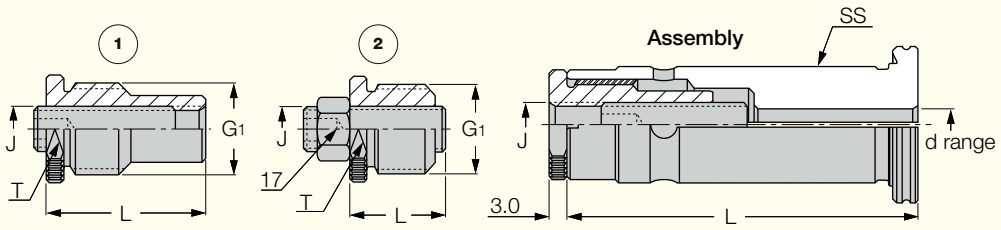
SETS



Designation	SS	Qty	d Range
SET SC20 SEAL 6	SC20	6	6, 8, 10, 12, 14, 16
SET SC32 SEAL 9	SC32	9	6, 8, 10, 12, 16, 20, 25

PRESET SC CAP

Preset Screw Housing for SC-SPR MAXIN Collets

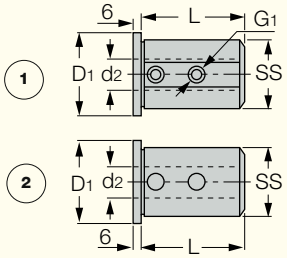


Designation	SS	L	T(1)	J	G1	Fig	d Range	Key
PRESET SC CAP 8X1.25L	SC20	28.00	16.0	M8X25	M16	1	6-8	4.00
PRESET SC CAP 8X1.25	SC20	15.00	16.0	M8X25	M16	2	10-16	4.00
PRESET SC CAP 10X1.5 L	SC32	30.00	27.0	M10X30	M24x1.5	1	6-14	5.00
PRESET SC CAP 10X1.5	SC32	13.50	27.0	M10X30	M24X1.5	2	15-25	5.00

(1) Clamping wrench size

SC-T (sleeves)

Reduction Sleeves for Bars, Used in Holders with Exchangeable Adaptation



Designation	SS	d_2	D_1	L	G_1	Fig
SC 25T6A	25.00	6.00	31.0	56.00	M6	1
SC 25T8A	25.00	8.00	31.0	56.00	M8	1
SC 25T10A	25.00	10.00	31.0	56.00	M8	1
SC 25T12A	25.00	12.00	31.0	56.00	M8	1
SC 25T16B	25.00	16.00	31.0	56.00	-	2
SC 25T20B	25.00	20.00	31.0	56.00	-	2
SC 40T6A	40.00	6.00	46.0	58.00	M6	1
SC 40T8A	40.00	8.00	46.0	58.00	M6	1
SC 40T10A	40.00	10.00	46.0	58.00	M8	1
SC 40T12A	40.00	12.00	46.0	58.00	M8	1
SC 40T16B	40.00	16.00	46.0	58.00	-	2
SC 40T20B	40.00	20.00	46.0	58.00	-	2
SC 40T25B	40.00	25.00	46.0	58.00	-	2
SC 40T32B	40.00	32.00	46.0	58.00	-	2
SC 50T6A	50.00	6.00	56.0	70.00	M6	1
SC 50T8A	50.00	8.00	56.0	70.00	M8	1
SC 50T10A	50.00	10.00	56.0	70.00	M8	1
SC 50T12A	50.00	12.00	56.0	70.00	M8	1
SC 50T16B	50.00	16.00	56.0	80.00	-	2
SC 50T20B	50.00	20.00	56.0	80.00	-	2
SC 50T25B	50.00	25.00	56.0	80.00	-	2
SC 50T32B	50.00	32.00	56.0	80.00	-	2

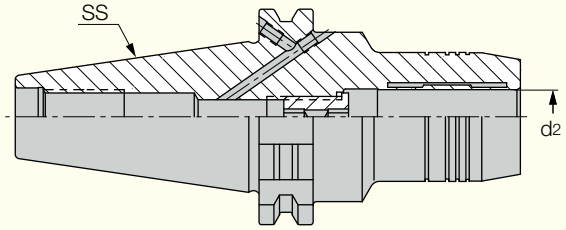
HYDROFIT KITS & ACCESSORIES

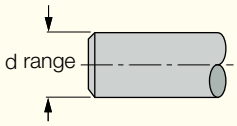
Member IMC Group

DIN69871 • HYDROFIT
HOLDING LINE

KIT DIN69871-HYDRO

Contains a Hydraulic Chuck with a DIN69781 Tapered Shank and a Set of Collets in Various Bore Sizes





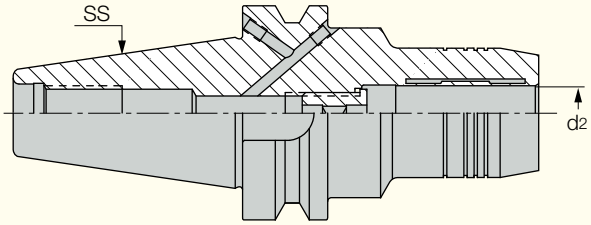
Designation	SS	d_2	d Range	Qty
KIT DIN69871 40HYDRO20X65	40	20.00	8,10,12,14,16	5
KIT DIN6987140HYDRO32X117	40	32.00	6,8,10,12,16,20,25	7

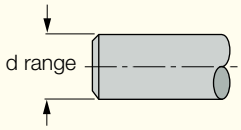
• Each kit contains one HYDROFIT chuck, a set of SC...HYDRO sealed reducers and a clamping wrench.

BT MAS • HYDROFIT
HOLDING LINE

KIT BT-HYDRO

Hydraulic Chuck Kits with MAS-BT Form A/B Shanks





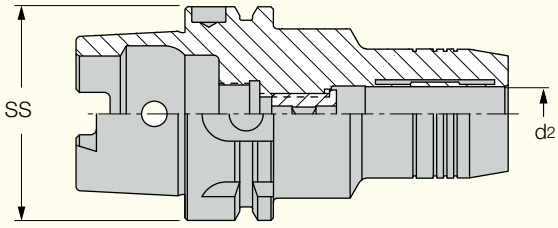
Designation	SS	d_2	d Range	Qty
KIT BT 40 HYDRO 20X 73	40	20.00	8,10,12,14,16	5
KIT BT 40 HYDRO 32X110	40	32.00	6,8,10,12,16,20,25	7

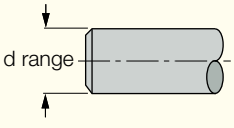
• Each kit contains one HYDROFIT chuck, a set of SC...HYDRO sealed reducers and a clamping wrench.

HSK • HYDROFIT
HOLDING LINE

KIT HSK A-HYDRO

Contains a Hydraulic Chuck with HSK Tapered Shank and a Set of Collets in Various Bore Sizes



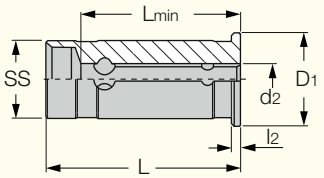


Designation	SS	d_2	d Range	Qty
KIT HSK A 63 HYDRO20X100	63	20.00	8,10,12,14,16	5
KIT HSK A 63 HYDRO32X125	63	32.00	6,8,10,12,16,20,25	7

• Each kit contains one HYDROFIT chuck, a set of SC...HYDRO sealed reducers and a clamping wrench. • A cooling tube must be used with all coolant through HSK spindles (should be ordered separately).

SC-HYDRO

Sealed Reduction Sleeves for Hydraulic Chucks

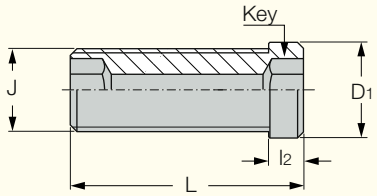


Designation	SS	d_2	L_{min}	L	D_1	l_2
SC 12 S HYDRO 3	12.00	3.00	19.0	46.50	16.0	2.0
SC 12 S HYDRO 4	12.00	4.00	24.0	46.50	16.0	2.0
SC 12 S HYDRO 5	12.00	5.00	28.0	46.50	16.0	2.0
SC 12 S HYDRO 6	12.00	6.00	33.0	46.50	16.0	2.0
SC 12 S HYDRO 8	12.00	8.00	39.0	46.50	16.0	2.0
SC 20 S HYDRO 3	20.00	3.00	20.0	53.00	24.0	2.0
SC 20 S HYDRO 4	20.00	4.00	25.0	53.00	24.0	2.0
SC 20 S HYDRO 5	20.00	5.00	27.0	53.00	24.0	2.0
SC 20 S HYDRO 6	20.00	6.00	34.0	53.00	24.0	2.0
SC 20 S HYDRO 8	20.00	8.00	39.0	53.00	24.0	2.0
SC 20 S HYDRO 10	20.00	10.00	40.0	53.00	24.0	2.0
SC 20 S HYDRO 12	20.00	12.00	41.0	53.00	24.0	2.0
SC 20 S HYDRO 14	20.00	14.00	44.0	53.00	24.0	2.0
SC 20 S HYDRO 16	20.00	16.00	44.0	53.00	24.0	2.0
SC 25 S HYDRO 6	25.00	6.00	37.0	60.00	30.0	4.0
SC 25 S HYDRO 8	25.00	8.00	37.0	60.00	30.0	4.0
SC 25 S HYDRO 10	25.00	10.00	40.0	60.00	30.0	4.0
SC 25 S HYDRO 12	25.00	12.00	44.0	60.00	30.0	4.0
SC 25 S HYDRO 14	25.00	14.00	46.0	60.00	30.0	4.0
SC 25 S HYDRO 16	25.00	16.00	48.0	60.00	30.0	4.0
SC 25 S HYDRO 18	25.00	18.00	50.0	60.00	30.0	4.0
SC 25 S HYDRO 20	25.00	20.00	50.0	60.00	30.0	4.0
SC 32 S HYDRO 6	32.00	6.00	33.0	66.00	40.0	4.0
SC 32 S HYDRO 8	32.00	8.00	38.0	66.00	40.0	4.0
SC 32 S HYDRO 10	32.00	10.00	39.0	66.00	40.0	4.0
SC 32 S HYDRO 12	32.00	12.00	42.0	66.00	40.0	4.0
SC 32 S HYDRO 14	32.00	14.00	44.0	66.00	40.0	4.0
SC 32 S HYDRO 16	32.00	16.00	44.0	66.00	40.0	4.0
SC 32 S HYDRO 18	32.00	18.00	44.0	66.00	40.0	4.0
SC 32 S HYDRO 20	32.00	20.00	49.0	66.00	40.0	4.0
SC 32 S HYDRO 25	32.00	25.00	66.0	66.00	40.0	4.0

• Any cylindrical, but only 6-20 mm Weldon shanks may be clamped in the sleeves.

PRESET SCREW HYDRO

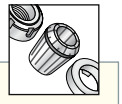
Tool Stopper Preset Screws for the HYDRO Collet Chucks

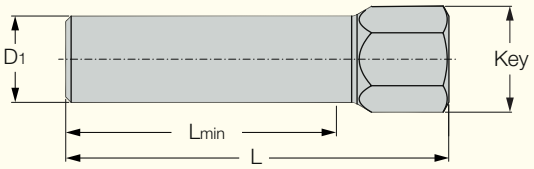


Designation	D_1	J	L	l_2	Key	SS
PRESET SCREW HYDRO M5	5.0	M5	14.00	1.0	2.50	6
PRESET SCREW HYDRO M6	6.0	M6	14.00	1.5	3.00	8
PRESET SCREW HYDRO M8	8.0	M8x1	14.00	2.0	4.00	10
PRESET SCREW HYDRO M10	10.0	M10x1	17.00	2.0	5.00	12, 14
PRESET SCREW HYDRO M12	12.0	M12x1	17.00	2.0	6.00	16, 18, 20
PRESET SCREW HYDRO M16	14.0	M16x1	20.00	2.0	8.00	20, 25, 32

TEST BAR HYDRO

Torque Test Bars for Hydraulic Chucks





Designation	D_1	L	Key	Nxcm	L_{min} (1)
TEST BAR HYDRO 6	6.0	53.00	10.00	15	27.0
TEST BAR HYDRO 8	8.0	53.00	10.00	25	27.0
TEST BAR HYDRO 10	10.0	56.00	10.00	50	32.0
TEST BAR HYDRO 12	12.0	62.00	10.00	110	37.0
TEST BAR HYDRO 14	14.0	62.00	10.00	120	37.0
TEST BAR HYDRO 16	16.0	71.00	17.00	180	37.0
TEST BAR HYDRO 18	18.0	71.00	17.00	230	42.0
TEST BAR HYDRO 20	20.0	71.00	17.00	250	42.0
TEST BAR HYDRO 25	25.0	79.00	17.00	310	48.0
TEST BAR HYDRO 32	32.0	87.00	17.00	450	52.0

(1) Minimum holding length

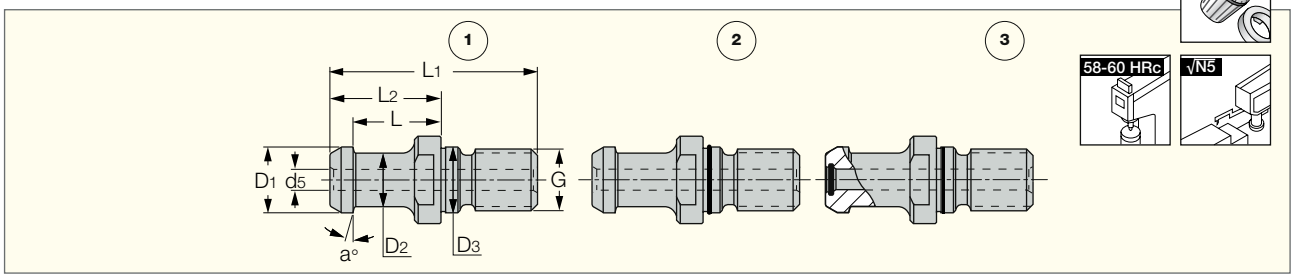
ACCESSORIES

Member IMC Group

Accessories

PS BT-JIS (pull stud)

DIN 69872 Pull Stud with JIS 63398 Retention Knob

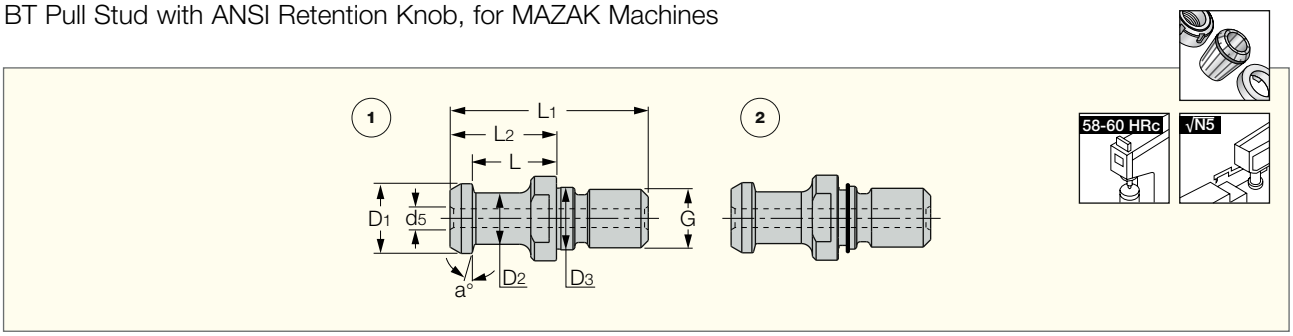


Designation	SS	G	D_1	D_2	D_3	d_5	L	L_1	L_2	a°	Fig
PS BT30 15 M12 JISB	30	M12	12.0	8.00	13.00	4.0	18.40	43.0	23.40	15	1
PS BT40 15 M16 JIS 4OB	40	M16	19.0	14.00	17.00	4.0	23.00	54.0	29.00	15	2
PS BT40 15 M16 JISB	40	M16	19.0	14.00	17.00	5.5	23.00	54.0	29.00	15	1
PS BT40 15 M16 JISBO	40	M16	19.0	14.00	17.00	5.5	23.00	54.0	29.00	15	3
PS BT40 15 M16 JISOB	40	M16	19.0	14.00	17.00	5.5	23.00	54.0	29.00	15	2
PS BT50 15 M24 JIS B	50	M24	28.0	21.00	25.00	8.0	25.00	74.0	34.00	15	1
PS BT50 15 M24 JIS O B	50	M24	28.0	21.00	25.00	8.0	25.00	74.0	34.00	15	2
PS BT50 15 M24 JIS OBO	50	M24	28.0	21.00	25.00	8.0	25.00	74.0	34.00	15	3

• Fig 1: With coolant holes only. • Fig 2: With coolant holes and external O-ring. • Fig 3: With coolant holes, external and internal O-rings.

PS BT-MAZAK (pull stud)

BT Pull Stud with ANSI Retention Knob, for MAZAK Machines



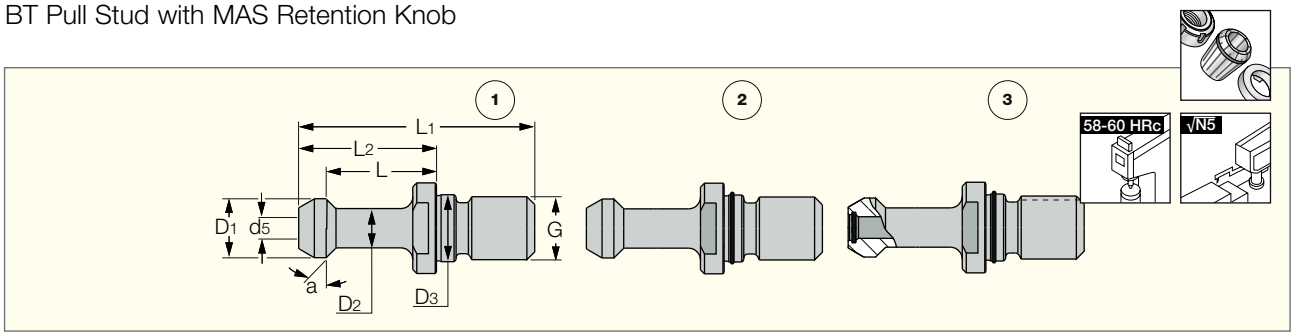
Designation	SS	G	D_1	D_2	D_3	d_5	L	L_1	L_2	a°	Fig
PS BT40 45 M16 MAZAKB	40	M16	18.8	12.40	17.00	7.0	14.03	44.1	19.10	45	1
PS BT40 45 M16 MAZAKBO	40	M16	18.8	12.40	17.00	7.0	14.03	44.1	19.10	45	2
PS BT50 45 M24 MAZAKB	50	M24	29.0	20.80	25.00	8.0	17.58	65.2	25.20	45	1

• Fig 1: With coolant holes only. • Fig 2: With coolant holes and external O-ring.

Accessories

PS BT-MAS (pull stud)

BT Pull Stud with MAS Retention Knob

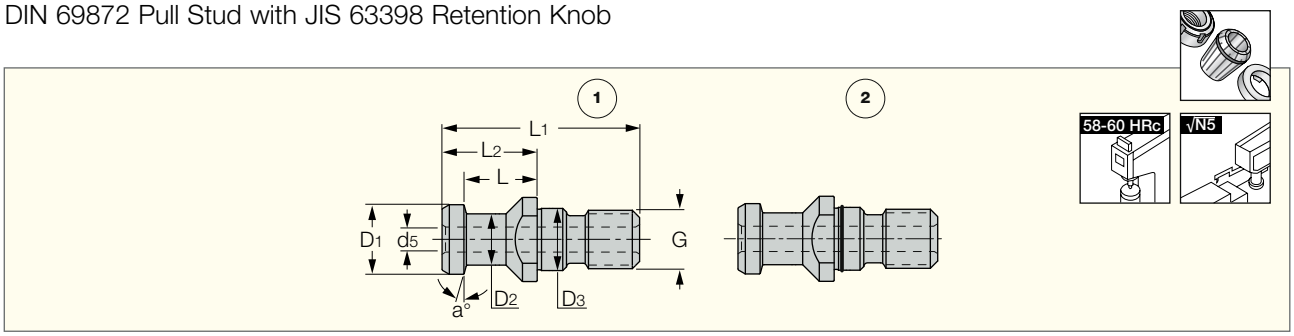


Designation	SS	G	D_1	D_2	D_3	d_5	L	L_1	L_2	a°	Fig
PS BT30 45 M12 MAS1B	30	M12	11.0	7.00	12.50	3.0	18.00	43.0	23.00	45	1
PS BT30 45 M12 MAS1	30	M12	11.0	7.00	12.50	-	18.00	43.0	23.00	45	1
PS BT30 60 M12 MAS2	30	M12	11.0	7.00	12.50	-	18.00	43.0	23.00	30	1
PS BT40 45 M16 MAS1	40	M16	15.0	10.00	17.00	-	28.00	60.0	35.00	45	1
PS BT40 45 M16 MAS1B	40	M16	15.0	10.00	17.00	5.5	28.00	60.0	35.00	45	1
PS BT40 60 M16 MAS2 B	40	M16	15.0	10.00	17.00	5.5	28.00	60.0	35.00	60	1
PS BT40 60 M16 MAS2	40	M16	15.0	10.00	17.00	-	28.00	60.0	35.00	30	1
PS BT40 90 M16 MAS3 B	40	M16	15.0	10.00	17.00	5.5	28.00	60.0	35.00	90	1
PS BT40 90 M16 MAS3	40	M16	15.0	10.00	17.00	-	28.00	60.0	35.00	90	1
PS BT50 45 M24 MAS1 B	50	M24	23.0	17.00	25.00	6.0	35.00	85.0	45.00	45	1
PS BT50 45 M24 MAS1 O B	50	M24	23.0	17.00	25.00	6.0	35.00	85.0	45.00	45	2
PS BT50 45 M24 MAS1 OBO	50	M24	23.0	17.00	25.00	6.0	35.00	85.0	45.00	45	3
PS BT50 45 M24 MAS1	50	M24	23.0	17.00	25.00	-	35.00	85.0	45.00	45	1
PS BT50 60 M24 MAS2	50	M24	23.0	17.00	25.00	-	35.00	85.0	45.00	60	1
PS BT50 60 M24 MAS2B	50	M24	23.0	17.00	25.00	6.0	35.00	85.0	45.00	60	1
PS BT50 90 M24 MAS3	50	M24	23.0	17.00	25.00	-	35.00	85.0	45.00	90	1
PS BT50 90 M24 MAS3 B	50	M24	23.0	17.00	25.00	6.0	35.00	85.0	45.00	90	1
PS BT50 90 M24 MAS3 O B	50	M24	23.0	17.00	25.00	6.0	35.00	85.0	45.00	90	2

• Fig 1: With or without coolant holes (coolant holes only in items with a B suffix). • Fig 2: With coolant holes and external O-ring. • Fig 3: With coolant holes, external and internal O-rings.

PS SK-DIN (pull stud)

DIN 69872 Pull Stud with JIS 63398 Retention Knob



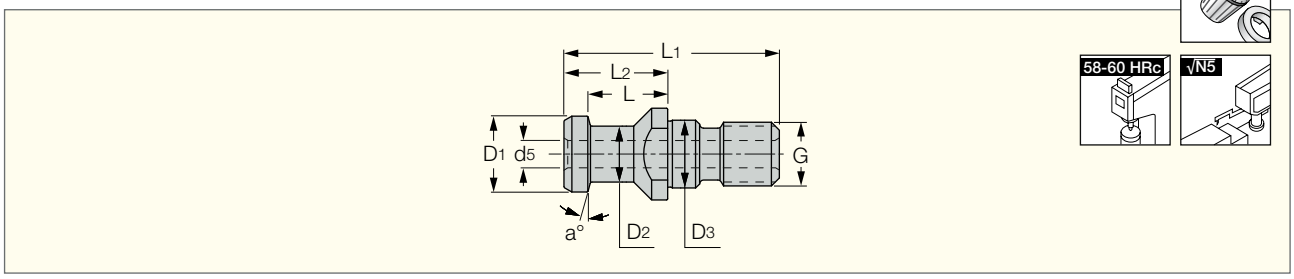
Designation	SS	G	D_1	D_2	D_3	d_5	L	L_1	L_2	a°	Fig
PS SK30 15 M12 DIN	30	M12	13.0	9.00	13.00	-	19.00	44.0	24.00	15	1
PS SK40 15 M16 DIN	40	M16	19.0	14.00	17.00	-	20.00	54.0	26.00	15	1
PS SK40 15 M16 DIN O	40	M16	19.0	14.00	17.00	-	20.00	54.0	26.00	15	2
PS SK40 15 M16 DIN O B	40	M16	19.0	14.00	17.00	7.0	20.00	54.0	26.00	15	2
PS SK40 15 M16 DINB	40	M16	19.0	14.00	17.00	7.0	20.00	54.0	26.00	15	1
PS SK50 15 M24 DIN	50	M24	28.0	21.00	25.00	-	25.00	74.0	34.00	15	1
PS SK50 15 M24 DIN O	50	M24	28.0	21.00	25.00	-	25.00	74.0	34.00	15	2
PS SK50 15 M24 DINB	50	M24	28.0	21.00	25.00	11.5	25.00	74.0	34.00	15	1

• Fig 1: With or without (B suffix) coolant holes • Fig 2: With or without (B suffix) coolant holes and external O-ring

Accessories

PS CAT-ISO (pull stud)

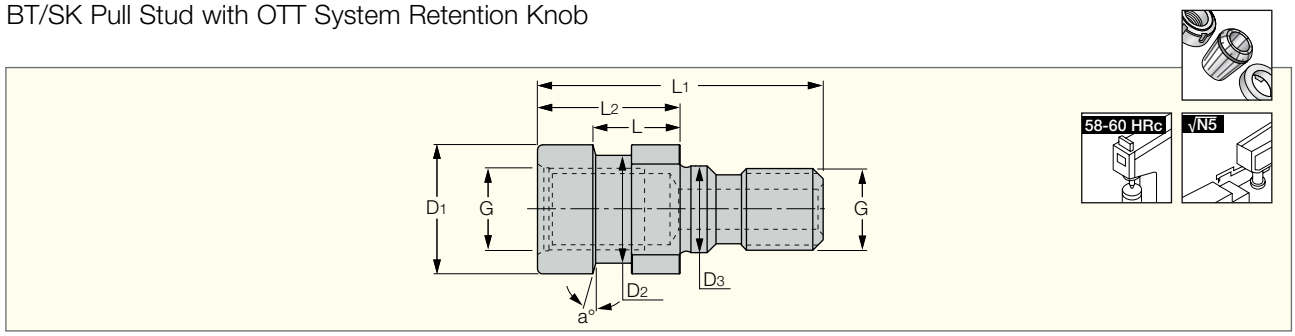
Pull Studs CAT-MAS G-mm, Extension Knob with Coolant Holes



Designation	SS	G	D_1	D_2	D_3	d_5	L	L_1	L_2	a°
PS CAT30 45 M12ISOB	30	M12	13.4	9.30	13.00	4.8	8.13	34.0	11.80	45
PS CAT40 45 M16ISOB	40	M16	18.0	12.90	17.00	7.4	11.15	44.5	16.40	45
PS CAT50 45 M24ISOB	50	M24	29.1	19.60	25.00	8.0	17.95	65.5	25.55	45

PS OTT-BT (pull stud)

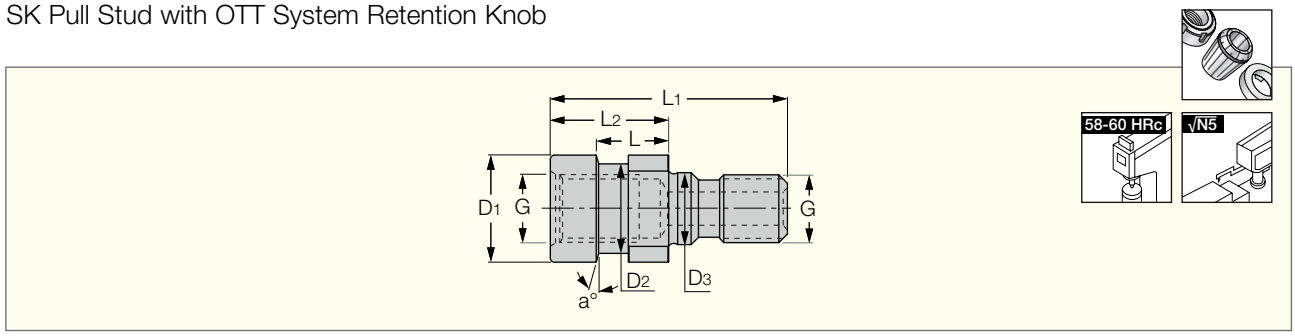
BT/SK Pull Stud with OTT System Retention Knob



Designation	SS	G	D_1	D_2	D_3	L	L_1	L_2	a°
PS OTT BT40 M16	40	M16	25.0	21.10	17.00	16.60	56.0	28.00	15
PS OTT BT50 M24	50	M24	39.3	32.00	25.00	13.35	65.0	25.00	15

PS OTT-SK (pull stud)

SK Pull Stud with OTT System Retention Knob

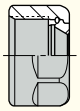


Designation	SS	G	D_1	D_2	D_3	L	L_1	L_2	a°
PS OTT SK40 M16	40	M16	21.1	25.00	17.00	13.00	53.0	25.00	15

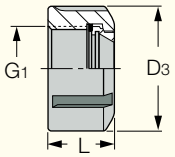
Accessories

NUT ER-TOP

ER-TOP Clamping Nuts for DIN 6499 Collet Chucks



ER 16, 20 TOP



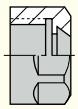
ER 25, 32, 40 TOP

Designation	D_3	L	G_1	Nxcm
NUT ER16 TOP	28.00	17.00	M22X1.5	6867
NUT ER20 TOP	34.00	19.00	M25X1.5	11772
NUT ER25 TOP	42.00	20.00	M32X1.5	19620
NUT ER32 TOP	50.00	22.00	M40X1.5	21582
NUT ER40 TOP	63.00	25.00	M50X1.5	24525

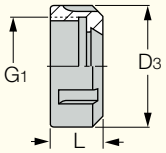
NUT ER-MINI/UM

Clamping Nuts for DIN 6499 ER Collet Chucks

ER 11, 16, 20, 25 Mini



UM ER 16, 20



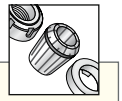
UM ER 25, 32, 40, 50

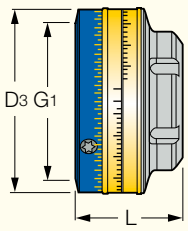
Designation	D_3	L	G_1	Nxcm
NUT ER11 MINI	16.00	10.80	M13X0.75	2943
NUT ER11 UM	19.00	11.30	M14X0.75	4905
NUT ER16 MINI	22.00	18.00	M19X1.0	3924
NUT ER16 UM	28.00	17.00	M22X1.5	6867
NUT ER20 MINI	28.00	19.00	M24X1.0	7848
NUT ER20 UM	34.00	19.00	M25X1.5	11772
NUT ER25 MINI	35.00	20.00	M30X1.0	9810
NUT ER25 UM	42.00	20.00	M32X1.5	19620
NUT ER32 UM	50.00	22.00	M40X1.5	21582
NUT ER40 UM	63.00	25.00	M50X1.5	24525
NUT ER50 UM	78.00	35.00	M64X2.0	34335

SHORTIN • BALANCIN

NUT ER-BIN

BALANCIN Balanceable ER TOP DIN 6499 Nuts



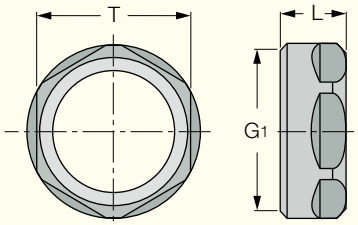


Designation	D_3	L	G_1	Nxcm
NUT ER16 TOP BIN	44.00	36.00	M22X1.5	6867
NUT ER20 TOP BIN	50.00	37.00	M25X1.5	11772
NUT ER25 TOP BIN	58.00	37.50	M32X1.5	19620
NUT ER32 TOP BIN	66.00	38.00	M40X1.5	21582

Accessories

NUT ER-SHORT

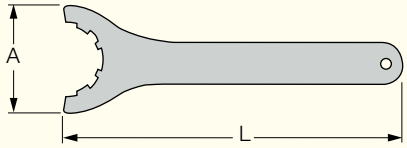
Nuts for SHORTIN Short ER Collet Chucks



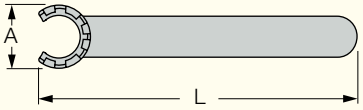
Designation	T	L	G_1	Nxcm
NUT ER20 SHORT	22.0	10.70	M25X1.5	11772
NUT ER32 SHORT	36.0	15.00	M40X1.5	21582
NUT ER40 SHORT	46.0	16.00	M50X1.5	24525

WRENCH-ER

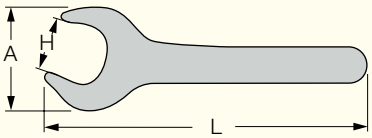
Wrench for ER DIN 6499 Clamping Nut



Wrench ER 25, 32, 40, 50

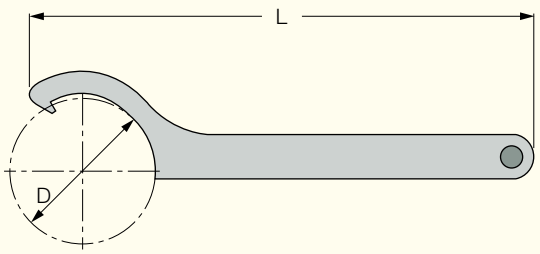


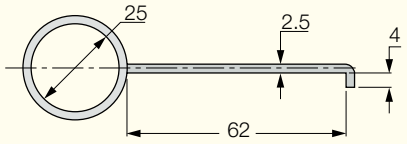
Wrench ER 11, 16, 20, 25 Mini



Wrench ER 11,16, 20, SHORT, CLICKIN

Designation	A	H	L
WRENCH ER11 Mini	16.8	—	95
WRENCH ER11	32	17	95
WRENCH ER16 Mini	22.5	—	117
WRENCH ER16	42.8	25	143
WRENCH ER20 Mini	28	—	128
WRENCH ER20	53.5	30	172
WRENCH ER25 Mini	29	—	120
WRENCH ER25	70	—	207
WRENCH ER32	78	—	255
WRENCH ER40	95	—	285
WRENCH ER50	110	—	350
WRENCH ER20 SHORT	48	22	260
WRENCH ER32 SHORT	75	36	303
WRENCH ER40 SHORT	94	46	378
WRENCH ER32 CLICKIN 27	57	27	239
WRENCH ER32 CLICKIN 32	67	32	273





Wrench for MAXIN Collets

Designation	D	L
WRENCH MAXIN 20 HOOK	26	205
WRENCH MAXIN 32 HOOK	68	240

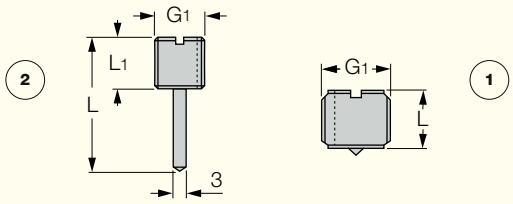
SC Collet Extraction Hook

Designation
EXTRACTOR SC COLLETS

Accessories

PRESET ER-JET

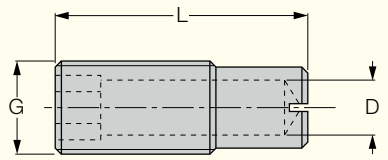
Preset Screws with Oil Holes for ER Sealed Collets (optional)



Designation	G_1	L	L_1	Fig
PRESET ER-JET 8X1	M8X1	15.00	-	1
PRESET ER-JET 8X1.25	M8X1.25	15.00	-	1
PRESET ER-JET 10X1.5	M10X1.5	15.00	-	1
PRESET ER-JET 12X1	M12X1	15.00	-	1
PRESET ER-JET 12X1.75	M12X1.75	15.00	-	1
PRESET ER-JET 12X1.75L	M12X1.75	40.00	15.0	2
PRESET ER-JET 14X1	M14X1	15.00	-	1
PRESET ER-JET 16X2	M16X2	15.00	-	1
PRESET ER-JET 16X2L	M16X2	40.00	15.0	2
PRESET ER-JET 18X1	M18X1	15.00	-	1
PRESET ER-JET 18X1.5	M18X1.5	15.00	-	1
PRESET ER-JET 18X1.5L	M18X1.5	40.00	15.0	2
PRESET ER-JET 22X1.5	M22X1.5	15.00	-	1
PRESET ER-JET 22X1.5L	M22X1.5	40.00	15.0	2
PRESET ER-JET 28X1.5	M28X1.5	15.00	-	1

Preset MAXIN

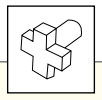
Preset Screw (inside the shank)

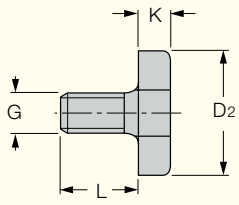


Designation	G	L	D	K
PRESET MAXIN 16X30	M16	30	8	8

SCREW-SEM

Lock Screw for Shell Mill Holder



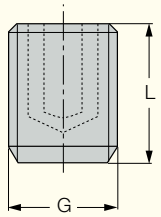


Designation	S.M.C.	D_1	D_2	K	L
M 8 CLAMP SCREW SEM 16	16	M8	20	6	16
M 10 CLAMP SCREW SEM 22	22	M10	28	7	18
M 12 CLAMP SCREW SEM 27	27	M12	35	8	22
M 16 CLAMP SCREW SEM 32	32	M16	42	9	26
M 20 CLAMP SCREW SEM 40	40	M20	52	10	30
M 24 CLAMP SCREW SEM 50	50	M24	63	12	36

Accessories

SCREW-EM

Lock Screw for Endmill Holder



Designation	G	L	For Shanks
SR M 6X10 DIN 1835-B	M6	10.0	6
SR M 8X10 DIN 1835-B	M8	10.0	8
SR M10X12 DIN 1835-B	M10	12.0	10
SR M12X16 DIN 1835-B	M12	16.0	12, 14
SR M14X16 DIN 1835-B	M14	16.0	16, 16
SR M16X16 DIN 1835-B	M16	16.0	20
SR M18X2.0X20 DIN 1835-B	M18X2	20.0	25
SR M20X2.0X20 DIN 1835-B	M20X2	20.0	32, 40
SR M24X2.0X25 DIN 1835-B	M24X2	25.0	50
SR M16X10.3 EM SHORT	M16	10.3	20
SR M18X2X10 EM SHORT	M18X2	10.0	2

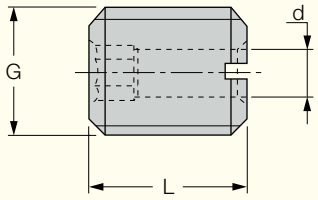
Spare Parts for CLICKFIT Holders




Size	Locking Screw	Hex Key	Extractor	O-Ring
CF4	M16X1.5-CF	HW 8.0	M8-CF	O RING 3 ID15

PRESET SCREW for SRKIN Thermal Shrink Collets

with Coolant Holes for SRKIN Thermal Shrink Collets

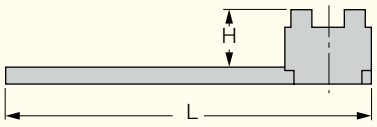


Designation	G	L	d	For Shanks	Hex Key
PRESET SCREW M 5X20 B	M 5X0.8	20	2.1	EM E / SRKIN	2.5
PRESET SCREW M 6X20 B	M 6X1	20	2.5	EM E / SRKIN	3.0
PRESET SCREW M 8X20 B	M 8X1.25	20	3.5	EM E / SRKIN	4.0
PRESET SCREW M10X18 B	M 10X1.5	18	4.5	EM E / SRKIN	5.0
PRESET SCREW M12X18 B	M 12X1.75	18	5.5	EM E / SRKIN	6.0
PRESET SCREW M16X20 B	M 16X2	20	7.5	EM E / SRKIN	6.0
PRESET SCREW M16X25 B	M 16X2	25	7.5	SRKIN	6.0
PRESET SCREW M20X20 B	M 20X2.5	20	6.0	EM E	6.0
PRESET SCREW M20X25 B	M 20X2	25	9.5	EM E	10.0

Accessories

WRENCH SEMC

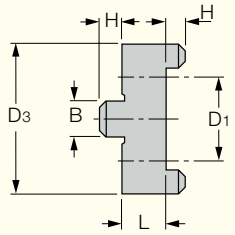
Wrench DIN 6368 for Face and COMBI Shell Endmill Holders



Designation	SMC	For Screw	H	L
WRENCH M 8 SEMC 16	16	M8	20	180
WRENCH M10 SEMC 22	22	M10	25	200
WRENCH M12 SEMC 27	27	M12	32	225
WRENCH M16 SEMC 32	32	M18	36	250
WRENCH M20 SEMC 40	40	M20	40	280
WRENCH M24 SEMC 50	50	M24	50	315

DRIVING RING SEMC

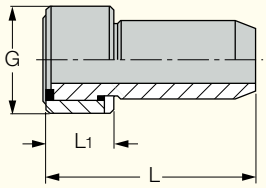
Driving Ring DIN 6366/1 for COMBI Shell and Mill Holder



Designation	D_1	D_3	L	B	H
16 D.RING SEMC	16	32	10	8	5.0
22 D.RING SEMC	22	40	12	10	6.0
27 D.RING SEMC	27	48	12	12	6.3
32 D.RING SEMC	32	58	14	14	7.0
40 D.RING SEMC	40	70	14	16	8.0
50 D.RING SEMC	50	90	16	18	9.0

Cooling Tube for HSK

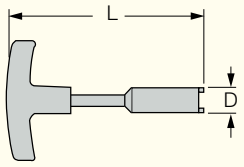
HSK-A Cooling Tube



Designation	HSK-A	L	L1	G
COOLING TUBE HSK A 40	40	29.1	7.5	M12X1
COOLING TUBE HSK A 50	50	32.7	9.5	M16X1
COOLING TUBE HSK A 63	63	36.0	11.5	M18X1
COOLING TUBE HSK A 80	80	36.6	13.5	M20X1.5
COOLING TUBE HSK A 100	100	43.6	15.5	M24X1.5

Wrench for HSK Cooling Tube

HSK-A Cooling Tube Wrench



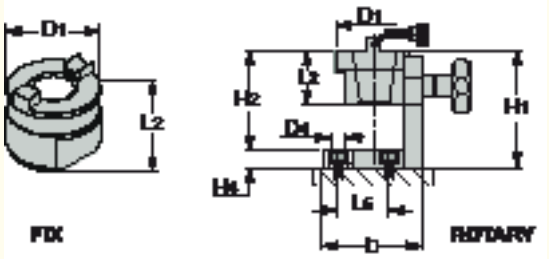
Designation	HSK-A	D	L
WRENCH COOL TUBE HSK 40	40	11.0	120
WRENCH COOL TUBE HSK 50	50	15.0	120
WRENCH COOL TUBE HSK 63	63	17.0	122
WRENCH COOL TUBE HSK 80	80	18.5	186
WRENCH COOL TUBE HSK100	100	22.0	141

AUXILIARY DEVICE

Member IMC Group

TOOL CLAMP

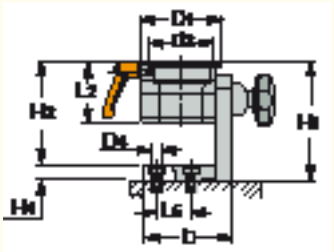
Tool Clamp Fixture for ISO, DIN 69871 and BT MAS-403 Tool Shanks



Designation	CSI	D_1	L_2	H_1	H_2	H_4	b	L_5	D_4
TOOL CLAMP 30 ROTARY	ROTARY	70.0	56.00	128.0	109.0	19.0	104.0	40.00	12.50
TOOL CLAMP 40 ROTARY	ROTARY	82.0	56.00	128.0	109.0	19.0	104.0	40.00	12.50
TOOL CLAMP 50 ROTARY	ROTARY	103.0	71.00	170.0	151.0	19.0	144.0	85.00	12.50
TOOL CLAMP 30 FIX	FIX	82.0	58.00	-	-	-	-	-	-
TOOL CLAMP 40 FIX	FIX	82.0	58.00	-	-	-	-	-	-
TOOL CLAMP 50 FIX	FIX	103.0	71.00	-	-	-	-	-	-

MULTI CLAMP HSK (A/C, E/F)

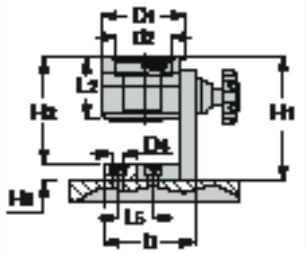
Multi-clamp Rotary Fixture for HSK Shanks



Designation	CSI	d_2	D_1	L_2	H_1	H_2	H_4	b	L_5	D_4
MULTI CLAMP 50 A/C	HSK A/C50	50.00	82.0	72.00	142.0	123.0	19.0	104.0	40.00	12.50
MULTI CLAMP 63 A/C	HSK A/C63	63.00	95.0	72.00	142.0	123.0	19.0	104.0	40.00	12.50
MULTI CLAMP 100 A/C	HSK A/C100	100.00	130.0	90.00	178.0	159.0	19.0	144.0	85.00	12.50
MULTI CLAMP 32 E/F	HSK E/F32	32.00	113.2	70.00	133.0	114.0	19.0	144.0	40.00	12.50
MULTI CLAMP 40 E/F	HSK E/F40	40.00	113.2	70.00	133.0	114.0	19.0	144.0	40.00	12.50
MULTI CLAMP 50 E/F	HSK E/F50	50.00	113.2	70.00	133.0	114.0	19.0	144.0	40.00	12.50
MULTI CLAMP 63 E/F	HSK E/F63	63.00	113.2	70.00	133.0	114.0	19.0	144.0	40.00	12.50

MULTI CLAMP C#

Rotary Clamping Fixtures for CAMFIX (ISO 26623-1) Tapered Shank Toolholders



Designation	S. Std.	SS	d_2	D_1	L_2	H_1	H_2	H_3	b	L_5	D_4
MULTI CLAMP C6	C6	63	63.00	95.0	72.00	142.0	123.0	19.0	104.0	40.00	40.00

EASYLOCK

Electrical Nut-Clamp Torque Control Device

- Ensures controlled (proper) clamping of cutting tools
- Maintains collet chuck accuracy
- Easy clamping and unclamping of cutting tools
- Handy set for various collet chuck sizes
- Main spindle taper #50
- Suitable for main shank standards #40, #50, HSK 63, HSK 100

Table Model

Specifications

Euro Motor:	1 phase 200/240V 50/60 HZ 1 HP
Weight:	Table model - 85 kg. Trolley (optional) - 15 kg.

EASYLOCK Unit

Designation	Accessories	
	Standard	Optional
EASY LOCK T.C. EU	TP50 AD 40 EASY	EASY LOCK TROLLEY
	WRENCH ER16 EASY LOCK	TP40 AD 30 EASY
	WRENCH ER20 EASY LOCK	TP50 AD HSK 63 EASY
	WRENCH ER25 EASY LOCK	TP50 AD HSK 100 EASY
	WRENCH ER32 EASY LOCK	
	WRENCH ER40 EASY LOCK	WRENCH ER50 EASY LOCK
		WRENCH TG100 OPEN EASY

Electrical Nut-Clamp Torque Control Device

Power Clamping Unit for Collet Chucks

Safety precautions: never hold or touch the cutting tool, chuck or machine spindle during operation.

Choose the correct wrench size. Mount it on the wrench holder.

Place the wrench on the collet chuck nut.

Mount the collet chuck into the unit spindle.

Ensure that main power switch is on and that the power supply cable is connected.

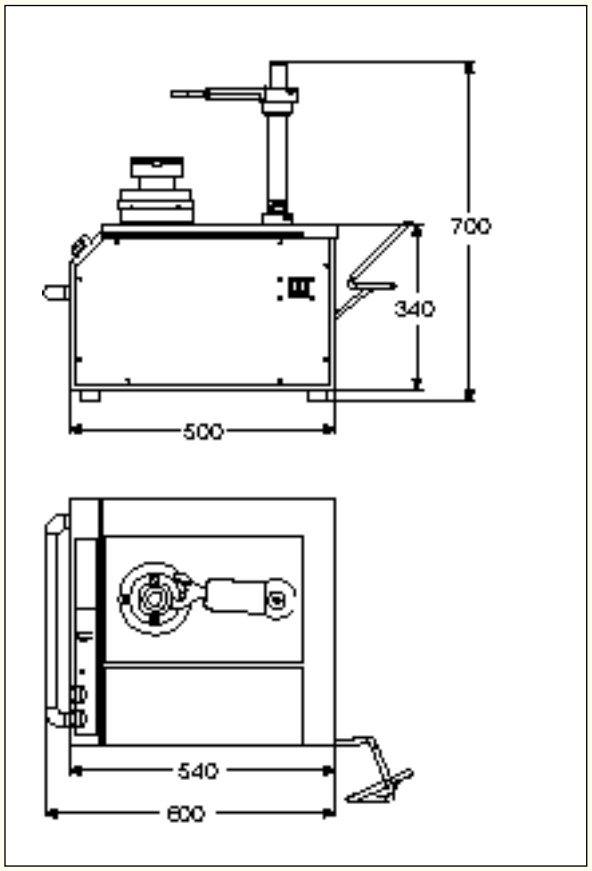
To clamp - Push and hold in the "clamp" button until the bottom light goes off.

Torque Selector **NEW**

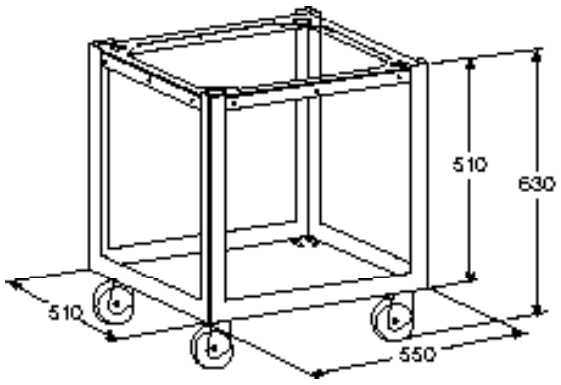
Power Lamp

To unclamp - Push and hold in the "unclamp" button until the collet chuck is totally open.

Note: Assemble the collet and cutting tool. By hand, place the nut onto the collet chuck.



Trolley (optional)

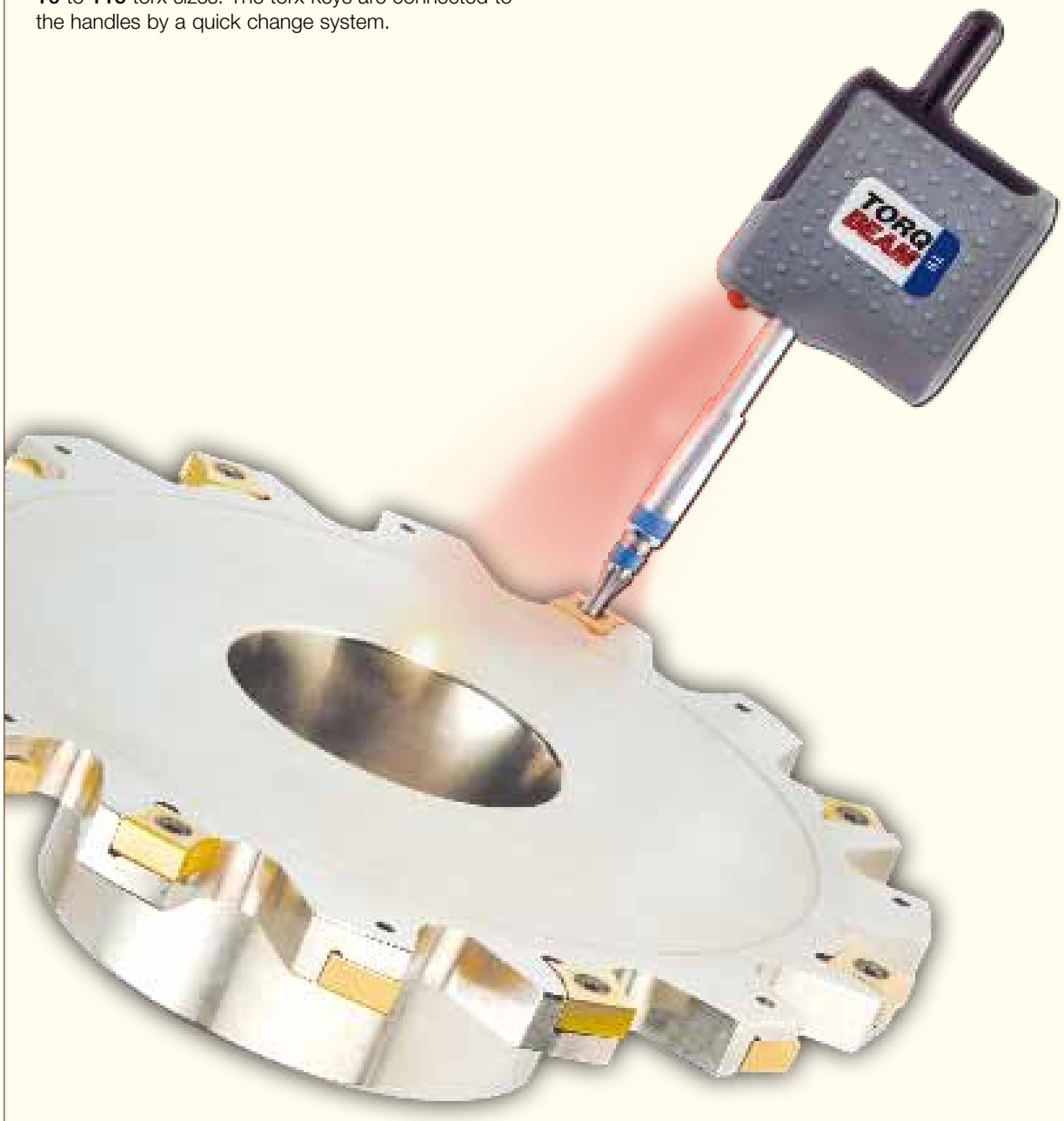


TORQBEAM

Quick Change Torx Keys with LED Torque Limit Indicator

ISCAR-ETM provides an exclusive solution for clamping torx screws to the correct torque; a LED indicator that lights up when the required maximal clamping torque is reached.

Two types of the new keys are available: **Single flag** and **double flag** handle shapes. The keys range from **T6** to **T15** torx sizes. The torx keys are connected to the handles by a quick change system.



Torx Keys with Torque Limit Indicator

Fixed Torque Keys for Torx Screws T6-T15

Operation instructions

- Turn key clockwise. When reaching the required torque the LED light will be activated
- Torque accuracy +/- 6% as per ENISO 6789
- Always use the correct torx size indicated by the colors of the keys and bits
- Operation temperature – 18-28°C, 64.4-82.4°F

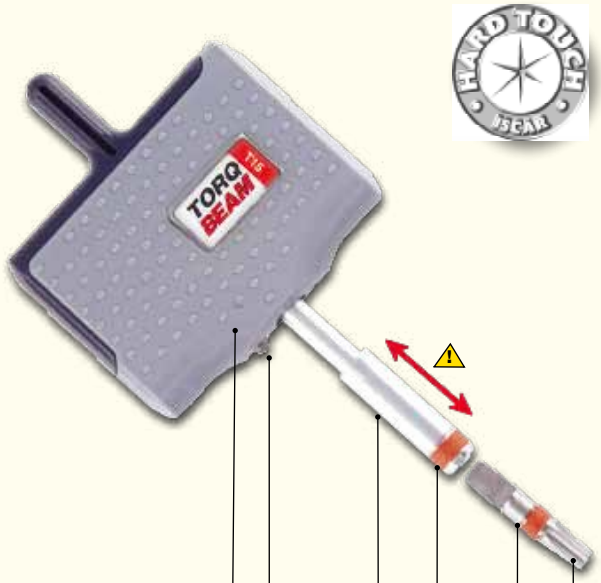
Service

- Long life battery, no maintenance or replacement needed
- Keep the TORQBEAM clean and dry, without lubrication

⚠ Push sleeve backward for bit insertion

Fixed Torque Keys for Torx Screws T6-T15

TORX SIZE	TORQUE		COLOR IDENTIFICATION	
	Nxm	Lbfxft		
T 6	0.60	0.44	WHITE	
T 7	0.90	0.66	BLACK	
T 8	1.20	0.88	GREEN	
T 9	1.40	1.03	BLUE	
T 10	2.00	1.48	YELLOW	
T 15	3.00	2.21	RED	



Textured surface

LED beam

Quick change sleeve

⚠ Push sleeve backward for bit insertion

Colored size identification

Interchangeable torx bit

Superior hardened steel

Flag
Range T6-T10

Double Flag
Range T8-T15

Features

- Ensures correct clamping torque for the inserts.
- Prolongs the life of both torx locking screws and their clamping keys
- Compact design for handy operation
- Textured surfaces prevent slipping
- Quick change torx bits by a patented connection
- The economical TORQBEAM keys can be used for a variety of torx bits, due to the quick change mechanism
- Bits made from hardned steel and HT coating for long life
- The indicated torque accuracy is +/- 6% as per ENISO 6789
- Clearly indicated color coded torx key size identification.
- Long life battery; no maintenance or replacement needed
- Price advantage due to the ability to replace bits

TORQBEAM Sizes and Torque Specifications

Torx Size	Torque N•m	(lbf•in)	Torx Size Color Identification
TB 6	0.60	(5.3)	WHITE
TB 7	0.90	(8.0)	BLACK
TB 8	1.20	(10.6)	GREEN
TB 9	1.40	(12.4)	BLUE
TB 10	2.00	(17.7)	YELLOW
TB 15	3.00	(26.6)	RED

Single and Double Flag Fixed Torque Keys
TB TORX T6-T15 TB ALLEN 2.0, 2.5, 3.0

Four Sizes of Double Flag

Five Sizes of Single Flag

Torx Keys with
a Fixed Torque
for Face Mills

Torx Keys with
a Fixed Torque
for Endmills

Torx Keys with
a Fixed Torque
for Turning Holders

TB F...

Item No.	Description	Color
4505678	TB F 6	WHITE
4505679	TB F 7	BLACK
4505680	TB F 8	GREEN
4505681	TB F 9	BLUE
4505682	TB F 10	YELLOW

F = single flag

TB FD...

Item No.	Description	Color
4505685	TB DF 8	GREEN
4505686	TB DF 9	BLUE
4505687	TB DF 10	YELLOW
4505688	TB DF 15	RED

DF = double flag

TB DF ALLEN...

Item No.	Description	Color
4506556	TB DF ALLEN 2.0	GREEN
4506557	TB DF ALLEN 2.5	YELLOW
4506558	TB DF ALLEN 3.0	RED

TB TORX BIT T...

Item No.	Description	Color
4506187	TB TORX BIT T 6	WHITE
4506188	TB TORX BIT T 7	BLACK
4506189	TB TORX BIT T 8	GREEN
4506190	TB TORX BIT T 9	BLUE
4506191	TB TORX BIT T10	YELLOW
4506192	TB TORX BIT T15	RED

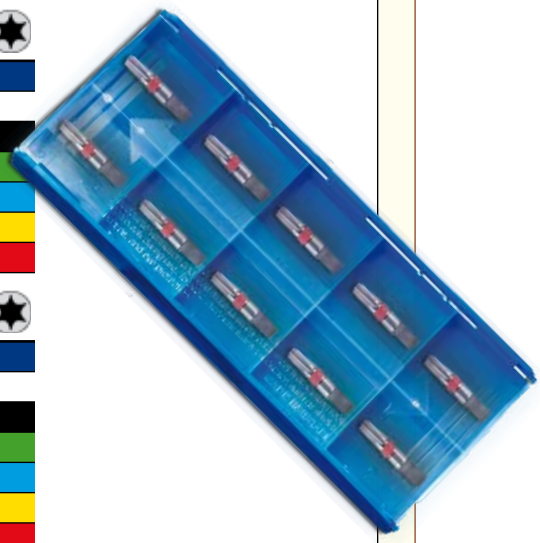
TB ALLEN BIT...

Item No.	Description	Color
4506180	TB ALLEN BIT 2.0	GREEN
4506181	TB ALLEN BIT 2.5	YELLOW
4506182	TB ALLEN BIT 3.0	RED

TORQBEAM Torx Bit Sets

TB TORX BIT T...SET 5

Item No.	Description	Color
4506158	TB TORX BIT T 6 SET 5	WHITE
4506159	TB TORX BIT T 7 SET 5	BLACK
4506160	TB TORX BIT T 8 SET 5	GREEN
4506161	TB TORX BIT T 9 SET 5	BLUE
4506162	TB TORX BIT T 10 SET 5	YELLOW
4506163	TB TORX BIT T 15 SET 5	RED



TB TORX BIT T...SET 10

Item No.	Description	Color
4506164	TB TORX BIT T 6 SET 10	WHITE
4506165	TB TORX BIT T 7 SET 10	BLACK
4506166	TB TORX BIT T 8 SET 10	GREEN
4506167	TB TORX BIT T 9 SET 10	BLUE
4506168	TB TORX BIT T 10 SET10	YELLOW
4506169	TB TORX BIT T 15 SET10	RED

BT ALLEN BIT...SET 5

Item No.	Description	Color
4506559	TB ALLEN BIT 2.0 SET 5	GREEN
4506560	TB ALLEN BIT 2.5 SET 5	YELLOW
4506561	TB ALLEN BIT 3.0 SET 5	RED

BT ALLEN BIT...SET 10

Item No.	Description	Color
4506562	TB ALLEN BIT 2.0 SET 10	GREEN
4506563	TB ALLEN BIT 2.5 SET 10	YELLOW
4506564	TB ALLEN BIT 3.0 SET 10	RED

TORQBEAM Starter Kit with Single + Double Flag T6-T15 - Total 9 Pieces

TB TROX STARTER KIT

Item No.	Description
4506179	TB TORX START KIT 9 T6-T15

TORQBEAM Torx Key Complete Kits

TB F... KIT 4

Item No.	Description	Color
4506174	TB F 6 KIT 4	WHITE
4506175	TB F 7 KIT 4	BLACK
4506176	TB F 8 KIT 4	GREEN
4506177	TB F 9 KIT 4	BLUE
4506178	TB F 10 KIT 4	YELLOW

Supplied with 4 bits
F = single flag

TB DF... KIT 4

Item No.	Description	Color
4506170	TB DF 8 KIT 4	GREEN
4506171	TB DF 9 KIT 4	BLUE
4506172	TB DF 10 KIT 4	YELLOW
4506173	TB DF 15 KIT 4	RED

Supplied with 4 bits
DF = double flag

TB DF ALLEN... KIT 4

Item No.	Description	Color
4506568	TB DF ALLEN 2.0 KIT 4	GREEN
4506569	TB DF ALLEN 2.5 KIT 4	YELLOW
4506570	TB DF ALLEN 3.0 KIT 4	RED

TB F... KIT 1

Item No.	Description	Color
4506271	TB F 6 KIT 1	WHITE
4506272	TB F 7 KIT 1	BLACK
4506273	TB F 8 KIT 1	GREEN
4506274	TB F 9 KIT 1	BLUE
4506275	TB F 10 KIT 1	YELLOW

Supplied with 1 bit
F = single flag

TB DF... KIT 1

Item No.	Description	Color
4506267	TB DF 8 KIT 1	GREEN
4506268	TB DF 9 KIT 1	BLUE
4506269	TB DF 10 KIT 1	YELLOW
4506270	TB DF 15 KIT 1	RED

Supplied with 1 bit
DF = double flag

TB DF ALLEN... KIT 1

Item No.	Description	Color
4506565	TB DF ALLEN 2.0 KIT 1	GREEN
4506566	TB DF ALLEN 2.5 KIT 1	YELLOW
4506567	TB DF ALLEN 3.0 KIT 1	RED

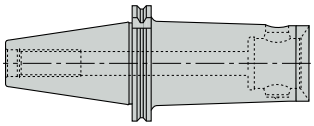
ITSBORE MODULAR BORING SYSTEMS

Member IMC Group

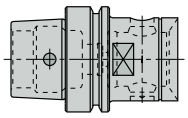
The ITSBORE System

Shanks

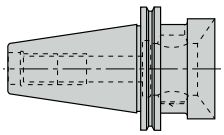
SKA/SKB Pages C9-10



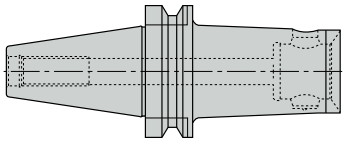
HSK/IM CAPTO Pages C11-13



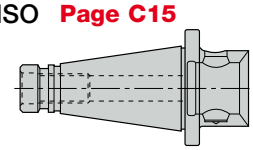
CATM Page C10



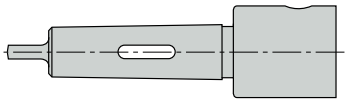
BT/BTB Pages C14-15



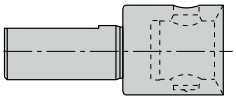
IS0M/ISO Page C15



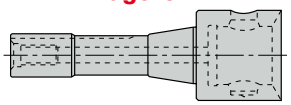
MTT/MTD Pages C17-18



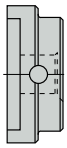
ST Pages C16-17



R-8 Page C17

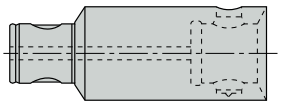


DIN2079 Page C18

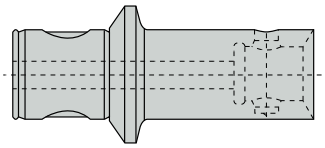


Extensions and Reducers

EX Page C19



RE Page C20



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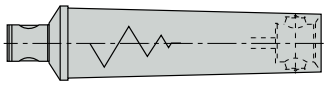
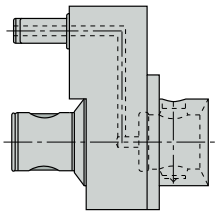
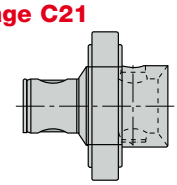


CHS Page C21

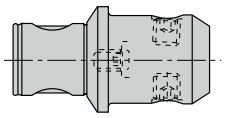


CHR Page C21

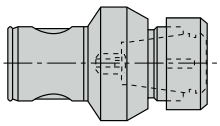


Toolholders

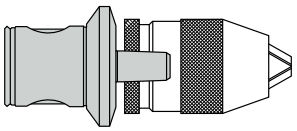
EMH Page C22



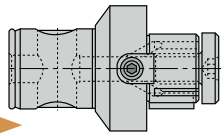
CC Page C23



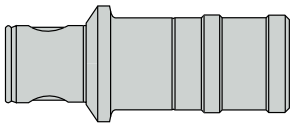
DC Page C23



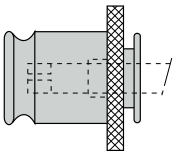
SMH /STUB Pages C24-25



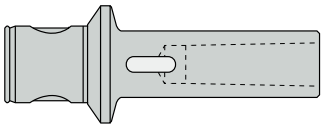
TP Page C25



TCS/TCC Page C26



AMT Page C27



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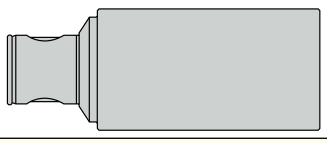
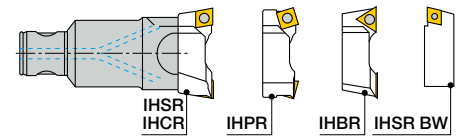


The ITSBORE System

Rough Boring Heads

BHR MB 16, 20, 25, 32, 40, 50, 63, 80

(ø18-200)

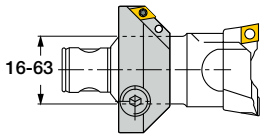


Page C29

CHA

(ø18-125)

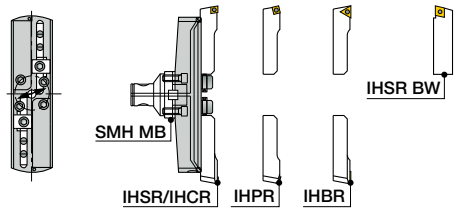
45° Chamfering



Page C29

TCH 200, 300, 400

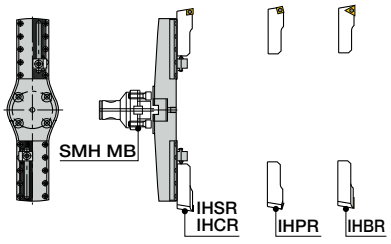
(ø200-500)



Page C30

TCH AL 500, 600, 700

(ø500-800)

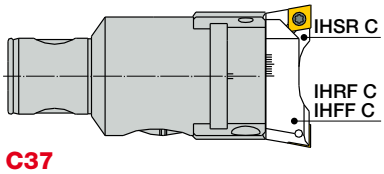


Page C31

Rough & Fine Boring Heads

BHC MB 25, 32, 40, 50, 63, 80

(ø28-125)

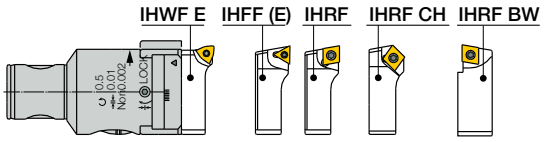


Page C37

Fine Boring Heads (10 µm)

BHE MB 14, 16, 20, 25, 32, 40

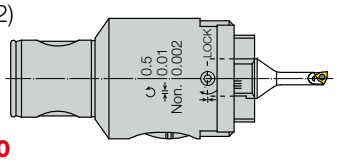
(Ø14.5-66)



Page C40

BHE MB-H 32, 50

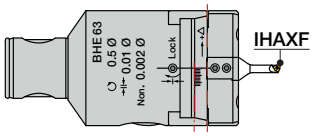
(Ø2.5-22)



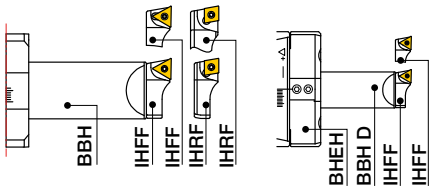
Page C40

BHE MB 50, 63, 80

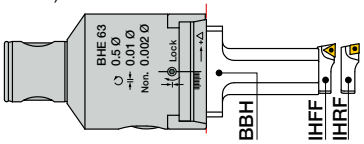
(Ø6-30)



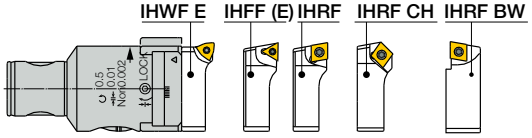
(Ø28-56)



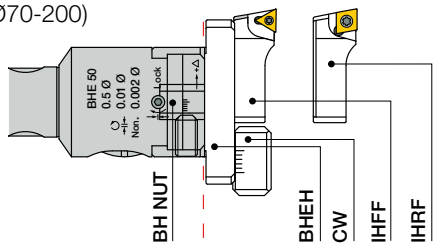
(Ø40-90)



(Ø50-80)



(Ø70-200)

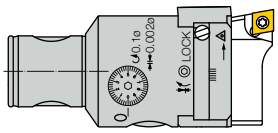


Pages C39, C41-43

Fine Boring Heads (2 µm)

BHF MB 16, 20, 25, 32, 40

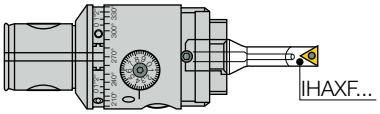
(Ø18-63)



Page C52

BHF MB 50-BL

(Ø2.5-20)

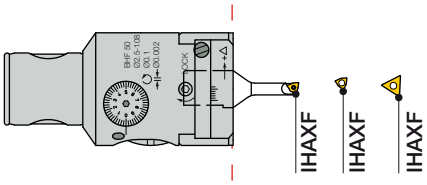


Pages C45, 50

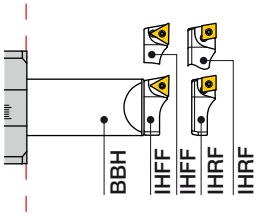
BHF MB 50-50X60

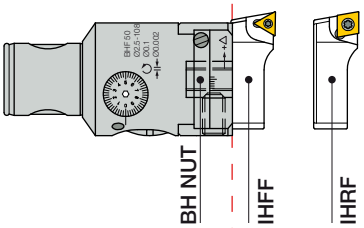
(Ø6-108)

(Ø6-30)

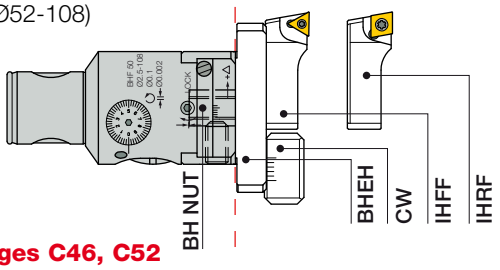


(Ø28-54)





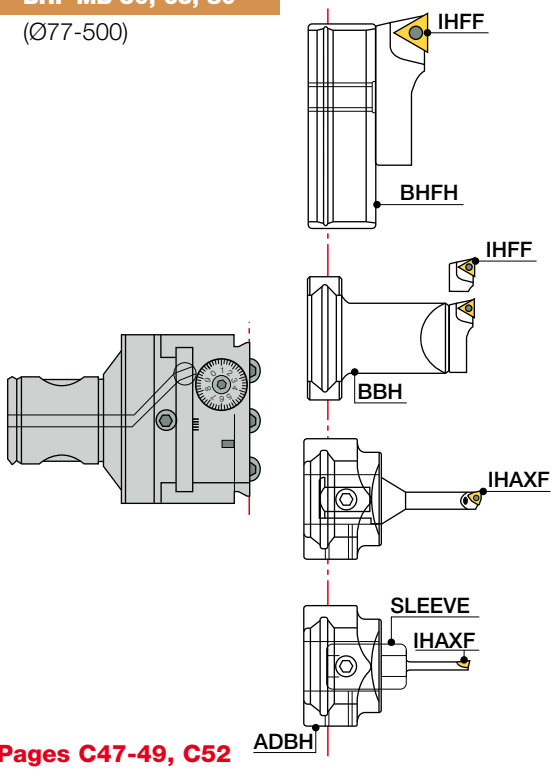
(Ø52-108)



Pages C46, C52

BHF MB 50, 63, 80

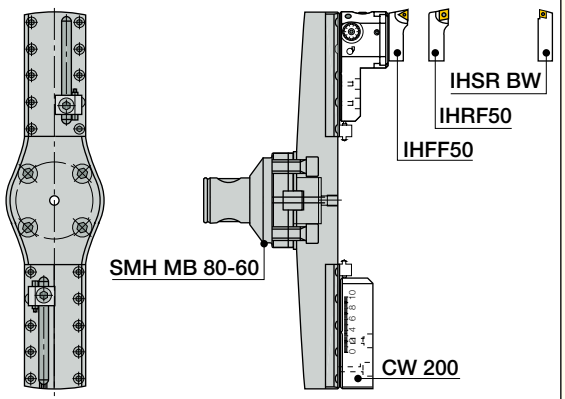
(Ø77-500)



Pages C47-49, C52

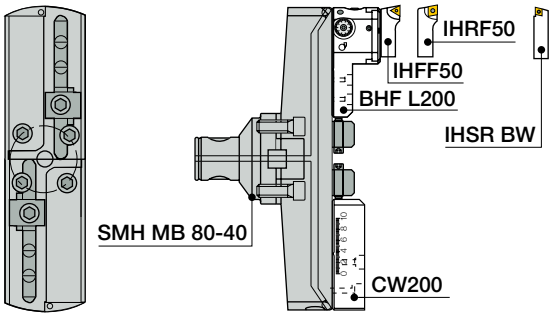
TCH 200, 300, 400

(Ø200-500)



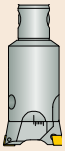
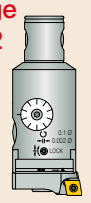
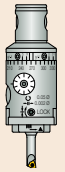
TCH AL 500, 600, 700

(Ø500-800)



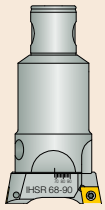
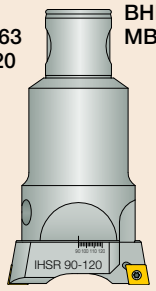
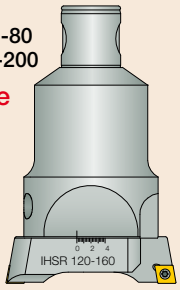
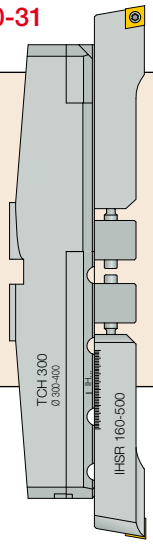
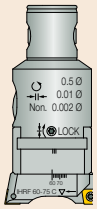
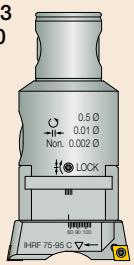
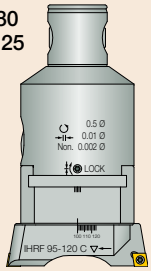
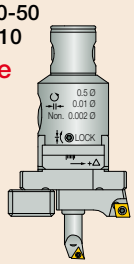
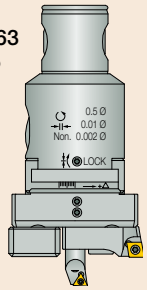
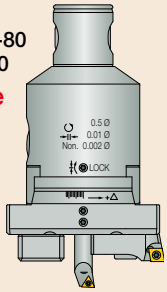
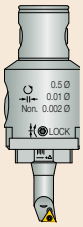
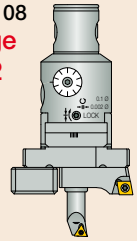
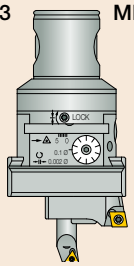
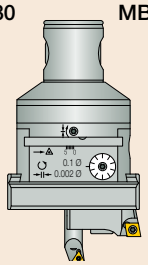
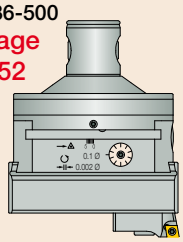
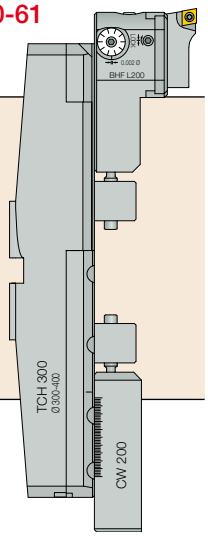
Pages C60-61

The ITSBORE Boring Heads Selection Guide

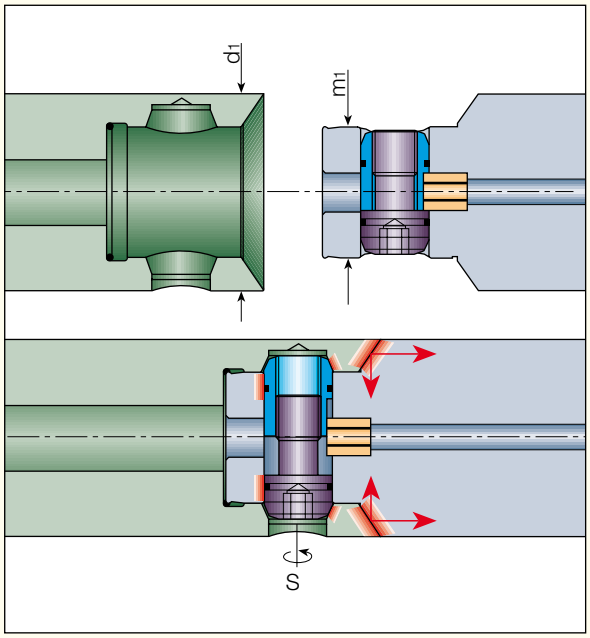
MB Size	14	16	20	25	32	40
BHR-TCH Ø18-800		BHR MB16-16 Ø18-22 Page C29 	BHR MB20-20 Ø22-28 Page C29 	BHR MB25-25 Ø28-38 Page C29 	BHR MB32-32 Ø36-50 Page C29 	BHR MB40-40 Ø50-68 Page C29 
BHC Ø28-125 10 µm				BHC MB25-25 Ø28-36 Page C37 	BHC MB32-32 Ø36-46 Page C37 	BHC MB40-40 Ø046-60 Page C37 
BHE Ø6-200 10 µm	BHE MB14-14 Ø14.5-18 Page C40 	BHE MB16-16 Ø18-24 Page C40 	BHE MB20-20 Ø22-30 Page C40 	BHE MB25-25 Ø28-40 Page C40 	BHE MB32-32 Ø35-53 Page C40 	BHE MB40-40 Ø48-66 Page C40 
BHE H Ø2.5-22 10 µm					BHE MB32-32...H Ø2.5-18 Page C40 	
BHF Ø6-800 2 µm		BHF MB16-16 Ø18-23 Page C52 	BHF MB20-20 Ø22-29 Page C52 	BHF MB25-25 Ø28-38 Page C52 	BHF MB32-32 Ø36-50 Page C52 	BHF MB40-40 Ø48-63 Page C52 
BHF BL Ø2.5-20 2 µm					BHF MB50-32...BL Ø2.5-12 Page C50 	

ITSBORE

The ITSBORE Boring Heads Selection Guide

50	63	80	125	Pages C30-31
BHR MB50-50 Ø68-90 Page C29 	BHR MB50-63 Ø90-120 Page C29  BHR MB63-63	BHR MB80-80 Ø120-200 Page C29 		Roughing 
BHC MB50-50 Ø60-75 Page C37 	BHC MB63-63 Ø78-100 Page C37 	BHC MB80-80 Ø100-125 Page C37 		
BHE MB50-50 Ø6-110 Page C40 	BHE MB63-63 Ø6-125 Page C40 	BHE MB80-80 Ø6-200 Page C40 		TCH 200 Ø200-300 TCH 300 Ø300-400 TCH 400 Ø400-500 TCH 500 Ø500-600 TCH 600 Ø600-700 TCH 700 Ø700-800
BHE MB50-50...H Ø2.5-22 Page C40 				Pages C60-61
BHF MB50-50 Ø6-108 Page C52 	BHF MB50-63 Ø6-125 Page C52  BHF MB63-63	BHF MB50-80 Ø6-160 Page C52  BHF MB80-80	BHF MB80-125 Ø36-500 Page C52 	Finishing 
BHF MB50-50...BL Ø2.5-20 Page C50 				

MB Connection

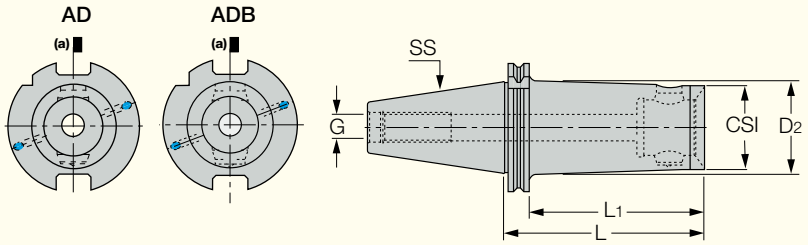


ITSBORE is a modular toolholder system for boring, milling, drilling and tapping.
This rigid, high-precision system is manufactured in one of the world's most advanced design and production facilities. The system is designed with extreme flexibility and simplicity making it suitable for machine tools, machining centers and flexible manufacturing systems.
It is recommended for machining strict tolerances with a high degree of surface finish.
Its cylindrical-conical coupling and radial-expanding pin ensure maximum rigidity and concentricity in boring and milling.
The system has internal coolant supply in all components.

Designation	d_1	øm_1	Size Allen Key (mm)	⚠ Tightening Torque (Nm)
MB 14	14	10	2.5	2-2.5
MB 16	16	10	2.5	2-2.5
MB 20	20	13	3	4-4.5
MB 25	25	16	3	6.5-7.5
MB 32	32	20	4	7-8
MB 40	40	25	5	16-18
MB 50	50	32	6	30-35
MB 63	63	42	8	80-90
MB 80	80	42	8	80-90
MB 110	110	76	14	250-270

SKA-MB

MB Modular Connection System with DIN69871 Form AD/ADB/ISO 7388/1 Taper Shank

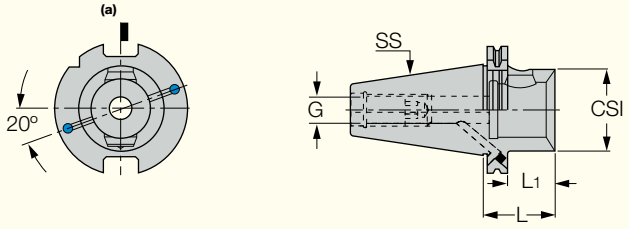


Designation	SS	CSI	L	L_1	D_2	G	Kg
SKA 30-MB32	30	MB32	30.00	10.5	-	M12	0.05
SKA 30-MB50	30	MB50	60.00	41.0	-	M12	0.45
SKA 40-MB40	40	MB40	45.00	26.0	-	M16	0.94
SKA 40-MB40X120 A/B	40	MB40	120.00	101.0	44.50	M16	1.20
SKA 40-MB50	40	MB50	48.00	29.0	-	M16	1.00
SKA 40-MB50X120 A/B	40	MB50	120.00	101.0	-	M16	2.82
SKA 40-MB63	40	MB63	80.00	61.0	-	M16	1.56
SKA 45-MB50	45	MB50	48.00	29.0	-	M20	1.75
SKA 45-MB63	45	MB63	60.00	41.0	-	M20	1.99
SKA 45-MB80	45	MB80	66.00	47.0	-	M20	2.31
SKA 50-MB50	50	MB50	48.00	29.0	-	M24	2.82
SKA 50-MB50X120 A/B	50	MB50	120.00	101.0	60.00	M24	4.03
SKA 50-MB63	50	MB63	56.00	37.0	-	M24	2.96
SKA 50-MB63X150 A/B	50	MB63	150.00	131.0	70.00	M24	5.34
SKA 50-MB80	50	MB80	62.00	43.0	-	M24	3.52
SKA 50-MB80X180 A/B	50	MB80	180.00	161.0	-	M24	7.90
SKA 50-MB110X150	50	MB110	150.00	131.0	-	M24	8.17
SKA 60 MB50X60	60	MB50	50.00	31.0	60.00	M30	0.00
SKA 60 MB63X60	60	MB63	60.00	41.0	71.00	M30	9.79
SKA 60-MB80X65	60	MB80	65.00	46.0	-	M30	10.70
SKA 60-MB110X100	60	MB110	100.00	81.0	-	M30	0.00
SKA 60-MB110X200	60	MB110	200.00	181.0	-	M30	0.00

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability • The coolant passages of holders with A/B suffix are plugged with screws, so it can be used either as SKA or SKB (coolant through).

SKB-MB

MB Modular Connection System with DIN69871 Form B
(coolant through flange) Taper Shank



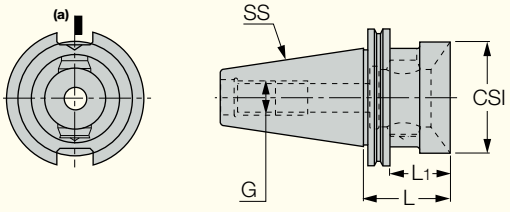
(a)Cutting edge position

Designation	SS	CSI	L_1	L	G	Kg
SKB 40-MB50	40	MB50	29.0	48.00	M16	1.01
SKB 40-MB63	40	MB63	-	80.00	M16	1.57
SKB 45-MB50	45	MB50	29.0	48.00	M20	1.77
SKB 45-MB63	45	MB63	41.0	60.00	M20	2.03
SKB 50-MB50	50	MB50	29.0	48.00	M24	2.80
SKB 50-MB63	50	MB63	37.0	56.00	M24	2.98
SKB 50-MB80	50	MB80	43.0	62.00	M24	3.55

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

CATM-MB

MB Modular Boring System Connections with CATM FORM AD ANSI B5.5 Caterpillar
Tapered Shanks and Metric Pull Stud Threads



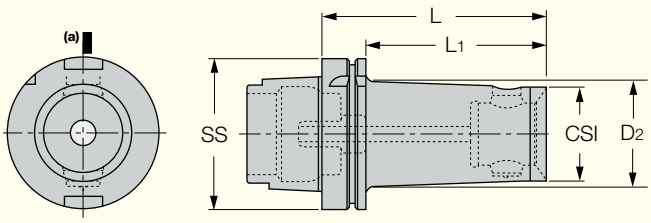
(a)Cutting edge position

Designation	SS	CSI	L_1	L	G	Kg
CATM 40 MB50	40	MB50	47.0	66.00	M16	1.20
CATM 40 MB63	40	MB63	-	100.00	M16	1.91
CATM 45 MB50	45	MB50	29.0	48.00	M20	1.83
CATM 45 MB63	45	MB63	56.0	75.00	M20	2.30
CATM 45 MB80	45	MB80	-	80.00	M20	2.88
CATM 50 MB50	50	MB50	29.0	48.00	M24	3.06
CATM 50 MB63	50	MB63	37.0	56.00	M24	3.08
CATM 50 MB80	50	MB80	43.0	62.00	M24	3.35

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

HSK A-MB

MB Modular Connection System with DIN 69893 HSK A Taper Shanks



(a)Cutting edge position

Designation	SS	CSI	L_1	L	D_2	Kg
HSK A 40 MB32	40	MB32	28.0	48.00	-	1.05
HSK A 50 MB50	50	MB50	-	66.00	-	0.71
HSK A 63 MB40	63	MB40	34.0	60.00	-	1.00
HSK A 63 MB40X120	63	MB40	94.0	120.00	46.00	1.60
HSK A 63 MB50	63	MB50	40.0	66.00	-	1.04
HSK A 63 MB50X120	63	MB50	94.0	120.00	-	1.05
HSK A 63 MB63	63	MB63	-	75.00	-	1.20
HSK A 80 MB50	80	MB50	44.0	70.00	-	1.61
HSK A 80 MB63	80	MB63	54.0	80.00	-	0.02
HSK A 80 MB80	80	MB80	-	86.00	-	2.54
HSK A 100 MB50	100	MB50	43.0	72.00	-	2.56
HSK A 100 MB50X120	100	MB50	91.0	120.00	60.00	4.85
HSK A 100 MB63	100	MB63	53.0	82.00	-	2.86
HSK A 100 MB63X150	100	MB63	121.0	150.00	70.00	4.72
HSK A 100 MB80	100	MB80	59.0	88.00	-	3.60
HSK A 100 MB80X180	100	MB80	151.0	180.00	-	7.30

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately) • Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

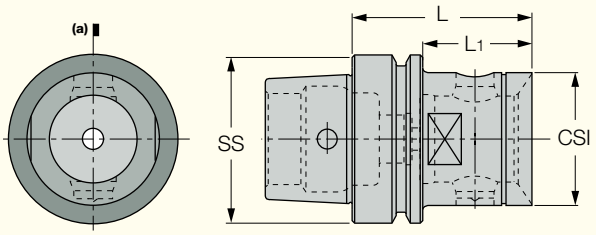
Spare Parts

Designation	Cooling Tube	Wrench
HSK A 40 MB32	COOLING TUBE HSK A 40*	WRENCH COOL TUBE HSK 40*
HSK A 50 MB50	COOLING TUBE HSK A 50*	WRENCH COOL TUBE HSK 50*
HSK A 63 MB40	COOLING TUBE HSK A 63*	WRENCH COOL TUBE HSK 63*
HSK A 63 MB40X120	COOLING TUBE HSK A 63*	WRENCH COOL TUBE HSK 63*
HSK A 63 MB50	COOLING TUBE HSK A 63*	WRENCH COOL TUBE HSK 63*
HSK A 63 MB50X120	COOLING TUBE HSK A 63*	WRENCH COOL TUBE HSK 63*
HSK A 63 MB63	COOLING TUBE HSK A 63*	WRENCH COOL TUBE HSK 63*
HSK A 80 MB50	COOLING TUBE HSK A 80*	WRENCH COOL TUBE HSK 80*
HSK A 80 MB63	COOLING TUBE HSK A 80*	WRENCH COOL TUBE HSK 80*
HSK A 80 MB80	COOLING TUBE HSK A 80*	WRENCH COOL TUBE HSK 80*
HSK A 100 MB50	COOLING TUBE HSK A100*	WRENCH COOL TUBE HSK100*
HSK A 100 MB50X120	COOLING TUBE HSK A100*	WRENCH COOL TUBE HSK100*
HSK A 100 MB63	COOLING TUBE HSK A100*	WRENCH COOL TUBE HSK100*
HSK A 100 MB63X150	COOLING TUBE HSK A100*	WRENCH COOL TUBE HSK100*
HSK A 100 MB80	COOLING TUBE HSK A100*	WRENCH COOL TUBE HSK100*
HSK A 100 MB80X180	COOLING TUBE HSK A100*	WRENCH COOL TUBE HSK100*

* Optional, should be ordered separately

HSK E-MB

MB Modular Connection System with DIN 69893 E Taper Shank



(a)Cutting edge position

Designation	SS	CSI	L_1	L	Kg
HSK E 40 MB32	40	MB32	22.0	42.00	0.30
HSK E 50 MB50	50	MB50	-	66.00	0.71
HSK E 63 MB50	63	MB50	40.0	66.00	0.40

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately) • Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

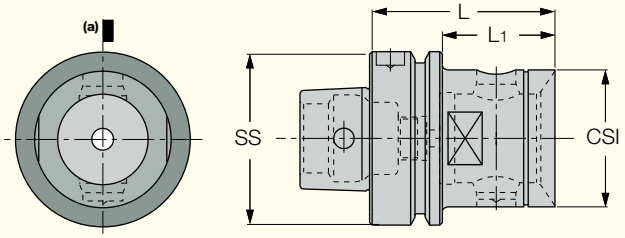
Spare Parts

Designation	Cooling Tube	Wrench
HSK E 40 MB32	COOLING TUBE HSK A 40*	WRENCH COOL TUBE HSK 40*
HSK E 50 MB50	COOLING TUBE HSK A 50*	WRENCH COOL TUBE HSK 50*
HSK E 63 MB50	COOLING TUBE HSK A 63*	WRENCH COOL TUBE HSK 63*

* Optional, should be ordered separately

HSK F-MB

MB Modular Connection System with DIN 69893 F Taper Shank



(a)Cutting edge position

Designation	SS	CSI	L_1	L	Kg
HSK F 63 MB50	63	MB50	40.0	66.00	1.15

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately) • Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

Spare Parts

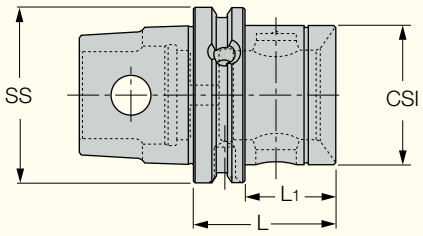
Designation	Cooling Tube	Wrench
HSK F-MB	COOLING TUBE HSK A 63*	WRENCH COOL TUBE HSK 63*

* Optional, should be ordered separately

ITSBORE

IM63 XMZ MB

MB Modular Boring System Connection with ISO 26622-1 XMZ Tapered Shanks
for Mazak Integrex Machines



Designation	SS	CSI	L	L_1	Kg
IM63 XMZ MB50	63	MB50	50.00	32.0	1.01
IM63 XMZ MB63	63	MB63	70.00	52.0	1.29

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

ITSBORE • CAMFIX

C#-MB

MB Modular Boring System Connection with CAMFIX Exchangeable Shanks

Fig 1

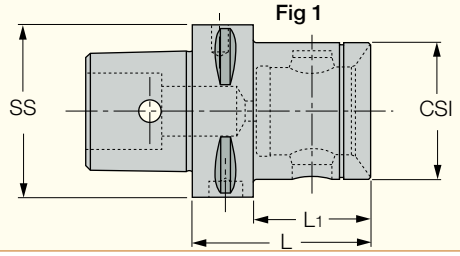
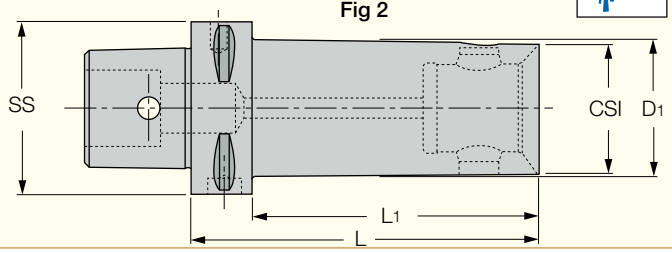


Fig 2

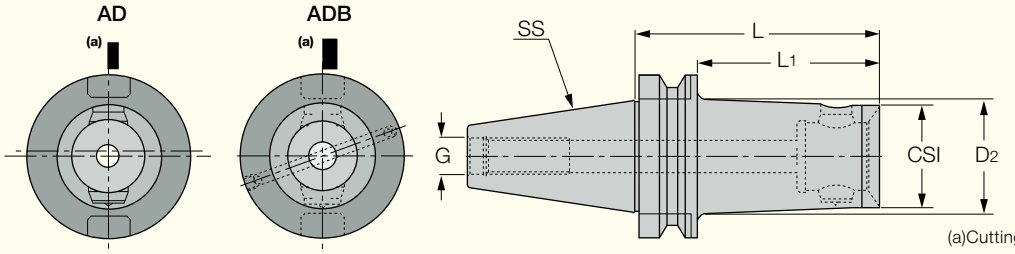


Designation	SS	CSI	L	L_1	D_1	Kg	Fig
C4 MB32X42	40	MB32	42.00	22.0	-	0.30	1
C5 MB50X55	50	MB50	55.00	-	-	0.80	1
C6 MB40X50	63	MB40	50.00	28.0	-	0.90	1
C6 MB40X120	63	MB40	120.00	98.0	44.0	1.50	2
C6 MB50X67	63	MB50	67.00	45.0	-	1.10	1
C6 MB50X120	63	MB50	120.00	98.0	54.0	1.90	2
C6 MB63X77	63	MB63	77.00	-	-	1.80	1
C8 MB50X60	80	MB50	60.00	30.0	-	2.00	1
C8 MB50X120	80	MB50	120.00	90.0	54.0	2.80	2
C8 MB63X70	80	MB63	70.00	40.0	-	2.30	1
C8 MB63X150	80	MB63	150.00	120.0	67.0	4.00	2
C8 MB80X75	80	MB80	75.00	-	-	2.60	1
C8 MB80X120	80	MB80	120.00	-	-	4.30	1
C10 MB80X80	100	MB80	80.00	48.0	-	3.50	1
C10 MB110X120	100	MB110	120.00	88.0	-	5.00	1

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

BT-MB

MB Modular Connection System with BT MAS-403 FORM AD/ADB Taper Shanks



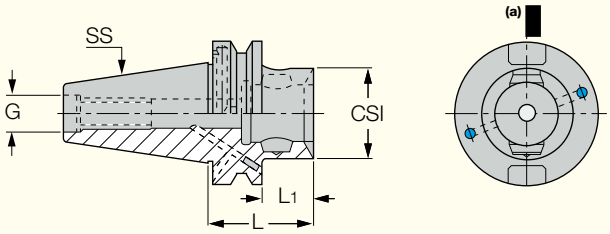
(a)Cutting edge position

Designation	SS	CSI	L_1	L	D_2	G	Kg
BT 30 MB32	30	MB32	10.6	32.00	-	M12	0.38
BT 30 MB50	30	MB50	38.6	60.00	-	M12	0.69
BT 40 MB40	40	MB40	18.0	45.00	-	M16	1.01
BT 40 MB40X120 A/B	40	MB40	93.0	120.00	44.50	M16	1.78
BT 40 MB50	40	MB50	21.0	48.00	-	M16	1.03
BT 40 MB50X120 A/B	40	MB50	93.0	120.00	-	M16	2.08
BT 40 MB63	40	MB63	39.0	66.00	-	M16	1.35
BT 45 MB50	45	MB50	29.0	62.00	-	M20	2.32
BT 45 MB63	45	MB63	37.0	70.00	-	M20	2.48
BT 45 MB80	45	MB80	37.0	70.00	-	M20	2.63
BT 50 MB50	50	MB50	28.0	66.00	-	M24	3.73
BT 50 MB50X120 A/B	50	MB50	82.0	120.00	60.00	M24	4.64
BT 50 MB63	50	MB63	37.0	75.00	-	M24	3.92
BT 50 MB63X150 A/B	50	MB63	112.0	150.00	70.00	M24	5.85
BT 50 MB80	50	MB80	37.0	75.00	-	M24	4.25
BT 50 MB80X180 A/B	50	MB80	142.0	180.00	-	M24	8.19
BT 50 MB110X140	50	MB110	102.0	140.00	-	M24	0.00
BT 60-MB80X65	60	MB80	17.0	65.00	-	M30	0.00
BT 60-MB110X110	60	MB110	63.0	110.00	-	M30	0.00
BT 60-MB110X200	60	MB110	152.0	200.00	-	M30	0.00

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

BTB-MB

MB Modular Connection System with BT MAS-403 Type B Taper Shanks



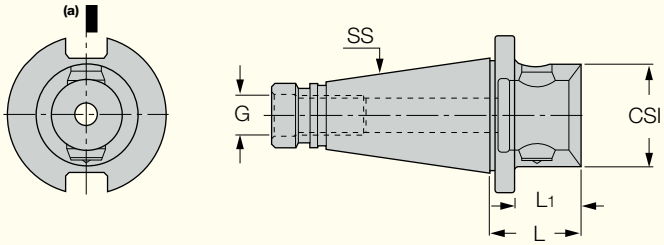
(a)Cutting edge position

Designation	SS	CSI	L_1	L	G	Kg
BTB 40 MB50	40	MB50	21.0	48.00	M16	1.05
BTB 40 MB63	40	MB63	-	66.00	M16	1.34
BTB 50 MB50X 66 A/B	50	MB50	28.0	66.00	M24	3.80
BTB 50 MB63X 75 A/B	50	MB63	37.0	75.00	M24	4.00
BTB 50 MB80 A/B	50	MB80	37.0	75.00	M24	4.30

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

ISOM-MB

MB Modular Connection System with DIN 2080-A Taper Shanks



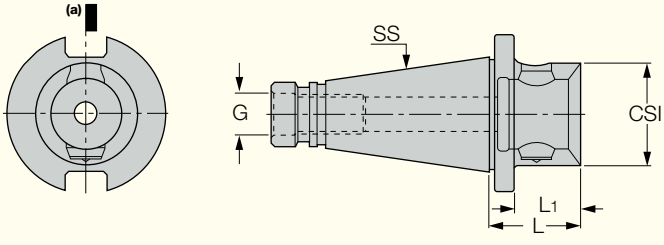
(a)Cutting edge position

Designation	SS	CSI	L_1	L	G	Kg
ISOM 30-MB50	30	MB50	-	58.00	M12	0.78
ISOM 40-MB50	40	MB50	36.0	48.00	M16	1.04
ISOM 40-MB63	40	MB63	-	60.00	M16	1.28
ISOM 45-MB50	45	MB50	33.0	48.00	M20	1.81
ISOM 45-MB63	45	MB63	45.0	60.00	M20	1.99
ISOM 45-MB80	45	MB80	-	66.00	M20	2.40
ISOM 50-MB50	50	MB50	33.0	48.00	M24	2.80
ISOM 50-MB63	50	MB63	41.0	56.00	M24	2.98
ISOM 50-MB80	50	MB80	45.0	60.00	M24	3.52

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

ISO-MB

MB Modular Connection System with ISO 297 Taper Shanks



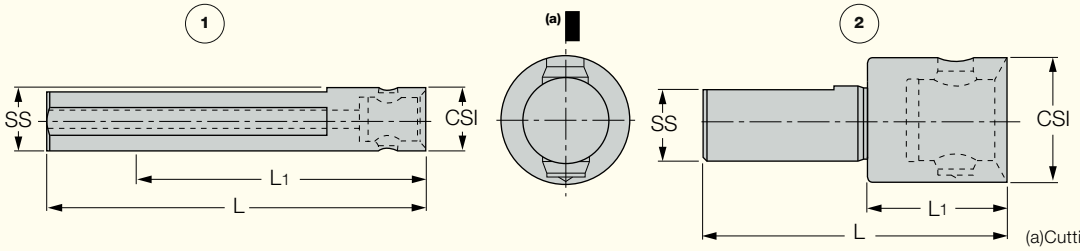
(a)Cutting edge position

Designation	SS	CSI	L_1	L	G	Kg
ISO 40-MB50	40	MB50	36.0	48.00	UNC 5/8"-11	1.05
ISO 40-MB63	40	MB63	-	60.00	UNC 5/8"-11	1.36
ISO 50-MB50	50	MB50	33.0	48.00	UNC 1.0"-8	2.81
ISO 50-MB63	50	MB63	41.0	56.00	UNC 1.0"-8	2.95
ISO 50-MB80	50	MB80	45.0	60.00	UNC 1.0"-8	3.50

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

ST-MB

MB Modular Connection System with Straight Cylindrical Shanks



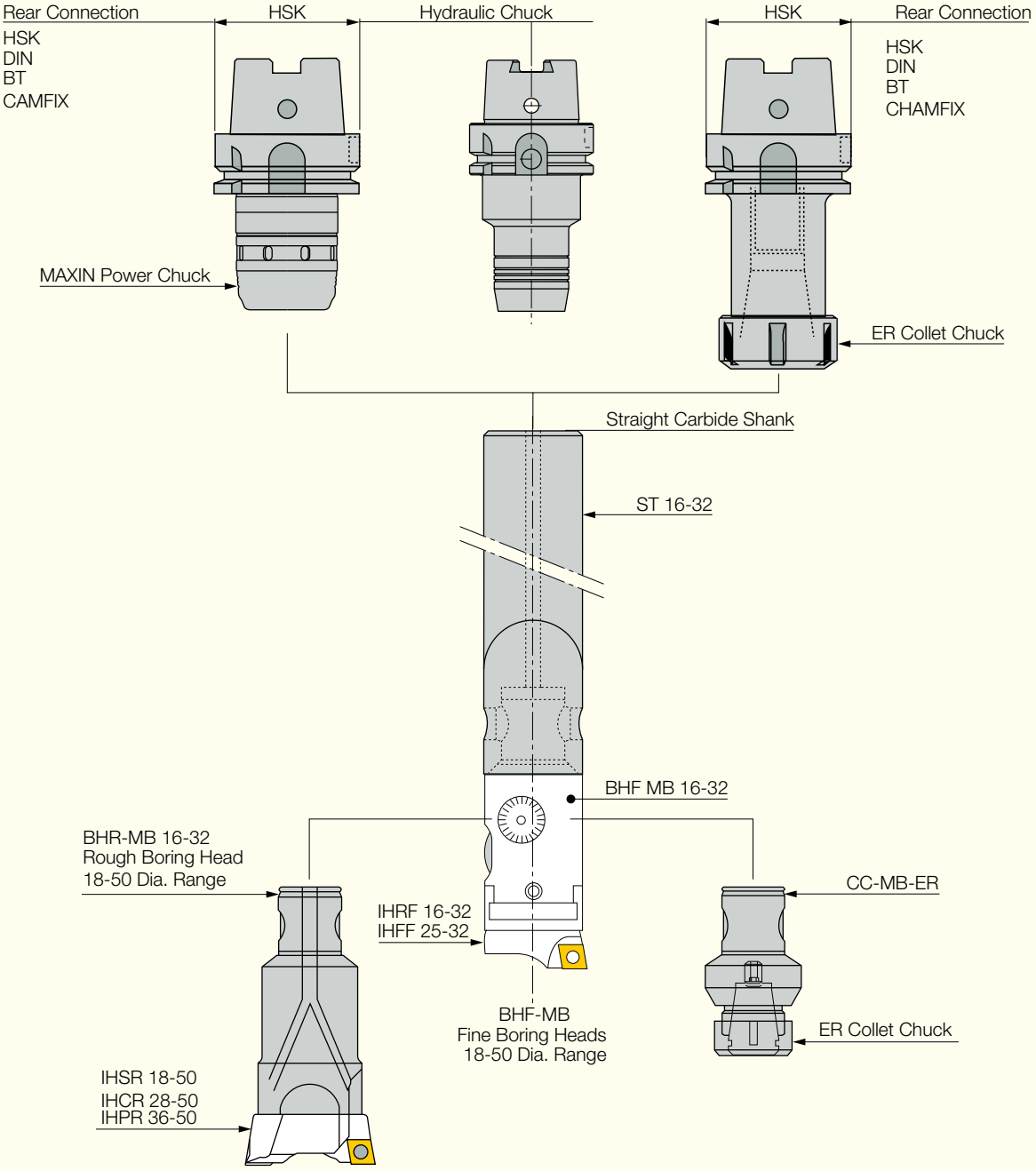
Designation	SS	CSI	L	L_1 (1)	Kg	Fig
ST 16-MB16	16	MB16	100.00	66.0	0.16	1
ST 20-MB20	20	MB20	125.00	85.0	0.28	1
ST 25-MB32	25	MB32	100.00	35.0	0.41	2
ST 32-MB50	32	MB50	140.00	60.0	1.13	2

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

(1) Max overhang.

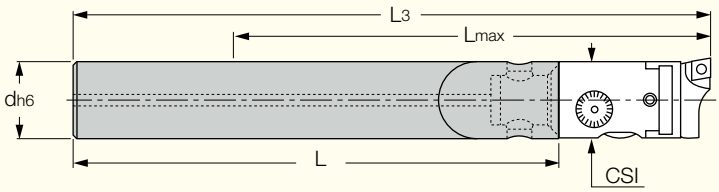
ST-MB Straight Carbide Shank with MB Connection Assembly Options

ST16-32 MB16-MB32 Diameter Range: 18-50 mm



ST-MB-E

MB Connection Modular System with Cylindrical Carbide Shanks

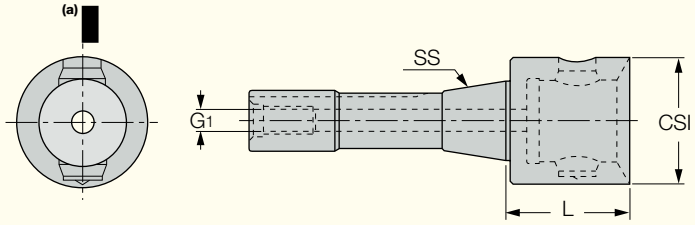


Designation	CSI	d	L_3	L_{max}	L	Kg
ST 16-MB16X110E	MB16	16.00	144.00	100.0	110.00	0.29
ST 16-MB16X140E	MB16	16.00	174.00	125.0	140.00	0.17
ST 16-MB16X170E	MB16	16.00	204.00	160.0	170.00	0.45
ST 20-MB20X135E	MB20	20.00	175.00	125.0	135.00	0.40
ST 20-MB20X170E	MB20	20.00	210.00	160.0	170.00	0.69
ST 20-MB20X210E	MB20	20.00	250.00	200.0	210.00	0.86
ST 25-MB25X160E	MB25	25.00	210.00	160.0	160.00	0.98
ST 25-MB25X205E	MB25	25.00	255.00	200.0	205.00	0.48
ST 25-MB25X255E	MB25	25.00	305.00	250.0	255.00	1.64
ST 32-MB32X195E	MB32	32.00	258.00	200.0	195.00	1.96
ST 32-MB32X250E	MB32	32.00	313.00	250.0	250.00	2.50
ST 32-MB32X315E	MB32	32.00	378.00	320.0	315.00	3.30

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

R8-MB

MB Modular Connection System with R-8 Bridgeport Shanks



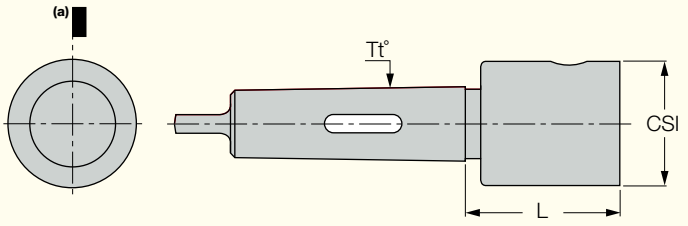
(a)Cutting edge position

Designation	SS	CSI	L	G_1	Kg
R8 MB50	R8	MB50	50.00	UNF 7/16-20	0.84

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

MTT-MB

MB Modular Connection System with DIN 228/B 1806 Morse Taper Shanks



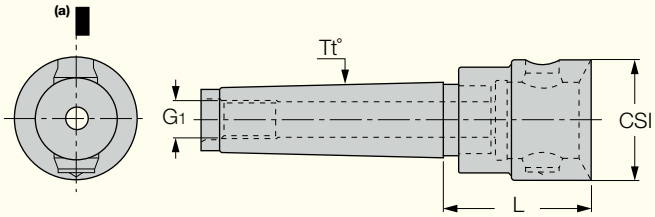
(a)Cutting edge position

Designation	T_t°	CSI	L	Kg
MTT 5-MB63	MT5	MB63	65.00	2.25

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

MTD-MB

MB Modular Connection System with DIN 228/A 220 Morse Taper Shanks



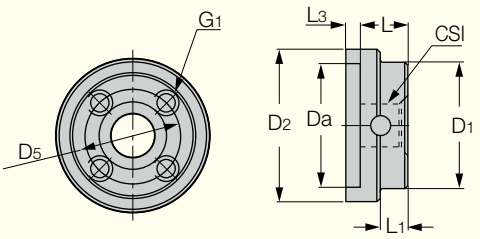
(a)Cutting edge position

Designation	T_t°	CSI	L	G_1	Kg
MTD 4-MB50	MT4	MB50	63.00	M16	0.91
MTD 4-MB50 SIP	MT4	MB50	63.00	M14	0.99

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

DIN2079-MB

MB Modular Connection with DIN 2079 Spindle Connecting Interface

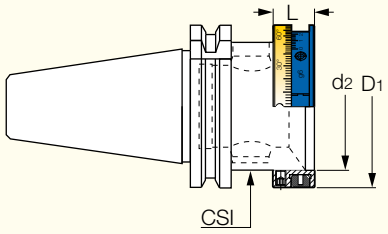


Designation	CSI	L	L_3	L_1	D_1	D_2	Da	D_5	G_1	Kg
DIN2079 MB50 40	MB50	35.00	10.00	21.0	90.0	110.00	88.89	66.70	M12	1.96
DIN2079 MB63 40	MB63	45.00	10.00	31.0	90.0	110.00	88.89	66.70	M12	2.21
DIN2079 MB63 50	MB63	45.00	12.00	31.0	135.0	150.00	128.57	101.60	M16	4.60
DIN2079 MB80 50	MB80	45.00	12.00	31.0	135.0	150.00	128.57	101.60	M16	4.50

• Standard connection plate that can be assembled easily on most CNC spindle machines with a DIN2079 interface. This connection plate enables the use of ITSBORE components with MB connection by using any standard adapter with four screws. It is affixed directly on the machine spindle.

MB-BL-RING

Interchangeable Balancing Rings for MB Modular Boring Heads



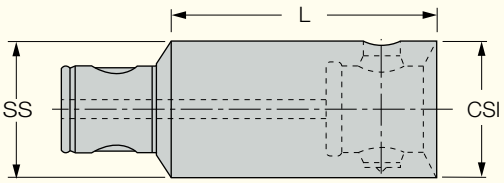
Designation	CSI	D_1	d_2	L	Kg
MB 32 BL-RING	MB32	42.0	31.00	14.00	0.07
MB 40 BL-RING	MB40	50.0	39.00	15.00	0.07
MB 50 BL-RING	MB50	63.5	49.00	16.00	0.14
MB 63 BL-RING	MB63	80.0	62.00	18.00	0.12

The balancing rings enable a high degree of balance. This is achieved by setting the two counterweights to balance the toolholder on which it is mounted. The result is a more economical and accurate mounting technique.
The use of the balancing rings provides the following advantages:
-Improved accuracy and surface finish
-Considerable extension of tool life
-Considerable extension of spindle bearing life
-Drastic reduction of vibrations and noise

The purpose of balancing a toolholder is to improve the distribution of the masses of the different elements in order to produce centrifugal forces within a prescribed limit, when spinning at a given spindle speed (RPM).
The balancing operation for a toolholder has the aim of bringing the original unbalance within the maximum admissible level “G” prescribed by the ISO 1940/1 standards.

EX-MB

Extensions for the MB Modular Connection System

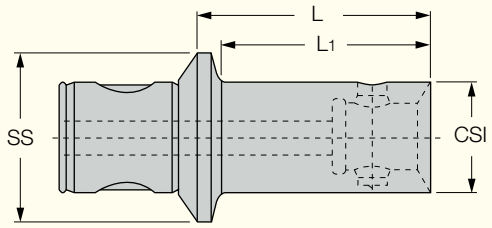


Designation	SS	CSI	L	Kg
EX 14X25-MB14	MB14	MB14	25.00	0.05
EX 16X25-MB16	MB16	MB16	25.00	0.06
EX 20X32-MB20	MB20	MB20	32.00	0.09
EX 25X25-MB25	MB25	MB25	25.00	0.11
EX 25X40-MB25	MB25	MB25	40.00	0.16
EX 32X32-MB32	MB32	MB32	32.00	0.21
EX 32X50-MB32	MB32	MB32	50.00	0.32
EX 40X40-MB40	MB40	MB40	40.00	0.39
EX 40X63-MB40	MB40	MB40	63.00	0.61
EX 50X 50-MB50	MB50	MB50	50.00	0.75
EX 50X 80-MB50	MB50	MB50	80.00	1.21
EX 50X100-MB50	MB50	MB50	100.00	1.52
EX 63X 63-MB63	MB63	MB63	63.00	1.49
EX 63X100-MB63	MB63	MB63	100.00	2.40
EX 63X125-MB63	MB63	MB63	125.00	3.00
EX 80X 80-MB80	MB80	MB80	80.00	3.10
EX 80X125-MB80	MB80	MB80	125.00	4.90
EX 80X160-MB80	MB80	MB80	160.00	6.26
EX 110X140-MB110	MB110	MB110	140.00	0.00
EX 110X200-MB110	MB110	MB110	200.00	0.00

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

RE MB-MB

Reducers for the MB Modular Connection System

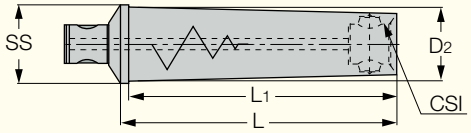


Designation	SS	CSI	L_1	L	Kg
RE MB16-MB14X24	MB16	MB14	19.5	24.00	0.22
RE MB20-MB14X19	MB20	MB14	13.5	19.00	0.00
RE MB20-MB16X20	MB20	MB16	16.0	20.00	0.05
RE MB25-MB14X19	MB25	MB14	13.5	19.00	0.00
RE MB25-MB16X20	MB25	MB16	15.0	20.00	0.08
RE MB25-MB20X25	MB25	MB20	20.0	25.00	0.10
RE MB32-MB14X25	MB32	MB14	17.0	23.00	0.00
RE MB32-MB16X24	MB32	MB16	18.0	24.00	0.13
RE MB32-MB20X25	MB32	MB20	20.0	25.00	0.14
RE MB32-MB25X28	MB32	MB25	23.0	28.00	0.16
RE MB40-MB14X23	MB40	MB14	16.0	23.00	0.24
RE MB40-MB16X24	MB40	MB16	17.0	24.00	0.23
RE MB40-MB20X26	MB40	MB20	20.0	26.00	0.24
RE MB40-MB25X28	MB40	MB25	22.0	28.00	0.26
RE MB40-MB32X32	MB40	MB32	27.0	32.00	0.30
RE MB50-MB14X23	MB50	MB14	14.5	23.00	0.39
RE MB50-MB14X39	MB50	MB14	30.5	39.00	0.40
RE MB50-MB16X24	MB50	MB16	15.0	24.00	0.39
RE MB50-MB16X40	MB50	MB16	31.0	40.00	0.41
RE MB50-MB16X74	MB50	MB16	65.0	74.00	0.48
RE MB50-MB20X26	MB50	MB20	18.0	26.00	0.40
RE MB50-MB20X70	MB50	MB20	62.0	70.00	0.28
RE MB50-MB20X93	MB50	MB20	85.0	93.00	0.56
RE MB50-MB25X117	MB50	MB25	110.0	117.00	0.76
RE MB50-MB25X28	MB50	MB25	21.0	28.00	0.43
RE MB50-MB25X87	MB50	MB25	80.0	87.00	0.64
RE MB50-MB32X144	MB50	MB32	137.0	144.00	1.16
RE MB50-MB32X32	MB50	MB32	25.0	32.00	0.45
RE MB50-MB32X87	MB50	MB32	80.0	87.00	0.77
RE MB50-MB40X176	MB50	MB40	170.0	176.00	1.90
RE MB50-MB40X36	MB50	MB40	30.0	36.00	0.52
RE MB50-MB40X87	MB50	MB40	80.0	87.00	0.98
RE MB63-MB50X40	MB63	MB50	34.0	40.00	0.98
RE MB80-MB50X45	MB80	MB50	36.0	45.00	1.35
RE MB80-MB63X60	MB80	MB63	52.0	60.00	1.77
RE MB110-MB80X70	MB110	MB80	52.0	70.00	0.00

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

RE MB-AVI

MB Modular System Vibration Damping Reducers

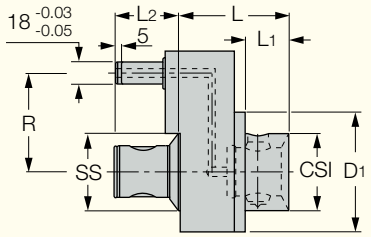


Designation	SS	CSI	D_2	L_1	L	Kg
RE MB50-MB16X74-AVI	MB50	MB16	17.50	65.0	74.00	0.52
RE MB50-MB20X93-AVI	MB50	MB20	21.50	85.0	93.00	0.65
RE MB50-MB25X117-AVI	MB50	MB25	27.00	110.0	117.00	0.94
RE MB50-MB32X144-AVI	MB50	MB32	35.00	138.0	144.00	1.47
RE MB50-MB40X176-AVI	MB50	MB40	47.00	170.0	176.00	2.73
RE MB63-MB50X220-AVI	MB63	MB50	60.00	214.0	220.00	5.20
RE MB80-MB63X280-AVI	MB80	MB63	77.00	272.0	280.00	10.40

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

CHS MB-R

Coolant Supply Collar with a Stopper for the MB Modular Boring System

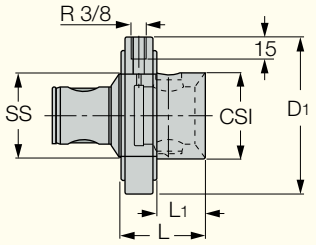


Designation	SS	CSI	R	D_1	L_1	L	L_2	RPM max	Bar	Kg
CHS MB50-R65	MB50	MB50	65	80.0	28.5	72.00	43.00	7000	10	3.06
CHS MB50-R80	MB50	MB50	80	80.0	28.5	72.00	43.00	7000	10	3.30
CHS MB63-R80	MB63	MB63	80	100.0	37.0	88.00	51.00	5600	10	5.16

• Use with stop block • Important: coolant flow must be started prior to rotating the spindle to avoid damage of the O-rings • Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

CHR MB

Coolant Supply Collar for the MB Modular Boring System

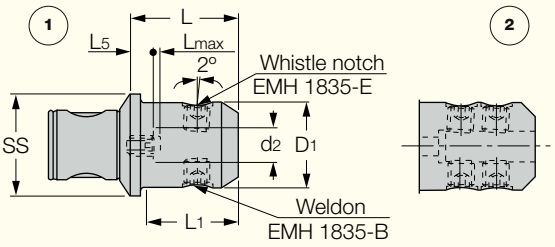


Designation	SS	CSI	D_1	L_1	L	RPM max	Bar	Kg
CHR MB63	MB63	MB63	115.0	35.0	63.00	3500	10	3.30

• Important: coolant flow must be started prior to rotating the spindle to avoid damage of the O-rings • Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

EMH MB

Weldon and Whistle Notch Side-Lock Holders with MB Modular Boring System Connection



Designation	SS	d_2	D_1	L_1	L	L_5	L_{max}	Fig	Kg
EMH MB50-6	MB50	6.00	25.0	32.5	44.00	7.00	2.0	1	0.51
EMH MB50-8	MB50	8.00	28.0	33.0	44.00	7.00	2.0	1	0.54
EMH MB50-10	MB50	10.00	35.0	42.0	52.00	11.00	3.0	1	0.68
EMH MB50-12	MB50	12.00	42.0	48.0	57.00	11.00	3.0	1	0.86
EMH MB50-14	MB50	14.00	42.0	48.0	57.00	11.00	3.0	1	0.84
EMH MB50-16	MB50	16.00	48.0	61.0	67.00	17.00	4.0	1	1.12
EMH MB50-20	MB50	20.00	51.0	-	67.00	16.00	4.0	1	1.19
EMH MB50-25	MB50	25.00	63.0	-	80.00	22.00	4.0	2	1.82
EMH MB63-16	MB63	16.00	48.0	53.0	64.00	14.00	4.0	1	1.45
EMH MB63-20	MB63	20.00	52.0	56.0	66.00	14.00	4.0	1	1.56
EMH MB63-25	MB63	25.00	64.0	-	74.00	16.00	4.0	2	2.11
EMH MB63-32	MB63	32.00	72.0	-	76.00	14.00	4.0	2	2.50
EMH MB80-40	MB80	40.00	80.0	-	83.00	12.00	4.0	2	3.25

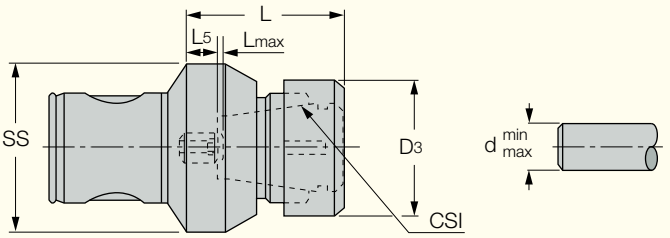
• Please verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

Spare Parts

Designation	Hex Socket Screw	Hex Socket Screw 1	Screw
EMH MB50-6		EMH 50-6/8 SCREW	SR M6x10 DIN 1835B
EMH MB50-8	BH M8X10 EM SCREW/EMH	EMH 50-6/8 SCREW	SR M8x10 DIN 1835B
EMH MB50-10	BH M10X12 EM SCREW/EMH	EMH 50-10/12/14 SCREW	SR M10x12 DIN 1835B
EMH MB50-12	BH M12X16 EM SCREW/EMH	EMH 50-10/12/14 SCREW	SR M12x16 DIN 1835B
EMH MB50-14	BH M12X16 EM SCREW/EMH	EMH 50-10/12/14 SCREW	SR M14x16 DIN 1835B
EMH MB50-16	BH M14X16 EM SCREW/EMH	EMH 50/63-16/20 SCREW	SR M14x16 DIN 1835B
EMH MB50-20	BH M16X16 EM SCREW/EMH	EMH 50/63-16/20 SCREW	SR M16x16 DIN 1835B
EMH MB63-16	BH M14X16 EM SCREW/EMH	EMH 50/63-16/20 SCREW	SR M14x16 DIN 1835B
EMH MB63-20	BH M16X16 EM SCREW/EMH	EMH 50/63-16/20 SCREW	SR M16x16 DIN 1835B
EMH MB63-25	BH M18X20 EM SCREW/EMH	EMH 63-25/32 SCREW	SR M18x20 DIN 1835B
EMH MB63-32	BH M20X20 EM SCREW/EMH	EMH 63-25/32 SCREW	SR M18x20 DIN 1835B
EMH MB80-40	BH M20X20 EM SCREW/EMH	EMH 80-40 SCREW	SR M20x20 DIN 1835B

CC MB-ER

DIN 6499 ER Collet Chuck with MB Modular Boring System Connection

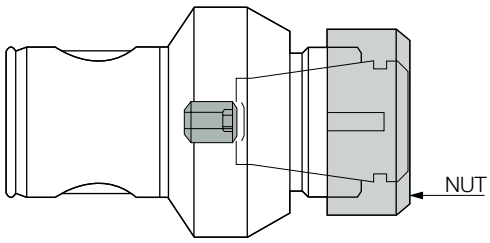


Designation	SS	CSI	d min	d max	D3	L	L5	L max	Kg
CC MB16 ER11M	MB16	ER11	0.5	7.0	16.00	25.00	2.50	2.0	0.05
CC MB20 ER16M	MB20	ER16	0.5	10.0	22.00	32.00	1.00	2.0	0.05
CC MB25 ER20M	MB25	ER20	1.0	13.0	28.00	40.00	2.50	2.0	0.15
CC MB32 ER25M	MB32	ER32	1.0	16.0	35.00	42.00	1.50	2.0	0.23
CC MB40 ER25	MB40	ER25	1.0	16.0	42.00	45.00	5.00	2.0	0.45
CC MB50 ER25	MB50	ER25	1.0	16.0	42.00	48.00	7.00	2.0	0.67
CC MB50 ER32	MB50	ER32	2.0	20.0	50.00	59.00	7.00	2.0	0.79
CC MB63 ER32	MB63	ER32	2.0	20.0	50.00	59.00	12.00	2.0	1.36
CC MB63 ER40	MB63	ER40	3.0	26.0	63.00	64.00	12.00	2.0	1.57

- Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.
- For ER collets, see page B144.

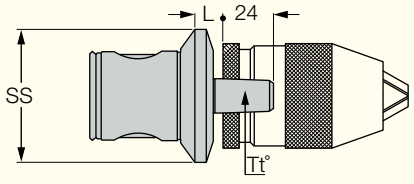
Spare Parts

Designation	ER Nut	ER Wrench
CC MB16 ER11M	NUT ER11 MINI	WRENCH ER11 MINI
CC MB20 ER16M	NUT ER16 MINI	WRENCH ER16 MINI
CC MB25 ER20M	NUT ER20 MINI	WRENCH ER20 MINI
CC MB32 ER25M	NUT ER25 MINI	WRENCH ER25 MINI
CC MB40 ER25	NUT ER25 TOP	WRENCH ER25
CC MB50 ER25	NUT ER25 TOP	WRENCH ER25
CC MB50 ER32	NUT ER32 TOP	WRENCH ER32
CC MB63 ER32	NUT ER32 TOP	WRENCH ER32
CC MB63 ER40	NUT ER40 TOP	WRENCH ER40



DC MB

DIN238 DC Drill Chuck Arbor with MB Modular Boring System Connection

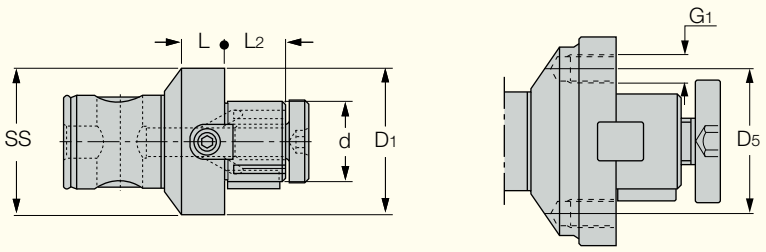


Designation	SS	L	Tt°	Kg
DC MB50 B16	MB50	10.00	B16	0.41
DC MB63 B16	MB63	13.50	B16	0.84

- Without drill chuck.

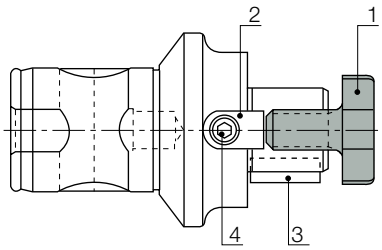
SMH MB

Shell Mill Holders with MB Modular Boring System Connection



Designation	SS	d	D_1	G_1	L_2	L	Kg
SMH MB40-16	MB40	16.00	32.0	M8	17.00	15.00	0.48
SMH MB40-22	MB40	22.00	40.0	M10	19.00	13.00	0.38
SMH MB50-16	MB50	16.00	32.0	M8	17.00	15.00	0.48
SMH MB50-22	MB50	22.00	40.0	M10	19.00	15.00	0.55
SMH MB50-27	MB50	27.00	50.0	M12	21.00	15.00	0.66
SMH MB50-32	MB50	32.00	70.0	M16	24.00	15.00	0.79
SMH MB63-22	MB63	22.00	60.0	M16	19.00	15.00	1.10
SMH MB63-27	MB63	27.00	60.0	M12	21.00	15.00	1.09
SMH MB63-32	MB63	32.00	70.0	M16	24.00	15.00	1.24
SMH MB80-32	MB80	32.00	88.0	M16	24.00	24.00	2.10
SMH MB80-40	MB80	40.00	88.0	M12	27.00	24.00	2.23
SMH MB80-50	MB80	50.00	90.0	M24	30.00	24.00	2.64
SMH MB80-60	MB80	60.00	128.5	M30	40.00	31.50	4.74
SMH MB110-60	MB110	60.00	128.5	M30	40.00	36.00	7.70

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.



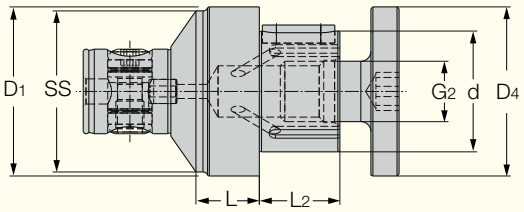
Spare Parts

Designation	(1) Shell Lock Screw	(2) Driving Key	(3) Clamping Key	(4) Screw
SMH MB40-16	M 8 CLAMP SCREW SEM 16*	BH DOG DRIVE SMH 16*	KEY SMH 16*	M3X8 SMH KEY SCREW*
SMH MB40-22	M 10 CLAMP SCREW SEM 22	BH DOG DRIVE SMH 22	KEY SMH 22	M4X10SMH KEY SCREW
SMH MB50-16	M 8 CLAMP SCREW SEM 16	BH DOG DRIVE SMH 16	KEY SMH 16	M3X8 SMH KEY SCREW
SMH MB50-22	M 10 CLAMP SCREW SEM 22	BH DOG DRIVE SMH 22	KEY SMH 22	M4X10SMH KEY SCREW
SMH MB50-27	M 12 CLAMP SCREW SEM 27	BH DOG DRIVE SMH 27	KEY SMH 27	M5X12SMH KEY SCREW
SMH MB50-32	M 16 CLAMP SCREW SEM 32	BH DOG DRIVE SMH 32	KEY SMH 32	M6X16SMH KEY SCREW
SMH MB63-27	M 12 CLAMP SCREW SEM 27	BH DOG DRIVE SMH 27	KEY SMH 27	M5X12SMH KEY SCREW
SMH MB63-32	M 16 CLAMP SCREW SEM 32	BH DOG DRIVE SMH 32	KEY SMH 32	M6X16SMH KEY SCREW
SMH MB80-32	M 16 CLAMP SCREW SEM 32	BH DOG DRIVE SMH 32	KEY SMH 32	M6X16SMH KEY SCREW
SMH MB80-40	M 20 CLAMP SCREW SEM 40	BH DOG DRIVE SMH 40	KEY SMH 40	M6X18SMH KEY SCREW

* Optional, should be ordered separately

STUB MB

STUB 60 Holder with an MB80 Connection for Disk Type Milling Cutters

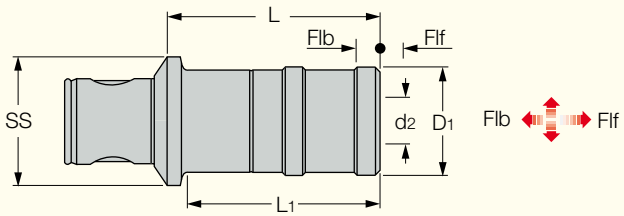


Designation	SS	D_1	d	L	L_2	G_2	D_4	Kg
STUB MB80-60	MB80	84.0	60.00	31.50	40.00	M30	84.00	0.01

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

TP MB-M

Tapping Chucks with MB Modular System Connections

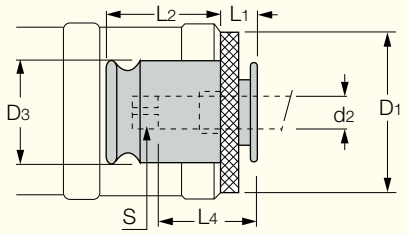


Designation	SS	Tap min	Tap max	L_1	L	D_1	d_2	Flf	Flb	Kg
TP MB50-M 3-12	MB50	M3	M12	60.0	72.00	36.0	19.00	7.5	7.5	0.79
TP MB50-M 8-20	MB50	M8	M20	-	106.00	53.0	31.00	12.5	12.5	1.64
TP MB63-M 3-12	MB63	M3	M12	58.0	70.00	36.0	19.00	7.5	7.5	1.14
TP MB63-M 8-20	MB63	M8	M20	93.0	104.00	53.0	31.00	12.5	12.5	1.88

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

TCS-DIN

Quick Change Tap Collets for Solid Taps

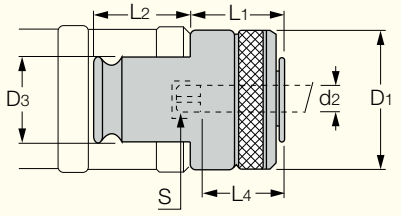


Designation	d_2[1]	S[2]	S_1[3]	S_2[4]	D_1	D_3	L_4	L_1	L_2
TCS #1 DIN 2.8-2.1	2.80	2.10	M2, M2.5	M4	30.0	19.00	17.0	7.0	21.50
TCS #1 DIN 3.5-2.7	3.50	2.70	M3	M4.5, M5	30.0	19.00	17.0	7.0	21.50
TCS #1 DIN 4.5-3.4	4.50	3.40	M3.5	M6	30.0	19.00	17.0	7.0	21.50
TCS #1 DIN 6-4.9	6.00	4.90	M4.5, M6	M8	30.0	19.00	17.0	7.0	21.50
TCS #1 DIN 7-5.5	7.00	5.50	M7	M10	30.0	19.00	17.0	7.0	21.50
TCS #1 DIN 8-6.2	8.00	6.20	M8	-	30.0	19.00	17.0	7.0	21.50
TCS #1 DIN 9-7	9.00	7.00	-	M12	30.0	19.00	17.0	7.0	21.50
TCS #1 DIN 10-8	10.00	8.00	M10	-	30.0	19.00	17.0	7.0	21.50
TCS #1 DIN 11-9	11.00	9.00	M14	M14	30.0	19.00	17.0	7.0	21.50
TCS #2 DIN 6X4.9	6.00	4.90	M4.5, M6	M8	48.0	31.00	30.0	11.0	35.00
TCS #2 DIN 7X5.5	7.00	5.50	M7	M10	48.0	31.00	30.0	11.0	35.00
TCS #2 DIN 8X6.2	8.00	6.20	M8	-	48.0	31.00	30.0	11.0	35.00
TCS #2 DIN 9X 7	9.00	7.00	-	M12	48.0	31.00	30.0	17.0	35.00
TCS #2 DIN 10X 8	10.00	8.00	M10	-	48.0	31.00	30.0	17.0	35.00
TCS #2 DIN 11X 9	11.00	9.00	-	M14	48.0	31.00	30.0	17.0	35.00
TCS #2 DIN 12X 9	12.00	9.00	-	M16	48.0	31.00	30.0	17.0	35.00
TCS #2 DIN 14X11	14.00	11.00	-	M18	48.0	31.00	30.0	17.0	35.00
TCS #2 DIN 16X12	16.00	12.00	-	M20	48.0	31.00	30.0	17.0	35.00

[1] According to tap shank size. [2] Square size. [3] Tap size according to DIN371 [4] Tap size according to DIN376/374

TCC-DIN

Quick Change Tap Collets with a Safety Clutch

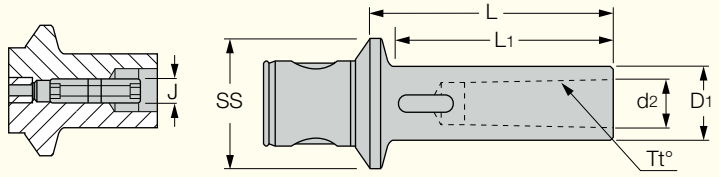


Designation	d_2[1]	S[2]	S_1[3]	S_2[4]	D_1	D_3	L_1	l_1	L_2
TCC #1 DIN 2.8-2.1	2.80	2.10	M2, M2.5	M4	32.0	19.00	17.0	25.00	21.50
TCC #1 DIN 3.5-2.7	3.50	2.70	M3	M4.5, M5	32.0	19.00	17.0	25.00	21.50
TCC #1 DIN 4-3	4.00	3.00	M3.5	-	32.0	19.00	17.0	25.00	21.50
TCC #1 DIN 4.5-3.4	4.50	3.40	M4	M6	32.0	19.00	17.0	25.00	21.50
TCC #1 DIN 6-4.9	6.00	4.90	M4.5, M6	M8	32.0	19.00	17.0	25.00	21.50
TCC #1 DIN 7-5.5	7.00	5.50	M7	M10	32.0	19.00	17.0	25.00	21.50
TCC #1 DIN 8-6.2	8.00	6.20	M8	-	32.0	19.00	17.0	25.00	21.50
TCC #1 DIN 9-7	9.00	7.00	-	M12	32.0	19.00	17.0	25.00	21.50
TCC #1 DIN 10-8	10.00	8.00	M10	-	32.0	19.00	17.0	25.00	21.50
TCC #1 DIN 11-9	11.00	9.00	M10	M14	32.0	19.00	17.0	25.00	21.50
TCC #2 DIN 6X4.9	6.00	4.90	M4.5, M6	M8	50.0	31.00	30.0	34.00	35.00
TCC #2 DIN 7X5.5	7.00	5.50	M7	M10	50.0	31.00	30.0	34.00	35.00
TCC #2 DIN 8X6.2	8.00	6.20	M8	-	50.0	31.00	30.0	34.00	35.00
TCC #2 DIN 9X7	9.00	7.00	M7	M12	50.0	31.00	30.0	34.00	35.00
TCC #2 DIN 10X8	10.00	8.00	M10	-	50.0	31.00	30.0	34.00	35.00
TCC #2 DIN 11X9	11.00	9.00	-	M14	50.0	31.00	30.0	34.00	35.00
TCC #2 DIN 12X9	12.00	9.00	-	M16	50.0	31.00	30.0	34.00	35.00
TCC #2 DIN 14X11	14.00	11.00	-	M18	50.0	31.00	30.0	34.00	35.00
TCC #2 DIN 16X12	16.00	12.00	-	M20	50.0	31.00	30.0	34.00	35.00

[1] According to tap shank size. [2] Square size. [3] Tap size according to DIN371 [4] Tap size according to DIN376/374

AMT MB-MT

MB Modular System Connection with Morse Taper Tang DIN 228 A/B



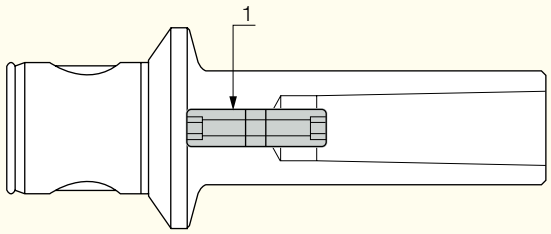
DIN 228A DIN 228B

Designation	SS	T_t°	d_2	D_1	J	L_1	L	Kg
AMT MB50-MT1	MB50	MT1	12.07	20.0	M6	68.0	80.00	0.52
AMT MB50-MT2	MB50	MT2	17.78	30.0	M10	86.0	100.00	0.78
AMT MB50-MT3	MB50	MT3	23.82	36.0	M12	110.0	120.00	1.03
AMT MB63-MT3	MB63	MT3	23.82	36.0	M12	108.0	120.00	1.40
AMT MB63-MT4	MB63	MT4	31.26	48.0	M16	133.0	150.00	2.23

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

AMT

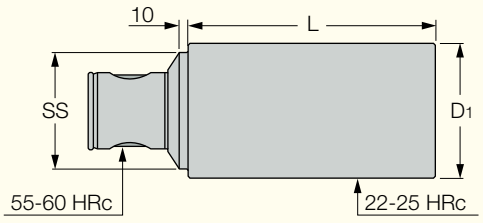
Screw for Shanks – Morse Taper Tang AMT



Designation	1
AMT MB50-MT2	AMT MT2-SCREW
AMT MB50-MT3	AMT MT3-SCREW
AMT MB63-MT3	AMT MT3-SCREW
AMT MB63-MT4	AMT MT4-SCREW

BLANK MB

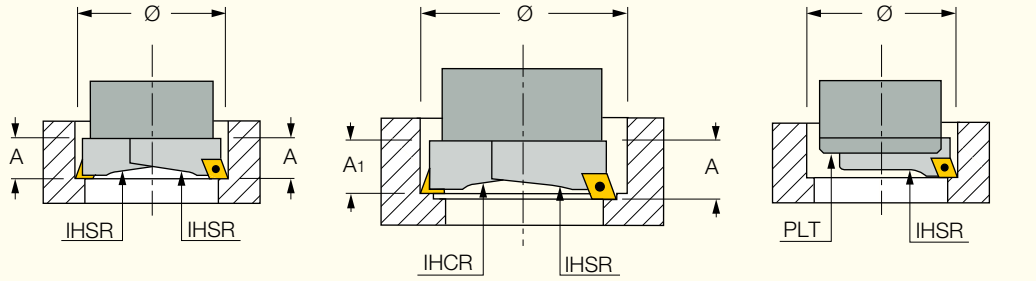
Blanks with MB Modular System Connection



Designation	SS	D_1	L	Kg
BLANK MB50-63X160	MB50	63.0	160.00	4.40
BLANK MB63-80X200	MB63	80.0	200.00	8.77
BLANK MB80-100X250	MB80	100.0	250.00	16.00
BLANK MB110-130X250	MB110	130.0	250.00	0.00

• Material: 39NiCrMo3

Rough Boring Options



Roughing with High Feed — **Fig. a**

Roughing with High Cutting Depth — **Fig. b**

Light Roughing or Semi-Finishing Applications — **Fig. c**

1. Radial setting of the cutting edges should be carried out with tool presetting equipment.
2. Boring bars fitted with two insert pockets are for roughing operations involving heavy chip removal.

   The double-insert boring bars include:

- Two **IHSR** insert holders on the same plane with the two cutting edges set at identical radial distance for high feed rate roughing operations (Fig. a).
- An **IHCR** insert holder and an **IHSR** insert holder not on the same plane with the two cutting edges set at different radial distances for high-depth roughing operations (Fig. b).

3. Boring bars fitted with a single insert holder are for roughing and finishing operations involving normal chip removal. The serrated surface protection plate **PLT** should always be used (Fig. c).

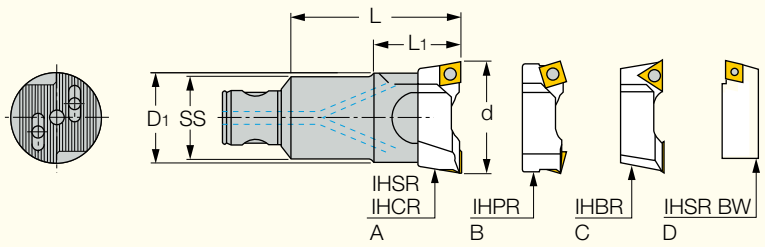
Rough Boring Head Diameter Range

Assembly Reference

	10	20	30	40	50	60	70	80	90	100	110	120	130	200	300	400	500	600	700	800	900	Page
BHR MB16-16x34			18-22																			C29
BHR MB20-20x40			22-28																			
BHR MB25-25x50				28-38																		
BHR MB32-32x63					36-50																	
BHR MB40-40x80							50-68															
BHR MB50-50x100									68-90													
BHR MB63-63x125												90-120										
BHR MB80-80x140														120-200								
TCH 200															200-300							C30-31
TCH 300																300-400						
TCH 400																	400-500					
TCH A.L 500																		500-600				
TCH A.L 600																			600-700			
TCH A.L 700																				700-800		

BHR MB

Rough Boring Heads for Diameter Range 18-200 mm



Designation	SS	d min	d max	D1	L	L1	lH(1)	Kg
BHR MB16-16X34	MB16	18.0	22.0	16.0	34.00	-	IH...18-22	0.07
BHR MB20-20X40	MB20	22.0	28.0	20.0	40.00	-	IH...22-28	0.11
BHR MB25-25X50	MB25	28.0	38.0	25.0	50.00	-	IH...28-38	0.18
BHR MB32-32X63	MB32	36.0	50.0	32.0	63.00	-	IH...36-50	0.36
BHR MB40-40X80	MB40	50.0	68.0	40.0	80.00	-	IH...50-68	0.72
BHR MB50-50X100	MB50	68.0	90.0	55.0	100.00	50.0	IH...68-90	1.50
BHR MB50-63X80	MB50	90.0	120.0	72.0	80.00	60.0	IH...90-120	1.50
BHR MB63-63X125	MB63	90.0	120.0	72.0	125.00	63.0	IH...90-120	3.06
BHR MB80-80X140	MB80	120.0	200.0	95.0	140.00	75.0	IH...120-800	5.35

• Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

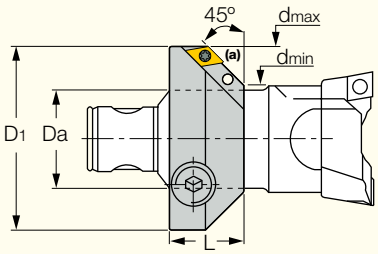
(1) Insert holders

For tools, see: CHA (C29) • IHBR (C34) • IHCR (C33) • IHPR (C33) • IHSR (C32) • IHSR-BW (C36) • IHSR-CH (C35).

• For spare parts see page C92.

CHA

45° Chamfering Holders



Designation	d min	d max	Da	D1	L	Inserts	Kg
CHA 16-45	18.0	28.0	16.00	28.0	13.00	DC.. 0702...	0.06
CHA 20-45	23.0	32.0	20.00	32.0	15.00	DC.. 0702...	0.07
CHA 25-45	28.0	43.0	25.00	43.0	18.00	DC.. 0702...	0.12
CHA 32-45	35.0	54.0	32.00	54.0	22.00	DC.. 0702...	0.22
CHA 40-45	46.0	72.0	40.00	72.0	30.00	DC.. 11T3...	0.53
CHA 50-45	56.0	95.0	50.00	95.0	38.00	DC.. 11T3...	1.15
CHA 63-45	75.0	125.0	63.00	125.0	46.00	DC.. 1504...	2.45

• To minimize mismatch use insert radius 0.2 mm • (a) Only one insert can be mounted on either one of the two pockets.

For inserts, see: DCGT-AS (C82) • DCMT-14 (C80) • DCMT-PF (C81) • DCMT/DCGT (C81) • DCMT/DCGT-SM (C80) • DCMW (C82).

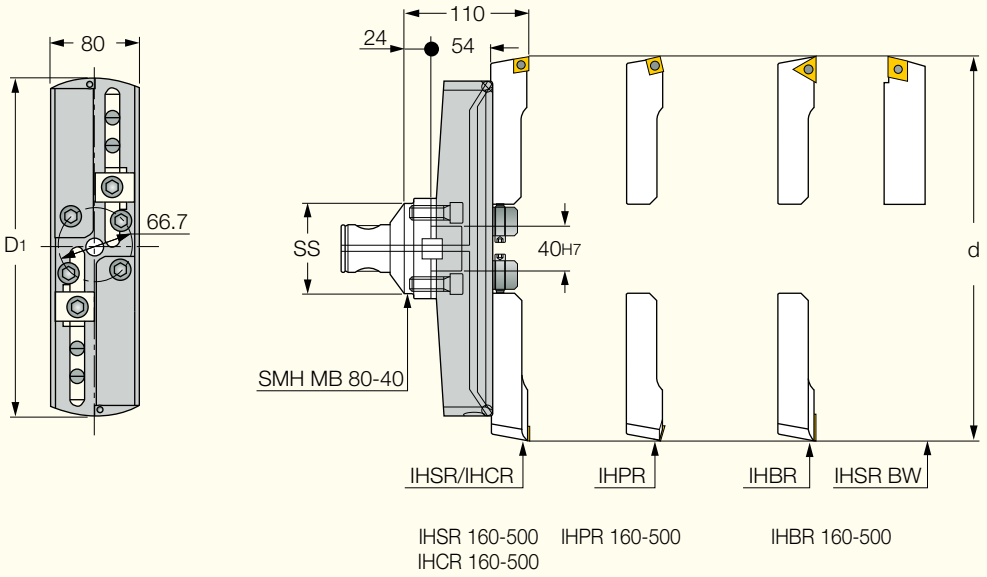
For holders, see: BHR MB (C29).

Spare Parts

Designation	Screw
CHA 16-45	SR 14-548
CHA 20-45	SR 14-548
CHA 25-45	SR 14-548
CHA 32-45	SR 14-548
CHA 40-45	SR 16-236 P
CHA 50-45	SR 16-236 P

TCH

Rough and Fine Boring Heads for Diameter Range 200-500 mm



Designation	d min	d max	D1	SS	Kg
TCH 200	200.0	300.0	194.0	80	3.40
TCH 300	300.0	400.0	298.0	80	4.30
TCH 400	400.0	500.0	398.0	80	6.70

• Aluminum body, with steel serrated seats. • Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

For tools, see: IHBR (C34) • IHCR (C33) • IHPR (C33) • IHSR (C32) • IHSR-BW (C36).

• For spare parts see pages C59, C94.

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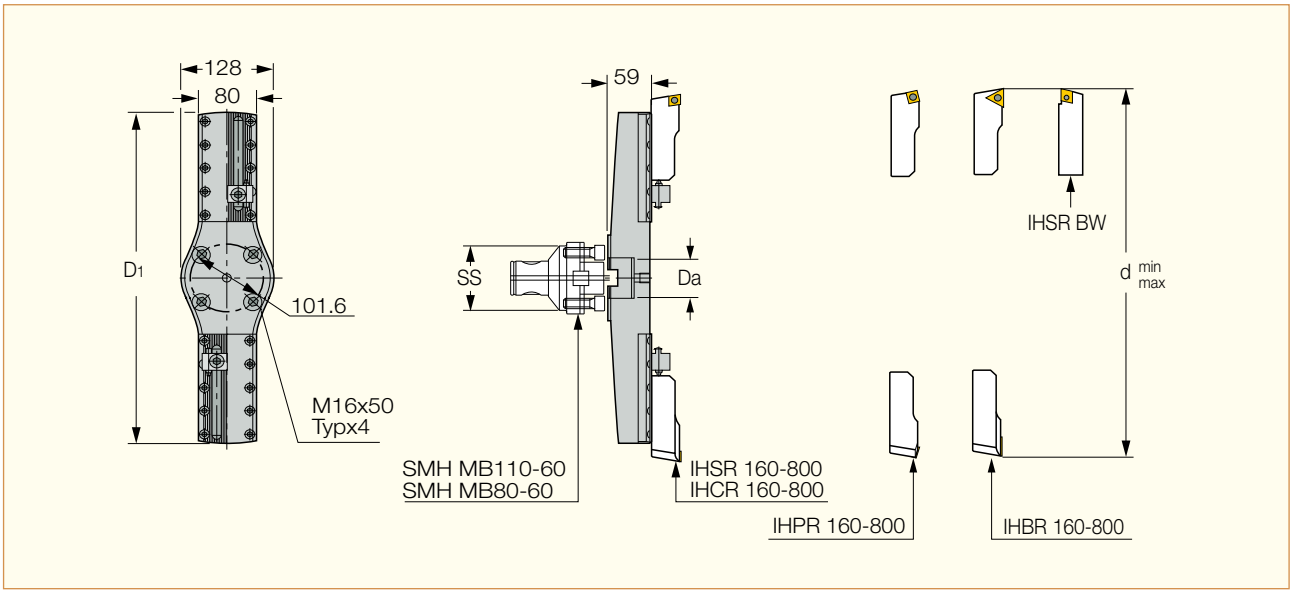
TCH AL

Aluminum Twin Cutter Heads for Rough and Fine Boring Operations
Diameter Range 500-800 mm



Designation	d min	d max	D1	Da	SS	Kg
TCH A.L500	500.0	600.0	494.0	60.00	80,110	8.70
TCH A.L600	600.0	700.0	594.0	60.00	80,110	8.34
TCH A.L700	700.0	800.0	694.0	60.00	80,110	8.34

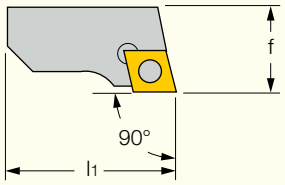
• Aluminum body, with steel serrated seats. • The "O" position on the counterweight balances the BHF boring head for D=200 mm boring diameter position. For every 10 mm change in boring diameter, move the counterweight by 1 measurement mark. • Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

For tools, see: IHBR (C34) • IHCR (C33) • IHPR (C33) • IHSR (C32) • IHSR-BW (C36).

• For spare parts see pages C59, C94.

IHSR

Rough Boring Tools for Twin Cutters. Radial and Axial Edge Positioned Inner to the Opposite Finishing Tool



Designation	d min	d max	f	l1	Inserts
IHSR 18-22	18.0	22.0	8.0	15.00	CCMT 0602...
IHSR 22-28	22.0	28.0	9.5	19.00	CCMT 0602...
IHSR 28-38	28.0	38.0	12.5	23.00	CCMT 0602...
IHSR 36-50	35.5	50.0	15.0	32.00	CCMT 0602...
IHSR 36-50-09	36.0	50.0	15.0	32.00	CCMT 09T3...
IHSR 50-68	50.0	68.0	19.0	40.00	CCMT 09T3...
IHSR 50-68-12	50.0	68.0	19.0	40.00	CCMT 1204...
IHSR 68-90	68.0	90.0	22.0	54.00	CCMT 1204...
IHSR 90-120	90.0	120.0	27.0	70.50	CCMT 1204...
IHSR 120-160	120.0	160.0	32.0	94.50	CCMT 1204...
IHSR 160-800	160.0	800.0	32.0	130.00	CCMT 1204...

• For user guide, see pages C28, C97, C100-106.

For inserts, see pages: CCET-WF (C76) • CCGT-AF (C79) • CCGT-AS (C79) • CCMT (CBN) (C78) • CCMT (PCD) (C78) • CCMT-14 (C76) • CCMT-PF (C75) • CCMT-WG (C77) • CCMT/CCGT (C77) • CCMT/CCGT-SM (C75).

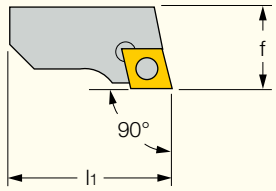
For holders, see: BHR MB (C29) • TCH (C30) • TCH AL (C31).

Spare Parts

Designation	Key	Screw
IHSR 22-28	T-7/5	SR 14-548
IHSR 28-38	T-7/5	SR 14-548
IHSR 36-50	T-7/5	SR 14-548
IHSR 36-50-09	T-15/5	SR 16-236
IHSR 50-68	T-15/5	SR 16-236
IHSR 50-68-12	T-20/5	SR 16-212
IHSR 68-90	T-20/5	SR 16-212
IHSR 90-120	T-20/5	SR 16-212
IHSR 120-160	T-20/5	SR 16-212
IHSR 160-800	T-20/5	SR 16-212

IHCR

Boring Toolholders for the MB Modular Boring System



Designation	d min	d max	f	l1	Inserts
IHCR 28-38	28.0	38.0	12.3	23.00	CCMT 0602...
IHCR 36-50	35.5	50.0	14.8	32.00	CCMT 0602...
IHCR 50-68	50.0	68.0	18.7	40.00	CCMT 09T3...
IHCR 50-68-12	50.0	68.0	18.7	40.00	CCMT 1204...
IHCR 68-90	68.0	90.0	21.7	54.00	CCMT 1204...
IHCR 90-120	90.0	120.0	26.7	70.50	CCMT 1204...
IHCR 120-160	120.0	160.0	31.7	94.50	CCMT 1204...
IHCR 160-800	160.0	800.0	31.7	130.00	CCMT 1204...

• For user guide, see pages C28, C97, C100-106.

For inserts, see: CCET-WF (C76) • CCGT-AF (C79) • CCGT-AS (C79) • CCMT (CBN) (C78) • CCMT (PCD) (C78) • CCMT-14 (C76) • CCMT-PF (C75) • CCMT-WG (C77) • CCMT/CCGT (C77) • CCMT/CCGT-SM (C75).

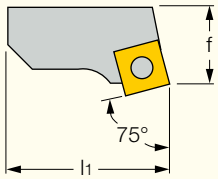
For holders, see: BHR MB (C29) • TCH (C30) • TCH AL (C31).

Spare Parts

Designation	Key	Screw
IHCR 28-38	T-7/5	SR 14-548
IHCR 36-50	T-7/5	SR 14-548
IHCR 50-68	T-15/5	SR 16-236
IHCR 68-90	T-20/5	SR 16-212
IHCR 90-120	T-20/5	SR 16-212
IHCR 120-160	T-20/5	SR 16-212
IHCR 160-800	T-20/5	SR 16-212

IHPR

75° Rough Boring Toolholders



Designation	d min	d max	f	l1	Inserts
IHPR 36-50	36.0	50.0	15.0	32.00	SCMT 09T3...
IHPR 50-68	50.0	68.0	19.0	40.00	SCMT 09T3...
IHPR 68-90	68.0	90.0	22.0	54.00	SCMT 1204...
IHPR 90-120	90.0	120.0	27.0	70.50	SCMT 1204...
IHPR 120-160	120.0	160.0	32.0	94.50	SCMT 1204...
IHPR 160-800	160.0	800.0	32.0	130.00	SCMT 1204...

• For user guide, see pages C28, C97, C100-106.

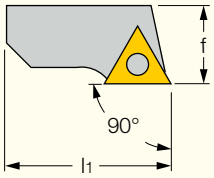
For inserts, see: SCGT-AS (C84) • SCMT-14 (C83) • SCMT-19 (C83) • SCMT-SM (C83).

For holders, see: BHR MB (C29) • TCH (C30) • TCH AL (C31).

Spare Parts

Designation	Key	Screw
IHPR 36-50	T-15/5	SR 16-236
IHPR 50-68	T-15/5	SR 16-236
IHPR 68-90	T-20/5	SR 16-212
IHPR 90-120	T-20/5	SR 16-212
IHPR 120-160	T-20/5	SR 16-212
IHPR 160-800	T-20/5	SR 16-212

IHBR
Rough Boring Toolholders



Designation	d min	d max	f	l1	Inserts
IHBR 90-120	90.0	120.0	27.0	70.50	TCMT 2205...
IHBR 120-160	120.0	160.0	32.0	94.50	TCMT 2205...
IHBR 160-800	160.0	800.0	32.0	130.00	TCMT 2205...

• For user guide, see pages C28, C97, C100-106.

For inserts, see: TCMT-19 (C84).

For holders, see: BHR MB (C29) • TCH (C30) • TCH AL (C31).

Spare Parts

Designation	Key	Screw
IHBR	T-20/5	SR 16-212

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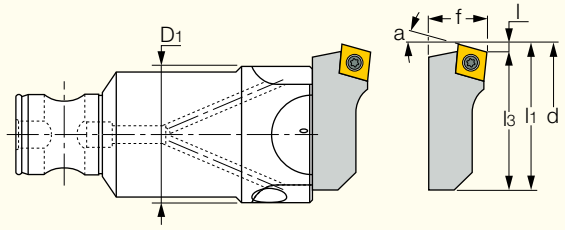
IHSR-CH

Chamfering Tools for BHR Boring Heads



Designation	d min	d max	a°	L_3	l_1	f	l	D_1	Inserts
IHSR 26-38 CH15	26.0	38.0	15.0	23.00	24.70	13.5	1.70	25.0	CCMT 0602...
IHSR 26-38 CH30	26.0	38.0	30.0	23.00	26.20	13.5	3.20	25.0	CCMT 0602...
IHSR 26-38 CH45	26.0	38.0	45.0	23.00	27.50	13.5	4.50	25.0	CCMT 0602...
IHSR 34.5-49 CH15	34.5	49.0	15.0	31.00	32.70	16.0	1.70	32.0	CCMT 0602...
IHSR 34.5-49 CH30	34.5	49.0	30.0	31.00	34.20	16.0	3.20	32.0	CCMT 0602...
IHSR 34.5-49 CH45	34.5	49.0	45.0	31.00	35.50	16.0	4.50	32.0	CCMT 0602...
IHSR 46.5-66 CH15	46.5	66.0	15.0	39.00	41.50	20.0	2.50	40.0	CCMT 09T3...
IHSR 46.5-66 CH30	46.5	66.0	30.0	39.00	43.80	20.0	4.80	40.0	CCMT 09T3...
IHSR 46.5-66 CH45	46.5	66.0	45.0	39.00	45.80	20.0	6.80	40.0	CCMT 09T3...
IHSR 65-88 CH15	65.0	88.0	15.0	53.00	55.50	23.0	2.50	50.0	CCMT 1204...
IHSR 65-88 CH30	65.0	88.0	30.0	53.00	57.80	23.0	4.80	50.0	CCMT 1204...
IHSR 65-88 CH45	65.0	88.0	45.0	53.00	59.80	23.0	6.80	50.0	CCMT 1204...

• For user guide, see pages C28, C97, C100-106.

For inserts, see: CCET-WF (C76) • CCGT-AF (C79) • CCGT-AS (C79) • CCGW/CCMW-M2 (CBN) () • CCMT-14 (C76) • CCMT-PF (C75) • CCMT-WG (C77) • CCMT/CCGT (C77) • CCMT/CCGT-SM (C75).

For holders, see: BHR MB (C29).

Spare Parts

Designation	Key	Screw
IHSR 26-38 CH15	T-7/5*	SR 14-548*
IHSR 26-38 CH30	T-7/5*	SR 14-548*
IHSR 26-38 CH45	T-7/5*	SR 14-548*
IHSR 34.5-49 CH15	T-7/5*	SR 14-548*
IHSR 34.5-49 CH30	T-7/5*	SR 14-548*
IHSR 34.5-49 CH45	T-7/5*	SR 14-548*
IHSR 46.5-66 CH15	T-15/5*	SR 16-236*
IHSR 46.5-66 CH30	T-15/5*	SR 16-236*
IHSR 46.5-66 CH45	T-15/5*	SR 16-236*
IHSR 65-88 CH15	T-15/5*	SR 16-236*
IHSR 65-88 CH30	T-15/5*	SR 16-236*
IHSR 65-88 CH45	T-15/5*	SR 16-236*

* Optional, should be ordered separately

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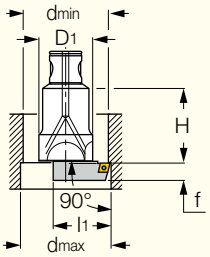
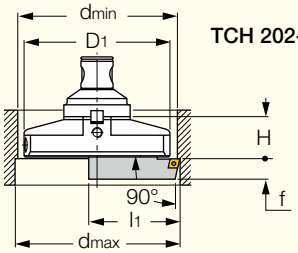
IHSR-BW

Back Face Turning Tools for BHR and TCH Rough Boring Heads

BHR 20-200



TCH 202-802



Designation	SS	d min	d max	D_1(1)	H	f	l_1	Inserts
IHSR 20-24 BW	BHR MB16-16	20.0	25.0	16.0	27.50	8.0	16.00	CCMT 0602...
IHSR 23.5-30BW	BHR MB20-20	23.5	30.0	20.0	32.50	9.5	19.50	CCMT 0602...
IHSR 29.5-40BW	BHR MB25-25	29.5	40.0	25.0	39.00	12.0	24.00	CCMT 0602...
IHSR 39-52 BW	BHR MB32-32	39.0	52.0	32.0	50.00	14.0	32.00	CCMT 09T3...
IHSR 51-70 BW	BHR MB40-40	51.0	70.0	40.0	63.50	17.5	42.00	CCMT 1204...
IHSR 69-92 BW	BHR MB50-50	69.0	92.0	55.0	80.50	21.0	57.00	CCMT 1204...
IHSR 91-122 BW	BHR MB63-63	91.0	122.0	72.0	100.50	25.0	76.00	CCMT 1204...
IHSR 121-162 BW	BHR MB80-80	121.0	162.0	95.0	110.50	28.0	101.00	CCMT 1204...
IHSR 161-802 BW	BHR MB80-80	161.0	200.0	95.0	110.50	28.0	122.00	CCMT 1204...
	TCH200	202.0	302.0	198	56.50	28.0	122.00	CCMT 1204...
	TCH300	302.0	402.0	298	56.50	28.0	122.00	CCMT 1204...
	TCH400	402.0	502.0	398	61.50	28.0	122.00	CCMT 1204...
	TCH500	502.0	602.0	494	61.50	28.0	122.00	CCMT 1204...
	TCH600	602.0	702.0	594	61.50	28.0	122.00	CCMT 1204...
	TCH700	702.0	802.0	694	61.50	28.0	122.00	CCMT 1204...

• dmin=(min bore diameter)=(dmax+D1+1)/2 • D1=Size of the boring head being used • For user guide, see pages C28, C97, C100-106.

(1) Size of the boring head being used.

For inserts, see: CCET-WF (C76) • CCGT-AF (C79) • CCGT-AS (C79) • CCMT (CBN) (C78) • CCMT (PCD) (C78) • CCMT-14 (C76) • CCMT-PF (C75) • CCMT-WG (C77) • CCMT/CCGT (C77) • CCMT/CCGT-SM (C75).

For holders, see: BHF L200 (C59) • BHR MB (C29) • TCH (C30) • TCH AL (C31).

Spare Parts

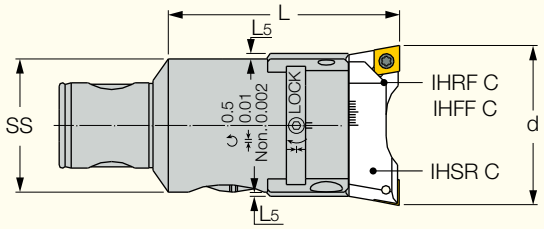
Designation	Key	Screw
IHSR 20-24 BW	T-7/5*	SR 14-548*
IHSR 23.5-30BW	T-7/5*	SR 14-548*
IHSR 29.5-40BW	T-7/5*	SR 14-548*
IHSR 39-52 BW	T-15/5*	SR 16-236*
IHSR 51-70 BW	T-20/5*	SR 16-212*
IHSR 69-92 BW	T-20/5*	SR 16-212*
IHSR 91-122 BW	T-20/5*	SR 16-212*
IHSR 121-162 BW	T-20/5*	SR 16-212*
IHSR 161-802 BW	T-20/5*	SR 16-212*

* Optional, should be ordered separately

BHC MB

Combi Rough and Fine Boring Heads with 10 µm Direct Dia. Adjustment and 2 µm by a Vernier Scale

10 µm
2 µm



Designation	SS	d min	d max	L	L5	IH
BHC MB25-25X57	MB25	28.0	36.0	56.50	0.50	IH...-C
BHC MB32-32X71	MB32	36.0	46.0	71.00	0.50	IH...-C
BHC MB40-40X90	MB40	46.0	60.0	90.00	1.00	IH...-C
BHC MB50-50X87	MB50	60.0	75.0	87.00	1.00	IH...-C
BHC MB63-63X109	MB63	78.0	100.0	109.00	2.00	IH...-C
BHC MB80-80X130	MB80	100.0	125.0	130.00	2.00	IH...-C

- The roughing head precedes the finishing head by 0.2 mm. Each head can be adjusted independently
- Important: insert radius for combi rough and fine boring must be the same size.

For tools, see: IHFF-C (C38) • IHRF-C (C38) • IHSR-C (C39).

• For spare parts see page C92.

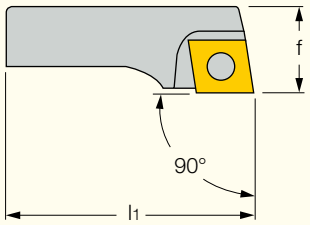
Graduated dial of 0.01 mm with circular vernier of 0.002 mm

Spare Parts

Designation	Rectangular Nut	Screw
BHC MB25-25X57	BH NUT BHC MB25	BH SR M4X11 DIN 912 PT
BHC MB32-32X71	BH NUT BHC MB32	BH SR M5X12.5 DIN 912 PT
BHC MB40-40X90	BH NUT BHC MB40	BH SR M6X16 DIN 912 PT
BHC MB50-50X87	BH NUT BHC MB50	BH SR M8X20 DIN 912 PT
BHC MB63-63X109	BH NUT BHC MB63	BH SR M10X26 DIN 912 PT
BHC MB80-80X130	BH NUT BHC MB80	BH SR M12X30 DIN 912 PT

IHRF-C

Boring Tools for Twin Cutters, Inner to the Opposite - Finishing Tools on MB BHC Combi Boring Heads



Designation	d Range	f	l_1	Inserts
IHRF 28-36 C	28-36	9.8	24.00	CCGT 0602...
IHRF 36-46 C	36-46	11.3	30.00	CCGT 0602...
IHRF 46-60 C	46-60	13.6	40.00	CCGT 09T3...
IHRF 60-75 C	60-78	18.8	54.00	CCGT 09T3...
IHRF 75-95 C	78-100	24.3	68.00	CCGT 09T3...
IHRF 95-120 C	100-125	29.5	87.00	CCGT 09T3...

For inserts, see: CCGT-AS (C79) • CCMT (CBN) (C78) • CCMT (PCD) (C78) • CCMT-14 (C76) • CCMT-PF (C75) • CCMT-WG (C77) • CCMT/CCGT (C77) • CCMT/CCGT-SM (C75).

For holders, see: BHC MB (C37).

• For user guide, see page C106.

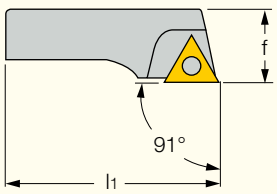
Spare Parts

Designation	Key	Screw
IHRF 28-36 C	T-7/5*	SR 14-548*
IHRF 36-46 C	T-7/5*	SR 14-548*
IHRF 46-60 C	T-15/5*	SR 16-236*
IHRF 60-75 C	T-15/5*	SR 16-236*
IHRF 75-95 C	T-15/5*	SR 16-236*
IHRF 95-120 C	T-15/5*	SR 16-236*

* Optional, should be ordered separately

IHFF-C

Triangular Finishing Insert Holders for BHC Combi Boring Heads



Designation	d Range	f	l_1	Inserts
IHFF 28-36 C	28-36	9.8	24.00	TPGX 0902...
IHFF 36-46 C	36-46	11.3	30.00	TPGX 0902...
IHFF 46-60 C	46-60	13.8	40.00	TPGX 1103...
IHFF 60-75 C	60-75	18.8	54.00	TPGX 1103...
IHFF 75-95 C	75-95	24.3	68.00	TPGX 1103...
IHFF 95-120 C	95-120	29.3	87.00	TPGX 1103...

For inserts, see: TPGX (C85) • TPGX (CBN) (C86).

For holders, see: BHC MB (C37).

• For user guide, see page C106.

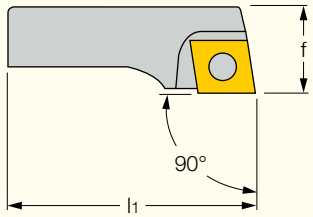
Spare Parts

Designation	Key	Screw
IHFF 28-36 C	T-8/5*	SR 14-298*
IHFF 36-46 C	T-8/5*	SR 14-298*
IHFF 46-60 C	T-8/5*	SR 14-300*
IHFF 60-75 C	T-8/5*	SR 14-300*
IHFF 75-95 C	T-8/5*	SR 14-300*
IHFF 95-120 C	T-8/5*	SR 14-300*

* Optional, should be ordered separately

IHSR-C

Rhombic Rough Insert Holders for BHC Combi Boring Heads



Designation	d Range	f	l_1	Inserts
IHSR 28-36 C	28-36	10.0	24.00	CCMT 0602
IHSR 36-46 C	36-46	11.5	30.00	CCMT 0602
IHSR 46-60 C	46-60	14.0	40.00	CCMT 09T3
IHSR 60-75 C	60-78	19.0	54.00	CCMT 09T3
IHSR 75-95 C	78-100	24.5	68.00	CCMT 09T3
IHSR 95-120 C	100-125	29.5	87.00	CCMT 09T3

• For user guide, see pages C106.

For inserts, see pages: CCET-WF (C76) • CCGT-AF (C79) • CCGT-AS (C79) • CCMT (CBN) (C78) • CCMT (PCD) (C78) • CCMT-14 (C76) • CCMT-PF (C75) • CCMT-WG (C77) • CCMT/CCGT (C77) • CCMT/CCGT-SM (C75).

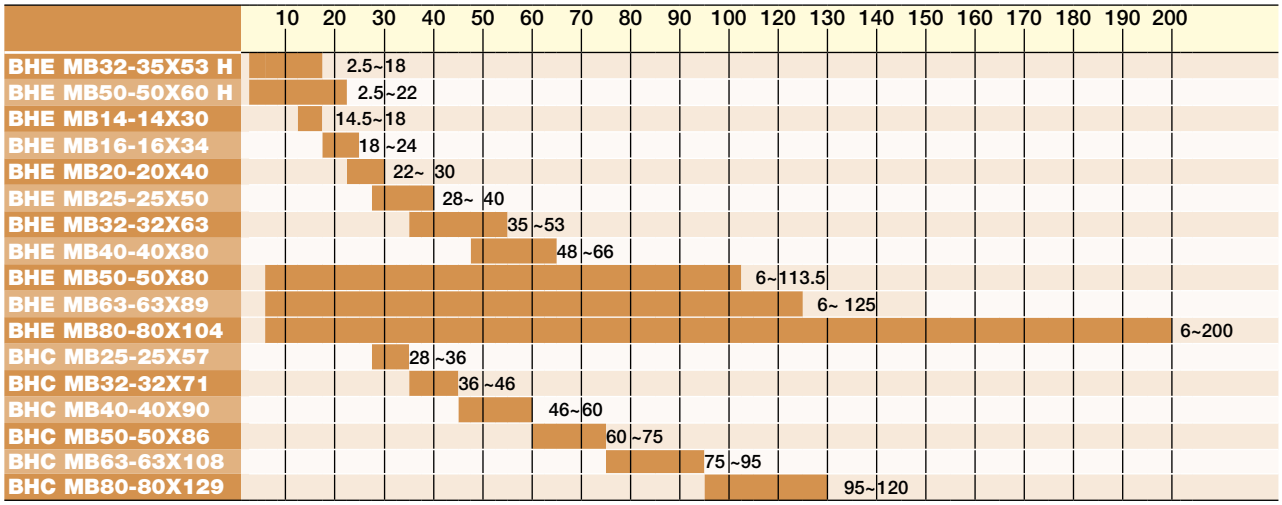
For holders, see: BHC MB (C37).

Spare Parts

Designation	Key	Screw
IHSR 28-36 C	T-7/5*	SR 14-548*
IHSR 36-46 C	T-7/5*	SR 14-548*
IHSR 46-60 C	T-15/5*	SR 16-236*
IHSR 60-75 C	T-15/5*	SR 16-236*
IHSR 75-95 C	T-15/5*	SR 16-236*
IHSR 95-120 C	T-15/5*	SR 16-236*

* Optional, should be ordered separately

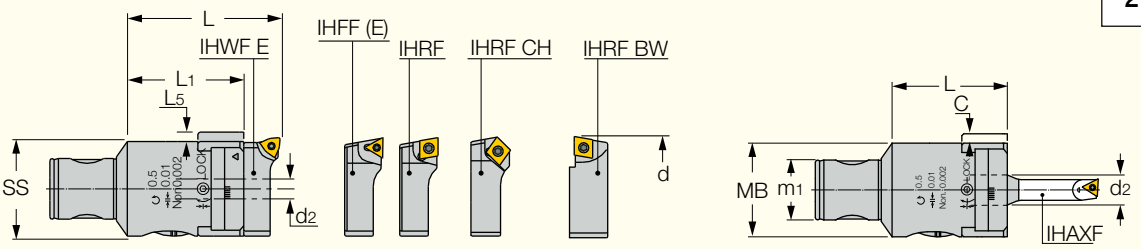
Boring Head Diameter Range



BHE MB

Fine Boring Head for the MB Boring System 10 µm Direct Dia. Adjustment and 2 µm by a Vernier Scale

10 µm
2 µm



Designation	SS	d min	d max	L	L1	L5	d2	Kg
BHE MB14-14X30	MB14	14.5	18.0	30.00	22.0	1.00	-	0.09
BHE MB16-16X34	MB16	18.0	24.0	34.00	26.0	2.00	-	0.10
BHE MB20-20X40	MB20	22.0	30.0	40.00	31.5	3.00	-	0.15
BHE MB25-25X50	MB25	28.0	40.0	50.00	40.0	3.00	-	0.23
BHE MB32-32X63	MB32	35.0	53.0	63.00	51.5	4.00	-	0.42
BHE MB40-40X80	MB40	48.0	66.0	80.00	66.0	5.00	-	0.83
BHE MB50-50X80	MB50	6.0	110.0	80.00	61.0	5.00	16.00	1.15
BHE MB63-63X89	MB63	6.0	125.0	89.00	69.5	10.00	-	2.13
BHE MB80-80X104	MB80	6.0	200.0	104.00	85.0	12.00	-	3.83

• For boring options, see pages C6-7, C39 ,C41-43 • For spare parts, see pages C56, C57, C90-91.

For tools, see: IHAXF (C53) • IHAXF-AVI (C54) • IHAXF-E (C55) • IHFF (C57) • IHRF (C58) • IHRF-BW (C62) • IHRF-CH (C63) • IHWF (C58).

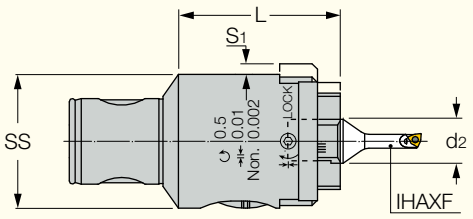
BHE MB50-50X80

Graduated dial of 0.01 mm with circular vernier of 0.002 mm

BHE MB-H

Fine Boring Heads for High Rotation Speed with 10 Micrometer Direct Dia. Adjustment and 2 Micrometer by a Vernier Scale

10 µm
2 µm



Designation	SS	d min	d max	L	d2	S1	RPM max	Kg
BHE MB32-32X53 H	MB32	2.5	18.0	53.00	8.00	3	12.000	0.42
BHE MB50-50X60 H	MB50	2.5	22.0	60.00	16.00	4	12.000	1.06

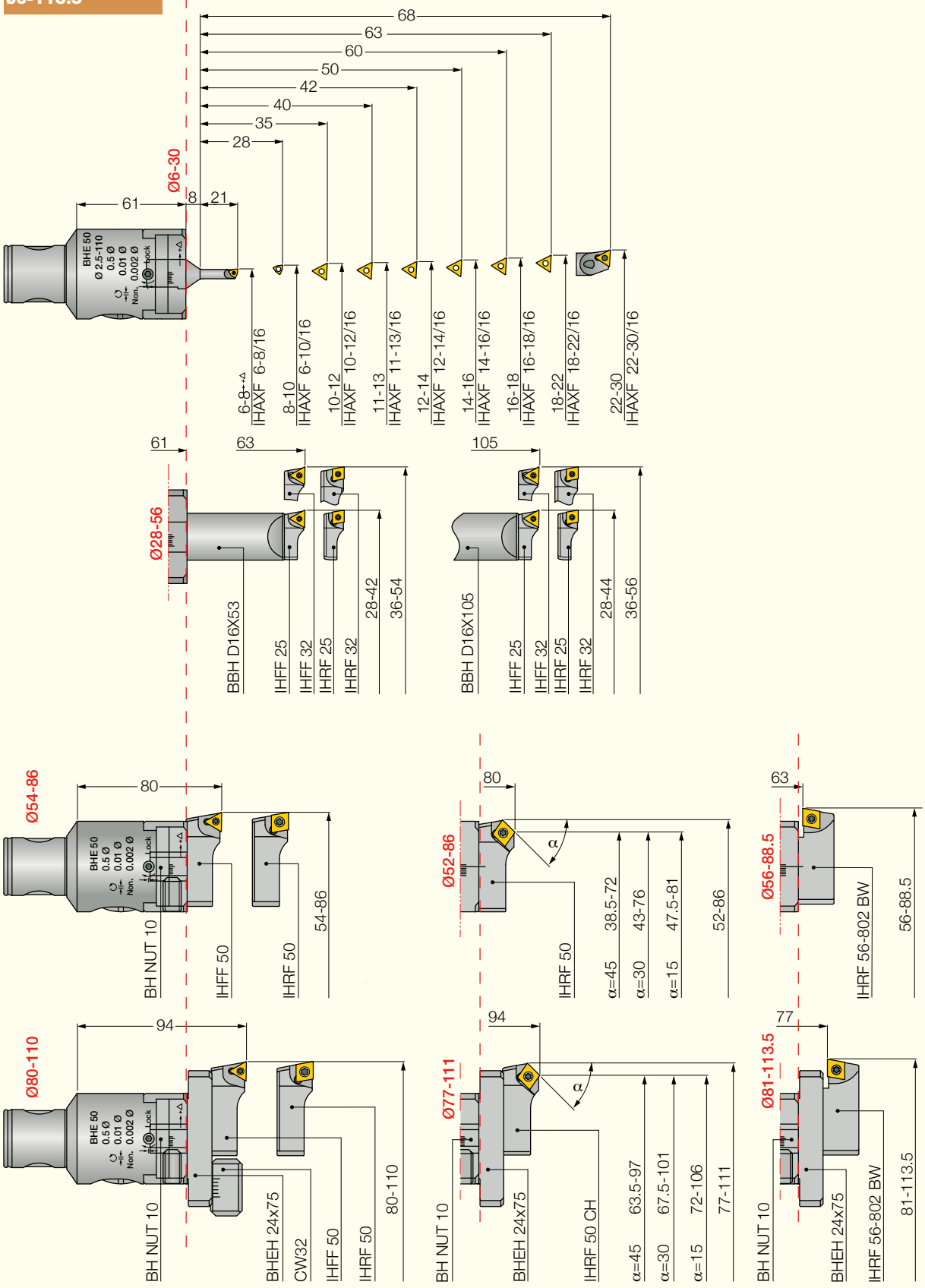
For tools, see: IHAXF (C53) • IHAXF-AVI (C54) • IHAXF-E (C55).

Fine Boring Head Range

10 µm Direct Diametric Adjustment and 2 mm by a Vernier Scale

10 µm
2 µm

BHE MB50-50x80
ø6-113.5



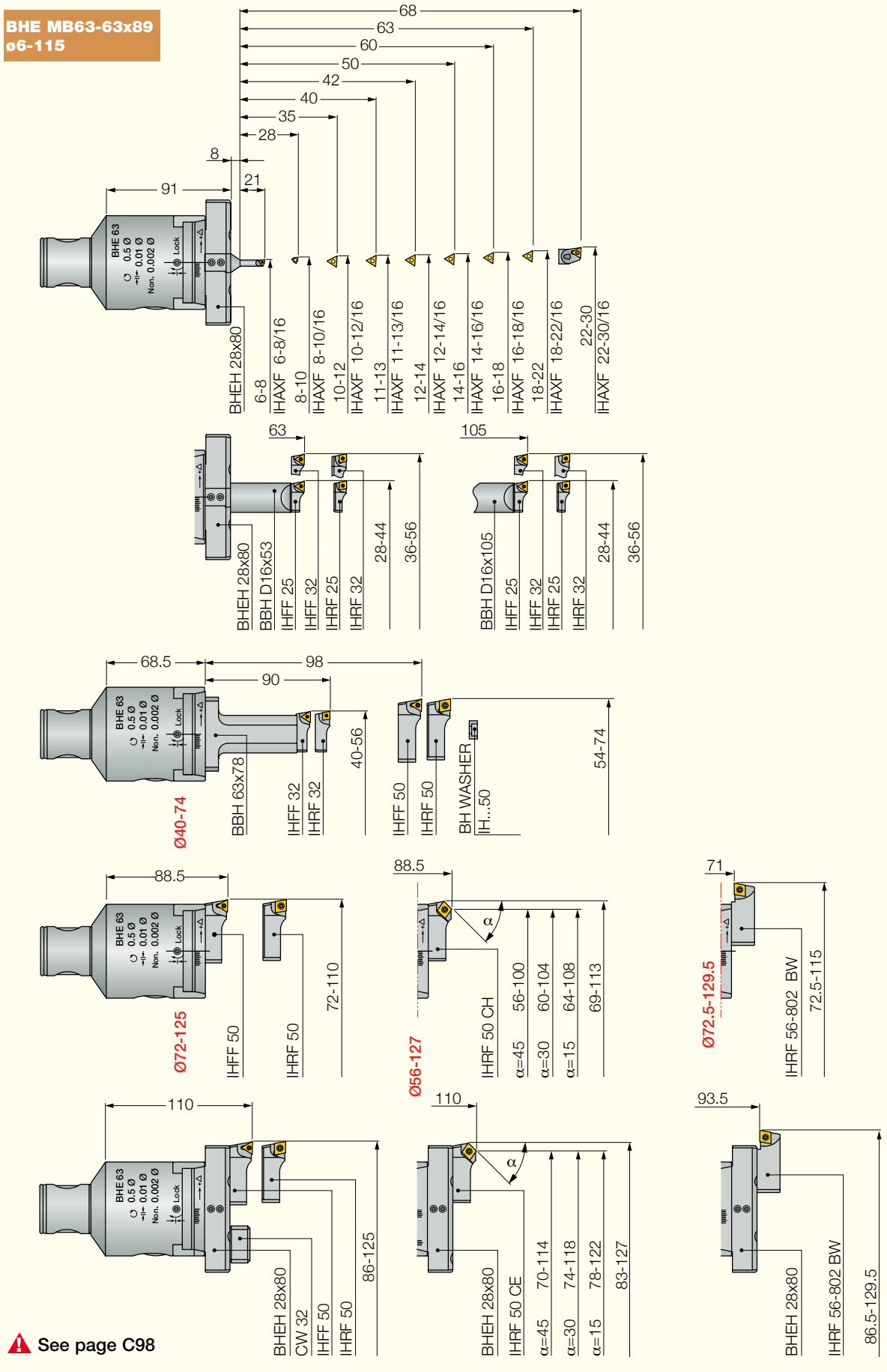
See page C98

Fine Boring Head Range

10 μm Direct Diametric Adjustment and 2 mm by a Vernier Scale

10 μm
2 μm

BHE MB63-63x89
ø6-115

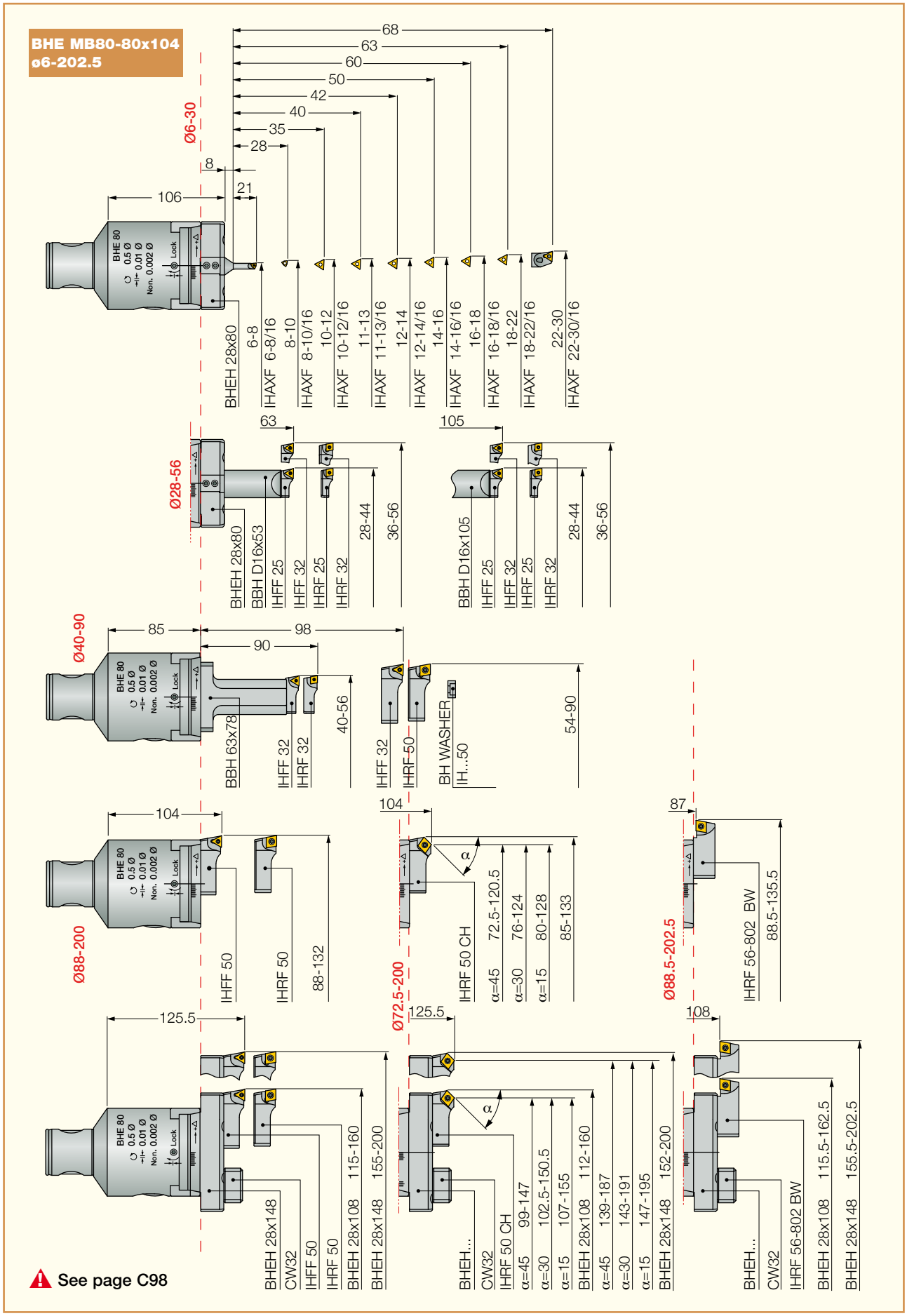


See page C98

Fine Boring Head Range

10 µm Direct Diametric Adjustment and 2 mm by a Vernier Scale

10 µm
2 µm



See page C98

BHF Fine Boring Heads

2 µm Direct Diametric Adjustment

Fine Boring Head Diameter Range

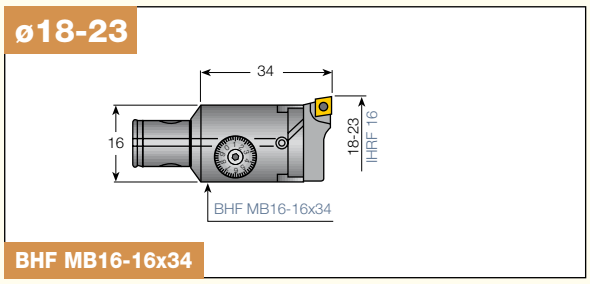
Assembly Reference	0 10 20 30 40 50 60 70 80 90 100 110 120 130 150 180 280 400 600 700 800	Page
BHF MB50-32x60 BL	2.5-12	C50
BHF MB50-50x68 BL	2.5-20	
BHF MB50-50x60	6-108	C52
BHF MB50-63x87	2.5-160	C52
BHF MB50-80x94	2.5-220	
BHF MB80-80x94	2.5-220	
BHF MB16-16x34	18-23	C52
BHF MB20-20x40	22-29	
BHF MB25-25x50	28-38	
BHF MB32-32x63	36-50	
BHF MB40-40x80	48-63	C52
BHF MB80-125x114	36-500	C52, C61
TCH A.L 500	500-600	
TCH A.L 600	600-700	
TCH A.L 700	700-800	

BHF Fine Boring Heads

High precision machining to a close tolerance with a high surface quality.
These heads enable a fine diametric adjustment as small as **2 µm** with a direct reading.

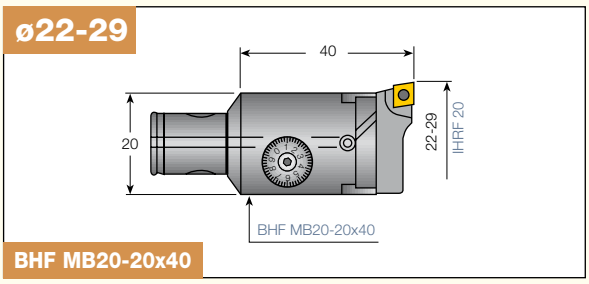
BHF MB16-MB40
Diameter Range: 18-63

ø18-23



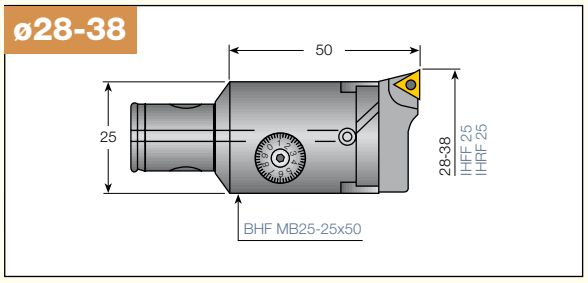
BHF MB16-16x34

ø22-29

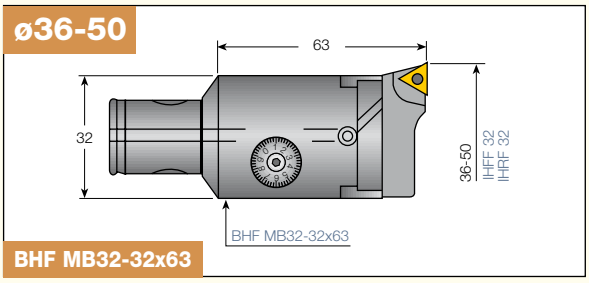


BHF MB20-20x40

ø28-38

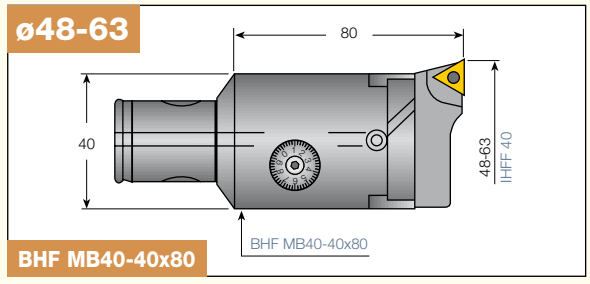


ø36-50



BHF MB32-32x63

ø48-63



BHF MB40-40x80

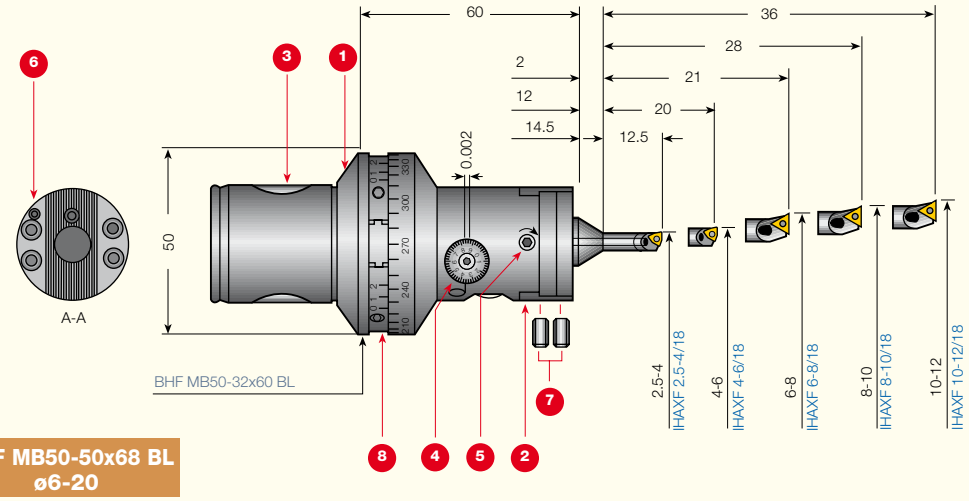
Fine Boring Heads with Balancing Rings

2 µm Direct Diametric Adjustment

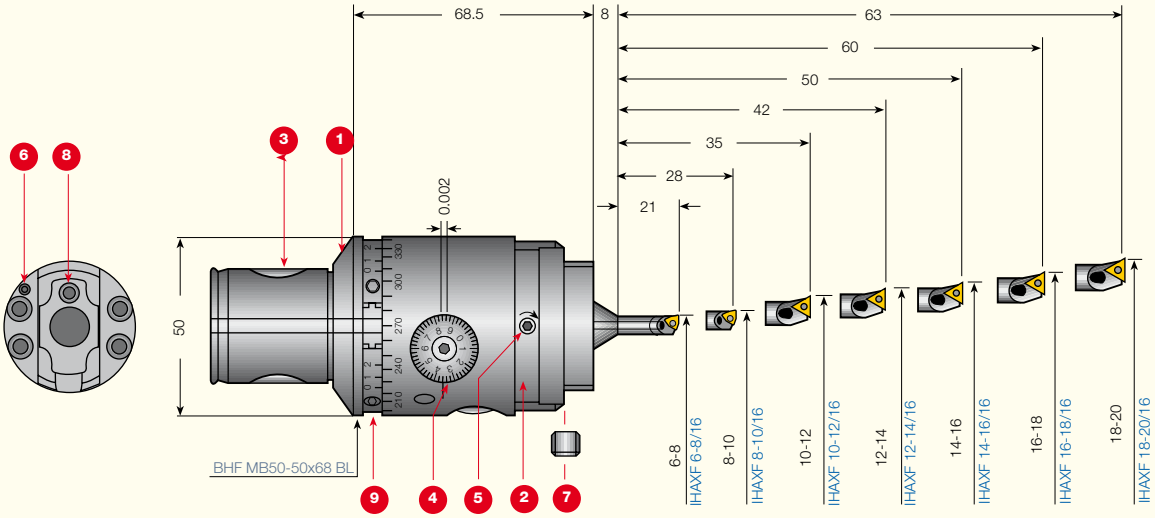
2 µm

BHF MB50-32x60 BL ø2.5-12

1. Body
2. Tool Slide
3. Expansion Pin
4. ⚠ Graduated Dial
5. Slide Locking Screw
6. Coolant Nozzle
7. Boring Bar Locking Screws
8. Balancing Rings



BHF MB50-50x68 BL ø6-20



1. Body
2. Tool Slide
3. Expansion Pin
4. ⚠ Graduated Dial
5. Slide Locking Screw
6. Coolant Nozzle
7. Boring Bar Locking Screws
8. Oiling Nipple
9. Balancing Rings

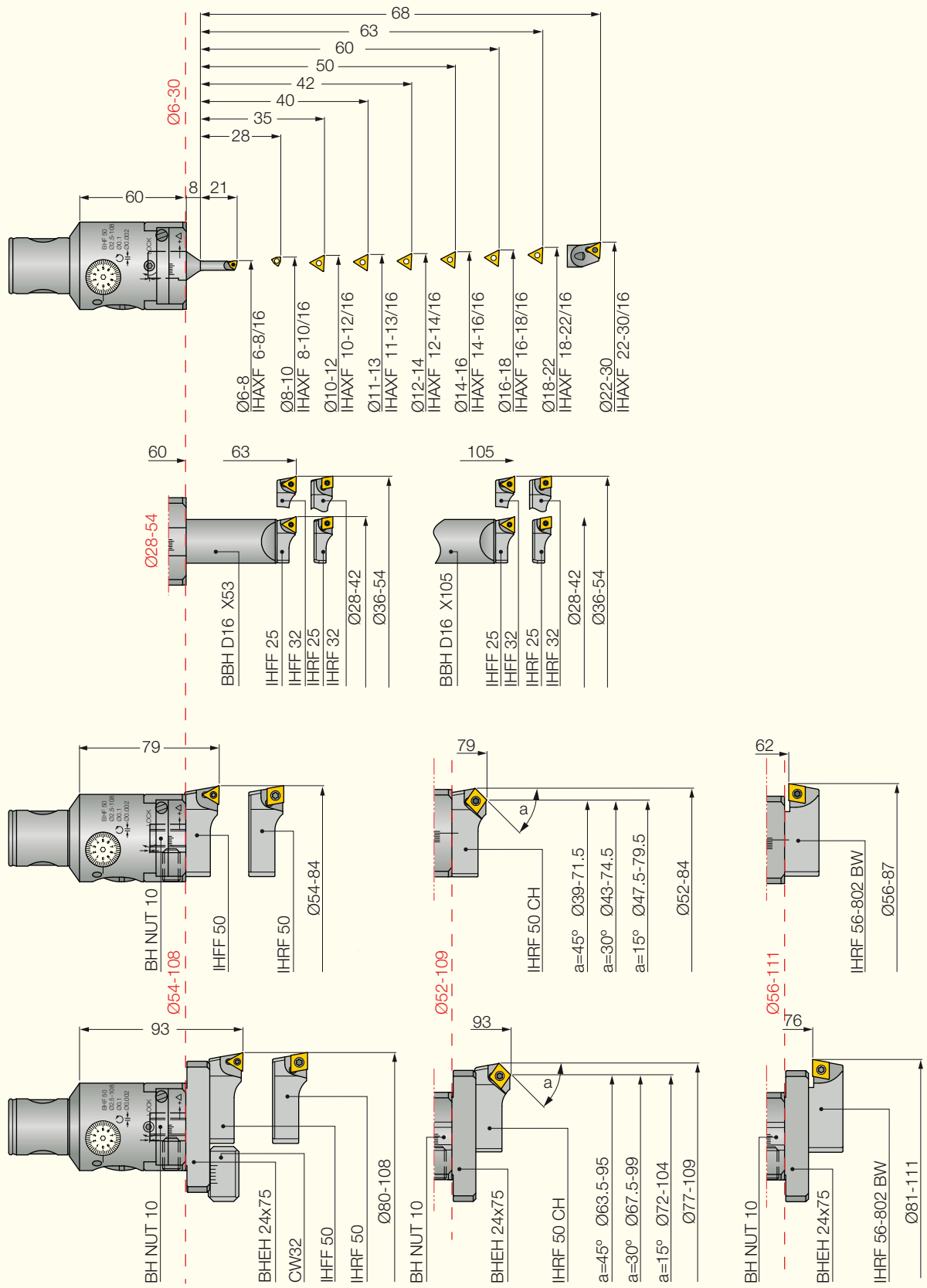
⚠ See page C98

Fine Boring Head Range

2 μm Direct Diametric Adjustment

2 μm

BHF MB50-50x60
ø6-108



See page C98

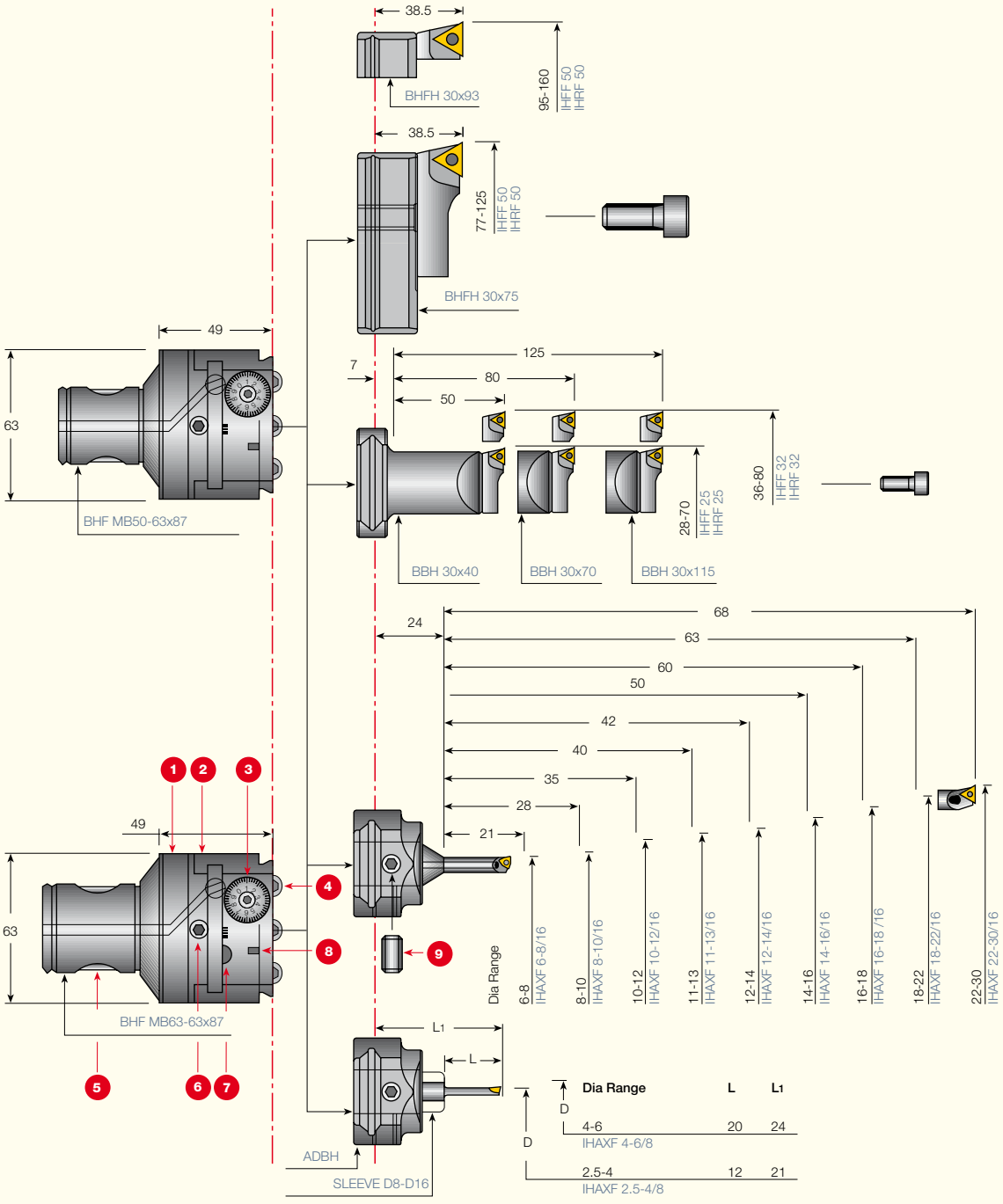
Fine Boring Head Range

2 µm Direct Diametric Adjustment

2 µm

BHF MB50-63x87
BHF MB63-63x87
ø2.5-160

1. Body
2. Tool Slide
3. Graduated Dial
4. Toolholder Locking Screw
5. Expansion Pin
6. Slide Locking Screw
7. Coolant Nozzle
8. Oiling Nipple
9. Toolholder Locking Screw



See page C98

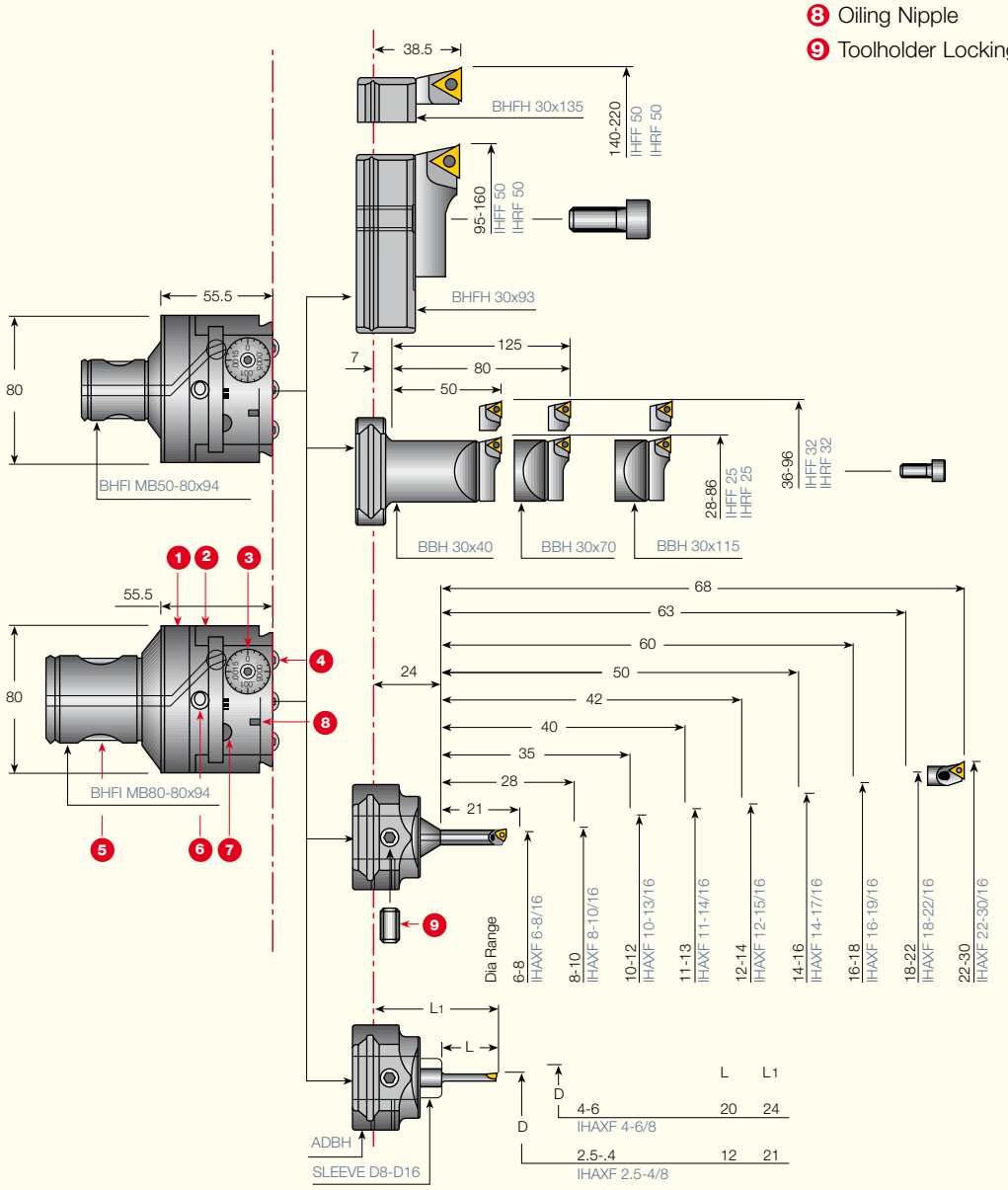
Fine Boring Head Range

2 μm Direct Diametric Adjustment

2 μm

BHF MB50-80x94
BHF MB80-80x94
ø2.5-220

1. Body
2. Tool Slide
3. ⚠ Graduated Dial
4. Toolholder Locking Screw
5. Expansion Pin
6. Slide Locking Screw
7. Coolant Nozzle
8. Oiling Nipple
9. Toolholder Locking Screw



⚠ See page C98

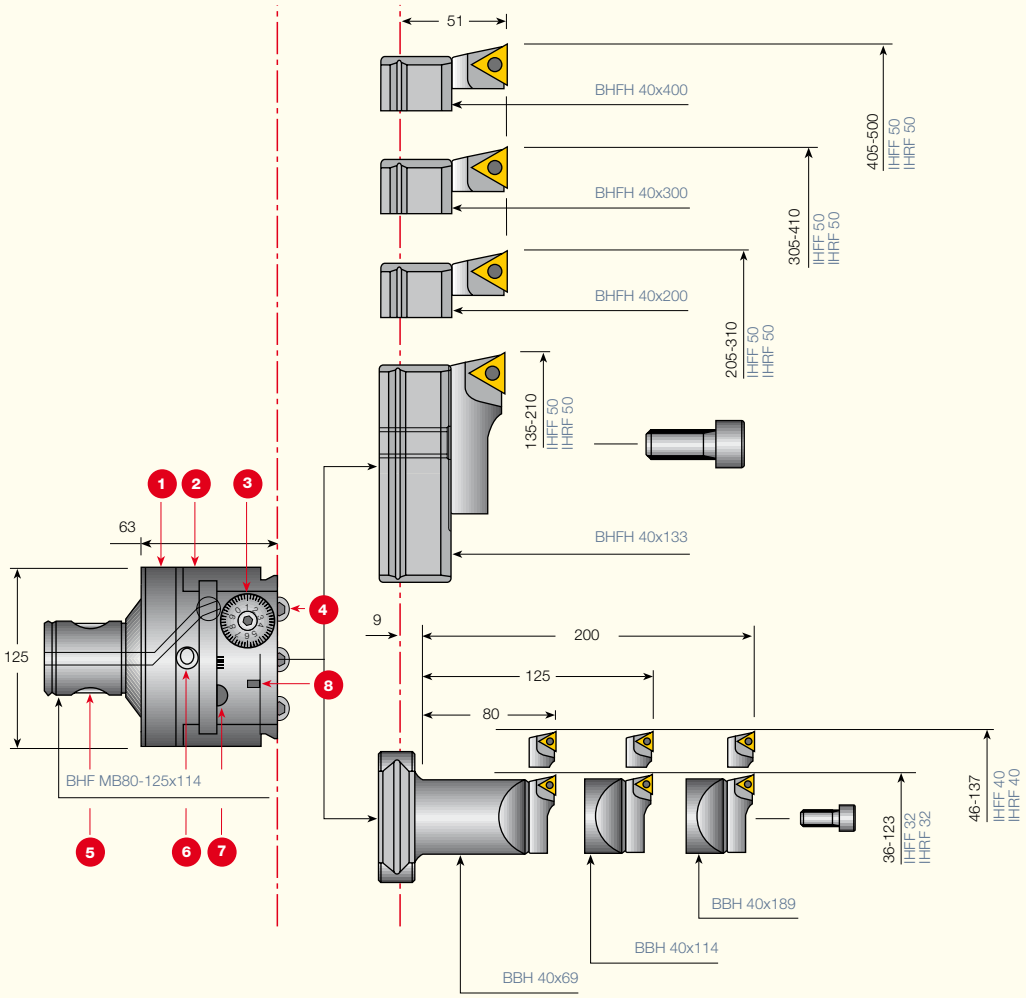
Fine Boring Head Range

2 μm Direct Diametric Adjustment

2 μm

BHF MB80-125x114
ø36-500

1. Body
2. Tool Slide
3. Graduated Dial
4. Toolholder Locking Screw
5. Expansion Pin
6. Slide Locking Screw
7. Coolant Nozzle
8. Oiling Nipple

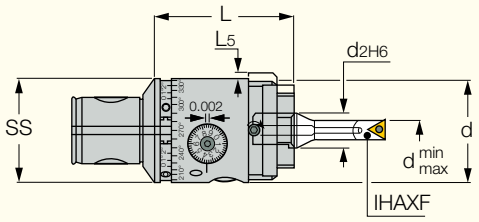


See page C98

BHF MB-BL

Fine Boring Heads with a Balancing Mechanism and 2 Micrometer Direct Diametric Adjustment

2 µm



Designation	d min	d max	d2	SS	d	L	L5	Kg
BHF MB50-32X60 BL	2.5	12.0	8.00	MB50	32.00	60.00	3.00	0.79
BHF MB50-50X68 BL	2.5	20.0	16.00	MB50	50.00	68.50	4.00	1.16

For tools, see: IHAXF (C53).

- For boring options, see page C45
- For spare parts see page C89
- For cutting conditions see page C97

BHF MB50-32X60 BL and BHF MB50-50X68 BL, with the simple positioning of the two counterweights into the graduated groove.
The table below displays all tools available for the working range of 2.5-22 mm diameters.

Balance Correction for BHF MB50-32x60BL

TOOLS	Ø BORE	SKB 40-MB50		BTB 40 MB50		HSK 63 MB50	
		W1	W2	W1	W2	W1	W2
IHAXF 2.5-4/8	2.5	66°	283°	54°	292°	60°	257°
	3	76°	283°	56°	284°	8°	196°
	3.5	83°	360°	44°	246°	107°	261°
	4	116°	285°	30°	224°	128°	264°
IHAXF 4-6/8	4	71°	293°	50°	294°	63°	262°
	4.5	75°	287°	55°	287°	6°	194°
	5.5	4°	238°	44°	248°	129°	287°
	5.5	126°	298°	32°	229°	129°	268°
	6	123°	264°	145°	301°	136°	254°
IHAXF 6-8/8	6.6	2°	302°	45°	307°	68°	280°
	6.5	75°	288°	56°	288°	78°	274°
	7.7	5°	280°	55°	280°	179°	351°
	7.5	16°	199°	78°	295°	129°	284°
	8	121°	292°	18°	214°	128°	275°
IHAXF 8-10/8	8	70°	295°	49°	297°	88°	300°
	8.5	75°	280°	55°	281°	51°	245°
	9	67°	255°	49°	258°	160°	330°
	9.5	131°	302°	19°	216°	112°	273°
	10	119°	272°	167°	320°	129°	266°
IHAXF 10-12/8	10	65°	293°	46°	293°	56°	257°
	10.5	66°	273°	29°	262°	182°	351°
	11	44°	234°	45°	255°	163°	317°
	11.5	130°	295°	16°	214°	131°	270°
	12	127°	275°	156°	312°	138°	259°

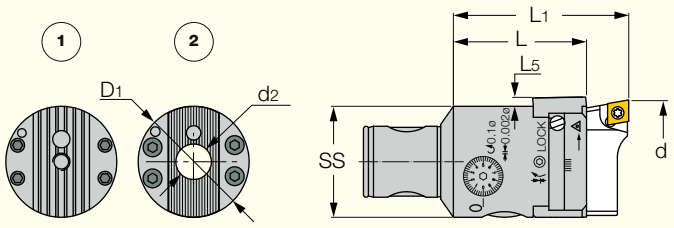
Balancing Data for Various BHF...MB...BL Boring Combinations (continued)

Balance Correction for BHF MB50-50x68 BL							
TOOLS	Ø BORE	SKB 40-MB50		BTB 40 MB50		HSK 63 MB50	
		W1	W2	W1	W2	W1	W2
IHAXF 6- 8/16	6.0	43°	315°	46°	346°	46°	346°
	6.5	63°	326°	44°	326°	59°	336°
	7	82°	305°	67°	304°	93°	323°
	7.5	30°	205°	62°	255°	5.5°	163°
	8	124°	242°	126°	258°	92°	219°
IHAXF 8-10/16	8	42°	312°	36°	336°	48°	348°
	8.5	52°	328°	39°	339°	75°	330°
	9	68°	318°	51°	317°	112°	331°
	9.5	104°	283°	73°	268°	56°	212°
	10	110°	270°	15°	200°	113°	222°
IHAXF 10-12/16	10	35°	336°	30°	330°	44°	344°
	10.5	44°	321°	32°	332°	45°	345°
	11	56°	307°	35°	312°	71°	325°
	11.5	153°	328°	21°	223°	327°	121°
	12	139°	297°	171°	333°	84°	234°
IHAXF 12-14/16	12	30°	330°	26°	326°	40°	340°
	12.5	32°	332°	28°	328°	48°	334°
	13	64°	281°	40°	280°	80°	304°
	13.5	38°	236°	42°	261°	38°	208°
	14	138°	253°	177°	300°	114°	236°
IHAXF 14-16/16	14	22°	324°	18°	318°	39°	339°
	14.5	30°	330°	16°	316°	357°	357°
	15	37°	257°	22°	266°	54°	302°
	15.5	184°	340°	35°	270°	130°	297°
	16	160°	253°	172°	277°	138°	251°
IHAXF 16-18/16	16	26°	326°	24°	324°	358°	358°
	16.5	36°	303°	14°	313°	37°	319°
	17	37°	276°	27°	292°	56°	272°
	17.5	151°	287°	187°	324°	128°	288°
	18	160°	279°	189°	304°	140°	243°
IHAXF 18-22/16	18	10°	310°	6°	305°	28°	328°
	18.5	29°	328°	0°	300°	17°	313°
	19	200°	317°	230°	332°	26°	259°
	19.5	190°	295°	208°	307°	169°	303°
	20	180°	242°	188°	249°	174°	234°
	20.5	179°	240°	186°	247°	168°	228°
	21	176°	236°	174°	236°	169°	229°
	21.5	190°	252°	141°	202°	170°	230°
	22	180°	240°	170°	230°	176°	236°

BHF MB16-MB50 Dia. 6-108

Fine Boring Heads with 2 µm Direct Diametric Adjustment for Diameter Range 6 to 108 mm

2 µm



Designation	SS	d min	d max	D1	L	L1	L5	d2	Fig	IH	Kg
BHF MB16-16X34 RV	MB16	18.0	23.0	16.0	26.00	34.0	1.00	-	1	IH.. 16..	0.11
BHF MB20-20X40 RV	MB20	22.0	29.0	20.0	31.50	40.0	2.00	-	1	IH.. 20..	0.16
BHF MB25-25X50	MB25	28.0	38.0	25.0	40.00	50.0	2.00	-	1	IH.. 25..	0.23
BHF MB32-32X63	MB32	35.5	50.0	32.0	51.50	63.0	3.00	-	1	IH.. 32..	0.43
BHF MB40-40X80	MB40	48.0	63.0	40.0	66.00	80.0	4.00	-	1	IH.. 40..	0.83
BHF MB50-50X60	MB50	6.0	108.0	50.0	60.00	79.0	4.00	16.00	2	IH.. 50..	1.15

For tools, see: IHAXF (C53) • IHAXF-AVI (C54) • IHAXF-E (C55) • IHFF (C57) • IHRF (C58) • IHRF-BW (C62) • IHRF-CH (C63).

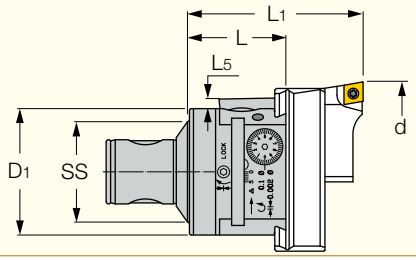
• For user guide see pages C46, C98

• For spare parts see page C88

BHF MB50-MB80 Dia. 77-500

Fine Boring Heads with 2 µm Direct Diametric Adjustment for Diameter Range 77 to 500 mm

2 µm



Designation	SS	d min	d max	D1	L	L1	L5	Kg
BHF MB50-63X87 (1)	MB50	77.0	125.0	63.0	49.00	87.0	5.00	1.26
BHF MB50-80X94 (2)	MB50	95.0	160.0	80.0	58.00	94.0	5.00	2.16
BHF MB63-63X87 (1)	MB63	77.0	125.0	63.0	49.00	87.0	5.00	1.57
BHF MB80-80X94 (2)	MB80	95.0	160.0	80.0	58.00	94.0	5.00	2.67
BHF MB80-125X114 (3)	MB80	135.0	500.0	125.0	63.00	114.0	5.00	5.78

(1) Use with slide BHFH 30X75 or BHFH 30X93. (2) Use with slide BHFH 30X93 or BHFH 30X135. (3) Use with slide BHFH 40X133, BHFH 40X200, BHFH 40X300 and BHFH 40X400.

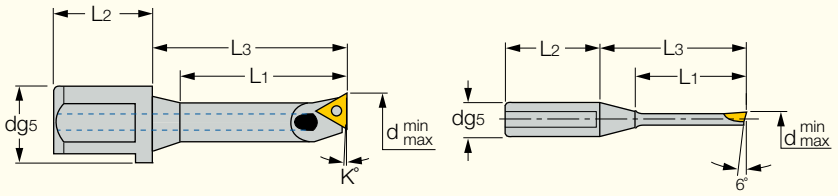
• For tools, see pages: IHAXF (C53) • IHFF (C57) • IHRF (C58).

• For user guide see pages: C47-49, C99.

• For spare parts see pages C55-56, C89, C95.

IHAXF

Brazed and Indexable Boring Bars for the Modular MB Boring System



Designation	d min	d max	L1	L3	L2	d	Insert
IHAXF 2.5-4/8 (1)	2.5	4.0	12.5	21.00	22.00	8.00	SOLID
IHAXF 4- 6/8 (1)	4.0	6.0	20.0	24.00	24.00	8.00	SOLID
IHAXF 6- 8/16	6.0	8.0	21.0	29.00	22.00	16.00	WCGT 0201...
IHAXF 6- 8/8	6.0	8.0	21.0	21.00	16.00	8.00	WCGT 0201...
IHAXF 8-10/16	8.0	10.0	28.0	36.00	22.00	16.00	WCGT 0201...
IHAXF 8-10/8	8.0	10.0	-	21.00	16.00	8.00	WCGT 0201...
IHAXF 10-12/16	10.0	12.0	35.0	43.00	22.00	16.00	TPGX 0902...
IHAXF 10-12/8	10.0	12.0	-	36.00	16.00	8.00	TPGX 0902...
IHAXF 11-13/16	11.0	13.0	40.0	48.00	22.00	16.00	TPGX 0902...
IHAXF 12-14/16	12.0	14.0	42.0	48.00	22.00	16.00	TPGX 0902...
IHAXF 12-14/8	12.0	14.0	-	42.00	14.00	8.00	TPGX 0902...
IHAXF 14-16/16	14.0	16.0	50.0	52.00	22.00	16.00	TPGX 0902...
IHAXF 14-16/8	14.0	16.0	-	48.00	14.00	8.00	TPGX 0902...
IHAXF 16-18/16	16.0	18.0	50.0	58.00	22.00	16.00	TPGX 0902...
IHAXF 16-18/8	16.0	18.0	-	54.00	14.00	8.00	TPGX 0902...
IHAXF 18-22/16	18.0	22.0	60.0	63.00	22.00	16.00	TPGX 0902...
IHAXF 22-30/16	22.0	30.0	60.0	68.00	22.00	16.00	TPGX 0902...

(1) Brazed tool

For inserts, see: TPGX (C85) • TPGX (CBN) (C86) • TPGX (PCD) (C86) • WCGT (C85).

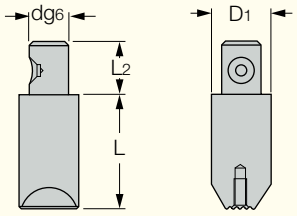
For holders, see: ADBH (C57) • BHE MB (C40) • BHE MB-H (C40) • BHF MB-BL (C50) • BHF MB16-MB50 Dia. 6-108 (C52) • SLEEVE (C54).

Spare Parts

Designation	Key	Screw
IHAXF 6- 8/16	T-6/5	SR 14-299
IHAXF 8-10/16	T-6/5	SR 14-299
IHAXF 11-13/16	T-8/5	SR 14-298
IHAXF 16-18/16	T-8/5	SR 14-298
IHAXF 22-30/16	T-8/5	SR 14-298

BBH D16

Extension Slide for Fine Boring Holders, Used on the MB Boring Modular System



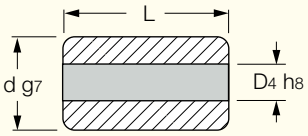
Designation	D1	L	d	L2	Kg
BBH D16X53	25.0	53.00	16.00	21.50	0.25
BBH D16X105	25.0	95.00	16.00	21.50	0.26

For tools, see: IHFF (C57) • IHRF (C58).

• For spare parts see page C94

SLEEVE

Reduction Sleeves for Boring Bars on the MB Boring Modular System

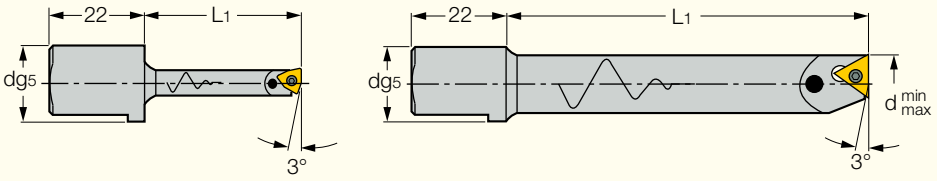


Designation	d	D_4	L
SLEEVE D 4-D16	16.00	4.00	23.00
SLEEVE D 8-D16	16.00	8.00	22.00
SLEEVE D10-D16	16.00	10.00	23.00
SLEEVE D12-D16	16.00	12.00	23.00

For tools, see: IHAXF (C53).

IHAXF-AVI

Heavy Metal, Vibration Damping Boring Bars



Designation	d min	d max	L_1	d	Inserts
IHAXF 6- 8-AVI	6.0	8.0	36.0	16.00	WCGT 0201...
IHAXF 8-10-AVI	8.0	10.0	48.0	16.00	WCGT 0201...
IHAXF 10-12-AVI	10.0	12.0	60.0	16.00	TPGX 0902...
IHAXF 12-14-AVI	12.0	14.0	72.0	16.00	TPGX 0902...
IHAXF 14-16-AVI	14.0	16.0	84.0	16.00	TPGX 0902...
IHAXF 16-18-AVI	16.0	18.0	96.0	16.00	TPGX 0902...

• Note: Not recommended to be used on balanceable BHF-BL fine boring heads.

For inserts, see: TPGX (C85) • TPGX (CBN) (C86) • WCGT (C85).

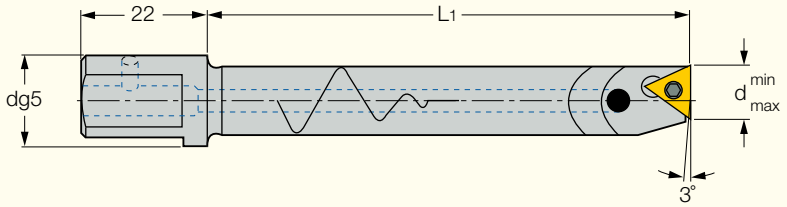
For holders, see: ADBH (C57) • BHE MB (C40) • BHE MB-H (C40) • BHF MB16-MB50 Dia. 6-108 (C52).

Spare Parts

Designation	Key	Screw
IHAXF 6- 8-AVI	T-6/5	SR 14-299
IHAXF 8-10-AVI	T-6/5	SR 14-299
IHAXF 10-12-AVI	T-8/5	SR 14-298
IHAXF 12-14-AVI	T-8/5	SR 14-298
IHAXF 14-16-AVI	T-8/5	SR 14-298
IHAXF 16-18-AVI	T-8/5	SR 14-298

IHAXF-E

Carbide Vibration Dampening Boring Bars



Designation	d min	d max	L1	d	Inserts
IHAXF 6- 8-E	6.0	8.0	45.0	16.00	WCGT 0201...
IHAXF 8-10-E	8.0	10.0	60.0	16.00	WCGT 0201...
IHAXF 10-12-E	10.0	12.0	75.0	16.00	TPGX 0902...
IHAXF 12-14-E	12.0	14.0	90.0	16.00	TPGX 0902...
IHAXF 14-16-E	14.0	16.0	105.0	16.00	TPGX 0902...
IHAXF 16-18-E	16.0	18.0	120.0	16.00	TPGX 0902...

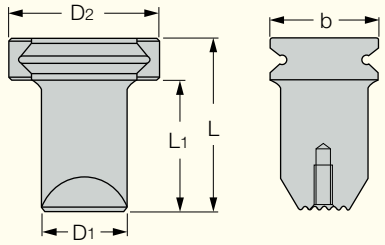
• Note: Not recommended to be used on balanceable BHF-BL fine boring heads.

For inserts, see: TPGX (C85) • TPGX (CBN) (C86) • WCGT (C85).

For holders, see: ADBH (C57) • BHE MB (C40) • BHE MB-H (C40) • BHF MB16-MB50 Dia. 6-108 (C52).

BBH 30/40

Extension Slides for the MB Modular Fine Boring Holders

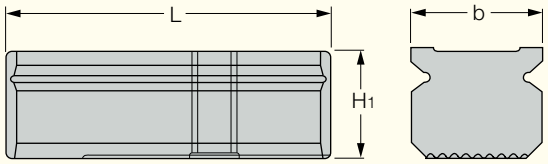


Designation	D1	L1	L	D2	b	Kg
BBH 30X40	25.0	40.0	52.50	43.00	30.5	0.26
BBH 30X70	25.0	70.0	82.50	43.00	30.5	0.37
BBH 30X115	27.0	115.0	127.50	43.00	30.5	0.63
BBH 40X69	32.0	69.0	86.00	56.00	40.0	0.69
BBH 40X114	32.0	114.0	131.00	56.00	40.0	0.99
BBH 40X189	38.0	189.0	206.00	56.00	40.0	1.94

For tools, see: IHFF (C57) • IHRF (C58).

BHFH

Slides for Fine Boring Holders, Used on the MB Boring Modular System



Designation	H_1	b	L	Kg
BHFH 30X75	25.0	30.5	75.00	0.43
BHFH 30X93	25.0	30.5	93.00	0.53
BHFH 30X135	25.0	30.5	135.00	0.77
BHFH 40X133	40.0	40.0	133.00	1.53
BHFH 40X200	40.0	40.0	200.00	2.30
BHFH 40X300	40.0	40.0	300.00	3.47
BHFH 40X400	40.0	40.0	400.00	4.64

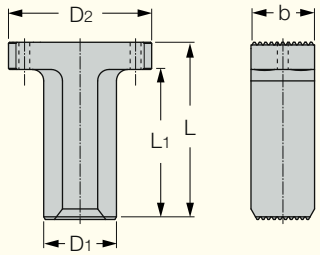
For holders, see page: BHF MB50-MB80 Dia. 77-500 (C52)

For tools, see pages: IHRF (C58) • IHFF (C57) • IHRF-BW (C62) • IHRF-CH (C63)

• For spare parts see page: C95.

BBH 63

Extension Slides for BHE Fine Boring Holders, Used on the MB Boring Modular System

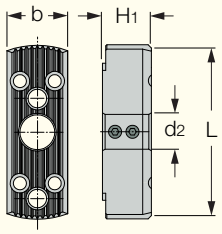


Designation	D_1	L_1	L	D_2	b	Kg
BBH 63X78	32.0	66.0	78.00	63.00	28.0	0.51

For tools, see: IHFF (C57) • IHRF (C58).

BHEH

Slides for BHE Fine Boring Holders, Used on the MB Modular Boring System



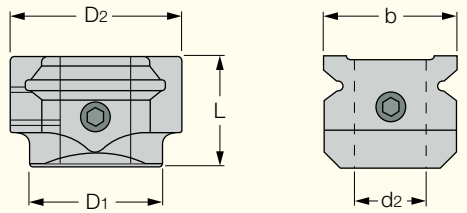
Designation	H_1	b	L	d_2	Kg
BHEH 24X75	14.5	24.0	75.00	-	0.20
BHEH 28X80	22.5	28.0	80.00	16.00	0.34
BHEH 28X108	22.5	28.0	108.00	-	0.52
BHEH 28X148	22.5	28.0	148.00	-	0.68

For tools, see: IHFF (C57) • IHRF (C58).

• For spare parts see page: C95.

ADBH

Sleeve for Fine Boring Holders, Used on the MB Boring Modular System



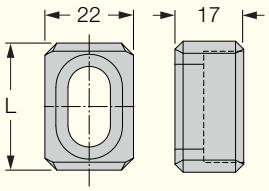
Designation	D_1	L	D_2	b	d_2	Kg
ADBH 30XD16	30.0	25.00	39.00	30.5	16.00	0.15

For tools, see: IHAXF (C53) • IHAXF-AVI (C54) • IHAXF-E (C55).

• For spare parts see page: C94.

CW32

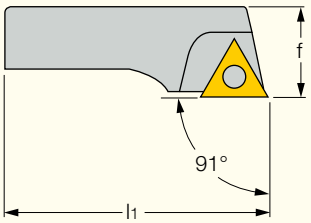
Counter Balancing Weight, Used on BHEH Slide for Fine Boring Holders



Designation	L	Kg
CW32	31.50	0.09

IHFF

Triangular Insert Holders for Mounting on the MB Fine Boring Heads



Designation	f	l_1	d Range	Inserts
IHFF 25	10.0	26.50	28-40	TPGX 0902...
IHFF 32	11.5	34.50	35-53	TPGX 0902...
IHFF 40	14.0	44.00	48-66	TPGX 1103...
IHFF 50	19.0	52.00	54-86	TPGX 1103...

For inserts, see: TPGX (C85) • TPGX (CBN) (C86).

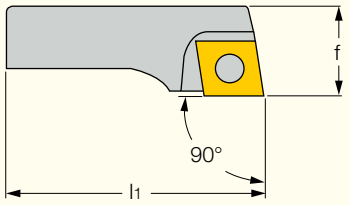
For holders, see: BBH 30/40 (C55) • BBH 63 (C56) • BBH D16 (C53) • BHE MB (C40) • BHEH (C56) • BHF L200 (C59) • BHF MB16-MB50 Dia. 6-108 (C52) • BHFH (C56).

Spare Parts

Designation	Key	Screw
IHFF 25	T-8/5	SR 14-298
IHFF 32	T-8/5	SR 14-298
IHFF 40	T-8/5	SR 14-300
IHFF 50	T-8/5	SR 14-300

IHRF

80° Rhombic Insert Holders for Mounting on the MB Fine Boring Heads



Designation	f	l_1	d Range	Inserts
IHRF 16	8.0	17.00	18-24	CCGT 0602...
IHRF 20	8.5	21.00	22-30	CCGT 0602...
IHRF 25	10.0	26.50	28-40	CCGT 0602...
IHRF 32	11.5	34.50	35-53	CCGT 0602...
IHRF 40	14.0	44.00	48-66	CCGT 09T3...
IHRF 50	19.0	52.00	54-86	CCGT 09T3...

For inserts, see: CCET-WF (C76) • CCGT-AF (C79) • CCGT-AS (C79) • CCMT (CBN) (C78) • CCMT (PCD) (C78) • CCMT-14 (C76) • CCMT-PF (C75) • CCMT-WG (C77) • CCMT/CCGT (C77) • CCMT/CCGT-SM (C75).

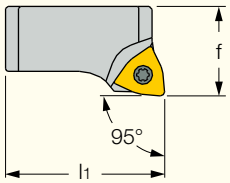
For holders, see: BBH 30/40 (C55) • BBH 63 (C56) • BBH D16 (C53) • BHE MB (C40) • BHEH (C56) • BHF MB16-MB50 Dia. 6-108 (C52) • BHFH (C56).

Spare Parts

Designation	Key	Screw
IHRF 16	T-7/5	SR 14-548
IHRF 20	T-7/5	SR 14-548
IHRF 25	T-7/5	SR 14-548
IHRF 32	T-7/5	SR 14-548
IHRF 40	T-15/5	SR 16-236
IHRF 50	T-15/5	SR 16-236

IHWF

Trigon Insert Holders for Mounting on the MB Fine Boring Heads



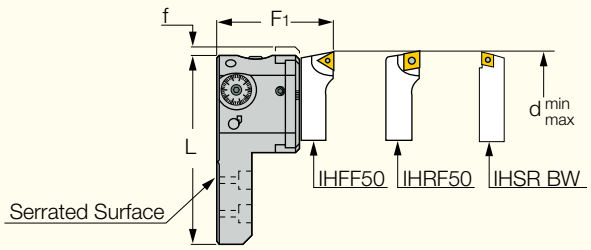
Designation	f	l_1	d Range	Inserts
IHWF 14 E	8.0	14.00	14.5-18	WCGT 0201...

For inserts, see: WCGT (C85).

For holders, see: BHE MB (C40).

BHF L200

Fine Boring Slide Head for TCH Large Diameter Holders

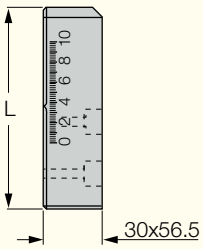


Designation	d min	d max	L	F1	f	Kg
BHF L200	200.0	800.0	110.00	67.0	5.0	1.28

For tools, see: IHFF (C57) • IHRF-BW (C62) • IHSR-BW (C36).

CW200

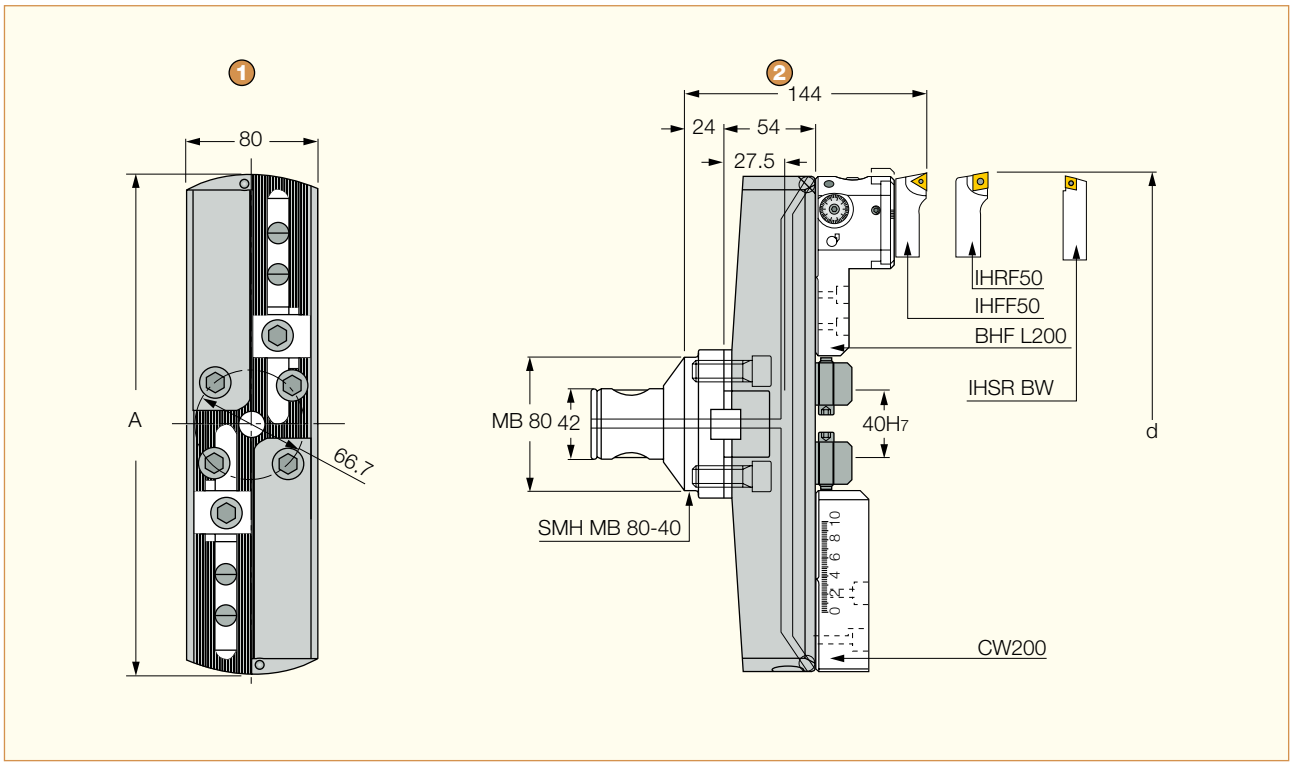
Counter Balancing Weight, for TCH Rough and Fine Boring Holders



Designation	L	Kg
CW200	105.00	1.12

TCH-MB

Fine Boring Aluminum Head Range: Ø200-500 with MB Connection



1 SMH MB 80-40

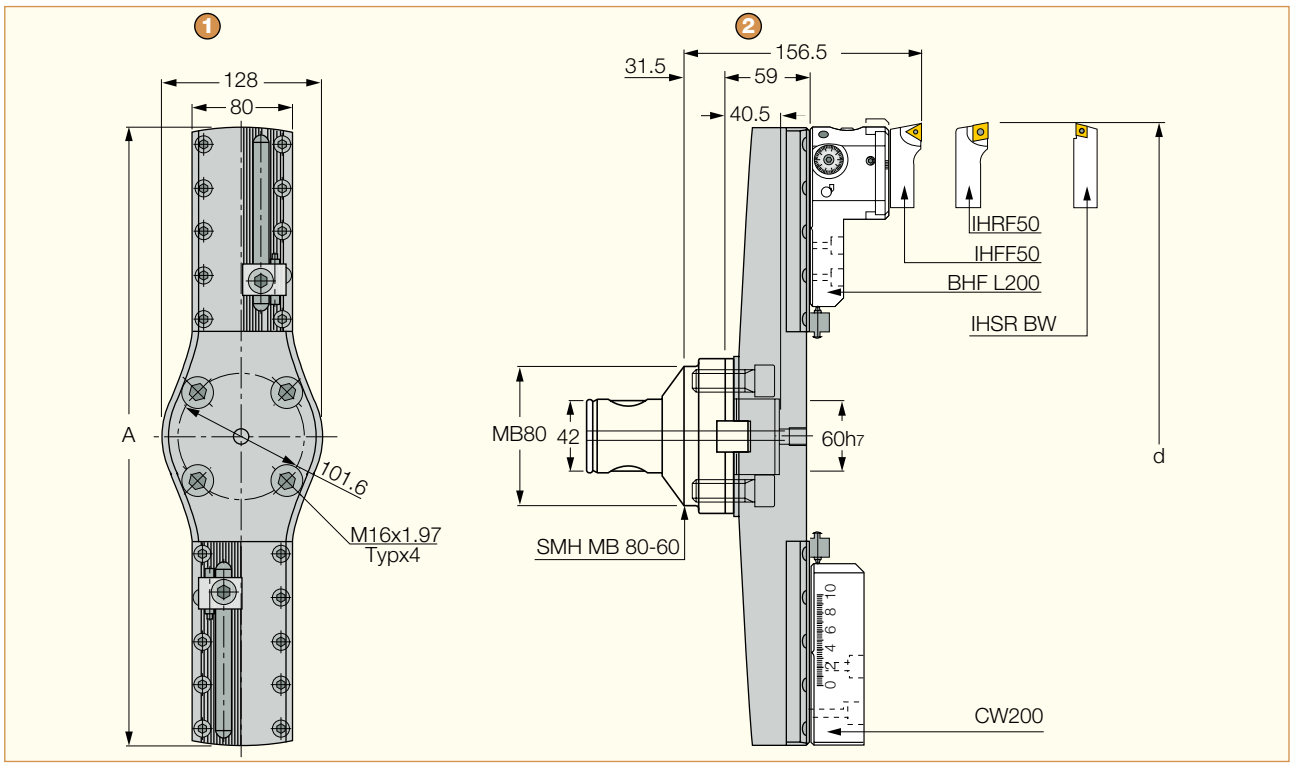
2 TCH-Fine Boring - Insert Holders

Designation	d	A	Kg
TCH 200	200-300	198	2.6
TCH 300	300-400	298	3.5
TCH 400	400-500	398	4.1

• For spare parts see pages C59, C93-94 • For tools see pages C36, C57-58, C62-63.

TCH AL

Flne Boring Head Range: Ø500-800 with MB Connection



1 SMH MB 80-60

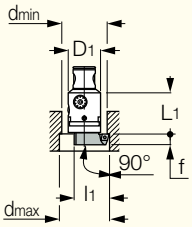
2 TCH A.L - Fine Boring Holders IH...

Designation	d	A	Kg
TCH A.L 500	500-600	494	7.5
TCH A.L 600	600-700	594	9.0
TCH A.L 700	700-800	694	10.5

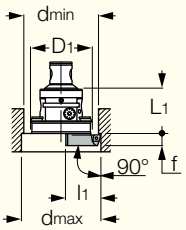
• For spare parts see pages C59, C93-94 • For tools see pages C36, C57-58, C62-63.

IHRF-BW

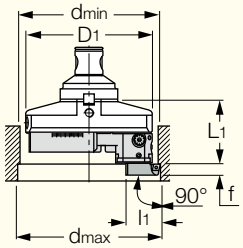
Back Face Turning Toolholders for BHF and TCH Fine Boring Heads



BHF16-50
IHRF...BW



BHF63-125
BHFH
IHRF...BW



TCH200-800
BHF L200
IHRF...BW

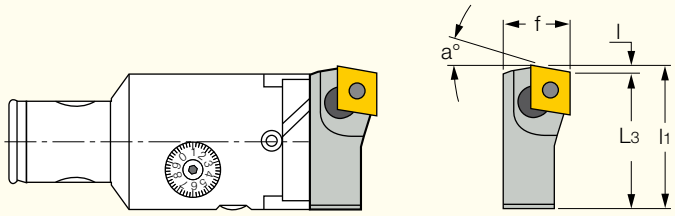
Designation	SS	d min	d max	D1	L1	f	l1	Inserts
IHRF 20-25BW	BHF MB16-16x34	20.0	25.0	16.0	27.5	8.0	18.00	CCMT 0602...
IHRF 24.5-32BW	BHF MB20-20x40	24.5	32.0	20.0	33.5	8.5	22.50	CCMT 0602...
IHRF 31.5-41.5BW	BHF MB25-25x50	31.5	41.5	25.0	41.5	9.5	28.50	CCMT 0602...
IHRF 38.5-51.5BW	BHF MB32-32x63	38.5	51.5	32.0	53.0	11.0	35.50	CCMT 0602...
IHRF 50.5-65BW	BHF MB40-40X80	50.5	65.0	40.0	68.0	13.5	46.00	CCMT 09T3...
IHRF 56-802BW	BHF50-50	56.0	86.0	50	62.0	17.5	53.0	CCMT 09T3...
	BHF63+BHFH30X75	82.0	120.0	75	70.2			
	BHF80+BHFH30X93	100.0	142.0	93	79.5			
	BHF125+BHFH40X133	140.0	240.0	135	98.0			
	TCH200+BHF L200	202.0	302.0	198	103.0			
	TCH300+BHF L200	302.0	402.0	298	103.0			
	TCH400+BHF L200	402.0	502.0	398	103.0			
	TCH500+BHF L200	502.0	602.0	494	108.0			
	TCH600+BHF L200	602.0	702.0	594	108.0			
	TCH700+BHF L200	702.0	802.0	694	108.0			

• dmin=(min bore diameter)=(dmax+D1+1)/2 • D1=Size of the boring head being used

For inserts, see: CCGT-AS (C79) • CCMT (CBN) (C78) • CCMT (PCD) (C78) • CCMT-14 (C76) • CCMT-PF (C75) • CCMT-WG (C77) • CCMT/CCGT (C77) • CCMT/CCGT-SM (C75).

For holders, see pages: BHE MB (C40) • BHF L200 (C59) • BHF MB16-MB50 Dia. 6-108 (C52) • BHFH (C56) • BHF MB50-MB80 Dia. 77-500 (C52).

IHRF-CH
Chamfering Tools for BHF Boring Heads

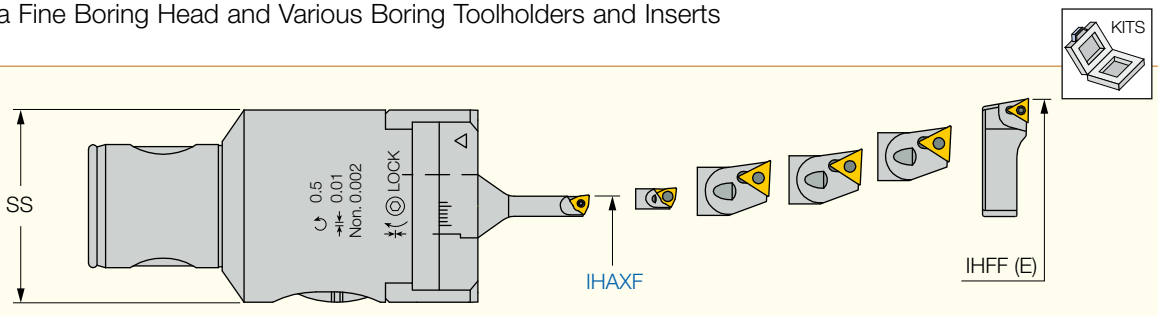


Designation	a°	d min	d max	L_3	l_1	f	l	Inserts
IHFR 20 CH15 22-29	15.0	22.0	29.0	22.30	24.00	11.0	1.60	CCGT 0602...
IHRF 25 CH15 28-38	15.0	28.0	38.0	28.00	29.60	13.0	1.60	CCGT 0602...
IHRF 32 CH15 35-53	15.0	36.0	50.0	33.10	34.70	13.0	1.60	CCGT 0602...
IHRF 40 CH15 48-66	15.0	48.0	63.0	44.90	47.40	17.5	2.50	CCGT 09T3...
IHRF 50 CH15 54-800	15.0	54.0	160.0	52.90	55.40	17.5	2.50	CCGT 09T3...
IHRF 20 CH20 22-29	20.0	22.0	29.0	21.70	23.90	11.0	2.20	CCGT 0602...
IHRF 25 CH20 28-38	20.0	28.0	38.0	27.40	29.60	13.0	2.20	CCGT 0602...
IHRF 32 CH20 36-50	20.0	36.0	50.0	32.50	34.70	13.0	2.20	CCGT 0602...
IHRF 40 CH20 48-63	20.0	48.0	63.0	44.10	47.40	17.5	3.30	CCGT 09T3...
IHRF 50 CH20 54-800	20.0	54.0	160.0	52.10	55.40	17.5	3.30	CCGT 09T3...
IHRF 20 CH30 22-29	30.0	22.0	29.0	20.70	23.90	9.0	3.20	CCGT 0602...
IHRF 25 CH30 28-38	30.0	28.0	38.0	25.40	29.60	11.0	3.20	CCGT 0602...
IHRF 32 CH30 35-53	30.0	36.0	50.0	31.50	34.70	11.0	3.20	CCGT 0602...
IHRF 40 CH30 48-66	30.0	48.0	63.0	42.60	47.40	15.4	4.80	CCGT 09T3...
IHRF 50 CH30 54-800	30.0	54.0	160.0	50.60	55.40	15.4	4.80	CCGT 09T3...
IHRF 16 CH45 18-23	45.0	18.0	23.0	15.50	20.00	9.5	4.50	CCGT 0602...
IHRF 20 CH45 22-29	45.0	22.0	29.0	19.40	24.00	9.5	4.50	CCGT 0602...
IHRF 25 CH45 28-38	45.0	28.0	38.0	25.10	29.60	11.5	4.50	CCGT 0602...
IHRF 32 CH45 36-50	45.0	36.0	50.0	30.20	34.70	11.5	4.50	CCGT 0602...
IHRF 40 CH45 48-66	45.0	48.0	63.0	40.60	47.40	16.0	6.80	CCGT 09T3...
IHRF 50 CH45 54-800	45.0	54.0	160.0	48.60	55.40	16.0	6.80	CCGT 09T3...
IHRF 20 CH60 22-29	60.0	22.0	29.0	18.40	23.90	9.5	5.50	CCGT 0602...
IHRF 25 CH60 28-38	60.0	28.0	38.0	24.10	29.60	11.5	5.50	CCGT 0602...
IHRF 32 CH60 36-50	60.0	36.0	50.0	29.20	34.70	11.5	5.50	CCGT 0602...
IHRF 40 CH60 48-63	60.0	48.0	63.0	39.10	47.40	16.0	8.30	CCGT 09T3...
IHRF 50 CH60 54-800	60.0	54.0	160.0	47.10	55.40	16.0	8.30	CCGT 09T3...

For inserts, see: CCGT-AS (C79) • CCGW/CCMW-M2 (CBN) () • CCMT (CBN) (C78) • CCMT (PCD) (C78) • CCMT-14 (C76) • CCMT-PF (C75) • CCMT-WG (C77) • CCMT/CCGT (C77) • CCMT/CCGT-SM (C75).

For holders, see: BHE MB (C40) • BHF MB16-MB50 Dia. 6-108 (C52) • BHFH (C56).

KIT BHE MB
Contains a Fine Boring Head and Various Boring Toolholders and Inserts



Designation	SS	d Range
KIT BHE MB32-32X53 H (1)	MB32	2.5-12
KIT BHE MB50-50X60 H (1)	MB50	6-22
KIT BHE MB50-50X80	MB50	6-110
KIT BHE MB63-63X89	MB63	6-30, 40-125
KIT BHE MB80-80X104	MB80	6-30, 40-200

• For kit contents and boring options, see following pages • 0.01 mm direct diametric adjustment and 0.002 mm by a vernier scale.

(1) Balanced to G2.5/12,000 RPM

10 μm 2 μm	G2.5 12,000 RPM	

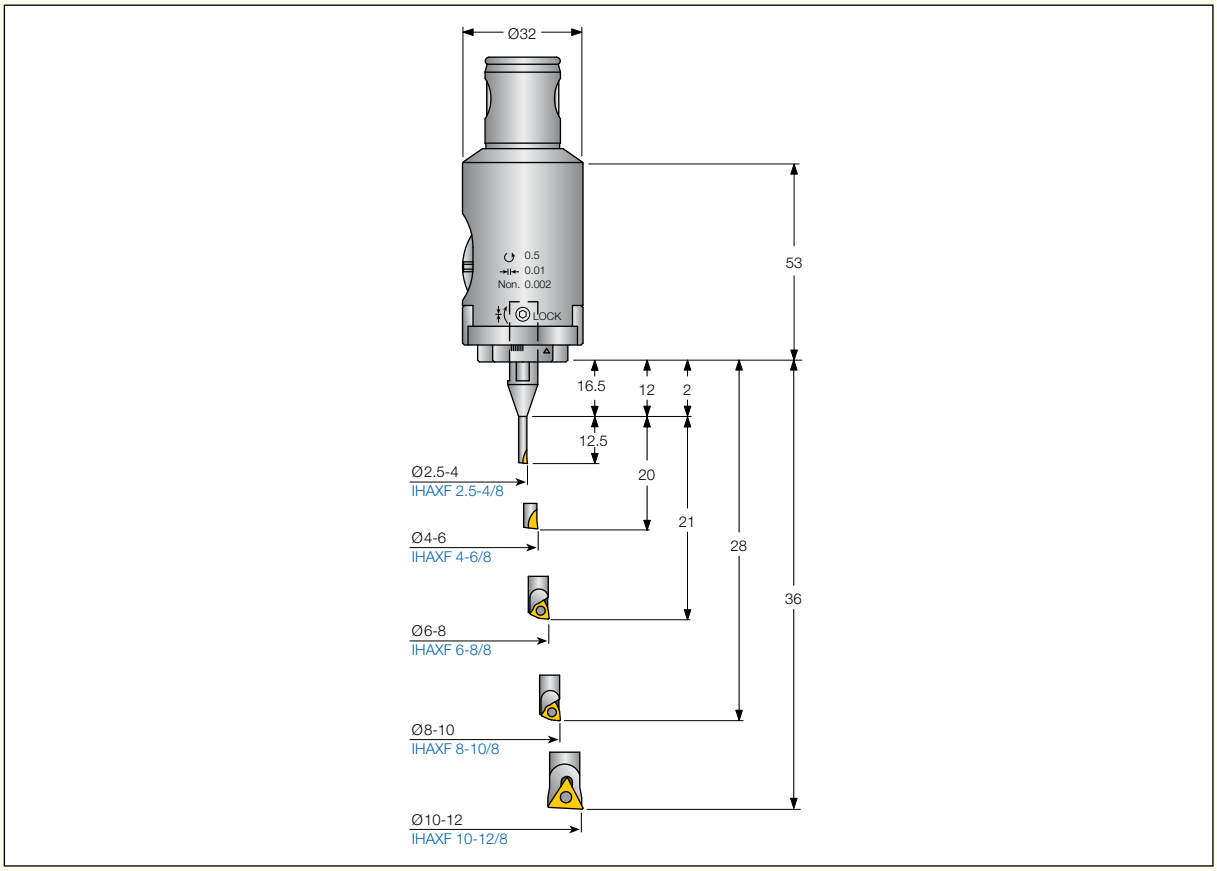
Boring Kit BHE MB32-32x53 H (ø2.5-12 mm)

with Fine Boring Head 10 mm Direct Diametric Adjustment and 2 mm by a Vernier Scale

Boring Tools:
1 BHE MB32-32X53 H
1 IHAXF 2.5-4/8
1 IHAXF 4-6/8
1 IHAXF 6-8/8
1 IHAXF 8-10/8
1 IHAXF 10-12/8

Inserts:
5 TPGX 090202L
2 WCGT 020102L

Designation	MB	Boring Range
KIT BHE MB32-32X53 H	32	2.5-12



10 µm 2 µm	G2.5 12,000 RPM	

Boring Kit BHE MB50-50x60 H (ø6-22 mm)

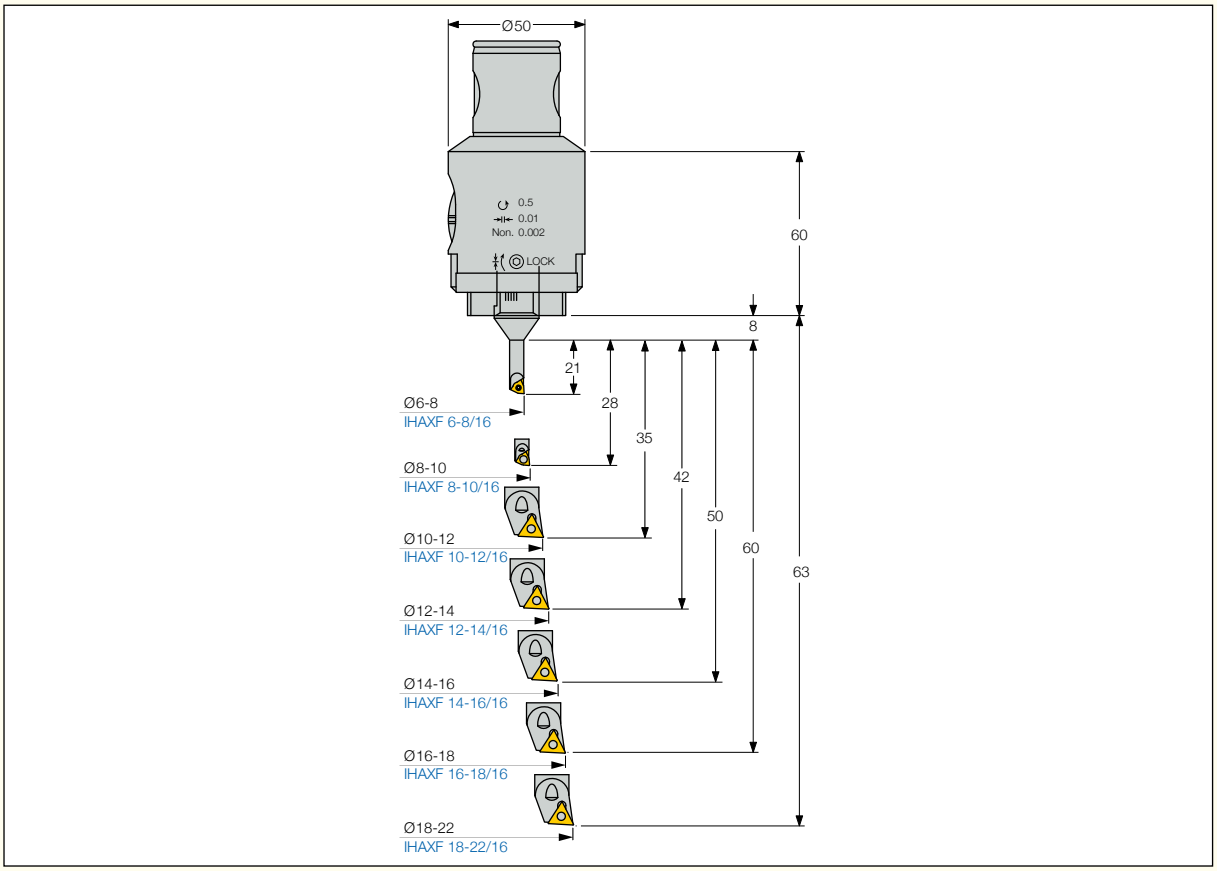
with Fine Boring Head 10 mm Direct Diametric Adjustment and 2 µm by a Vernier Scale

Boring Tools:
1 BHE MB50-50X60 H
1 IHAXF 6-8/16
1 IHAXF 8-10/16
1 IHAXF 10-12/16
1 IHAXF 12-14/16
1 IHAXF 14-16/16
1 IHAXF 16-18/16
1 IHAXF 18-22/16

Inserts:
5 TPGX 090202L
2 WCGT 020102L

Designation	MB	Boring Range
KIT BHE MB50-50X60 H	50	6-22

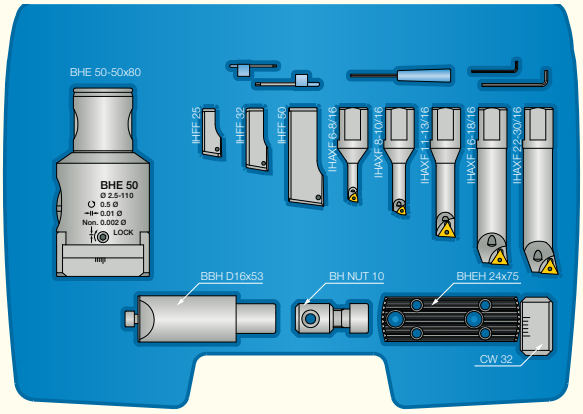
10 µm direct diametric adjustment and 2 µm by a Vernier scale



10 μm
2 μm

Boring Kit BHE MB50-50 x 80 (ø6-110 mm)

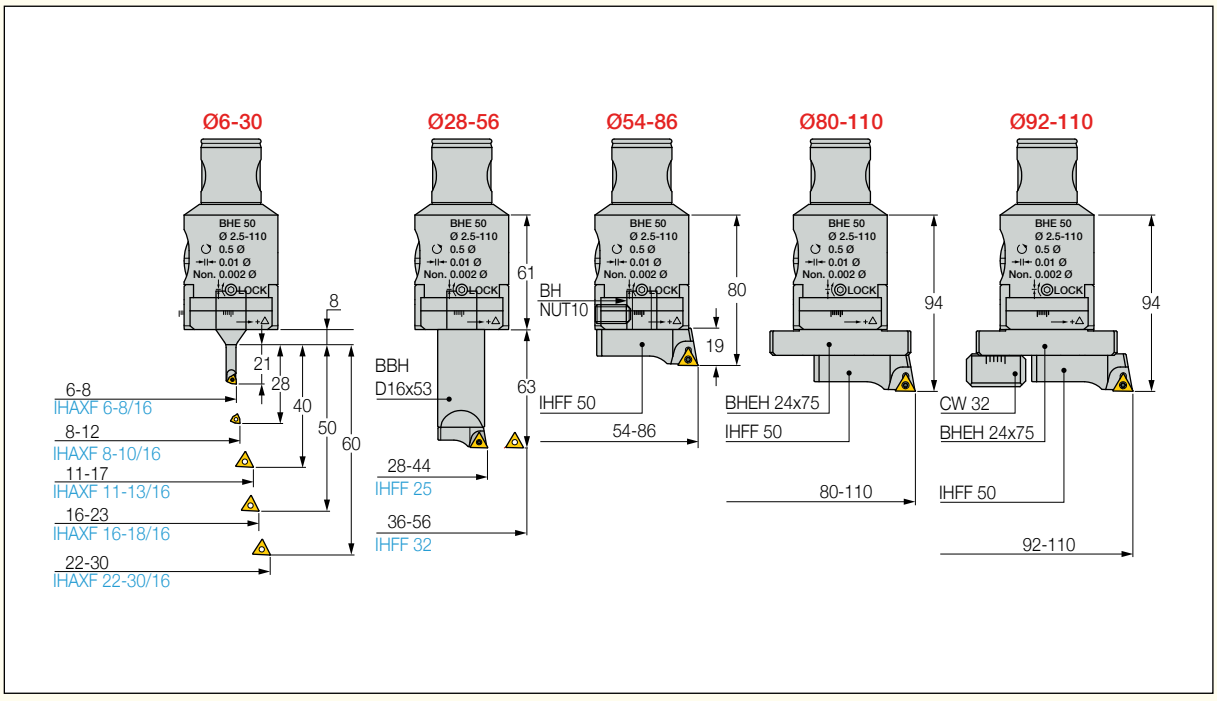
with Fine Boring Head 10 mm Direct Diametric Adjustment and 2 μm by a Vernier Scale



1 BHE MB50-50x80
1 IHFF 25
1 IHFF 32
1 IHFF 50
1 IHAXF 6-8/16
1 IHAXF 8-10/16
1 IHAXF 11-13/16
1 IHAXF 16-18/16
1 IHAXF 22-30/16
1 BBH D16x53
1 BHEH 24x75
1 BH NUT 10
1 CW 32

Designation	MB d1	Boring Range
KIT BHE MB50-50X80	50	6-110

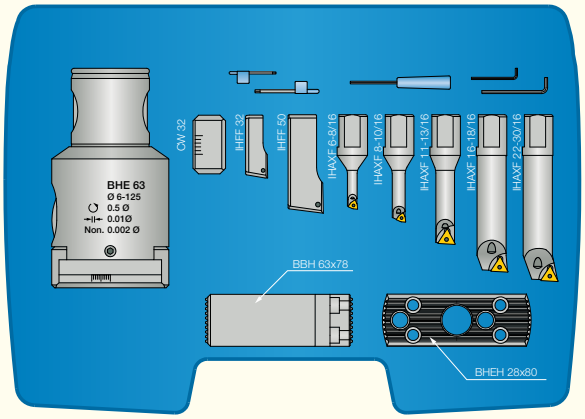
10 μm direct diametric adjustment and 2 μm by a Vernier scale



10 µm
2 µm

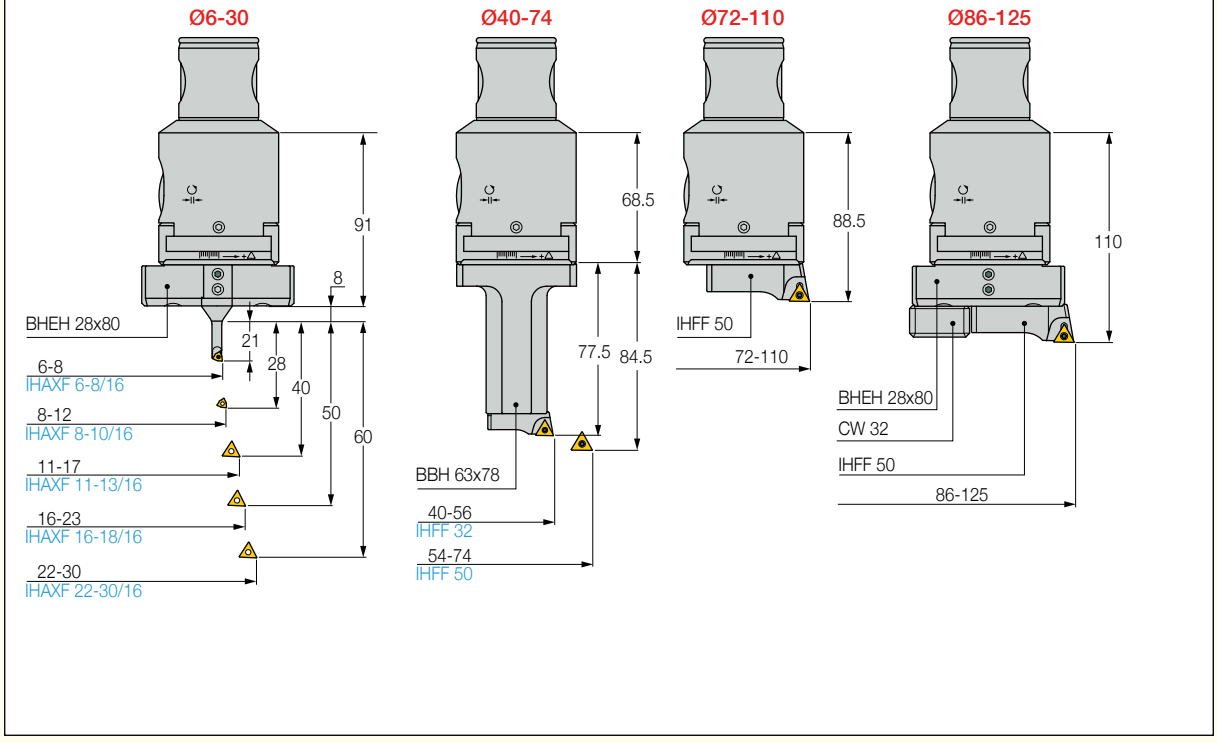
Boring Kit BHE MB63-63 x 89 (ø6-125 mm)

with Fine Boring Head 10 mm Direct Diametric Adjustment and 2 µm by a Vernier Scale



1 BHE MB63-63x89
1 IHFF 32
1 IHFF 50
1 IHFF 6-8/16
1 IHAXF 8-10/16
1 IHAXF 11-13/16
1 IHAXF 16-18/16
1 IHAXF 22-30/16
1 BBH 63x78
1 BHEH 28x80
1 BH WASHER IH..50
1 CW 32

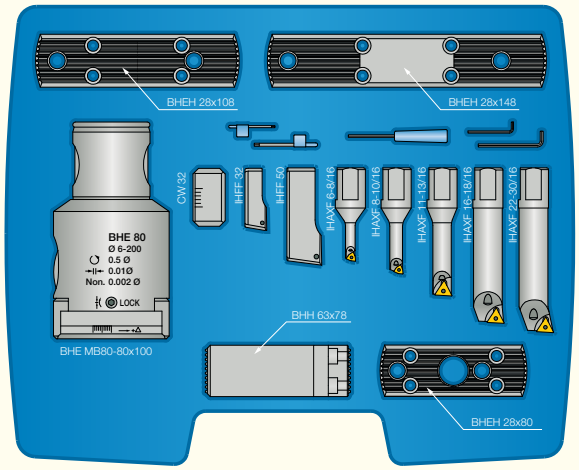
Designation	MB d1	Boring Range
KIT BHE MB63-63X89	63	6-125



10 µm
2 µm

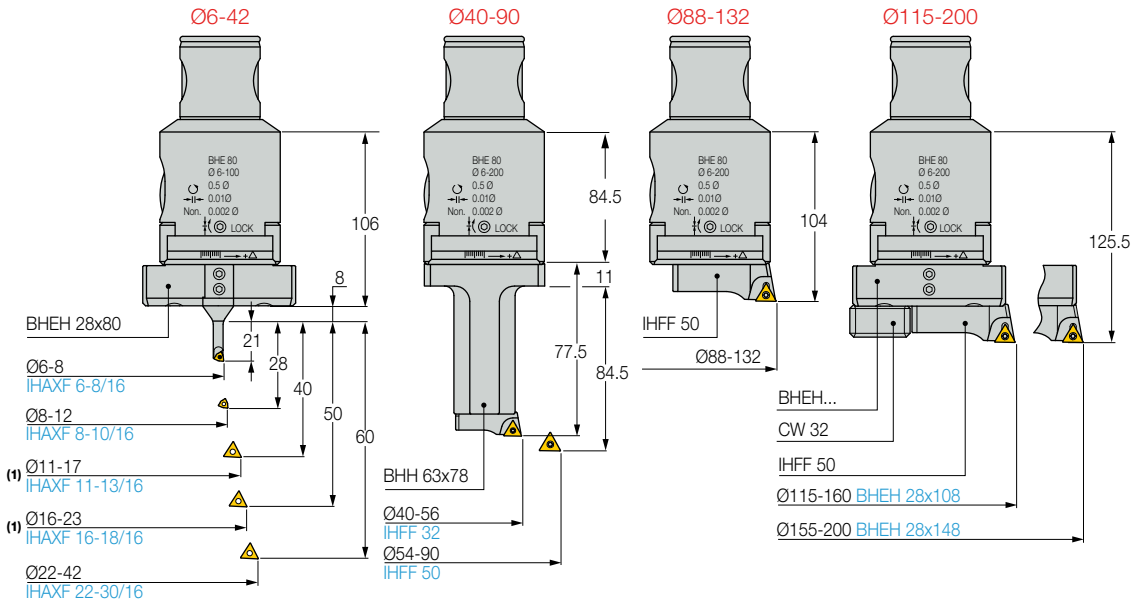
Boring Kit BHE MB80-80 x104 (ø6-200 mm)

with Fine Boring Head 10 mm Direct Diametric Adjustment and 2 µm by a Vernier Scale



1 BHE MB80-80x104
1 IHFF 32
1 IHFF 50
1 IHFF 6-8/16
1 IHAXF 8-10/16
1 IHAXF 11-13/16
1 IHAXF 16-18/16
1 IHAXF 22-30/16
1 BBH 63x78
1 BHEH 28x80
1 BHEH 28x108
1 BHEH 28x148
1 BH WASHER IH..50
1 CW 32

Designation	MB d1	Boring Range
KIT BHE MB80-80X104	80	6-200

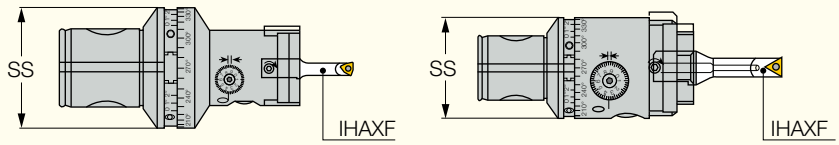


(1) The specified boring range differs from the one specified for boring bar.
The extra range is not recommended for high rotational speed.

KIT BHF MB-BL

Contains a Balanceable Fine Boring Head and Various Boring Toolholders and Inserts

KITS



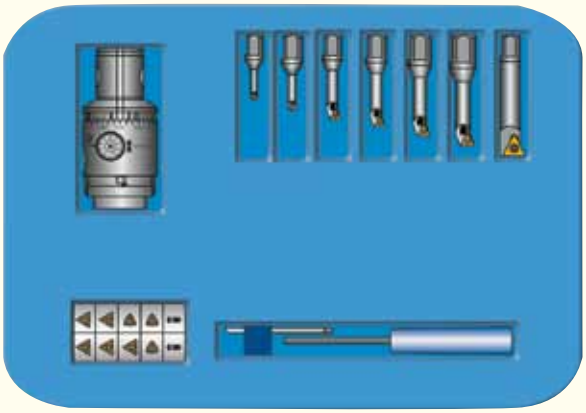
Designation	SS	d Range
KIT BHF MB50-50 BL (1)	MB50	6-20

(1) Balanced to G2.5/20,000 RPM.

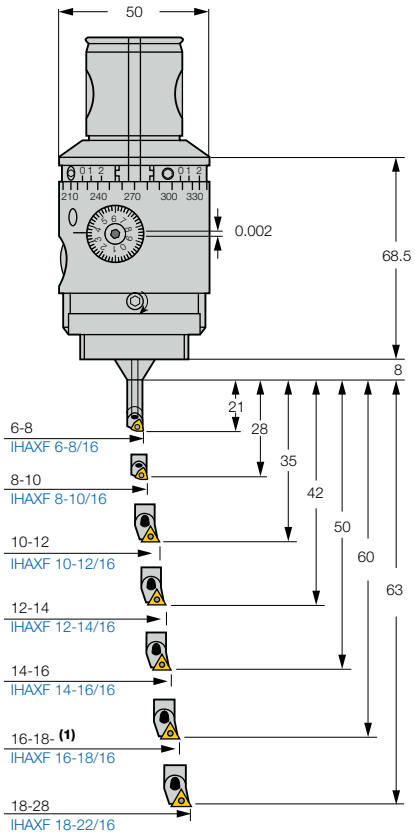
2 µm | G2.5 20,000 RPM

Boring Kit BL BHF MB50-50 (ø6-20 mm)

with BHF BL Fine Boring Balanceable Head



1 BHF MB50-50X68 BL
1 IHAXF 6-8/16
1 IHAXF 8-10/16
1 IHAXF 10-12/16
1 IHAXF 12-14/16
1 IHAXF 14-16/16
1 IHAXF 16-18/16
1 IHAXF 18-22/16
5 TPGX 090202L
2 WCGT 020102L



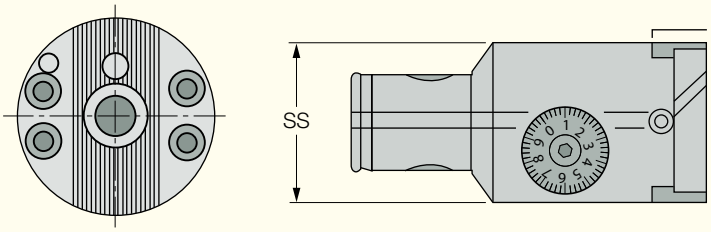
(1) On BHF BL max. balanceable dia. is 20 mm.

Designation	MB d_1	Boring Range
KIT BL BHF MB50-50	50	6-20

KIT BHF-MB

Contains a Fine Boring Head and Various Boring Toolholders and Inserts

KITS

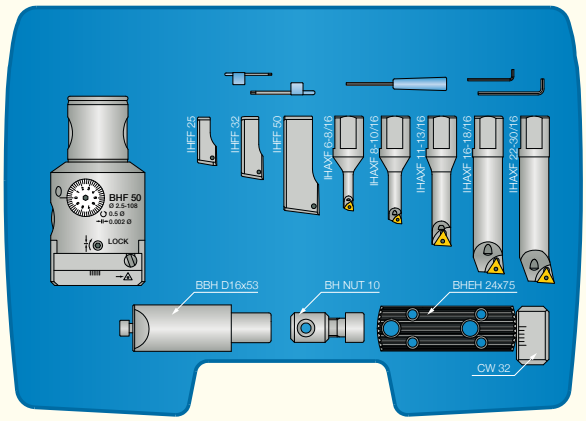


Designation	SS	d Range
KIT BHF MB50-50 6-108	MB50	6-108
KIT BHF MB50-63	MB50	6-125
KIT BHF MB50-80	MB50	6-220
KIT BHF MB63-63	MB63	6-125
KIT BHF MB80-80	MB80	6-200

2 µm

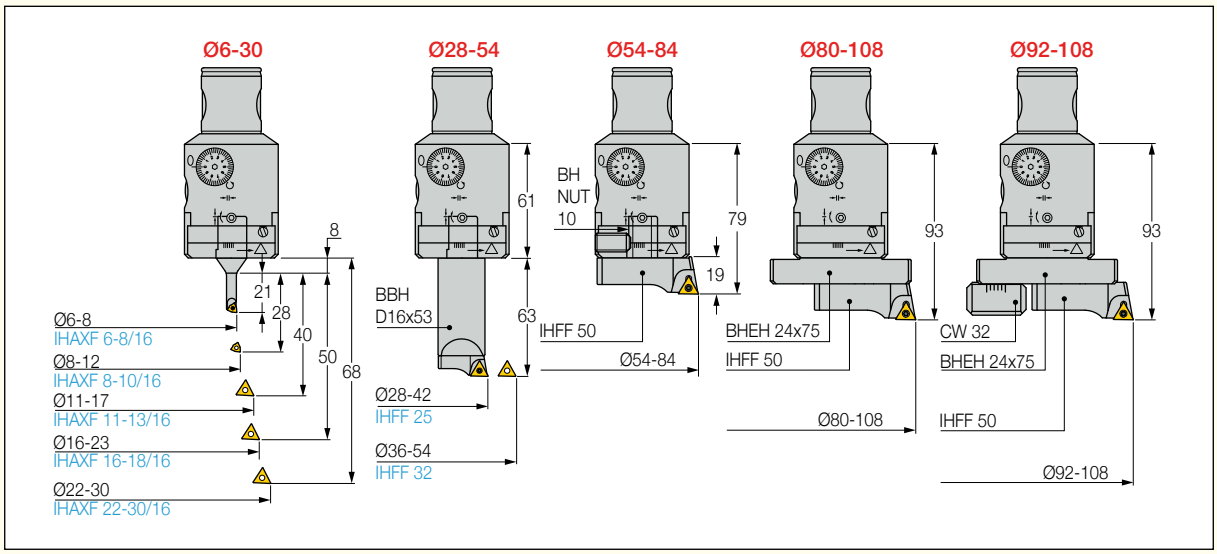
Boring Kit BHF MB50-50 (ø6-108 mm)

Fine Boring Head 10 mm Direct Diametric Adjustment and 2 µm by a Vernier Scale



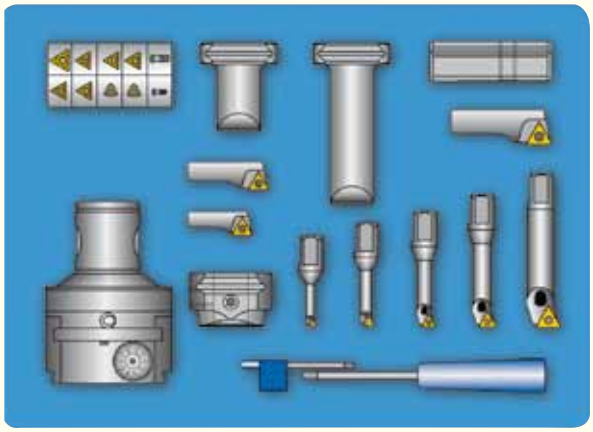
1 BHF MB50-50x60
1 IHFF 25
1 IHFF 32
1 IHFF 50
1 IHAXF 6-8/16
1 IHAXF 8-10/16
1 IHAXF 11-13/16
1 IHAXF 16-18/16
1 IHAXF 22-30/16
1 BBH D16x53
1 BHEH 24x75
1 BH NUT 10
1 CW 32

Designation	MB d1	Boring Range
KIT BHF MB50-50X60 6-108	50	6-108



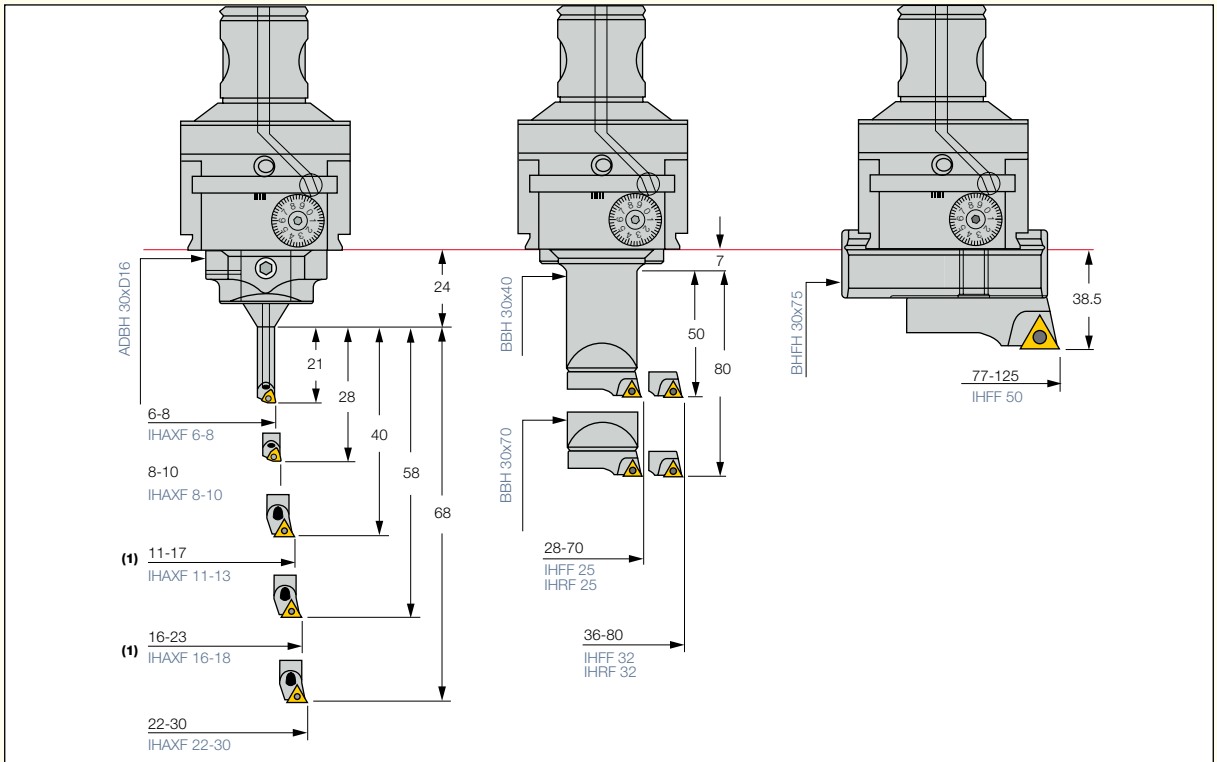
2 µm

Boring Kit BHF MB50-63 / Boring Kit BHF MB63-63 (ø6-125 mm)



1 BHF MB...-63x87
1 IHAXF 6-8/16
1 IHAXF 8-10/16
1 IHAXF 11-13/16
1 IHAXF 16-18/16
1 IHAXF 22-30/16
1 ADBH 30xD16
1 BBH 30x40
1 BBH 30x70
1 BHFH 30x75
1 IHFF 25
1 IHFF 32
1 IHFF 50
5 TPGX 090202L
1 TPGX 110302L
2 WCGT 020102L

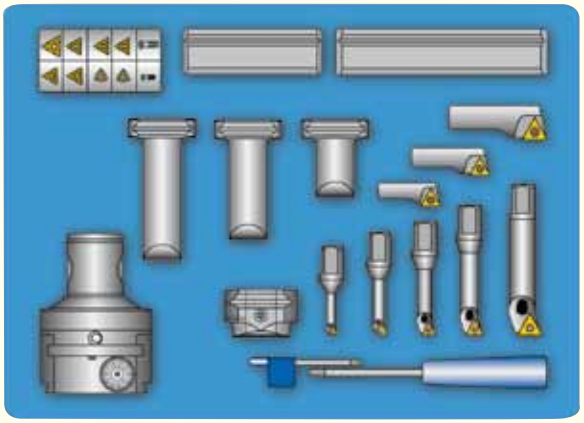
Designation	MB d_1	Boring Range
KIT BHF MB50-63	50	6-125
KIT BHF MB63-63	63	6-125



(1) The specified boring range differs from the one specified for boring bar. The extra range is not recommended for high rotational speed.

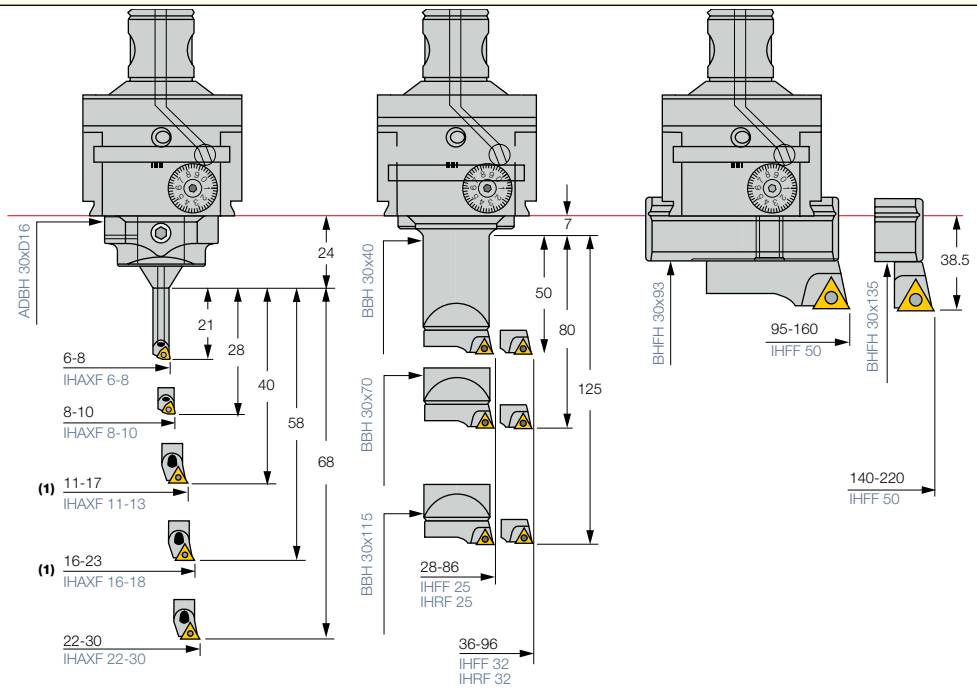
2 µm

Boring Kit BHF MB50-80 / Boring Kit BHF MB80-80 (ø6-220 mm)



1 BHF MB..-80x94
1 IHAXF 6-8/16
1 IHAXF 8-10/16
1 IHAXF 11-13/16
1 IHAXF 16-18/16
1 IHAXF 22-30/16
1 ADBH 30xD16
1 BBH 30x40
1 BBH 30x70
1 BBH 30x115
1 BHFH 30x93
1 BHFH 30x135
1 IHFF 25
1 IHFF 32
1 IHFF 50
5 TPGX 090202L
1 TPGX 110302L
2 WCGT 020102L

Designation	MB d1	Boring Range
KIT BHF MB50-80	50	6-220
KIT BHF MB80-80	80	6-220

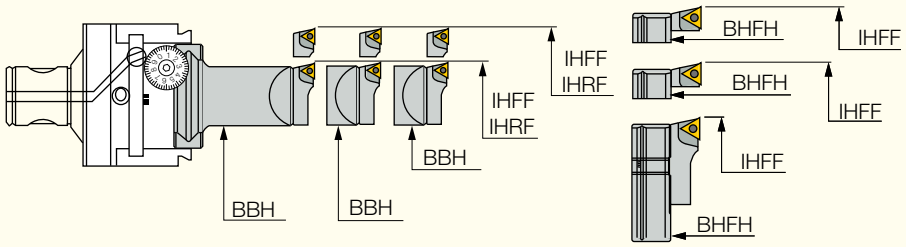


(1) The specified boring range differs from the one specified for boring bar. The extra range is not recommended for high rotational speed.

KIT BHFH-MB

Contains Adapters, Extensions and Boring Bars for 36 to 400 mm Boring Range

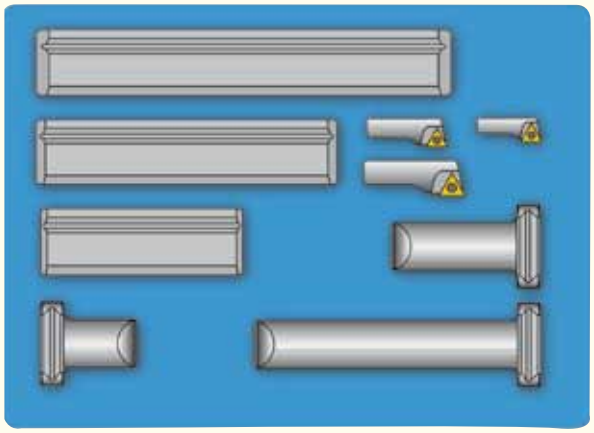
KITS



Designation	SS	d Range
KIT BHFH MB80-125	MB80	36-400

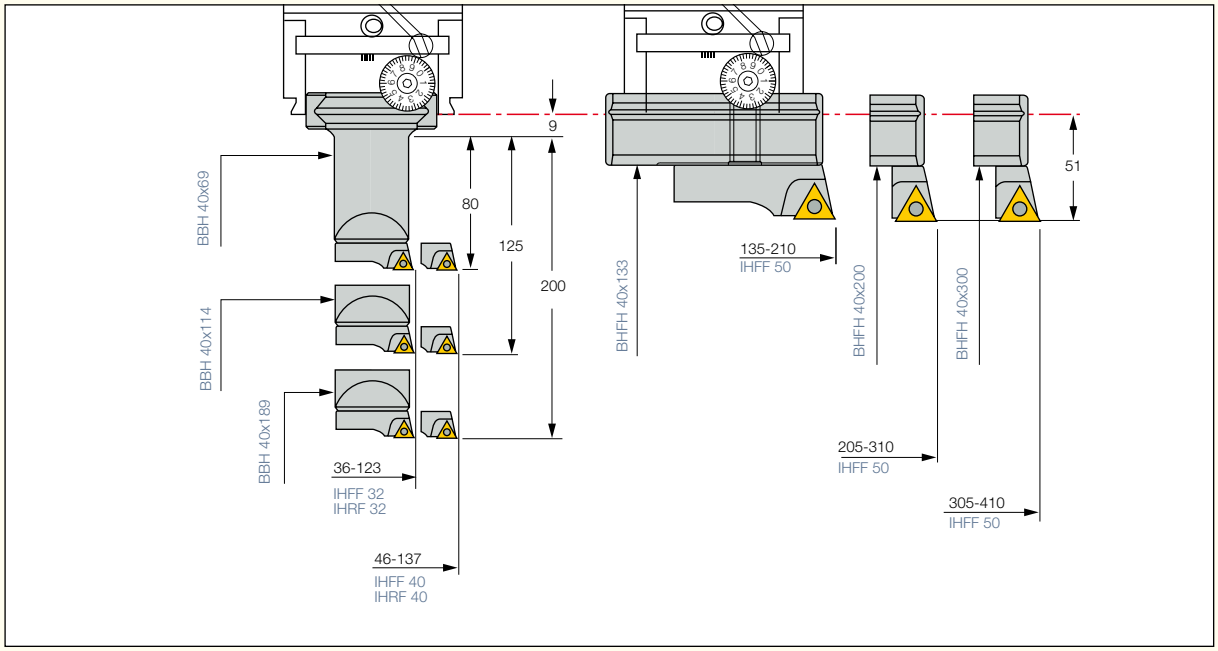
2 µm

Kit BHFH MB80-125 Holder for BHF MB80-125X114 (ø36-410 mm)



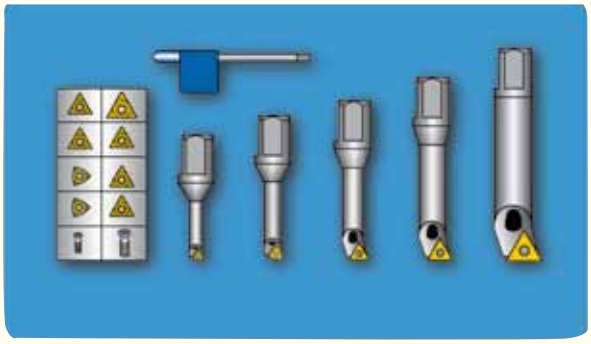
1 BBH 40x69
1 BBH 40x114
1 BBH 40x189
1 BHFH 40x133
1 BHFH 40x200
1 BHFH 40x300
1 IHFF 25
1 IHFF 40
1 IHFF 50

Designation	MB d_1	Boring Range
KIT BHFH MB80-125	80	36-410



2 μm

Kit IHAXF 6-30 (ø6-30 mm)



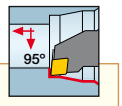
(1) 1 IHAXF 6-8/16
(1) 1 IHAXF 8-10/16
(1) 1 IHAXF 11-13/16
(1) 1 IHAXF 16-18/16
(1) 1 IHAXF 22-30/16
5 TPGX 090202L
3 WCGT 020102L

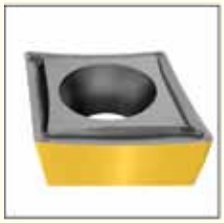
Designation	Boring Range
KIT IHAXF 6-30	6-30

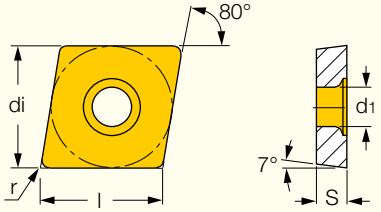
(1) Available only in kit.

CCMT/CCGT-SM

Single-Sided Turning Inserts for Semi-Finishing and Finishing on Soft Materials and Exotic Alloys



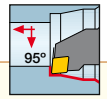


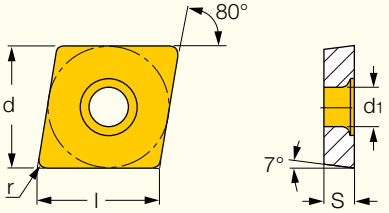


Designation	Dimensions l	di	S	r	d1	Tough ↔ Hard IC3028	IC830	IC8250	IC6015	IC8150	IC6025	IC20	IC428	IC5010	IC5005	IC807	IC907	IC806	Recommended Machining Data ap (mm)	f (mm/rev)
CCGT 060201-SM	6.30	6.35	2.38	0.10	2.80												●		0.25-2.00	0.05-0.20
CCGT 060202-SM	6.30	6.35	2.38	0.20	2.80												●		0.25-2.00	0.05-0.25
CCMT 060202-SM	6.30	6.35	2.38	0.20	2.80			●		●									0.25-2.00	0.05-0.25
CCMT 060204-SM	6.30	6.35	2.38	0.40	2.80			●	●	●	●					●	●	●	0.50-2.50	0.07-0.25
CCMT 060208-SM	6.30	6.35	2.38	0.80	2.80				●		●					●	●		0.50-2.50	0.07-0.25
CCMT 09T302-SM	9.70	9.53	3.97	0.20	4.40			●	●		●					●	●		0.50-2.50	0.06-0.25
CCMT 09T304-SM	9.70	9.53	3.97	0.40	4.40	●	●	●		●	●	●	●	●	●	●	●	●	0.50-2.50	0.06-0.25
CCMT 09T308-SM	9.70	9.53	3.97	0.80	4.40			●	●	●	●			●	●	●	●	●	0.50-3.00	0.07-0.25
CCMT 120404-SM	12.90	12.70	4.76	0.40	5.50			●		●						●	●		0.70-3.50	0.07-0.25
CCMT 120408-SM	12.90	12.70	4.76	0.80	5.50			●	●	●	●					●	●		0.70-3.50	0.07-0.30

CCMT-PF

80° Rhombic, Positive Flank Inserts, for Semi-Finishing and Finishing on Soft Materials and Exotic Alloys

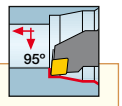


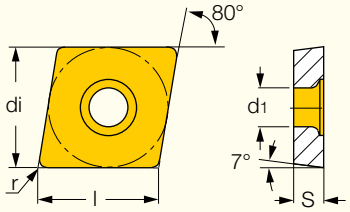


Designation	Dimensions l	di	S	r	d1	Tough ↔ Hard IC3028	IC6015	IC6025	IC807	IC907	Recommended Machining Data ap (mm)	f (mm/rev)
CCMT 060202-PF	6.30	6.35	2.38	0.20	2.80	●	●	●	●	●	0.20-2.50	0.04-0.25
CCMT 060204-PF	6.30	6.35	2.38	0.40	2.80	●	●	●	●	●	0.40-2.50	0.04-0.30
CCMT 09T302-PF	9.70	9.53	3.97	0.20	4.40	●			●	●	0.50-3.00	0.05-0.30
CCMT 09T304-PF	9.70	9.53	3.97	0.40	4.40	●	●	●	●	●	0.50-3.50	0.05-0.35

CCMT-14

80° Rhombic, 7° Positive Flank Inserts, for Semi-Finish and Finish Turning

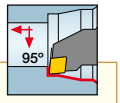


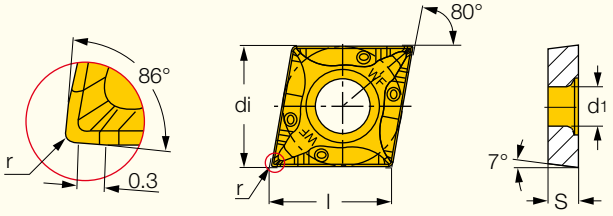


Designation	Dimensions l	di	S	r	d_1	Tough ↔ Hard IC3028	IC8250	IC20	IC428	IC5005	IC807	IC907	Recommended Machining Data a_p (mm)	f (mm/rev)
CCMT 060202-14	6.30	6.35	2.38	0.20	2.80		●						0.50-2.00	0.10-0.20
CCMT 060204-14	6.30	6.35	2.38	0.40	2.80	●		●	●	●	●	●	0.50-2.50	0.14-0.25
CCMT 09T304-14	9.70	9.53	3.97	0.40	4.40		●				●	●	0.50-3.00	0.14-0.25
CCMT 09T308-14	9.70	9.53	3.97	0.80	4.40	●	●	●	●	●			0.80-3.00	0.14-0.30
CCMT 120408-14	12.90	12.70	4.76	0.80	5.50	●		●					0.80-3.00	0.14-0.30

CCET-WF

80° Rhombic, 7° Positive Flank Inserts with a Wiper Near the Corner, for High-Feed Finishing

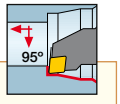


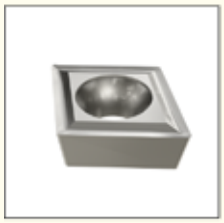


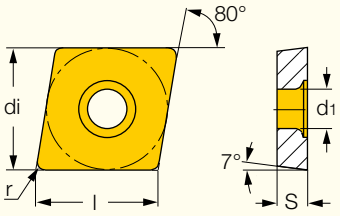
Designation	Dimensions l	di	S	r	d_1	IC907	Recommended Machining Data a_p (mm)	f (mm/rev)
CCET 0602005-WF	6.30	6.35	2.38	0.05	2.80	●	0.05-2.00	0.01-0.20
CCET 09T3005-WF	9.50	9.53	3.97	0.05	4.40	●	0.05-2.00	0.01-0.20

CCMT/CCGT

80° Rhombic, 7° Positive Flank Inserts, for Semi-Finish and Finish Turning







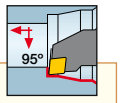
Designation	Dimensions l	di	S	r	d_1	Tough ↔ Hard IC30N	IC20	IC520N	IC20N	Recommended Machining Data a_p (mm)	f (mm/rev)
CCGT 060202	6.30	6.35	2.38	0.20	2.80	●				0.50-2.00	0.10-0.20
CCGT 060202L (1)	6.30	6.35	2.38	0.20	2.80	●	●			0.50-2.00	0.10-0.20
CCGT 060204	6.30	6.35	2.38	0.40	2.80	●				0.50-2.00	0.10-0.20
CCGT 060204L (1)	6.30	6.35	2.38	0.40	2.80	●				0.50-2.00	0.10-0.20
CCMT 060202	6.30	6.35	2.38	0.20	2.80				●	0.50-2.00	0.10-0.20
CCMT 060204	6.30	6.35	2.38	0.40	2.80	●		●	●	0.50-2.00	0.12-0.22
CCMT 09T302	9.70	9.53	3.97	0.20	4.40			●	●	0.50-2.50	0.12-0.25
CCMT 09T304	9.70	9.53	3.97	0.40	4.40			●	●	0.50-2.50	0.12-0.25
CCMT 09T308	9.70	9.53	3.97	0.80	4.40			●	●	0.80-3.00	0.14-0.25

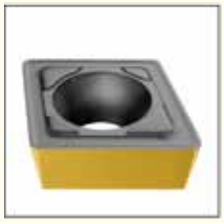
• Use left-hand inserts for left-hand external tools and for right-hand internal tools

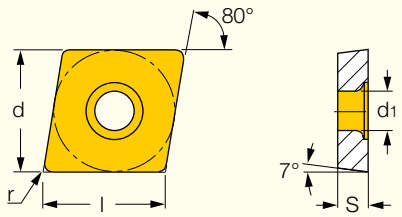
(1) Left-hand insert

CCMT-WG

80° Rhombic Insert with a 7° Positive Flank and a Wiper Near the Corner, for High Feed Finishing



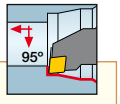




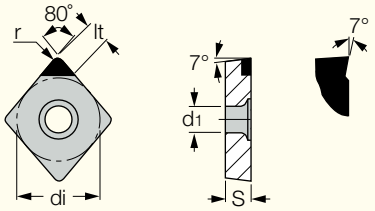
Designation	Dimensions l	di	S	r	d_1	Tough ↔ Hard IC8250	IC807	IC907	Recommended Machining Data a_p (mm)	f (mm/rev)
CCMT 060204-WG	6.30	6.35	2.38	0.40	2.80		●	●	0.40-2.00	0.10-0.35
CCMT 09T304-WG	9.70	9.53	3.97	0.40	4.40	●			0.40-2.00	0.14-0.30
CCMT 09T308-WG	9.70	9.53	3.97	0.80	4.40	●			0.50-2.50	0.20-0.38
CCMT 120408-WG	12.90	12.70	4.76	0.80	5.50	●			0.50-3.00	0.20-0.36

CCMT (PCD)

Inserts with 7° Clearance, PCD Single Top Corner Tip and Positive Rake Angle, for Finishing Aluminum



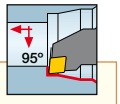
PCD-Sharp cutting edge

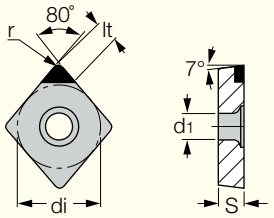


Designation	Dimensions l	di	S	r	lt	d1	ID5	Recommended Machining Data ap (mm)	f (mm/rev)
CCMT 060204D	6.30	6.35	2.38	0.40	3.0	2.80	●	0.10-3.00	0.05-0.30
CCMT 09T304D	9.70	9.53	3.97	0.40	3.9	4.40	●	0.10-3.00	0.05-0.30

CCMT (CBN)

80° Rhombic Inserts with 7° Clearance and CBN Single Top Corner Tip

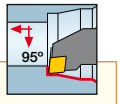


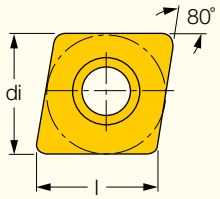


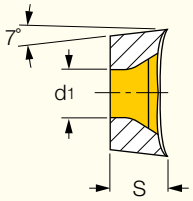
Designation	Dimensions l	di	S	r	lt	d1	IB55	Recommended Machining Data ap (mm)	f (mm/rev)
CCMT 060202T	6.30	6.35	2.38	0.20	2.6	2.80	●	0.05-0.50	0.05-0.20
CCMT 060204T	6.30	6.35	2.38	0.40	2.7	2.80	●	0.05-0.50	0.05-0.20
CCMT 09T304T	9.70	9.53	3.97	0.40	2.9	4.40	●	0.05-0.50	0.05-0.20
CCMT 09T308T	9.70	9.53	3.97	0.80	3.6	4.40	●	0.05-0.50	0.05-0.20

CCGT-AS

80° Rhombic, 7° Positive Flank Inserts, Very Positive Rake Angle and Sharp Cutting Edge, for Machining Aluminum



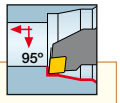


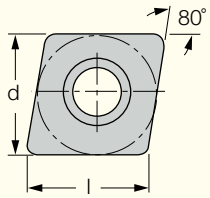


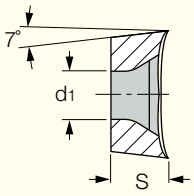
Designation	Dimensions l	di	S	r	d1	IC20	Recommended Machining Data ap (mm)	f (mm/rev)
CCGT 060201-AS	6.40	6.35	2.38	0.10	2.80	●	0.50-2.00	0.10-0.20
CCGT 060202-AS	6.40	6.35	2.38	0.20	2.80	●	0.50-2.00	0.10-0.20
CCGT 060204-AS	6.40	6.35	2.38	0.40	2.80	●	0.50-2.00	0.10-0.25
CCGT 09T301-AS	9.70	9.53	3.97	0.10	4.40	●	0.50-2.50	0.10-0.25
CCGT 09T302-AS	9.70	9.53	3.97	0.20	4.40	●	0.50-2.50	0.10-0.25
CCGT 09T304-AS	9.70	9.53	3.97	0.40	4.40	●	0.50-2.50	0.10-0.25
CCGT 09T308-AS	9.70	9.53	3.97	0.80	4.40	●	0.80-3.00	0.10-0.30
CCGT 120402-AS	12.90	12.70	4.76	0.20	5.50	●	0.50-2.50	0.10-0.25
CCGT 120404-AS	12.90	12.70	4.76	0.40	5.50	●	0.50-2.50	0.10-0.25
CCGT 120408-AS	12.90	12.70	4.76	0.80	5.50	●	1.00-3.50	0.10-0.30

CCGT-AF

80° Rhombic, 7° Positive Flank Inserts, Very Positive Rake and Sharp Cutting Edge, for Machining Aluminum



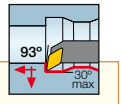


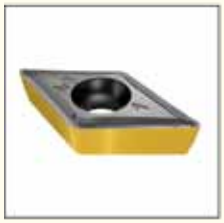


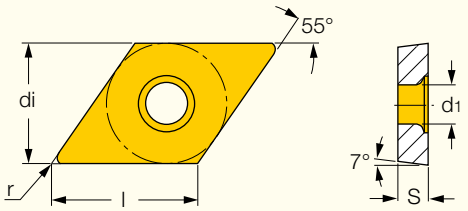
Designation	Dimensions l	di	S	r	d1	IC20	Recommended Machining Data ap (mm)	f (mm/rev)
CCGT 09T308-AF	9.70	9.53	3.97	0.80	4.40	●	0.80-3.00	0.15-0.25
CCGT 120408-AF	12.90	12.70	4.76	0.80	5.50	●	1.00-3.50	0.15-0.30

DCMT/DCGT-SM

55° Rhombic, 7° Positive Flank Inserts, for Semi-Finish and Finish Turning on Soft Materials and Exotic Alloys



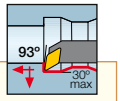


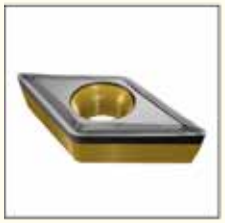


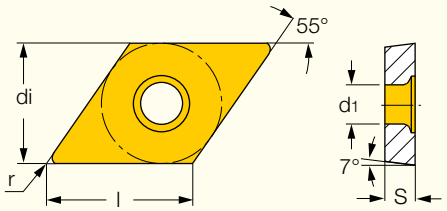
Designation	Dimensions l	di	S	r	d1	Tough ↔ Hard IC8350	IC8250	IC6015	IC8150	IC6025	IC530N	IC520N	IC807	IC907	IC806	Recommended Machining Data ap (mm)	f (mm/rev)
DCMT 070202-SM	7.70	6.35	2.38	0.20	2.80			●		●			●	●		0.50-2.00	0.04-0.20
DCMT 070204-SM	7.70	6.35	2.38	0.40	2.80		●	●	●	●			●	●	●	0.50-2.50	0.05-0.25
DCMT 070208-SM	7.70	6.35	2.38	0.80	2.80		●									0.50-3.00	0.07-0.25
DCGT 11T304-SM	11.60	9.52	3.97	0.40	4.40									●		0.50-2.50	0.05-0.25
DCMT 11T302-SM	11.60	9.52	3.97	0.20	4.40		●	●		●	●		●	●		0.50-2.50	0.05-0.25
DCMT 11T304-SM	11.60	9.52	3.97	0.40	4.40	●	●		●	●	●		●	●	●	0.50-2.50	0.07-0.25
DCMT 11T308-SM	11.60	9.52	3.97	0.80	4.40	●	●	●	●	●			●	●		1.00-3.00	0.07-0.25
DCMT 11T312-SM	11.60	9.52	3.97	1.20	4.40							●				1.00-3.50	0.10-0.28

DCMT-14

55° Rhombic, 7° Positive Flank Inserts, for Semi-Finish and Finish Turning on Soft Materials and Exotic Alloys



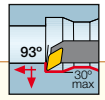


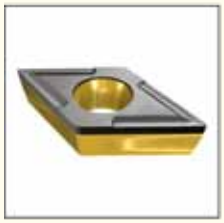


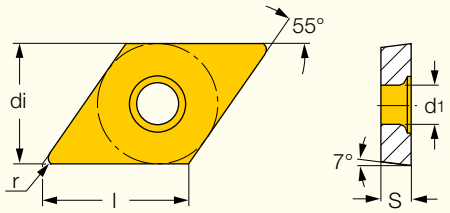
Designation	Dimensions l	di	S	r	d1	Tough ↔ Hard IC3028	IC8150	IC20	IC428	Recommended Machining Data ap (mm)	f (mm/rev)
DCMT 11T304-14	11.60	9.52	3.97	0.40	4.40	●	●	●		1.00-2.50	0.14-0.25
DCMT 11T308-14	11.60	9.52	3.97	0.80	4.40		●	●	●	1.50-3.00	0.14-0.29

DCMT/DCGT

55° Rhombic Insert with 7° Positive Clearance, for Finishing Applications



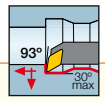


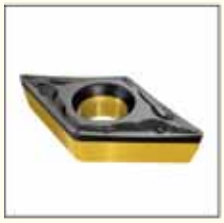


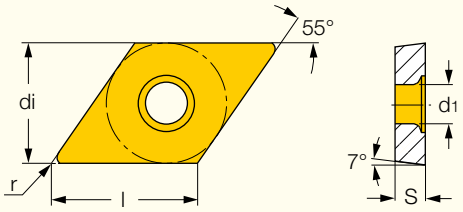
Designation	Dimensions l	di	S	r	d1	Tough ↔ Hard IC3028	IC8250	IC8150	IC30N	IC908	IC530N	IC520N	IC20N	Recommended Machining Data ap (mm)	f (mm/rev)
DCGT 070201R	7.70	6.35	2.38	0.10	2.80					●				0.25-1.50	0.05-0.15
DCGT 070202	7.70	6.35	2.38	0.20	2.80				●					0.50-2.00	0.08-0.20
DCGT 070204	7.70	6.35	2.38	0.40	2.80				●					0.80-2.50	0.10-0.25
DCMT 070202	7.70	6.35	2.38	0.20	2.80	●	●	●				●	●	0.50-2.00	0.08-0.20
DCMT 070204	7.70	6.35	2.38	0.40	2.80	●		●	●			●	●	0.50-2.00	0.08-0.22
DCGT 11T302	11.60	9.52	3.97	0.20	4.40				●					0.50-2.00	0.08-0.20
DCGT 11T304	11.60	9.52	3.97	0.40	4.40				●				●	1.00-2.50	0.12-0.25
DCMT 11T302	11.60	9.52	3.97	0.20	4.40				●		●	●	●	0.50-2.00	0.08-0.20
DCMT 11T304	11.60	9.52	3.97	0.40	4.40				●			●	●	0.50-2.00	0.12-0.25
DCMT 11T308	11.60	9.52	3.97	0.80	4.40	●			●			●	●	1.50-3.00	0.14-0.29

DCMT-PF

55° Rhombic Positive Flank Inserts, for Semi-Finishing and Finishing on Soft Materials and Exotic Alloys



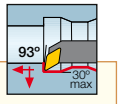


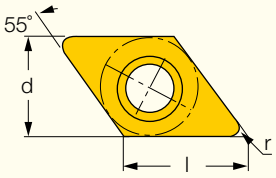


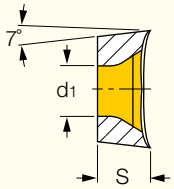
Designation	Dimensions l	di	S	r	d1	Tough ↔ Hard IC3028	IC830	IC8250	IC6015	IC6025	IC807	IC907	Recommended Machining Data ap (mm)	f (mm/rev)
DCMT 070201-PF	7.70	6.35	2.38	0.10	2.80						●	●	0.30-3.00	0.02-0.25
DCMT 070202-PF	7.70	6.35	2.38	0.20	2.80	●							0.40-3.00	0.03-0.25
DCMT 070204-PF	7.70	6.35	2.38	0.40	2.80	●							0.50-3.50	0.05-0.30
DCMT 070208-PF	7.70	6.35	2.38	0.80	2.80						●	●	0.70-3.00	0.08-0.30
DCMT 11T302-PF	11.60	9.52	3.97	0.20	4.40	●					●		0.30-2.50	0.04-0.25
DCMT 11T304-PF	11.60	9.52	3.97	0.40	4.40	●	●	●	●	●	●	●	0.50-3.00	0.05-0.25
DCMT 11T308-PF	11.60	9.52	3.97	0.80	4.40	●	●	●	●	●	●	●	0.70-3.00	0.10-0.25

DCGT-AS

55° Rhombic, 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum



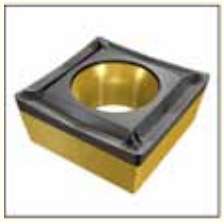


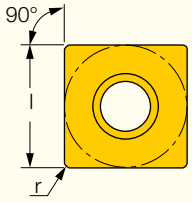


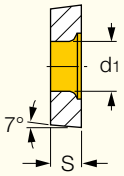
Designation	Dimensions l	di	S	r	d1	Tough ↔ Hard IC20	IC907	Recommended Machining Data ap (mm)	f (mm/rev)
DCGT 070201-AS	7.75	6.35	2.38	0.10	2.80	●		0.50-2.00	0.03-0.20
DCGT 070202-AS	7.75	6.35	2.38	0.20	2.80	●		0.50-2.00	0.05-0.20
DCGT 070204-AS	7.75	6.35	2.38	0.40	2.80	●		0.50-2.50	0.05-0.25
DCGT 11T301-AS	11.60	9.52	3.97	0.10	4.40	●		0.50-2.50	0.05-0.25
DCGT 11T302-AS	11.60	9.52	3.97	0.20	4.40	●		0.50-2.50	0.05-0.26
DCGT 11T304-AS	11.60	9.52	3.97	0.40	4.40	●	●	0.50-2.50	0.05-0.25
DCGT 11T308-AS	11.60	9.52	3.97	0.80	4.40	●		0.80-3.00	0.08-0.30

SCMT-SM

Square 7° Positive Flank Inserts, for Semi-Finish and Finish Turning on Soft Materials and Exotic Alloys



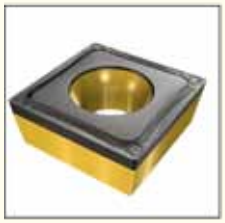


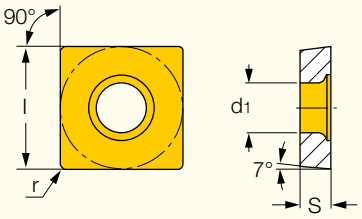


Designation	Dimensions l	S	r	d1	Tough ↔ Hard IC3028	IC8250	IC8150	IC6025	IC807	IC907	Recommended Machining Data ap (mm)	f (mm/rev)
SCMT 09T304-SM	9.52	3.97	0.40	4.40		●	●		●	●	0.50-3.00	0.07-0.25
SCMT 09T308-SM	9.52	3.97	0.80	4.40	●	●	●	●	●	●	0.50-3.00	0.10-0.30
SCMT 120404-SM	12.70	4.76	0.40	5.50			●				0.50-3.50	0.10-0.25
SCMT 120408-SM	12.70	4.76	0.80	5.50		●	●		●	●	1.00-4.00	0.10-0.30

SCMT-14

Square 7° Positive Flank Inserts, for Semi-Finish and Finish Turning on Soft Materials and Exotic Alloys

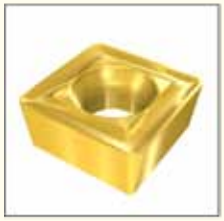


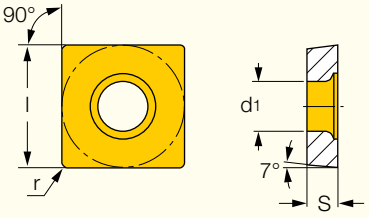


Designation	Dimensions l	S	r	d1	Tough ↔ Hard IC8250	IC20	IC807	IC907	Recommended Machining Data ap (mm)	f (mm/rev)
SCMT 09T304-14	9.52	3.97	0.40	4.40		●	●	●	1.00-3.50	0.12-0.30
SCMT 120404-14	12.70	4.76	0.40	5.50	●	●			1.00-4.00	0.12-0.30

SCMT-19

Square 7° Positive Inserts, for Semi-Roughing at Medium to High Feeds

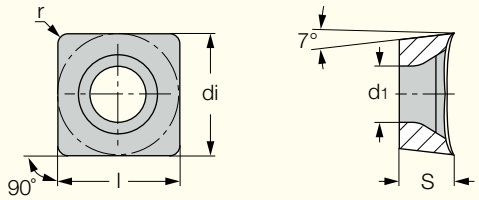




Designation	Dimensions l	S	r	d1	Tough ↔ Hard IC635	IC50M	IC520M	IC20	Recommended Machining Data ap (mm)	fz (mm/t)
SCMT 09T308-19	9.52	3.97	0.80	4.40	●	●	●	●	1.00-5.00	0.08-0.15
SCMT 120408-19	12.70	4.76	0.80	5.50	●	●	●	●	3.00-8.00	0.08-0.15

SCGT-AS

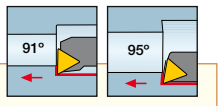
Square 7° Positive Flank, Very Positive Rake Angle and Sharp Cutting Edge for Machining Aluminum

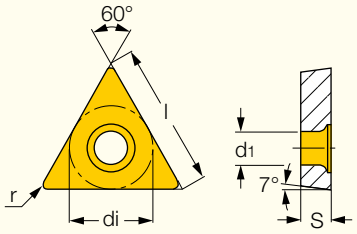


Designation	Dimensions l	di	S	r	d1	IC20	Recommended Machining Data ap (mm)	f (mm/rev)
SCGT 09T308-AS	9.52	9.52	3.97	0.40	4.40	●	0.50-3.00	0.10-0.30
SCGT 120408-AS	12.70	12.70	4.76	0.80	5.50	●	1.00-4.00	0.10-0.30

TCMT-19

Triangular 7° Positive, Flat Rake Inserts, for Semi-Roughing Applications at Medium to High Feeds

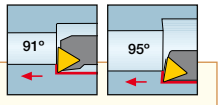


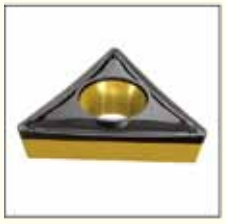


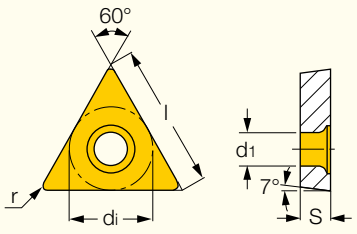
Designation	Dimensions l	di	S	r	d1	Tough ↔ Hard IC50M	IC8150	IC20	Recommended Machining Data ap (mm)	f (mm/t)
TCMT 110204-19	11.00	6.35	2.38	0.40	2.80	●	●	●	0.50-3.00	0.10-0.30
TCMT 16T308-19	16.50	9.52	3.97	0.80	4.40	●		●	1.00-4.00	0.20-0.35
TCMT 220508-19	22.00	12.70	5.00	0.80	5.50	●			1.00-4.00	0.20-0.35

TCMT-SM

Triangular 7° Positive Flank Inserts, for Semi-Finish and Finish Turning on Soft Materials and Exotic Alloys



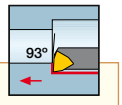


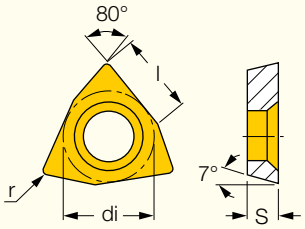


Designation	Dimensions l	di	S	r	d1	Tough ↔ Hard IC3028	IC8350	IC8250	IC6015	IC8150	IC6025	IC908	IC428	IC5010	IC5005	IC807	IC907	Recommended Machining Data ap (mm)	f (mm/rev)
TCMT 110204-SM	11.00	6.35	2.38	0.40	2.80		●	●	●	●	●	●		●	●	●	●	0.20-3.00	0.05-0.25
TCMT 110208-SM	11.00	6.35	2.38	0.80	2.80				●		●					●	●	0.50-2.50	0.07-0.25
TCMT 16T304-SM	16.50	9.52	3.97	0.40	4.40	●		●		●			●		●	●	●	0.50-3.00	0.06-0.25
TCMT 16T308-SM	16.50	9.52	3.97	0.80	4.40	●		●	●	●	●				●	●	●	0.50-3.00	0.08-0.28
TCMT 22T308-SM	22.00	12.70	3.97	0.80	5.50					●								0.50-4.00	0.20-0.35

WCGT

Trigon 7° Positive Flank Inserts with a Ground Chipformer for Finish Turning

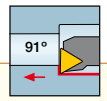


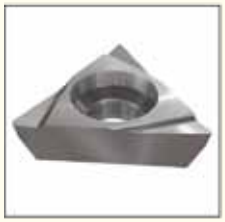


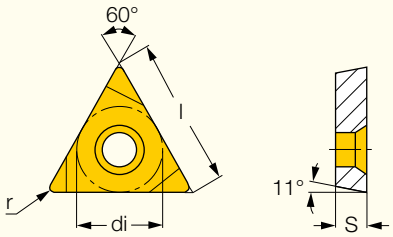
Designation	Dimensions l	di	S	r	Tough ↔ Hard IC30N	IC908	Recommended Machining Data a_p (mm)	f (mm/rev)
WCGT 020102L	2.18	3.97	1.59	0.20	●	●	0.40-2.00	0.05-0.10
WCGT 020104L	2.18	3.97	1.59	0.40	●	●	0.40-2.00	0.10-0.15

TPGX

Triangular 11° Positive Flank Inserts with a Ground Chipformer for Finish Turning



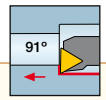


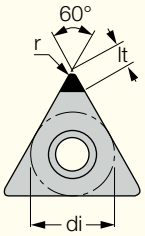


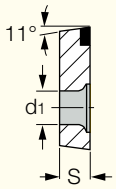
Designation	Dimensions l	di	S	r	d_1	Tough ↔ Hard IC54	IC908	IC20	IC20N	Recommended Machining Data a_p (mm)	f (mm/rev)
TPGX 090202-L	9.52	5.56	2.38	0.20	2.50		●	●	●	1.00-2.00	0.10-0.20
TPGX 090204-L	9.52	5.56	2.38	0.40	2.50	●	●	●	●	1.00-2.50	0.15-0.20
TPGX 110302-L	11.00	6.35	3.18	0.20	3.50		●	●	●	1.00-2.50	0.10-0.20
TPGX 110304-L	11.00	6.35	3.18	0.40	3.50	●	●	●	●	1.00-3.00	0.15-0.20
TPGX 110308-L	11.00	6.35	3.18	0.80	3.50			●		1.00-3.50	0.15-0.25

TPGX (CBN)

Triangular Inserts with 11° Clearance and CBN Single Top Corner Tip



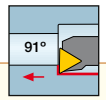




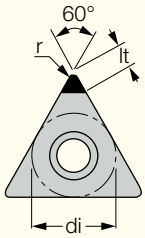
Designation	Dimensions l	di	S	r	lt	d1	Tough ↔ Hard IB90	IB50	Recommended Machining Data ap (mm)	f (mm/rev)
TPGX 090202T	9.52	5.56	2.38	0.20	2.5	2.50	●	●	0.05-0.05	0.03-0.20
TPGX 090204T	9.52	5.56	2.38	0.40	2.6	2.50	●	●	0.05-0.05	0.03-0.20
TPGX 110302T	11.00	6.35	3.18	0.20	3.3	3.50	●	●	0.05-0.05	0.03-0.20
TPGX 110304T	11.00	6.35	3.18	0.40	3.0	3.50	●	●	0.05-0.05	0.03-0.20

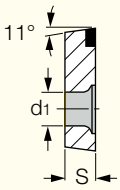
TPGX (PCD)

Triangular Inserts with 11° Clearance, PCD Single Top Corner Tip and Positive Rake Angle, for Finishing Aluminum



PCD-Sharp cutting edge

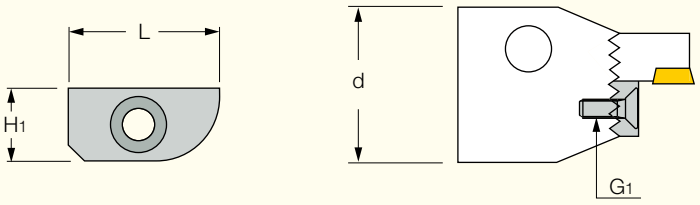




Designation	Dimensions l	di	S	r	lt	d1	ID5	Recommended Machining Data ap (mm)	f (mm/rev)
TPGX 090202	9.52	5.56	2.38	0.20	3.0	2.50	●	0.10-3.00	0.05-0.30
TPGX 090204	9.52	5.56	2.38	0.40	3.0	2.50	●	0.10-3.00	0.05-0.30
TPGX 110302	11.00	6.35	3.18	0.20	3.4	3.50	●	0.10-3.00	0.05-0.30
TPGX 110304	11.00	6.35	3.18	0.40	3.8	3.50	●	0.10-3.00	0.05-0.30

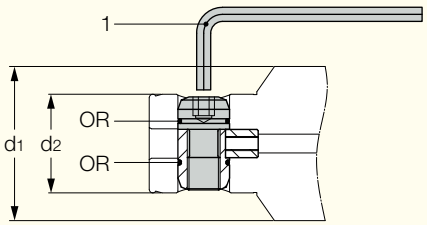
PLT

Cover Plate, Protects the Serrated Faces When a Single Toolholder is Used



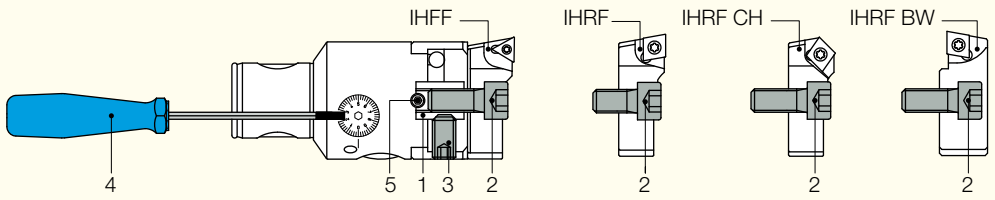
Designation	d	H_1	L	G_1
PLT 16	16.00	7.0	14.00	M3X8
PLT 20	20.00	8.5	17.00	M4X10
PLT 25	25.00	10.2	21.00	M4X16
PLT 32	32.00	13.9	28.00	M5X20
PLT 40	40.00	17.4	35.00	M6X25
PLT 50	50.00	21.4	47.50	M8X25
PLT 63	63.00	26.4	62.00	M10X30
PLT 80	80.00	33.9	82.50	M12X35

BH MB COUPLING SET



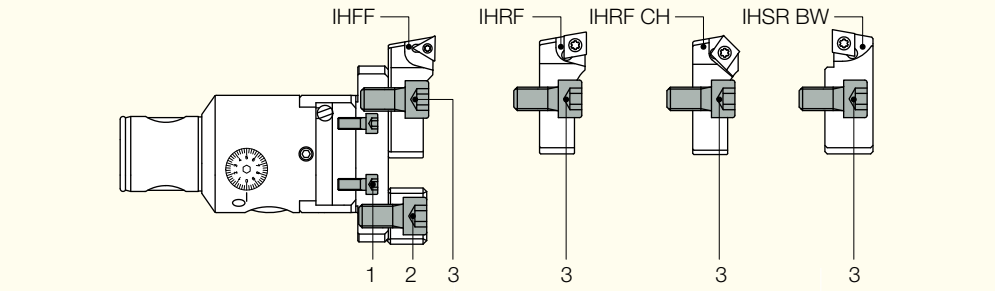
Designation	d_1	d_2	1	OR
BH MB14 COUPLING SET	14	10	2.5	-
BH MB16 COUPLING SET	16	10	2.5	-
BH MB20 COUPLING SET	20	13	3	-
BH MB25 COUPLING SET	25	16		-
BH MB32 COUPLING SET	32	20	4	ORM 0075-10
BH MB40 COUPLING SET	40	25	5	ORM 0100-10
BH MB50 COUPLING SET	50	32	6	ORM 0130-10
BH MB63-80 COUPLING SET	63 - 80	42	8	OR 2075

BHF - SPARE PARTS



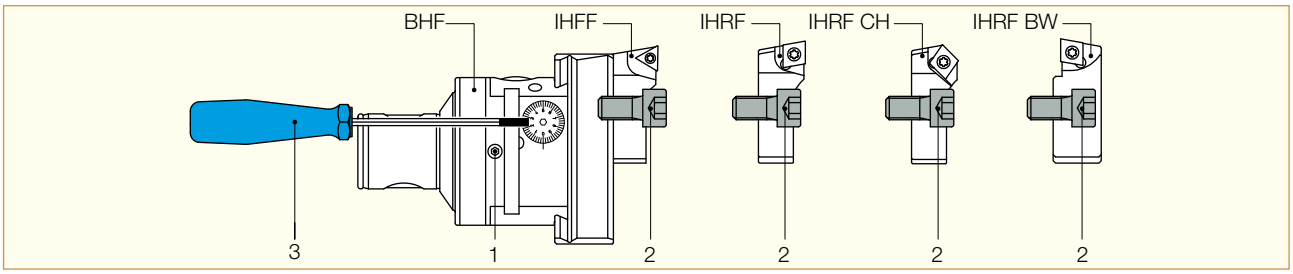
Designation	1	2	3	4	5
BHF...-16...	-	SR M3X6 DIN 912	-	BH SR 1.5 HANDLE	SR M3X4.5 DIN 913
BHF...-20...	-	SR M4X8 DIN 912	-	BH SR 1.5 HANDLE	SR M3X4.5 DIN 913
BHF...-25...	-	SR M5X1O DIN 912	-	BH SR 2.0 HANDLE	SR M4X4 DIN 913
BHF...-32...	-	SR M6X12 DIN 912	-	BH SR 2.0 HANDLE	SR M4X5 DIN 913
BHF...-40...	-	SR M8X14 DIN 912	-	BH SR 2.5 HANDLE	SR M5X6 DIN 913 SR
BHF...-50-60	BH NUT 10	SR M1OX25 DIN 912	SR M10X16 DIN 913	BH SR 2.5 HANDLE	SR M5X8 DIN 913

BHF - SPARE PARTS



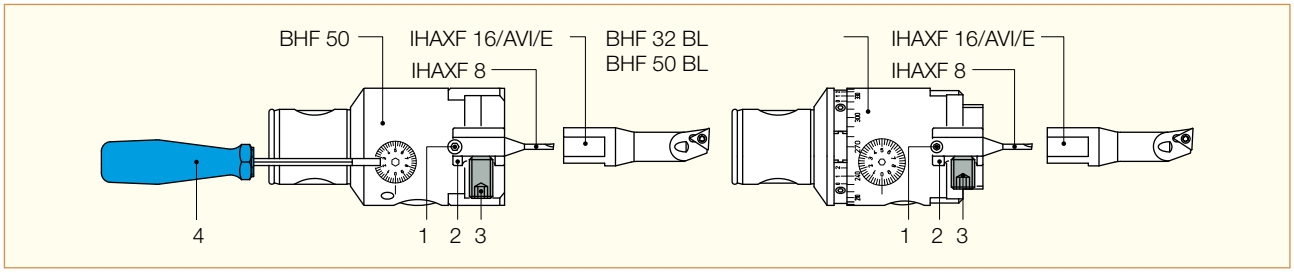
Designation	1	2	3
BHF...-50...	SR M5X12 DIN 912	SR M1OX20 DIN 912	SR M1OX25 DIN 912

BHF - SPARE PARTS



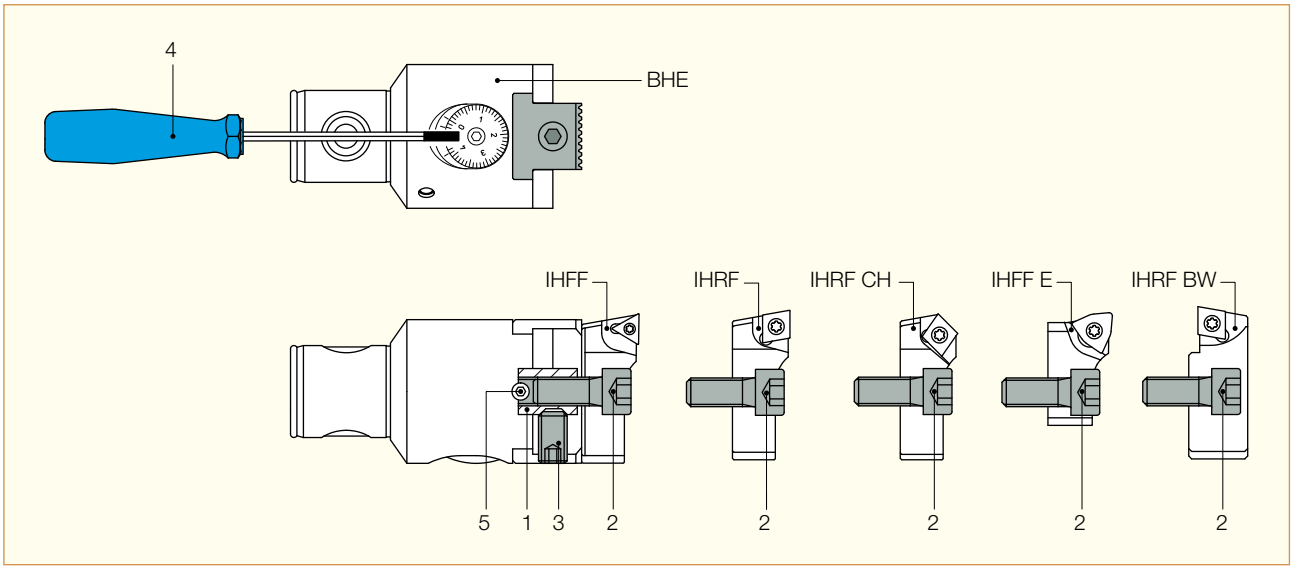
Designation	1	2	3
BHF...-63...	SR M6X10 DIN 915	SR M1OX25 DIN 912	BH SR 3.0 HANDLE
BHF...-80...	SR M6X14 DIN 915		
BHF...-125...	SR M6X22 DIN 915		

BHF - SPARE PARTS



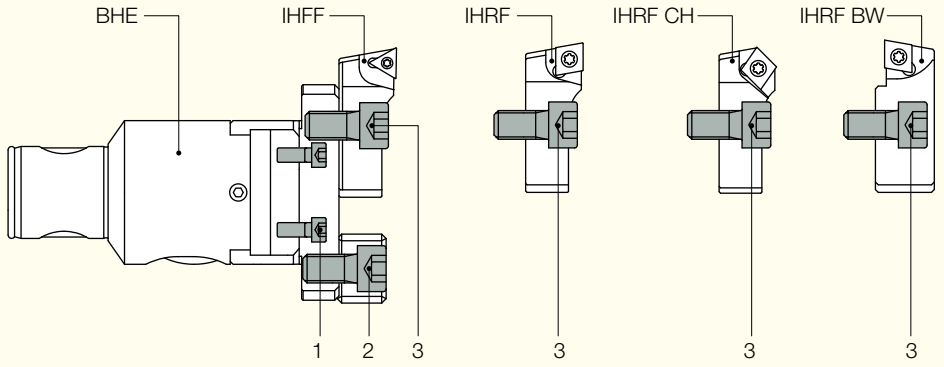
Designation	1	2	3	4
BHF...-50...	SR M5X8 DIN 913	SLEEVE D 8-D16	SR M10X10 DIN 913	BH SR 2.5 HANDLE
BHF...-32... BL	SR M4X5 DIN 913	-	SR M5X8 DIN 913 SR M5X12 DIN 913	BH SR 2.0 HANDLE
BHF...-50... BL	SR M5X8 DIN 913	SLEEVE D 8-D16	SR M10X10 DIN 913	BH SR 2.5 HANDLE

BHE MB - SPARE PARTS



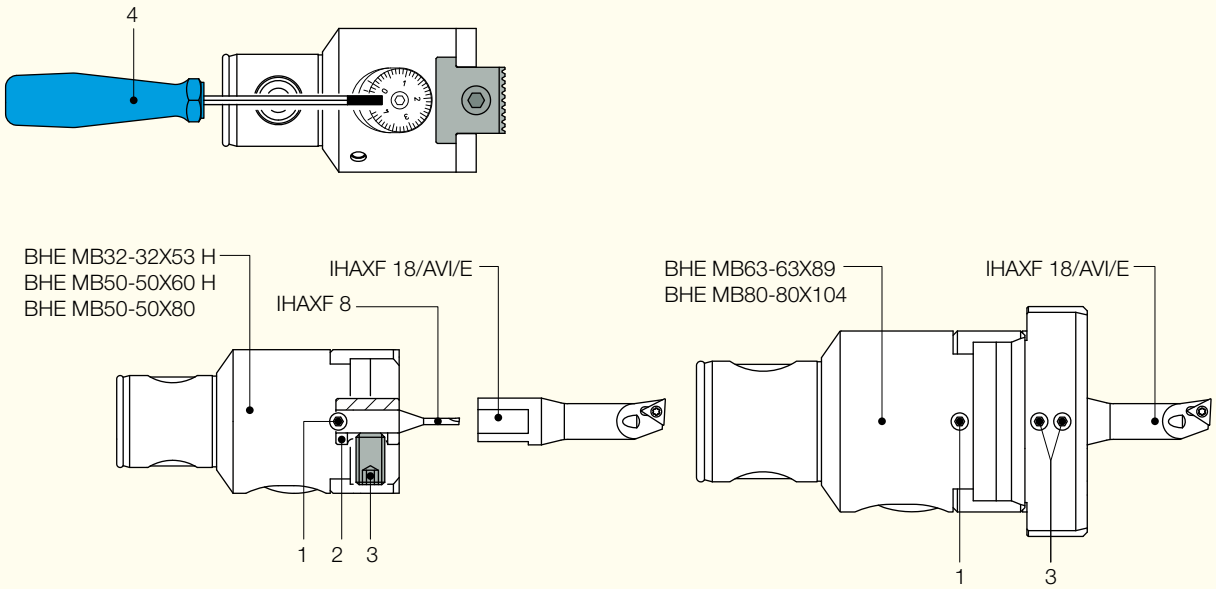
Designation	1	2	3	4	5
BHE MB14-14X30	-	SR M3X6 DIN 912	-	BH SR 1.5 HANDLE	SR M3X3.5 DIN 913
BHE MB16-16X34	-	SR M3X6 DIN 912	-		SR M3X4.5 DIN 913
BHE MB20-20X40	-	SR M4X8 DIN 912	-		SR M3X4.5 DIN 913
BHE MB25-25X50	-	SR M5X1O DIN 912	-		SR M4X4 DIN 913
BHE MB32-32X63	-	SR M6X12 DIN 912	-	BH SR 2.5 HANDLE	SR M5X5 DIN 913
BHE MB40-40X80	-	SR M8X14 DIN 912	-		SR M6X6 DIN 913
BHE MB50-50X80	BH NUT 10	SR M1OX25 DIN 912	SR M10X16 DIN 913	BH SR 3.0 HANDLE	SR M6X8 DIN 913
BHE MB63-63X89	-	SR M1OX20 DIN 912	-		SR M6X8 DIN 913
BHE MB80-80X104	-	SR M1OX25 DIN 912	-		SR M6X12 DIN 913

BHE - SPARE PARTS



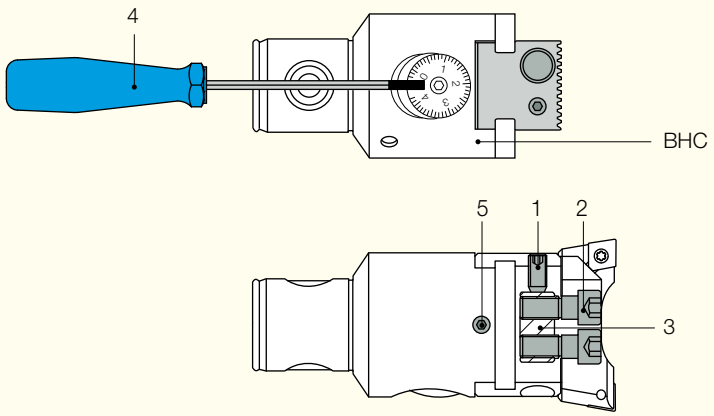
Designation	1	2	3
BHE MB50-50X80	SR M5X12 DIN 912	SR M1OX20 DIN 912	SR M1OX25 DIN 912
BHE MB63-63X89	SR M5X25 DIN 912		
BHE MB80-80X104			

BHE - SPARE PARTS



Designation	1	2	3	4
BHE MB32-32X53 H	SR M5X5 DIN 913	-	SR M5X8 DIN 913	BH SR 2.5 HANDLE
	SR M5X5 DIN 913	-	SR M5X12 DIN 913	
BHE MB50-50X60 H	SR M6X8 DIN 913	SLEEVE D 8-D16	SR M10X10 DIN 913	BH SR 3.0 HANDLE
BHE MB50-50X80	SR M6X8 DIN 913	-	SR M10X10 DIN 913	
BHE MB63-63X89	SR M6X8 DIN 913	-	SR M6X6 DIN 913	
BHE MB80-80X104	SR M6X12 DIN 913	-	SR M6X6 DIN 913	

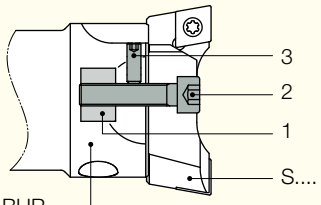
BHC - SPARE PARTS

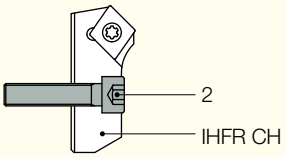


Designation	1	2	3	4	5
BHC MB25-25X57	SR M4X8 DIN 913	BH SR M4X11 DIN 912 PT	BH NUT-BHC MB25	BH SR 2.0 HANDLE	SR M4X5 DIN 913
BHC MB32-32X71	SR M5X10 DIN 913	BH SR M5X12.5 DIN 912 PT	BH NUT-BHC MB32	BH SR 2.5 HANDLE	SR M5X5 DIN 913
BHC MB40-40X90	SR M6X12 DIN 913	BH SR M6X16 DIN 912 PT	BH NUT-BHC MB40	BH SR 3.0 HANDLE	SR M6X6 DIN 913
BHC MB50-50X87	SR M6X14 DIN 913	BH SR M8X20 DIN 912 PT	BH NUT-BHC MB50	BH SR 3.0 HANDLE	SR M6X8 DIN 913
BHC MB63-63X109	SR M6X16 DIN 913	BH SR M10X26 DIN 912 PT	BH NUT-BHC MB63	BH SR 3.0 HANDLE	SR M6X8 DIN 913
BHC MB80-80X130	SR M6X20 DIN 913	BH SR M12X30 DIN 912 PT	BH NUT-BHC MB80	BH SR 3.0 HANDLE	SR M6X12 DIN 913

BHR - SPARE PARTS

fig.1





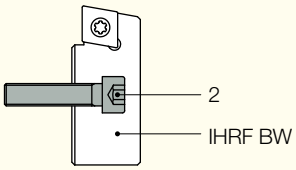
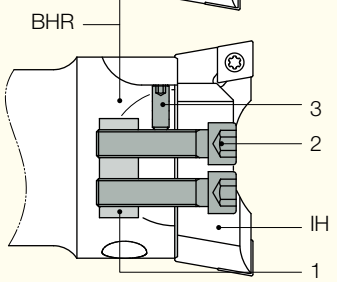
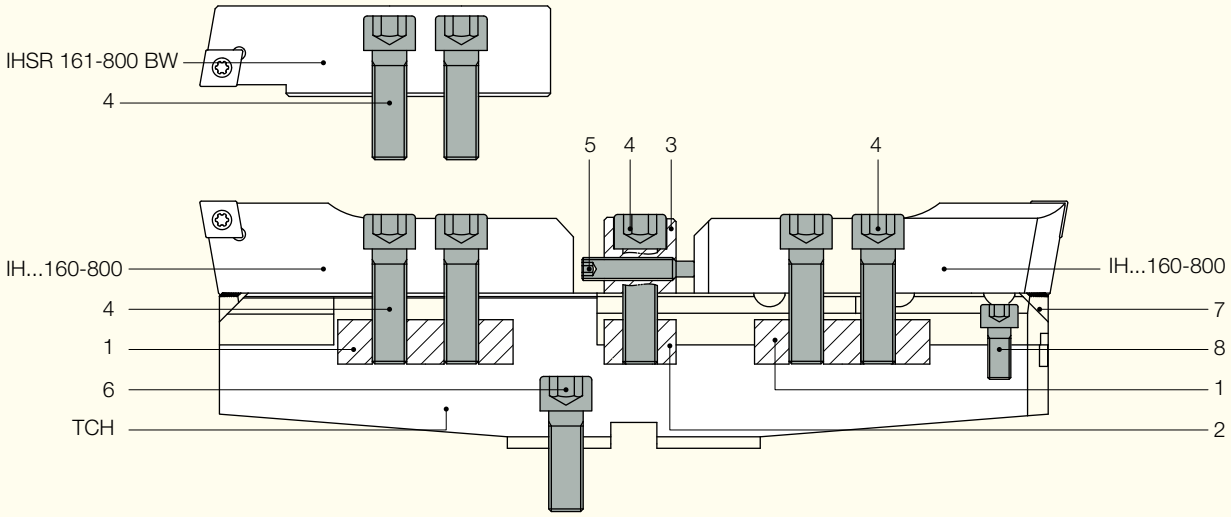


fig.2



Designation	1	2	3
BHR MB16...16	BH NUT BHR MB16	SR M3X14 DIN912	SR M3X4 DIN913
BHR MB20...20	BH NUT BHR MB20	SR M4X15 DIN912	SR M3X5 DIN913
BHR MB25...25	BH NUT BHR MB25	SR M4X20 DIN912	SR M3X8 DIN913
BHR MB32...32	BH NUT BHR MB32	SR M5X25 DIN912	SR M4X12 DIN913
BHR MB40...50	BH NUT BHR MB40	SR M6X30 DIN912	SR M5X14 DIN913
BHR MB50...50	BH NUT BHR MB50	SR M8X35 DIN912	SR M5X12 DIN913
BHR MB50...63	BH NUT BHR MB63	SR M10X40 DIN912	SR M6X16 DIN913
BHR MB63...63	BH NUT BHR MB63	SR M10X40 DIN912	SR M6X16 DIN913
BHR MB80...80	BH NUT BHR MB80	SR M12X45 DIN912	SR M8X25 DIN913

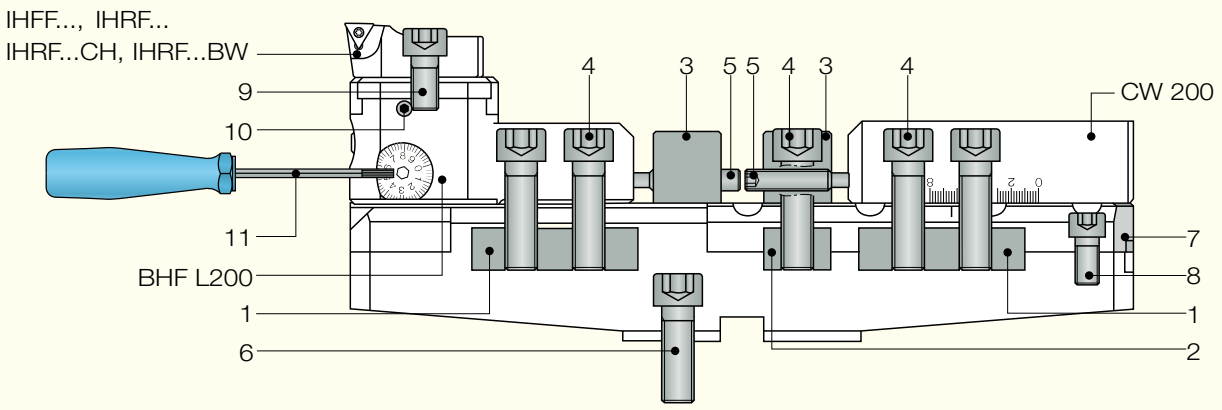
TCH - SPARE PARTS



Designation	1	2	3	4
TCH 200-300-400 TCH 500-600-700	BH TCH NUT A	BH TCH NUT B	BH TCH NUT C	SR M12X40 DIN 912

Designation	5	6	7	8
TCH 200-300	SR M8X40 DIN 915	SR M12X35 DIN 912	BH SERRATED PLATE 200-300	SR M8X25 DIN 912
TCH 400	SR M8X40 DIN 915	SR M12X35 DIN 912	BH SERRATED PLATE 400-700	SR M8X20 DIN 912
TCH 500-600-700	SR M8X40 DIN 915	SR M16X50 DIN 912	BH SERRATED PLATE 400-700	SR M8X25 DIN 912

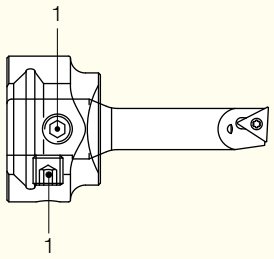
TCH - SPARE PARTS



Designation	1	2	3	4	5
TCH 200-300-400 TCH 500-600-700	BH TCH NUT A	BH TCH NUT B	BH TCH NUT C	SR M12X40 DIN 912	SR M8X40 DIN 915

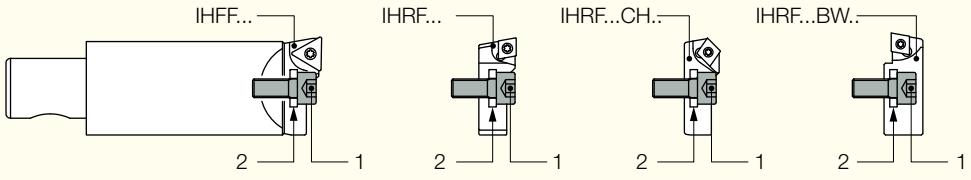
Designation	6	7	8	9	10	11
TCH 200-300	SR M12X35 DIN 912	BH SERRATED PLATE 200-300	SR M8X25 DIN 912	SR M1OX20 DIN 912	SR M6X8 DIN 915	BH SR 3.0 HANDLE
TCH 400	SR M12X35 DIN 912	BH SERRATED PLATE 400-700	SR M8X20 DIN 912	SR M1OX20 DIN 912	SR M6X8 DIN 915	BH SR 3.0 HANDLE
TCH 500-600-700	SR M16X50 DIN 912	BH SERRATED PLATE 400-700	SR M8X25 DIN 912	SR M1OX20 DIN 912	SR M6X8 DIN 915	BH SR 3.0 HANDLE

ADBH - SPARE PARTS



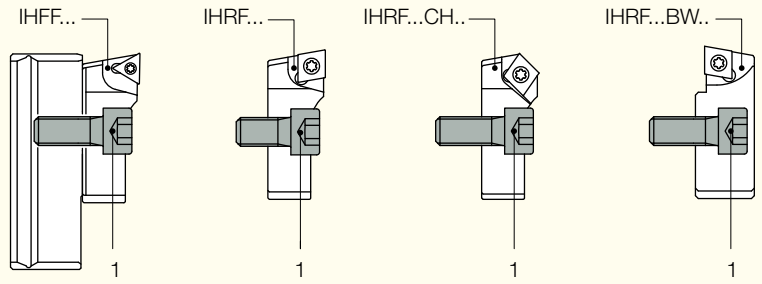
Designation	1
ADBH 30XD16	SR M5X8 DIN 913

BBH-D - SPARE PARTS



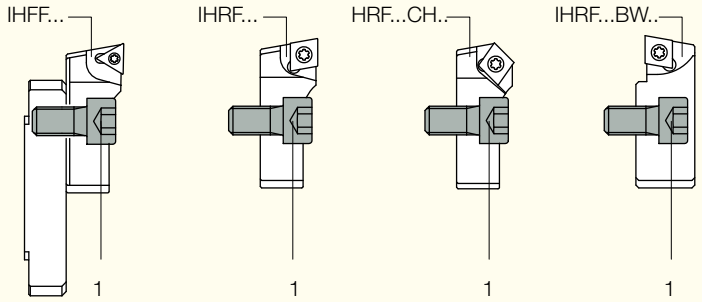
Designation	1	2
BBH D16x63 BBH D16x105	SR M5X12 DIN 912	WASHER DIN 125A M5

BHFH - SPARE PARTS



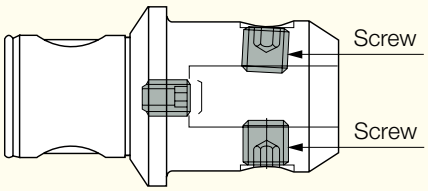
Designation	1
BHFH 30X75	SR M1OX18 DIN 912
BHFH 40X133	
BHFH 30X93	
BHFH 40X200	SR M1OX25 DIN 912
BHFH 30X135	
BHFH 40X300	
BHFH 40X400	

BHEH - SPARE PARTS



Designation	1
BHEH 24x75	SR M1OX20 DIN 912
BHEH 28x80	SR M1OX25 DIN 912
BHEH 28x108	
BHEH 28x148	

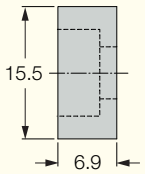
EMH - SPARE PARTS



Designation	Screw
EMH MB 50-6	SR M6x10 DIN 1835B
EMH MB 50-8	SR M8x10 DIN 1835B
EMH MB 50-10	SR M10x12 DIN 1835B
EMH MB 50-12	SR M12x16 DIN 1835B
EMH MB 50-14	SR M14x16 DIN 1835B
EMH MB 50-16	SR M14x16 DIN 1835B
EMH MB 50-20	SR M16x16 DIN 1835B
EMH MB 63-16	SR M14x16 DIN 1835B
EMH MB 63-20	SR M16x16 DIN 1835B
EMH MB 63-25	SR M18x20 DIN 1835B
EMH MB 63-32	SR M18x20 DIN 1835B
EMH MB 80-40	SR M20x20 DIN 1835B

BH WASHER - SPARE PARTS

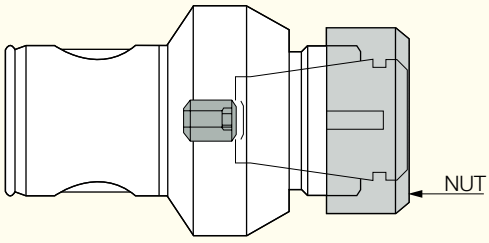
For Kit BHE



Designation	For Kit BHE
BH WASHER IH..50	KIT BHE MB50-50X80
	KIT BHE MB63-63X89
	KIT BHE MB80-80X104
	KIT BHF MB50-50X80 6-108

CCI - SPARE PARTS

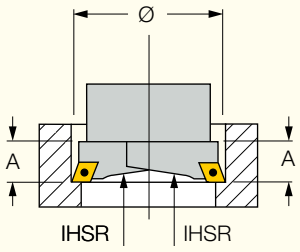
Components for CC



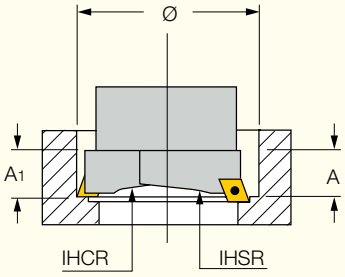
Designation	NUT	Wrench
CC MB16-ER11M	NUT ER11 MINI	WRENCH ER11 MINI
CC MB20-ER16M	NUT ER16 MINI	WRENCH ER16 MINI
CC MB25-ER20M	NUT ER20 MINI	WRENCH ER20 MINI
CC MB32-ER25M	NUT ER25 MINI	WRENCH ER25 MINI
CC MB40-ER25	NUT ER25 TOP	WRENCH ER25
CC MB50-ER25	NUT ER25 TOP	WRENCH ER25
CC MB50-ER32	NUT ER32 TOP	WRENCH ER32
CC MB63-ER32	NUT ER32 TOP	WRENCH ER32
CC MB63-ER40	NUT ER40 TOP	WRENCH ER40

Cutting Depth

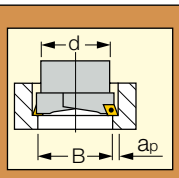
Cutting Conditions for **BHR** Rough Boring Heads



Twin boring cutters
with the same cutting diameter



Twin boring cutters
with different cutting diameters
and heights (Z=1)

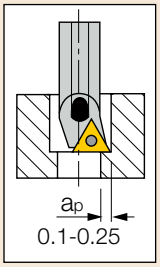


It's advisable to start with B hole ≥ boring bar diameter d

B Working Range	a_p Steel	a_p Cast Iron, Aluminum
18-28	ap - 1.5-2	ap - 2-2.5
28-50	ap - 2-3	ap - 2.5-3.5
50-68	ap - 3-4	ap - 3.5-5
68-200	ap - 4-5	ap - 5-7
200-500	ap - 5-6	ap - 6-8

Cutting Conditions for BHF Fine Boring Heads

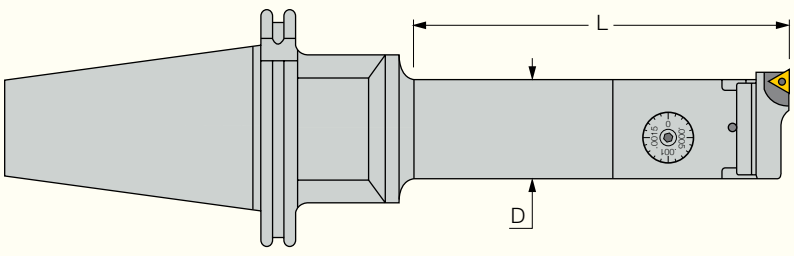
Material	L/D	Stability	Cutting Speed Vc=m/min	Feed f=mm/rev Insert Radius R=0.2	Feed f=mm/rev Insert Radius R=0.4	Insert Grade
Carbon Steel HB≤200	L/D=2.5	●●●	200-300	0.05-0.08	0.08-0.10	IC20N
	L/D=4	●●	160-250	0.05-0.08	0.08-0.10	IC30N
	L/D=6.3	●	70-100	0.05-0.08	—	IC54
Carbon Steel HB>200	L/D=2.5	●●●	160-250	0.05-0.08	0.08-0.10	IC20N
	L/D=4	●●	150-200	0.05-0.08	0.08-0.10	IC30N
	L/D=6.3	●	70-100	0.05-0.08	—	
Stainless Steel	L/D	●●●	150-200	0.05-0.08	0.08-0.10	IC20N/30N
	L/D	●●	120-160	0.05-0.08	0.08-0.10	IC54
	L/D	●	70- 80	0.05-0.08	0.08-0.10	IC908
Alloyed Steel (1) HB 480-550	L/D=2.5	●●●	120-160	0.05-0.08	0.08-0.10	IC54
	L/D=4	●●	100-140	0.05-0.08	0.08-0.10	
	L/D=6.3	●	70-100	0.05-0.08	—	
Cast Iron	L/D=2.5	●●●	120-160	0.05-0.08	0.08-0.10	IC20
	L/D=4	●●	100-140	0.05-0.08	0.08-0.10	
	L/D=6.3	●	70-100	00.05-0.08	—	
Aluminum	L/D=2.5	●●●	300-400	0.05-0.08	0.08-0.10	IC20
	L/D=4	●●	250-350	0.05-0.08	0.08-0.10	
	L/D=6.3	●	100-150	0.05-0.08	—	



Stability

●●● – Good
●● – Normal
● – Poor

(1) ap=0.1 min

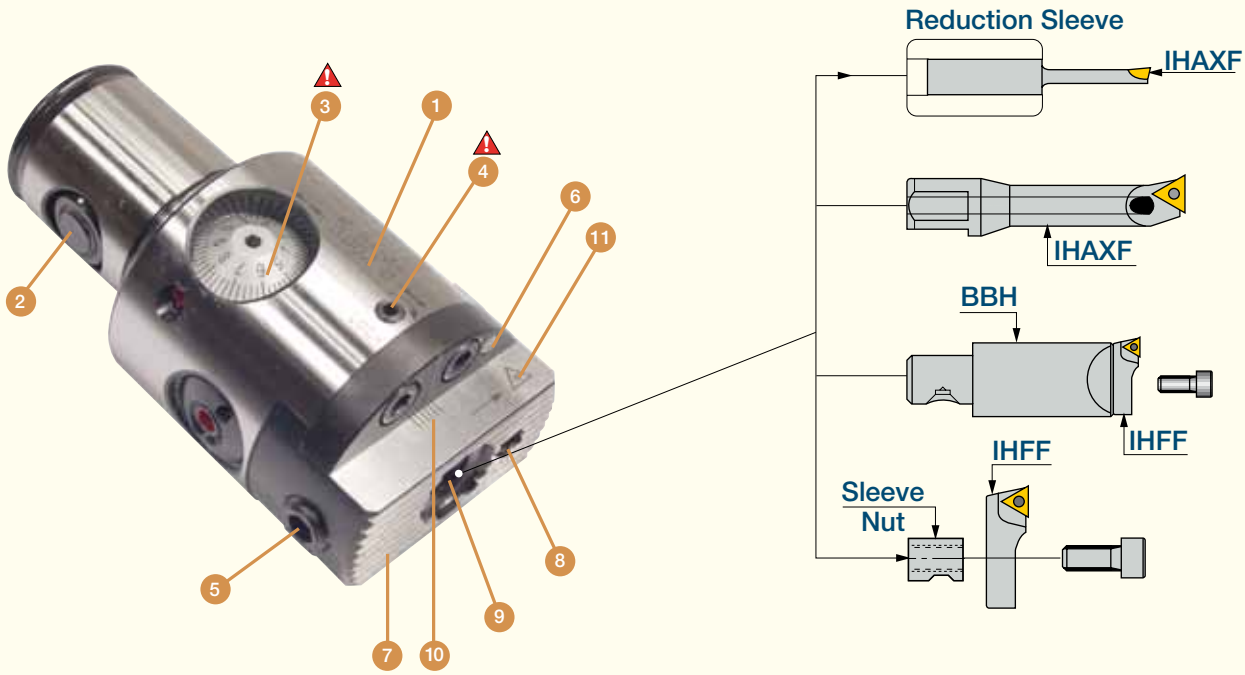


In case of a single or a stepped boring cutter configuration, only half the feed should be applied.

Fine Boring Head BHF 16-50

Operating Instructions

BHF 50 Shown



1. Body
2. Expanding pin
3. ⚠ Graduated dial
4. ⚠ Slide locking screw
5. Toolholder locking screw
6. Coolant nozzle
7. Slide holder
8. Oiling nipple
9. Tool bore 16H7
10. Slide adjustment range
    Do not exceed the range marks!!
11. Cutting edge position mark

Assembly

- Before mounting the BHF boring head make sure that expanding pin (2) does not protrude from the cylindrical body part.
- Insert BHF into the shank.
- **Tighten pin (2) by turning clockwise** following the recommended tightening torque guidelines below:

Recommended torque:	(N·m)
BHF MB16-16x34	2.0 - 2.5
BHF MB20-20x40	4.0 - 4.5
BHF MB25-25x50	6.5 - 7.5
BHF MB32-32x63	7.0 - 8.0
BHF MB40-40x80	16.0 - 18.0
BHF MB50-50x60	30.0 - 35.0

- Insert the screw (5). If it protrudes, the sleeve should be rotated until the screw can enter the recess in the sleeve nut, reduction sleeve or boring bar.

Disassembly

In order to separate the BHF from the shank, loosen the expanding pin (2) by turning counterclockwise.

Positioning

The tool slide (7) allows for a 4 mm adjustment, by turning graduated dial (3) counterclockwise.

- When changing the direction of dial rotation, backlash must be compensated for.
- After positioning, lock the tool slide by means of screw (4).
- **Loosen screw (4) before making any slide adjustment**.

Maintenance

Weekly:

- Lubricate through the nipple (8) with ISO UN G220 oil.

Periodically:

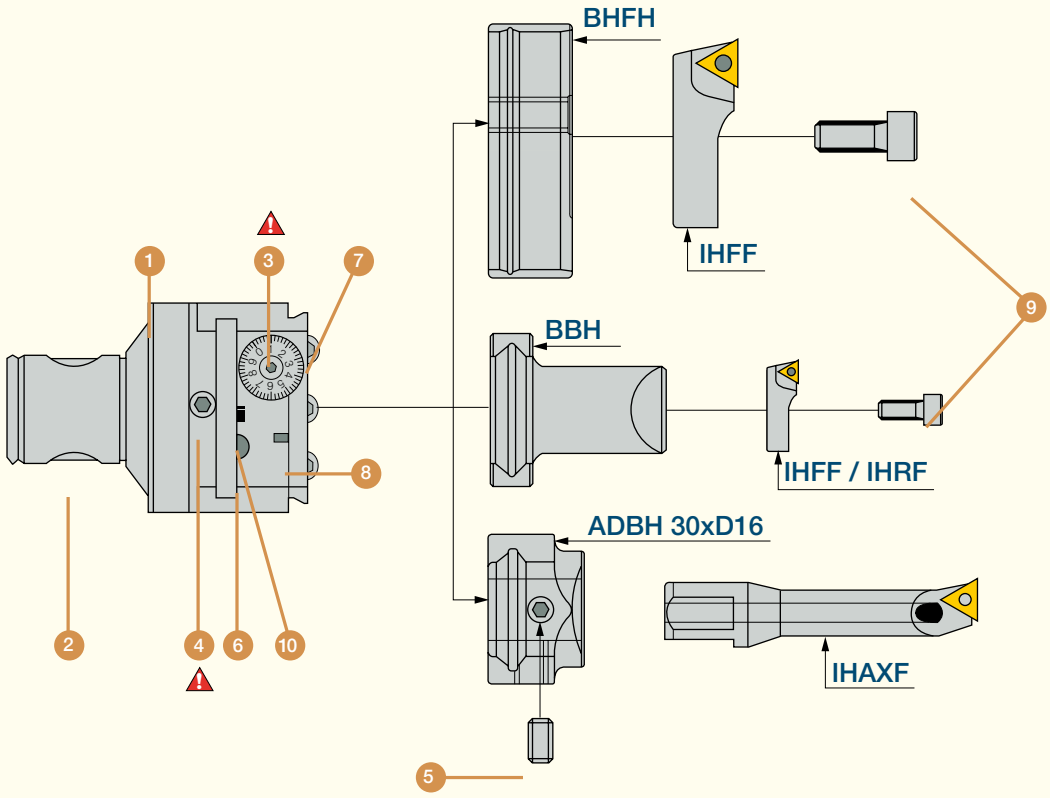
- Clean and lubricate the conical and cylindrical matching surfaces.
- Treat expanding pin (2) with an anti-friction lubricant.
- Clean and lubricate the tool slide guideway.

Important Note:

Toolholder should be firmly affixed to the slide.

Fine Boring Head BHF 63-125

Operating Instructions



1 Body
2 Expansion pin
⚠ 3 Graduated dial
⚠ 4 Slide locking screw
5 Toolholder locking screw
6 Coolant nozzle
7 Slide holder
8 Oiling nipple
9 Tool locking screws
10 Slide adjustment range
Do not exceed the range marks

Assembly

- Before mounting the BHF boring head make sure that expansion pin (2) does not protrude from the cylindrical body part.
- Insert BHF into the shank.
- **Tighten pin (2) by turning clockwise** following the recommended tightening torque guidelines below:

Recommended torque:	(N.m)
BHF MB50- 63x87	30-35
BHF MB50- 80x94	30-35
BHF MB63- 63x87	80-90
BHF MB80- 80x94	80-90
BHF MB80-125x94	80-90

- Insert the screw (5). If it protrudes, the sleeve should be rotated until the screw can enter the recess in the sleeve nut or boring bar.

Disassembly

In order to separate the BHF from the shank, loosen the expanding pin (2) by turning counterclockwise.

Positioning

The tool slide (7) allows for a 5 mm adjustment, by turning graduated dial (3) counterclockwise.

- When changing the direction of dial rotation, backlash must be compensated for.
- After positioning, lock the tool slide by means of screw (4).
- **Loosen screw (4) before making any slide adjustment.**

Maintenance

Weekly:

- Lubricate through the nipple (8) with ISO UN G220 oil.

Periodically:

- Clean and lubricate the conical and cylindrical matching surfaces.
- Treat expanding pin (2) with an anti-friction lubricant.
- Clean and lubricate the tool slide guideway.

Important Note:

Toolholder should be firmly affixed to the slide.

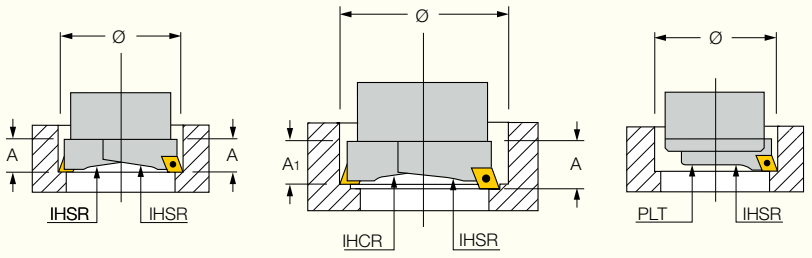
BHR Rough Boring Cutting Data

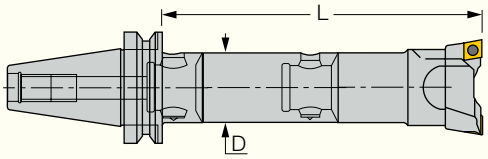
ISO	Workpiece Material	Hardness HB	Overhang L/D	ap (mm) R (Radius)	Boring Range D18-28		Boring Range D28-50		Boring Range D50-68	
					0.5-1.2 0.2	1.2-2.5 0.4	0.8-1.5 0.2-0.4	1.5-2.5 0.4	0.8-1.5 0.2-0.4	1.5-3.0 0.4-0.8
P	Carbon Steel	HB<200	2.5 ●●●	Vc (m/min)	150-180	120-150	160-200	140-170	160-200	140-180
				f (mm/rev)	0.1-0.2	0.08-0.2	0.15-0.2	0.1-0.175	0.15-0.25	0.08-0.2
			4 ●●	Vc (m/min)	140-160	100-140	160-180	120-150	160-180	120-150
				f (mm/rev)	0.1-0.18	0.08-0.15	0.1-0.12	0.08-0.1	0.1-0.12	0.08-0.1
			6.3 ●	Vc (m/min)	60-80	40-60	60-90	50-60	70-90	50-70
				f (mm/rev)	0.06-0.12	0.06-0.1	0.06-0.12	0.06-0.1	0.06-0.1	0.06-0.1
	Carbon Steel	HB>200	2.5 ●●●	Vc (m/min)	130-160	100-130	140-180	120-160	140-180	120-160
				f (mm/rev)	0.08-0.15	0.08-0.12	0.08-0.2	0.06-0.12	0.08-0.25	0.08-0.18
			4 ●●	Vc (m/min)	110-140	80-110	100-140	80-120	100-140	80-120
				f (mm/rev)	0.08-0.12	0.08-0.1	0.08-0.15	0.06-0.15	0.08-0.2	0.06-0.15
			6.3 ●	Vc (m/min)	70-90	60-70	80-100	60-80	80-100	60-80
				f (mm/rev)	0.08-0.1	0.06-0.08	0.06-0.1	0.06-0.08	0.08-0.15	0.06-0.1

ISO	Workpiece Material	Hardness HB	Overhang L/D	ap (mm) R (Radius)	Boring Range D68-120		Boring Range D120-200		Boring Range D200-500	
					0.8-1.5 0.2-0.4	1.5-3.5 0.4-0.8	0.8-2.0 0.2-0.4	2.0-3.5 R=0.4-0.8	0.8-2.0 R=0.2-0.4	2.0-4.0 R=0.4-0.8
P	Carbon Steel	HB<200	2.5 ●●●	Vc (m/min)	160-220	150-180	180-250	160-200	220-280	200-220
				f (mm/rev)	0.15-0.25	0.08-0.2	0.15-0.3	0.1-0.2	0.15-0.3	0.1-0.15
			4 ●●	Vc (m/min)	140-180	120-150	160-200	140-180	N.R.	N.R.
				f (mm/rev)	0.08-0.2	0.08-0.15	0.1-0.2	0.08-0.15		
			6.3 ●	Vc (m/min)	70-100	50-70	N.R.	N.R.	N.R.	N.R.
				f (mm/rev)	0.06-0.1	0.06-0.1				
	Carbon Steel	HB<200	2.5 ●●●	Vc (m/min)	140-180	120-160	150-170	100-140	100-140	80-120
				f (mm/rev)	0.15-0.3	0.12-0.2	0.15-0.25	0.1-0.2	0.15-0.3	0.1-0.2
			4 ●●	Vc (m/min)	120-150	100-140	100-130	80-110	N.R.	N.R.
				f (mm/rev)	0.1-0.2	0.1-0.18	0.08-0.2	0.08-0.12		
			6.3 ●	Vc (m/min)	80-100	60-80	N.R.	N.R.	N.R.	N.R.
				f (mm/rev)	0.08-0.12	0.08-0.12				

N.R. = Not Recommended

Stability
●●● – Good
●● – Normal
● – Poor





In case of a single or a stepped boring cutter configuration, only half the feed should be applied.

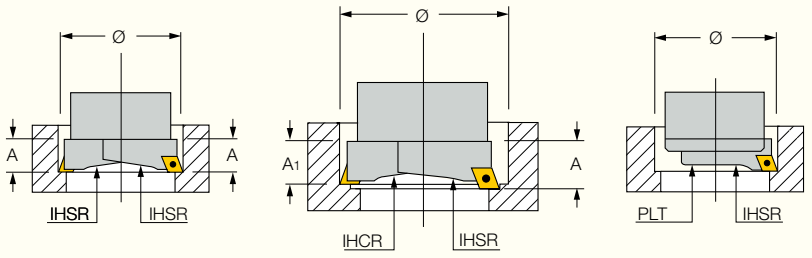
BHR Rough Boring Cutting Data

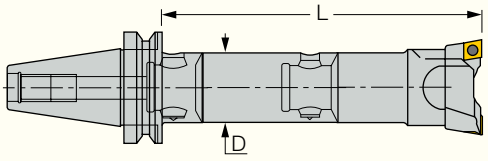
ISO	Workpiece Material	Hardness HB	Overhang L/D	ap (mm) R (Radius)	Boring Range D18-28		Boring Range D28-50		Boring Range D50-68	
					0.5-1.0 0.2	1.0-1.8 0.4	0.5-1.0 0.2-0.4	1.0-1.8 0.4	0.5-1.2 0.2-0.4	1.2-2.0 0.4-0.8
P	Alloyed Steel	HB<200	2.5 ●●●	Vc (m/min)	140-160	90-120	150-180	100-130	160-200	140-180
				f (mm/rev)	0.08-0.18	0.08-0.15	0.08-0.2	0.08-0.18	0.1-0.25	0.1-0.15
			4 ●●	Vc (m/min)	100-130	70-100	110-150	90-120	140-180	100-130
				f (mm/rev)	0.08-0.15	0.06-0.12	0.08-0.18	0.08-0.15	0.8-0.18	0.08-0.12
			6.3 ●	Vc (m/min)	80-100	60-90	80-100	70-90	100-140	80-120
				f (mm/rev)	0.08-0.15	0.06-0.1	0.06-0.12	0.06-0.12	0.6-0.15	0.08-0.1
	Alloyed Steel	HB>200	2.5 ●●●	Vc (m/min)	130-150	120-140	130-150	120-140	140-170	120-150
				f (mm/rev)	0.08-0.18	0.06-0.15	0.08-0.18	0.06-0.15	0.08-0.2	0.08-0.18
			4 ●●	Vc (m/min)	100-130	100-120	100-130	100-120	120-150	100-120
				f (mm/rev)	0.08-0.15	0.06-0.13	0.08-0.15	0.06-0.13	0.08-0.18	0.08-0.15
			6.3 ●	Vc (m/min)	80-100	70-90	80-100	70-90	100-120	70-90
				f (mm/rev)	0.08-0.12	0.06-0.11	0.08-0.12	0.06-0.11	0.08-0.12	0.06-0.11

ISO	Workpiece Material	Hardness HB	Overhang L/D	ap (mm) R (Radius)	Boring Range D68-120		Boring Range D120-200		Boring Range D200-500	
					1.8 0.2-0.4	2.5 0.4-0.8	0.8-2.0 0.2-0.4	2.0-3.5 0.4-0.8	0.8-2.0 0.2-0.4	2.0-4.0 0.4-0.8
P	Alloyed Steel	HB<200	2.5 ●●●	Vc (m/min)	160-220	140-180	160-220	140-180	160-220	140-180
				f (mm/rev)	0.1-0.3	0.1-0.25	0.1-0.3	0.1-0.25	0.1-0.35	0.1-0.3
			4 ●●	Vc (m/min)	150-200	120-160	120-160	120-160	N.R.	N.R.
				f (mm/rev)	0.1-0.2	0.08-0.18	0.1-0.2	0.08-0.18		
			6.3 ●	Vc (m/min)	100-140	100-140	N.R.	N.R.	N.R.	N.R.
				f (mm/rev)	0.08-0.18	0.08-0.15				
	Alloyed Steel	HB>200	2.5 ●●●	Vc (m/min)	160-200	140-180	140-200	140-180	140-200	140-180
				f (mm/rev)	0.1-0.3	0.01-0.25	0.01-0.35	0.01-0.3	0.01-0.35	0.01-0.3
			4 ●●	Vc (m/min)	140-160	120-140	150-180	120-140	N.R.	N.R.
				f (mm/rev)	0.08-0.2	0.08-0.15	0.08-0.12	0.08-0.12		
			6.3 ●	Vc (m/min)	100-120	70-90	N.R.	N.R.	N.R.	N.R.
				f (mm/rev)	0.08-0.16	0.08-0.12				

N.R. = Not Recommended

Stability
- ●●● – Good
- ●● – Normal
- ● – Poor



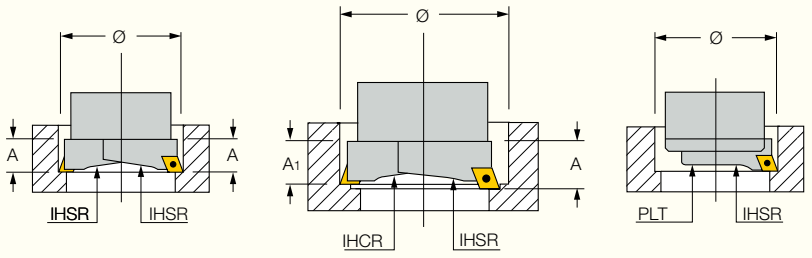


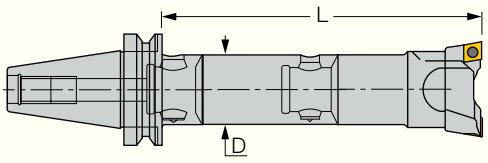
In case of a single or a stepped boring cutter configuration, only half the feed should be applied.

BHR Rough Boring Cutting Data

ISO	Workpiece Material	Hardness HB	Overhang L/D	ap (mm) R (Radius)	Boring Range D18-28		Boring Range D28-50		Boring Range D50-68	
					0.5-1.0 0.2	1.0-1.8 0.4	0.5-1.0 0.2-0.4	1.0-1.8 0.4	0.5-1.2 0.2-0.4	1.2-2.0 0.4-0.8
M	Stainless Steel	Ferritic & Martensitic	2.5 ●●●	**Vc** (m/min) **f** (mm/rev)	100-150 0.08-0.15	110-130 0.06-0.12	120-160 0.08-0.18	100-150 0.06-0.12	120-160 0.08-0.25	110-160 0.08-0.18
			4 ●●	**Vc** (m/min) **f** (mm/rev)	90-130 0.08-0.12	90-120 0.06-0.1	100-140 0.08-0.12	90-140 0.06-0.1	100-150 0.08-0.18	80-120 0.08-0.12
			6.3 ●	**Vc** (m/min) **f** (mm/rev)	60-90 0.06-0.1	50-70 0.06-0.1	60-90 0.06-0.12	50-70 0.06-0.1	70-100 0.06-0.15	50-70 0.08-0.1
	Stainless Steel	Austenitic	2.5 ●●●	**Vc** (m/min) **f** (mm/rev)	110-130 0.08-0.15	100-130 0.06-0.12	120-150 0.08-0.18	110-140 0.06-0.12	110-160 0.08-0.25	100-150 0.06-0.12
			4 ●●	**Vc** (m/min) **f** (mm/rev)	80-110 0.08-0.12	80-110 0.06-0.1	90-130 0.08-0.12	90-120 0.06-0.1	100-150 0.08-0.18	90-130 0.06-0.1
			6.3 ●	**Vc** (m/min) **f** (mm/rev)	60-90 0.06-0.1	50-70 0.06-0.1	60-90 0.06-0.12	50-70 0.06-0.1	70-100 0.06-0.15	50-70 0.06-0.1
	Stainless Steel Cast	Ferritic & Martensitic	2.5 ●●●	**Vc** (m/min) **f** (mm/rev)	90-130 0.08-0.15	100-130 0.06-0.12	120-150 0.08-0.18	110-140 0.06-0.12	120-160 0.08-0.25	100-150 0.06-0.12
			4 ●●	**Vc** (m/min) **f** (mm/rev)	70-110 0.08-0.12	80-110 0.06-0.1	90-130 0.08-0.12	90-120 0.06-0.1	100-150 0.08-0.18	90-130 0.06-0.1
			6.3 ●	**Vc** (m/min) **f** (mm/rev)	60-90 0.06-0.1	50-70 0.06-0.1	60-90 0.06-0.12	50-70 0.06-0.1	70-100 0.06-0.15	50-70 0.06-0.1
	Stainless Steel Cast	Austenitic	2.5 ●●●	**Vc** (m/min) **f** (mm/rev)	80-120 0.08-0.15	70-110 0.06-0.12	100-150 0.08-0.18	90-140 0.06-0.12	110-150 0.08-0.25	100-150 0.06-0.12
			4 ●●	**Vc** (m/min) **f** (mm/rev)	70-100 0.08-0.12	70-100 0.06-0.1	80-130 0.08-0.12	70-120 0.06-0.1	90-140 0.08-0.18	90-130 0.06-0.1
			6.3 ●	**Vc** (m/min) **f** (mm/rev)	60-90 0.06-0.1	50-70 0.06-0.1	60-90 0.06-0.12	50-70 0.06-0.1	70-100 0.06-0.15	50-70 0.06-0.1

Stability
- ●●● – Good
- ●● – Normal
- ● – Poor





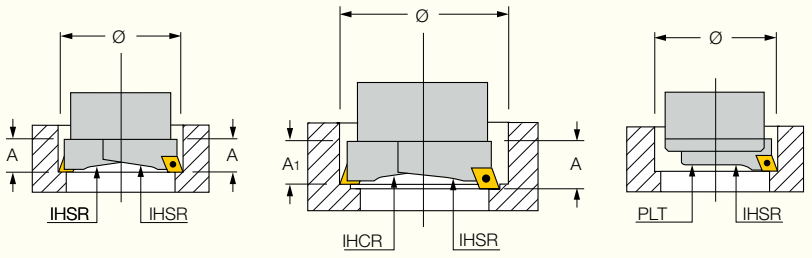
In case of a single or a stepped boring cutter configuration, only half the feed should be applied.

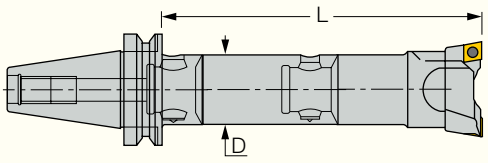
BHR Rough Boring Cutting Data

ISO	Workpiece Material	Hardness HB	Overhang L/D	ap (mm) R (Radius)	Boring Range D68-120		Boring Range D120-200		Boring Range D200-500	
					0.8-1.8 0.2-0.4	1.8-2.5 0.4-0.8	0.8-2.0 0.2-0.4	2.0-3.0 0.4-0.8	0.8-2.0 0.2-0.4	2.0-3.5 0.4-0.8
M	Stainless Steel	Ferritic & Martensitic	2.5 ●●●	Vc (m/min) f (mm/rev)	130-220 0.08-0.3	120-200 0.08-0.25	140-220 0.08-0.3	120-180 0.08-0.25	150-220 0.08-0.3	120-200 0.08-0.25
			4 ●●	Vc (m/min) f (mm/rev)	100-160 0.08-0.25	90-140 0.08-0.18	120-180 0.08-0.25	90-140 0.08-0.18	N.R.	N.R.
			6.3 ●	Vc (m/min) f (mm/rev)	70-100 0.08-0.2	50-70 0.08-0.15	N.R.	N.R.	N.R.	N.R
	Stainless Steel	Austenitic	2.5 ●●●	Vc (m/min) f (mm/rev)	120-200 0.08-0.3	100-160 0.08-0.25	120-200 0.08-0.3	100-160 0.08-0.25	120-200 0.08-0.3	100-180 0.08-0.25
			4 ●●	Vc (m/min) f (mm/rev)	100-150 0.08-0.25	90-140 0.08-0.18	100-160 0.08-0.25	90-140 0.08-0.18	N.R.	N.R.
			6.3 ●	Vc (m/min) f (mm/rev)	70-100 0.08-0.2	50-70 0.08-0.15	N.R.	N.R.	N.R.	N.R.
	Stainless Steel Cast	Ferritic & Martensitic	2.5 ●●●	Vc (m/min) f (mm/rev)	130-200 0.08-0.3	120-180 0.08-0.25	140-200 0.08-0.3	120-160 0.08-0.25	140-200 0.08-0.3	120-180 0.08-0.25
			4 ●●	Vc (m/min) f (mm/rev)	110-150 0.08-0.25	90-150 0.08-0.18	100-160 0.08-0.25	90-140 0.08-0.18	N.R.	N.R.
			6.3 ●	Vc (m/min) f (mm/rev)	70-100 0.08-0.2	50-70 0.08-0.15	N.R.	N.R.	N.R.	N.R.
	Stainless Steel Cast	Austenitic	2.5 ●●●	Vc (m/min) f (mm/rev)	130-180 0.08-0.3	120-180 0.08-0.25	120-200 0.08-0.3	100-160 0.08-0.25	120-200 0.08-0.3	100-180 0.08-0.25
			4 ●●	Vc (m/min) f (mm/rev)	100-140 0.08-0.25	90-140 0.08-0.18	100-160 0.08-0.25	90-140 0.08-0.18	N.R.	N.R.
			6.3 ●	Vc (m/min) f (mm/rev)	70-190 0.08-0.2	50-70 0.08-0.15	N.R.	N.R.	N.R.	N.R.

N.R. = Not Recommended

Stability
- ●●● – Good
- ●● – Normal
- ● – Poor





In case of a single or a stepped boring cutter configuration, only half the feed should be applied.

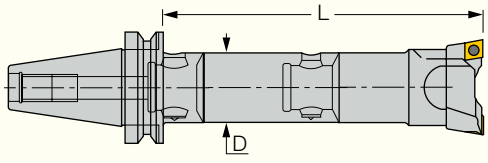
BHR Rough Boring Cutting Data

ISO	Workpiece Material	Hardness HB	Overhang L/D	ap (mm) R (Radius)	Boring Range D18-28		Boring Range D28-50		Boring Range D50-68	
					0.5-1.0 0.2-0.4	1.0-1.8 0.4	0.5-1.0 0.2-0.4	1.0-1.8 0.4	0.5-1.2 0.2-0.4	1.2-2.0 0.4-0.8
K	Grey Cast Iron GG 10-25	HB<200	2.5 ●●●	Vc (m/min) f (mm/rev)	120-160 0.06-0.15	100-140 0.06-0.18	120-180 0.06-0.15	110-150 0.06-0.12	120-180 0.08-0.2	110-150 0.08-0.12
			4 ●●	Vc (m/min) f (mm/rev)	100-140 0.06-0.12	80-120 0.06-0.1	100-150 0.06-0.12	80-120 0.06-0.1	100-150 0.08-0.12	80-120 0.08-0.1
			6.3 ●	Vc (m/min) f (mm/rev)	70-100 0.06-0.1	60-90 0.06-0.1	70-100 0.06-0.1	60-90 0.06-0.1	70-100 0.08-0.1	60-90 0.08-0.1
	Grey Cast Iron GG 25-40		2.5 ●●●	Vc (m/min) f (mm/rev)	140-200 0.06-0.15	140-200 0.06-0.18	140-220 0.06-0.15	160-250 0.06-0.18	180-220 0.08-0.2	200-280 0.1-0.25
			4 ●●	Vc (m/min) f (mm/rev)	120-160 0.06-0.12	120-160 0.06-0.14	120-180 0.06-0.12	140-200 0.06-0.14	140-180 0.08-0.12	180-220 0.08-0.2
			6.3 ●	Vc (m/min) f (mm/rev)	70-100 0.06-0.1	60-90 0.06-0.1	70-100 0.06-0.1	60-90 0.06-0.1	60-100 0.08-0.1	60-120 0.08-0.1
	Cast Iron GGG	Spheroidal & Graphite	2.5 ●●●	Vc (m/min) f (mm/rev)	120-180 0.06-0.15	120-180 0.06-0.18	120-200 0.06-0.15	140-220 0.06-0.18	180-220 0.08-0.18	180-240 0.1-0.2
			4 ●●	Vc (m/min) f (mm/rev)	120-160 0.06-0.12	120-160 0.06-0.14	120-180 0.06-0.12	140-200 0.06-0.14	140-200 0.08-0.12	160-220 0.08-0.18
			6.3 ●	Vc (m/min) f (mm/rev)	60-100 0.06-0.1	60-90 0.06-0.1	60-100 0.06-0.1	60-90 0.06-0.1	60-90 0.08-0.1	60-100 0.08-0.1

ISO	Workpiece Material	Hardness HB	Overhang L/D	ap (mm) R (Radius)	Boring Range D68-120		Boring Range D120-200		Boring Range D50-68	
					0.8-1.8 0.2-0.4	1.8-2.5 0.4-0.8	0.8-2.0 0.2-0.4	2.0-3.0 0.4-0.8	0.8-2.0 0.2-0.4	2.0-3.5 0.4-0.8
K	Grey Cast Iron GG 10-25	HB<200	2.5 ●●●	Vc (m/min) f (mm/rev)	120-200 0.08-0.25	110-150 0.08-0.3	150-250 0.08-0.25	180-280 0.08-0.35	150-250 0.08-0.25	180-280 0.08-0.35
			4 ●●	Vc (m/min) f (mm/rev)	100-150 0.08-0.18	80-120 0.08-0.2	120-170 0.08-0.18	120-170 0.08-0.25	N.R.	N.R.
			6.3 ●	Vc (m/min) f (mm/rev)	70-100 0.08-0.15	60-90 0.08-0.12	N.R.	N.R.	N.R.	N.R.
	Grey Cast Iron GG 25-40	4	2.5 ●●●	Vc (m/min) f (mm/rev)	250-300 0.12-0.35	250-350 0.12-0.35	250-350 0.15-0.3	250-350 0.15-0.4	250-350 0.15-0.3	250-350 0.15-0.4
			●●	Vc (m/min) f (mm/rev)	200-270 0.1-0.25	230-300 0.12-0.3	200-300 0.15-0.3	200-270 0.15-0.35	N.R.	N.R.
			6.3 ●	Vc (m/min) f (mm/rev)	70-150 0.1-0.15	60-120 0.12-0.25	N.R.	N.R.	N.R.	N.R.
	Cast Iron GGG	Spheroidal & Graphite	2.5 ●●●	Vc (m/min) f (mm/rev)	200-240 0.12-0.3	200-280 0.12-0.3	200-280 0.15-0.3	220-300 0.15-0.35	220-300 0.15-0.3	220-300 0.15-0.35
			4 ●●	Vc (m/min) f (mm/rev)	160-220 0.1-0.2	180-240 0.12-0.25	180-250 0.15-0.25	200-270 0.15-0.35	N.R.	N.R.
			6.3 ●	Vc (m/min) f (mm/rev)	60-100 0.1-0.15	60-100 0.12-0.2	N.R.	N.R.	N.R.	N.R.

N.R. = Not Recommended

Stability
- ●●● – Good
- ●● – Normal
- ● – Poor



In case of a single or a stepped boring cutter configuration, only half the feed should be applied.

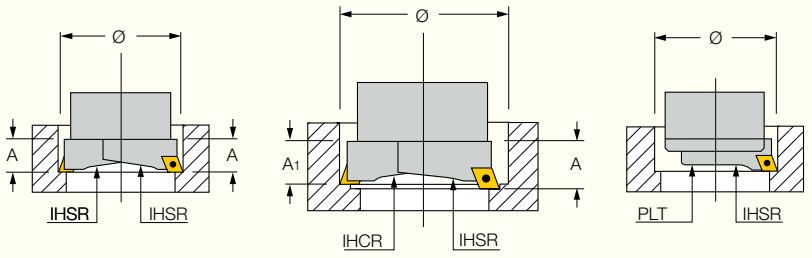
BHR Rough Boring Cutting Data

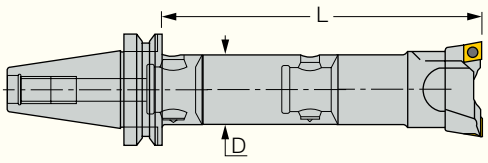
ISO	Workpiece Material	Hardness HB	Overhang L/D	ap (mm) R (Radius)	Boring Range D18-28		Boring Range D28-50		Boring Range D50-68	
					0.5-1.5 0.2-0.4	1.5-2.5 0.4	0.5-1.5 0.2-0.4	1.5-2.5 0.4	0.5-2.0 0.2-0.4	1.2-3.0 0.4-0.8
N	Aluminum/ Cast	>12si	2.5 ●●●	Vc (m/min) f (mm/rev)	200-300 0.06-0.2	240-350 0.06-0.25	200-300 0.06-0.2	240-350 0.06-0.25	200-300 0.06-0.25	240-350 0.06-0.3
			4 ●●	Vc (m/min) f (mm/rev)	150-220 0.06-0.2	150-220 0.06-0.2	150-220 0.06-0.2	150-220 0.06-0.2	150-220 0.06-0.2	150-220 0.06-0.2
			6.3 ●	Vc (m/min) f (mm/rev)	60-100 0.06-0.1	60-100 0.06-0.1	60-100 0.06-0.1	60-100 0.06-0.1	60-100 0.06-0.1	60-100 0.06-0.1
	Aluminum/ Cast	<12si	2.5 ●●●	Vc (m/min) f (mm/rev)	180-250 0.06-0.2	220-280 0.06-0.25	180-250 0.06-0.25	220-280 0.06-0.25	180-250 0.06-0.25	220-280 0.06-0.3
			4 ●●	Vc (m/min) f (mm/rev)	120-220 0.06-0.2	120-220 0.06-0.2	120-220 0.06-0.2	120-220 0.06-0.2	120-220 0.06-0.2	120-220 0.06-0.25
			6.3 ●	Vc (m/min) f (mm/rev)	60-100 0.06-0.1	60-100 0.06-0.1	60-100 0.06-0.1	60-100 0.06-0.1	60-100 0.06-0.1	60-100 0.06-0.1

ISO	Workpiece Material	Hardness HB	Overhang L/D	ap (mm) R (Radius)	Boring Range D68-120		Boring Range D120-200		Boring Range D200-500	
					0.8-3.0 0.2-0.4	1.8-4.0 0.4-0.8	0.8-3.0 0.2-0.4	2.0-4.0 0.4-0.8	0.8-3.0 0.2-0.4	2.0-4.5 0.4-0.8
N	Aluminum/ Cast	>12si	2.5 ●●●	Vc (m/min) f (mm/rev)	200-300 0.06-0.25	240-350 0.06-0.3	200-300 0.06-0.25	240-350 0.06-0.4	200-300 0.06-0.25	240-350 0.06-0.4
			4 ●●	Vc (m/min) f (mm/rev)	150-220 0.06-0.2	150-220 0.06-0.2	150-220 0.06-0.2	150-220 0.06-0.2	N.R.	N.R.
			6.3 ●	Vc (m/min) f (mm/rev)	60-100 0.06-0.1	60-100 0.06-0.1	N.R.	N.R.	N.R.	N.R.
	Aluminum/ Cast	<12si	2.5 ●●●	Vc (m/min) f (mm/rev)	180-250 0.06-0.25	220-280 0.06-0.3	180-250 0.06-0.3	220-280 0.06-0.4	180-250 0.06-0.3	220-280 0.06-0.4
			4 ●●	Vc (m/min) f (mm/rev)	120-220 0.06-0.2	120-220 0.06-0.25	120-220 0.06-0.2	120-220 0.06-0.25	N.R.	N.R.
			6.3 ●	Vc (m/min) f (mm/rev)	60-100 0.06-0.1	60-100 0.06-0.1	N.R.	N.R.	N.R.	N.R.

N.R. = Not Recommended

Stability
- ●●● – Good
- ●● – Normal
- ● – Poor





In case of a single or a stepped boring cutter configuration, only half the feed should be applied.

Recommended Cutting Conditions for Boring Operations with BHC Combi Rough and Fine

Material	Boring Depth to Diameter Ratio	Working Conditions	Cutting Speed Vc=m/min	Feed fn=mm/rev R=0.2	Feed fn=mm/rev R=0.4	Carbide Grade	Cutting Depth mm			
Carbon steel HB < 200	L / D = 2.5	good	160 - 250	0.1 - 0.2	0.1 - 0.2	IC807, IC908, IC520N, IC20N, IC30N, IC8150, IC8250, IC3028	0.15 - 0.3	1.5	2	2.5
	L / D = 4	normal	120 - 180	0.1 - 0.2	0.1 - 0.2					
	L / D = 6.3	difficult	70 - 100	*0.1 - 0.15	0.1 - 0.2					
Carbon steel HB > 200	L / D = 2.5	good	140 - 200	0.1 - 0.2	0.1 - 0.2		0.15 - 0.3	1.5	2	2.5
	L / D = 4	normal	100 - 160	0.1 - 0.2	0.1 - 0.2					
	L / D = 6.3	difficult	70 - 100	*0.1 - 0.15	0.1 - 0.2					
Stainless steel AISI 304 - 316	L / D = 2.5	good	100 - 140	0.1 - 0.2	0.1 -0.2	IC807, IC30N, IC3028	0.15 - 0.3	1.5	2	2.5
	L / D = 4	normal	80 - 110	0.1 - 0.2	0.1 -0.2					
	L / D = 6.3	difficult	60 - 90	*0.1 - 0.15	0.1 - 0.2					
Cast iron	L / D = 2.5	good	120 - 160	0.1 - 0.2	0.1 -0.2	IB55, IC908, IC5005, IC428	0.15 - 0.3	2	2.5	3
	L / D = 4	normal	90 - 120	0.1 - 0.2	0.1 -0.2					
	L / D = 6.3	difficult	60 - 90	*0.1 - 0.15	0.1 - 0.2					
Aluminum	L / D = 2.5	good	250 - 350	0.1 - 0.2	0.1 - 0.2	ID5, IC20	0.15 - 0.3	2	2.5	3
	L / D = 4	normal	160 - 250	0.1 - 0.2	0.1 - 0.2					
	L / D = 6.3	difficult	100 - 150	*0.1 - 0.15	0.1 - 0.2					

* Only for finishing Inserts.

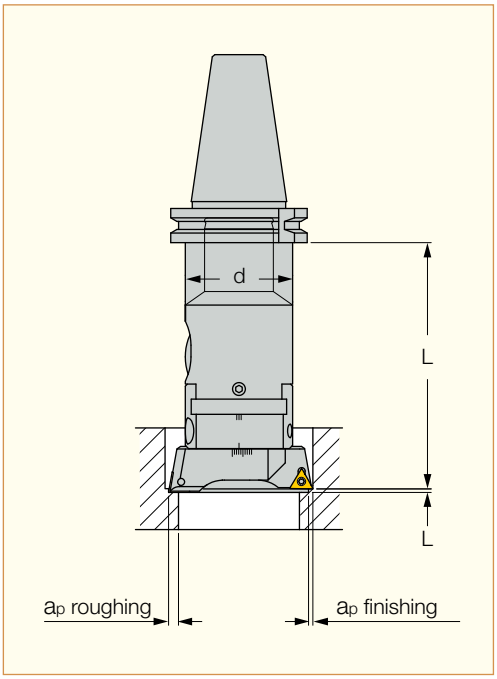
**Use inserts with the same corner radii for both roughing and finishing inserts.

Vc Cutting speed (m/min)
D Diameter of workpiece (mm)
n Number of revolutions / min' (rev./min)
Vf Feed rate (mm/min.)
fn Feed / rev/ (mm/rev)
Π 3.14

$$Vc = \frac{\Pi \cdot D \cdot n}{1000}$$

$$n = \frac{VC\ 1000}{\Pi \cdot D}$$

$$Vf = n \cdot fn$$



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Your Tool Advisor Genius

ITA recommends the optimal tool based on application parameters and your machine power. 3 tool options, 25 alternatives, cutting data, power consumption, cutting time, metal removal rates, engineering support and more.

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