

SHOWA TOOL

SHOWA TOOL
GENERAL CATALOG
www.showatool.com



WARNING

Thank you for purchasing **SHOWA** brand tools.
Before using our tools, please take note of the following.



Incorrect tool use can be dangerous.
Read instruction manuals carefully to prevent dangerous operation.
Pay particular attention to those warnings marked with ⚠.

■ Safety Instructions for installing and removing cutting tools

- Lock the tool holder in a tool presetter or locking fixture positively, for installing and removing the cutter.
- Do not touch cutting edges with a bare hand.
- Use spanners supplied by SHOWA specifically for the clamping chuck. Engage the spanner fully in a key slot of the nut and tighten by hand. Do not use a hammer or pipe to tighten more.
- Make sure that the cutter is correctly mounted in the holder before setting the tool in the machine.

■ Safety Instructions for using tool holders

- Install the tool in the machine spindle or tool magazine carefully. Do not release the tool until it is properly clamped.
- Never touch a running tool holder or cutter.
- Always wear appropriate gloves, eye-protection and other protective equipment to avoid injury from hot flying chips.
- When high-pressure coolant is used, do not bring hands or body near the tool to avoid injury from an improperly mounted cutter forced out by the high-pressure.
- Do not use tool holders for any purposes other than their original purpose. Do not modify or disassemble

■ Advices for storing tools

- Remove the cutter from the chuck before storing for long period
Otherwise, clamping force may be reduced. If the chuck is stored for a long period with the cutter clamped in it, unclamp the cutter and reclamp it again before use.
- Clean chips and coolant from the tools, and apply rust preventative before storing them.

Further information on our tools can be obtained through our distributors or directly from **SHOWA TOOL**.

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Cutting Tool

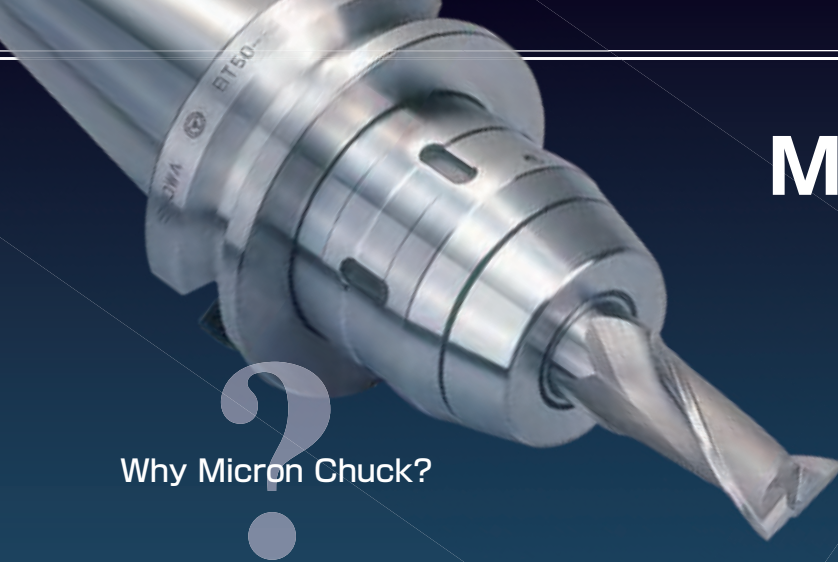
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MICRON CHUCK



Outstanding Clamping power.
Minimal runout.

Why Micron Chuck?

HIGH PRECISION MILLING CHUCK

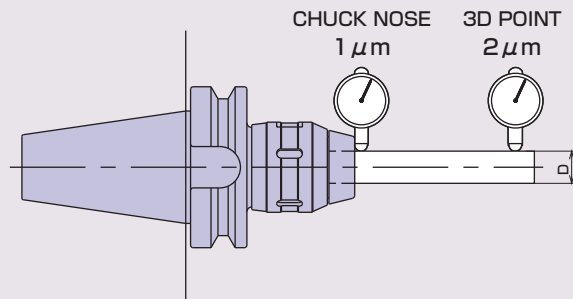
POINT

1

Only Micron Chuck can guarantee such runouts as 0.001 mm at chuck nose and 0.002 mm at 3xD.

Micron Chuck was developed utilizing Showa original direct clamping mechanism and assembling technology acquired in manufacturing high quality machine spindles for a long experience.

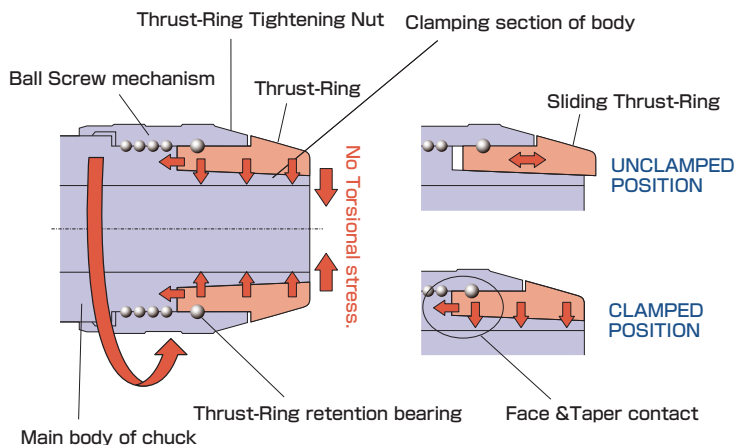
●How to measure runout



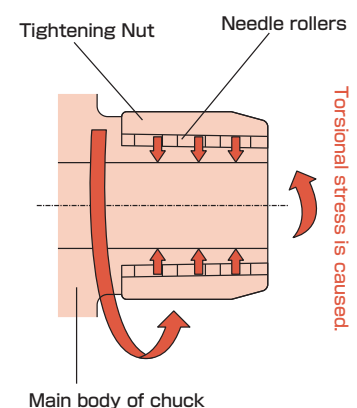
GRADE	NOSE	3D POINT
AA	1	2
A	3	5

Tool will be supplied with an inspection sheet.

●Structure of Micron Chuck



●Structure of other makers' chuck



POINT

2

3

Clamping power as high as other milling chucks.

High accuracy Micron Chuck has a high clamping power, too. The clamping power of $\varnothing 32$ ID Micron chuck is 2,450Nm, and $\varnothing 6$ ID 49Nm - about 2 times bigger than hydraulic chucks.



Standard type Micron Chuck

2,450N·m

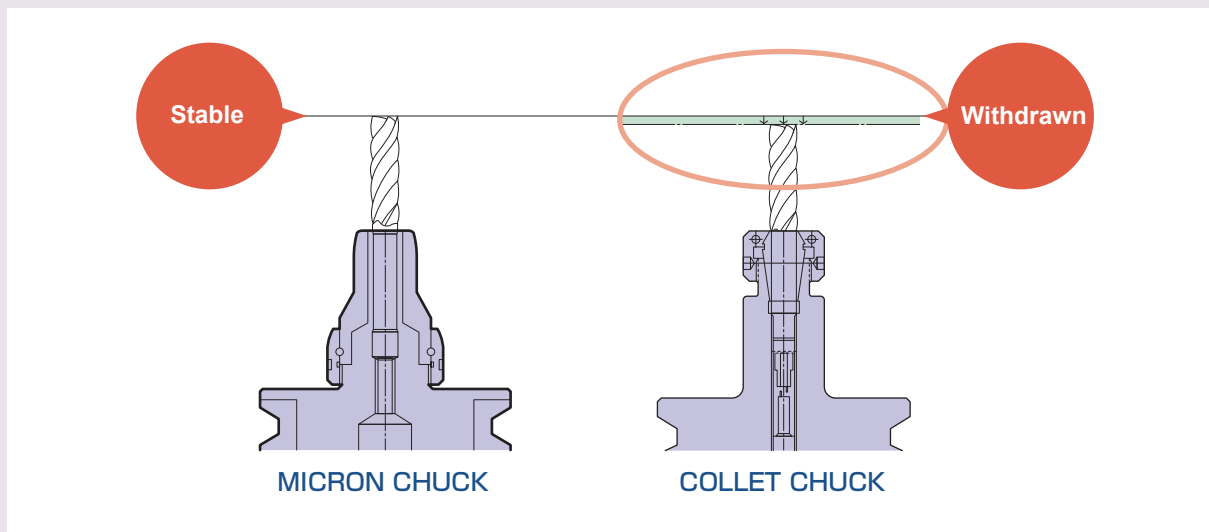
POINT

3

3

The cutter is not axially moved by clamping

The cutter is not withdrawn by clamping like collet chucks, due to its unique mechanism. It is required in mass manufacturing line to preset cutter length to close tolerance. In case of collet chuck, the axial cutter projection is shortened by clamping. The back end of the cutter is pressed to the back-up screw at that time, which may cause bending and breakage of small diameter cutters.



Highly balanced and sealed chuck.

Maximum speed :

20,000min⁻¹ (Standard HPC-H chuck)

30,000min⁻¹ ("G" type HPC-H chuck)

		#30,#40 HSK50, 63	#50 HSK100
Standard	A	10,000min ⁻¹	8,000min ⁻¹
	AA		
H	A	20,000min ⁻¹	12,000min ⁻¹
	AA		
	G	30,000min ⁻¹	—
M	—	15,000min ⁻¹	10,000min ⁻¹



"G" type HPC-H chuck

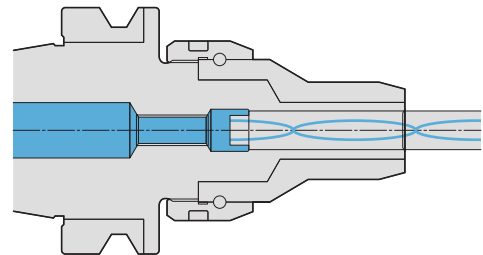
30,000min⁻¹

Thru-the-tool coolant type.

Thru-the-tool coolant type Micron Chucks available.

Please specify it at the time of ordering.

■ Thru-the-tool application



Mechanical chuck, Heater is not required.

Shrink-fit holders have restrictions of cutter material. But, Micron Chucks are applicable to any material of cutters, keeping high accuracy for a long period of time.



"M" type
Micron Chuck

Wide range of IDs are available.

Standard type, "H" type and "M" type Micron Chucks covers from $\varnothing 3\text{mm}$ to $\varnothing 50\text{mm}$ ID.

Wide application range.

You can extend application range of Micron Chucks by using straight collets. But, direct chucking is recommended to obtain the highest performance.

COMPARISON OF RUNOUT & SURFACE FINISH

	MICRON CHUCK	HYDRAULIC CHUCK	COLLET CHUCK	REMARKS
Runout	◎	△	△	Micron chuck : Measured runout. Others : From catalog.
	AA grade : $1\mu\text{m}$ at chuck nose, $2\mu\text{m}$ at $3\times D$ guaranteed.	$3\mu\text{m}$ at chuck nose, $5\mu\text{m}$ at $3\times D$.	N made AA grade collet : $5\mu\text{m}$ at $4\times D$	
Clamping Power	◎	△	◎	Measure value
	$\varnothing 6$ 49N·m $\varnothing 32$ 2450N·m	26.5N·m (N made $\varnothing 6$ chuck)	49N·m Showa $\varnothing 6$ collet (10 ID max. holder)	
Maintenance	○	×	△	
	Periodical greasing since a mechanical chuck.	Periodical check of oil leak required.	Chips must be removed from collet.	
Presetting	◎	◎	×	
	Easy presetting, since cutter is stable.	Easy presetting, since cutter is stable.	Cutter is axially moved by chucking.	

Clamping power & Tightening Force

Standard



Chuck size	Clamping Power (MIN) (N · m)	Tightening Force (N · m)	Loosening Force (N · m)
HPC16	780	62	40
HPC20	1180		
HPC25	1760		
HPC32	2450		
HPC42	3920		

H-series



Chuck size	Clamping Power (MIN) (N · m)	Tightening Force (N · m)	Loosening Force (N · m)
HPC03H	10 (10)	67	67
HPC04H	15 (15)		
HPC06H	30 (20)		
HPC08H	40 (24)		
HPC10H	60 (35)		
HPC12H	70 (41)		
HPC14H	80		
HPC16H	90		

※Clamping power of short type chucks (L=75mm max) is shown in ().

M-series



Chuck size	Clamping Power (MIN) (N · m)	Tightening Force (N · m)	Loosening Force (N · m)
HPC03M	5	57	57
HPC04M	10		
HPC06M	20		
HPC08M	26		
HPC10M	33		
HPC12M	46		

Field Data

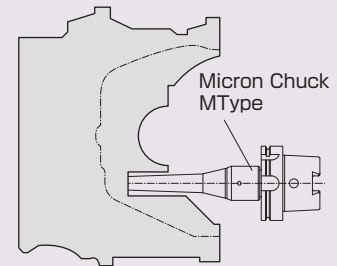
1

Workplace	Cylinder Head Valve Guide Hole (FCD)
Cutting tool	Carbide Reamer 6mm×135L
Conventional Chuck	COmpetitor's Collet Chuck
SHOWA Chuck	SHOWA Micron Chuck HSKA63-HPC10H-105A
Test result	①Though conventional collet chuck required 30min to achive 10micron runout. SHOWA Micron chuck was able to achieve 3 - 5micron at 8×D with just one clamping. ②As a result, a longer tool life is realized from 50 - 100 holes to 1600 holes.



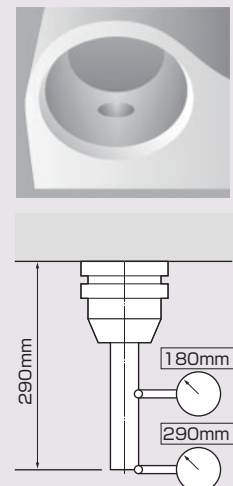
2

Workplace	Cylinder Block Oil Jet Hole (FC230)
Cutting tool	Carbide Reamer 9mm×180L
Conventional Chuck	Hydraulic Chuck+Straight shank shrink fit extension
SHOWA Chuck	SHOWA Micron Chuck HSKA63-HPC10M-254
Test result	Increased cutting tool life from 400 to 1000 holes, thereby reducing cutting tool costs and tool changing costs



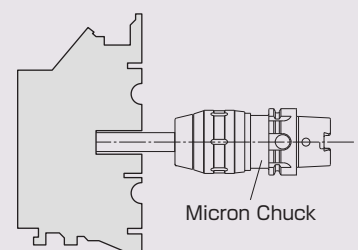
3

Workplace	Hydraulic Parts Cover (ADC12)		
Cutting tool	Carbide Step Reamer 20mm×200L		
Conventional Chuck	Competitor's Milling Chuck		
SHOWA Chuck	SHOWA Micron Chuck BT40-HPC25-105A		
Test result	①Runout Comparison on the M/C		
	Measuring Position	SHOWA	Competitor
	180mm	0.005	0.015
	290mm	0.017	0.03
	②No more chattering		



4

Workplace	Cylinder Head Cubing (ADC)
Cutting tool	Diamond Reamer
Conventional Chuck	Competitor'S Hydraulic Chuck
SHOWA Chuck	SHOWA Micron Chuck HSKA63-HPC25-115AA
Test result	Hydraulic chuck produced oval holes. Micron chuck produced perfect circular holes.



COLLET CHUCK

This is most suitable chuck
for drilling, milling, reaming, tapping.

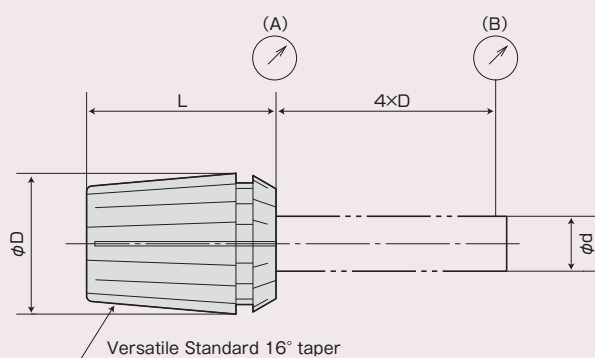


POINT

1

High accuracy collet

- ① High accuracy collets are used.
- ② The Collet is made of quality alloy steel which minimizes strain and wear.



GRADE	Runout	
	NOSE	4D POINT
AA	1μm	3μm

POINT

2

Smallest diameter is 0.5mm.

CHUCK	COLLET I.D. (mm)	GRIPPING RANGE (mm)
RSC07	ø1~ø7	0.5
RSC10	ø1~ø3	0.5
	ø4~ø10	1.0
RSC13	ø1~ø3	0.5
	ø4~ø13	1.0
RSC16	ø1.5~ø3	0.5
	ø4~ø16	1.0
RSC20	ø2~ø3	0.5
	ø4~ø20	1.0



POINT

3

Wide use collet

Standard 16° (DIN6499/ISO15488) taper collet, the most popular in world.
Major CNC makers are adopting this collet as standard items for milling collet chucks.

POINT

4



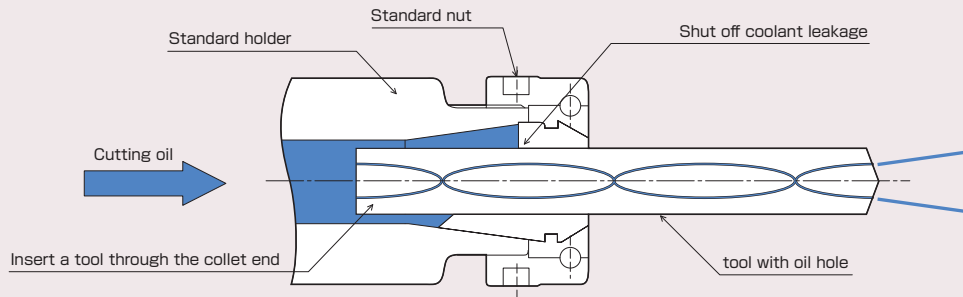
Through-the-tool coolant

For coolant thru the tool application.

High pressure up to 7 Mpa is acceptable.

A set of standard holder and nut can realize through the tool coolant.

Short slit on the collet shut off leakage of coolant.



POINT

5

2

Nut and Adjust screw



Ball bearings are used to reduce friction.

Trapezoidal thread is used for higher accuracy.



Two pieces structure is used to reduce run out caused by set off cutting tool.

Adjustment is projection length of the cutting tool from holder shank side. It is available for tang shape cutting tools.

POINT

6

9

Special coating

Holder does not rust due to special rust proof treatment on full surface. (BT, ST shank only)



DIMENSIONS

HSK ▶ P.40,41 | SK ▶ P.42-44 | BT ▶ P.45-47 | ST ▶ P.48

SYNCHRO TAP HOLDER MODEL SYFN, SYFS



INFINITESIMAL FLOATING SYNCHRONIZED TAP HOLDER

Screw is processed by self propulsion of 1 pitch per 1 revolution, so it is difficult to assure the constant preciousness of thread (angle) and life of tools without 100 % synchronized tapping. and life of tool unless synchronized. Preciousness of thread require gauge, but unless angle and roundness are not guaranteed, we could not call it a first or second class thread. As machine tool and tap both can not avoid tolerance on manufacturing, it is impossible to guarantee 100%, so the tap holder with minimum expansion and radial float structure is required. So the tap holder with minimum expansion and radial float structure is required.

POINT

1

Compensates for synchronous error

It compensates for synchronous error not only axially, but also to extend tap life. Infinitesimal radial error caused by machining can be corrected by the original mechanism.

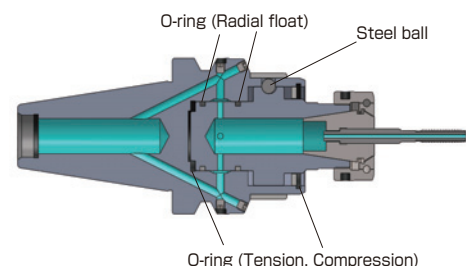
POINT

2

Structure

Maintenance is not needed by using durable O-ring. Since through-the-tool coolant and also along-side-the cutter coolant can be applicable, standard tap is available as well.

Maximum coolant pressure of
SYFN : 7 Mpa is applicable.
SYFS : 5 Mpa is applicable.



POINT

3

Tap holder for small diameter

Tap holder for small diameter doesn't clamp tap by collet, but clamps tap directly, and this makes it possible to avoid breakage of M1, M1.6 and M2, too.



Acceptable tap size

HOLDER	COLLET	JIS TAP SIZE
SYFS02	—	M1、M1.6、M2、No3、No4
SYFS03	—	M3、No5、No6
SYFN12	CR13GB/GH	M4~M12、No8~U1/2、P1/8
SYFN20	CR20GB/GH	M4~M20、U5/16~U5/8、P1/8~P3/8



Machining Performance

Test cut and compare with the effect by SYFN holder and collet chuck holder under the same program

Difference when processing resin materials

Left: The precision of the thread is good by the synchronized tap holder SYFN type, and transparency is high because the burden to cutter is reduced.

Right: Transparency is bad because thread being pulled off by fixed holder(Collet chuck).

With the Synchro Tap infinitesimal float is used, increasing the degree of transparency, thereby illustrating the accuracy of threads are improved.



Left: SYFN Right: Collet chuck

Difference when small diameter tap processing

Workpiece	R6-block	
Materials	Aluminum	
Holder	BT30-EDC06-090	BT30-SYFS02-095
Cutting tool	M1.6×0.35 Tap	
Cutting condition	N=260min-1	F=910min/min
Result (life-time)	Change after approximately 200 holes(need re-abration)	Change after approximately 400 holes(need re-abration)
Effect	Improve tool life (approximately 2 times)	

COLLET CHUCK (SLIM TYPE)

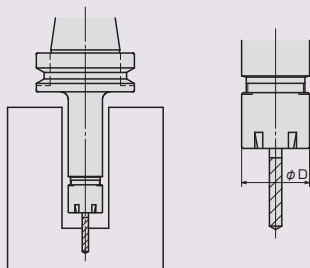
By a supper slim body,
it minimizes the interference of work & jig.



POINT

1

Super slim nut and body diameter.



CODE	øD	CHUCK
ER11MN	16	SSC07
ER16MN	22	SSC10
ER20MN	28	SSC13
ER25MN	35	SYFN16S

POINT

2

Wide use collet

Standard 16° (DIN6499/ISO15488) taper collet, the most popular in world.

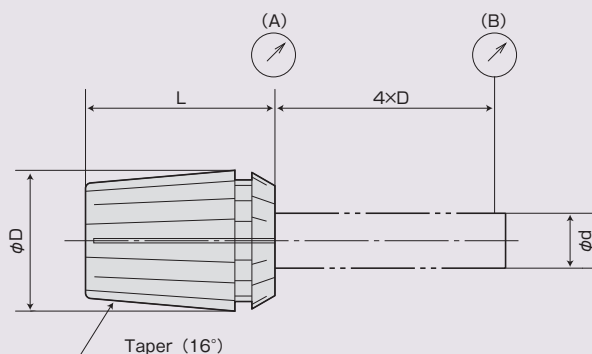
①Smallest diameter is 0.5mm.

CHUCK	COLLET I.D.(mm)	GRIPPING RANGE(mm)
SSC07	ø1~ø7	0.5
SSC10	ø1~ø3	0.5
	ø4~ø10	1.0
SSC13	ø1~ø3	0.5
	ø4~ø13	1.0
SYFN16S	ø1.5~ø3	0.5
	ø4~ø16	1.0



②High accuracy collets are used.

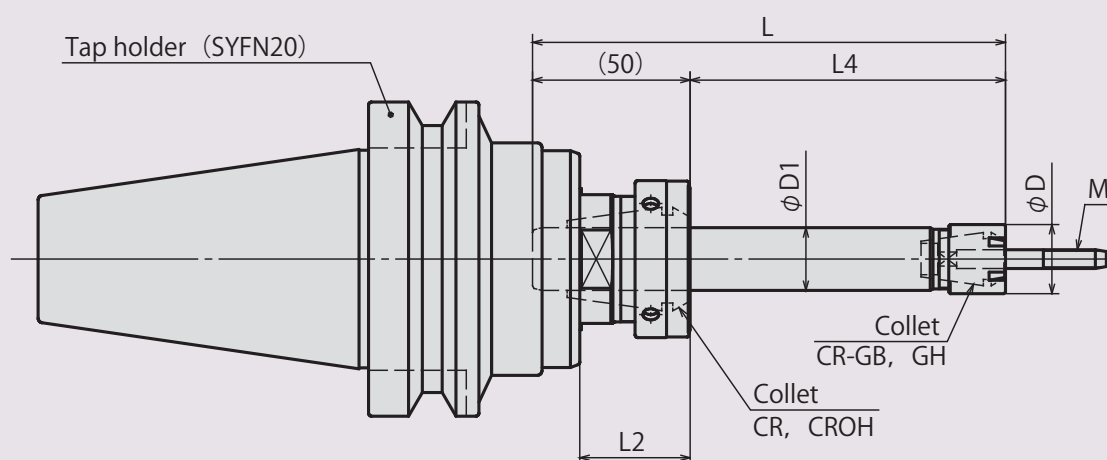
③The Collet is made of quality alloy steel which minimizes strain and wear.



GRADE	Runout	
	NOSE	4D POINT
AA	1μm	3μm

Long adapter for synchronized tap holder (COLLET CHUCK SLIM TYPE)

It is possible to use it as a long adapter by chucking it with Synchro Tap Holder SYFN20 type.



MODEL	ϕD	$\phi D1$	L4	M
ST16-SSC07-L	16	16	50, 100 150	M6
ST20-SSC10-L	22	20	50, 100 150, 200	M10
ST20-SSC13-L	28	20	100 150	M12

MODEL	ϕD	$\phi D1$	L2	M
SYFN16S-L2	35	—	35,65 95,125,155	M16

When it is necessary to dig a deeper hole for tap processing of M14-M16, it is possible to use by tap holder SYFN16S type without long adopter.

It is available as a long adopter for small diameter drill processing

TRACTION DRIVE SPEED ACCELERATOR

Full-functions in a compact body.



POINT

1

Basic principle

- ① Power of the traction drive is transmitted by the rolling contact mechanism via oil film of traction grease characterized by high viscosity at high pressures.
- ② Contact pressure P is created at each contact surface on planetary rollers, a sun roller and a stationary housing, which are assembled with elastic deformation.
By this pressure, the oil films changes to high viscosity one (only when contact pressure P is imposed) so that the power can be transmitted at the roller contact area.
- ③ The traction force T is formulated by Equation (1).

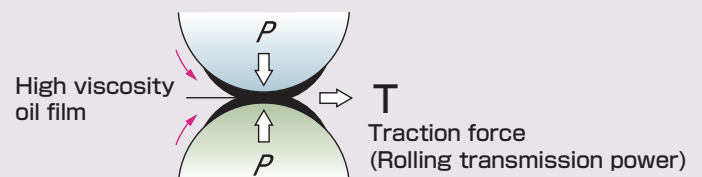
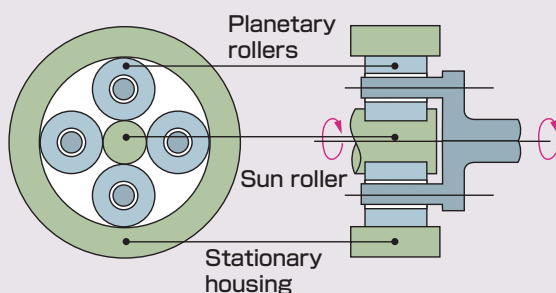
$$T = \mu P \dots\dots\dots(1)$$

where, μ : Traction coefficient, P : Contact pressure

- ④ This unit is a speed increasing device which the revolution of the planetary roller is used for input side and the rotation of the sun roller is output side.
The speed increasing ratio is formulated by Equation (2).

$$n = 1 + \frac{D}{d} \dots\dots\dots(2)$$

where, D : Bore diameter of stationary housing
 d : Outside diameter of sun roller



Features

Positioning Block

(Optional for use on M/C)
The positioning block and pin mechanism supplies coolant to the tool.

Positioning Pin

"One-touch" adjustment, with in a height range of 40mm. **PAT.P**

Nut

The balance adjustment is already made in the factory.

Orientation Ring

The fitting position of a positioning block differs among machining centers. The position can be adjusted by rotating the orientation ring within 360°.

Coolant Nozzle

The angle adjustment of the coolant nozzle can be made easily by hand.
The spray angle of the coolant is adjusted to match the inserted cutter length.

Collet

Only a under super precision collet, runout within 3 microns, should be used.
Various sizes can be supplied by mm unit.
Please order sizes to match the shanks of tools to be used.

**More widely usable,
due to its adaptability to a
great variety of M/C spindles.**

Cutters

A drill, end mill and grinding wheel with a straight shank can be applied.

Grinding
wheel

End mill

Drill

ATC-Ready

Compact and light, the TDU is ready for ATC... with no extra attachments necessary.

Low Vibration

The Traction Drive Unit is particularly smooth-running, and without noise vibration, it even makes grinding possible on your M/C.

Transmission Power

A stable torque transmission produced stable rpm, unlike air motor speed accelerators.

High Speed

Since the traction drive is run by a transmission mechanism based on rolling contact, high lubrication can be maintained even at high speed rotation.

The uses of ceramic bearings and through-body coolant are incorporated to ensure reliable, long-lasting high speed operation.

A complete series supports a full range of applications.

TDU40

Super rigid Type

3.4×Spindle rev. Max.12,000rpm



Processing Example [Recessing]

Workpiece : Aluminum alloy
Tool : Two blades carbide end mill $\phi 16$
Speed : 12,000rpm
depth : 5mm
Feed : 1000mm/min

TDU17-N

Standard Type

6×Spindle rev. Max.30,000rpm



Processing Example [Recessing]

Workpiece : Aluminum alloy
Tool : Two blades carbide end mill $\phi 4$
Speed : 28,000rpm
depth : 2mm
Feed : 1,000mm/min

	Super rigid type	Standard type
Type	TDU40	TDU17-N
Speed increasing ratio	3.4×	6×
Speed (rpm) (min ⁻¹)	MAX. 12,000	MAX. 30,000
Output torque (Nm)	7	1
Output power (kW) ^{*1}	8.8	3.1
Taper ^{*2}	BT50	BT40 / BT50
Tool grip diameter (mm)	$\phi 1.5 \sim 20$	$\phi 0.5 \sim 10$
Net weight (kgW)	11.5	5.4 / 7.9

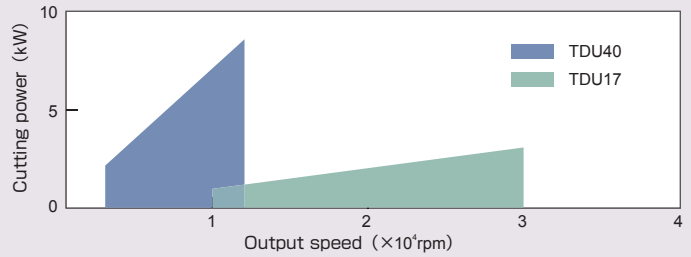
*1 Max. output for each max. speed.

*2 Other tapers are also available:
SK40,CV40,HSK63 equivalent to BT40.
SK50,CV50,HSK100 equivalent to BT50.

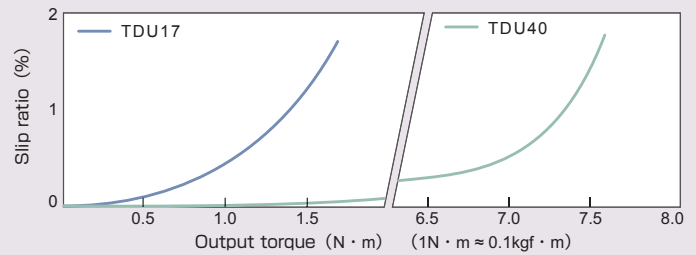
Warranted total running time : 2,000hrs
Period of warranted : One year

Covering a wide application range...

1 Application range



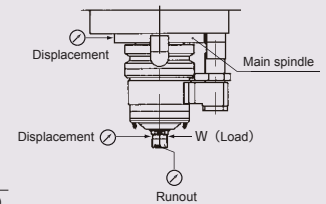
2 Torque transmission characteristics



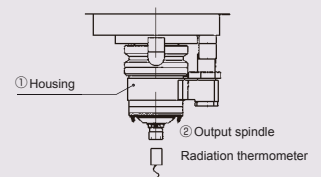
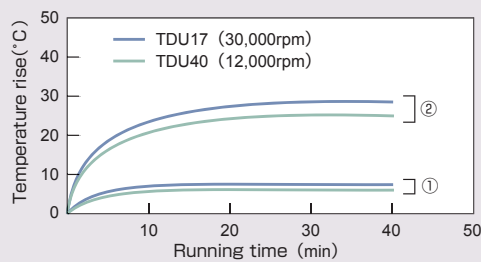
3 Runout and Bending rigidity

Type	Runout (μm) *1	Bending rigidity ($\text{N}/\mu\text{m}$) *2
TDU40	≤ 5	$30 \leq$
TDU17	≤ 5	$10 \leq$

*1) : Runout of main spindle *2) : Bending rigidity = $\frac{W}{(\text{Displacement} 2) - \text{Displacement} 1)}$
(1 $\text{N}/\mu\text{m} \approx 0.1 \text{ kgf}/\mu\text{m}$)

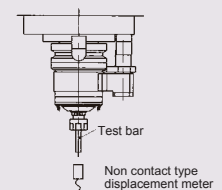
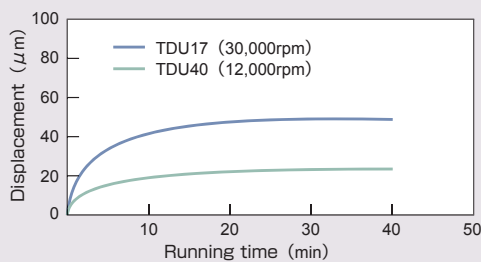


4 Temperature rise (Temperature-Coolant temperature)



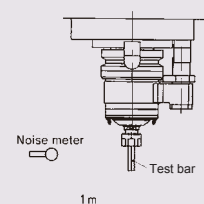
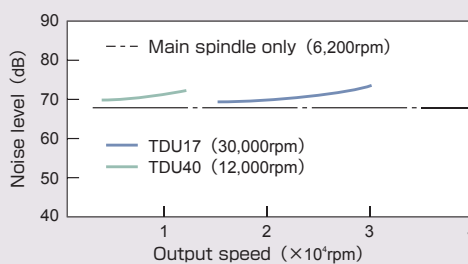
Coolant pressure : 200kPa (2kgf/f)
Coolant temperature : 20:
Room temperature : 20:
(Coolant amount : 15R/X)

5 Axial displacement



Coolant pressure : 200kPa (2kgf/f)
Coolant temperature : 20:
Room temperature : 20:
(Coolant amount : 15R/X)

6 Noise level



HY-DUAL CHUCK

PAT.

TOOL HOLDER FOR DIFFICULT
TO MACHINE MATERIALS



POINT

1

Dual-clamping method

Dual chucking by Hydraulic & Mechanical Only high rigidity & high clamping power can prevent the end mill from being pull-out and can prevent chattering.

SHOWA has solved the so-called "wooden pestel phenomenon" which causes the pulling out of end mill, by clamping the cutting tool's shank nose & shank end.

"Vibration" caused by chattering is removed by the attenuation mechanism of hydraulic and spring.

POINT

2

Structure

Simple chucking by a single motion to be made by SHOWA (Japanese and American patent acquisition finished)

SHOWA present one action, easy chucking(Patent acquired in Japan and USA)

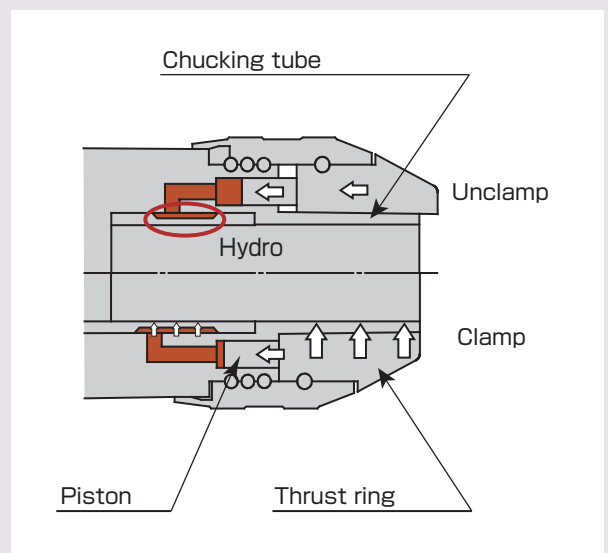
①Thrust rilg is plled down.

②At the same time, the piston is being pressed down.

③Chucking tube shrink.

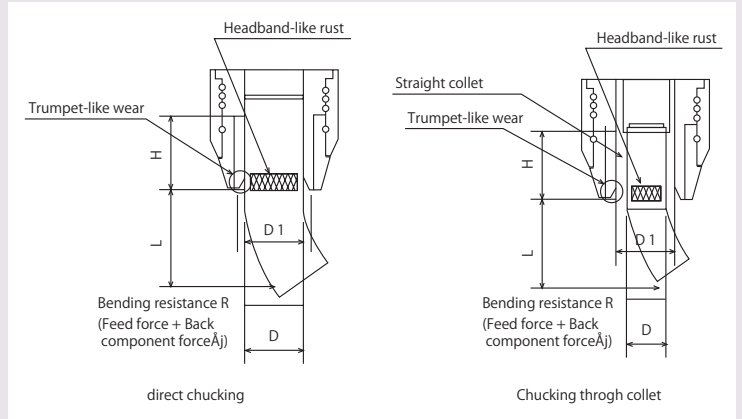
④At the same time, the hydraulic clamping is activated.

⑤Clamping is complete.



"Wooden pestel phenomenon"

A tool, while being deformed by a bending moment in the milling process, twists in the tool holder, the deformation occurs repeatedly by high pressure in a short stroke. (Bending moment: Bending resistance R (N) x tool protruding amount L (m)). The mouths of both the collet and the holder will expand and wear flare by this movement. These mouths are easily deformed by the principle of leverage, as the ratio below is increased. L (tool protruding amount) / H (tool gripping length). The material such as steel having a lower Young's modulus is more likely to deform than the carbide of the tool. A circumference difference [$e = \pi(D1 - D)$] occurs between the tool shank and the holder mouth because of abrasion expansion. The tool turns more than the holder and at the same time it starts pulling out little by little. In addition, debris generated in the worn area creates a rust ring and is adhered mainly to the shank. It is considered that, as measures, to reduce the bending moment is mainly common.



Machining Performance

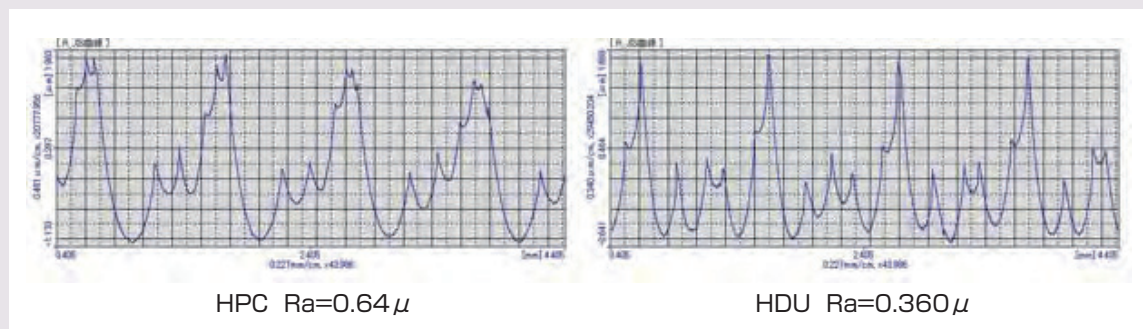
Test cut with Hy-Dual chuck and conventional milling chuck in the same program

Comparison of surface roughness

- Holder in use : BBT50-HDU20-100(HY-DUAL CHUCK)
BT50-HPC20-105(MICRON CHUCK)
- Cutting tool : Six flutes Cemented carbide endmill
- Work materials: SKD61
- Cutting condition

Ap	Ae	Rotational speed	Feeding rate	Tool projection
30mm	1mm	1900min ⁻¹	1920mm/min	55(L/D=2.75)mm

- Result: improvement of surface roughness was observed

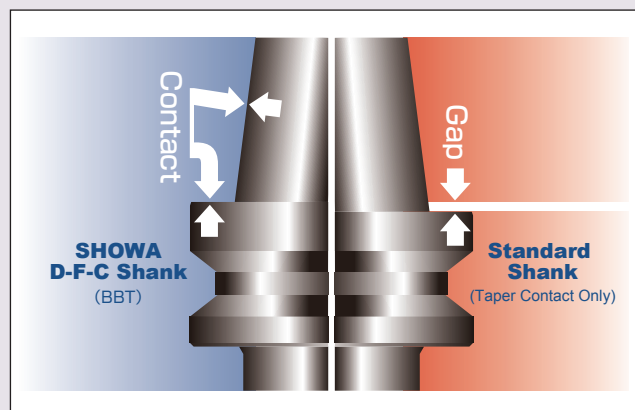


SHOWA D-F-C SYSTEM (BBT)

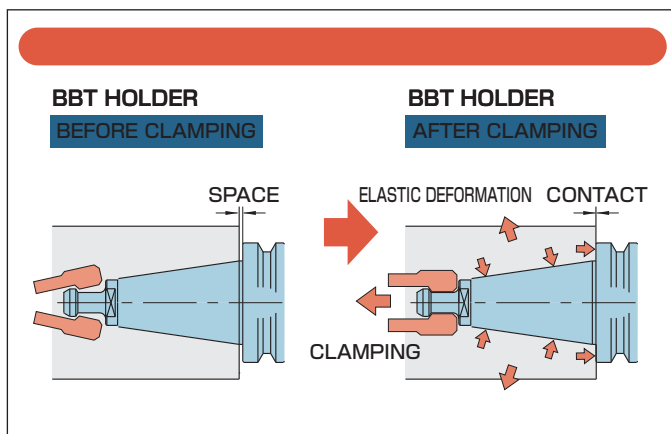


Merit with dual face contact system

- Improve preciseness of processing surface and dimension
- Extend life of cutting tools
- Control color change (fretting) on the taper side under heavy duty processing
- Improve repetition preciseness of ATC
- Stability for Z direction at the time of high-speed processing
- Improve of the roundness of the boring processing



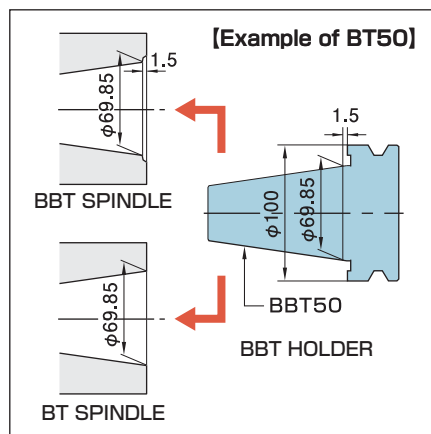
SHOWA BBT TOOL SYSTEM



The Showa BBTTool System offers simultaneous dual contact between the machine spindle face and toolholder flange face, as well as the machine spindle taper and long toolholder taper shank.

In case of SK, CAT, SPINDLE, call "BSK" or "BCV"

* BIG-PLUS system is Daishowa Seiki licensed products



[Reference value]

Spindle size	Clamping force	AXIAL MOVEMENT AMOUNT
#40	800kg	20μm
#50	2,000kg	20μm

* The value of the table is for reference only and axial movement amount depends on the clamping mechanism and spindle shape. (The numerical values in the machining center owned by the Company)

SHOWA SKM TOOL SYSTEM

TOOL HOLDERS
FOR MULTI-TASKING MACHINE



High rigidity

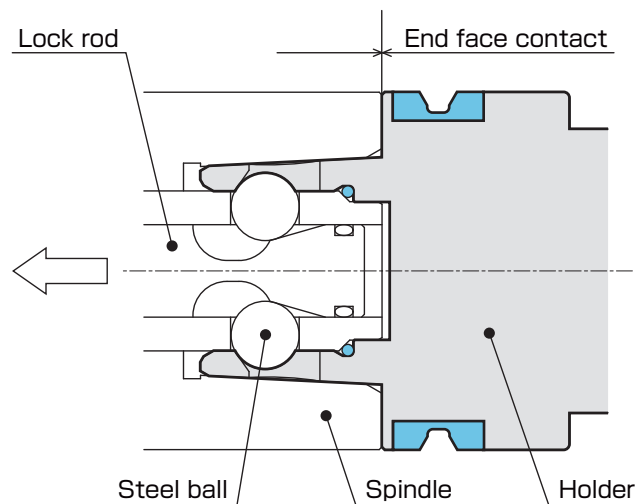
SKM's hollow shank is deliberately thin and flexible, so it expands more than the socket of spindle and tightens when rotating at high speed. As the drawbar retracts, it expands the collet and pulls the shank back into the socket, compressing the shank until the flange seats against the front of the socket. This provides a stiff, repeatable connection more than BT shank.

High-precision Machining

By a combination of axial clamping forces and taper-shank interference, positioning repeatability improves higher than BT shank, enabling high-precision machining.

High Speed Machining

There is no subduction in the high-speed machining because all from holder to clamp unit are in symmetrical shape.





NEW SUPER DRILL

Deep boring up to 15 times diameter !

High Reliability and Proven Performance

SUPER DRILL was put on the market by SHOWA TOOL CO. Since that time, it was continuously improved through in-the-field experiences. In response to customer's demands, NEW SUPER DRILL has been developed to increase its flexibility, employing a modular system. The basic set consists of a head and a shank. And, extension arbors are added for deeper holes. SUPER DRILL's ease-of-use is further enhanced by this modular construction.

POINT

1

Single Pass, precision boring of 50mm-270mm diameters

No center drilling or pilot hole required. Super Drill's built-in center drill acts as an axis for precision drilling. New Super drill is available in 10 standard head sizes, A1S-55, A2-65, B-80, C-100, D-120, E-150, F-180, G-210, H-240 and I-270, for drilling 50mm to 270mm diameters.

POINT

2

Specialty of deep hole drilling

Combination of roughing and finishing blades form small chips, providing efficient chip removal. No pecking or dwelling required, even for deep holes.

POINT

3

Able to drill even in hard metals

New Super Drill cutting blades are manufactured from sintered HSS, providing excellent drilling performance even in hard metals.



Reusable blades and center drill

The cutting edge of New Super Drill consists of a center drill, a roughing(R) blade and a finishing(S) blade. Different diameter of holes can be bored by changing blades within the capacity of each drill holder.

The blades and center drill can be resharpened which reduces tool cost.

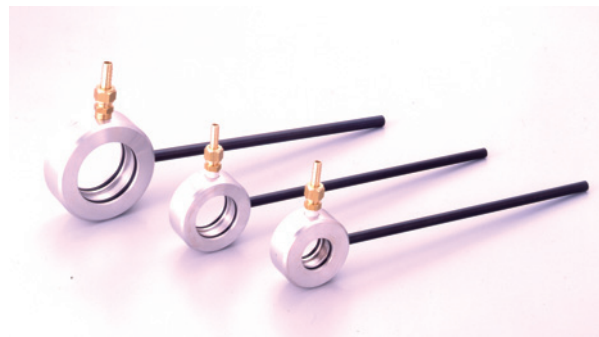


Re-sharpening fixture



A pair of roughing and finishing blades, can be resharpened utilizing the resharpening fixture on the surface grinder.

Oil ring



Oil ring is used to supply coolant through the drill in rotational applications.

T/C Guides(for through hole)



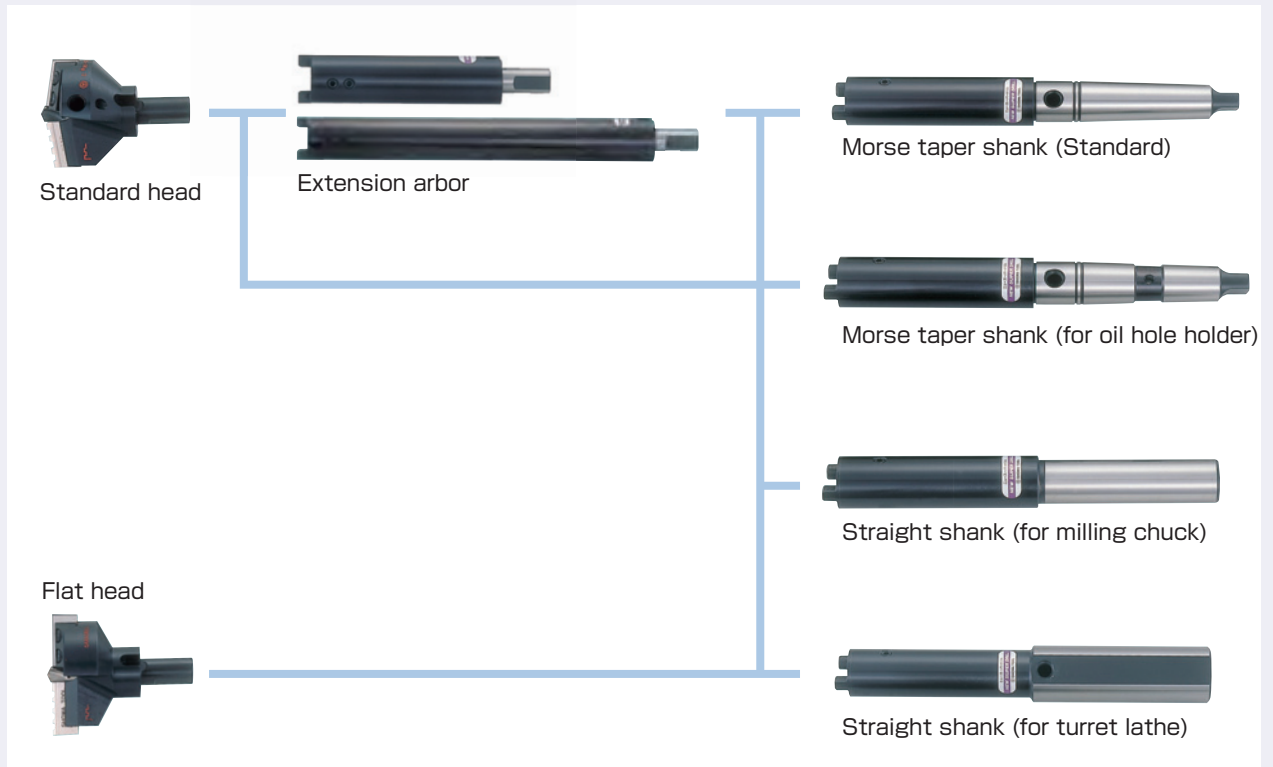
In case of through hole drilling, the drill may vibrate immediately before breaking through, depending on hole diameter, cutting speed and feed rate, and rigidity of the machine spindle. This can result in damage of the cutting blades. Using T/C guides when boring through holes will minimize vibration and help prevent tool damage.

Sharpening the blades



- ① "R" and "S" blades are ground to the same height.
- ② Both blades are ground in straight line. making first and second clearance.
- ③ Grind the center drill to the point angle of 140° with thinning.

Easy Assembly, Flexible for Various Applications



Assembly

New Super Drill's cutting edge consists of three cutters a roughing(R) blade, a finishing(S) blade and a center drill.

This combination of cutters gives outstanding drilling efficiency.

■ Procedure



- ① Insert the center drill in the center of the head.
- ② Clamp the roughing(R) blade in the seat marked with . The inside edge of the roughing blade must contact tightly against the side slot of the center drill, to prevent the center drill turning free.
- ③ Clamp the finishing(S) blade in the seat marked S.
- ④ Finally, tighten the center drill setting screw.

Guide Values for New Super Drill

Speed (min⁻¹) Feed (mm/rev.)

Material	DIN	42CrMo4		CK35-55				ST												
	USA	4140				1025		D		W1-10		D2		40-50				ALUMINUM		
	JIS	SCM440		S35C-55C		S25C		SS		SK3		SKD11		FC25-40		SUS27				
Dia.		Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	
50-60		160-180	0.1 0.15	160-180	0.1 0.15	190-210	0.1 0.15	210-240	0.1 0.18	80-90		70-80		140-150	0.15 0.25	75-90	0.06 0.12	450-500	0.15 0.25	
60-70		140-160	0.1 0.18	150-160		170-190	0.1 0.18	190-210	0.08 0.15	80-85		55-70		0.06 0.1	120-140	0.15 0.35	60-75	0.06 0.13	400-450	0.15 0.35
70-80		110-140		120-140		155-170		170-190		70-80		50-55			100-120		55-70		350-400	
80-90		100-120		110-120		140-155		155-170		60-70	45-50	90-100	50-60		300-350					
90-100		90-110		100-110		125-140		140-155		55-60	40-50	80-90	45-50		300-330					
100-110		80-100		90-100		110-125		130-140		50-55	35-40	70-80	40-45		280-300					
110-120		70-90		80-90		100-110		120-130		45-50	30-35	65-70	35-40		250-290					
120-130		70-80		70-80		90-100		105-120		40-45	30-35	60-65	30-35		230-250					
130-140		65-70	0.06 0.12	65-70		80-90	0.06 0.15	90-100	0.06 0.15	35-40		25-30	0.05 0.1	50-60	0.10 0.25	25-30	0.06 0.12	200-230	0.15 0.2	
140-150		50-60		50-60		75-80		80-90		30-35		25-30		40-50		20-30		180-200		
150-160		50-60		50-60		70-75		75-85		25-35		20-25		35-45		20-25		170-180		
160-170		50-60		50-60		65-70		70-80		25-30		20-25		35-45		15-25		160-170		
170-180		45-50		45-50		60-65		65-75		25-30		20-25		35-40		15-25		150-160		
180-190		45-50		45-50		60-65		60-70		20-30		20-25		30-40		15-25		140-150		
190-200		40-45		45-50		55-60		60-65		20-25		15-20		30-40		15-20		135-140		
200-210		40-45		40-45		55-60		55-65		20-25		15-20		30-35		10-20		130-135		
210-220		40-45		40-45		50-55		55-60		15-25		15-20		25-35		10-20		120-130		
220-230		35-40		40-45		50-55		50-60		15-20		15-20		25-35		10-20		115-120		
230-240		35-40	35-40	45-50	50-55	15-20	15-20	25-30	10-20	110-115										
240-250		30-35	35-40	45-50	45-55	15-20	15-20	25-30	10-20	105-110										
250-260		30-35	30-35	45-50	45-50	15-20	15-20	20-25	10-20	100-110										
260-270		30-35	30-35	40-45	40-50	15-20	10-15	20-25	10-15	100-110										

NOTE : Reduce drill speed by 30%~50% in case of quenched and tempered Chromoly, structural steel, etc. depending on their hardness.

New Super Drill Drilling Data

Item	Nominal Dia. (mm)	Speed (min ⁻¹)	Material Cut.speed Feed			S50C 20m/min 0.15
			Cut.torque (kN·m)	Cut.power (kW)	Thrust force (kN)	
A1-50~55	50	127	0.17	2.2	4.8	
	55	116	0.20	2.3	5.2	
A2-55~65	60	106	0.23	2.5	5.6	
	65	98	0.26	2.6	6.0	
B-65~80	70	91	0.30	2.8	6.4	
	75	85	0.33	2.9	6.8	
C-80~100	80	80	0.37	3.1	7.2	
	85	75	0.41	3.2	7.5	
D-100~120	90	71	0.46	3.4	7.9	
	95	67	0.50	3.5	8.3	
E-120~150	100	64	0.55	3.6	8.6	
	105	61	0.60	3.8	9.0	
F-150~180	110	58	0.64	3.9	9.3	
	115	55	0.70	4.0	9.7	
G-180~210	120	53	0.75	4.2	10.0	
	125	51	0.80	4.3	10.4	
H-210~240	130	49	0.86	4.4	10.7	
	135	47	0.92	4.6	11.1	
I-240~270	140	45	0.97	4.7	11.4	
	145	44	1.03	4.8	11.8	
J-270~300	150	42	1.10	4.9	12.1	
	155	41	1.16	5.0	12.4	
K-300~330	160	40	1.22	5.2	12.8	
	165	39	1.29	5.3	13.1	
L-330~360	170	37	1.36	5.4	13.4	
	175	36	1.43	5.5	13.7	
M-360~390	180	35	1.50	5.6	14.1	

NOTE : The above values are not ones measured in actual drilling. It is recommended to use New Super Drill on a machine having 50% or more bigger capacity than these values for efficient drilling.



Cutter shank diameter should be h7 or better.

FIG.1

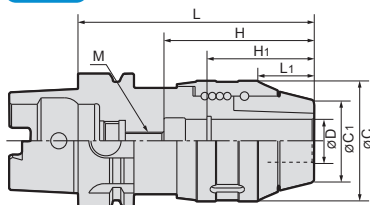


FIG.2

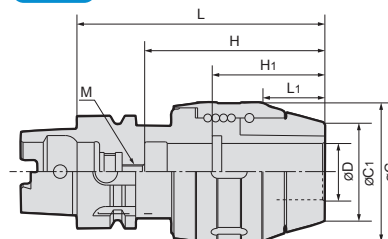
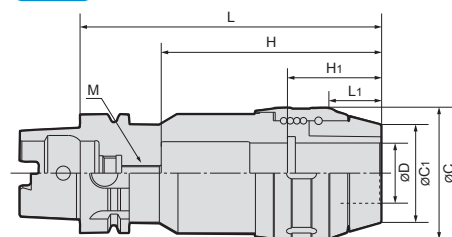


FIG.3



CODE		A	AA	FIG	φD	L	L1	φC	φC1	Max tool insert length H	H1	min tool insert length		Adjust min/max	M	N/W (Kg)										
												ST	CT													
Max. 10,000 min ⁻¹																										
HSKA50	HPC16 -110	○	○	2	16	110	26	56	34	75	50	40	51	57~67	M6	1.4										
	HPC20 -110	○	○		20							45														
	HPC25 -115	○	○		25							50			M6		1.7									
	HPC32 -120	△	△		32							55						2.1								
Max. 10,000 min ⁻¹																										
HSKA63	HPC16 -110	○	○	1	16	110	26	56	34	75	50	40	51	59~67	M8	1.9										
	HPC20 -110	○	○		20							45				1.8										
	HPC25 -115	○	○		25							50				2.0										
	HPC32 -120	○	○	2	32	120	27.5	70	52	85	53	55	55	64~72		2.1										
	HPC32 -160	○	○											96~104		2.9										
	HPC42 -160	△	△	3	42	160	30.5	82	62	100	57	60	60	67~87		3.8										
Max. 8,000 min ⁻¹																										
HSKA100	HPC16 -110	○	○	1	16	110	26	56	34	70	50	40	51	59~65	M12	3.0										
	HPC20 -110	○	○		20							45				2.9										
	HPC25 -115	○	○		25							115				135	27.5	62	44	80	50	63~65	3.2			
	HPC25 -135	○	○																				90	73~80	3.3	
	HPC32 -120	○	○	3	32	120	27.5	70	52	80	53	55	55	63~70		3.4										
	HPC32 -165	○	○											165		100~107	4.6									
	HPC42 -135	○	○											1		42	135	30.5	82	62	95	57	60	60	78~85	3.8
	HPC42 -165	○	○											3		165	105~112								4.8	

△ : Mark tools are manufactured to order.

NOTE : 1. Coolant pipe is included.

2. Chuck wrench and adjust screw are sold separately.

3. Insert the O-ring included in the box to the groove of the ID for thru-the-tool use.

4. The above-mentioned maximum speed will vary depending rigidity of the machine and balance of cutter. An adequate cutting condition should be selected for each case.

ORDERING EXAMPLE

① HSKA50 - ② HPC ③ 16 - ④ 110 ⑤ A

① Shank Size

② Holder's Name

③ Cutter's Shank Dia. φD

④ G.L. Length

⑤ Grade



ACCESSORIES

➔ P.68 STRAIGHT COLLETS



ACCESSORIES

➔ P.76,78 ADJUST SCREW, CHUCK WRENCH

FIG.1

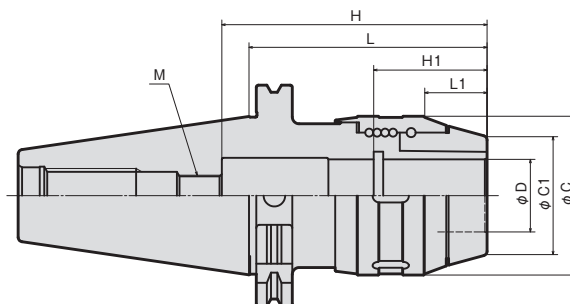
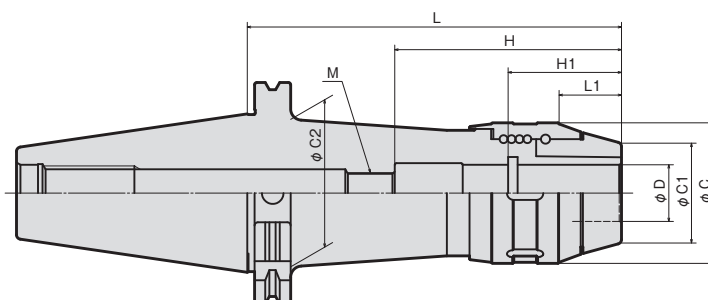


FIG.2



Cutter shank diameter should be h7 or better.

MODEL		A	AA	FIG	φD	L	H	φC	φC1	φC2	L1	H2	M	N/W(kg)	
Max 10,000mm ⁻¹															
SK30	HPC16-105	○	○	1	16	105	85	56	34	—	26	50	M10	1.4	
	HPC20-105	○	○		20				38					1.3	
Max 10,000mm ⁻¹															
SK40	HPC16-105	○	○	1	16	105	85	56	34	—	26	50	M10	1.8	
	HPC20-105	○	○		20				38					1.7	
	HPC25-105	○	○		25	135	100	62	44		27.5	53	M18	2.0	
	HPC25-135	○	○											2.5	
	HPC32-105	○	○		32	105	70	52	2.2						
	HPC32-135	○	○						135					117	2.5
Max 8,000mm ⁻¹															
SK50	HPC16-105	○	○	1	16	105	85	56	34	—	26	50	M10	4.4	
	HPC20-105	○	○		20				38					4.3	
	HPC20-135	○	○	2	20	135	100	62	44	57	27.5	35	M18	4.7	
	HPC25-105	○	○	1	25	105				—				4.4	
	HPC25-135	○	○	2	25	135				62				4.8	
	HPC25-165	○	○		165	65				5.7					
	HPC32-105	○	○	1	32	105	117	70	52	—				70	4.4
	HPC32-135	○	○												135
	HPC32-165	○	○	2	165	5.6									
	HPC42-110	○	○	1	42	110	122	82	62	—	30.5	57		4.6	
	HPC42-135	○	○											135	5.3
	HPC42-165	○	○	2	165	6.2									

Note1: Chuck wrench and adjust screw are sold separately.

Note2: Insert the O-ring included the box to the groove of the ID for thru-the-tool application.



ACCESSORIES

P.68 STRAIGHT COLLETS



ACCESSORIES

P.76,78 ADJUST SCREW, CHUCK WRENCH

▶▶▶ Thru-the-tool Coolant Available

▶▶▶ Thru-the-groove Coolant Available

▶▶▶ BBT Available


Sstandard

FIG.1

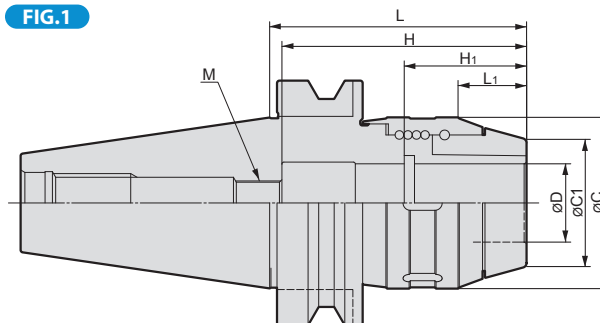


FIG.2

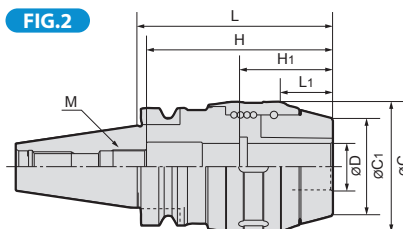
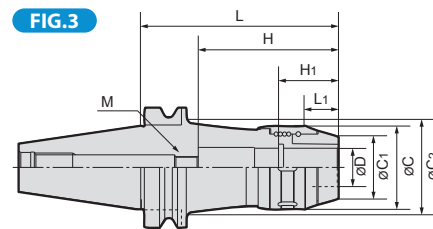


FIG.3



Cutter shank diameter should be h7 or better.

MODEL			A	AA	BBT	Fig	øD	L	L1	øC	øC1	H	H1	Min tool insert length		Adjust min/max	M	N/W (kg)		
														ST	CT					
Max. 10,000 min ⁻¹																				
BT30 (BBT30)	HPC16-	100	○	○	○	2	16	100	26	56	34	85	50	40	51	70~80	M10	1.4		
	HPC20-	100	○	○	○		20		27.5	62	38	45	1.3							
	HPC25-	100	△	△	△		25			44	50	57~70	M18	1.6						
	HPC32-	105	△	△	△		32	105	70	52	80	53	55	55	1.9					
Max. 10,000 min ⁻¹																				
BT40 (BBT40)	HPC16-	090	○	○	○	1	16	90	26	56	34	85	50	40	51	70~80	M10	1.8		
		120	△	△	△			120		38	85		50	45				51	2.2	
	HPC20-	090	○	○	○		20	90												1.7
		120	△	△	△			120												2.1
	HPC25-	105	○	○	○	25	105	27.5	62	44	100	50	77~90	M18	2					
		135	△	△	△					135					2.5					
	HPC32-	105	○	○	○	2	32			105	70	52	117		53	55	94~107	2.2		
		135	△	△	△					135		2.5								
	HPC42-	135	△	△	△			42	135	30.5	82	62	100		57	60	60	77~90	3.5	

MODEL		A	AA	BBT	Fig	øD	L	L1	øC	øC1	øC2	H	H1	Min tool insert length		Adjust min/max	M	N/W (kg)	
		ST	CT																
Max. 8,000 min ⁻¹																			
BT50 (BBT50)	HPC16-	105	○	○	○	1	16	105	26	56	34	—	85	50	40	51	70~80	M10	4.4
		135	△	△	△	3		135				57							4.7
		165	△	△	△	3		165				62							5.5
	HPC20-	105	○	○	○	1	20	105	26	56	38	—	85	50	45	51	70~80	M10	4.3
		135	△	△	△	3		135				57							4.7
		165	○	○	△	3		165				62							5.5
	HPC25-	105	○	○	○	1	25	105	26	62	44	—	100	50	50	51	77~90	M18	4.4
		135	△	△	△	3		135				62							4.8
		165	○	○	△	3		165				72							5.7
		200	△	△	△	3		200				—							6.6
		250	△注4	—	△	3		250				—							7.8
	HPC32-	105	○	○	○	1	32	105	27.5	70	52	—	117	53	55	55	94~107	M18	4.4
		135	△	△	△	3		135				70							5
		165	○	○	△	3		165				75							5.6
		200	△	△	△	3		200				—							7.2
		250	△注4	—	△	3		250				—							8.6
		300	△注4	—	△	3		300				—							10.3
	HPC42-	110	○	○	○	1	42	110	30.5	82	62	80	122	57	60	60	99~112	M18	4.6
		135	△	△	△	3		135				82							5.3
		165	○	○	△	3		165				82							6.2
		200	△	△	—	3		200				82							8.3

△ : Mark tools are manufactured to order.

NOTE : 1. Chuck wrench and adjust screw are sold separately.

2. Insert the O-ring included in the box to the groove of the ID for thru-the-tool use.

3. The above-mentioned maximum speed will vary depending rigidity of the machine and balance of cutter.

An adequate cutting condition should be selected for each case.

4. Runouts of the items with more than zoomin of L dimentions are 5μm at chuck nose and 8μm at 3D point.

ORDERING EXAMPLE

①	②	③	④	⑤
BT30	-	HPC	16	- 100 A
① Shank Size				
② Holder's Name				
③ Cutter's Shank Dia. øD				
④ G.L. Length				
⑤ Grade				



ACCESSORIES

➡ **P.68** STRAIGHT COLLETS



ACCESSORIES

➡ **P.76-78** ADJUST SCREW, CHUCK WRENCH



FIG.1

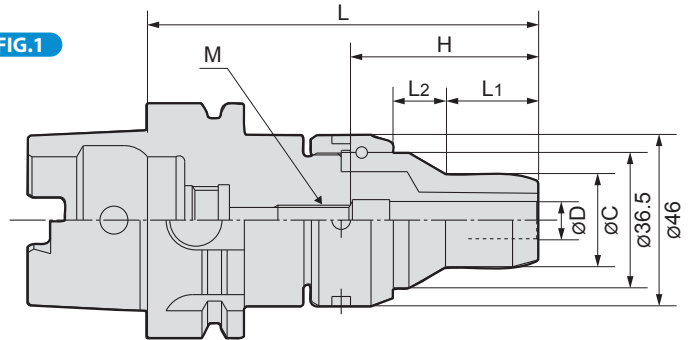
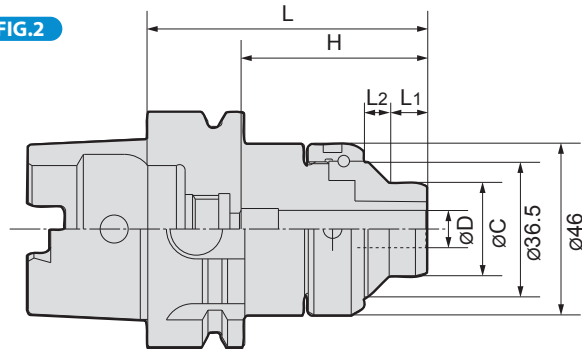


FIG.2



Note : When HPC03H, HPC04H and HPC05H is used through the groove coolant or through the tool coolant usage, please keep the coolant pressure within 1MPa and under.
In case those 3 kinds of tools are used in through the tool coolant at over 1MPa pressure, it requires special adjustment according to its pressure, need additional cost, please contact Showa distributor.

Cutter shank diameter should be h7 or better.

MODEL		A	AA	GType	FIG	φD	L	L1	L2	φC	H	Min insert length	Adjust		Adjust screw M	ST	CT	N/W (Kg)																				
													MIN	MAX																								
Max. 20,000 min ⁻¹ (G Type:Max. 30,000 min ⁻¹)																																						
HSKA50	HPC03H	075	○	○	○	2	3	75	10.3	6.7	25	55	15	-	-	-	○	○additional work	0.9																			
		105	○	○	○	1		105	25	14		85					○	○additional work	1.2																			
	HPC04H	075	○	○	○	2	4	75	10.3	6.7		55					37.5	23	28	37	AS17-2-M5-CTW	○	○additional work	0.9														
		105	○	○	○	1		105	25	14		85										○	○additional work	1.2														
	HPC05H	075	△	△	△	2	5	75	10.3	6.7		55										50	35	35	50	AS22-2-M6-CTW	○	○additional work	0.9									
		105	△	△	△	1		105	25	14		85															○	○additional work	1.2									
	HPC06H	075	○	○	○	2	6	75	10.3	6.7		37.5	30	30	30	AS17-2-M6-CTW											○at cost	○	0.9									
		105	○	○	○	1		105	25	14		30															30	○at cost	○	1.2								
	HPC07H	075	△	△	△	2	7	75	10.3	6.7		23					23	-	-	-	AS22-2-M6-CTW						○at cost	○	0.9									
		105	△	△	△	1		105	25	14		30															30	○at cost	○	1.2								
	HPC08H	075	○	○	○	2	8	75	10.3	6.7		50										23	-	-	-	AS22-2-M6-CTW	○at cost	○	0.9									
		105	○	○	○	1		105	25	14		35															35	50	○at cost	○	1.2							
	HPC09H	075	△	△	△	2	9	75	10.3	6.7		23	35	-	-	-											AS22-2-M6-CTW	○at cost	○	0.9								
		105	△	△	△	1		105	25	14		35																35	50	○at cost	○	1.2						
	HPC10H	075	○	○	○	2	10	75	10.3	6.7		23					35	-	-	-	AS22-2-M6-CTW							○at cost	○	0.9								
		105	○	○	○	1		105	25	14		35																35	50	○at cost	○	1.2						
	HPC11H	075	△	△	△	2	11	75	12.2	4.8		25										55	40	-	-	AS22-2-M6-CTW		○at cost	○	0.9								
		105	△	△	△	1		105	25	14		40																40	55	○at cost	○	1.2						
	HPC12H	075	○	○	○	2	12	75	12.2	4.8		50	55	25	-	-											AS22-2-M6-CTW	○at cost	○	0.9								
		105	○	○	○	1																								○at cost	○	1.2						
	HPC13H	105	△	△	△	1	13	105	25	14		32					55	40	40	55	AS22-2-M6-CTW							○at cost	○	1								
		105	△	△	△																							14						○at cost	○	1		
	HPC14H	105	△	△	△																	15	14	105	25	14		60	45	60	AS22-2-M6-CTW	○at cost	○	1				
		105	△	△	△																											15						○at cost
	HPC15H	105	△	△	△								16	15	105	25											14					60	45	60	AS22-2-M6-CTW	○at cost	○	1
		105	△	△	△																															16		
	HPC16H	105	△	△	△	1	16	105	25	14	32	55					40	40	55	AS22-2-M6-CTW	○at cost															○	1	
105		△	△	△	17																																	

MODEL		A	AA	GType	FIG	φD	L	L1	L2	φC	H	Min insert length	Adjust		Adjust screw M	ST	CT	N/W (Kg)					
													MIN	MAX									
Max. 20,000 min ⁻¹ (G Type:Max. 30,000 min ⁻¹)																							
HSKA63	HPC03H	075	○	○	○	2	3	75	10.3	6.7	25	53	15	-	-	-	○	○additional work	1.2				
		105	○	○	○	1		105	25	14		83					○	○additional work	1.4				
		135	○	○	○	1		135	25	14		113					○	○additional work	1.9				
	HPC04H	075	○	○	○	2	4	75	10.3	6.7		53					○	○additional work	1.2				
		105	○	○	○	1		105	25	14		83					○	○additional work	1.4				
		135	○	○	○	1		135	25	14		113					○	○additional work	1.9				
	HPC05H	075	△	△	△	2	5	75	10.3	6.7		53					○	○additional work	1.2				
		105	△	△	△	1		105	25	14		83					○	○additional work	1.4				
		135	△	△	△	1		135	25	14		113					○	○additional work	1.9				
	HPC06H	075	○	○	○	2	6	75	10.3	6.7		37.5	23	25	35	AS17-2-M5-CTW	○at cost	○	1.2				
		105	○	○	○	1		105	25	14			30	30	37		○at cost	○	1.4				
		135	○	○	○	1		135	25	14			30	30	37		○at cost	○	1.9				
	HPC07H	075	△	△	△	2	7	75	10.3	6.7			23	25	35	AS17-2-M6-CTW	○at cost	○	1.2				
		105	△	△	△	1		105	25	14			30	30	37		○at cost	○	1.4				
		135	△	△	△	1		135	25	14			30	30	37		○at cost	○	1.9				
	HPC08H	075	○	○	○	2	8	75	10.3	6.7	25	53	23	-	-	-	○at cost	○	1.2				
		105	○	○	○	1		105	25	14		35	35	50	AS22-2-M6-CTW		○at cost	○	1.4				
		135	○	○	○	1		135	25	14		23	-	-	○at cost		○	1.9					
	HPC09H	075	△	△	△	2	9	75	10.3	6.7		50	23	-	-	-	○at cost	○	1.2				
		105	△	△	△	1		105	25	14			35	35	50		AS22-2-M8-CTW	○at cost	○	1.4			
		135	△	△	△	1		135	25	14			23	-	-		○at cost	○	1.9				
	HPC10H	075	○	○	○	2	10	75	10.3	6.7			35	23	-	-	-	○at cost	○	1.2			
		105	○	○	○	1		105	25	14				35	35	50		AS22-2-M8-CTW	○at cost	○	1.4		
		135	○	○	○	1		135	25	14				35	35	50		AS22-2-M8-CTW	○at cost	○	1.9		
	HPC11H	075	△	△	△	2	11	75	12.2	4.8		50		25	-	-	-	○at cost	○	1.2			
		105	△	△	△	1		105	25	14		55		40	40	55		AS22-2-M8-CTW	○at cost	○	1.4		
		135	△	△	△	1		135	25	14		50		25	-	-		○at cost	○	1.9			
	HPC12H	075	○	○	○	2	1	75	12.2	4.8	35	50	25	-	-	-	○at cost	○	1.2				
		105	○	○	○	12		105	25	14		55	40	40	55		AS22-2-M8-CTW	○at cost	○	1.4			
		135	○	○	○			105										○at cost	○	1.9			
	105	△	△	△	105			○at cost								○		1.5					
	HPC13H	135	△	△	△	13		135	25	14						55		40	40	55	AS22-2-M8-CTW	○at cost	○
105		△	△	△	105			○at cost														○	1.5
135		△	△	△	105			○at cost														○	1.7
HPC14H	105	△	△	△	14	105		25	14	60						58		60	58	AS25-2-M8-CTW	○at cost	○	1.5
	135	△	△	△		105															○at cost	○	1.7
	105	△	△	△		105	○at cost														○	1.5	
HPC15H	135	△	△	△	15	135	25	14	60			58	60	58	AS25-2-M8-CTW		○at cost				○	1.7	
	105	△	△	△		105											○at cost				○	1.5	
	135	△	△	△		105					○at cost						○				1.7		
HPC16H	105	△	△	△	16	105									○at cost	○	1.5						
Max. 12,000 min ⁻¹																							
HSKA100	HPC03H	110	○	○	-	3	1	110	25	14	25	81	15	-	-	-	○	○additional work	2.7				
	HPC04H	110	○	○	-	4						○	○additional work										
	HPC05H	110	△	△	-	5						○	○additional work										
	HPC06H	110	○	○	-	6						37.5	30	30	37		AS17-2-M5-CTW	○at cost		○			
	HPC07H	110	△	△	-	7												AS17-2-M6-CTW		○at cost	○		
	HPC08H	110	○	○	-	8														AS22-2-M6-CTW	○at cost	○	
	HPC09H	110	△	△	-	9															AS22-2-M8-CTW	○at cost	○
	HPC10H	110	○	○	-	10						○at cost	○										
	HPC11H	110	△	△	-	11					32	55	40	40	55	AS25-2-M10-CTW	○at cost	○	2.8				
	HPC12H	110	△	△	-	12											○at cost	○					
	HPC13H	110	△	△	-	13											○at cost	○					
	HPC14H	110	△	△	-	14											○at cost	○					
	HPC15H	110	△	△	-	15											○at cost	○					
	HPC16H	110	△	△	-	16											○at cost	○					

△ : Mark tools are manufactured to order.

- NOTE : 1. Each holder supplied with built-in coolant pipe. (Stationary type)
 2. Chuck wrench and adjust screw are sold separately.
 3. When the thru-the-coolant application is needed for HPC03H, HPC04, or HPC05, please instruct when ordering. "CT" will be marked for this application.
 4. The the thru-the-groove-coolant application for HPC06 or larger will be charged. Please instruct when ordering. "ST" will be marked for this application.
 5. The above-mentioned maximum speed will vary depending rigidity of the machine and balance of cutter.
 An adequate cutting condition should be selected for each case.
 6. Please feel free to ask us when need BBT shanks.

ORDERING EXAMPLE

①	②	③	④	⑤	⑥
HSKA50	-HPC	03	H	-075	A
① Shank Size					
② Holder's Name					
③ Cutter's Shank Dia. φD					
④ H series					
⑤ G.L. Length					
⑥ Grade					



ACCESSORIES

P.76 ADJUST SCREW



ACCESSORIES

P.78 CHUCK WRENCH

▶▶▶ Thru-the-tool Coolant Available (Option)

▶▶▶ Thru-the-groove Coolant Available

FIG.1

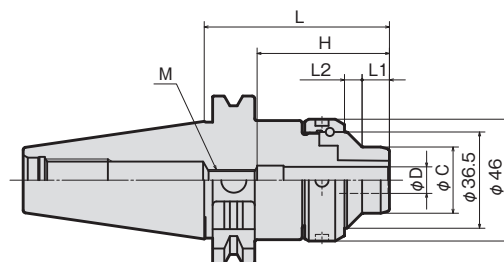
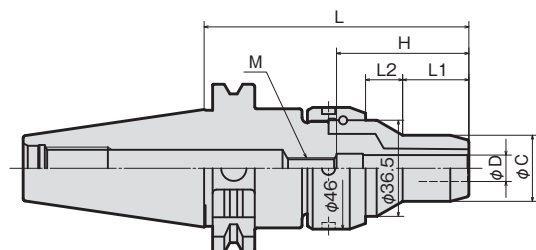


FIG.2



Cutter shank diameter should be h7 or better.

H-series

Note : When HPC03H, HPC04H and HPC05H is used through the groove coolant or through the tool coolant usage, please keep the coolant pressure within 1MPa and under.
In case those 3 kinds of tools are used in through the tool coolant at over 1MPa pressure, it requires special adjustment according to its pressure, need additional cost, please contact Showa distributor.

MODEL		A	AA	G	FIG	φD	L	L1	L2	H	φC	MINI.INS. LENGHT	ADJUST LENGTH		M (Ad.screw)	ST	CT	N/W(kg)						
													MIN	MAX										
SK30	HPC03H-070	○	○	○	1	3	70	10.3	6.2	15	25	15	—	—	—									
	HPC04H-070	○	○	○		4																		
	HPC06H-070	○	○	○		6				37.5		23	23	37	AS17-2-M5-CTW									
	HPC08H-070	○	○	○		8				50				49	AS22-2-M8-CTW									
	HPC10H-070	○	○	○		10																		
	HPC12H-070	○	○	○		12				12.2				4.8	55	32	25	25	54	AS25-2-M10-CTW				
SK40	HPC03H-070	○	○	○	1	3	70	10.3	6.7	15	25	15	—	—	—									
	HPC03H-100	○	○	○	2		100	25	14															
	HPC04H-070	○	○	○	1	4	70	10.3	6.7															
	HPC04H-100	○	○	○	2		100	25	14															
	HPC06H-070	○	○	○	1	6	70	10.3	6.7	37.5		23	23	37	AS17-2-M5-CTW									
	HPC06H-100	○	○	○	2		100	25	14			30	30											
	HPC08H-070	○	○	○	1	8	70	10.3	6.7			50	23						28	49	AS22-2-M8-CTW			
	HPC08H-100	○	○	○	2		100	25	14				35						35					
	HPC10H-070	○	○	○	1	10	70	10.3	6.7	23			28											
	HPC10H-100	○	○	○	2		100	25	14	35			35											
	HPC12H-070	○	○	○	1	12	70	10.3	6.7	55		32	25	33	54	AS25-2-M10-CTW								
	HPC12H-100	○	○	○	2		100	25	14				40	40										
SK50	HPC03H-100	○	○	—	2	3	100	25	14	15	25	15	—	—	—									
	HPC04H-100	○	○	—		4																		
	HPC06H-100	○	○	—		6				3.5		30	30	37	AS17-2-M5-CTW									
	HPC08H-100	○	○	—		8				50		35	35	49	AS22-2-M8-CTW									
	HPC10H-100	○	○	—		10																		
	HPC12H-100	○	○	—		12				55		32	40	40	54	AS25-2-M10-CTW								

Note1: Chuck wrench and adjust screw are sold separately.

Note2: Please indicate when ordering for thru-the tool application.



ACCESSORIES

P.68

STRAIGHT COLLETS



ACCESSORIES

P.76,78

ADJUST SCREW, CHUCK WRENCH

▶▶▶ Thru-the-tool Coolant Available (Option)

▶▶▶ Thru-the-groove Coolant Available (Option)

▶▶▶ BBT Available



H-series

Note : When HPC03H, HPC04H and HPC05H is used through the groove coolant or through the tool coolant usage, please keep the coolant pressure within 1MPa and under.
In case those 3 kinds of tools are used in through the tool coolant at over 1MPa pressure, it requires special adjustment according to its pressure, need additional cost, please contact Showa distributor.

FIG.1

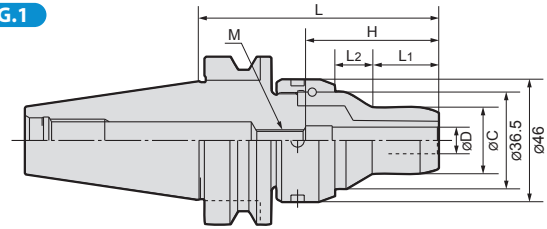
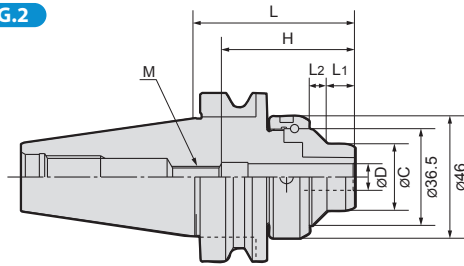


FIG.2



Cutter shank diameter should be h7 or better.

MODEL		A	AA	GType	FIG	φD	L	L1	L2	φC	H	Min tool insert length	Adjust		Adjust screw M	ST	CT	N/W (Kg)					
													MIN	MAX									
Max. 20,000 min ⁻¹ (G Type:Max. 30,000 min ⁻¹)																							
BT30 (BBT30)	HPC03H	060	○	○	○	2	3	60	10.3	6.7	25	-	15	-	-	-	○	○additional work	0.9				
		090	○	○	○	1		90	25	14							○	○additional work	1				
	HPC04H	060	○	○	○	2	4	60	10.3	6.7							○	○additional work	0.9				
		090	○	○	○	1		90	25	14							○	○additional work	1				
	HPC05H	060	△	△	△	2	5	60	10.3	6.7							○	○additional work	0.9				
		090	△	△	△	1		90	25	14							○	○additional work	1				
	HPC06H	060	○	○	○	2	6	60	10.3	6.7		37.5	23	28	37	AS17-2-M5-CTW	○at cost	○	0.9				
		090	○	○	○	1		90	25	14							○at cost	○	1				
	HPC07H	060	△	△	△	2	7	60	10.3	6.7						AS17-2-M6-CTW	○at cost	○	0.9				
		090	△	△	△	1		90	25	14							○at cost	○	1				
	HPC08H	060	○	○	○	2	8	60	10.3	6.7		50	23	35	50	AS22-2-M6-CTW	○at cost	○	0.9				
		090	○	○	○	1		90	25	14							○at cost	○	1				
		HPC09H	060	△	△	△	2	9	60	10.3						6.7	AS22-2-M8-CTW	○at cost	○	0.9			
			090	△	△	△	1		90	25						14		○at cost	○	1			
	HPC10H	060	○	○	○	2	10	60	10.3	6.7						AS25-2-M10-CTW		○at cost	○	0.9			
		090	○	○	○	1		90	25	14								○at cost	○	1			
	HPC11H	060	△	△	△	2	11	60	12.2	4.8	32	55	40	32	55	AS25-2-M10-CTW	○at cost	○	0.9				
		090	△	△	△	1		90	25	14							○at cost	○	1				
	HPC12H	060	○	○	○	2	12	60	12.2	4.8							○at cost	○	0.9				
		090	○	○	○												○at cost	○					
	HPC13H	090	△	△	△	1	13	90	25	14							60	40	42	60	○at cost	○	1
		090	△	△	△																○at cost	○	
	HPC14H	090	△	△	△							○at cost	○										
		090	△	△	△							○at cost	○										
	HPC15H	090	△	△	△	16	15					65	47	65	○at cost						○		
		090	△	△	△										○at cost						○		

▶▶▶ Thru-the-tool Coolant Available (Option)

▶▶▶ Thru-the-groove Coolant Available (Option)

▶▶▶ BBT Available

MODEL			A	AA	GType	FIG	φD	L	L1	L2	φC	H	Min tool insert length	Adjust		Adjust screw M	ST	CT	N/W (Kg)
Max. 20,000 min ⁻¹ (G Type:Max. 30,000 min ⁻¹)																			
BT40 (BBT40)	HPC03H	060	○	○	○	2	3	60	10.3	6.7	25	15	15	-	-	-	○ at cost	○ additional work	1.4
		090	○	○	○	1		90	25	14								○ additional work	1.5
		120	○	○	○			120										○ additional work	1.7
	HPC04H	060	○	○	○	2	4	60	10.3	6.7							○ additional work	1.4	
		090	○	○	○	1		90	25	14							○ additional work	1.5	
		120	○	○	○			120									○ additional work	1.7	
	HPC05H	090	△	△	△	5	90	25	14	○ additional work							1.5		
		120	△	△	△		120			○ additional work							1.7		
	HPC06H	060	○	○	○	2	6	60	10.3	6.7		37.5	23	28	37	AS17-2-M5-CTW	○ at cost	○	1.4
		090	○	○	○	90		25	14	○ at cost							○	1.5	
		120	○	○	○	120				○ at cost			○	1.7					
	HPC07H	090	△	△	△	1	90	25	14	30			30	AS17-2-M6-CTW		○ at cost	○	1.5	
		120	△	△	△		120									○ at cost	○	1.7	
	HPC08H	060	○	○	○	2	8	60	10.3	6.7			23	35		50	AS22-2-M6-CTW	○ at cost	○
		090	○	○	○	90		25	14	○ at cost					○			1.5	
		120	○	○	○	120				○ at cost			○		1.7				
HPC09H	090	△	△	△	1	90	25	14	35	35	50	AS22-2-M8-CTW	○ at cost		○		1.5		
	120	△	△	△		120							○ at cost		○		1.7		
Max. 20,000 min ⁻¹ (G Type:Max. 30,000 min ⁻¹)																			
BT40 (BBT40)	HPC10H	060	○	○	○	2	10	60	10.3	6.7	25	50	23	35	50	AS22-2-M8-CTW	○ at cost	○	1.4
		090	○	○	○	1		90	25	14							○ at cost	○	1.5
		120	○	○	○			120									○ at cost	○	1.7
	HPC11H	090	△	△	△	11	90	25	14	40	40		55	AS25-2-M10-CTW		○ at cost	○	1.5	
		120	△	△	△		120									○ at cost	○	1.7	
		060	○	○	○		2			60						12.2	4.8	25	25
	HPC12H	090	○	○	○	1	90	25	14	55	40	55		AS25-2-M10-CTW	○ at cost	○	1.5		
		120	○	○	○		120								○ at cost	○	1.7		
		090	△	△	△		1			90					25	14	60	42	60
	HPC14H	090	△	△	△	14		65	47	65	○ at cost	○	1.6						
	HPC15H	090	△	△	△	15					○ at cost	○	1.6						
	HPC16H	090	△	△	△	16	○ at cost	○	1.7										
Max. 12,000 min ⁻¹																			
BT50 (BBT50)	HPC03H	105	○	○	—	1	3	105	25	14	25	15	15	-	-	-	○	○ additional work	4.0
		150	○	○	—			150									○ additional work	4.6	
	HPC04H	105	○	○	—		4	105									○ additional work	4.0	
		150	○	○	—			150										○ additional work	4.6
	HPC05H	105	△	△	—		5	105				○ additional work	4.0						
		150	○	○	—			150					○ at cost	○	4.6				
	HPC06H	105	○	○	—		6	150				AS17-2-M5-CTW	○ at cost	○	4.6				
		150	○	○	—			150					○ at cost	○	4.6				
	HPC07H	105	△	△	—		7	105			AS17-2-M6-CTW	○ at cost	○	4.0					
		150	○	○	—			150				○ at cost	○	4.6					
	HPC08H	105	○	○	—		8	150			AS22-2-M6-CTW	○ at cost	○	4.6					
		150	○	○	—			150				○ at cost	○	4.6					
	HPC09H	105	△	△	—		9	105			AS22-2-M8-CTW	○ at cost	○	4.0					
		150	○	○	—			150				○ at cost	○	4.6					
	HPC10H	105	○	○	—		10	150			32	55	40	AS25-2-M10-CTW	○ at cost	○	4.0		
		150	○	○	—			150							○ at cost	○	4.6		
HPC11H	105	△	△	—	11	105	60	42	60	○ at cost					○	4.0			
	150	○	○	—		150				○ at cost					○	4.6			
HPC12H	105	○	○	—	12	150	65	47	65	○ at cost		○	4.0						
	150	○	○	—		150				○ at cost		○	4.6						
HPC13H	105	△	△	—	13	105	60	42	60	AS25-2-M10-CTW		○ at cost	○		4.0				
	HPC14H	105	△	△								—	14			15	16	○ at cost	○
	HPC15H	105	△	△							—	15		16				○ at cost	○
	HPC16H	105	△	△							—		16			○ at cost	○		

△ : Mark tools are manufactured to order.

NOTE : 1. Chuck wrench and adjust screw are sold separately.

- When the thru-the-coolant application is needed for HPC03H, HPC04, or HPC05, please instruct when ordering. "CT" will be marked for this application.
- The thru-the-groove-coolant application for HPC06 or larger will be charged. Please instruct when ordering. "ST" will be marked for this application.
- The above-mentioned maximum speed will vary depending rigidity of the machine and balance of cutter.
- An adequate cutting condition should be selected for each case.
- Please feel free to ask us when need BBT shanks.

ORDERING EXAMPLE

①	②	③	④	⑤	⑥
BT30	HPC	03	H	060	A
① Shank Size					
② Holder's Name					
③ Cutter's Shank Dia. φD					
④ H series					
⑤ G.L. Length					
⑥ Grade					



ACCESSORIES

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ADJUST SCREW



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CHUCK WRENCH



FIG.1

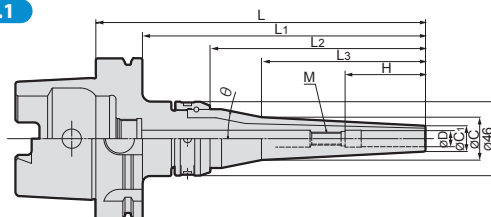


FIG.2

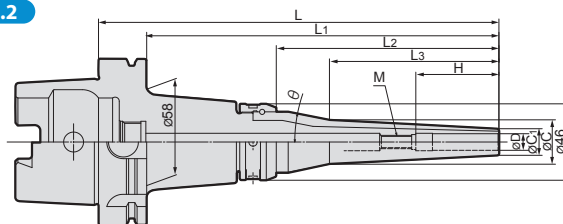


FIG.3

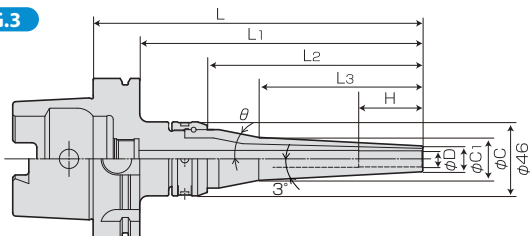
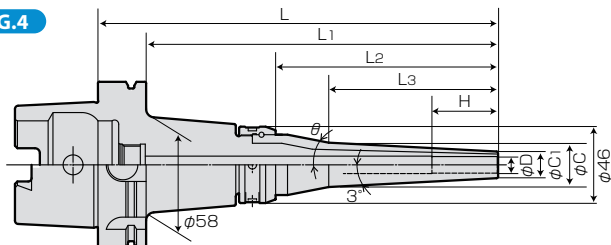


FIG.4



Cutter shank diameter should be h6 or better.

MODEL			STOCK	Fig	øD	øC1	øC	L	L1	L2	L3	H	Min insert length	Adjust length		M	θ	N/W (kg)
														MIN	MAX			
Max. 15,000 min ⁻¹																		
HSKA50	HPC03M- 150	△	3	3	9	16	150	124	84	67	—	20	—	—	—	—	34	1.1
	HPC04M- 150	△		4	10	17											33	1.1
	HPC05M- 150	△		5	11	18											32	1.1
	HPC06M- 150	△		6	12	19											30	1.1
	HPC07M- 150	△		7	13	20											28	1.1
	HPC08M- 150	△	1	8	14	21					50	35	35	50	M6	27	1.1	
	HPC09M- 150	△		9	15	22									M8	26	1.1	
	HPC10M- 150	△		10	16	23									24	1.1		
	HPC11M- 150	△		11	17	24									23	1.1		
	HPC12M- 150	△		12	18	25									21	1.1		

MODEL			STOCK	Fig	øD	øC1	øC	L	L1	L2	L3	H	Min insert length	Adjust length		M	θ	N/W (kg)					
																			MIN	MAX			
Max. 15,000 min ⁻¹																							
HSCA63	HPC03M-	150	△	3	3	9	16	150	124	84	67	20	20	—	—	—	34	1.3					
		200	△				20	200	174	134	102							18	1.5				
	HPC04M-	150	○		4	10	17	150	124	84	67							33	1.3				
		200	○				21	200	174	134	102								17	1.5			
	HPC05M-	150	△		5	11	18	150	124	84	67							32	1.3				
		200	△				22	200	174	134	102								16	1.5			
	HPC06M-	150	○	6	12	19	150	124	84	67	30	1.3											
		200	○			23	200	174	134	102		15	1.5										
	HPC07M-	150	△	7	13	20	150	124	84	67	28	1.3											
		200	△			24	200	174	134	102		14	1.5										
	HPC08M-	150	○	8	14	21	150	124	84	67	27	1.4											
		200	○			25	200	174	134	102		13	1.5										
	HPC09M-	150	△	1	9	15	22	150	124	84	67	50	35	35	50	M8	26	1.4					
		200	△				26	200	174	134	102						12	1.5					
	HPC10M-	150	○		10	16	23	150	124	84	67						24	1.4					
		200	○				27	200	174	134	102							11	1.5				
	HPC11M-	150	△		11	17	24	150	124	84	67						23	1.4					
		200	△				28	200	174	134	102							10	1.6				
HPC12M-	150	○	12	18	25	150	124	84	67	21	1.4												
	200	○			29	200	174	134	102		9	1.6											
Max. 10,000 min ⁻¹																							
HSCA100	HPC03M-	155	△	3	3	9	16	155	126	84	67	20	20	—	—	—	34	3.1					
		205	△				20	205	176	134	102							18	3.2				
		255	△				255	226										4.1					
	HPC04M-	155	○	4	4	10	17	155	126	84	67	33	3.1										
		205	○				21	205	176	134	102		17	3.3									
		255	△				255	226					4.1										
	HPC05M-	155	△	5	11	18	155	126	84	67	32	3.1											
		205	△			22	205	176	134	102		16	3.3										
		255	△			255	226					4.1											
	HPC06M-	155	○	6	12	19	155	126	84	67	30	3.1											
		205	○			23	205	176	134	102		15	3.3										
		255	△			255	226					4.2											
	HPC07M-	155	△	7	13	20	155	126	84	67	28	3.1											
		205	△			24	205	176	134	102		14	3.3										
		255	△			255	226					4.2											
	HPC08M-	155	○	8	14	21	155	126	84	67	27	3.1											
		205	○			25	205	176	134	102		13	3.3										
		255	△			255	226					4.2											
	HPC09M-	155	△	9	15	22	155	126	84	67	26	3.1											
		205	△			26	205	176	134	102		12	3.3										
		255	△			255	226					4.2											
	HPC10M-	155	○	10	16	23	155	126	84	67	24	3.2											
		205	○			27	205	176	134	102		11	3.3										
		255	△			255	226					4.2											
	HPC11M-	155	△	11	17	24	155	126	84	67	23	3.2											
		205	△			28	205	176	134	102		10	3.3										
		255	△			255	226					4.2											
	HPC12M-	155	○	1	12	18	25	155	126	84	67	21	3.2										
		205	○				29	205	176	134	102		9	3.3									
		255	△				255	226					4.2										

△ : Mark tools are manufactured to order.

NOTE : 1. Coolant pipe is included. (HSK)

2. Chuck wrench and adjust screw are sold separately.

3. Adjust screw is manufactured to order.

Please instruct when ordering.

4. The above-mentioned maximum speed will vary depending rigidity of the machine and balance of cutter. An adequate cutting condition should be selected for each case.

ORDERING EXAMPLE

①	②	③	④	⑤
HSKA63	-HPC	06	M-	150
① Shank Size				
② Holder's Name				
③ Cutter's Shank Dia. øD				
④ M series				
⑤ G.L. Length				



ACCESSORIES

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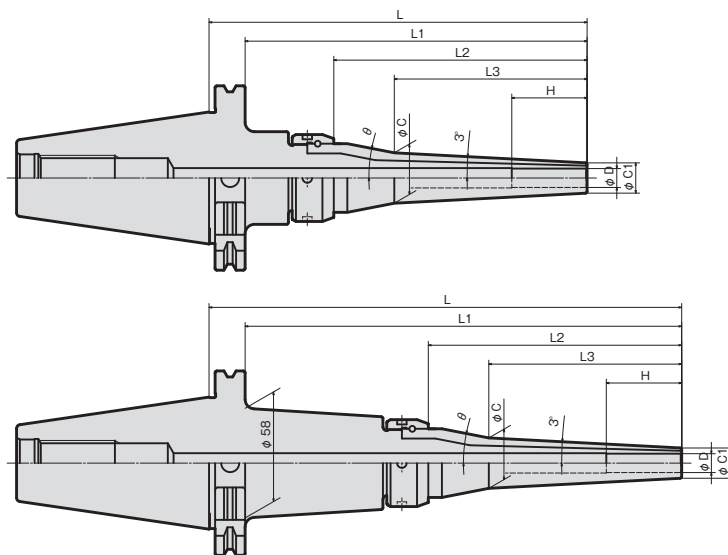
ADJUST SCREW



ACCESSORIES

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CHUCK WRENCH

M-series

Cutter shank diameter should be h6 or better.

MODEL	STOCK	FIG	φD	φC1	φC2	L	L1	L2	L3	H	MINI.INS. LENGHT	ADJUST LENGTH		M	Θ°	N/W(kg)
												MIN	MAX			
SK40	HPC03M-145	△	3	9	16	145	108	84	67	18	20	—	—	—	34	1.4
	HPC03M-195	△			20	195	158	134	102	18					18	1.6
	HPC04M-145	△			17	145	108	84	67	20					33	1.4
	HPC04M-195	△	4	10	21	195	158	134	102	20	20	—	—	—	17	1.6
	HPC06M-145	△			19	145	108	84	67	36					30	1.5
	HPC06M-195	△	6	12	23	195	158	134	102	36	35	35	49	M6	15	1.6
	HPC08M-145	△			21	145	108	84	67	50					27	1.5
	HPC08M-195	△	8	13	25	195	158	134	102	50	35	35	49	M8	13	1.7
	HPC10M-145	△			23	145	108	84	67	50					24	1.5
	HPC10M-195	△	10	14	27	195	158	134	102	50	35	35	49	M8	11	1.7
	HPC12M-145	△			25	145	108	84	67	55	40	35	54	M10	21	1.5
	HPC12M-195	△	12	16	29	195	158	134	102	55					9	1.7
SK50	HPC03M-150	△	1	3	16	150	112	84	67	18	20	—	—	—	34	4.2
	HPC03M-200	△			20	200	162	134	102	18					18	4.4
	HPC03M-250	△			20	250	212	134	102	18					33	5.3
	HPC04M-150	△	1	4	17	150	122	84	67	20	20	—	—	—	17	4.3
	HPC04M-200	△			21	200	162	134	102	20					17	4.4
	HPC04M-250	△			21	250	212	134	102	20					30	5.3
	HPC06M-150	△	1	6	19	150	122	84	67	36	35	35	49	M6	15	4.3
	HPC06M-200	△			23	200	162	134	102	36					15	4.5
	HPC06M-250	△			23	250	212	134	102	36					15	5.3
	HPC08M-150	△	1	8	21	150	122	84	67	50	35	35	49	M6	27	4.3
	HPC08M-200	△			25	200	162	134	102	50					13	4.5
	HPC08M-250	△			25	250	212	134	102	50					5.4	
	HPC10M-150	△	1	10	23	150	122	84	67	50	35	35	49	M8	24	4.3
	HPC10M-200	△			27	200	162	134	102	50					11	4.5
	HPC10M-250	△			27	250	212	134	102	50					5.4	
	HPC12M-150	△	1	12	25	150	122	84	67	55	40	35	54	M10	21	4.3
	HPC12M-200	△			29	200	162	134	102	55					9	4.5
	HPC12M-250	△			29	250	212	134	102	55					9	5.4



ACCESSORIES

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STRAIGHT COLLETS



ACCESSORIES

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ADJUST SCREW, CHUCK WRENCH



M-series

FIG.1

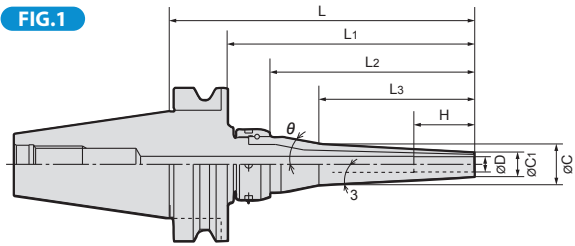


FIG.2

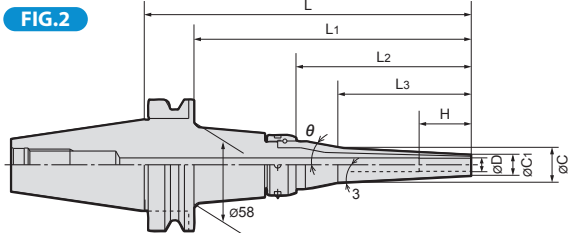
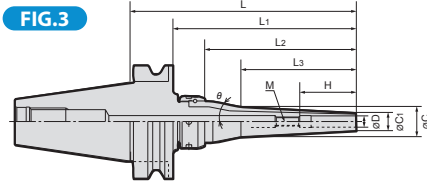


FIG.3



Cutter shank diameter should be h6 or better.

MODEL		STOCK	Fig	øD	øC1	øC	L	L1	L2	L3	H	Min tool insert length	Adjust length		M	θ	N/W (kg)	
													MIN	MAX				
Max. 15,000 min ⁻¹																		
BT30 (BBT30)	HPC03M-	130	△	1	3	9	16	130	108	84	67	—	20				34	0.8
	180	△	20				180	158	134	102	18						1.0	
	HPC04M-	130	△		4	10	17	130	108	84	67						33	0.8
	180	△	21				180	158	134	102	17						1.0	
	HPC05M-	130	△		5	11	18	130	108	84	67						32	0.8
	180	△	22				180	158	134	102	16						1.0	
	HPC06M-	130	△		6	12	19	130	108	84	67		30	0.8				
	180	△	23				180	158	134	102	15		1.0					
	HPC07M-	130	△		7	13	20	130	108	84	67		28	0.8				
	180	△	24				180	158	134	102	14		1.0					
	HPC08M-	130	△		8	14	21	130	108	84	67		27	0.8				
	180	△	25				180	158	134	102	13		1.0					
	HPC09M-	130	△		9	15	22	130	108	84	67		26	0.8				
	180	△	26				180	158	134	102	12		1.0					
	HPC10M-	130	△	3	10	16	23	130	108	84	67	50	35	50	M8	24	0.8	
	180	△	27				180	158	134	102	11					1.0		
	HPC11M-	130	△		11	17	24	130	108	84	67	55	40	55	M10	23	0.8	
	180	△	28				180	158	134	102	10					1.0		
	HPC12M-	130	△		12	18	25	130	108	84	67					21	0.8	
	180	△	29				180	158	134	102	9					1.0		

MODEL			STOCK	Fig	øD	øC1	øC	L	L1	L2	L3	H	Min tool insert length	Adjust length		M	θ	N/W (kg)
														MIN	MAX			
Max. 15,000 min ⁻¹																		
BT40 (BBT40)	HPC03M-	135	○	1	3	9	16	135	108	84	67	—	20	—	—	—	34	1.4
		185	○				20	185	158	134	102						18	1.6
	HPC04M-	135	○		4	10	17	135	108	84	67						33	1.4
		185	○				21	185	158	134	102						17	1.6
	HPC05M-	135	△		5	11	18	135	108	84	67						32	1.4
		185	△				22	185	158	134	102						16	1.6
	HPC06M-	135	○		6	12	19	135	108	84	67		30				1.5	
		185	○				23	185	158	134	102		15				1.6	
	HPC07M-	135	△		7	13	20	135	108	84	67		28				1.5	
		185	△				24	185	158	134	102		14				1.6	
	HPC08M-	135	○		8	14	21	135	108	84	67		27				1.5	
		185	○				25	185	158	134	102		13				1.7	
	HPC09M-	135	△		9	15	22	135	108	84	67		26				1.5	
		185	△				26	185	158	134	102		12				1.7	
	HPC10M-	135	○		10	16	23	135	108	84	67		24				1.5	
		185	○				27	185	158	134	102		11				1.7	
HPC11M-	135	△	11	17	24	135	108	84	67	23	1.5							
	185	△			28	185	158	134	102	10	1.7							
HPC12M-	135	○	12	18	25	135	108	84	67	21	1.5							
	185	○			29	185	158	134	102	9	1.7							
Max. 10,000 min ⁻¹																		
BT50 (BBT50)	HPC03M-	150	○	1	3	9	16	150	112	84	67	—	20	—	—	—	34	4.2
		200	○				20	200	162	134	102						18	4.4
		250	○				250	212									5.3	
	HPC04M-	150	○		4	10	17	150	112	84	67						33	4.3
		200	○				21	200	162	134	102						17	4.3
		250	○				250	212									4.4	
	HPC05M-	150	△		5	11	18	150	112	84	67						32	5.3
		200	△				22	200	162	134	102						16	4.4
		250	△				250	212									5.3	
	HPC06M-	150	○		6	12	19	150	112	84	67						30	4.3
		200	○				23	200	162	134	102						15	4.5
		250	○				250	212									5.3	
	HPC07M-	150	△		7	13	20	150	112	84	67		28				4.3	
		200	△				24	200	162	134	102		14				4.5	
		250	△				250	212					5.3					
	HPC08M-	150	○		8	14	21	150	112	84	67		27				4.3	
		200	○				25	200	162	134	102		13				4.5	
		250	○				250	212					5.4					
	HPC09M-	150	△		9	15	22	150	112	84	67		26				4.3	
		200	△				26	200	162	134	102		12				4.5	
		250	△				250	212					5.4					
	HPC10M-	150	○		10	16	23	150	112	84	67		24				4.3	
		200	○				27	200	162	134	102		11				4.5	
		250	○				250	212					5.4					
	HPC11M-	150	△		11	17	24	150	112	84	67		23				4.3	
		200	△				28	200	162	134	102		10				4.5	
		250	△				250	212					5.4					
	HPC12M-	150	○		12	18	25	150	112	84	67		21				4.3	
		200	○				29	200	162	134	102		9				4.5	
		250	○				250	212					5.4					

△ : Mark tools are manufactured to order.

NOTE : 1. Chuck wrench and adjust screw are sold separately.

2. Adjust screw is manufactured to order.

Please instruct when ordering.

3. The above-mentioned maximum speed will vary depending rigidity of the machine and balance of cutter.

An adequate cutting condition should be selected for each case.

4. Please feel free to ask us when need BBT shanks.

ORDERING EXAMPLE

①	②	③	④	⑤
BT50	-	HPC	06	M - 150

① Shank Size

② Holder's Name

③ Cutter's Shank Dia. øD

④ M series

⑤ G.L. Length



ACCESSORIES

P.76,77

ADJUST SCREW



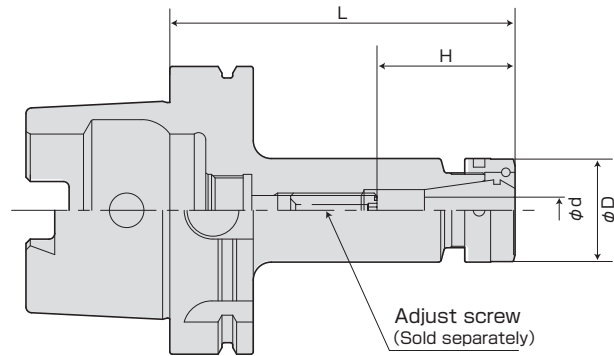
ACCESSORIES

P.78

CHUCK WRENCH

Thru-the-tool Coolant Available

Thru-the-groove Coolant Available



MODEL		CODE	STOCK	ød	øD	L	H (Adjust)	COLLET	NUT	ADJUST SCREW
Max. 20,000min ⁻¹										
HSKA50	RSC07-090	300074	○	0.5~7	24	90	24~40	CR07-(D)	RSN07NB	M6×20L-CTW
	RSC10-090	300065	○	0.5~10	30	90	31~43	CR10-(D)	RSN10NB	RAS10-25-2.5
	-120	300066	○			120	31~48			
	RSC13-090	300067	○	0.5~13	36	90	35~43	CR13-(D)	RSN13NB	RAS13-25-2.5
	-120	300068	○			120	35~52			
	RSC16-090	300070	○	1~16	42	90	38~43	CR16-(D)	RSN16NB	RAS16-25-5
	-120	300071	○			120	38~66			
	RSC20-090	300072	○	1.5~20	50	90	68	CR20-(D)	RSN20NB	(M24×25L-CTW)
-120	300073	○	120			44~67	RAS20-25-5			
HSKA63	RSC07-090	320170	○	0.5~7	24	90	24~40	CR07-d	RSC07NB	M6×20L-CTW
	RSC10-090	320172	○	0.5~10	30	90	31~40	CR10-d	RSC10NB	RAS10-25-2.5
	RSC10-120	320174	○			120	31~48			
	RSC10-150	320175	△			150				
	RSC13-090	320176	○	0.5~13	36	90	35~40	CR13-d	RSC13NB	RAS13-25-2.5
	RSC13-120	320178	○			120	35~52			
	RSC13-150	320179	△			150				
	RSC16-090	320180	○	1~16	42	90	38~40	CR16-d	RSC16NB	RAS16-25-5
	RSC16-120	320181	○			120	38~66			
	RSC16-150	320161	△			150				
	RSC20-090	320182	○	1.5~20	50	90	66	CR20-d	RSC20NB	(M24×25L-CTW)
	RSC20-120	320184	○			120	44~61			RAS20-25-5
RSC20-150	320185	△	150							
Max. 8,000min ⁻¹										
HSKA100	RSC07-105		○	0.5~7	24	105	24~40	CR07-d	RSC07NB	M6×20L-CTW
	RSC10-105	350330	○	0.5~10	30	105	31~43	CR10-d	RSC10NB	RAS10-25-2.5
	RSC10-135	350332	○			135	31~48			
	RSC10-165	350333	△			165				
	RSC10-195	350311	△			195				
	RSC10-225	350312	△			225				
	RSC10-255	350313	△			255				
	RSC10-285	350314	△			285	35~48			
	RSC13-105	350334	○	0.5~13	36	105		CR13-d	RSC13NB	RAS13-25-2.5
	RSC13-135	350336	○			135				
	RSC13-165	350337	△			165				
	RSC13-195	350315	△			195				
	RSC13-225	350316	△			225				
	RSC13-255	350317	△			255				
	RSC13-285	350318	△			285				
	RSC16-105	350338	○	1~16	42	105	38~48	CR16-d	RSC16NB	RAS16-25-5
	RSC16-135	350340	○			135	38~76			
	RSC16-165	350341	△			165				
	RSC16-195	350319	△			195				
	RSC16-225	350320	△			225				
	RSC16-255	350321	△			255				
	RSC16-285	350322	△			285	44~48			
	RSC20-105	350342	○	1.5~20	50	105		CR20-d	RSC20NB	RAS20-25-5
	RSC20-135	350344	○			135				
	RSC20-165	350345	△			165				
	RSC20-195	350346	△			195				
	RSC20-225	350347	△			225				
	RSC20-255	350348	△			255				
RSC20-285	350349	△	285							

△: Produce per order

NOTE: 1. Coolant pipe is included.

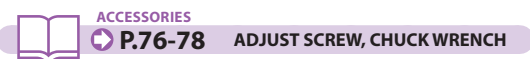
2. Collet and chuck wrench are sold separately.

3. CROH collet is used for thru-the-tool coolant application.

4. The above-mentioned maximum speed will vary depending rigidity of the machine and balance of cutter. An adequate cutting condition should be selected for each case.

ORDERING EXAMPLE

①	②	③	④
HSKA50	-	RSC	07 - 090
① Shank Size			
② Holder's Name			
③ Max. øD			
④ G.L. Length			



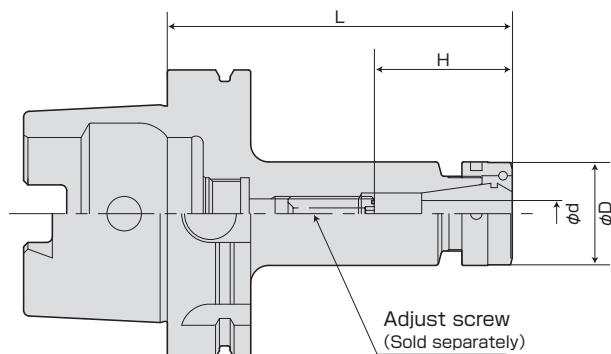
COLLET CHUCK (Mini Chuck) G Type

FEATURES P.8-9

HSKA[®]-RSC[®]MAX-L[®]G

▶▶▶ Thru-the-tool Coolant Available

▶▶▶ Thru-the-groove Coolant Available



Max 27,000min⁻¹

MAX 21500mm									
MODEL		CODE	φd (GRIPPINGRANGE)	φD	L	H	COLLET	NUT	ADJUST SCREW
HSKA50	RSC07-090G	300040	0.5~7	24	90	24~40	CR07-(D)	RSN07NB	M6×20L-CTW
	RSC10-090G	300042	0.5~10	30	90	31~43	CR10-(D)	RSN10NB	RAS10-25-2.5
	-120G	300043			120	31~48			
	RSC13-090G	300044	0.5~13	36	90	35~43	CR13-(D)	RSN13NB	RAS13-25-2.5
	-120G	300045			120	35~52			
	RSC16-090G	300046	1~16	42	90	38~43	CR16-(D)	RSN16NB	RAS16-25-5
	-120G	300047			120	38~66			
	RSC20-090G	300048	1.5~20	50	90	68	CR20-(D)	RSN20NB	(M24×25L-CTW)
-120G	300049	120			44~67	RAS20-25-5			
HSKA63	RSC07-090G	320150	0.5~7	24	90	24~40	CR07-(D)	RSN07NB	M6×20L-CTW
	RSC10-090G	320152	0.5~10	30	90	31~40	CR10-(D)	RSN10NB	RAS10-25-2.5
	-120G	320153			120	31~48			
	RSC13-090G	320154	0.5~13	36	90	35~40	CR13-(D)	RSN13NB	RAS13-25-2.5
	-120G	320155			120	35~52			
	RSC16-090G	320156	1~16	42	90	38~40	CR16-(D)	RSN16NB	RAS16-25-5
	-120G	320157			120	38~66			
	RSC20-090G	320158	1.5~20	50	90	66	CR20-(D)	RSN20NB	(M24×25L-CTW)
-120G	320159	120			44~61	RAS20-25-5			

NOTE: 1. Coolant pipe is included.

2. Collet and chuck wrench are sold separately.

3. CROH collet is used for thru-the-tool coolant application.

4. The above-mentioned maximum speed will vary depending rigidity of the machine and balance of cutter. An adequate cutting condition should be selected for each case.

ORDERING EXAMPLE

①	②	③	④	⑤
HSKA50	RSC	07	090	G
① Shank Size				
② Holder's Name				
③ Max. φD				
④ G.L. Length				
⑤ G Type				



ACCESSORIES

➔ P.69 NUT



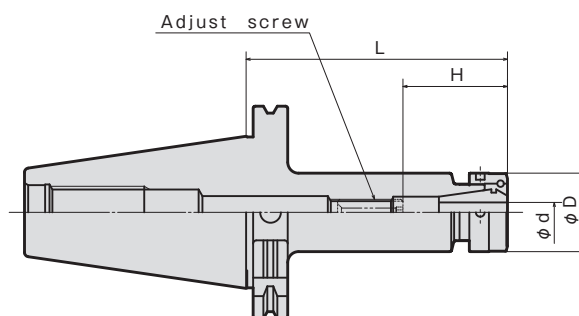
ACCESSORIES

➔ P.70-75 COLLETS



ACCESSORIES

➔ P.76, 78 CHUCK WRENCH, ADJUST SCREW



MODEL		CODE	STOCK	ϕd (CLAMPING RANGE)	ϕD	L	H	COLLET	NUT	ADJUSTMENT SCREW
Max 12,000mm ⁻¹										
SK30 (BSK30)	RSC07-090	400060	△	0.5~0.7	24	90	25~40	CR07-(D)	RSN07NB	M6×20L-CTW
	RSC10-060	400062	△	0.5~10	30	60	31~48	CR10-(D)	RSN10NB	RAS10-25-2.5
	RSC10-090	400064	△			90				
	RSC10-120		△			120				
	RSC13-065	400066	△	0.5~13	36	60	35~52	CR13-(D)	RSN13NB	RAS13-25-2.5
	RSC13-090	400068	△			90				
	RSC13-120		△			120				
	RSC16-065	400070	△	1~16	42	60	38~50	CR16-(D)	RSN16NB	RAS16-25-5
	RSC16-090	400072	△			90	38~72			
	RSC16-120		△			120				
	RSC20-075	400076	△	1.5~20	50	75	44~56.5	CR20-(D)	RSN20NB	
	RSC20-090	400078	△			90				
RSC20-120		△	120							
SK40 (BSK40)	RSC07-090	420180	△	0.5~7	24	90	25~40	CR07-(D)	RSN07NB	M6×20L-CTW
	RSC10-060	420182	△	0.5~10	30	60	31~48	CR10-(D)	RSN10NB	RAS10-25-2.5
	RSC10-090	420183	△			90				
	RSC10-120	420184	△			120				
	RSC13-065	420185	△	0.5~13	36	60	35~52	CR13-(D)	RSN13NB	RAS13-25-2.5
	RSC13-090	420186	△			90				
	RSC13-120	420188	△			120				
	RSC16-065	420190	△	1~16	42	60	38~70	CR16-(D)	RSN16NB	RAS16-25-5
	RSC16-090	420192	△			90	38~77			
	RSC16-120	420189	△			120				
	RSC20-070	420193	△	1.5~20	50	60	44~70	CR20-(D)	RSN20NB	RAS20-25-5
	RSC20-090	420194	△			90	44~72			
	RSC20-105	420196	△			90	44~82			
	RSC20-120	420198	△			120				

△: Produce per order

NOTE: 1. Collet and chuck wrench are sold separately.

2. CROH collet is used for thru-the-tool coolant application.

3. Only BT shank and ST shank is coated.

ORDERING EXAMPLE

①	SK30	-	RSC	③	07	-	④	90
	BSK30	-	RSC		07	-		90

① Shank Size

② Holder's Name

③ Max. ϕD

④ Gauge length



ACCESSORIES

P.69 NUT



ACCESSORIES

P.70-75 COLLETS



ACCESSORIES

P.76-78 ADJUST SCREW, CHUCK WRENCH

COLLET CHUCK

SK/BSK[Ⓝ]-RSC[Ⓢ]MAX-L



FIG.1

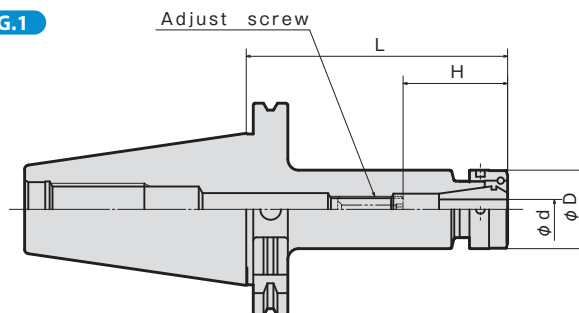
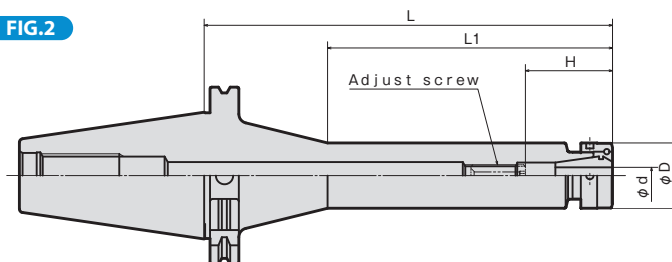


FIG.2



MODEL		CODE	FIG	φd (CLAMPING RANGE)	φD	L	H	COLLET	NUT	ADJUSTMENT SCREW
Max 8,000mm ⁻¹										
SK50 (BSK50)	RSC07-090	450260	1	0.5~7	25	90	25~40	CR07-(D)	RSN07NB	(M6×20L-CTW)
	RSC10-075	450262	1	0.5~10	30	75	31~48	CR10-(D)	RSN10NB	RAS10-25-2.5
	RSC10-105	450264				105				
	RSC10-135	450330				135				
	RSC10-165	450332				165				
	RSC10-195	450334				195				
	RSC10-225	450336				225				
	RSC10-255	450338	2			255				
	RSC10-285	450340				285				
	RSC13-075	450266	1	0.5~13	36	75	35~52	CR13-(D)	RSN13NB	RAS13-25-2.5
	RSC13-105	450268				105				
	RSC13-135	450270				135				
	RSC13-165	450272				165				
	RSC13-195	450274				195				
	RSC13-225	240342				225				
	RSC13-255	450344	2			255				
	RSC13-285	450346				285				
	RSC16-075	450276	1	1~16	42	75	38~95	CR16-(D)	RSN16NB	RAS16-25-5
	RSC16-105	450278				105				
	RSC16-135	450280				135				
	RSC16-165	450282				165				
	RSC16-195	450284				195				
	RSC16-225	450348				225	38~77			
	RSC16-255	450350	2			255				
	RSC16-285	450352				285				
	RSC20-075	450286	1	1.5~20	50	75	44~82	CR20-(D)	RSN20NB	RAS20-25-6
	RSC20-105	450287				105				
	RSC20-135	450288				135				
	RSC20-165	450290				165				
	RSC20-195	450292				195				
	RSC20-225	450393				225				
	RSC20-255	450394	2			255				
	RSC20-285	450395				285				

△: Produce per order

- NOTE: 1. Collet and chuck wrench are sold separately.
 2. CROH collet is used for thru-the-tool coolant application.
 3. Only BT shank and ST shank is coated.

ACCESSORIES
 P.69 NUT

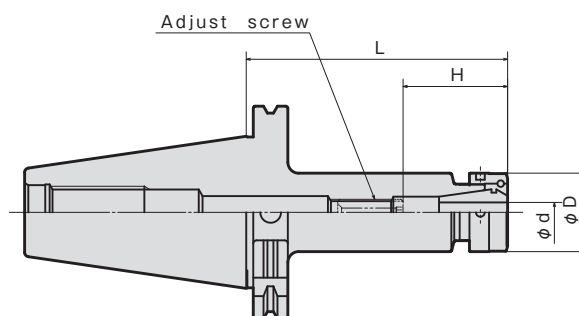
ACCESSORIES
 P.70-75 COLLETS

ACCESSORIES
 P.76-78 ADJUST SCREW, CHUCK WRENCH

ORDERING EXAMPLE

①	SK50	-	RSC	③	07	-	④	90
	BSK50	-	RSC		07	-		90

- ① Shank Size
 ② Holder's Name
 ③ Max. φD
 ④ Gauge length



MODEL		CODE	φd (CLAMPINGRANGE)	φD	L	H	COLLET	NUT	ADJUSTMENT SCREW	
Max 25,000mm ⁻¹										
SK30 (BSK30)	RSC07-090G	400040	0.5~0.7	25	90	25~40	CR07-(D)	RSN07NB	(M6×20L-CTW)	
	RSC10-060G	400041	0.5~10	30	60	31~48	CR10-(D)	RSN10NB	RAS10-25-2.5	
	RSC10-090G	400042			90					
	RSC10-120G				120					
	RSC13-065G	400043	0.5~13	36	60	35~52	CR13-(D)	RSN13NB	RAS13-25-2.5	
	RSC13-090G	400044			90					
	RSC13-120G				120					
	RSC16-065G	400045	1~16	42	60	38~50	CR16-(D)	RSN16NB	RAS16-25-2.5	
	RSC16-090G	400046			90					38~72
	RSC16-120G				120					
	RSC20-075G	400047	1.5~20	50	75	44~56.5	CR20-(D)	RSN20NB		
	RSC20-090G	400048			90					
RSC20-120G		120								
SK40 (BSK40)	RSC07-090G	420130	0.5~7	25	90	25~40	CR07-(D)	RSN07NB	(M6×20L-CTW)	
	RSC10-060G	420131	0.5~10	30	60	31~48	CR10-(D)	RSN10NB	RAS10-25-2.5	
	RSC10-090G	420132			90					
	RSC10-120G				120					
	RSC13-065G	420133	0.5~13	36	60	35~52	CR13-(D)	RSN13NB	RAS13-25-2.5	
	RSC13-090G	420134			90					
	RSC13-120G				120					
	RSC16-065G	420135	1~16	42	60	38~70	CR16-(D)	RSN16NB	RAS16-25-5	
	RSC16-090G	420136			90					38~77
	RSC16-120G				120					
	RSC20-070G	420138	1.5~20	50	60	44~70	CR20-(D)	RSN20NB	RAS20-25-6	
	RSC20-090G	420170			90					44~72
	RSC20-105G				90					
RSC20-120G		120								

△: Produce per order

NOTE: 1. Collet and chuck wrench are sold separately.
2. CROH collet is used for thru-the-tool coolant application.
3. Only BT shank and ST shank is coated.

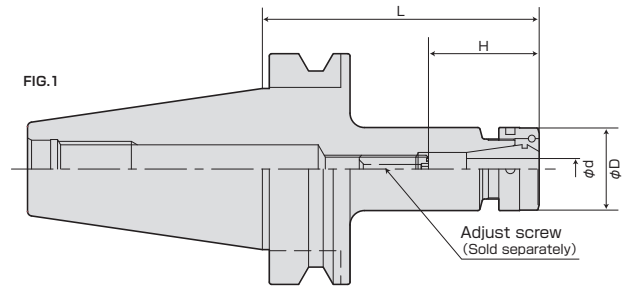
ORDERING EXAMPLE

①	SK30	-	②	RSC	-	③	07	-	④	90	-	⑤	G
	BSK30	-		RSC	-		07	-		90	-		G
① Shank Size													
② Holder's Name													
③ Max. ϕD													
④ Gauge length													
⑤ G-Type													

▶▶▶ Thru-the-tool Coolant Available

▶▶▶ Thru-the-groove Coolant Available

▶▶▶ BBT Available



MODEL		CODE	ϕd (GRIPPING RANGE)	ϕD	L	H	COLLET	NUT	ADJUST SCREW
Max. 12,000 min ⁻¹									
BT30 (BBT30)	RSC07N-060	200660	0.5~7	24	60	24~40	CR07-(D)	RSN07NB	M6×20L-CTW
	-075	200661			75				
	-090	200662			90				
	-120	200664			120				
	RSC10N-060	200666	0.5~10	30	60	31~48	CR10-(D)	RSN10NB	RAS10-25-2.5
	-075	200667			75				
	-090	200668			90				
	-120	200670			120				
	RSC13N-060	200672	0.5~13	36	60	35~52	CR13-(D)	RSN13NB	RAS13-25-2.5
	-075	200673			75				
	-090	200674			90				
	-120	200676			120				
	RSC16N-060	200678	1~16	42	60	38~50	CR16-(D)	RSN16NB	RAS16-25-5
	-075	200679			75				
	-090	200680			90	38~72			
	-120	200682			120				
RSC20N-075	200684	1.5~20	50	75	44~56.5	CR20-(D)	RSN20NB		
-090	200686			90					
-120	200688			120					
BT40 (BBT40)	RSC07N-060	221100	0.5~7	24	60	24~40	CR07-(D)	RSN07NB	M6×20L-CTW
	-075	221101			75				
	-090	221102			90				
	-120	221104			120				
	-150	221106			150				
	RSC10N-060	221108	0.5~10	30	60	31~48	CR10-(D)	RSN10NB	RAS10-25-2.5
	-075	221109			75				
	-090	221110			90				
	-120	221112			120				
	-150	221114			150				
	RSC13N-060	221116	0.5~13	36	60	35~52	CR13-(D)	RSN13NB	RAS13-25-2.5
	-075	221117			75				
	-090	221118			90				
	-120	221120			120				
	-150	221122			150				
	RSC16N-060	221124	1~16	42	60	38~70	CR16-(D)	RSN16NB	RAS16-25-5
	-075	221125			75				
	-090	221126			90	38~77			
	-120	221128			120				
	-150	221130			150				
	RSC20N-060	221132	1.5~20	50	60	44~70	CR20-(D)	RSN20NB	RAS20-25-5
	-075	221133			75				
	-090	221134			90	44~72			
	-120	221136			120				
-150	221138	150			44~82				

- NOTE : 1. Collet and chuck wrench are sold separately.
 2. CROH collet is used for thru-the-tool coolant application.
 3. The above-mentioned maximum speed will vary depending on rigidity of machine and balance of cutter. An adequate cutting condition should be selected for each case.
 4. Only BT shank tools are coated. BBT shank tools are not coated.

ACCESSORIES
 ➔ P.69 NUT

ACCESSORIES
 ➔ P.70-75 COLLETS

ACCESSORIES
 ➔ P.76,77 ADJUST SCREW

ORDERING EXAMPLE

① BT30 - ② RSC ③ 07 - ④ 090

- ① Shank Size
 ② Holder's Name
 ③ Max. ϕD
 ④ G.L. Length

COLLET CHUCK (Long Type) (Plate coated)

※BBT shank not available

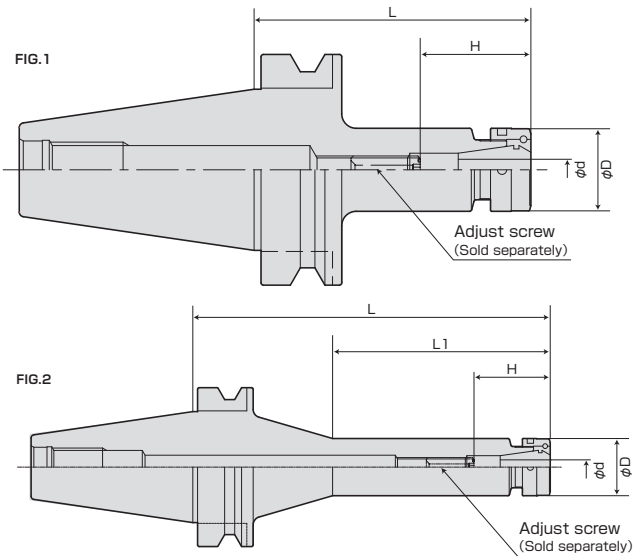
FEATURES P.8-9

BT (No.)-RSC (D) MAX-L

▶▶▶ Thru-the-tool Coolant Available

▶▶▶ Thru-the-groove Coolant Available

▶▶▶ BBT Available



MODEL	CODE	FIG	ϕd (GRIPPING RANGE)	ϕD	L	L1	H	COLLET	NUT	ADJUST SCREW		
Max. 8,000 min ⁻¹												
BT50 (BBT50)	RSC07N-090	251230	1	0.5~7	24	90	-	24~40	CR07-(D)	RSN07NB	M6×20L-CTW	
	-135	251232				135						
	-165	251234				165						
	-195	251235				195						
	RSC10N-075	251238	1	0.5~10	30	75	-	31~48	CR10-(D)	RSN10NB	RAS10-25-2.5	
	-105	251240				105						
	-135	251242				135						
	-165	251244				165						
	-195	251246				195						
	-225	251248				225						150
	-255	251250				255						180
	-285	251252				285						190
	RSC13N-075	251254	1	0.5~13	36	75	-	35~52	CR13-(D)	RSN13NB	RAS13-25-2.5	
	-105	251256				105						
	-135	251258				135						
	-165	251260				165						
	-195	251262				195						
	-225	251264				225						150
	-255	251266				255						180
	-285	251268				285						190
	RSC16N-075	251270	1	1~16	42	75	-	38~95	CR16-(D)	RSN16NB	RAS16-25-5	
	-105	251272				105						
	-135	251274				135						
	-165	251276				165						
	-195	251278				195		38~77				
	-225	251280				225						150
	-255	251282				255						180
	-285	251284				285						190
	RSC20N-075	251286	1	1.5~20	50	75	-	44~82	CR20-(D)	RSN20NB	RAS20-25-6	
	-105	251288				105						
	-135	251290				135						
	-165	251292				165						
	-195	251294				195						
	-225	251296				225						150
	-255	251298				255						180
	-285	251300				285						190

- NOTE : 1. Collet and chuck wrench are sold separately.
 2. CROH collet is used for thru-the-tool coolant application.
 3. The above-mentioned maximum speed will vary depending on rigidity of machine and balance of cutter. An adequate cutting condition should be selected for each case.
 4. Only BT shank tools are coated. BBT shank tools are not coated.

ACCESSORIES
 ➔ P.69 NUT

ACCESSORIES
 ➔ P.70-75 COLLETS

ACCESSORIES
 ➔ P.76,77 ADJUST SCREW

ORDERING EXAMPLE

① BT50 - ② RSC ③ 10 - ④ 225

- ① Shank Size
 ② Holder's Name
 ③ Max. φD
 ④ G.L. Length

COLLET CHUCK G Type (Plate coated)

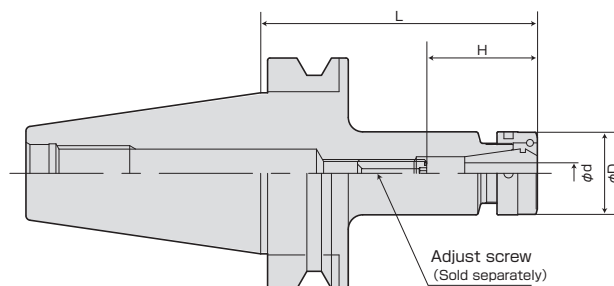
※BBT shank not available

FEATURES P.8-9

BT(No)-RSC(No)MAX-LG

▶▶▶ Thru-the-tool Coolant Available

▶▶▶ Thru-the-groove Coolant Available



MODEL		CODE	φd (GRIPPING RANGE)	φD	L	H	COLLET	NUT	ADJUST SCREW
Max. 25,000 min ⁻¹									
BT30 (BBT30)	RSC07N-060G	200700	0.5~7	24	60	24~40	CR07-(D)	RSN07NB	M6×20L-CTW
	-075G	200701			75				
	-090G	200702			90				
	-120G	200704			120				
	RSC10N-060G	200706	0.5~10	30	60	31~48	CR10-(D)	RSN10NB	RAS10-25-2.5
	-075G	200707			75				
	-090G	200708			90				
	-120G	200710			120				
	RSC13N-060G	200712	0.5~13	36	60	35~52	CR13-(D)	RSN13NB	RAS13-25-2.5
	-075G	200713			75				
	-090G	200714			90				
	-120G	200716			120				
	RSC16N-060G	200718	1~16	42	60	38~50	CR16-(D)	RSN16NB	RAS16-25-5
	-075G	200719			75				
	-090G	200720			90				
	-120G	200722			120				
RSC20N-075G	200724	1.5~20	50	75	44~56.5	CR20-(D)	RSN20NB		
-090G	200726			90					
-120G	200728			120					
BT40 (BBT40)	RSC07N-060G	221150	0.5~7	24	60	24~40	CR07-(D)	RSN07NB	M6×20L-CTW
	-075G	221151			75				
	-090G	221152			90				
	-120G	221154			120				
	-150G	221156			150				
	RSC10N-060G	221158	0.5~10	30	60	31~48	CR10-(D)	RSN10NB	RAS10-25-2.5
	-075G	221159			75				
	-090G	221160			90				
	-120G	221162			120				
	-150G	221164			150				
	RSC13N-060G	221166	0.5~13	36	60	35~52	CR13-(D)	RSN13NB	RAS13-25-2.5
	-075G	221167			75				
	-090G	221168			90				
	-120G	221170			120				
	-150G	221172			150				
	RSC16N-060G	221174	1~16	42	60	38~70	CR16-(D)	RSN16NB	RAS16-25-5
	-075G	221175			75				
	-090G	221176			90				
	-120G	221178			120				
	-150G	221180			150	38~77			
RSC20N-060G	221182	1.5~20	50	60	44~70		CR20-(D)	RSN20NB	RAS20-25-5
-075G	221183			75					
-090G	221184			90		44~72			
-120G	221186			120					
-150G	221188	150							

- NOTE : 1. Collet and chuck wrench are sold separately.
 2. CROH collet is used for thru-the-tool coolant application.
 3. The above-mentioned maximum speed will vary depending on rigidity of machine and balance of cutter. An adequated cutting condition should be selected for each case.
 4. Only BT shank tools are coated. BBT shank tools are not coated.

ACCESSORIES
 ➔ P.69 NUT

ACCESSORIES
 ➔ P.70-75 COLLETS

ACCESSORIES
 ➔ P.76,77 ADJUST SCREW

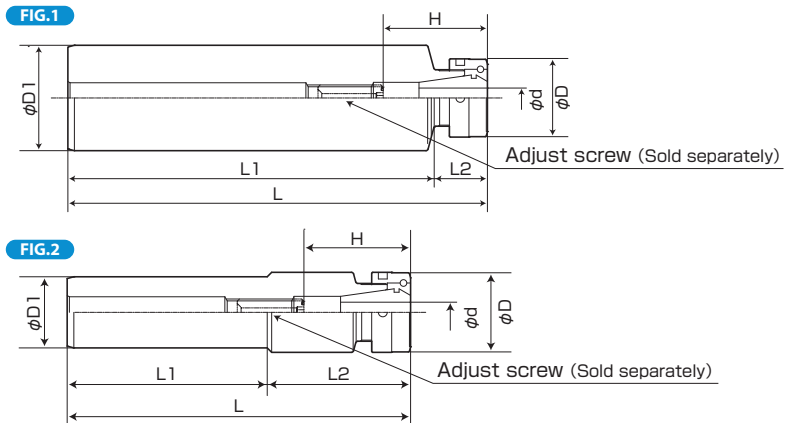
ORDERING EXAMPLE

① BT30 - ② RSC ③ 07 - ④ 090 ⑤ G

- ① Shank Size
 ② Holder's Name
 ③ Max. øD
 ④ G.L. Length
 ⑤ G Type

▶▶▶ Thru-the-tool Coolant Available

▶▶▶ Thru-the-groove Coolant Available



	MODEL	CODE	FIG	ϕd (GRIPPING RANGE)	ϕD	$\phi D1$	L	L1	L2	H	COLLET	NUT	ADJUST SCREW
ST20	RSC07N-150	620260	1	0.5~7	24	20	150	133	17	25~40	CR07-(D)	RSN07NB	(M6×20L-CTW)
	RSC10N-150	620262	2	0.5~10	30			125	25	31~48	CR10-(D)	RSN10NB	RAS10-25-2.5
ST25	RSC10N-170	620264	1	0.5~10	30	25	170	147.5	22.5	31~48	CR10-(D)	RSN10NB	RAS10-25-2.5
	RSC13N-170	620266	2	0.5~13	36			125	45	35~52	CR13-(D)	RSN13NB	RAS13-25-2.5
ST32	RSC10N-170	620268	1	0.5~10	30	32	170	147.5	22.5	31~48	CR10-(D)	RSN10NB	RAS10-25-2.5
	RSC13N-185	620270	2	0.5~13	36			125	60	35~52	CR13-(D)	RSN13NB	RAS13-25-2.5
	RSC16N-185	620272		1~16	42					38~77	CR16-(D)	RSN16NB	RAS16-25-5
	RSC20N-185	620274		1.5~20	50					44~54	CR20-(D)	RSN20NB	

NOTE: 1. Collet and chuck wrench are sold separately.

2. CROH collet is used for thru-the-tool coolant application.



ACCESSORIES

P.69 NUT



ACCESSORIES

P.70-75 COLLETS



ACCESSORIES

P.76-78 ADJUST SCREW, CHUCK WRENCH

ORDERING EXAMPLE

①	ST20	-	RSC	③	07N	-	④	150
①	Shank Size $\phi D1$							
②	Name							
③	Max. ϕD							
④	L1							

COLLET CHUCK (SLIM TYPE)

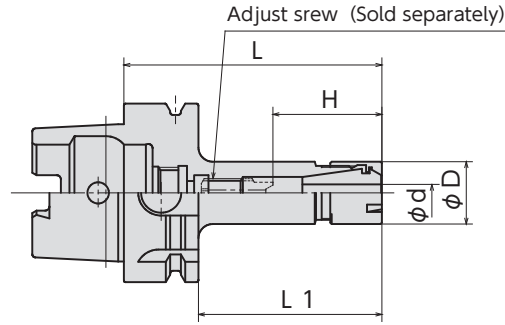
FEATURES P.12

HSKA[®]-SSC[®]MAX-L



▶▶▶ Thru-the-tool Coolant Available

▶▶▶ Thru-the-groove Coolant Available



	MODEL	CODE	ød	øD	L	L1	H	COLLET	NUT	ADJUST SCREW
HSKA50	SSC07-090	310011	0.5~7	16	90	64	25~40	CR07-d	ER11MN	M6×20L-CTW
	SSC07-135	310012			135	109				
	SSC10-090	310013	0.5~10	22	90	64	31~48	CR10-d	ER16MN	RAS10-25-2.5
	SSC10-135	310014			135	109				
	SSC13-090	310015	0.5~13	28	90	64	35~52	CR13-d	ER20MN	RAS13-25-2.5
HSKA63	SSC13-135	310016			135	109				
	SSC07-090	321351	0.5~7	16	90	64	25~40	CR07-d	ER11MN	M6×20L-CTW
	SSC07-135	321352			135	109				
	SSC10-090	321353	0.5~10	22	90	64	31~48	CR10-d	ER16MN	RAS10-25-2.5
	SSC10-135	321354			135	109				
	SSC13-105	321355	0.5~13	28	105	79	35~52	CR13-d	ER20MN	RAS13-25-2.5
	SSC13-150	321356			150	124				

- NOTE: 1. A Coolant pipe is supplied with chuck.
 2. Collet and chuck wrench are sold separately.
 3. CROH collet is used for thru-the-tool coolant application.

ACCESSORIES
P.69 NUT

ACCESSORIES
P.70-75 COLLETS

ACCESSORIES
P.76-78 ADJUST SCREW, CHUCK WRENCH

ORDERING EXAMPLE

①	②	③	④
HSKA63	-	SSC	10 - 135
① Shank Size			
② Holder's Name			
③ Max. øD			
④ G.L. Length			

COLLET CHUCK (SLIM TYPE)

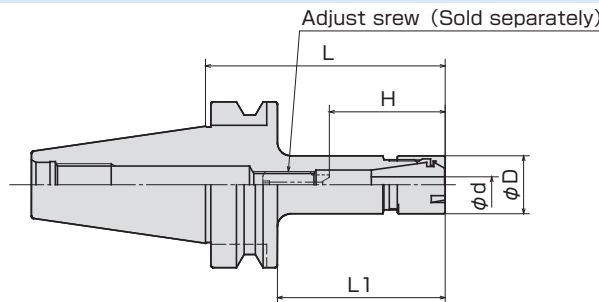
FEATURES P.13

BT[®]-SSC[®]MAX-L



▶▶▶ Thru-the-tool Coolant Available

▶▶▶ Thru-the-groove Coolant Available(Optional)



	MODEL	CODE	ød	øD	L	L1	H	COLLET	NUT	ADJUST SCREW
BT30	SSC07-090	10101	0.5~7	16	90	68	25~40	CR07-d	ER11MN	M6×20L-CTW
	SSC07-135	10102			135	113				
	SSC10-090	10103	0.5~10	22	90	68	31~48	CR10-d	ER16MN	RAS10-25-2.5
	SSC10-135	10104			135	113				
	SSC13-090	10105	0.5~13	28	90	68	35~52	CR13-d	ER20MN	RAS13-25-2.5
BT40	SSC13-135	10106			135	113				
	SSC07-090	11273	0.5~7	16	90	63	25~40	CR07-d	ER11MN	M6×20L-CTW
	SSC07-135	11274			135	108				
	SSC10-090	11275	0.5~10	22	90	63	31~48	CR10-d	ER16MN	RAS10-25-2.5
	SSC10-135	11276			135	108				
BT50	SSC13-105	11277	0.5~13	28	105	78	35~52	CR13-d	ER20MN	RAS13-25-2.5
	SSC13-150	11278			150	123				
	SSC07-090	13565	0.5~7	16	90	52	25~40	CR07-d	ER11MN	M6×20L-CTW
	SSC07-135	13566			135	97				
	SSC10-105	13567	0.5~10	22	105	67	31~48	CR10-d	ER16MN	RAS10-25-2.5
BT50	SSC10-150	13568			150	112				
	SSC13-120	13569	0.5~13	28	120	82	35~52	CR13-d	ER20MN	RAS13-25-2.5
	SSC13-165	13570			165	127				
	SSC13-195	13571			195	157				

- NOTE: 1. Collet and chuck wrench are sold separately.
 2. CROH collet is used for thru-the-tool coolant application.

ACCESSORIES
P.69 NUT

ACCESSORIES
P.70-75 COLLETS

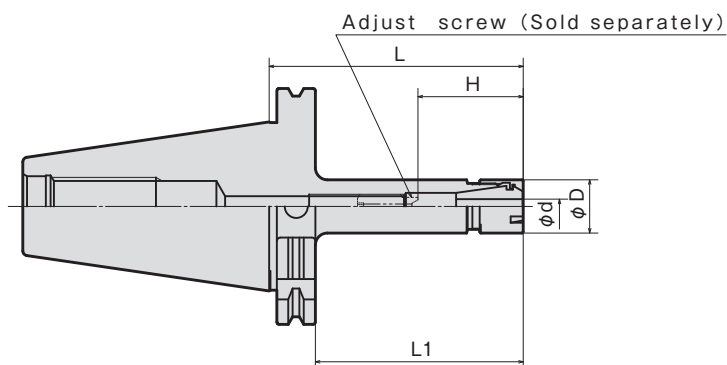
ACCESSORIES
P.76-78 ADJUST SCREW, CHUCK WRENCH

ご注文例 ORDERING EXAMPLE

①	②	③	④
BT50	-	SSC	10 - 105
① Shank Size			
② Holder's Name			
③ Max. øD			
④ G.L. Length			

>>> Thru-the-tool Coolant Available

>>> Thru-the-groove Coolant Available(Optional)



	MODEL	CODE	ød	øD	L	L1	H	COLLET	NUT	ADJUST SCREW
SK30	SSC07-090	400100	0.5~7	16	90	71	25~40	CR07-d	ER11MN	M6×20L-CTW
	SSC07-135	400102			135	116				
	SSC10-090	400104	0.5~10	22	90	71	31~48	CR10-d	ER16MN	RAS10-25-2.5
	SSC10-135	400106			135	116				
	SSC13-090	400108	0.5~13	28	90	71	35~52	CR13-d	ER20MN	RAS13-25-2.5
	SSC13-135	400110			135	116				
SK40	SSC07-090	420460	0.5~7	16	90	71	25~40	CR07-d	ER11MN	M6×20L-CTW
	SSC07-135	420462			135	116				
	SSC10-090	420464	0.5~10	22	90	71	31~48	CR10-d	ER16MN	RAS10-25-2.5
	SSC10-135	420466			135	116				
	SSC13-105	420468	0.5~13	28	105	86	35~52	CR13-d	ER20MN	RAS13-25-2.5
	SSC13-150	420470			150	131				
SK50	SSC07-090	450620	0.5~7	16	90	71	25~40	CR07-d	ER11MN	M6×20L-CTW
	SSC07-135	450622			135	116				
	SSC10-105	450624	0.5~10	22	105	86	31~48	CR10-d	ER16MN	RAS10-25-2.5
	SSC10-150	450626			150	131				
	SSC13-120	450628	0.5~13	28	120	101	35~52	CR13-d	ER20MN	RAS13-25-2.5
	SSC13-165	450630			165	146				
	SSC13-195	450632			195	176				

NOTE : 1. Collet and chuck wrench are sold separately.
 2. CROH collet is used for thru-the-tool coolant application.

ORDERING EXAMPLE

① SK50 - ② SSC ③ 10 - ④ 105

- ① Shank Size
 ② Holder's Name
 ③ Max. øD
 ④ G.L. Length



ACCESSORIES

P.69 NUT



ACCESSORIES

P.70-75 COLLETS



ACCESSORIES

P.76-78 ADJUST SCREW, CHUCK WRENCH

ACCESSORIES for SYNCHRO TAP HOLDER



COLLET CHUCK (SLIM TYPE)

FEATURES P. 13

ST[Ⓢ]-SSC[Ⓢ]MAX-L[Ⓢ]

▶▶▶ Thru-the-tool Coolant Available

▶▶▶ Thru-the-groove Coolant Available

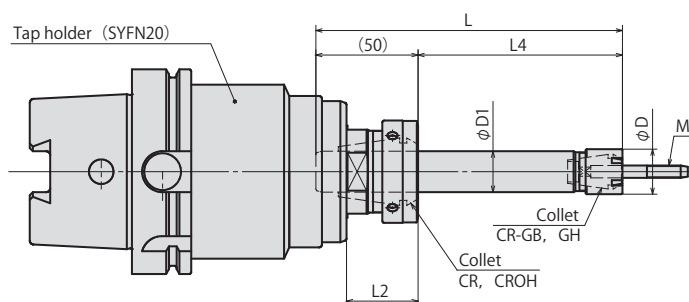


FIG.1

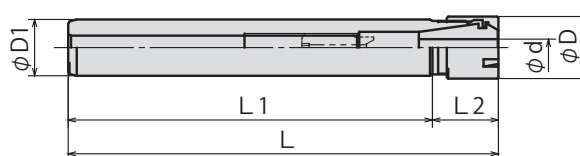
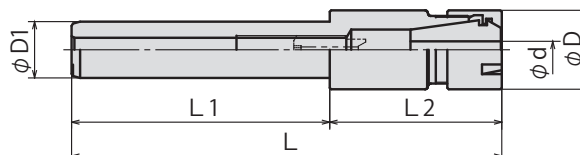


FIG.2



MODEL	CODE	FIG	φD	φD1	L	L1	L2	L3	L4	Applicable holder	Suitable collet	TAP SIZE	Collet for sub holder	NUT
ST16	SSC07-100	30377	1	16	100	83	17	50 (min40)	50	SYFN20	CR20-16 CROH20-16	M2~M6, No.3~ U1/4	CR07-d CROH07-d	ER11MN
	SSC07-150	30378			150	133			100					
	SSC07-200	30379			200	183			150					
ST20	SSC10-100	30831	1	22	100	77	23	50 (min45)	50	SYFN20	CR20-20 CROH20-20	M4~M10, No.8~ U7/16	CR10GB CR10GH	ER16MN
	SSC10-150	30832			150	127			100					
	SSC10-200	30833			200	177			150					
	SSC10-250	30834			250	227			200					
	SSC13-150	30835	2	28	150	90	60		100			M4~M12, No.8~ U1/2,P1/8	CR13GB CR13GH	ER20MN
	SSC13-200	30836			200	140			150					

NOTE: 1. Collet and chuck wrench are sold separately.
2. CROH collet is used for thru-the-tool coolant application.



ACCESSORIES
➔ P.69 NUT



ACCESSORIES
➔ P.70-75 COLLETS



ACCESSORIES
➔ P.76-78 ADJUST SCREW, CHUCK WRENCH

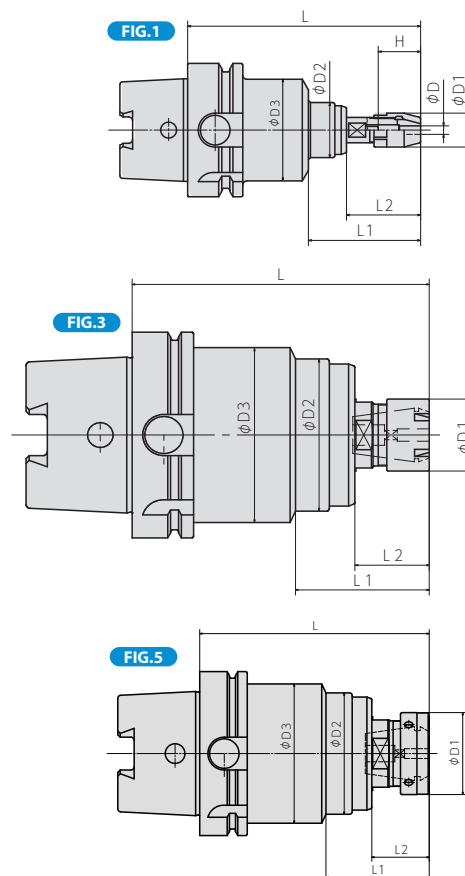
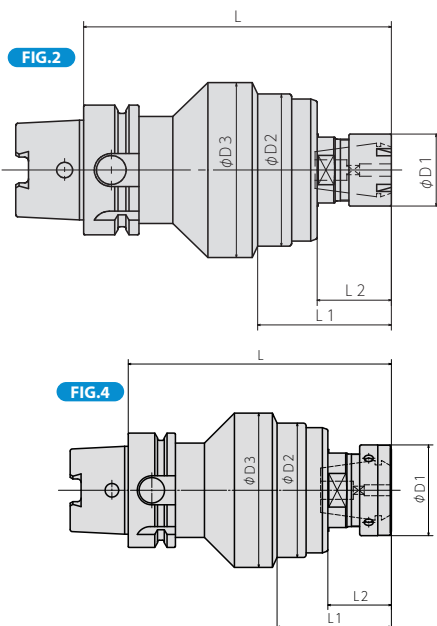
ORDERING EXAMPLE

① ST20 - ② SSC ③ 10 - ④ 100

① Shank Size
② Holder's Name
③ Max. φD
④ G.L. Length

▶▶▶ Thru-the-tool Coolant Available

▶▶▶ Thru-the-groove Coolant Available (Option)



Please use the tool having shank tolerance within h7 for SYFS type.

MODEL			CODE	FIG	øD	øD1	øD2	øD3	L	L1	L2	H	TAP SIZE	COLLET
HSKA50	-SYFN12	-125	310001	4	—	36	51	62.5	125	54	30	—	M4~M12,No.8~U1/2	CR13GBorGH
		-155	310002						155	84	60		P1/8	
HSKA63	-SYFS02	-110	321282	1	3	16	26	48	110	53	35	22	M1,M1.6,M2,No.3,No.4	—
	-SYFS03	-110	321284		4								M3,No.5,No.6	
	-SYFN16S	-145	321297	2	—	35	74	85	145	63	35	—	M4~M16,No.8~U5/8, P1/4	CR16GBorGH
		-175	321298						175	93	65			
		-205	321299						205	123	95			
	-SYFN20	-145	321294	4	—	50	74	85	145	63	35	—	M4~M20,U5/16~U5/8, P1/8~P3/8	CR20GBorGH
		-175	321295						175	93	65			
		-205	321296						205	123	95			
HSKA100	-SYFS02	-115	351081	1	3	16	26	48	115	53	35	22	M1,M1.6,M2,No.3,No.4	—
	-SYFS03	-115	351082		4								M3,No.5,No.6	
	-SYFN16S	-140	351107	3	—	35	74	85	140	63	35	—	M4~M16,No.8~U5/8, P1/4	CR16GBorGH
		-170	351108						170	93	65			
		-200	351109						200	123	95			
		-230	351110						230	153	125			
		-260	351111						260	183	155			
	-SYFN20	-140	351104	5	—	50	74	85	140	63	35	—	M4~M20,U5/16~U5/8, P1/8~P3/8	CR20GBorGH
		-170	351105						170	93	65			
		-200	351106						200	123	95			

- NOTE: 1. Each holder supplied with built-in coolant pipe. (Stationary type)
 2. Collet and chuck wrench are sold separately.
 3. Applicable to synchronized machines only.
 4. Thru-the-groove coolant type is manufactured to orders.

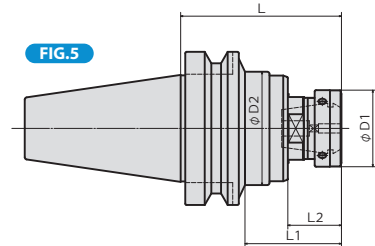
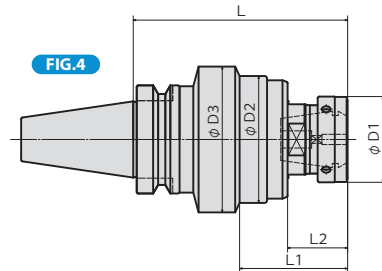
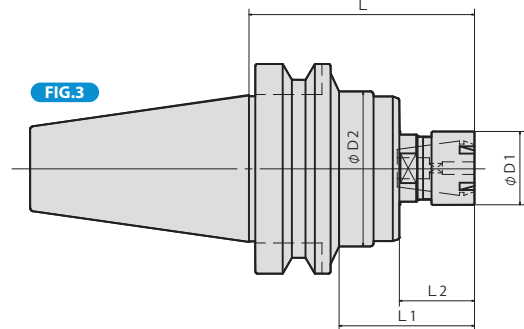
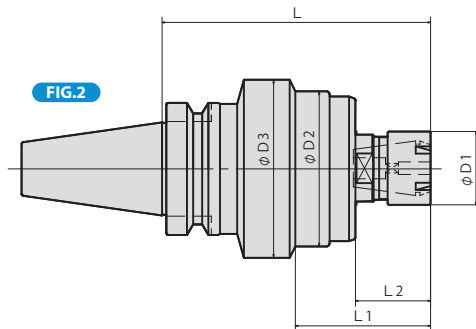
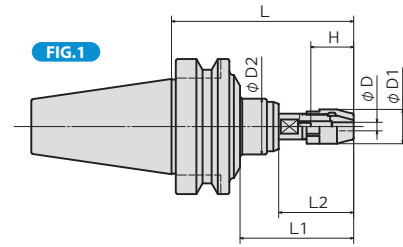
ORDERING EXAMPLE

①	②	③	④
HSKA63	-SYFN	20	-145
① Shank Size			
② Name			
③ Type No			
④ G.L. Length			



▶▶▶ Thru-the-tool Coolant Available

▶▶▶ Thru-the-groove Coolant Available (Option)



Please use the tool having shank tolerance within h7 for SYFS type.

	MODEL		CODE	FIG	φD	φD1	φD2	φD3	L	L1	L2	H	TAP SIZE	COLLET
BT30	-SYFS02	-095	200602	1	3	16	26	—	95	53	35	22	M1,M1.6,M2,No.3,No.4 M3,No.5,No.6	—
	-SYFS03	-095	200604		4									
	-SYFN12	-105	200616	4	—	36	51	62.5	105	54	30	—	M4~M12,No.8~U1/2 P1/8	CR13GBorGH
		-135	200617		135				84	60				
BT40	-SYFS02	-085	221042	1	3	16	26	—	85	53	35	22	M1,M1.6,M2,No.3,No.4 M3,No.5,No.6	—
	-SYFS03	-085	221044		4									
	-SYFN16S	-125	221039	2	—	35	74	85	125	63	35	—	M4~M16,No.8~U5/8, P1/4	CR16GBorGH
		-155	221040						155	93	65			
		-185	221041						185	123	95			
	-SYFN20	-125	221055	4	—	50	74	85	125	63	35	—	M4~M20,U5/16~U5/8, P1/8~P3/8	CR20GBorGH
		-155	221056						155	93	65			
		-185	221057						185	123	95			
BT50	-SYFS02	-095	251091	1	3	16	26	—	95	53	35	22	M1,M1.6,M2,No.3,No.4 M3,No.5,No.6	—
	-SYFS03	-095	251093		4									
	-SYFN16S	-105	251107	3	—	35	74	—	105	63	35	—	M4~M16,No.8~U5/8, P1/4	CR16GBorGH
		-135	251108						135	93	65			
		-165	251109						165	123	95			
		-195	251110						195	153	125			
		-225	251100						225	183	155			
	-SYFN20	-105	251104	5	—	50	74	—	105	63	35	—	M4~M20,U5/16~U5/8, P1/8~P3/8	CR20GBorGH
		-135	251105						135	93	65			
		-165	251106						165	123	95			

NOTE : 1. Collet and chuck wrench are sold separately.
 2. Applicable to synchronized machines only.
 3. Thru-the-groove coolant type is manufactured to orders.

ORDERING EXAMPLE

① BT30 - ② SYFN ③ 12 - ④ 105

① Shank Size

② Name

③ Type No

④ G.L. Length



ACCESSORIES

P.69 NUT



ACCESSORIES

P.70-75 COLLETS

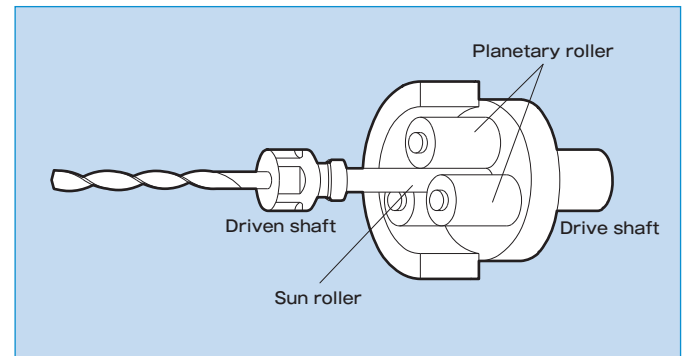


ACCESSORIES

P.78 CHUCK WRENCH


 PATENTED

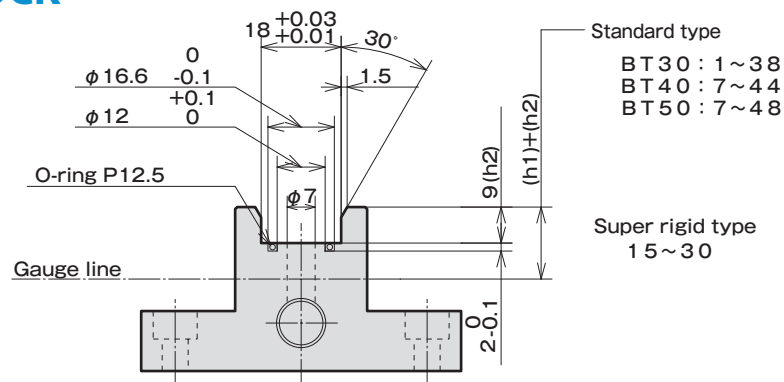

Traction drive (TD) speeder is an A.T.C. type speed accelerator, which employs planetary rollers and is co-developed and introduced to the market by Koyo Seiko and **SHOWA** for the first time in the world.



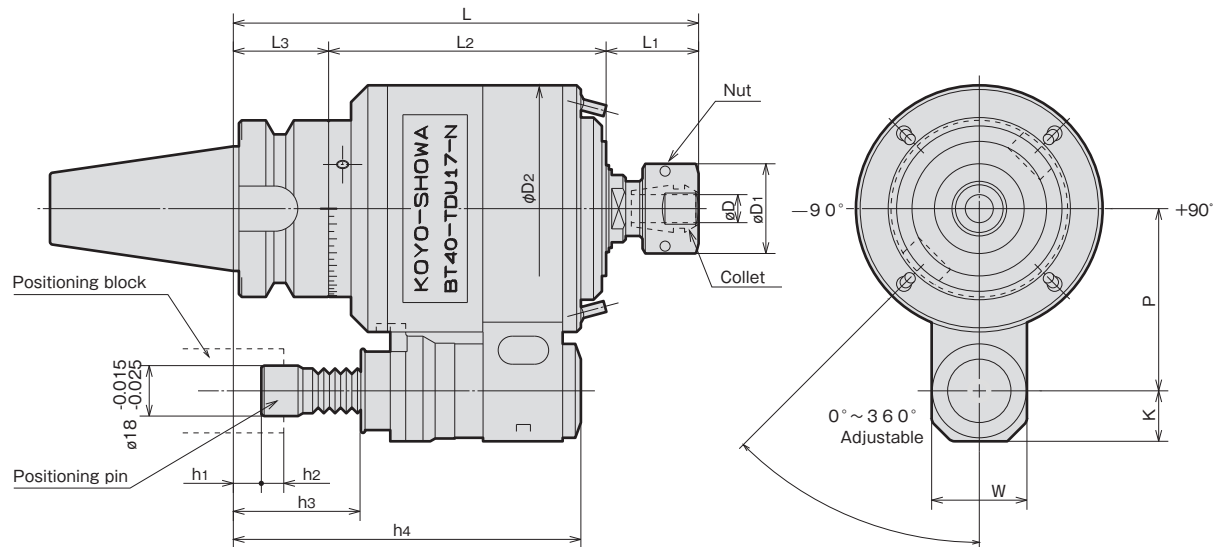
FEATURES

- 30,000min⁻¹ is obtainable on normal M/C.
- High and stable torque transmission enables small diameter drilling and endmilling, as well as deep grooving.
- Capable even for grinding on M/C, with minimum vibration and noise.
- Compact and light weight A.T.C. type.
- Broadly adjustment Positioning Pin
"One-touch" adjustment,
and a height range of 40 mm.

POSITIONING BLOCK



TRACTION DRIVE SPEED ACCELERATOR



ORDERING EXAMPLE

① BT50 - ② TDU ③ 17-N

① Shank Size

② Name

③ Type

STANDARD TYPE

MODEL		CODE	SPEED RATIO	MAX. (min ⁻¹)	L	L ₁	L ₂	L ₃	øD	øD1	øD2	h ₁	h ₂	h ₃	h ₄	P	K	W	N/W (kg)	MAX. POWER (kw)	STATIC RIGIDITY (N/ μm)	COLLET (AA GRADE)	NUT CODE
BT30	-TDU17-N	10180	1:6	30,000	159	31	100	28	0.5 ~10	30	88	6 ~29	7 ~9	39.5 ~42.5	118	65	18	34	4.3	3.1	8.8	CR10-(D)	RSN10NB
BT40	-TDU17-N	11496	1:6	30,000	165	31	100	34	0.5 ~10	30	88	4 ~35	7 ~9	45.5 ~48.5	124	65	18	34	5.4	3.1	9.8	CR10-(D)	RSN10NB
BT50	-TDU17-N	13896	1:6	30,000	169	31	100	38	0.5 ~10	30	88	0 ~39	7 ~9	49.5 ~52.5	128	80	18	34	7.9	3.1	12.7	CR10-(D)	RSN10NB
SK40	-TDU17-N	77100	1:6	30,000	171	31	100	40	0.5 ~10	30	88	2 ~41	7 ~9	51.5 ~54.5	130	65	18	34	5.4	3.1	9.8	CR10-(D)	RSN10NB
SK50	-TDU17-N	77310	1:6	30,000	171	31	100	40	0.5 ~10	30	88	2 ~41	7 ~9	51.5 ~54.5	130	80	18	34	7.9	3.1	12.7	CR10-(D)	RSN10NB

SUPER RIGID TYPE

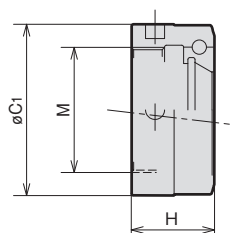
MODEL		CODE	SPEED RATIO	MAX. (min ⁻¹)	L	L1	L2	L3	øD	øD1	øD2	h1	h2	h3	h4	P	K	W	N/W (kg)	MAX. POWER (kw)	STATIC RIGIDITY (N/ μm)	COLLET (AA GRADE)	NUT CODE
BT50	-TDU40	13894	1:3.4	12,000	200	42	120	38	1.5 ~20	50	120	6 ~21	9	15 ~30	112	80	22	37	11.5	8.8	30.4	CR20-(D)	RSN20NB
SK50	-TDU40	77312	1:3.4	12,000	202	42	120	40	1.5 ~20	50	120	8 ~23	9	17 ~32	114	80	22	37	11.5	8.8	30.4	CR20-(D)	RSN20NB

ACCESSORIES for TRACTION DRIVE SPEED ACCELERATOR



NUT FOR TAP HOLDER FOR SYNCHRONIZED MACHINE & TRACTION DRIVE SPEED ACCELERATOR

RSN[®]NoNB



CODE	M	φC1	H	TDU No.
RSN10NB 30898	21×1.0	30	15.5	(TDU17)
RSN20NB 30899	40×1.0	50	17.5	(TDU40)

ACCESSORIES
➔ P.73 COLLETS

ACCESSORIES
➔ P.78 CHUCK WRENCH

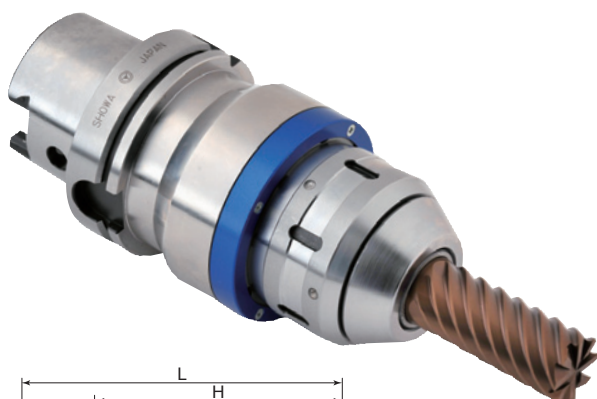


FIG.1

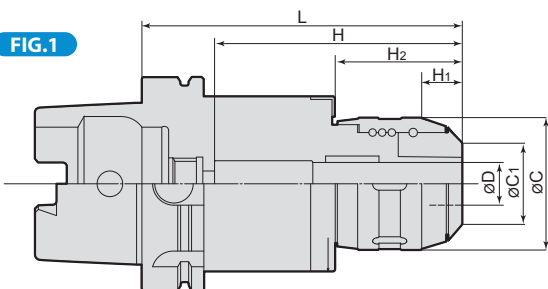
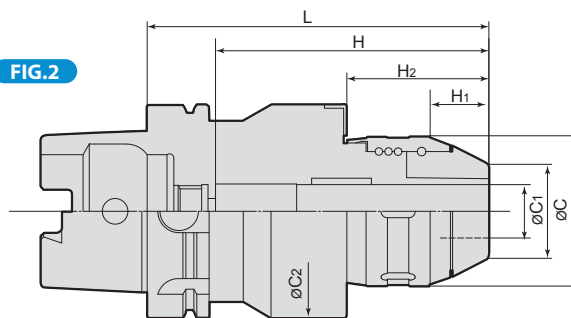


FIG.2



Cutter shank diameter should be h6 or better.

	MODEL	STOCK	Fig	øD	L	H	øC	øC1	øC2	H1	H2	Min insert length	N/W (kg)
HSKA63	-HDU16-	140	△	16	140	112	62	38	82	14	54.5	57	
	-HDU20-	145	△	20	145	117				19	59.5	70	
	-HDU25-	150	△	25	150	122				24	64.5	81	
HSKA100	-HDU16-	145	△	16	145	112	62	38	82	14	54.5	57	
	-HDU20-	150	△	20	150	117				19	59.5	70	
	-HDU25-	160	△	25	160	128	70	44	100	27.5	66.5	85	
	-HDU32-	165	△	32	165	133				32	71.5	90	

- NOTE : 1. Coolant pipe is included.
 2. Please don't use with collets because it may destroy the inside of the holder.
 3. After 100 clamping cycles, or every 3month interval, please confirm clamping power of hydraulic portion.
 4. When you check clamping power of hydraulic portion, please use exclusive test bar (separately sold).



ACCESSORIES

P.78 CHUCK WRENCH

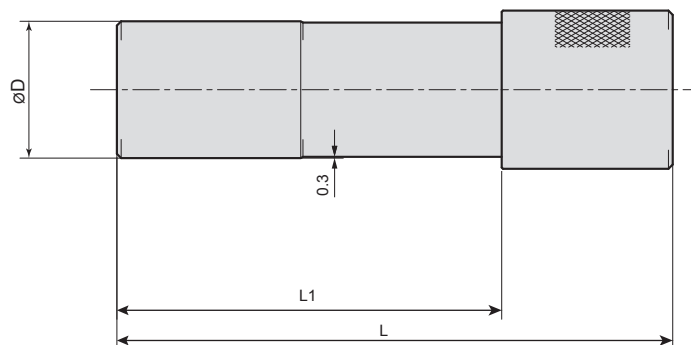
ORDERING EXAMPLE

①	②	③	④
HSKA63	-	HDU	32 - 120
① Shank Size			
② Holder's Name			
③ Max. øD			
④ G.L. Length			

ACCESSORIES for Hy-Dual CHUCK



Tester for clamping power (Specialy for Hy-Dual CHUCK only)



	MODEL	øD	L	L1
TB	HDU16	16	110	57
	HDU20	20	110	70
	HDU25	25	125	85
	HDU32	32	130	90

ORDERING EXAMPLE

①	②
TB	- HDU16
① Holder's Name	
② Chack Size	



FIG.1

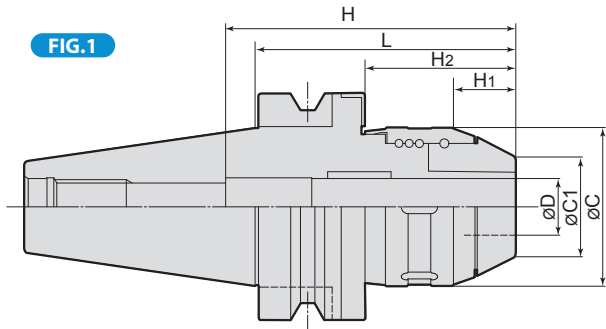
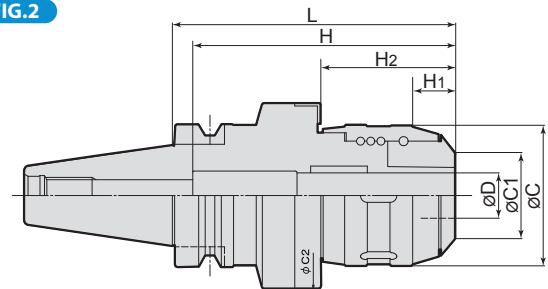


FIG.2



Cutter shank diameter should be h6 or better.

MODEL	A	Fig	øD	L	H	øC	øC1	øC2	H1	H2	Min insert length	N/W (kg)
BBT40	-HDU16- 120	○	16	120	112	62	38	82	14	54.5	57	
	-HDU20- 125	○		125	117				19	59.5	70	
BBT50	105	○	16	105	112	62	38	-	14	54.5	57	
	-HDU16- 135	△		135					14	54.5	57	
	165	△		165					14	54.5	57	
	110	○	20	110	117	62	38	-	19	59.5	70	
	-HDU20- 140	△		140					19	59.5	70	
	170	△		170					19	59.5	70	
	115	○	25	115	128	70	44	-	27.5	66.5	85	
	-HDU25- 145	△		145					27.5	66.5	85	
	175	△		175					27.5	66.5	85	
	120	○	32	120	133	82	52	-	27.5	68.5	90	
	-HDU32- 150	△		150					27.5	68.5	90	
	180	△		180					27.5	68.5	90	

- NOTE : 1. Please don't use with collets because it may destroy the inside of the holder.
 2. After 100 clamping cycles, or every 3month interval, please confirm clamping power of hydraulic portion.
 3. When you check clamping power of hydraulic portion, please use exclusive test bar (separately sold).



ACCESSORIES

P.78

CHUCK WRENCH

ORDERING EXAMPLE

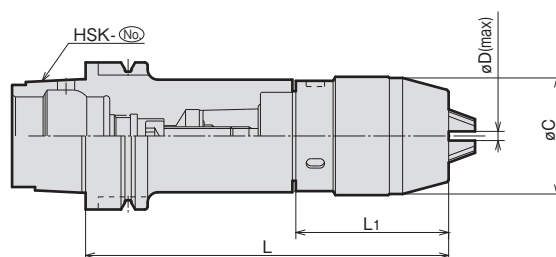
① BBT50 - ② HDU ③ 32 - ④ 120

- ① Shank Size
 ② Holder's Name
 ③ Max. øD
 ④ G.L. Length

NOTE: Big Plus sysyem(BBT) is a licensed product of BIG DAISHOWA.

FEATURES

- Drill chuck is positively coupled with the holder.
- Short (L length) and compact.
- Clamping force can be increased by the attached wrench.



MODEL		CODE	øD	L		L1		øC	N/W (kg)
				OPEN	CLOSE	OPEN	CLOSE		
HSKA50	-SDC08-125	25380	0.5~ 8	123	130.5	48	55.5	36	1.1
	-SDC13-155	25390	1~13	153	164.5	65.5	77	50.5	1.7
HSKA63	-SDC08-125	26380	0.5~ 8	123	130.5	48	55.5	36	1.3
	-SDC13-155	26390	1~13	153	164.5	65.5	77	50.5	1.9
HSKA100	-SDC08-130	27380	0.5~ 8	128	135.5	48	55.5	36	2.5
	-SDC13-155	27390	1~13	153	164.5	65.5	77	50.5	3.1
	-SDC13-205	27391		203	214.5				3.9

NOTE : 1. Coolant pipe is included. Each SDC chuck is supplied with a wrench.
2. Each SDC chuck is supplied with a wrench.

ORDERING EXAMPLE

①	HSKA50	-	②	SDC	③	08	-	④	125
①	Shank Size								
②	Holder's Name								
③	Max. øD								
④	G.L. Length								

RUNOUT

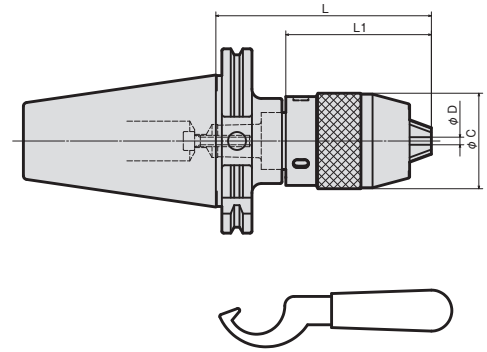
SDC NO.	DIA. OF TEST BAR	RUNOUT
SDC08	4&8mm	0.05mm以下
SDC13	6.5&13mm	

- Runout was measured at three times the diameter from chuck nose.

CLAMPING POWER

	CLAMPING	TWISTING MOMENT	比較%
TRADITIONAL KEYLESS CHUCK	Manual	6.9 N·m	100
SHOWA SDC CHUCK			
SHOWA SDC CHUCK	With wrench	21.6 N·m	314

NOTE : Twisting moment was measured with a ø9mm test bar.



MODEL	CODE	φD (CLAMPING RANGE)	L		L1		φC	N/W (kg)
			OPEN	CLOSE	OPEN	CLOSE		
SK40	-SDC08-088	77090	0.5~8	87.5	95	50	57.5	1.3
	-SDC13-105	77095	1~13	103.5	116	66	78.5	1.8
SK50	-SDC08-087	77320	0.5~8	87.5	95	50	57.5	4.1
	-SDC13-110	77325	1~13	103.5	116	66	78.5	4.5
	-SDC13-160	77326		153.5	166		50	5.1
BT30	-SDC08-080	10036	0.5~8	83	90.5	50	57.5	0.7
	-SDC13-100	10038	1~13	99	111.5	66	78.5	1.3
BT40	-SDC08-080	11148	0.5~8	83	90.5	50	57.5	1.3
	-SDC13-100	11150	1~13	99	111.5	66	78.5	1.8
BT50	-SDC08-100	13291	0.5~8	103	110.5	50	57.5	4.1
	-SDC13-160	13293	1~13	119	131.5	66	78.5	4.5
	-SDC13-120	13294		159	171.5		50	5.1

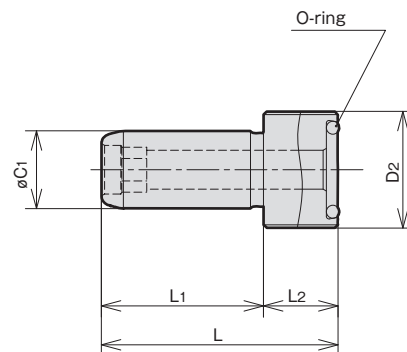
ORDERING EXAMPLE

① BT30 - ② SDC ③ 08 - ④ 080

- ① Shank Size
② Holder's Name
③ Max. φD
④ Gauge length



<HSK SHANK> COOLANT PIPE



MODEL	CODE	HSK No.	D1	D2	L	L1	L2	O-ring
CLP-032	25180	HSK32	6	M10×1.0	26	20.5	5.5	P4
CLP-040	25181	HSK40	8	M12×1.0	29.5	22	7.5	P6
CLP-050	25182	HSK50	10	M16×1.0	33	23.5	9.5	P9
CLP-063	25183	HSK63	12	M18×1.0	36.5	25	11.5	P11
CLP-080	25184	HSK80	14	M20×1.5	40	26.5	13.5	P12
CLP-100	25185	HSK100	16	M24×1.5	44	28.5	15.5	P15

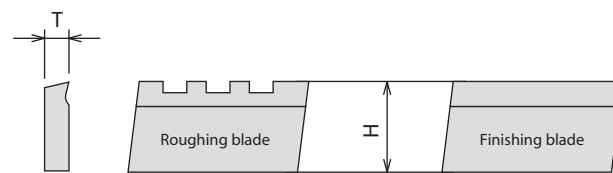
ORDERING EXAMPLE

① CLP - ② 032

- ① Name
② HSK No.

BLADE (For Standard Head)

Each set consists of a roughing blade (R) and a finishing blade (S).



MODEL	CODE	Hole dia Dmm	T	H	Blade	Head No.
BK50	52002	50 (50~53)	5	19	A19 R&S	A1-55
BK51	52032	51			A19.5 R&S	
BK52	52034	52			A20 R&S	
BK53	52004	53 (53~55)			A20.5 R&S	
BK54	52036	54			A21 R&S	
BK55	52006	55			A21.5 R&S	A2-65
BK55	52006	55 (55~60)			A21.5 R&S	
BK56	52038	56			A22 R&S	
BK57	52040	57			A22.5 R&S	
BK58	52042	58			A23 R&S	
BK59	52044	59			A23.5 R&S	
BK60	52008	60 (60~65)			A24 R&S	B-80
BK61	52046	61			A24.5 R&S	
BK62	52048	62			A25 R&S	
BK63	52050	63			A25.5 R&S	
BK64	52052	64			A26 R&S	
BK65	52010	65			B26.5 R&S	C-100
BK65	52010	65 (65~73)			B26.5 R&S	
BK66	52054	66			B27 R&S	
BK67	52056	67			B27.5 R&S	
BK68	52058	68			B28 R&S	
BK69	52060	69			B28.5 R&S	D-120
BK70	52062	70			B29 R&S	
BK71	52064	71			B29.5 R&S	
BK72	52066	72			B30 R&S	
BK73	52012	73 (73~80)			B30.5 R&S	
BK74	52068	74			B31 R&S	E-150
BK75	52070	75			B31.5 R&S	
BK76	52072	76			B32 R&S	
BK77	52074	77			B32.5 R&S	
BK78	52076	78			B33 R&S	
BK79	52078	79			B33.5 R&S	F-180
BK80	52014	80			C34 R&S	
BK80	52014	80 (80~90)			C34 R&S	
BK81	52080	81			C34.5 R&S	
BK82	52082	82			C35 R&S	
BK83	52084	83			C35.5 R&S	G-210
BK84	52086	84			C36 R&S	
BK85	52088	85			C36.5 R&S	
BK86	52090	86			C37 R&S	
BK87	52092	87			C37.5 R&S	
BK88	52094	88			C38 R&S	H-240
BK89	52096	89			C38.5 R&S	
BK90	52016	90 (90~100)			C39 R&S	
BK91	52098	91			C39.5 R&S	
BK92	52100	92			C40 R&S	I-270
BK93	52102	93			C40.5 R&S	
BK94	52104	94			C41 R&S	
BK95	52106	95			C41.5 R&S	
BK96	52108	96			C42 R&S	
BK97	52110	97			C42.5 R&S	J-300
BK98	52112	98			C43 R&S	
BK99	52114	99			C43.5 R&S	
BK100	52018	100			D44 R&S	

MODEL	CODE	Hole dia Dmm	T	H	Blade	Head No.
BK100	52018	100 (100~110)	5	19	D44 R&S	D-120
BK101	52116	101			D44.5 R&S	
BK102	52118	102			D45 R&S	
BK103	52120	103			D45.5 R&S	
BK104	52122	104			D46 R&S	
BK105	52124	105			D46.5 R&S	
BK106	52126	106			D47 R&S	
BK107	52128	107			D47.5 R&S	
BK108	52130	108			D48 R&S	
BK109	52132	109			D48.5 R&S	
BK110	52020	110 (110~120)			D49 R&S	
BK111	52134	111			D49.5 R&S	
BK112	52136	112			D50 R&S	
BK113	52138	113			D50.5 R&S	
BK114	52140	114			D51 R&S	
BK115	52142	115			D51.5 R&S	
BK116	52144	116			D52 R&S	
BK117	52146	117			D52.5 R&S	
BK118	52148	118			D53 R&S	
BK119	52150	119			D53.5 R&S	
BK120D	52152	120			D54 R&S	
BK120E	52154	120	8	25		E-150
BK125	52156	125				
BK130	52158	130				
BK135	52160	135				
BK140	52162	140				
BK145	52164	145				
BK150E	52166	150				
BK150F	52168	150				
BK155	52170	155				
BK160	52172	160				
BK165	52174	165	12	25		F-180
BK170	52176	170				
BK175	52178	175				
BK180	52180	180				
BK180	52180	180				
BK190	52182	190				
BK200	52184	200				
BK210	52186	210				
BK210	52186	210				
BK220	52188	220				
BK230	52190	230				H-240
BK240	52192	240				
BK240	52192	240				
BK250	52194	250				
BK260	52196	260				
BK270	52198	270				I-270

CENTER DRILL

CODE		DIA.	Head No.
CD-12	51062	12mm	A1-55, A2-65, B80, C100, D120
CD-12C	51061	12mm	A1-55, A2-65, B80, C100, D120
CD-20	51066	20mm	E150, F180, G210, H240, I270

MORSE TAPER SHANK SET (Standard)

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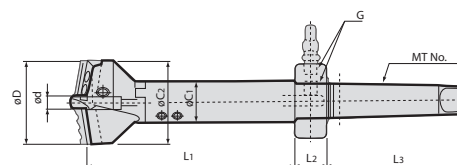
MT No. - Φ MAX - L1



A to D set consist of

1. Standard head 1pc
2. MT drill arbor 1pc
3. Center drill 2pcs
4. Drill blade 2sets
5. Oil plug 1pc
6. Wrench 1set

(※the set contents more than E are not included in center drills and blades)
E,F,G,H,I set does not include center drills and drill blades



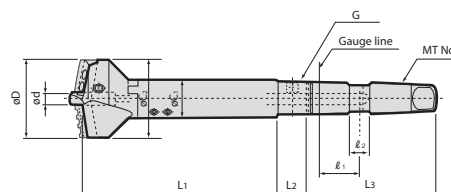
MODEL	CODE	Hole dia. øD	Set blade	ød	L1	L2	L3	øC1	øC2	MT No.	G	N/W (kg)
MT4	-A1s55-200S	54000	50~55 BK50 BK53	12	200	30	130	29	48	MT4	PT1/4	2.1
	-A2 65-200S	54001	55~65 BK55 BK60					35	53			2.2
	-B 80-200S	54002	65~80 BK65 BK73					38	63			2.7
	-C 100-200S	54003	80~100 BK80 BK90					45	78			3.2
	-D 120-200S	54004	100~120 BK100 BK110					55	98			4.3
MT5	-E 150-200S	54005	120~150	20	200	30	163	55	118	MT5	PT1/4	7.0
	-F 180-200S	54006	150~180					65	148			9.4
	-G 210-200S	54007	180~210					75	178			12.5
MT6	-H 240-300S	54008	210~240	20	300	40	228	85	207	MT6	PT3/8	23.9
	-I 270-300S	54009	240~270					95	237			28.6

MORSE TAPER SHANK SET (For Oil-Hole Adapter) MT No. - Φ MAX - L1 - OH



A to D set consist of

1. Standard head 1pc
2. OH MT drill arbor 1pc
3. Center drill 2pcs
4. Drill blade 2sets
5. Oil plug 1pc
6. Wrench 1set



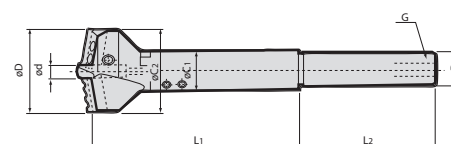
MODEL	CODE	Hole dia. øD	Set blade	ød	L1	L2	L3	ø1	ø2	C1	C2	MT No.	G	N/W (kg)
MT4	-A1s55-200-OHS	54530	50~55 BK50 BK53	12	200	30	130	41	20	29	48	MT4	PT1/4	2.1
	-A2 65-200-OHS	54531	55~65 BK55 BK60							35	53			2.2
	-B 80-200-OHS	54532	65~80 BK65 BK73							38	63			2.7
	-C 100-200-OHS	54533	80~100 BK80 BK90							45	78			3.2
	-D 120-200-OHS	54534	100~120 BK100 BK110							55	98			4.3

STRAIGHT SHANK SET (Standard) ST Φ 1 - Φ MAX - 200



A to D set consist of

1. Standard head 1pc
2. ST drill arbor 1pc
3. Center drill 2pcs
4. Drill blade 2sets
5. Oil plug 1pc
6. Wrench 1set



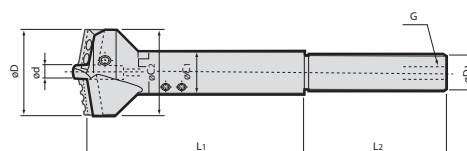
MODEL	CODE	Hole dia. øD	Set blade	ød	L1	L2	øC1	øC2	øD1	G	N/W (kg)
ST32	-A1s55-200S	54500	50~55 BK50 BK53	12	200	130	29	48	32	PT1/4	
	-A2 65-200S	54501	55~65 BK55 BK60				35	53			
	-B 80-200S	54502	65~80 BK65 BK73				38	63			
	-C 100-200S	54503	80~100 BK80 BK90				45	78			
	-D 120-200S	54504	100~120 BK100 BK110				55	98			
ST42	-A1s55-200S	54510	50~55 BK50 BK53	12	200	130	29	48	42	PT1/4	
	-A2 65-200S	54511	55~65 BK55 BK60				35	53			
	-B 80-200S	54512	65~80 BK65 BK73				38	63			
	-C 100-200S	54513	80~100 BK80 BK90				45	78			
	-D 120-200S	54514	100~120 BK100 BK110				55	98			

STRAIGHT SHANK SET (For Turret Lathe) ST Φ 1 - Φ MAX - 200



A to D set consist of

1. Standard head 1pc
2. ST drill arbor (For Lathe) 1pc
3. Center drill 2pcs
4. Drill blade 2sets
5. Oil plug 1pc
6. Wrench 1set



MODEL	CODE	Hole dia. øD	Set blade	ød	L1	L2	C1	C2	ød1	H	G	N/W (kg)
ST45	-A1s55-200S	54550	50~55 BK50 BK53	12	200	140	29	48	45	42	PT1/4	
	-A2 65-200S	54551	55~65 BK55 BK60				35	53				
	-B 80-200S	54552	65~80 BK65 BK73				38	63				
	-C 100-200S	54553	80~100 BK80 BK90				45	78				
	-D 120-200S	54554	100~120 BK100 BK110				55	98				

ORDERING EXAMPLE

① ST45 ② A1s55 ③ - 200

① Shank Size
② Max. øD
③ L1

NEW SUPER DRILL SET (Flat Head Type)

Cutting
Tool

For counter sink and metal plate

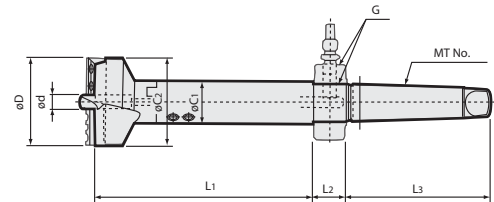
MORSE TAPER SHANK SET (Flat Head Type) **MT No. - ⌀MAX - L₁ - FT**

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A to D set consist of

- | | |
|------------------|-------|
| 1.Flat head | 1pc |
| 2.MT drill arbor | 1pc |
| 3.Center drill | 2pcs |
| 4.Drill blade | 2sets |
| 5.Oil plug | 1pc |
| 6. Wrench | 1set |



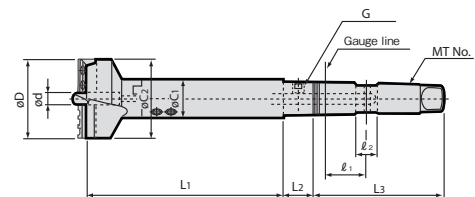
	MODEL	CODE	Hole dia. øD	Set blade		ød	L1	L2	L3	C1	C2	MT No.	G	N/W (kg)
MT4	-A1s 55-200-FT-S	54540	50~55	BK50F	BK53F	12	200	30	130	29	48	MT4	PT1/4	
	-A2 65-200-FT-S	54541	55~65	BK55F	BK60F						53			
	-B 80-200-FT-S	54542	65~80	BK65F	BK73F						63			
	-C 100-200-FT-S	54543	80~100	BK80F	BK90F						78			
	-D 120-200-FT-S	54544	100~120	BK100F	BK110F						98			

MORSE TAPER SHANK SET (Flat Head Type For Oil-Hole Adapter) **MT No. - ⌀MAX-200-FOH**



A to D set consist of

- | | |
|---------------------|------|
| 1.Flat head | 1pc |
| 2.OH MT drill arbor | 1pc |
| 3.Center drill | 2pcs |
| 4.Blade | 2pcs |
| 5.Oil plug | 1pc |
| 6. Wrench | 1set |



	MODEL	CODE	Hole dia. øD	Set blade		ød	L1	L2	L3	ℓ1	ℓ2	C1	C2	MT No.	G	N/W (kg)
MT4	-A1s 55-200-FOH-S		50~55	BK50F	BK53F	12	200	30	130	41	20	29	48	MT4	PT1/4	
	-A2 65-200-FOH-S		55~65	BK55F	BK60F								53			
	-B 80-200-FOH-S		65~80	BK65F	BK73F								63			
	-C 100-200-FOH-S		80~100	BK80F	BK90F								78			
	-D 120-200-FOH-S		100~120	BK100F	BK110F								98			

NEW SUPER DRILL SET (Flat Head Type)

For counter sink and metal plate

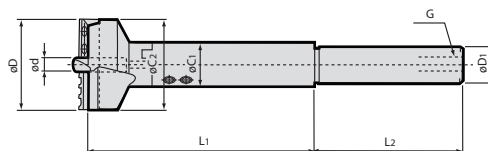
STRAIGHT SHANK SET (Flat Head Type)

ST[Ⓛ]-[Ⓛ]MAX-200-FT



A to D set consist of

- 1.Flat head 1pc
- 2.ST drill arbor 1pc
- 3.Center drill 2pcs
- 4.Drill blade 2sets
- 5.Oil plug 1pc
6. Wrench 1set



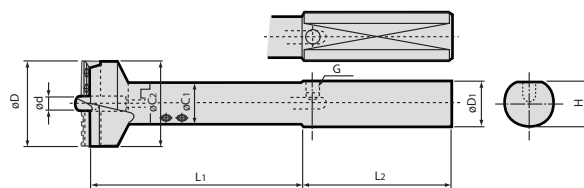
	MODEL	CODE	Hole dia. øD	Set blade		ød	L1	L2	C1	C2	ød1	G	N/W (kg)
ST32	-A1s 55-200-FT-S		50~55	BK50F	BK53F	12	200	130	29	48	32	PT1/4	
	-A2 65-200-FT-S		55~65	BK55F	BK60F				35	53			
	-B 80-200-FT-S		65~80	BK65F	BK73F				38	63			
	-C 100-200-FT-S		80~100	BK80F	BK90F				45	78			
	-D 120-200-FT-S		100~120	BK100F	BK110F					98			
ST42	-A1s 55-200-FT-S		50~55	BK50F	BK53F	12	200	130	29	48	42	PT1/4	
	-A2 65-200-FT-S		55~65	BK55F	BK60F				35	53			
	-B 80-200-FT-S		65~80	BK65F	BK73F				38	63			
	-C 100-200-FT-S		80~100	BK80F	BK90F				45	78			
	-D 120-200-FT-S		100~120	BK100F	BK110F					98			

STRAIGHT SHANK SET (Flat Head Type for Turret Lathe) ST[Ⓛ]-[Ⓛ]MAX-200



A to D set consist of

- 1.Flat head 1pc
- 2.ST drill arbor (For Lathe) 1pc
- 3.Center drill 2pcs
- 4.Drill blade 2sets
- 5.Oil plug 1pc
6. Wrench 1set



	MODEL	CODE	Hole dia. øD	Set blade		ød	L1	L2	C1	C2	ød1	H	G	N/W (kg)
ST45	-A1s 55-200-FT-S		50~55	BK50F	BK53F	12	200	140	29	48	45	42	PT1/4	
	-A2 65-200-FT-S		55~65	BK55F	BK60F				35	53				
	-B 80-200-FT-S		65~80	BK65F	BK73F				38	63				
	-C 100-200-FT-S		80~100	BK80F	BK90F				45	78				
	-D 120-200-FT-S		100~120	BK100F	BK110F					98				

ORDERING EXAMPLE

①	②	③	④
ST45	A1s55	- 200	FT

① Shank Size

② Max. øD

③ L1

④ Flat head type

NEW SUPER DRILL SET (Flat Head Type)

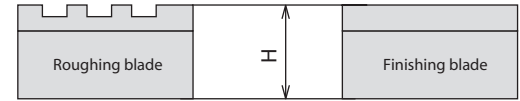
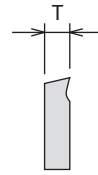
For counter sink and metal plate

BLADE (For Flat Head)

ST[Ⓓ]₁-[Ⓓ]MAX-200-FT

Cutting
Tool

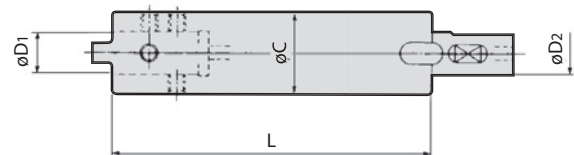
Each set consists of a roughing blade (R) and a finishing blade (S).



MODEL		CODE	Hole dia. øDmm	T	H	R & S	Head No.
BK	50F	52201	50 (50~53)	5	20	A19 RF & SF	A1s-55FT
	53F	52202	53 (53~55)			A20.5RF & F	
	55F	52203	55 (55~60)			A21.5RF & SF	A2 -65FT
	60F	52204	60 (60~65)			A24 RF & SF	
	65F	52205	65 (65~73)			B26.5RF & SF	B- 80FT
	73F	52206	73 (73~80)			B30.5RF & SF	
	80F	52207	80 (80~90)			C34 RF & SF	C-100FT
	90F	52208	90 (90~100)			C39 RF & SF	
	100F	52210	100 (100~110)			D44 RF & SF	D-120FT
	110F	52212	110 (110~120)			D49 RF & SF	

EXTENTION ARBOR (For Standard Head)

EXT-[Ⓓ]No.-[Ⓓ]L



MODEL		CODE	L	øD1, D2	øC	HEAD	N/W (kg)
EXT	-A-150	54151	150	16	29	A1s55 · A265	0.8
	-300	54301	300				1.6
	-B-150	54152	150	18	35	B 80	1.2
	-300	54302	300				2.3
	-C-150	54153	150	20	38	C100	1.4
	-300	54303	300				2.7
	-D-150	54154	150	22	45	D120	1.9
	-300	54304	300				3.8
	-E-150	54155	150	30	55	E150	2.8
	-300	54305	300				5.5
	-F-150	54156	150	35	65	F180	3.9
	-300	54306	300				7.8
	-G-150	54157	150	40	75	G210	5.1
	-300	54307	300				10.2
	-H-150	54158	150	45	85	H240	6.4
	-300	54308	300				12.8
	-I-150	54159	150	50	95	I 270	7.9
	-300	54309	300				16.0

ORDERING EXAMPLE

① EXT - ② A - ③ 150

① Name

② Head type

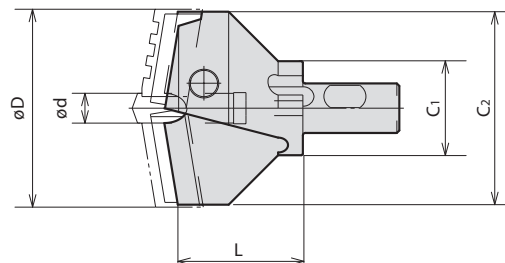
③ L

STANDARD HEAD ASS'Y

▶▶▶ Cutting Tool

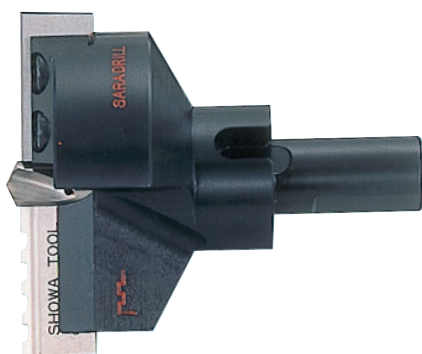


WITH BLADE CLAMPS
(Blade and center drill are sold separately.)

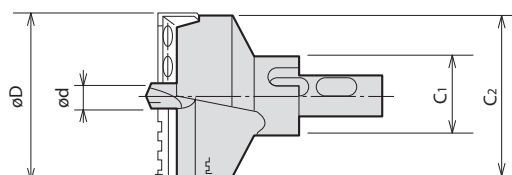


MODEL	CODE	Hole dia. ϕD		ϕd	$\phi C1$	$\phi C2$	L	N/W (kg)
		MIN.	MAX.					
HD	-A ₁ 55	54020	50	55	12	29	48	0.4
	-A ₂ 65	54021	55	65			53	0.5
	-B 80	54022	65	80		35	63	0.7
	-C 100	54023	80	100		38	78	1.0
	-D 120	54024	100	120		45	98	1.7
	-E 150	54025	120	150	20	55	118	2.6
	-F 180	54026	150	180		65	148	4.3
	-G210	54027	180	210		75	178	6.7
	-H240	54028	210	240		85	207	10.0
	-I 270	54029	240	270		95	237	11.8

FLAT HEAD ASS'Y

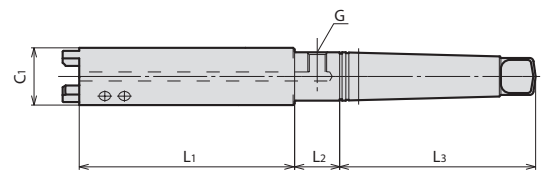


WITH BLADE CLAMPS
(Blade and center drill are sold separately.)



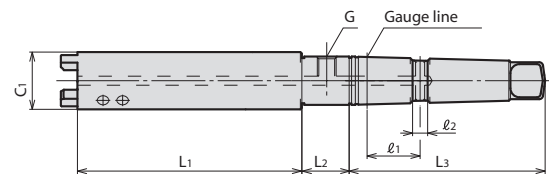
MODEL	CODE	Hole dia. ϕD		ϕd	$\phi C1$	$\phi C2$	L	N/W (kg)
		MIN.	MAX.					
HD	-A ₁ 55FT	54030	50	55	12	29	48	0.4
	-A ₂ 65FT	54031	55	65			53	0.5
	-B 80FT	54032	65	80		35	63	0.7
	-C 100FT	54033	80	100		38	78	1.0
	-D 120FT	54034	100	120		45	98	1.7

MT DRILL ARBOR



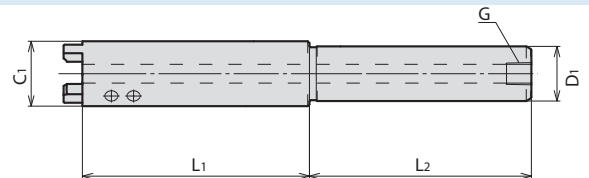
MODEL	CODE	MT No.	C1	L1	L2	L3	G	DRILL HEAD	N/W (kg)
MT4-A-200	54041	MT4	29	157	30	130	PT1/4	A1-55	1.4
MT4-B-200	54042		35	150				A2-65	
MT4-C-200	54043		38	144				B80	
MT4-D-200	54044		45	131				C100	
MT5-E-200	54055	MT5	55	137	40	163	PT3/8	D120	2.5
MT5-F-200	54056		65	126				E150	
MT5-G-200	54057		75	112				F180	
MT6-H-300	54068	MT6	85	300	40	228	PT3/8	G210	5.2
MT6-I-300	54069		95					H240	
								I270	11.0

OH MT DRILL ARBOR



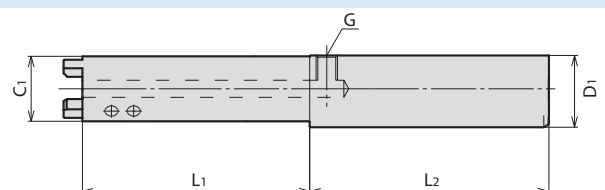
MODEL	CODE	MT No.	C1	L1	L2	L3	ℓ1	ℓ2	G	DRILL HEAD	N/W (kg)
MT4-A-200-OH	54141	MT4	29	157	30	130	41	20	PT1/4	A1-55	1.4
MT4-B-200-OH	54142		35	150						A2-65	
MT4-C-200-OH	54143		38	144						B80	
MT4-D-200-OH	54144		45	131						C100	
										D120	2.5

ST DRILL ARBOR



MODEL	CODE	D1	C1	L1	L2	G	DRILL HEAD	N/W (kg)
ST32	-A-200	32	29	157	130	PT1/4	A1-55	1.6
	-B-200		35	150			A2-65	
	-C-200		38	144			B80	
	-D-200		45	131			C100	
ST42	-A-200	42	29	157	130	PT3/8	D120	2.7
	-B-200		35	150			A1-55	
	-C-200		38	144			A2-65	
	-D-200		45	131			B80	
							C100	2.3
							D120	2.9

ST DRILL ARBOR (FOR LATHE)



MODEL	CODE	D1	C1	L1	L2	G	DRILL HEAD	N/W (kg)
ST45	-A-200	45	29	157	140	PT1/4	A1-55	1.9
	-B-200		35	150			A2-65	
	-C-200		38	144			B80	
	-D-200		45	131			C100	
							D120	3.0

OIL RING

▶▶▶ Cutting Tool



Coolant ring set :
Coolant ring 1pc
Stopper 1pc

* Oil plug is sold separately.

MODEL		CODE	ID(mm)	Oil Plug
CR	-MT4	51022	32	PT1/4
	-MT5	51024	45	
	-MT6	51026	65	PT3/8

Oil plug

MODEL		CODE	Coolant Ring
PT	1/4	51054	CR-MT4,CR-MT5
	3/8	51056	CR-MT6

Oil ring is used supply coolant through the drill in rotational applications.

T/C GUIDE (For Through Hole with Standard Head)

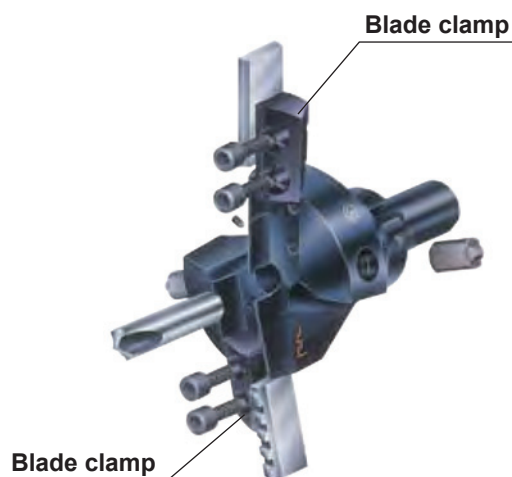


2pc/set

MODEL		CODE	HEAD	WRENCH
DG	-B80-S	51031	B-80 (ø65-ø73)	No wrench
	-B80-L	51034	B-80 (ø73-ø80)	
	-C/D	51036	C-100/D-120	
	-E/F	51038	E-150/F-180	w/wrench
	-G/H/I	51040	G-210/H-240/I-270	

T/C guides will minimize vibration when drill goes through the other end.

SPARE BLADE CLAMP



2 pc set with screws

FOR STANDARD HEAD

MODEL		CODE
BC	-A1s55	51003
	-A2 65	51004
	-B 80	51006
	-C 100	51008
	-D 120	51010
	-E 150	51012
	-F 180	51014
	-G210	51016
	-H240	51018
	-I 270	51020

FOR FLAT HEAD

MODEL		CODE
BC	-A1s55FT	51045
	-A2 65FT	51046
	-B 80FT	51047
	-C 100FT	51048
	-D 120FT	51049

RE-GRINDING FIXTURE

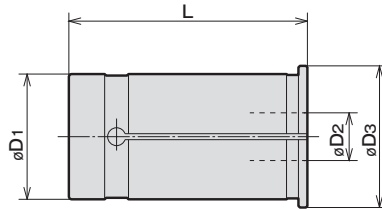


MODEL		CODE	HOLE DIA
SBG	-200	51044	50~270



STRAIGHT COLLET

SC^①-^②



CODE SC ^① - ^②	ϕD_3	L
SC16	-6·8·10·12	20
SC20	-6·8·10·12·16	23.5
SC25	-6·8·10·12·16·20	30
SC32	-6·8·10·12·16·20·25	37.5
SC42	-6·8·10·12·16·20·25·32	47.5

ORDERING EXAMPLE

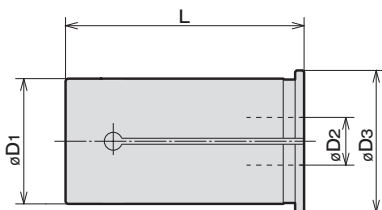
① SC ② 16 - ③ 6

- ① Name
② D1
③ D2



STRAIGHT COLLET (Oil-Hole Type)

SCOH^①-^②



CODE SCOH ^① - ^②	ϕD_3	L	Qty of smallest insertion
SCOH20	-6	23.5	54.5
	-8		
	-10		
	-12		
	-16		
SCOH25	-6	30	60
	-8		
	-10		
	-12		
	-16		
SCOH32	-6	37.5	70
	-8		
	-10		
	-12		
	-16		

CODE SCOH ^① - ^②	ϕD_3	L	Qty of smallest insertion
SCOH42	-6	47.5	80
	-8		
	-10		
	-12		
	-16		
	-20		
	-25		
	-32		

ORDERING EXAMPLE

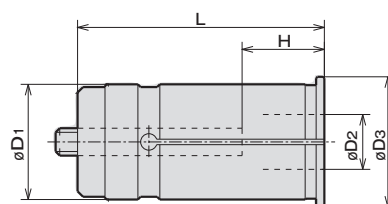
① SCOH ② 32 - ③ 20

- ① Name
② D1
③ D2



STRAIGHT COLLET WITH ADJUST SCREW

NC^①-^②



CODE NC ^① - ^②	ϕD_3	L	H
NC20	23.5	60	MIN.
			MAX.
NC32	37.5	80	25
			35
NC42	47.5	90	20
			65

NOTE : Applicable to Micron chucks and Hard chucks.

ORDERING EXAMPLE

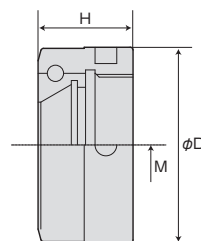
① NC ② 32 - ③ 6

- ① 呼称
② D1
③ D2

Name
D1
D2



NUT FOR COLLET CHUCK (NUT FOR BT, ST TYPE)



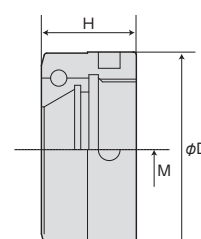
Standard use

CODE		M	φD	H	CHUCK
RSN07NB(Ni)	30891	M16×1.0	24	11.5	RSC07
RSN10NB(Ni)	30892	M21×1.0	30	15.5	RSC10
RSN13NB(Ni)	30893	M26×1.0	36	17.5	RSC13
RSN16NB(Ni)	30894	M32×1.0	42	17.5	RSC16
RSN20NB(Ni)	30895	M40×1.0	50	17.5	RSC20



NUT FOR COLLET CHUCK (NUT FOR HSK, SK TYPE)

RSN No. - TYPE



Standard use

CODE		M	φD	H	CHUCK
RSN07NB(Ni)	30891	M16×1.0	24	11.5	RSC07
RSN10NB(Ni)	30892	M21×1.0	30	15.5	RSC10
RSN13NB(Ni)	30893	M26×1.0	36	17.5	RSC13
RSN16NB(Ni)	30894	M32×1.0	42	17.5	RSC16
RSN20NB(Ni)	30895	M40×1.0	50	17.5	RSC20

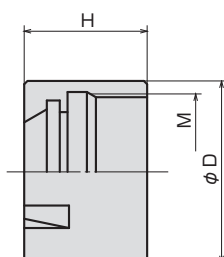
Through-Coolant use

CODE		M	φD	H	CHUCK
RSN10NB-OH	30870	M21×1.0	30	15.5	RSC10
RSN13NB-OH	30871	M26×1.0	36	17.5	RSC13
RSN16NB-OH	30872	M32×1.0	42		RSC16
RSN20NB-OH	30873	M40×1.0	50		RSC20

Note: Single use of OH nut can not effect through coolant.



NUT FOR SLIM CHUCK (NUT FOR BT, ST TYPE)



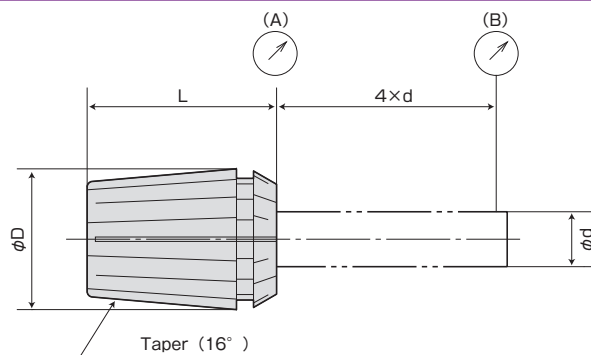
CODE		M	øD	H	CHUCK
ER11MN	30924	M13×0.75	16	11.3	SSC07
ER16MN	30926	M19×1.0	22	18	SSC10
ER20MN	30928	M24×1.0	28	19	SSC13
ER25MN	30929	M30×1.0	35	20	SYFN16S

ER25MN is a nut for Synchro Tap Holder SYFN16S type, on page 42 and page 56.



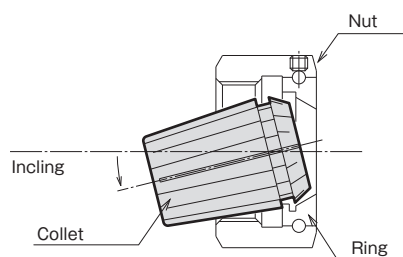
CR COLLET

CR[®] -D



Easy collet setting

- A half of ID of the ring is enlarged. Collet can be mounted easily by inclining it.



GRADE	RUNOUT (MAX, μm)	
	NOSE (A)	4D POINT (B)
AA	1	3
A	2	5
STD	5	15

Grade	Usage
Super fine/ Fine	Reaming, center drilling Small diameter carbide drill, endmill Grind stone for inder dia, high tool for frequency motor Carbide drill Turning tool for Lathe (tool)
Standard (STD)	Standard drill, tap Turing tool for lathe(work piece)

CHUCK COLLET CODE	RSC07		RSC10		RSC13		RSC16		RSC20	
	CR07-d	GRADE	CR10-d	GRADE	CR13-d	GRADE	CR16-d	GRADE	CR20-d	GRADE
φd	φd	RANGE	φd	RANGE	φd	RANGE	φd	RANGE	φd	RANGE
	1.0	0.5~1.0	1.0	0.5~1.0	1.0	0.5~1.0	1.5	1.0~1.5	2.0	1.5~2.0
	1.5	1.0~1.5	1.5	1.0~1.5	1.5	1.0~1.5	2.0	1.5~2.0	2.5	2.0~2.5
	2.0	1.5~2.0	2.0	1.5~2.0	2.0	1.5~2.0	2.5	2.0~2.5	3.0	2.5~3.0
	2.5	2.0~2.5	2.5	2.0~2.5	2.5	2.0~2.5	3.0	2.5~3.0	4.0	3.0~4.0
	3.0	2.5~3.0	3.0	2.5~3.0	3.0	2.5~3.0	4.0	3.0~4.0	5.0	4.0~5.0
	3.5	3.0~3.5	4.0	3.0~4.0	4.0	3.0~4.0	5.0	4.0~5.0	6.0	5.0~6.0
	4.0	3.5~4.0	5.0	4.0~5.0	5.0	4.0~5.0	6.0	5.0~6.0	7.0	6.0~7.0
	4.5	4.0~4.5	6.0	5.0~6.0	6.0	5.0~6.0	7.0	6.0~7.0	8.0	7.0~8.0
	5.0	4.5~5.0	7.0	6.0~7.0	7.0	6.0~7.0	8.0	7.0~8.0	9.0	8.0~9.0
	5.5	5.0~5.5	8.0	7.0~8.0	8.0	7.0~8.0	9.0	8.0~9.0	10.0	9.0~10.0
	6.0	5.5~6.0	9.0	8.0~9.0	9.0	8.0~9.0	10.0	9.0~10.0	11.0	10.0~11.0
	6.5	6.0~6.5	10.0	9.0~10.0	10.0	9.0~10.0	11.0	10.0~11.0	12.0	11.0~12.0
	7.0	6.5~7.0			11.0	10.0~11.0	12.0	11.0~12.0	13.0	12.0~13.0
					12.0	11.0~12.0	13.0	12.0~13.0	14.0	13.0~14.0
					13.0	12.0~13.0	14.0	13.0~14.0	15.0	14.0~15.0
							15.0	14.0~15.0	16.0	15.0~16.0
							16.0	15.0~16.0	17.0	16.0~17.0
									18.0	17.0~18.0
									19.0	18.0~19.0
									20.0	19.0~20.0
φD	11		16		20		25		32	
L	18		27		31		35		40	

Collet for through the groove (produce by order) are also available.

ORDERING EXAMPLE

① CR07 - ② 1.5 ③ AA

① Chuck Type

② φd

③ Grade

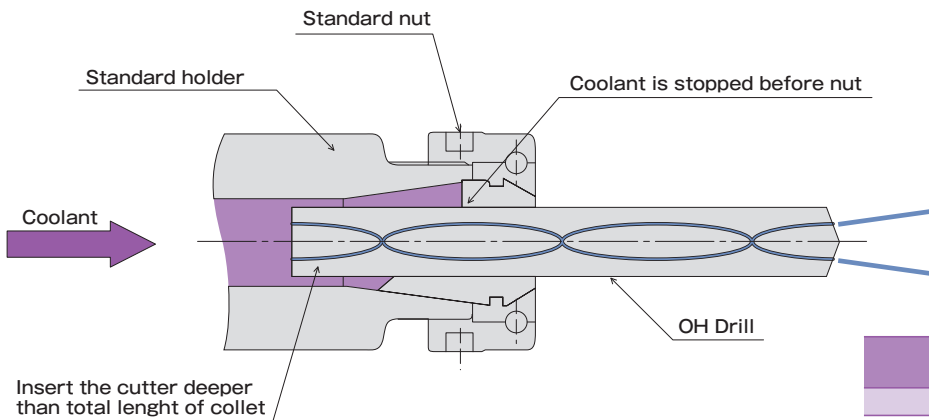


OIL HOLE CR COLLET

CROH[®]-D

FEATURES

- For thru-the tool coolant application.
- High pressure up to 7 Mpa is acceptable.
- Standard holders and nuts can be used.
- Bearing of nut is not affected by coolant.



GRADE	RUNOUT (MAX, μm)
(AA)	4 $\times$ D
	5 μm

NOTE : Only super precious grade (AA) is available for sale only ultra precision grade (AA) type.

CHUCK COLLET CODE	RSC07		RSC10		RSC13		RSC16		RSC20	
	CROH07-d GRADE		CROH10-d GRADE		CROH13-d GRADE		CROH16-d GRADE		CROH20-d GRADE	
ϕd	ϕd	RANGE	ϕd	RANGE	ϕd	RANGE	ϕd	RANGE	ϕd	RANGE
	3.0	2.9~3.0	3.0	2.9~3.0	5.0	4.9~5.0	6.0	5.5~6.0	8.0	7.5~8.0
	4.0	3.9~4.0	4.0	3.9~4.0	5.5	5.0~5.5	6.5	6.0~6.5	8.5	8.0~8.5
	4.5	4.4~4.5	4.5	4.4~4.5	6.0	5.5~6.0	7.0	6.5~7.0	9.0	8.5~9.0
	5.0	4.9~5.0	5.0	4.9~5.0	6.5	6.0~6.5	7.5	7.0~7.5	9.5	9.0~9.5
	5.5	5.4~5.5	5.5	5.0~5.5	7.0	6.5~7.0	8.0	7.5~8.0	10.0	9.5~10.0
	6.0	5.9~6.0	6.0	5.5~6.0	7.5	7.0~7.5	8.5	8.0~8.5	10.5	10.0~10.5
	6.5	6.4~6.5	6.5	6.0~6.5	8.0	7.5~8.0	9.0	8.5~9.0	11.0	10.5~11.0
	7.0	6.9~7.0	7.0	6.5~7.0	8.5	8.0~8.5	9.5	9.0~9.5	11.5	11.0~11.5
			7.5	7.0~7.5	9.0	8.5~9.0	10.0	9.5~10.0	12.0	11.5~12.0
			8.0	7.5~8.0	9.5	9.0~9.5	10.5	10.0~10.5	12.5	12.0~12.5
			8.5	8.0~8.5	10.0	9.5~10.0	11.0	10.5~11.0	13.0	12.5~13.0
			9.0	8.5~9.0	10.5	10.0~10.5	11.5	11.0~11.5	13.5	13.0~13.5
			9.5	9.0~9.5	11.0	10.5~11.0	12.0	11.5~12.0	14.0	13.5~14.0
			10.0	9.5~10.0	11.5	11.0~11.5	12.5	12.0~12.5	14.5	14.0~14.5
					12.0	11.5~12.0	13.0	12.5~13.0	15.0	14.5~15.0
					12.5	12.0~12.5	13.5	13.0~13.5	15.5	15.0~15.5
					13.0	12.5~13.0	14.0	13.5~14.0	16.0	15.5~16.0
							14.5	14.0~14.5	16.5	16.0~16.5
							15.0	14.5~15.0	17.0	16.5~17.0
							15.5	15.0~15.5	17.5	17.0~17.5
							16.0	15.5~16.0	18.0	17.5~18.0
									18.5	18.0~18.5
									19.0	18.5~19.0
									19.5	19.0~19.5
									20.0	19.5~20.0
ϕD	11		16		20		25		32	
L	18		27		31		35		40	

- NOTE : 1. Applicable for drill with oil hole.
 2. When in use insert a drill to the end from the rear of the collet.
 3. Do not use smaller sized cutting tools than inner diameter of collet, or coolant may leak out of a collet.
 4. If flat-face shank cutting tool is used, sealing function of collet does not work.

ORDERING EXAMPLE

① CROH10 - ② 10 ③ AA

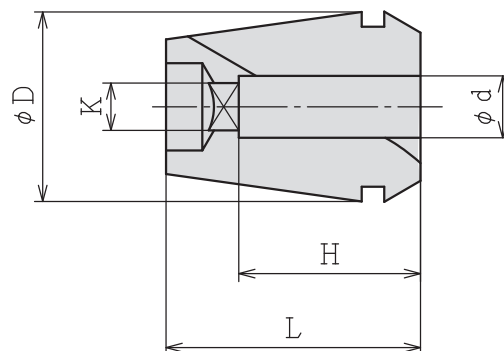
- ① Chuck Type
 ② ϕd
 ③ Grade



CR TAP COLLET (JIS)

CR[®]GB-[®]D

CR collet with square hole (for synchronized tapping).



MODEL		CODE	TAP SIZE	φd	K	H	φD	L	TAP HOLDER	COLLET CHUCK
CR10GB	-M4	84700	M4	5	4	15	16	27	-	RSC10
	-M5	84702	M5	5.5	4.5	15				
	-M6	84704	M6	6	4.5	15				
	-M8	84706	M8	6.2	5	20				
	-M10	84708	M10	7	5.5	20				
	-P1/8	84710	P1/8	8	6	20				
CR13GB	-M4	84712	M4	5	4	15	20	31	SYFN12	RSC13
	-M5	84714	M5	5.5	4.5	15				
	-M6	84716	M6	6	4.5	15				
	-M8	84718	M8	6.2	5	20				
	-M10	84720	M10	7	5.5	20				
	-P1/8	84722	P1/8	8	6	20				
	-M12	84724	M12	8.5	6.5	20				
CR16GB	-M4	84726	M4	5	4	15	25	35	-	RSC16
	-M5	84728	M5	5.5	4.5	15				
	-M6	84730	M6	6	4.5	15				
	-M8	84732	M8	6.2	5	20				
	-M10	84734	M10	7	5.5	20				
	-P1/8	84736	P1/8	8	6	20				
	-M12	84738	M12	8.5	6.5	20				
	-M14	84740	M14	10.5	8	25				
	-P1/4	84742	P1/4	11	9	17				
	-M16	84744	M16	12.5	10	25				
CR20GB	-P3/8	84746	P3/8	14	11	18	32	40	SYFN20	RSC20
	-M4	84748	M4	5	4	15				
	-M5	84750	M5	5.5	4.5	15				
	-M6	84752	M6	6	4.5	15				
	-M8	84754	M8	6.2	5	20				
	-M10	84756	M10	7	5.5	20				
	-P1/8	84758	P1/8	8	6	20				
	-M12	84760	M12	8.5	6.5	20				
	-M14	84762	M14	10.5	8	25				
	-P1/4	84764	P1/4	11	9	17				
	-M16	84766	M16	12.5	10	25				
	-P3/8	84768	P3/8	14	11	18				
	-M18	84770	M18	14	11	30				
	-M20	84772	M20	15	12	30				

NOTE : 1. Above table is for a tap of JIS standard shank.

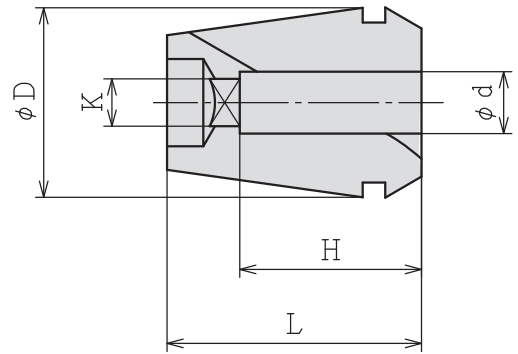
2. In the case of OSG Corporation synchro tap, shank diameter, square end dimensions are different from others so that there is the case that you can not use it even if tap size is the same.



OIL HOLE CR TAP COLLET (JIS)

CR¹⁰GH-¹⁰

OH-type collet with square hole is for high-pressure centre-through coolant feeding (for synchro tapping).



MODEL		CODE	TAP SIZE	φd	K	H	φD	L	TAP HOLDER	COLLET CHUCK
CR10GH	-M6	84800	M6	6	4.5	22	16	27	-	RSC10
	-M8	84802	M8	6.2	5	22				
	-M10	84804	M10	7	5.5	22				
	-P1/8	84806	P1/8	8	6	22				
CR13GH	-M6	84808	M6	6	4.5	25	20	31	SYFN12	RSC13
	-M8	84810	M8	6.2	5	25				
	-M10	84812	M10	7	5.5	25				
	-P1/8	84814	P1/8	8	6	25				
	-M12	84816	M12	8.5	6.5	25				
CR16GH	-M6	84818	M6	6	4.5	25	25	35	-	RSC16
	-M8	84820	M8	6.2	5	25				
	-M10	84822	M10	7	5.5	25				
	-P1/8	84824	P1/8	8	6	25				
	-M12	84826	M12	8.5	6.5	30				
	-M14	84828	M14	10.5	8	30				
	-P1/4	84830	P1/4	11	9	30				
	-M16	84832	M16	12.5	10	30				
CR20GH	-P3/8	84834	P3/8	14	11	30	32	40	SYFN20	RSC20
	-M6	84836	M6	6	4.5	25				
	-M8	84838	M8	6.2	5	25				
	-M10	84840	M10	7	5.5	30				
	-P1/8	84842	P1/8	8	6	30				
	-M12	84844	M12	8.5	6.5	30				
	-M14	84846	M14	10.5	8	30				
	-P1/4	84848	P1/4	11	9	35				
	-M16	84850	M16	12.5	10	35				
	-P3/8	84852	P3/8	14	11	35				
	-M18	84854	M18	14	11	35				
	-M20	84856	M20	15	12	35				

NOTE : 1. Above table is for a tap of JIS standard shank.

2. In the case of OSG Corporation synchro tap, shank diameter, square end dimensions are different from others so that there is the case that you can not use it even if tap size is the same.

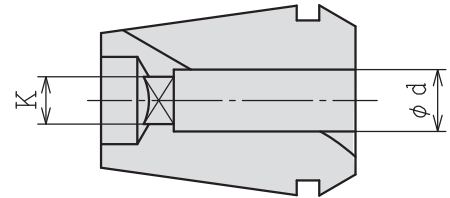
3. Gap-through collet is also available. Please order separately.



CR TAP COLLET (DIN/ISO)

CR COLLET with square hole (for synchronized tapping)-coated version

CR[®]GB-[®]D



MODEL	TAP SIZE						φ d	K	TAP HOLDER COLLET CHUCK
	METRIC DIN371	Unified screw DIN376	PT DIN374	METRIC ISO-F	Unified screw ISO-R	PT ISO-R			
CR07GB	M2.3,M2.5						2.8	2.1	RSC07
	M3						3.5	2.7	
	M3.5						4	3	
	M4	M6					4.5	3.4	
	M8						6	4.9	
CR10GB		M7		M5	U No.10		5	4	RSC10
				M6	M8	U1/4	5.5	4.3	
	M7	M9,M10	U1/4	U3/8	R1/8		6.3	5	
				M7	M9	U3/8	7	5.6	
				M8	M10,M11	U5/16	7.1	5.6	
CR13GB				M9	M12	U1/2	8	6.3	SYFN12 RSC13
	M3	M4.5,M5	U1/8				9	7.1	
				M4	M5,M5.5	U No.12	3.5	2.7	
				M4.5	M6	U No.8	4	3.2	
				M5		U No.10	4.5	3.55	
		M7					5	4	
	M4.5,M5 M6	M8	U5/16				5.5	4.3	
							6	5	
	M7	M9,M10	U1/4	U3/8	R1/8		6.3	5	
				M7	M9	U3/8	7	5.6	
CR16GB				M8	M10,M11	U5/16	7.1	5.6	SYFN16S RSC16
				M9	M12	U1/2	8	6.3	
	M3	M4.5,M5	U1/8				9	7.1	
							10	8	
							11	9	
		M7					11.2	9	
	M4.5,M5 M6	M8	U5/16				12	9	
							12.5	10	
	M7	M9,M10	U1/4	U3/8	R1/8		14	11.2	
				M7	M9	U3/8	16	12.5	
CR20GB				M8	M10,M11	U5/16	7	5.6	SYFN20 RSC20
				M9	M12	U1/2	8	6.3	
	M3	M4.5,M5	U1/8				9	7.1	
							10	8	
							11	9	
		M7					11.2	9	
	M4.5,M5 M6	M8	U5/16				12	9	
							12.5	10	
	M7	M9,M10	U1/4	U3/8	R1/8		14	11.2	
				M7	M9	U3/8	16	12.5	

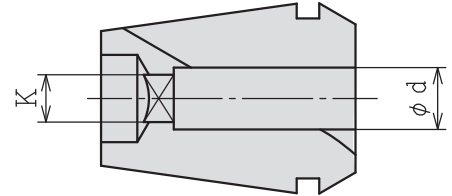
NOTE : 1. Above table is for a tap of DIN & ISO standard shank.
2. Please quote shaft diameter/square when you can not find suitable collet.



OIL HOLE CR TAP COLLET (DIN/ISO)

OH-type collet with square hole is for high-pressure centre-through coolant feeding (for synchro tapping)-coated version

CR[®]GH-[®]D



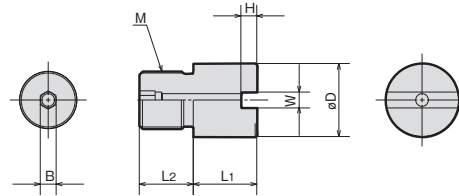
MODEL	TAP SIZE										φ d	K	TAP HOLDER COLLET CHUCK
	METRIC		Unified screw		PT	METRIC		Unified screw		PT			
	DIN371	DIN376	DIN371	DIN376	DIN374	ISO-F	ISO-R	ISO-F	ISO-R	ISO-R			
CR-07GB	M2.3,M2.5										2.8	2.1	RSC07
	M3										3.5	2.7	
	M3.5										4	3	
	M4	M6									4.5	3.4	
	M8										6	4.9	
CR10GH	M3	M4.5,M5	U1/8								3.5	2.7	RSC10
						M4.5	M6	U No.8	U 1/4		4.5	3.55	
	M4.5,M5 M6	M8		U5/16							6	5	
	M7	M9,M10	U1/4	U3/8	R1/8						7	5.6	
						M8	M10,M11	U5/16	U7/16	R1/8	8	6.3	
CR13GH						M4.5	M6	U No.8	U 1/4		4.5	3.55	SYFN12 RSC13
	M4.5,M5 M6	M8		U5/16							6	5	
	M7	M9,M10	U1/4	U3/8	R1/8						7	5.6	
						M8	M10,M11	U5/16	U7/16	R1/8	8	6.3	
						M9	M12		U1/2		9	7.1	
CR16GH	M10										10	8	SYFN16S RSC16
						M4.5	M6	U No.8	U 1/4		4.5	3.55	
	M4.5,M5 M6	M8		U5/16							6	5	
	M7	M9,M10	U1/4	U3/8	R1/8						7	5.6	
						M8	M10,M11	U5/16	U7/16	R1/8	8	6.3	
						M9	M12		U1/2		9	7.1	
	M10										10	8	
		M14		U9/16	R1/4						11	9	
CR20GH		M16		U5/8	R3/8						12	9	SYFN20 RSC20
							M18,M20		U3/4		14	11.2	
						M4.5	M6	U No.8	U 1/4		4.5	3.55	
	M4.5,M5 M6	M8		U5/16							6	5	
	M7	M9,M10	U1/4	U3/8	R1/8						7	5.6	
						M8	M10,M11	U5/16	U7/16	R1/8	8	6.3	
						M9	M12		U1/2		9	7.1	
	M10										10	8	
		M14		U9/16	R1/4						11	9	
		M16		U5/8	R3/8						12	9	
							M18,M20		U3/4		14	11.2	
							M22		U7/8	R1/2	16	12.5	
		M22,M24		U7/8	R5/8						18	14.5	
		M27		U1	R3/4						20	16	

NOTE : 1. Above table is for a tap of DIN & ISO standard shank.
 2. Gap-through collet is also available, please order separately.
 3. Please quote shaft diameter/square when you can not find suitable collet.

ACCESSORIES for MICRON CHUCK (Milling Chuck)



ADJUST SCREW (For BT • BBT shank standard MICRON CHUCK)



MODEL	CODE	øD	M	L ₁	L ₂	W	H	B	MICRON CHUCK
HAS1620-05	17602	15	M10×1.0	5	14	5	3.5	5	HPC16 HPC20
HAS1620-15	17604			15					
HAS1620-25	17606			25					
HAS2532-10	17612	23	M18×1.0	10	17	5	5	5	HPC25 HPC32
HAS2532-20	17614			20					
HAS2532-35	17616			35					
HAS4250-10	17622	33	M18×1.0	10	17	5	5	5	HPC42 HPC50
HAS4250-20	17624			20					
HAS4250-35	17626			35					

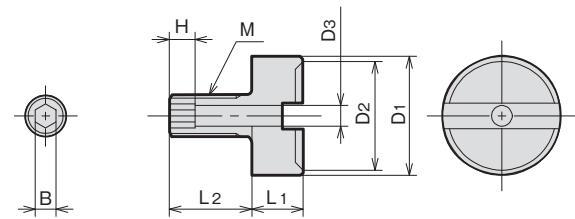
NOTE : 1. The above Adjust Screws are sold separately.

2. Above Adjust Screws can not be used for HSK shank tool. Adjust Screws for HSK shank chuck are manufactured to order.

ACCESSORIES for MICRON CHUCK (Milling Chuck)



ADJUST SCREW (For HSK shank standard MICRON CHUCK)



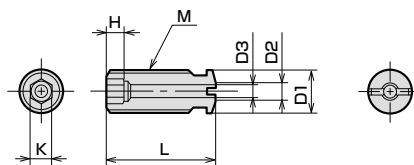
MODEL	CODE	øD1	øD2	øD3	M	L ₁	L ₂	H	B	MICRON CHUCK
HAS1620-05	M06	15	13	3	M6	5	18	2.5	3	HKA50 HKA63 HKA100
	M08			4	M8		16	3	4	
	M12			5	M12		11		5	
HAS2532-10	M06	23	21	3	M6	10	18	4	3	HKA50 HKA63 HKA100
	M08			4	M8		16		4	
	M12			5	M12		11.5		5	
HAS4250-10	M08	33	31	4	M8		28		4	HKA63 HKA100
	M12			5	M12		11.5		5	

NOTE : 1. The above Adjust Screws are sold separately.

2. Above Adjust Screws can not be used for "H" and "M" series Micron Chucks. Adjust Screws for "H" and "M" series Micron Chucks are manufactured to order.



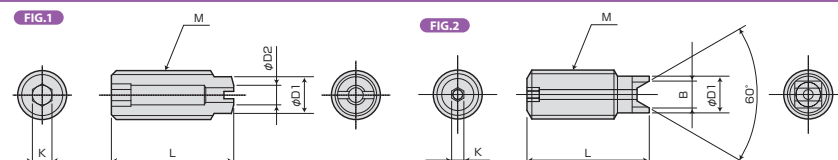
ADJUST SCREW for MICRON CHUCK H series, M series



MODEL	CODE	M	L	D ₁	D ₂	D ₃	K	H	MICRON CHUCK
AS17-2-M5-CTW	17672	M5×0.8	17	5	3	2	2.5	3	HPC06H
AS17-2-M6-CTW	17676	M6×1.0	17	6			3		HPC07H
AS22-2-M6-CTW	17678		22				HPC08H,HPC08M		
AS22-2-M8-CTW	17680	M8×1.25	25	8	5	4	4	5	HPC09H,HPC10H
AS25-2-M8-CTW	17682								HPC09M,HPC10M,HPC11M~12M
AS25-2-M10-CTW	17684	M10×1.5		10	6	5	5	6	HPC11H~16H



ADJUST SCREW (For COLLET CHUCK)



MODEL	FIG	M	L	D1	D2	K	B	HOLDER
M6×20L-CTW 1)	1	M6×1.0	20	4.5	3	3	—	RSC07
RAS10-25-2.5 2)	2	M10×1.5	25	7.5	—	2.5	5.5	RSC10
RAS13-25-2.5 2)		M12×1.5		9.5			7.2	RSC13
RAS16-25-5 2)		M18×1.5		13.5		5	9.5	RSC16
RAS20-25-5 2)		M24×1.5		17.5				RSC20

(Note 1) Adjust screw applicable for more than $\phi 3$ of drill.
CTW type screws are not two pieces structure.

(Note 2) Adjust screw applicable for more than $\phi 2$ of drill.



CHUCK WRENCH for MICRON CHUCK series



HOOK SPANNER

CHUCK CODE MICRON CHUCK	WRENCH CODE	
HPC16,HPC20	FS52-55G	35852
HPC25,HPC16S,HPC20S,HDU16,HDU20	FS58-62G	35853
HPC32,HPC25S,HDU25	FS68-75G	35854
HPC42,HPC32S,HDU32	FS80-90G	35855



CHUCK WRENCH for MICRON CHUCK H series, M series



HOOK PIN SPANNER

CHUCK CODE MICRON CHUCK	WRENCH CODE	
HPC03H~HPC16H HPC03M~HPC12M	FP45-48G	35851



CHUCK WRENCH for COLLET CHUCK



CODE	CHUCK
FP25 35844	RSC07
FP30 35845	RSC10
FP35 35846	RSC13
FP42 35847	RSC16
FP50 35848	RSC20



CHUCK WRENCH (For SLIM CHUCK)



CODE	CHUCK
ER11MS 35861	SSC07
ER16MS 35863	SSC10
ER20MS 35865	SSC13
ER25MS 35867	SYFN16S

NOTE:ER25MS is a wrench for
Synchro Tap Holder SYFN16S,
type, on page 52 and page 53.

DRILL DIAMETERS FOR TAPPING

Metric coarse screw thread

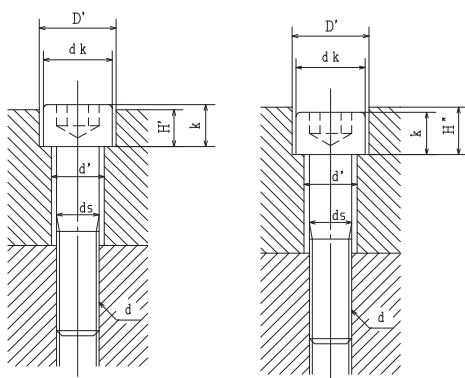
Nominal	Drill diameter	Nominal	Drill diameter	Nominal	Drill diameter	Nominal	Drill diameter
M1 × 0.25	0.75	M2.5 × 0.45	2.10	M9 × 1.25	7.80	M27 × 3	24.0
M1.1 × 0.25	0.85	M2.6 × 0.45	2.20	M10 × 1.5	8.50	M30 × 3.5	26.5
M1.2 × 0.25	0.95	M3 × 0.5	2.50	M11 × 1.5	9.50	M33 × 3.5	29.5
M1.4 × 0.3	1.10	M3.5 × 0.6	2.90	M12 × 1.75	10.3	M36 × 4	32.0
M1.6 × 0.35	1.25	M4 × 0.7	3.30	M14 × 2	12.0	M39 × 4	35.0
M1.7 × 0.35	1.35	M4.5 × 0.75	3.80	M16 × 2	14.0	M42 × 4.5	37.5
M1.8 × 0.35	1.45	M5 × 0.8	4.20	M18 × 2.5	15.5	M45 × 4.5	40.5
M2 × 0.4	1.60	M6 × 1.0	5.00	M20 × 2.5	17.5	M48 × 5	43.0
M2.2 × 0.45	1.75	M7 × 1.0	6.00	M22 × 2.5	19.5		
M2.3 × 0.4	1.90	M8 × 1.25	6.80	M24 × 3	21.0		

Metric fine screw thread

Nominal	Drill diameter	Nominal	Drill diameter	Nominal	Drill diameter	Nominal	Drill diameter
M1 × 0.2	0.80	M11 × 0.75	10.3	M25 × 1.5	23.5	M39 × 1.5	37.5
M1.1 × 0.2	0.90	M12 × 1.5	10.5	M25 × 1.0	24.0	M40 × 3.0	37.0
M1.2 × 0.2	1.00	M12 × 1.25	10.8	M26 × 1.5	24.5	M40 × 2.0	38.0
M1.4 × 0.2	1.20	M12 × 1.0	11.0	M27 × 2.0	25.0	M40 × 1.5	38.5
M1.6 × 0.2	1.40	M14 × 1.5	12.5	M27 × 1.5	25.5	M42 × 4.0	38.0
M1.8 × 0.2	1.60	M14 × 1.0	13.0	M27 × 1.0	26.0	M42 × 3.0	39.0
M2 × 0.25	1.75	M15 × 1.5	13.5	M28 × 2.0	26.0	M42 × 2.0	40.0
M2.2 × 0.25	1.95	M15 × 1.0	14.0	M28 × 1.5	26.5	M42 × 1.5	40.5
M2.5 × 0.35	2.20	M16 × 1.5	14.5	M28 × 1.0	27.0	M45 × 4.0	41.0
M3 × 0.35	2.70	M16 × 1.0	15.0	M30 × 3.0	27.0	M45 × 3.0	42.0
M3.5 × 0.35	3.20	M17 × 1.5	15.5	M30 × 2.0	28.0	M45 × 2.0	43.0
M4 × 0.5	3.50	M17 × 1.0	16.0	M30 × 1.5	28.5	M45 × 1.5	43.5
M4.5 × 0.5	4.00	M18 × 2.0	16.0	M30 × 1.0	29.0	M48 × 4.0	44.0
M5 × 0.5	4.50	M18 × 1.5	16.5	M32 × 2.0	30.0	M48 × 3.0	45.0
M5.5 × 0.5	5.00	M18 × 1.0	17.0	M32 × 1.5	30.5	M48 × 2.0	46.0
M6 × 0.75	5.30	M20 × 2.0	18.0	M33 × 3.0	30.0	M48 × 1.5	46.5
M7 × 0.75	6.30	M20 × 1.5	18.5	M33 × 2.0	31.0	M50 × 3.0	47.0
M8 × 1.0	7.00	M20 × 1.0	19.0	M33 × 1.5	31.5	M50 × 2.0	48.0
M8 × 0.75	7.30	M22 × 2.0	20.0	M35 × 1.5	33.5	M50 × 1.5	48.5
M9 × 1.0	8.00	M22 × 1.5	20.5	M36 × 3.0	33.0		
M9 × 0.75	8.30	M22 × 1.0	21.0	M36 × 2.0	34.0		
M10 × 1.25	8.80	M24 × 2.0	22.0	M36 × 1.5	34.5		
M10 × 1.0	9.00	M24 × 1.5	22.5	M38 × 1.5	36.5		
M10 × 0.75	9.30	M24 × 1.0	23.0	M39 × 3.0	36.0		
M11 × 1.0	10.0	M25 × 2.0	23.0	M39 × 2.0	37.0		

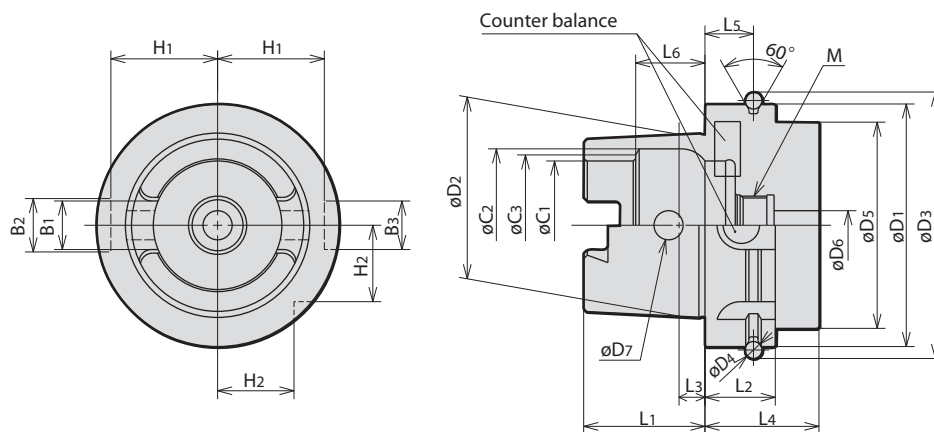
※ We remind you upon using the drill diameters shown in this table, that the processed hole should be measured since the size accuracy of a drill hole may change due to the milling condition, and that if found to be inappropriate for tapping, the drill diameter must be corrected accordingly.

DIMENSIONS OF COUNTERBORING FOR HEXAGON SOCKET HEAD CAP SCREW AND BOLT HOLE



Nominal dimensions of thread	ds	d'	dk	D'	k	H'	H''
M3	3	3.4	5.5	6.5	3	2.7	3.3
M4	4	4.5	7	8	4	3.6	4.4
M5	5	5.5	8.5	9.5	5	4.6	5.4
M6	6	6.6	10	11	6	5.5	6.5
M8	8	9	13	14	8	7.4	8.6
M10	10	11	16	17.5	10	9.2	10.8
M12	12	14	18	20	12	11	13
M14	14	16	21	23	14	12.8	15.2
M16	16	18	24	26	16	14.5	17.5
M18	18	20	27	29	18	16.5	19.5
M20	20	22	30	32	20	18.5	21.5
M22	22	24	33	35	22	20.5	23.5
M24	24	26	36	39	24	22.5	25.5
M27	27	30	40	43	27	25	29
M30	30	33	45	48	30	28	32

HSK SHANK DIMENSIONS

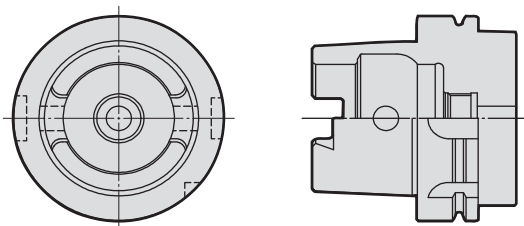


HSK No.	øD1	øD2	øD3	øD4	øD5 (Max.)	øD6 (Max.)	øD7	L1	L2	L3	L4 (Min.)	L5
HSKA 32	32	24	37	4	26	4.2	4	16	20	3.2	35	16
HSKA 40	40	30	45		34	5	4.6	20		4		
HSKA 50	50	38	59.3	7	42	6.8	6	25	26	5	42	18
HSKA 63	63	48	72.3		53	8.4	7.5	32		6.3		
HSKA 80	80	60	88.8		67	10.2	8.5	40		8		
HSKA100	100	75	109.75		85	12	12	50	10	29	45	20
HSKA125	125	95	134.75		105	14	—	63	12.5			
HSKA160	160	120	169.75		130	16	—	80	31	16	47	22

HSK No.	L6	øC1	øC2	øC3	B1	B2	B3	H1	H2	M
HSKA 32	8.92	17	21	19	7.05	9	7	13	9.5	M10×1.0
HSKA 40	11.42	21	25.5	23	8.05	11	9	17	12	M12×1.0
HSKA 50	14.13	26	32	29	10.54	14	12	21	15.5	M16×1.0
HSKA 63	18.13	34	40	37	12.54	18	16	26.5	20	M18×1.0
HSKA 80	22.85	42	50	46	16.04	20	18	34	25	M20×1.5
HSKA100	28.56	53	63	58	20.02	22	20	44	31.5	M24×1.5
HSKA125	36.27	67	80	73	25.02	28	25	55.5	39.5	M30×1.5
HSKA160	45.98	85	100	92	30.02	36	32	72	50	M35×1.5

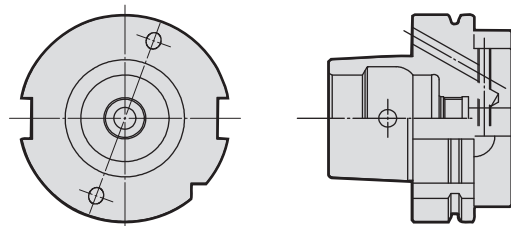
VARIOUS FORMS OF HSK SHANKS AVAILABLE

A type



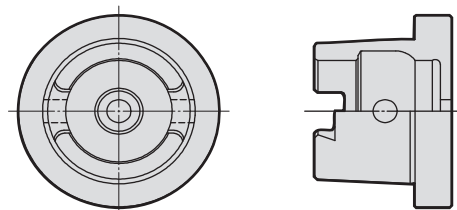
- For machining centers.
- Through-the-tool coolant from coolant tube acceptable.
- With drive slots at the top of taper portion.
- With "U" slots for ATC.
- With pin holes for manual clamping.
- With a German notch.
- With a hole for ID chip. (Option)

B type



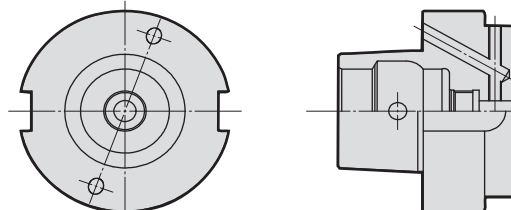
- For machining centers, milling machines and lathes.
- Through-the-tool coolant from flange or from coolant tube acceptable.
- With "U" drive slots at the flange.
- With pin holes for manual clamping.
- With a German notch.
- With a hole for ID chip. (Option)
- With one rank smaller taper size.

C type



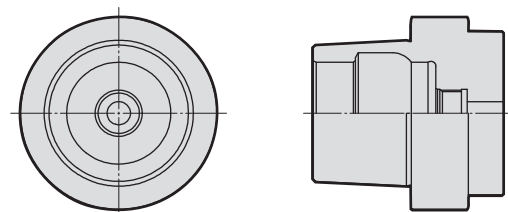
- For non-ATC machines, such as transfer machines.
- Through-the-tool coolant acceptable.
- With drive slots at the top of taper portion.

D type



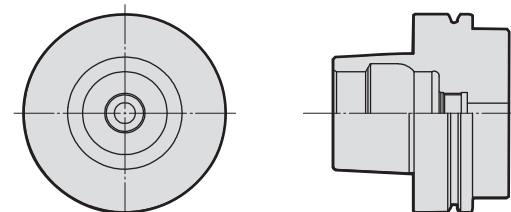
- For non-ATC machines, such as transfer machines.
- Through-the-tool coolant from flange or from coolant tube acceptable.
- With "U" drive slots at the flange.
- With one rank smaller taper size.

E type



- For high speed machining centers and wood milling machines.
- With symmetrical shank without drive key slot.
- Friction transmission.
- Through-the-tool coolant from coolant tube acceptable.

F type



- Through-the-tool coolant from coolant tube
- With one rank smaller taper size.



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