1998, Awarded the Good Design Prize

Awarded the Prize of Excellent New Technology and Products , 1999

SHRINK-FIT CHUCKING SYSTEM

SLIMLINE

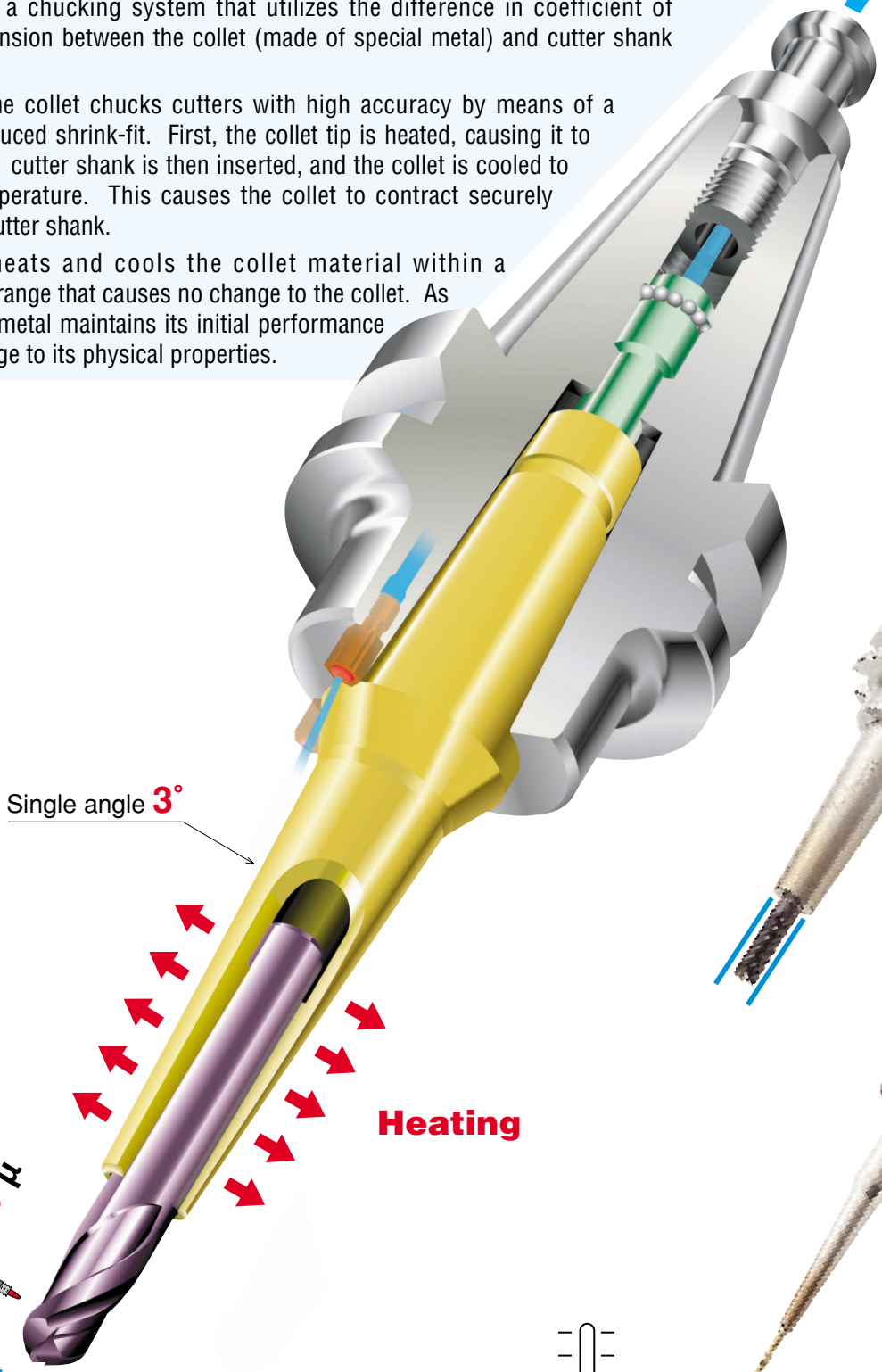
MST Corporation

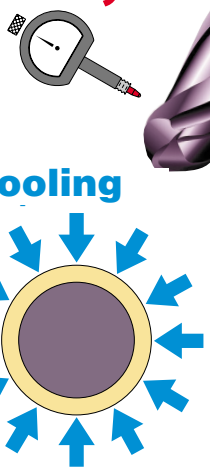
9904

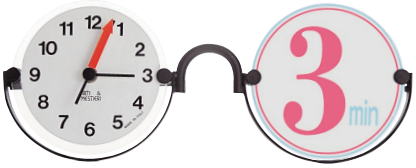
SLIMLINE

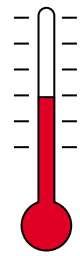
PAT.P

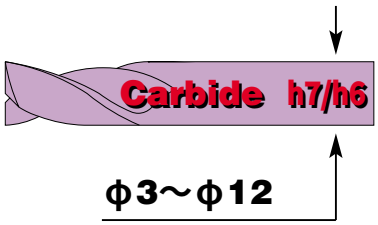
- Slim Line is a chucking system that utilizes the difference in coefficient of thermal expansion between the collet (made of special metal) and cutter shank (carbide).
- The Slim Line collet chucks cutters with high accuracy by means of a thermally induced shrink-fit. First, the collet tip is heated, causing it to expand. The cutter shank is then inserted, and the collet is cooled to ambient temperature. This causes the collet to contract securely around the cutter shank.
- Slim Line heats and cools the collet material within a temperature range that causes no change to the collet. As a result, the metal maintains its initial performance with no change to its physical properties.

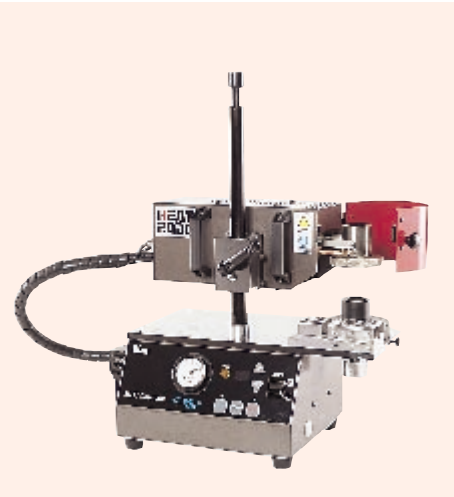












HEAT ROBO

Easy operation -- simply press three keys. This system can be used for both heating and cooling. It includes safety features, such as automatic shut-off and a protective cover.

SHRINK-FIT HEATERS

HEAT ROBO Jr.

Features a compact design suitable for any location. Makes an ideal starter kit.
Provides the same heating capacity as the Heat Robo.

138 TYPES OF COLLET AVAILABLE

REGULAR TYPE

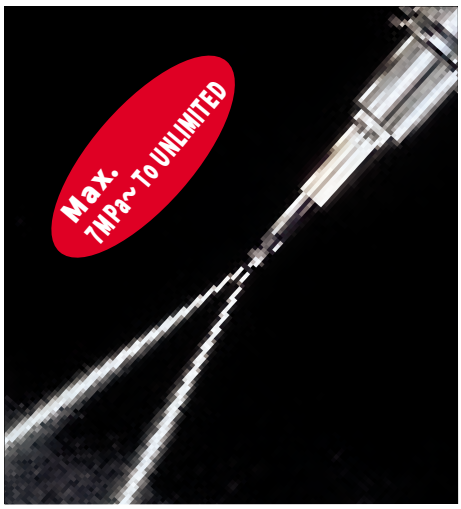
SLIM TYPE

FLUSH TYPE

Three types of collets are available.

Available in a variety of collet length.

Straight arbor type.



COMPATIBLE WITH COOLANT-THROUGH DESIGN

Three coolant supply methods are available.

Select the coolant supply method that best meets your needs -- from the oil hole of the cutter, from the coolant hole of the collet tip, or from the nozzle of the holder.

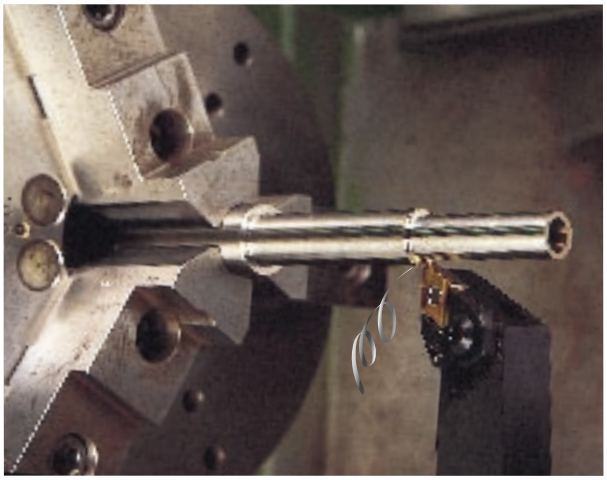
Requires no special parts.

Conventional tool holder requires special collets and a sealed back-up screw for the coolant-through system. The Slim Line is designed with a simple and reliable coolant supply method without leakage.

CUSTOM PROCESSING

Slimmer design allows additional machining (turning) to be easily performed depending on machining interference limitations.
Complete drawings for machining (floppy disk, drawing).

NEW CONCEPT



COLLET TYPES

TWO-PIECE

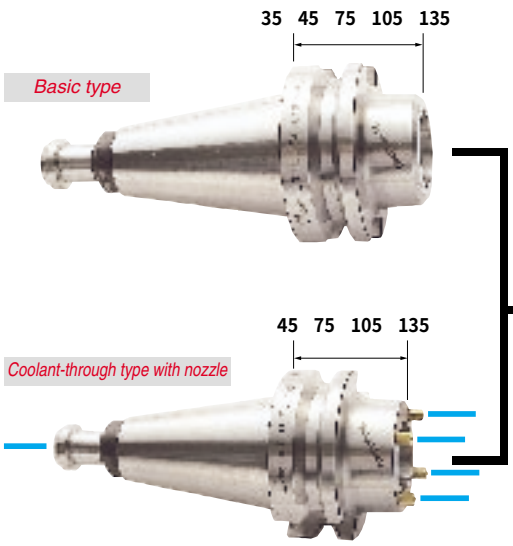
TWO-PIECE MODULAR SYSTEMS

- Available in 138 possible variations.
- Pre-setup is available.

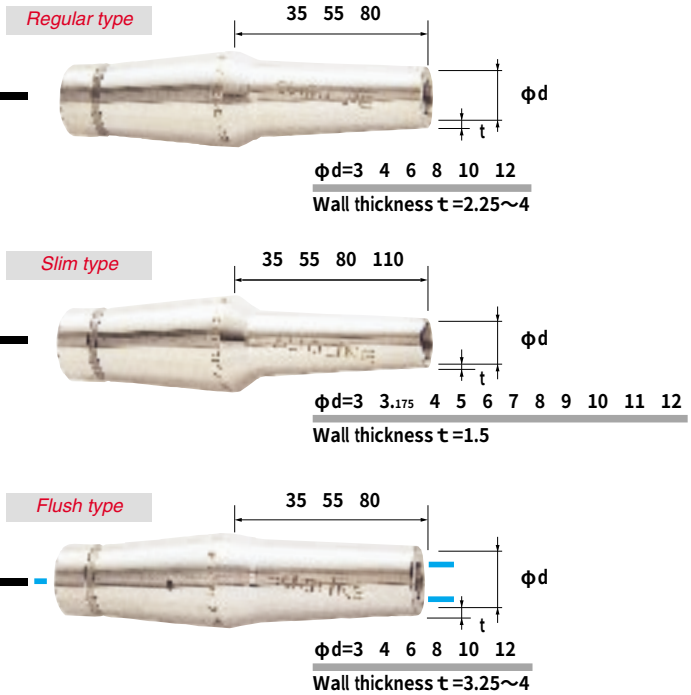
MADE WITH NEW SPECIAL STEEL

- The special steel has a high coefficient of thermal expansion and excellent strength : **Double that of standard steel**
- Short heating time :**2 to 3 minutes**
- Max. temperature that does not cause physical change in metal : **Max. 400℃**
- Cutter shank tolerance is not a concern : **h7 for over φ6 mm cutter shank**

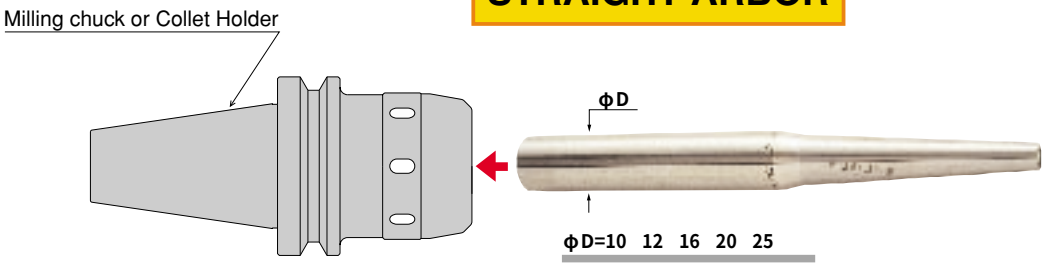
MAIN BODY

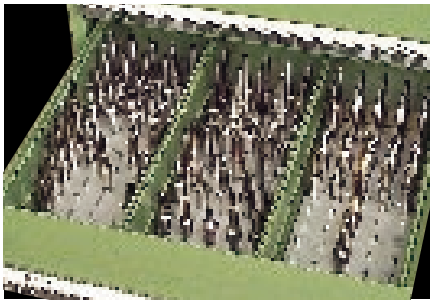


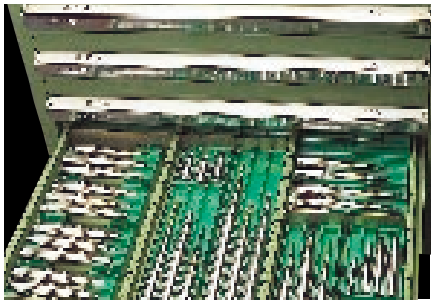
COLLET



STRAIGHT ARBOR

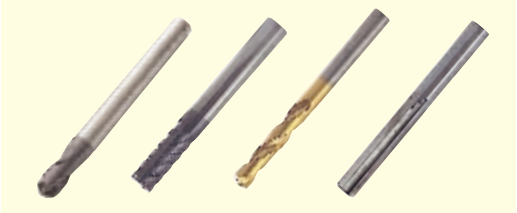




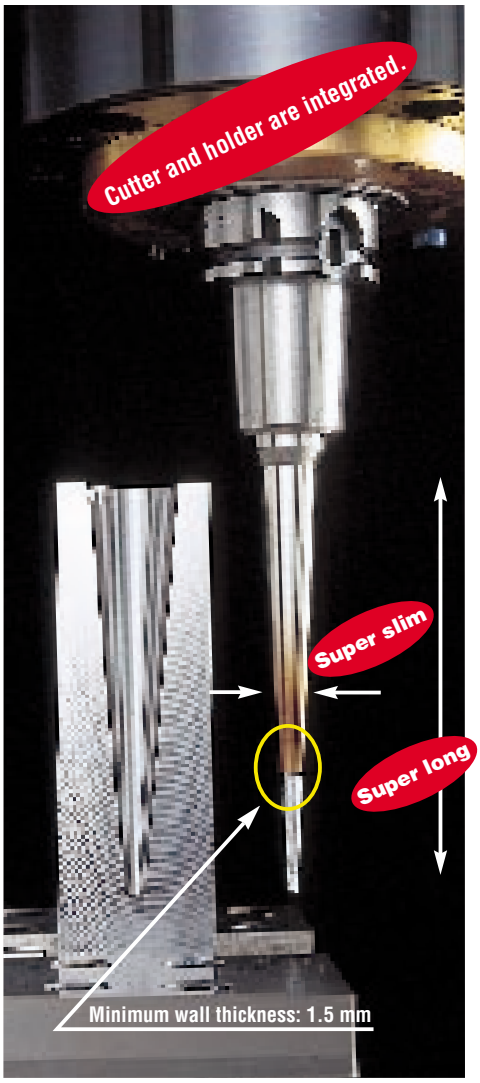


Use carbide cutter.

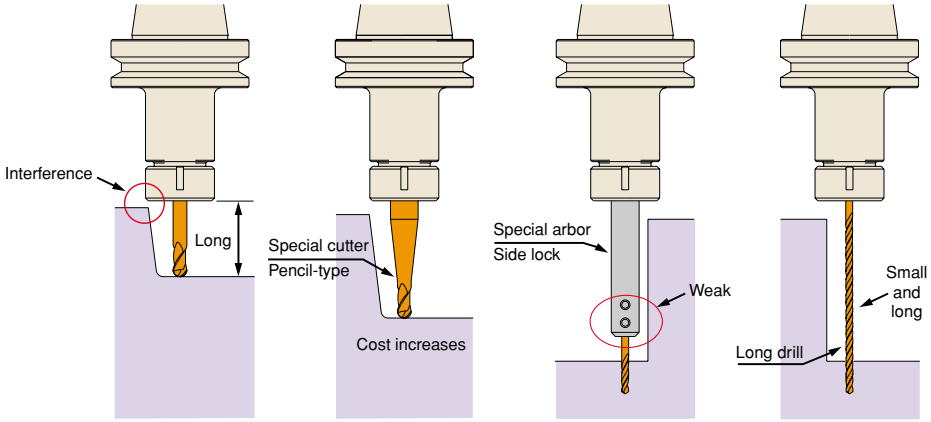
Shank tolerance
φ3～φ 5 : h6
φ6～φ12 : h7



SLIM AND LONG



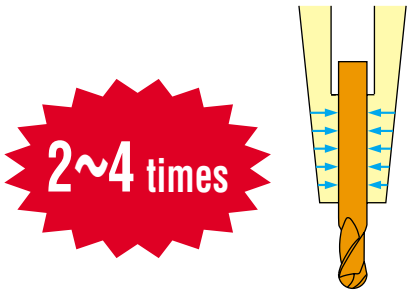
DIFFICULTIES WITH CONVENTIONAL PROCESSES



The Slim Line Solution

STRONG GRIPPING FORCE

A conventional holder grips the cutter through application of external forces, distorting the metal parts (collet, tightening nut, etc).
In contrast, the Slim Line applies heat to the metal to induce thermal expansion of the hole. The hole then contracts as it cools to ambient temperature and regains its original shape. This force securely grips the cutter.



Gripping force is two to four times that of a collet chuck.

HIGH RIGIDITY

Select the optimum shape that does not interfere with the workpiece and fixture while minimizing cutter extension.

Fig.A Collet chuck

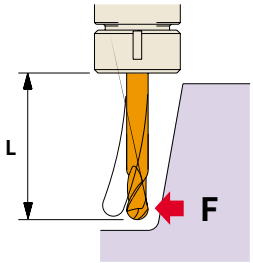
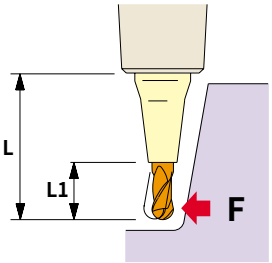


Fig.B Slim Line



(mm)

Cutter dia	Fig	L	L1	Max. bend (μm/kg)	Rigidity ratio
φ 6	A	40	–	5.8	2.6 times
	B		18	2.2	
φ10	A	80	–	6.2	1.8 times
	B		38	3.4	

CUSTOM PROCESSING

MODIFICATION

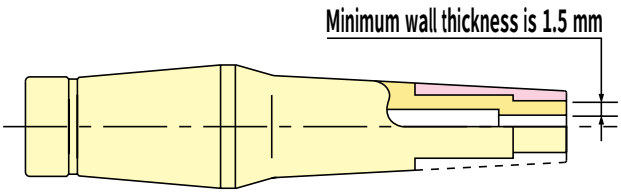
SLIMMER THAN EVER

The Slim Line collet and straight arbor allow you to perform modification (turning or grinding), leaving a wall thickness of 1.5 mm.
Slim Line is effective for machining that a standard collet would interfere with.

Notes regarding modification

■Machining dimensions

A wall thickness of at least 1.5 mm (in length and diameter) is required after modification. Refer to the dimension table on pages 9 and 10 and the custom dimension table provided with the collet.

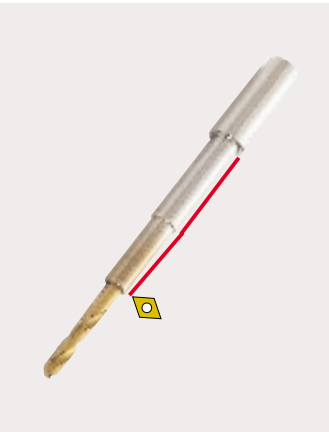


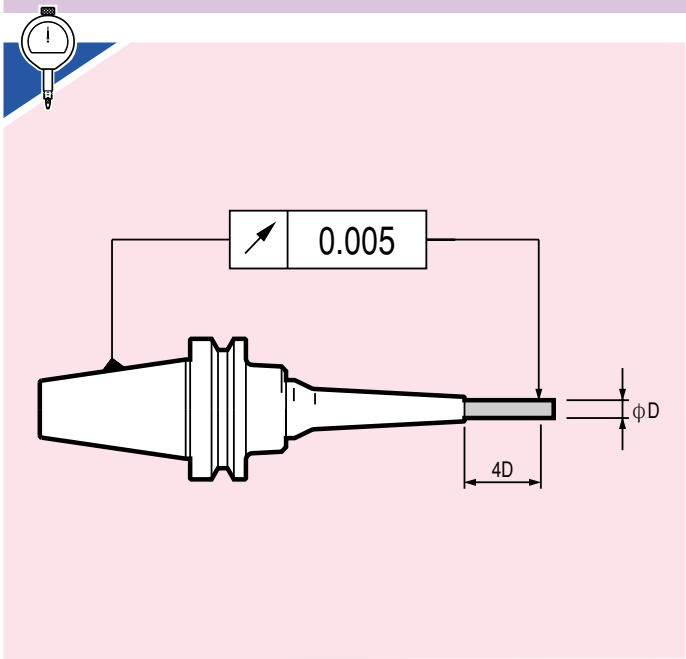
Dimension diagrams for CAD data can be supplied on request. This is convenient if you are creating additional process diagrams. It can also be used to check for interference between the workpiece and fixture.

■Any modification performed with the flush type (CF type) may hinder the function of the coolant hole. Determine the dimensions with care.

■Cutting parameters(turning)

Cutting speed : 30 to 50 m/min
Feed : 0.1 to 0.2 mm/rev
Cutting depth : 0.1 to 0.2 mm





- Deterioration of accuracy in use is extremely low compared with that of conventional tool holders.
- High gripping accuracy extends cutter life.
- Cleaning is exceptionally easy because there are no tightening nuts, collet, or other cutter tightening parts.
- The cutter can be tightened securely and evenly regardless of the operator's skill level.
- Heating and cooling occur at temperatures below the transformation temperature of the collet material. The physical properties of the metal therefore do not change and the initial performance of the Slim Line collet is maintained for a long period.

Repeatability accuracy (Unit : µm)

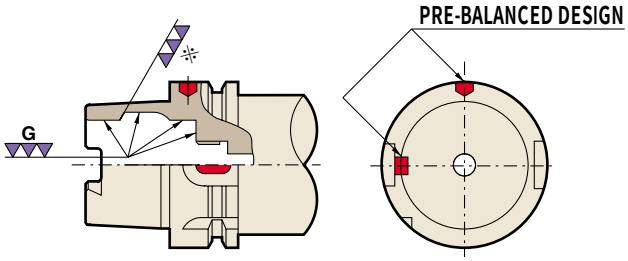
TIMES	1	2	···	50	···	100	···	1000	···	2000
4 D	2	3		2		1		1		1

BALANCE

Support for high-speed rotation

G

OVERALL GRINDING



- In addition to handling machining of symmetrical highly balanced shapes, the main body and collet accommodate high-speed rotation for overall grinding.

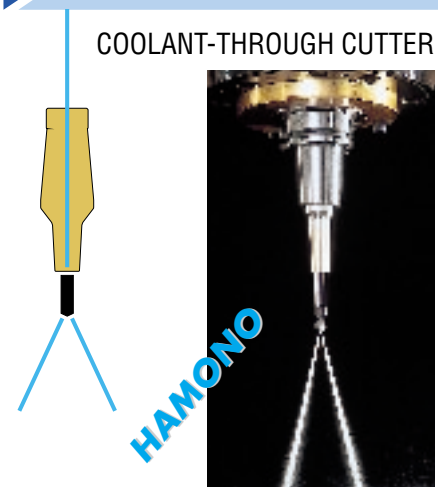
PRE-BALANCED DESIGN

- The MST accommodates high-speed rotation by including a unique pre-balance design. (DIN69871 AND DIN 69893 HSK)
- Because tool ID chip pocket and manual clamp holes cause loss of balance, these are not provided with the MST.

COOLANT SUPPLY METHODS

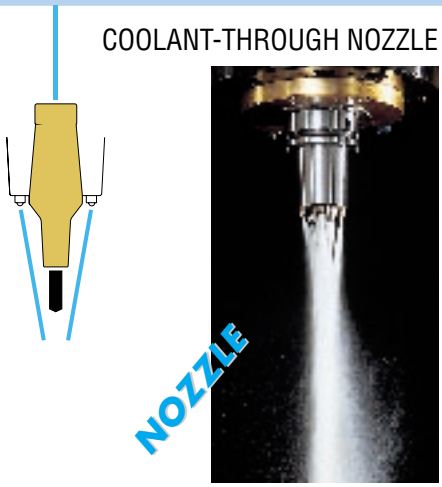
Max. 7 MPa to unlimited

COOLANT-THROUGH CUTTER



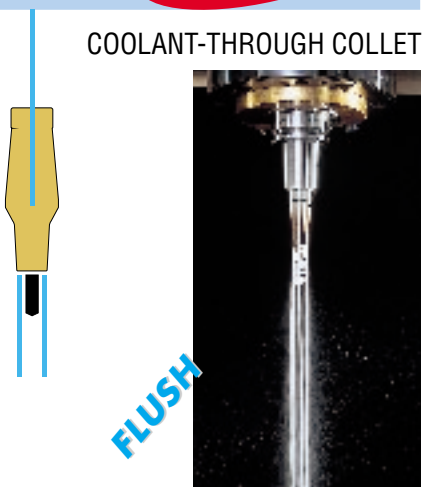
- For cutters with oil holes. (Withstand pressure: unlimited)

COOLANT-THROUGH NOZZLE



- Injects coolant onto nozzles mounted to the F-type body. (Withstand pressure: 7 MPa)

COOLANT-THROUGH COLLET



- A flush-type collet allows for high-efficiency machining of cutters without oil holes. (Withstand pressure: unlimited)

BASIC TYPE (B-type)

Code	Fig.	L	L_1	L_2	C	C_1	kg	Balance value
BT30 −SLK12− 35	1	35	13.0	−	38	−	0.4	1.0
BT40 −SLK12− 45	1	45	18.0	−	38	−	1.1	1.4
− 75		75	48.0				1.4	1.6
BT50 −SLK12− 75	1	75	25.0	12	38	65	4.0	4.7
A 63 −SLK12− 75	2	75	49.0	−	38	−	1.0	5.0
− 135		135	109.0				1.7	8.5
A100 −SLK12− 105	2	105	43.0	33	38	65	3.4	41.3
DN40AD−SLK12− 45	3	45	13.8	12.1	38	45	1.1	1.6
− 75		75	43.8				1.4	1.8
DN50AD−SLK12− 75	3	75	40.0	15.9	38	70	4.0	5.4

BT40−SLK12−75

Fig. 1

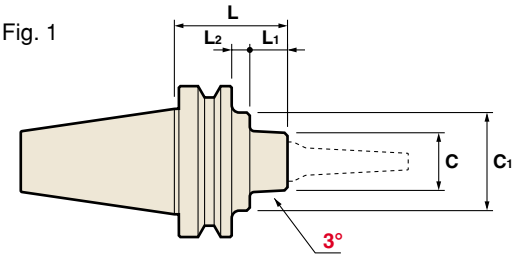


Fig. 3

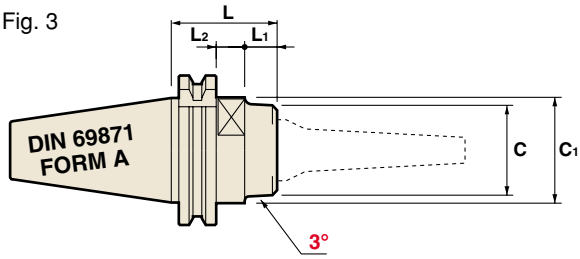
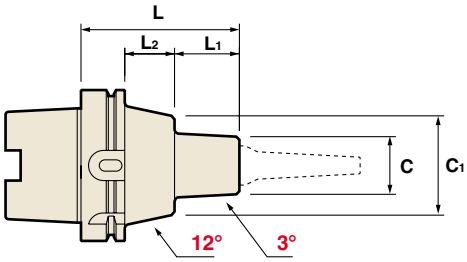


Fig. 2



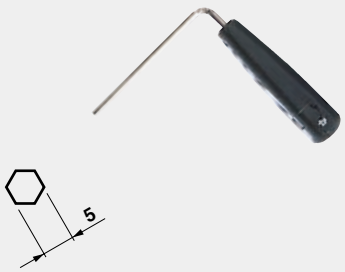
■Standard accessory
1. Coolant duct (A63, A100)

■Options
1. Wrench
2. Retention Knob(BT, DN)
3. Slim Line collet

■Note
A dedicated retention knob is supplied with the BT30 as a standard accessory. When ordering, specify whether a MAS-1 or MAS-2 retention knob is required.

WRENCH

Code	Remarks
W−135	Commonly used with B and F

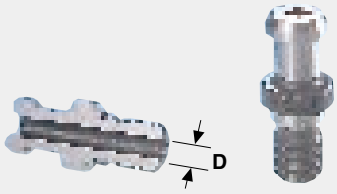


■To fasten the BT30, use a commercially available 14 mm single-ended wrench.

RETENTION KNOB WITH HOLE

Code	Shank	D	Standard/Manufacturer
P−227	BT40	7	Mazak
−323−1			JIS 40P (with O-ring)
P−215	BT50	10	Mazak
−299		6	MAS-I (with O-ring)
−288−1			JIS 50P (with O-ring)
−419			MAS-II (with O-ring)

The collet can be changed without removing the retention knob shown at the chart.



■If the retention knob hole is 6 mm in diameter or greater, fastening is possible without removal of the retention knob.
■Contact your dealer for retention knobs other than those shown at the chart.

NOZZLE-MOUNTING TYPE (F-type)

Code	Fig.	L	L_1	L_2	C	C_1	kg	Balance value
BT40 −SLK12− 45F	1	45	18.0	–	41	–	1.1	1.6
− 75F		75	48.0				1.4	1.8
− 135F		135	108.0				2.2	3.2
BT50 −SLK12− 75F	1	75	25.0	12.0	41	65	4.0	4.9
− 105F		105	55.0				4.4	5.3
− 135F		135	85.0				4.7	5.7
A 63 −SLK12− 75F	2	75	49.0	–	41	–	1.1	5.5
− 135F		135	109.0				1.9	8.6
A100 −SLK12− 105F	2	105	43.0	33.0	41	65	3.5	41.5
− 135F		135	73.0				3.8	42.2
DN40AD−SLK12− 45F	3	45	7.9	18.0	41	45	1.1	1.8
− 75F		75	55.9	–			1.4	2.1
DN50AD−SLK12− 75F	3	75	40.0	15.9	41	70	4.0	5.6
− 135F		135	100.0				4.4	6.1

A63−SLK12−75F

Fig. 1

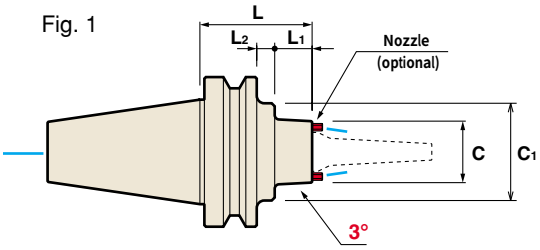


Fig. 3

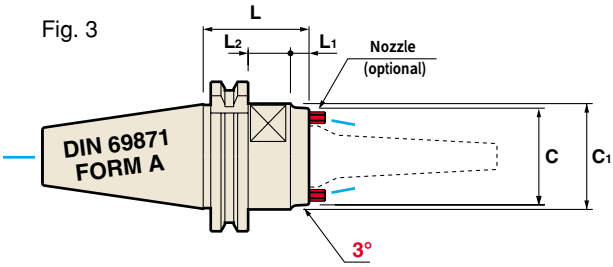
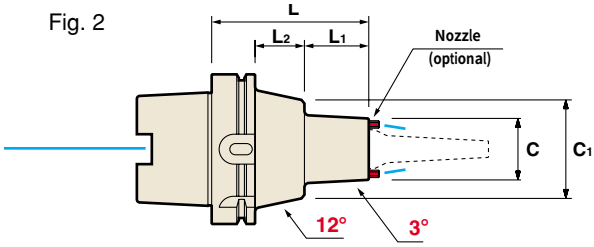


Fig. 2



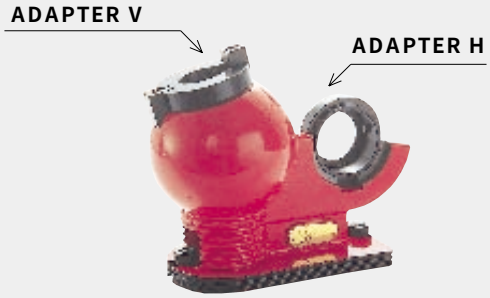
■Standard accessory
1.Coolant duct (A63, A100)

■Options
1.Wrench
2.Retention knob (BT, DN)
3.Slim Line collet
4.Nozzle

TOOL SETUP STAND

Code	
Petit Ball 40	DIN69871-SK40,MAS-BT40
MYCUBE 50	DIN69871-SK50,MAS-BT50
100	DIN69893-HSK100A

■The twin-direction stand can position the tool both vertically and horizontally. The tool can be set in whichever orientation is preferred for easier use.

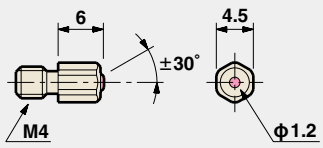


OPTIONAL ACCESSORIES (ADAPTER)

	Code					
	V			H		
	SK30 BT30	SK40 BT40	HSK63A	SK30 BT30	SK40 BT40	HSK-63A
Petit Ball 40	AP40-T30V			AP40-T30H		
MYCUBE 50	AP50-T30V	AP50-T40V	AP50-A63V	AP50-T30H	AP50-T40H	AP50-A63H

NOZZLE

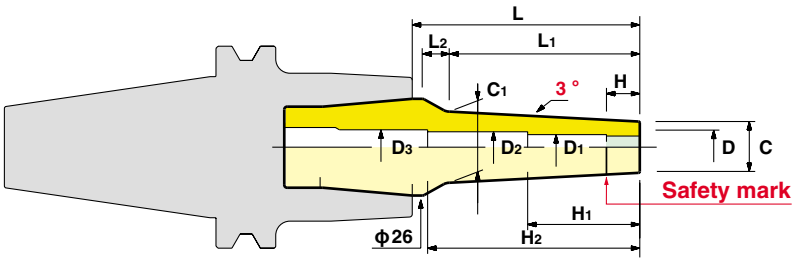
Code	Remarks
NOZ−M4	For F-type



■Packaging
12 nozzles + 1 dedicated wrench
60 nozzles + 1 dedicated wrench

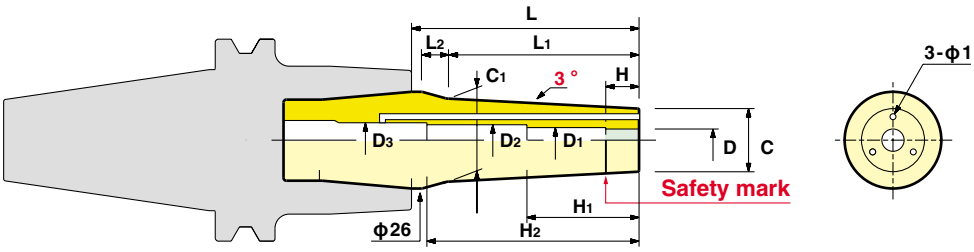
REGULAR TYPE

Code	D	D_1	D_2	D_3	L	L_1	L_2	C	C_1	H	H_1	H_2	Max. insertion length	Balance value
CR12−3−35	3	–	–	4	35	22	9.5	7.5	9.8	9.7	–	–	65	0.43
−55					55	42			11.9				85	0.48
−80		4	6	8.6	80	67			14.6		39.4	74.2	110	0.64
4−35	4	–	–	5	35	22	9.5	10	12.3	11.7	–	–	65	0.47
−55					55	42			14.4				85	0.55
−80		5	7	8.6	80	67			17.1		39.7	74.5	110	0.73
6−35	6	–	–	7	35	22	9.5	12	14.3	17.7	–	–	65	0.53
−55		7		8.6	55	42			16.4		49.5		85	0.64
−80					80	67			19.1				110	0.85
8−35	8	–	–	8.6	35	22	9.5	14	16.3	24.8	–	–	65	0.57
−55					55	42			18.4				85	0.72
−80					80	67			21.1				110	0.93
10−35	10	–	–	11	35	22	9.5	16	18.3	30	–	–	60	0.50
−55					55	42			20.4					0.67
−80					80	67			23.1					0.89
12−35	12	–	–	13	35	22	9.5	20	22.3	30	–	–	60	0.61
−55					55	42			24.4					0.80
−80					80	–	–		25.5					0.68



FLUSH TYPE

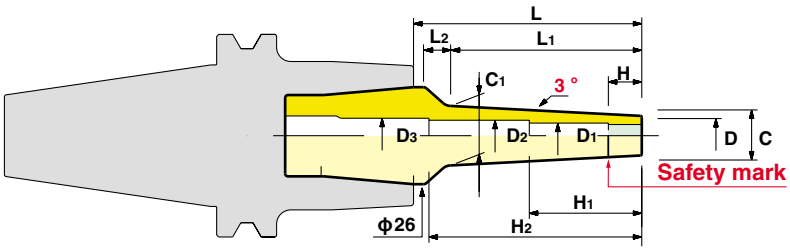
Code	D	D_1	D_2	D_3	L	L_1	L_2	C	C_1	H	H_1	H_2	Max. insertion length	Balance value
CF12−3−35	3	–	–	4	35	22	9.5	9.5	11.8	9.7	–	–	65	0.67
−55					55	42			13.9				85	0.78
−80		4	6	8.6	80	67			16.5		39.4	74.2	110	0.89
4−35	4	–	–	5	35	22	9.5	12	14.3	11.7	–	–	65	0.79
−55					55	42			16.4				85	0.92
−80		5	7	8.6	80	67			19		39.7	74.5	110	1.05
6−35	6	–	–	7	35	22	9.5	14	16.3	17.7	–	–	65	0.64
−55		7		8.6	55	42			18.4		49.5		85	0.80
−80					80	67			21				110	0.96
8−35	8	–	–	8.6	35	22	9.5	16	18.3	24.8	–	–	65	0.69
−55					55	42			20.4				85	0.87
−80					80	67			23				110	1.06
10−35	10	–	–	11	35	22	9.5	18	20.3	30	–	–	60	0.62
−55					55	42			22.4					0.82
−80					80	–	–		–					0.68
12−35	12	–	–	13	35	22	9.5	20	22.3	30	–	–	60	0.68
−55					55	42			24.4					0.91
−80					80	–	–		–					0.76



SLIM TYPE

Code	D	D1	D2	D3	L	L1	L2	C	C1	H	H1	H2	Max. insertion length	Balance value
CS12－ 3－ 35	3	–	–	4	35	22	9.5	6	8.3	9.7	–	–	65	0.41
－ 55					55	42			10.4				85	0.46
－ 80		4	6	8.6	80	67			13		39.4	74.2	110	0.61
－110					110	97			16.2			104.2	140	0.75
3.175－ 35	3.175	–	–	4	35	22	9.5	6	8.3	9.7	–	–	65	0.41
－ 55					55	42			10.4				85	0.46
－ 80		4	6	8.6	80	67			13		39.4	74.2	110	0.61
－110					110	97			16.2			104.2	140	0.75
4－ 35	4	–	–	5	35	22	9.5	7	9.3	11.7	–	–	65	0.44
－ 55					55	42			11.4				85	0.50
－ 80		5	7	8.6	80	67			14		39.7	74.5	110	0.67
－110					110	97			17.2			104.5	140	0.79
5－ 35	5	–	–	6	35	22	9.5	8	10.3	14.7	–	–	65	0.46
－ 55		6		8.6	55	42			12.4		49.2		85	0.57
－ 80					80	67			15				110	0.74
－110					110	97			18.2		69.2		140	0.91
6－ 35	6	–	–	7	35	22	9.5	9	11.3	17.7	–	–	65	0.49
－ 55		7		8.6	55	42			13.4		49.5		85	0.60
－ 80					80	67			16				110	0.78
－110					110	97			19.2		69.5		140	0.92
7－ 35	7	–	–	8.6	35	22	9.5	10	12.3	19.5	–	–	65	0.53
－ 55					55	42			14.4				85	0.66
－ 80					80	67			17				110	0.85
－110					110	97			20.2				140	1.09
8－ 35	8	–	–	8.6	35	22	9.5	11	13.3	24.8	–	–	65	0.53
－ 55					55	42			15.4				85	0.67
－ 80					80	67			18				110	0.85
－110					110	97			21.2				140	1.10
9－ 35	9	–	–	10	35	22	9.5	12	14.3	30	–	–	60	0.43
－ 55					55	42			16.4					0.57
－ 80					80	67			19					0.76
－110					110	97			22.2					1.02
10－ 35	10	–	–	11	35	22	9.5	13	15.3	30	–	–	60	0.55
－ 55					55	42			17.4					0.60
－ 80					80	67			20					0.80
－110					110	97			23.2					1.01
11－ 35	11	–	–	12	35	22	9.5	14	16.3	30	–	–	60	0.48
－ 55					55	42			18.4					0.64
－ 80					80	67			21					0.85
－110					110	97			24.2					1.12
12－ 35	12	–	–	13	35	22	9.5	15	17.3	30	–	–	60	0.52
－ 55					55	42			19.4					0.68
－ 80					80	67			22					0.89
－110					110	–	–		–					0.83

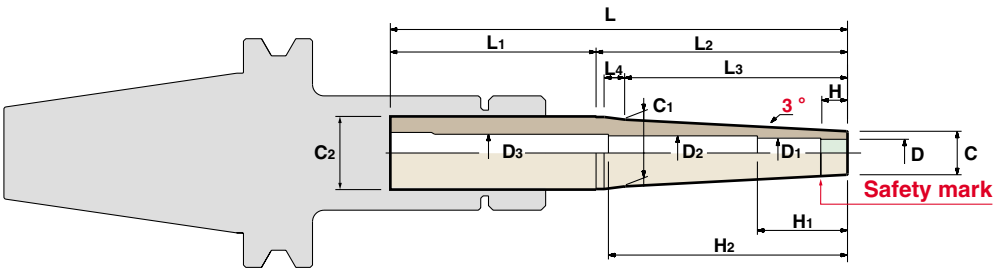
CS12－3－110



The " safety mark " indicates the minimum chucking length.
Always insert the cutter shank beyond the safety mark.

STRAIGHT ARBOR

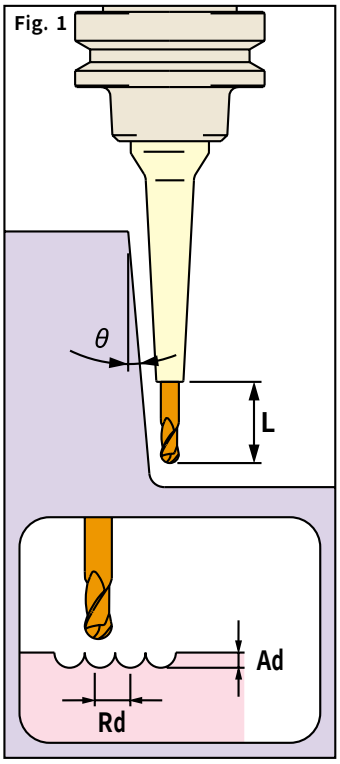
	Code	D	D1	D2	D3	L	L1	L2	L3	L4	C	C1	C2	H	H1	H2	Max. insertion length
REGULAR TYPE	ST20−SLR 3 −130	3	4	8.6	–	130	75	55	42	9.5	7.5	11.9	20	9.7	58.7	91.5	112
	4 −130	4	5								10	14.4		11.7	58.9		
	6 −110	6	7			110		35	22		12	14.3		17.7	39.5	71.5	92
	8 −110	8	8.6	–							14	16.3		24.8	71.5	–	
	ST25−SLR 3 −220	3	4	8.6	–	220	165	55	42	9.5	7.5	11.9	25	9.7	58.7	171.5	202
	4 −220	4	5								10	14.4		11.7	58.9		
	6 −205	6	7			205	150				12	16.4		17.7	59.5	156.5	187
	8 −205	8	8.6	–							14	18.4		24.8	156.5	–	
	10 −125	10	10.6			125	90	35	22		16	18.3		30	76.5		60
	−190					190	135	55	42			20.4			141.5		
	12 −110	12	12.6			110	75	35	22		20	22.3			61.5		
	−175					175	120	55	–	–		–			126.5		
SLIM TYPE	ST10−SLS 3 − 80	3	4	–	–	80	45	35	–	–	6	–	10	9.7	61.5	–	64
	3.175 − 80	3.175															
	4 − 80	4	5								7			11.7			
	5 − 80	5	6								8			14.7			70
	ST12−SLS 6 − 80	6	7	–	–	80	45	–	–	–	9	–	12	17.7	57.5	–	70
	ST16−SLS 3 −115	3	4	6	–	115	60	55	42	9.5	6	10.4	16	9.7	39.4	84.5	87
	4 −115	4	5	–							7	11.4		11.7	84.5	–	
	6 −115	6	7								9	13.4		17.7			
	ST20−SLS 3 −200	3	4	6	8.6	200	90	110	97	9.5	6	16.2	20	9.7	39.4	104.2	182
	4 −200	4	5	7							7	17.2		11.7		104.5	
	5 −200	5	6	8.6	–				–	–	8	–		14.7	69.2	161.5	
	8 −130	8	8.6	–		130	75	55	42	9.5	11	15.4		24.8	91.5	–	112
	ST25−SLS 5 −290	5	6	8.6	–	290	180	110	97	9.5	8	18.2	25	14.7	69.2	241.5	272
	6 −230	6	7			230	120				9	19.2		17.7	69.5	181.5	212
	−320					320	210									271.5	302
	7 −230	7	8			230	120				10	20.2		19.7	69.8	181.5	212
	−320					320	210									271.5	302
	8 −230	8	8.6	–		230	120				11	21.2		24.8	181.5	–	212
	−320					320	210								271.5		302
	9 −230	9	9.6			230	120				12	22.2		30	181.5		60
	−320					320	210								271.5		
	10 −145	10	10.6			145	90	55	42		13	17.4			96.5		
	−230					230	120	110	–	–		–			181.5		
	−320					320	210								271.5		
	11 −230	11	11.6			230	120				14				181.5		
	−320					320	210								371.5		
	12 −160	12	12.6			160	105	55	42	9.5	15	19.4			111.5		
	−230					230	120	110	–	–		–			181.5		
	−320					320	210								271.5		

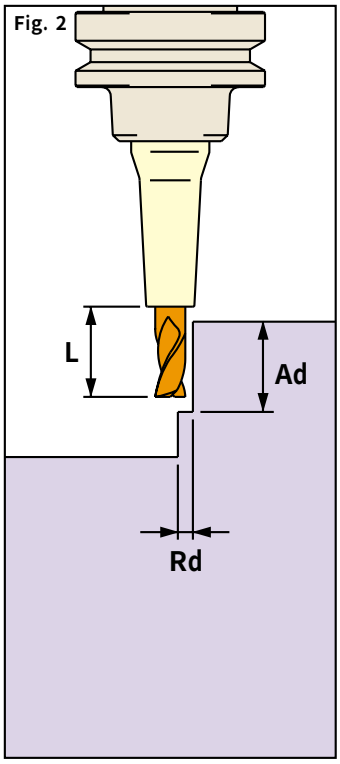


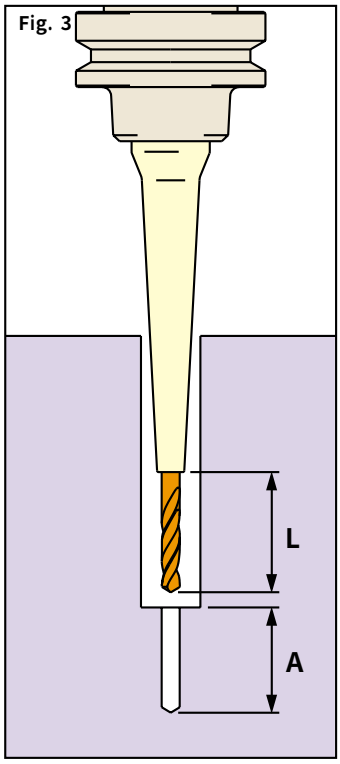
ST25−SLS6−320

The " safety mark " indicates the minimum chucking length.
Always insert the cutter shank beyond the safety mark.

CUTTING DATA







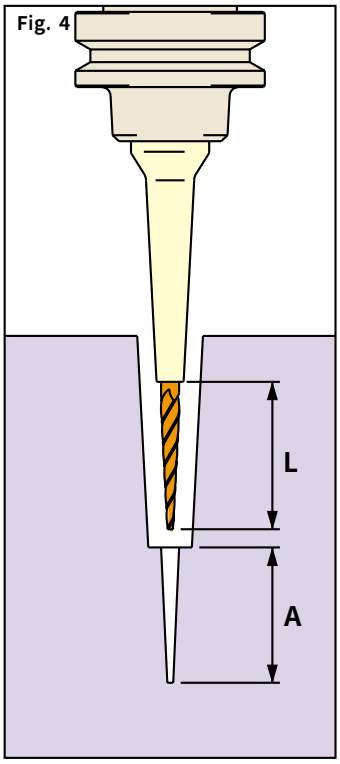


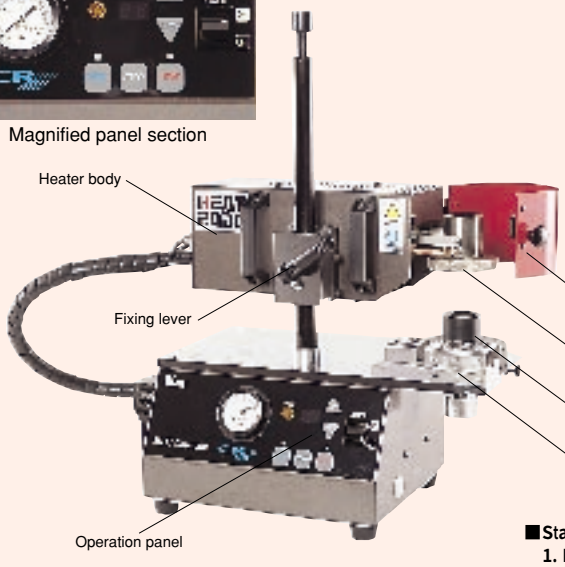
Fig.	Material	A mm	Holder	Collet	Cutter	NO. OF FLUTE	L mm	S rpm V m/min	F mm/min f mm/刃(rev.)	Ad mm	Rd mm	COOLANT SUPPLY METHODS	θ°
1	NAK80 HRC40 °	135	A63 SLK12−75	CS12−10− 55	R5 BALL END MILL	2	40	7958 250	1432 0.09	1.0	7.0	FLOOD COOLANT	5
	NAK80 HRC40 °	135	A63 SLK12−75	CS12− 6−110	R3 BALL END MILL	2	40	14912 281	2028 0.07	0.8	0.3	FLOOD COOLANT	5
	NAK80 HRC40 °	135	A63 SLK12−75	CS12− 6−110	R2 BALL END MILL	2	40	14912 281	2028 0.07	0.1	0.3	FLOOD COOLANT	5
	SKT4 HRC41 °	90	A63 SLK12−75	CF12− 6− 55	R1.5 BALL END MILL	2	42	16000 151	1920 0.06	0.2	1.0	FLOOD COOLANT	10
	NAK80 HRC40 °	30	A63 SLK12−75	CR12− 6− 55	R3 BALL END MILL	2	25	9000 170	1260 0.07	0.1	0.07	CUTTER-THROUGH	10
	A7075	—	BT40 SLK12−45	CR12− 6− 55	R3 BALL END MILL	2	35	15000 283	1500 0.05	1.0	0.5	FLOOD COOLANT	—
	ZAS	—	BT50 SLK12−135	CR12−10− 55	R5 BALL END MILL	2	50	10000 314	6000 0.3	1.5	1.4	FLOOD COOLANT	—
2	NAK80 HRC40 °	—	A63 SLK12−75	CF12−10− 35	φ10 END MILL	6	30	7560 237	5443 0.12	20.0	0.5	FLUSH-THROUGH	—
	A7075	—	A63 SLK12−75	CF12−12− 55	φ12 END MILL	4	40	20000 754	16000 0.2	24.0	2.0	FLUSH-THROUGH	—
	HPM2T HRC40 °	—	A63 SLK12−75	CF12−10− 55	φ10 END MILL	6	32	9554 300	11465 0.2	15.0	1.0	FLUSH-THROUGH	—
3	SUS316L	4	A63 SLK12−75	CR12− 3− 55	φ0.7 DRILL	2	20	9000 20	72 0.01	—	—	FLOOD COOLANT	—
	A7075	18	A63 SLK12−75	CS12− 6− 80	φ5.5 DRILL	2	18	11581 200	11581 1.0	—	—	CUTTER-THROUGH	—
	S50C	12	A63 SLK12−75	CS12− 4−110	φ4 DRILL	2	36	11146 140	2787 0.25	—	—	CUTTER-THROUGH	—
	SKD11 HRC60 °	10	A63 SLK12−75	CR12−12− 55	φ12 DRILL	2	80	318 12	38 0.12	—	—	FLOOD COOLANT	—
4	NAK80 HRC40 °	30	A63 SLK12−75	CS12− 4−110	φ2.5×1 °×30 TAPERED END MILL	4	39	20000 157	3040 0.04	0.01	—	FLOOD COOLANT	—

SHRINK-FIT HEATER

HEAT ROBO HR-01

◇Automatic shut-off feature provided for safety.
◇High-performance model performs both heating and cooling.
◇Operation is simple. Just press [HEAT], [STOP], or [COOL]

Magnified panel section



Magnified nozzle section

Nozzle cover
Nozzle
Collet adapter
Cutter cooling stand

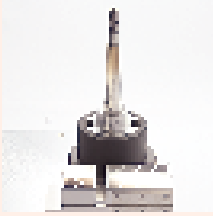
Model name	Heat Robo HRJ-01
Rated power consumption	AC100V—1020W
Air consumption	245L/min
Dimensions	470 (W) x 255 (D) x 575 (H) (mm)
Weight	Approx. 22 kg

■Standard accessories
1. Heat-resistant gloves
2. Extension (ADE-M10)
3. Collet adapter

■Remarks
1. Compressed air is required at 5 kgf/cm².
2. An air pipe connection (8 mm O.D.), coupling, etc., must be prepared.

Taper adapter

■The cutter can be inserted and removed with the collet installed in the body of the holder. Collet 35L cannot be used.



Code	Remarks
ADT—40	Adapter used for both BT40 and A63
ADT—50	Adapter used for both BT50 and A100

Signal tower

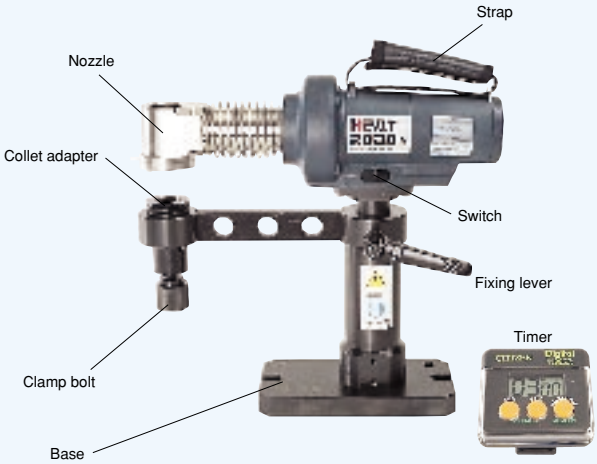
■The lamp indicates completion of heating and cooling.

Code
SLE—110AY

HEAT ROBO Jr. HRJ-01

◇A simplified model that offers excellent value.
◇Recommended as a starter kit.

Magnified diagram of nozzle section



■Standard accessories
1. Heat-resistant gloves
2. Extension (ADE-M10)
3. Collet adapter
4. Timer

Model name	Heat Robo HRJ-01
Rated power consumption	AC100V-1200W
Dimensions	330 (W) x 105 (D) x 306-420 (H) (mm)
Weight	Approx. 7.5 kg

⚠ Secure to table before using.

Straight adapter

■Use when attaching a straight arbor for a total length of 235 mm or more.

Code
ADS—25J

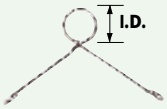
Cooling unit

Code
ADC—01

Adjust the supply air pressure using the valve of the cooling set (2 to 3 kgf/cm2). High air pressure may change the direction of the nozzle.

Stopper

Options for commonly used



Code	Remarks
HST−I.D.	I.D.=3/3.175/4/5/6/7/8/9/10/11/12 Contains 10 pieces in each size.
HST−F	3-12 mm dia. (in 1 mm increments) 10 pieces in total with each one

Extension

Options for commonly used

■Used for mounting 35L collet and straight arbor (ST10, ST12 or ST25) to the Shrink Fit heater.

Code	Remarks
ADE−M 6	for ST10
ADE−M 8	for ST12
ADE−M10	Standard accessory (used in 35L collet and Model ST25)

Collet stand

Options for commonly used

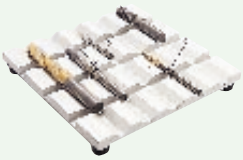
■For compact storage of up to 25 collets.
■Aluminum stand ensures excellent high-efficiency cooling.

Code
SDK−01

Cutter tray

Options for commonly used

■Stand for holding hot cutters removed from the collet.
■Rapidly cools very hot cutters.



Code
SDK−01

Heat-resistant gloves

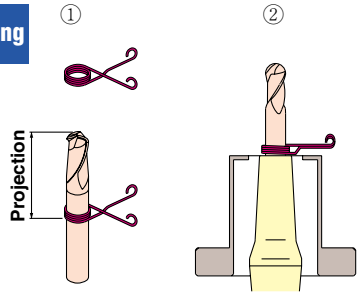
Options for commonly used

■Standard accessory for shrink-fit heaters

Code
HTB−01

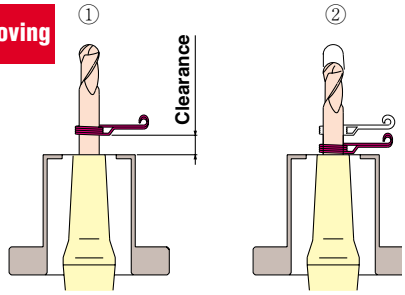
How to use the stopper

Mounting



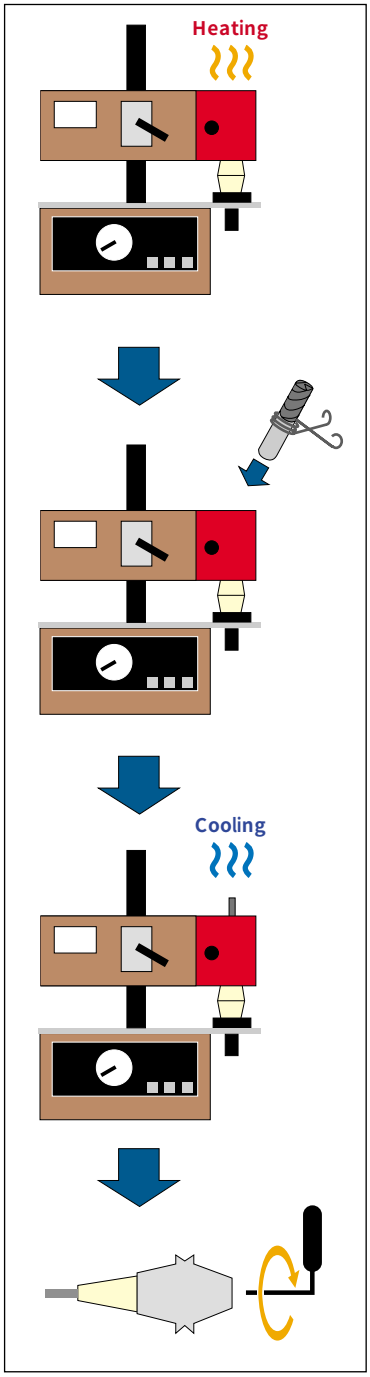
① Adjust the projection and mount the stopper to allow for correct projection adjustment.
② After heating, insert the cutter into the heated collet. If the end face of the cutter shank touches the bottom during mounting, distortion may be caused when shrinking occurs during cooling, resulting in degraded accuracy.

Removing



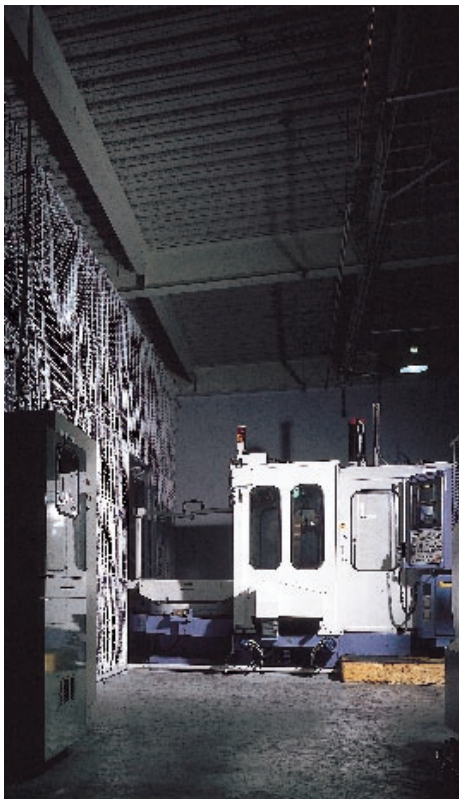
① Mount the stopper to provide slight clearance from the collet end. Start heating.
② When the stopper makes contact, the cutter has fallen to the end of the collet and can be removed.

Operating procedure



HEAT ROBO	HEAT ROBO Jr.
Clean the I.D. and O.D. of collet. Mount the collet in the heater and begin heating.	
HOT PUSH	HOT COOL OFF
2 to 3 minutes Finish lamp lights	2 to 3 minutes
Stop heating. Adjust the removable stopper to the specified amount of cutter projection, and insert the cutter into the collet.	
STOP PUSH	HOT COOL OFF
Start cooling after the cutter is mounted.	
COOL PUSH	HOT COOL OFF
4 to 5 minutes Finish lamp lights	15 to 20 minutes Use the cooling set (4 to 5 minutes)
Cooling with water (or a coolant) will reduce cooling time.	

After confirming that the collet is completely cooled, remove the collet from the unit and mount it in the holder.



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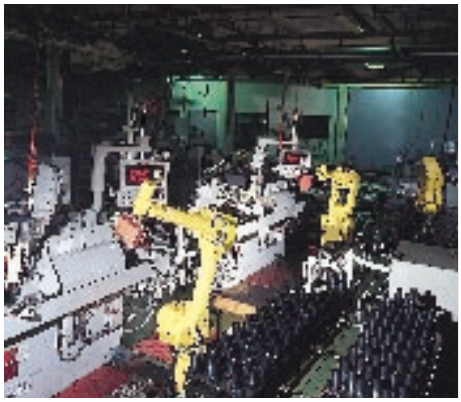

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