

— RELIABLE TOOLING —

MST's tooling is subject to its own MST's 4 precision standards.

- Taper contact
- Roundness
- Surface roughness
- Heat treatment

The above quality controls ensure our continuous supply of reliable products.

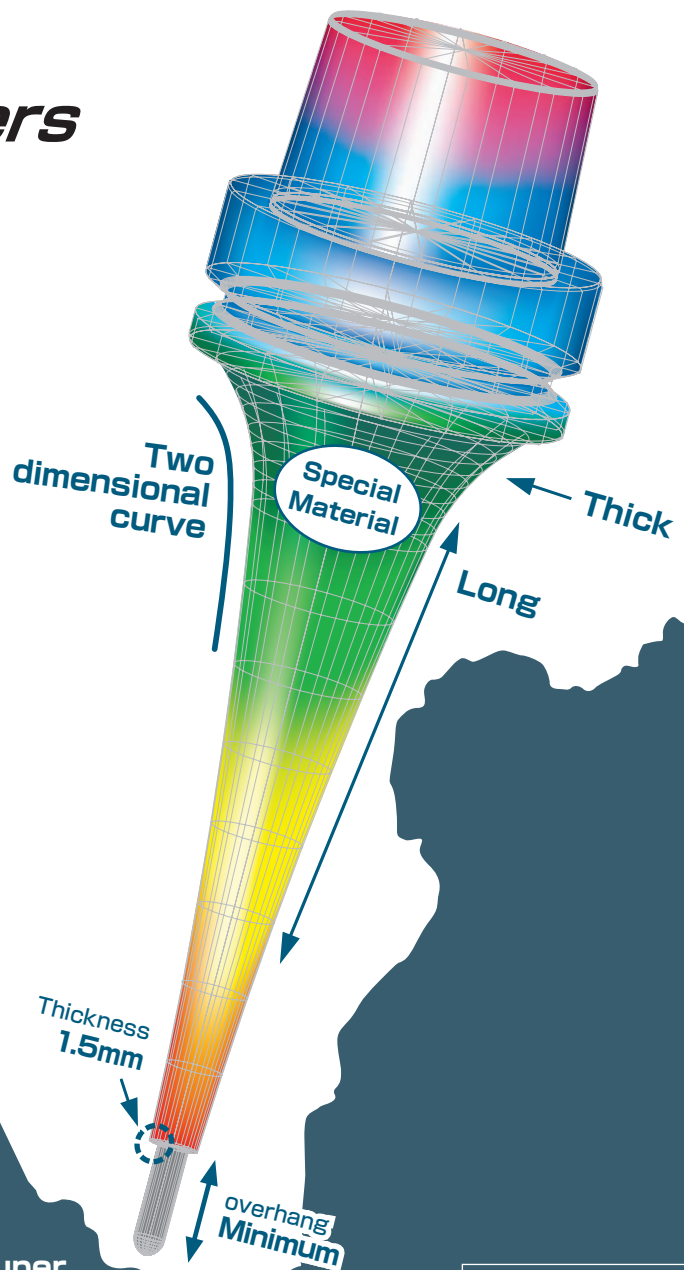
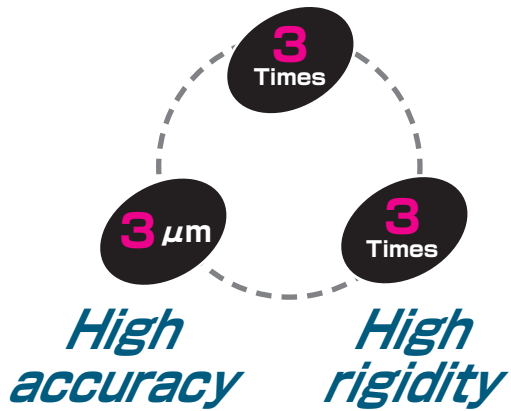


	Taper contact	90%
	Roundness	0.8 μm
	Surface roughness	0.6S
Heat treatment	Material	SCM415
	Carburized depth	0.8~1.0mm
	Quenching hardness	55° HRC $\pm 2^\circ$

SHRINK-FIT TOOL HOLDER ***for 5-Axis*** ***Machining Centers***

SLIMLINE **CURVE**

Strong clamping force



"Slimline curve" has remarkable slim nose and rigid neck design, it achieve super rigidity even though long gauge length with using this unique design.

We have the exclusive catalogue for further reference.

TOOLING SYSTEM

FOR MACHINING CENTER

DETa-1 COLLET HOLDER



P.2

COLLET HOLDER



P.14

Hi-ART MILLING CHUCK



P.22

SUMMIT



P.24

MICRO HEAD



P.26

RETENTION KNOB



P.37

ANGLE HEAD

ANGLE HEAD HALF



P.38

ANGLE HEAD (STANDARD TYPE)



P.50

TOOLING SYSTEMS for TURNING MILL



P.58

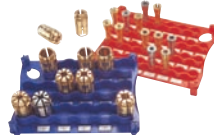
PERIPHERAL

GOO CHECKER



P.64

PALETTE



P.69

TOOL SET UP STAND



P.74

TOOL CAP



P.66

TOOL SET UP STATION



P.70

TOOL HOLDER STORING CABINET



P.77

FOR W-EDM

WIRE CUT UNIT



P.78

MIDDLE VISE



P.80

REFERENCE

PARTS

P.82

MAINTENANCE

P.85

TECHNICAL DATA

P.87

HSK SHANK

P.91

OVERSEAS NETWORK

P.92

COMPANY

P.96

DETa-1 COLLET HOLDER

Pull collet type collet chuck

PAT.

2mm collapsibility with just one collet !!
Slim! No tightening nut at the tip of holder.

- ▶ Just 6 collets is all it takes to chuck 106 sizes of drills
- ▶ Compatible with synchronous tapping
- ▶ Provides simple tooling

Collapsibility



12 segments



Drill



End mill

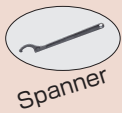


Tap

DETa-1

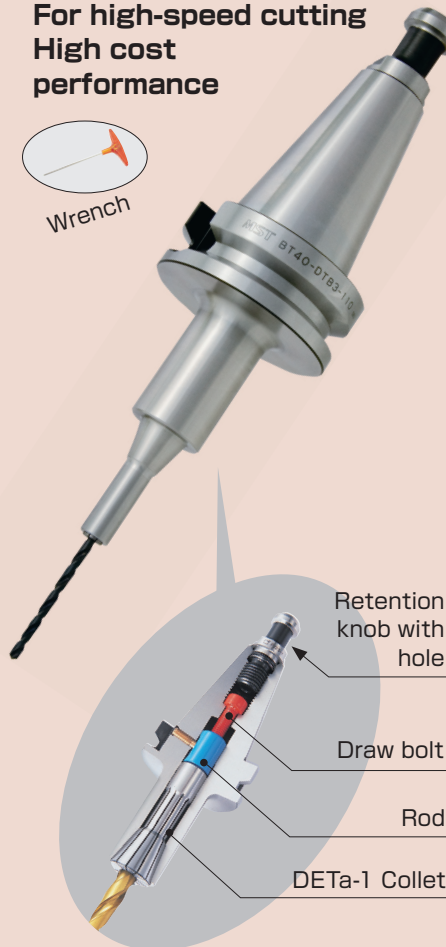
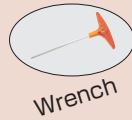
DTA type

Nut-tightening type of easy operation



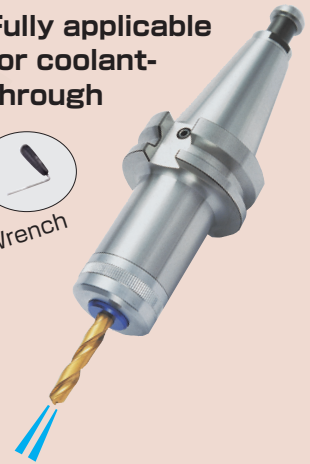
DTB type

For high-speed cutting
 High cost performance



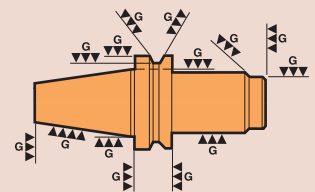
DTE type

Fully applicable for coolant-through



Pre-balanced design (DTE type)

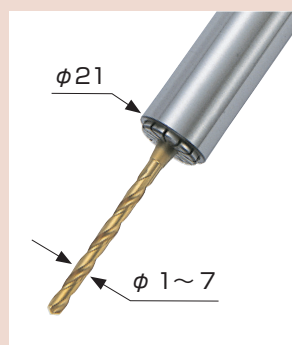
The DTE provides overall grinding around the body for improved balance characteristics to achieve high-speed operation. When used with the precision collet, it enables stable machining during high-speed machining.



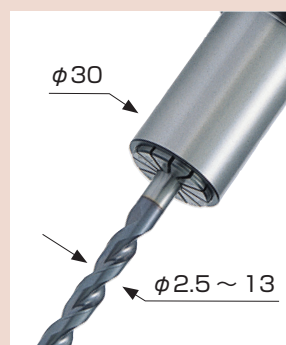
DTA3 / DTB3



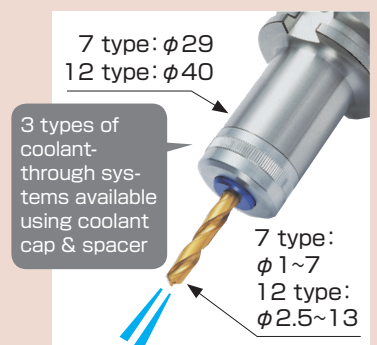
DTA7 / DTB7



DTA12 / DTB12



DTE7 / DTE12



DETa-1 Collet

Highest Guaranteed Accuracies
Throughout Entire Chucking Range

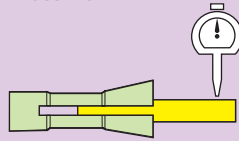
3 times longer cutter life
with using
high-precision collet

Run-out accuracy

Collet	D3	D7 / D12
Precision Collet	3(8) μm	5(10) μm
Standard Collet	5(10) μm	10(15) μm

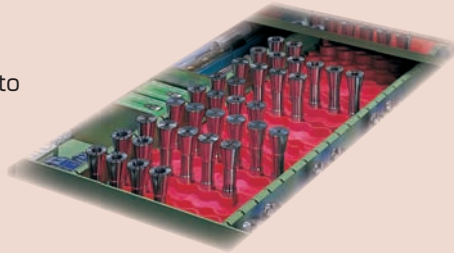
※Accuracy of collet alone, (XX) means collapsibility usable.

See P.87



Easy to organize

With their optimal collapsibility, these collets make it possible to reduce the number of collets you need by 90%, compared to our former products.



D3 Collet

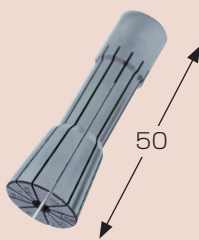
DTA3
DTB3



ϕ 0.5 ~ 3.175
(D3-0.6 ~ D3-3.175)

D7 Collet

DTA7
DTB7
DTE7



ϕ 1 ~ 7
(D7-1.5 ~ D7-7)

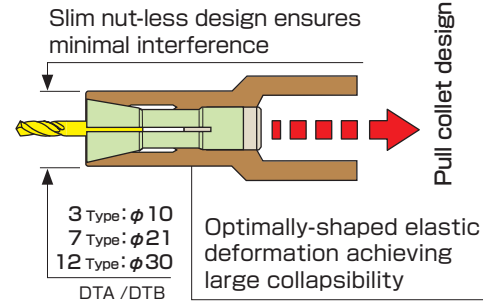
D12 Collet

DTA12
DTB12
DTE12

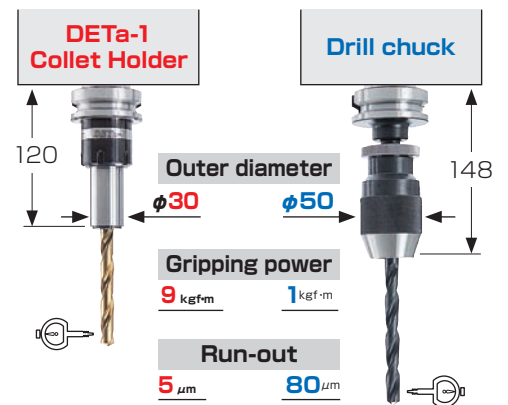


ϕ 2.5 ~ 13
(D12-4 ~ D12-13)

Pull collet design



Comparison with drill chuck



Coolant-through system 7 MAX. MPa

The spindle-through feature can be utilized whether the cutting tool has oil holes or not. For more information, see page 10.

3.7 times longer cutter life
using through-spindle
capability

See P.87



Coolant-through cutter
Intended for high-efficiency machining by using a cutting tool with oil holes. The shank of the cutting tool is sealed with an O-ring, enabling reliable coolant supply. Compatible with small-diameter cutting tools starting from 3 mm.



"Sukima-through" coolant-around tool
High-pressure coolant performance can be obtained even when using a cutting tool without oil holes.



Coolant-through collet
Coolant is supplied through the slits in the collet. No dedicated optional parts are required.

DETa-1 COLLET HOLDER A type (DTA)

M/C TOOL



Fig.1

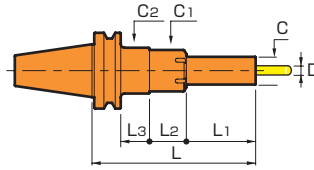


Fig.2

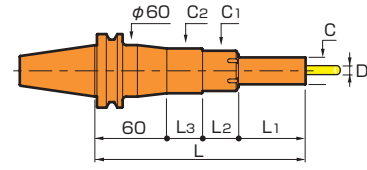


Fig.3

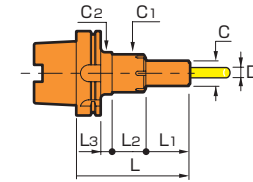
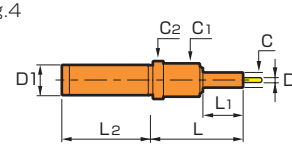


Fig.4



CODE	Fig.	ϕD	L	ϕC	L ₁	L ₂	L ₃	ϕC_1	ϕC_2	ϕD_1	Kg	N		
BT30-DTA 3- 90	1	0.5~ 3.175	90	10	27	26	15	22	25	-	0.5	2.4		
-DTA 7- 90				21	30	37	1	38	42		0.7	6.7		
-120		120	60	42	3.5	45	45	0.8	7.9					
-DTA12-120			30					52.5	2.1		10.4			
BT40-DTA 3- 95	1	0.5~ 3.175	95	10	27	26	15	22	25	-	1.1	3.9		
-125			125	45	1.2	4.3								
7-105		1 ~ 7	105	21	38	37	3	38	60		1.3	8.5		
-135			135	60	11	43	1.4	9.5						
-165			165	41	1.7	10.8								
-195			195	71	2.1	12.1								
-DTA12-120		2.5~13	120	30	52.5	40	52.5	45	58		1.5	11.6		
-150			150	75	8	50	1.7	13.8						
-180			180	38	2.1	15.5								
-210			210	68	2.6	17.1								
BT50-DTA 7-105	1	1 ~ 7	105	21	30	37	-	38	-	-	3.8	15.5		
-135			135	60	3.9	16.6								
-165			165	30	4.0	18.0								
-195			195	60	4.4	19.5								
-255			255	120	5.0	18.2								
-315			315	2	5.9	19.1								
-DTA12-135	1	2.5~13	135	30	52.5	40	4.5	45	50	4.1	19.4			
-165			165	75	12	4.3	21.6							
-195			195	42	4.7	23.4								
-255			255	102	5.5	22.3								
-315			315	2	6.6	23.3								
A 63-DTA 3- 90	3	0.5~ 3.175	90	10	27	26	11	22	25	-	0.8	3.0		
-120			120	41	1.0	3.4								
-DTA 7-105		1 ~ 7	105	21	30	37	12	38	50		1.1	17.3		
-120			120	38	19	1.3	18.3							
-150			150	60	27	1.7	20.3							
-DTA12-120			2.5~13	120	30	52.5	40	1.5	45		1.2	21.9		
-150		150		75	9	1.4	25.2							
-180		180		39	1.8	27.7								
A100-DTA 7-135		3		1 ~ 7	135	21	30	37	39		38	50	-	2.7
-165			165		60	2.8	35.5							
-225	225		99		3.7	33.6								
-DTA12-135	2.5~13		135	30	52.5	40	13.5	45	2.7	37.1				
-165			165	75	21	2.9	40.4							
-225			225	81	3.8	39.7								

BT

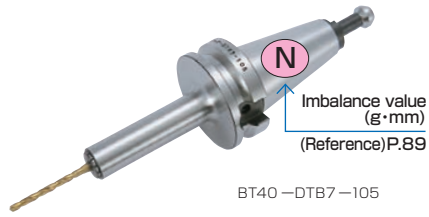
HSK

CODE	Fig.	φD	L	φC	L ₁	L ₂	L ₃	φC ₁	φC ₂	φD ₁	Kg (lbs)	N				
E 32-DTA 3- 75	3	0.5~3.175	75	10	27	26	2	22	25	-	0.2	1.8				
E 40-DTA 3- 75											0.3	1.7				
E 50-DTA 3- 80			80				1				0.5	2.1				
F 63-DTA 3- 90	3	0.5~3.175	90	10	27	26	11	22	25	-	0.8	2.3				
-120			120								41	0.9	2.7			
DN40AD-DTA 3- 95	1	0.5~3.175	95	10	27	26	10.8	22	25	-	1.1	4.6				
-125			125								40.8	1.2	5.0			
DN40A -DTA 7-105		1 ~ 7	105	21	30	43.8	12.1	38	45			11.9				
-135												135	60	37	18.9	1.3
-DTA12-130		2.5 ~ 13	130	30	52.5	56.9	-	45	-			1.5	18.0			
-160												160	75	66.4	1.7	20.0
DN50A -DTA 7-135		1 ~ 7	135	21	60	37	3	38	50	43		3.4	20.1			
-165												165	33	3.6	20.0	
-195												195	63	3.9	20.6	
-DTA12-135			2.5 ~ 13	135	30	52.5	40	7.5	45	50			3.6	21.5		
-165													165	15	3.8	25.8
-195													195	45	4.2	26.4
CT40-DTA 3- 95	1	0.5~3.175 (.02"~.13")	95 (3.74")	10 (0.39")	27 (1.06")	26 (1.02")	7 (.28")	22 (.87")	25 (.98")	-	1.1 (2.43)	4.4				
-125			125 (4.92")								37 (1.46")	1.2 (2.65)	4.8			
-DTA 7-102		1 ~ 7 (.04"~.28")	102 (4.01")	21 (0.83")	30 (1.18")	37 (1.46")	15.95 (.63")	38 (1.49")	44.45 (1.75")			0.7 (1.54)	8.1			
-132												132 (5.19")	60 (2.36")	1.3 (2.87)	9.3	
-DTA12-130		2.5 ~ 13 (.10"~.51")	130 (5.11")	30 (1.18")	53 (2.08")	40 (1.57")	-	45 (1.77")				1.5 (3.31)	11.7			
-152												152 (5.98")	75 (2.95")	15.45 (.61")	1.7 (3.75)	13.5
CT50-DTA 7-102		1 ~ 7 (.04"~.28")	102 (4.01")	21 (0.83")	30 (1.18")	37 (1.46")	15.95 (.63")	38 (1.49")	69.85 (2.75")			3.2 (7.05)	11.8			
-132												132 (5.19")	60 (2.36")	3.3 (7.28)	13.0	
-152												152 (5.98")	18 (.71")	43 (1.69")	3.5 (7.72)	13.9
-203			203 (7.87")	69 (2.71")	3.9 (8.60)	14.0										
-DTA12-130			2.5 ~ 13 (.10"~.51")	130 (5.11")	30 (1.18")	53 (2.08")	40 (1.57")	18.45 (.73")	45 (1.77")				3.5 (7.72)	15.6		
-152													152 (5.98")	75 (2.95")	17.95 (.71")	3.6 (7.94)
-203	203 (7.87")	53 (2.09")											50 (1.97")	4.2 (9.26)	18.3	
ST16 -DTA 3	4	0.5~ 3.175	60	10	27	60	-	22	25	16	-	-				
ST20 -DTA 3														20		
ST32T-DTA 7- 75																
-105		1 ~ 7	75	21	31.5	100		38	-	32						
-DTA12-105													105	61.5		
-135		2.5~13	135	30	52.5	75		4								
S 32 -DTA 7- 75	1 ~ 7												75	21	31.5	70
-DTA12-100	2.5~13	100	30	52.5		45										

- Option •DETa-1 Collet→P.11 •Spanner→P.12 •Retention knob→P.37 •Adjustable torque wrench •Cleaning tool
- Standard Accessories •Coolant duct(HSK)→P.84 •Rod(DTA3)
- Note •ATC may not be possible for some machining centers with BT30-DTA12-120.

DETa-1 COLLET HOLDER B type (DTB)

M/C TOOL



BT40-DTB7-105



E40-DTB3-70



S32-DTB7-15

Fig.1

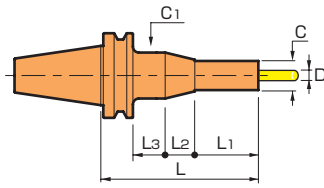


Fig.2

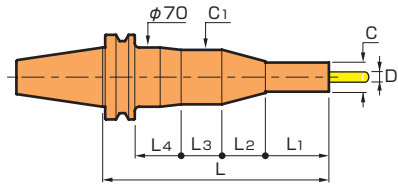


Fig.3

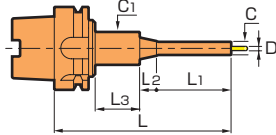


Fig.4

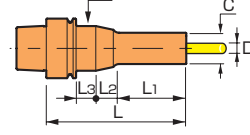


Fig.5

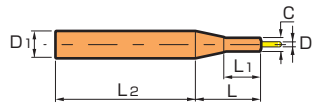
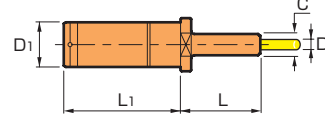




Fig.6



CODE	Fig.	φD	L	φC	L1	L2	L3	L4	φC1	φD1	Kg	N
BT30-DTB 3- 90	1	0.5~ 3.175	90	10	27	13	28	—	25	—	0.6	1.7
-DTB 7- 75		1 ~ 7	75	21	53	—	—	—	—	—	0.5	2.4
-105			105		83							3.4
-DTB12- 75			75	30	53							
-105		2.5~13	105		83						0.7	5.6
BT40-DTB 3- 80	1	0.5~ 3.175	80	10	27	13	13	—	25	—	1.3	2.8
-110			110				43				1.4	3.2
-110L					57		13				1.3	2.8
-DTB 7- 60		1 ~ 7	60	21	33	—	—	—	—	—	1.0	3.7
-105			105		78						1.1	4.8
-135			135		75	11.8	21.2		30		1.3	5.2
-165			165		75.5	35.3	27.2		40		1.6	5.4
-195			195				57.2				1.9	5.6
-DTB12- 90		2.5~13	90	30	63	—	—	—	—	—	1.2	5.3
-120			120		93						1.3	7.6
-150		150		105	11.8	6.2		40		1.5	8.4	
-180		180				36.2				1.8	8.7	
-210		210				66.2				2.1	8.9	
BT50-DTB 7- 75	1 ~ 7	75	21	37	—	—	—	—	—	—	3.5	11.7
-105			105		67						3.7	12.3
-135			135		75	11.8	10.2		30		3.8	18.6
-195			195			58.8	23.2		50		4.6	25.0
-255			255		75.5	82.3	59.2		60		6.1	27.6
-315		2	315		75	58.8	43.7	99.5	50		7.4	33.9
BT50-DTB12- 75	1	2.5~13	75	30	37	—	—	—	—	—	3.7	12.5
-105			105		67						3.9	14.8
-135			135		97						4.0	15.3
-195			195		105	35.3	16.7		50		4.7	24.3
-255			255			58.8	53.2		60		5.9	28.4
-315	2	315				50.2	63			7.5	34.1	
A63-DTB 3- 75	3	0.5~ 3.175	75	10	27	13	4	—	25	—	0.8	6.9
-105			105				34				0.9	7.5
-105L					57		4				0.8	7.0

BT

CODE	Fig.	φD	L	φC	L ₁	L ₂	L ₃	L ₄	φC ₁	φD ₁	 Kg (lbs)	 N
E 25 -DTB 3- 58	3	0.5~3.175	58	10	27	16	4.6	—	18	—	0.1	0.4
E 32 -DTB 3- 65			65				4.5		20		0.2	0.6
-DTB 7- 65K	4	1 ~ 7		21	30	14.2	10.8		26			0.9
E 40 -DTB 3- 70	3	0.5~ 3.175	70	10	27	13	—		20		0.3	
-DTB 7- 95	4		95	21	50	11.8	13.2		30		0.4	1.6
-DTB12-110		2.5~13	110	30	90	—	—		—		0.5	2.8
E 50 -DTB 3- 75	3	0.5~ 3.175	75	10	27	16	1.5		20			1.7
-DTB 7-100	4	1 ~ 7	100	21	50	11.8	12.2		30		0.6	3.2
-DTB12-115		2.5~13	115	30	89	—	—		—		0.8	4.2
F 63 -DTB 3- 75	3	0.5~ 3.175	75	10	27	13	4	—	25	—	0.8	2.1
-105			105				34				0.9	2.5
-105L					57		4				0.8	2.1
F 63M-DTB 7-100	4	1 ~ 7	100	21	50	11.8	12.2		30		0.9	3.3
-DTB12-120		2.5~13	120	30	70				40		1.1	4.8
DN40AD-DTB 3- 80	1	0.5~3.175	80	10	27	13	8.8	25	—	—	1.2	3.5
-110			110				38.8				1.3	3.6
-110L					57		8.8				1.2	3.9
-DTB 7-105		1.0 ~ 7	105	21	74	—	12.1	—	44.45		1.1	4.8
-135			135		75	11.8	17		30		1.2	5.0
-DTB12-105		2.5 ~ 13	105	30	74	—	12.1		44.45		1.2	5.7
-135			135		104						1.3	8.0
DN50AD-DTB 7-135	2	1.0 ~ 7		21	75	11.8	13.2	15.9	30		3.3	14.9
-195			195			58.8	26.2		50		4.1	21.5
-DTB12-135		2.5 ~ 13	135	30	100	—	—		—		3.5	11.7
-195			195		105	35.3	19.7		50		4.2	20.8
CT40-DTB 3- 80	1	0.5~3.175 (.02"~.13")	80 (3.15") 110 (4.33")	10 (.39")	27 (1.06")	13 (.51")	5 (.20") 35 (1.38") 5 (.20")	25 (.98")	—	—	1.1 (2.43) 1.2 (2.65) 1.1 (2.43)	3.3 3.7 3.3
-110												
-110L					57 (2.24")		5 (.20")				1.1 (2.43)	3.3
-DTB 7-105		1 ~ 7 (.04"~.28")	105 (4.13")	21 (.83")	70 (2.76")	—	16 (.63")	—	44.45 (1.75")	—	1.1 (2.43)	4.6
-135			135 (5.31")		75 (2.95")	11.8 (.46")	13.2 (.52")		30 (1.18")		1.3 (2.87)	5.2
-DTB12-120		2.5 ~ 13 (.10"~.51")	120 (4.72")	30 (1.18")	85 (3.34")	—	16 (.63")		44.45 (1.75")			7.5
-150			150 (5.91")		93 (3.66")	22.2 (.88")	15.7 (.62")				1.6 (3.53)	8.5
CT50-DTB 7-135		1 ~ 7 (.04"~.28")	135 (5.31")	21 (.83")	75 (2.91")	11.8 (.46")	13.2 (.52")		30 (1.18")		3.3 (7.28)	14.8
-195			195 (7.68")			58.8 (2.31")	26.2 (1.03")		50 (1.97")		4.1 (9.04)	21.4
-DTB12-135		2.5 ~ 13 (.10"~.51")	135 (5.31")	30 (1.18")	100 (3.94")	—	16 (.63")		69.85 (2.75")		3.5 (7.72)	11.6
-195			195 (7.68")		105 (4.13")	35.3 (1.39")	19.7 (.78")		50 (1.97")		4.1 (9.04)	20.8
ST12 -DTB 3	5	0.5~ 3.175	29	10	25	61	—	—	—	12	—	—
ST16 -DTB 3			38.5		27	81.5				16		
ST20 -DTB 3			48			102				20		
ST25T-DTB 7- 15	6	1 ~ 7	15	21	110	—				25		
- 45			45									
- 75			75									
ST32T-DTB 7- 15			15		92					32		
- 45			45									
- 75			75									
-DTB12- 15		2.5~13	15	30								
- 45			45									
- 75			75									
S 32 -DTB 7- 15	6	1 ~ 7	15	21	70	—	—	—	—	32	—	—
-DTB12- 40		2.5~13	40	30								

HSK

DIN Form AD

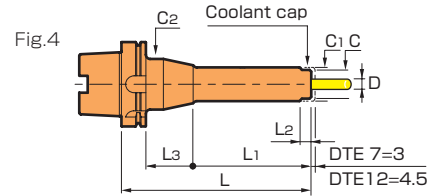
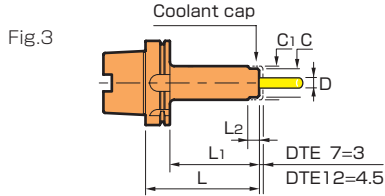
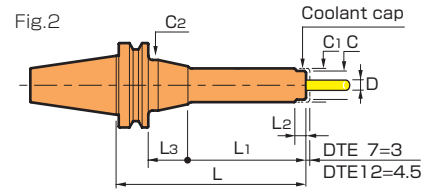
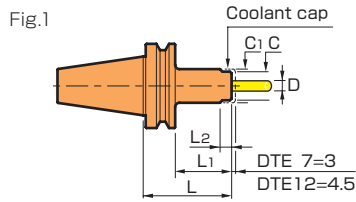
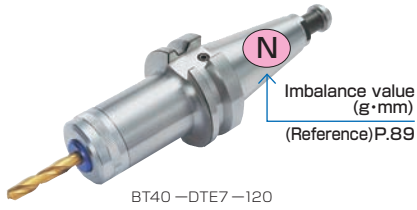
CAT.

ST

- Option •DETa-1 Collet→P.11 •Wrench→P.12 •Retention knob→P.37 •Cleaning tool
- Standard Accessories •Coolant duct(HSK)→P.84
- Note •BT30-DTB12 requires the dedicated retention knob, which has the feature of draw bolt. Please order P-333 or P-334. Please use a commercially available 14mm single -ended wrench.
- For the E32-DTB7-65K, collet collapsibility is not available. The clamping diameter applies only to nominal end-mill shank size.

DETa-1 COLLET HOLDER E type (DTE)





M/C TOOL



CODE	Fig.	φD	L	φC	L1	L2	L3	φC1	φC2	Kg	N	
BT30-DTE 7- 60	1	1 ~ 7	60	24	38	11.5	-	29	-	0.6	3.2	
		2.5 ~ 13	75	34	53	14	-	40	-	0.9	4.9	
BT40-DTE 7- 90	2	1 ~ 7	90	24	63	11.5	-	29	-	1.3	4.9	
			120	70	-	23	40	1.5	6.2			
			150	-	53	50	1.9	7.2				
			180	-	83	-	2.4	8.9				
			210	-	113	-	2.9	9.8				
BT40-DTE12- 90	1	2.5 ~ 13	90	34	63	14	-	40	-	1.5	6.1	
			120	93	-	-	-	1.8	7.4			
			150	123	-	-	2.1	9.4				
			180	140	-	13	50	2.5	9.6			
			210	-	43	-	2.9	11.7				
BT50-DTE 7-105	2	1 ~ 7	105	24	67	11.5	-	29	-	3.9	15.6	
			135	70	-	27	40	4.2	16.5			
			165	-	57	50	4.6	18.7				
			225	-	117	60	6.0	24.4				
			285	-	177	-	7.3	30.1				
BT50-DTE12-105	1	2.5 ~ 13	105	34	67	14	-	40	-	4.2	16.6	
			135	97	-	-	-	4.5	18.9			
			165	127	-	-	4.8	21.0				
			225	140	-	47	60	5.7	24.5			
			285	-	107	-	7.6	27.1				
A 40-DTE 7- 95	3	1 ~ 7	95	24	75	11.5	-	29	-	0.6	4.4	
		2.5 ~ 13	105	34	85	14	-	40	-	0.9	14.4	
A 50-DTE 7-105	3	1 ~ 7	105	24	79	11.5	-	29	-	0.7	9.8	
		2.5 ~ 13	120	34	94	14	-	40	-	1.1	12.5	
A 63-DTE 7-105	4	1 ~ 7	105	24	70	11.5	9	29	40	-	1.2	12.3
			120	-	24	-	-	1.2	12.8			
			150	-	54	50	1.7	14.3				
			180	-	84	-	2.1	15.7				
A 63-DTE12-120	3	2.5 ~ 13	120	34	94	14	-	40	-	1.5	14.9	
			150	124	-	-	-	1.8	16.0			
			180	140	14	14	50	2.3	19.1			
A100-DTE 7-135	4	1 ~ 7	135	24	70	11.5	36	29	40	2.7	31.0	
			165	-	66	50	3.2	32.4				
			225	-	126	60	4.7	35.7				
A100-DTE12-135	3	2.5 ~ 13	135	34	106	14	-	40	-	3.0	33.1	
			165	136	-	-	-	3.3	36.2			
			225	140	56	60	4.4	40.3				

BT

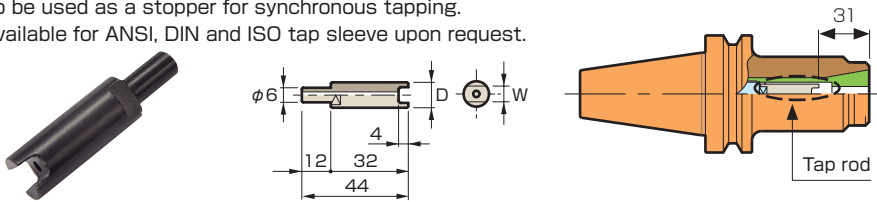
HSK

CODE	Fig.	φD	L	φC	L ₁	L ₂	L ₃	φC ₁	φC ₂	 Kg (lbs)	 N
DN40AD-DTE 7- 90 -120 -DTE12- 90 -150	2	1 ~ 7	90	24	58	11.5	12.9	29	45	1.2	5.4
			120		70		30.9			1.4	6.4
		2.5 ~ 13	90	34	58.8	14	12.1	40	1.3	6.1	
			150		118.8				1.9	9.3	
DN50AD-DTE 7-105 -165 -DTE12-105 -165	1	1 ~ 7	105	24	70	11.5	15.9	29	70	3.4	12.0
			165				60		50	4.2	15.1
		2.5 ~ 13	105	34	130	14	15.9	40	70	3.6	12.6
			165						4.2	17.0	
CT40 -DTE 7- 90 -120	1	1 ~ 7 (.04"~.28")	90 (3.54")	24 (.94)	55 (2.17")	11.5 (.45")	16 (.63")	29 (1.14")	44.5 (1.75")	1.2 (2.65)	5.2
	2		120 (4.72")		70 (2.75")		31 (1.22")			1.5 (3.31)	6.2
-DTE12- 90 -150	1	2.5 ~ 13 (.10"~.51")	90 (3.54")	34 (1.34)	55 (2.17")	14 (.55")	16 (.63")	40 (1.57")	44.5 (1.75")	1.4 (3.09)	6.1
			150 (5.91")		115 (4.53")					1.9 (4.19)	9.6
CT50 -DTE 7-105 -165	2	1 ~ 7 (.04"~.28")	105 (4.13")	24 (.94)	70 (2.75")	11.5 (.45")	60 (2.36")	29 (1.14")	69.85 (2.75")	3.4 (7.50)	11.8
			165 (6.50")						50 (1.97")	4.1 (9.04)	15.0
-DTE12-105 -165	1	2.5 ~ 13 (.10"~.51")	105 (4.13")	34 (1.34)	130 (5.12")	14 (.55")	16 (.63")	40 (1.57")	69.85 (2.75")	3.6 (7.94)	12.9
			165 (6.50")						4.2 (9.26)	17.3	

- Option •DETa-1 Collet→P.11 •Wrench→P.12 •Retention knob(BT)→P.37 •Tap rod (DTE12)→P.10 •Cleaning tool→P.12 •Spacer→P.12
- Standard Accessories •Coolant duct(HSK)→P.84
- Note •Coolant-through system→P.10
- Caution •BT30-DTE12 comes with the dedicated retention knob ,which has the feature of draw bolt. Please specify whether a MAS-1 or MAS-2 retention knob is required when ordering.

Tap rod for DTE12

To be used as a stopper for synchronous tapping.
Available for ANSI, DIN and ISO tap sleeve upon request.

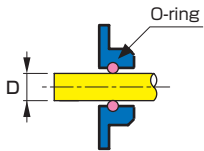


CODE	Applicable taps	φD	W
TR-5	JIS M 8	10.5	5
-5.5	JIS M10		5.5
-6	OSG M 8		6
-6.5	JIS M12		6.5
-8	OSG M12	12	8

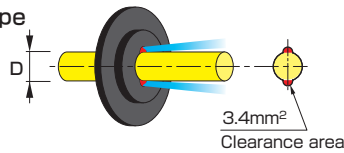
COOLANT-THROUGH SYSTEM (OPTION)

Spacer

EA type



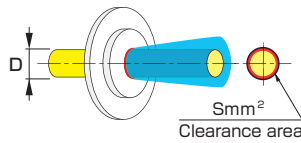
EBM type



CODE	Holder type	φD	Q'ty
7EA-3.5-3	DTE 7	3 ~ 3.5	3pcs. 1set
-4.0-3		3.5~ 4	
-4.5-3		4 ~ 4.5	
-5.0-3		4.5~ 5	
-5.5-3		5 ~ 5.5	
-6.0-3		5.5~ 6	
-6.5-3		6 ~ 6.5	
-7.0-3		6.5~ 7	
12EA-3.5-3		DTE12	
-4.0-3	3.5~ 4		
-4.5-3	4 ~ 4.5		
-5.0-3	4.5~ 5		
-5.5-3	5 ~ 5.5		
-6.0-3	5.5~ 6		
-6.5-3	6 ~ 6.5		
-7.0-3	6.5~ 7		
-8.0-3	7.0~ 8.0		
-9.0-3	8.0~ 9.0		
-10.0-3	9.0~10.0		
-11.0-3	10.0~11.0		
-12.0-3	11.0~12.0		
-13.0-3	12.0~13.0		

CODE	Holder type	φD	Q'ty
7EBM-3-3	DTE 7	3	3pcs. 1set
-4-3		4	
-6-3		6	
12EBM-3-3	DTE12	3	3pcs. 1set
-4-3		4	
-6-3		6	
-8-3		8	
-10-3		10	
-12-3		12	

EBS type



CODE	Holder type	φD	S	Q'ty
7EBS-3.6-3	DTE 7	3	3.1	3pcs. 1set
-4.5-3		4	3.3	
-6.4-3		6	3.9	
12EBS-3.6-3	DTE12	3	3.1	3pcs. 1set
-4.5-3		4	3.3	
-6.4-3		6	3.9	
-8.4-3		8	4.6	
-10.3-3		10	4.8	
-12.3-3		12		

Spacer blank type

Depend on cutter or application, please modify.



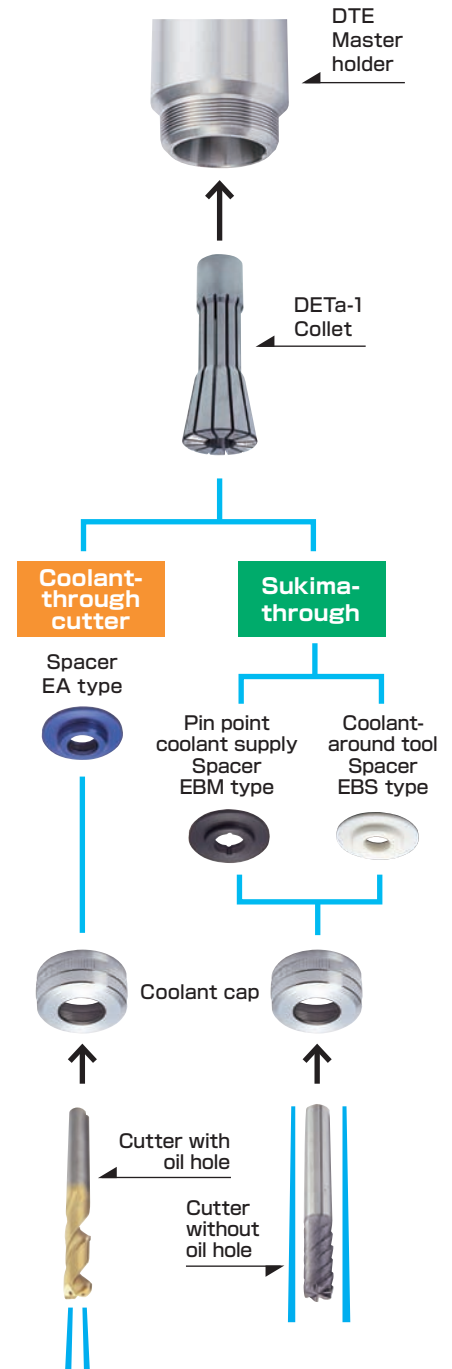
CODE	Holder type	Q'ty
7EBF-BL-5	DTE 7	5pcs. 1set
12EBF-BL-5	DTE12	

Spacer set

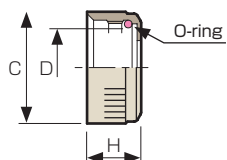
CODE	Contents of set			Holder type
	Spacer	Q'ty	Coolant cap	
7ES-A	7EA-3.5~7	(1 ea.)	CLP-7E (1pc.)	DTE 7
	7EBM-3,4,6	total 14pcs.		
	7EBS-3.6~6.4			
12ES-A	12EA-3.5~13	(1 ea.)	CLP-12E (1pc.)	DTE12
	12EBM-3~13	total 26pcs.		
	12EBS-3.6~12.3			



■ Standard accessories
● Collet driver

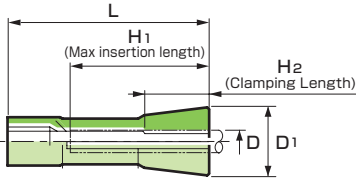


Coolant cap



CODE	Holder type	φD	φC	H
CLP-7E	DTE 7	21	29	14
-12E	DTE12	30	40	18

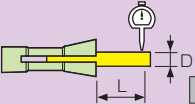
DETa-1 COLLET



Run-out accuracy of DETa-1 collet

Collet	D3	D7/D12
Precision Collet	3(8) μm	5(10) μm
Standard Collet	5(10) μm	10(15) μm

※Accuracy of collet alone.
(XX) means collapsibility usable.



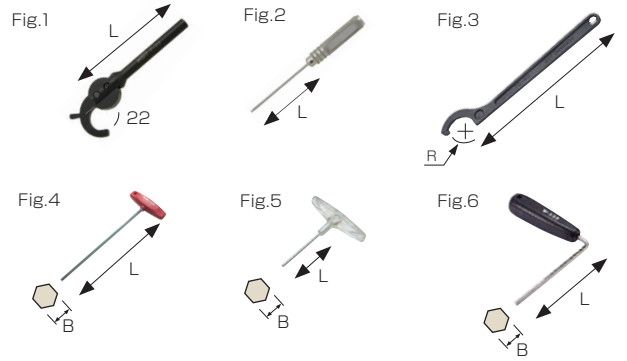
D	L
~10	4 × D
10~13	40

CODE		φD	Holder type	Collapsibility	φD1	L	H1	H2						
Standard Collet	Precision Collet													
D 3-	0.6	0.5 ~ 0.6	DTA 3 DTB 3	0.1	7	40	30	6.9						
-	0.8	0.6 ~ 0.8							0.2					
-	1	0.8 ~ 1												
-	1.5	1 ~ 1.5		0.5										
-	2	1.5 ~ 2												
-	2.5	2 ~ 2.5												
-	3	2.5 ~ 3												
-	3.175	2.7 ~ 3.175												
D 7-	1.5	1 ~ 1.5							DTA 7 DTB 7 DTE 7	0.5	17	50	36	7
-	2	1.5 ~ 2												
-	2.5	2 ~ 2.5												
-	3	2.5 ~ 3												
-	4	3 ~ 4												
-	5	4 ~ 5	1	14										
-	6	5 ~ 6												
-	7	6 ~ 7												
D12-	4	2.5 ~ 4			DTA12 DTB12 DTE12	1.5	26	70		50				16
-	6	4 ~ 6												
-	8	6 ~ 8	2	20										
-	10	8 ~ 10												
-	12	10 ~ 12												
-	13	11 ~ 13		22										

Add "-P" after the standard type item code.
 < Example >
D12-6-P

Spanner・Wrench

CODE	Holder type	Fig.	B	R	L	Tightening torque (kgf)	
F-22	DTA 3	1	-	22	110	0.2~0.3 kgf·m	
DW-2.5-110	DTB 3	2		-			
F-38	DTA 7	3		19	148.5	2 ~ 4	
-45	DTA12			22.5	225	7	
TW-5	DTB 7	4	5	-	153	1.4	
-6	DTB12		6		173	3.4	
-4	E32 -DTB 7		5	4	100	1.4	
W-135DR	DTE 7	6	5		132.5	1.4	
	DTE12						1.8
	F63M-DTB 7						1.4
	F63M-DTB12						1.8



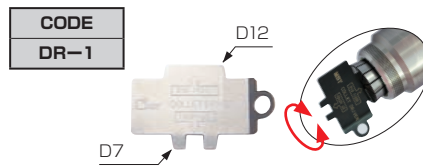
Adjustable torque wrench

The nut-tightening torque can be adjusted more properly.

Spanner for torque wrench	Adjustable torque wrench	Holder type
F-38AW	AW-1	DTA 7
-45AW		DTA12

Collet driver

The DETa-1 collet can be attached/detached with ease.



Attaching a cutting tool (DTB, DTE)

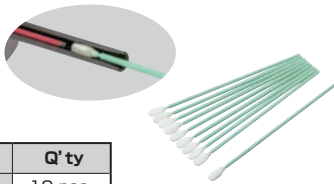
If a retention knob with hole is used, direct tightening of cutting tools is possible.

Diameter of machining Retention knob

DTB 3	: 3~
DTB 7 DTE 7	: 6~
DTB12 DTE12	: 7~

Cleaning tool

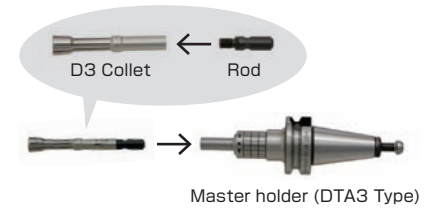
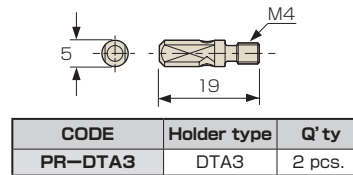
Used to clean the inside of holder.



CODE	Q' ty
PCT01-10	10 pcs.
-25	25 pcs.


Rod (DTA3 Type)

These are necessary when attaching a collet to the master holder (DTA3).



Cutting data

A6061

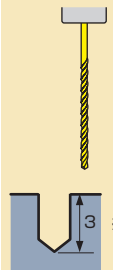


$\phi 0.8$ Straight drill made of high-speed steel

N	6000 min ⁻¹
F	60 mm/min
V	15 m/min

BT40-DTB3-110L

A5052

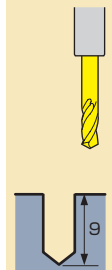


$\phi 0.8$ Straight drill made of high-speed steel

N	10000 min ⁻¹
F	400 mm/min
V	25 m/min

*234pcs.
A63-DTB3-75

S50C

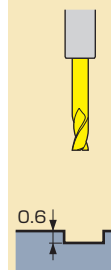


$\phi 3$ Carbide drill 3 flutes

N	9000 min ⁻¹
F	900 mm/min
V	85 m/min
f	0.1 mm/flute

E32-DTA3-75

S50C

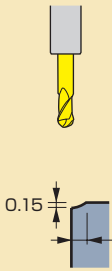


$\phi 3$ Carbide Square endmill 2 flutes

N	6000 min ⁻¹
F	150 mm/min
V	60 m/min
f	0.025 mm/flute

E32-DTA3-75

S50C

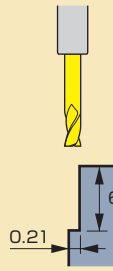


R1.5 Carbide ball endmill

N	12500 min ⁻¹
F	1560 mm/min
V	120 m/min
f	0.125 mm/flute

E32-DTB3-65

S50C

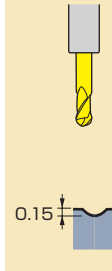


$\phi 3$ Carbide Square endmill 2 flutes

N	6000 min ⁻¹
F	150 mm/min
V	60 m/min
f	0.025 mm/flute

E32-DTB3-75

S50C

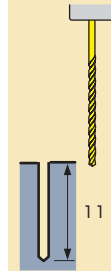


R1.5 Carbide ball endmill

N	12500 min ⁻¹
F	1560 mm/min
V	120 m/min
f	0.125 mm/flute

E32-DTB3-65

STAVAX(HRC42°)




$\phi 0.6$ Carbide straight drill

N	3715 min ⁻¹
F	30 mm/min
V	7 m/min

F63-DTB3-75

SKD61(HRC46°)

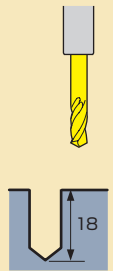


R3 Carbide ball endmill 2 flutes

N	5000 min ⁻¹
F	1500 mm/min
V	94 m/min
f	0.15 mm/flute

BT40-DTB7-105

S50C

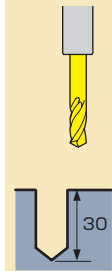


$\phi 6$ Carbide drill

N	6369 min ⁻¹
F	1592 mm/min
V	120 m/min
f	0.12 mm/flute

A63-DTE7-105

AL

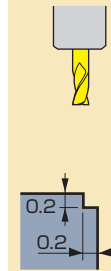


$\phi 8.5$ Carbide drill

N	10000 min ⁻¹
F	5000 mm/min
V	267 m/min
f	0.25 mm/flute

BT40-DTA12-165

SKD61(HRC46°)




$\phi 10$ Carbide endmill 2 flutes

N	4500 min ⁻¹
F	1500 mm/min
V	141 m/min
f	0.17 mm/flute

BT40-DTB12-90

SKD61(HRC53°)



R5 Carbide ball endmill 2 flutes

N	20000 min ⁻¹
F	6000 mm/min
V	628 m/min
f	0.15 mm/flute

A63-DTE12-120

COLLET HOLDER

Ultra precision taper collet chuck

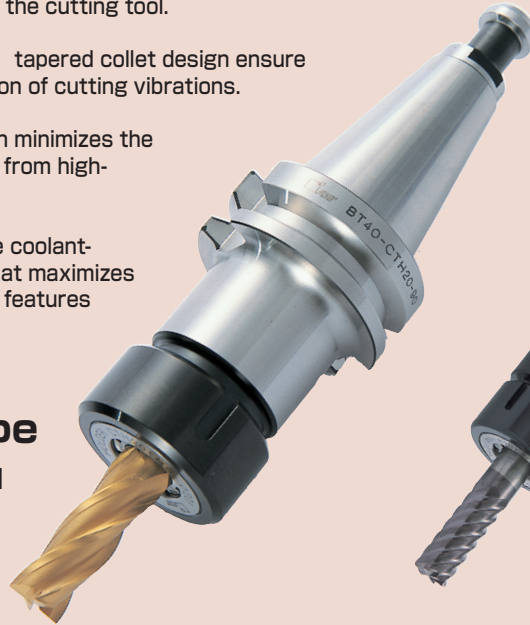
PAT.

The best-suited base holder applicable to all the kinds of machining
This holder meets all the requirements for high-speed cutting; Accuracy, rigidity, balance, and coolant.

- ▶ **Accuracy** Super-precise spring collet that dramatically improves the quality of the finished surface and the operating life of the cutting tool.
- ▶ **Rigidity** Thick holder and 6° tapered collet design ensure the proper absorption of cutting vibrations.
- ▶ **Balance** Pre-balanced design minimizes the vibrations resulting from high-speed machining.
- ▶ **Coolant** Compatible with the coolant-through features that maximizes the spindle-through features



CTH type
For high-speed



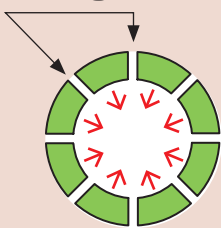
CTA type



Spring collet

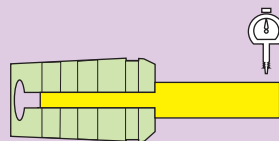
The increased number of slits ensures the uniform tightening and high accuracy of the collet.

Slits
6 to 12 segments



3 times longer cutter life
with using
high-precision collet

See P.87



Run-out accuracy

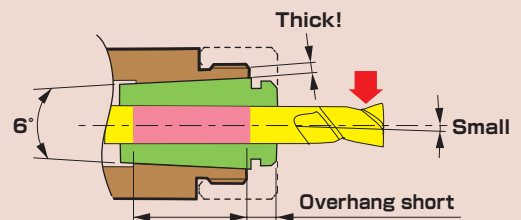
Collet	Run-out accuracy
Precision Collet	5 μm
Standard Collet	10 μm

※Accuracy of collet alone

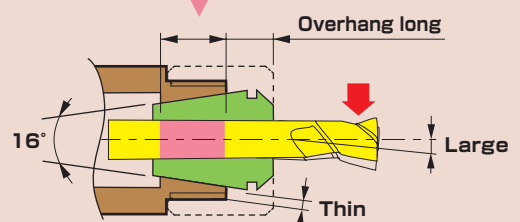
Ideal taper angle

Since the collet angle is smaller than that of typical collets, the collapsibility is also small. However, because the collet can be inserted deeper into the main body, the gripping area increases, it provides stable run-out accuracy and high gripping power and rigidity for end milling. This collet as a taper angle of 6°, the ideal angle for run-out accuracy, gripping power and rigidity.

MST
collet
6° taper

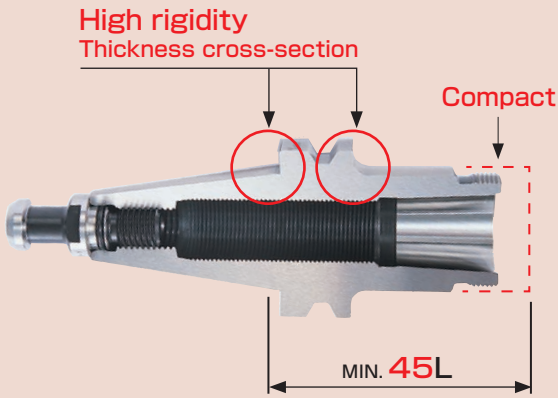


True clamping length

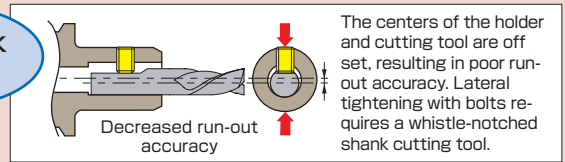


High rigidity

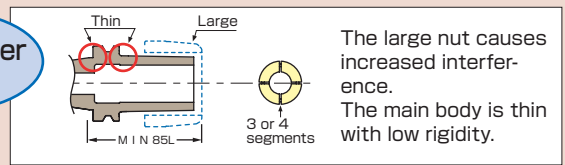
The tapered collet type allows the main body to be designed to be thick and compact.



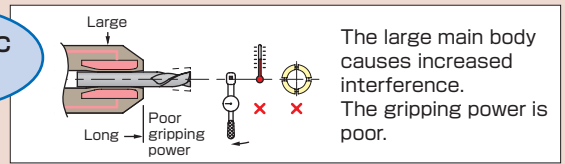
Side lock type



Needle roller type



Hydraulic type



COMES IN MANY SIZES

The most suitable holder can be chosen based on cutting tool size and machining requirements, such as machining interference, coolant feed, and gripping power.

● Main body (Collet) **5** types

CTA10, CTH10

CTA20, CTH20

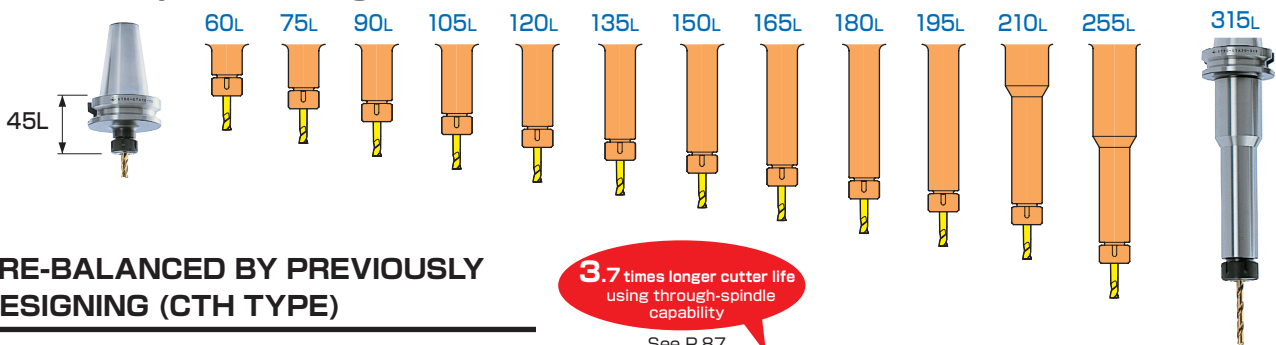
CTA25, CTH25

CTA32, CTH32

CTA40

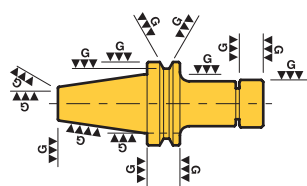


● A variety of holder lengths: 45L to 315L



PRE-BALANCED BY PREVIOUSLY DESIGNING (CTH TYPE)

The collet holder (CTH type) is pre-balanced by previously designing the holder to be as axisymmetrical as possible. When used with the precision collet, it enables stable machining during high-speed machining.



See P.87

COOLANT-THROUGH SYSTEM

The spindle-through feature can be used whether the cutting tool has oil holes or not. For more information, see page 21. **7 MAX. MPa**



★ Comparison in imbalance value

Holder code	Spring collet used	Cutter used		Imbalance value (g·cm)
		Diameter (mm)	Overhang (mm)	
BT30-CTH10-75	Precision collet C10-10-P	φ 10	40	0.33
-CTA10-75	Standard collet C10-10			1.31

COLLET HOLDER for high-speed (CTH)



BT40-CTH20-90

Imbalance value
(g·mm)
(Reference)P.89

Fig.1

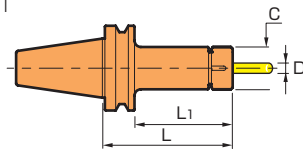


Fig.2

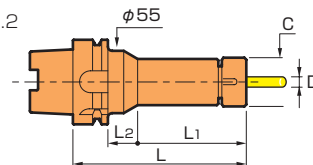
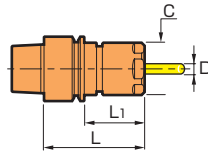


Fig.3



A63-CTH20-90

CODE	Fig.	ϕD	L	ϕC	L ₁	L ₂	Kg	N		
BT30-CTH10-45	1	2.4~10	45	36	23	-	0.5	2.6		
-75			75		53		0.6	2.7		
-CTH20-60		5.8~20	60	50	38		0.9	4.3		
-90			90	68	0.9		4.7			
BT40-CTH10-60	1	2.4~10	60	36	33	-	1.1	3.8		
-90			90		63		1.3	4.0		
-120			120		93		1.4	4.4		
-150			150		123		1.6	4.6		
-CTH20-60		5.8~20	60	50	33		1.2	6.4		
-90			90		63		1.4	7.0		
-120			120		93		1.7	7.3		
-150			150		123		2.0	7.6		
-CTH25-75		5.8~25	75	62	48		1.5	8.9		
-105			105		78		2.0	9.8		
BT50-CTH10-105		1	2.4~10		36		67	-	3.8	5.3
-135				135			97		4.0	5.7
-165	165			127		4.1	6.1			
-CTH20-105	5.8~20		105	50	67	4.2	8.3			
-135			135		97	4.6	9.0			
-165			165		127	4.9	9.4			
-CTH25-75	5.8~25		75	62	37	3.8	10.3			
-105			105		67	4.4	11.0			
-CTH32-90	24.8~32		90	74	52	4.1	14.4			
A 40-CTH10-55	2		2.4~10	55	32	35	-		0.4	3.6
-75		75		55		0.5		3.9		
-90		90		70		0.6		4.0		
-CTH20-75		5.8~20	75	50	55	0.7		7.3		
-90			90		70	0.8		7.0		
-CTH25-95			95		55	75		0.9	10.7	
A 50-CTH10-55	2	2.4~10	55	36	29	-	0.6	6.6		
-75			75		49		0.7	6.9		
A50M-CTH20-80		5.8~20	80	50	54		0.9	10.2		
-105			105		79		1.2	11.1		
-CTH25-105		5.8~25		62			1.3	14.7		

BT

HSK

CODE	Fig.	ϕD	L	ϕC	L ₁	L ₂	Kg	N	
A 63 -CTH10- 75	2	2.4 ~ 10	75	36	49	-	0.9	10.2	
			90		64		1.0	10.4	
			120		94		1.2	10.7	
			150		124		1.4	11.0	
	-CTH20- 90		5.8 ~ 20	90	50	64		1.2	14.1
				120		94		1.5	14.0
				150		124		1.9	14.9
				-CTH25-105		5.8 ~ 25		105	62
	A100 -CTH10-135	2	2.4 ~ 10	135	36	106	-	2.7	25.1
				165		136		2.9	25.4
				225		175		3.4	26.0
				-CTH20-135		5.8 ~ 20		135	50
-165		136	3.6	29.5					
-225		196	4.3	31.1					
-CTH25-135		5.8 ~ 25	135	62	106			3.7	
-165			136		4.3	32.7			
-195			166		4.8	34.1			
E 32 -CTH10- 55		2	2.4 ~ 10	55	32	35	-	0.2	1.2
		-CTS10- 50		3					50
E 40 -CTH10- 55		2		55	32	34			0.4
E 50 -CTH10- 60	60			36					0.7
- 90			90		64			0.9	
			-CTH20- 75		5.8 ~ 20			75	50
F 63 -CTH10- 60		2.4 ~ 10	60	36	34			2.2	
			- 90		90			64	1.1
-CTH20- 75		5.8 ~ 20	75	50	49		3.9		
DN40AD-CTH20- 75	1	5.8 ~ 20	75	50	56	-	1.1	5.4	
			-135		135		116	1.7	5.9
			-CTH25- 75		5.8 ~ 25		75	62	56
DN50AD-CTH20-105	2	5.8 ~ 20	105	50	70		3.6	9.1	
			-165		165		130	4.4	9.9
			-CTH25-105		5.8 ~ 25		105	62	70

HSK

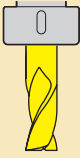
DIN
Form AD

- Option
 - Spring collet (Precision collet) → P.20
 - Adjustable torque wrench → P.19
 - Be sure to use precision-type spring collet.
- Standard Accessories
 - Nut (NUA-CTH) → P.83
 - Coolant duct (HSK-A) → P.84
- Note
 - The undercut area of the A50M is different from the standards. Please be careful to check for interference with the ATC arm.
- Caution
 - E32-CTS10-50 = Collapsibility cannot be used. The collet can only chuck a tool of the reference diameter.

- Spanner → P.19
- Retention knob (BT) → P.37
- Coolant cap → P.21
- Sukima nut → P.21

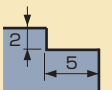
Cutting data (CTH)

A7075



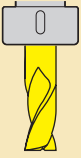
$\phi 10$ Carbide endmill
2 flutes

N 32000 min⁻¹
F 10000 mm/min
V 1005 m/min
f 0.16 mm/flute



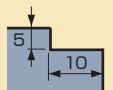
BT30-CTH10-45

A6061



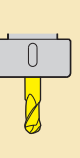
$\phi 20$ Carbide endmill
2 flutes

N 20000 min⁻¹
F 16000 mm/min
V 1256 m/min
f 0.4 mm/flute



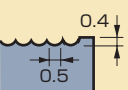
BT40-CTH20-60

SKD(HRC50°)



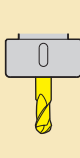
R3 Carbide ball endmill
2 flutes

N 15000 min⁻¹
F 1500 mm/min
V 283 m/min
f 0.05 mm/flute



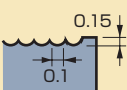
BT40-CTH20-60

SKD(HRC45°)



$\phi 10$ Carbide ball endmill
2 flutes

N 10000 min⁻¹
F 3000 mm/min
V 314 m/min
f 0.15 mm/flute



BT50-CTH10-105

COLLET HOLDER standard specifications (CTA)

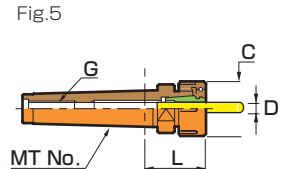
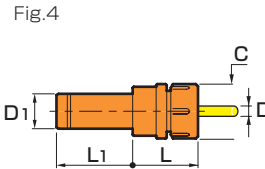
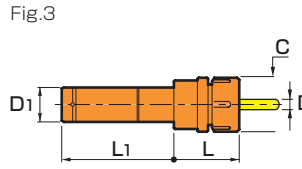
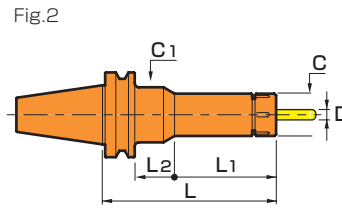
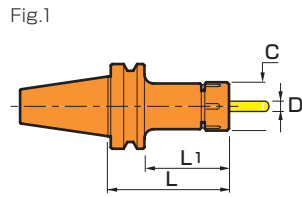
M/C TOOL



BT50-CTA20-135



ST32T-CTA10-90



CODE	Fig.	ϕD	L	ϕC	L ₁	L ₂	ϕC_1	Kg					
BT30-CTA10- 45	1	2.4 ~ 10	45	36	23	-	-	0.5					
- 75			75		53			0.7					
-105			105		83			0.9					
-CTA20- 60	1	5.8 ~ 20	60	50	38	-	-	0.6					
- 90			90		68			0.9					
BT40-CTA10- 60			1		2.4 ~ 10			60	36	33	-	-	1.1
- 90	90	63		1.3									
-120	120	93		1.5									
-150	150	123		1.7									
-180	180	153		1.9									
-210	2	210		210		155	28	44		2.1			
-CTA20- 60				1		5.8 ~ 20	60	50		33			-
- 90	90	63					1.4						
-120	120	93	1.7										
-150	150	123	2.1										
-180	180	153	2.5										
-210	210	183	2.9										
-CTA25- 75	1	5.8 ~ 25	75		62		48		-		-	1.2	
-105			105	78		1.6							
-135			135	108		2.0							
-CTA32-105	1	24.8 ~ 32	105	74	78	-	-	1.8					
BT50-CTA10-105	1	2.4 ~ 10	105	36	67	-	-	3.8					
-135			135		97			3.9					
-165			165		127			4.0					
-195			195		157			4.2					
-255			2		255			255	155	62	55	4.9	
-315	315	122		5.8									
-CTA20-105	1	5.8 ~ 20	105	50	67	-	-	4.0					
-135			135		97			4.4					
-165			165		127			4.8					
-195			195		157			5.2					
-255			2		255			255	180	37	65	6.3	
-315	315	97		7.7									
-CTA25- 75	1	5.8 ~ 25	75	62	37	-	-	3.6					
-105			105		67			4.2					
-135			135		97			4.8					
-165			165		127			5.4					
-195			195		157			6.0					
-255			2		255			255	217	52	70	7.2	
-315								315	225			8.7	
-CTA32- 90			1		24.8 ~ 32			90	74	52	-	-	4.0
-120	120	82		4.7									
-150	150	112		5.4									
-180	180	142		6.1									
-CTA40- 90	1	31.8 ~ 42		90		90	52	-		-			4.0
-120			120	82	5.0								

BT

CODE	Fig.	φD	L	φC	L ₁	φD ₁	MT No.	G	Kg (lbs)				
DIN Form AD DN40AD-CTA20- 75 -135 -CTA25- 75	1	5.8 ~ 20	75	50	56	-	-	-	1.1				
			135		116				1.9				
		5.8 ~ 25	75	62	56				1.7				
DN50AD-CTA20-105 -165 -CTA25-105	2	5.8 ~ 20	105	50	70	-	-	-	2.3				
			165		130				3.0				
		5.8 ~ 25	105	62	70				2.9				
CAT. CT40 -CTA20- 75 -135 -CTA25- 75 CT50 -CTA20-105 -165 -CTA25-105	1	5.8 ~ 20 (.23" ~ .79")	75 (2.95")	50 (1.97")	56 (2.20")	-	-	-	1.2 (2.65)				
			135 (5.31")		116 (4.57")				1.7 (3.75)				
		5.8 ~ 25 (.23" ~ .98")	75 (2.95")	62 (2.44")	56 (2.20")				1.4 (3.09)				
		5.8 ~ 20 (.23" ~ .79")	105 (4.13")	50 (1.97")	70 (2.68")				3.6 (7.94)				
			165 (6.50")	130 (5.12")	4.4 (9.70)								
		5.8 ~ 25 (.23" ~ .98")	105 (4.13")	62 (2.44")	70 (2.68")				3.9 (8.60)				
ST ST20T -CTA10 ST25T -CTA10 -CTA20 ST32T -CTA10- 30 - 60 - 90 -120 -CTA20- 60 - 90 -120 ST42T -CTA25- 90 -120	3	2.4 ~ 10	35	36	110	-	-	-	20				
			25		25								
		5.8 ~ 20	60	50	100				32	-	-	-	
			30										60
			60										90
			90										120
		5.8 ~ 20	60	50	110				42	-	-	-	
			30										60
			60										90
			90										120
		5.8 ~ 25	90	62	110				42	-	-	-	
			30										60
60	90												
90	120												
S 32 -CTA10 -CTA20 S 42 -CTA10 -CTA20 -CTA25	4	2.4 ~ 10	30	36	70	-	-	-	-				
			60		50				32				
		2.4 ~ 10	30	36	80				42	-	-	-	
			35		50								
5.8 ~ 25	80	62	80	42	-	-	-						
	80		62										
MT MT2 -CTA10 MT3 -CTA10 MT4 -CTA20 -CTA25	5	2.4 ~ 10	40	36	-	-	2	M10	-				
									3	M12	-		
		5.8 ~ 20	70	50					4	M16	-		
												95	62

- Option ● Spring collet→P.20 ● Spanner ● Retention knob(BT)→P.37 ● Adjustable torque wrench
- Standard Accessories ● Nut(NUA-CTA)→P.79

Spanner • Wrench

Fig.1



Fig.2



CODE	Fig.	Holder type	R	L	Tightening torque
FC-32	1	CTH10 (E32, A40)	16	120	4 ~ 6kgf·m
-36		CTA10, CTH10	18	208	
-50		CTA20, CTH20	25	281	12
-55		CTH25 (A40)	27.5	284	15
-62		CTA25, CTH25	31	312	
-74		CTA32, CTH32	37	364	
-90	CTA40	45			
RC-26	2	CTS10	-	240	-

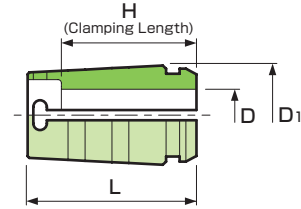
Adjustable torque wrench

The nut-tightening torque can be adjusted more properly.
Compatible with CTA10, CTH10, CTA20, CTH20.



Spanner for torque wrench	Adjustable torque wrench	Holder type
FC-36AW	AW-1	CTA10, CTH10
-50AW	-2	CTA20, CTH20

SPRING COLLET for collet holder



CODE		φD	Holder type	Collapsibility	L	φD ₁	H
Standard Collet	Precision Collet						
C10-D	Add "-P" after the standard type item code. < Example > C10-6-P	2.6 2.8 3 3.2 3.4 ... (0.2 Steps) ... 9.4 9.6 9.8 10	CTA10 CTH10	0.2	26	17.2	D= 2.6~ 5 → 16 5.2~ 5.8 → 18 6 ~10 → 20
C20-D		6 6.2 6.4 6.6 6.8 ... (0.2 Steps) ... 19.4 19.6 19.8 20	CTA20 CTH20	0.2	50	29.5	D= 6 ~ 9.8 → 29 10 ~15.8 → 33 16 ~20 → 40
C25-D		6 8 10 10.5 11 11.5 12 ... (0.5 Steps) ... 23 23.5 24 24.5 25	CTA25 CTH25	0.2	68	36.5	D= 6 ~ 8 → 35 10 ~15 → 46 15.5~20 → 54 20.5~25 → 57
C32-D		25 28 30 32	CTA32 CTH32	0.2	80	46	D=25 ~28 → 66 30 ~32 → 68
C40-D		32 40 42	CTA40	0.2	80	56	D=32 ~40 → 65 42 → 70

CODE	φD	Holder type	Collapsibility	L	φD ₁	H
Standard collet						
C20-D	1/ 4 5/16 3/8	CTA20	0.2 (.008")	50 (1.97")	29.5 (1.16")	29 (1.14")
	7/16 1/ 2					33 (1.30")
	5/ 8 3/ 4					40 (1.57")
C25-D	1/ 4 5/16 3/8	CTA25	0.2 (.008")	68 (2.67")	36.5 (1.44")	35 (1.38")
	7/16 1/ 2					46 (1.81")
	5/ 8 3/ 4					54 (2.12")
	1IN					57 (2.24")

Run-out accuracy of Spring collet

D	L
~10	4×D
10~13	40
20~42	60

※Accuracy of collet alone

Collet	Run-out accuracy
Precision Collet	5 μm
Standard Collet	10 μm

Spring collet standard set



C10 -A set

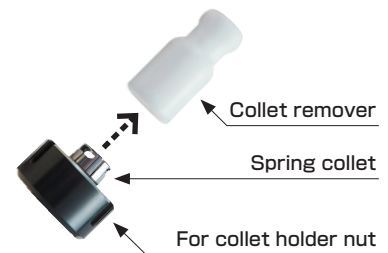
CODE	Collet inner diameter	Q'ty	Holder type
C10-A set	3.4, 5, 6, 8, 10	6pcs. (1ea.)	CTA10
C20-A set	6.8, 10, 12, 16, 20		CTA20
C25-A set	6.8, 10, 12, 16, 20, 25	7pcs. (1ea.)	CTA25

■ Standard Accessories • Collet remover(C10-A set)

Collet remover

The collet can be attached/detached with ease.

CODE	Holder type
C10-RM	C10
C20-RM	C20



COOLANT-THROUGH SYSTEM

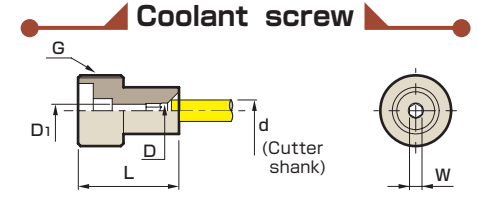
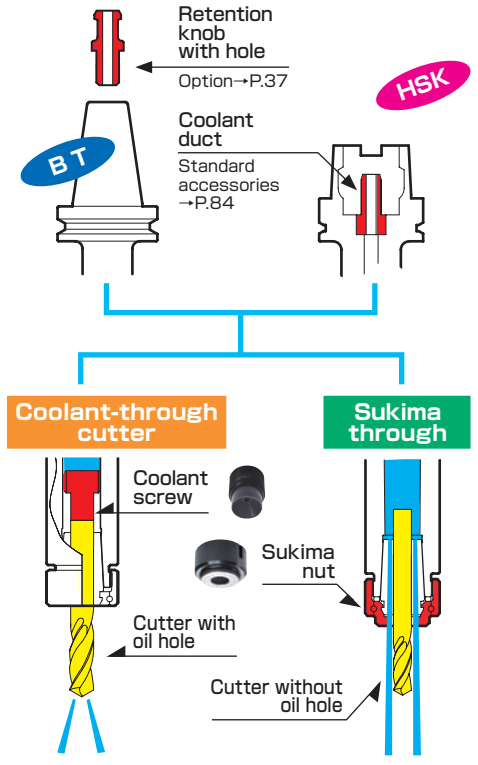
M/C TOOL

CODE
BT30 -CTH10- 45
- 75
-CTH20- 60
- 90
BT40 -CTH10- 60
- 90
-120
-150
-CTH20- 60
- 90
-120
-150
-CTH25- 75
-105
BT50 -CTH10-105
-135
-165
-CTH20-105
-135
-165
-CTH25- 75
-105
-CTH32- 90
DN40AD-CTH20- 75
-135
-CTH25- 75
DN50AD-CTH20-105
-165
-CTH25-105

Retention knob with hole

Model no. of pull stud bolt depends on the machine model.

Coolant-through cutter		Sukima through
Coolant screw	Amount of adjustment	Sukima nut
CSA-M14	22 ~ 38	NUB-CTH10
	22 ~ 68	-CTH20
*	-	-CTH10
-M14	22 ~ 54	-CTH20
	22 ~ 67	-CTH25
-M24S	44 ~ 54	-CTH10
-M24L	36 ~ 46	-CTH20
-M24S	44 ~ 79	-CTH25
-M24L	36 ~ 71	-CTH10
-M24S	44 ~ 83	-CTH20
-M24L	36 ~ 75	-CTH25
-M24S	44 ~ 89	-CTH10
-M24L	36 ~ 81	-CTH20
-M24S	61 ~ 73	-CTH25
-M24L	53 ~ 65	-CTH10
-M28	61 ~ 80	-CTH20
-M14	22 ~ 49	-CTH25
	22 ~ 67	-CTH32
*	-	-CTH20
-M24S	44 ~ 81	-CTH25
-M24L	36 ~ 73	-CTH10
-M24S	44 ~ 89	-CTH20
-M24L	36 ~ 81	-CTH25
-M24S	44 ~ 89	-CTH10
-M24L	36 ~ 81	-CTH20
-M28	61 ~ 79	-CTH25
	61 ~ 89	-CTH32
*	-	-CTH20
-M24S	44 ~ 69	-CTH25
-M24L	36 ~ 61	-CTH10
-M24S	44 ~ 89	-CTH20
-M24L	36 ~ 81	-CTH25
-M24S	61 ~ 73	-CTH10
-M24L	53 ~ 65	-CTH20
-M24S	44 ~ 89	-CTH25
-M24L	36 ~ 81	-CTH10
-M24S	44 ~ 89	-CTH20
-M24L	36 ~ 81	-CTH25
-M28	61 ~ 90	-CTH10



CODE	φD	φd	L	G	W
CSR- 14	3	4~10	14	-	-
CP - 14M		7~10	53	M14x1.5	3
CSA-M14	2.4	4~10	26		2
-M24S	7	10~20	30	M24x1.5	6
-M24L	3.4	6~12	38		3
-M28	6	10~25	40	M28x1.5	5

CODE
A 40-CTH10- 55
- 75
- 90
-CTH20- 75
- 90
-CTH25- 95
A 50-CTH10- 55
- 75
A50M-CTH20- 80
-105
-CTH25-105
A 63-CTH10- 75
- 90
-120
-150
-CTH20- 90
-120
-150
-CTH25-105
A100-CTH10-135
-165
-225
-CTH20-135
-165
-225
-CTH25-135
-165
-195

Coolant duct

CD 40-01

-03

-01

-04

CD 50-01

-03

-04

CD 63-02

-01

-03

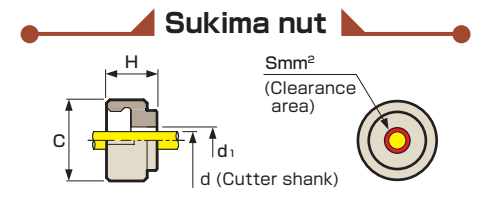
-04

CD100-01

-02

-01

Coolant screw	H	Sukima nut
CSR- 14	21.7	NUB-CTH10
CSA-M14	22 ~ 24	-CTH20
	21 ~ 44	-CTH25
-	53	-CTH10
CSA-M24S	41.9	-CTH20
-	72	-CTH25
CSA-M14	21 ~ 22	-CTH10
-	-	-CTH20
CSA-M24S	42 ~ 47	-CTH25
-	80	-CTH10
	60	-CTH20
CP - 14M	21 ~ 28	-CTH25
CSA-M14	22 ~ 31	-CTH10
	22 ~ 52	-CTH20
-	65	-CTH25
	44	-CTH10
CSA-M24S	44 ~ 54	-CTH20
-M24L	36 ~ 46	-CTH25
-M24S	44 ~ 77	-CTH10
-M24L	36 ~ 69	-CTH20
-	80	-CTH25
	59	-CTH10
CSA-M14	22 ~ 67	-CTH20
-M24S	44 ~ 65	-CTH25
-M24L	36 ~ 57	-CTH10
-M24S	44 ~ 89	-CTH20
-M24L	36 ~ 81	-CTH25
-M24S	44 ~ 89	-CTH10
-M24L	36 ~ 81	-CTH20
*	-	-CTH25
CSA-M28	61 ~ 75	-CTH10
	61 ~ 105	-CTH20



CODE	φC	H	φd	φd1	S
NUB-CTH10- 3.6	36	23	3	3.6	3.1
- 4.5			4	4.5	3.3
- 5.5			5	5.5	3.7
- 6.4			6	6.4	3.9
- 8.4			8	8.4	4.6
-10.3			10	10.3	4.8
-CTH20- 6.4	50	30	6	6.4	3.9
- 8.4			8	8.4	4.6
-10.3			10	10.3	4.8
-12.3			12	12.3	
-16.2			16	16.2	5.1
-20.2			20	20.2	5.7
-CTH25-20.2	62	34.5	20	20.2	5.7
-25.2			25	25.2	5.9
-CTH32-25.2	74	38	25	25.2	5.9
-32.1			32	32.1	6.0

■Note • For information on the asterisked (*) coolant screw for the coolant-through cutter capability, please contact MST.

Hi-ART MILLING CHUCK

Needle-roller type chuck

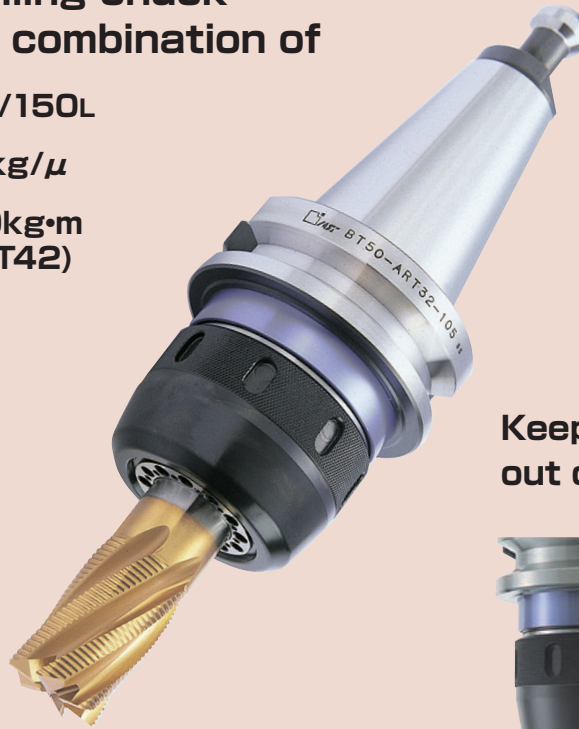
The Hi-ART milling chuck offers a great combination of

Accuracy → 10μ/150L

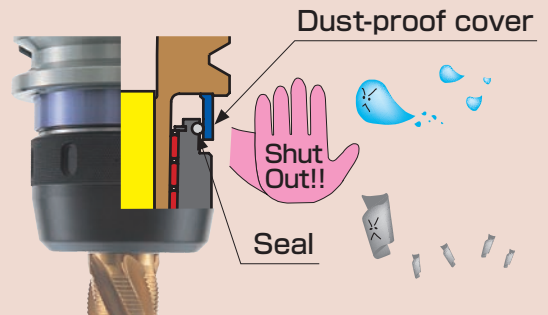
Rigidity → 3.0kg/μ

Torque → 500kg·m (ART42)

φ32 φ42

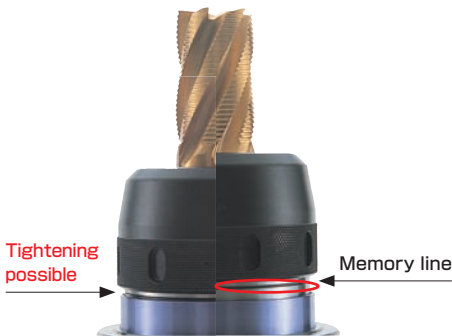


Keeps chips and coolant out completely



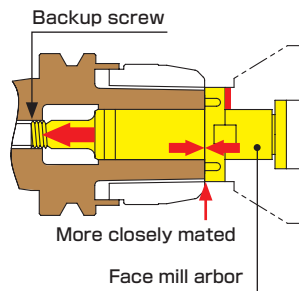
MEMORY LINE

Memory line clearly confirms tightness of the nut.



FACE LOCK SYSTEM

The face mill arbor engages with the backup screw and the chuck body assuring optimum rigidity. (ST32B, ST42B)

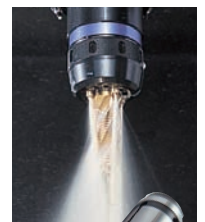
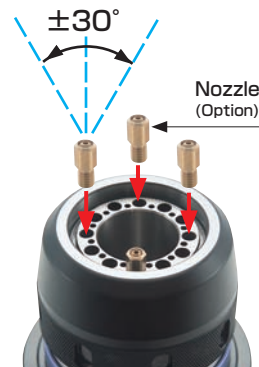


APPLICABLE FOR COOLANT-THROUGH VERSION

The splash angle can be adjusted within ±30°

3.7 times longer cutter life using through-spindle capability

See→P.87



F Type Straight collet

⚠ A63-ART32 cannot use spindle-through coolant capability when using F-type collets.

Cutting data

S55C

φ32 roughing end mill
4 flutes

N	350 min ⁻¹
F	154 mm/min
V	35 m/min
f	0.11 mm/flute

BT40-ART32-85

S55C

φ32 roughing end mill
4 flutes

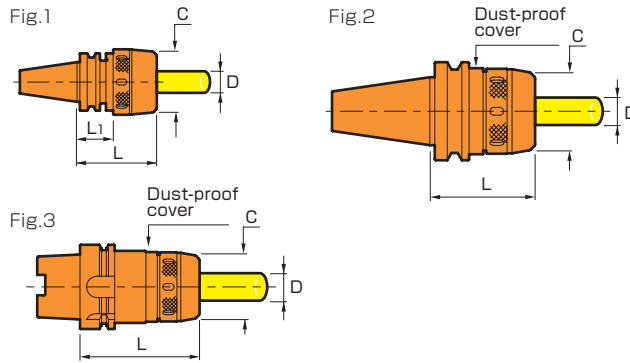
N	350 min ⁻¹
F	181 mm/min
V	35 m/min
f	0.13 mm/flute

BT50-ART32-105

Hi-ART MILLING CHUCK (ART)



A100-ART32-135



CODE	Fig.	φD	L	φC	L ₁	Cutter insertion length	Kg	MAX. min ⁻¹					
BT40-ART32-85	1	32	85	72	37	90	1.9	6000					
-95			47		2.1								
-105			57		2.3								
-135			87		3.0								
BT50-ART32-105			2		32		105		82	-	100	5.1	5000
-135	135	6.4											
-165	165	7.7											
-180	180	8.4											
-ART42-105	42	105		97		-	110	5.4				3000	
-135				135				7.1					
A50M-ART32-100				3				32					
A63-ART32-100	44	2.0											
A100-ART32-135	135	82	-		98	5.3	5000						
-ART42-135		42		97		6.1		3000					

- Option
 - Straight collet
 - Nozzle
 - Spanner with ejection hook
 - Adjust screw
 - Retention knob(BT)→P.37
 - Coolant duct(HSK)→P.84
- Standard Accessories
- Note
 - To utilize the coolant-through nozzle capability, the retention knob with hole and nozzle are required.
- Caution
 - For BT40 type, the outer diameter of the nut is larger than that of the V-flange. Therefore, pay close attention to possible interference with the ATC arm.
 - Use S-type auxiliary arbor when using an arbor with BT40 type.
 - To utilize the coolant-through nozzle capability, coolant duct and nozzle (BT40 : A63 : NOZ - M4 , BT50 : A100 : NOZ - M6) and straight collet F-type are required.

BT
HSK

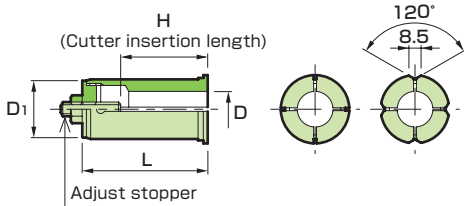
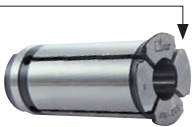
Straight collet

Standard type



F type

Notch for nozzle



CODE		φD	Holder type	L	φD ₁	H
Standard type	F type					
S32-6	S32-6F	6	ART32	75	32	30~68
-8	-8F	8				40~68
-10	-10F	10				50~68
-12	-12F	12				
-16	-16F	16				
-20	-20F	20				
-25	-25F	25				
S42-6	S42-6F	6	ART42	80	42	35~73
-8	-8F	8				45~73
-10	-10F	10				
-12	-12F	12				
-16	-16F	16				
-20	-20F	20				
-25	-25F	25				55~73
-32	-32F	32				

※Remove the adjust stopper when using a straight collet with A63-ART32-100.

Spanner with ejection hook

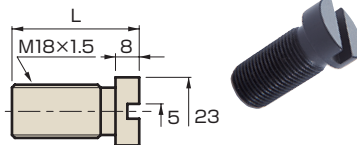
This spanner can be used to both tighten a nut and remove a straight collet.



CODE	R	L	Holder type	Clamping torque
FM-72	36	204	ART32(BT40,A63)	6kgf·m
-82	41	234	ART32(BT50,A100)	7kgf·m
-97	48.5	239	ART42	

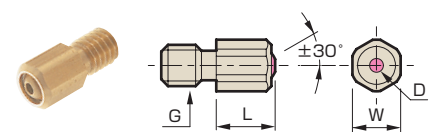
Adjust screw

The overhang of the cutting tool can be adjusted.



CODE	L	Shank type
AJN-M18L	38	BT40 , A 63
-M18	63	BT50 , A100

Nozzle



CODE	L	G	W	φD	Shank type
NOZ-M4	6.3	M4	4.5	1.2	BT40
-M6	8.5	M6	7	1.8	BT50

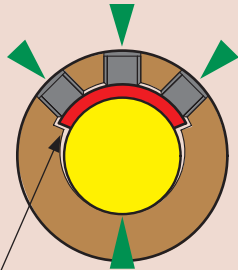
- Packaging
 - 12pcs. + Special wrench 1pc.
 - 60pcs. + Special wrench 1pc.

SUMMIT

End-mill holder for ultra-heavy duty application

The ace for heavy-duty cutting!

➤ The greatest cause of cutting tool slippage during heavy-duty cutting is vibration.



Anti-vibration tightening pad

The cutting tool is clamped with the entire surface of the pad to absorb vibrations along the whole length of the holder during heavy cutting.



Sufficient thickness 28mm

Anti-vibration



Straight Shank Endmill

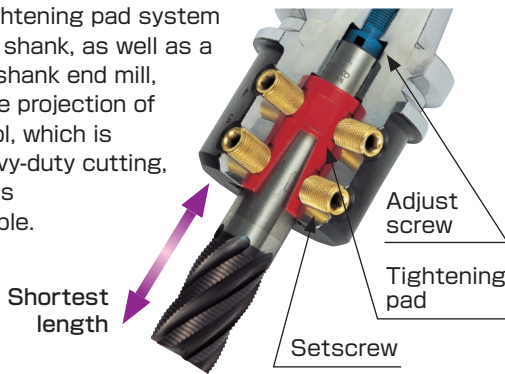
φ25, φ32, φ42



Whistle notch end mill

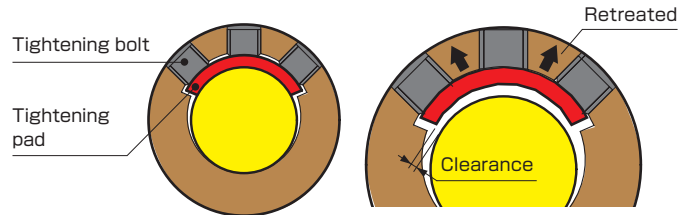
ADJUSTABLE PROJECTION OF CUTTING TOOL

Our original tightening pad system allows a round shank, as well as a whistle notch shank end mill, to be used. The projection of the cutting tool, which is critical for heavy-duty cutting, can be made as short as possible.



BITE PREVENTION

When the cutting tool is changed, the tightening pad is retreated to create a large opening in the radial direction. Therefore, the cutting tool can be removed easily even if fretting or biting occurs.



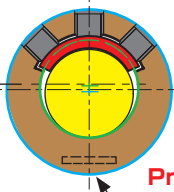
APPLICABLE TO HIGH-SPEED CUTTING

The pre-balanced design provides well-balanced characteristics and the eccentric mechanism offers high run-out accuracy, thereby enabling high-speed cutting.

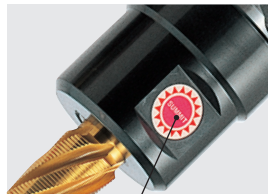
Cutting tool mounting hole center

Eccentricity

Center of holder



Pre-balanced design



Applicable for coolant-through version (Option)

The HSK-A type is made compatible with the nozzle-through feature by attaching the (NOZ-M6) nozzle.

NOZ-M6

HSK-A100



3.7 times longer cutter life using through-spindle capability

See P.87

Coolant-through nozzle



SUMMIT (SLZ)



BT50-SLZ32-105



A100-SLZ32-135

Fig.1

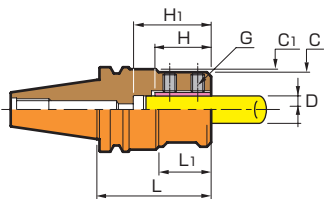


Fig.3

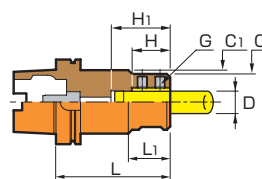
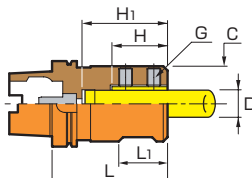


Fig.2



CODE	Fig.	φD	L	L ₁	φC	φC ₁	H	H ₁	G	Kg
BT50-SLZ25- 90	1	25	90	-	66	-	45	70	4-M12	4.6
			120	45		75				5.6
			150							6.5
BT50-SLZ32-105	1	32	105	-	88	-	65	100	6-M16	5.9
			135	62		95				7.5
			165							9.1
BT50-SLZ42-105	1	42	105	-	98	-	70	110	6-M16	6.1
			135							7.8
			165							9.5
A100-SLZ25-135	3	25	135	66	66	75	45	70	4-M12	4.9
A100-SLZ32-135	2	32		88	88	-	65	100	6-M16	6.1
A100-SLZ42-135		42		98	98		70			6.6

■ Option

●Wrench ●Adjust screw(BT) ●Nozzle(HSK) ●Retention knob(BT)→P.37

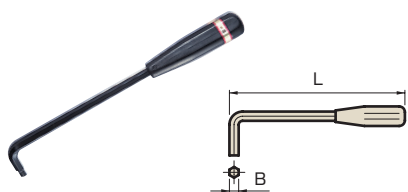
■ Standard Accessories

●Coolant duct(HSK)→P.84

■ Caution

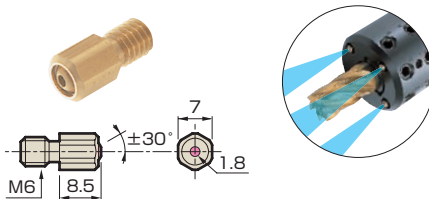
●If the dedicated wrench is not used, use a wrench with a minimum handle length of 30 cm for the M16 or 20 cm for the M12.

Wrench



CODE	B	L	Holder type	Tightening torque (kgf·m)
W-206	6	200	SLZ25	4
-308	8	300	SLZ32 SLZ42	10

Nozzle

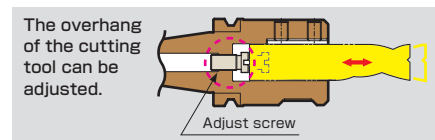
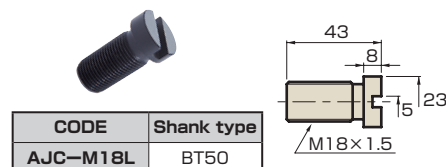


CODE	Q'ty
NOZ-M6-12	12pcs.
-60	60pcs.

■ Packaging
 ●12pcs.+wrench 1pc.
 ●60pcs.+wrench 1pc.
 ■ Standard Accessories
 ●Wrench for attachment

Adjust screw

The overhang of the cutting tool can be adjusted.



Cutting data

A2017

φ32 roughing end mill
4 flutes

N 5000 min⁻¹
 F 5000 mm/min
 V 502 m/min
 f 0.25 mm/flute

BT50-SLZ32-105

S50C

φ40 roughing end mill
6 flutes

N 280 min⁻¹
 F 168 mm/min
 V 35 m/min
 f 0.1 mm/flute

BT50-SLZ32-105

S50C

φ45 roughing end mill
6 flutes

N 190 min⁻¹
 F 114 mm/min
 V 17 m/min
 f 0.1 mm/flute

BT50-SLZ42-105

MICRO HEAD

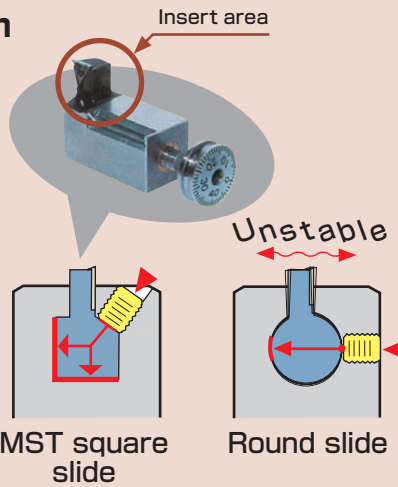
Fine adjustment boring holder

MFA type Super precision finishing boring holder

Square slide system

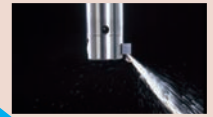
It achieves higher rigidity and ultra-precise finishing thanks to its mono-block design insert holder.

The square slide system can achieve greater rigidity against cutting force compared to a round slide system since it has 2 faces bearing the force.



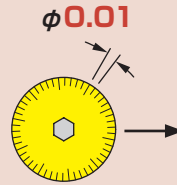
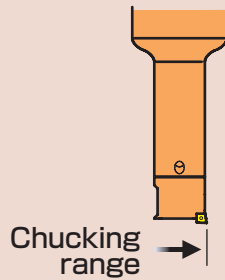
Available for spindle-through coolant as standard.

The finishing surface improves and insert life becomes longer due to direct coolant supply to the insert. It is especially suitable for deep boring where less coolant from the outside can reach deep inside the bore hole.



$\phi 20 \sim 77$

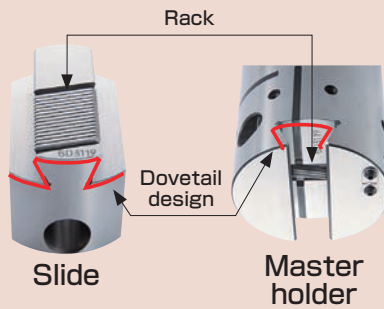
	Chuckling range
MFA20	$\phi 20 \sim 24.5$
MFA24	$\phi 24 \sim 30$
MFA29	$\phi 29 \sim 38$
MFA36	$\phi 36 \sim 52$
MFA50	$\phi 50 \sim 77$



MBH type For finishing and heavy duty boring applications.

Dovetail design

The dovetail slider design results in the highest rigidity even though it has a wide adjustment range for diameter.



MBH50



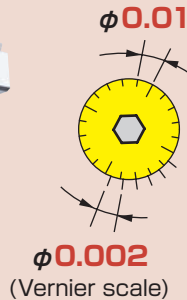
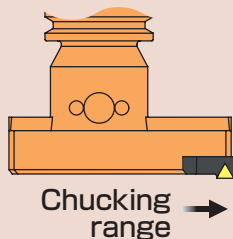
MBH115



MBH245

$\phi 50 \sim 380$

	Chuckling range
MBH 50	$\phi 50 \sim 80$
MBH 75	$\phi 75 \sim 120$
MBH115	$\phi 115 \sim 185$
MBH245	$\phi 245 \sim 315$
MBH310	$\phi 310 \sim 380$



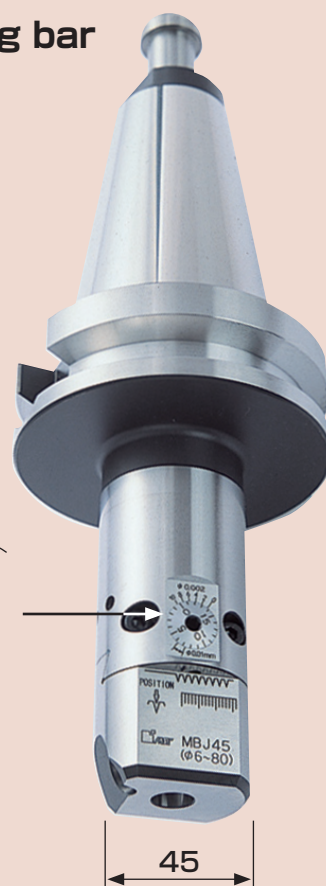
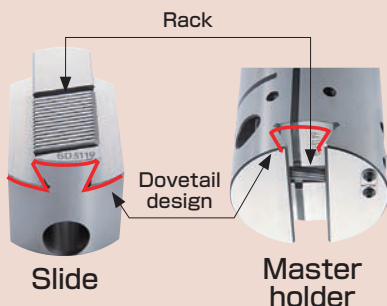
Coolant-through (Option)



MBJ type Wide range and multi-purpose boring bar

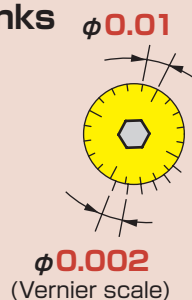
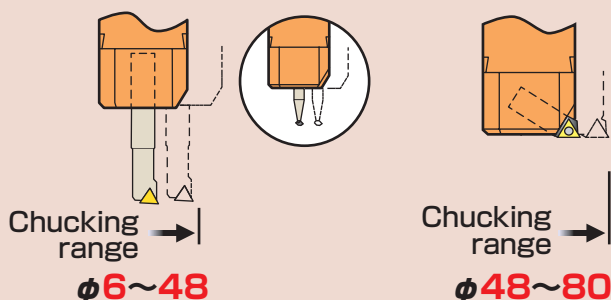
Dovetail design

The dovetail slider design results in the highest rigidity even though it has a wide adjustment range for diameter.



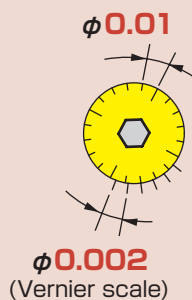
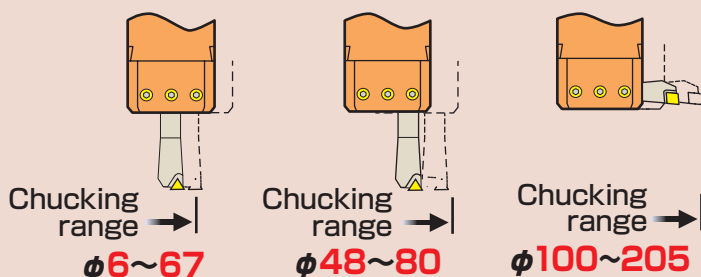
MBJ45

It is suitable for small diameter boring thanks to its light weight and compact design.



MBJ70

Wide boring range



φ6~205

	Chucking range	Slide movement
MBJ45	φ6 ~ 80	16
MBJ70	φ6 ~ 205	22.5

Cutting data

S45C
TPA084-EA
Nose R 0.4

N	3288 min ⁻¹
F	326 mm/min
V	250 m/min
f	0.1 mm/flute

BT50-MFA24-165

S45C
TPA084-EA
Nose R 0.4

N	2174 min ⁻¹
F	217 mm/min
V	250 m/min
f	0.1 mm/flute

BT50-MFA36-165

S45C
TNB164-EB
Nose R 0.8

N	629 min ⁻¹
F	189 mm/min
V	150 m/min
f	0.3 mm/flute

BT50-MBH75-165

S45C
TNB164-EA
Nose R 0.4

N	754 min ⁻¹
F	75 mm/min
V	180 m/min
f	0.1 mm/flute

BT50-MBH75-315

MICRO HEAD MFA type (MFA)

M/C TOOL



BT50—MFA36—165



A100—MFA29—165



S32—MFA24—90

Fig.1

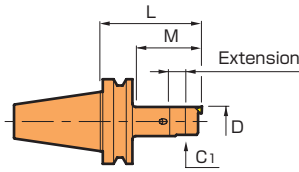


Fig.2

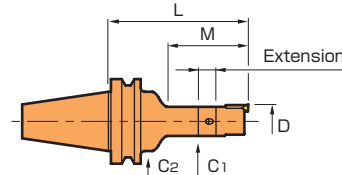


Fig.3

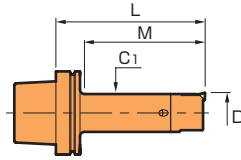


Fig.4

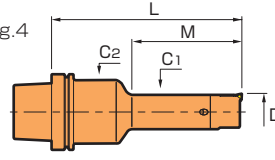
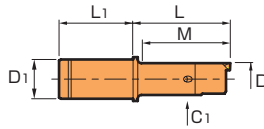


Fig.5



CODE	Fig.	Chucking range (φD)	L	M	φC ₁	φC ₂	Extension	Kg			
BT30—MFA20— 90	1	20 ~ 24.5	90	63	19	—	—	0.6			
—MFA24— 90		24 ~ 30			22						
—MFA29—105		29 ~ 38	105	78	27.6						
—MFA36—105		36 ~ 52			34.4						
BT40—MFA20—120	2	20 ~ 24.5	120	65	19	46	—	1.4			
—150			150	81	22		—	1.5			
—MFA24—150		24 ~ 30		62			—	1.7			
—180			180	92			30	1.8			
—MFA29—150		29 ~ 38	150	82	27.6	—	1.7				
—180			180	112	34.4	62	30	1.8			
—MFA36—150		36 ~ 52	150	97			—	1.9			
—195			195	142			45	2.2			
—MFA50—150		50 ~ 77	150	102			—	2.4			
—195			195	147	46	45	3.0				
BT50—MFA20—165		2	20 ~ 24.5	165	54	19	62	—	4.9		
—195				195	84	22		30	5.0		
—240			240	64	—			6.3			
—MFA24—165	24 ~ 30		165	52	27.6			—	4.9		
—195			195	82	70	30	5.0				
—240			240	62		—	6.3				
—270			270	92		30	6.4				
—MFA29—165	29 ~ 38		165	82		27.6	—	4.7			
—195			195	112	34.4	70	30	4.8			
—240			240	82			—	6.7			
—270			270	112			30	6.9			
—MFA36—165	36 ~ 52		165	97			80	—	4.6		
—210			210	142	45	4.9					
—255			255	97	—	7.9					
—300			300	142	45	8.2					
—MFA50—165	1		50 ~ 77	165	122	46	—	—	4.9		
—210				210	167			45	5.5		
—255				2	255			147	86	—	7.6
—300					300			192		45	8.2
A 40—MFA20— 90	3		20 ~ 24.5	90	70	19	—	—	0.4		
—MFA24— 90		24 ~ 30	22								
—MFA29—105		29 ~ 38	105	85	27.6	0.6					
—MFA36—105		36 ~ 52			34.4					0.8	
—MFA50—105		50 ~ 77			46	1.2					

BT

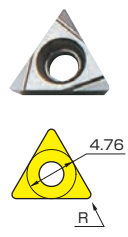
CODE	Fig.	Chucking range (φD)	L	M	φC ₁	φC ₂	Extension	D1	L1	Kg			
A 50-MFA20-120	4	20 ~ 24.5	120	69	19	41	-	-	-	0.8			
-MFA24-120		24 ~ 30			22					0.9			
-MFA29-120		29 ~ 38			82					27.6	1.1		
-MFA36-120	3	36 ~ 52		91	34.4	-				1.6			
-MFA50-120		50 ~ 77								46	1.6		
A 63-MFA20-150	4	20 ~ 24.5	150	81	19	46	-	-	-	1.3			
-MFA24-150		24 ~ 30			62					22	1.5		
-180					180					92	30	1.6	
-MFA29-150		29 ~ 38	150	82	27.6					1.5			
-180										180	112	30	1.6
-MFA36-150		36 ~ 52	150	97	34.4	52				1.7			
-195										195	142	45	2.0
-MFA50-150										50 ~ 77	150	102	46
-195	195	147	45	2.7									
A100-MFA20-165		20 ~ 24.5	165	54	19	62	-	-	-	3.8			
-195										195	84	30	3.9
-240										240	64	-	5.3
-MFA24-165		24 ~ 30	165	52	22					3.8			
-195										195	82	30	3.9
-240										240	62	-	5.4
-270		29 ~ 38	165	82	27.6	70				5.5			
-MFA29-165										195	112	30	3.7
-195										240	82	-	3.8
-240		36 ~ 52	165	97	34.4	80				5.8			
-270										270	112	30	6.0
-MFA36-165										210	142	-	3.7
-210		50 ~ 77	165	131	46	-				4.0			
-255										255	97	-	7.2
-300										300	142	45	7.5
-MFA50-165	3	50 ~ 77	165	176	46	-				3.6			
-210										210	176	45	4.2
-255	4	50 ~ 77	165	147	46	85				6.7			
-300										300	192	45	7.3
F 63-MFA20-150	4	20 ~ 24.5	150	81	19	46	-	-	-	1.3			
-MFA24-150										24 ~ 30	62	22	1.5
-180											180	92	30
-MFA29-150		29 ~ 38	150	82	27.6					1.5			
-180										180	112	30	1.6
-MFA36-150		36 ~ 52	150	97	34.4	52				1.7			
-195										195	142	45	2.0
-MFA50-150										50 ~ 77	150	102	46
-195	195	147	45	2.7									
ST25T-MFA20- 75	5	20 ~ 24.5	75	75	19	-	-	25	70	-			
-MFA24- 90		24 ~ 30	90	85	22	-	-	-	-	-			
-MFA29-105		29 ~ 38	105	105	27.6	-	-	-	-	-			
S 32 -MFA20- 90	5	20 ~ 24.5	90	75	19	-	-	32	70	-			
-MFA24- 90				80	22	-	-	-	-	-			
-MFA29-105				105	95	27.6	-	-	-	-			
-MFA36-105					34.4	-	-	-	-				
-MFA50-105				50 ~ 77	46	-	-	-	-				

HSK

ST

- Option
- Standard Accessories
- Note
- Throw-away tip
- Retention knob(BT)→P.37
- T wrench
- Insert clamping screw
- Coolant duct(HSK)→P.84
- Drive key slot and cutting direction are in alignment.
- The extension mentioned in the list is set between shank and head. The number refers to the extension length.

Throw-away tip



CODE	R	Insert material	Q'ty	Work material
TPA082-EA	0.2	Cermet	10pcs.	Steel
TPA084-EA	0.4			
TPA082-FA	0.2	Carbide		Cast Iron
TPA084-FA	0.4			
TPA082-AA	0.2	Aluminum	1pc.	
TPA084-AA	0.4			
TPA082-AD	0.2	Polycrystalline diamond		
TPA084-AD	0.4			

MICRO HEAD MBH type (MBH)

M/C TOOL



BT50-MBH180-225

Fig.1

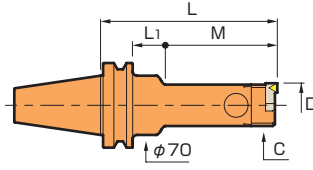
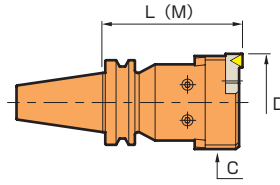


Fig.2



A100-MBH75-165

Fig.3

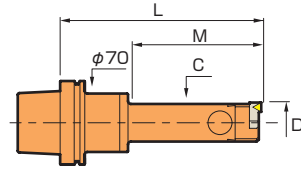
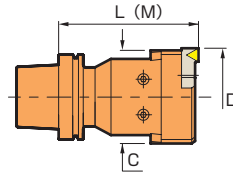


Fig.4



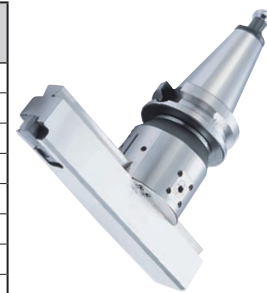
CODE	Fig.	Chucking range (φD)	L	M	C	L1	Cartridge	kg	
BT40-MBH 50-150	2	50 ~ 80	150	118	45	—	PTC10	2.1	
	1		210	155			CTC10	3.0	
-MBH 75-165	2	75 ~ 120	165	165	70	—	PTC12	4.0	
							CTC12	5.9	
							—	6.6	
-MBH115-165	2	115 ~ 185	165	165	110	—	—	—	
							—	—	
-MBH180-165	2	180 ~ 250	165	165	153	—	—	—	
							—	—	
BT50-MBH 50-150	2	50 ~ 80	150	107	45	—	PTC10	4.5	
	1		180	137			CTC10	5.6	
-240	1	—	240	155	—	85	—	6.3	
							—	7.0	
-300	1	—	300	—	—	145	—	—	
							—	—	
-MBH 75-165	2	75 ~ 120	165	127	70	—	PTC12	6.7	
								CTC12	8.5
								—	10.3
								—	11.2
								—	—
-MBH115-165	2	115 ~ 185	165	165	110	—	—	8.6	
								—	10.4
								—	12.2
								—	13.1
-MBH180-165	2	180 ~ 250	165	165	153	—	—	9.3	
								—	11.1
								—	12.9
-MBH245-165	2	245 ~ 315	165	165	200	—	—	10.0	
								—	11.8
								—	13.6
-MBH310-165	2	310 ~ 380	165	165	255	—	—	11.0	
								—	12.8
A50M-MBH 50-135	3	50 ~ 80	135	109	45	—	PTC10	1.6	
							CTC10	—	
-MBH 75-175	3	75 ~ 120	175	149	70	—	PTC12	3.4	
							CTC12	—	
A 63-MBH 50-150	4	50 ~ 80	150	119	45	—	PTC10	1.9	
							CTC10	2.6	
-210	4	—	210	179	—	—	—	—	
							—	—	
-MBH 75-195	4	75 ~ 120	195	195	70	—	PTC12	4.5	
							CTC12	6.5	
-MBH115-195	4	115 ~ 185	—	—	110	—	—	—	
							—	—	
-MBH180-195	4	180 ~ 250	—	—	153	—	—	7.2	
							—	—	
A100-MBH 50-150	4	50 ~ 80	150	116	45	—	PTC10	3.3	
							CTC10	3.6	
-180	4	—	180	146	—	—	—	—	
							—	—	
-240	3	—	240	155	—	—	—	5.2	
							—	6.8	
-300	3	—	300	—	—	—	—	—	
							—	—	
-MBH 75-165	4	75 ~ 120	165	131	70	—	PTC12	5.3	
								CTC12	6.9
								—	8.6
								—	—
								—	9.4

BT

HSK



CODE	Fig.	Chucking range (φD)	L	M	C	L ₁	Cartridge	Kg
A100-MBH115-165	4	115 ~ 185	165	165	110	-	PTC12 CTC12	7.2
-225			225	225				8.9
-285			285	285				10.5
-315			315	315				11.4
-MBH180-165		180 ~ 250	165	165	153		7.9	
-225			225	225			9.6	
-285			285	285			11.2	
-MBH245-165		245 ~ 315	165	165	200		8.7	
-225			225	225			10.3	
-285			285	285			12.0	
-MBH310-165		310 ~ 380	165	165	255		9.6	
-225			225	225			11.2	



MBH310

- Option •Throw-away tip •Cartridge •Coolant-through •Retention knob(BT)→P.37
- Standard Accessories •T wrench
- Note •Drive key slot and cutting direction are in alignment.
- Caution •Each slide part is produced to match precisely with its corresponding slide, so such parts are not interchangeable with each other.
- The undercut area of the A50M is different from the standards. Please be careful to check for interference with the ATC arm.

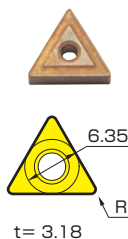
Cartridge



CODE	Work material	Holder type
PTC10	Steel · Cast Iron	MBH 50
CTC10	Aluminum	
PTC12	Steel · Cast Iron	MBH 75 ~ 310
CTC12	Aluminum	

- Note •PTC : Pin lock type
- CTC : Clamp-on type

Throw-away tip



CODE	R	Insert material	Work material	Q'ty	Cartridge
TNB114-EB	0.4	Carbide	Steel	10pcs.	PTC10
TNB112-EA	0.2	Cermet			
TNB114-EA	0.4	Carbide	Cast Iron		
-FB					
TNB112-FA	0.2	Cermet	Aluminum	10pcs.	CTC10
TNB114-FA	0.4				
TEB112-AA	0.2	Carbide	Aluminum	1pc.	
TEB114-AA	0.4				
TEB112-AD	0.2	Polycrystalline diamond	Aluminum	1pc.	
TEB114-AD	0.4				
TNB168-EB	0.8	Carbide	Steel	10pcs.	PTC12
TNB164-EA	0.4	Cermet			
TNB168-FB	0.8	Carbide	Cast Iron		
TNB164-FA	0.4	Cermet			
TEB164-AA	0.4	Carbide	Aluminum	10pcs.	CTC12
-AD		Polycrystalline diamond			

MICRO HEAD MBJ type (MBJ45)

M/C TOOL



Fig.1

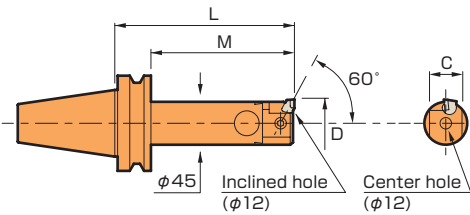


Fig.2

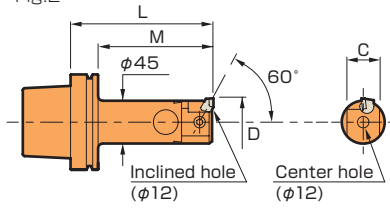
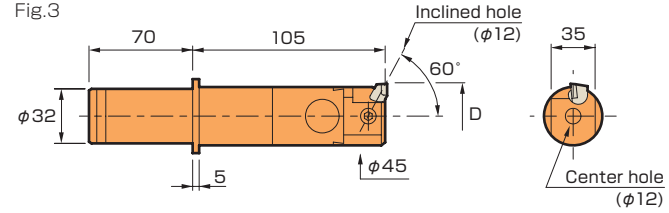


Fig.3



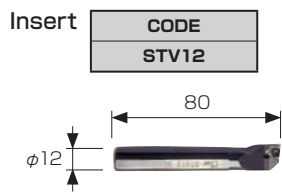
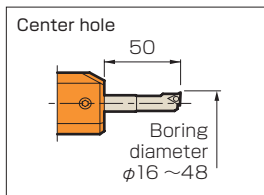
CODE	Fig.	Chucking range (φD)	L	M	C	Kg
BT30-MBJ45-120	1	6 ~ 80	120	98	35	1.3
BT40-MBJ45-150			150	123		2.2
BT50-MBJ45-150				112		4.6
-180			180	142		5.6
A 63-MBJ45-150	2	6 ~ 80	150	119	35	2.0
A100-MBJ45-150				116		3.3
-180				180		146
S 32-MBJ45-105	3	6 ~ 80	-	-	-	-

BT
HSK
ST

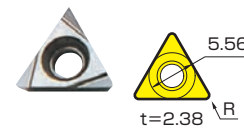
- Option
 - Throw-away tip
 - Insert
 - Insert and insert holder set
 - Retention knob(BT)→P.37
- Standard Accessories
 - T wrench
 - Coolant duct(HSK)
- Note
 - Drive key slot and cutting direction are in alignment.
 - The throw-away insert for aluminum is a diamond insert. Sales unit is per 1 piece.
 - For dia. 6mm through 16mm boring, use a commercially available Jig Borer tool with a shank diameter of 12mm.

Insert, Throw-away tip

Insert holder for center hole



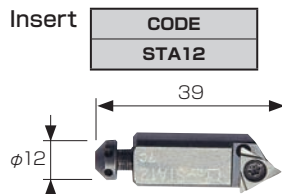
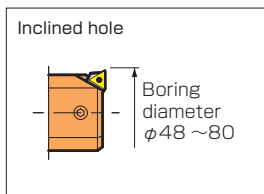
Throw-away tip



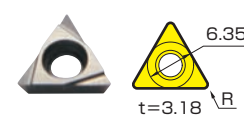
CODE	R	Insert material	Q'ty	Work material	
TPC092-EA	0.2	Cermet	10pcs.	Steel	
TPC094-EA	0.4			Cast Iron	
TPC092-FA	0.2	Carbide		1pc.	Aluminum
TPC094-FA	0.4				Aluminum
TPC092-AD	0.2	Polycrystalline diamond	1pc.		Aluminum
TPC094-AD	0.4				Aluminum

Insert, Throw-away tip

Insert holder for inclined hole



Throw-away tip

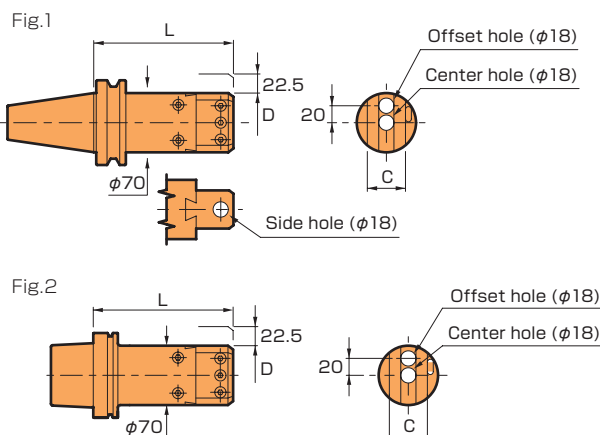


CODE	R	Insert material	Q'ty	Work material	
TPC112-EA	0.2	Cermet	10pcs.	Steel	
TPC114-EA	0.4			Cast Iron	
TPC112-FA	0.2	Carbide		1pc.	Aluminum
TPC114-FA	0.4				Aluminum
TPC112-AD	0.2	Polycrystalline diamond	1pc.		Aluminum
TPC114-AD	0.4				Aluminum

Insert and insert holder set

CODE	Insert	Q'ty	Throw-away tip	Q'ty	Work material
EJ-45	STV12	1pc.	TPC094-EA	10pcs.	Steel
	STA12		TPC114-EA		
FJ-45	STV12	1pc.	TPC094-FA	10pcs.	Cast Iron
	STA12		TPC114-FA		

MICRO HEAD MBJ type (MBJ70)

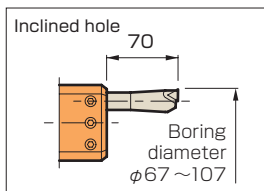
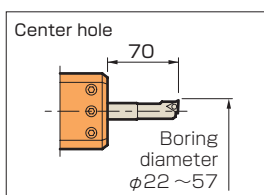


CODE	Fig.	Chucking range (φD)	L	C	Kg
BT BT40-MBJ70-165	1	6 ~ 205	165	45	4.2
BT50-MBJ70-165					6.5
HSK A 63-MBJ70-195	2	6 ~ 205	195	45	4.6
A100-MBJ70-165			165		5.4

- Option: • Throw-away tip • Insert • Insert and insert holder set • Retention knob(BT)→P.37
- Standard Accessories: • T wrench • Coolant duct(HSK)
- Note: • Drive key slot and insertion direction are in alignment. • The throw-away insert for aluminum is a diamond insert. Sales unit is per 1 piece • For φ6mm through 22mm boring, use a commercially available Jig Borer tool. (φ18mm clamping sleeve is required.)

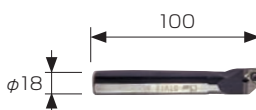
Insert, Throw-away tip

Insert holder for center hole



Insert

CODE
STV18



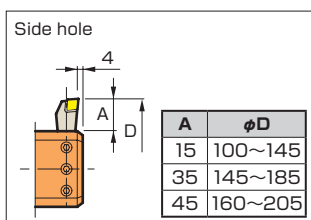
Throw-away tip

CODE	R	Insert material	Q'ty	Work material
TPD112-EA	0.2	Cermet	10pcs.	Steel
TPD114-EA	0.4			Cast Iron
TPD112-FA	0.2			Aluminum
TPD114-FA	0.4			
TPD112-AD	0.2	Polycrystalline diamond	1pc.	Aluminum
TPD114-AD	0.4			



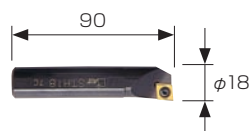
Insert, Throw-away tip

Insert holder for side hole

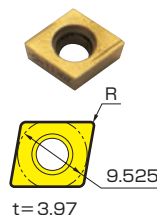


Insert

CODE
STH18



Throw-away tip



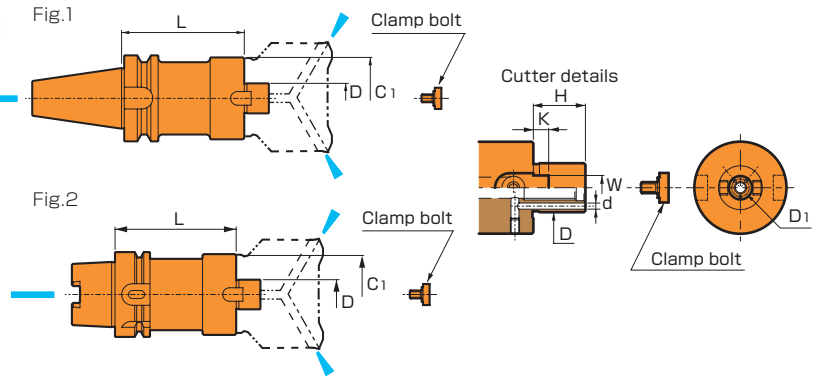
CODE	R	Insert material	Q'ty	Work material
CCD094-EA	0.4	Cermet	10pcs.	Steel
-FA				Cast Iron
-AD		Polycrystalline diamond	1pc.	Aluminum

Insert and insert holder set








CODE	Insert	Q'ty	Throw-away tip	Q'ty	Work material
EJ-45	STV12	1pc.	TPD114-EA	10pcs.	Steel
	STA12		CCD094-EA		
FJ-45	STV12	1pc.	TPD114-FA	10pcs.	Cast Iron
	STA12		CCD094-FA		


CUTTER ARBOR WITH SPINDLE-THROUGH COOLANT (FMH)


Discharges cutting chips,
lubricates and cools the cutter.
Spindle-through coolant
is available as standard.
Achieves a tremendously
high feed rate.




Cutters for FMH

OSG	KYOCERA	DIJET	TUNGALOY	SUMITOMO ELECTRIC HARDMETAL	HITACHI TOOL	MITSUBISHI MATERIALS
						
F2334 type F2234 type	MEC type	SKS type	TXP type TPS type	WEX type	ASR Multi-flute type ASRF type	AJX type APX type BXD type

CODE	Fig.	Cutter dia.	ϕD	L	ϕC_1	H	W	K	ϕD_1	ϕd	 Kg	Clamp bolt	
BT BT40-FMH16-29- 45	1	32	16	45	29	17	8	5	12	2	1.1	*M8×1.25	
				90							1.4		
				120							1.5		
		40	45	37	1.2								
			90		1.6								
			120		1.9								
-FMH22-47- 45	1	50/52	22	45	47	18	10	5	16	3	1.3	*M10×1.5	
				90							1.9		
				150							2.7		
		200	200	3.3									
			63/66	45	60	1.4							
				90		2.2							
	150	3.2											
	200	4.1											
	-FMH22.225-47- 45	1	50/52	22.225	45	47	17	8	3.5	16	3	1.3	*M10×1.5
					90							1.9	
					150							2.7	
			200	200	3.3								
63/66				45	60	1.4							
				90		2.2							
		150	3.2										
200		4.1											
-FMH25.4 -70- 60		1	80	25.4	60	70	22	9.5	5	18.5	3.5	1.9	MBA-M12
					90							2.4	
					150							3.4	
-FMH31.75 -76- 60		1	80	31.75	60	76	30	12.7	7	24	4	2.1	MBA-M16
	90				2.6								
	150				3.6								
	200		200	4.4									
			100	60	96	2.4							
				90		3.1							
	150	4.1											
	200	4.9											
	BT50-FMH16-29- 90	1	32	16	90	29	17	8	5	12	2	3.9	*M8×1.25
150					4.3								
40			90	37	4.1								
			150		4.7								
			200		5.3								

CODE	Fig.	Cutter dia.	ϕD	L	ϕC_1	H	W	K	ϕD_1	ϕd	 Kg	Clamp bolt											
BT	1	50/52	22	90	47	18	10	5	16	3	4.4	※M10×1.5											
				150							5.4												
				200							6.2												
				250							7.2												
				300							8.3												
				300							10.8												
		63/66	60	90	4.8																		
				150	6.4																		
				200	7.8																		
				250	9.2																		
				300	10.8																		
				-FMH22.225-47- 90	1	50/52	22.225	90	47	17	8		5	12	2	4.4	※M 8×1.25						
								150								5.4							
								200								6.2							
250	7.2																						
300	8.3																						
300	10.8																						
63/66	60	90	4.8																				
		150	6.4																				
		200	7.7																				
		250	9.2																				
		300	10.8																				
		-FMH25.4 -70- 60	1			80	25.4	60	70	22	9.5	5	18.5	3.5	4.4	MBA-M12							
								90							5.3								
								150							7.0								
-FMH31.75 -76- 60	1			80	31.75			60							76		30	12.7	7	24	4	4.5	MBA-M16
								90														5.6	
								150														7.6	
		200	9.3																				
		250	11.0																				
		300	12.8																				
		100	96	60	5.0																		
				90	6.4																		
				150	9.2																		
				200	11.5																		
				250	13.8																		
				300	16.2																		
				-FMH38.1 -100- 60	1	125	38.1	60	100	34	15.9	9	29	5	5.2	MBA-M20							
								90							6.6								
150	9.4																						
200	11.7																						
250	13.9																						
-FMH50.8 -100- 60	1	160	50.8					60							100		36	19.05	10	37.5	7	5.4	MBA-M24
				90	6.9																		
				150	9.6																		
				200	11.8																		
				250	14.1																		
				A63-FMH16-29- 45	2	32	16	45	29	17	8	5	12	2		0.8						※M 8×1.25	
90	1.1																						
120	1.3																						
40	37	45	0.9																				
		90	1.3																				
		120	1.6																				
		-FMH22-47- 45	2			50/52	22	45	47	18	10	5	16	3	1.0	※M10×1.5							
90	1.6																						
150	2.6																						
200	3.5																						
63/66	60							60							1.4								
								90							1.9								
		150	2.9																				
		200	3.8																				
		-FMH22.225-47- 45	2	50/52	22.225	45	47	17	8	3.5	16	3	1.0	※M10×1.5									
						90							1.6										
150	2.6																						
200	3.4																						
63/66	60					60							1.4										
						90							1.9										
				150	2.9																		
				200	3.8																		

CODE	Fig.	Cutter dia.	ϕD	L	ϕC_1	H	W	K	ϕD_1	ϕd	 Kg	Clamp bolt										
A63-FMH25.4 -70- 60	2	80	25.4	60	70	22	9.5	5	18.5	3.5	1.6	MBA-M12										
				90							2.1											
				150							3.1											
-FMH31.75 -76- 60	2	80	31.75	60	76	18	10	5	16	3	1.7	MBA-M16										
				90							2.3											
				150							3.3											
				200							4.1											
				100							60		96	2.1								
											90			2.9								
		-150	150	3.8																		
			200	4.6																		
		A100-FMH16-29- 90	2	32	16	90	29	17	8	5	12	2	2.4	※M 8×1.25								
						150							2.8									
40	90			37		2.6																
	150					3.3																
	200					3.9																
-FMH22-47- 90	2	50/52	22	90	47	18	10	5	16	3	2.9	※M10×1.5										
				150							3.9											
				200							4.8											
				250							5.8											
				300							6.9											
				63/66							90		60	3.5								
											150			5.1								
		200			6.4																	
		-60- 90		250	7.9																	
				300	9.5																	
				-FMH22.225-47- 90	2						50/52		22.225	90	47	17	8	3.5	16	3	2.9	※M10×1.5
														150							3.9	
														200							4.8	
														250							5.8	
300	6.9																					
63/66	90	60	3.4																			
	150		5.0																			
	200		6.4																			
-60- 90	250	7.9																				
	300	9.5																				
	-FMH25.4-70- 60	2	80	25.4	60	70	22	9.5	5	18.5	3.5	3.1		MBA-M12								
					90							4.0										
					150							5.7										
	-FMH31.75-76- 60	2	80	31.75	60	76	18	10	5	16	3	3.3		MBA-M16								
					90							4.3										
150					6.4																	
200					8.1																	
250					9.8																	
300					11.5																	
100			90		96	5.3																
			150			8.1																
			200			10.4																
			250			12.7																
-300	300	15.1																				
	-FMH38.1-100- 90	2	125	90	100	34	15.9	9	29	5	5.5	MBA-M20										
				150							8.2											
				200							10.5											
				250							12.8											
-FMH50.8-100- 90	2	160	50.8	90	100	36	19.05	10	37.5	7	5.7	MBA-M24										
				150							8.4											
				200							10.7											
				250							12.9											

HSK

■ Standard Accessories ● Clamp bolt(Except for those marked with an ※ in the list) ● Drive key
 ■ Note ● The clamp bolt marked with ※ in the list is a hexagonal socket bolt. ● In some cases, model MBA-○○○ cutters may require a hexagonal socket bolt instead of the clamping bolt that comes standard with the cutter.

RETENTION KNOB



Fig.1

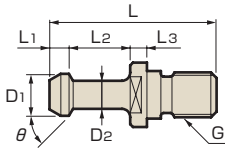
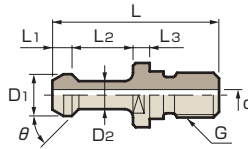


Fig.2



Caution

- We can produce other special retention knobs upon request. Please feel free to contact us.
- The shape and dimensions of the dedicated retention knob may differ depending upon the model, year, special operating conditions, and other factors related to the machine, so carefully check all pertinent information.
- The retention knobs listed are each machine manufacturer's representative retention knobs, so some available retention knobs are not listed.
- The user should contact the manufacturer for more detailed information.

BT30

Form	Fig.	ϕD_1	ϕD_2	ϕd	L	L ₁	L ₂	L ₃	θ	G	Note	Useable with these manufacturers' products
P30T-1	1	11	7	—	43	5	13	5	45	M12	MAS-1	FANUC
P-493	2			3.7							Coolant-through	
P-522	—			8								
P30T-2	1	11	7	—	43	5	13	5	60	M12	MAS-2	BROTHER
P-494	2			3.7							Coolant-through	
P-511	—			7.5								

BT40

Form	Fig.	ϕD_1	ϕD_2	ϕd	L	L ₁	L ₂	L ₃	θ	G	Note	Useable with these manufacturers' products	
P40T-1	1	15	10	—	60	7	22	6	45	M16	MAS-1	MAKINO YASDA, OKK	
P-297	2			4							P40T-1 with through-spindle coolant hole		
P40T-2	1			—									MAS-2
P-339	2	4	P40T-2 with through-spindle coolant hole	60	OKUMA MATSUURA								
P-141	1	—				—	90	MORI SEIKI					
P-498	2	4	P-141 with through-spindle coolant hole	—	MITSUI SEIKI								
P-007	1	19				14	—	50	7	13	5	75	M16
P-348	—		54	6	16		7	75	MATSUURA				
P323-1	2		7	23	8.5		—			—	—		
P-401	—	4	—			—		—	—			—	
P-509	—	7		—	—		—			—	—		
P-499	—	4	—			—		—	—			—	
P-435	—	7		—	—		—			—	—		
P-227	—	18.796	12.446			—		44.106	5.08			11.026	3

BT50

Form	Fig.	ϕD_1	ϕD_2	ϕd	L	L ₁	L ₂	L ₃	θ	G	Note	Useable with these manufacturers' products			
P50T-1	1	23	17	—	85	10	25	10	45	M24	MAS-1	MAKINO YASDA			
P-299	2			6							P50T-1 with through-spindle coolant hole				
P50T-2	1			—									MAS-2		
P-419	2	6	P50T-2 with through-spindle coolant hole	60	OKUMA MATSUURA										
P-143	1	—				—	90	MORI SEIKI OKK							
P-402	2	7	P-143 with through-spindle coolant hole	—	MITSUI SEIKI										
P-008	1	24				18	—	71	8	18	5	75	M24	JIS50P	MAKINO
P-250	2		8	P-008 with through-spindle coolant hole											
P-400	—		28		21		10								
P-288-1	—	—	—	6	—	—	—	—	—	—	—	—			
P-514	—	28.956	20.828	7	65.2	7.62	12.58	5	45	M24	Coolant-through	MAZAK			
P-513	—	23	17	8	85	10	25	10	90				M24	—	MORI SEIKI
P-459	—			7											

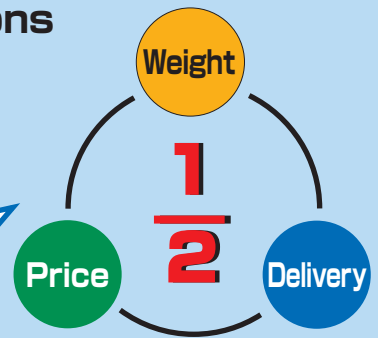
ANGLE HEAD HALF UNIVERSAL HALF



Optimal design for the necessary functions and performance

★Drilling and tapping account for 80% of angle head operation.★

Therefore, optimal design is used to limit the rigidity and accuracy to the necessary levels (rigidity: 1/2).



Do you have any of these problems for an angle head?

Expensive

US\$ 5,000 ~ 7,000

Affordable!

Angle Head Half provides the perfect solution.

US\$ 1,800

It cannot be used immediately after purchase.

- Delivery may take some time.
- Installation of a positioning block on the machine spindle is required.
- Installation on the machine spindle is complicated.

Quick delivery. Can be used immediately.

- All kinds of existing positioning block are available without any modification. Customer's custom-made positioning block can also be used.

Heavy! Big

5.5 kg

- Automatic tool changing (ATC) is not available on a small machining centers.

Light Compact

- The BT30 (small machining center): small, compact and ATC-compatible.

2.3 kg

Repair is not easy

Failure

- Delivery will take some time because repairs are made at the manufacturer's factory.
- Expensive repair cost

Manufacturer repair

You can carry out repairs on your own.

- Not required for fine matching and adjustment.
- The use of commercially available parts!

Simple construction results in affordable and quick delivery

Reducing the number of parts from 50 to 22 pcs. Moreover, clearance for each part has been minimized, and no fine matching and adjustment is required. Now that commercially available gears and bearings are used, you can replace them easily at lower cost. An informative video and an instruction manual for disassembly and reassembly are provided. Anyone can easily assemble and disassemble the system, and maintenance is fast and inexpensive.

Anyone can easily overhaul it

Using commercially standard gears and bearings.

The number of parts is half that for the conventional angle head.

Instruction video

You can carry out maintenance and repairs on your own.

Plus, lower running costs

Only **1/10** !!

ANGLE HEAD HALF

— 90° Type —



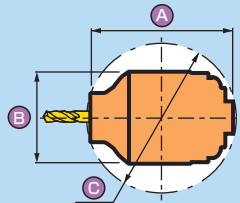
The existing positioning block is available without any modification.
Can be used with all positioning blocks by interchanging the positioning pins.

Drill·Endmill
φ1~20
Tap M2~M16

2.3 kg

MIN. φ71

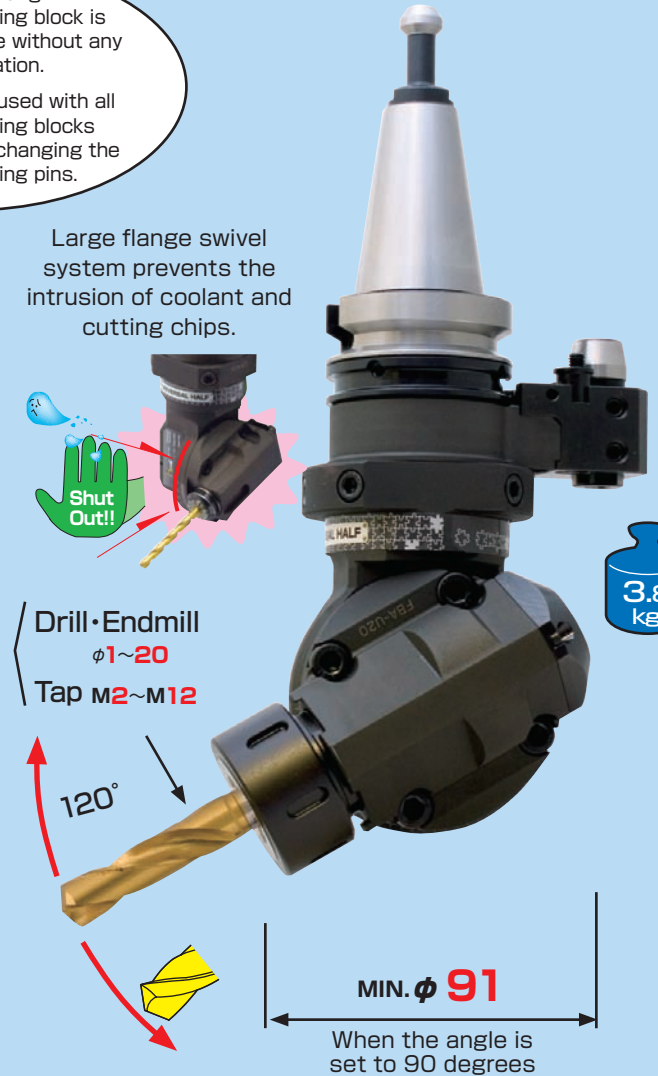
	A	B	C	Chucking range
HFD 7	68	38	71	φ1 ~ φ 7
HFD12	93	58	98	φ2.5~φ13
HFA20	111	64	119	φ5.8~φ20
HFT 4	73	38	74	M2 ~M 8
HFT 6	92	58	97	M3 ~M12
HFT12	115	64	116	M3 ~M16



ANGLE HEAD UNIVERSAL HALF

— Free setting of cutting directions —

Large flange swivel system prevents the intrusion of coolant and cutting chips.



3.8 kg

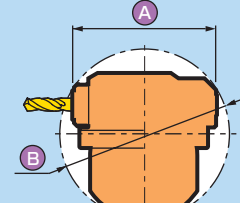
Drill·Endmill
φ1~20
Tap M2~M12

120°

MIN. φ91

When the angle is set to 90 degrees

	A	B	Chucking range
HUD 7	80	91	φ1 ~ φ 7
HUA10	101	95	φ2.6~φ10
HUA20	119	136	φ5.8~φ20
HUT 4	89	108	M2 ~M 8
HUT 6	100	119	M3 ~M16

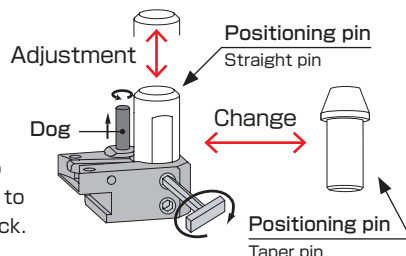


When the angle is set to 90 degrees

All kinds of positioning blocks can be used by using standard parts and adjustment-type positioning pins

The existing positioning block is available without any modification!

It was necessary to study many machine specifications in order to design and produce precise parts to fit various kinds of positioning block.



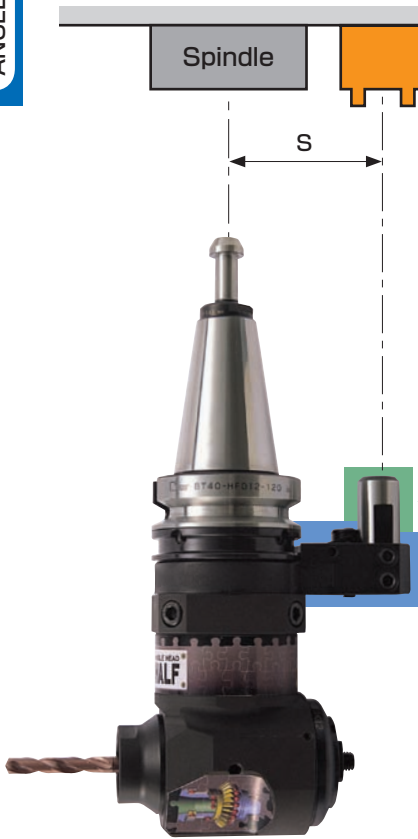
Assembly Kit
Kit package

- Ideal as a training kit for learning.
- With only 20 parts, assembly can be completed in only 10 minutes.
- Comes with spare maintenance parts and tools for assembly.
- Easy to assemble – even for first-timers.

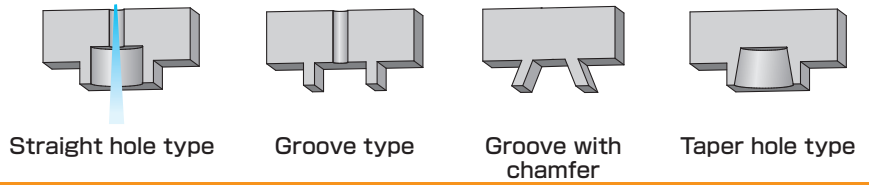


INSTALLATION FOR MACHINES

This product can be used with any type of positioning block through a combination of a positioning pin and bracket. Suitable for any kind of positioning block. (MST's Flush holder/Oil hole holder/ Angle head).



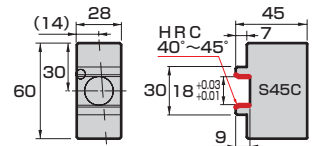
Positioning block



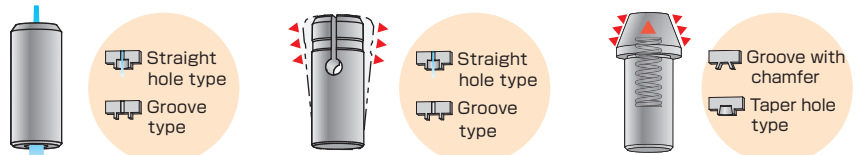
Semi-finished positioning block

For any machine that is not provided with a positioning block, a semi-finished position block is available, which the customer can easily fabricate.

CODE
HB-01



Positioning pin



Straight pin (S)

- Mainly for drilling and tapping use.
- Coolant can be supplied.

Expansion pin (W)

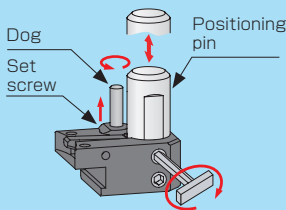
- The gap between the positioning block and pin has been eliminated to ensure tighter engagement.
- ATC is not applicable.

Taper pin (T)

- The spring force presses the pin into the taper hole.

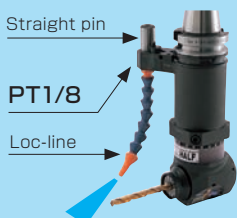
Adjustable pin height

- The pin can be easily adjusted in length and replaced by simply loosening the bolt.
- Loosening the dog and set screw, and then turning the pin with an Allen wrench allows you to adjust the pin height easily.



The coolant can be supplied

The coolant can be supplied to the edge of cutter precisely by using the coolant hose, LOC-LINE(LOC6) through straight pin.



Stationary bracket

Choose a type based on the pitch (dimension P) between the center of the machine spindle and positioning pin.

	CODE	S	Shank type	Holder type
Positioning pin Dog Stationary bracket	FKA- 60	60	BT30 BT40 A 63 BT50	HFD 7 HFD12 HFT 4 HFT 6 HUD 7 HUA10 HUT 4
	- 65	65		
	- 80	80		
	- 85	85		
	-110	110		
	FKB- 60	60	BT40 A 63 BT50	HFA20 HFT12 HUA20 HUT 6
	- 65	65		
	- 80	80		
	- 85	85		
	-110	110		

Positioning block list for machines

● FANUC LTD.

For ROBODRILL



α-T21iD

Positioning block



CODE
ABF005

● BROTHER INDUSTRIES, LTD.

For TAPPING CENTER



TC-R2A



TC-S2C

Positioning block



CODE	Model
ABF060	TC-S2B / TC-S2C
ABF099	TC-R2A

● YAMAZAKI MAZAK CORP.

For SUPER VELOCITY CENTER



2000L/120
2000L/200

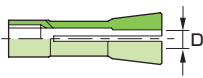
Positioning block

※Positioning blocks for the Angle Head are available from Yamazaki Mazak Corp.

DETa-1 collet



See P.11



Spring collet

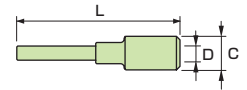


See P.20



Collapsibility : 0.2mm

Tap sleeve



CODE	φD	Collapsibility	Holder type
D 7- 1.5	1 ~ 1.5 (.039"~.059")	0.5	HFD 7 HUD 7
	- 2 (.059"~.079")		
	- 2.5 (.059"~.098")		
- 3	2 ~ 2.5 (.098"~.118")	1	
	- 4 (.118"~.157")		
	- 5 (.157"~.197")		
	- 6 (.197"~.236")		
	- 7 (.236"~.276")		
D12- 4	2.5 ~ 4 (.098"~.157")	1.5	HFD12
	- 6 (.157"~.236")		
	- 8 (.236"~.315")		
	- 10 (.315"~.394")		
	- 12 (.394"~.472")		
	- 13 (.433"~.512")		

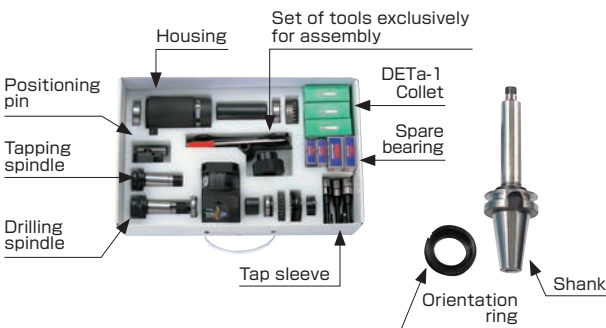
CODE	φD	Holder type	
C10-D	2.6 2.8 3 3.2 3.4 ... (0.2 Steps) ... 9.4 9.6 9.8 10	HUA10	
	C20-D	6 6.2 6.4 6.6 6.8 ... (0.2 Steps) ... 19.4 19.6 19.8 20	HFA20 HUA20

CODE	φD	Holder type
C10-1/4	6.35 (.25")	HUA10
	- 5/16 (.31")	
	- 3/8 (.38")	

CODE	φD	L	φC	Holder type
TA 4-M 2	M2, M2.6	67.5	16	HFT 4 HUT 4
	-M 3			
	-M 4			
	-M 5			
	-M 6			
TA 6-M 3	M 3	92	19	HFT 6 HUT 6 HFT12
	-M 4			
	-M 5			
-M 6	M 6	111.5	25	HFT12
	-M 8			
	-M 10			
TA12-M14	M14	111.5	25	HFT12
	-M16			

※Available for ANSI, DIN and ISO tap sleeve upon request.

Angle head half kit package



Content of kit

CODE	BT40-HF12-LK	Q'ty	BT50-HF12-LK	Q'ty
Master holder	BT40-HFD12-180-S65	1pc.	BT50-HFD12-195-S80	1pc.
Tapping spindle	FR-T6	1pc.	FR-T6	1pc.
Tap sleeve	TA6-3, 4, 5, 6, 8	1pc.	TA6-3, 4, 5, 6, 8	1pc.
DETa-1 Collet	D12-4, 6, 8, 10, 12, 13	1pc.	D12-4, 6, 8, 10, 12, 13	1pc.
Positioning pin	HP-50C	1pc.	HP-62C	1pc.
Spare bearing	7005ADB	1set	7005ADB	1set
	6805	2pcs.	6805	2pcs.
	51106	1pc.	51106	1pc.

Cutting data

● See P.57



CODE SYSTEM

※ Please specify the model no. of angle head and bracket set, when ordering

Master holder			Stationary bracket set		See P.40
Shank	Holder type	Dimension L	Positioning pin type	Dimension S	
BT40	HFA20	135	S	65	

+	DETa-1 Collet D7 / D12	Spring collet C10 / C20	Tap sleeve TA4 / TA6 / TA12	Positioning block	Retention knob
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ANGLE HEAD HALF (HFD/HFA/HFT)

HFD7 / HFT4

HFD7 For drilling

HFT4 For tapping

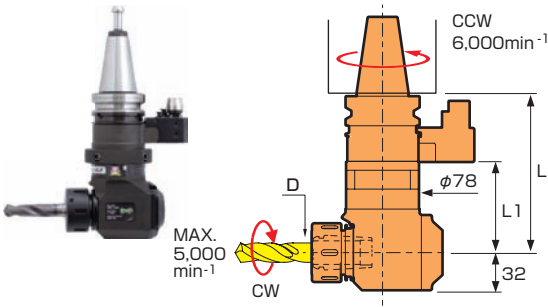
HFD12 / HFT6

HFD12 For drilling

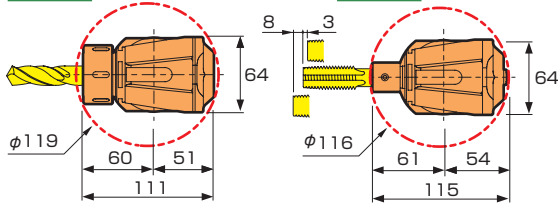
HFT6 For tapping

CODE	φD	L	L ₁	Kg (lbs)	
BT BT30 - HFD 7 - 122	1 ~ 7	122	70	2.3	D 7
- 182		182	130	3.0	
- HFD12 - 122	2.5~ 13	122	70	2.9	D 12
- HFT 4 - 122	M2~M 8			2.3	TA 4
- 182		182	130	3.0	
- HFT 6 - 122	M3~M12	122	70	2.9	TA 6
BT40 - HFD 7 - 120	1 ~ 7	120		3.0	D 7
- 180		180	130	3.3	
- HFD12 - 120	2.5~ 13	120	70	3.6	D 12
- 180		180	130	4.9	
- HFA20 - 135	5.8~ 20	135	77	4.4	C 20
- 195		195	137	5.6	
- HFT 4 - 120	M2~M 8	120	130	3.0	TA 4
- 180		180		3.3	
- HFT 6 - 120	M3~M12	120	70	3.6	TA 6
- 180		180	130	4.9	
- HFT12 - 135	M3~M16	135	77	4.4	TA 6
- 195		195	137	5.6	TA12
BT50 - HFD 7 - 195	1 ~ 7	195	130	6.4	D 7
- 255		255	190	6.8	
- HFD12 - 135	2.5~ 13	135	70	6.3	D 12
- 195		195	130	7.6	
- 255		255	190	8.9	
- HFA20 - 150	5.8~ 20	150	77	7.1	C 20
- 210		210	137	8.3	
- 270		270	197	9.4	
- HFT 4 - 195	M2~M 8	195	130	6.4	TA 4
- 255		255	190	6.8	
- HFT 6 - 135	M3~M12	135	70	6.3	TA 6
- 195		195	130	7.6	
- 255		255	190	8.9	
- HFT12 - 150	M3~M16	150	77	7.1	TA 6
- 210		210	137	8.3	TA12
- 270		270	197	9.4	
A 63 - HFD 7 - 183	1 ~ 7	183	130	3.5	D 7
- 243		243	190	3.9	
- HFD12 - 123	2.5~ 13	123	70	3.3	D 12
- 183		183	130	4.7	
- 243		243	190	6.0	
- HFA20 - 198	5.8~ 20	198	137	5.4	C 20
- 258		258	197	6.5	
- HFT 4 - 183	M2~M 8	183	130	3.5	TA 4
- 243		243	190	3.9	
- HFT 6 - 123	M3~M12	123	70	3.3	TA 6
- 183		183	130	4.7	
- 243		243	190	6.0	
- HFT12 - 198	M3~M16	198	137	5.4	TA 6
- 258		258	197	6.5	TA12

HFA20 / HFT12



HFA20 For drilling · endmilling **HFT12** For tapping



- **Option**
 - DETa-1 Collet (For HFD) •Spring collet (For HFA)
 - Tap sleeve (For HFT) •Retention knob→P.37
 - Spanner KS-22(HFD7, HFT4), KS-30(HFD12, HFT6)
- **Standard Accessories**
 - Coolant duct (HSK-A) •Hexagonal wrench set
 - Spanner(For HFA)
- **Note**
 - Please specify the model no. of angle head and bracket set, when ordering.
 - Other shanks are also available upon request.

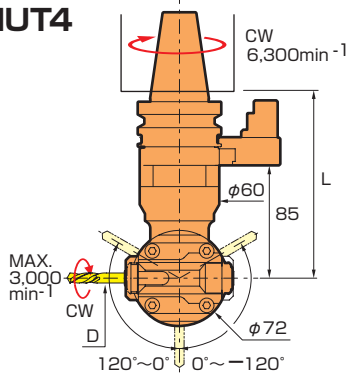
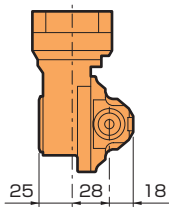
CODE	φD	L	L ₁	Kg (lbs)	
DN40A-HFD 7-135	1 ~ 7	135	70	3.1	D 7
		195	130	3.4	
-HFD12-135	2.5~ 13	135	70	3.7	D 12
		195	130	5.0	
-HFA20-150	5.8~ 20	150	77	4.7	C 20
		210	137	5.8	
-HFT 4-135	M2~M 8	135	70	3.1	TA 4
		195	130	3.4	
-HFT 6-135	M3~M12	135	70	3.7	TA 6
		195	130	5.0	
-HFT12-150	M3~M16	150	77	4.7	TA 6 TA12
		210	137	5.8	
DN50A-HFD 7-195	1 ~ 7	195	130	5.9	D 7
		255	190	6.3	
-HFD12-135	2.5~ 13	135	70	5.8	D 12
		195	130	7.1	
-255		255	190	8.4	
		255	190	8.4	
-HFA20-150	5.8~ 20	150	77	6.6	C 20
		210	137	7.8	
-270		270	197	8.9	
		270	197	8.9	
-HFT 4-195	M2~M 8	195	130	5.9	TA 4
		255	190	6.3	
-HFT 6-135	M3~M12	135	70	5.8	TA 6
		195	130	7.1	
-255		255	190	8.4	
		255	190	8.4	
-HFT12-150	M3~M16	150	77	6.6	TA12
		210	137	7.8	
-270		270	197	8.9	
		270	197	8.9	
CT40 -HFD 7-135	1 ~ 7	135 (5.31")	70 (2.75")	3.1 (6.8)	D 7
		195 (7.68")	130 (5.11")	3.4 (7.5)	
-HFD12-135	2.5~ 13	135 (5.31")	70 (2.75")	3.7 (8.2)	D 12
		195 (7.68")	130 (5.11")	5.0 (11.0)	
-HFA20-150	5.8~ 20 (.23"~ .79")	150 (5.91")	77 (3.03")	4.7 (10.4)	C 20
		210 (8.27")	137 (5.39")	5.8 (12.9)	
-HFT 4-135	M2~M 8	135 (5.31")	70 (2.75")	3.1 (6.8)	TA 4
		195 (7.68")	130 (5.11")	3.4 (7.5)	
-HFT 6-135	M3~M12	135 (5.31")	70 (2.75")	3.7 (8.2)	TA 6
		195 (7.68")	130 (5.11")	5.0 (11.0)	
-HFT12-150	M3~M16 (#4" ~ 5/8")	150 (5.91")	77 (3.03")	4.7 (10.4)	TA12
		210 (8.27")	137 (5.39")	5.8 (12.9)	
CT50 -HFD 7-195	1 ~ 7	195 (7.68")	130 (5.11")	5.9 (13.0)	D 7
		255 (10.04")	190 (7.47")	6.3 (13.8)	
-HFD12-135	2.5~ 13 (.10"~ .51")	135 (5.31")	70 (2.75")	5.8 (12.8)	D 12
		195 (7.68")	130 (5.11")	7.1 (15.6)	
-255		255 (10.04")	190 (7.47")	8.4 (18.5)	
		255	190	8.4	
-HFA20-150	5.8~ 20 (.23"~ .79")	150 (5.91")	77 (3.03")	6.6 (14.7)	C 20
		210 (8.27")	137 (5.39")	7.8 (17.3)	
-270		270 (10.63")	197 (7.76")	8.9 (19.8)	
		270	197	8.9	
-HFT 4-195	M2~M 8	195 (7.68")	130 (5.11")	5.9 (13.0)	TA 4
		255 (10.04")	190 (7.47")	6.3 (13.8)	
-HFT 6-135	M3~M12	135 (5.31")	70 (2.75")	5.8 (12.8)	TA 6
		195 (7.68")	137 (5.39")	7.1 (15.6)	
-255		255 (10.04")	190 (7.47")	8.4 (18.5)	
		255	190	8.4	
-HFT12-150	M3~M16 (#4" ~ 5/8")	150 (5.91")	77 (3.03")	6.6 (14.7)	TA12
		210 (8.27")	137 (5.39")	7.8 (17.3)	
-270		270 (10.63")	197 (7.76")	8.9 (19.8)	
		270	197	8.9	

CAT.

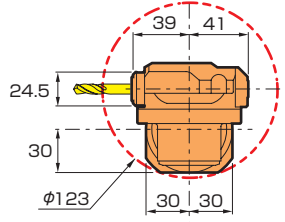
ANGLE HEAD UNIVERSAL HALF (HUD/HUA/HUT)

ANGLE HEAD

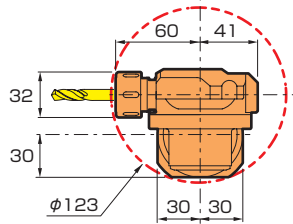
HUD7 / HUT10 / HUT4



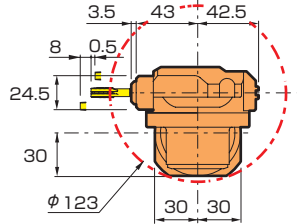
HUD7 For drilling



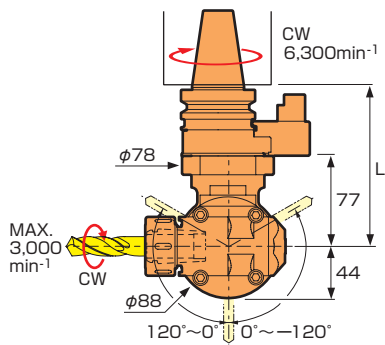
HUA10 For drilling · endmilling



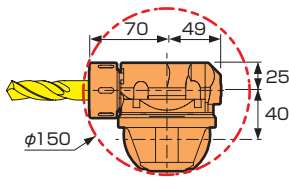
HUT4 For tapping



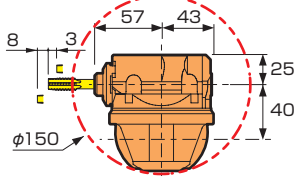
HUA20 / HUT6



HUA20 For drilling · endmilling



HUT6 For tapping



CODE	φD	L	Kg	Moment ※	
BT BT40-HUD 7-135	1.0 ~ 7	135	3.8	251	D 7
-HUA10-135	2.6 ~ 10		3.9	268	C10
-HUA20-135	5.8 ~ 20		4.8	392	C20
-HUT 4-135	M2 ~ M 8		3.8	251	TA4
-HUT 6-135	M3 ~ M12		4.8	392	TA6
BT50-HUD 7-150	1.0 ~ 7		150	6.6	277
-HUA10-150	2.6 ~ 10	6.7		295	C10
-HUA20-150	5.8 ~ 20	7.5		440	C20
-HUT 4-150	M2 ~ M 8	6.6		277	TA4
-HUT 6-150	M3 ~ M12	7.5		440	TA6
DN40A-HUD 7-150	1 ~ 7	150		3.8	251
-HUA10-150	2.4~10		3.9	268	C10
DIN -HUA20-150	5.8 ~ 20		5.0	392	C20
-HUT 6-150	M3 ~ M12				TA6
DN50A-HUD 7-150	1 ~ 7	150	6.6	277	D 7
-HUA10-150	2.6~10		6.7	295	C10
-HUA20-150	5.8 ~ 20		7.0	440	C20
-HUT 4-150	M2~M8		6.6	277	T 4
-HUT 6-150	M3 ~ M12		7.0	440	TA6
CT40 -HUD 7-150	1 ~ 7 (.04° ~ .28°)		150 (5.91°)	3.8 (8.4)	251
-HUA10-150	2.4~10 (.09° ~ .39°)	3.9 (8.6)		268	C10
-HUA20-150	5.8~20 (.23° ~ .79°)	5.0 (11.0)		392	C20
CAT. -HUT 4-150	M2~M8	3.8 (8.4)		251	T 4
-HUT 6-150	M3~M16 (#4° ~ 1/2°)	5.0 (11.0)		392	TA6
CT50 -HUD 7-150	1 ~ 7 (.04° ~ .28°)	150 (5.91°)		6.6 (14.6)	277
-HUA10-150	2.4~10 (.09° ~ .39°)		6.7 (14.8)	295	C10
-HUA20-150	5.8~20 (.23° ~ .79°)		7.0 (15.4)	440	C20
-HUT 4-150	M2~M8		6.6 (14.6)	277	T 4
-HUT 6-150	M3~M16 (#4° ~ 1/2°)		7.0 (15.4)	440	TA6

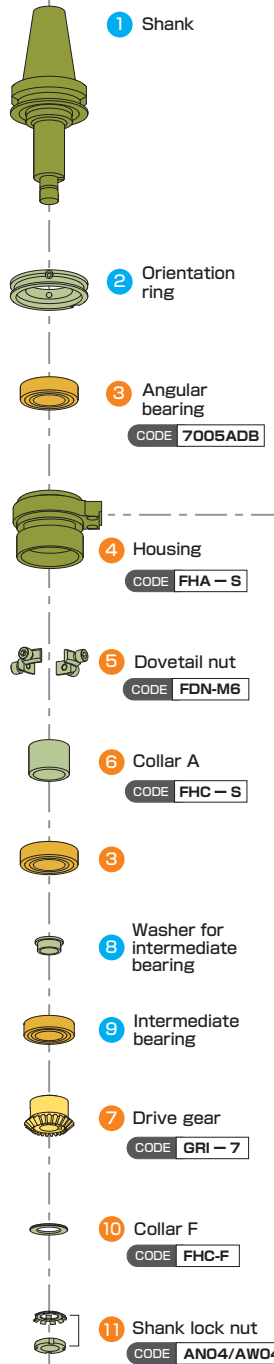
※Distance from a gage line to center of gravity × weight (kg·mm)

- Option
 - DETa-1 Collet (For HUD)
 - Spring collet (For HUA)
 - Tap sleeve (For HUT)
 - Retention knob→P.37
- Standard Accessories
 - The tool for assembly
 - Spanner (KS-21)
 - Hexagonal wrench set (W-1550S)
 - Spanner (For HUA)
- Note
 - Please specify the model no. of angle head and bracket set. when ordering.
 - Other shanks are also available upon request.

HFD7 / HFT4 PARTS LIST

	1 Shank	2 Orientation Ring	8 Washer for intermediate bearing
BT30 -HFD7-122	BT30-FSA-7S	ORR-30	-
-HFT4-122	-7L		FZ-7
-HFD7-182	-7L		-
-HFT4-182	-7L		FZ-7
BT40 -HFD7-120	BT40-FSA-7S	-40	-
-HFT4-120	-7L		FZ-7
-HFD7-180	-7L		-
-HFT4-180	-7L		FZ-7
BT50 -HFD7-195	BT50-FSA-7L	-7XL	-
-HFT4-195	-7XL		-
-HFD7-255	-7XL		-
-HFT4-255	-7XL		-
A63 -HFD7-183	A 63-FSA-7L	ORR-40	FZ-7
-HFT4-183	-7XL		-
-HFD7-243	-7XL		-
-HFT4-243	-7XL		-
DN40A-HFD7-135	DN40A-FSA-7S	ORR-40	-
-HFT4-135	-7L		FZ-7
-HFD7-195	-7L		-
-HFT4-195	-7L		-
DN50A-HFD7-195	DN50A-FSA-7L	-7XL	-
-HFT4-195	-7XL		-
-HFD7-255	-7XL		-
-HFT4-255	-7XL		-
CT40 -HFD7-135	CT40-FSA-7S	ORR-40	-
-HFT4-135	-7L		FZ-7
-HFD7-195	-7L		-
-HFT4-195	-7L		-
CT50 -HFD7-195	CT50-FSA-7L	-7XL	-
-HFT4-195	-7XL		-
-HFD7-255	-7XL		-
-HFT4-255	-7XL		-

	9 Intermediate bearing	19 Head	26 Positioning pin	27 Bracket
	-	FBA-7S	HP -50A -50B -50C	FKA- 60 - 65
	6804ZZ	-7L	-	-
	-	-7S	-	-
	6804ZZ	-7L	-62A -62B -62C -62A-20 -62B-20	- 80 - 85 -110
	-	-7XL	-	-
	6804ZZ	FBA-7L	HP -50A -50B -50C	FKA- 60 - 65
	-	-7XL	-	-
	6804ZZ	FBA-7S	HP -62A -62B -50CL	FKA-60-L -65-L
	-	-7L	-	-
	-	-7XL	-62A -62B -62C -62A-20 -62B-20	- 80 - 85 -110
	6804ZZ	FBA-7S	HP -62A -62B -50CL	FKA-60-L -65-L
	-	-7L	-	-
	-	-7XL	-62A -62B -62C -62A-20 -62B-20	- 80 - 85 -110



■ Standard Accessories ●Spanner(KS-22) *Spanner(13mm)
●Hexagonal wrench set(W-1550S)

The tool for assembly (Option)

Wrench (For shank)



CODE
FC-32

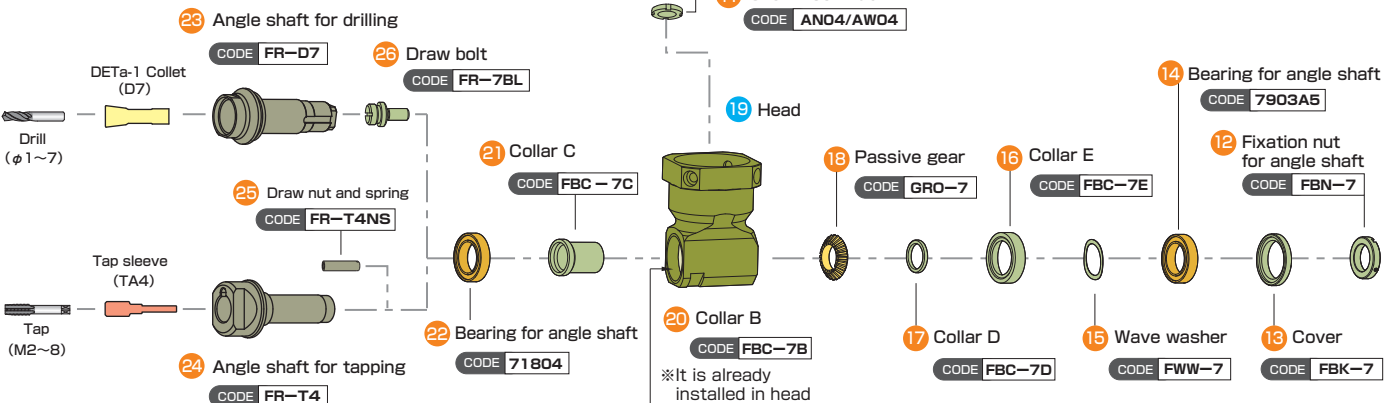
■ Note ●To be used for tightening No.11(Shank Lock Nut).

Wrench (For head)



CODE
TSH-HF7

■ Note ●To be used for tightening No.13(Cover).
No.12(Fixation Nut For Angle Shaft).



※ 3, 9, 11, 14, 15, 22 are able to use standard commercial items.

※ 25, 26 are the attachments of 23, 24

HFD12 / HFT6 PARTS LIST

ANGLE HEAD

	1 Shank	2 Orientation ring	3 Angular bearing	4 Housing	6 Collar A		7 Collar AXL	8 Intermediate bearing	25 Positioning pin	26 Bracket	
BT30 -HFD12-122 -HFT 6-122	BT30-FSA-12S	ORR-30	7005ADB	FHA -S	FHC -S		-	-	HP -50A -50B -50C	FKA - 60 - 65	
BT40 -HFD12-120 -HFT 6-120	BT40-FSA-12S	-40		-L	-L			-	-	-62A -62B -62C -62A-20 -62B-20	- 80 - 85 -110
BT50 -HFD12-135 -HFT 6-135	BT50-FSA-12S	-12L		-S	-S				FHC -XL2 (*)	6005VV	-
-HFD12-180 -HFT 6-180			-L	-L		-			-	HP -50A -50B -50C	FKA - 60 - 65
-HFD12-195 -HFT 6-195			-S	-S			FHC -XL2 (*)		6005VV	-	-
-HFD12-255 -HFT 6-255			-XL	-XL1 (*)				-	-	HP -62A -62B -50CL	FKA-60-L -65-L
A63 -HFD12-123 -HFT 6-123	A 63-FSA-12S	ORR-40	7005ADB	FHA -S	FHC -S				-	-	HP -50A -50B -50C
-HFD12-183 -HFT 6-183		-12L		-L	-L				FHC -XL2 (*)	6005VV	-
-HFD12-243 -HFT 6-243		-12XL	7906A5DB	-XL	-XL1 (*)		-		-	HP -62A -62B -50CL	FKA-60-L -65-L
DN40A-HFD12-135 -HFT 6-135	DN40A-FSA-12S	ORR-40	7005ADB	FHA -S	FHC -S			-	-	HP -62A -62B -50CL	FKA-60-L -65-L
-HFD12-195 -HFT 6-195		-12L		-L	-L			FHC -XL2 (*)	6005VV	-	-
-HFD12-255 -HFT 6-255		-12XL	7906A5DB	-XL	-XL1 (*)			-	-	HP -62A -62B -50CL	FKA-60-L -65-L
DN50A-HFD12-135 -HFT 6-135	DN50A-FSA-12S			-S	-S			-	-	HP -62A -62B -50CL	FKA-60-L -65-L
-HFD12-195 -HFT 6-195		-12L		-L	-L			FHC -XL2 (*)	6005VV	-	-
-HFD12-255 -HFT 6-255		-12XL	7906A5DB	-XL	-XL1 (*)			-	-	HP -62A -62B -50CL	FKA-60-L -65-L
CT40 -HFD12-135 -HFT 6-135	CT40-FSA-12S	ORR-40	7005ADB	FHA -S	FHC -S			-	-	HP -62A -62B -50CL	FKA-60-L -65-L
-HFD12-195 -HFT 6-195		-12L		-L	-L			FHC -XL2 (*)	6005VV	-	-
-HFD12-255 -HFT 6-255		-12XL	7906A5DB	-XL	-XL1 (*)			-	-	HP -62A -62B -50CL	FKA-60-L -65-L
CT50 -HFD12-135 -HFT 6-135	CT50-FSA-12S			-S	-S			-	-	HP -62A -62B -50CL	FKA-60-L -65-L
-HFD12-195 -HFT 6-195		-12L		-L	-L			FHC -XL2 (*)	6005VV	-	-
-HFD12-255 -HFT 6-255		-12XL	7906A5DB	-XL	-XL1 (*)			-	-	HP -62A -62B -50CL	FKA-60-L -65-L

■ Standard Accessories ●Spanner(KS-30) ●Hexagonal wrench set(W-1550S) ●Spanner(17mm)

The tool for assembly (Option)

Wrench (For shank)



CODE
TSS-HF12

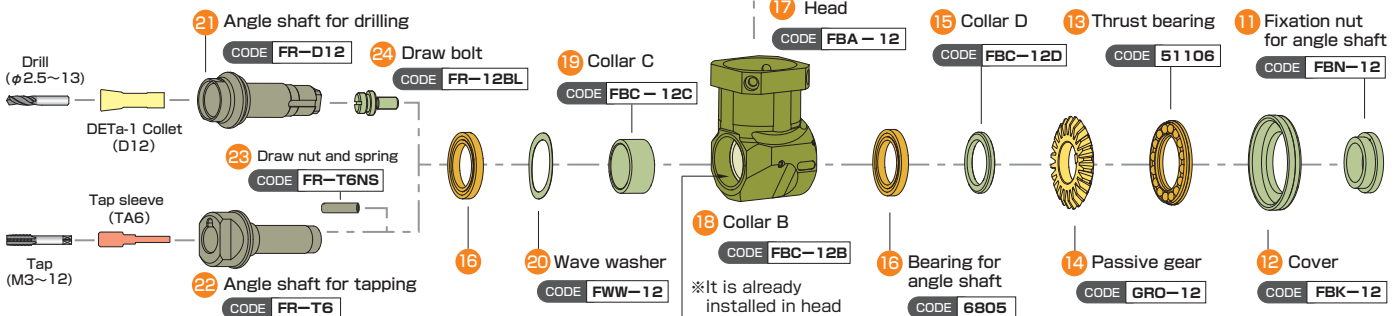
■ Note ●To be used for tightening No.10(Shank Lock Nut).

Wrench (For head)



CODE
TSH-HF12

■ Note ●To be used for tightening No.12(Cover), No.11(Fixation Nut For Angle Shaft).



(※) FHC-XL1/XL2FHC-XL1/XL2 Set 2pcs-Each

※ 3, 8, 10, 13, 16, 20, are able to use standard commercial items.

※ 23, 24 are the attachments of 21, 22.

HFA20 / HFT12 PARTS LIST

	1 Shank	3 Needle bearing	5 Angular bearing	6 Collar A	7 Angular bearing		11 Housing	27 Positioning pin	28 Bracket
BT40 -HFA20-135	BT40-FSA-20S	-	7906A5	FHC-20S	7905A5		FHA-20S	HP-50A -50B -50C	FKB- 60 - 65
-HFT12-135	-20L			-20L			-20L		
-HFA20-195	-20L			-20L			-20L		
-HFT12-195	-20L			-20L			-20L		
BT50 -HFA20-150	BT50-FSA-20S						-20S	-62A -62B -62C -62A-20 -62B-20	FKB- 80 - 85 -110
-HFT12-150	-20L			-20L			-20L		
-HFA20-210	-20L			-20L			-20L		
-HFT12-210	-20L			-20L			-20L		
-HFA20-270	-20XL	TAF374720	7905A5DB	-20XL	-		-20XL		
-HFT12-270	-20XL			-20XL			-20XL		
A63 -HFA20-198	A63 -FSA-20L	-	7906A5	FHC-20L	7905A5		FHA-20L	HP-50A -50B -50C	FKB- 60 - 65
-HFT12-198	-20L			-20L			-20L		
-HFA20-258	-20XL	TAF374720	7905A5DB	-20XL	-	-20XL			
-HFT12-258	-20XL			-20XL		-20XL			
DN40A-HFA20-150	DN40A-FSA-20S	-	7906A5	FHC-20S	7905A5	FHA-20S	HP-62A -62B -50CL	FKB- 60 - 65	
-HFT12-150	-20L			-20L		-20L			
-HFA20-210	-20L			-20L		-20L			
-HFT12-210	-20L			-20L		-20L			
DN50A-HFA20-150	DN50A-FSA-20S					-20S	-62A -62B -62C -62A-20 -62B-20	- 80 - 85 -110	
-HFT12-150	-20L			-20L		-20L			
-HFA20-210	-20L			-20L		-20L			
-HFT12-210	-20L			-20L		-20L			
-HFA20-270	-20XL	TAF374720	7905A5DB	-20XL	-	-20XL			
-HFT12-270	-20XL			-20XL		-20XL			
CT40 -HFA20-150	CT40 -FSA-20S	-	7906A5	FHC-20S	7905A5	FHA-20S	HP-62A -62B -50CL	FKB- 60 - 65	
-HFT12-150	-20L			-20L		-20L			
-HFA20-210	-20L			-20L		-20L			
-HFT12-210	-20L			-20L		-20L			
CT50 -HFA20-150	CT50 -FSA-20S					-20S	-62A -62B -62C -62A-20 -62B-20	- 80 - 85 -110	
-HFT12-150	-20L			-20L		-20L			
-HFA20-210	-20L			-20L		-20L			
-HFT12-210	-20L			-20L		-20L			
-HFA20-270	-20XL	TAF374720	7905A5DB	-20XL	-	-20XL			
-HFT12-270	-20XL			-20XL		-20XL			

■ Standard Accessories ●Spanner(KS-41) ●Hexagonal wrench set(W-1550S) ●Spanner(FC-50)*Only HFA20

The tool for assembly (Option)

Wrench (For shank and head)



CODE
TS-HA20

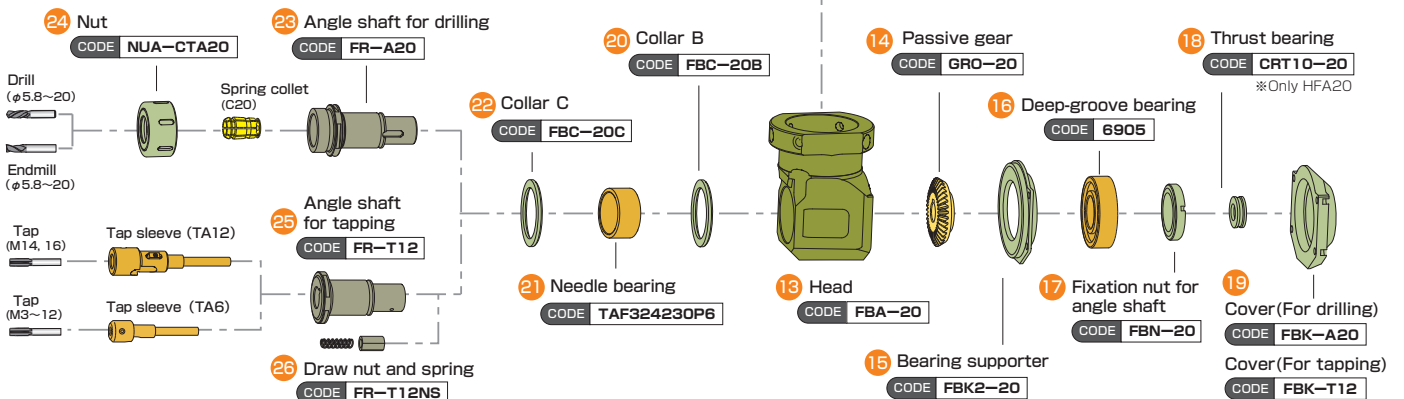
■Note
●To be used for tightening No.10(Shank Lock Nut), No.17 (Fixation Nut For Angle Shaft).

Assembling tool for needle bearings



CODE
TPN-HA20

■Note
●No.21 (Needle bearing) Fixation nut for angle shaft.



* 5, 7, 16, 18, 21 are able to use standard commercial items.

HUD7 / HUA10 / HUT4 PARTS LIST

	1 Shank	34 Positioning pin	35 Bracket
BT40 -HUD 7-135 -HUA10-135 -HUT 4-135	BT40-FSA-U7	HP -50A -50B -50C	FKA- 60 - 65
BT50 -HUD 7-150 -HUA10-150 -HUT 4-150	BT50-FSA-U7	-62A -62B -62C -62A-20 -62B-20	- 80 - 85 -110
DN40A-HUD 7-150 -HUA10-150 -HUT 4-150	DN40A-FSA-U7	HP -62A -62B -50CL	FKA- 60-L - 65-L
DN50A-HUD 7-150 -HUA10-150 -HUT 4-150	DN50A-FSA-U7	-62A -62B -62C -62A-20 -62B-20	- 80 - 85 -110
CT40 -HUD 7-150 -HUA10-150 -HUT 4-150	CT40-FSA-U7	HP -62A -62B -50CL	FKA- 60-L - 65-L
CT50 -HUD 7-150 -HUA10-150 -HUT 4-150	CT50-FSA-U7	-62A -62B -62C -62A-20 -62B-20	- 80 - 85 -110

■ Standard Accessories ●Spanner(KS-21) ●Hexagonal wrench set(W-1550S)
●Spanner(FC-32)*Only HUA10

The tool for assembly (Option)

Wrench (For shank)



CODE
FC-32

■Note
●To be used for tightening No.8(Shank Lock Nut).

Wrench (For hed)



CODE
TP-U7F

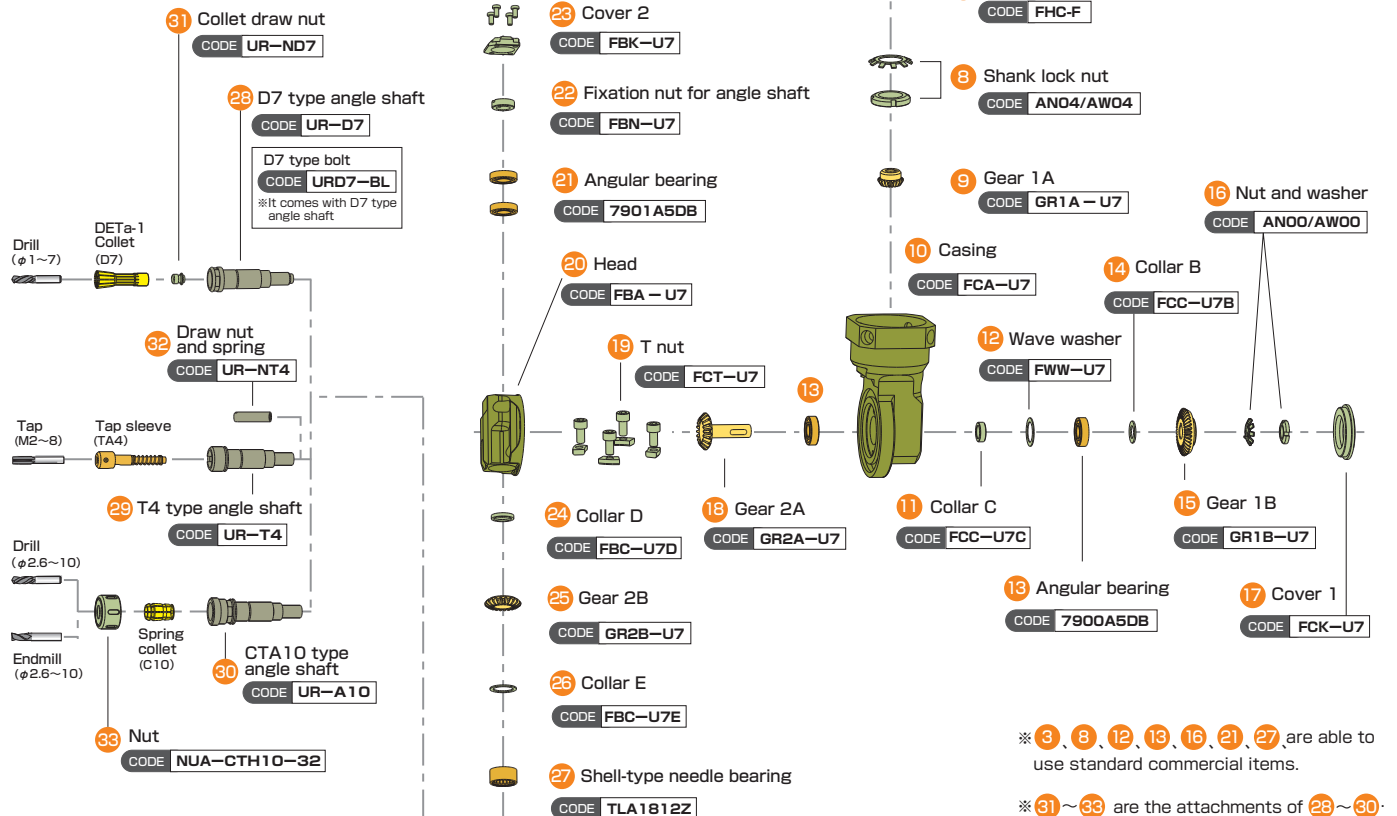
■Note
●No.16(Nut),No.22(Fixation nut for angle shaft) used for assembling and disassembling.

Assembling tool for needle bearings



CODE
TP-U7

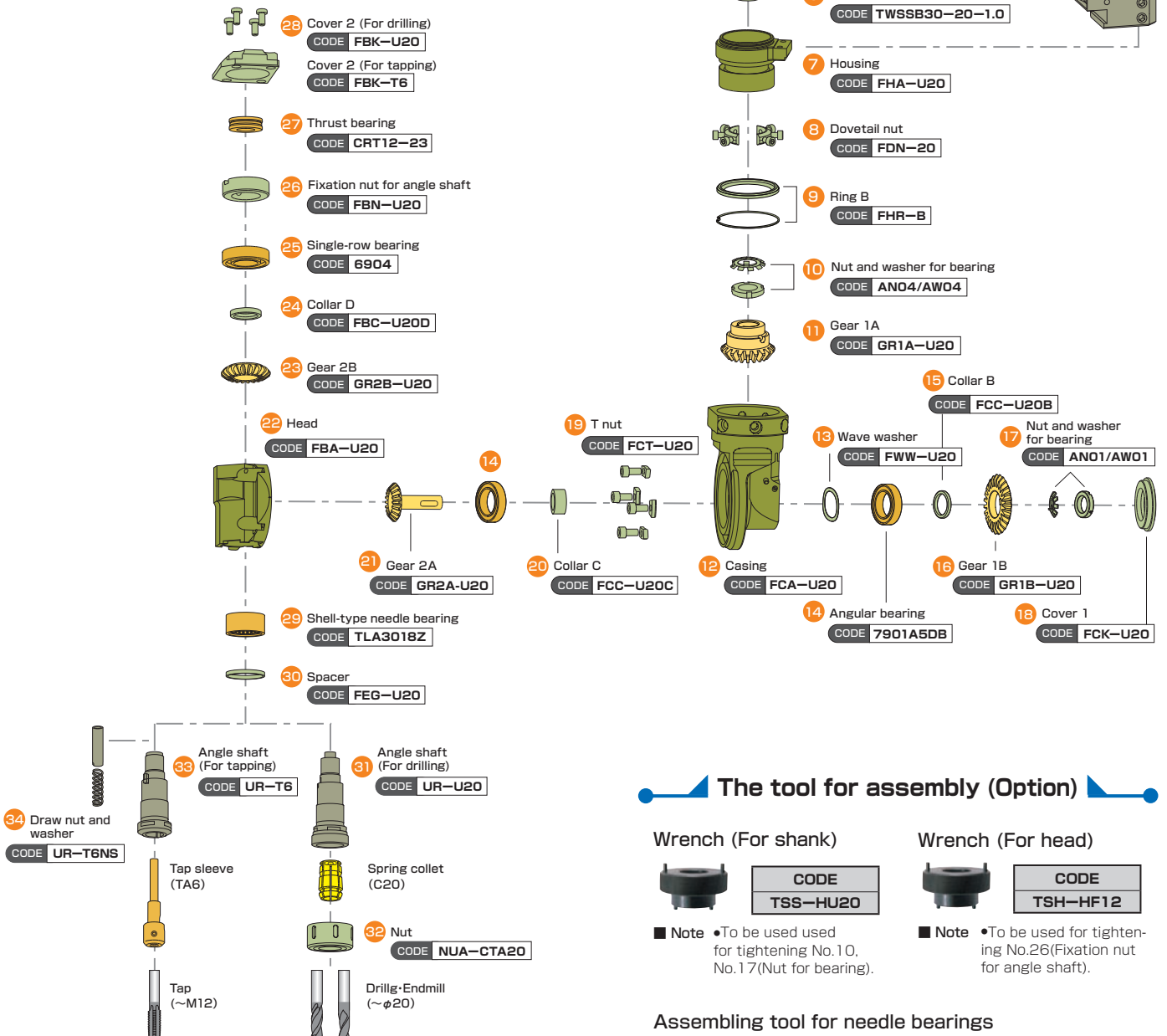
■Note
●No.27(Shell-type needle bearing) used for assembling and disassembling.



HUA20 / HUT6 PARTS LIST

	1 Shank	35 Positioning pin	36 Bracket
BT40-HUA20-135 -HUT 6-135	BT40 -FSA-U20	HP -50A -50B -50C	FKB- 60 - 65
BT50-HUA20-150 -HUT 6-150	BT50 -FSA-U20	-62A -62B -62C -62A-20 -62B-20	FKB- 80 - 85 -110
DN40A-HUA20-150 -HUT 6-150	DN40A-FSA-U20	HP -62A -62B -50CL	FKB- 60 - 65
DN50A-HUA20-150 -HUT 6-150	DN50A-FSA-U20	-62A -62B -62C -62A-20 -62B-20	FKB- 80 - 85 -110
CT40 -HUA20-150 -HUT 6-150	CT40 -FSA-U20	HP -62A -62B -50CL	FKB- 60 - 65
CT50 -HUA20-150 -HUT 6-150	CT50 -FSA-U20	-62A -62B -62C -62A-20 -62B-20	FKB- 80 - 85 -110

■ Standard Accessories ●Spanner(KS-33) ●Hexagonal wrench set(W-1560S)
●Spanner(FC-50)*Only HUA20



The tool for assembly (Option)

Wrench (For shank)



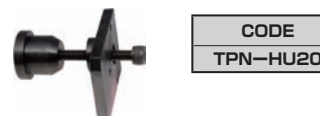
■ Note ●To be used used for tightening No.10, No.17(Nut for bearing).

Wrench (For head)



■ Note ●To be used for tightening No.26(Fixation nut for angle shaft).

Assembling tool for needle bearings



■ Note ●No.29(Shell-type needle bearing)used for assembling and disassembling.

* 3, 5, 10, 13, 14, 17, 25, 27, 29, are able to use standard commercial items.

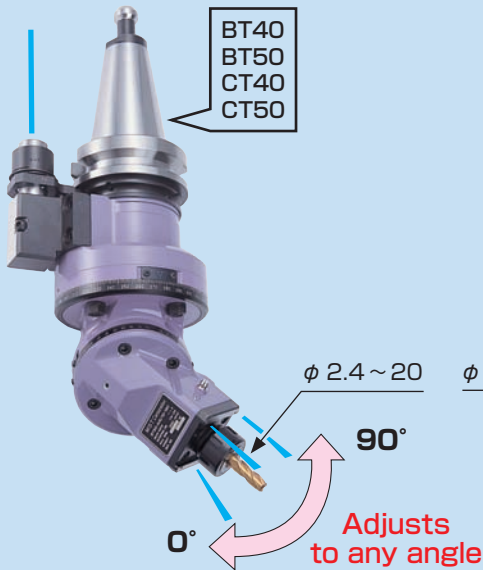
ANGLE HEAD (STANDARD TYPE)

ANGLE HEAD

Adding a spindle increases work efficiency!

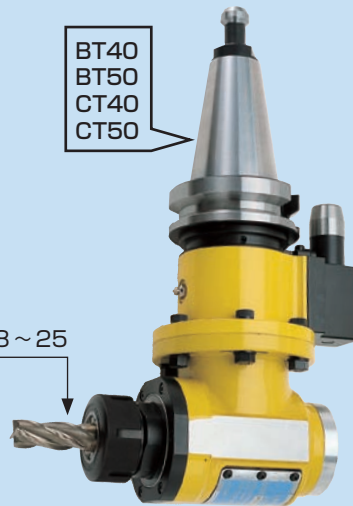
UNIVERSAL type → P.55

Cutting angle can be adjusted arbitrarily.



SOLID type → P.51

The popular type that can chuck small- to large-diameter cutters.



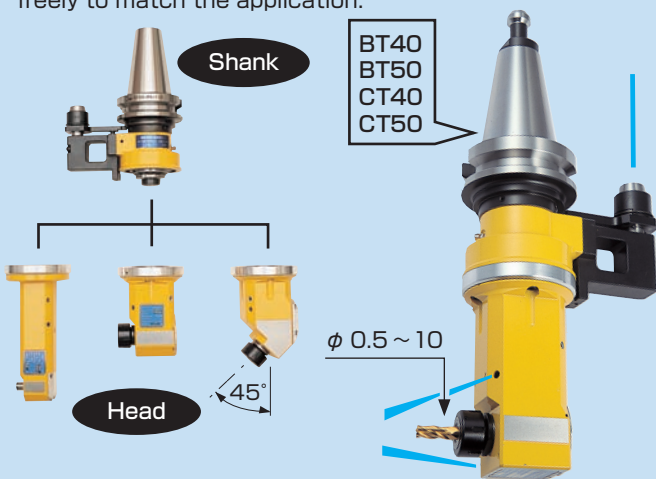
FLANGE type → P.54

Heavy-duty type that mounts directly on the machine spindle surface.



MODULAR type → P.52

Shank and head type can be combined freely to match the application.



Use of collet holder

"To chuck a cutting tool, the collet chuck system is used, which has a long history of good performance. This product is applicable to all the types of machining, including drilling and milling."



Applicable for coolant-through version

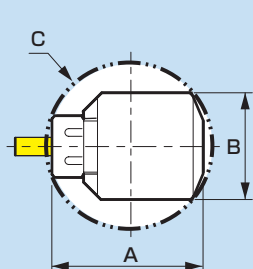
MODULAR type, UNIVERSAL type

Coolant can be fed from a closer position to the cutting edge. Prevents heat generation inside the body to achieve high-speed rotation.



Compact design

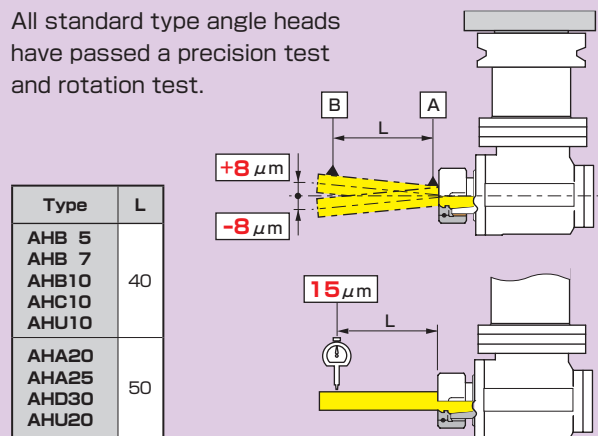
The head section is very compactly designed, making the product most suitable for internal machining.



Type	CODE	A	B	C
Modular type	AHB 5	57	46	62
	AHB 7	72	56	76
	AHB10	88	62	96
Solid type	AHA20	160	88	171
Flange type	AHA25	180	90	193
Universal type	AHU10	154	27.5	156
	AHU20	188.5	35	192

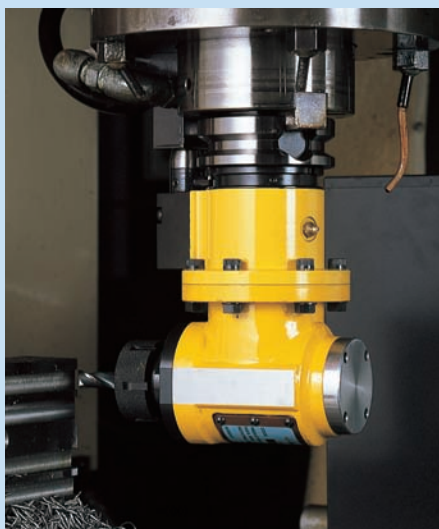
Highest Guaranteed Accuracies

All standard type angle heads have passed a precision test and rotation test.



ANGLE HEAD SOLID TYPE

Popular type allowing for a broad range of chucking



BT30 Quick-change type (AHD30)



Type	Chucking range	Gear ratio		MAX. min ⁻¹	
		Main spindle : Angle shaft	Main spindle (CCW) : Angle shaft (CW)	Main spindle (CCW) : Angle shaft (CW)	Main spindle (CCW) : Angle shaft (CW)
AHA 20	φ 5.8 ~ 20	1 : 0.81		3000	2430
AHA 25	φ 5.8 ~ 25	1 : 0.96		2500	2400
AHD 30	BT30 tools				

CODE	Fig.	φD	L	L ₁	M	A	B	G	φC	J	φQ	Kg (lbs)	Applicable collet
BT40-AHA 20 -160	1	5.8 ~ 20	160	40	86	65	95	88	50	65	171	7.3	C20
-AHA 20B- 6		1 ~ 20 (.04 ~ .79)	160 (6.3)	40 (1.57)	86 (3.39)	65 (2.56)	95 (3.74)	88 (3.46)	50 (1.97)	65 (2.56)	171 (6.73)	7.3 (16.1)	ER32
BT50-AHA 20 -195	1	5.8 ~ 20	195	40	92	65	95	88	50	65	171	13.1	C20
-250			249									14.8	
-AHA 20B- 8	1	1 ~ 20 (.04 ~ .79)	195 (7.68)	40 (1.57)	89 (3.50)	65 (2.56)	95 (3.74)	88 (3.46)	50 (1.97)	65 (2.56)	170 (6.69)	13.1 (28.9)	ER32
-10			249 (9.8)									14.8 (32.6)	
-AHA 25 -195	1	5.8 ~ 25	195	44	97	70	110	90	62	70	193	13.6	C25
-250			249									15.3	
-AHE100 - 8	1	2.36 ~ 25.4 (.09 ~ 1)	195 (7.68)	44 (1.73)	97 (3.82)	70 (2.76)	110 (4.33)	90 (3.54)	63.5 (2.5)	70 (2.76)	193 (7.6)	13.6 (30.0)	TG100
-10			249 (9.8)									15.3 (33.8)	
-AHD 30 -195	2	-	195	44	97	70	112.6	90	66	70	195	14.7	-
CAT. BT CT40-AHA 20B- 7	1	1 ~ 20 (.04 ~ .79)	175 (7.9)	40 (1.57)	86 (3.39)	65 (2.56)	95 (3.74)	88 (3.46)	50 (1.97)	65 (2.56)	170 (6.69)	7.57 (16.7)	ER32
CT50-AHA 20B- 8			200 (7.87)		92 (3.62)							10.8 (23.7)	
-10			254 (10.0)									14.7 (32.3)	
-AHE100 - 8	1	2.4 ~ 25.4 (.09 ~ 1)	200 (7.87)	44 (1.73)	97 (3.82)	70 (2.76)	110 (4.33)	90 (3.54)	63.5 (2.5)	70 (2.76)	193 (7.6)	13.6 (30.0)	TG100
-10			254 (10.0)									15.3 (33.7)	
-AHD 30 - 8	2	-	200 (7.87)				112.6 (4.43)		66 (2.6)		195 (7.68)	13.2 (29.0)	-

Fig.1

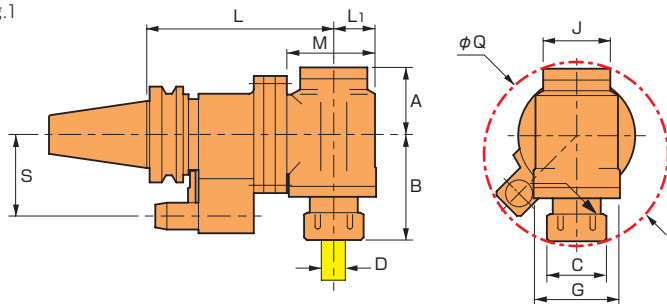
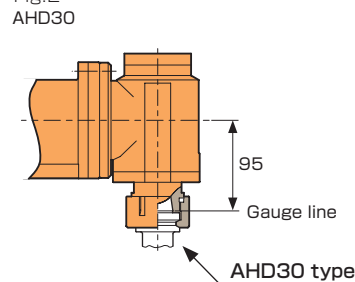


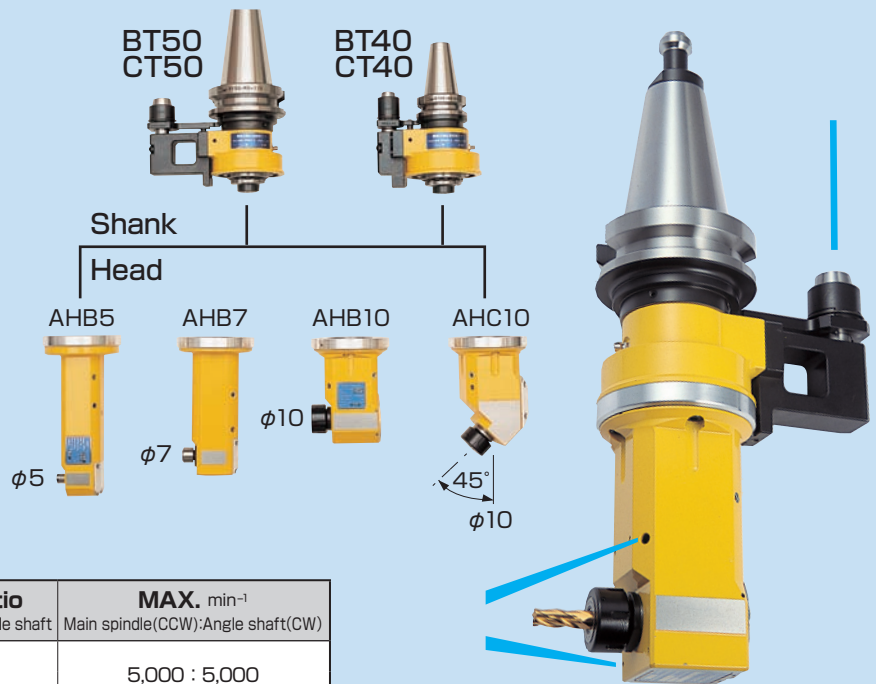
Fig.2



- Option
 - Standard Accessories
 - Note
 - Caution
- Spring collet
 - Retention knob→P.37
 - Semi-finished positioning block
 - A complete set of spanners and wrenches
 - The phase of the drive key and the positioning pin may be set freely.
 - Standard specifications: S = 60 mm, 65 mm (BT40), 80 mm, 85 mm, and 110 mm (BT50).
 - Products other than BT shanks can be manufactured upon request.
 - For the shape and mounting position of the positioning block, contact the machine manufacturer or MST.
 - The machine spindle and angle shaft should rotate in reverse directions, so make sure the spindle rotates in the reverse direction.


Freely choose any combination of shanks and heads

Various types of shanks and heads may be freely combined to meet your machining needs.

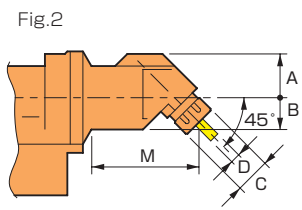
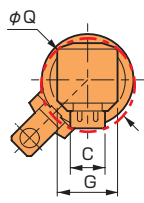
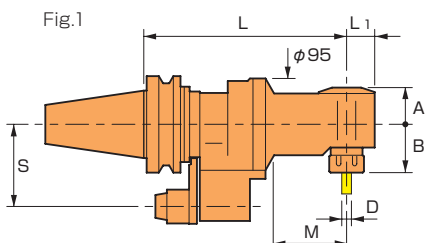


Type	Chucking range	Gear ratio Main spindle : Angle shaft	MAX. min ⁻¹
			Main spindle(CCW):Angle shaft(CW)
AHB 5	φ 0.5 ~ 5	1 : 1	5,000 : 5,000
AHB 7	φ 0.5 ~ 7		6,000 : 6,000
AHB10	φ 2.4 ~ 10		(When using coolant)
AHC10			

CODE	Fig.	φD	L	φC	L ₁	M	A	B	G	φQ	Kg (lbs)	Applicable collet
BT40-AHB 5 -210	1	0.5 ~ 5	210	12	20	85	25	32	46	62	5.5	ER8
			270			145					6.4	
-AHB 7 -180		0.5 ~ 7	180	19	22	60	29	43	56	76	5.3	ESX12
			240			120					6.6	
-AHB10 -195		2.4 ~ 10	195	36	29	80	38	50	62	96	6.2	C10
			255			140					7.9	
BT -AHB10B-195		0.5 ~ 10 (.02°~.394°)	195 (7.67")	28 (1.1")	29 (1.14")	80 (3.15")	38 (1.5")	50 (1.97")	62 (2.44")	96 (3.78")	6.2 (13.6)	ER16
			255 (10.04")			140 (5.51")					7.9 (17.4)	
-AHB13B-195		1 ~ 13.2 (.04°~.520°)	195 (7.67")	34 (1.34")	29 (1.14")	80 (3.15")		58 (2.28")		105 (4.13")	6.2 (13.6)	ER20
			255 (10.04")			140 (5.51")					7.9 (17.4)	
-AHC10 -230	2	2.4 ~ 10	230	36	-	110	45	32.5	65	-	6.2	C10
-AHC10B-230		0.5 ~ 10 (.02°~.394°)	230 (9.06")	28 (1.1")		110 (4.33")	45 (1.77")	32.5 (1.28")	65 (2.56")		6.2 (13.6)	ER16
BT50-AHB 5 -225	1	0.5 ~ 5	225	12	20	85	25	32	46	62	8.8	ER8
			285			145					9.7	
-AHB 7 -195		0.5 ~ 7	195	19	22	60	29	43	56	76	8.6	ESX12
			255			120					9.9	
-AHB10 -210		2.4 ~ 10	210	36	29	80	38	50	62	96	9.5	C10
			270			140					11.2	
BT50-AHB10B-210	1	0.5 ~ 10 (.02°~.394°)	210 (8.26")	28 (1.1")	29 (1.14")	80 (3.15")	38 (1.5")	50 (1.97")	62 (2.44")	96 (3.78")	9.5 (20.9)	ER16
			270 (10.63")			140 (5.51")					11.2 (24.7)	
-AHB13B-210		1 ~ 13.2 (.04°~.520°)	210 (8.26")	34 (1.34")		80 (3.15")				105 (4.13")	9.5 (20.9)	ER20
			270 (10.63")			140 (5.51")					11.2 (24.7)	
-AHC10 -245	2	2.4 ~ 10	245	36	-	110	45	32.5	65	-	9.5	C10
-AHC10B-245		0.5 ~ 10 (.02°~.394°)	245 (9.64")	28 (1.1")		110 (4.33")	45 (1.77")	32.5 (1.28")	65 (2.56")		9.5 (20.9)	ER16

CODE	Fig.	φD	L	φC	L ₁	M	A	B	G	φQ	 Kg (lbs)	Applicable collet
CT40-AHB 5 -220	1	0.5 ~ 5 (.02" ~ .2")	220 (8.66")	12 (.47")	20 (.79")	85 (3.35")	25 (.98")	32 (1.26")	46 (1.81")	62 (2.44")	5.6 (12.3)	ER8
			280 (11.02")			145 (5.71")					6.5 (14.3)	
-AHB 7 -190		0.5 ~ 7 (.02" ~ .27")	190 (7.48")	19 (.75")	22 (.87")	60 (2.36")	29 (1.14")	43 (1.69")	56 (2.2")	76 (2.99")	5.4 (11.9)	ESX12
			250 (9.84")			120 (4.72")					6.7 (14.8)	
-AHB10B-205		0.5 ~ 10 (.02" ~ .394")	205 (8.07")	28 (1.1")	29 (1.14")	80 (3.15")	38 (1.5")	50 (1.97")	62 (2.44")	96 (3.78")	6.3 (13.9)	ER16
			265 (10.43")			140 (5.51")					8.0 (17.6)	
-AHB13B-205		1 ~ 13.2 (.04" ~ .520")	205 (8.07")	34 (1.34")		80 (3.15")	58 (2.28")			105 (4.13")	6.3 (13.9)	ER20
			265 (10.43")			140 (5.51")					8.0 (17.6)	
-AHC10B-240	2	0.5 ~ 10 (.02" ~ .394")	240 (9.44")	28 (1.1")	-	110 (4.33")	45 (1.77")	32.5 (1.28")	65 (2.56")	-	6.3 (13.9)	ER16
CT50-AHB 5 -220	1	0.5 ~ 5 (.02" ~ .2")	220 (8.66")	12 (.47")	20 (.79")	85 (3.35")	25 (.98")	32 (1.26")	46 (1.81")	62 (2.44")	8.3 (18.3)	ER8
			280 (11.02")			145 (5.71")					9.2 (20.3)	
-AHB 7 -190		0.5 ~ 7 (.02" ~ .27")	190 (7.48")	19 (.74")	22 (.86")	60 (2.36")	29 (1.14")	43 (1.69")	56 (2.2")	76 (2.99")	8.1 (17.9)	ESX12
			250 (9.84")			120 (4.72")					9.4 (20.7)	
-AHB10B-205		0.5 ~ 10 (.02" ~ .394")	205 (8.07")	28 (1.1")	29 (1.14")	80 (3.15")	38 (1.5")	50 (1.97")	62 (2.44")	96 (3.78")	9.0 (19.8)	ER16
			265 (10.43")			140 (5.51")					10.7 (23.6)	
-AHB13B-205		1 ~ 13.2 (.04" ~ .520")	205 (8.07")	34 (1.34")		80 (3.15")	58 (2.28")			105 (4.13")	9.0 (19.8)	ER20
			265 (10.43")			140 (5.51")					10.7 (23.6)	
-AHC10B-240	2	0.5 ~ 10 (.02" ~ .394")	240 (9.44")	28 (1.1")	-	110 (4.33")	45 (1.77")	32.5 (1.28")	65 (2.56")	-	9.0 (19.8)	ER16


CAT.



- Option
 - Spring collet
 - Retention knob→P.37
 - Semi-finished positioning block
- Standard Accessories
 - A complete set of spanners and wrenches
- Note
 - The phase of the drive key and the positioning pin may be set freely.
 - Standard specifications: S = 60 mm, 65 mm (BT40), 80 mm, 85 mm, and 110 mm (BT50).
- Caution
 - Products other than BT shanks can be manufactured upon request.
 - For the shape and mounting position of the positioning block, contact the machine manufacturer or MST.
 - The machine spindle and angle shaft should rotate in reverse directions, so make sure the spindle rotates in the reverse direction.


Shank

CODE
BT40-MS- 98
BT50-MS-113
CT40-MS-108
CT50-MS-108



Head

CODE
MB 5 -112
-172
MB 7 - 82
-142
MB10 - 97
-157
MB10B- 97
-157
MB13B- 97
-157
MC10B-132
MC10 -132



ANGLE HEAD FLANGE TYPE

ANGLE HEAD

Heavy cutting is possible by mounting the angle head flange type directly on the machine spindle surface

This angle head is applicable to heavy cutting by mounting to the machine spindle.



BT30 Quick-change type (AHD30)

φ190 Flange dia.



Type	Chucking range	Gear ratio		MAX. min ⁻¹	
		Main spindle	: Angle shaft	Main spindle(CCW)	: Angle shaft(CW)
F-AHA20	φ5.8~20	1	: 0.81	3000	: 2430
-AHA25	φ5.8~25	1	: 0.96	2500	: 2400
-AHD30	BT30 tools				

CODE	Fig.	φD	L	L ₁	L ₂	M	A	B	G	φC	J	Q	Shank type	Kg (lbs)	Applicable collet
F190-AHA20 -200	1	5.8~20	200	40	160	92	65	95	88	50	65	171	BT50	17.0	C20
			350		310									28.0	
-AHA20B- 8		1~20 (.039"~.787")	200	40	160	89	65	95	88	50	65	171	CT50	17.0	ER32
			350		310									28.0	
- 14			350		310									28.0	
			350		310									28.0	
-AHA25 -200		5.8~25	200	44	160	97	70	110	90	62	70	193	BT50	18.5	C25
			350		310									28.5	
-AHD30 -200	2	-	200		160				112.6	66		195		19.6	-
			350		310									29.8	
-AHE100- 8	1	2.4~25.4 (.093"~1")	200	44	160	92	70	110	90	63.5	70	193	CT50	18.5	TG100
			350		310									28.5	
- 14			350		310									28.5	

BT

Fig.1

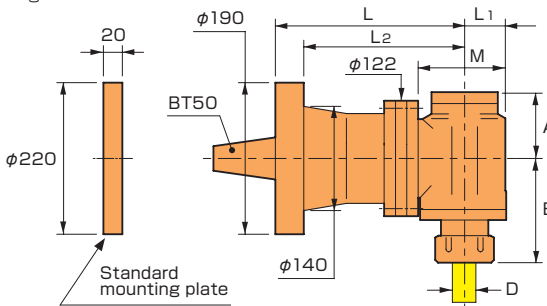
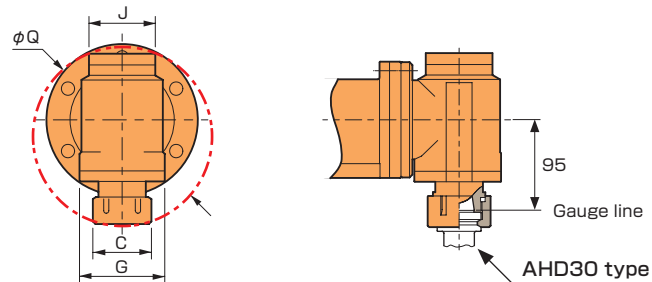


Fig.2 AHD30



- Option
 - Spring collet
 - Retention knob→P.37
- Standard Accessories
 - A complete set of spanners and wrenches
 - Standard mounting plate (No mounting holes are provided.)
 - Mounting bolts for ANGLE HEAD
- Note
 - NT50U shank is also available.
- Caution
 - For mounting plate shapes and mounting bolt location, contact the machine manufacturer or MST.
 - The machine spindle and angle shaft should rotate in reverse directions, so make sure the spindle rotates in the reverse direction.

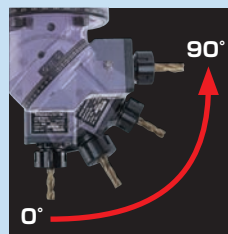
ANGLE HEAD UNIVERSAL TYPE

ANGLE HEAD

Machining at every angle is possible with just this one unit

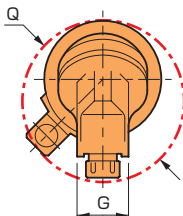
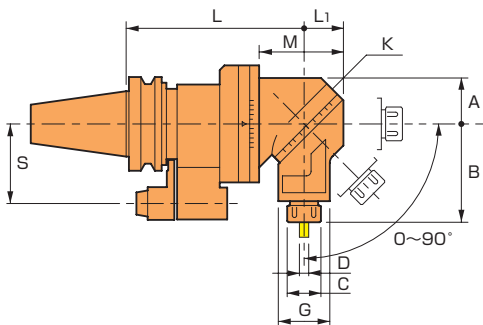


Splash coolant-through body
 Whatever machining angle is set, coolant is properly supplied to the cutting edge.



Type	Chucking range	Gear ratio Main spindle : Angle shaft	MAX. min ⁻¹ Main spindle(CCW):Angle shaft(CW)
AHU10	φ 2.4 ~ 10	1 : 1.5	3000 : 4500
AHU20	φ 5.8 ~ 20	1 : 1	3000 : 3000

CODE	φD	L	L ₁	M	A	B	K	G	φC	Q	Kg (lbs)	Applicable collet
BT40-AHU10 -175	2.4~10	175	42	96	49	105	95	55	32	156	9.6	C10
-AHU10B-175	0.5~10 (.02°~.39°)	175 (6.89")	42 (1.65")	96 (3.78")	49 (1.93")	106 (4.17")	95 (3.74")	55 (2.17")	28 (1.1")	156 (6.14")	9.6 (21.16)	ER16
BT50-AHU10 -190	2.4~10	190	42	90	49	105	95	55	32	156	13.9	C10
B T -AHU20 -200	5.8~20	200	54	112	58.5	130	120	70	50	192	15.8	C20
-AHU10B-190	0.5~10 (.02°~.39°)	190 (7.48")	42 (1.65")	90 (3.78")	49 (1.93")	106 (4.17")	95 (3.74")	55 (2.17")	28 (1.1")	156 (6.14")	13.6 (29.98)	ER16
-AHU20B-200	1 ~20 (.04°~.79°)	200 (7.87")	54 (2.13")	112 (4.41")	58.5 (2.3")	130 (5.11")	120 (4.72")	70 (2.76")	50 (1.97")	191 (7.52")	16.5 (36.38)	ER32
CT40-AHU10B-185	0.5~10 (.02°~.39°)	185 (7.28")	42 (1.65")	96 (3.78")	49 (1.93")	106 (4.17")	95 (3.74")	55 (2.17")	28 (1.1")	156 (6.14")	9.6 (21.16)	ER16
CAT. CT50-AHU10B-195				90 (3.54")							13.6 (30)	
-AHU20B-205	1 ~20 (.04°~.79°)	205 (8.07")	54 (2.13")	112 (4.41")	58.5 (2.3")	130 (5.11")	120 (4.72")	70 (2.76")	50 (1.97")	191 (7.52")	16.5 (36.38)	ER32



Test bar

Use for super accurate angle adjustment.



- Option
 - Spring collet •Retention knob→P.37 •Semi-finished positioning block •Test bar
- Standard Accessories
 - A complete set of spanners and wrenches
- Note
 - The phase of the drive key and the positioning pin may be set freely.
 - Standard specifications: S = 60 mm, 65 mm (BT40), 80 mm, 85 mm, and 110 mm (BT50).
 - Products other than BT shanks can be manufactured upon request.
- Caution
 - For the shape and mounting position of the positioning block, contact the machine manufacturer or MST.
 - The machine spindle and angle shaft should rotate in forward directions, so make sure the spindle rotates in the forward direction.

CODE	Holder type
TBU10B	AHU10B
TBU20B	AHU20B
TBU10	AHU10
TBU20	AHU20

SPRING COLLET

CODE	Fig.	ϕD	L	ϕD_1	H	Holder type
ER 8-D	1	1 ~ 5 (0.5 Steps)	8.5	13.5	—	AHB 5
ESX12-D	1	1 ~ 3 (0.5 Steps)	12	19.5	—	AHB 7
		4 ~ 7 (1.0 Steps)				
C 10-D	2	2.6~ 5 (0.2 Steps)	17.2	26	16	AHB10
		5.2~ 5.8(0.2 Steps)			18	AHC10
		6 ~10 (0.2 Steps)			20	AHU10
C 20-D		6 ~ 9.8(0.2 Steps)	29.5	50	29	AHA20
		10 ~15.8(0.2 Steps)			33	AHU20
		16 ~20 (0.2 Steps)			40	
C 25-D		6, 8	36.5	68	35	AHA25
		10 ~15 (0.5 Steps)			46	
		15.5~20 (0.5 Steps)			54	
		20.5~25 (0.5 Steps)			57	

CODE	ϕD	Collapsibility	L	ϕD_1	H	Holder type
C10-D	1/4 5/16 3/8	0.2 (.008")	26 (1.02")	17.2 (1.02")	20 (.79")	AHB10 AHC10 AHU10
C20-D	1/4 5/16 3/8	0.2 (.008")	50 (1.97")	29.5 (1.16")	29 (1.14")	AHA20 AHU20
	7/16 1/2				33 (1.30")	
	5/8 3/4				40 (1.57")	
C25-D	1/4 5/16 3/8	0.2 (.008")	68 (2.67")	36.5 (1.44")	35 (1.38")	AHA25
	7/16 1/2				46 (1.81")	
	5/8 3/4				54 (2.12")	
	1IN				57 (2.24")	



Fig.1

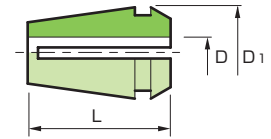
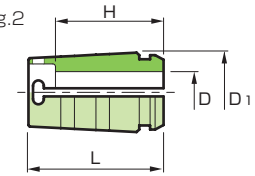


Fig.2



■ Option ●Collet remover (C10, C20)

Semi-finished positioning block

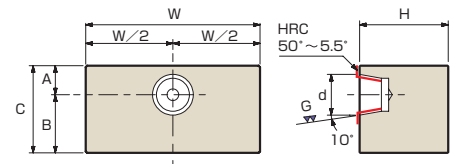
The semi-finished positioning block must be modified to the appropriate shape by the customer after delivery. Determine the shape and dimensions as follows, and then modify the positioning block as necessary.

1. Obtain the machine manufacturer's drawing for the positioning block and modify the positioning block in accordance with that drawing.
2. Determine the dimensions as shown in the handling instructions and then modify.

This block may not be applicable for dimensional reasons. Carefully check to see whether the positioning block is applicable.

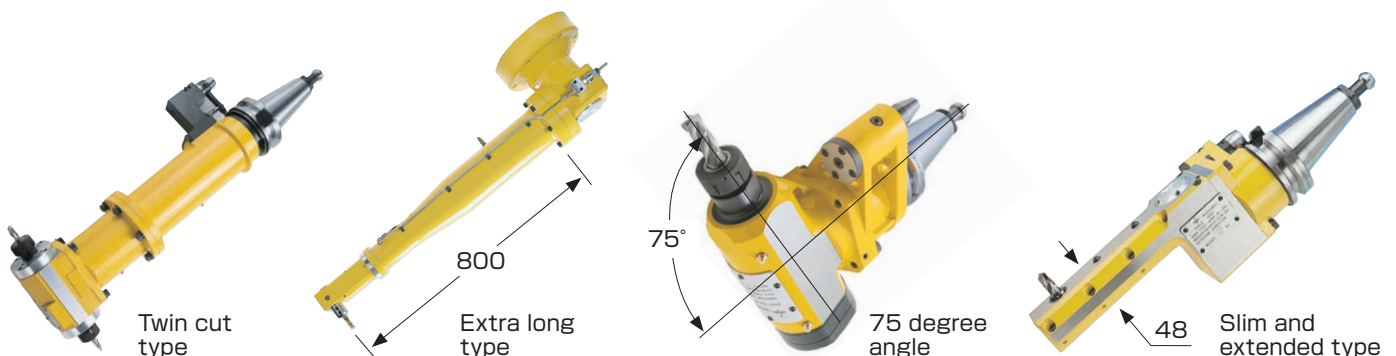
- The positioning block exclusively for your machine may also be available on request.
- For further information, please contact MST.*

CODE	A	B	C	W	H	d	Shank type	Material
AB-15	15	43	58	92	58	20	BT40	S50C
-12	20		63	120	63	28	BT50	



Custom-made products

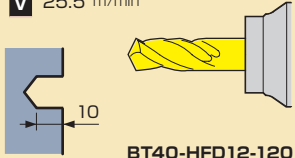
We have also designed and manufactured a large number of custom-made products. The most suitable product will be designed and manufactured to meet your requirements.

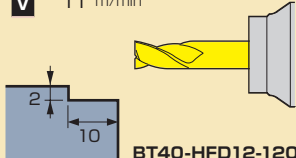


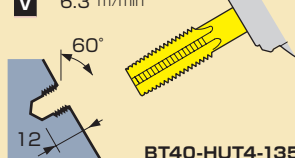
Cutting data

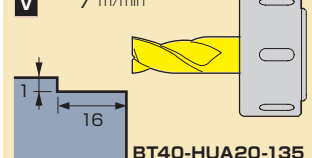
Angle head half (90° Type)

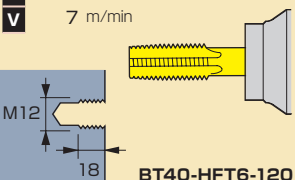
Angle head universal half (Free setting of cutting directions)

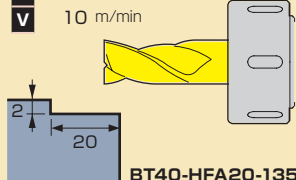
S55C
φ12 Drill
N 670 min⁻¹
F 80 mm/min
V 25.5 m/min

BT40-HFD12-120

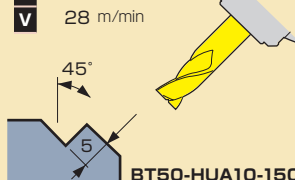
S55C
φ10 Endmill
N 350 min⁻¹
F 50 mm/min
V 11 m/min

BT40-HFD12-120

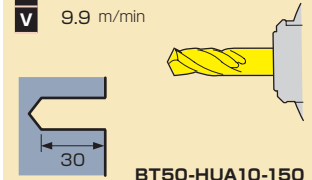
S50C
M8 Tap
N 250 min⁻¹
F 312 mm/min
V 6.3 m/min

BT40-HUT4-135

S50C
φ16 Endmill
N 140 min⁻¹
F 40 mm/min
V 7 m/min

BT40-HUA20-135

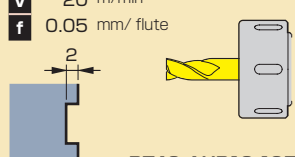
S55C
M12 Tap
N 184 min⁻¹
F 322 mm/min
V 7 m/min

BT40-HFT6-120

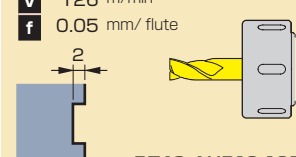
S50C
φ20 Endmill
N 158 min⁻¹
F 32 mm/min
V 10 m/min

BT40-HFA20-135

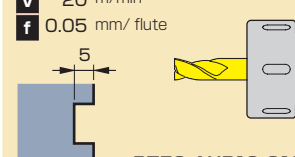
S50C
φ10 Endmill
N 900 min⁻¹
F 100 mm/min
V 28 m/min

BT50-HUA10-150

SUS304
φ10 Drill
N 314 min⁻¹
F 16 mm/min
V 9.9 m/min

BT50-HUA10-150

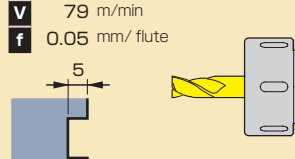
Angle head modular type

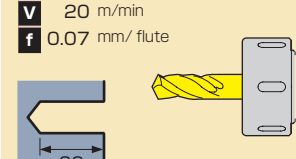
SUS304
φ10 Endmill 2 flutes
N 640 min⁻¹
F 60 mm/min
V 20 m/min
f 0.05 mm/ flute

BT40-AHB10-195

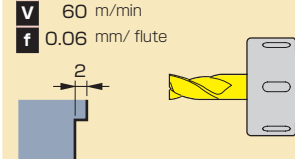
A2017
φ10 Carbide endmill 2 flutes
N 4000 min⁻¹
F 400 mm/min
V 126 m/min
f 0.05 mm/ flute

BT40-AHB10-195

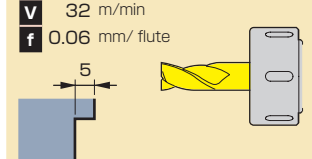
S50C
φ10 Endmill 2 flutes
N 640 min⁻¹
F 60 mm/min
V 20 m/min
f 0.05 mm/ flute

BT50-AHB10-210

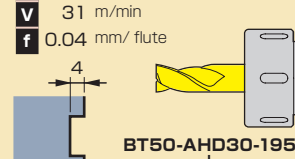
Angle head solid type

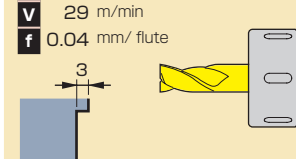
A2017
φ10 Endmill 2 flutes
N 2500 min⁻¹
F 250 mm/min
V 79 m/min
f 0.05 mm/ flute

BT50-AHB10-210

S55C
φ12 Drill 2 flutes
N 527 min⁻¹
F 39 mm/min
V 20 m/min
f 0.07 mm/ flute

BT40-AHA20-160


SUS304
φ12 Endmill 2 flutes
N 527 min⁻¹
F 20 mm/min
V 60 m/min
f 0.06 mm/ flute

BT40-AHA20-160

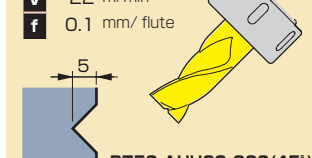
S50C
φ16 Endmill 2 flutes
N 630 min⁻¹
F 80 mm/min
V 32 m/min
f 0.06 mm/ flute

BT50-AHA25-195

FC30
φ12 Endmill 2 flutes
N 816 min⁻¹
F 60 mm/min
V 31 m/min
f 0.04 mm/ flute

BT50-AHD30-195
BT30-CTA20-45

SUS304
φ16 Endmill 2 flutes
N 570 min⁻¹
F 40 mm/min
V 29 m/min
f 0.04 mm/ flute

BT50-AHA25-195

Angle head universal type

SUS304
φ20 Drill
N 318 min⁻¹
F 32 mm/min
V 30 m/min
f 0.1 mm/ flute

BT50-AHU20-200(90°)

S50C
φ20 Carbide endmill 2 flutes
N 350 min⁻¹
F 70 mm/min
V 22 m/min
f 0.1 mm/ flute

BT50-AHU20-200(45°)

TOOLING SYSTEMS for TURNING MILL

ICTM

Interface Committee for Turning Mill



Turning mills

Turning mills with ATC are machine tools that have turning and milling functions.

- The milling performance is the same as that of a machining center.
- Cuts production time due to process intensiveness.
- Cuts standby time
- Cuts lead time
- One-chucking of the workpiece means high accuracy.
- No jig fixtures



ICTM Standard

ICTM-HSK has been standardized as the most suitable interface for a turning mill.

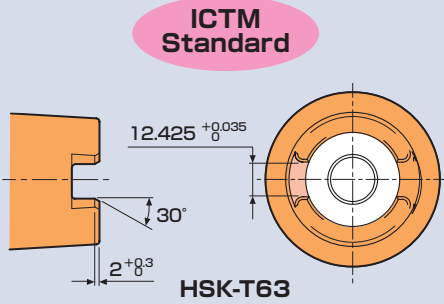
The ICTM standard is an open standard using HSK design as the most suitable interface for an ATC turning mill, and it is recommended by the Interface Committee for Turning Mills, which was set up by 17 companies with the goal of establishing interface standards for turning mills.

It is standardized based on ISO-HSK design in order to improve machining accuracy in turning operation. Its unique design minimizes the gap between the machine spindle drive key and drive key way.

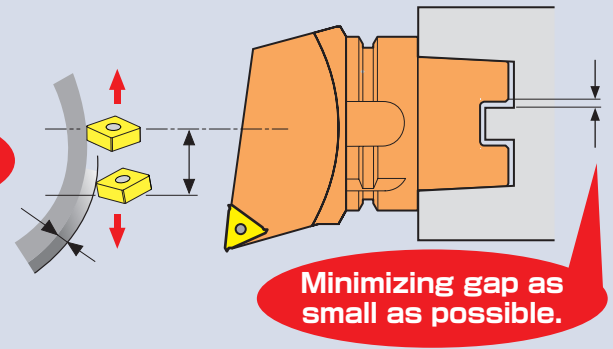
Published in March 2007 as JIS appendix and adopted as HSK-T system under ISO standards.

Newly standardized
by the 17 member
companies of the ICTM

Turning tools



Problem resolution



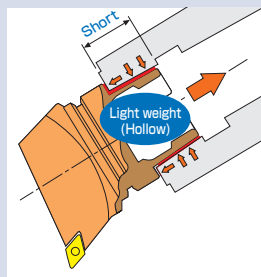
Minimizing gap as small as possible.

Maintains high precision during turning operation

By using an ICTM tool holder, which minimizes the gap between the machine spindle drive key and tool holder drive key way, the height of the cutting edge is maintained precisely and variation in workpiece diameter is minimized.

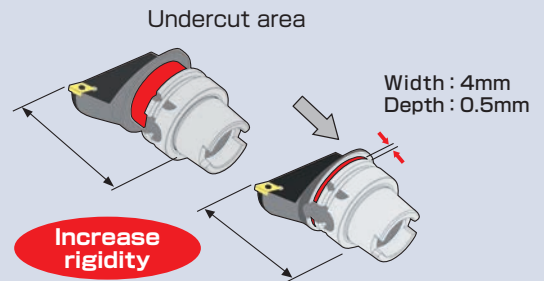
2-face contact

By deforming the tapered end of a hollow shank design tool, the tool holder taper and its flange surface achieve perfect contact with the machine spindle.



Designed to shorten undercut area

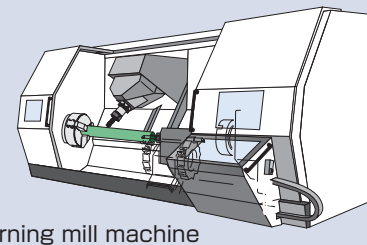
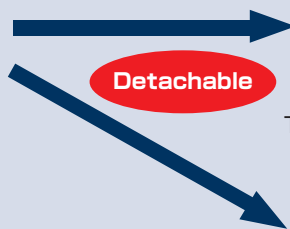
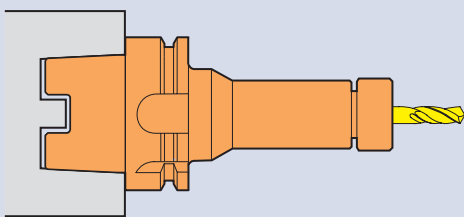
We made the undercut area thicker and as short as possible in order to increase the holder rigidity.



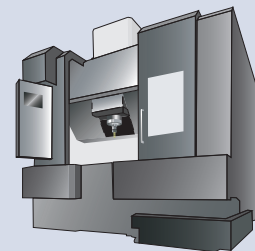
High bending rigidity

During turning, the cutting force of a spindle axis becomes very large. Therefore, a rigid, two-face-contact clamping system performs very well.

Rotating tools



Turning mill machine



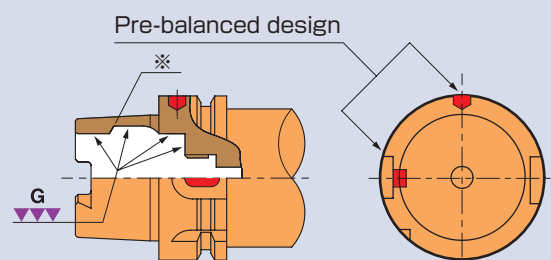
Machining center

The rotating holder is compatible with a machining center

There is absolutely no difference between these shanks and ISO-HSK standard shanks. Needless to say, the holder of a machining center and turning mill machine can be shared.

Pre-balanced design

MST uses pre-balanced design for rotating holders to achieve high-speed operation. According to ISO standards, only the area marked with * in the hollow shank needs to be finished. However, MST provides perfect finishing for all areas after heat treatment in order to improve balance.

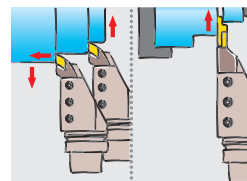
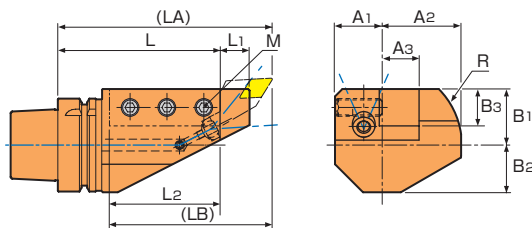


FOR SQUARE-SHANK INSERT HOLDERS

SV type for external turning and cutting off



T63-SV2525R-105



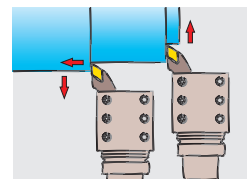
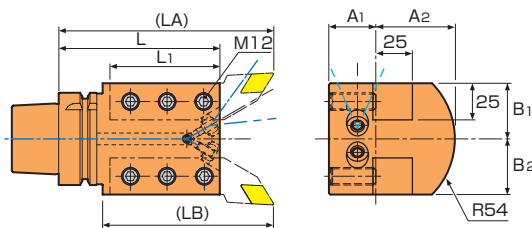
CODE	L	L ₁	L ₂	(LA)	(LB)	A ₁	A ₂	A ₃	B ₁	B ₂	B ₃	M	R	Kg
T 40-SV2020R- 90	90	15	60	120	90	24.5	39	20	25	22	20	M10	R39	1.5
-SV2020L- 90													R43.5	
T 50-SV2020R- 95	95			125		25	43.5		25				R45	1.9
-SV2020L- 95													R54	
T 63-SV2020R-105	105	20	70	135	100	32	45		33	32		M12	R45	2.7
-SV2525R-105													R54	
-SV2525L-105													R59	
T100-SV2525R-150	150		110	190	150	37	59		48	43			R59	9.1
-SV2525L-150													R68.5	
-SV3232R-150													R68.5	
-SV3232L-150	25	100	195	145	40	68.5	32	47			32	M14	R68.5	9.3

- Standard Accessories •Coolant duct→P.84
- Note •The coolant nozzle direction is adjustable.

SA type for external / face turning



T63-SA2525-105



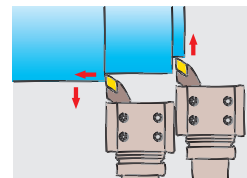
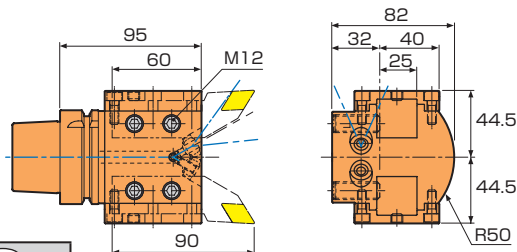
CODE	L	L ₁	(LA)	(LB)	A ₁	A ₂	B ₁	B ₂	R	Kg
T 63-SA2525-105	105	70	135	100	32	54	38	38	54	3.7
T100-SA2525-150	150		185	105	37	59	48	48	59	9.3

- Standard Accessories •Coolant duct→P.84 •Detent plug for a nozzle=Set screw(M5-12L) (Ex.) When using only right-hand, plug the nozzle on the left-hand side.)
- Note •The coolant nozzle direction is adjustable.

SB type for external / face turning



T63-SB2525-95



CODE	Kg
T63-SB2525-95	3.2

- Standard Accessories •Coolant duct→P.84 •Detent plug for a nozzle=Set screw(M5-12L) (Ex.) When using only right-hand, plug the nozzle on the left-hand side.)
- Note •The coolant nozzle direction is adjustable.

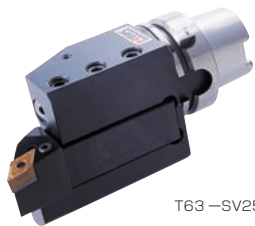
Change of product code

We have changed the item code from ICTM-HSK to HSK-T due to ISO standardization.

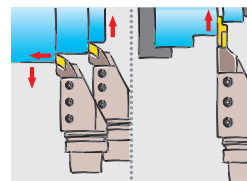
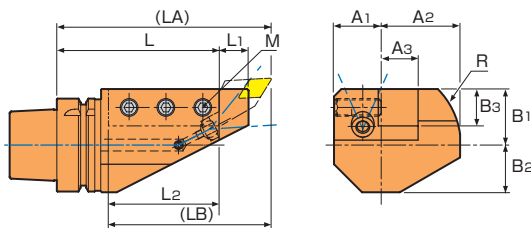
A40W → T40 A 50W → T 50
A63W → T63 A100W → T100

INSERT HOLDERS FOR SQUARE-SHANK

SV type for external turning and cutting off



T63-SV2525R-105



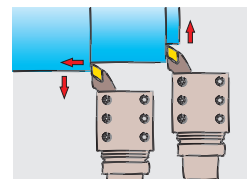
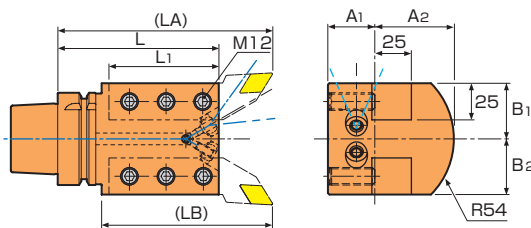
CODE	L	L ₁	L ₂	(LA)	(LB)	A ₁	A ₂	A ₃	B ₁	B ₂	B ₃	M	R	Kg
T 40-SV2020R- 90	90	15	60	120	90	24.5	39	20	25	22	20	M10	R39	1.5
-SV2020L- 90													R43.5	
T 50-SV2020R- 95	95			125		25	43.5		25				R45	1.9
-SV2020L- 95													R54	
T 63-SV2020R-105	105	20	70	135	100	32	45		33	32		M12	R45	2.7
-SV2525R-105													R54	
-SV2525L-105													R59	
T100-SV2525R-150	150		110	190	150	37	59		48	43			R59	9.1
-SV2525L-150													R68.5	
-SV3232R-150													R68.5	
-SV3232L-150	25	100	195	145	40	68.5	32	47			32	M14	R68.5	9.3

- Standard Accessories •Coolant duct→P.84
- Note •The coolant nozzle direction is adjustable.

SA type for external / face turning



T63-SA2525-105



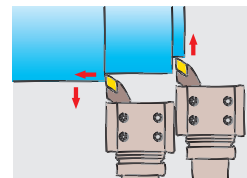
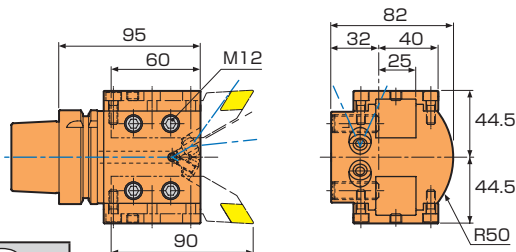
CODE	L	L ₁	(LA)	(LB)	A ₁	A ₂	B ₁	B ₂	R	Kg
T 63-SA2525-105	105	70	135	100	32	54	38	38	54	3.7
T100-SA2525-150	150		185	105	37	59	48	48	59	9.3

- Standard Accessories •Coolant duct→P.84 •Detent plug for a nozzle=Set screw(M5-12L) (Ex.) When using only right-hand, plug the nozzle on the left-hand side.)
- Note •The coolant nozzle direction is adjustable.

SB type for external / face turning



T63-SB2525-95



CODE	Kg
T63-SB2525-95	3.2

- Standard Accessories •Coolant duct→P.84 •Detent plug for a nozzle=Set screw(M5-12L) (Ex.) When using only right-hand, plug the nozzle on the left-hand side.)
- Note •The coolant nozzle direction is adjustable.

Change of product code

We have changed the item code from ICTM-HSK to HSK-T due to ISO standardization.

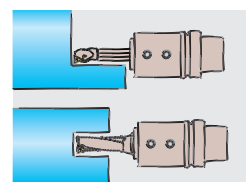
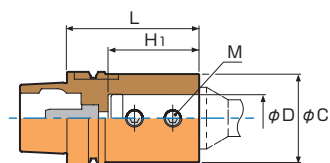
A40W → T40 A 50W → T 50
A63W → T63 A100W → T100

SET SCREW HOLDER FOR ROUND SHANK

CC type for through spindle center



T63-CC32-90



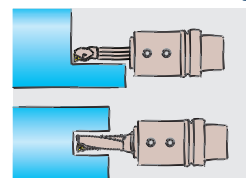
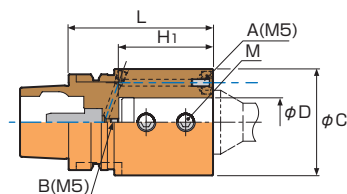
CODE	L	φD	φC	H ₁	M	Kg
T 40-CC32-90	90	32	58	62	M12	1.2
T 50-CC32-85	85		62			1.4
T 63-CC32-90	90					1.6
-CC40-100	100	40	68	72		2.0
T100-CC40-105	105		82			4.5
-CC50-115	115	50	92	82	M14	5.3

- Option
 - Sleeve for set screw holder(SS)
- Standard Accessories
 - Coolant duct→P.84
 - Detent plug for a nozzle=Set screw (M5-12L) (Ex.) When using only right-hand, plug the nozzle on the left-hand side.)
- Note
 - Available for both boring bar and indexable drill.

CN type for nozzle-coolant



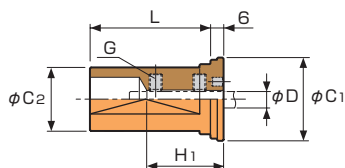
T63-CN32-95



CODE	L	φD	φC	H ₁	M	Kg
T 40-CN32-95	95	32	70	62	M12	2.0
T 50-CN32-100	100					2.1
T 63-CN32-95	95					2.2
-CN40-105	105	40	78	71		2.7
T100-CN40-115	115		82	72		4.9
-CN50-125	125	50	92	82	M14	5.8

- Option
 - Sleeve for set screw holder(SS)
- Standard Accessories
 - Coolant duct→P.84
 - Detent plug for a nozzle=Set screw (M5-12L) (Ex.) When using only right-hand, plug the nozzle on the left-hand side.)
- Note
 - The coolant nozzle direction is adjustable.
 - Nozzle-coolant type is available for through-spindle coolant
 - Available for both boring bar and indexable drill.

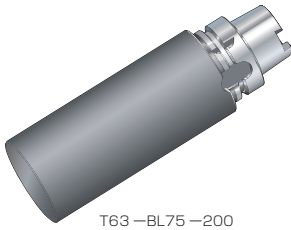
Sleeve for set screw holder(SS)



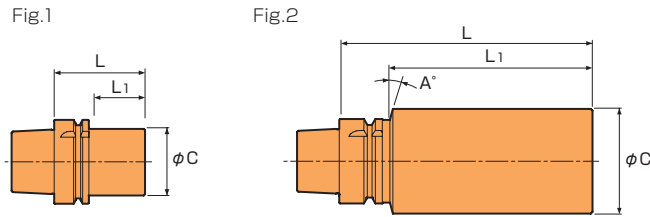
CODE	L	D	C ₁	C ₂	H ₁	G		
SS32-8	55	8	38	32	35	M 6		
-10		10			40	M 8		
-12		12			45			
-16		16			50			
-20		20						
-25		25					58	*
SS40-8	60	8	46	40	35	M 6		
-10		10			40	M 8		
-12		12			45			
-16		16			50			
-20		20					M10	
-25		25					58	
-32		32					62	*

- Note
 - Items marked with * in the G section of the list means they are screw-tightening type.
 - Available for both boring bar and indexable drill.

BLANK TOOL (For additional machining) BL



T63-BL75-200



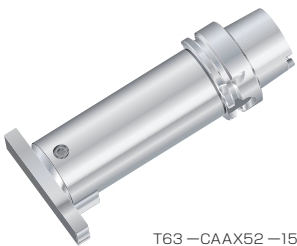
CODE	Fig.	L	L1	φC	A	Kg
T 40-BL 32- 35	1	35	15	32	-	0.3
-BL 48-120	2	120	97	48	15	1.6
-BL 95- 75		75	52	95		2.9
T 50-BL 40- 42	1	42	16	40	-	0.6
-BL 62-150	2	150	120	62	15	3.3
-BL105- 90		90	60	105		4.3
T 63-BL 52- 45	1	45	19	52	-	1.0
-BL 75-200	2	200	168	75	15	6.6
-BL115- 90		90	58	115		5.5
T100-BL 87- 45	1	45	16	87	-	2.8
-BL100-200		200	166	100		12.6
-BL118-120	2	120	86	118	15	9.7

■ Standard Accessories ●Coolant duct→P.84

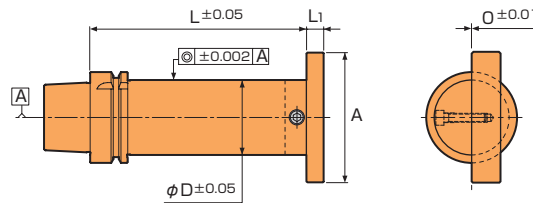
■ Note ●Material: SNCM439, heat treatment hardness
●Hardening depth indicates depth to the center.

■ Caution ●If heat treatment is applied again to a holder produced from a blank tool, the original taper area may be deformed. Therefore, please do not apply heat treatment.

CHECKING ARBOR



T63-CAAX52-150



CODE	L	L1	φD	A	Kg
T 40-CAAX32- 150	150	10	32	60	1.1
T 50-CAAX40- 150			40	70	1.7
T 63-CAAX52- 150			52	90	2.9
T100-CAAX60-250	250	12	60	110	7.2

■ Standard Accessories ●Coolant duct→P.84

■ Usage
1. Measure the concentricity of the spindle using cylinder area.
2. When using a flat surface, adjustment of the insert position can be verified.
3. Confirm and adjust the absolute dimension in the X direction.
4. Measure the bending of the spindle using flange surface area.
5. Can be used with tool presetter.

■ Note ●ATC repeatability can be observed.
●Flatness of square test bar for the datum A is within ±0.01mm.

Change of product code

We have changed the item code from ICTM-HSK to HSK-T due to ISO standardization.

A40W → T40 A 50W → T 50
A63W → T63 A100W → T100

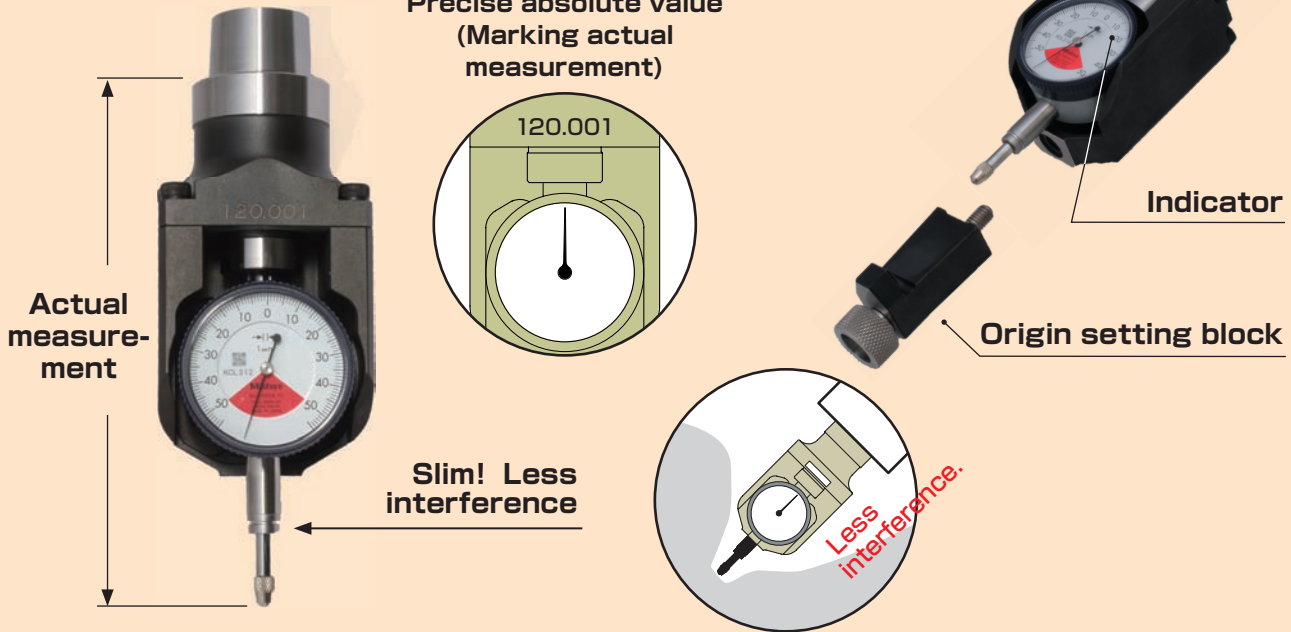
Goo CHECKER

Set up the original point on the Z axis / measuring tool for reference position

ZPM type

NEW

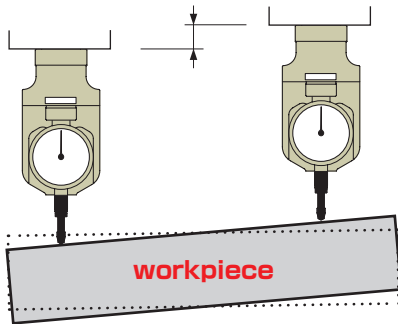
Easy Z-axis origin setting for a machining center



Available for using 5-axis machine.

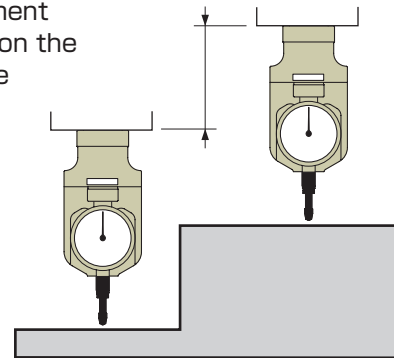
Flatness check

Precise measurement for flatness

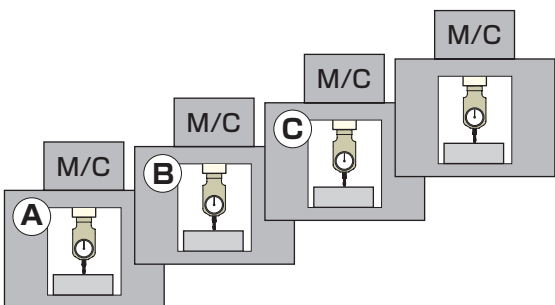


Step measurement

Measurement for steps on the work-piece



Sharable Z-axis origin for several machining centers



- ❶ Install Goo Checker, ZPM into the machine spindle. (M/C ❶)
- ❷ Measuring work-piece surface.
- ❸ Record Z-axis coordinate value when the indicator becomes "0" .
- ❹ Record Z-axis coordinate value for several machine, M/C ❷ , M/C ❸ .

Sharable Z-axis coordinate value with using actual measurement by ZPM for all machining centers.

ZPM type



Fig. 1

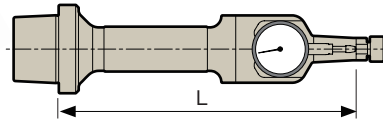
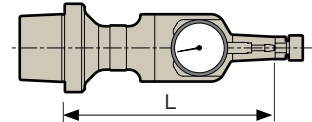
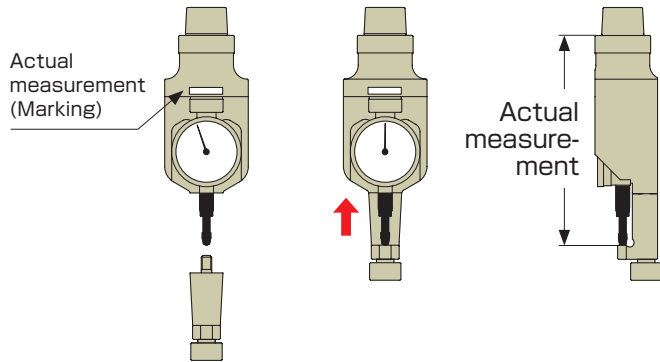


Fig. 2

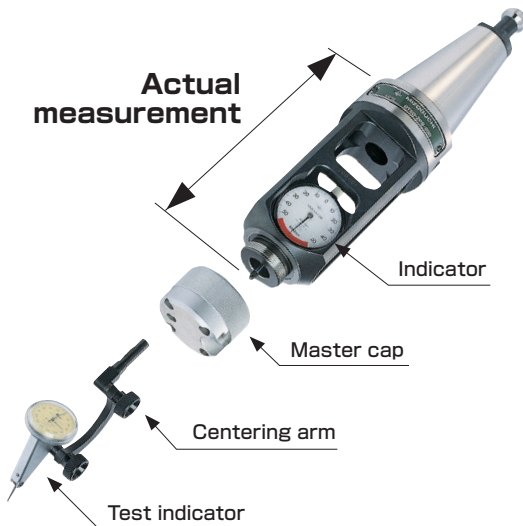


CODE	Fig.	L
BT30 -ZPM-120	1	120
-165	2	165
BT40 -ZPM-150	1	150
210	2	210
BT50 -ZPM-180	1	180
-240	2	240
A63 -ZPM-150	1	150
-210	2	210
A100 -ZPM-180	1	180
-240	2	240
E32 -ZPM-120	1	120
-165	2	165
E40 -ZPM-120	1	120
-180	2	180
E50 -ZPM-150	1	150
-195	2	195
F63 -ZPM-150	1	150
-210	2	210
F80PD-ZPM-180	1	180
-240	2	240
DN40 -ZPM-150	1	150
DN50 -ZPM-180	2	180
CT40 -ZPM-150	1	150
CT50 -ZPM-240	2	240

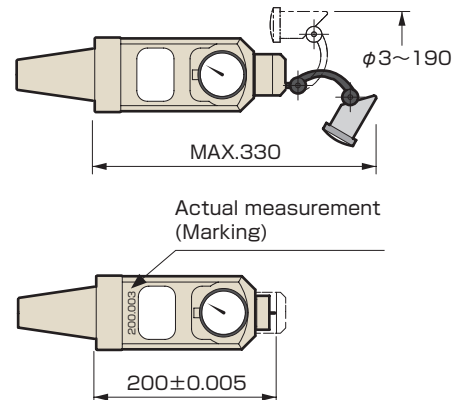
Easy confirmation of actual value (self-check function)



ZPB type



Usage example for test indicator



CODE	kg
BT40-ZPB-200	3.3
BT50-ZPB-200	5.2

- Standard Accessories
- Indicator
- Master cap
- Test indicator (with arm)
- Wooden box

TOOL CAP TCA TYPE

Cutting tool cover

The TCA-type cutting tool cover is used by attaching it to the tip of a tool holder.

User-friendly



If you don't use tool caps ...

The tool is visible

Will not slip off

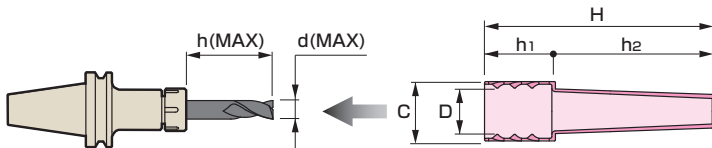


End of collet $\phi 20 \sim 50$

Neo support



Specification



CODE	ϕD	ϕC	ϕd	H	h	h ₁	h ₂
TCA2022	20 ~ 22	29	8	100	70	30	70
TCA2830	28 ~ 30	34	14	130	90	40	90
TCA3436	34 ~ 36	41		135		45	
TCA4043	40 ~ 43	47	20	152	105	47	105
TCA4650	46 ~ 50	54		167	120		120

Code system

TCA (Type)	2030 (Min.~MAX.)	50 (pc)
Tool cap TCA type	D dimension $\phi 20 \sim \phi 30$	Content of 1 package 50 pcs.

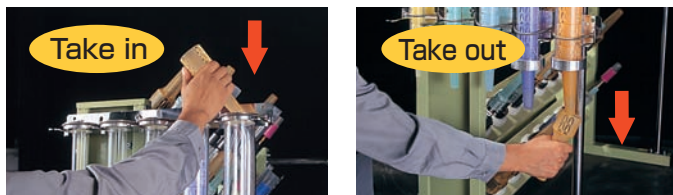
Price list

CODE	Q' ty	List price
TCA $\phi\phi\phi\phi$ - 10	10 pcs.	¥ 3,000
- 50	50 pcs.	¥10,000
- 100	100 pcs.	¥15,000
- 300	300 pcs.	¥40,000
- 500	500 pcs.	¥60,000

Cap dispenser

Tool caps can be easily removed from the dispenser.

- Dispenser exclusively for storing TCA-type tool caps.
- Made of transparent acrylic resin, allowing you to confirm which caps are still in the dispenser.
- Five models available for different sizes.
- A metal-plated dedicated bracket is available, allowing you to hang up to five cap dispensers on the wall at one time.



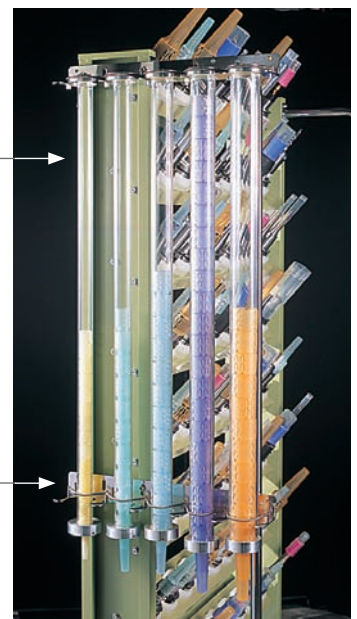
Cap dispenser

CODE	Type	Q' ty	List price
CAP2022	TCA2022	31 pcs.	¥6,000
CAP2830	TCA2830	20 pcs.	
CAP3436	TCA3436	22 pcs.	
CAP4043	TCA4043		
CAP4650	TCA4650		

Cap dispenser

Cap dispenser
5 kinds

Dedicated
bracket



Dedicated bracket

CODE	List price	Note
SRV - 01	¥10,000	Five cap servers can be attached. Attach the bracket to a wall using bolts.

TOOL CAP TCB TYPE

Cutting tool cover

PERIPHERAL

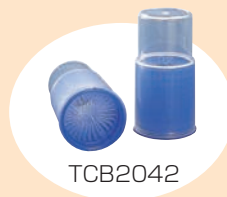
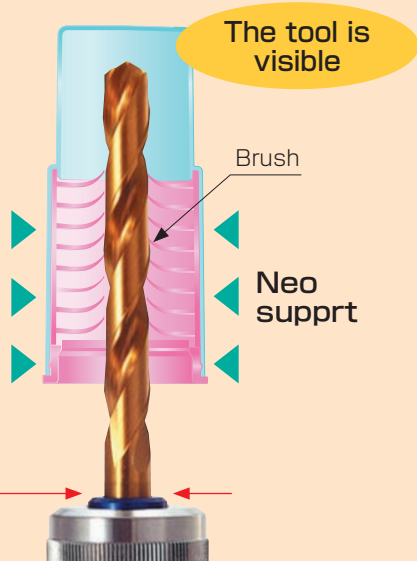
This cutting tool cover is attached to the cutting tool.

- ▶ The TCB-type cutting tool cover can be used with every type of cutting tool, as well as tool holders. Its two cap types allows for a wide range of usable diameters from 8 to 42 mm.
- ▶ Brush-shaped supporters assure versatility!
- ▶ Sizes can be identified by corresponding

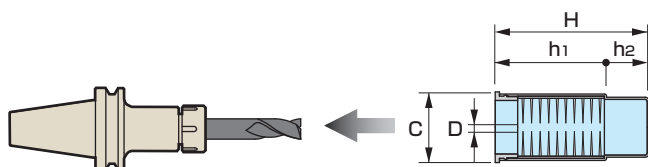
Handles a broad range of sizes.

TCB 0820 ϕ 8~20

TCB 2042 ϕ 20~42



Specification



Code system

TCB (Type)	2042 (Min.~MAX.)	300 (pc)
Tool cap TCB type	D dimension ϕ 20~ ϕ 42	Content of 1 package 300 pcs.

Price list

CODE	ϕ D	ϕ C	H	h ₁	h ₂
TCB0820	8 ~ 20	33	82	52	30
TCB2042	20 ~ 42	54	102	62	40

CODE	Q' ty	List price
TCB0000 - 10	10 pcs.	¥ 4,000
- 50	50 pcs.	¥13,000
-100	100 pcs.	¥20,000
-300	300 pcs.	¥53,000
-500	500 pcs.	¥80,000

■ **Caution** •The bristles of the brush may become deformed during use. If such deformation occurs, remove the brush and immerse it in hot water (60° C to 80° C). This should restore the deformed bristles to their original state.

Easy assembly

TCB0820



TCB2042



TOOL CAP TCC TYPE

Cutting tool cover

The TCC-type cutting tool cover is attached by deforming its cap.



The cover can be cut to the required overall length.

Potential applications are limitless!



The tool is visible

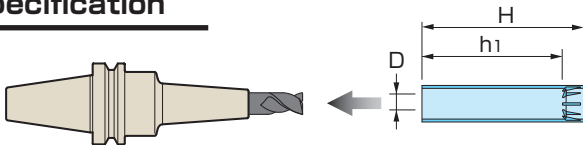
Smart fit



Code system

TCC (Type)	2228 (Min.~MAX.)	100 (pc)
Tool cap TCC type	D dimension $\phi 22 \sim \phi 28$	Content of 1 package 100 pcs.

Specification



CODE	ϕD	h ₁	H
TCC0607	5.4 ~ 6.7	35	40
TCC0709	6.8 ~ 8.9		
TCC0911	8.9 ~ 10.9	65	70
TCC1113	10.9 ~ 13.4		
TCC1418	13.8 ~ 17.8	100	110
TCC1822	17.8 ~ 22.4		
TCC2228	22.3 ~ 28	135	150
TCC2836	28 ~ 36		
TCC3646	36.2 ~ 47	165	190
TCC4760	46 ~ 60		

■ Note • The cover can be cut to the required overall length.

Variety set

CODE	Q' ty	List price
TCC-F	2 pieces per cutting tool cover size for TCC0607 to 4760 (Total of 20 pieces / set)	¥2,700

Price list

CODE	Q' ty	List price
TCC0607 - 50	50 pcs.	¥ 1,600
- 100	100 pcs.	¥ 2,400
- 500	500 pcs.	¥ 9,500
TCC0709 - 50	50 pcs.	¥ 2,100
- 100	100 pcs.	¥ 3,200
- 500	500 pcs.	¥ 12,500
TCC0911 - 50	50 pcs.	¥ 2,650
- 100	100 pcs.	¥ 4,000
- 500	500 pcs.	¥ 16,000
TCC1113 - 50	50 pcs.	¥ 3,150
- 100	100 pcs.	¥ 4,800
- 500	500 pcs.	¥ 19,000
TCC1418 - 25	25 pcs.	¥ 2,400
- 50	50 pcs.	¥ 3,200
- 250	250 pcs.	¥ 10,750
TCC1822 - 25	25 pcs.	¥ 3,000
- 50	50 pcs.	¥ 4,000
- 250	250 pcs.	¥ 13,500
TCC2228 - 25	25 pcs.	¥ 3,750
- 50	50 pcs.	¥ 5,000
- 250	250 pcs.	¥ 19,000
TCC2836 - 10	10 pcs.	¥ 2,000
- 20	20 pcs.	¥ 2,700
- 50	50 pcs.	¥ 5,100
- 200	200 pcs.	¥ 18,000
TCC3646 - 10	10 pcs.	¥ 2,600
- 20	20 pcs.	¥ 3,400
- 50	50 pcs.	¥ 6,500
- 200	200 pcs.	¥ 22,800
TCC4760 - 10	10 pcs.	¥ 3,300
- 20	20 pcs.	¥ 4,400
- 50	50 pcs.	¥ 8,400
- 200	200 pcs.	¥ 29,600

Usage

- Hold the mouth of the tool cap vertically, and then press it so that its oval shape becomes round.
- Once the mouth of the tool cap becomes round, push it into the cutting tool or tool holder.

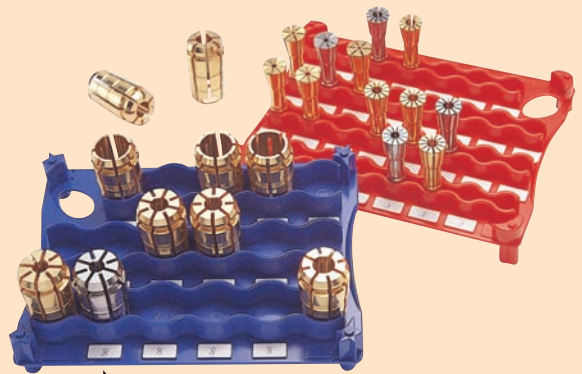


PALETTE

Collet stand

This pallet neatly houses collets.

- ▶ Uniquely designed by an industrial designer.
- ▶ Protects the collets from damage to maintain their accuracy.
- ▶ Affixing labels allows easy storage by size.
- ▶ Has standard outer dimensions ensuring applicability to various types of drawers and shelves.
- ▶ Applicable regardless of manufacturer.



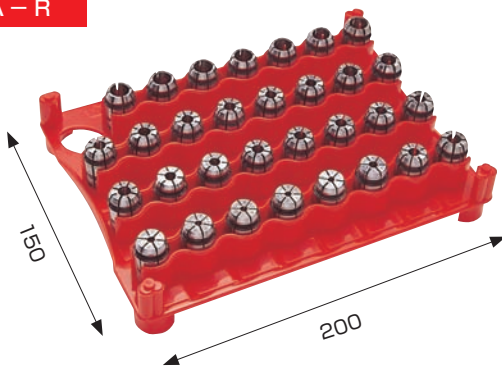
Neatly arranged by size

A stand for the SLIMLINE 2-piece type collets is also available.

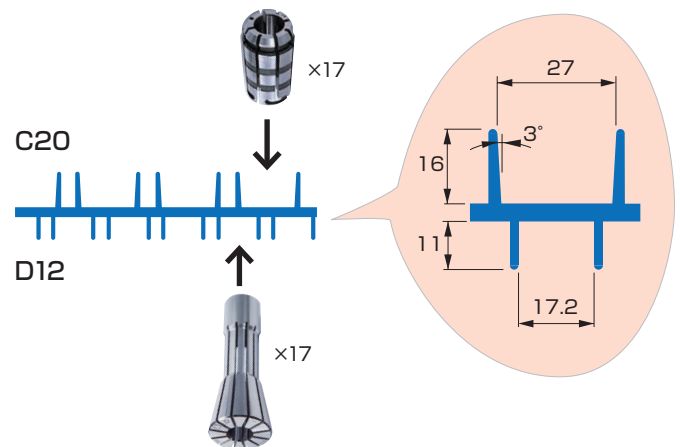
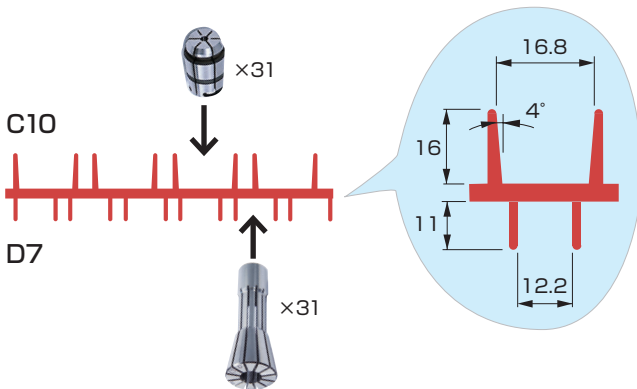
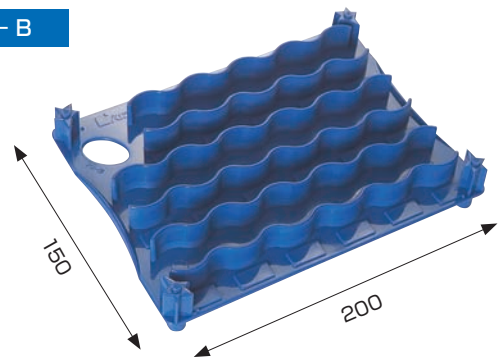


Specification • dimension

PA-R



PA-B



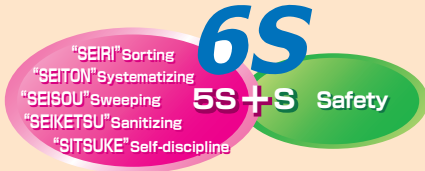
CODE	Q' ty	List price
PA-R-1	1 pcs.	¥ 1,800
-5	5 pcs.	¥ 6,000
-10	10 pcs.	¥ 9,000

CODE	Q' ty	List price
PA-B-1	1 pcs.	¥ 1,800
-5	5 pcs.	¥ 6,000
-10	10 pcs.	¥ 9,000

6S DESK

Work table

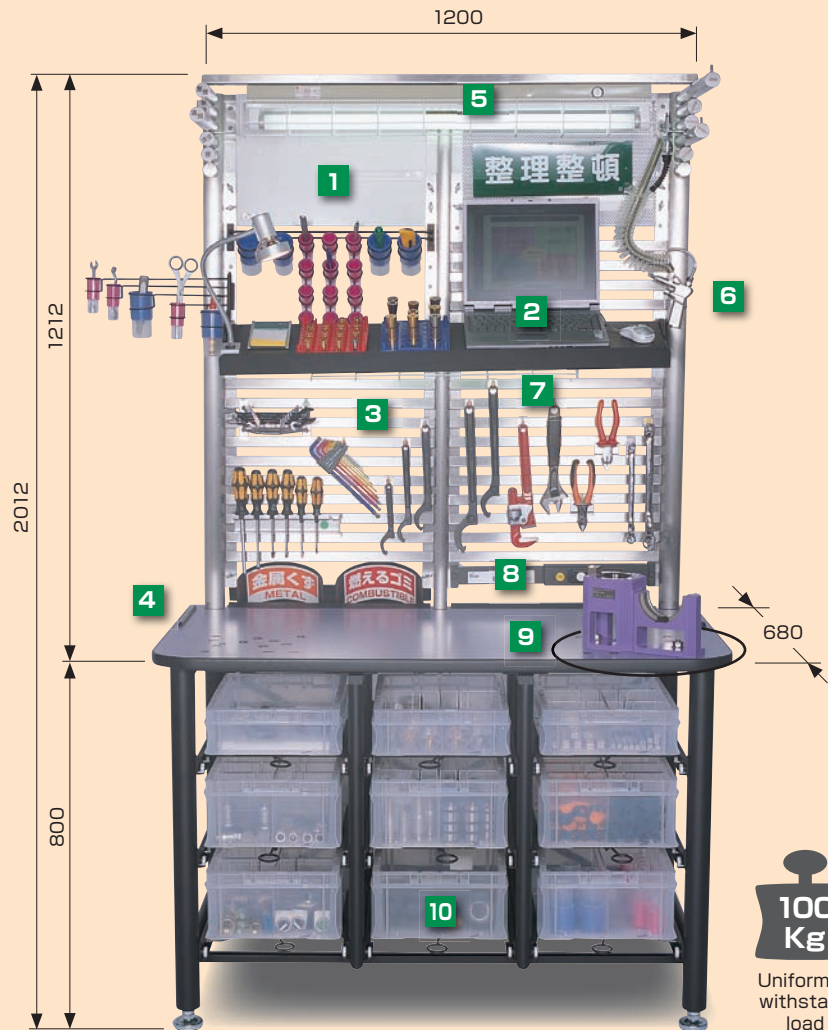
- ▶ Helps in the rapid implementation of the five S's in your factory.
- ▶ Easy-to-assemble, simple, compact, prefabricated type.
- ▶ Ensures safe tool settings.



CODE
6SD-01



Tools and vices can be freely clamped/mounted



100 Kg
Uniformity withstand load 100Kg

OPTION

Side table

CODE
6SD-STB

Uniformity withstand load : 40kg

- Standard Accessories
 - Container box(CN-103) × 1pc.
 - Container box(CN-150) × 2pcs.
 - Lid for Container Box × 3pcs.



Dust Shooter

CODE
6SD-DST

Easy trash separation (comes with two kinds of sign seals)
Trash can not provided.



Air gun set

CODE
6SD-AIR

Attachable on either right or left side



Spotlight

CODE
6SD-SPT

※ 100V - 40W



Tool insert stand

CODE	Attachment q'ty
6SD-IS16	16 pcs.
-IS05	5 pcs.

The most frequently used tools can be stored without using a hook, and tools can be removed from the stand easily. Comes in a movable model (5 pockets) and a fixed model (16 pockets).



1 **White board and Punched board**
Useful as a bulletin board or message board, and for attaching drawings. (freely moveable)

2 **Shelf**
Two-position angle adjustment and arbitrary attaching location.

3 **Hook base panel**
Arbitrary attachment and recombination, and the back side can also be used.

4 **Safety stopper**
Prevents dropping of cutters and tools.

5 **Upper lighting**

6 **Air gun**
Attachable on either right or left side

7 **Lower lighting**
Safety light cover.

8 **Lighting switch and socket**
Electric power tools and notebook PC can use this power source. Max. 1,500W voltage, including lighting (32W and 20W).

9 **Tabletop**
The tool setup stand (sold separately) can be installed anywhere using the tabletop holes. No need to put your own holes in the tabletop.

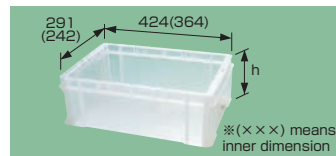
10 **Storage Cabinet**
The see-through box allows easy organizing.

CONSUMABLES / REPLACEMENT PARTS

■ Standard Accessories

Description	CODE	Q'ty
Hook base panel	6SD-FBP	12 pcs.
Short hook	-FS	3 pcs.
Long hook	-FL	2 pcs.
U-type short hook	-UFS	3 pcs.
U-type long hook	-UFL	1 pc.
Hook for spanner	-FSP	1 pc.
Hook for driver	-FDR	1 pc.
Container box	CN-103	3 pcs.
	-150	6 pcs.
Air gun set	6SD-AIR	1 set
Shelf board		1 pc.
Lighting set (Upper lighting/Lower lighting) ※Select 50Hz or 60Hz		1 ea.
Power code set (Socket/Lighting/switch/Power code)		1 set
White board Marker pen for whiteboard Whiteboard eraser Magnet pocket Punched board Name seal set		1 set
Magnets (3 pcs) Memo book Name seal set		1 set

Container box



CODE	h	Capacity
CN-103-3	103 (88)	8 ℓ
-150-3	150 (135)	12 ℓ

•3pcs./1set

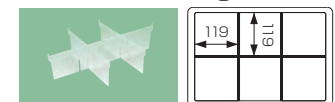
Lid for container box



CODE
CN-FT-3

•3 pcs / set

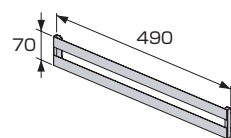
Dividers for storage cabinet



CODE	Required box
CN-S 84	CN-103
-S135	-150

•9 pcs (Container box 3 pcs / set)
•6 pcs

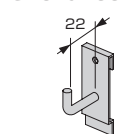
Hook base panel



CODE
6SD-FBP

•2 pcs / set

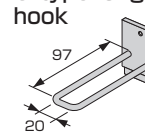
Short hook



CODE
6SD-FS

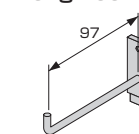
•5 pcs / set

U-type long hook



CODE
6SD-UFL

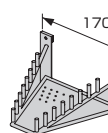
Long hook



CODE
6SD-FL

•5 pcs / set

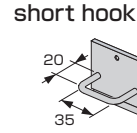
Hook for



CODE
6SD-FSP

•1 pc.

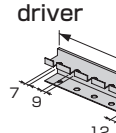
U-type short hook



CODE
6SD-UFS

•5 pcs / set

Hook for driver



CODE
6SD-FDR

•1 pc.

CLEAN BOX

Tool washing machine

Wash cutting tools thoroughly to maintain their high precision.

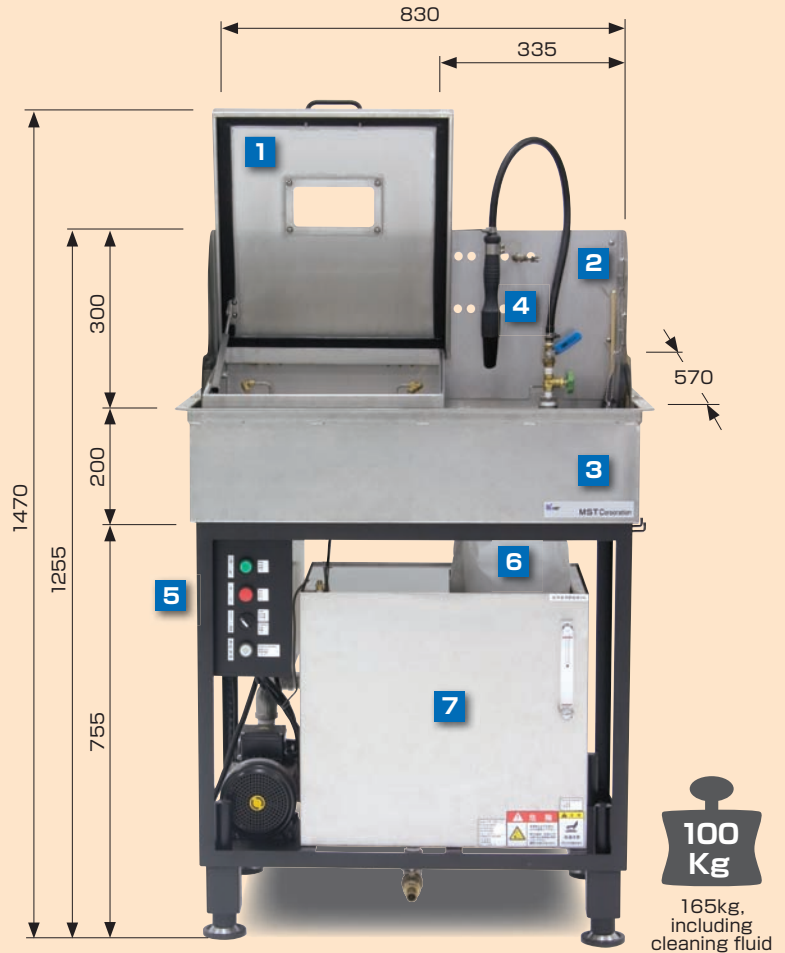
- ▶ Tools including cutters and jigs are washable with no need to breaking them down.
- ▶ Compact type with built-in sink.
- ▶ No plumbing required.
- ▶ Safe cleaning system using water.
- ▶ Comes with a washing water heater for ensuring comfortable working conditions even in winter.

Light dirt is automatically washed away by the built-in washing shower.

Hand-wash tough dirt using the hand nozzle.



CODE
CBX-01



■ Specification

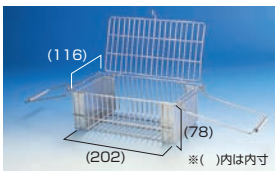
Material	SU304 (Sink, Tank, Cleaning unit) SS400 (Base frame)
T a n k	approx. 65L (Level gauge with thermometer is standard accessory.)
P u m p	0.3~0.51 kw (50/60Hz) (Produced by Grundfos)
Heater	3kw(with temperature control)
Weight	approx. 100kg (165kg, including cleaning fluid)
Voltage	3-phase 200V (Rated 15A)

REPLACEMENT PARTS

Washing basket

CODE
CBX-WBSK

Collet and small parts can be washed.



Hand nozzle

CODE
CBX-HNZ



Washing table

CODE
CBX-WTBL

Used in a sink as an auxiliary table when washing by hand.



Drain trap

CODE
CBX-TRP




Rubber drain plug

CODE
CBX-GSRP



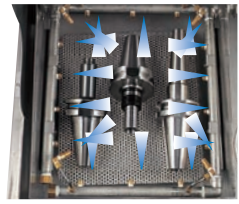
1 Top cover
The upper cover of the washing unit can be opened and closed with one hand. Comes with an automatic stop function for the washing shower.




Cover can be opened during washing

3 Sink

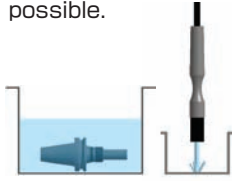
Automatic washing space
Shoots cleaning fluid from 18 location nozzles.



Compact built-in sink



Hand washing space
Heavy dirt can be washed off using the hand nozzle. Presoaking is also possible.




2 Outer sink cover
Prevents splashing of the washing cleaner.

4 Hand nozzle
Heavy dirt can be washed off by hand. The hand washing nozzle provides easy operation with free positioning and removal.



Attach Remove

5 Timer
Operation can be stopped automatically using the clock timer. (The time can be set arbitrarily, up to 12 min.)





Warm water

6 Filter
Can be changed easily when it becomes dirty.



Main filter Sub-filter

7 Tank
65 liter tank Comes with built-in heater (3kW) standard. The use of heated cleaning fluid (40° C) increases the cleaning power and makes cleaning easy even in the winter.



Tank can be removed for washing. Built-in heater

Warm water

■ Standard accessories

Description	CODE	Q'ty
Hand nozzle	CBX-HNZ	1pc.
Main filter	-MFIL	2pcs.
Sub-filter	-SFIL	2pcs.
Drain trap	-TRP	1pc.
Rubber drain plug	-GSTP	1pc.
Washing basket	-WBSK	1pc.
Washing table	-WTBL	1pc.
Sink outer cover		1set
Hook		2pcs.
Bamboo brush		1pc.
Primary power code (plug attached)		15m

REPLACEMENT PARTS

Main filter

CODE
CBX-MFIL

●5pcs./1set



Sub-filter

CODE
CBX-SFIL

●3pcs./1set



OPTION

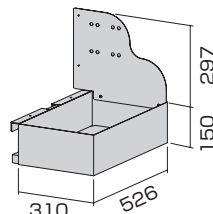
Draining basket

CODE
CBX-SBX

Used for draining, air blowing, rust-proofing, etc.
Can be attached to either the right or left side of the unit.



MAX:40kg



Cleaning fluid

CODE
CBX-EKI

Be sure to use water-soluble cleaning fluid.

- Capacity 18 ℓ
- Product name: "Clean Super 285" weak



TOOL SET UP STAND

Tool tightening stand

The setup time can be shortened. Not only can you mount cutting tools simply and quickly without using other tools, but also clamping collets and pull stud bolts!

Clean, safe and efficient

プチボール
Petit Ball 40

BT40 , DIN40 , CAT.40



The cutting tool can be placed either horizontally or vertically

マイキューブ
MyCube 50

BT50

マイキューブ
MyCube 100

HSK-A100



NEW CONCEPT DESIGN

THE CUTTING TOOL CAN BE PLACED EITHER HORIZONTALLY OR VERTICALLY

This twin-direction type stand allows the tool to be placed either horizontally or vertically, whichever is easiest for you.

ENSURING PRECISION

The tapered type of the cutting tool is critical for maintaining high precision. To protect that portion from being damaged, special resin is applied to the contact area of the tapered portion.

HIGHLY FLEXIBLE USE

A variety of optional parts is available, making this product applicable to all the types of shanks based on My-Cube (for BT50) and Petit-Ball (for BT40, DIN40 and CAT.40).

INSCRIPTION OF YOUR COMPANY NAME

Your company name will be inscribed on our original gold/silver-finished name plate.

YOUR COMPANY NAME IS INSCRIBED

A specially finished name plate is provided, on which your company name is inscribed.

Up to 12 characters (upper-case alphabetic characters, numeric characters, and/or hyphens).



Petit-Ball 40



My-Cube 50 and 100

MAY BE SET EITHER VERTICALLY OR HORIZONTALLY



Nut tightening



Clamping DETa-1 Collet



Retention knob tightening

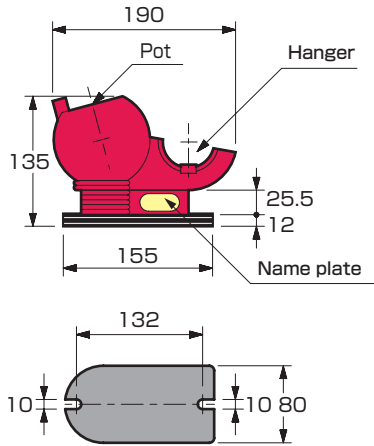


Clamping Slimline collet

PETIT BALL 40

CODE	Shank type
PETIT BALL40	BT40,CAT.40,DIN40

■ **Caution** •No mounting bolts are provided.
Use two M8 bolts for mounting.



Adapter for pot

CODE	Shank type
AP40-T30V	BT30

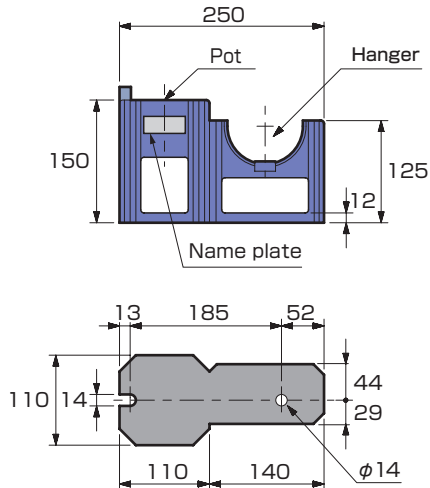
Adapter for hanger

CODE	Shank type
AP40-T30H	BT30
-S25H	ST25T-DTB7, 12
-S32H	ST32T-DTB7, 12
-S42H	ST42T-DTB7, 12

MY CUBE 50 / 100

CODE	Shank type
MY CUBE 50	BT50
MY CUBE 100	HSK-A100

■ **Caution** •No mounting bolts are provided.
Use two M8 bolts for mounting.



Adapter for pot

CODE	Shank type
AP50-T30V	BT30
-T40V	BT40
-A63V	HSK-A63
-F63V	-F63



Adapter for hanger

CODE	Shank type
AP50-T30H	BT30
-T40H	BT40
-A63H	HSK-A63
-F63H	-F63
-S25H	ST25T-DTB7, 12
-S32H	ST32T-DTB7, 12
-S42H	ST42T-DTB7, 12

TOOL SET UP STAND HF SERIES

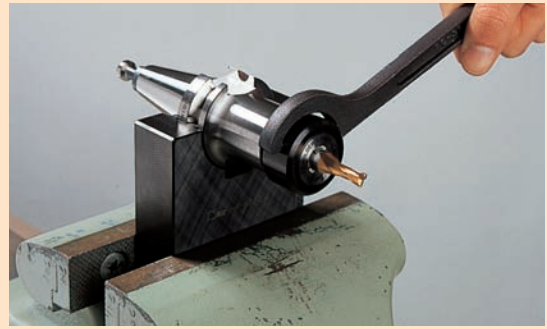
Tool tightening stand

PERIPHERAL

The setup time can be shortened.
This stand can be used by merely clamping it with a vice.

HF SERIES

BT30/BT40/BT50
HSK-A40/A50/A63/A100
E32/E40/E50/F63



HF SERIES

CODE	Fig.	Shank type	H	W	t
HF-BT30	1	BT30	100	80	30
-BT40		BT40	112	90	37
-BT50		BT50	-	-	-
-A40	1	HSK -A40	100	80	30
-A50		-A50	104	90	37
-A63		-A63	109		
-A100	2	-A100	-	-	-
-E32		-E32		74	
-E40	3	-E40		80	
-E50		-E50			
-F63		-F63		100	

Fig.1

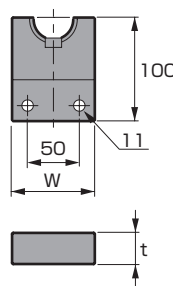


Fig.2

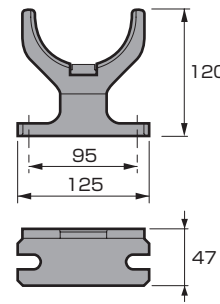
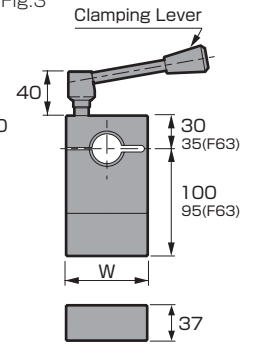


Fig.3



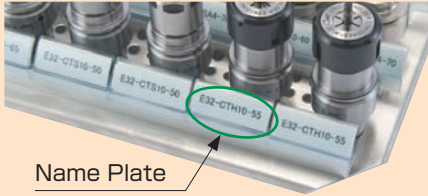
TOOL HOLDER STORING CABINET

Storage box for small-size, high-speed machining center tooling

PERIPHERAL

Compact Storage Box with Anti-Rust Treatment for tool holders.

Orderly storing with name plate!



Name Plate

Transparent



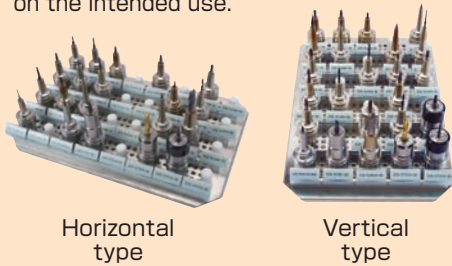
case!!

- Maximum number of holders that can be stored: 40 (standard: 32) (HSK-E25/32)
- The direction of the box can be freely changed to horizontal or vertical depending on the intended use.

Arrangeable!

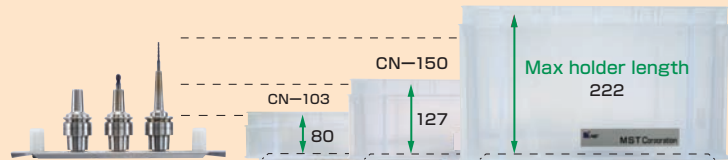
A multi-hole base plate is employed. Supports a variety of holder specifications using pins that can be freely changed and relocated.

HOLDERS WITH DIFFERENT LENGTHS CAN BE STORED USING THREE TYPES OF CONTAINER BOXES.



Horizontal type

Vertical type



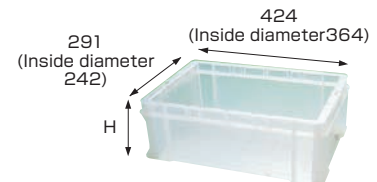
Standard Set

CODE	max. Q'ty	Container box	Pin	Number of pins supplied	Shank type
HBX-A40	24	CN-150	HBX-PNE40	18 pcs.	HSK-A40
-A50	15	-245	-PNE50	15 pcs.	-A50
-E25	40	-150	-PNE25	32 pcs.	-E25
-E32			-PNE32		-E32
-E40	24		-PNE40	18 pcs.	-E40
-E50	15	-245	-PNE50	15 pcs.	-E50
-F63	10				-F63
-15T	40	-150	-PN15T	16 pcs.	15T(BROTHER)
-20T			-PN20T		20T(SUGINO)

■ Contents of set ● Base plate ● Container box ● Pin

Container box

CODE	H		Shank type
	Outside diameter	Inside diameter	
CN-103-1	103	88	-
-150-1	150	135	E25, 32, 40 15T/20T
-245-1	245	230	A50, E50, F63



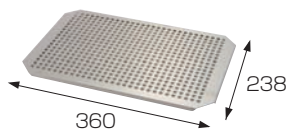
Lid for container box

CODE
CN-FT-1



Base plate

CODE
HBX-BP01



Name plate

CODE	Q'ty
HBX-NP01	40 pcs.

Useful for organizing tools. Attaches easily to the rail.

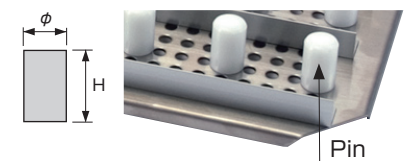


Freely cut to required overall length

Pin

CODE	Q'ty	Size
HBX-PNE25	10 pcs.	φ 13.5 × H20
-PNE32		φ 16.5 × H25
-PNE40	5 pcs.	φ 20.5 × H29
-PNE50		φ 25.5 × H36
-PN15T		φ 26.5 × H54
-PN20T		φ 30.5 × H62

■ Standard Accessories ● Mounting bolt (M6)



Eye nut

CODE	Q'ty
HBX-ENM6	2 pcs.

■ Standard Accessories ● Mounting bolt (M6)

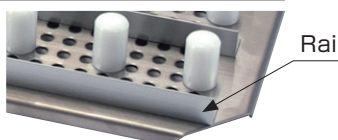


Rail (for name plate)

CODE	Q'ty	L	Note
HBX-R210	6 pcs.	210	Vertical type
-R330	4 pcs.	330	Horizontal type

■ Standard Accessories ● Mounting bolt (M5)

Required for attaching name plate.

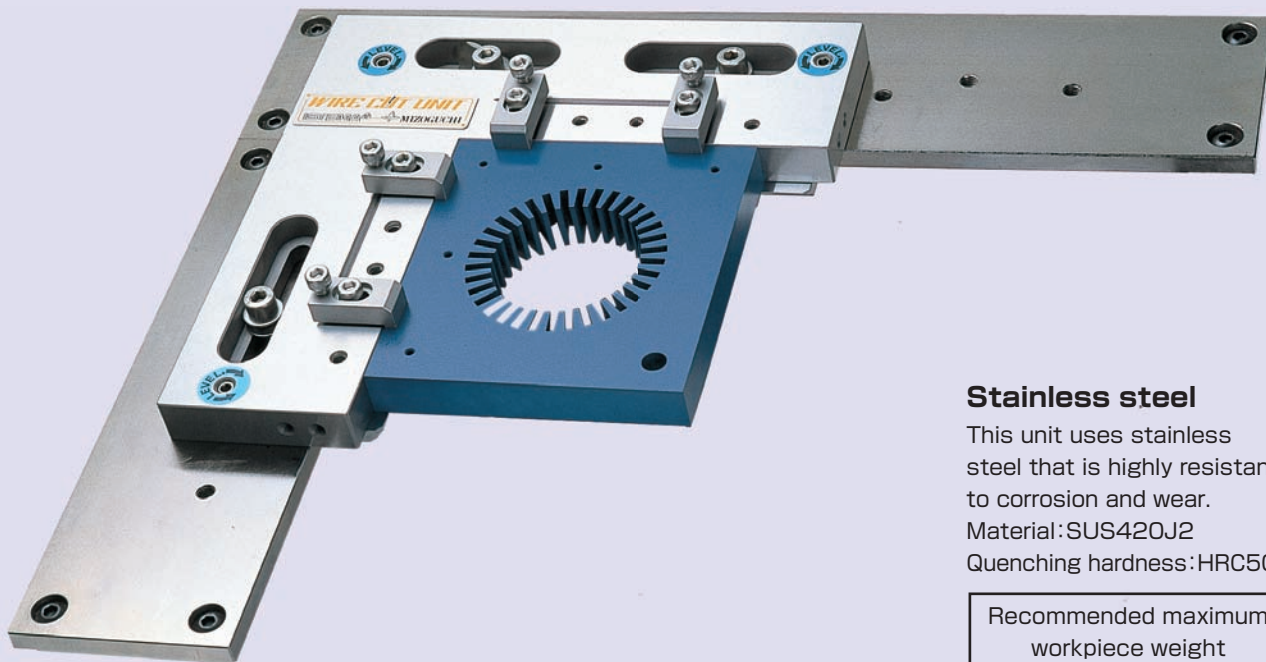


WIRE CUT UNIT

The independent fine-tuning capability allows you to level the upper surface of the workpiece.

You can attach a workpiece using either the clamp-on or side-clamp system.

A workpiece having a reference surface can be accurately (horizontally or in parallel) attached by merely affixing it to the basic plate or the extension plate.



Stainless steel

This unit uses stainless steel that is highly resistant to corrosion and wear.

Material: SUS420J2

Quenching hardness: HRC50°

Recommended maximum workpiece weight
15kg

Recommended maximum workpiece dimensions
160mm×160mm×t

Wire cut unit Aset



WCU-A

Wire cut unit Bset



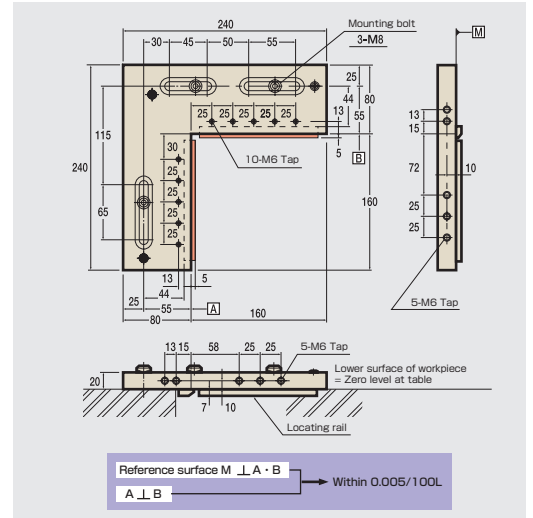
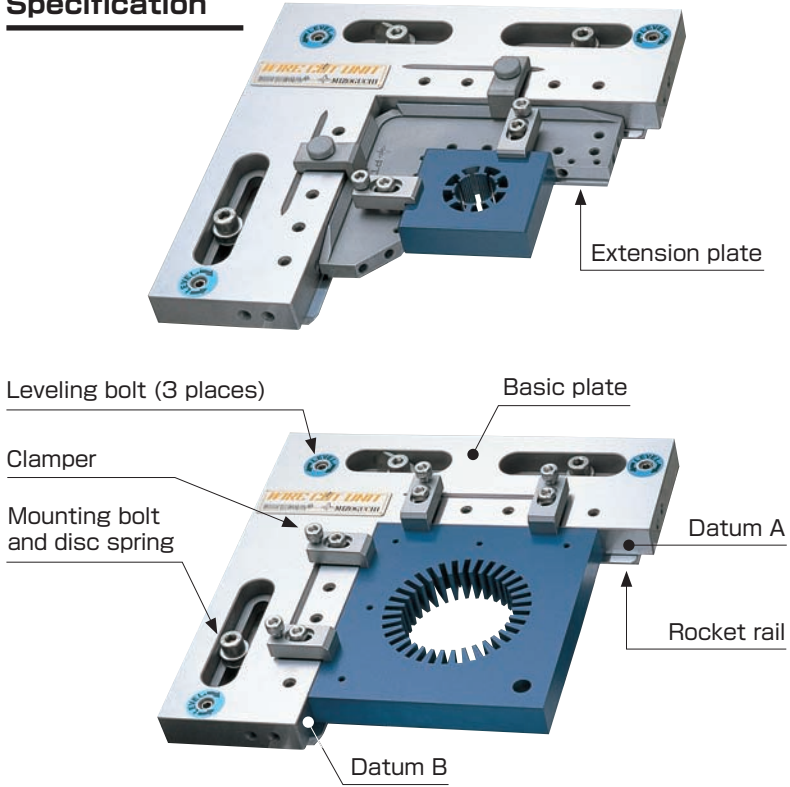
WCU-B

Contents of set

Description	Basic plate	Extension plate (Plate only)		Clamper			Grip
		PTE-001	PTE-002	CLP-101	CLP-102	CLP-201	
WCU-A	1 pc.	1 pc.	—	4 pcs.	4 pcs.	1 pc.	2 pcs.
-B			1 pc.	6 pcs.	6 pcs.	2 pcs.	
-C		2 pcs.	2 pcs.	10 pcs.	10 pcs.	3 pcs.	

Specification

Maximum dimensions of workpiece	160×160mm
Maximum weight of workpiece	15kg
Weight of main body	4.3kg
Material	SUS420J2



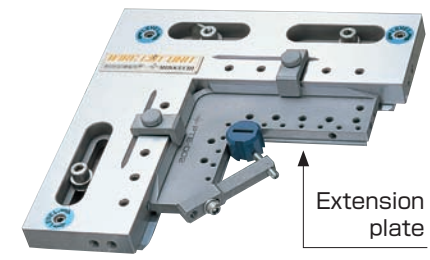
Examples of typical uses



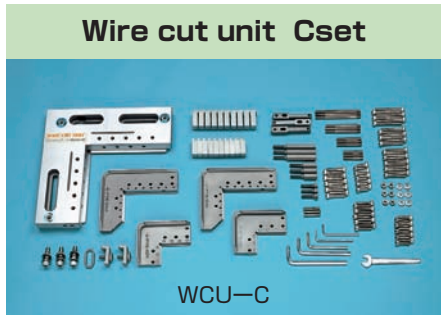
Large clamped workpiece



Rectangular, laterally clamped workpiece



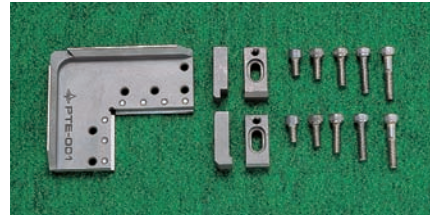
Small, round, laterally clamped workpiece (with extension plate)



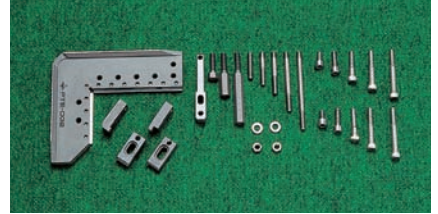
Additional Options

Extension plate

PTE - 001



PTE - 002



Adjusting bolt	Stud bolt	Cap bolt	Set screw	Nut and washer	Allen wrench
AJB-M6-L L=30,50,80	STB-M6-L L=40,50,70,90	M6×L	M6×30	M6	—
1 ea.	1 ea.	L=16,20,25,30,35 L=40,50	4 ea. 2 ea.	1 pc.	2 ea.
2 ea.	2 ea.	L=16,20,25,30,35 L=40,50	6 ea. 4 ea.	2 pcs.	4 ea.
3 ea.	3 ea.	L=16,20,25,30,35 L=40,50	10 ea. 6 ea.	3 pcs.	6 ea.

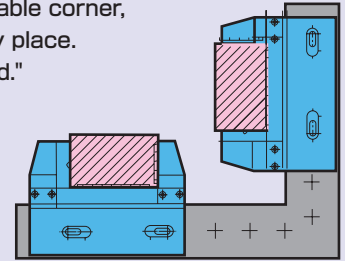
MIDDLE VISE

Independent fine-tuning capability

Workpiece is fine-tuned after clamping.
 Horizontal fine-tuning · · · Leveling bolt
 Parallel fine-tuning · · · · Swing bolt

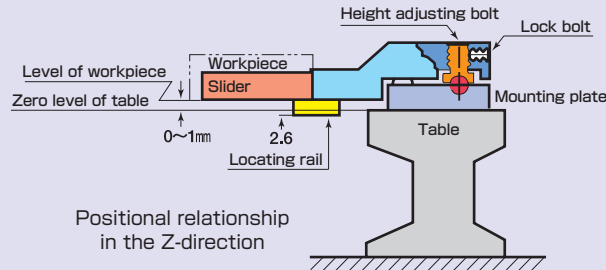
High flexibility in choosing installation place compact design

"This product does not use a table corner, allowing it to be installed in any place. Multiple pieces may be installed."



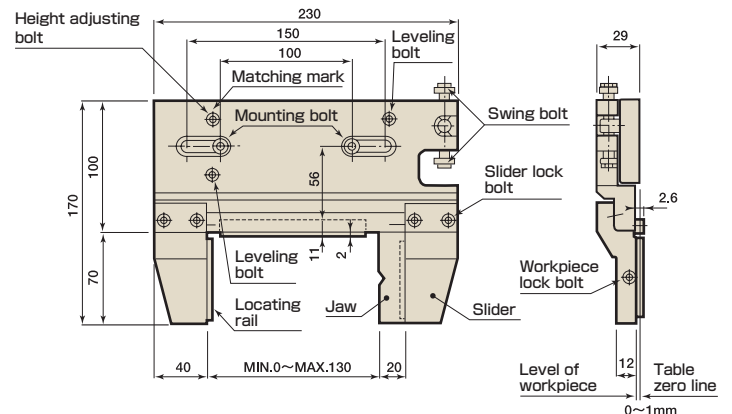
Height adjusting mechanism

The clearance between the zero level of the table and the level of the workpiece can be set to 0 or 1 mm.



CODE	Description
MDV-501	1. A complete set of main body (including 2 sliders and 1 jaw) 2. Allen wrench (1 each: 2.5, 4, and 6 mm) 3. 10 mm spanner (1) 4. M8 mounting bolts and washers (25 ea.)

Maximum dimensions of workpiece	130×100mm
Maximum weight of workpiece	3kg
Weight of main body	5kg
Material	SUS420J2



OPTION

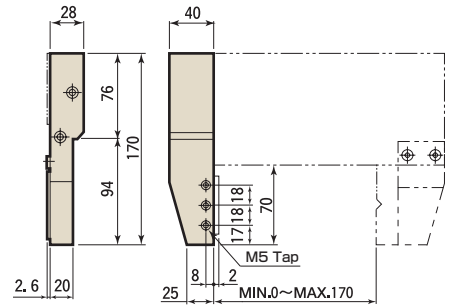
EXTENSION JAW JAE – 501

For large workpieces



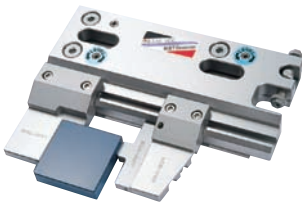
CODE
JAE-501

Max. dimensions of workpiece :
170 × 100



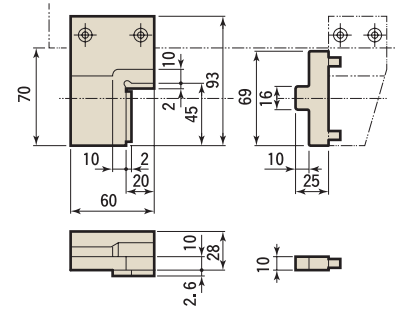
L-SLIDER SRL – 501

For small workpieces



CODE
SRL-501

Min. dimensions of workpieces:
15 × 15 × 6t
Max. dimensions of workpiece :
40 × 60 × 30t



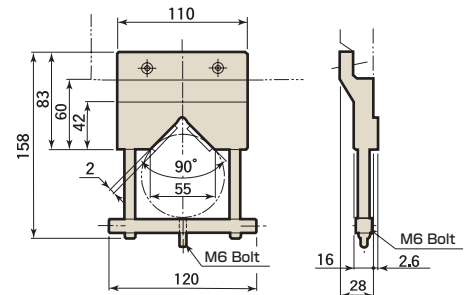
V-SLIDER SRV – 501

For round workpieces



CODE
SRV-501

Min. dimensions of workpieces:
φ 20 × 8t
Max. dimensions of workpiece :
φ 70 × 30t



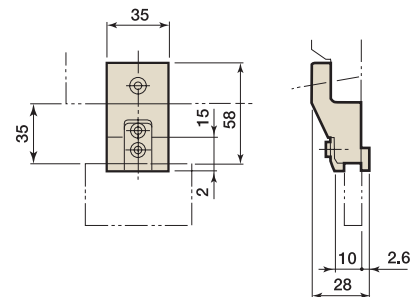
SANDWICH SLIDER SRS – 501

For small and thin workpieces



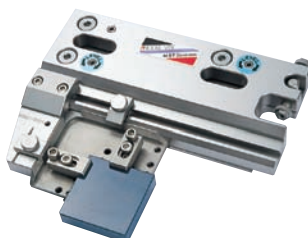
CODE
SRS-501

Max. dimensions of workpiece :
60 × 60
t=6 ~ 20



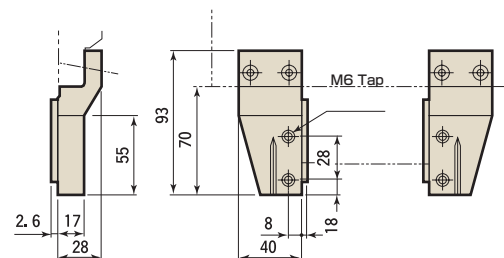
SANDWICH SLIDER SRC – 501

The workpiece can be attached to the jaw using the clamber. An extension plate can also be used.



CODE
SRC-501

Max. dimensions of workpiece :
130 × 130
t=18 ~ 35

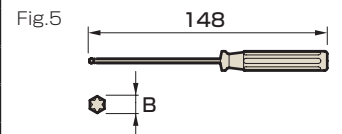
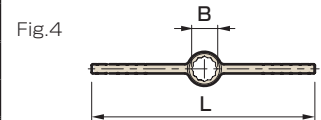
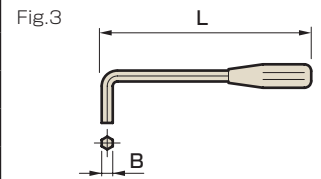
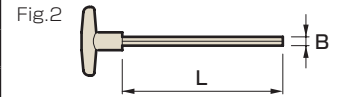
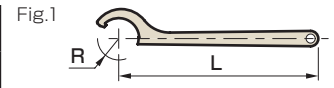


PARTS

Spanner · Wrench

Spanner · Wrench

CODE	Fig.	L	R	B	L ₁	Holder type
DW - 2.5-110	5	110	-	-	-	DTB 3
F - 22	1	110	22	-	-	DTA 3
- 38		148.5	19	-	-	DTA 7
- 45		225	22.5	-	-	DTA12
F - 88	1	251.5	44	-	-	TSH40
- 112		266	56	-	-	TSH50
FC - 32	1	120	16	-	-	CTH10(A40, E32, E40), HUA10, AHU10
- 36		208	18	-	-	CTA10, CTH10
- 50		281	25	-	-	CTA20, CTH20
- 55		284	27.5	-	-	CTH25(A40)
- 62		312	31	-	-	CTA25, CTH25
- 74		364	37	-	-	CTA32, CTH32
- 90			45	-	-	CTA40
FF - 50		1	165	22.5	-	-
- 60	195		26	-	-	FMA25.4(ST42B), FMA31.75
FM - 72	1	204	36	-	-	ART32(BT40, NT40, H50)
- 82		234	41	-	-	ART32(BT50, NT50, A100)
- 97		239	48.5	-	-	ART42
RC - 26	4	240	-	24	-	CTS10(E32)
TW - 4	2	100	-	4	-	DTB12(E32)
- 5		153	-	5	-	DTB 7
- 6		173	-	6	-	DTB12
W - 135	3	132.5	-	5	110	SLK12 (SLIMLINE)
- 135-DR						DTE 7, DTE12
- 206		200	-	6	30	SLZ25
- 308		300	-	8		SLZ32, SLZ42



Adjustable torque wrench

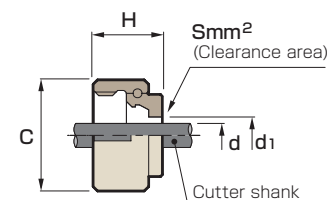
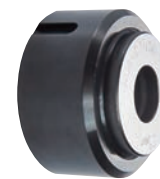


Spanner for torque wrench	Adjustable torque wrench	R	Holder type			
			Recommended tightening torque			
F - 38AW	AW-1	19	DTA 7	D 7-1.5 : 20N·m(2kgf·m)	D7-2.0~7.0 : 39N·m(4kgf·m)	-
- 45AW		22.5	DTA12	D12(All sizes) : 69N·m(7kgf·m)	-	-
FC-38AW	AW-1	18	CTA10 / CTH10	C10-2.5~5.0 : 39N·m(4kgf·m)	C10-5.2~5.8 : 49N·m(5kgf·m)	C10-6~10 : 59N·m(6kgf·m)
- 50AW	AW-2	15	CTA20 / CTH20	C20(All sizes) : 118N·m(12kgf·m)	-	-

Nut

Sukima nut (For collet holder)

CODE	ϕC	H	ϕd	ϕd_1	S	Holder type
NUB-CTH10- 3.6	36	23	3	3.6	3.1	CTH10
- 4.5			4	4.5	3.3	
- 5.5			5	5.5	4.1	
- 6.4			6	6.4	3.9	
- 8.4			8	8.4	5.2	
-10.3			10	10.3	4.8	
-CTH20- 6.4	50	30	6	6.4	3.9	CTH20
- 8.4			8	8.4	5.2	
-10.3			10	10.3	4.8	
-12.3			12	12.3	5.7	
-16.2			16	16.2	5.1	
-20.2			20	20.2	6.3	
-CTH25-20.2	62	34.5	20	20.2	6.3	CTH25
-25.2			25	25.2	7.9	
-CTH32-25.2	74	38	25	25.2	7.9	CTH32
-32.1			32	32.1	5.0	



Nut (For collet holder)

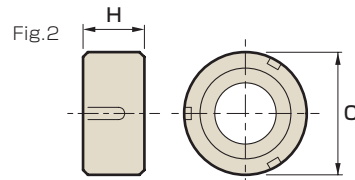
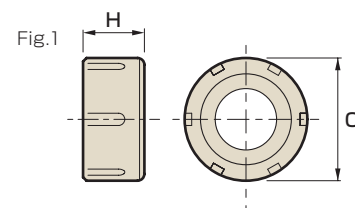
CODE	Fig.	ϕC	H	Holder type
NUA-CTA10	1	36	18	CTA10, AHB10
-CTA20		50	25	CTA20, AHA20, AHU20
-CTA25		95	28.5	CTA25, AHA25
-CTA32		74	32	CTA32
-CTA40		90	36	CTA40
NUA-CTH10	2	36	18	CTH10
-CTH20		50	25	CTH20
-CTH25		62	28.5	CTH25
-CTH25-55		55		CTH25(A40)
-CTH32		74	32	CTH32
-CTH10-32		32	18	CTH10(A40, E32), AHU10



NUA-CTA

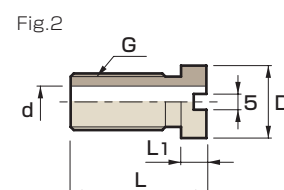
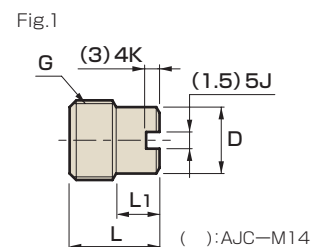


NUA-CTH



Adjust screw

CODE	Fig.	L	ϕD	ϕd	L ₁	J	K	G	Holder type
AJC-M14	1	22	10	-	8	1.5	3	M14×1.5	CTA10(※1) ST25T-CTA20 SE30M-CTA20
-M24		27	20		13	5	4	M24×1.5	CTA20(※2) BT40-CTA25-75 BT40-CTA32-105 NT40U-CTA25
-M28		25						M28×1.5	CTA25(※3)
-M18		24	15		8			M18×1.5	BT30-CTA20, ST32T-CTA20 H40-CTA20, CTA25 MT4-CTA20, CTA25
-M18L	2	43	23					BT50-CTA32, CTA40 H50-CTA32, CTA40 BT50-SLZ25, SLZ32, SLZ42	
AJN-M18L	2	38	23	10	8	-	-	M18×1.5	BT40-ART32
-M18		63							BT50-ART32, ART42



※1 MT2 is excluded. ※2 BT30, H40, SE30M, ST25T, ST32T, MT4 is excluded.
 ※3 BT40-CTA25-75, NT40U, H40, MT4 is excluded.

Coolant duct

Coolant duct (HSK-A)

CODE	Fig.	ϕC	ϕD	L	G	W	Shank type
CD 40-01	1	8	4	29.5	M12×1	4	A 40
-03	3			35.5			
-04				36.5			
CD 50-01	1	10	5	33	M16×1	5	A 50
-03	3			39			
-04				59			
CD 63-01	1	12	6	36.5	M18×1	6	A 63
-02	2						
-03	3			39.5		5	
-04				60.5			
CD100-01	1	16	8	44	M24×1.5	8	A100
-02	2		10.3				

Fig.1

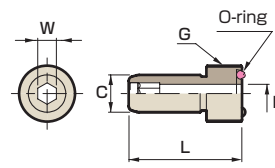


Fig.2

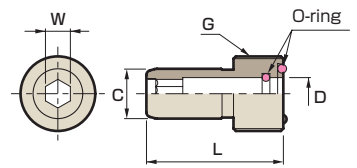
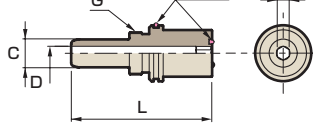


Fig.3



Coolant duct (Adjustable)

CODE	Fig.	ϕC	L	ϕD	G	Shank type
CD 63-01F	1	12	36.5	7	M18×1	A 63
-03F	2	—	—	—	—	
CD100-01F	1	16	44	10	M24×1.5	A100

Fig.1

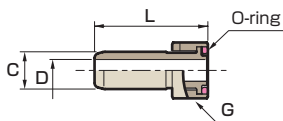
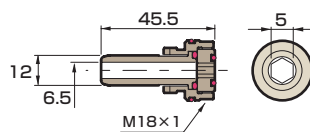
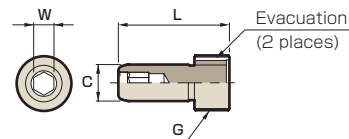


Fig.2



Dummy duct

CODE	C	L	G	W	Shank type
CD 40-A1	8	29.5	M12×1	4	A 40
CD 50-A1	10	33	M16×1	5	A 50
CD 63-A1	12	36.5	M18×1	6	A 63
CD100-A1	16	44	M24×1.5	8	A100

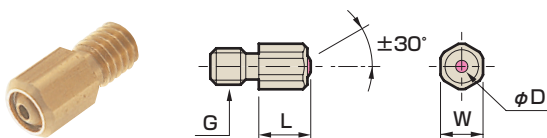


For some machines, the use of a coolant duct (Adjustable) is recommended. The existing coolant duct is replaced with a movable one at your request only when you have placed an order for the holder.



Others

Nozzle



CODE	L	G	W	ϕD	Holder type
NOZ-M4	6.3	M4	4.5	1.2	BT40 A 63 -ART, SLK
-M6	8.5	M6	7	1.8	BT50 A100 -ART, SLZ

■ Packaging •12pcs nozzles and 1pc wrench
•60pcs nozzles and 1pc wrench

FOR YOUR SAFETY, MAINTENANCE, OVERHAUL

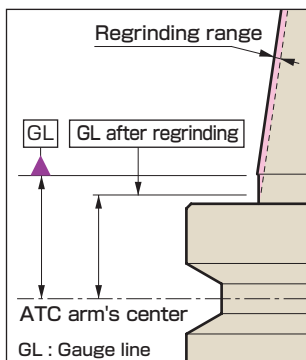
Our complete servicing system is available for repairs.

MST is always striving to improve safety and quality. You are, however, kindly requested to read through the instruction manual that comes with the product in order to ensure safe and efficient tool holder. In particular, please read the precautions and warnings. If the product should break down, please return it to us. We will repair it if it can be repaired.

Handling the tapered portion of the shank

No re-cutting is possible.

Regrinding the holder can cause a drop in holder accuracy due to a difference in production process. Moreover, the gauge line position may change greatly and can cause problems. For this reason, the holder cannot be repaired, and it is recommended that the holder be replaced.



Ensure that the shank is always be cleaned with a rag or the like.

If a flawed shank or a machine tool spindle with foreign matter stuck to it is used, not only will the accuracy deteriorate, but the machine tool or shank may be damaged also. Ensure that the shank is always cleaned with a rag or the like.



Maintenance

When not used for a long period of time

Remove all cutting fluid with cleaning oil, air, etc., and then apply rust-proofing.

Rust, etc. can affect accuracy and shorten the operating life of the holder.

After-treatment for the spindle-through feature

Completely discharge coolant from the inside (passage) of the holder by using air, etc. Apply an appropriate amount of machine oil and blow air inside the holder again to uniformly apply rust-proofing to the inside.

If the main unit, a nut, a collet, or the like is left unclean for a long period of time, contamination will build up on its surface, making it slippery. Continued use in this state will lead to excessive tightening, thus preventing proper torque management and causing the main unit or nut to be damaged.

To prevent the build-up of contamination, be sure to clean well before storage.

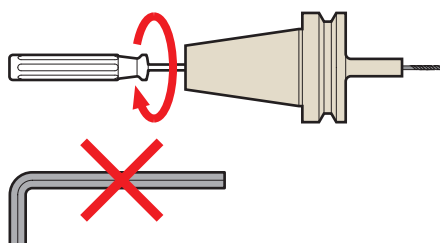
DETa-1 Collet Holder

Use the proper torque when carrying out tightening operations.

Excessive tightening will damage the rod located in the product. With the DTA type, the pin ring can be damaged by excessive tightening. Products damaged in this way can be repaired by MST. An adjustable torque wrench is available, which allows you to tighten the product with the appropriate torque.

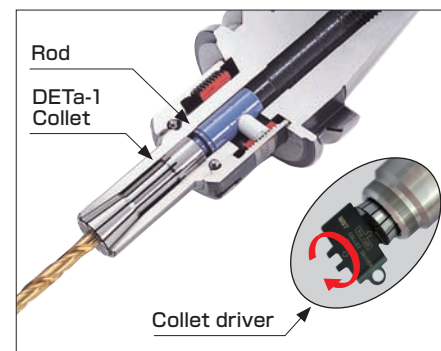


The recommended tightening torque is reached when the wrench starts being distorted. Do not try to tighten the chuck exceeding this optimal tightening torque. Avoid any excessive tightening with the T- or L-type wrenches, which can result in decreased precision and deformed internal parts. If any commercially available torque wrench is used, use a screwdriver type.



Lightly screw in the DETA-1 collet all the way until it stops.

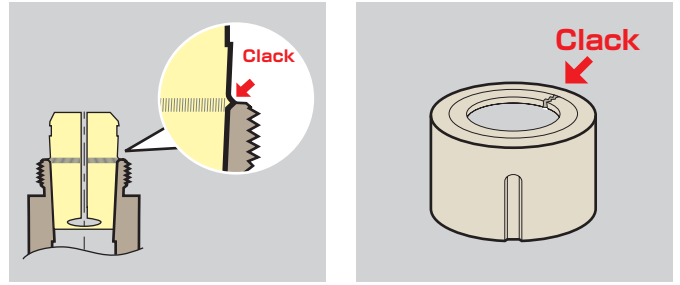
Failure to do so may cause a rod breakage. In such a case, the product can be repaired by MST.



Collet holder

Do not use a collet that has a notch or nick (flaw) on its tapered surface.

In order to maintain the accuracy of the main unit, the hardness of the collet is less than that of the main unit. If the collet is used with its tapered surface having a notch or nick (flaw) in it, poor accuracy or insufficient tightening can cause an accident. Replacing the collet will allow you to restore the holder to more or less its initial precision level.



Use the proper torque when carrying out tightening operations.

Excessive tightening will damage the nut. An adjustable torque wrench is available, which allows you to apply the proper torque when you tighten the nut.



Be sure to follow the guidelines regarding the minimum holding length of cutting tools.

Damage may occur to the main unit if there are problems with the "cutter shank gripping" conditions (inadequate insertion depth) of the cutting tool and excessive gripping power.

Hi-art milling chuck

Never tighten the nut without mounting a cutting tool in the unit.

The holder will shrink in diameter, preventing a tool from being inserted.



Use the holder within the allowable spindle speed.

If the allowable spindle speed is exceeded, the product might come apart during machining.

Holder	MAX.min ⁻¹
BT40 , A 63-ART32	6000
BT50 , A100-ART32	5000
BT50 , A100-ART42	3000

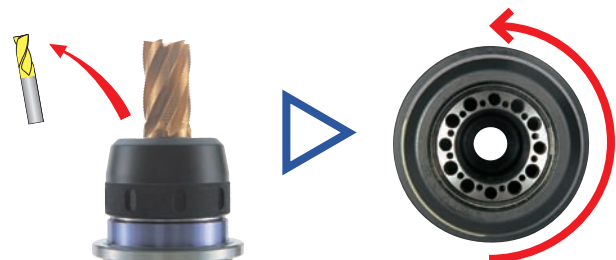
Make sure to allow enough chucking length to ensure optimum accuracy and to avoid discharging of a cutting tool.

The tool is held only at its end, causing poor accuracy, a decrease in the holding force, or making it impossible to insert the tool.

Cutter shank dia.	Min. holding length
φ 6 , φ 8	30 mm
φ 10 , φ 12	40 mm
φ 16 , φ 20	50 mm
φ 25	55 mm
φ 32	60 mm
φ 42	70 mm

After removing the tool, loosen the nut by more than a half turn.

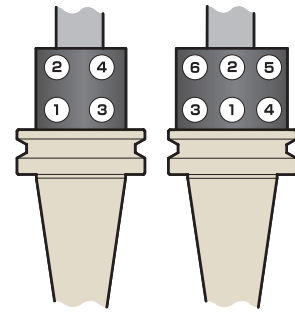
If you skip this step, you will not be able to fully tighten the nut when holding the next tool, and this can cause slipping during machining.



Summit

Tighten the bolts in the order of the numbers marked on them.

Tighten the bolts in order from 1 to 4 for the SLZ25 type or 1 to 6 for the SLZ32 or 42 following the numbers on the main body. Be sure to repeat this step more than once to ensure uniform tightening.



Angle head

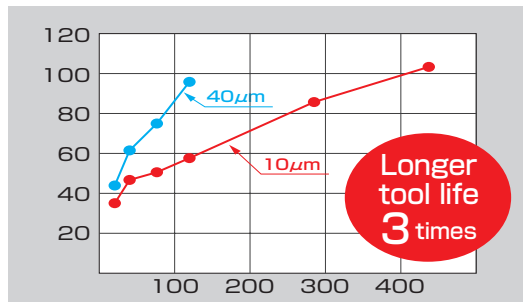
The gear and bearing in the angle head are consumables. Periodically service and replace them, if necessary. The ANGLE HEAD HALF can be overhauled by the customer.



TECHNICAL DATA

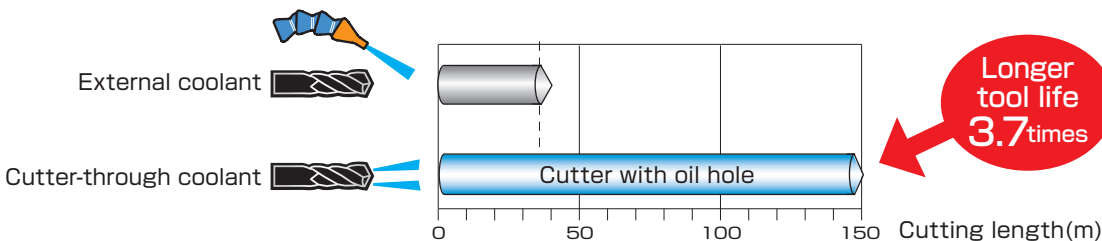
Cutter life comparison depending on different run-out accuracy

When the cutter run-out accuracy is 10µm, cutter life is 3 times longer than with 40µm run-out accuracy.



Material SKD61(HRC53°)
 V 300m/min
 N 9,550min-1
 f 0.1mm / flute
 Cutting tool ø10 Carbide ball endmill

Cutter life comparison when using cutter-through coolant and external coolant

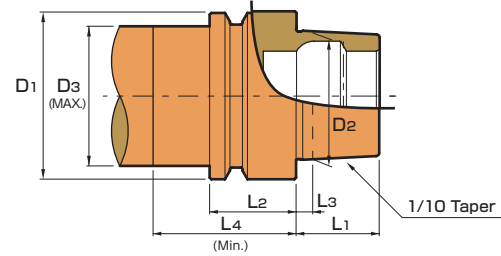
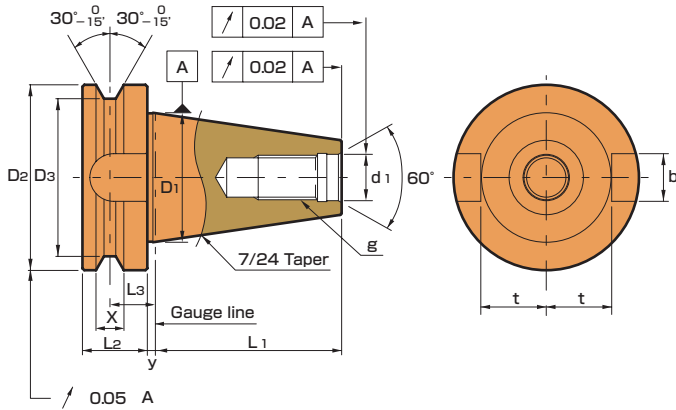


BT shank (Extracts from MAS 403)

CODE	D ₁	L ₁ (±0.2)	D ₂ (h8)	D ₃	d ₁ (H8)	L ₂	L ₃ (±0.1)	y (±0.4)	X (^{+0.1} / ₀)	b (H12)	t (-0.2)	g (H6)
BT30	31.75	48.4	46	38	12.5	20	13.6	2	8	16.1	16.3	M12
BT40	44.45	65.4	63	53	17	25	16.6		10		22.6	M16
BT50	69.85	101.8	100	85	25	35	23.2	3	15	25.7	35.4	M24

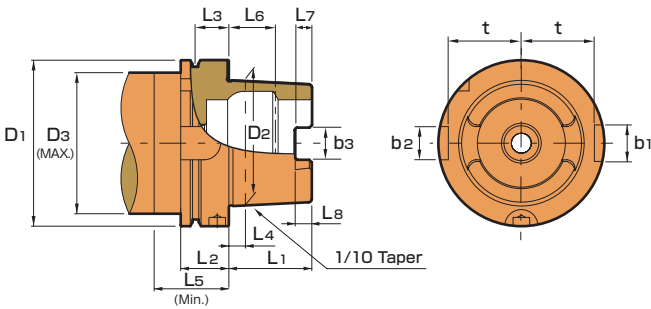
HSK-E/F shank (DIN 69893-5)

CODE	φD ₁	φD ₂	φD ₃	L ₁	L ₂	L ₃	L ₄	L ₅
E25	25	19.006	20	13	10	2.5	20	7.21
E32	32	24.007	26	16	20	3.2	35	8.92
E40	40	30.007	34	20		4		11.42
E50	50	38.009	42	25	26	5	42	14.13
F63	63		52				43	



HSK-A shank (DIN69893)

CODE	φD ₁	φD ₂	φD ₃	L ₁	L ₂	L ₃	L ₄	L ₅	L ₆	L ₇	L ₈	b ₁	b ₂	b ₃	t
A 40	40	30.007	34	20	20	16	4	35	11.42	6	3.5	11	9	8.05	17
A 50	50	38.009	42	25	26	18	5	42	14.13	7.5	4.5	14	12	10.54	21
A 63	63	48.010	53	32			6.3		18.13	10	6	18	16	12.5	26.5
A100	100	75.013	88	50	29	20	10	45	28.56	15	10	22	20	20	44



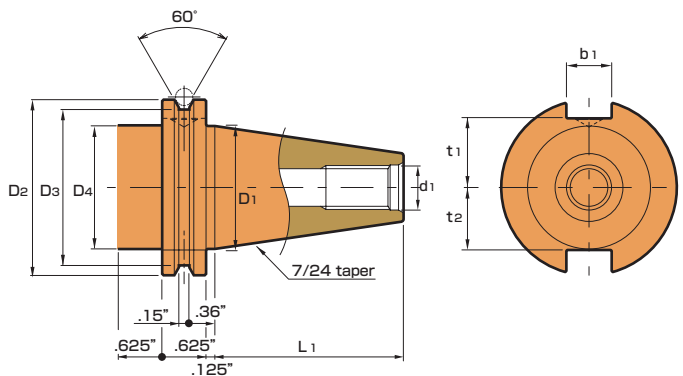
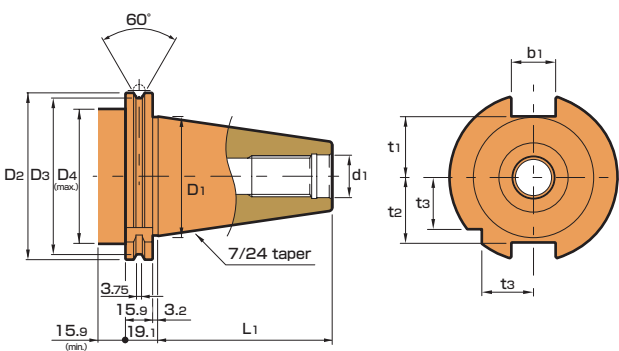
DIN shank (DIN69871-1)

CODE	φD ₁	φD ₂	φD ₃	φD ₄	L ₁	b ₁	d ₁	t ₁	t ₂	t ₃
DN40	44.45	63.55	56.25	50	68.4	16.1	17	22.8	25	18.5
DN50	69.85	97.5	91.25	80	101.75	25.7	25	35.5	37.7	30

CAT, shank

CODE	φD ₁	φD ₂	φD ₃	φD ₄	L ₁	b ₁	d ₁	t ₁	t ₂
CT40	1.75"	2.5"	2.22"	1.75"	2.69"	.65"	.64"	.99"	.59"
CT50	2.75"	3.88"	3.59"	2.75"	4"	1.06"	1.03"	1.49"	1.39"

Form A : Not spindle through type
Form AD : Spindle through type



G grade...Balancing value

■ Available for high speed machining — Pre-balanced design

During high-precision, high-speed machining, the machining center rotates the spindle several times faster than conventional ones (20,000 rpm, 30,000 rpm, 50,000 rpm or higher) and the feed rate is enhanced as well.

In other words, the holders suitable for high-speed machining should:

- ① Hold a cutting tool accurately with high gripping power during high-speed operation.
- ② Be as compact (small and short) as possible.
- ③ Have superior balance properties at high-speed operation.

The above three points are important.

The third requirement, "balance properties," is addressed by MST Corporation based on the concept of "pre-balanced design."

In the pre-balanced design, a holder is designed to achieve the highest and most precise axial symmetry possible in relation to the rotating shaft.

This method ensures a predetermined balance without the need for conventional corrections such as adding counterweights or chipping off the holder body to offset the unbalancing detected in a regular holder (for low-speed operation) by a balancing machine.

■ Imbalance value

Holders for high-speed operation include "Imbalance value" and "holder weight" columns in the dimensions table.

■ G grade for high-speed operation with a machining center

Focusing on the balancing of the holder alone (enhancing the G grade of the holder alone) is not sufficient for operating the spindle of a machining center at high-speed.

This is because the total weight of the other components (spindle, clamping mechanism, cutting tool) is far more than the holder (10 times heavier or more). It is important to improve the balance properties of a rotating body by taking all its components into consideration.

CODE TABLE

Holder weight	Imbalance value		縮尺図
kg	N	S	
0.7	8.1	9.3	1
0.8	9.2	14.9	4
0.9	9.2	9.6	2

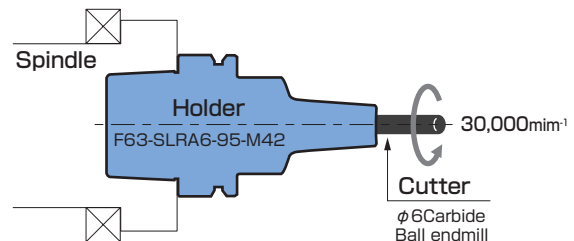
The total G grade of a rotating body at high-speed operation can be determined using the following method.

$$G \text{ grade} = \frac{(\text{Spindle} + \text{Holder} + \text{Cutter}) \text{ Imbalance value} (g \cdot \text{mm})}{(\text{Spindle} + \text{Holder} + \text{Cutter}) \text{ Weight (kg)}} \times \frac{\text{Spindle rotation speed}}{9,550}$$

[Example]

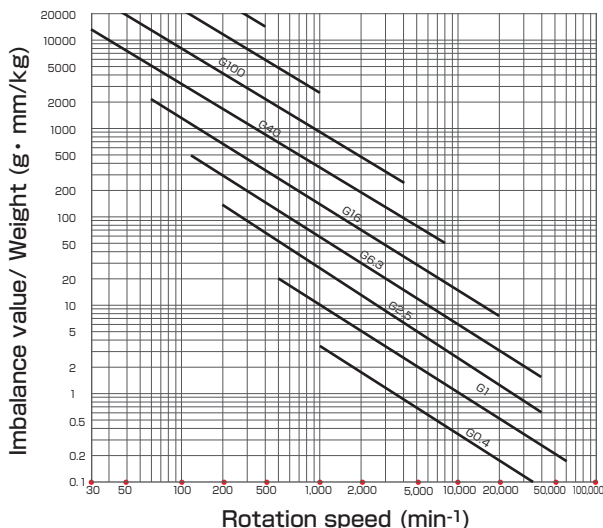
	Spindle	Holder	Cutter
Weight (kg)	10	0.8	0.02
Imbalance value(g·mm)	6	1.9	0.2

$$G = \frac{(6 + 1.9 + 0.2)}{(10 + 0.8 + 0.02)} \times \frac{30,000}{9,550} = 2.35$$



■ Reference

Unbalancing in terms of tolerable residual ratio against the balancing grade (G grade)



Recommend various of G grade of a rotating body

G grade	G	Rotating body
G40	~17	The car wheel
G16	~16	The parts of agricultural machines The parts of truck
G 6.3	~6.3	Machine tools and aviation gas-turbine rotors after assembling general mechanical parts
G 2.5	~2.5	The spindle of machine tool Gas turbine Steam turbine
G 1	~1	The grinding wheel spindle of grinding machine
G 0.4	~0.4	The grinding wheel spindle of precise grinding machine Gyroscope

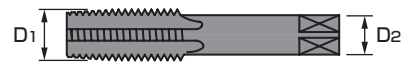
Drill hole size in metric coarse screw thread

Nominal size x pitch	Drill hole dia.
M 1.2×0.25	0.95
M 1.4×0.3	1.1
M 1.6×0.35	1.25
M 1.8×0.35	1.45
M 2 ×0.4	1.6
M 2.2×0.45	1.75
M 2.5×0.45	2.1
M 3 ×0.5	2.5
M 4 ×0.7	3.3
M 5 ×0.8	4.2
M 6 ×1	5
M 8 ×1.25	6.8
M10 ×1.5	8.5
M12 ×1.75	10.3
M14 ×2	12
M16 ×2	14
M18 ×2.5	15.5
M20 ×2.5	17.5
M22 ×2.5	19.5
M24 ×3	21
M27 ×3	24
M30 ×3.5	26.5
M33 ×3.5	29
M36 ×4	32
M39 ×4	35
M42 ×4.5	37.5
M45 ×4.5	40.5
M48 ×5	43

Drill hole size in unified screw threads

Nominal size x pitch	Drill hole dia.
NO. 1 - 64UNC	1.55
NO. 2 - 56UNC	1.8
NO. 3 - 48UNC	2.1
NO. 4 - 40UNC	2.3
NO. 5 - 40UNC	2.6
NO. 6 - 32UNC	2.8
NO. 8 - 32UNC	3.4
NO.10 - 24UNC	3.9
NO.12 - 24UNC	4.5
1/4 - 20UNC	5.1
5/16 - 18UNC	6.6
3/8 - 16UNC	8
7/16 - 14UNC	9.4
1/2 - 13UNC	10.8
9/16 - 12UNC	12.2
5/8 - 11UNC	13.6
3/4 - 10UNC	16.5
7/8 - 9UNC	19.5
1 - 8UNC	22.2
1 1/8 - 7UNC	25
1 1/4 - 7UNC	28.2
1 3/8 - 6UNC	30.8
1 1/2 - 6UNC	34
1 3/4 - 5UNC	39.5

Dia. of tap shank



Metric screw threads	Unified screw threads	Gas screw threads	φD ₂
φD ₁			
M 1~M 2.6	UNo. 0~4		3
M 3~M 3.5	UNo. 5~6		4
M 4~M 4.5	UNo. 8		5
M 5~M 5.5	UNo.10~12		5.5
M 6	U 1/4		6
	U 5/16		6.1
M 7~M 8			6.2
M 9~M10	U 3/8		7
M11	U 7/16	P ¹ /16 • 1/8	8
M12			8.5
	U 1/2		9
M13			9.5
M14~M15	U 9/16		10.5
		P 1/4	11
	U 5/8		12
M16			12.5
M17			13
M18	U 3/4	P 3/8	14
M20			15
M22	U 7/8		17
		P 1/2	18
M24~M25		P 5/8	19
M26~M27	U1		20
M28			21
	U1 1/8		22
M30		P 3/4	23
M32	U1 1/4	P 7/8	24
M33			25
M35	U1 3/8	P1	26
M36~M38		P1 1/8	28
M39~M40	U1 1/2		30
M42	U1 5/8	P1 1/4	32
M45	U1 3/4	P1 3/8	35
M48		P1 1/2	38
M50	U2	P1 5/8	40
M52		P1 3/4	42

Drill hole size in screw for pipe

Nominal size	Rc(PT)	Rp(PS)	G(PF)
1/8	8.2	8.5	8.8
1/4	10.9	11.4	11.87
3/8	14.4	14.9	15.38
1/2	18	18.5	19.1
5/8			21
3/4	23	24	24.6
7/8			28.3
1	29	30	30.9
1 1/8			35.5
1 1/4	38	39	39.4
1 1/2	44	45	45.4

Dimensional tolerance of typically used mating (JIS B 0401)

The class of dimension(mm)		The tolerance of the hole dimension(μm)						The tolerance of the shaft dimension(μm)					
More than ...	Less than	H4	H5	H6	H7	H8	H9	h4	h5	h6	h7	h8	h9
-	3	+3 0	+4 0	+6 0	+10 0	+14 0	+25 0	0 -3	0 -4	0 -6	0 -10	0 -14	0 -25
3	6	+4 0	+5 0	+8 0	+12 0	+18 0	+30 0	0 -4	0 -5	0 -8	0 -12	0 -18	0 -30
6	10	+4 0	+6 0	+9 0	+15 0	+22 0	+36 0	0 -4	0 -6	0 -9	0 -15	0 -22	0 -36
10	18	+5 0	+8 0	+11 0	+18 0	+27 0	+43 0	0 -5	0 -8	0 -11	0 -18	0 -27	0 -43
18	30	+6 0	+9 0	+13 0	+21 0	+33 0	+52 0	0 -6	0 -9	0 -13	0 -21	0 -33	0 -52
30	50	+7 0	+11 0	+16 0	+25 0	+39 0	+62 0	0 -7	0 -11	0 -16	0 -25	0 -39	0 -62
50	80	+8 0	+13 0	+19 0	+30 0	+46 0	+74 0	0 -8	0 -13	0 -19	0 -30	0 -46	0 -74
80	120	+10 0	+15 0	+22 0	+35 0	+54 0	+87 0	0 -10	0 -15	0 -22	0 -35	0 -54	0 -87
120	180	+12 0	+18 0	+25 0	+40 0	+63 0	+100 0	0 -12	0 -18	0 -25	0 -40	0 -63	0 -100
180	250	+14 0	+20 0	+29 0	+46 0	+72 0	+115 0	0 -14	0 -20	0 -29	0 -46	0 -72	0 -115
250	315	+16 0	+23 0	+32 0	+52 0	+81 0	+130 0	0 -16	0 -23	0 -32	0 -52	0 -81	0 -130
315	400	+18 0	+25 0	+36 0	+57 0	+89 0	+140 0	0 -18	0 -25	0 -36	0 -57	0 -89	0 -140
400	500	+20 0	+27 0	+40 0	+63 0	+97 0	+155 0	0 -20	0 -27	0 -40	0 -63	0 -97	0 -155

Conversion table for International System of Units

Force

N	kgf
1	1.01972 × 10 ⁻¹
9.80665	1

Pressure

Pa	kgf/cm ²
1	1.01972 × 10 ⁻⁵
9.80665 × 10 ⁴	1

Stress

Pa	kgf/mm ²
1	1.01972 × 10 ⁻⁷
9.80665 × 10 ⁶	1

HSK SHANK

MST uses DIN-HSK standard shanks, which are widely used in Japan and other countries as "2-face contact tooling" for high-speed, high-efficiency machining.



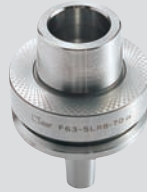
A type

This is the standard-use type.



E type

This type has no drive key and is suitable for high-speed machining.



F type

This type uses a combination of different sizes of tapers and flanges.



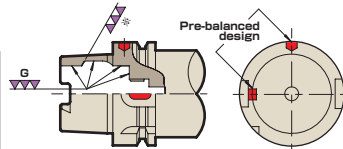
■ The close contact of the end faces (2-face contact) of the HSK shank results in high rigidity for transverse feed, which minimizes vibrations during machining and improves the operating life of the cutting tool and the finished surface precision.

■ Even if the spindle expands during high-speed rotations, the tapered hollow portion comes up with that expansion, thereby maintaining high precision.

PRE-BALANCED DESIGN

The HSK-A type shank is unbalanced in its standard form, but MST has applied its original pre-balancing to make this shank applicable for high-speed machining. In the DIN standard, only the area marked with an asterisk (*) is finished in the hollow. In order to further improve the balance, however, MST has applied finish machining after heat treatment.

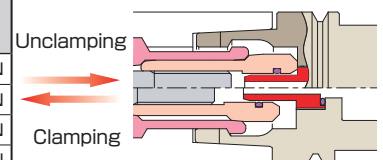
	MST	DIN
A 63	15g·mm	75g·mm
A100	28g·mm	170g·mm



THREE TIMES LARGER GRIPPING POWER

HSK uses a clamping mechanism, which utilizes the wedge effect, to provide a tool gripping power 2.5 to 3.0 times greater than in the pull-stud system (BT40 and BT50), thereby increasing rigidity.

	Tensile strength of draw bar	Tool gripping power
BT40	10~15 kN	10~15 kN
A 63	5.8 kN	18.4 kN
BT50	20~25 kN	20~25 kN
A100	14.5 kN	45.9 kN



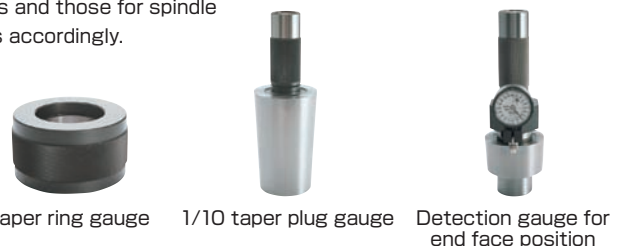
RIGIDITY COMPARISON WITH BT SHANK

The HSK shank is effective when longer overhang or higher transverse feed rigidity is required. The higher rigidity greatly contributes to improving the operating life of the cutting tool and the smoothness of the finished surface.



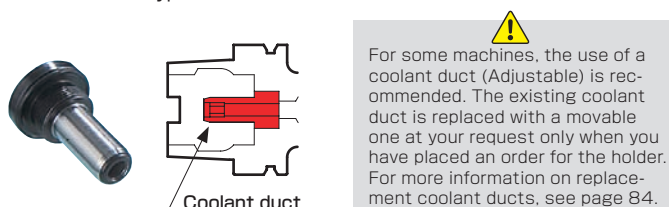
TAPER GAUGE

MST establishes the optimal value within the tolerance in accordance with the DIN standard and manufacturers master gauges for tool shanks and those for spindle tapers accordingly.



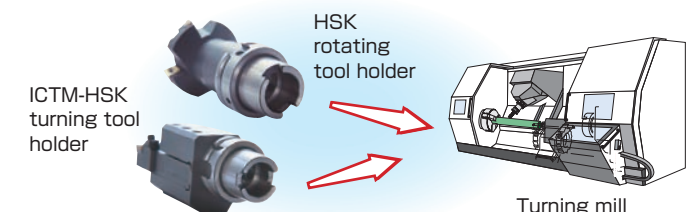
COOLANT DUCT

This is a coolant feed part exclusively for the HSK-A type. MST's HSK-A type holder comes standard with each coolant duct.



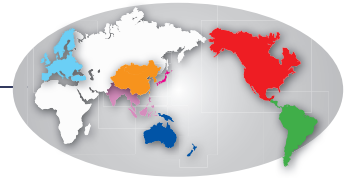
ICTM-HSK FOR TURNING MILL

The HSK-A type is finding increasing use as tooling for turning mills with ATC.



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MR. SCOTT SHIPPELL TEL 1-847-628-9942
 Scott@cimtekllc.com FAX 1-847-628-1987

MITSUBISHI MATERIALS USA CORP.

ILLINOIS

TECHNICAL SERVICE TEL 1-800-486-2341
 marketingservices@mmus.com FAX 1-847-519-1732

OSG TAP & DIE, INC.

ILLINOIS

MR. ALEX MASUDA TEL 1-630-790-5178
 Alex.masuda@osgtool.com FAX 1-630-790-1477

SINGLE SOURCE TECHNOLOGIES, INC.

MICHIGAN

MR. RICK GRABAREK TEL 1-248-232-6268
 rgrabarek@singlesourcetech.com FAX 1-248-232-6261

ILLINOIS

MR. VICTOR ROVEDO TEL 1-847-340-3781
 franz.stark@singlesourcetech.com FAX 1-847-468-1271

WISCONSIN

MR. BILL SCHROEDER TEL 1-262-212-3825
 bill.schroeder@singlesourcetech.com FAX 1-262-574-7551

SOUTH CAROLINA

MS. CARA KELSO TEL 1-704-896-6000
 cara.kelso@singlesourcetech.com FAX 1-704-896-6002

ALABAMA

MR. BOB ASH TEL 1-256-301-0040
 bob.ash@singlesourcetech.com FAX 1-256-301-0059

FLORIDA

MR. BEN GUEST TEL 1-321-4463-3567
 ben.guest@singlesourcetech.com

PRECISION TOOLS SERVICE INC.

INDIANA

MR. PAUL SCHNEPP TEL 1-812-342-1234
 pschnepp@ptservice.com FAX 1-812-342-1235

TECNARA TOOLING SYSTEMS, INC.

LOS ANGELES

MR. DAVID TAKAHASHI TEL 1-562-941-2000
 la@tecnaratools.com FAX 1-562-946-0506

NEW YORK

MR. MATT GENOVESE TEL 1-914-428-7292
 la@tecnaratools.com FAX 1-914-428-7481

TOMITA USA INC.

OHIO

TEL 1-614-873-6509
 FAX 1-614-873-6806

VEGA TOOL CORP.

ILLINOIS

MR. TADASHI KURASHIMA TEL 1-800-228-2969
 tadashikurashima@vega-tool.com FAX 1-847-882-9056

CANADA 2 distributors**OSG CANADA LTD.**

ONTARIO, Burlington

MR. ROB ADKINS TEL 1-905-632-8032
 rob.adkins@osgcanada.com FAX 1-905-632-8466

SINGLE SOURCE TECHNOLOGIES, INC.

ONTARIO, Windsor

MR. SHAWN LESPERANCE TEL 1-519-737-8999
 slesperance@singlesourcetech.com FAX 1-519-737-8939

ONTARIO, Mississauga

MR. GREG JAMES TEL 1-905-565-6886
 greg.james@singlesourcetech.com FAX 1-905-565-6866

MEXICO 5 distributors**AHNSA TOOLS s.a.**

MONTERREY

MR. HORACIO CAMPOS TEL 52-81-8126-1000
 hcamos@ahnsa.com FAX 52-81-8126-1001

MMC METAL DE MEXICO S.A. DE C.V.

QUERETARO

MR. GUILLERMO ORTIZ TEL 52-442 192 6800
 lortiz@mmcmex.com FAX 52-442 221 6134

OSG /ROYCO, S.A. DE C.V.

MEXICO CITY

MR. TOSHITAKA YOSHIZAKI TEL 52-55-51-19-3363
 toshi@osgroyc.com.mx FAX 52-55-51-19-3370

SINGLE SOURCE TECHNOLOGIES, de R.L.de C.V.

QUERETARO

MR. MANUEL RUIZ TEL 52-442-1016000
 manuel.ruiz@singlesourcetech.com FAX 52-442-2531355

YAMZEN MEXICANA SA DE CV

LEON

MR. GERARDO PLASCENCIA TEL 52-477-3910280
 gerardo.perez@yamazen.com.mx FAX 52-477-3910278

<South America>**BRAZIL** 1 distributor**OSG FERRAMENTAS DE PRECISAO LTDA.**

SAN PAULO

MR. YUJI KONDA TEL 55-11-6190-0900
 osgsp@nethall.com.br FAX 55-11-6190-0901

<Oceania>**New Zealand** 2 distributors**HeadlandMT Ltd**

Auckland

TEL 64-2152265

TOTAL CNC PRODUCTS

AUCKLAND

MS. MARGARET WILLIAMS TEL 64-92745890
 admin@totalcnc.co.nz FAX 64-92745867

<East Asia>

CHINA 21 distributors

AUTOFACT MACHINERY LTD. 亞動機械有限公司 DONGGUAN 東莞 ☎ MS. LILY GUAN 关星 TEL 86-769-81157228 ☐ lily@autofact.com.hk FAX 86-769-81157229	BBPC CO., LTD 上海阪商機床刀具有限公司 SHANGHAI 上海 ☎ MS. WANG YONGLI 王永丽 TEL 86-21-6253-1219 ☐ osaka@bbpc.biz FAX 86-21-6256-3539	BEIJIN 北京 ☎ MS. CHANG YAOHUA 常耀华 TEL 86-10-6348-5150 ☐ osaka@bbpc.biz FAX 86-10-6348-5152
DIJET INDUSTRIAL CO.,LTD. 黛傑工業株式會社 SHANGHAI 上海 ☎ MR. GAO YONGMING 高永明 TEL 86-21-5058-1698 ☐ dijetsh@yahoo.com.cn FAX 86-21-5058-1699	Dongguan Integrity Precision Machinery Co.,Ltd. 东莞市诚晋精密机械有限公司 DONGGUAN 東莞 ☎ MR. YANG YABIN 楊亞兵 TEL 86-769-82288607 ☐ frank1_yang@126.com FAX 86-769-82288609	DONGGUAN YAJIYA Precision machinery Co., Ltd 東莞八字屋精密機械有限公司 DONGGUAN 東莞 ☎ MR. Jason lee 李志信 TEL 86-769-8530-7420 ☐ baziwujingmi@163.com FAX 86-769-8530-7470
DONGLI MACHINE CO.,LTD. 東立機械有限公司 DALIAN 大連 ☎ MR. DU SONG 杜松 TEL 86-411-87324719 ☐ dus@dl-dongli.com.cn FAX 86-411-87324721	GALAXY PRECISION MACHINERY LTD 佳力精密機械有限公司 HONGKONG 香港 ☎ MR. KENNETH NG 吴志良 TEL 852-31505889 ☐ gp610@galaxy-mt.com FAX 852-23729093	JIANZE MACHINERY TECHNOLOGY CO.,LTD 上海建澤機械技術有限公司 SHANGHAI 上海 ☎ MR. XUE JIANMING 薛建明 TEL 86-21-51557657 ☐ xuejianming@jianze.net FAX 86-21-51557668
JECO PRECISION LTD. 捷高精機有限公司 HONGKONG 香港 ☎ MS. CATHY WONG 黄玉珍 TEL 852-2428-8328 ☐ cathy@jeco.hk FAX 852-2428-3683	SHENZHEN 深圳 ☎ MR. ERIC CHOW 周奔行 TEL 86-755-6116-2522 ☐ eric@jeco.hk FAX 86-755-6116-2533	MAKINO CHINA CO.,LTD. 牧野機床(中國)有限公司 KUNSHAN 昆山 ☎ MR. LIU HAORAN 劉浩然 TEL 86-512-5777-8000 ☐ info@makino.com.cn FAX 86-512-5777-9900
KUNSHAN KUNQIAO TRADING CO.,LTD. 坤僑貿易有限公司 KUNSHAN 昆山 ☎ MR. CHOU TING SHENG 周廷升 TEL 86-512-57507151 ☐ kjcorp@ms56.hinet.net FAX 86-512-57507153	SHENZHEN 深圳 ☎ MR. GHENG-NAN, YEH 葉正男 TEL 86-755-81786391-2 ☐ kj.com@msa.hinet.net FAX 86-755-8178-6670	OSG SHANGHAI 歐士機(上海)精密工具有限公司 SHANGHAI 上海 ☎ MS. JI MIN 嵇敏 TEL 86-21-5888-6600 ☐ jimin@chinaosg.com FAX 86-21-5888-3300
PRO-TECHNIC MACHINERY LTD. 寶力機械有限公司 HONG KONG 香港 ☎ MR. ALDO, S.K. CHEUNG 張四繼 TEL 852-2428-2727 ☐ aldocheung@protechnic.com.hk FAX 852-2480-4764	RSE (DALIAN) INTERNATIONAL TRADING CO LTD 美立吉(大連)國際貿易有限公司 DALIAN 大連 ☎ MR. LI GANG 李剛 TEL 86-411-8750-8552 ☐ 01@chinarse.com FAX 86-411-8750-8553	SHANGHAI HERLY INTERNATIONAL TRADING CO.,LTD. 上海賀立國際貿易有限公司 SHANGHAI 上海 ☎ MR. YOU JUNHA 由俊哈 TEL 86-21-3921-5609 ☐ import@herly.com FAX 86-21-3921-5606
SONDER TOOLS & MACHINERY(HK)LTD. 晨達(香港)有限公司 HONG KONG 香港 ☎ MR. JOHNNY NG 吳偉良 TEL 852-2-964-0233 ☐ johnnyng@sondertools.com FAX 852-2-964-0604 SHANGHAI 上海 ☎ MR. VICTOR LAU 劉曉炎 TEL 86-21-5109-6048 ☐ sonderbj@sonder.com.cn FAX 86-21-5111-3216	DONGGUAN 東莞 ☎ MR. JOHNNY NG 吳偉良 TEL 86-769-22699687 ☐ johnnyng@sondertools.com FAX 86-769-22699487 BEIJIN 北京 ☎ MS. LILIAN WANG ZHE 王浙 TEL 86-10-5862 2040 ☐ sonderbj@sonder.com.cn FAX 86-10-5862 2037	SHANGHAI REBAR CUTTING TOOLS CO., LTD 上海銳霸切削工具有限公司 SHANGHAI 上海 ☎ MR. CUI YANJUN 崔岩軍 TEL 86-21-5108-5980 ☐ steven_rb@126.com FAX 86-21-5763-2329
TOJU MACHINE-ELECTRICITY CO.,LTD 上海東住機電科技有限公司 SHANGHAI 上海 ☎ MR. TIAN JUN 田軍 TEL 86-21-6413-8038 ☐ sh_toju@163.com FAX 86-21-5230-8016	TOP CEL INTERNATIONAL TRADING(SHANGHAI)CO.,LTD. 拓賽爾國際貿易(上海)有限公司 SHANGHAI 上海 ☎ MR. TOM LEI 雷德耀 TEL 86-21-6441-3330 ☐ tom@topcel.net FAX 86-21-6469-5985	SICHENG Electromechanical Technology Co., Ltd 思誠機電科技有限公司 DONGGUAN 東莞 ☎ MR. Fly ZHONG 鍾飛泰 TEL 86-769-22186189 ☐ customercare@ec-sourcing.com FAX 86-769-22186191
YAMAZEN CORPORATION 山善(上海)貿易有限公司 SHANGHAI 上海 ☎ MR. DOZONO 堂園 TEL 86-21-5445-2266 ☐ dozono@yamazensh.com FAX 86-21-5445-2066 DALIAN 大連 ☎ MR. ZHUANG 莊震 TEL 86-411-8762-6323 ☐ zhuangzhen@yamazensh.com FAX 86-411-8762-6332 GUANGZHOU 廣州 ☎ MR. YAMASHITA 山下 TEL 86-20-8732-1601 ☐ yamashita@yamazen.com.cn FAX 86-20-8732-1232	SHENZHEN 深圳 ☎ MR. YASUNO 安野 TEL 86-755-8280-5000 ☐ yasuno@yamazen.com.cn FAX 86-755-8280-5100 CHONGQING 重慶 ☎ MR. TAKABE 高部 TEL 86-23-8906-1951 ☐ takabe@yamazensh.com FAX 86-23-8906-1953 TIANJIN 天津 ☎ MR. ESHIRO 江城 TEL 86-22-2840-8710 ☐ eshiro@yamazensh.com FAX 86-22-2840-8712	YUASA TRADING CO.,LTD. 湯淺商事(上海)有限公司 SHANGHAI 上海 ☎ MR. AIZAWA 相沢 TEL 86-21-6237-5477 ☐ y.aizawa@yuasa.cn FAX 86-21-6237-5499
		ZHEJIANG 浙江 ☎ MS. YE LI HONG 叶丽红 TEL 86-576-84232178 ☐ cnrijin15@126.com FAX 86-576-84115612

TAIWAN 3 distributors

KUNJUNG CORPORATION 坤嶸企業有限公司 TAIPEI 台北 ☎ MR. CHUNG-WEI, HUANG 黄崇維 TEL 886-2-22902500 ☐ kjcorp@ms56.hinet.net FAX 886-2-22902515	KAOSHUNG 高雄 ☎ MR. TSUNG-LIEH, HO 何宗烈 TEL 886-7-7231101 ☐ chdhor@pchome.com.tw FAX 886-7-7236088	TAICHUNG 台中 ☎ MR. MING-CHIEH, YEN 顏明傑 TEL 886-4-27026477 ☐ kj.com@msa.hinet.net FAX 886-4-24520439
CENTURY TRADING CORPORATION 世紀貿易股份有限公司 TAIPEI 台北 ☎ MR. YAN YUNGTA 顏永達 TEL 886-2-2298-8336 ☐ ytyan@centra.com.tw FAX 886-2-2298-8338	TAIHO TOOL MFG. CO.,LTD. 大寶精密工具股份有限公司 KAOSHUNG 高雄 ☐ yung-feng@mail.taihotool.co.tw TEL 886-7-621-6136 FAX 886-7-621-6140	

KOREA 9 distributors

KUK SUNG INTERNATIONAL CO.,LTD. 국성인터내셔널주식회사 DAEGU 대구 MR. CHOI BYUNG HOON 최병훈 TEL 82-53-604-0521 kuksung1@unitel.co.kr FAX 82-53-604-0525	DOO REE TRADING CO.,LTD. (유)두리무역 CHANGWON 창원 MR. J.K. CHO 조재관 TEL 82-55-286-5310 dooree0909@naver.com FAX 82-55-284-5313	IGPNET CO.,LTD. 주식회사 아이지피넷 SEOUL 서울 MR. KIM MOON KI 김문기 TEL 82-2-2026-5100 mk-kim@igpnet.co.kr FAX 82-2-2026-5101
KAMI CO.,LTD. SEOUL 서울 MR. YOUNG L., KIM, PH. D. 김영립 TEL 82-2-6670-4114 info@kami.biz FAX 82-2-6670-4110	MIRAE TECHNO 미래테크노 ANYANG 안양 MR. PARK HO SUNG 박호성 TEL 82-31-479-5301 miraetechno@hanmail.net FAX 82-31-479-5302	NS KOREA 앤에스코리아 ANYANG 안양 MR. BAI JAMES 배성진 TEL 82-31-479-1207 jamesbai@ns-korea.com FAX 82-31-479-1208
OSG KOREA CORPORATION 한국OSG주식회사 DAEGU 대구 MR. JANG JUN YOUNG 장준영 TEL 82-53-589-2054 jyjang1@osg.co.kr FAX 82-53-583-5553	SEJONG M.T 세종엠티 BUSAN 부산 MR. KANG YOUNG JIN 강영진 TEL 82-51-313-1148 sj0989@naver.com FAX 82-51-317-1148	YAMAZEN (KOREA)LTD. (주)야마젠코리아 SEOUL 서울 MR. KIM SUNG JONG 김성종 TEL 82-2-864-1755 sj-kim@yamazenkorea.co.kr FAX 82-2-864-1758

<South Asia>

INDIA 7 distributors

MAKINO INDIA PVT LTD. BANGALORE MR. B.V. SRIDHAR TEL 91-8067419500 sridhar@makino.co.in FAX 91-8067419523			Delhi MR. SHASHANK TOMAR TEL 91-1244652200 shashankt@makino.co.in FAX 91-1244365217	Pune info@makino.co.in TEL 91-2138673600 FAX 91-2138673623
ASSOCIATED ENGINEERING SERVICES CO.,LTD. CHENNAI MR. N MURALI TEL 91-4423821581 murali@associatedengg.com FAX 91-4423821584	MMC HARDMETAL INDIA PVT. LTD. BANGALORE mmcindia@mmc.co.jp TEL 91-802308-3400	Orion Innotech Pvt. Limited GURGAON MR. VISHAL VERMA TEL 91-1244225210 vishal@oriongroup.in FAX 91-1244225211		
OSG (INDIA) PVT. LTD. GURGAON TEL 91-1244009737 FAX 91-1244207761	VALIANT INDIA Innotech Pvt. Limited PUNE MR. VIRENDRA MAYNALE TEL 91-9371672785 sales@valiantindia.in	Yamazen Machinery & Tools India Pvt. Ltd. Bangalore / Chennai / Gurgaon / Pune tooling@yamazen.in TEL 91-1244605900 FAX 91-1244605921		

INDONESIA 4 distributors

PT. JAVATEC TRIMITRA UTAMA JAKARTA MR. STEFANUS DIBYO TEL 62-21-458-77288 tools@javatec.co.id FAX 62-21-458-77289	PT. JAVATEC TRIMITRA MACHINERY JAKARTA MR. STEFANUS DIBYO TEL 62-21-4584-9988 jonatan@javatec-machinery.com FAX 62-21-4584-8899	YAMAZEN MACHINERY & TOOLS PHILIPPINES, INC. LAGUNA MR. SHIN ISHIDA TEL 63-49-508-0892 s.ishida@yamazen.com.ph FAX 63-49-508-0893
PT. RUKUN SEJAHTERA TEKNIK JAKARTA MR. HERI RISWANTO TEL 62-21-628-1615 marketing@abrasive-tools.com FAX 62-21-626-5559	PT. YAMAZEN INDONESIA JAKARTA MR. MASASHI HAGIHARA TEL 62-21-451-3345 hagihara@yamazen.co.id FAX 62-21-451-3346	KAMOGAWA LAGUNA PHILIPPINES,INC LAGUNA MR. TAKAHIRO FUNAKUBO TEL 63-49-508-3912 t.funakubo@kamog.co.jp FAX 63-49-508-3199

SINGAPORE 5 distributors

A-TECH MARKETING PTE LTD MR. IAN SOH TEL 65-6773-3148 iansoh@a-tech.com.sg FAX 65-6234-4826	MAKINO ASIA PTE LTD. MR. V.M KUMAR TEL 65-6861-5722 kumar@makino.com.sg FAX 65-6861-1600	NOBEL TECH PTE LTD MR. ERIC CHAN TEL 65-6749-3636 eric@nbel.com.sg FAX 65-6749-0303
OSG ASIA PTE LTD. MR. KAZUMASA KOIKE TEL 65-68444350 osgkk@osgasia.com.sg FAX 65-68444351	YAMAZEN (SINGAPORE)PTE LTD. MR. TAKURO MATSUI TEL 65-6276-9488 matsui@yamazen.com.sg FAX 65-6276-9688	

THAILAND 5 distributors

FACTORY MAX CO.,LTD. BANGKOK MR. S. TANGTARATORN TEL 66-2-759-9100 surapong@factorymax.co.th FAX 66-2-759-9009	MAKINO (THAILAND) CO.,LTD. BANGKOK MR. JUNYA YOSHIMURA TEL 66-2-971-5750 junya.yoshimura@makino.co.th FAX 66-2-971-5751	OSG (THAILAND) CO.,LTD. BANGKOK MR. MASAKAZU SEIKE TEL 66-3-898-9035 mseike@osg.co.th FAX 66-3-898-9042
PRECISION TOOLS SERVICE (THAILAND) CO.,LTD. BANGKOK MR. YOSHIKI KATO TEL 66-2-308-2470 sales@ptssthai.com FAX 66-2-308-2471	YAMAZEN (THAILAND) CO.,LTD. BANGKOK MR. KENICHI YASUNO TEL 66-2-374-5522 yasuno@yamazen.co.th FAX 66-2-374-3192	MALAYSIA 2 distributors

VIETNAM 2 distributors

KAMOGAWA VIETNAM CO.,LTD Hanoi MR. TOMOHIRO YAMAMOTO TEL 84-4-378-550-22/23 yamamoto@kamog.co.jp FAX 84-4-378-550-23	Ho Chi Minh MR. SHINJI KUSUMOTO TEL 84-8-3910-5477 kusumoto@kamog.co.jp FAX 84-8-3910-5480	NEWLINE MACHINE TOOL SDN.BHD. KUALA LUMPUR MR. JEFFREY P.W CHOON TEL 60-3-8961-1973 jeff@newlinemachine.com FAX 60-3-8961-1971
YAMAZEN VIETNAM CO.,LTD Hanoi MR. DAISUKE TOCHIGI TEL 84-4-3766-4135 tochigi@yamazenvn.com FAX 84-4-3766-4137	Ho Chi Minh MR. TAKEHITO NAKAJIMA TEL 84-8-3820-2782 tn790717@yamazenvn.com FAX 84-8-3820-2784	YAMAZEN (MALAYSIA) SDN.BHD. KUALA LUMPUR MR. AKIRA KATO TEL 60-3-5569-5099 kato@yamazen.com.my FAX 60-3-5569-5011 PENANG MR. CHENG TEL 60-4-399-4021 mecheng@yamazen.com.my FAX 60-4-399-3025



OFFICE

Individuality and creation

Our goal is making the MST brand even better based on our basic concept "Individuality and creation".



FACTORY

Mizoguchi Systematic Technology

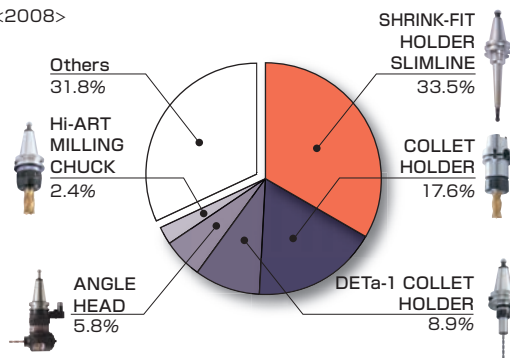
MST corporation

The oldest tool holder manufacturer in Japan

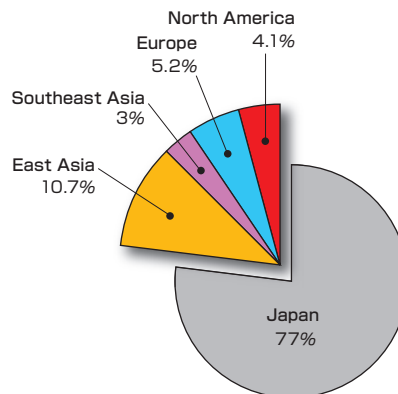
DEVELOPMENT

- Head Office 1738 Kitatahara Ikoma Nara 630-0142 Japan
- Branch TOKYO, NAGOYA
- Established March 15, 1937
- No. of employee 220
- Sales amount 3.1 billion yen (2008)
- About our products and services/business M/C Tool holder, EDM holder, Turning mill tool holder, Jig fixture, Software development, Measuring instrument, Die and mold machining, microfabrication, electric discharge machining
- Area of the company grounds 10,134m²
- Building floor space 10,798m²
- Group Companies Mizoguchi technical laboratory
- Affiliate company OSG / KYUSHU KOGU
HITACHI TOOL ENGINEERING. / KATO MFG.

<2008>



SALES RATIO EXPORT RATIO



<2008>

PROFILE

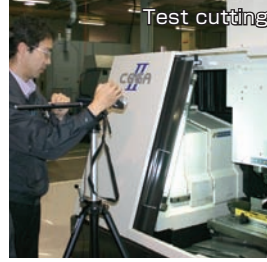
HISTORY

- 1937 Start the machine tools and industrial machines production.
- 1946 Start TOOL HOLDERS production.
- 1968 Establishment of Mizoguchi Technical Laboratory.
- 1969 Technical cooperation for making "Gear Chuck" with ERICKSON, U.S.
- 1973 Technical cooperation for making EDM tooling systems, "IMEA" with BOILLAT BRASS, Swiss.
- 1995 DETa-1 collet holder given "New Technology and Development Award" and "Marketing Award".
- 1999 Shrink-Fit Tool Holder, Slimline given "New Technology and Development Award".
- 2005 Establishment of New Factory.



Target industry

- Medical
- Optical communication
- Semiconductor device
- Fuel battery



100% trustworthy product development

FIELD



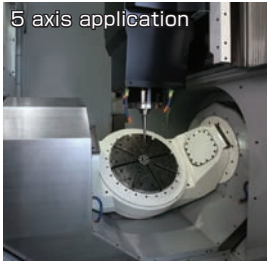
You can see MST products in the field which requires state of the art machining technology.



"ONLY-ONE" PRODUCTS

Target field

- Precision die and mold machining
- Machining of complicated geometric components
- 5 axis application
- Turning mill machining



DEVELOPMENT

Seeking originality

SALES

Interface for Turning Mills

Overseas manufacturers hold a high market share for turning mills, but have cooperated with Japanese carbide cutting tool and tooling manufacturers to newly standardize the tooling for our turning mills.

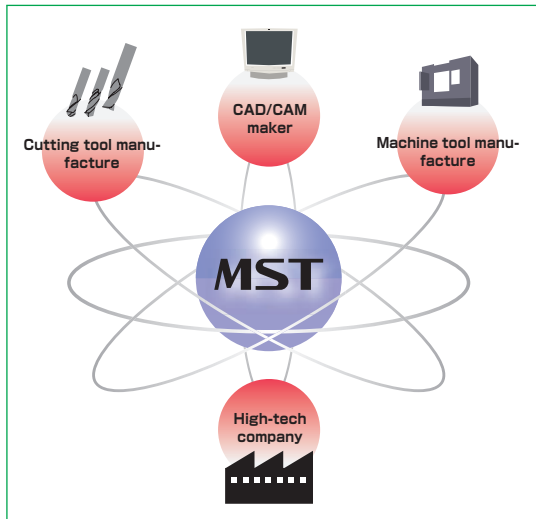
NEW STANDARD



In cooperation with 17 Japanese manufacturers

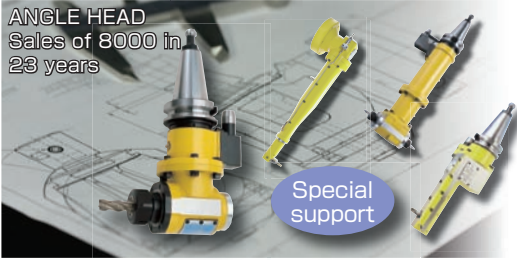


COLLABORATION



For developing next generation tooling system

By cooperating with companies that are highly successful in state of the art fields, we have put together a facility with the latest machining and machining-related technology.



ANGLE HEAD
Sales of 8000 in
23 years

Special support



A sales promotion team made up only of women

EXHIBITION



Responding to
the needs of
professionals

TECHNICAL SALES



In Japan, and also overseas...
Participating in 20 exhibitions around the world.



Information
collection

Proposal

JIMTOF (JAPAN)
IMTS (U.S.A.)
EMO (EUROPE)



JIMTOF2008

SALES

We offer a broad range of technical services and dedicated follow up.



PRODUCTION



J-COMPO
(Overseas warehouse center)

Germany
Hong Kong
Chicago, U.S.

Offering our
products to cus-
tomers smoothly
We expand our sales
channel in 20 countries
worldwide based on our
own stock center.

NETWORK



Cutting demonstration



LIVE SHOW ROOM



Factory visit

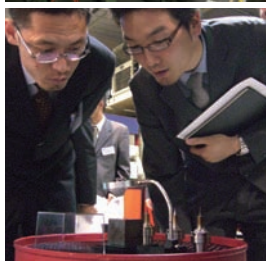
Factory office

- You can learn the basics of manufacturing technology.
- You can experience the micron world, including fit and fine adjustment.
- You can learn about machining centers, cutting tools and peripheral devices.



Presentation of products

SHRINK-FIT HOLDER

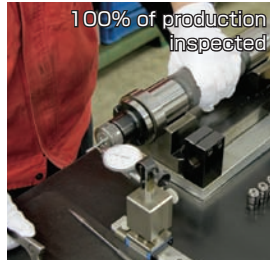


Seminar



Getting a "micron feel"

We put all our energy into the expert technology required for precise component assembly.



PROFICIENT SKILL



47% of engineers licensed nationally



Three-dimensional measuring instrument

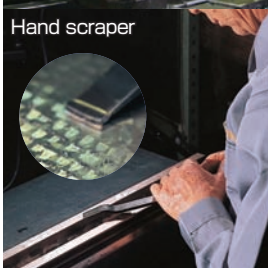


Taper gauge



Test bar

HIGH QUALITY



Hand scraper



Fine adjustment



Precision grinding

High accuracy

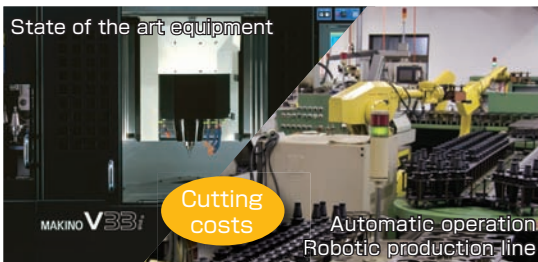
Quality management based on MST standards that are more severe than JIS. Gauge and test bar manufacture carried out under severe dimensional control

PRODUCTION

30% by hand and 70% by machine



MST



State of the art equipment

Cutting costs

Automatic operation
Robotic production line



Rationalization using state of the art equipment

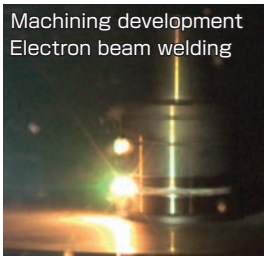
Nurturing individuality and improving creativity

Challenging new fields by making the most of our accumulated technology in order to make the MST brand even better.

AUTOMATION and RATIONALIZATION



Production control



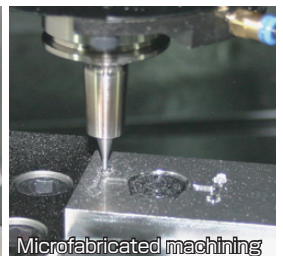
Machining development
Electron beam welding



Automatic warehouse
Inventory management



Die and mould machining



Microfabricated machining

START-UP BUSINESS



Using turning mills to consolidate control



Die and mould machining
Microfabricated machining
Electric discharge machining (graphite)



5 axis application