M100A

TOOLING SYSTEMS
FOR EFFICIENT MACHINING

SHRINK-FIT
HOLDER
SLIMLINE

MONO SERIES

2 PIECE MODULAR

STRAIGHT ARBOR

DETa-1
COLLET HOLDER

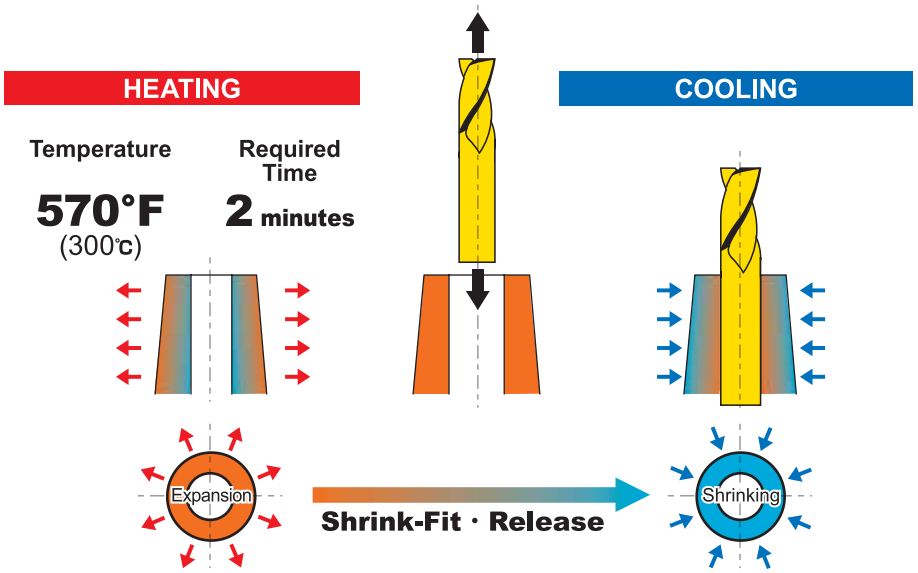
MST

MST corporation

Heat Shrink Mechanism

SLIMLINE

Slimline is a shrink-fit system that holds a carbide cutting tool firmly and accurately. MST's unique and exclusive material used in manufacturing the holder is able to achieve cool shrink fitting at temperatures of 570°F(300°C) or lower. Slimline uses an industrial-dryer-based, hot-air, shrink-fit heater. A lineup of 3,000 holders with different shapes is available for a wide variety of applications. Its simple, ultra-slim shape allows the shortest possible cutter overhang, providing strong, stable clamping strength while maintaining high precision.

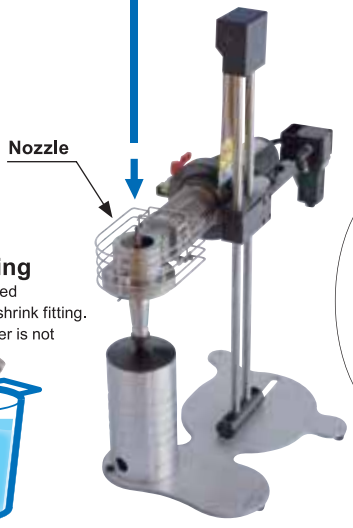


Special Material for Shrink-Fit

- Its thermal expansion coefficient is 1.6 times higher than that of regular steel.
- Shrink fitting and removing is achieved using a hot-air heater.
- Can be immersed in water to cool it off.
- Will not overheat even if heated for a long time.
- Ultra-thin 1.5 mm edge walls.

HOT AIR HEATER

Required Carbide Cutter Shank Tolerance
(φ3～5→h6 / φ6～25→h7)
(1/8″～3/16″ / 1/4″～1″)

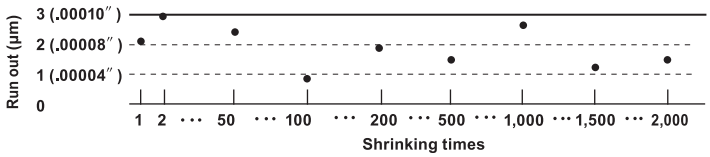


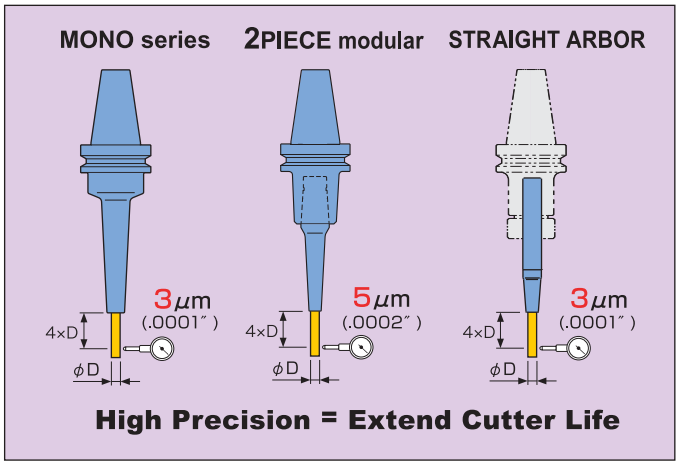
Water Cooling
Can be water-cooled immediately after shrink fitting. A large-scale cooler is not required.

High Precision

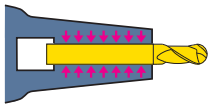
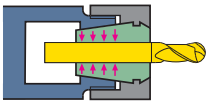
Regardless of skill level can insert tools firmly and with high precision. Slimline holders can be used for more than 2,000 shrink fittings and releases without compromising precision.

Repeated Shrink Fitting and Removing Test





Strong Clamping Force

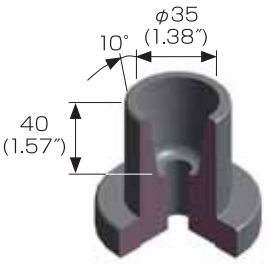
	Shrink-Fit holder (Slimline)	Collet Holder (Conventional Holder)
Chucking Principle	A shrink-fit system that uses the difference between the thermal expansion coefficient of the holder and carbide cutting tool.	A system to hold a cutting tool that uses elastic deformation of a collet which has slits.
Clamping Force (ϕ6)	6.2 kgf・m (45 lbf-ft)	2.1 kgf・m (15 lbf-ft)
	 Thermal Expansion ➡ Shrinkage Force	 Elastic Deformation

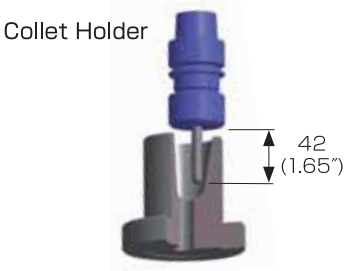
Twice Long Tool Life

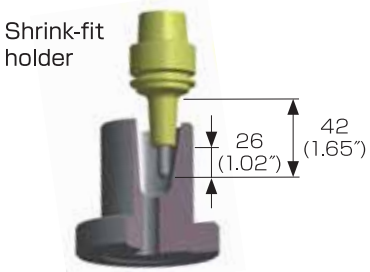
Cutting distance per an end-mill

Process	Rough Cutting		Finish Cutting	
Tool / Material	Collet Holder E32-CTH10-55 (C10-6P)	Slimline E32-SLRA6-50-M22	Collet Holder E32-CTH10-55 (C10-6P)	Slimline E32-SLRA6-50-M22
SKD61 (50HRC)	180m (590ft)	Twice → 360m (1180ft)	90m (295ft)	1.5 Times → 135m (443ft)
SKD11 (60HRC)	40m (130ft)	1.5 Times → 60m (197ft)	45m (148ft)	Twice → 90m (295ft)

F (Feed) : 118in/min. (3,000mm/min)
t (Depth of cutting) : .0060″ (0.15mm)
N (Rotation speed) : 24,000min^{-1}
Machine :
SODICK HIGHTECH MC430L
Cutter :
MITSUBISHI MATERIALS
2 flutes carbide cutting tool
IMPACT MIRACLE Ball End Mill (R3)
VF2SBR0300S06





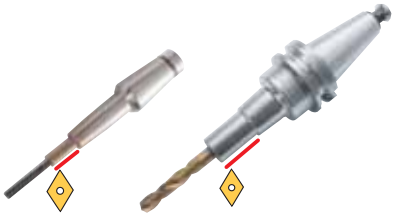


Compatible with The Coolant-Through Capability

Allows reliable coolant supply without leakage. No need for accessory parts.

Use Customization

User customization (additional machining) is also possible to avoid interference by reducing the edge wall thickness down to 1.5 mm(.059″).

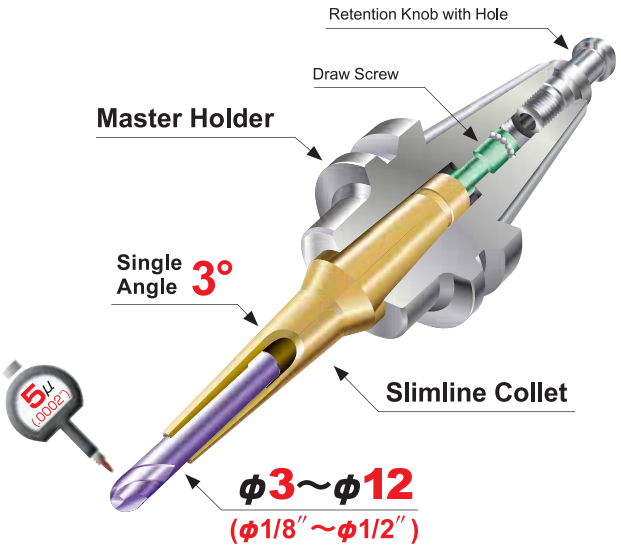


Modular System

2 PIECE MODULAR SYSTEM

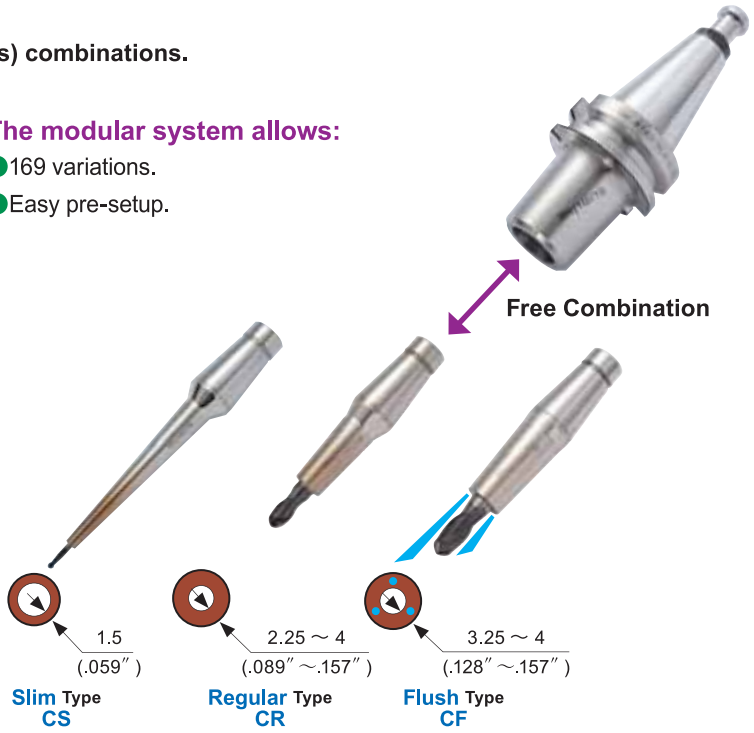
Compatible Diameters of Cutting Tools φ3～φ12 (1/8″～1/2″)

- Compact- easy to store and handle.
- Variety of shank shape (21 types) and collet (169 types) combinations.



The modular system allows:

- 169 variations.
- Easy pre-setup.



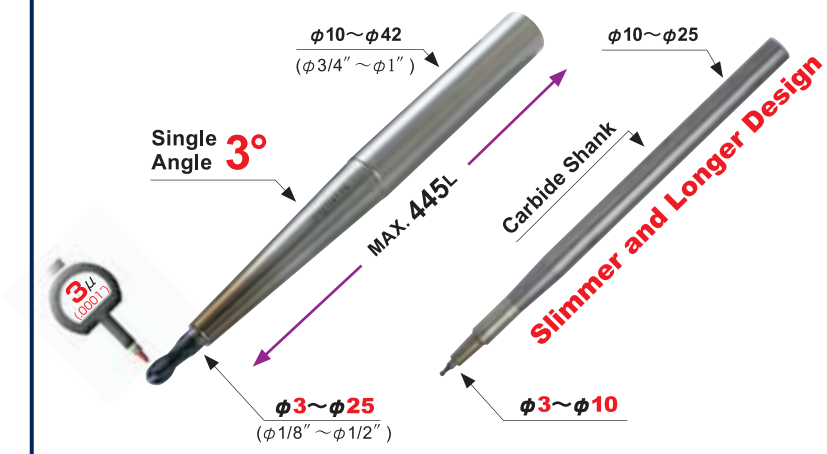
Saves Space

Recombination of Collets

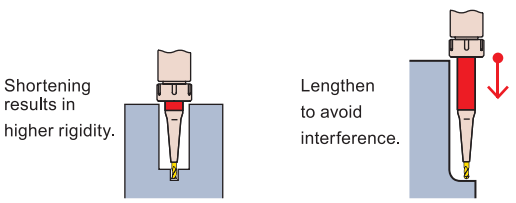
STRAIGHT ARBOR SYSTEM

Compatible Diameters of Cutting Tools φ3～φ25 (1/8″～1/2″)

- Precisely extending the reach of standard cutting tools.
- 111 variations are possible when combined with carbide types.



The length is freely adjustable for a perfect fit.



Mono Block Series

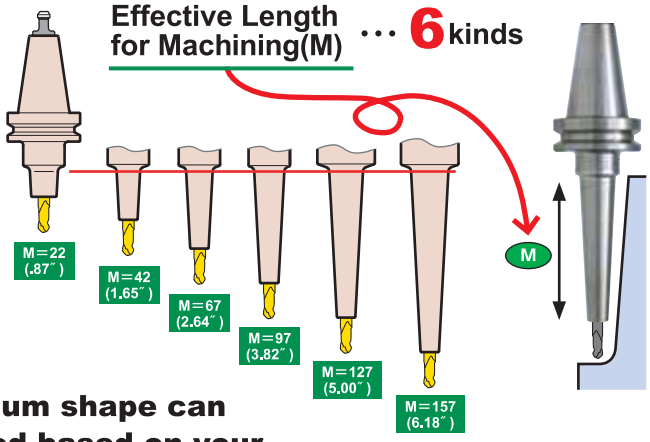
MONO SERIES SYSTEM

Compatible Diameters of Cutting Tools φ3～φ25 (1/8″～ 1″)

➤ The holder best suited to your machining needs can be selected from 3,000 variations of differing shank shapes, cutting tool chucking diameters, holder lengths (L), effective machining lengths (M), and holder edge thicknesses.

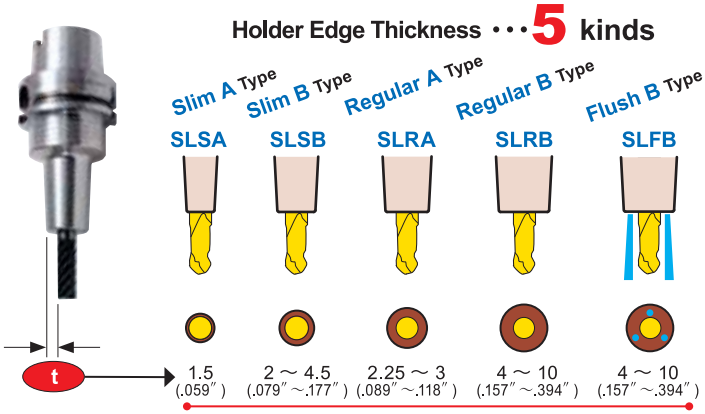
3,000 Variations

Effective Length for Machining(M) ••• 6 kinds



The optimum shape can be selected based on your work piece dimensions.

Holder Edge Thickness ••• 5 kinds



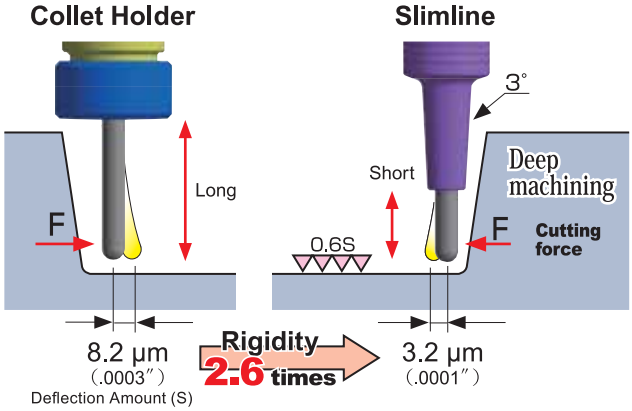
High Rigidity

➤ Slimline holders rarely interfere with work pieces because of their highly compact, slim design with a single angle of 3 degrees and a wall thickness of just .059″ (1.5 mm).

Slimline ensures a much longer service life for your cutting tools. Deep machining, which is difficult for conventional holders, is possible.

Ideal for machining a deep cavity with a three-dimensional shape or machining a 5-axis turbine blade.

The Minimum Cutter Projection



The overhang of the cutting tool has a great influence on deflection (rigidity).

Deflection increases in proportion to the overhang length (L3).

$$\text{Deflection Amount}(S) = \frac{6.8 \times F \times L^3}{E \times D^4}$$

S:Deflection amount L:Length of overhang E:Young's modulus (Carbide 59000kgf/mm^2)
D:Shaft diameter F:Load

➤ **The most suitable setting for high rigidity is calculated automatically.**

Static Rigidity Calculation Software for Slimline

Free software for checking interference with work pieces is provided.

CODE
Rigidity 0801

SHRINK-FIT HOLDER
SLIMLINE

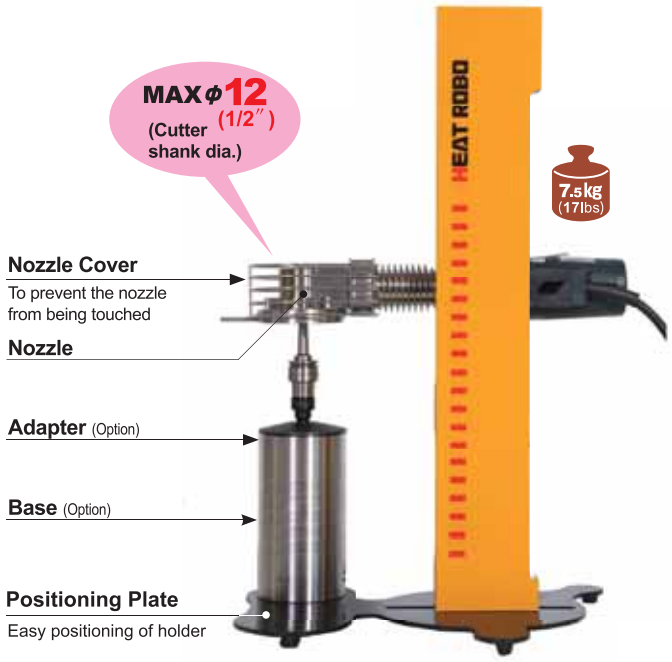
SHRINK-FIT HEATER

HEAT ROBO Baby 1200S

HOT AIR HEATER
120V 1.2kW
120 sec. (φ1/4″ collet)

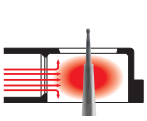
CODE	HRB-02S-120NA
VOLTAGE	AC120V
POWER SUPPLY	1200W
SIZE	W362(14.3″) × D105(4.1″) × H570(22.4″)
EFFECTIVE SHRINK-FIT DIMENSIONS	 Max C = dia. 32(1.26″) (Max dia. 24(.94″) only for M22 type)
HEATING TIME	120 SEC. (φ1/4″ collet)

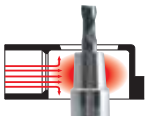
■Standard Accessories ●Heat-resistant gloves ●Tweezers ●Timer
■Option ●Please choose from the common parts on P. 7.



HEAT ROBO Baby 3000S

Compatible with All MST Shrink-Fit Holders


Small Dia.

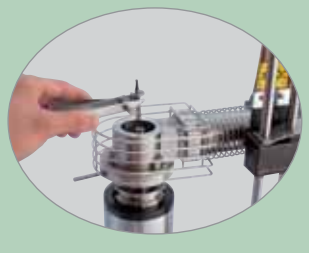

Large Dia.

HOT AIR HEATER
230V 3kW
70 sec. (φ1/4″ collet)
Air Cooling 10 min.

CODE	HRB-03S-230NA
VOLTAGE	AC230V
POWER SUPPLY	3000W
SIZE	W450(17.7″) × D215(8.5″) × H570(22.4″)
HEATING TIME	70 SEC. (φ1/4″ collet)

■Standard Accessories
●Tweezers ●Heat-resistant gloves ●Timer
■Note ●Factory compressed air(5kgf/cm²) is required.(consumption air volume : 245 ℓ /min)
●Please prepare an air tube (outer diameter of 8 mm) and connection coupling.
■Option ●Please choose from the common parts on P. 7.

★*Cost-Effective Hot-Air Type*



★*Electromagnetic Induction Heater*

★*Instant Shrink Fitting*

★ *Easy Operation*

★ *Easy positioning by single hand.*

★*Water Cooling - Significantly Reduced Cooling Time*

★ *Low-Temperature Shrink Fitting at 570°F(300℃)*

ELECTROMAGNETIC INDUCTION HEATER

100V 1.2kW

18 sec. (φ1/4″ collet)

Air Cooling 1 min.

Desk Top Type

Letter SIZE

HEAT ROBO

DENJI 電磁 1200

CODE	HRD—01
VOLTAGE	AC100V
POWER SUPPLY	1200W
SIZE	W270(10.6″)×D410(16.1″)×H550(21.7″)
HEATING TIME	18 SEC. (φ1/4″ collet)

■ **Standard Accessories**
•Tweezers •Heat-resistant gloves •Coil (2pcs.)

■ **Note** •Factory compressed air (5kgf/cm²) is required. (Consumption air volume : 245l/min)
•Please prepare an air tube (outer diameter of 8 mm) and connection coupling.

Transformer for HEAT ROBO DENJI 1200

HEAT ROBO DENJI 1200 is for 100V. The transformer is required for 120V and 230V. (MST can supply them.) Below is specification.

CODE	TSD—N15LU
OUTPUT	100V
FREQUENCY	50/60Hz
CAPACITY	1500 W
INPUT	120V
INPUT PLUG	A type

Heating Coil (Standard Accessories)

	CO DE	Heating time	Cutter shank
Coil 1	HRD —CL1— 01	18 sec.	φ3～ 6mm (1/ 8″～1/4″)
Coil 2	—CL 2 —01	33 sec.	φ7～12mm (9/32″～1/2″)

Coil 1 φ18 (.71″)

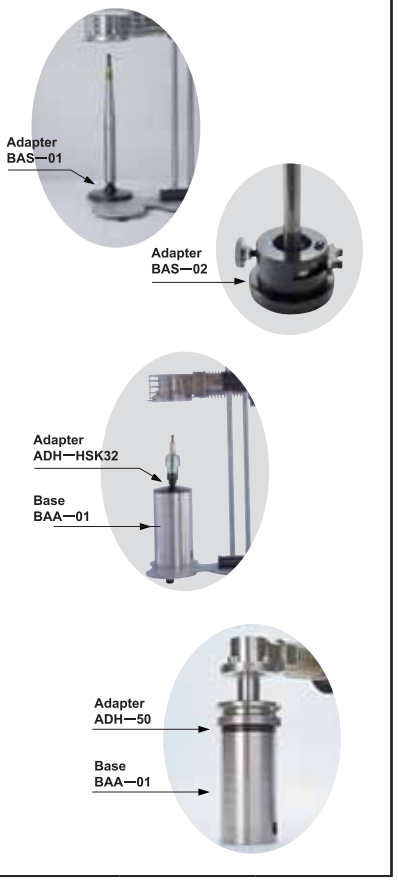
Coil 2 φ28 (1.10″)

Required !

Setup Jigs for Shrink-Fit Holders (Adapter・Base)

The table below shows the jigs for attaching and positioning a Slimline shrink-fit holder to a shrink-fit heater. Adapters are used stand-alone or in combination with a base.

Holder		Adapter	Base
Type	Form		
2 PIECE MODULAR	CS(Slim type) CR(Regular type) CF(Flush type) Screw size → M10	ADH—SLK (M 6, M 8, M10; φ79, φ88)	BAA—01
STRAIGHT ARBOR	ST10 — M 6	BAS—01 (M10, M16, M24; φ88)	
	ST12 — M 8		
	ST16 / 20 / 25 — M10		
	ST32 — M16		
	Carbide shank ST○○C — —	BAS—02 (φ42; φ88; φ102)	
MONO SERIES	E32	ADH—HSK32 (E32=φ17, E40=φ21, E50=φ26; φ79, φ88)	BAA—01 (φ88, φ79, 165)
	E40	—HSK40	
	E50 / F63	—HSK50	
	F63	—40 (φ63.5, φ50, φ79, φ88, φ100, φ78, φ88, φ107)	



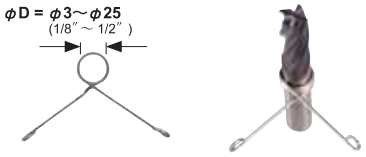
Required !

Cutter Stopper

Used as a stopper in the holder hole when shrink fitting or removing a cutting tool.

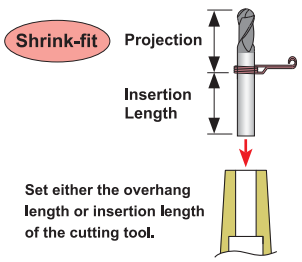
HSA type (Coil Spring Type)

CODE	D	Q'ty (1 set)
HSA—D (ex. HSA-3)	3, 3.175, 4, 5, 6, 7, 8, 9, 10, 11, 12, 16, 20, 25(㎜)/ 3/16 , 1/4 , 5/16 , 3/8 , 7/16 , 1/2 (inch)	Contains 10 pcs. in each size
—F	3 , 4 , 5 , 6 , 7 , 8 , 9 , 10 , 11 , 12 (㎜)	10pcs. in total with each one
—EF	3 , 4 , 5 , 6 , 8 , 10 , 12 , 16 , 20 , 25 (㎜)	10pcs. in total with each one (in end-mill size increments)

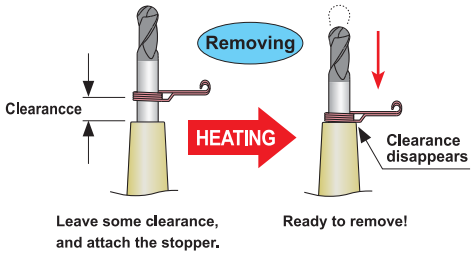


- Compatible with cutting tools with a diameter of 3 to 25 mm.
  Note : Cannot be used with Heat Robo Denji.

Insertion



Removing



HSB type (Plate Spring Type)

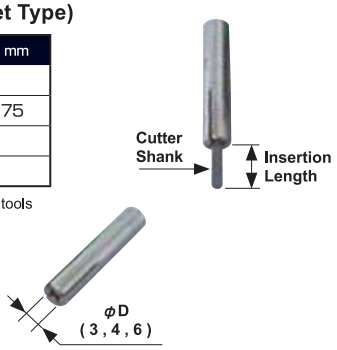
CODE	D
HSB—D (ex. HSB-3)	3 , 3.175 , 4 , 6 , 8 , 10 , 12 , 16 , 20 , 25 (㎜) / 3/16 , 1/4 , 5/16 , 3/8 , 7/16 , 1/2 (inch)

- Can be firmly affixed and stabilized.

HSC type (Slit Collet Type)

CODE	φD mm
HSC —3	3
—3.175	3.175
—4	4
—6	6

- Convenient for stepped type tools (non-inverse diameter tools) with a small diameter.



Useful Optional Accessories

Convenience !

Collet Stand

Stand for Slimline Collets

CODE
SDK—01

Size: 190 × 190 (7.5″ × 7.5″)

- For compact storage of Slimline collets.
- Made of aluminum, assuring superior cooling for a maximum of 25 collets.

Holder Stand

Stand for Slimline Mono Series Small-Sized Holders (E25, E32)

CODE	HOLDER CODE
SDT—01	HSK-E25,E32

Size: 160 × 170 (6.30″ × 6.69″)

- For compact storage of up to E25 and E32 holders.
- Made of aluminum, assuring superior cooling of hot cutting tools.

Cutter Tray

Cooling Tray for Heated Cutting Tools Immediately After Removal From Holder

CODE
SDH—01

Size: 170 × 170 (6.69″ × 6.69″)

- Used for cooling cutting tools on the tray.
- Made from aluminum.

Heat-Resistant Gloves

Additional Options

CODE	NOTE
HTB—01	—
—R	Right Hand
—L	Left Hand

- Be sure to wear heat-resistant gloves, as heat is produced during operation.
- All shrink-fitting heaters come with a pair of gloves.

Cutter Pliers

No gloves are required for shrink fitting and removing. (Pliers are used.)

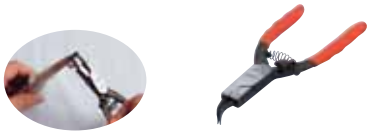
CODE
HPY—01

- Cutter shanks with a diameter of 3～12 ㎜ (1/8″ ～1/2″) can be chucked.

Stopper Pliers

Pliers for Cutter Stopper (HSB type)

CODE
SPY—01



Brush Set

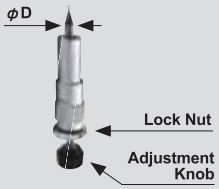
Cleaning Brush for Slimline Chucking Hole

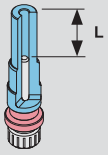
CODE
AQC—BR—SET

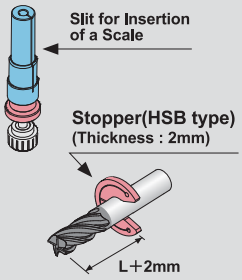
- Including diameter for 3,4,6 in each 1set

Cutter Adjuster

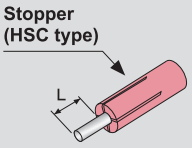
Allows you to set the overhang of a cutting tool or align the lengths of several cutting tools (Used in combination with an HSB- or HSC-type stopper)



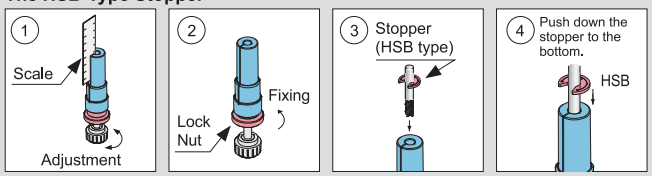




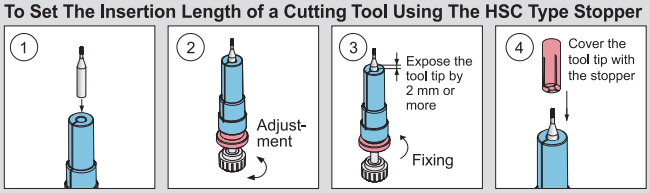
CODE	φD (mm)	L (mm)
HAJ— 3	3	10～ 30
— 3.175	3.175	
— 4	4	13～ 30
— 6	6	19～ 45
— 8	8	25～ 55
—10	10	31～ 70
—12	12	31～ 85
—16	16	33～ 90
—20	20	41～100
—25	25	46～100



To Set The Overhang of a Cutting Tool Using The HSB-Type Stopper



To Set The Insertion Length of a Cutting Tool Using The HSC Type Stopper



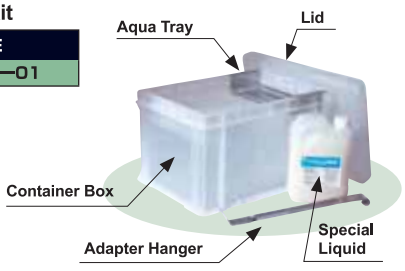
Aqua Cool Kit

Handy Water-Cooling Kit for Cooling Slimline Holders After Shrink Fitting or Removing

1. **Reducing the cooling time** — Finishes in just 10 seconds.
2. **Safety** — Allows you to water-cool a heated holder together with its adapter.
3. **Anti-rust Effect** — Anti-rust treatment provides longterm rust prevention.
4. **Cleaning Effect** — Can also be used to clean grease and dirt.

Aqua Cool Kit

CODE
AQC—KIT—01



Content of Kit — **Each 1 set**

Special Liquid

CODE
AQC—EK—01—2

- Including 2l of Undiluted Solution
- Use at a dilution ratio of 3%.

Aqua Tray

CODE
AQC—AT—01

(Drainer Plate)

Adapter Hanger

CODE
AQC—AH—01

Container Box

CODE
CN—245

Lid for Container Box

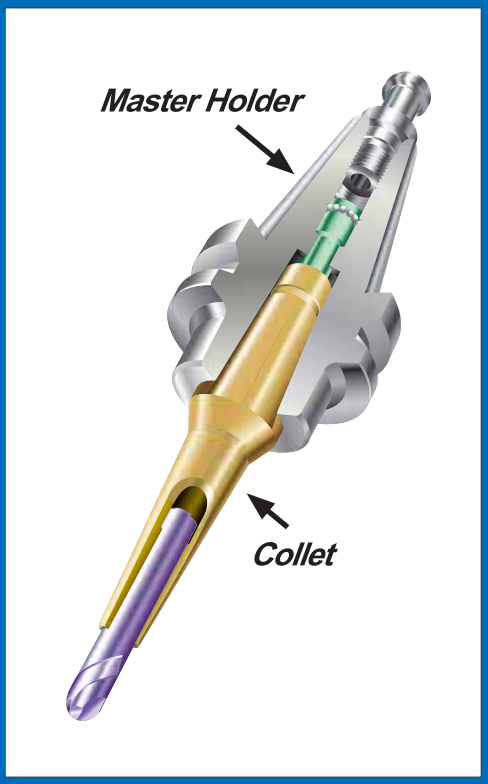
CODE
CN—FT

SHRINK-FIT HOLDER

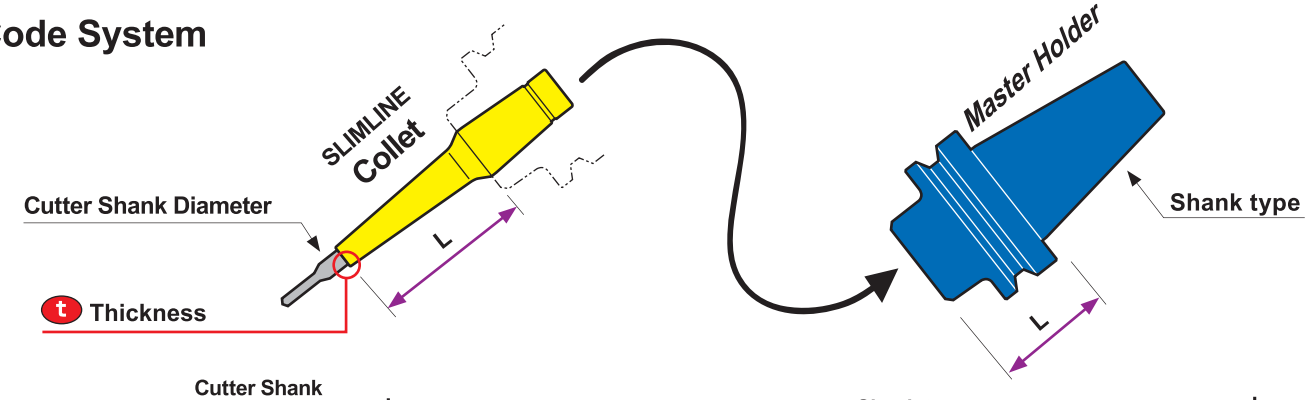
SLIMLINE

Modular type

2 PIECE modular



Code System



Cutter Shank Diameter	L
CS 12 – 3 – 110	

Collet type: CS (Slim type), CR (Regular type), CF (Flush type)

The size of collet internal bore (MAX φ12)

t	METRIC	INCH
1.5 (Constant) (.059″)	3 3.175 4 5 6 7 8 9 10 11 12	1/8 3/16 1/4 5/16 3/8 1/2
2.25 ~ 4 (.089″~.157″)	3 4 6 8 10 12	1/8 3/16 1/4 5/16 3/8 1/2
3.25 ~ 4 (.128″~.157″)	3 4 6 8 10 12	1/8 3/16 1/4 3/8 1/2

Shank type		L	
BT40	– SLK12	– 35	F

Order No. / The size of collet internal bore(MAXφ12)

With nozzles for coolant through

MAS	BT30·BT40·BT50
HSK	A63·A100 / F63M / E50
CAT.	CT40·CT50

Master Holder

BT Shank

BT40-SLK12-75

Fig.1

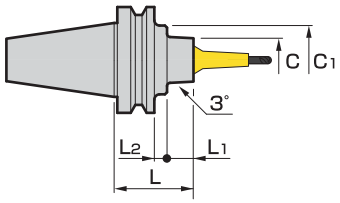
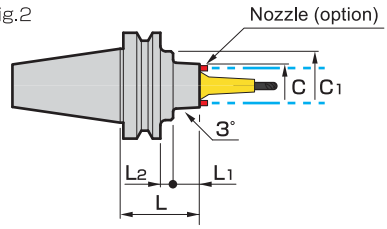


Fig.2



HSK Shank

A63-SLK12-75F

Fig.3

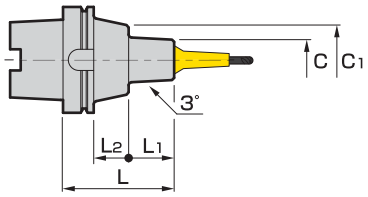
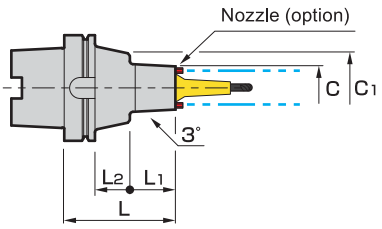


Fig.4



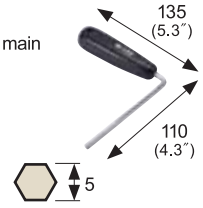
	CODE	Fig.	L mm (inch)	φC mm (inch)	L1 mm (inch)	L2 mm (inch)	φC1 mm (inch)	Kg lbs	N
BT	BT30–SLK12– 35	1	35	38	13	–	–	0.4	1.0
	BT40–SLK12– 45		45		18			1.1	1.4
	– 75F	2	75	41	48			1.4	1.8
	BT50–SLK12– 75	1	75	38	25	12	65	4.0	4.7
	–135F	2	135	41	85			4.7	5.7
HSK	A 63–SLK12– 75	3	75	38	49	–	–	1.0	5.0
	–135F	4	135	41	109			1.9	8.6
	A100–SLK12–105	3	105	38	43	33	65	3.4	20.7
	–135F	4	135	41	73			3.8	21.1
	E 50–SLK12– 75	3	75	38	49	–	–	0.8	2.9
	F63M–SLK12– 75							1.0	3.4
CAT.	CT40–SLK12– 45	1	45 (1.77)	41 (1.61)	26 (1.02)	–	44.45 (1.75)	1.1 (2.4)	3.6
	CT50–SLK12– 75		75 (2.95)	38 (1.50)	40 (1.57)	15.9 (.63)	70 (2.75)	3.3 (7.3)	8.0

■**Optional accessories** •Slimline collet •Wrench •Nozzle •Retention knob (BT , CAT)
■**Standard accesories** •Coolant duct (HSK)
■**Note** •A dedicated retention knob is supplied with the BT30 as a standard accessory. When ordering, specify whether a MAS-1 or MAS-2 retention knob is required.
■**Caution** •To fasten the BT30, use a commercially available 14 mm single-ended wrench.

Wrench

Required for clamping the main body and Slimline collet.

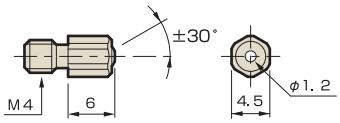
CODE
W–135



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

Nozzle(For F-type)

CODE	Q'ty
NOZ–M4–12	12
–60	60

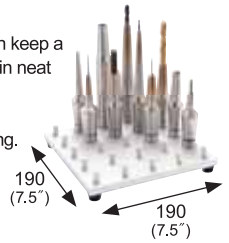


■ **NOTE** •Four nozzles are required for each master holder.

Collet stand

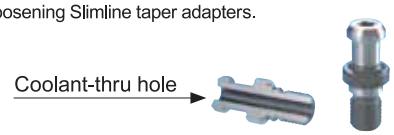
This compact stand can keep a maximum of 25 collets in neat and proper order.
Made from aluminum, assuring superior cooling.

CODE
SDK–01



Retention knob with hole

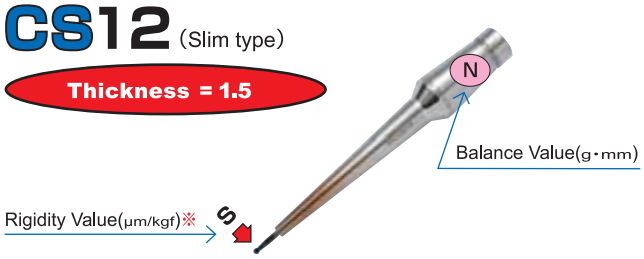
There is no need to remove a retention knob with .236" diameter coolant-thru hole when tightening or loosening Slimline taper adapters.

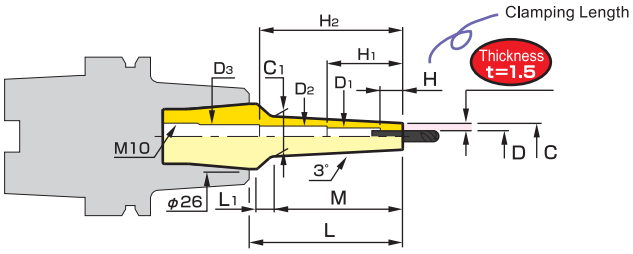


Metric

CS12 (Slim type)

Thickness = 1.5





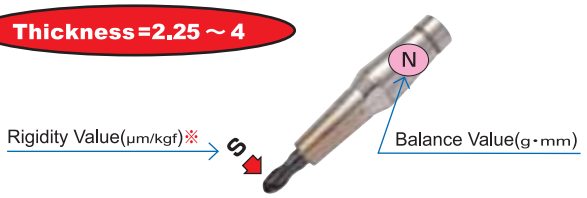
※The values below are given for the BT40-SLK12-45.
(The values below are comparable for any shank combination.)

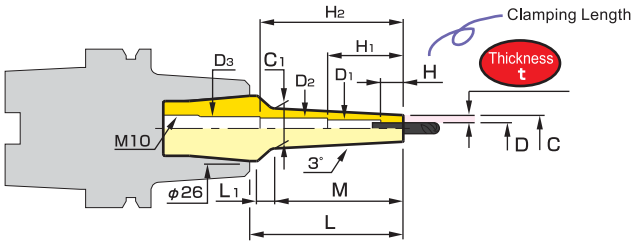
CODE	φD	φC	Thickness t	L	M	L_1	$φC_1$	H	S	N	Kg	Max. insertion length	$φD_1$	$φD_2$	$φD_3$	H_1	H_2
CS12− 3− 35	3	6	1.5	35	22	9.5	8.4	10	4.8	0.5	0.2	65	−	−	4	−	−
− 55				55	42		10.5		9.5			85					
− 80				80	67		13.1		15.0	0.7		110	4	6	8.6	39.4	74.3
−110				110	97		16.2		20.6	0.8		140					104.3
CS12−3.175− 80	3.175	6.175	1.5	80	67	9.5	13.2	10	14.3	0.7	0.2	110	4	6	8.6	39.4	74.3
−110				110	97		16.4		19.7	0.8		140					104.3
CS12− 4− 35	4	7	1.5	35	22	9.5	9.4	12	3.8	0.5	0.2	65	−	−	5	−	−
− 55				55	42		11.5		7.5			85					
− 80				80	67		14.1		11.9	0.7		110	5	7	8.6	39.4	74.6
−110				110	97		17.2		16.6	0.9		140					104.6
CS12− 5− 35	5	8	1.5	35	22	9.5	10.4	15	3.0	0.5	0.2	65	−	−	6	−	−
− 55				55	42		12.5		6.0	0.6		85	6		8.6	49.3	
− 80				80	67		15.1		9.7	0.8		110					
−110				110	97		18.2		13.6	1.0		140				69.3	
CS12− 6− 35	6	9	1.5	35	22	9.5	11.4	18	2.4	0.5	0.2	65	−	−	7	−	−
− 55				55	42		13.5		4.9	0.7		85	7		8.6	49.6	
− 80				80	67		16.1		8.0	0.8		110					
−110				110	97		19.2		11.4	1.0		140				69.6	
CS12− 7− 35	7	10	1.5	35	22	9.5	12.4	20	2.0	0.6	0.2	65	−	−	8.6	−	−
− 55				55	42		14.5		4.1	0.7		85					
− 80				80	67		17.1		6.8	0.9		110					
−110				110	97		20.2		9.7	1.2	0.3	140					
CS12− 8− 35	8	11	1.5	35	22	9.5	13.4	25	1.6	0.6	0.2	65	−	−	8.6	−	−
− 55				55	42		15.5		3.4	0.7		85					
− 80				80	67		18.1		5.6	0.9		110					
−110				110	97		21.2		8.2	1.2	0.3	140					
CS12− 9− 35	9	12	1.5	35	22	9.5	14.4	30	1.4	0.7	0.2	60	−	−	9.6	−	−
− 55				55	42		16.5		2.9	0.9							
− 80				80	67		19.1		4.8	1.1							
−110				110	97		22.2		7.1	1.3	0.3						
CS12−10− 35	10	13	1.5	35	22	9.5	15.4	30	1.3	0.8	0.2	60	−	−	10.6	−	−
− 55				55	42		17.5		2.5	0.9							
− 80				80	67		20.1		4.3	1.1							
−110				110	97		23.2		6.2	1.4	0.3						
CS12−11− 35	11	14	1.5	35	22	9.5	16.4	30	1.1	0.9	0.2	60	−	−	11.6	−	−
− 55				55	42		18.5		2.3	1.0							
− 80				80	67		21.1		3.8	1.3							
−110				110	97		24.2		5.6	1.5	0.3						
CS12−12− 35	12	15	1.5	35	22	9.5	17.4	30	1.0	1.0	0.2	60	−	−	12.6	−	−
− 55				55	42		19.5		2.1	1.1							
− 80				80	67		22.1		3.5	1.4							
−110				110	−	−	−		5.0	1.3	0.3						

CR12 (Regular type)

Metric

Thickness=2.25～4





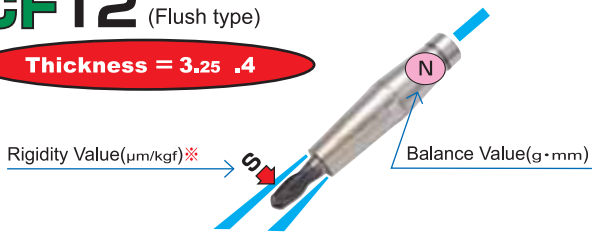
※The values below are given for the BT40-SLK12-45.
(The values below are comparable for any shank combination.)

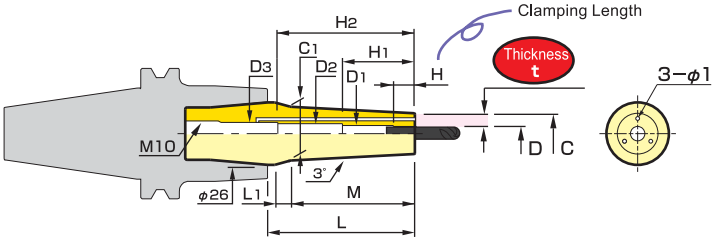
CODE	φD	φC	Thickness t	L	M	L_1	$φC_1$	H	S	N	Kg	Max. insertion length	$φD_1$	$φD_2$	$φD_3$	H_1	H_2
CR12− 3−35	3	7.5	2.25	35	22	9.5	9.9	10	2.9	0.5	0.2	65	−	−	4	−	−
−55				55	42		12		5.5			85					
−80				80	67		14.6		8.9	0.7		110	4	6	8.6	39.4	74.3
CR12− 4−35	4	10	3	35	22	9.5	12.4	12	1.7	0.5	0.2	65	−	−	5	−	−
−55				55	42		14.5		3.1	0.6		85					
−80				80	67		17.1		5.1	0.8		110	5	7	8.6	39.4	74.6
CR12− 6−35	6	12	3	35	22	9.5	14.4	18	1.3	0.6	0.2	65	−	−	7	−	−
−55				55	42		16.5		2.4	0.7		85	7		8.6	49.6	
−80				80	67		19.1		3.9	0.9		110					
CR12− 8−35	8	14	3	35	22	9.5	16.4	25	1.1	0.6	0.2	65	−	−	8.6	−	−
−55				55	42		18.5		1.9	0.8		85					
−80				80	67		21.1		3.1	1	0.3	110					
CR12−10−35	10	16	3	35	22	9.5	18.4	30	0.9	0.7	0.2	60	−	−	10.6	−	−
−55				55	42		20.5		1.6	0.9							
−80				80	67		23.1		2.6	1.1	0.3						
CR12−12−35	12	20	4	35	22	9.5	22.4	30	0.7	0.9	0.2	60	−	−	12.6	−	−
−55				55	42		24.5		1.1	1.1							
−80				80	−	−	25.5		1.9	1	0.3						

CF12 (Flush type)

Metric

Thickness = 3.25 .4





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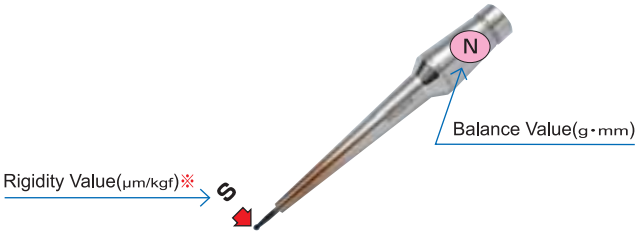
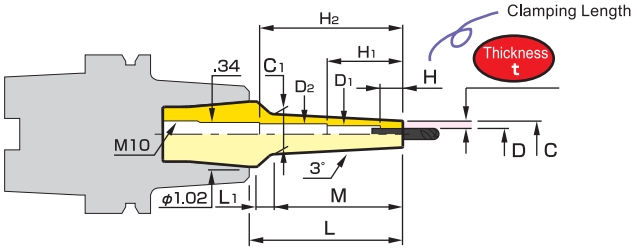
(The values below are comparable for any shank combination.)

CODE	φD	φC	Thickness t	L	M	L_1	$φC_1$	H	S	N	Kg	Max. insertion length	$φD_1$	$φD_2$	$φD_3$	H_1	H_2
CF12− 3−35	3	9.5	3.25	35	22	9.5	11.9	10	1.9	0.5	0.2	65	−	−	4	−	−
−55				55	42		14		3.3	0.6		85					
−80				80	67		16.6		5.3	0.8		110	4	6	8.6	44.4	74.3
CF12− 4−35	4	12	4	35	22	9.5	14.4	12	1.3	0.6	0.2	65	−	−	5	−	−
−55				55	42		16.5		2.2	0.8		85					
−80				80	67		19.1		3.4	0.9		110	5	7	8.6	39.4	74.6
CF12− 6−35	6	14	4	35	22	9.5	16.4	18	1.0	0.7	0.2	65	−	−	7	−	−
−55				55	42		18.5		1.7	0.9		85	7		8.6	49.6	
−80				80	67		21.1		2.7		0.3	110					
CF12− 8−35	8	16	4	35	22	9.5	18.4	25	0.9	0.8	0.2	65	−	−	8.6	−	−
−55				55	42		20.5		1.4	1		85					
−80				80	67		23.1		2.3	1.2	0.3	110					
CF12−10−35	10	18	4	35	22	9.5	20.4	30	0.7	0.9	0.2	60	−	−	10.6	−	−
−55				55	42		22.5		1.1	1.1							
−80				80	−	−	−		1.9	1	0.3						
CF12−12−35	12	20	4	35	22	9.5	22.4	30	0.7	1	0.2	60	−	−	12.6	−	−
−55				55	42		24.5		1.1	1.2							
−80				80	−	−	−		1.9	1.1	0.3						

Inch

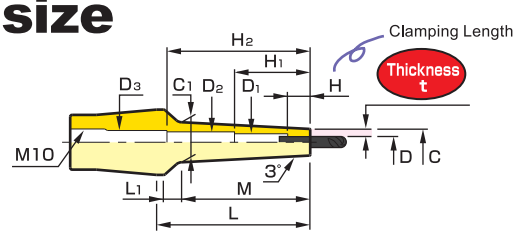




※The values below are given for the CT40-SLK12-45.
(The values below are comparable for any shank combination.)

CODE	φD	φC	Thickness t	L	M	L_1	$φC_1$	H	S	N	lbs	Max. insertion length	$φD_1$	$φD_2$	H_1	H_2
CS12−3.175− 80	.1250	.24	.059	3.15	2.64	.37	.52	.38	14.0	0.7	0.40	4.33	.16	.24	1.57	2.95
−110				4.33	3.82		.64		19.3	0.9	0.48	5.51				4.13
−3/16− 80	.1875	.31		3.15	2.64		.58	.58	10.3	0.8	0.41	4.33	.24	—	1.97	—
−110				4.33	3.82		.71		14.2	1.0	0.51	5.51			2.76	
−1/ 4− 80	.2500	.37		3.15	2.64		.64	.70	7.4	0.9	0.44	4.33	.28		1.97	
−110				4.33	3.82		.77		10.5	1.1	0.56	5.51			2.76	
−5/16− 80	.3125	.43		3.15	2.64		.71	.98	5.6	1.0	0.47	4.33	—		—	
−110				4.33	3.82		.83		8.1	1.2	0.61	5.51				
−3/ 8− 80	.3750	.49		3.15	2.64		.77	1.18	4.4	1.0	0.50	2.36	.41		2.4	
−110				4.33	3.82		.89		6.4	1.3	0.66					
−7/16− 80	.4375	.56		3.15	2.64		.83		3.6	1.2	0.53		.46			
−110				4.33	–	–	–		5.2	1.3	0.72					
−1/ 2− 80	.5000	.62		3.15	2.64	.37	.89		3.1		0.55		.54			
−110				4.33	3.82	–	–		4.8	1.7	0.77					
CR12−1/ 8− 55	.1250	.36	.089	2.17	1.65	.37	.53	.38	3.5	0.6	0.41	3.35	.16	—	2.36	—
−3/16− 55	.1875	.42					.60	.46	2.7	0.7	0.42		.24		1.97	
−1/ 4− 55	.2500	.49					.66	.70	2.2	0.8	0.44		.28			
−5/16− 55	.3125	.55	.119				.72	.98	1.9		0.45		—		—	
−3/ 8− 55	.3750	.61					.78	1.18	1.6	0.9	0.47	2.36	.41		2.4	
−7/16− 55	.4375	.67					.85		1.4		0.48		.46			
−1/ 2− 35	.5000	.81	.157	1.38	.87		.91		0.6	1.0	0.40		.54			
− 55				2.17	1.99		—		1.1	0.9	0.54					
CF12−1/ 8− 55	.1250	.38	.128	2.17	1.65	.37	.55	.39	3.1	0.7	0.42	3.35	.16	—	2.64	—
−3/16− 55	.1875	.50					.68	.55	1.9	0.8	0.46		.24			
−1/ 4− 55	.2500	.56					.74	.71	1.6	0.9	0.47		.28		1.97	
−5/16− 55	.3125	.63	.157				.80	.98	1.4	1.0	0.50		—		—	
−3/ 8− 55	.3750	.69					.86	1.18	1.3	1.1	0.51		.54		2.4	
−7/16− 55	.4375	.75					.93		1.1	1.0	0.53		.46			
−1/ 2− 55	.5000	.81			1.99	—	—				0.54		.52			

Collet for MWS drills and MZS drills-inch size



CODE	φD	φC	Thickness t	L	M	L_1	$φC_1$	H	Max. insertion length	$φD_1$	$φD_2$	$φD_3$	H_1	H_2
CS12−3.175− 80	.1250	.24	.059	3.15	2.64	.37	.52	.39	4.33	.16	.24	.34	1.55	2.93
−110				4.33	3.82		.64		5.51					4.11
−9/64− 80	.1406	.26		3.15	2.64		.54	.47	4.33	.20	.28			2.94
−110				4.33	3.82		.66		5.51					4.12
−5/32− 80	.1562	.27		3.15	2.64		.55		4.33					2.94
−110				4.33	3.82		.67		5.51					4.12
−4 − 80	.1575	.28		3.15	2.64		.55		4.33					2.94
−110				4.33	3.82		.68		5.51					4.12

CODE	φD	φC	Thickness t	L	M	L_1	$φC_1$	H	Max. insertion length	$φD_1$	$φD_2$	$φD_3$	H_1	H_2
CS12−11/64− 80	.1719	.29	.059	3.15	2.64	.37	.57	.47	4.33	.20	.28	.34	1.55	2.94
−110				4.33	3.82		.69		5.51					4.12
− 3/16− 80	.1875	.31		3.15	2.64		.58	.59	4.33	.24	—		1.94	—
−110				4.33	3.82		.71		5.51				2.73	
−5 − 80	.1969	.32		3.15	2.64		.59		4.33				1.94	
−110				4.33	3.82		.72		5.51				2.73	
−13/64− 80	.2031			3.15	2.64		.60		4.33				1.94	
−110				4.33	3.82		.72		5.51				2.73	
− 7/32− 80	.2188	.34		3.15	2.64		.61	.71	4.33	.28			1.95	
−110				4.33	3.82		.74		5.51				2.74	
−15/64− 80	.2344	.35		3.15	2.64		.63		4.33				1.95	
−110				4.33	3.82		.75		5.51				2.74	
− 1/ 4− 80	.2500	.37		3.15	2.64		.64		4.33				1.95	
−110				4.33	3.82		.77		5.51				2.74	
−.257 − 80	.2570	.38		3.15	2.64		.65	.79	4.33	—			—	
−110				4.33	3.82		.78		5.51					
−17/64− 80	.2656			3.15	2.64		.66		4.33					
−110				4.33	3.82		.78		5.51					
−.272 − 80	.2720	.39		3.15	2.64		.67		4.33					
−110				4.33	3.82		.79		5.51					
− 9/32− 80	.2812	.40		3.15	2.64		.68		4.33					
−110				4.33	3.82		.80		5.51					
−19/64− 80	.2969	.42		3.15	2.64		.69	.98	4.33					
−110				4.33	3.82		.82		5.51					
− 5/16− 80	.3125	.43		3.15	2.64		.71		4.33					
−110				4.33	3.82		.83		5.51					
−21/64− 80	.3281	.45		3.15	2.64		.72		1.89			.35		
−110				4.33	3.82		.85							
−.332 − 80	.3320			3.15	2.64		.73							
−110				4.33	3.82		.85							
−11/32− 80	.3438	.46		3.15	2.64		.74	1.18	2.36			.37		
−110				4.33	3.82		.86							
−23/64− 80	.3594	.48		3.15	2.64		.75					.38		
−110				4.33	3.82		.88							
−.368 − 80	.3680	.49		3.15	2.64		.76					.39		
−110				4.33	3.82		.89							
− 3/ 8− 80	.3750			3.15	2.64		.77					.40		
−110				4.33	3.82		.89							
−25/64− 80	.3906	.51		3.15	2.64		.79					.41		
−110				4.33	3.82		.91							
−13/32− 80	.4062	.52		3.15	2.64		.80					.43		
−110				4.33	3.82		.92							
−27/64− 80	.4219	.54		3.15	2.64		.82					.44		
−110				4.33	3.82		.94							
− 7/16− 80	.4375	.56		3.15	2.64		.83					.46		
−110				4.33	3.82		.96							
−29/64− 80	.4531	.57		3.15	2.64		.85					.48		
−110				4.33	3.82		.97							
−15/32− 80	.4688	.59		3.15	2.64		.86					.49		
−110				4.33	—	—	—							
−31/64− 80	.4844	.60		3.15	2.64	.37	.88					.51		
−110				4.33	—	—	—							
− 1/ 2− 80	.5000	.62		3.15	2.64	.37	.89					.52		
−110				4.33	—	—	—							

SHRINK-FIT HOLDER

SLIMLINE

Straight Shank

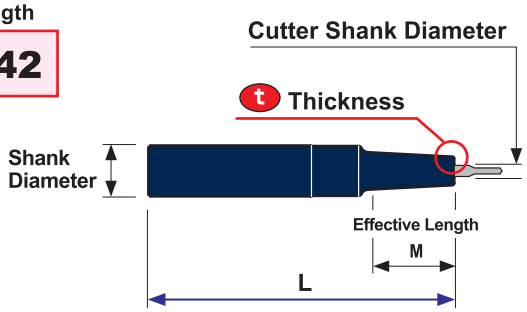
STRAIGHT arbor

Code System

ST 10 C – SLSA 3 – 110 – M42

- ST: The code of Straight Shank
- 10: Shank Diameter
- C: Carbide Shank
- SLSA: Holder Type
- 3: Cutter Shank Diameter
- 110: L
- M42: Effective Length

Holder Type	t Thickness
SLSA (Slim A type)	1.5 (Constant) (.059″)
SLSB (Slim B type)	2 ~ 4.5 (.079″ ~.177″)
SLRA (Regular A type)	2.25~ 3 (.089″ ~.118″)
SLRB (Regular B type)	4 ~10 (.157″ ~.394″)



Shank Diameter \ Cutter Shank Diameter	3	3.175	4	5	6	7	8	9	10	11	12	16	20	25	1/8	3/16	1/4	3/8	1/2
10	●	●	●	●															
12					●														
16	●		●		●		●												
19.05															●	●	●		
20	●		●	●	●		●		●		●								
25	●		●	●	●	●	●	●	●	●	●	●							
25.4																		●	●
32					●		●		●		●	●	●						

Metric

Fig.1

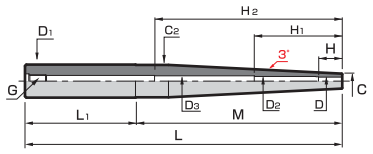


Fig.2

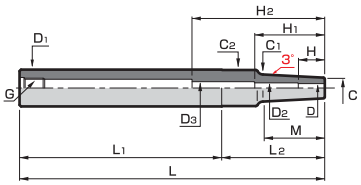
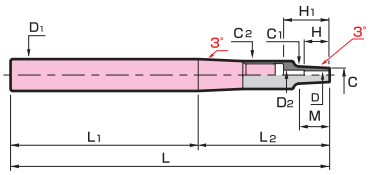


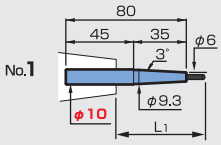
Fig.3



CODE	Fig.	φD	φC	L	M	φD1	H	L1	L2	φC1	φC2	G	Max. insertion length	Kg	φD2	φD3	H1	H2	Scale model
ST10 −SLSA 3− 80−M 35	1	3	6	80	35	10	9	45	35	−	9.3	M 6	64	0.03	4	−	40	−	1
ST16 −SLSA 3−115−M 42	2			115	42	16			55	10.4	15.5	M10	87	0.09			51.5		3
−140−M 67				140	67			60	80	13			112	0.1		6	52.5	82.5	5
−SLRA 3−140−M 67			7.5					65	75	14.5									6
ST20 −SLRA 3−175−M 97				175	97	20		70	105	17.7	19.5		147	0.2			51.5	107.5	8
−SLSA 3−200−M 97			6	200				90	110	16.2			172	0.3			52.5	102.5	9
ST10 −SLSA 4− 80−M 35	1	4	7	80	35	10	12	45	35	−	9.5	M 6	64	0.03	5	−	40	−	16
ST16 −SLRA 4− 90−M 22	2		10	90	22	16		60	30	12.3	15.5	M10	62	0.09			32.5		17
−SLSA 4−115−M 42			7	115	42				55	11.4			87	0.1			60		18
−SLRA 4−115−M 42			10					65	50	14.4						8.6	52.5	60	19
−140−M 60	1			140	60			80	−	−			112				62.5	85	20
ST20 −SLRA 4−175−M 95				175	95	20					19.5		147	0.3		6	51.5	97.5	23
−SLSA 4−200−M 97	2		7	200	97			90	110	17.2			172			7	37.5	102.5	24
ST10 −SLSA 5− 80−M 35	1	5	8	80	35	10	15	45	−	−	9.5	M 6	70	0.03	6	−	61.5	−	30
ST20 −SLSA 5−200−M110				200	110	20		90			19.2	M10	182	0.3		8.6	69.2	161.5	31
ST12 −SLSA 6− 80−M 35	1	6	9	80	35	12	18	45	−	−	11.5	M 8	52	0.04	7	−	40	−	33
ST16 −SLSA 6−115−M 42	2			115	42	16		60	55	13.4	15.5	M10	87	0.1			60		34
−SLSB 6−115−M 42			10					65	50	14.4						8.6	52.5	60	35
ST20 −SLRB 6−120−M 42			14	120		20		70		18.4	19.5		92	0.2					36
ST16 −SLSB 6−140−M 60	1		10	140	60	16		80	−	−	15.5		112	0.1			62.5	85	37
ST20 −SLSA 6−175−M105				175	105	20					19.5		147	0.3			107.5	115	39
−SLSB 6−175−M 95					95												97.5		40
−SLRB 6−175−M 60			14		60			115									62.5		41
ST12C −SLSB 6−175	3		10		12	12		125	50		12	−	27			−	23.5	−	42
ST25 −SLSB 6−205−M127	2			205	127	25		70	135	23.3	24.5	M10	177	0.5		8.6	102.5	135	43
−SLSA 6−230−M 97			9	230	97			120	110	19.2			202				92.5	160	45
−SLRB 6−240−M 42			14	240	42			170	70	18.4			212	0.7			45.5	50	46
ST25 −SLSA 7−230−M 97	2	7	10	230	97	25	20	120	110	20.2	24.5	M10	212	0.5	8	8.6	69.8	181.5	53
ST16 −SLSA 8−115−M 50	1	8	11	115	50	16	24	65	−	−	15.5	M10	87	0.1	8.6	−	60	−	56
ST20 −SLSB 8−145−M 70			13	145	70	20		75			19.5		117	0.2			85		57
−SLSA 8−175−M 85			11	175	85			90					147	0.3			115		59
ST25 −SLSB 8−175−M 97	2		13		97	25		70	105	23.2	24.5			0.4			105		60
ST16C−SLSB 8−225	3			225	22	16		165	60	15.3	16	−	32				27.5		62
ST25 −SLSA 8−230−M 97	2		11	230	97	25		120	110	21.2	24.5	M10	202				160		63
ST32 −SLRB 8−285−M 67			18	285	67	32		190	95	25	31.5	M16	257	1.3			73.5		67
ST25 −SLSA 9−230−M 97	2	9	12	230	97	25	30	120	110	22.2	24.5	M10	60	0.6	9.6	−	61	−	70
ST25 −SLRB10−120−M 35	1	10	22	120	35	25	30	85	−	−	24.5	M10	60	0.4	10.6	−	50	−	72
ST20 −SLSB10−120−M 50			16		50	20		70			19.5			0.2			60		73
ST25 −SLSB10−145−M 67	2			145	67	25			75	23	24.5			0.4			75		74
ST20 −SLSA10−145−M 70	1		13		70	20		75	−	−	19.5			0.2			85		75
ST25 −SLSB10−175−M105			16	175	105	25		70			24.5			0.5					76
−SLRB10−210−M 90			22	210	90			120						0.7			70		77
−SLSA10−255−M135			13	255	135								60				115		79
ST20C−SLSB10−270	3		16	270	22	20		200	70	18.3	20	−	38	1.1	11		33.5		80
ST25 −SLSB10−275−M105	1			275	105	25		170	−	−	24.5	M10	60	0.8	10.6		85		81
ST25 −SLSA11−230−M110	1	11	14	230	110	25	30	120	−	−	24.5	M10	60	0.6	11.6	−	181.5	−	87
ST25 −SLSB12−120−M 42	2	12	19	120	42	25	30	70	50	23.4	24.5	M10	60	0.3	12.6	−	50	−	89
ST20 −SLSA12−120−M 50	1		15		50	20			−	−	19.5			0.2			60		90
ST32 −SLRB12−140−M 60			26	140	60	32		80			31.5	M16	112	0.7	13		70		91
ST25 −SLSB12−150−M 80			19	150	80	25		70			24.5	M10	60	0.4	12.6		60		92
ST25 −SLSA12−230−M110			15	230	110			120						0.6			160		94
−SLSB12−250−M 80			19	250	80			170						0.8			60		95
ST32 −SLRB16−175−M 45	1	16	32	175	45	32	32	130	−	−	−	M16	80	0.8	16.6	−	105	−	100
ST25 −SLSB16−175−M 50			24		50	25		125				M10		0.5					101
ST32 −SLSB20−175−M 50	1	20	29	175	50	32	40	125	−	−	31.5	M16	80	0.8	21.6	−	103.5	−	106

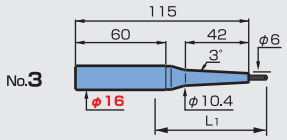
φ3

ST10−SLSA3−80−M35



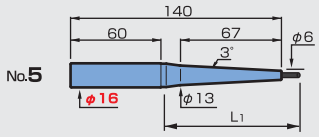
L1	49
↓	8.3

ST16−SLSA3−115−M42



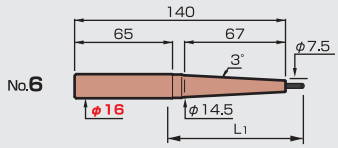
L1	73
↓	11.0

ST16−SLSA3−140−M67



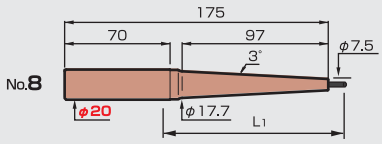
L1	89
↓	16.3

ST16−SLRA3−140−M67



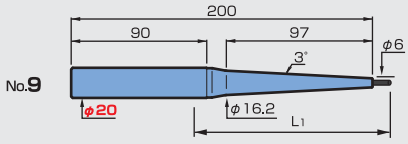
L1	89
↓	9.8

ST20−SLRA3−175−M97



L1	114
↓	12.7

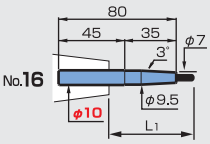
ST20−SLSA3−200−M97



L1	129
↓	22.4

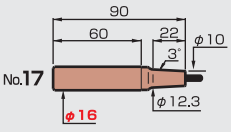
φ4

ST10−SLSA4−80−M35



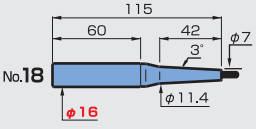
L1	52
↓	7.4

ST16−SLRA4−90−M22



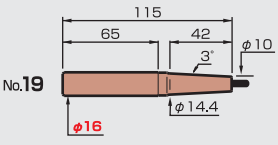
L1	44
↓	1.8

ST16−SLSA4−115−M42



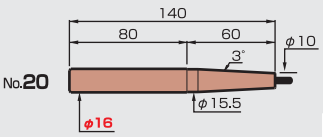
L1	76
↓	8.9

ST16−SLRA4−115−M42



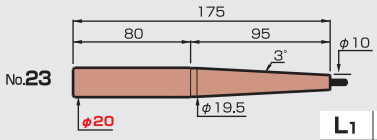
L1	76
↓	4.3

ST16−SLRA4−140−M60



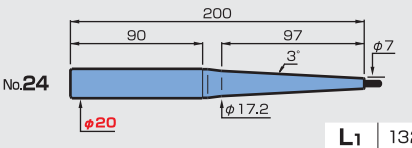
L1	76
↓	4.4

ST20−SLRA4−175−M95

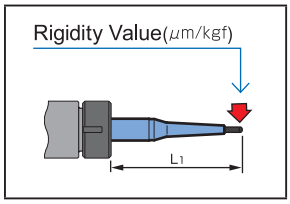


L1	112
↓	7.0

ST20−SLSA4−200−M97

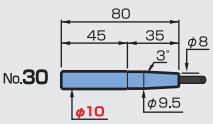


L1	132
↓	18.6

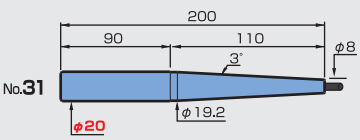


φ5

ST10−SLSA5−80−M35

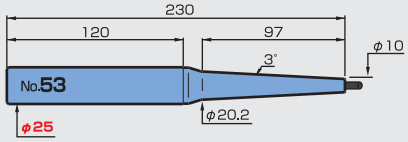


ST20−SLSA5−200−M110



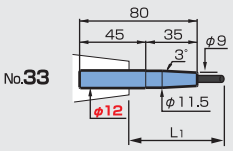
φ7

ST25−SLSA7−230−M97



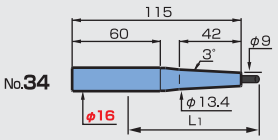
φ6

ST12−SLSA6−80−M35



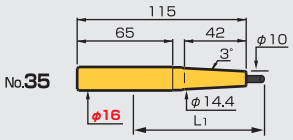
L1	54
↓	4.0

ST16−SLSA6−115−M42



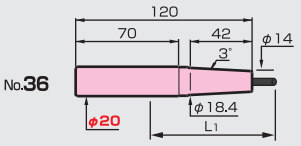
L1	82
↓	6.5

ST16−SLSB6−115−M42



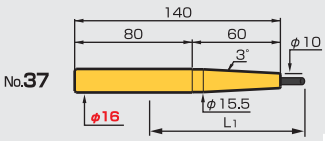
L1	82
↓	5.1

ST20−SLRB6−120− M42



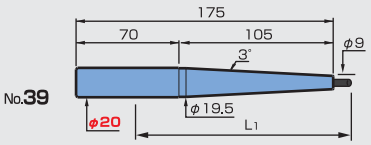
L1	78
↓	2.0

ST16−SLSB6−140−M60



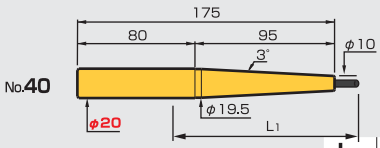
L1	82
↓	5.3

ST20−SLSA6−175−M105



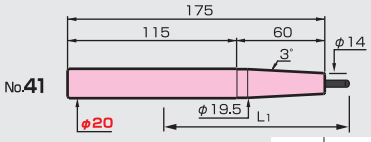
L1	138
↓	12.8

ST20−SLSB6−175−M95



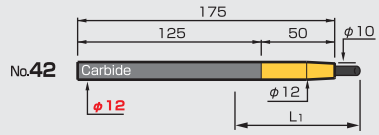
L1	118
↓	8.2

ST20−SLRB6−175−M60



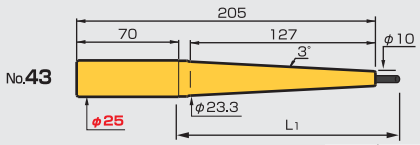
L1	78	118
↓	2.0	4.5

ST12C−SLSB6−175



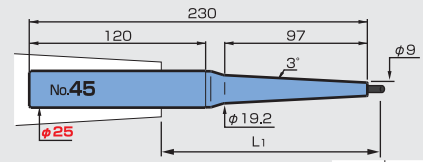
L1	78	102	126
↓	6.9	10.2	15.4

ST25−SLSB6−205−M127



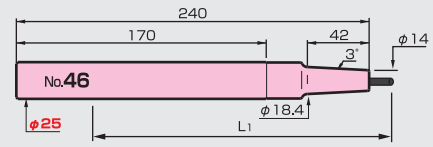
L1	153
↓	10.7

ST25−SLSA6−230−M97



L1	143
↓	11.9

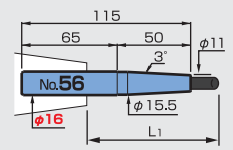
ST25−SLRB6−240−M42



L1	93	143	193
↓	2.0	3.7	7.3

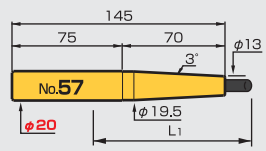
φ8

ST16−SLSA8−115−M50



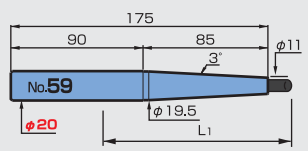
L1	88
↓	5.1

ST20−SLSB8−145−M70



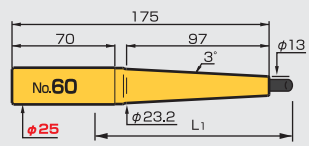
L1	104
↓	4.0

ST20−SLSA8−175−M85



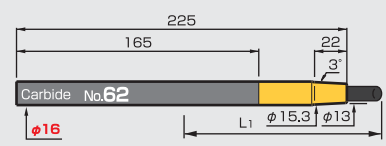
L1	124
↓	7.7

ST25−SLSB8−175−M97



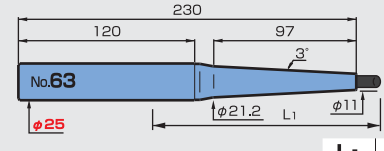
L1	129
↓	5.1

ST16C−SLSB8−225



L1	104	136	168
↓	4.4	6.8	10.7

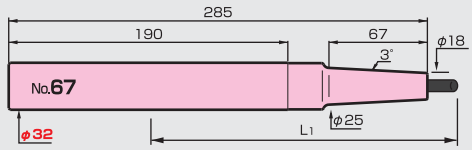
ST25−SLSA8−230−M97



L1	149
↓	8.8

φ8

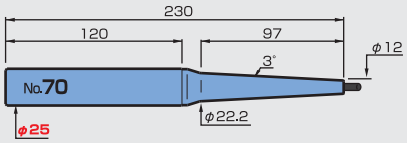
ST32–SLRB8–285–M67



L1	120	184
↓	1.7	3.2

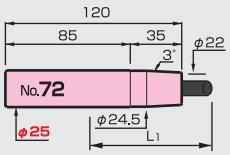
φ9

ST25–SLSA9–230–M97



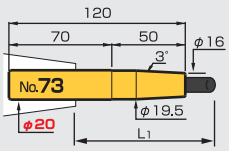
φ10

ST25–SLRB10–120–M35



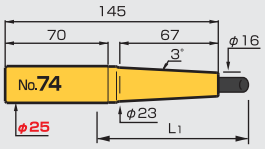
L1	80
↓	0.8

ST20–SLSB10–120–M50



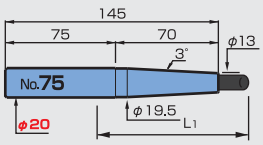
L1	90
↓	2.0

ST25–SLSB10–145–M67



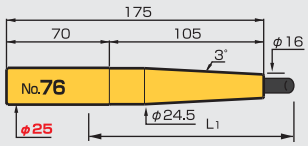
L1	105
↓	2.3

ST20–SLSA10–145–M70



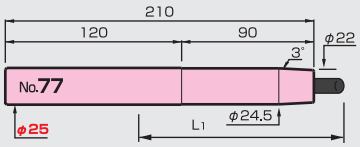
L1	110
↓	4.5

ST25–SLSB10–175–M105



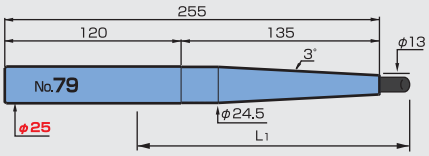
L1	135
↓	3.5

ST25–SLRB10–210–M90



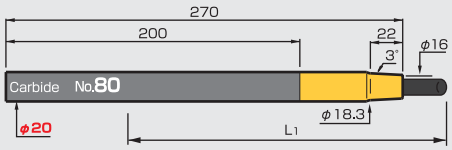
L1	130
↓	2.3

ST25–SLSA10–255–M135



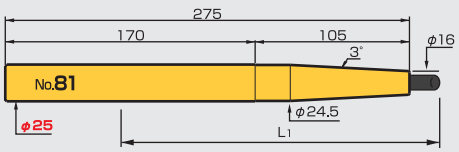
L1	180
↓	8.8

ST20C–SLSB10–270



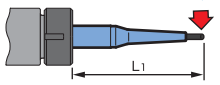
L1	130	170	210
↓	3.2	5.1	8.3

ST25–SLSB10–275–M105



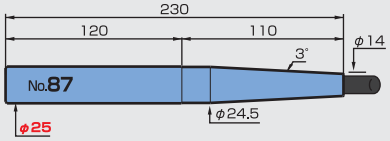
L1	155	205
↓	4.6	8.7

Rigidity Value(μm/kgf)



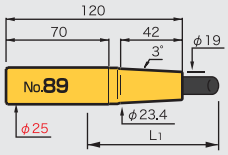
φ11

ST25–SLSA11–230–M110



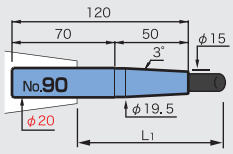
φ12

ST25–SLSB12–120–M42



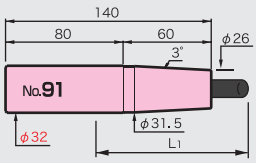
L1	86
↓	1.0

ST20–SLSA12–120–M50



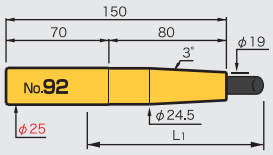
L1	96
↓	2.6

ST32–SLRB12–140–M60



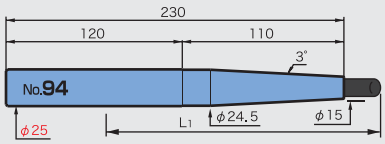
L1	100
↓	0.6

ST25–SLSB12–150–M80



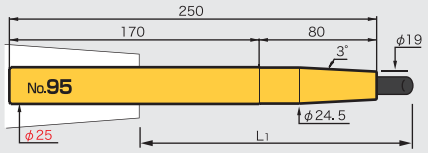
L1	116
↓	1.9

ST25–SLSA12–230–M110



L1	161
↓	5.7

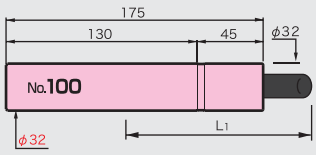
ST25–SLSB12–250–M80



L1	136	186
↓	2.7	6.0

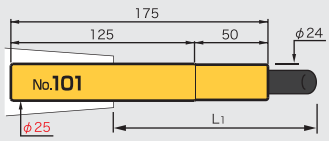
φ16

ST32–SLRB16–175–M45



L1	112
↓	0.6

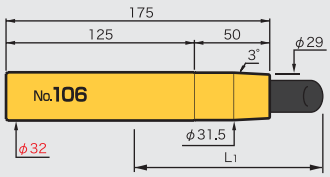
T25–SLSB16–175–M50



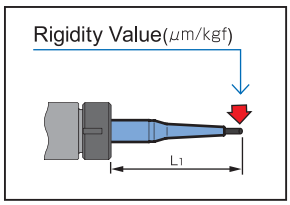
L1	98	148
↓	1.0	3.2

φ20

ST32–SLSB20–175–M50

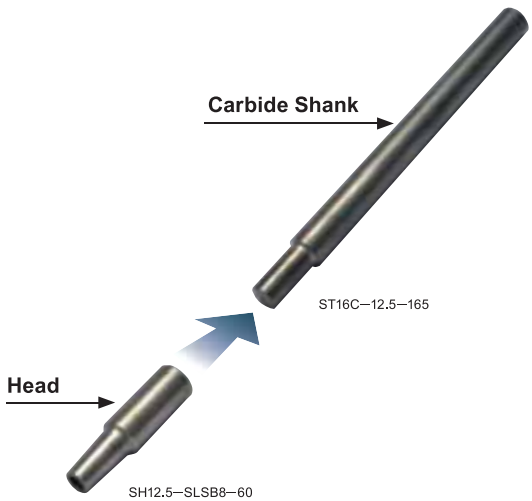


L1	124
↓	0.7



The Parts Code List for Carbide Straight Arbor

SET-CODE	CARBIDE SHANK	HEAD
ST12C–SLSB 6–175	ST12C– 9 –125	SH 9 –SLSB 6–50
ST16C–SLSB 8–225	ST16C–12.5–165	SH12.5–SLSB 8–60
ST20C–SLSB10–270	ST20C–16 –200	SH16 –SLSB10–70



Inch

Fig.1

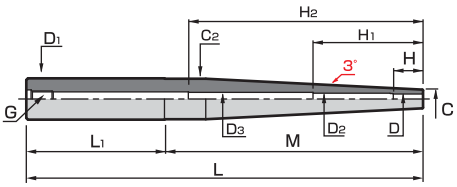
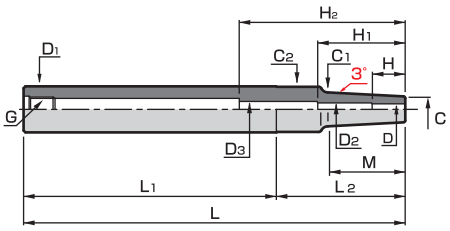


Fig.2

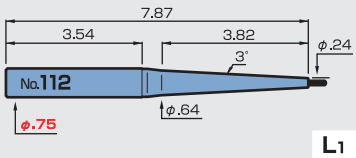


CODE	Fig.	φD	φC	Thickness t	L	M	φD1	H	L1	L2	φC1	φC2	G	Max. insertion length	lbs	φD2	φD3	H1	H2	Scale model
ST19.05–SLS1/ 8–200	2	.1250	.24		7.87	3.82	.750	.38	3.54	4.33	.64	.728	M10	7.20	0.62	.16	.24	2.16	4.13	112
–SLS3/16–200	1	.1850	.31			4.33		.59		–	–				0.55	.24	–	2.76	–	113
–SLS1/ 4–200		.2500	.37	.059		3.94		.71	3.94	3.94						.28				114
ST25.4 –SLS3/ 8–230	2	.3750	.49		9.06	3.82	1.000	1.18	4.72	4.33	.89	.965		2.36	1.43	.40		2.40		115
–SLS1/ 2–230	1	.5000	.62			4.33					–				1.33	.52				116

Scale Model S=1:5

φ1/8

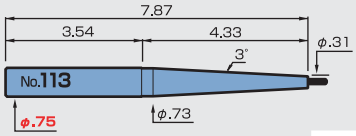
ST19.05–SLS1/8–200



L1	5.10
▼	21.8

φ3/16

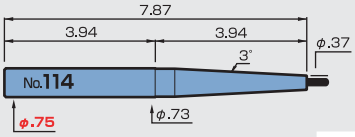
ST19.05–SLS3/16–200



L1	5.29
▼	16.5

φ1/4

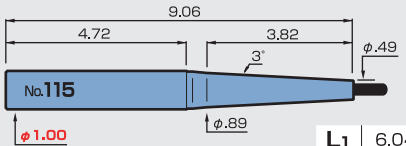
ST19.05–SLS1/4–200



L1	5.47
▼	12.8

φ3/8

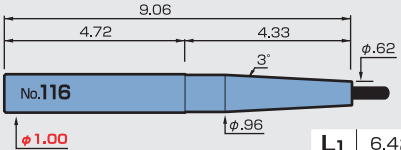
ST25.4–SLS3/8–230



L1	6.04
▼	7.1

φ1/2

ST25.4–SLS1/2–230

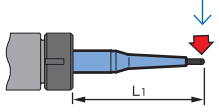


L1	6.42
▼	6.0

"L1" represents the overhang length of the straight arbor from the base holder.

▼ shows the rigidity of the straight arbor body at that length. The base deflection is not considered when determining rigidity values.

Rigidity Value(μm/kgf)



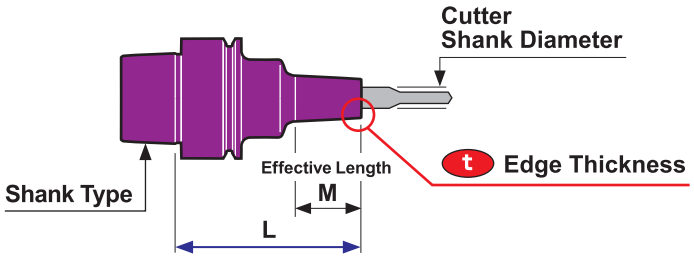
SHRINK-FIT HOLDER

SLIMLINE

Mono Block Series

MONO series

Code System



Shank Type	Holder Type	Cutter Shank Diameter	L	Effective Length
E32	SLSA	3	110	M42

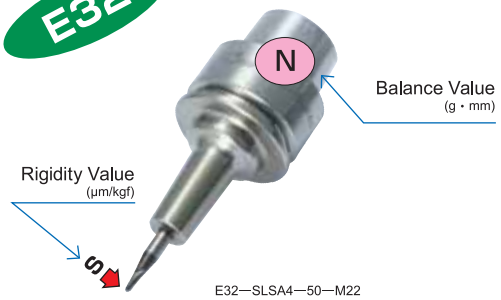
HSK (DIN standard)	PAGE
E32	P.23
E40	P.25
E50	P.28
F63	P.33

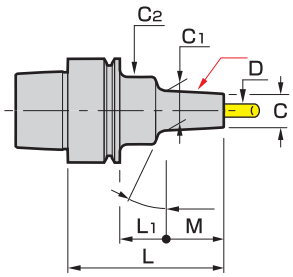
3	3.175	4	5	6	8	10	12	16	20	25
●	●	●	●	●	●	●	●	●		
●	●	●	●	●	●	●	●	●	●	
●		●	●	●	●	●	●	●	●	
●		●		●	●	●	●	●	●	●

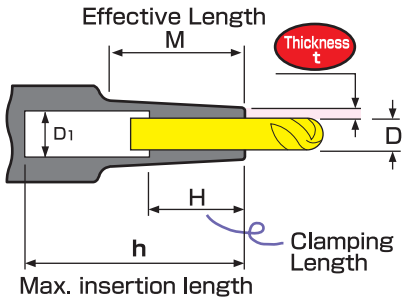
	t Thickness
SLSA (Slim A type)	1.5 (Constant) (.059″)
SLSB (Slim B type)	2 ~ 4.5 (.079″~.177″)
SLRA (Regular A type)	2.25 ~ 3 (.089″~.118″)
SLRB (Regular B type)	4 ~ 10 (.157″~.394″)
SLFB (Flush B type)	3.25 ~ 10 (.128″~.394″)

Metric

E32





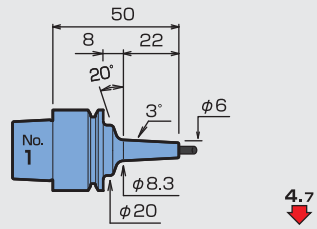


CODE	φD	φC	Thickness t	L	M	L_1	$φC_1$	$φC_2$	$φD_1$	H	h	Kg	N	S	Scale model
E32—SLSA 3—50—M22	3	6	1.5	50	22	8	8.3	20	4	9	42	0.1	0.4	4.7	1
—70—M42				70	42		10.4				62	0.2		9.5	2
—85—M42				85		23		25			69		0.8	9.4	3
—SLRA 3—50—M22		7.5	2.25	50	22	8	9.8	20			42	0.1	0.4	2.8	4
—70—M42				70	42		11.9				62	0.2		5.3	5
—85—M42				85		23		25			69		0.8	5.5	6
E32—SLSA 4—50—M22	4	7	1.5	50	22	8	9.3	20	5	12	35	0.1	0.4	3.6	8
—70—M42				70	42		11.4				54	0.2		7.3	9
—85—M42				85		23		25			69		0.8	7.4	10
—SLRA 4—50—M22		10	3	50	22	8	12.3	20			35		0.4	1.7	11
—70—M42				70	42		14.4				54		0.5	3.1	12
—85—M42				85		23		25			69		0.9	3.2	13
E32—SLSA 6—70—M42	6	9	1.5	70	42	8	13.4	20	7	18	54	0.2	0.5	4.8	14
—SLRA 6—50—M22		12	3	50	22		14.3	26	6.6		39			1.2	15
—70—M42				70	42		16.4		7		54			2.4	16
—85—M42				85		23		25			69		0.9	2.5	17
E32—SLRA 8—50—M22	8	14	3	50	22	8	16.3	26	8.6	24	39	0.2	0.5	1.0	18
—85—M42				85	42	23	18.4	25	9		69		0.9	2.1	19
E32—SLRA10—55—M22	10	16	3	55	22	13	18.3	26	10.6	30	44	0.2	0.6	0.9	20
E32—SLRA12—55—M22	12	20	4	55	22	13	22.3	26	12.6	30	44	0.2	0.7	0.7	21
E32—SLRA16—55—M35	16	26	5	55	35	—	—	—	16.6	32	44	0.2	0.6	0.7	22

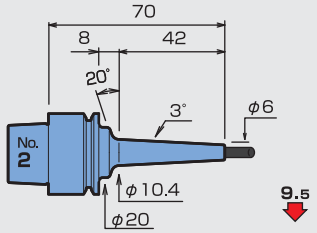
HSK-E32 Scale Model S=1:3

φ3

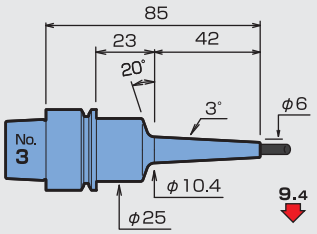
E32—SLSA3—50—M22



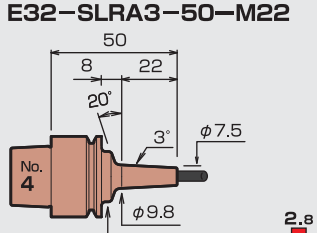
E32—SLSA3—70—M42



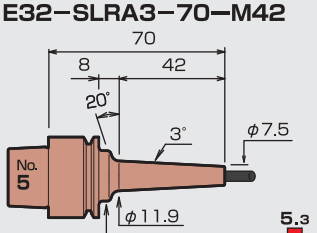
E32—SLSA3—85—M42



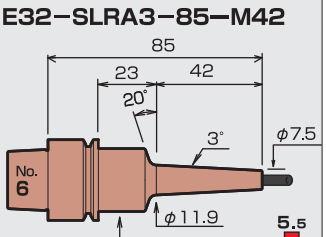
E32—SLRA3—50—M22



E32—SLRA3—70—M42

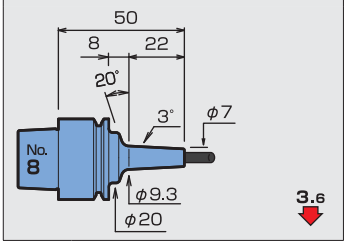


E32—SLRA3—85—M42

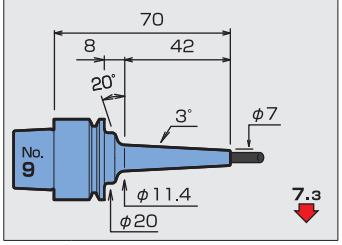


φ4

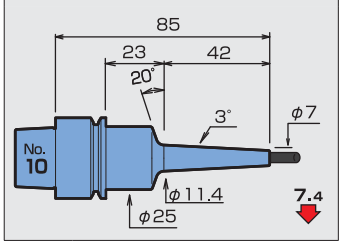
E32−SLSA4−50−M22



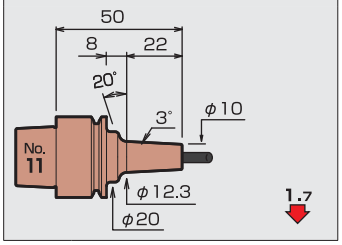
E32−SLSA4−70−M42



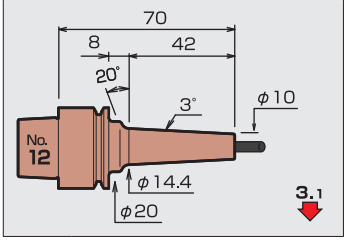
E32−SLSA4−85−M42



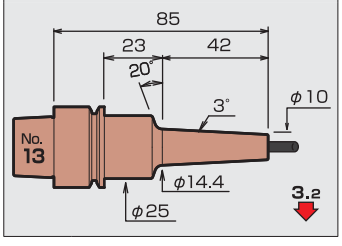
E32−SLRA4−50−M22



E32−SLRA4−70−M42

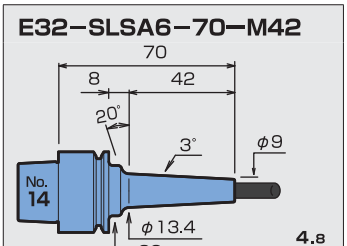


E32−SLRA4−85−M42

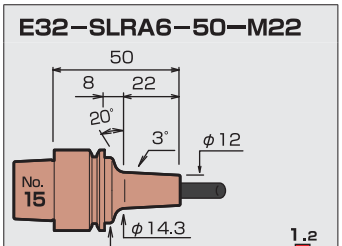


φ6

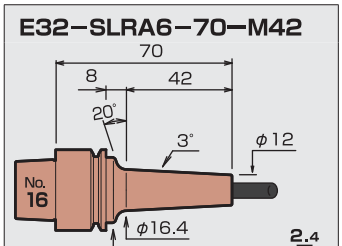
E32−SLSA6−70−M42



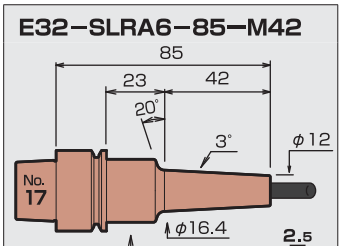
E32−SLRA6−50−M22



E32−SLRA6−70−M42

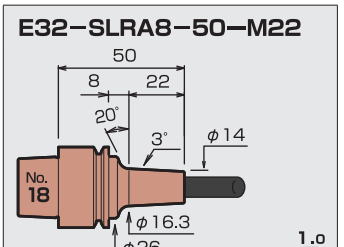


E32−SLRA6−85−M42

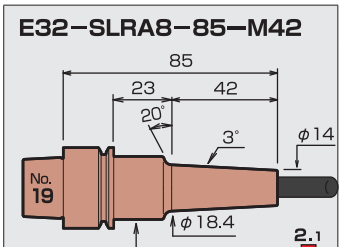


φ8

E32−SLRA8−50−M22

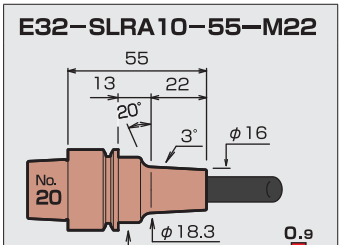


E32−SLRA8−85−M42



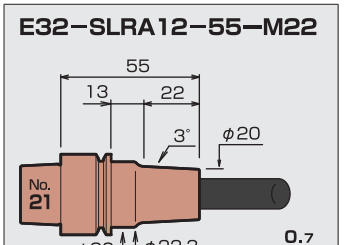
φ10

E32−SLRA10−55−M22



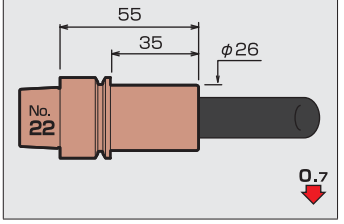
φ12

E32−SLRA12−55−M22



φ16

E32−SLRA16−55−M35



Cleaning Tool

Use when cleaning the machine spindle taper.A leather is an exchange formula. (1 set of leather for exchange is attached.)

CODE
SCT−E32

MAKINO
V22 / V33

SODICK HIGHTECH
HS430L / HS650L / HS150L

MORI SEIKI
NVD1500DCG

MITSUBISHI
μv1

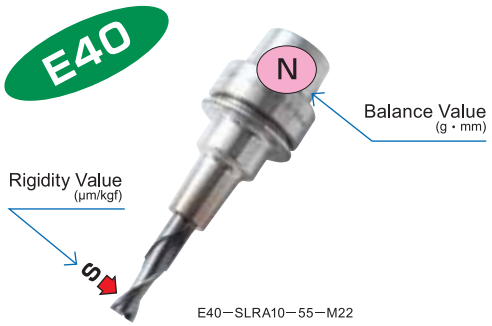
OKK
VD300

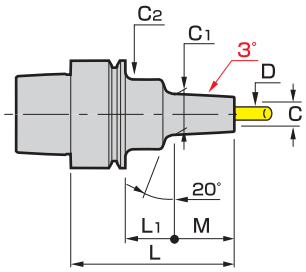
NIPPEI TOYAMA
Zμ3500

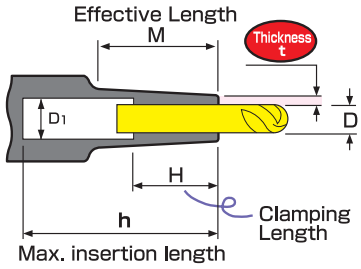
OPS-INGERSOLL
OPS600

ROEDERS GMBH
RHP600

Metric





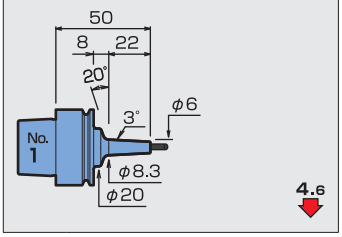


CODE	φD	φC	Thickness t	L	M	L_1	$φC_1$	$φC_2$	$φD_1$	H	h	Kg	N	S	Scale model
E40—SLSA 3— 50—M22	3	6	1.5	50	22	8	8.3	20	4	9	42	0.2	0.7	4.6	1
— 70—M42				70	42		10.4				62			9.4	2
— 85—M42				85		23		25			69	0.3	1.1	9.3	3
—110—M67				110	67		13				94		2.2	15.0	4
—SLRA 3— 50—M22		7.5	2.25	50	22	8	9.8	20			42	0.2	0.7	2.8	5
— 70—M42				70	42		11.9				62			5.3	6
— 85—M42				85		23		25			69	0.3	1.1	5.4	7
—110—M67				110	67		14.5				94			9.0	8
E40—SLSA 4— 50—M22	4	7	1.5	50	22	8	9.3	20	5	12	42	0.2	0.7	3.6	10
— 70—M42				70	42		11.4				62			7.2	11
— 85—M42				85		23		25			74	0.3	1.1	7.3	12
—110—M67				110	67		14				99		1.2	11.9	13
—SLRA 4— 50—M22		10	3	50	22	8	12.3	20			42	0.2	0.7	1.6	14
— 70—M42				70	42		14.4				62	0.3		3.0	15
— 85—M42				85		23		25			69		1.1	3.1	16
—110—M67				110	67		17				94		1.2	5.2	17
E40—SLSA 6— 50—M22	6	9	1.5	50	22	8	11.3	20	6.6	18	39	0.2	0.7	2.2	18
— 70—M42				70	42		13.4		7		54			4.7	19
— 85—M42				85		23		25			69	0.3	1.1	4.9	20
—110—M67				110	67		16				94		1.2	8.0	21
—SLRA 6— 50—M22		12	3	50	22	8	14.3	26	6.6		39	0.2	0.7	1.2	22
— 70—M42				70	42		16.4				54	0.3	0.8	2.3	23
— 85—M42				85		23		25	7		69		1.2	2.5	24
—110—M67				110	67		19				94	0.4		4.1	25
E40—SLSA 8— 60—M22	8	11	1.5	60	22	18	13.3	26	8.6	24	49	0.3	1.0	1.5	26
— 80—M42				80	42		15.4				64			3.3	27
—100—M42				100		38		25	9		84		1.5	3.8	28
—SLRA 8— 50—M22		14	3	50	22	8	16.3	26	8.6		39	0.2	0.7	0.9	29
— 85—M42				85	42	23	18.4	25	9		69	0.3	1.2	2.1	30
—100—M42				100		38					84	0.4	1.5	2.4	31
E40—SLSA10— 60—M22	10	13	1.5	60	22	18	15.3	26	10.6	30	49	0.3	1.0	1.2	32
— 80—M42				80	42		17.4				64		1.1	2.4	33
—100—M42				100		38		25	11		89		1.5	3.1	34
—SLRA10— 55—M22		16	3	55	22	13	18.3	26	10.6		44		0.9	0.8	35
— 85—M42				85	42	23	20.4	25	11		64		1.2	1.7	36
—100—M42				100		38						0.4	1.6	2.2	37
E40—SLRA12— 55—M22	12	20	4	55	22	13	22.3	30	12.6	30	44	0.3	1.0	0.6	38
— 85—M42				85	42	23	24.4	32	13		74	0.4	1.6	1.1	39
E40—SLRA16— 55—M22	16	26	5	55	22	13	28.3	34	16.6	32	44	0.3	1.2	0.4	40
E40—SLRA20— 60—M40	20	32	6	60	40	—	34	—	20.6	38	49	0.4	1.6	0.4	41

ROKU-ROKU
CEGA Ⅱ-542
MIKRON
HSM400 / UCP600
HERMLE
C Series
DIGMA
HSC800 / 5

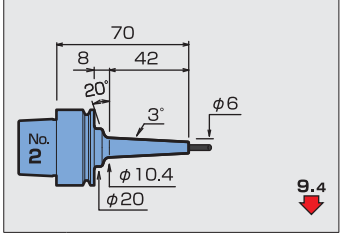
φ3

E40–SLSA3–50–M22



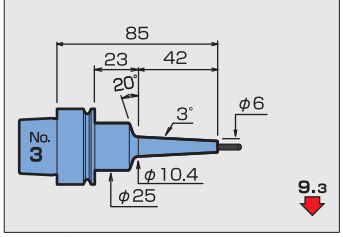
4.6

E40–SLSA3–70–M42



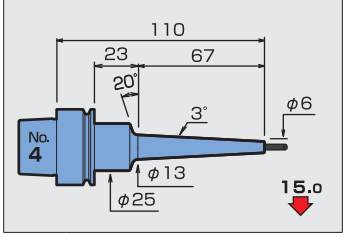
9.4

E40–SLSA3–85–M42



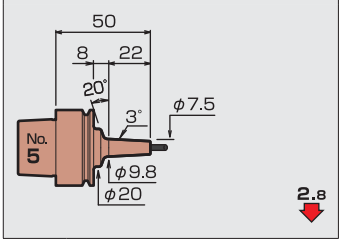
9.3

E40–SLSA3–110–M67



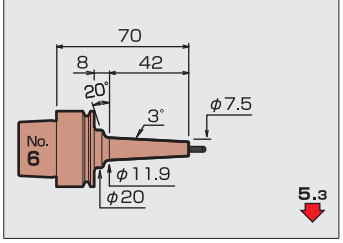
15.0

E40–SLRA3–50–M22



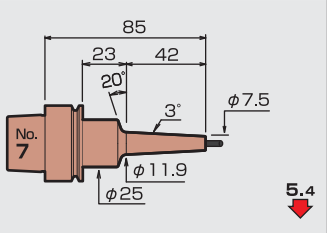
2.8

E40–SLRA3–70–M42



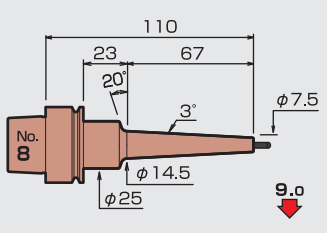
5.3

E40–SLRA3–85–M42



5.4

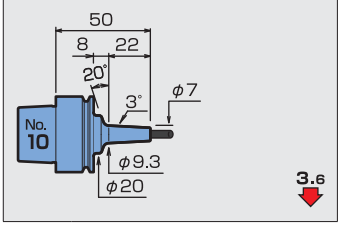
E40–SLRA3–110–M67



9.0

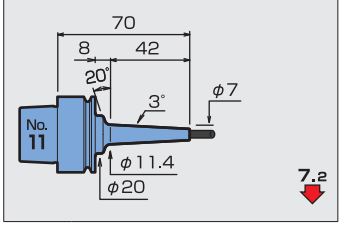
φ4

E40–SLSA4–50–M22



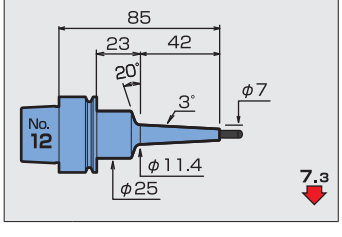
3.6

E40–SLSA4–70–M42



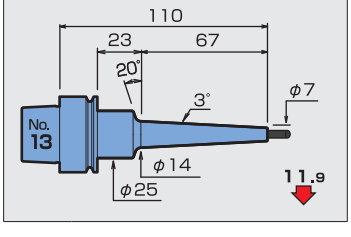
7.2

E40–SLSA4–85–M42



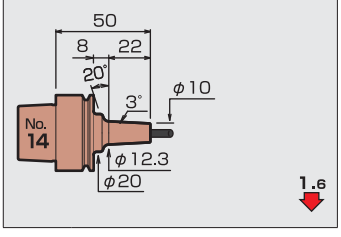
7.3

E40–SLSA4–110–M67



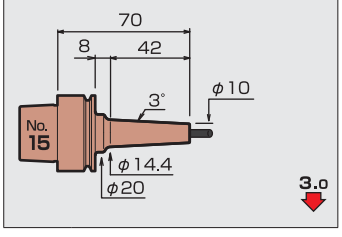
11.9

E40–SLRA4–50–M22



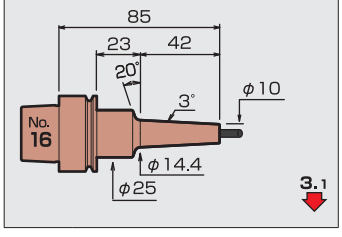
1.6

E40–SLRA4–70–M42



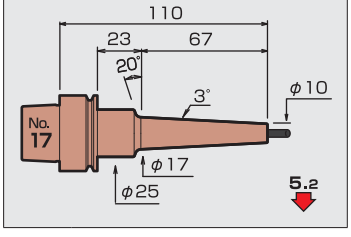
3.0

E40–SLRA4–85–M42



3.1

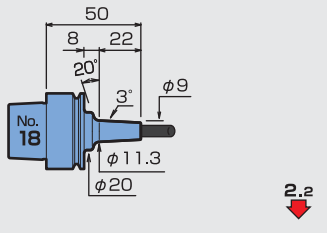
E40–SLRA4–110–M67



5.2

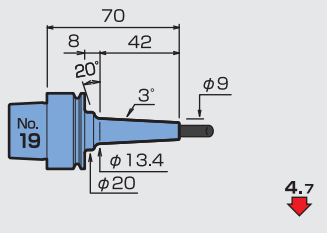
φ6

E40–SLSA6–50–M22



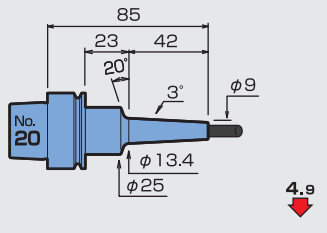
2.2

E40–SLSA6–70–M42



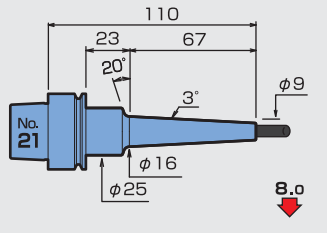
4.7

E40–SLSA6–85–M42



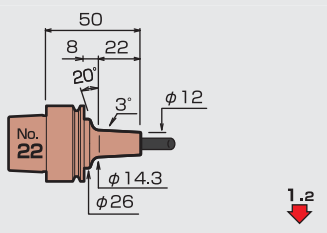
4.9

E40–SLSA6–110–M67



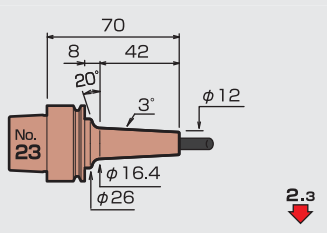
8.0

E40–SLRA6–50–M22



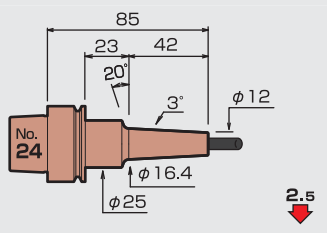
1.2

E40–SLRA6–70–M42



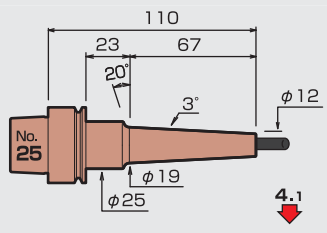
2.3

E40–SLRA6–85–M42



2.5

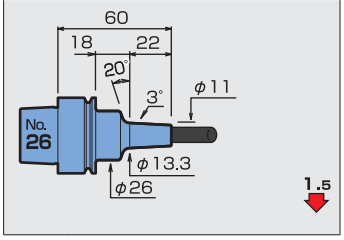
E40–SLRA6–110–M67



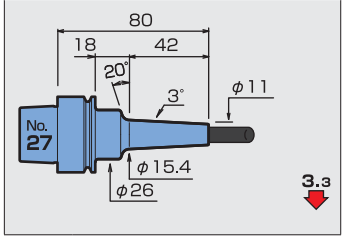
4.1

φ8

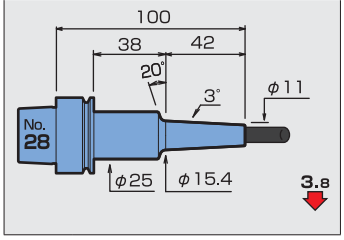
E40–SLSA8–60–M22



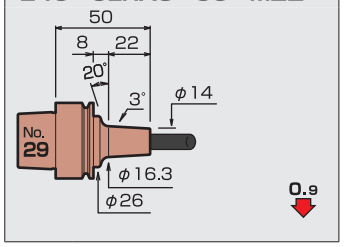
E40–SLSA8–80–M42



E40–SLSA8–100–M42



E40–SLRA8–50–M22



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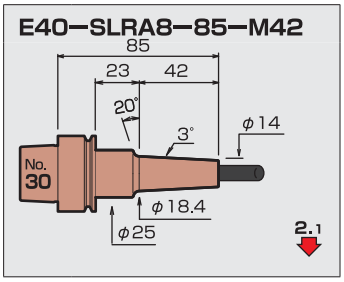

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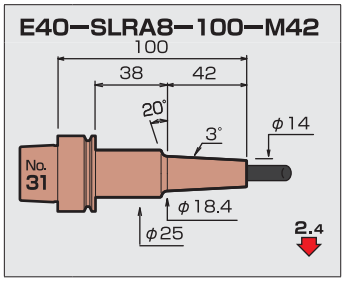
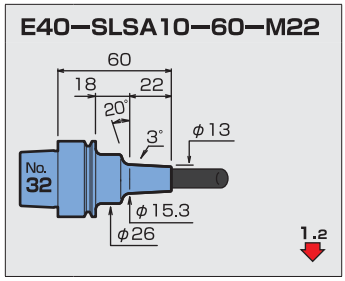
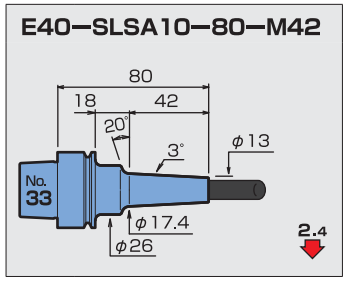


φ10

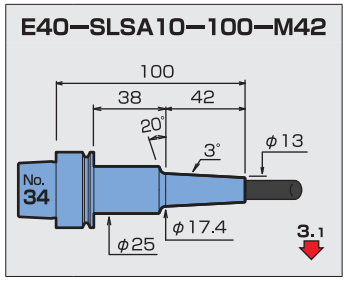
E40–SLSA10–60–M22



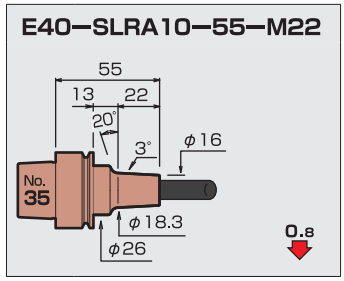
E40–SLSA10–80–M42



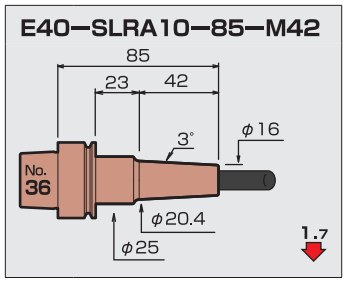
E40–SLSA10–100–M42



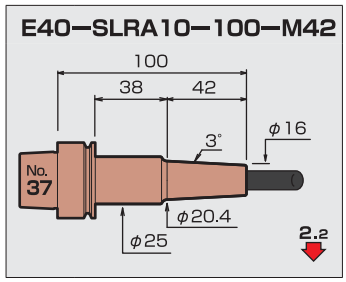
E40–SLRA10–55–M22



E40–SLRA10–85–M42

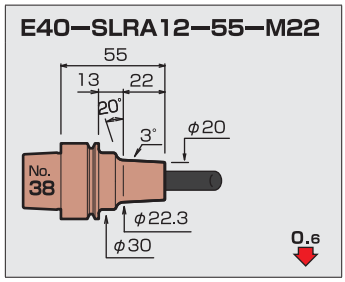


E40–SLRA10–100–M42

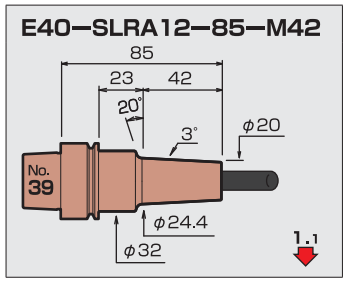


φ12

E40–SLRA12–55–M22

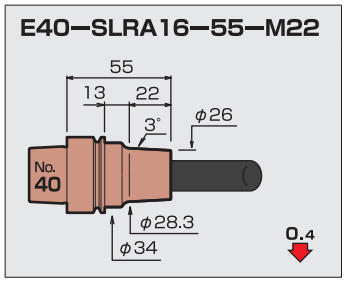


E40–SLRA12–85–M42



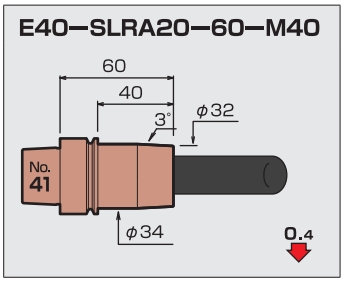
φ16

E40–SLRA16–55–M22



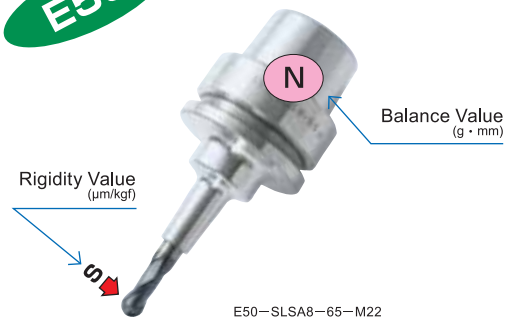
φ20

E40–SLRA20–60–M40

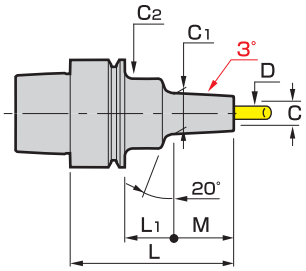


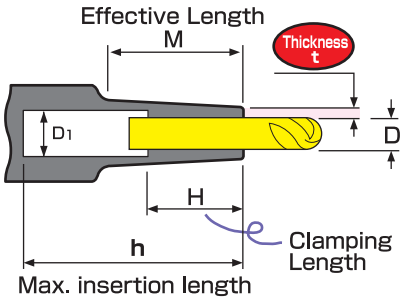
E50

Metric



E50—SLSA8—65—M22





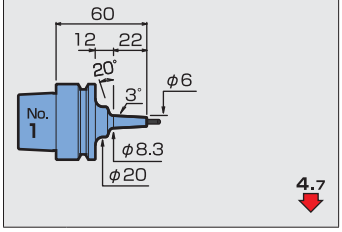
CODE	φD	φC	Thickness t	L	M	L_1	$φC_1$	$φC_2$	$φD_1$	H	h	Kg	N	S	Scale model
E50—SLSA 3— 60—M 22	3	6	1.5	60	22	12	8.3	20	4	9	50	0.4	1.3	4.7	1
— 80—M 42				80	42		10.4				70	0.5		9.3	2
— 95—M 42				95		27		25			85		1.7	9.4	3
—SLRA 3— 75—M 22		7.5	2.25	75	22		9.8				65			2.8	4
— 95—M 42				95	42		11.9				85			5.4	5
—120—M 67				120	67		14.5				110		1.8	9.0	6
—150—M 97				150	97		17.7				132	0.6		13.1	7
—SLFB 3— 75—M 22		9.5	3.25	75	22		11.8				65	0.5		1.9	8
E50—SLSA 4— 60—M 22	4	7	1.5	60	22	12	9.3	20	5	12	50	0.4	1.3	3.6	9
— 80—M 42				80	42		11.4				70	0.5		7.3	10
— 95—M 42				95		27		25			85		1.8	7.4	11
—SLRA 4— 75—M 22		10	3	75	22		12.3				65		1.7	1.7	12
— 95—M 42				95	42		14.4				85		1.8	3.2	13
—120—M 67				120	67		17				110	0.6		5.2	14
—150—M 97				150	97		20.2	32			132	0.7	2.2	7.3	15
—SLFB 4— 75—M 22		12	4	75	22		14.3	25			62	0.5	1.9	1.4	16
E50—SLSA 6— 60—M 22	6	9	1.5	60	22	12	11.3	20	7	18	42	0.5	1.3	2.3	17
— 80—M 42				80	42		13.4				62			4.8	18
—120—M 67				120	67	27	16	25			102		1.8	8.1	19
—150—M 97				150	97		19.2	32			132	0.6	2.3	11.2	20
—SLSB 6— 95—M 42		10	2	95	42		14.4	25			77	0.5	1.8	3.9	21
—120—M 67				120	67		17				102	0.6		6.5	22
—150—M 97				150	97		20.2	32			132	0.7	2.3	8.6	23
—SLRA 6— 60—M 22		12	3	60	22	12	14.3	26	6.6		44	0.5	1.4	1.2	24
— 95—M 42				95	42	27	16.4	25	7		77		1.8	2.5	25
—120—M 67				120	67		19				102	0.6	1.9	4.2	26
—SLRB 6— 95—M 42		14	4	95	42		18.4	32			77		2.2	1.6	27
—SLFB 6— 75—M 22				75	22		16.3				57		2.1	1.0	28
E50—SLSA 8— 65—M 22	8	11	1.5	65	22	17	13.3	26	8.6	24	49	0.5	1.5	1.5	29
— 85—M 42				85	42		15.4				67		1.6	3.2	30
—120—M 67				120	67	27	18	32	9		102	0.6	2.3	5.9	31
—150—M 97				150	97		21.2				132	0.7	2.4	8.1	32
—SLSB 8— 95—M 42		13	2.5	95	42		17.4				77	0.6	2.2	2.2	33
—120—M 67				120	67		20				102		2.3	3.7	34
—150—M 97				150	97		23.2				132	0.7	2.4	5.3	35
—SLRA 8— 60—M 22		14	3	60	22	12	16.3	26	8.6		44	0.5	1.4	0.9	36
— 95—M 42				95	42	27	18.4	25	9		77		1.8	2.1	37
—SLRB 8— 95—M 42		18	5				22.4	32				0.6	2.2	1.1	38
—120—M 67				120	67		25				102	0.7	2.3	1.8	39
—SLFB 8— 75—M 22				75	22		20.3				57	0.6	2.2	0.7	40

CODE	φD	φC	Thickness t	L	M	L_1	$φC_1$	$φC_2$	$φD_1$	H	h	Kg	N	S	Scale model
E50−SLSA10− 65−M 22	10	13	1.5	65	22	17	15.3	26	10.6	30	49	0.5	1.5	1.1	41
− 85−M 42				85	42		17.4				64		1.6	2.4	42
−120−M 67				120	67	27	20	32	11			0.6	2.3	4.4	43
−150−M 97				150	97		23.2					0.7	2.5	6.2	44
−SLSB10− 95−M 42		16	3	95	42		20.4						2.2	1.5	45
−120−M 67				120	67		23					0.7	2.4	2.5	46
−150−M 97				150	97		26.2						2.5	3.7	47
−SLRA10− 60−M 22				60	22	12	18.3	26	10.6		44	0.5	1.4	0.8	48
−SLRB10− 95−M 42		22	6	95	42	27	26.4	32	11		64	0.7	2.3	0.9	49
−120−M 67				120	67		29	42				0.8	3.2	1.1	50
−SLFB10− 75−M 22				75	22		24.3	32	16		60	0.6	2.2	0.6	51
E50−SLSA12− 65−M 22	12	15	1.5	65	22	17	17.3	26	12.6	30	49	0.5	1.6	0.9	52
− 85−M 42				85	42		19.4				64		1.7	1.9	53
−120−M 67				120	67	27	22	32	13			0.6	2.4	3.4	54
−SLSB12− 95−M 42		19	3.5	95	42		23.4						2.3	1.2	55
−120−M 67				120	67		26					0.7	2.5	1.9	56
−150−M 97				150	97		29.2	42				0.9	3.5	2.6	57
−SLRA12− 60−M 22		20	4	60	22	12	22.3	30	12.6		44	0.5	1.5	0.6	58
−SLRB12− 95−M 42		26	7	95	42	27	30.4	42	13		64	0.8	3.1		59
−120−M 67				120	67		33					0.9	3.3	0.9	60
−SLFB12− 75−M 22				75	22		28.3		21		60	0.7	3.0	0.4	61
E50−SLSB16− 95−M 42	16	24	4	95	42	27	28.4	42	17	32	81	0.7	3.2	0.8	62
−120−M 67				120	67		31					0.8	3.5	1.2	63
−SLRA16− 60−M 22		26	5	60	22	12	28.3	34	16.6		44	0.6	1.7	0.4	64
−SLRB16− 75−M 22		32	8	75		27	34.3	42	22.2		61	0.7	3.0		65
−SLFB16− 75−M 22											60				66
E50−SLSB20− 95−M 42	20	29	4.5	95	42	27	33.4	42	21	40	81	0.7	3.3	0.6	67
−SLRA20− 65−M 22		32	6	65	22	17	34.3	40	20.6	38	49	0.6	2.2	0.3	68

HSK-E50 Scale Model S=1:5

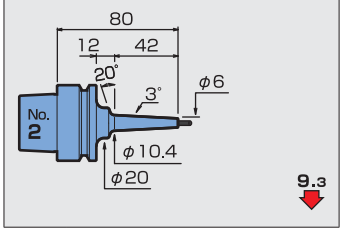
φ3

E50−SLSA3−60−M22



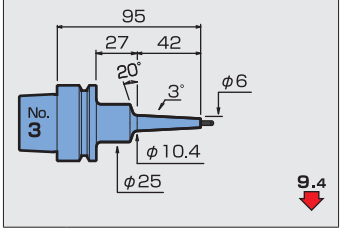
4.7

E50−SLSA3−80−M42



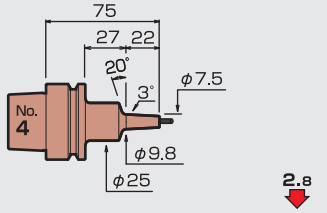
9.3

E50−SLSA3−95−M42



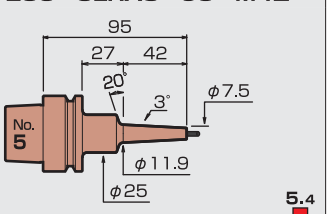
9.4

E50−SLRA3−75−M22



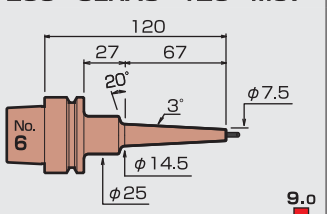
2.8

E50−SLRA3−95−M42



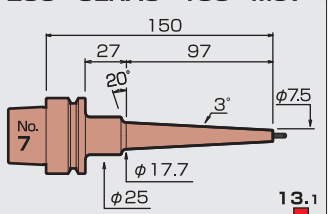
5.4

E50−SLRA3−120−M67



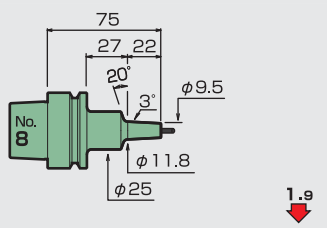
9.0

E50−SLRA3−150−M97



13.1

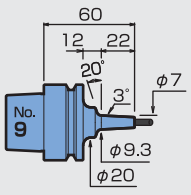
E50−SLFB3−75−M22



1.9

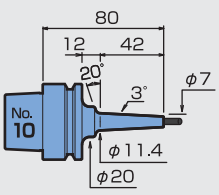
φ4

E50–SLSA4–60–M22



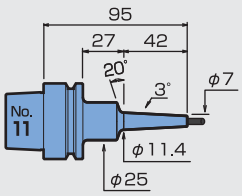
3.6

E50–SLSA4–80–M42



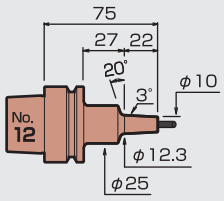
7.3

E50–SLSA4–95–M42



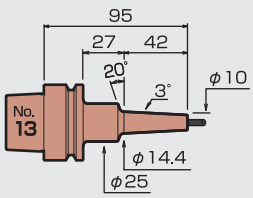
7.4

E50–SLRA4–75–M22



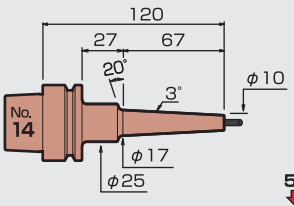
1.7

E50–SLRA4–95–M42



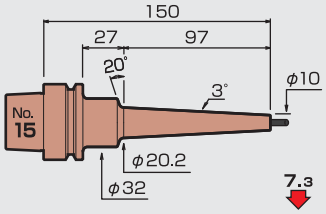
3.2

E50–SLRA4–120–M67



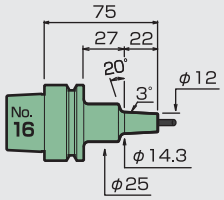
5.2

E50–SLRA4–150–M97



7.3

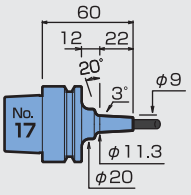
E50–SLFB4–75–M22



1.4

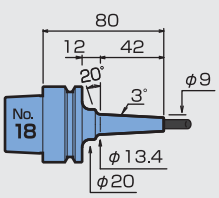
φ6

E50–SLSA6–60–M22



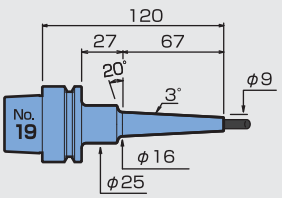
2.3

E50–SLSA6–80–M42



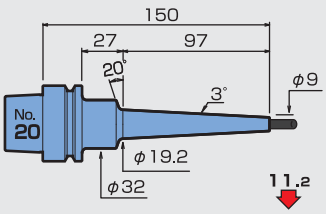
4.8

E50–SLSA6–120–M67



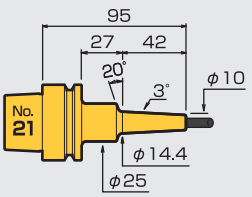
8.1

E50–SLSA6–150–M97



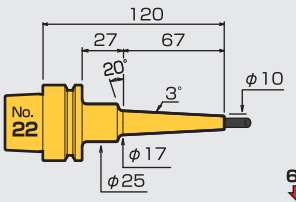
11.2

E50–SLSB6–95–M42



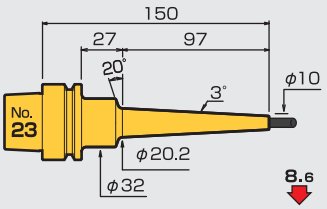
3.9

E50–SLSB6–120–M67



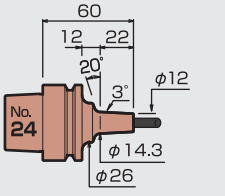
6.5

E50–SLSB6–150–M97



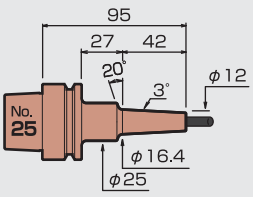
8.6

E50–SLRA6–60–M22



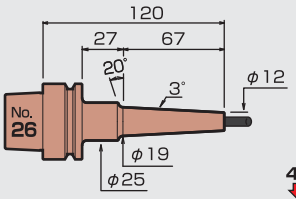
1.2

E50–SLRA6–95–M42



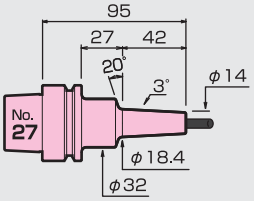
2.5

E50–SLRA6–120–M67



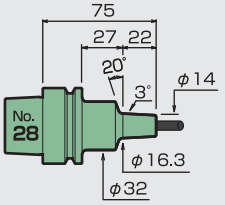
4.2

E50–SLRB6–95–M42



1.6

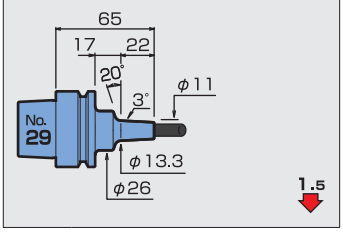
E50–SLFB6–75–M22



1.0

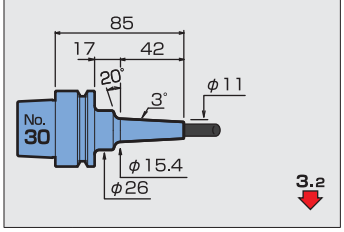
φ8

E50–SLSA8–65–M22



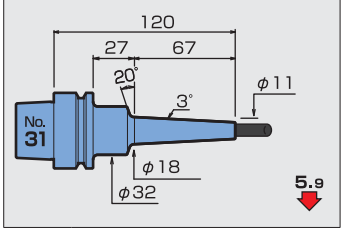
1.5

E50–SLSA8–85–M42



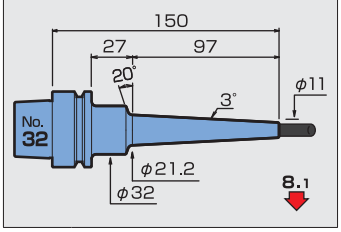
3.2

E50–SLSA8–120–M67



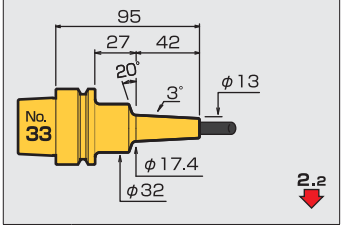
5.9

E50–SLSA8–150–M97



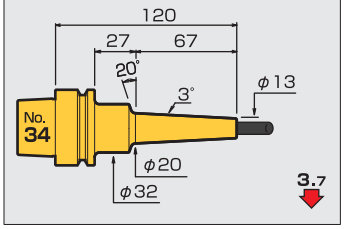
8.1

E50–SLSB8–95–M42



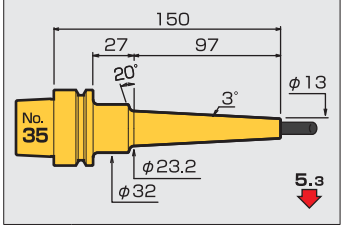
2.2

E50–SLSB8–120–M67



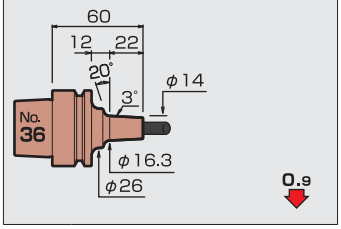
3.7

E50–SLSB8–150–M97



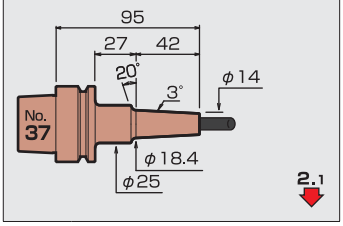
5.3

E50–SLRA8–60–M22



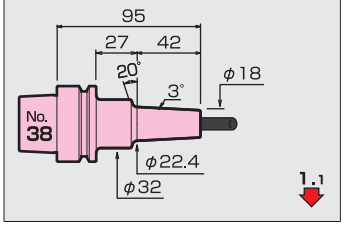
0.9

E50–SLRA8–95–M42



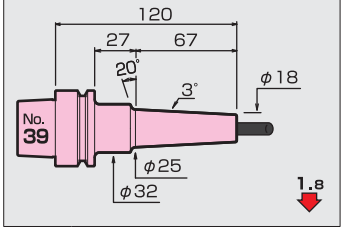
2.1

E50–SLRB8–95–M42



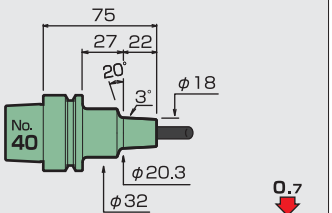
1.1

E50–SLRB8–120–M67



1.8

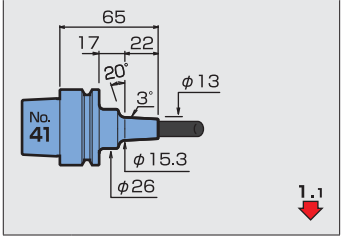
E50–SLFB8–75–M22



0.7

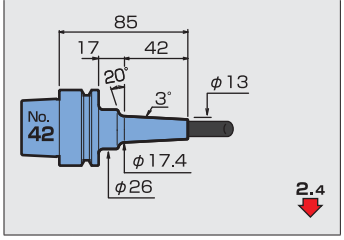
φ10

E50–SLSA10–65–M22



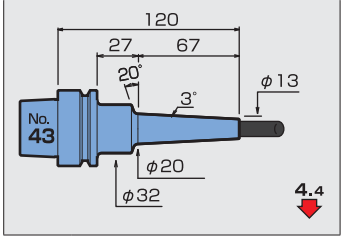
1.1

E50–SLSA10–85–M42



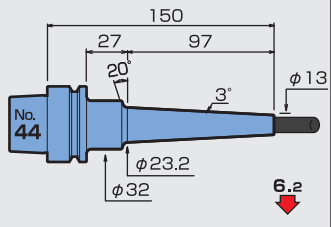
2.4

E50–SLSA10–120–M67



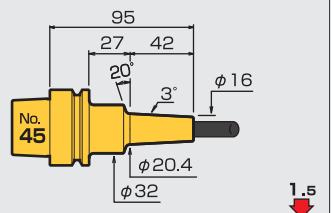
4.4

E50–SLSA10–150–M97



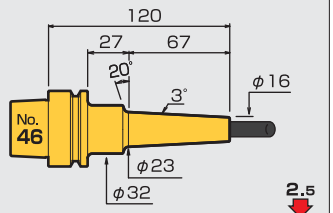
6.2

E50–SLSB10–95–M42



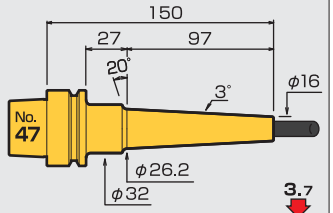
1.5

E50–SLSB10–120–M67



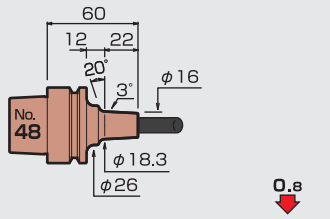
2.5

E50–SLSB10–150–M97



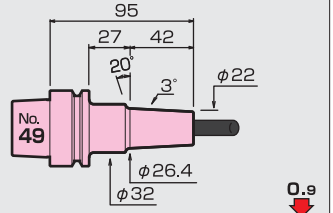
3.7

E50–SLRA10–60–M22



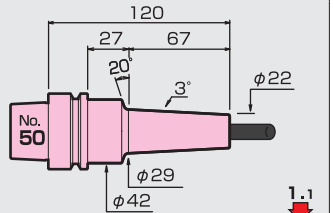
0.8

E50–SLRB10–95–M42



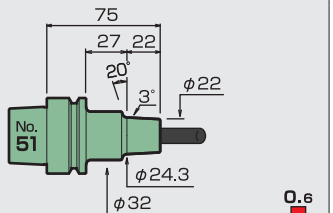
0.9

E50–SLRB10–120–M67



1.1

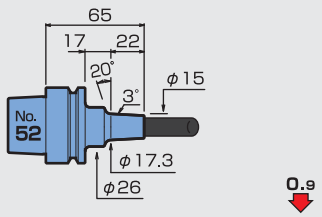
E50–SLFB10–75–M22



0.6

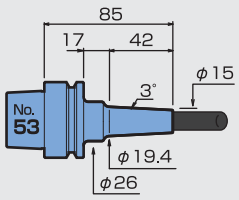
φ12

E50–SLSA12–65–M22



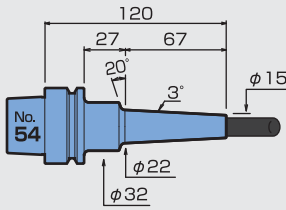
0.9

E50–SLSA12–85–M42



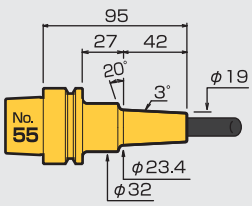
1.9

E50–SLSA12–120–M67



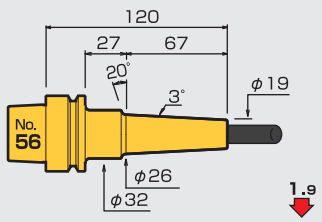
3.4

E50–SLSB12–95–M42



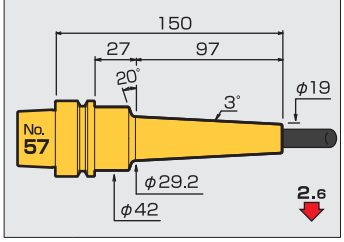
1.2

E50–SLSB12–120–M67



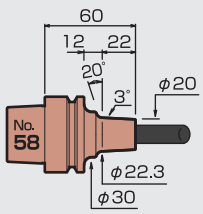
1.9

E50–SLSB12–150–M97



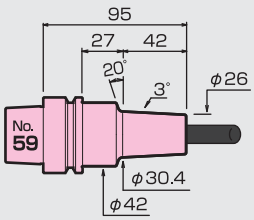
2.6

E50–SLRA12–60–M22



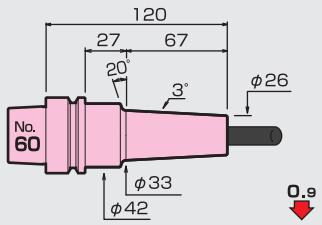
0.6

E50–SLRB12–95–M42



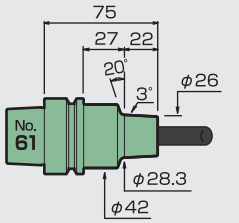
0.6

E50–SLRB12–120–M67



0.9

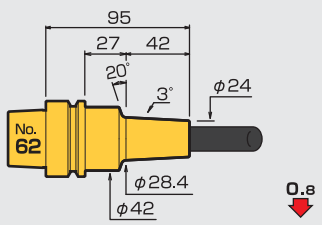
E50–SLFB12–75–M22



0.4

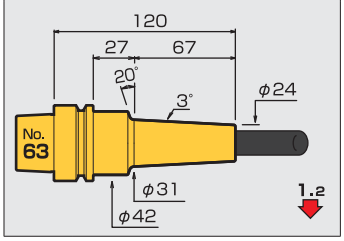
φ16

E50–SLSB16–95–M42



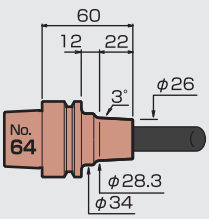
0.8

E50–SLSB16–120–M67



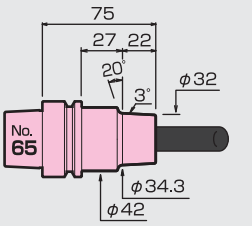
1.2

E50–SLRA16–60–M22



0.4

E50–SLRB16–75–M22



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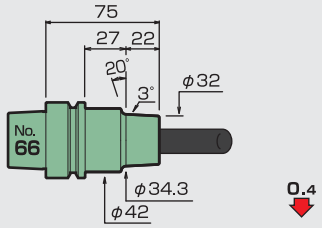
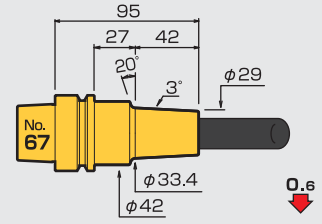
E50–SLFB16–75–M22



0.4

φ20

E50–SLSB20–95–M42



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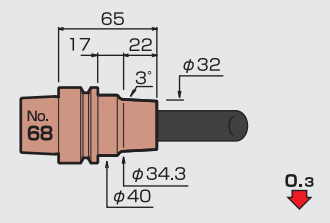
E50–SLRA20–65–M22

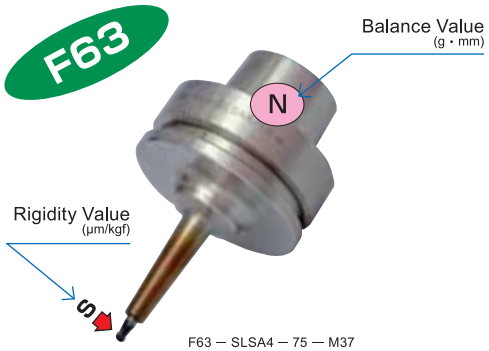


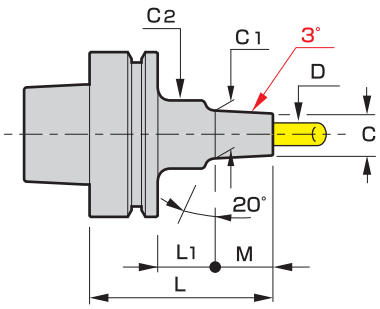
0.3

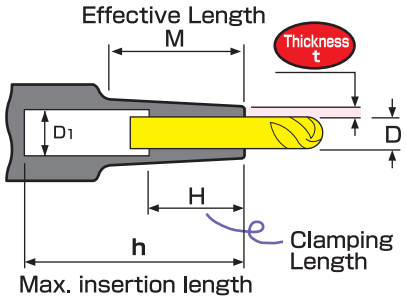
FIDIA
HS664RT

DIGMA
HSC800 / 5

Metric





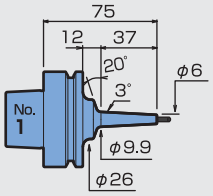


CODE	φD	φC	Thickness t	L	M	L_1	φC_1	φC_2	φD_1	H	h	Kg	N	S	Scale model
F63—SLSA 3— 75—M37	3	6	1.5	75	37	12	9.9	26	4	9	58	0.7	1.5	8.0	1
— 95—M42				95	42	27	10.4	25			73		1.8	9.3	2
—SLRA 3— 70—M22		7.5	2.25	70	22	22	9.8	26			53		1.7	2.8	3
— 95—M42				95	42	27	11.9	25			73		1.9	5.4	4
—SLFB 3— 75—M22		9.5	3.25	75	22		11.8				53			1.9	5
— 95—M42				95	42		13.9				73	0.8	2.0	3.3	6
—120—M67				120	67		16.5				98			5.4	7
F63—SLSA 4— 75—M37	4	7	1.5	75	37	12	10.9	26	5	12	58	0.7	1.5	6.2	8
— 95—M42				95	42	27	11.4	25			73		1.9	7.3	9
—SLRA 4— 70—M22		10	3	70	22	22	12.3	26			53		1.7	1.7	10
— 95—M42				95	42	27	14.4	25			73	0.8	1.9	3.1	11
—SLFB 4— 75—M22		12	4	75	22		14.3				53	0.7	2.0	1.4	12
— 95—M42				95	42		16.4				73	0.8		2.2	13
—120—M67				120	67		19				98		2.1	3.6	14
F63—SLSA 6— 75—M37	6	9	1.5	75	37	12	12.9	26	7	18	58	0.7	1.5	4.0	15
— 95—M42				95	42	27	13.4	25			73		1.9	4.9	16
—SLSB 6— 95—M42		10	2				14.4							3.9	17
—SLRA 6— 70—M22		12	3	70	22	22	14.3	26			53		1.7	1.3	18
— 95—M42				95	42	27	16.4	25			73	0.8	1.9	2.5	19
—SLFB 6— 75—M22		14	4	75	22		16.3	32			53		2.2	1.0	20
F63—SLSA 8— 95—M42	8	11	1.5	95	42	27	15.4	25	9	24	73	0.7	1.9	3.5	21
—SLSB 8— 95—M42		13	2.5				17.4	32				0.8	2.3	2.2	22
—SLRA 8— 70—M22		14	3	70	22	22	16.3	26	8.6		53	0.7	1.8	1.0	23
— 95—M42				95	42	27	18.4	25	9		73	0.8	1.9	2.1	24
—SLFB 8— 75—M22		18	5	75	22		20.3	32			53		2.2	0.7	25
F63—SLSA10— 95—M42	10	13	1.5	95	42	27	17.4	25	11	30	73	0.8	2.0	2.7	26
—SLSB10— 95—M42		16	3				20.4	32					2.3	1.5	27
—SLRA10— 70—M22				70	22	22	18.3	26	10.6		53	0.7	1.8	0.9	28
—SLFB10— 75—M22		22	6	75		27	24.3	32	16			0.8	2.3	0.6	29
F63—SLSA12— 95—M42	12	15	1.5	95	42	27	19.4	32	13	30	64	0.8	2.3	1.9	30
—SLSB12— 95—M42		19	3.5				23.4				73		2.4	1.1	31
—SLRA12— 70—M22		20	4	70	22	22	22.3	30	12.6		53		2.0	0.6	32
—SLFB12— 75—M22		26	7	75		27	28.3	42	21			0.9	3.0	0.4	33
F63—SLFB16— 75—M22	16	32	8	75	22	27	34.3	42	22.2	32	53	1.0	3.1	0.3	34
F63—SLFB20— 75—M22	20	38	9	75	22	27	40.3	50	20.6	40	53	1.1	3.6	0.3	35
F63—SLFB25— 75—M22	25	45	10	75	22	27	47.3	50	25.6	45	53	1.1	3.7	0.2	36

MAKINO
V33
MORI SEIKI
NV4000 DCG

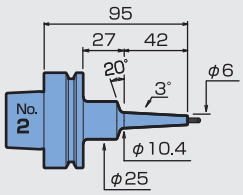
φ3

F63−SLSA3−75−M37



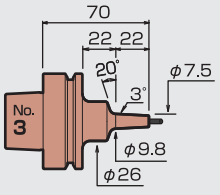
8.0

F63−SLSA3−95−M42



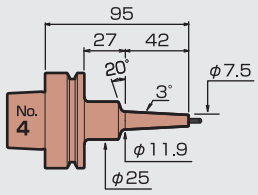
9.3

F63−SLRA3−70−M22



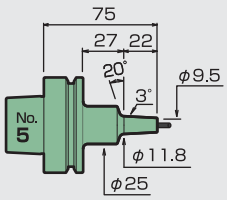
2.8

F63−SLRA3−95−M42



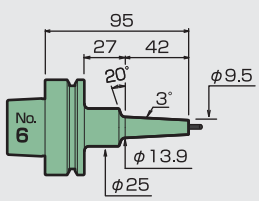
5.4

F63−SLFB3−75−M22



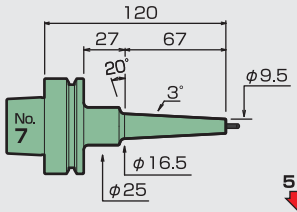
1.9

F63−SLFB3−95−M42



3.3

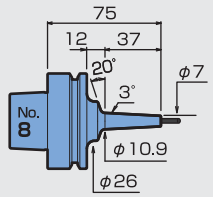
F63−SLFB3−120−M67



5.4

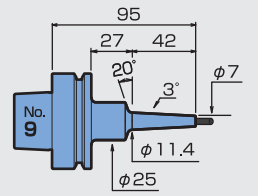
φ4

F63−SLSA4−75−M37



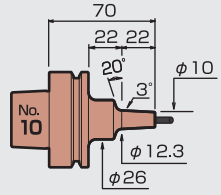
6.2

F63−SLSA4−95−M42



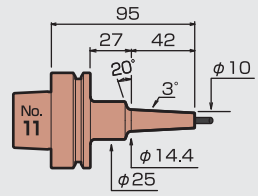
7.3

F63−SLRA4−70−M22



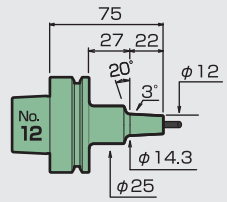
1.7

F63−SLRA4−95−M42



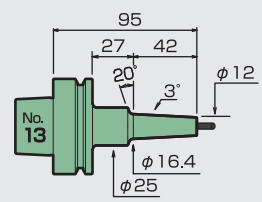
3.1

F63−SLFB4−75−M22



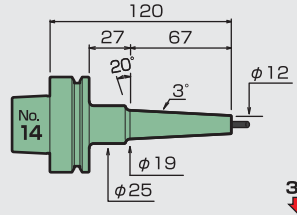
1.4

F63−SLFB4−95−M42



2.2

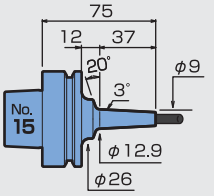
F63−SLFB4−120−M67



3.6

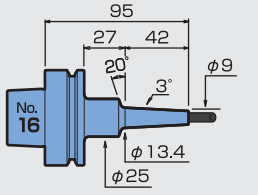
φ6

F63−SLSA6−75−M37



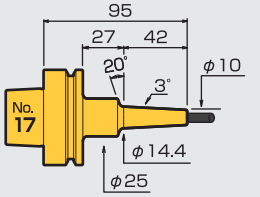
4.0

F63−SLSA6−95−M42



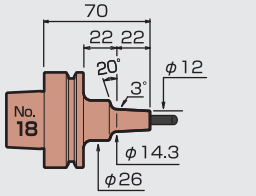
4.9

F63−SLSB6−95−M42



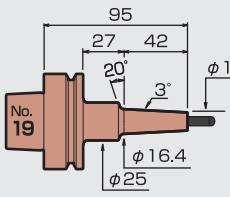
3.9

F63−SLRA6−70−M22



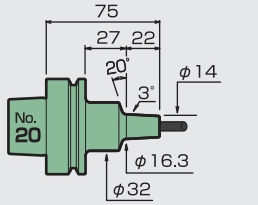
1.3

F63−SLRA6−95−M42



2.5

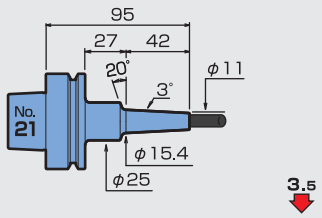
F63−SLFB6−75−M22



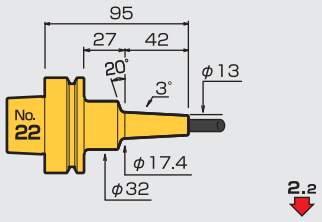
1.0

φ8

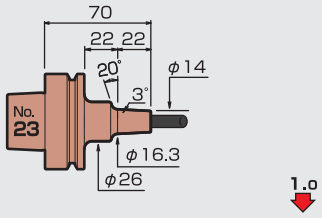
F63−SLSA8−95−M42



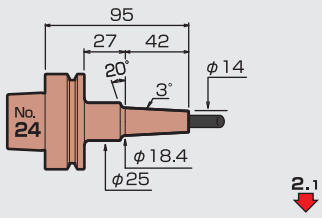
F63−SLSB8−95−M42



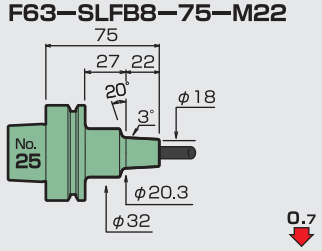
F63−SLRA8−70−M22



F63−SLRA8−95−M42

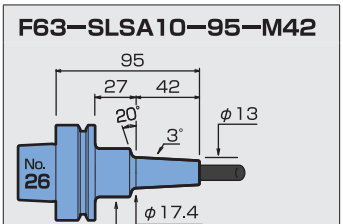


F63−SLFB8−75−M22

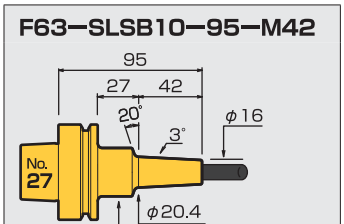


φ10

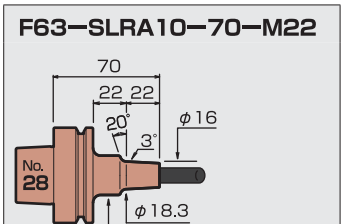
F63−SLSA10−95−M42



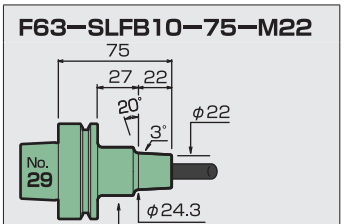
F63−SLSB10−95−M42



F63−SLRA10−70−M22

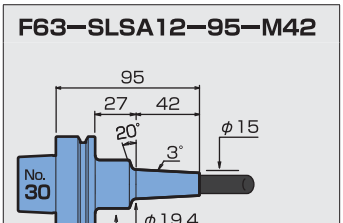


F63−SLFB10−75−M22

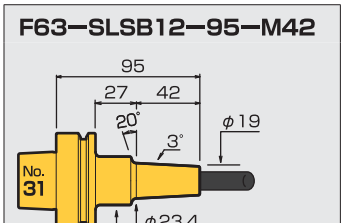


φ12

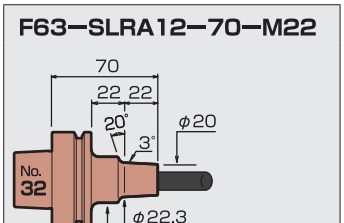
F63−SLSA12−95−M42



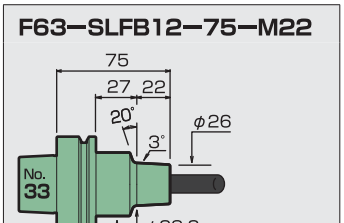
F63−SLSB12−95−M42



F63−SLRA12−70−M22

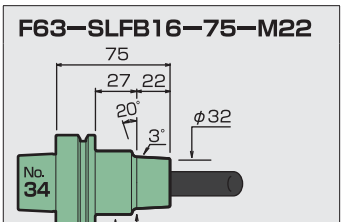


F63−SLFB12−75−M22



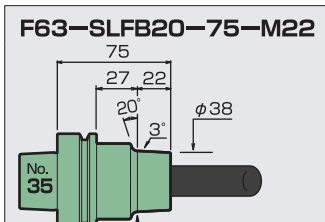
φ16

F63−SLFB16−75−M22



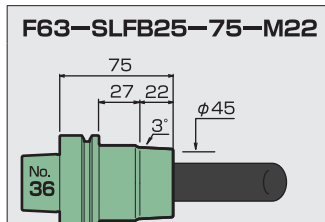
φ20

F63−SLFB20−75−M22



φ25

F63−SLFB25−75−M22



DETa-1 COLLET HOLDER

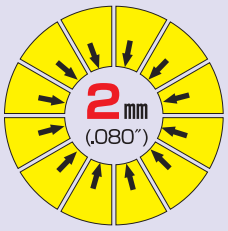
PAT.

Pull collet type collet chuck

2mm collapsibility with just one collet!

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

Collapsibility



12 segments

DETa-1

AType (DTA)

NUT-TIGHTENING TYPE

Easy operation

BType (DTB)

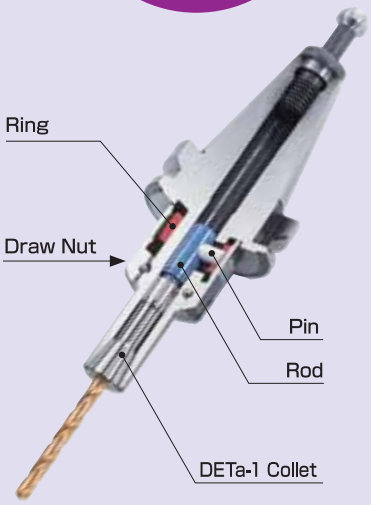
PULL COLLET DESIGN

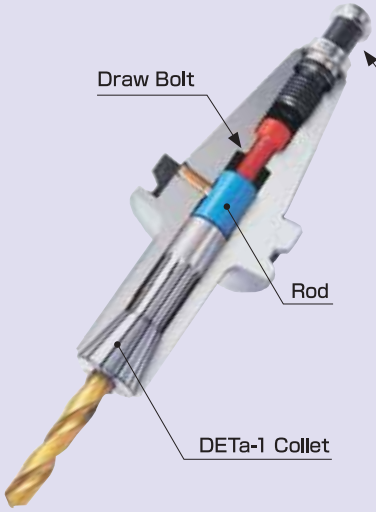
SIMPLE & SLIM・well-balanced characteristics, and highly cost-effective

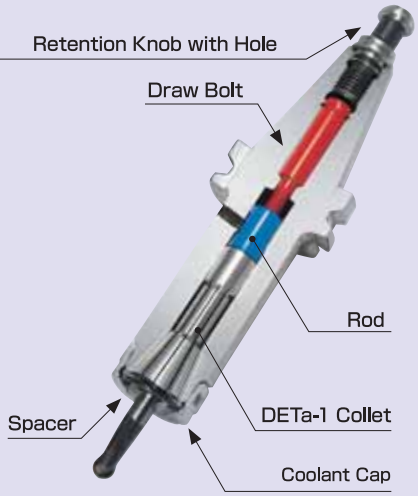
EType (DTE)

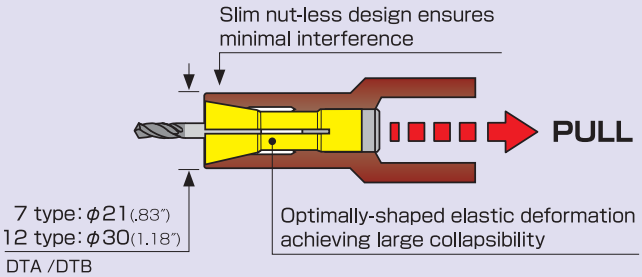
PULL COLLET DESIGN

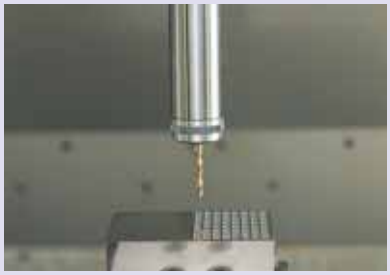
Compatible with coolant-through 7MPa. Great for high-speed machining with its pre-balanced design and highly rigid, thick body







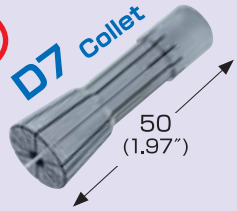




DETa-1 COLLET

Fewer collet types means easier collet management

φ1~φ7 (.039″~.276″)



φ2.5~φ13 (.098″~.512″)

D7 Collet

Eight sizes from 1(.039″) to 7(.276″)mm.

D12 Collet

Six sizes from 2.5(.098″) to 13(.512″) mm.

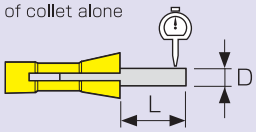
Highest Guaranteed Accuracies Throughout Entire Chucking Range

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

Run-out accuracy

Kinds	Nominal shank size	Using collapsibility
Precision collet	5μm (.0002″)	10μm (.0004″)
Standard collet	10μm (.0004″)	15μm (.0006″)

※Accuracy of collet alone



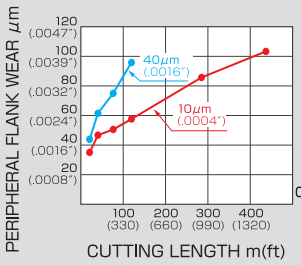
φD	L
~10(~.39″)	4×D
10~13(.39″~.51″)	40

Size

Collet Type	Collet CODE	Chucking range(φ)	Collapsibility (φ)	Nominal shank size (mm)
7 Type	D 7– 1.5	1 ~ 1.5(.039″~.059″)	0.5(.02″)	1.5
	– 2	1.5~ 2 (.059″~.079″)		2
	– 2.5	2 ~ 2.5(.059″~.098″)		2.5
	– 3	2.5~ 3 (.098″~.118″)		3
	– 4	3 ~ 4 (.118″~.157″)	1 (.04″)	4
	– 5	4 ~ 5 (.157″~.197″)		5
	– 6	5 ~ 6 (.197″~.236″)		6
	– 7	6 ~ 7 (.376″~.276″)		7
12 Type	D12– 4	2.5~ 4 (.098″~.157″)	1.5(.06″)	4
	– 6	4 ~ 6 (.157″~.236″)	2 (.08″)	6
	– 8	6 ~ 8 (.236″~.315″)		8
	–10	8 ~10 (.315″~.394″)		10
	–12	10 ~12 (.394″~.472″)		12
	–13	11 ~13 (.433″~.512″)		13

Longer tool life

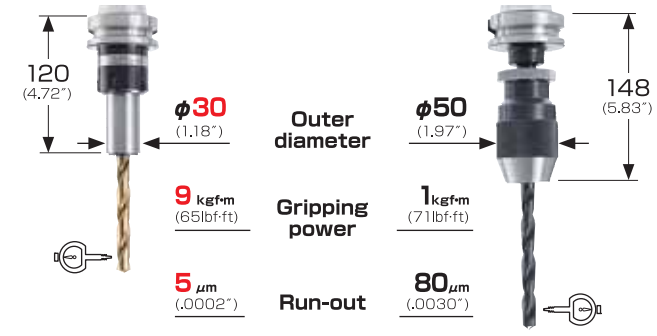
A cutter with 10μ(.0004″) concentricity extends cutter life up to 300% than one with 40μ(.0016″) concentricity



Longer cutting tool life **3** times

WORK PIECE SKD61(HRC53°)
V 300m/min(984ft/min)
N 9,550min-1(.004″/flute)
f 0.1mm/flute
CUTTER φ10(.39″) CARBIDE BALL END-MILL

COMPARISON WITH DRILL CHUCK



COOLANT-THROUGH SYSTEM

The spindle-through feature can be utilized whether the cutting tool has oil holes or not. For more information, see page 42.

7 MAX. MPa (1000PSI)

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 (1/8″).

"Sukima-through" coolant-around tool

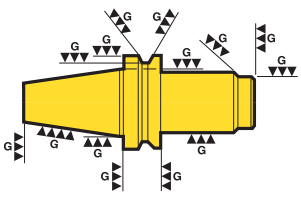
High-pressure coolant performance can be obtained even when using a cutting tool without oil holes.

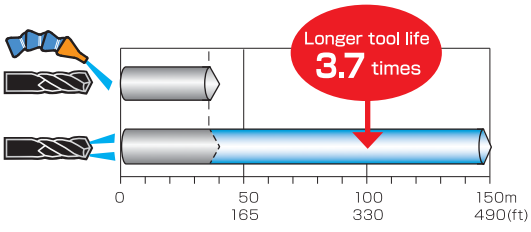
Coolant-Through Collet

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

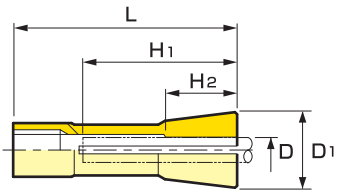
PRE-BALANCED DESIGN (DTE TYPE)

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.





DETa-1 COLLET

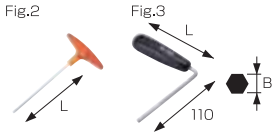


CODE		φD	Collapsibility	φD1	L	H1	H2	Holder type
Precision Collet	Standard Collet							
D 7— 1.5—P	D 7— 1.5	1 ~ 1.5 (.039"~.059")	0.5 (.02")	17 (.67")	50 (1.97")	50 (1.97")	7 (.28")	DTA7 DTB7 DTE7
— 2 —P	— 2	1.5 ~ 2 (.059"~.079")					10 (.39")	
— 2.5—P	— 2.5	2 ~ 2.5 (.059"~.098")					12 (.47")	
— 3 —P	— 3	2.5 ~ 3 (.098"~.118")						
— 4 —P	— 4	3 ~ 4 (.118"~.157")	1 (.04")				14 (.55")	
— 5 —P	— 5	4 ~ 5 (.157"~.197")					16 (.63")	
— 6 —P	— 6	5 ~ 6 (.197"~.236")						
— 7 —P	— 7	6 ~ 7 (.376"~.276")						
D12— 4 —P	D12— 4	2.5 ~ 4 (.098"~.157")	1.5 (.06")	26 (1.03")	70 (2.76")	17 (.67")	16 (.63")	DTA12 DTB12 DTE12
— 6 —P	— 6	4 ~ 6 (.157"~.236")	2 (.08")				20 (.79")	
— 8 —P	— 8	6 ~ 8 (.236"~.315")					22 (.87")	
—10 —P	—10	8 ~ 10 (.315"~.394")						
—12 —P	—12	10 ~ 12 (.394"~.472")						
—13 —P	—13	11 ~ 13 (.433"~.512")						

Spanner・Wrench

Fig.1

Fig.2 Fig.3



CODE	Holder type	Fig.	B	R	L	Tightening torque
F — 38	DTA 7	1	—	19	148.5	2~4 kgf·m
— 45	DTA12			22.5	225	7
TW— 5	DTB 7	2	5	—	153	1.4
— 6	DTB12		6		173	3.4
W —135	DTE 7 DTE12	3	5		—	1.4 1.8

Adjustable torque wrench

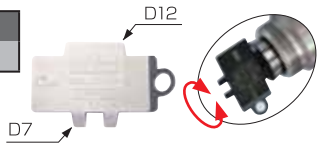
The nut-tightening torque can be adjusted more properly.

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.

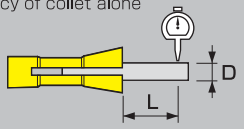
CODE
DR—1



Run-out accuracy of DETa-1 collet

Type	Nominal shank size	Using collapsibility
Precision collet	5μm (.0002")	10μm (.0004")
Standard collet	10μm (.0004")	15μm (.0006")

※ Accuracy of collet alone



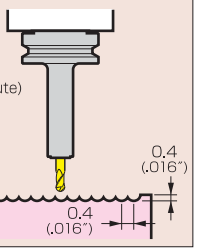
φD	L
~10(~.39")	4×D
10~13(.39"~.51")	40

CUTTING DATA

BT40—DTB7—105

N : 5000 min-1
F : 1500 mm/min (59"/min)
V : 94 m/min (308ft/min)
f : 0.15 mm/flute (.0060"/flute)

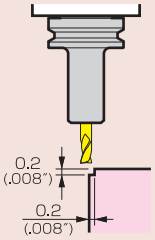
R3(.12") Carbide ball endmill 2 flutes



BT40—DTB12—90

N : 4500 min-1
F : 1500 mm/min (59"/min)
V : 141 m/min (460ft/min)
f : 0.17 mm/flute (.0070"/flute)

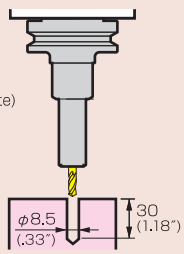
φ10(.39") Carbide ball endmill 2 flutes



BT40—DTA12—150

N : 10000 min-1
F : 5000 mm/min (197"/min)
V : 267 m/min (875ft/min)
f : 0.25 mm/flute (.010"/flute)

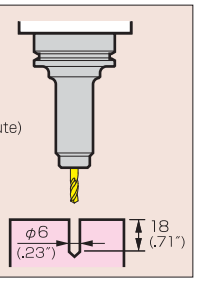
φ8.5(.33") Carbide drill



A63—DTE7—105

N : 6369 min-1
F : 1592 mm/min (63"/min)
V : 120 m/min (394ft/min)
f : 0.12 mm/flute (.0050"/flute)

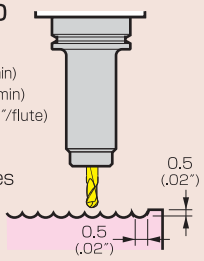
φ6(.23") Carbide drill



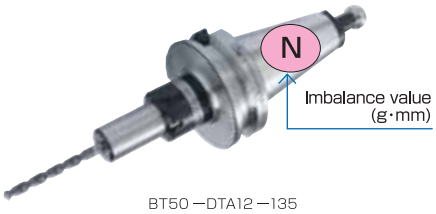
A63—DTE12—120

N : 20000 min-1
F : 6000 mm/min (236"/min)
V : 628 m/min (2060ft/min)
f : 0.15 mm/flute (.0060"/flute)

R5(.20") Carbide ball endmill 2 flutes



DETa-1 COLLET HOLDER A TYPE (DTA)



BT50—DTA12—135

Fig.1

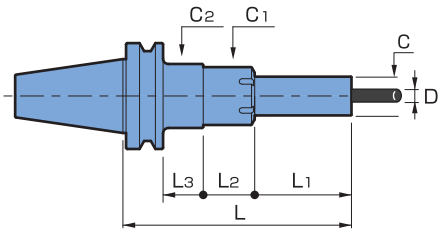
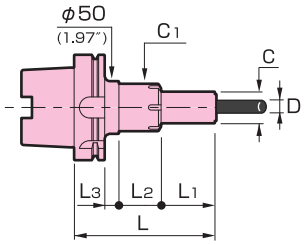


Fig.2



CODE	Fig.	φD mm (inch)	L mm (inch)	φC mm (inch)	L1 mm (inch)	L2 mm (inch)	L3 mm (inch)	φC1 mm (inch)	φC2 mm (inch)	φD1 mm (inch)	Kg lbs	N
BT30—DTA 7— 90	1	1 ～ 7	90	21	30	37	1	38	42	—	0.7	6.7
—120			120		60						0.8	7.9
—DTA12—120		2.5 ～ 13		30	52.5	42	3.5	45	45		1.0	10.4
BT40—DTA 7—105		1 ～ 7	105	21	38	37	3	38	60		1.3	8.5
—135			135		60		11		43		1.4	9.5
—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
BT50—DTA 7—135		1 ～ 7	135	21	60	37		38			3.9	16.6
—165			165				30		43		4.0	18.0
—DTA12—135		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
A 63—DTA 7—105	2	1 ～ 7	105	21	30	37	12	38	50	—	1.1	17.3
—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
—180			180		75		39				1.8	27.7
A100—DTA 7—135		1 ～ 7	135	21	30	37		38			2.7	33.8
—165			165		60						2.8	35.5
—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
CT40—DTA 7—102	1	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)	17.5
—203			203 (7.87")				53 (2.09")		50 (1.97")		4.2 (9.26)	18.3

BT
HSK
CAT.

■Option •DETa-1 Collet •Spanner •Retention knob •Adjustable torque wrench
■Standard Accessories •Coolant duct (HSK-A) ■Note •ATC may not be possible for some machining centers with BT30-DTA12-120.

DETa-1 COLLET HOLDER B TYPE (DTB)

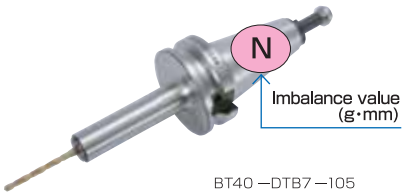
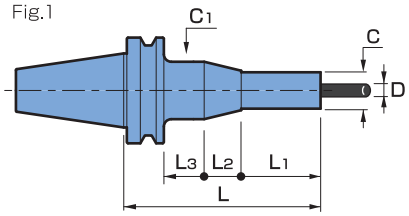


Fig.1

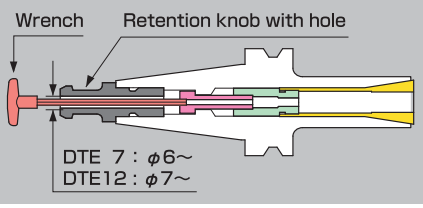


CODE	Fig.	φD mm (inch)	L mm (inch)	φC mm (inch)	L1 mm (inch)	L2 mm (inch)	L3 mm (inch)	L4 mm (inch)	φC1 mm (inch)	φD1 mm (inch)	Kg lbs	N
BT30—DTB 7— 75	1	1 ～ 7	75	21	53	—	—	—	—	—	0.5	2.4
—DTB12— 75			75	30	53							
—105		2.5～13	105		83						0.7	5.6
BT40—DTB 7—105		1 ～ 7	105	21	78						1.1	4.8
—135			135		75	11.8	21.2		30		1.3	5.2
—DTB12— 90		2.5～13	90	30	63	—	—		—		1.2	5.3
—120			120		93						1.3	7.6
BT50—DTB 7—135		1.0～07	135	21	75	11.8	10.2		30		3.8	18.6
—195			195			58.8	23.2		50		4.6	25.0
—DTB12—135		2.5～13	135	30	97	—	—		—		4.0	15.3
—195			195		105	35.3	16.7		50		4.7	24.3
CT40—DTB 7—105	1	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

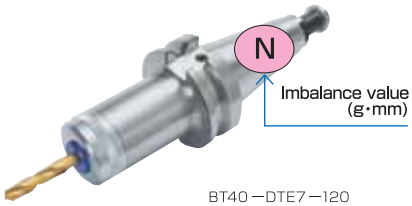
■Options •DETa-1 Collet •Wrench •Retention knob
■Standard Accessories •Coolant duct (HSK-A)
■Note •BT30-DTB12 requires the dedicated retention knob, which has the feature of draw bolt. Please order P-333 or P-334. Please use a commercially available 14mm single -ended wrench.

Attaching a cutting tool

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



DETa-1 COLLET HOLDER E TYPE (DTE)



BT40—DTE7—120


A63—DTE12—120

Fig.1

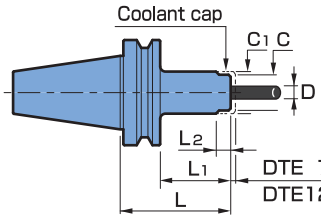


Fig.2

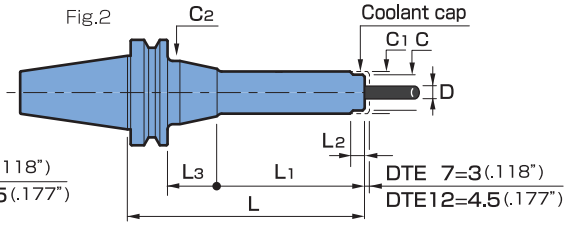


Fig.3

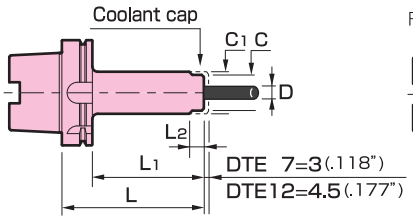
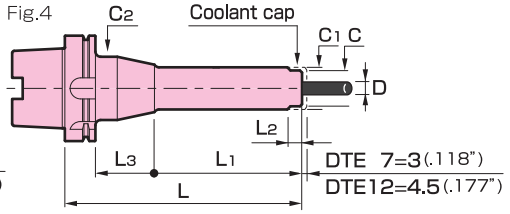


Fig.4



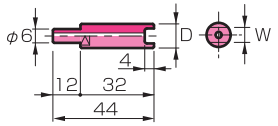
CODE	Fig.	φD mm (inch)	L mm (inch)	φC mm (inch)	L1 mm (inch)	L2 mm (inch)	L3 mm (inch)	φC1 mm (inch)	φC2 mm (inch)	Kg lbs	N
BT30—DTE 7— 60	1	1 ～ 7	60	24	38	11.5	—	29	—	0.6	3.2
—DTE12— 75		2.5～13	75	34	53	14		40		0.9	4.9
BT40—DTE 7— 90		1 ～ 7	90	24	63	11.5		29		1.3	
—120	2		120		70		23		40	1.5	6.2
—DTE12— 90	1	2.5～13	90	34	63	14	—	40	—	1.5	6.1
—120			120		93					1.8	7.4
BT50—DTE 7—135	2	1 ～ 7	135	24	70	11.5	27	29	40	4.2	16.5
—165			165				57		50	4.6	18.7
—DTE12—135	1	2.5～13	135	34	97	14	—	40	—	4.5	18.9
—165			165		127					4.8	21.0
A 63—DTE 7—105	4	1 ～ 7	105	24	70	11.5	9	29	40		12.3
—150			150				54		50	1.7	14.3
—DTE12—120	3	2.5～13	120	34	94	14	—	40	—	1.5	14.9
—180	4		180		140		14		50	2.3	19.1
A100—DTE 7—135		1 ～ 7	135	24	70	11.5	36	29	40	2.7	31.0
—165			165				66		50	3.2	32.4
—DTE12—135	3	2.5～13	135	34	106	14	—	40	—	3.0	33.1
—165			165		136					3.3	36.2
CT40—DTE 7— 90	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
—120	2		120 (4.72")		70 (2.75")		31 (1.22")			1.5 (3.31)	6.2
—DTE12— 90	1	2.5～13 (.10"～.51")	90 (3.54")	34 (1.34)	55 (2.17")	14 (.55")	16 (.63")	40 (1.57")		1.4 (3.09)	6.1
—150			150 (5.91")		115 (4.53")					1.9 (4.19)	9.6
CT50—DTE 7—105		1 ～ 7 (.04"～.28")	105 (4.13")	24 (.94)	70 (2.75")	11.5 (.45")		29 (1.14")	69.85 (2.75")	3.4 (7.50)	11.8
—165	2		165 (6.50")				60 (2.36")		50 (1.97")	4.1 (9.04)	15.0
—DTE12—105	1	2.5～13 (.10"～.51")	105 (4.13")	34 (1.34)		14 (.55")	16 (.63")	40 (1.57")	69.85 (2.75")	3.6 (7.94)	12.9
—165			165 (6.50")		130 (5.12")					4.2 (9.26)	17.3

BT / HSK / CAT.

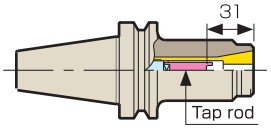
■Options •DETa-1 Collet •Wrench •Retention knob •Tap rod (DTE12) ■Standard Accessories •Coolant duct (HSK-A) ■Note •Coolant through system→P.42
■Caution • BT30-DTE12 comes with the dedicated retention knob ,which has the feature of draw bolt. Please specify whether a MAS-1 or MAS-2 retention knob is 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.

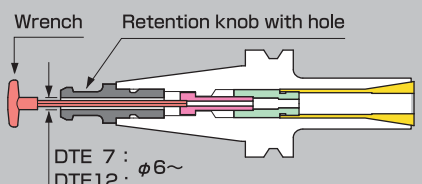


CODE	Applicable taps	φ D	W
TR—5	JIS M 8	10.5	5
—5.5	JIS M10		5.5
—6	OSG M 8		6
—6.5	JIS M12		6.5
—8	OSG M12	12	8



Attaching a cutting tool

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

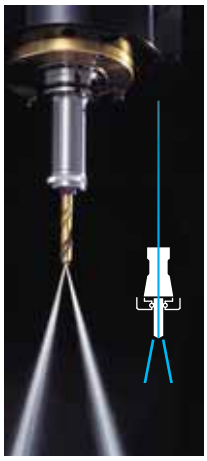


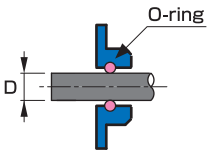
Coolant through system (DTE)

To use the coolant-through cutter or sukima through capability with the DTE, use a combination of the following parts.

Cutter with oil hole

Coolant-through Cutter





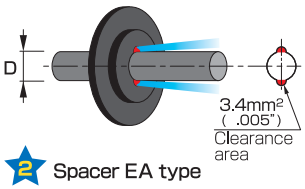
1 Spacer EA type

4 Coolant cap

Cutter without oil hole

"Sukima-through" coolant-around tool

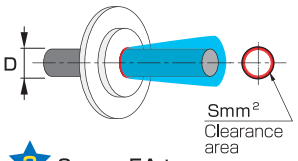
PIN POINT COOLANT SUPPLY



2 Spacer EA type

4 Coolant cap

COOLANT-AROUND TOOL



3 Spacer EA type

4 Coolant cap

1 Spacer EA type

CODE	Holder type	φ D	Q'ty
7EA— 3.5—3	DTE 7	3 ~ 3.5 (.12"~.14")	3
— 4 —3		3.5~ 4 (.14"~.16")	
— 4.5—3		4 ~ 4.5 (.16"~.18")	
— 5 —3		4.5~ 5 (.18"~.20")	
— 5.5—3		5 ~ 5.5 (.20"~.22")	
— 6 —3		5.5~ 6 (.22"~.24")	
— 6.5—3		6 ~ 6.5 (.24"~.26")	
— 7 —3		6.5~ 7 (.26"~.28")	
12EA— 3.5—3	DTE12	3 ~ 3.5 (.12"~.14")	
— 4 —3		3.5~ 4 (.14"~.16")	
— 4.5—3		4 ~ 4.5 (.16"~.18")	
— 5 —3		4.5~ 5 (.18"~.20")	
— 5.5—3		5 ~ 5.5 (.20"~.22")	
— 6 —3		5.5~ 6 (.22"~.24")	
— 6.5—3		6 ~ 6.5 (.24"~.26")	
— 7 —3		6.5~ 7 (.26"~.28")	
— 8 —3		7.0~ 8.0 (.28"~.32")	
— 9 —3		8.0~ 9.0 (.32"~.35")	
—10 —3		9.0~10.0 (.35"~.39")	
—11 —3		10.0~11.0 (.39"~.43")	
—12 —3		11.0~12.0 (.43"~.47")	
—13 —3		12.0~13.0 (.47"~.51")	

2 Spacer EBM type

CODE	Holder type	φ D	Q'ty
7EBM— 3 —3	DTE 7	3	3
— 4 —3		4	
— 6 —3		6	
12EBM— 3 —3	DTE12	3	
— 4 —3		4	
— 6 —3		6	
— 8 —3		8	
—10 —3		10	
—12 —3		12	

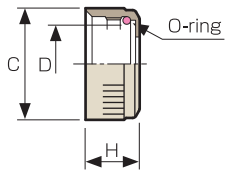
CODE	Holder type	φ D	Q'ty
7EBM— 1/8—3	DTE 7	.125"	3
—3/16—3		.188"	
—1/4 —3		.250"	
12EBM—1/8 —3	DTE12	.125"	
—3/16—3		.188"	
—1/4 —3		.250"	
—5/16—3		.313"	
—3/8 —3		.375"	
—1/2 —3		.500"	

3 Spacer EBS type

CODE	Holder type	φ D	S	Q'ty
7EBS— 3.6—3	DTE 7	3	2.8	3
— 4.5—3		4	4.2	
— 6.4—3		6	4.1	
12EBS— 3.6—3	DTE12	3	2.8	
— 4.5—3		4	4.2	
— 6.4—3		6	4.1	
— 8.4—3		8	4.5	
—10.3—3		10	4.6	
—12.3—3		12	5.0	

CODE	Holder type	φ D	S	Q'ty
7EBS— 1/8—3	DTE 7	.125"	.004"	3
—3/16—3		.188"	.007"	
— 1/4—3		.250"	.006"	
12EBS— 1/8—3	DTE12	.125"	.004"	
—3/16—3		.188"	.007"	
— 1/4—3		.250"	.006"	
—5/16—3		.313"	.007"	
—3/8—3		.375"		
—1/2—3		.500"	.008"	

4 Coolant cap



CODE	Holder type	φ D	φ C	H
CLP— 7E	DTE 7	21	29	14
—12E	DTE12	30	40	18

Spacer blank type

Depend on cutter or application, please modify.

CODE	Holder type	Q'ty
7EBF—BL—5	DTE 7	5
12EBF—BL—5	DTE12	

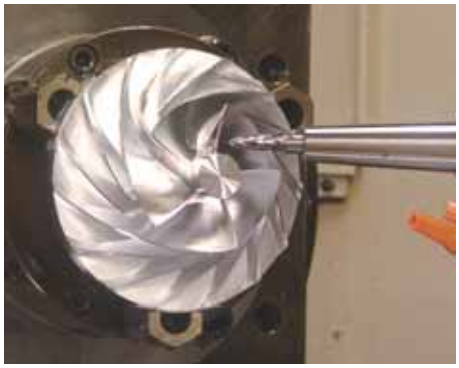
Spacer set (DTE)

CODE	Contents of set			Holder type
	Spacer	Q'ty	4 Coolant cap	
7ES—A	1 7EA —3.5~7 2 7EBM—3,4,6 3 7EBS —3.6~6.4	(1 ea.) Total 14pcs.	CLP— 7E (1pc.)	DTE 7
12ES—A	1 12EA —3.5~13 2 12EBM—3~13 3 12EBS —3.6~12.3	(1 ea.) Total 26pcs.	—12E (1pc.)	DTE12

■Standard Accessories
•Collet driver

The coolant-through collet function

No additional parts are required.



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