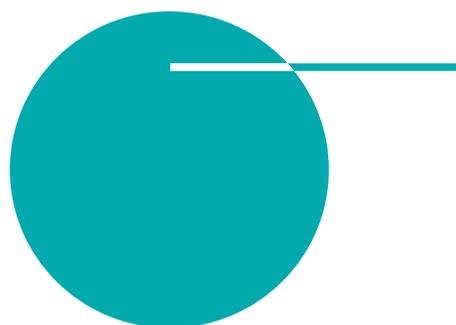


Tooling for machining centers

MC TOOLING SYSTEM

ALPS TOOL BT TOOLING SYSTEM



● BT50, BT40, BT30
25T, S20T, 15T

Milling Chuck



P2-3

Milling Chuck (TR type)

Collet



P4

Straight Collet

Collet Holder



P5-7

Collet Holder (EXH type)

Collet Holder



P8

Collet Holder (ECH type)

SS.Collet Holder



P9

SS.Collet Holder

AR Collet



P10-11

AR Collet (Standard type)

AR Coolant Collet



P12

AR Coolant Collet (OH type)

AR Coolant Collet



P13

AR Coolant Collet (C type)

AR Tap Collet



P14

AR Tap Collet (GB type)

AR Tap Collet



P15

AR Tap Collet (GH type)

Milling Arbor



P16-17

Arbor for Face Milling Cutter (A/B/C)

Side Cut Arbor



P18

Arbor for Side Milling Cutter (SCA type)

Side Lock Holder



P19

Side Lock Holder (A type/S type)

Morse Taper Holder



P20

Morse Taper Holder (A type)

MT.Drill Socket



P20

MT.Drill Socket

Jacobs Taper Holder



P21

Jacobs Taper Holder

Collet Holder



P22

Small Collet Holder for MC and DC (15T type)

Collet Holder



P22

Small Collet Holder for MC and DC (S20T type)

Collet Holder



P23

Small Collet Holder for MC and DC (25T type)

Pull Bolt



P24

Pull Studs

Thermo Grip Chuck



Another Catalog

Thermo Grip Chuck

High quality chuck with good balance of high speed, high accuracy, high rigidity and high gripping force

Milling Chuck (TR type)

Heavy Cutting

Coolant Thru

7MPa Available

Clamp mark

- Tightening completion sign is easy to understand and ensures secure clamping.



A patent mechanism which is no uneasiness at high speed, not to mention high rigidity and high accuracy(PAT). It is possible to use the Inner and Outer Coolant by the special slots of a chucking hole.

Coolant Thru

To change of a coolant system, an option is unnecessary.



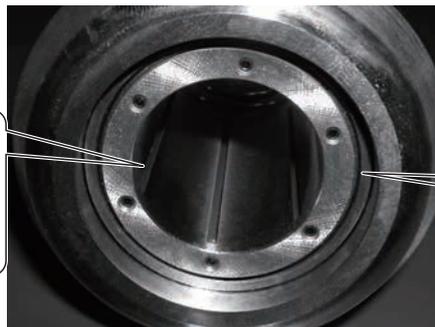
Internal coolant



Side through coolant

Special slits realize high rigidity and high grasp power.

- Sufficient tightening force with thick case.
- The main body deforms elastically to achieve stable runout accuracy.



High rigidity structure

- The thick structure of the body achieves high rigidity.

It can be used for processing which needs high accuracy.

- Excellent accuracy is achieved even with milling chucks.
TIR 15 μ m (4 \times D)

Can also be used for heavy duty cutting.

- Suitable for machining heavy cutting materials and high machining conditions.

Suitable for high-speed rotation.



High quality chuck with good balance for high speed, high accuracy, high rigidity and high gripping force

Milling Chuck (TR type)

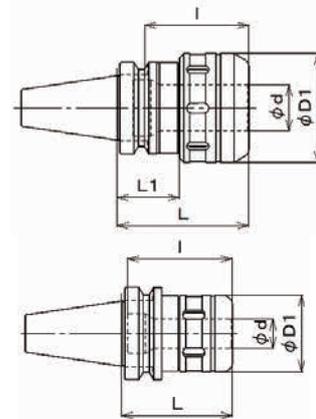
Heavy Cutting

Coolant Thru

7MPa Available



Form explanation
BT50 - TRX 16 - 105
 Shank type Holder type Diameter Dimension



| CODE | Chucking Size | L | L1 | D1 | I | Collet Code | Spanner | Adjust bolt with coolant | | |
|-------------------|---------------|-----|----|----|-----|-------------|---------|--------------------------|----------|----------|
| BT50 - TRX16 -105 | 16 | 105 | - | 45 | 68 | - | FK-7 | - | | |
| -135 | | 135 | | | | | | | | |
| -TRX20 -105 | 20 | 105 | | 52 | 70 | ASS20-d | FK-8 | ACH20-07 | | |
| -135 | | 135 | | | | | | | | |
| - TRX25 -105 | 25 | 105 | | 63 | 94 | ASS25-d | FK-9 | ACH25-07 | | |
| -135 | | 135 | | | | | | | | |
| -150 | | 165 | | | | | | | | |
| - TRX32 -105 | 32 | 105 | | 75 | 110 | ASS32-d | FK-10 | ACH32-07 | | |
| -135 | | 135 | | | | | | | | |
| -165 | | 165 | | | | | | | | |
| - TRX42 -105 | 42 | 105 | | | | 92 | ASS32-d | | FK-9 | ACH32-07 |
| -135 | | 135 | | | | | | | | |
| -165 | | 165 | | | | | | | | |
| BT40 - TRX16 - 75 | 16 | 75 | | - | 45 | 68 | - | FK-7 | - | |
| -105 | | 105 | | | | | | | | |
| - TRX20 - 75 | 20 | 75 | | | 52 | 70 | ASS20-d | FK-8 | ACH20-07 | |
| -105 | | 105 | | | | | | | | |
| -135 | | 135 | | | | | | | | |
| - TRX25 - 85 | 25 | 85 | 63 | | 90 | ASS25-d | FK-9 | ACH25-d | | |
| -105 | | 105 | | | | | | | | |
| -135 | | 135 | | | | | | | | |
| - TRX32 - 90 | 32 | 90 | 42 | | 75 | 80 | ASS32-d | FK-10 | ACH32-d | |
| -105 | | 105 | 57 | | | | | | | |
| -135 | | 135 | 87 | | | | | | | |
| BT30 - TRX16 - 70 | 16 | 70 | - | | 45 | 68 | - | FK-7 | - | |
| - TRX20 - 75 ※ | 20 | 75 | 23 | | 52 | 70 | ASS20-d | FK-8 | ACH20-07 | |
| - 80 | | 80 | 28 | | | 75 | | | | |
| - TRX25 - 85 ※ | 25 | 85 | 25 | | 63 | 74 | ASS25-d | FK-9 | ACH25-07 | |
| - 90 | | 90 | 30 | | | 79 | | | | |

NOTES:

- Collet holder are used with straight collets in unit form.
When ordering, please specify straight collets.
- Please order collet and nut wrench separately.
- When using with straight collet, clamping power will decrease.
- Please order Adjust bolt separately.
- Type of Coolant bolt and wrench.
TRX16 ~ 25 → M2.0 × 3/LRE0.9, TRX32 ~ 42 → M2.5 × 3/LRE1.3
- In the table ※ some machines can not be used because of interference.
Please check the dimensions of L1 · D1 in the item of tool restriction of machine instruction manual.

Straight Collet

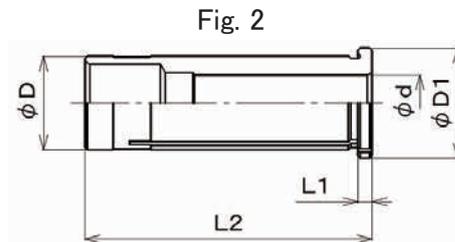
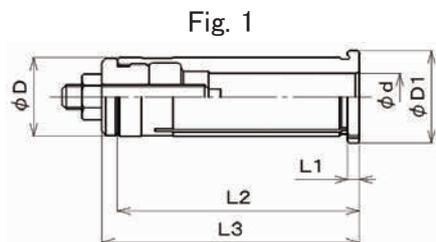
An adjustment bolt is inside.
Can be used combining with Milling Chuck TRX.



Form explanation

ASS20 - 10

Grasp diameter
Collet diameter



| CODE | Fig. | Metric | D | L3 | L2 | L1 | D1 |
|-----------|------------------------|------------------------------|----|----|----|----|------|
| ASS20 - d | 1 (Adjustment bolt) | 6, 8, 10, 12, 16 | 20 | 65 | 61 | 3 | 23.5 |
| ASS25 - d | | 6, 8, 10, 12, 16, 20 | 25 | 67 | 63 | | 28.5 |
| ASS32 - d | | 6, 8, 10, 12, 16, 20, 25 | 32 | 75 | 70 | | 37.0 |
| ASS42 - d | | 6, 8, 10, 12, 16, 20, 25, 32 | 42 | 83 | 78 | | 47.0 |
| AS 16 - d | 2 | 6, 8, 10, 12 | 16 | - | 48 | 3 | 20.0 |
| AS 20 - d | | 6, 8, 10, 12, 16 | 20 | | 61 | | 23.5 |
| AS 25 - d | | 6, 8, 10, 12, 16, 20 | 25 | | 63 | | 28.5 |
| AS 32 - d | | 6, 8, 10, 12, 16, 20, 25 | 32 | | 70 | | 37.0 |
| AS 42 - d | | 6, 8, 10, 12, 16, 20, 25, 32 | 42 | | 78 | | 47.0 |

NOTES : 1) When you install a ASS □□ -d1 collet to milling chuck TRX, internal coolant can not be used.

Collet holder with slim shape, high precision, high accuracy balance and excellent versatility

● Collet Holder (EXH type)

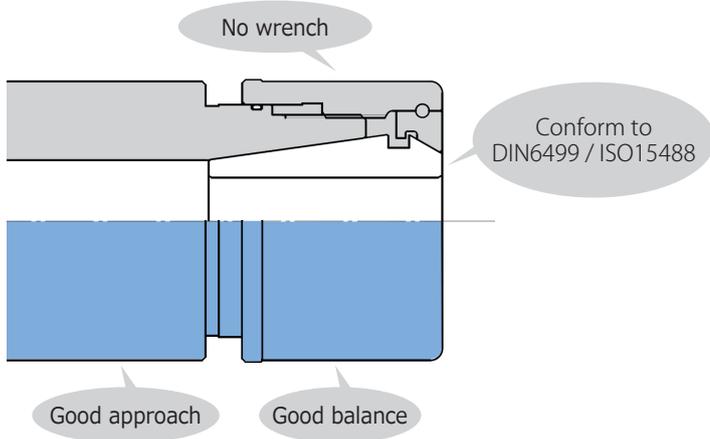
16° Collet

Coolant Thru

7MPa Available

Slim, High accuracy balance, Excellent versatility.

Support various coolant system.



Simply replacing the collet, easy to support Internal coolant and side through coolant.

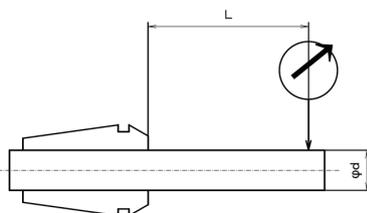
By simply replacing the collet, it supports various functions such as coolant through, tapping, etc.



Immediate replacement collet support for various in.

-  AR Collet Standard type
-  AR Coolant Thru Collet OH type (Internal Coolant)
-  AR Coolant Thru Collet C type (Side through Coolant)
-  AR Tap Collet GB type
-  AR Coolant Thru Tap Collet GH type (Internal Coolant)

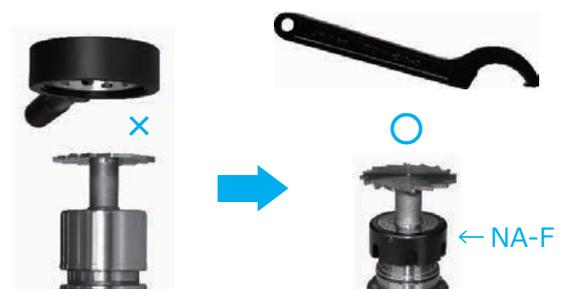
Run-out at 4 × D



| Nominal diameter D | L | Rounout | | |
|-----------------------|-------|-----------|----------|---------|
| | | Class AAA | Class AA | Class A |
| 1 ~ 1.5 | 4 × D | 3 μ | 5 μ | 8 μ |
| 2 ~ 5.5 | | | | |
| 6 ~ 10 | | | | |
| 11 ~ 20 | | | | |

AR Collet conforms to DIN6499 / ISO15488 There is an item a standard type. a coolant type. and a coolant tap type.

Compatible with irregularly shaped tools.



Support in exchange for a large diameter cutter nut also.

The nut(NA-F) can be replaced, for large diameter tools EXH holder, the tool can be Used in safe umbrella.

Collet holder with slim shape, high precision, high accuracy balance and excellent versatility

Collet Holder (EXH type)

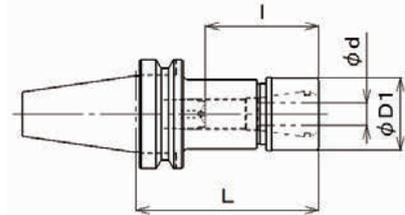
16° Collet

Coolant Thru

7MPa Available



Form explanation
BT50 - EXH 10 - 120
 Shank type Holder type Diameter Dimension



| CODE | Grip Diameter | L | I (Adjustment) | D1 Nut diameter | Collet CODE | Wrench | Adjust bolt | |
|-------------------|---------------|-----|----------------|--------------------|-------------|--------|-------------------------|-------------------|
| | | | Max. ~ Min. | | | | without coolant hole | with coolant hole |
| BT50 - EXH 7 - 90 | 0.5 ~ 7 | 90 | 20 ~ 45 | 23 | AR11-d | XSP23 | ECH 7-05 | ECH 70H-05 |
| -120 | | 120 | | | | | | |
| -165 | | 165 | | | | | | |
| - EXH10 - 90 | 0.5 ~ 10 | 90 | 30 ~ 50 | 30 | AR16-d | XSP30 | ECH10-05 | ECH100H-05 |
| -120 | | 120 | | | | | | |
| -165 | | 165 | | | | | | |
| - EXH13 - 90 | 0.5 ~ 13 | 90 | 35 ~ 55 | 35 | AR20-d | XSP35 | ECH13-05 | ECH130H-05 |
| -120 | | 120 | | | | | | |
| -165 | | 165 | | | | | | |
| - EXH16 - 90 | 0.5 ~ 16 | 90 | 40 ~ 55 | 42 | AR25-d | XSP42 | ECH16-05 | ECH160H-05 |
| -120 | | 120 | | | | | | |
| -165 | | 165 | | | | | | |
| - EXH20 - 90 | 2 ~ 20 | 90 | 45 ~ 60 | 50 | AR32-d | XSP50 | ECH20-05 | ECH200H-05 |
| -120 | | 120 | | | | | | |
| -165 | | 165 | | | | | | |
| BT40 - EXH 7 - 75 | 0.5 ~ 7 | 75 | 20 ~ 45 | 23 | AR11-d | XSP23 | ECH 7-05 | ECH 70H-05 |
| -105 | | 105 | | | | | | |
| -135 | | 135 | | | | | | |
| - EXH10 - 75 | 0.5 ~ 10 | 75 | 30 ~ 50 | 30 | AR16-d | XSP30 | ECH10-05 | ECH100H-05 |
| -105 | | 105 | | | | | | |
| -135 | | 135 | | | | | | |
| - EXH13 - 75 | 0.5 ~ 13 | 75 | 35 ~ 55 | 35 | AR20-d | XSP35 | ECH13-05 | ECH130H-05 |
| -105 | | 105 | | | | | | |
| -135 | | 135 | | | | | | |
| - EXH16 - 75 | 0.5 ~ 16 | 75 | 40 ~ 55 | 42 | AR25-d | XSP42 | ECH16-05 | ECH160H-05 |
| -105 | | 105 | | | | | | |
| -135 | | 135 | | | | | | |
| - EXH20 - 75 | 2 ~ 20 | 75 | 45 ~ 60 | 50 | AR32-d | XSP50 | ECH20-05 | ECH200H-05 |
| -105 | | 105 | | | | | | |
| -135 | | 135 | | | | | | |

NOTES:

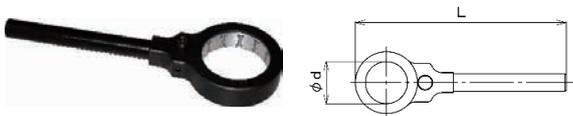
- 1) Collet holder are used with AR collets.
When ordering please specify AR collets.
- 2) Please order collet and nut wrench separately.
- 3) Please order Adjust bolt separately.

| CODE | Grip Diameter | L | I (Adjustment) Max. ~ Min. | D1 Nut diameter | Collet CODE | Wrench | Adjust bolt | |
|-------------------|---------------|-----|-------------------------------|--------------------|-------------|--------|-------------------------|-------------------|
| | | | | | | | without coolant hole | with coolant hole |
| BT30 - EXH 7 - 60 | 0.5 ~ 7 | 60 | 20 ~ 45 | 23 | AR11-d | XSP23 | ECH 7-05 | ECH 70H-05 |
| -105 | | 105 | | | | | | |
| - EXH10 - 60 | 0.5 ~ 10 | 60 | 30 ~ 50 | 30 | AR16-d | XSP30 | ECH10-05 | ECH100H-05 |
| -120 | | 120 | | | | | | |
| - EXH13 - 60 | 0.5 ~ 13 | 60 | 30 ~ 55 | 35 | AR20-d | XSP35 | ECH13-05 | ECH130H-05 |
| -120 | | 105 | | | | | | |
| - EXH16 - 60 | 0.5 ~ 16 | 60 | 40 ~ 55 | 42 | AR25-d | XSP42 | ECH16-05 | ECH160H-05 |
| -105 | | 105 | | | | | | |

NOTES: 1) Collet holder are used with AR collets.
When ordering please specify AR collets.
2) Please order collet and nut wrench separately.
3) Please order Adjust bolt separately.

Wrench • Nut

XSP type

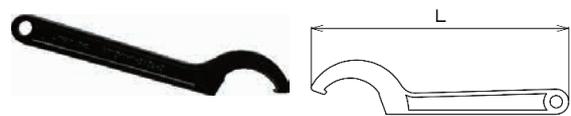


Form explanation

XSP 23
Diameter
Wrench type

| CODE | Bore | L | Fit |
|-------|------|-----|-------|
| XSP23 | 23 | 120 | EXH 7 |
| XSP30 | 30 | 140 | EXH10 |
| XSP35 | 35 | 154 | EXH13 |
| XSP42 | 42 | 173 | EXH16 |
| XSP50 | 50 | 180 | EXH20 |

FK type



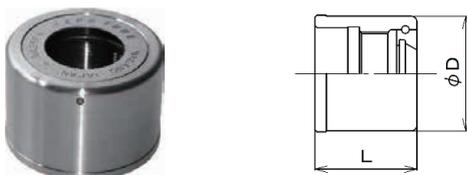
Used for nuts of NA □□ F

Form explanation

FK - 3
Number
Wrench type

| CODE | L | Fit |
|--------|-----|-------|
| FK- 3 | 136 | NA11F |
| FK- 4 | 136 | NA16F |
| FK- 5 | 160 | NA20F |
| FK- 6 | 173 | NA25F |
| FK- 7 | 196 | NA32F |
| FK- 8 | 208 | TRX20 |
| FK- 9 | 232 | TRX25 |
| FK-10 | 247 | TRX32 |
| FK0085 | 271 | TRX42 |

Nut type FX



Form explanation

NA 11 FX
Size Type
Nut

| CODE | Bore | L | Fit |
|--------|------|------|-------|
| NA11FX | 23 | 20.5 | EXH 7 |
| NA16FX | 30 | 26.5 | EXH10 |
| NA20FX | 35 | 28.5 | EXH13 |
| NA25FX | 42 | 30 | EXH16 |
| NA32FX | 50 | 31 | EXH20 |

Nut type F



Form explanation

NA 11 F
Size Type
Nut

| CODE | Bore | L | Fit |
|-------|------|----|-------|
| NA11F | 23 | 11 | EXH 7 |
| NA16F | 30 | 15 | EXH10 |
| NA20F | 35 | 17 | EXH13 |
| NA25F | 42 | 18 | EXH16 |
| NA32F | 50 | 19 | EXH20 |

A wide variety of variations support processing

Collet Holder (ECH type)

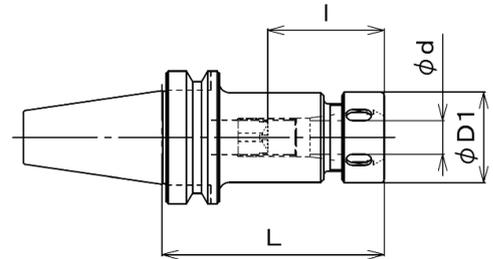
16° Collet

Coolant Thru

20MPa Available



Form explanation
BT50 - ECH 10 - 120
 Shank type Holder type Diameter Dimension



When using at high speeds, please replace with a high speed nut (NA-R/SR).

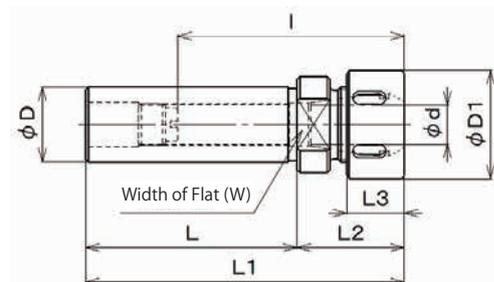
| CODE | Grip Diameter d | L | Max. ~ Min. Adjustment | Nut diameter D1 | Collet CODE | Wrench | Adjust bolt | |
|-------------------|--------------------|-----|---------------------------|--------------------|-------------|--------|------------------------|-------------------|
| | | | | | | | without colant hole | with coolant hole |
| BT50 - ECH 7 - 90 | 0.5 ~ 7 | 90 | 45 ~ 20 | 23 | AR11-d | FK-3 | ECH 7-05 | ECH 70H-05 |
| -135 | | 135 | | | | | | |
| - ECH10 - 90 | 0.5 ~ 10 | 90 | 50 ~ 30 | 32 | AR16-d | FK-4 | ECH10-05 | ECH100H-05 |
| -120 | | 120 | | | | | | |
| -150 | | 150 | | | | | | |
| - ECH13 - 90 | 0.5 ~ 13 | 90 | 55 ~ 35 | 36 | AR20-d | FK-5 | ECH13-05 | ECH130H-05 |
| -120 | | 120 | | | | | | |
| - ECH16 - 90 | 0.5 ~ 16 | 90 | 55 ~ 40 | 43 | AR25-d | FK-6 | ECH16-05 | ECH160H-05 |
| -120 | | 120 | | | | | | |
| -150 | | 150 | | | | | | |
| - ECH20 - 90 | 2 ~ 20 | 90 | 60 ~ 45 | 51 | AR32-d | FK-8 | ECH20-05 | ECH200H-05 |
| -120 | | 120 | | | | | | |
| - ECH26 - 90 | 3 ~ 26 | 90 | 80 ~ 55 | 63 | AR40-d | FK-9 | ECH26-05 | ECH260H-05 |
| BT40 - ECH 7 - 75 | 0.5 ~ 7 | 75 | 45 ~ 20 | 23 | AR11-d | FK-3 | ECH 7-05 | ECH 70H-05 |
| -105 | | 105 | | | | | | |
| - ECH10 - 75 | 0.5 ~ 10 | 75 | 50 ~ 30 | 32 | AR16-d | FK-4 | ECH10-05 | ECH100H-05 |
| -105 | | 105 | | | | | | |
| -135 | | 135 | | | | | | |
| - ECH13 - 75 | 0.5 ~ 13 | 75 | 55 ~ 35 | 36 | AR20-d | FK-5 | ECH13-05 | ECH130H-05 |
| -105 | | 105 | | | | | | |
| - ECH16 - 75 | 0.5 ~ 16 | 75 | 55 ~ 40 | 43 | AR25-d | FK-6 | ECH16-05 | ECH160H-05 |
| -105 | | 105 | | | | | | |
| -135 | | 135 | | | | | | |
| - ECH20 - 75 | 2 ~ 20 | 75 | 60 ~ 45 | 51 | AR32-d | FK-8 | ECH20-05 | ECH200H-05 |
| -105 | | 105 | | | | | | |
| - ECH26 - 75 | 3 ~ 26 | 75 | 75 ~ 50 | 63 | AR40-d | FK-9 | ECH26-05 | ECH260H-05 |
| BT30 - ECH 7 - 60 | 0.5 ~ 7 | 60 | 45 ~ 20 | 23 | AR11-d | FK-3 | ECH 7-05 | ECH 70H-05 |
| -105 | | 105 | | | | | | |
| - ECH10 - 60 | 0.5 ~ 10 | 60 | 50 ~ 30 | 32 | AR16-d | FK-4 | ECH10-05 | ECH100H-05 |
| -120 | | 120 | | | | | | |
| - ECH13 - 60 | 0.5 ~ 13 | 60 | 55 ~ 35 | 36 | AR20-d | FK-5 | ECH13-05 | ECH130H-05 |
| -120 | | 120 | | | | | | |
| - ECH16 - 60 | 0.5 ~ 16 | 60 | 55 ~ 40 | 43 | AR25-d | FK-6 | ECH16-5 | ECH160H-05 |
| -105 | | 105 | | | | | | |
| - ECH20 - 75 | 2.5 ~ 20 | 6 | 60 ~ 45 | 51 | AR32-d | FK-8 | ECH20-05 | ECH200H-05 |
| -105 | | 105 | | | | | | |

NOTES: 1) Collet holder are used with AR collets.
 When ordering please specify AR collets.
 2) Please order collet and nut wrench separately.
 3) Please order Adjust bolt separately.

● SS.Collet Holder



Form explanation
SS25 - ECH 10 - 70
 Shank type Holder type Diameter Dimension



| CODE | d | D | L | L1 | L2 | I | Nut diameter | | W | Collet | Wrench |
|--------------------|----------|-----|-----|-----|-----|----|--------------|------|----------|----------|----------|
| | | | | | | | D1 | L3 | | | |
| SS 8 - ECH 5S - 35 | 0.3 ~ 5 | 8 | 35 | 49 | 14 | 36 | 14.5 | 10.8 | 6 | AR 8 - d | SP-13 |
| SS12 - ECH 5S - 80 | | 12 | 80 | 96 | 16 | | | | 10 | | |
| SS16 - ECH 7 - 40 | 0.5 ~ 7 | 16 | 40 | 56 | 16 | 40 | 23 | 11.5 | 14 | AR11- d | FK-3 |
| - 70 | | 70 | 94 | 24 | 55 | 19 | | | | | |
| SS20 - ECH 7 - 45 | | 20 | 45 | 61 | 16 | 45 | | | 17 | | |
| SS25 - ECH10 - 70 | 0.5 ~ 10 | 25 | 70 | 105 | 35 | 70 | 32 | 17 | 27 | AR16 - d | FK-4 |
| -150 | | | 150 | 185 | 35 | 53 | | | | | |
| - ECH13 - 70 | 0.5 ~ 13 | 70 | 106 | 36 | 75 | 36 | 19 | 36 | AR20 - d | FK-5 | |
| - ECH16 - 70 | 0.5 ~ 16 | | 110 | 40 | 80 | 43 | 20 | 36 | AR25 - d | FK-4 | |
| SS32 - ECH10 - 80 | 0.5 ~ 10 | 32 | 80 | 119 | 39 | 70 | 32 | 17 | 32 | AR16 - d | FK-5 |
| - ECH13 - 80 | 0.5 ~ 13 | | | 116 | 36 | 75 | 36 | 19 | | 36 | AR20 - d |
| - ECH16 - 80 | 0.5 ~ 16 | | | 120 | 40 | 80 | 43 | 20 | 36 | AR25 - d | |
| - ECH20 - 80 | 2.5 ~ 20 | | | 40 | 128 | 48 | 100 | 51 | 23 | 46 | AR32 - d |
| SS40 - ECH20 - 110 | | 110 | 158 | | | | | | | | |

NOTES: 1) Collet holder are used with straight collets in unit form.
 When ordering please specify straight collets.
 2) Please order collet and nut wrench separately.



A wide variety of variations support processing

AR Collet

DIN6499

ISO15488

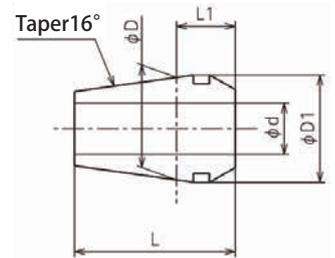
16° Collet



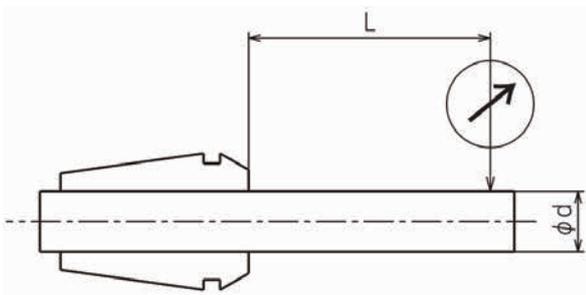
AR Collet is applicable to processing for Drill, and End mill and Reamer.

AR Collet is 16-degree taper collet excellent in flexibility.

AR Collet can be choosed 8 micrometers and 5 micrometers and 3 micrometers T.I.R. accuracy.



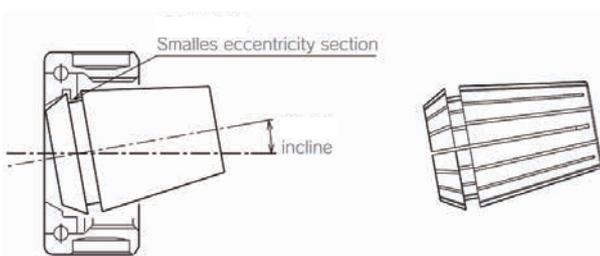
CONCENTRICITY OF TEST BAR RUNOUT (TIR)



| Size | d | L | Accuracy by grade (μ m) | | |
|------|-------------|-------|--------------------------|----|-----|
| | | | A | AA | AAA |
| AR 8 | 0.5 - 5 | 4 x d | 8 | 5 | - |
| AR11 | 1 - 7 | 4 x d | 8 | 5 | 3 |
| AR16 | 1 - 10 | 4 x d | 8 | 5 | 3 |
| AR20 | 1 - 13 (14) | 4 x d | 8 | 5 | 3 |
| AR25 | 1 - 16 | 4 x d | 8 | 5 | 3 |
| AR32 | 2.5 - 20 | 4 x d | 8 | 5 | 3 |
| AR40 | 4 - 26 | 4 x d | 8 | 5 | - |
| AR50 | 6 - 10 | 25 | 8 | 5 | - |
| | 12 - 26 | 40 | | | |
| | 28 - 34 | 60 | 18 | 10 | |

○ Collets of diameter over φ 26 are of defferent accuracy stadard from above.

REMOVAL AND MOUNTING OF COLLET



It is easy to pull the collet out because Pull Ring is integrated with Thrust Ring in Nut.

○ Collet can be removed from Nut by inclining collet when Groove of Collet is hooked on the smallest eccentricity section of Thrust Ring of Nut.

Note : 1) After Collet is seated into Nut, please mount Nut into Collet Holder.

2) Please put cutting tool shank into Collet with full depth.

RECOMMENDED TORQUE OF NUT CLAMPING

| Dimension | Size | Torque | Holder size |
|-----------|-----------------|--------|-------------|
| AR 8 | φ 0.5 - < φ 3.5 | 7 | ECH 5 |
| | φ 3.5 - φ 5.0 | 10 | |
| AR11 | φ 1.0 - < φ 3.5 | 15 | ECH 7 |
| | φ 3.5 - φ 7.0 | 20 | |
| AR16 | φ 1.0 - < φ 3.5 | 30 | ECH10 |
| | φ 3.5 - φ 10.0 | 40 | |
| AR20 | φ 1.0 - < φ 3.5 | 40 | ECH13 |
| | φ 3.5 - φ 14.0 | 60 | |
| AR25 | φ 1.0 - < φ 3.5 | 40 | ECH16 |
| | φ 3.5 - φ 16.0 | 60 | |
| AR32 | φ 3.0 - φ 20.0 | 70 | ECH20 |
| AR40 | φ 4.0 - φ 26.0 | 80 | ECH26 |
| AR50 | φ 6.0 - φ 34.0 | 140 | ECH34 |

AR Collet Holder Recommended torque of nut clamping.

□ Caution Excessive torque will damage a holder, nut, or collet.

A wide variety of variations support processing

DIN6499

ISO15488

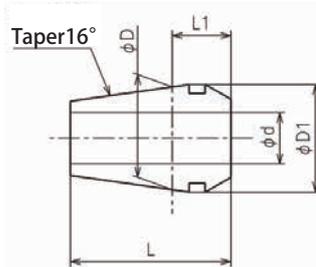
16° Collet

AR Collet Standard type



Form explanation

AR 16 - 10 AA
 Name Size I.D. Grade



AR Collet is usable for applications for Drill, and End mill and Reamer. AR Collet is 16-degree taper collet.

AR Collets are classified as 8 micrometers, 5 micrometers and 3 micrometers T.I.R.

| AR 8 | |
|---------------------------------|------------|
| L1=4.6, φ D=8, φ D1=8.5, L=13.5 | |
| CODE | O.D. range |
| AR8-0.5 | 0.5 - 0.3 |
| AR8-1 | 1.0 - 0.5 |
| AR8-1.5 | 1.5 - 1.0 |
| AR8-2 | 2.0 - 1.5 |
| AR8-2.5 | 2.5 - 2.0 |
| AR8-3 | 3.0 - 2.5 |
| AR8-3.5 | 3.5 - 3.0 |
| AR8-4 | 4.0 - 3.5 |
| AR8-4.5 | 4.5 - 4.0 |
| AR8-5 | 5.0 - 4.5 |

| AR16 | |
|------------------------------|------------|
| L1=10, φ D=16, φ D1=17, L=27 | |
| CODE | O.D. range |
| AR16-1 | 1.0 - 0.5 |
| AR16-1.5 | 1.5 - 1.0 |
| AR16-2 | 2.0 - 1.5 |
| AR16-2.5 | 2.5 - 2.0 |
| AR16-3 | 3.0 - 2.5 |
| AR16-3.175 | 3.175 |
| AR16-3.5 | 3.5 - 3.0 |
| AR16-4 | 4.0 - 3.5 |
| AR16-4.5 | 4.5 - 4.0 |
| AR16-5 | 5.0 - 4.5 |
| AR16-6 | 6.0 - 5.0 |
| AR16-7 | 7.0 - 6.0 |
| AR16-8 | 8.0 - 7.0 |
| AR16-9 | 9.0 - 8.0 |
| AR16-10 | 10.0 - 9.0 |

| AR25 | |
|--------------------------------|-------------|
| L1=11.5, φ D=25, φ D1=26, L=35 | |
| CODE | O.D. range |
| AR25-1 | 1.0 - 0.5 |
| AR25-1.5 | 1.5 - 1.0 |
| AR25-2 | 2.0 - 1.5 |
| AR25-2.5 | 2.5 - 2.0 |
| AR25-3 | 3.0 - 2.5 |
| AR25-3.5 | 3.5 - 3.0 |
| AR25-4 | 4.0 - 3.5 |
| AR25-4.5 | 4.5 - 4.0 |
| AR25-5 | 5.0 - 4.5 |
| AR25-6 | 6.0 - 5.0 |
| AR25-7 | 7.0 - 6.0 |
| AR25-8 | 8.0 - 7.0 |
| AR25-9 | 9.0 - 8.0 |
| AR25-10 | 10.0 - 9.0 |
| AR25-11 | 11.0 - 10.0 |
| AR25-12 | 12.0 - 11.0 |
| AR25-13 | 13.0 - 12.0 |
| AR25-14 | 14.0 - 13.0 |
| AR25-15 | 15.0 - 14.0 |
| AR25-16 | 16.0 - 15.0 |

| AR40 | |
|--------------------------------|-------------|
| L1=14.5, φ D=40, φ D1=41, L=46 | |
| CODE | O.D. range |
| AR40-4 | 4.0 - 3.5 |
| AR40-4.5 | 4.5 - 4.0 |
| AR40-5 | 5.0 - 4.5 |
| AR40-6 | 6.0 - 5.0 |
| AR40-7 | 7.0 - 6.0 |
| AR40-8 | 8.0 - 7.0 |
| AR40-9 | 9.0 - 8.0 |
| AR40-10 | 10.0 - 9.0 |
| AR40-11 | 11.0 - 10.0 |
| AR40-12 | 12.0 - 11.0 |
| AR40-13 | 13.0 - 12.0 |
| AR40-14 | 14.0 - 13.0 |
| AR40-15 | 15.0 - 14.0 |
| AR40-16 | 16.0 - 15.0 |
| AR40-17 | 17.0 - 16.0 |
| AR40-18 | 18.0 - 17.0 |
| AR40-19 | 19.0 - 18.0 |
| AR40-20 | 20.0 - 19.0 |
| AR40-21 | 21.0 - 20.0 |
| AR40-22 | 22.0 - 21.0 |
| AR40-23 | 23.0 - 22.0 |
| AR40-24 | 24.0 - 23.0 |
| AR40-25 | 25.0 - 24.0 |
| AR40-26 | 26.0 - 25.0 |

| AR11 | |
|---------------------------------|------------|
| L1=6.5, φ D=11, φ D1=11.5, L=18 | |
| CODE | O.D. range |
| AR11-1 | 1.0 - 0.5 |
| AR11-1.5 | 1.5 - 1.0 |
| AR11-2 | 2.0 - 1.5 |
| AR11-2.5 | 2.5 - 2.0 |
| AR11-3 | 3.0 - 2.5 |
| AR11-3.175 | 3.175 |
| AR11-3.5 | 3.5 - 3.0 |
| AR11-4 | 4.0 - 3.5 |
| AR11-4.5 | 4.5 - 4.0 |
| AR11-5 | 5.0 - 4.5 |
| AR11-5.5 | 5.5 - 5.0 |
| AR11-6 | 6.0 - 5.5 |
| AR11-6.5 | 6.5 - 6.0 |
| AR11-7 | 7.0 - 6.5 |

| AR20 | |
|------------------------------|-------------|
| L1=11, φ D=20, φ D1=21, L=31 | |
| CODE | O.D. range |
| AR20-1 | 1.0 - 0.5 |
| AR20-1.5 | 1.5 - 1.0 |
| AR20-2 | 2.0 - 1.5 |
| AR20-2.5 | 2.5 - 2.0 |
| AR20-3 | 3.0 - 2.5 |
| AR20-3.175 | 3.175 |
| AR20-3.5 | 3.5 - 3.0 |
| AR20-4 | 4.0 - 3.5 |
| AR20-4.5 | 4.5 - 4.0 |
| AR20-5 | 5.0 - 4.5 |
| AR20-6 | 6.0 - 5.0 |
| AR20-7 | 7.0 - 6.0 |
| AR20-8 | 8.0 - 7.0 |
| AR20-9 | 9.0 - 8.0 |
| AR20-10 | 10.0 - 9.0 |
| AR20-11 | 11.0 - 10.0 |
| AR20-12 | 12.0 - 11.0 |
| AR20-13 | 13.0 - 12.0 |
| AR20-14 * | 14.0 - 13.0 |

| AR32 | |
|--------------------------------|-------------|
| L1=12.5, φ D=32, φ D1=33, L=40 | |
| CODE | O.D. range |
| AR32-2.5 | 2.5 - 2.0 |
| AR32-3 | 3.0 - 2.5 |
| AR32-3.5 | 3.5 - 3.0 |
| AR32-4 | 4.0 - 3.5 |
| AR32-4.5 | 4.5 - 4.0 |
| AR32-5 | 5.0 - 4.5 |
| AR32-6 | 6.0 - 5.0 |
| AR32-7 | 7.0 - 6.0 |
| AR32-8 | 8.0 - 7.0 |
| AR32-9 | 9.0 - 8.0 |
| AR32-10 | 10.0 - 9.0 |
| AR32-11 | 11.0 - 10.0 |
| AR32-12 | 12.0 - 11.0 |
| AR32-13 | 13.0 - 12.0 |
| AR32-14 | 14.0 - 13.0 |
| AR32-15 | 15.0 - 14.0 |
| AR32-16 | 16.0 - 15.0 |
| AR32-17 | 17.0 - 16.0 |
| AR32-18 | 18.0 - 17.0 |
| AR32-19 | 19.0 - 18.0 |
| AR32-20 | 20.0 - 19.0 |

NOTES:

(1) Odd size tool shank can be properly held with Collet with enough grasp range from nominal size.

Example : In case of holding 6.7 mm dia. Drill, use nominal size 7 Collet.

(2) When ordering Collet, specify class of TIR accuracy at end of Code number. Class "AAA" id order made.

*You can't insert deep inside with AR20-14 because I.D. of collet holders is smaller than 14mm.

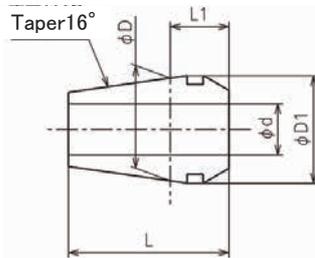
Compatible with center-through high-pressure coolant

16° Collet

Coolant Thru

20MPa Available

AR Coolant Collet OH type



AR Coolant Collet (PAT.) is a liquid sealing collet applying special slitting. and a new type of collet which can seal coolant oil completely at even high pressure of 20MPa.

| AR11 OH | |
|---------------------------------|------------|
| L1=6.5, φ D=11, φ D1=11.5, L=18 | |
| CODE | O.D. range |
| AR11OH-2 | 2.0 - 1.9 |
| AR11OH-2.5 | 2.5 - 2.4 |
| AR11OH-3 | 3.0 - 2.9 |
| AR11OH-3.5 | 3.5 - 3.4 |
| AR11OH-4 | 4.0 - 3.9 |
| AR11OH-4.5 | 4.5 - 4.4 |
| AR11OH-5 | 5.0 - 4.9 |
| AR11OH-5.5 | 5.5 - 5.4 |
| AR11OH-6 | 6.0 - 5.9 |
| AR11OH-6.5 | 6.5 - 6.4 |
| AR11OH-7 | 7.0 - 6.9 |

| AR16 OH | |
|------------------------------|------------|
| L1=10, φ D=16, φ D1=17, L=27 | |
| CODE | O.D. range |
| AR16OH-2 | 2.0 - 1.9 |
| AR16OH-2.5 | 2.5 - 2.4 |
| AR16OH-3 | 3.0 - 2.9 |
| AR16OH-3.5 | 3.5 - 3.4 |
| AR16OH-4 | 4.0 - 3.9 |
| AR16OH-4.5 | 4.5 - 4.4 |
| AR16OH-5 | 5.0 - 4.9 |
| AR16OH-5.5 | 5.5 - 5.4 |
| AR16OH-6 | 6.0 - 5.5 |
| AR16OH-6.5 | 6.5 - 6.0 |
| AR16OH-7 | 7.0 - 6.5 |
| AR16OH-7.5 | 7.5 - 7.0 |
| AR16OH-8 | 8.0 - 7.5 |
| AR16OH-8.5 | 8.5 - 8.0 |
| AR16OH-9 | 9.0 - 8.5 |
| AR16OH-9.5 | 9.5 - 9.0 |
| AR16OH-10 | 10.0 - 9.5 |

| AR20 OH | |
|------------------------------|-------------|
| L1=11, φ D=20, φ D1=21, L=31 | |
| CODE | O.D. range |
| AR20OH-3 | 3.0 - 2.9 |
| AR20OH-3.5 | 3.5 - 3.4 |
| AR20OH-4 | 4.0 - 3.9 |
| AR20OH-4.5 | 4.5 - 4.4 |
| AR20OH-5 | 5.0 - 4.9 |
| AR20OH-5.5 | 5.5 - 5.4 |
| AR20OH-6 | 6.0 - 5.5 |
| AR20OH-6.5 | 6.5 - 6.0 |
| AR20OH-7 | 7.0 - 6.5 |
| AR20OH-7.5 | 7.5 - 7.0 |
| AR20OH-8 | 8.0 - 7.5 |
| AR20OH-8.5 | 8.5 - 8.0 |
| AR20OH-9 | 9.0 - 8.5 |
| AR20OH-9.5 | 9.5 - 9.0 |
| AR20OH-10 | 10.0 - 9.5 |
| AR20OH-10.5 | 10.5 - 10.0 |
| AR20OH-11 | 11.0 - 10.5 |
| AR20OH-11.5 | 11.5 - 11.0 |
| AR20OH-12 | 12.0 - 11.5 |
| AR20OH-12.5 | 12.5 - 12.0 |
| AR20OH-13 | 13.0 - 12.5 |

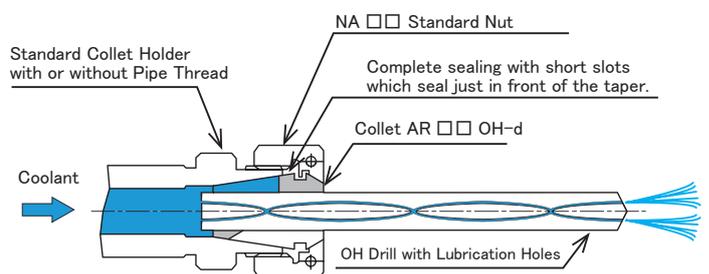
| AR25 OH | |
|--------------------------------|-------------|
| L1=11.5, φ D=25, φ D1=26, L=35 | |
| CODE | O.D. range |
| AR25OH-3 | 3.0 - 2.9 |
| AR25OH-3.5 | 3.5 - 3.4 |
| AR25OH-4 | 4.0 - 3.9 |
| AR25OH-4.5 | 4.5 - 4.4 |
| AR25OH-5 | 5.0 - 4.9 |
| AR25OH-5.5 | 5.5 - 5.4 |
| AR25OH-6 | 6.0 - 5.5 |
| AR25OH-6.5 | 6.5 - 6.0 |
| AR25OH-7 | 7.0 - 6.5 |
| AR25OH-7.5 | 7.5 - 7.0 |
| AR25OH-8 | 8.0 - 7.5 |
| AR25OH-8.5 | 8.5 - 8.0 |
| AR25OH-9 | 9.0 - 8.5 |
| AR25OH-9.5 | 9.5 - 9.0 |
| AR25OH-10 | 10.0 - 9.5 |
| AR25OH-10.5 | 10.5 - 10.0 |
| AR25OH-11 | 11.0 - 10.5 |
| AR25OH-11.5 | 11.5 - 11.0 |
| AR25OH-12 | 12.0 - 11.5 |
| AR25OH-12.5 | 12.5 - 12.0 |
| AR25OH-13 | 13.0 - 12.5 |
| AR25OH-13.5 | 13.5 - 13.0 |
| AR25OH-14 | 14.0 - 13.5 |
| AR25OH-14.5 | 14.5 - 14.0 |
| AR25OH-15 | 15.0 - 14.5 |
| AR25OH-15.5 | 15.5 - 15.0 |
| AR25OH-16 | 16.0 - 15.5 |

| AR32 OH | |
|--------------------------------|-------------|
| L1=12.5, φ D=32, φ D1=33, L=40 | |
| CODE | O.D. range |
| AR32OH-3 | 3.0 - 2.9 |
| AR32OH-3.5 | 3.5 - 3.4 |
| AR32OH-4 | 4.0 - 3.9 |
| AR32OH-4.5 | 4.5 - 4.4 |
| AR32OH-5 | 5.0 - 4.9 |
| AR32OH-5.5 | 5.5 - 5.4 |
| AR32OH-6 | 6.0 - 5.9 |
| AR32OH-6.5 | 6.5 - 6.4 |
| AR32OH-7 | 7.0 - 6.9 |
| AR32OH-7.5 | 7.5 - 7.4 |
| AR32OH-8 | 8.0 - 7.5 |
| AR32OH-8.5 | 8.5 - 8.0 |
| AR32OH-9 | 9.0 - 8.5 |
| AR32OH-9.5 | 9.5 - 9.0 |
| AR32OH-10 | 10.0 - 9.5 |
| AR32OH-10.5 | 10.5 - 10.0 |
| AR32OH-11 | 11.0 - 10.5 |
| AR32OH-11.5 | 11.5 - 11.0 |
| AR32OH-12 | 12.0 - 11.5 |
| AR32OH-12.5 | 12.5 - 12.0 |
| AR32OH-13 | 13.0 - 12.5 |
| AR32OH-13.5 | 13.5 - 13.0 |
| AR32OH-14 | 14.0 - 13.5 |
| AR32OH-14.5 | 14.5 - 14.0 |
| AR32OH-15 | 15.0 - 14.5 |
| AR32OH-15.5 | 15.5 - 15.0 |
| AR32OH-16 | 16.0 - 15.5 |
| AR32OH-16.5 | 16.5 - 16.0 |
| AR32OH-17 | 17.0 - 16.5 |
| AR32OH-17.5 | 17.5 - 17.0 |
| AR32OH-18 | 18.0 - 17.5 |
| AR32OH-18.5 | 18.5 - 18.0 |
| AR32OH-19 | 19.0 - 18.5 |
| AR32OH-19.5 | 19.5 - 19.0 |
| AR32OH-20 | 20.0 - 19.5 |

| AR40 OH | |
|--------------------------------|-------------|
| L1=14.5, φ D=40, φ D1=41, L=46 | |
| CODE | O.D. range |
| AR40OH-10 | 10.0 - 9.5 |
| AR40OH-10.5 | 10.5 - 10.0 |
| AR40OH-11 | 11.0 - 10.5 |
| AR40OH-11.5 | 11.5 - 11.0 |
| AR40OH-12 | 12.0 - 11.5 |
| AR40OH-12.5 | 12.5 - 12.0 |
| AR40OH-13 | 13.0 - 12.5 |
| AR40OH-13.5 | 13.5 - 13.0 |
| AR40OH-14 | 14.0 - 13.5 |
| AR40OH-14.5 | 14.5 - 14.0 |
| AR40OH-15 | 15.0 - 14.5 |
| AR40OH-15.5 | 15.5 - 15.0 |
| AR40OH-16 | 16.0 - 15.5 |
| AR40OH-16.5 | 16.5 - 16.0 |
| AR40OH-17 | 17.0 - 16.5 |
| AR40OH-17.5 | 17.5 - 17.0 |
| AR40OH-18 | 18.0 - 17.5 |
| AR40OH-18.5 | 18.5 - 18.0 |
| AR40OH-19 | 19.0 - 18.5 |
| AR40OH-19.5 | 19.5 - 19.0 |
| AR40OH-20 | 20.0 - 19.5 |
| AR40OH-20.5 | 20.5 - 20.0 |
| AR40OH-21 | 21.0 - 20.5 |
| AR40OH-21.5 | 21.5 - 21.0 |
| AR40OH-22 | 22.0 - 21.5 |
| AR40OH-22.5 | 22.5 - 22.0 |
| AR40OH-23 | 23.0 - 22.5 |
| AR40OH-23.5 | 23.5 - 23.0 |
| AR40OH-24 | 24.0 - 23.5 |
| AR40OH-24.5 | 24.5 - 24.0 |
| AR40OH-25 | 25.0 - 24.5 |
| AR40OH-25.5 | 25.5 - 25.0 |
| AR40OH-26 | 26.0 - 25.5 |

- NOTES:
- (1) Sizes not mentioned above are order made.
 - (2) When in use, insert a drill to the end from the front part of the collet.
 - (3) Do not use smaller sized cutting tools than inner diameter of collet or coolant will leak out of a collet.
 - (4) AR/OH collet does not work if using flat-face shank cutting tool.

Structure of AR /OH type coolant collet



Side-through high-pressure coolant compatible

16° Collet

Coolant Thru

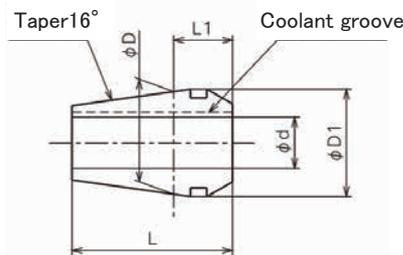
20MPa Available

AR Coolant Collet C type

Made to order

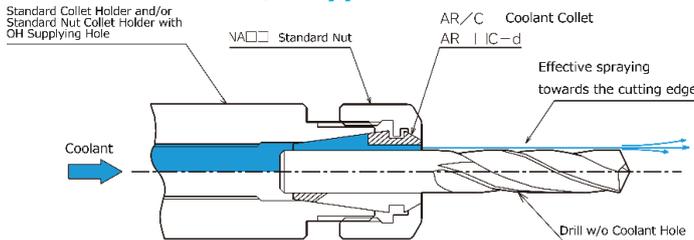


Form explanation
AR 16 C - 10 AA
 Name Size Type I.D. Grade



AR/C coolant collet (PAT) is a liquid sealing chuck applying special slitting. AR/C was added to the coolant groove to the inner diameter of the collet. This coolant groove has been made possible refueling effective to the tip of the tool.

Structure of AR /C type coolant collet



| CODE | φ d | | φ D | L | Supported Holders |
|---------|---------|--------------|-----|----|-------------------|
| | Range | Shrink range | | | |
| AR11C-d | 3 — 7 | 0.1 | 11 | 18 | EXH 7/ECH 7 |
| AR16C-d | 3 — 5.9 | | | | |
| AR20C-d | 6 — 10 | 0.5 | 16 | 27 | EXH10/ECH10 |
| | 5 — 5.9 | | | | |
| AR25C-d | 6 — 13 | 0.1 | 20 | 31 | EXH13/ECH13 |
| | 6 — 16 | | | | |
| AR32C-d | 8 — 20 | 0.5 | 25 | 35 | EXH16/ECH16 |
| | | | | | |

Features of AR/C type coolant collet

- ◆ Correspond for high-pressure coolant sealing can be done by high-pressure of 20MPa except for the coolant groove.
- ◆ Coolant is sprayed toward the cutting edge, making it easy to reduce chip clogging.
- ◆ Effective for deep drilling of small diameter hole.
- ◆ For water-soluble or oil coolant available.
- ◆ AR / C is also valid for semi-dry (mist) processing.

NOTES:

- (1) AR / C is compatible with water-soluble coolant.
AR / C will also manufacture products corresponding to the oil based coolant.
- (2) When ordering, specify the type of oil and accuracy class.
Order Example : AR16 C -6 . . . Water-soluble coolant for φ 6, grade A
AR16CY-6AA . . . Oil-based coolant, for φ 6, grade AA
- (3) Drill should be inserted deeper the depth of the collet.
- (4) When gripping a collet of a size other than the diameter, coolant may seep out or a small amount of coolant may leak.
- (5) The sealing of the collet does not work when a straight shank with flat edge is used.
- (6) The inside diameter shape varies depending on φ d.

16° Collet

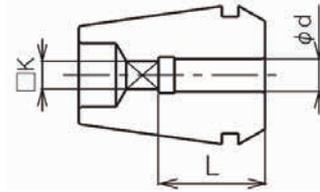
Tap

● AR Tap Collet GB type



Form explanation

AR 16 GB - M4
 Name Size Type Tap size



TAP COLLET with Square Hole for Synchronized Tapping.

| Size | | | CODE | | | | |
|---------------|----------------------|-------------|-----------|-----------|-----------|-----------|------------|
| Metric thread | Unified screw thread | Pipe thread | AR16GB | AR20GB | AR25GB | AR32GB | AR40GB |
| M4 | No.8U | | AR16GB-M4 | AR20GB-M4 | AR25GB-M4 | AR32GB-M4 | |
| M5 | No.10/12U | | -M5 | -M5 | -M5 | -M5 | |
| M6 | 1/4U | | -M6 | -M6 | -M6 | -M6 | |
| | 5/16U | | -5/16U | -5/16U | -5/16U | -5/16U | |
| M8 | | | -M8 | -M8 | -M8 | -M8 | |
| M10 | | | -M10 | -M10 | -M10 | -M10 | AR40GB-M10 |
| M11 | | | -7/16U | -7/16U | -7/16U | -7/16U | -7/16U |
| | | P1/8 | -P1/8 | -P1/8 | -P1/8 | -P1/8 | -P1/8 |
| M12 | | | | -M12 | -M12 | -M12 | -M12 |
| | 1/2U | | | -1/2U | -1/2U | -1/2U | -1/2U |
| M14 | 9/16U | | | | -M14 | -M14 | -M14 |
| | | P1/4 | | | -P1/4 | -P1/4 | -P1/4 |
| | 5/8U | | | | -5/8U | -5/8U | -5/8U |
| M16 | | | | | -M16 | -M16 | -M16 |
| | | P3/8 | | | -P3/8 | -P3/8 | -P3/8 |
| M18 | 3/4U | | | | | -M18 | -M18 |
| M20 | | | | | | -M20 | -M20 |
| M22 | 7/8U | | | | | | -M22 |
| | | P1/2 | | | | | -P1/2 |
| M24 | | | | | | | -M24 |
| M27 | 1U | | | | | | -M27 |

NOTES: 1) The above chart based on JIS Standard.
 Please ask for Tap Shank of ASNI,DIN,or ISO Standard is required.

2) Each suitable collet is required for each tap size.

For Synchro-tap processing · Coolant collet

16° Collet

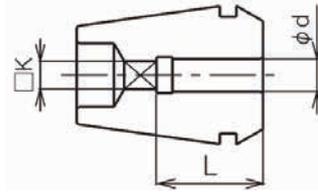
Coolant Tap

20MPa Available

AR Coolant Tap Collet GH type



Form explanation
AR 16 **GH** - **M6**
 Name Size Type Tap size



AR/GH tap collet chuck is for tap with a oil hole
 Higher sealing ability than AR/GB tap collet
 chuck makes tool life longer. Can be used for
 deep-hole tapping.

| Size | | | CODE | | | | |
|---------------|----------------------|-------------|-----------|-----------|-----------|-----------|------------|
| Metric thread | Unified screw thread | Pipe thread | AR16GH | AR20GH | AR25GH | AR32GH | AR40GH |
| M6 | 1/4U | | AR16GH-M6 | AR20GH-M6 | AR25GH-M6 | AR32GH-M6 | |
| | 5/16U | | -5/16U | -5/16U | -5/16U | -5/16U | |
| M8 | | | -M8 | -M8 | -M8 | -M8 | |
| M10 | | | -M10 | -M10 | -M10 | -M10 | AR40GH-M10 |
| M11 | | | -7/16U | -7/16U | -7/16U | -7/16U | -7/16U |
| | | P1/8 | -P1/8 | -P1/8 | -P1/8 | -P1/8 | -P1/8 |
| M12 | | | | -M12 | -M12 | -M12 | -M12 |
| | 1/2U | | | -1/2U | -1/2U | -1/2U | -1/2U |
| M14 | 9/16U | | | | -M14 | -M14 | -M14 |
| | | P1/4 | | | -P1/4 | -P1/4 | -P1/4 |
| | 5/8U | | | | -5/8U | -5/8U | -5/8U |
| M16 | | | | | -M16 | -M16 | -M16 |
| | | P3/8 | | | -P3/8 | -P3/8 | -P3/8 |
| M18 | 3/4U | | | | | -M18 | -M18 |
| M20 | | | | | | -M20 | -M20 |
| M22 | 7/8U | | | | | | -M22 |
| | | P1/2 | | | | | -P1/2 |
| M24 | | | | | | | -M24 |
| M27 | 1U | | | | | | -M27 |

NOTES: 1) The above chart based on JIS Standard.
 Please ask for Tap Shank of ASNI,DIN,or ISO Standard is required.
 2) Each suitable collet is required for each tap size.

JIS B 4133 Face milling compatible

Arbors for Face Milling Cutters Type A



Face Milling Cutter Arbor corresponding to JIS B4133.

Form explanation

BT50 FMA 25.4 - 150

Shank type Holder type Diameter Dimension

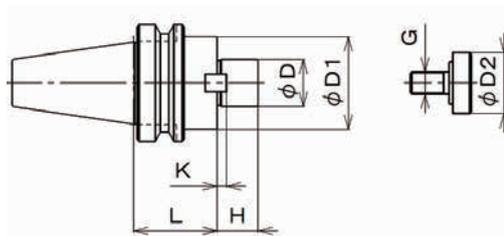


Fig. 1

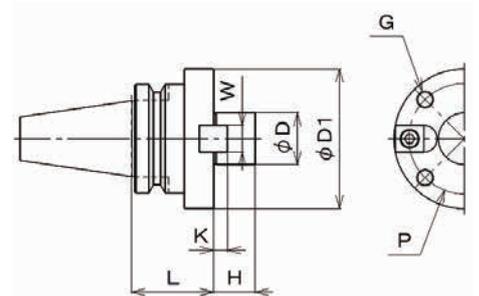


Fig. 2

Inch

| CODE | Fig. | D | L | D1 | H | W | K | G | D2 | P | Cuuter DIA (JIS B4113) | |
|---------------------|------|--------|-----|--------|-----|-------|------|-----|----|-------|------------------------|-------------------------|
| BT50 - FMA25.4 - 45 | 1 | 25.4 | 45 | 50 | 22 | 9.5 | 5 | M12 | 33 | - | 76 , (3") | |
| - 90 | | | 90 | | | | | | | | | |
| - 150 | | | 150 | | | | | | | | | |
| - FMA31.75 - 45 | | 31.75 | 45 | 60 | 30 | 12.7 | 7 | M16 | 40 | | - | 102 , (4") |
| - 75 | | | 75 | | | | | | | | | |
| - 105 | | | 105 | | | | | | | | | |
| - FMA38.1 - 45 | | 38.1 | 45 | 80 | 34 | 15.9 | 9 | M20 | 50 | | - | 127 , (5") |
| - 75 | | | 75 | | | | | | | | | |
| - FMA50.8 - 45 | | 50.8 | 45 | 100 | 36 | 19.05 | 10 | M24 | 65 | | - | 152 , 178 , (6") , (7") |
| - 75 | 75 | | | | | | | | | | | |
| - FMA47.625 - 75 | 2 | 47.625 | 75 | 128.57 | 38 | 25.4 | 12.5 | M16 | - | 101.6 | 203 , (8") | |
| BT40 - FMA25.4 - 45 | 1 | 25.4 | 45 | 50 | 22 | 9.5 | 5 | M12 | 33 | - | 76 , (3") | |
| - 90 | | | 90 | | | | | | | | | |
| - FMA31.75 - 45 | | 31.75 | 45 | 60 | 30 | 12.7 | 7 | M16 | 44 | | - | 102 , (4") |
| - 75 | | | 75 | | | | | | | | | |
| - FMA38.1 - 60 | | 38.1 | 60 | 80 | 34 | 15.9 | 9 | M20 | 50 | | - | 127 , (5") |
| BT30 - FMA25.4 - 45 | 25.4 | 45 | 50 | 22 | 9.5 | 5 | M12 | 33 | - | - | 76 , (3") | |
| - 60 | | 60 | | | | | | | | | | |

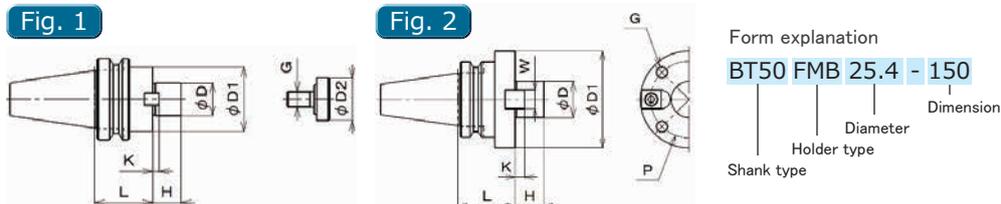
NOTES: 1) Cutters are supposed to be JIS B4113 type face milling cutters.

2) Driving key and clamp bolts are standard accessories.

Compatible with SANDVIK T-MAX face mills and shoulder face mills

Arbors for Face Milling Cutters Type B

Face Milling Cutter Arbor corresponding to T-MAX Face mill and Shoulder mill for SANDVIK.



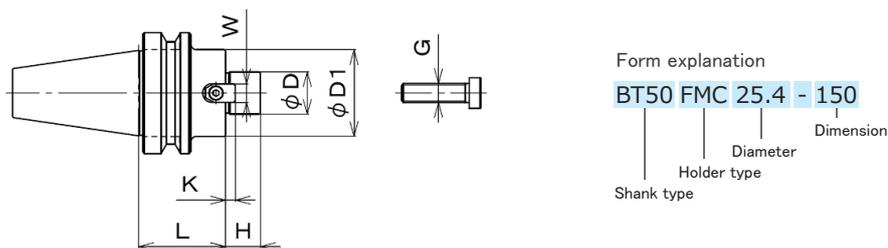
Inch

| CODE | Fig. | D | L | D1 | H | W | K | G | D2 | P | Cutter DIA (Sandvik Coromant) |
|---------------------|------|------|------|----|------|-----|-----|-----|------------|-----------|-------------------------------|
| BT50 - FMB25.4 - 45 | 1 | 25.4 | 45 | 80 | 26 | 9.5 | 5 | M12 | 33 | - | 80 |
| - 90 | | | 90 | | | | | | | | |
| - 105 | | | 105 | | | | | | | | |
| - FMB38.1 - 45 | | | 38.1 | | | | | | | | |
| - 75 | 85 | 75 | | 26 | 15.9 | 9 | M20 | 50 | - | 100 , 125 | |
| - 105 | | 105 | | | | | | | | | |
| - FMB38.1F - 75 | | 75 | | | | | | | | | |
| - 110 | 110 | | | | | | | | | | |
| BT40 - FMB25.1 - 45 | 1 | 25.4 | 45 | 62 | 26 | 9.5 | 5 | M12 | 33 | - | 80 |
| - 60 | | | 60 | | | | | | | | |
| - 90 | | | 90 | | | | | | | | |
| - FMB38.1 - 60 | | | 38.1 | | | | | | | | |
| - 75 | 75 | | | | | | | | | | |
| | | | | | | | | | 66.7 × M12 | | 160 |

Compatible with SANDVIK T-MAX face mills and shoulder face mills

Arbors for Face Milling Cutters Type C

Face Milling Cutter Arbor corresponding to T-MAX Face mill and Shoulder mill for SANDVIK.



Inch

| CODE | D | L | D1 | H | W | K | G | Cutter DIA (JIS B4113) |
|---------------------|------|-----|----|----|------|---|-----|------------------------|
| BT50 - FMC25.4 - 45 | 25.4 | 45 | 70 | 20 | 9.5 | 6 | M12 | 80 |
| - 90 | | 90 | | | | | | |
| - 150 | | 150 | | | | | | |
| - FMC38.1 - 45 | 38.1 | 45 | 85 | 22 | 15.9 | 7 | M16 | 100 |
| - 75 | | 70 | | | | | | |
| - 105 | | 105 | | | | | | |
| BT40 - FMC25.4 - 60 | 25.4 | 60 | 62 | 20 | 9.5 | 6 | M12 | 80 |
| - 90 | | 90 | | | | | | |
| - FMC38.1 - 45 | 38.1 | 60 | 85 | 22 | 15.9 | 7 | M16 | 100 |

NOTES: 1) Cutters are supposed to be the COROMANT T-MAX shoulder face mill of SANDVIK.
2) Driving key and clamp bolts are standard accessories.

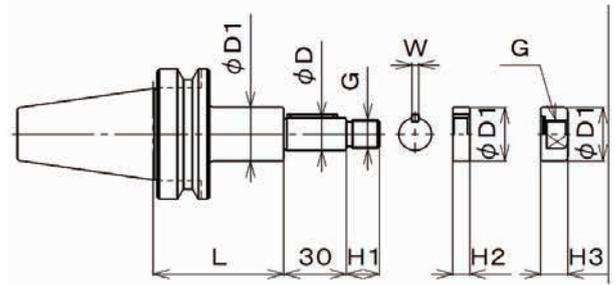
A wide variety of variations support processing

Arbors for Side Milling Cutters



Form explanation
BT50 SCA 12.7 - 105
 Shank type Holder type Diameter Dimension

| H2 |
|-----------|
| 3, 5, 7 |
| 8, 10, 12 |



Inch

| CODE | D | L | D1 | G | H1 | W | H3 | Cutter DIA | |
|---------------------|--------|-----|----|------------|----|------|----|-----------------|---------------|
| | | | | | | | | JIS B4206 | JIS B4219 |
| BT50 - SCA12.7 - 75 | 12.7 | 75 | 20 | M12 × 1.25 | 15 | - | 12 | - | 50 |
| -105 | | 105 | | | | | | | |
| - SCA15.875 - 90 | 15.875 | 90 | 26 | M14 × 1.5 | 16 | 3.18 | 13 | 50 | 60 |
| -120 | | 120 | | | | | | | |
| - SCA22.225 - 90 | 22.225 | 90 | 34 | M20 × 1.5 | 21 | - | 18 | (60), 63, (75) | 75 |
| -135 | | 135 | | | | | | | |
| - SCA25.4 - 90 | 25.4 | 90 | 40 | M24 × 2 | 25 | 6.35 | 21 | 80, (100) | 100, 125 |
| -135 | | 135 | | | | | | | |
| - SCA31.75 - 90 | 31.75 | 90 | 46 | M30 × 2 | 30 | 7.92 | 26 | 100, 125, (150) | 150, 175, 200 |
| -135 | | 135 | | | | | | | |
| - SCA38.1 - 90 | 38.1 | 90 | 55 | M36 × 2 | 36 | 9.52 | 31 | 160, (175), 200 | - |
| -135 | | 135 | | | | | | | |
| BT40 - SCA12.7 - 75 | 12.7 | 75 | 20 | M12 × 1.25 | 15 | - | 12 | - | 50 |
| -105 | | 105 | | | | | | | |
| - SCA15.875 - 75 | 15.875 | 75 | 26 | M14 × 1.5 | 16 | 3.18 | 13 | 50 | 60 |
| -105 | | 105 | | | | | | | |
| - SCA22.225 - 75 | 22.225 | 75 | 34 | M20 × 1.5 | 21 | - | 18 | (60), 63, (75) | 75 |
| -120 | | 120 | | | | | | | |
| - SCA25.4 - 75 | 25.4 | 75 | 40 | M24 × 2 | 25 | 6.35 | 21 | 80, (100) | 100, 125 |
| -120 | | 120 | | | | | | | |
| - SCA31.75 - 90 | 31.75 | 90 | 46 | M30 × 2 | 30 | 7.92 | 26 | 100, 125, (150) | 150, 175, 200 |
| BT30 - SCA12.7 - 40 | 12.7 | 40 | 20 | M12 × 1.25 | 15 | - | 12 | - | 50 |
| - SCA15.875 - 40 | 15.875 | 40 | 26 | M14 × 1.5 | 16 | 3.18 | 13 | 50 | 60 |
| - SCA22.225 - 40 | 22.225 | 40 | 34 | M20 × 1.5 | 21 | - | 18 | (60), 63, (75) | 75 |

NOTES: 1) Cutters are supposed to be JIS B4206 side milling cutters.
 JIS B4107 side milling cutters with cemented carbide tips.
 JIS B4219 metal slitting saws, JIS B4109 metal slitting saws with cemented tips.

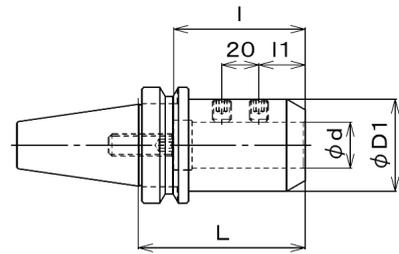
2) Normal accessories are nuts and collars
 (H3 :3,5,7,8,10,12mm)

Support processing with reliable performance

Side Lock Holder A Type



Form explanation
BT50 SLA 20 - 105
 Shank type | Holder type | Diameter | Dimension



General-purpose type

| CODE | d | L | D1 | I | | I1 |
|--------------------|----|-----|----|------|------|----|
| | | | | Min. | Max. | |
| BT50 - SLA20 - 105 | 20 | 105 | 50 | 55 | 70 | 25 |
| - SLA25 - 105 | 25 | | | 65 | 80 | 30 |
| - SLA32 - 105 | 32 | | | 90 | 110 | |
| - SLA42 - 105 | 42 | | | | | |
| BT40 - SLA20 - 90 | 20 | 90 | 50 | 55 | 70 | 25 |
| - SLA25 - 90 | 25 | | | 65 | 80 | 30 |
| - SLA32 - 90 | 32 | | | | | |
| BT30 - SLA20 - 75 | 20 | 75 | 44 | 55 | 70 | 25 |
| - SLA25 - 75 | 25 | | | | | |

For End-Mill with flat face.

Side Lock Holder S Type

Side lock holders for the exclusive use ISO-3338 type end mills, which have the flat face on a shank.

Made to order

Form explanation
BT50 SLS 10 - 75
 Shank type | Holder type | Diameter | Dimension

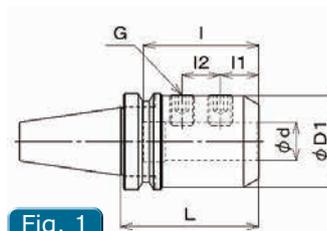


Fig. 1

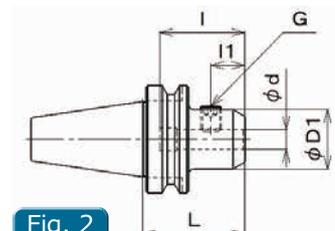


Fig. 2

Dedicated to end mills

| CODE | Fig. | d | L | D1 | I | I1 | I2 | G |
|-------------------|------|----|-----|----|----|-------|----|-------|
| BT50 - SLS 6 - 75 | 1 | 6 | 75 | 25 | 35 | 15 | 15 | 1-M6 |
| - SLS 8 - 75 | | 8 | | 28 | 40 | | | 1-M8 |
| - SLS10 - 75 | | 10 | | 30 | 45 | 16 | 16 | 1-M10 |
| - SLS12 - 75 | | 12 | | 35 | 50 | 20 | 20 | 1-M12 |
| - SLS16 - 75 | | 16 | | 42 | 60 | 23 | 23 | 1-M14 |
| - SLS20 - 105 | | 20 | | 50 | 75 | 25 | | 1-M16 |
| - SLS25 - 105 | 2 | 25 | 105 | 60 | 81 | 30 | 25 | 2-M16 |
| - SLS32 - 105 | | 32 | | 70 | | | | |
| - SLS40 - 120 | | 40 | | | | | | |
| - SLS42 - 120 | 42 | 80 | 110 | 30 | 30 | 1-M16 | | |
| BT40 - SLS 6 - 60 | 1 | 6 | 60 | 25 | 35 | 15 | - | 1-M6 |
| - SLS 8 - 60 | | 8 | | 28 | 40 | | | 1-M8 |
| - SLS10 - 60 | | 10 | | 30 | 45 | 16 | | 1-M10 |
| - SLS12 - 60 | | 12 | | 35 | 50 | 20 | | 1-M12 |
| - SLS16 - 60 | | 16 | | 42 | 60 | 23 | | 1-M14 |
| - SLS20 - 90 | | 20 | | 50 | 75 | 25 | | 20 |
| - SLS25 - 90 | 25 | 60 | 81 | 25 | 25 | 1-M16 | | |
| - SLS32 - 90 | 32 | 62 | | | | | | |

NOTES: 1) Side Lock Holder can't use through coolant.

For Morse taper drills

Morse Taper Holder A Type

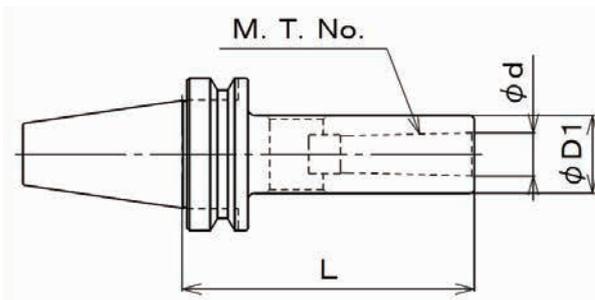
Morse Taper Holder is used together with Morse Taper Drill.



Form explanation

BT50 - MTA 1 - 45

Shank type | Holder type | Taper type | Dimension



| CODE | M.T.NO. | L | d | D1 |
|------------------|---------|-----|--------|----|
| BT50 - MTA1 - 45 | 1 | 45 | 12.065 | 25 |
| -120 | | 120 | | |
| -180 | | 180 | | |
| - MTA2 - 45 | 2 | 45 | 17.78 | 32 |
| -135 | | 135 | | |
| -180 | | 180 | | |
| - MTA3 - 45 | 3 | 45 | 23.825 | 40 |
| -150 | | 150 | | |
| -180 | | 180 | | |
| - MAT4 - 75 | 4 | 75 | 31.267 | 50 |
| -180 | | 180 | | |
| - MAT5 -105 | 5 | 105 | 44.339 | 65 |
| -210 | | 210 | | |
| BT40 - MAT1 - 45 | 1 | 45 | 12.065 | 25 |
| -120 | | 120 | | |
| - MTA2 - 60 | 2 | 60 | 17.78 | 32 |
| -120 | | 120 | | |
| - MTA3 - 75 | 3 | 75 | 23.825 | 40 |
| -135 | | 135 | | |
| - MTA4 - 95 | 4 | 95 | 31.267 | 50 |
| -165 | | 165 | | |
| BT30 - MTA1 - 50 | 1 | 50 | 12.065 | 25 |
| - MTA2 - 65 | 2 | 60 | 17.78 | 30 |

For converting morse taper size

MT. Drill Sockets

Made to order

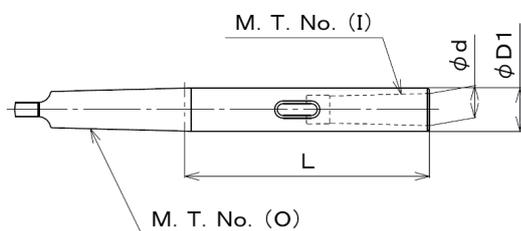


The Morse taper drill can be used when the taper size is different from the Holder's.

Form explanation

MT DS11 - 135

Shank type | Holder type | Dimension



| CODE | M.T.NO. | | d | L | D1 |
|-----------------|---------|-----|--------|-----|----|
| | (O) | (I) | | | |
| MT - DS11 - 135 | 1 | 1 | 12.065 | 135 | 20 |
| - DS21 - 135 | 2 | 2 | 17.78 | | 24 |
| - DS22 - 135 | | | | 3 | 3 |
| - DS32 - 135 | 4 | 4 | 31.267 | | |
| - DS33 - 150 | | | | 5 | 5 |
| - DS43 - 150 | 4 | 4 | 31.267 | | |
| - DS44 - 150 | | | | 5 | 5 |
| - DS54 - 150 | 5 | 5 | 44.399 | | |
| - DS55 - 180 | | | | 5 | 5 |

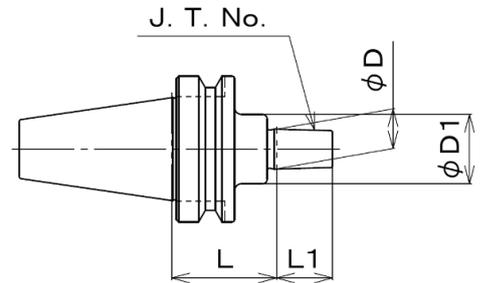
Easy drill chucking

● Jacobs Taper Holder

Jacobs Taper Holder is used together with Drill Chuck. And it grasps a straight drill.



Form explanation
BT50 JTA 25 - 105
 Shank type | Holder type | Diameter | Dimension



| CODE | J.T.No | L | D | D1 | L1 | Drill Chuck CODE |
|-------------------|--------|-----|--------|----|----|------------------|
| BT50 - JTA 2 - 45 | 2 | 45 | 14.119 | 30 | 20 | 100 - J2 |
| -105 | | 105 | | | | |
| - JTA 6 - 45 | 6 | 45 | 17.17 | | 24 | 130 - J6 |
| -105 | | 105 | | | | 160 - J6 |
| BT40 - JTA 2 - 45 | 2 | 45 | 14.119 | | 20 | 100 - J2 |
| -105 | | 105 | | | | |
| - JTA 6 - 45 | 6 | 45 | 17.17 | | 24 | 130 - J6 |
| -105 | | 105 | | | | 160 - J6 |
| BT30 - JTA 2 - 30 | 2 | 30 | 14.119 | | 20 | 100 - J2 |
| - JTA 6 - 30 | 6 | | 17.17 | | 24 | 130 - J6 |
| | | | | | | 160 - J6 |

NOTES: 1) Drill chuck are not supplied.

● Drill Chuck



It is a drill chuck made by ALBRECHT.
 Drill Chuck is used attaching to Jacobs Taper Holder.
 Please choose drill chuck code from a list and order for it.

| CODE | J.T.No. | Grasp range | Outer diameter dimension |
|----------|---------|-------------|--------------------------|
| 100 - J2 | 2JT | 0 ~ 100 | 43 |
| 130 - J6 | 6JT | 0 ~ 130 | 50 |
| 160 - J6 | | 0 ~ 160 | 56 |

Collet holder for small MC and DC

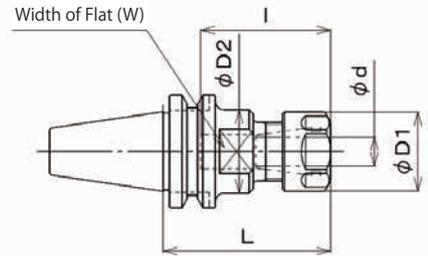
15T-Collet Holder

16° Collet

Form explanation
15T - **ECH** **10** **S** - **120**
 Shank type Holder type Diameter Nut type Dimension



It is applicable to processing using Drill, Reamer, and End mill and Tap.
 It is the collet holder used by small MC-DC.
 Collet Holder can use 16-degree taper collet.



| CODE | d | L | I | D2 | W | D1 | Collet CODE | Nut Wrench | Adjust bolt without coolant |
|-------------------|----------|----|------|----|----|----|-------------|------------|-----------------------------|
| | | | Max. | | | | | | |
| 15T - ECH 7S - 40 | 0.5 ~ 7 | 40 | 31 | 20 | 17 | 19 | AR11 | AP-17A | ECH 7-05 |
| - 48 | | 48 | | | | | | | |
| - 55 | | 55 | | | | | | | |
| - 75 | | 75 | | | | | | | |
| - 90 | | 90 | | | | | | | |
| - ECH10S - 55 | 0.5 ~ 10 | 55 | 45 | 25 | 22 | 28 | AR16 | SP-25 | ECH10-05 |

Collet holder for small MC and DC

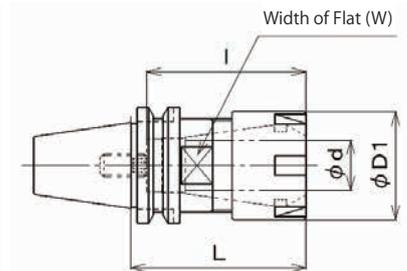
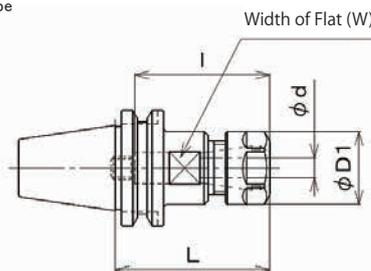
S20T-Collet Holder

16° Collet

Form explanation
S20T - **ECH** **7** **S** - **40**
 Shank type Holder type Diameter Nut type Dimension



It is applicable to processing using Drill, Reamer, and End mill and Tap.
 It is the collet holder used by small MC-DC.
 Collet Holder can use 16-degree taper collet.



When using at high speeds, please replace with a high speed nut (NA-R/SR).

| CODE | d | L | I | W | D1 | Collet CODE | Nut Wrench | Adjust bolt without coolant |
|--------------------|----------|----|------|----|----|-------------|------------|-----------------------------|
| | | | Max. | | | | | |
| S20T - ECH 7S - 40 | 0.5 ~ 7 | 40 | 35 | 17 | 19 | AR11 | SP-17A | ECH 7-05 |
| - 50 | | 50 | | | | | | |
| - ECH10S - 45 | 0.5 ~ 10 | 45 | 19 | 19 | 28 | AR16 | SP-25 | ECH10-05 |
| - 60 | | 60 | | | | | | |
| - ECH13S - 45 | 0.5 ~ 13 | 45 | 22 | 22 | 34 | AR20 | SP-30 | ECH13-05 |
| - 60 | | 60 | | | | | | |
| - ECH13M - 15 | | 45 | | | | | | |

NOTES: 1) Collet holders are combined with collets and Pull Studs in unit form.
 2) Please order collet and nut wrench separately.
 3) Please order Adjust bolt separately.

Collet holder for small MC and DC

25T-Collet Holder

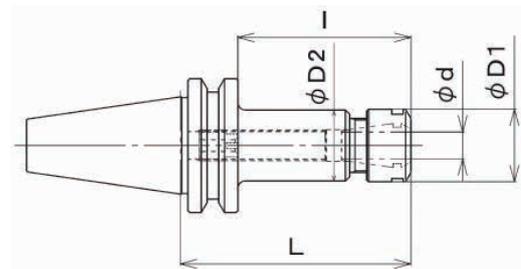
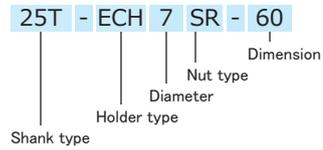
16° Collet

It is applicable to processing using Drill, Reamer, and End mill and Tap.

It is the collet holder used by small MC-DC. Collet Holder can use 16-degree taper collet.



Form explanation



When using at high speeds, please replace with a high speed nut (NA-R/SR).

| CODE | d | L | I | D2 | W | D1 | Collet CODE | Nut Wrench | Adjust bolt without coolant | | | | | |
|-------------------|----------|----|------|----|---|----|-------------|------------|-----------------------------|----|----|------|-------|----------|
| | | | Max. | | | | | | | | | | | |
| 25T - ECH 5M - 45 | 0.5 ~ 5 | 45 | - | 12 | - | 12 | AR 8 | AE-8M | - | | | | | |
| - ECH 7SR - 60 | 0.5 ~ 7 | 60 | 35 | 19 | | 19 | AR11 | SP-17A | ECH 7-05 | | | | | |
| - 70 | | 70 | 55 | 22 | | 28 | AR16 | SP-25 | ECH10-05 | | | | | |
| - ECH10SR - 60 | 0.5 ~ 10 | 60 | | | | | | | | 25 | 34 | AR20 | SP-30 | ECH13-05 |
| - 70 | | 70 | | | | | | | | | | | | |
| - ECH13SR - 60 | 0.5 ~ 13 | 60 | - | 23 | | 19 | AR11 | SP-17A | - | | | | | |
| 25T - ECT 7S - 60 | 0.5 ~ 7 | 70 | - | 23 | | | | | | | | | | |
| - 70 | | | | | | | | | | | | | | |

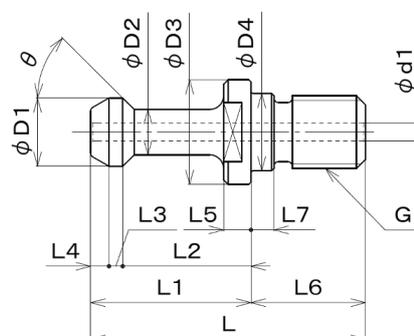
- NOTES: 1) Collet holders are combined with collets and Pull Studs in unit form.
 2) Please order collet and nut wrench separately.
 3) ECT type is use for synchronization processing.
 4) Please order Adjust bolt separately.

Pull Studs

Holder is certainly drawn into Machine spindle. It is excellent in durability.



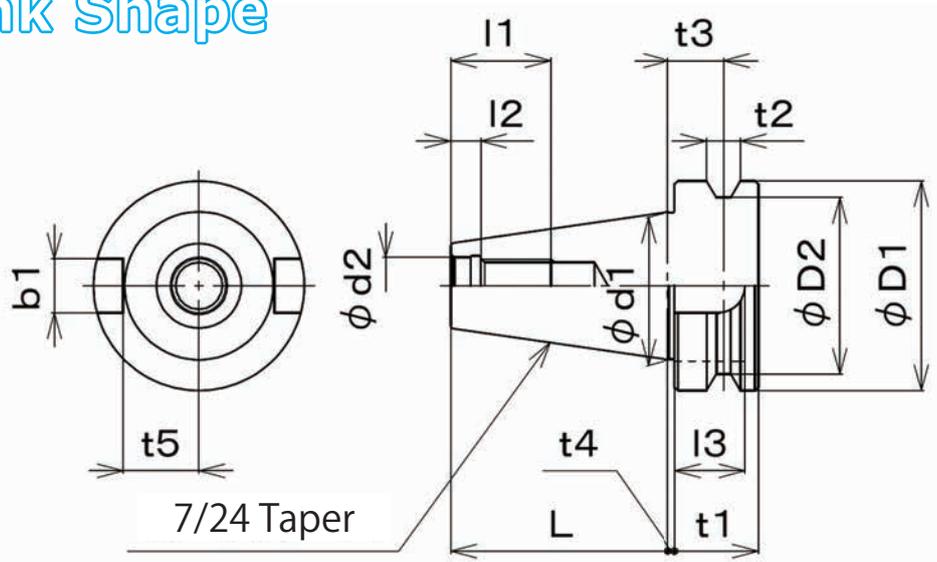
Form explanation
P50T - 1 - S
 Size Angle Oil hole



| CODE | L | L6 | L1 | D3 | L5 | D4 | L7 | G | L2 | D2 | D1 | d1 | L3 | L4 | Q | | | | | | | | | | | | | | |
|------------|------|----|------|------|----|------|----|-----|------|-----|-----|------|-----|-----|-----|------|--|--|--|--|--|--|------|---|----|---|---|---|-----|
| P50T - 1 | 85 | 40 | 45 | 38 | 10 | 25 | 8 | M24 | 35 | 17 | 23 | - | 5 | 5 | 45° | | | | | | | | | | | | | | |
| - 1 OH | | | | | | | | | | | | 6 | | | | | | | | | | | | | | | | | |
| - 2 | | | | | | | | | | | | - | | | | | | | | | | | | | | | | | |
| - 2 OH | | | | | | | | | | | | 6 | | | | | | | | | | | | | | | | | |
| - 3 | | | | | | | | | | | | - | | | | | | | | | | | | | | | | | |
| - 3 OH | | | | | | | | | | | | 6 | | | | | | | | | | | | | | | | | |
| P50T - JIS | 74 | | 34 | | 7 | | | | 25 | 21 | 28 | - | | | 75° | | | | | | | | | | | | | | |
| - JIS OH | | | | | | | | | | | | 10 | | | | | | | | | | | | | | | | | |
| P40T - 1 | 60 | 25 | 35 | 23 | 6 | 17 | 5 | M16 | 28 | 10 | 15 | - | 3 | 4 | 45° | | | | | | | | | | | | | | |
| - 1 OH | | | | | | | | | | | | 4 | | | | | | | | | | | | | | | | | |
| - 2 | | | | | | | | | | | | - | | | | | | | | | | | | | | | | | |
| - 2 OH | | | | | | | | | | | | 4 | | | | | | | | | | | | | | | | | |
| - 3 | | | | | | | | | | | | - | | | | | | | | | | | | | | | | | |
| - 3 OH | | | | | | | | | | | | 4 | | | | | | | | | | | | | | | | | |
| P40T - JIS | 54 | 25 | 29 | 23 | 7 | | | | 23 | 14 | 19 | - | | 3 | 75° | | | | | | | | | | | | | | |
| - JIS OH | | | | | | | | | | | | 7 | | | | | | | | | | | | | | | | | |
| P30T - 1 | 43 | 20 | 23 | 16.5 | 5 | 12.5 | 4 | M12 | 18 | 7 | 11 | - | 2.5 | 2.5 | 45° | | | | | | | | | | | | | | |
| - 1 OH | | | | | | | | | | | | 2.5 | | | | | | | | | | | | | | | | | |
| - 2 | | | | | | | | | | | | - | | | | | | | | | | | | | | | | | |
| - 2 OH | | | | | | | | | | | | 2.5 | | | | | | | | | | | | | | | | | |
| P30T - JIS | | | | | | | | | | | | 19.6 | | | | 23.4 | | | | | | | 18.4 | 8 | 12 | - | 3 | 2 | 75° |
| - S | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | | | |
| S20R - 1 | 34.5 | 14 | 20.5 | 14 | 4 | 8.5 | | M8 | 16 | 7 | 9.5 | - | 2.1 | 2.4 | 90° | | | | | | | | | | | | | | |
| - 2 | | | | | | | | | | | | 45° | | | | | | | | | | | | | | | | | |
| - R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15R - 1 | 26 | 11 | 15 | 10 | 3 | 6.5 | 3 | M6 | 11.7 | 5.2 | 7.4 | - | 1.4 | 1.9 | 75° | | | | | | | | | | | | | | |
| - 2 | | | | | | | | | | | | 90° | | | | | | | | | | | | | | | | | |
| - B | | | | | | | | | | | | 1.5 | | | 2 | 45° | | | | | | | | | | | | | |

NOTES: 1) We can make a variety of pull studs to suit your machine.
 When ordering, please specify pull studs code or the machine model and type.

Shank Shape



| CODE | D1 | D2 | t1 | t2 | t3 | t4 | d1 | d2 | L | l1 | l2 | g | l3 | b1 | t5 |
|------|-----|----|----|----|------|-----|--------|------|-------|------|-----|-----|-----|------|------|
| 15T | 27 | 21 | 11 | 5 | 5.5 | 1.5 | 19.05 | 6.6 | 27 | 15 | 5 | M6 | 9.5 | 8.1 | 9.8 |
| S20T | 30 | 24 | | | | | 22.225 | 8.5 | 25 | 18 | 6.5 | M8 | | | 11.4 |
| 25T | 35 | 28 | 13 | 6 | 8.5 | 2 | 25.4 | | 40 | 48.4 | 24 | 7 | M12 | 17 | 16.1 |
| BT30 | 46 | 38 | 20 | 8 | 11.6 | | 31.75 | 12.5 | | | | | | | |
| BT40 | 63 | 53 | 25 | 10 | 16.6 | 3 | 44.45 | 17 | 101.8 | 45 | 13 | M24 | 31 | 25.7 | 22.6 |
| BT50 | 100 | 85 | 35 | 15 | 23.2 | | 69.85 | 25 | | | | | | | 25 |

Pull Studs Spec Sheet

| CODE | SUB CODE 2 | Body Marking | Specification |
|----------|------------|--------------------|---|
| P50T - 1 | P50T - I | P50T - 1 | MAS 403 P50T 1 shape |
| - 1 OH | - I - S | - 1 ϕ 6 | MAS 403 P50T 1 shape with hole |
| - 2 | - II | - 2 | MAS 403 P50T 2 shape |
| - 2 OH | - II - S | - 2 (ϕ 6) | MAS 403 P50T 2 shape with hole |
| - 3 | - III | - 3 | Manufacturer's standard (MAS 403 P50T angle 90 degrees) |
| - 3 OH | - III - S | - 3 ϕ 6 | Manufacturer's standard (With holes as above) |
| - JIS | J50P | - JIS NH | JIS B 6339-3 Appendix JA(Reference) JJ shape |
| - JIS | - S | - JIS (ϕ 10) | JIS B 6339-3 Appendix JA(Reference) JJ shape with hole |
| P40T - 1 | P40T - I | P40T - 1 | MAS 403 P40T 1 shape |
| - 1 OH | - I - S | - 1 (ϕ 4) | MAS 403 P40T 1 shape with hole |
| - 2 | - II | - 2 | MAS 403 P40T 2 shape |
| - 2 OH | - II - S | - 2 ϕ 4 | MAS 403 P40T 2 shape with hole |
| - 3 | - III | - 3 | Manufacturer's standard (MAS 403 P40T angle 90 degrees) |
| - 3 OH | - III - S | - 3 (ϕ 4) | Manufacturer's standard (With holes as above) |
| - JIS | J40P | - JIS NH | JIS B 6339-3 Appendix JA(Reference) JJ shape |
| - JIS OH | J40P - S | - JIS ϕ 7 | JIS B 6339-3 Appendix JA(Reference) JJ shape with hole |
| P30T - 1 | P30T - I | P30T - 1 | MAS 403 P30T 1 shape |
| - 1 OH | - I - S | - 1 ϕ 2.5 | MAS 403 P30T 1 shape with hole |
| - 2 | - II | - 2 | MAS 403 P30T 1 shape |
| - 2 OH | - II - S | - 2 ϕ 2.5 | MAS 403 P30T 1 shape with hole |
| - JIS | J30P | - JIS | JIS B 6339-3 Appendix JA(Reference) JJ shape |
| - JIS OH | - S | - JIS (ϕ 4) | JIS B 6339-3 Appendix JA(Reference) JJ shape with hole |
| S20R - 1 | S20R - I | S20R - 1 | JIS 4003 S20R 1 shape |
| - 2 | - II | - 2 | JIS 4003 S20R 2 shape |
| - R | - R | - R | Manufacturer's standard (ROKU-ROKU SMART TECHNOLOGY CO.,LTD.) |
| 15R - 1 | 15R - 1 | 15R - 1 | JIS 4002 15R 1 shape |
| - 2 | - 2 | - 2 | JIS 4002 15R 2 shape |
| - B | - B | - B | Manufacturer's standard (BROTHER INDUSTRIES, LTD.) |



For more information about this catalog, please request a separate dedicated catalog.

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