



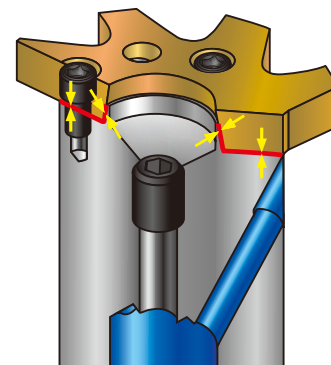
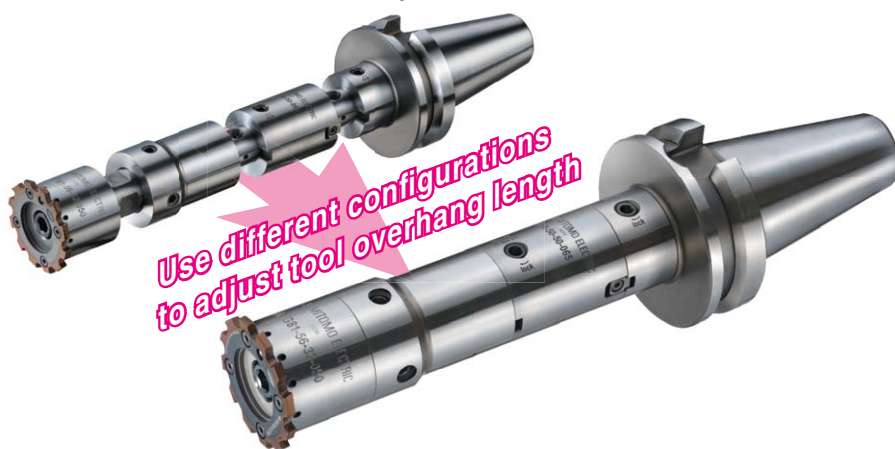
■ Characteristics

- Achieves efficiency through high speed, high feeding ability!!
($v_c = 50$ to 500m/min , $f = 0.4$ to 1.2mm/rev)

- Compatibility with a wide range of cutting conditions allows less strict cutting conditions and coolant control
- Minimal cut edge length design eliminates biting and tearing for improved quality and reliability
- Adoption of indexable cutting edge design improves reliability of quality and tool life, eliminating variability in tool life among reground inserts.
- Cut edge diameters available from $\phi 11.9$ to $\phi 140.6$ mm

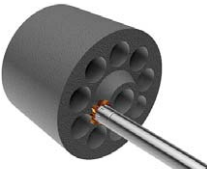
- Easy insert replacement

- Flexible tool overhang lengths possible by combining the modular extension arbor and shank with insert run-out adjustment mechanism



A taper supports the insert by two faces (based on the HSK standard) for less-than 4 μm repeatability using random inserts

■ Application Examples

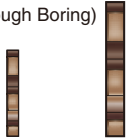
Work					
	Cylinder barrel	Connection rod	Sliding yoke	Front axle	Control valve
Work Material	FCD600	Forged S55C	S45C	Forged S58C	Forged S55C
Holder Identification	SRD19-12-115	SRD36-25-170	SRD19-12-115	SRD29-20-240	Special holder with guide pads
Insert Identification	SRG17.0H7-A01-T1212R1	SRG29.0H7-A01-F0512R1	SRG16.02Q+3-3-C01-F0512R1	SRL28.0H7-B01-F0512R1	SRL14.0H7-B01-F0512R1
Hole ϕ (mm)	$\phi 17.0$	$\phi 29.0$	$\phi 16.02$	$\phi 28.0$	$\phi 14.0$
Hole Diameter Tolerance	H7	H7	H7	H7	H7
Surface Roughness Ra/Rz	Rz10.0	Ra0.8	Ra3.2	Ra3.2	Ra1.6
Circularity (μm)	5	2	—	5	5
Cylindricity (μm)	5	4	—	5	5
No. of Teeth	6	8	6	8	6
v_c (m/min)	148	120	150	60	100
n (min^{-1})	2,772	1,318	2,982	682	2,230
f_z (mm/t)	0.20	0.15	0.10	0.075	0.10
v_f (m/min)	3,326	1,582	1,789	409	1,368
a_p (mm)	0.10	0.15	0.15	0.15	0.15
Wet / Dry	Wet	Wet	Wet	Wet	Wet
Life, etc	57.9m	30.52m	—	15.8m	—

SumiReamer SR Type Configurations

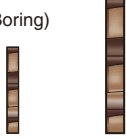
①

Insert

- SRG Type (For Stop/Through Boring)



- SRL Type (For Through Boring)

Diameter : $\phi 11.900$ to $\phi 140.600\text{mm}$

J70

Toolholder

- SRD Type (For Through Boring)



SRD-SD (Center Bolt Clamp Type)

New

- SRB Type (For Stop Boring)



SRD-SD (Center Bolt Clamp Type)

New

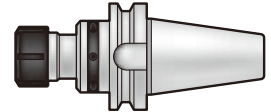
Applicable Diameter Range : $\phi 11.900$ to $\phi 35.600\text{mm}$
Shank Length : 100 to 274mm

J72

Insert Run-Out Adjustment Mechanism

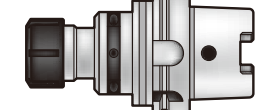
Arbor

- BT/A Type



Taper Size : 40 to 50

- HSK Type



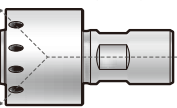
Taper Size : 50 to 100

J73

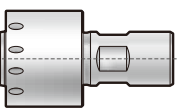
②

Head

- SRKG Type (For Through Boring)



- SRKB Type (For Stop Boring)

Applicable Diameter Range : $\phi 35.601$ to $\phi 140.600\text{mm}$
Head Length : 30 to 60mm

J74

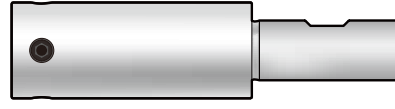
Insert Run-Out Adjustment Mechanism

Shank

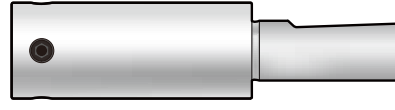
- SRA Type



ZS(Cylindrical Shank) Type : ZS-20/25/32/40



WD(Weldon Shank) Type : WD-20/25/32/40



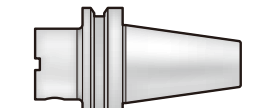
WN(Whistle Notch Shank) Type : WN-20/25/32/40

Applicable Diameter Range : $\phi 35.601$ to $\phi 140.600\text{mm}$
Shank Length : 80 to 160mm

J74

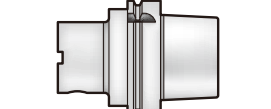
Arbor

- BT/A Type



Taper Size : 40 to 50

- HSK Type



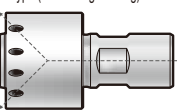
Taper Size : 50 to 100

J75

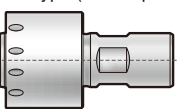
③

Head

- SRKG Type (For Through Boring)



- SRKB Type (For Stop Boring)

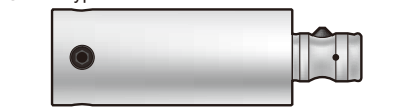
Applicable Diameter Range : $\phi 35.601$ to $\phi 140.600\text{mm}$
Head Length : 30 to 60mm

J74

Insert Run-Out Adjustment Mechanism

Shank

- SRA Type



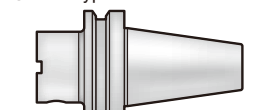
BM(Beta Module Shank) Type : BM-32/40/50/63

Applicable Diameter Range : $\phi 35.601$ to $\phi 140.600\text{mm}$
Shank Length : 80 to 160mm

J74

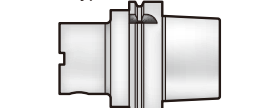
Arbor

- BT/A Type



Taper Size : 40 to 50

- HSK Type



Taper Size : 50 to 100

J75

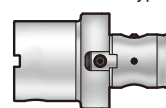


Check Sizes

When using a BM (Beta Module) type shank, choose a matching standard size.

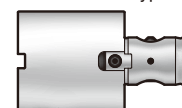
Extensions

- For BT40 B12 Type



Shank Length : 40 to 75mm

- For BT50 B13 Type



Shank Length : 35 to 180mm

J75

Multiple extensions can be connected together

When connecting multiple extensions, it is recommended to consider rigidity and use longer shank sizes so that the total number of extensions is as low as possible.

SR Type

Sumi Reamer SR Type Insert

Carbon Steel, Alloy Steel Up to 0.28% From 0.28%	Tempered Steel Up to 45HRC From 45HRC	Hardened Steel Up to 45HRC From 45HRC	Stainless Steel	Ti-Alloy	Heat-resistant steels	Cast Iron	Ductile Cast Iron	Aluminum Alloy	Copper Alloy	Composite CFRP
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●SRG Type general purpose Straight Grooves : Stop Boring / Through Boring



Fig 1

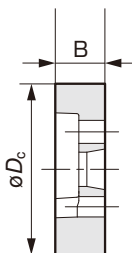
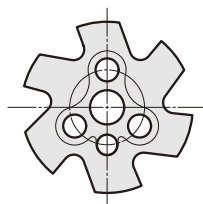
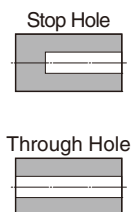
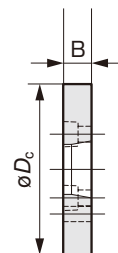
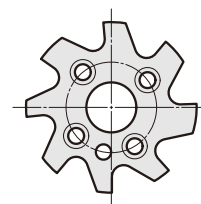
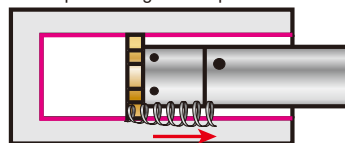


Fig 2

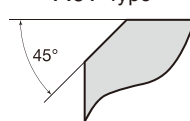


Conceptual Image of Chip Evacuation



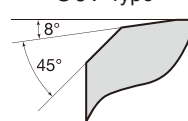
Chips Evacuated Toward Front

A01 Type



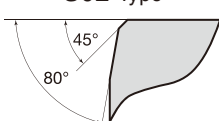
Standard Type

C01 Type



Emphasis on Surface Roughness

S02 Type



Emphasis on Direct Line

●Insert (SRG Type)

Diameter ϕD_c (mm)	Cat. No.(A01 Type) F05, T12	Stock	Cat. No.(C01 Type) F05, T12	Stock	Cat. No.(S02 Type) F05, T12	Stock	Work Hole Diameter Tolerance	B (mm)	No. of Teeth	Fig
12.0	SRG 12.0H7-A01-□□□12R1	●	SRG 12.0H7-C01-□□□12R1	●	SRG 12.0H7-S02-□□□12R1	●	H7	4.3	6	1
13.0	13.0H7-A01-□□□12R1	●	13.0H7-C01-□□□12R1	●	13.0H7-S02-□□□12R1	●				
14.0	14.0H7-A01-□□□12R1	●	14.0H7-C01-□□□12R1	●	14.0H7-S02-□□□12R1	●				
15.0	15.0H7-A01-□□□12R1	●	15.0H7-C01-□□□12R1	●	15.0H7-S02-□□□12R1	●				
16.0	16.0H7-A01-□□□12R1	●	16.0H7-C01-□□□12R1	●	16.0H7-S02-□□□12R1	●				
17.0	17.0H7-A01-□□□12R1	●	17.0H7-C01-□□□12R1	●	17.0H7-S02-□□□12R1	●				
18.0	18.0H7-A01-□□□12R1	●	18.0H7-C01-□□□12R1	●	18.0H7-S02-□□□12R1	●				
19.0	19.0H7-A01-□□□12R1	●	19.0H7-C01-□□□12R1	●	19.0H7-S02-□□□12R1	●				
20.0	20.0H7-A01-□□□12R1	●	20.0H7-C01-□□□12R1	●	20.0H7-S02-□□□12R1	●				
21.0	21.0H7-A01-□□□12R1	●	21.0H7-C01-□□□12R1	●	21.0H7-S02-□□□12R1	●				
22.0	22.0H7-A01-□□□12R1	●	22.0H7-C01-□□□12R1	●	22.0H7-S02-□□□12R1	●	H7	4.3	8	2
23.0	23.0H7-A01-□□□12R1	●	23.0H7-C01-□□□12R1	●	23.0H7-S02-□□□12R1	●				
24.0	24.0H7-A01-□□□12R1	●	24.0H7-C01-□□□12R1	●	24.0H7-S02-□□□12R1	●				
25.0	SRG 25.0H7-A01-□□□12R1	●	SRG 25.0H7-C01-□□□12R1	●	SRG 25.0H7-S02-□□□12R1	●				
26.0	26.0H7-A01-□□□12R1	●	26.0H7-C01-□□□12R1	●	26.0H7-S02-□□□12R1	●				
27.0	27.0H7-A01-□□□12R1	●	27.0H7-C01-□□□12R1	●	27.0H7-S02-□□□12R1	●				
28.0	28.0H7-A01-□□□12R1	●	28.0H7-C01-□□□12R1	●	28.0H7-S02-□□□12R1	●				
29.0	29.0H7-A01-□□□12R1	●	29.0H7-C01-□□□12R1	●	29.0H7-S02-□□□12R1	●				
30.0	30.0H7-A01-□□□12R1	●	30.0H7-C01-□□□12R1	●	30.0H7-S02-□□□12R1	●				

Please indicate F05 (PVD) or T12 (Coated Cermet) in the □□□ when ordering.
(Example: SRG12.0H7-A01-F0512R1)
[It is also possible to order uncoated cermet/DLC grades.]

*Actual reamer diameter is near the upper limit of H7 tolerance.

SumiReamer SR Type Insert Identification Details

Specifying Inserts Using Work Hole Diameter Tolerance

The actual desired reamer diameter will be on the upper limit side of the median work tolerance, and will differ depending on diameter/tolerance range/grade. Please contact us for details.

Specifying Inserts Using Desired Reamer Diameter

By adding a "Q" after the diameter, it is possible to specify exact desired reamer dimensions. Uncoated types are available within $\pm 2\mu$, thin-layer coated types within $\pm 3\mu$, and thick-layer coated types within $\pm 4\mu$.

SRG 18.2 + 20 - 10 - A01 - F0512R1

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

- | | |
|---|---|
| ① SR Type | ⑤ Approach Angle Code |
| ② G = Straight, L = Left-hand helix | ⑥ Grade Symbol |
| ③ Work Hole Diameter(mm) | ⑦ Coating Code |
| ④ Tolerance (μ m) +/- or standard (ex. H7) | ⑧ Coating Thickness Code: 1 = Thin, 2 = Thick |

SR L 18.2 Q + 3 - 3 - A01 - F0512R1

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

- | | |
|-------------------------------------|---|
| ① SR Type | ⑤ Approach Angle Code |
| ② G = Straight, L = Left-hand helix | ⑥ Grade Symbol |
| ③ Work Hole Diameter(mm) | ⑦ Coating Code |
| ④ Tolerance (μ m) +/- | ⑧ Coating Thickness Code: 1 = Thin, 2 = Thick |

SumiReamer SR Type Insert

Carbon Steel, Alloy Steel	Tempered Steel	Hardened Steel	Stainless Steel	Ti-Alloy	Heat-resistant steel	Cast Iron	Ductile Cast Iron	Aluminum Alloy	Copper Alloy	Composite CFRP
Up to 0.28% From 0.28%	Up to 45HRC From 48HRC	Up to 45HRC From 48HRC	Up to 45HRC From 48HRC	Up to 45HRC From 48HRC	Up to 45HRC From 48HRC	Up to 45HRC From 48HRC	Up to 45HRC From 48HRC	Up to 45HRC From 48HRC	Up to 45HRC From 48HRC	Up to 45HRC From 48HRC

● SRL Type Priority On Chip Evacuation Left Helix: Through Boring

Fig 1

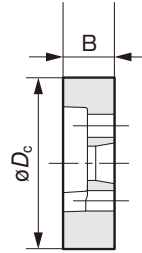
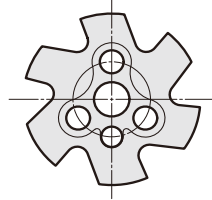
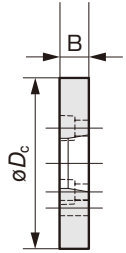
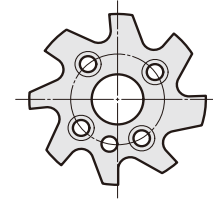
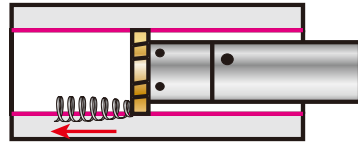
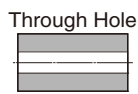


Fig 2

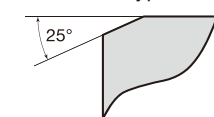


Conceptual Image of Chip Evacuation



Chips Evacuated Toward Back

B01 Type



For Steel Through-Holes

● Insert (SRL Type)

Diameter ϕD_c (mm)	Cat. No. (B01Type) F05, T12	Stock	Work Hole Diameter Tolerance	B (mm)	No. of Teeth	Fig
12.0	SRL 12.0H7-B01-□□□12R1	●	H7	4.3	6	1
13.0	13.0H7-B01-□□□12R1	●				
14.0	14.0H7-B01-□□□12R1	●				
15.0	15.0H7-B01-□□□12R1	●				
16.0	16.0H7-B01-□□□12R1	●				
17.0	17.0H7-B01-□□□12R1	●				
18.0	18.0H7-B01-□□□12R1	●				
19.0	19.0H7-B01-□□□12R1	●				
20.0	20.0H7-B01-□□□12R1	●				
21.0	21.0H7-B01-□□□12R1	●				
22.0	22.0H7-B01-□□□12R1	●				
23.0	23.0H7-B01-□□□12R1	●				
24.0	24.0H7-B01-□□□12R1	●				
25.0	SRL 25.0H7-B01-□□□12R1	●	H7	4.3	8	2
26.0	26.0H7-B01-□□□12R1	●				
27.0	27.0H7-B01-□□□12R1	●				
28.0	28.0H7-B01-□□□12R1	●				
29.0	29.0H7-B01-□□□12R1	●				
30.0	30.0H7-B01-□□□12R1	●				

Please indicate F05 (PVD) or T12 (Coated Cermet) in the □□□ when ordering.

(Example: SRG12.0H7-A01-F0512R1)

[It is also possible to order uncoated cermet/DLC grades.]

*Actual reamer diameter is near the upper limit of H7 tolerance.

Recommended Cutting Conditions

ISO	Work Material	Insert	Grade	Grade	Depth of Cut a_p (mm/radius)			Cutting Speed v_c (m/min)	Feed Rate f_z (mm/t)
					Below $\phi 20$	$\phi 20$ to $\phi 35$	$\phi 35$ or more		
P	Carbon Steel	SRG Type	F0512R1	Micro-Fine Grained Carbide + PVD	0.05 to 0.12	0.08 to 0.15	0.10 to 0.25	80 to 220	0.10 to 0.25
		SRL Type	F0512R1	Micro-Fine Grained Carbide + PVD	0.05 to 0.12	0.08 to 0.15	0.10 to 0.25	100 to 220	0.15 to 0.35
		SRG Type	T1200A	Cermet	0.05 to 0.12	0.08 to 0.15	0.10 to 0.25	120 to 250	0.10 to 0.25
		SRL Type	T1200A	Cermet	0.05 to 0.12	0.08 to 0.15	0.10 to 0.25	120 to 250	0.15 to 0.35
	Alloy Steel	SRG Type	F0512R1	Micro-Fine Grained Carbide + PVD	0.05 to 0.12	0.08 to 0.15	0.10 to 0.25	60 to 180	0.06 to 0.20
		SRL Type	F0512R1	Micro-Fine Grained Carbide + PVD	0.05 to 0.12	0.08 to 0.15	0.10 to 0.25	60 to 180	0.10 to 0.22
		SRG Type	T1200A	Cermet	0.05 to 0.12	0.08 to 0.15	0.10 to 0.25	70 to 200	0.08 to 0.20
		SRL Type	T1200A	Cermet	0.05 to 0.12	0.08 to 0.15	0.10 to 0.25	70 to 200	0.12 to 0.25
M	Die Steel	SRG Type	F0512R1	Micro-Fine Grained Carbide + PVD	0.05 to 0.10	0.08 to 0.15	0.10 to 0.20	15 to 60	0.06 to 0.20
	Tool Steels	SRG Type	F0512R1	Micro-Fine Grained Carbide + PVD	0.05 to 0.10	0.08 to 0.15	0.10 to 0.20	15 to 30	0.04 to 0.15
K	Stainless Steel	SRG Type	F0512R1	Micro-Fine Grained Carbide + PVD	0.05 to 0.10	0.08 to 0.15	0.08 to 0.20	15 to 60	0.06 to 0.20
	Cast Iron	SRG Type	T1212R1	Coated Cermet	0.05 to 0.12	0.08 to 0.15	0.10 to 0.25	80 to 250	0.10 to 0.30
N	Cast Iron/Ductile	SRG Type	F0512R1	Micro-Fine Grained Carbide + PVD	0.05 to 0.18	0.08 to 0.20	0.10 to 0.25	80 to 250	0.10 to 0.30
	Non-Ferrous Metal	SRG Type	F0510C	Micro-Fine Grained Carbide + DLC	0.05 to 0.12	0.08 to 0.15	0.10 to 0.25	250 to 500	0.10 to 0.30

● Made-to-order item

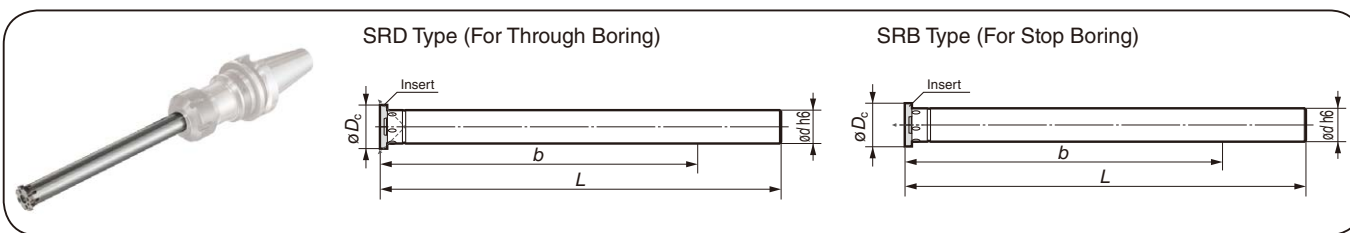
Diameter ϕD_c (mm)	B (mm)	No. of Teeth
$\phi 11.900$ to $\phi 15.600$	4.3	6
$\phi 15.601$ to $\phi 18.600$		
$\phi 18.601$ to $\phi 23.600$		
$\phi 23.601$ to $\phi 28.600$	4.3	8
$\phi 28.601$ to $\phi 35.600$		
$\phi 35.601$ to $\phi 43.600$		
$\phi 43.601$ to $\phi 51.600$	4.3	10
$\phi 51.601$ to $\phi 60.600$		
$\phi 60.601$ to $\phi 80.600$		
$\phi 80.601$ to $\phi 106.600$	5.3	12
$\phi 106.601$ to $\phi 120.600$		
$\phi 120.601$ to $\phi 140.600$		

SRG type (Special) and SRL type (Special) are made-to-order items.

When ordering, refer to "SR Type Insert Identification Details" on page J70.

* Cermet grades (T1200A and T1212R1) are available only up to $\phi 100.600$ mm.

SR Series



Steel Shank Toolholder SRD/SRB Series

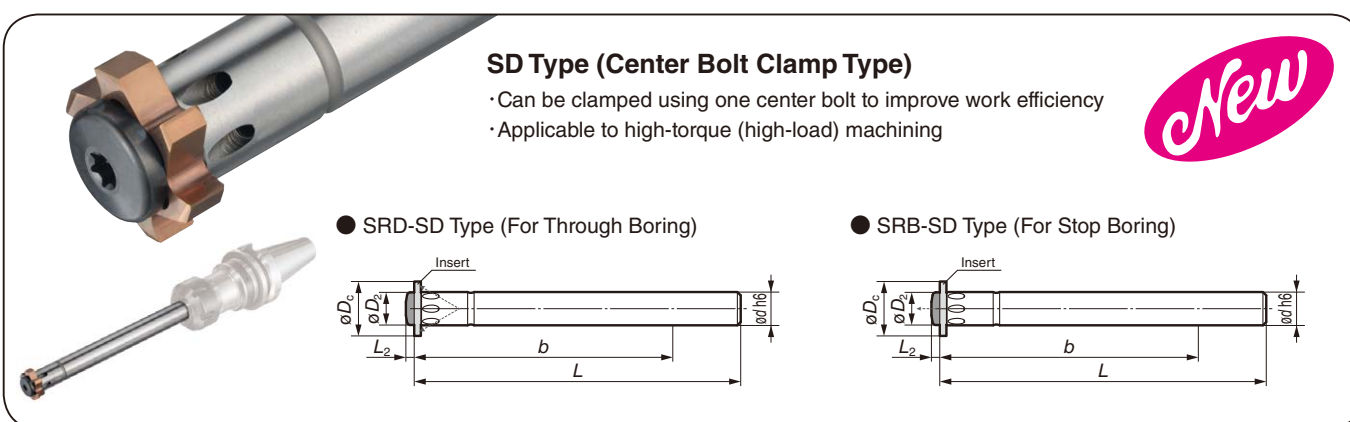
Spare Parts

	Diameter ϕD_c Range	Cat. No.				Dimensions(mm)				Cap Screw	Wrench	
		SRD Type (For Through Boring)		SRB Type (For Stop Boring)		ϕd	L	b				
		Cat. No.	Stock	Cat. No.	Stock							
Short	$\phi 11.900$ to $\phi 15.600$	SRD 16-10-100	●	SRB 16-10-100	●	10	100	60		C00-90-00	G00-20-01	
	$\phi 15.601$ to $\phi 18.600$	19-12-115	●	19-12-115	●	12	115	70				
	$\phi 18.601$ to $\phi 23.600$	24-16-128	●	24-16-128	●	16	128	80				
	$\phi 23.601$ to $\phi 28.600$	29-20-145	●	29-20-145	●	20	145	95		C00-90-01	G00-20-02	
	$\phi 28.601$ to $\phi 35.600$	36-25-170	●	36-25-170	●	25	170	120				
Long	$\phi 11.900$ to $\phi 15.600$	SRD 16-10-160		SRB 16-10-160		10	160	120		C00-90-00	G00-20-01	
	$\phi 15.601$ to $\phi 18.600$	19-12-185		19-12-185		12	185	140				
	$\phi 18.601$ to $\phi 23.600$	24-16-208		24-16-208		16	208	160				
	$\phi 23.601$ to $\phi 28.600$	29-20-240		29-20-240		20	240	190		C00-90-01	G00-20-02	
	$\phi 28.601$ to $\phi 35.600$	36-25-274		36-25-274		25	274	224				

Carbide Shank Toolholder SRD/SRB Series

Spare Parts

	Diameter ϕD_c Range	Cat. No.				Dimensions(mm)				Cap Screw	Wrench	
		SRD Type (For Through Boring)		SRB Type (For Stop Boring)		ϕd	L	b				
		Cat. No.	Stock	Cat. No.	Stock							
Long	$\phi 11.900$ to $\phi 15.600$	SRD 16-10-160HM		SRB 16-10-160HM		10	160	120		C00-90-00	G00-20-01	
	$\phi 15.601$ to $\phi 18.600$	19-12-185HM		19-12-185HM		12	185	140				
	$\phi 18.601$ to $\phi 23.600$	24-16-208HM		24-16-208HM		16	208	160				
	$\phi 23.601$ to $\phi 28.600$	29-20-240HM		29-20-240HM		20	240	190		C00-90-01	G00-20-02	
	$\phi 28.601$ to $\phi 35.600$	36-25-274HM		36-25-274HM		25	274	224				



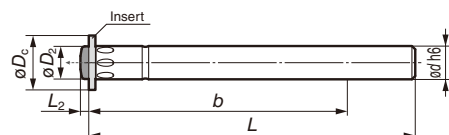
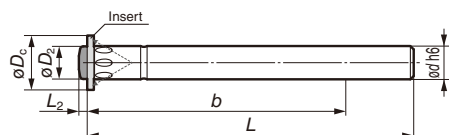
SD Type (Center Bolt Clamp Type)

- Can be clamped using one center bolt to improve work efficiency
- Applicable to high-torque (high-load) machining

New

● SRD-SD Type (For Through Boring)

● SRB-SD Type (For Stop Boring)



Steel Shank Toolholder SRD-SD/SRB-SD Series (Center Bolt Clamp Type)

Spare Parts

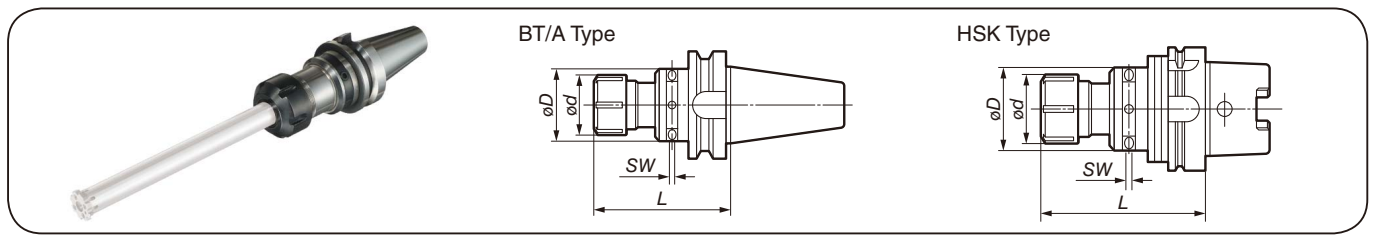
	Diameter ϕD_c Range	Cat. No.				Dimensions(mm)					Cap Screw	Cap Screw	Wrench
		SRD Type (For Through Boring)		SRB Type (For Stop Boring)		ϕd	L	b	ϕD_2	L ₂			
		Cat. No.	Stock	Cat. No.	Stock								
Short	$\phi 11.900$ to $\phi 15.600$	SRD 16-10-100SD		SRB 16-10-100SD		10	100	60	9.8	2.5	C00-90-22	C00-90-22B	G00-20-27
	$\phi 15.601$ to $\phi 18.600$	19-12-115SD		19-12-115SD		12	115	70	11.8	3.0	C00-90-23	C00-90-23B	G00-20-28
	$\phi 18.601$ to $\phi 23.600$	24-16-128SD		24-16-128SD		16	128	80	15.8	4.0			
	$\phi 23.601$ to $\phi 28.600$	29-20-145SD		29-20-145SD		20	145	95	15.8	4.0	C00-90-24	C00-90-24B	G00-20-29
	$\phi 28.601$ to $\phi 35.600$	36-25-170SD		36-25-170SD		25	170	120	24.5	4.0	C00-90-25	C00-90-25B	
Long	$\phi 11.900$ to $\phi 15.600$	SRD 16-10-160SD		SRB 16-10-160SD		10	160	120	9.8	2.5	C00-90-22	C00-90-22B	G00-20-27
	$\phi 15.601$ to $\phi 18.600$	19-12-185SD		19-12-185SD		12	185	140	11.8	3.0	C00-90-23	C00-90-23B	G00-20-28
	$\phi 18.601$ to $\phi 23.600$	24-16-208SD		24-16-208SD		16	208	160	15.8	4.0			
	$\phi 23.601$ to $\phi 28.600$	29-20-240SD		29-20-240SD		20	240	190	15.8	4.0	C00-90-24	C00-90-24B	G00-20-29
	$\phi 28.601$ to $\phi 35.600$	36-25-274SD		36-25-274SD		25	274	224	24.5	4.0	C00-90-25	C00-90-25B	

Carbide Shank Toolholder SRD-SD/SRB-SD Series (Center Bolt Clamp Type)

Spare Parts

	Diameter ϕD_c Range	Cat. No.				Dimensions(mm)					Cap Screw	Cap Screw	Wrench
		SRD Type (For Through Boring)		SRB Type (For Stop Boring)		ϕd	L	b	ϕD_2	L ₂			
		Cat. No.	Stock	Cat. No.	Stock								
Long	$\phi 11.900$ to $\phi 15.600$	SRD 16-10-160HMSD		SRB 16-10-160HMSD		10	160	120	9.8	2.5	C00-90-22	C00-90-22B	G00-20-27
	$\phi 15.601$ to $\phi 18.600$	19-12-185HMSD		19-12-185HMSD		12	185	140	11.8	3.0	C00-90-23	C00-90-23B	G00-20-28
	$\phi 18.601$ to $\phi 23.600$	24-16-208HMSD		24-16-208HMSD		16	208	160	15.8	4.0			
	$\phi 23.601$ to $\phi 28.600$	29-20-240HMSD		29-20-240HMSD		20	240	190	15.8	4.0	C00-90-24	C00-90-24B	G00-20-29
	$\phi 28.601$ to $\phi 35.600$	36-25-274HMSD		36-25-274HMSD		25	274	224	24.5	4.0	C00-90-25	C00-90-25B	

SR Series



Arbor With Insert Run-Out Adjustment Mechanism

BT/A Type

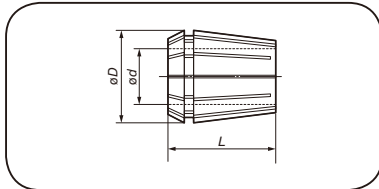
(Dimensions:mm)

Cat. No.	Stock	Taper Size	Size	Diameter Range	ϕD	ϕd	L	SW
AAT60-40A-25-090	●	40	ER25	2.0 to 16.0	50	42	90	4
32-100	●		ER32	2.0 to 20.0	50	50	100	4
40-105	●		ER40	3.0 to 26.0	60	63	105	4
AAT60-50A-32-110	●	50	ER32	2.0 to 20.0	50	50	110	4
40-115	●		ER40	3.0 to 26.0	60	63	115	4

HSK Type (Coolant tube sold separately.)

Cat. No.	Stock	Taper Size	Size	Diameter Range	ϕD	ϕd	L	SW
AAH60-40A-25-100	●	40	ER25	2.0 to 16.0	50	42	105	4
32-100	●		ER32	2.0 to 20.0	50	50	110	4
AAH60-63A-25-090	●	63	ER25	2.0 to 16.0	50	42	90	4
32-095	●		ER32	2.0 to 20.0	50	50	95	4
40-125	●		ER40	3.0 to 26.0	60	63	125	4
AAH60-100A-40-110	●	100	ER40	3.0 to 26.0	60	63	110	4

Parts

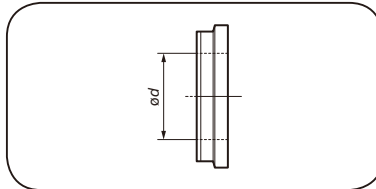


Collet (Dimensions:mm)

Cat. No.	Size	ϕD	L
62-25-□□	ER25	26	35
62-32-□□	ER32	33	40
62-40-□□	ER40	41	46

□□ = ϕd Ex. 1: ER25, $d=12 \Rightarrow$ 62-25-12

These items are in stock in increments of 1 mm:

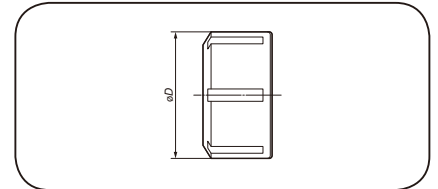
62-25-□□ from $\phi 12$ to $\phi 16$ mm62-32-□□ from $\phi 12$ to $\phi 20$ mm62-40-□□ from $\phi 12$ to $\phi 26$ mm.

Seal Disc (Dimensions:mm)

Cat. No.	Size	ϕd
20.107.41-□□□	ER25	3.0~16.0
20.107.51-□□□	ER32	3.0~20.0
20.107.61-□□□	ER40	3.0~26.0

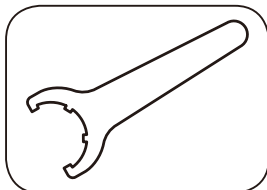
□□□ = ϕd Ex. 1: ER25, $d=12 \Rightarrow$ 20.107.41-120

These items are in stock in increments of 1 mm:

20.107.41-□□□ from $\phi 12$ to $\phi 16$ mm20.107.51-□□□ from $\phi 12$ to $\phi 20$ mm20.107.61-□□□ from $\phi 12$ to $\phi 26$ mm.

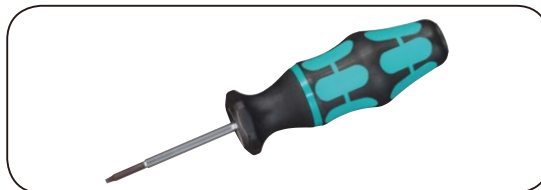
Collet Cap (Dimensions:mm)

Cat. No.	Size	ϕD	d
20.107.410	ER25	42	M32 x 1.5
20.107.510	ER32	50	M40 x 1.5
20.107.610	ER40	63	M50 x 1.5



Tightening Wrench

Cat. No.	Size
00-05-05	ER25
00-05-02	ER32
00-05-03	ER40



Torque Wrench

Cat. No.	Applicable Holder	Torx Hole	Torque Rating
G00-40-11	SR□ 16 / SR□ 19	T 6	0.9N·m
G00-40-12	SR□ 24 to SR□ 61	T 8	1.5N·m
G00-40-13	SR□ 81 / SR□ 101	T 15	3.5N·m

□ = D, B, KG, A

Coolant Tubes

Taper Size	
40	H00- 40-01
63	H00- 63-01
100	H00-100-01

Spare Parts

C00-96-16

J

Drilling

Solid

Special

Indexable

Reamer

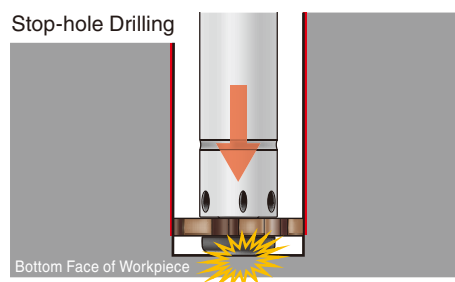
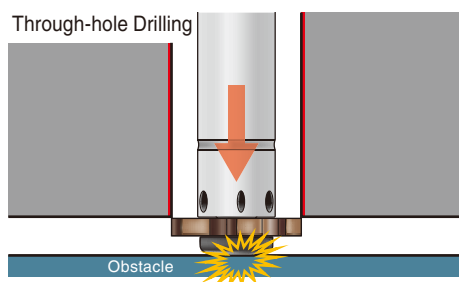
Brazed

Others



Important Notes About SD Type (Center Bolt Clamp Type)

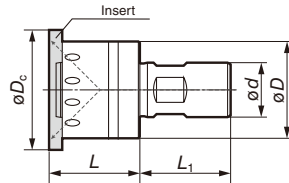
This product can be used for both through-hole and Blind-hole drilling. However, the head of the center bolt protrudes from the end of the body. Therefore, ensure clearance by referring to the protrusion amount of the center bolt (L_2) shown in the dimension table.



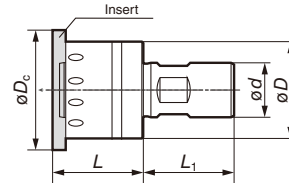
SR Type



SRKG Type (For Through Boring)



SRKB Type (For Stop Boring)



Head (ø35.601 to ø140.6mm)

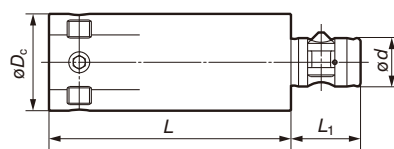
Spare Parts

Diameter øD _c Range	Cat. No.		Dimensions(mm)				Cap Screw	Wrench	Cap Screw		Wrench
	SRKG Type	Stock	SRKB Type	Stock	øD	ød	L	L ₁			
ø35.601 to ø43.600	SRKG 44-32-18-030		SRKB 44-32-18-030		32	18	30	30	C00-90-02	G00-20-02	C00-26-23G*
ø43.601 to ø51.600	52-39-20-035		52-39-20-035		39	20	35	30	C00-90-02	G00-20-02	C00-26-38G*
ø51.601 to ø60.600	61-46-25-040		61-46-25-040		46	25	40	35	C00-90-02	G00-20-02	C00-24-26G*
ø60.601 to ø80.600	81-56-32-050		81-56-32-050		56	32	50	40	C00-90-04	G00-20-03	C00-26-37G*
ø80.601 to ø100.600	101-76-40-060		101-76-40-060		76	40	60	50	C00-90-04	G00-20-03	C00-24-31G*
ø100.601 to ø120.600	SRKG 121-76-40-060		SRKB 121-76-40-060		76	40	60	50	C00-90-04	G00-20-03	C00-24-31G*
ø120.601 to ø140.600	140-76-40-060		140-76-40-060		76	40	60	50	C00-90-04	G00-20-03	C00-24-31G*

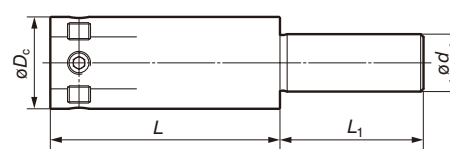
*: For SRKG Type *: For SRKB Type

SRA Type

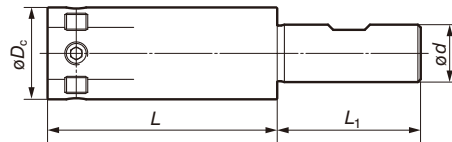
BM (Beta Module Shank) Type



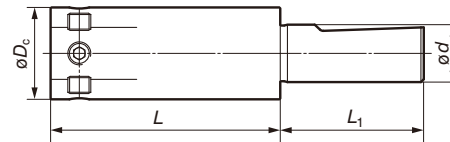
ZS (Cylindrical Shank) Type



WD (Weldon Shank) Type



WN(Whistle Notch Shank) Type



Shank (Insert Run-Out Adjustment Mechanism)

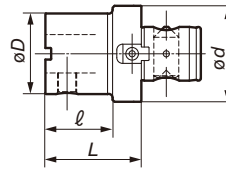
Spare Parts

Diameter øD _c Range	Cat. No.		Dimensions(mm)				Cap Screw	Wrench	Clamp	Screw
	SRA Type	Stock	øD _c	ød	L	L ₁				
ø35.601 to ø43.600	SRA 44-32-BM32-080		32	BM-32	55/80	8.5	C00-90-08	G00-02-05	Z00-32-21	Z00-32-23
	SRA 44-32-ZS20-080			ZS-20						
	44-32-WD20-080		32	WD-20	80	50.0				
	44-32-WN20-080			WN-20						
ø43.601 to ø51.600	SRA 52-39-BM40-100		39	BM-40	60/100	26.0	C00-90-10	G00-02-06	Z00-40-21	Z00-40-23
	SRA 52-39-ZS25-100			ZS-25						
	52-39-WD25-100		39	WD-25	100	56.0				
	52-39-WN25-100			WN-25						
ø51.601 to ø60.600	SRA 61-46-BM50-120		46	BM-50	70/120	31.0	C00-90-10	G00-02-06	Z00-50-21	Z00-50-23
	SRA 61-46-ZS32-120			ZS-32						
	61-46-WD32-120		46	WD-32	120	60.0				
	61-46-WN32-120			WN-32						
ø60.601 to ø80.600	SRA 81-56-BM50-080		56	BM-50	80	31.0	C00-90-12	G00-02-07	Z00-50-21	Z00-50-23
	81-56-BM50-140				140					
	SRA 81-56-ZS40-080			ZS-40	80					
	81-56-ZS40-140				140					
	81-56-WD40-080		56	WD-40	80	70.0				
	81-56-WD40-140				140					
ø80.601 to ø140.600	SRA 101-76-BM63-100		76	BM-63	100	38.0	C00-90-16	G00-02-08	Z00-63-21	Z00-63-23
	101-76-BM63-160				160					
	SRA 101-76-ZS40-100			ZS-40	100					
	101-76-ZS40-160				160					
	101-76-WD40-100		76	WD-40	100	70.0				
	101-76-WD40-160				160					

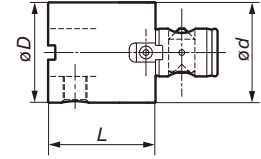
SR Type



For BT40 (B12 Type)



For BT50 (B13 Type)



■ Extensions ● For BT40 (B12 Type) (Dimensions:mm)

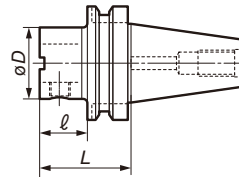
Cat. No.	Stock	ϕD	ϕd	L	ℓ	Weight(kg)
B12-32-25-040		25	32	40	25	0.2
B12-40-25-040		25	42	40	25	0.3
32-045		32	42	45	30	0.3
B12-50-40-050		42	50	50	35	0.5
B12-63-25-045		25	63	45	25	0.7
32-050		32	63	50	30	0.9
40-055		42	63	55	35	1.1
B12-80-40-060		42	80	60	35	2.2
63-060		63	80	60	35	2.4
B12-100-40-060		42	100	60	35	3.1
63-060		63	100	60	35	3.3
80-075		80	100	75	50	3.5

● For BT50 (B13 Type) (Dimensions:mm)

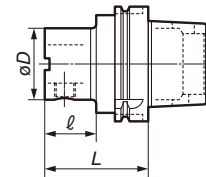
Cat. No.	Stock	ϕD	ϕd	L	ℓ	Weight(kg)
B13-25-25-045		25	25	45	—	0.2
070		25	25	70	—	0.3
B13-32-32-035		32	32	35	—	0.2
070		32	32	70	—	0.4
B13-40-40-045		42	42	45	—	0.4
070		42	42	70	—	0.7
B13-50-50-065		50	50	65	—	1.0
100		50	50	100	—	1.5
B13-63-63-060		63	63	60	—	1.3
125		63	63	125	—	2.9
B13-80-80-080		80	80	80	—	2.9
160		80	80	160	—	4.9
B13-100-100-080		100	100	80	—	4.9
180		100	100	180	—	10.9



BT/A Type



HSK Type



■ Arbor BETA Module BT/A Type (Dimensions:mm)

Cat. No.	Stock	Taper Size	ϕD	L	ℓ	Weight(kg)
BT10-40A-25-060		40	25	60	33	0.8
32-060		40	32	60	33	0.9
40-028		40	42	28	1	0.9
40-060		40	42	60	33	1.2
50-060		40	50	60	33	1.3
63-055		40	63	55	28	1.4
63-070		40	63	70	43	1.7
BT10-50A-32-070		50	32	70	32	3.7
40-070		50	42	70	32	3.9
50-070		50	50	70	32	4.1
63-080		50	63	80	42	4.3
80-100		50	80	100	62	5.5
100-110		50	100	110	72	7.0

HSK Type (Coolant tube sold separately.) (Dimensions:mm)

Cat. No.	Stock	Taper Size	ϕD	L	ℓ	Weight(kg)
BH10-50A-25-055		50	25	55	29	0.5
32-060		50	32	60	34	0.6
40-065		50	42	65	39	0.7
BH10-63A-25-055		63	25	55	29	0.9
32-060		63	32	60	34	1.0
40-065		63	42	65	23	1.1
50-070		63	50	70	44	1.5
63-080		63	63	80	38	1.5
BH10-100A-40-080		100	42	80	35	2.3
50-080		100	50	80	35	2.5
63-080		100	63	80	35	2.8
80-090		100	80	90	45	3.8
100-100		100	100	100	55	4.0

■ Spare Parts

Clamp Screw	
25	Z00-25-24
32	Z00-32-24
40	Z00-40-24
63	Z00-63-24
80	Z00-80-24
100	Z00-100-24

■ Coolant Tubes

Taper Size	
50	H00-50-01
63	H00-63-01
100	H00-100-01

SR Type

SR Type Usage Instructions (Adjusting Run-Out)

The run-out at the cut edge of a reamer should be zero to obtain optimum boring precision. To correct run-out in the holder or the machine's spindle, use of holders with a run-out adjustment mechanism, hydro chucks, and shrink-fitting is recommended. Various methods can be used to measure run-out on a SumiReamer SR type reamer. SumiReamer SR type reamers offer good run-out repeatability so it is recommended that inserts be replaced without removing the shank holder from the spindle.

(1) High-accurate cut edge runout measurement method (for measuring the arc land on the insert)

Measuring the lands immediately after the outer diameter of the insert has been chamfered eliminates all attachment errors. This allows for the most accurate runout measurement.



(2) Simplified measurement method (for measuring the short taper of the holder)

The short taper on the holder where the inserts are attached provides the easiest and most accurate measurement before attaching the inserts.



(3) Simplified measurement method (for measuring the outer diameter of the holder)

The high precision machined outer diameter of the shank holder provides a good estimate of the runout measurement.

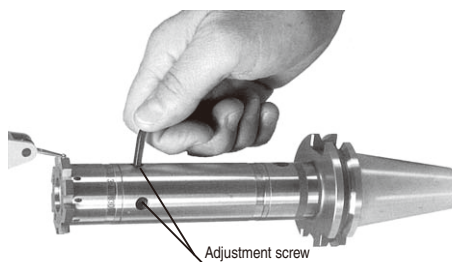


* Runout accuracy is higher in order of (1), (2) and (3).

● Shank Holders with Correction Mechanism

Shank holders must have a correction mechanism when using reamers of $\phi 35$ mm or larger. (Adjustment procedure)

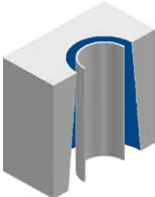
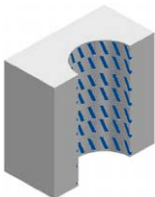
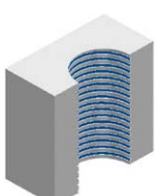
- (1) Tighten the centre locking screw to torque value A in the table below, then attach the insert and measure the runout of the cut edge.
- (2) Verify the tooth where runout peaks and adjust with the adjustment screw.
- (3) Repeat this adjustment for each tooth as necessary.
- (4) Remove the adjusted insert, tighten the centre locking screw to torque value B in the table below, then re-attach the insert.

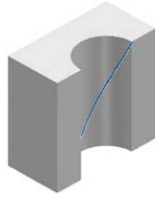
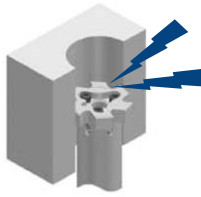


Recommended Tightening Torque for Centre Locking Screw (N·m)

Size	Cap Screw	A	B
SR044	C00-26-23G/B	25	32
SR052	C00-26-38G/B	25	32
SR061	C00-24-26G/B	40	55
SR081	C00-26-37G/B	65	85
SR101, SR121, SR140	C00-24-31G/B	95	120

■ Troubleshooting for Drilling

Failure	Countermeasures
Large Hole Diameter 	• Reduce the run-out as much as possible (use a holder with a diameter correction mechanism). • Decrease the cutting speed. • Increase the feed rate. • Increase the coolant concentration. • Reduce the machining allowance. • Check the cutting edge for damage (the existence of built-up edges). • Change the reamer diameter.
Tapered Hole 	• Reduce the run-out as much as possible (use a holder with a diameter correction mechanism). • Decrease the cutting speed. • Decrease the feed rate. • Adjust the coolant concentration. • Review the pre-machining process. • Review the clamping method of the workpiece. • Compare the hole size between when the workpiece is clamped and unclamped. • Check and correct the direction of chip evacuation.
Chatter Mark on Machined Surface 	• Reduce the run-out as much as possible (use a holder with a diameter correction mechanism). • Change the approach angle of the insert cutting edge. • Review the clamping method of the workpiece. • Decrease the cutting speed. • Increase the feed rate.
Poor Surface Roughness 	• Check the cutting edge for damage. • Reduce the run-out as much as possible (use a holder with a diameter correction mechanism). • Check whether the cutting conditions are within the recommended range. • Change to internal coolant supply. • Increase the coolant concentration.

Failure	Countermeasures
Return Mark 	• Reduce the run-out as much as possible (use a holder with a diameter correction mechanism). • Check the cutting edge for damage (the existence of built-up edges). • Reduce the machining allowance. • Change to an insert with a sharper cutting edge. • Decrease the return (lifting) feed.
Irregular Cutting Noise 	• Decrease the coolant concentration. • Increase the machining allowance. • Check the cutting edge for damage. • Change the approach angle of the insert cutting edge.
Small Hole Diameter 	• Replace the insert. • Decrease the coolant concentration. • Increase the machining allowance. • Increase the cutting speed. • Decrease the feed rate.