Tungaloy
Member IMC Group

Keeping the Customer First

Tungaloy Report No. 357-E2

TURNLINE TAC Boring Bars

STREAMJETBAR

Extended Version

Highly Rigid Internal Toolholders with Excellent Chip Evacuation

Extensive simulation analysis has enabled Tungaloy to develop a highly-rigid Stream Jet Bar with the ideal tool geometry for excellent chip evacuation.

New MINI

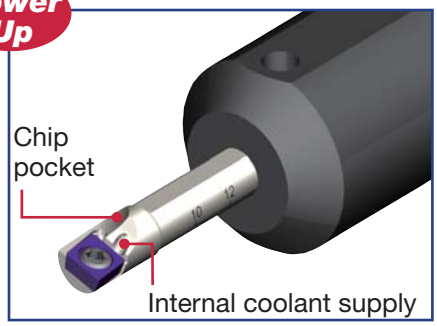
Stream Jet Bar MINI for small diameter machining applications!

Features

Excellent performance for small diameter machining operations

- Minimum bore diameter from ø4.5 mm
- Steel and carbide shank available
- Straight shank type available
- Can be used with internal coolant supply
- Well designed chip pocket for excellent chip evacuation
- Easy to adjust overhang due to marked scale on shank
- Improved rigidity for minimizing bar deflection and chatter by FEM (Finite Element Method)
- Added Z cutting edge style for back boring

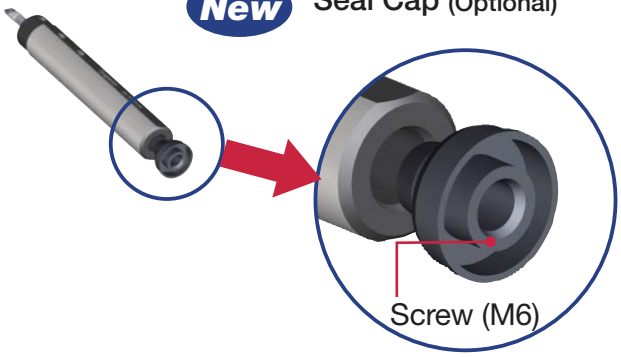
Power Up



Applicable for a wide variety of machines

- Applicable sleeve for a variety of small lathes
- Supplied with Seal cap (optional)
- Suitably designed sleeve for directed external coolant flow (see picture below)

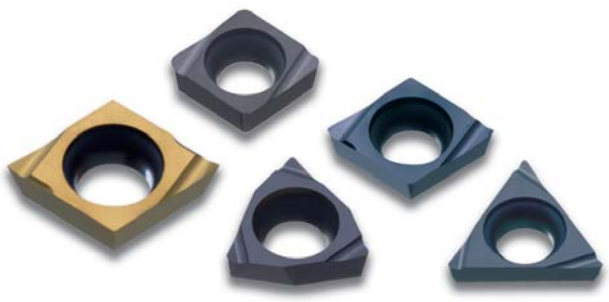
New Seal Cap (Optional)



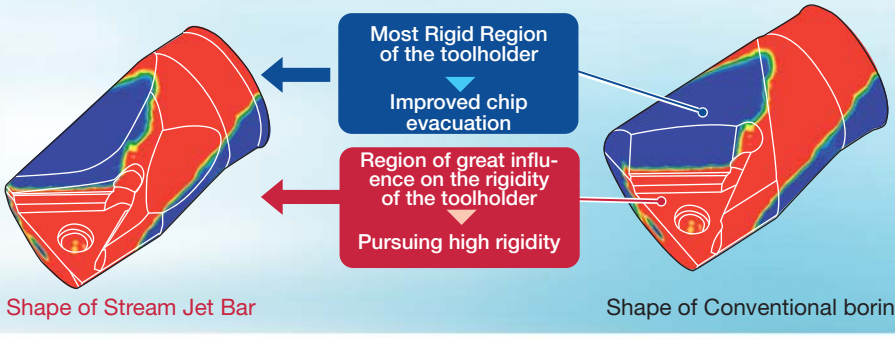
Attention: Please use the installation tools (e.g. a plastic hammer etc.), if difficult to ensure proper alignment

Stable tool life and excellent chip control

- W08 type chipbreaker
- Superior cutting edge due to fine grain carbide grade
- Two grades of inserts: **SH730** (for general purpose), **TH10** (for non-ferrous)
- Expansion of corner R0.1 spec on “**EPGT04**” and “**WBGT03**” insert types

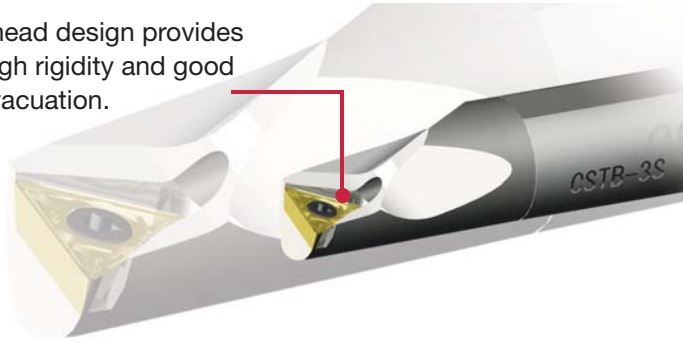


● Finite Analysis of the load transition



Increased rigidity for minimizing bar deflection and chatter

Large head design provides both high rigidity and good chip evacuation.

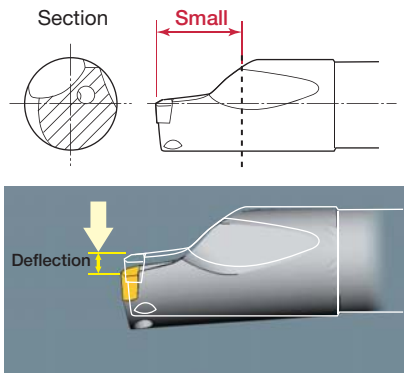


● Rigidity comparison with a conventional boring bar (Illustrations)

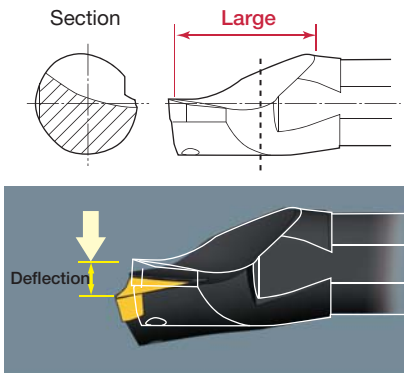
The rigidity of the bar in the direction of the principal force is maximized because the thickest portion of the head is located as close as possible to the cutting edge.
Note: Load 1000N (*Vc* = 150 m/min, *ap* = 1.5 mm, *f* = 0.2 mm/rev are assumed) A16Q-STUPR13-D180

About 20% reduction in deflection compared with conventional bar

Stream Jet Bar



Conventional boring bar

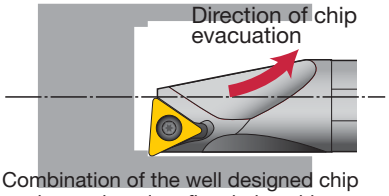


New pocket design for excellent chip evacuation

● Cutting performance

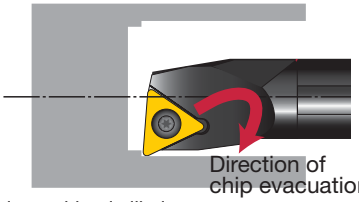
The excellent chip evacuation minimizes tool failure caused by re-cutting chips and poor chip control. Damage to the work surface from chips is also eliminated.

Stream Jet Bar



Combination of the well designed chip pocket and coolant flow helps chips to effectively evacuate.

Conventional boring bar



Chip packing is likely to occur.

The oil hole is positioned as close as possible to the cutting edge to ensure fluid is fed directly to the cutting point.

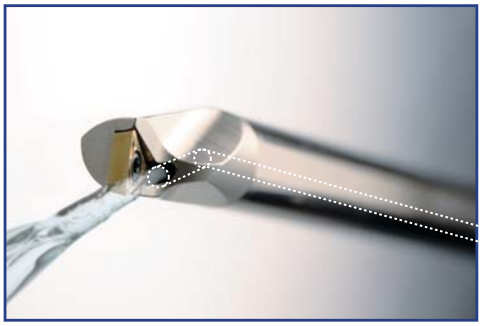
● Oil hole design

Distance between the cutting edge and the oil hole is minimized. (Distance is reduced by 50% compared to existing boring bars.)

● Screw for oil hole*

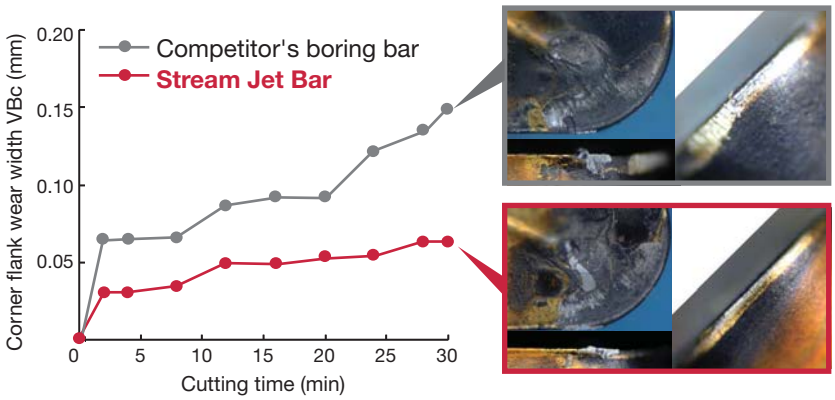
In the case of not using the oil hole, a special screw can be inserted to prevent chip coiling (optional).

* Negative type only



Improved tool life

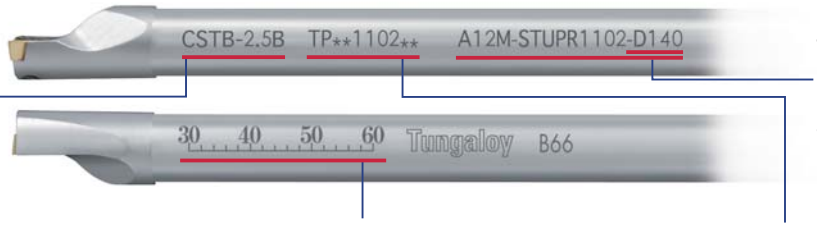
By supplying the optimum level of cutting fluid, flank wear and rake face wear are suppressed, considerably improving tool life.



Toolholder	: A16Q-STUPR1103-D180
Insert	: TPMT110304-PS (GT730)
Work material	: S45C (220HB)
	: Boring (ø30 ~ 50 mm)
Cutting speed	: *V*c =100 m/min
Depth of cut	: *a*p = 0.5 mm
Feed	: *f* = 0.2 mm/rev
Cutting fluid	: Water soluble type

"Easy to use"

● Marking specifications



Tool holder Cat. No.

The minimum bore diameter is indicated in the Cat. No. The three-digit number at the end of the text indicates the minimum bore diameter.
(Example)-D140 →14.0 mm

Applicable clamping screw Cat. No. (Positive type only)
If screw is missing this detail simplifies locating a replacement with Cat. No.

Scale of overhang length

Useful for easy setting of the toolholder.

Applicable insert Cat. No.

Can identify the insert size and relief angle at a glance. Simplified tool management.

Carbide shank type

Combination of the highly rigid carbide shank and the head geometry can increase the tool rigidity and improve chip evacuation.

● Guide to L/D

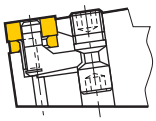
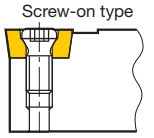
Steel shank	Carbide shank
L/D ≤ 3	L/D ≤ 5

(Note) L : Overhang length, D: Shank diameter

● For precision boring

The increased rigidity suppresses chatter, producing excellent surface finishes.
Excellent chip evacuation minimizes damage to the surface caused by chip re-cutting. This further improves surface finish.

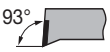
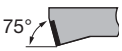
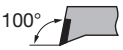
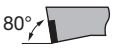
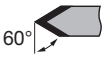
Designation System for TAC Boring Toolholders

P	Lever-lock type 
S	Screw-on type 

4 Clamping mechanism

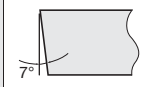
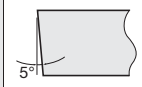
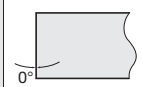
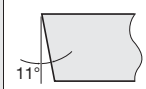
C		Rhombic 80°
D		Rhombic 55°
E		Rhombic 75°
S		Square
T		Triangular
V		Rhombic 35°
Y		Y-shape Rhombic 25° (Tungaloy's symbol)
W		Trigon

5 Insert shape

Symbol	Style	Offset	Symbol	Style		Symbol	Style	
A		without	G		with	S		with
					without	V		without
			J		with	U		with
B		without	K		with	X*		with
C		without	L		with	Y		with
D		without	N		without	Z		without
E		without	P*		without			
F		with	Q*		with			

Note: *mark.-Tungaloy Standard
No mark: ISO standard

6 Cutting edge style

C	
B	
N	
P	

7 Relief angle of insert

4	5	6	7					8	9		10
A	12	M	-	S	T	U	P	R	1102		D140
1	2	3									

1 Bar composition

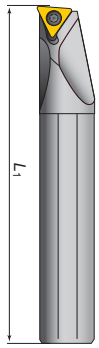
A	Steel shank with oil hole
E	Carbide shank with steel head and oil hole

2 Bar diameter

Bar diameter is shown in mm.

3 Toolholder length L1 (mm)

F	80
G	90
H	100
J	110
K	125
L	130
M	150
P	170
Q	180
R	200
S	250
T	300
U	350

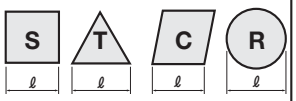


8 Hand of tool

R	
L	

9 Insert size ℓ + (S)

For M, S, and C types conformed to ISO



"In ISO metric system, a two digit number indicates the edge length (ℓ) of the insert to be used in mm. If the insert thickness is different for the same edge length, add the thikness symbol (s) (two digit number).

In above example,
TP□□1102□□
ℓ S

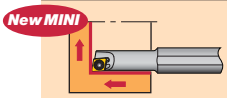
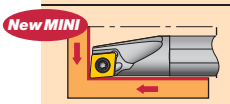
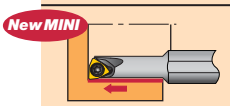
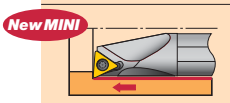
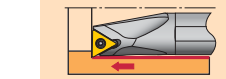
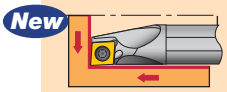
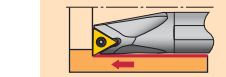
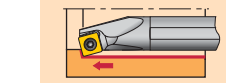
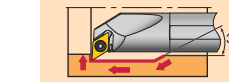
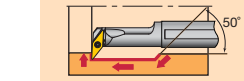
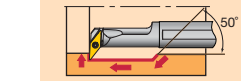
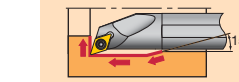
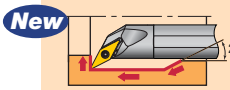
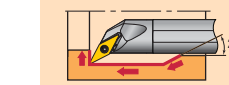
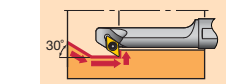
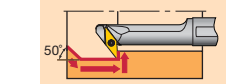
10 Min. bore. diameter

Stream Jet Bars	
140	Ø14.0 mm

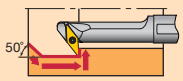
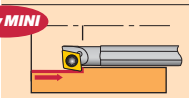
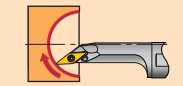
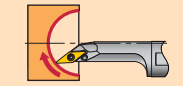
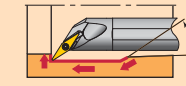
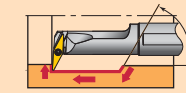
List of Stream Jet Bars

A wide range of styles and sizes available

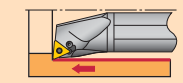
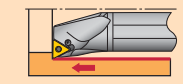
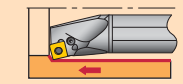
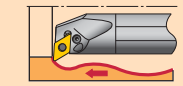
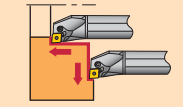
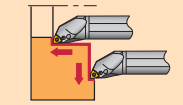
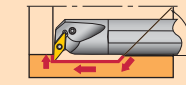
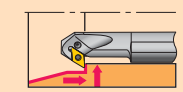
Positive type

Style	Shank type	Shank diameter	Minimum bore diameter (mm) 0 10 20 30 40 50
 **SEXPR/L** P. 18 Boring and facing Insert type: EP□□	Steel Carbide	ø4 ~ ø8 ø4 ~ ø8	ø4.5 ø7 ø4.5 ø7
 **SCLCR/L** P. 8 Boring and facing Insert type: CC□□	Steel Carbide	ø4 ~ ø25 ø4 ~ ø25	ø5 ø27 ø5 ø27
 **SWUBR/L** P. 17 Boring Insert type: WB□□	Steel Carbide	ø5 ~ ø8 ø5 ~ ø8	ø6 ø8 ø6 ø8
 **STUPR/L** P. 14 Boring Insert type: TP□□	Steel Carbide	ø7 ~ ø32 ø7 ~ ø25	ø8 ø34 ø8 ø27
 **STFPR/L** P. 13 Boring Insert type: TP□□	Steel Carbide	ø8 ~ ø25 ø8 ~ ø20	ø10 ø27 ø10 ø22
 **SCLPR/L** P. 9 Through boring Insert type: CP□□	Steel Carbide	ø8 ~ ø25 ø8 ~ ø16	ø10 ø27 ø10 ø20
 **STFCR/L** P. 12 Boring Insert type: SP□□	Steel Carbide	ø8 ~ ø25 ø8 ~ ø25	ø10 ø27 ø10 ø27
 **SSKPR/L** P. 11 Through boring Insert type: SP□□	Steel	ø16 ~ ø25	ø20 ø31
 **SDUCR/L** P. 10 Internal profiling Insert type: DC□□	Steel Carbide	ø10 ~ ø25 ø10 ~ ø20	ø13 ø32 ø13 ø27
 **SVUCR/L** P. 16 Internal profiling Insert type: VC□□	Steel Carbide	ø12 ~ ø40 ø12 ~ ø25	ø16 ø50 ø18 ø32
 **SVUBR/L** P. 16 Internal profiling Insert type: VB□□	Steel Carbide	ø16 ~ ø25 ø16 ~ ø25	ø20 ø32 ø24.5 ø34
 **SDQCR/L** P. 10 Internal profiling Insert type: DC□□	Steel Carbide	ø10~ ø25 ø10~ ø20	ø13 ø30 ø13 ø25
 **SVQCR/L** P. 15 Internal profiling Insert type: VC□□	Steel Carbide	ø10~ ø40 ø10~ ø16	ø13.5 ø50 ø13.5 ø21.5
 **SVQBR/L** P. 15 Internal profiling Insert type: VB□□	Steel Carbide	ø12 ~ ø25 ø12 ~ ø25	ø17 ø30.5 ø17 ø30.5
 **SDZCR/L** P. 11 Internal retracting Insert type: DC□□	Steel Carbide	ø12 ~ ø25 ø12 ~ ø16	ø14 ø25 ø18 ø22
 **SVZCR/L** P. 17 Internal retracting Insert type: VC□□	Steel	ø12	ø16

Positive

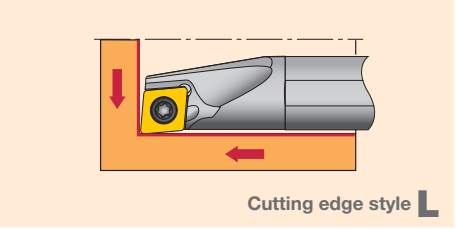
	Style	Shank type	Shank diameter	Minimum bore diameter (mm) 0 10 20 30 40 50
	**SVZBR/L** P. 16 Internal retracting Insert type: VB□□	Steel	ø16 ~ ø32	ø20 ø40
New MINI 	**SEZPR/L** P. 17 Internal retracting Insert type: EP□□	Steel Carbide	ø4 ~ ø5 ø4 ~ ø5	ø5.5 ø6.5 ø5.5 ø6.5
	**SVJCR/L** P. 18, 19 Internal sphere cutting Insert type: VC□□	Steel	ø12 ~ ø16	ø16 ø20
	**SVJBR/L** P. 18, 19 Internal sphere cutting Insert type: VB□□	Steel	ø20 ~ ø25	ø25 ø30
	**SYQBR/L** P. 20 Internal undercut and profiling Insert type: YW□□	Steel Carbide	ø12 ~ ø16 ø12 ~ ø16	ø17 ø21.5 ø17 ø21.5
	**SYUBR/L** P. 20 Internal profiling Insert type: YW□□	Steel Carbide	ø16 ø12 ~ ø16	ø20 ø20 ø24.5

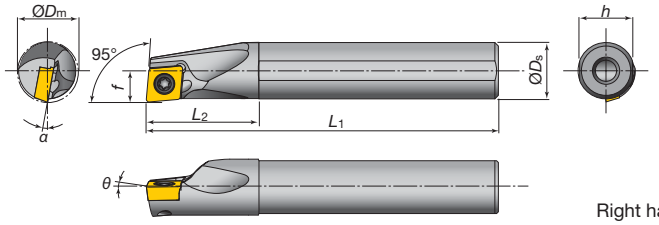
Negative type

	Style	Shank type	Shank diameter	Minimum bore diameter (mm) 0 10 20 30 40 50 60 70
	**PTUNR/L** P. 22 Boring Insert type: TN□□	Steel	ø16 ~ ø32	ø20 ø40
	**PTFNR/L** P. 22 Boring Insert type: TN□□	Steel	ø25 ~ ø50	ø32 ø63
	**PSKNR/L** P. 22 Through boring Insert type: SN□□	Steel	ø32 ~ ø50	ø40 ø63
	**PDUNR/L** P. 21 Internal profiling Insert type: DN□□	Steel	ø20 ~ ø50	ø25 ø63
	**PCLNR/L** P. 21 Boring and facing Insert type: CN□□	Steel	ø16 ~ ø50	ø20 ø63
	**PWLNR/L** P. 23 Boring and facing Insert type: WN□□	Steel	ø16 ~ ø40	ø20 ø50
	**PVUNR/L** P. 23 Internal profiling Insert type: VN□□	Steel	ø25 ~ ø40	ø37 ø50
	**PDZNR/L** P. 21 Internal retracting Insert type: DN□□	Steel	ø32 ~ ø50	ø40 ø63

Internal toolholders, positive type

SCLCR/L Boring & internal facing S-type (Positive, screw-on)





Right hand (R) shown

Steel shank

Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts: Clamping screw	Parts: Wrench	Torque (N·m)
New MINI A04F-SCLCR/L03-D050	●	●	5	4	2.5	80	8	3.8	-	0°	-15°	0.2	CC□□03X1	CSTA-1.6	T-6F	0.6
New MINI A05F-SCLCR/L03-D060	●	●	6	5	3	80	9	4.8	-	0°	-13°					
New MINI A06G-SCLCR/L04-D070	●	●	7	6	3.5	90	11	5.75	-	0°	-13°	0.2	CC□□04T1	CSTB-2	T-6F	0.6
New MINI A07G-SCLCR/L04-D080	●	●	8	7	4	90	12	6.75	-	0°	-11°					
A08H-SCLCR/L06-D100	●	●	10	8	5.5	100	16	7.5	-	0°	-13°	0.4	CC□□0602	CSTB-2.5S	T-8F	1.2
A10F-SCLCR/L06-D120	●		12	10	6	80	20	9	-	0°	-10°	0.4				
A10K-SCLCR/L06-D120	●	●	12	10	6	125	20	9	-	0°	-10°	0.4				
A12H-SCLCR/L06-D140	●		14	12	7	100	24	11	-	0°	-8°	0.4				
A12M-SCLCR/L06-D140	●	●	14	12	7	150	24	11	-	0°	-8°	0.4				
A12H-SCLCR/L06-D160	●		16	12	9	100	24	11	-	0°	-7°	0.4				
A12M-SCLCR/L06-D160	●	●	16	12	9	150	24	11	-	0°	-7°	0.4				
A16K-SCLCR/L09-D180	●		18	16	9	125	32	15	-	0°	-9°	0.8	CC□□09T3	CSTB-4S	T-15F	3.0
A16Q-SCLCR/L09-D180	●	●	18	16	9	180	32	15	-	0°	-10°	0.8				
A16K-SCLCR/L09-D200	●		20	16	11	125	32	15	-	0°	-9°	0.8				
A16Q-SCLCR/L09-D200	●	●	20	16	11	180	32	15	-	0°	-9°	0.8				
A20R-SCLCR/L09-D220	●	●	22	20	11	200	32	18	-	0°	-8°	0.8				
A25S-SCLCR/L09-D270	●	●	27	25	13.5	250	45	23	-	0°	-6°	0.8				

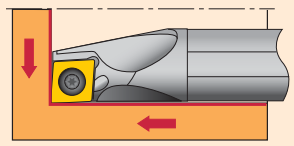
Carbide shank

Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts: Clamping screw	Parts: Wrench	Torque (N·m)
New MINI E04G-SCLCR/L03-D050	●	●	5	4	2.5	90	9	3.8	-	0°	-15°	0.2	CC□□03X1	CSTA-1.6	T-6F	0.6
New MINI E05G-SCLCR/L03-D060	●	●	6	5	3	90	10	4.8	-	0°	-13°					
New MINI E06H-SCLCR/L04-D070	●	●	7	6	3.5	100	12	5.75	-	0°	-13°	0.2	CC□□04T1	CSTB-2	T-6F	0.6
New MINI E07H-SCLCR/L04-D080	●	●	8	7	4	100	14	6.75	-	0°	-11°					
E08G-SCLCR/L06-D100	●		10	8	5.5	90	22	7.5	-	0°	-13°	0.4	CC□□0602	CSTB-2.5S	T-8F	1.2
E08K-SCLCR/L06-D100	●	●	10	8	5.5	125	22	7.5	-	0°	-13°	0.4				
E10F-SCLCR/L06-D120	●		12	10	6	80	25	9	-	0°	-10°	0.4				
E10H-SCLCR/L06-D120	●		12	10	6	100	25	9	-	0°	-10°	0.4				
E10M-SCLCR/L06-D120	●	●	12	10	6	150	25	9	-	0°	-10°	0.4				
E12G-SCLCR/L06-D140	●		14	12	7	90	27	11	-	0°	-8°	0.4				
E12J-SCLCR/L06-D140	●		14	12	7	110	27	11	-	0°	-8°	0.4				
E12Q-SCLCR/L06-D140	●	●	14	12	7	180	27	11	-	0°	-8°	0.4				
E12G-SCLCR/L06-D160	●		16	12	9	90	27	11	-	0°	-7°	0.4				
E12J-SCLCR/L06-D160	●		16	12	9	110	27	11	-	0°	-7°	0.4				
E12Q-SCLCR/L06-D160	●	●	16	12	9	180	27	11	-	0°	-7°	0.4				
E16H-SCLCR/L09-D180	●		18	16	9	100	32	15	-	0°	-10°	0.8	CC□□09T3	CSTB-4L060	T-15F	3.0
E16L-SCLCR/L09-D180	●		18	16	9	130	32	15	-	0°	-10°	0.8				
E16R-SCLCR/L09-D180	●	●	18	16	9	200	32	15	-	0°	-10°	0.8				
E16H-SCLCR/L09-D200	●		20	16	11	100	32	15	-	0°	-9°	0.8				
E16L-SCLCR/L09-D200	●		20	16	11	130	32	15	-	0°	-9°	0.8				
E16R-SCLCR/L09-D200	●	●	20	16	11	200	32	15	-	0°	-9°	0.8				
E20S-SCLCR/L09-D220	●		22	20	11	250	36	18	-	0°	-8°	0.8		CSTB-4S		
E25T-SCLCR/L09-D270	●		27	25	13.5	300	45	23	-	0°	-6°	0.8				

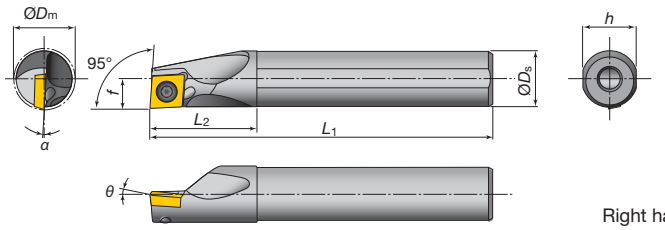
When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SCLCL □□ type), and the left hand insert (L) is used for the right hand toolholders (SCLCR □□ type).

● : Stocked items

SCLPR/L Boring & internal facing S-type (Positive, screw-on)



Cutting edge style L



Right hand (R) shown

Steel shank

Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius rε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L1	L2	h	f2	θ	α			Clamping screw	Wrench	
New A08H-SCLPR/L06-D100	●	●	10	8	5.5	100	16	7.5	-	+5°	-8°	0.4	CP□□0602	CSTB-2.5S	T-8F	1.2
New A10K-SCLPR/L06-D120	●	●	12	10	6	125	20	9	-	+5°	-5°	0.4	CP□□0602	CSTB-2.5S	T-8F	1.2
A10K-SCLPR/L08-D120	●	●	12	10	6	125	20	9	-	+5°	-5°	0.4	CP□□0802	CSTB-3L042	T-9F	1.4
New A12M-SCLPR/L06-D140	●	●	14	12	7	150	24	11	-	+5°	-4°	0.4	CP□□0602	CSTB-2.5S	T-8F	1.2
A12M-SCLPR/L08-D140	●	●	14	12	7	150	24	11	-	+5°	-4°	0.4	CP□□0802	CSTB-3L050	T-9F	1.4
A12M-SCLPR/L08-D160	●	●	16	12	9	150	24	11	-	+5°	-3°	0.4				
A16Q-SCLPR/L09-D180	●	●	18	16	9	180	32	15	-	+5°	-3.5°	0.8	CP□□0903	CSTB-4L060	T-15F	3.0
A16Q-SCLPR/L09-D200	●	●	20	16	11	180	32	15	-	+5°	-3°	0.8				
A20R-SCLPR/L09-D220	●	●	22	20	11	200	36	18	-	+5°	-2°	0.8				
A25S-SCLPR/L09-D270	●	●	27	25	13.5	250	45	23	-	+5°	-1°	0.8				

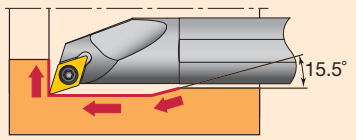
Carbide shank

Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius rε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L1	L2	h	f2	θ	α			Clamping screw	Wrench	
New E08K-SCLPR/L06-D100	●	●	10	8	5.5	125	22	7.5	-	+5°	-8°	0.4	CP□□0602	CSTB-2.5S	T-8F	1.2
New E10M-SCLPR/L06-D120	●	●	12	10	6	150	25	9	-	+5°	-5°	0.4	CP□□0602	CSTB-2.5S	T-8F	1.2
E10H-SCLPR/L08-D120	●		12	10	6	100	25	9	-	+5°	-5°	0.4	CP□□0802	CSTB-3L042	T-9F	1.4
E10M-SCLPR/L08-D120	●	●	12	10	6	150	25	9	-	+5°	-5°	0.4				
New E12Q-SCLPR/L06-D140	●	●	14	12	7	180	27	11	-	+5°	-4°	0.4	CP□□0602	CSTB-2.5S	T-8F	1.2
E12G-SCLPR/L08-D140	●		14	12	7	90	27	11	-	+5°	-4°	0.4	CP□□0802	CSTB-3L050	T-9F	1.4
E12J-SCLPR/L08-D140	●		14	12	7	110	27	11	-	+5°	-4°	0.4				
E12Q-SCLPR/L08-D140	●	●	14	12	7	180	27	11	-	+5°	-4°	0.4				
E12G-SCLPR/L08-D160	●		16	12	9	90	27	11	-	+5°	-3°	0.4				
E12J-SCLPR/L08-D160	●		16	12	9	110	27	11	-	+5°	-3°	0.4				
E12Q-SCLPR/L08-D160	●	●	16	12	9	180	27	11	-	+5°	-3°	0.4				
E16H-SCLPR/L09-D180	●		18	16	9	100	32	15	-	+5°	-3.5°	0.8	CP□□0903	CSTB-4L060	T-15F	3.0
E16L-SCLPR/L09-D180	●		18	16	9	130	32	15	-	+5°	-3.5°	0.8				
E16R-SCLPR/L09-D180	●	●	18	16	9	200	32	15	-	+5°	-3.5°	0.8				
E16H-SCLPR/L09-D200	●		20	16	11	100	32	15	-	+5°	-3°	0.8				
E16L-SCLPR/L09-D200	●		20	16	11	130	32	15	-	+5°	-3°	0.8				
E16R-SCLPR/L09-D200	●	●	20	16	11	200	32	15	-	+5°	-3°	0.8				

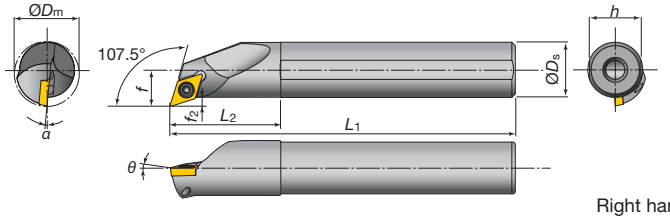
When using a right or left hand insert, the right hand (R) insert is used for the left hand toolholders (SCLPL □□ type), and the left hand insert (L) is used for the right hand toolholders (SCLPR □□ type).

● : Stocked items

SDQCR/L Boring & internal profiling S-type (Positive, screw-on)



Cutting edge style Q



Right hand (R) shown

Steel shank

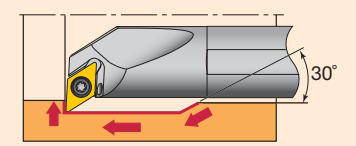
Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius rε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L1	L2	h	f2	θ	α			Clamping screw	Wrench	
A10K-SDQCR/L07-D130	●	●	13	10	7.6	125	20	9	2.6	0°	-8°	0.4	DC□□0702	CSTB-2.5S	T-8F	1.2
A12M-SDQCR/L07-D160	●	●	16	12	8.6	150	24	11	2.6	0°	-6°	0.4				
A16Q-SDQCR/L07-D200	●	●	20	16	10.6	180	32	15	2.6	0°	-5°	0.4				
A20R-SDQCR/L11-D250	●	●	25	20	13.7	200	36	18	3.7	0°	-7°	0.8	DC□□11T3	CSTB-4S	T-15F	3.0
A25S-SDQCR/L11-D300	●	●	30	25	16.2	250	45	23	3.7	0°	-4°	0.8				

Carbide shank

Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius rε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L1	L2	h	f2	θ	α			Clamping screw	Wrench	
E10H-SDQCR/L07-D130	●		13	10	7.6	100	25	9	2.5	0°	-8°	0.4	DC□□0702	CSTB-2.5S	T-8F	1.2
E10M-SDQCR/L07-D130	●	●	13	10	7.6	150	25	9	2.6	0°	-8°	0.4				
E12J-SDQCR/L07-D160	●		16	12	8.6	110	27	11	2.5	0°	-6°	0.4				
E12Q-SDQCR/L07-D160	●	●	16	12	8.6	180	27	11	2.6	0°	-6°	0.4				
E16L-SDQCR/L07-D200	●		20	16	10.6	130	32	15	2.5	0°	-5°	0.4				
E16R-SDQCR/L07-D200	●	●	20	16	10.6	200	32	15	2.6	0°	-5°	0.4				
E20S-SDQCR/L11-D250	●	●	25	20	13.7	250	36	18	3.7	0°	-7°	0.8	DC□□11T3	CSTB-4S	T-15F	3.0

When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SDQCL □□ type), and the left hand insert (L) is used for the right hand toolholders (SDQCR □□ type).

SDUCR/L Boring & internal profiling S-type (Positive, screw-on)



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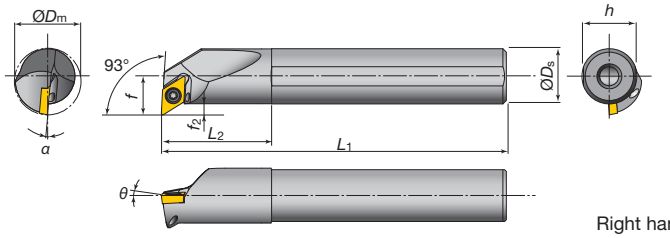


Right hand (R) shown

Steel shank

Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius rε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L1	L2	h	f2	θ	α			Clamping screw	Wrench	
A10K-SDUCR/L07-D130	●	●	13	10	7	125	20	9	2.0	0°	-10°	0.4	DC□□0702	CSTB-2.5S	T-8F	1.2
A12M-SDUCR/L07-D160	●	●	16	12	9.3	150	24	11	3.3	0°	-6°	0.4				
A16Q-SDUCR/L07-D200	●	●	20	16	11.3	180	32	15	3.3	0°	-5°	0.4		CSTB-2.5		
A20R-SDUCR/L11-D270	●	●	27	20	16.1	200	36	18	6.1	0°	-5°	0.8	DC□□11T3	CSTB-4S	T-15F	3.0
A25S-SDUCR/L11-D320	●	●	32	25	18.6	250	45	23	6.1	0°	-4°	0.8				

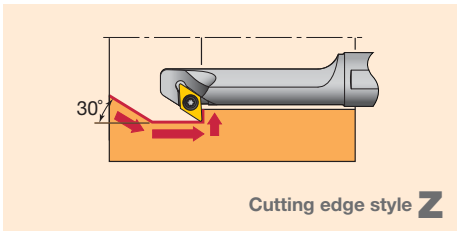
Carbide shank

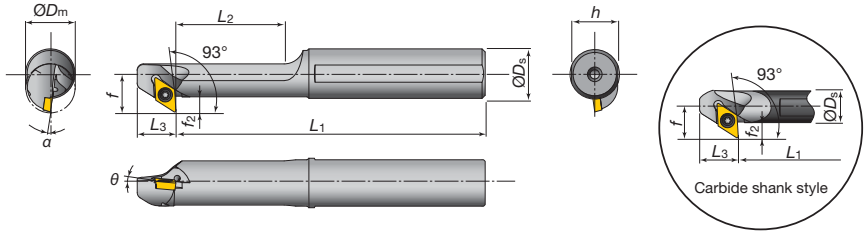
Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius rε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L1	L2	h	f2	θ	α			Clamping screw	Wrench	
E10H-SDUCR/L07-D130	●		13	10	7	100	25	9	1.9	5°	-3.5°	0.4	DC□□0702	CSTB-2.5S	T-8F	1.2
E10M-SDUCR/L07-D130	●	●	13	10	7	150	25	9	2.0	0°	-10°	0.4				
E12J-SDUCR/L07-D160	●		16	12	9.3	110	27	11	3.2	0°	-6°	0.4				
E12Q-SDUCR/L07-D160	●	●	16	12	9.3	180	27	11	3.3	0°	-6°	0.4				
E16L-SDUCR/L07-D200	●		20	16	11.3	130	32	15	3.2	0°	-5°	0.4				
E16R-SDUCR/L07-D200	●	●	20	16	11.3	200	32	15	3.3	0°	-5°	0.4		CSTB-2.5		
E20S-SDUCR/L11-D270	●		27	20	16.1	250	36	18	6.1	0°	-5°	0.8	DC□□11T3	CSTB-4S	T-15F	3.0

When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SDUCL □□ type), and the left hand insert (L) is used for the right hand toolholders (SDUCR □□ type).

● : Stocked items

SDZCR/L Internal retracting S-type (Positive, screw-on)





Right hand (R) shown

Steel shank

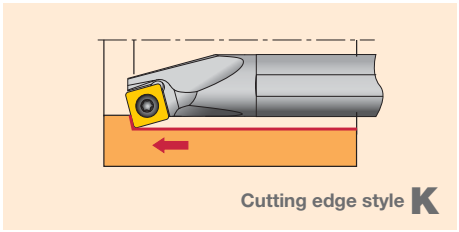
Toolholder Cat. No.	Stock		Min bore.dia.	Dimensions (mm)									Std. corner radius rε	Applicable inserts	Parts		Torque
	R	L	ØDm	ØDs	f	L1	L2	L3	h	f2	θ	α			Clamping screw	Wrench	(N·m)
A12M-SDZCR/L07-D140	●	●	14	12	10.5	150	30	12.5	11	4.5	0°	-9°	0.4	DC□□0702	CSTB-2.5	T-8F	1.2
A16Q-SDZCR/L07-D160	●	●	16	16	12.5	180	35	12.5	15	4.5	0°	-8°	0.4				
A20R-SDZCR/L11-D200	●	●	20	20	15.5	200	40	15	18	5.5	0°	-8°	0.8	DC□□11T3	CSTB-4S	T-15F	3.0
A25S-SDZCR/L11-D250	●	●	25	25	18	250	50	15	23	5.5	0°	-6°	0.8				

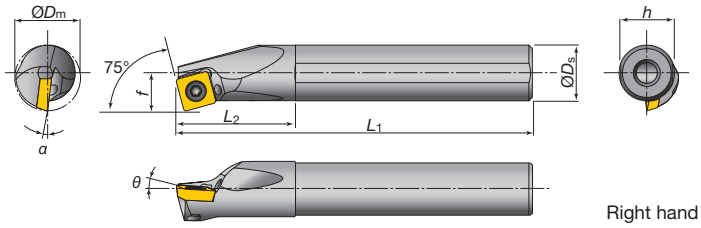
Carbide shank

Toolholder Cat. No.	Stock		Min bore.dia.	Dimensions (mm)									Std. corner radius rε	Applicable inserts	Parts		Torque
	R	L	ØDm	ØDs	f	L1	L2	L3	h	f2	θ	α			Clamping screw	Wrench	(N·m)
E12Q-SDZCR/L07-D180	●	●	18	12	10.5	180	-	12.5	11	4.5	0°	-8°	0.4	DC□□0702	CSTB-2.5	T-8F	1.2
E16R-SDZCR/L07-D220	●	●	22	16	12.5	200	-	12.5	15	4.5	0°	-6°	0.4				

When using a right or left hand insert, the right hand insert (R) is used for the right hand toolholders (SDZCR □□ type), and the left hand insert (L) is used for the left hand toolholders (SDZCL □□ type).

SSKPR/L Through boring S-type (Positive, screw-on)





Right hand (R) shown

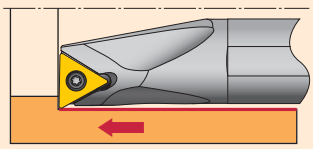
Steel shank

Toolholder Cat. No.	Stock		Min bore.dia.	Dimensions (mm)								Std. corner radius rε	Applicable inserts	Parts		Torque
	R	L	ØDm	ØDs	f	L1	L2	h	f2	θ	α			Clamping screw	Wrench	(N·m)
A16Q-SSKPR/L09-D200	●		20	16	11	180	32	15	-	+5°	-6°	0.8	SP□□0903	CSTB-4L060	T-15F	3.0
A20R-SSKPR/L09-D240	●		24	20	13	200	36	18	-	+5°	-2°	0.8				
A25S-SSKPR/L12-D310	●		31	25	17	250	45	23	-	+5°	-2°	0.8	SP□□1204	CSTB-5S	T-20F	6.0

When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SSKPL □□ type), and the left hand insert (L) is used for the right hand toolholders (SSKPR □□ type).

● : Stocked items

STFCR/L Boring S-type (Positive, screw-on)



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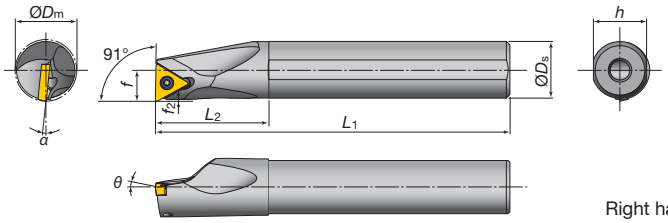


Right hand (R) shown

Steel shank

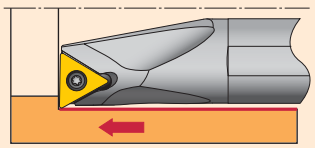
Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius rε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L1	L2	h	f2	θ	a			Clamping screw	Wrench	
A08H-STFCR/L09-D100			10	8	5.5	100	16	7.5	0.6	0°	-12°	0.4	TC□□0902	CSTB-2.2S	T-7F	0.9
A10K-STFCR/L09-D120			12	10	6.5	125	20	9	0.6	0°	-10°	0.4				
A10K-STFCR/L1102-D120			12	10	6.5	125	20	9	0.6	0°	-10°	0.4	TC□□1102	CSTB-2.5	T-8F	1.2
New A10K-STFCR/L1103-D120	●	●	12	10	6.5	125	20	9	0.6	0°	-13°	0.4	TC□□1103	CSTB-2.5	T-8F	1.2
A12M-STFCR/L09-D140			14	12	7	150	24	11	0.5	0°	-8°	0.4	TC□□0902	CSTB-2.2	T-7F	0.9
A12M-STFCR/L1102-D140			14	12	7	150	24	11	0.5	0°	-8°	0.4	TC□□1102	CSTB-2.5	T-8F	1.2
New A12M-STFCR/L1103-D140	●	●	14	12	7	150	24	11	0.5	0°	-10°	0.4	TC□□1103	CSTB-2.5	T-8F	1.2
A16Q-STFCR/L09-D180			18	16	9	180	32	15	0.6	0°	-6°	0.4	TC□□0902	CSTB-2.2	T-7F	0.9
A16Q-STFCR/L1102-D180			18	16	9	180	32	15	0.6	0°	-6°	0.4	TC□□1102	CSTB-2.5	T-8F	1.2
New A16Q-STFCR/L1103-D180	●	●	18	16	9	180	32	15	0.5	0°	-7°	0.4	TC□□1103	CSTB-2.5	T-8F	1.2
A20R-STFCR/L1102-D220			22	20	11	200	36	18	0.5	0°	-4°	0.4	TC□□1102	CSTB-2.5	T-8F	1.2
A20R-STFCR/L16-D220			22	20	11	200	36	18	0.4	0°	-7°	0.8	TC□□16T3	CSTB-4M	T-15F	3.0
A25S-STFCR/L16-D270			27	25	13.5	250	45	23	0.4	0°	-5°	0.8				

Carbide shank

Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius rε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L1	L2	h	f2	θ	a			Clamping screw	Wrench	
E08K-STFCR/L09-D100			10	8	5.5	125	22	7.5	0.6	0°	-12°	0.4	TC□□0902	CSTB-2.2S	T-7F	0.9
E10M-STFCR/L09-D120			12	10	6.5	150	25	9	0.6	0°	-10°	0.4				
E10M-STFCR/L1102-D120			12	10	6.5	150	25	9	0.6	0°	-10°	0.4	TC□□1102	CSTB-2.5	T-8F	1.2
New E10M-STFCR/L1103-D120	●	●	12	10	6.5	150	25	9	0.7	0°	-13°	0.4	TC□□1103	CSTB-2.5	T-8F	1.2
E12Q-STFCR/L09-D140			14	12	7	180	27	11	0.6	0°	-8°	0.4	TC□□0902	CSTB-2.2	T-7F	0.9
E12Q-STFCR/L1102-D140			14	12	7	180	27	11	0.6	0°	-8°	0.4	TC□□1102	CSTB-2.5	T-8F	1.2
New E12Q-STFCR/L1103-D140	●	●	14	12	7	180	27	11	0.5	0°	-10°	0.4	TC□□1103	CSTB-2.5	T-8F	1.2
E16R-STFCR/L09-D180			18	16	9	200	32	15	0.6	0°	-6°	0.4	TC□□0902	CSTB-2.2	T-7F	0.9
E16R-STFCR/L1102-D180			18	16	9	200	32	15	0.6	0°	-6°	0.4	TC□□1102	CSTB-2.5	T-8F	1.2
New E16R-STFCR/L1103-D180	●	●	18	16	9	200	32	15	0.5	0°	-7°	0.4	TC□□1103	CSTB-2.5	T-8F	1.2
E20S-STFCR/L1102-D220			22	20	11	250	36	18	0.6	0°	-4°	0.4	TC□□1102	CSTB-2.5	T-8F	1.2
E20S-STFCR/L16-D220			22	20	11	250	36	18	0.6	0°	-7°	0.8	TC□□16T3	CSTB-4M	T-15F	3.0
E25T-STFCR/L16-D270			27	25	13.5	300	45	23	0.5	0°	-5°	0.8				

When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (STFCL □□ type), and the left hand insert (L) is used for the right hand toolholders (STFCR □□ type).

● : Stocked items



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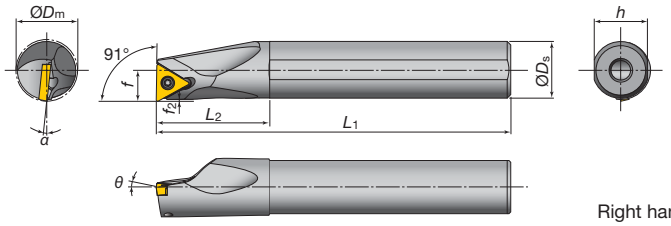


Right hand (R) shown

Steel shank

Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius rε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L1	L2	h	f2	θ	a			Clamping screw	Wrench	
A08H-STFPR/L09-D100	●	●	10	8	5.5	100	16	7.5	0.7	+5°	-8°	0.4	TP□□0902	CSTB-2.2S	T-7F	0.9
A10K-STFPR/L1102-D120	●	●	12	10	6.5	125	20	9	0.7	+5°	-6°	0.4	TP□□1102	CSTB-2.5B	T-8F	1.2
A10K-STFPR/L1103-D120			12	10	6.5	125	20	9	0.7	+5°	-7°	0.4	TP□□1103*	CSTB-3L050	T-9F	1.4
A12M-STFPR/L1102-D140	●	●	14	12	7	150	24	11	0.6	+5°	-4°	0.4	TP□□1102	CSTB-2.5	T-8F	1.2
A12M-STFPR/L1103-D140			14	12	7	150	24	11	0.6	+5°	-4°	0.4	TP□□1103*	CSTB-3S	T-9F	1.4
A16Q-STFPR/L1103-D180			18	16	9	180	32	15	0.7	+5°	-2°	0.4				
A16Q-STFPR/L13-D180	●	●	18	16	9	180	32	15	0.7	+5°	-2°	0.4	TP□□1303	CSTB-3S	T-9F	1.4
A20R-STFPR/L13-D220	●		22	20	11	200	36	18	0.8	+5°	-2°	0.4		CSTB-3		
A25S-STFPR/L16-D270	●		27	25	13.5	250	45	23	0.6	+5°	-1°	0.4	TP□□16T3	CSTB-4M	T-15F	3.0

Carbide shank

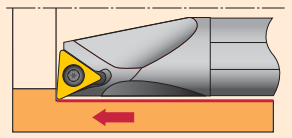
Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius rε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L1	L2	h	f2	θ	a			Clamping screw	Wrench	
E08K-STFPR/L09-D100	●	●	10	8	5.5	125	22	7.5	0.7	+5°	-8°	0.4	TP□□0902	CSTB-2.2S	T-7F	0.9
E10M-STFPR/L1102-D120	●	●	12	10	6.5	150	25	9	0.7	+5°	-6°	0.4	TP□□1102	CSTB-2.5B	T-8F	1.2
E10M-STFPR/L1103-D120			12	10	6.5	150	25	9	0.7	+5°	-7°	0.4	TP□□1103*	CSTB-3L050	T-9F	1.4
E12Q-STFPR/L1102-D140	●	●	14	12	7	180	27	11	0.6	+5°	-4°	0.4	TP□□1102	CSTB-2.5	T-8F	1.2
E12Q-STFPR/L1103-D140			14	12	7	180	27	11	0.6	+5°	-4°	0.4	TP□□1103*	CSTB-3S	T-9F	1.4
E16R-STFPR/L1103-D180			18	16	9	200	32	15	0.7	+5°	-2°	0.4				
E16R-STFPR/L13-D180	●		18	16	9	200	32	15	0.7	+5°	-2°	0.4	TP□□1303	CSTB-3S	T-9F	1.4
E20S-STFPR/L13-D220	●		22	20	11	250	36	18	0.8	+5°	-2°	0.4		CSTB-3		

When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (STFPL □□ type), and the left hand insert (L) is used for the right hand toolholders (STFPR □□ type).

* TPGH1103 □□ is not applicable.

● : Stocked items

STUPR/L Boring — S-type (Positive, screw-on)



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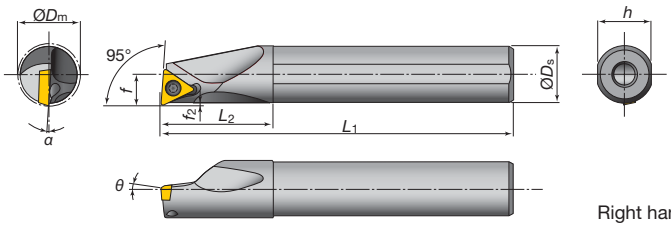


Right hand (R) shown

Steel shank

Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts: Clamping screw	Parts: Wrench	Torque (N·m)
New MINI A07G-STUPR/L07-D080	●	●	8	7	4	90	12	6.75	0.4	+5°	-10°	0.4	TP□□0701	CSTB-2.2L038	T-7F	0.9
A08H-STUPR/L07-D080	●	●	8	8	4	100	19.5	7.5	0.5	+5°	-10°	0.4	TP□□0701	CSTB-2.2L038	T-7F	0.9
A08H-STUPR/L09-D100	●	●	10	8	5.5	100	16	7.5	0.6	+5°	-8°	0.4	TP□□0902	CSTB-2.2L038	T-7F	0.9
A10F-STUPR/L1102-D120	●		12	10	6.5	80	20	9	1.4	+5°	-6°	0.4	TP□□1102	CSTB-2.5S	T-8F	1.2
A10K-STUPR/L1102-D120	●	●	12	10	6.5	125	20	9	0.7	+5°	-6°	0.4				
A10K-STUPR/L1103-D120	●	●	12	10	6.5	125	20	9	0.6	+5°	-10°	0.4	TP□□1103*	CSTB-3L050	T-9F	1.4
A12H-STUPR/L1102-D140	●		14	12	7	100	24	11	0.9	+5°	-4°	0.4	TP□□1102	CSTB-2.5B	T-8F	1.2
A12M-STUPR/L1102-D140	●	●	14	12	7	150	24	11	0.7	+5°	-4°	0.4				
A12M-STUPR/L1103-D140	●	●	14	12	7	150	24	11	0.6	+5°	-6°	0.4	TP□□1103*	CSTB-3L050	T-9F	1.4
A12H-STUPR/L1102-D160	●		16	12	9	100	24	11	0.6	+5°	-3°	0.4	TP□□1102	CSTB-2.5B	T-8F	1.2
A12M-STUPR/L1102-D160	●	●	16	12	9	150	24	11	0.6	+5°	-3°	0.4				
A16K-STUPR/L13-D180	●		18	16	9	125	32	15	0.9	+5°	-3°	0.4	TP□□1303	CSTB-3S	T-9F	1.4
A16Q-STUPR/L1103-D180	●	●	18	16	9	180	32	15	0.8	+5°	-4°	0.4	TP□□1103*	CSTB-3S	T-9F	1.4
A16Q-STUPR/L13-D180	●	●	18	16	9	180	32	15	0.6	+5°	-3°	0.4	TP□□1303	CSTB-3S	T-9F	1.4
A16K-STUPR/L13-D200	●		20	16	11	125	32	15	0.6	+5°	-3°	0.4	TP□□1303	CSTB-3S	T-9F	1.4
A16Q-STUPR/L13-D200	●	●	20	16	11	180	32	15	0.6	+5°	-3°	0.4				
A20R-STUPR/L1103-D220	●	●	22	20	11	200	36	18	0.7	+5°	-2°	0.4	TP□□1103*			
A20R-STUPR/L13-D220	●	●	22	20	11	200	36	18	0.7	+5°	-2°	0.4	TP□□1303	CSTB-3	T-9F	1.4
A25S-STUPR/L16-D270	●	●	27	25	13.5	250	45	23	0.5	+5°	-1°	0.8	TP□□16T3	CSTB-4M	T-15F	3.0
A32T-STUPR/L16-D340	●	●	34	32	17	300	50	30	0.7	+5°	0°	0.8				

Carbide shank

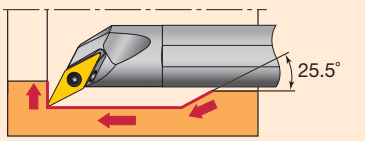
Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts: Clamping screw	Parts: Wrench	Torque (N·m)
New MINI E07H-STUPR/L07-D080	●	●	8	7	4	100	14	6.75	0.3	+5°	-10°	0.4	TP□□0701	CSTB-2.2L038	T-7F	0.9
E08G-STUPR/L07-D080	●		8	8	4	90	44.5	7.5	0.5	+5°	-10°	0.4	TP□□0701	CSTB-2.2L038	T-7F	0.9
E08K-STUPR/L07-D080	●	●	8	8	4	125	44.5	7.5	0.5	+5°	-10°	0.4				
E08G-STUPR/L09-D100	●		10	8	5.5	90	22	7	0.6	+5°	-8°	0.4	TP□□0902	CSTB-2.2L038	T-7F	0.9
E08K-STUPR/L09-D100	●	●	10	8	5.5	125	22	7	0.6	+5°	-8°	0.4				
E10F-STUPR/L1102-D120	●		12	10	6.5	80	25	9	0.5	+5°	-6°	0.4	TP□□1102	CSTB-2.5S	T-8F	1.2
E10H-STUPR/L1102-D120	●		12	10	6.5	100	25	9	0.6	+5°	-6°	0.4				
E10M-STUPR/L1102-D120	●	●	12	10	6.5	150	25	9	0.6	+5°	-6°	0.4				
E10M-STUPR/L1103-D120	●	●	12	10	6.5	150	25	9	0.7	+5°	-10°	0.4	TP□□1103*	CSTB-3L050	T-9F	1.4
E12G-STUPR/L1102-D140	●		14	12	7	90	27	11	0.9	+5°	-4°	0.4	TP□□1102	CSTB-2.5S	T-8F	1.2
E12J-STUPR/L1102-D140	●		14	12	7	110	27	11	0.6	+5°	-4°	0.4		CSTB-2.5B	T-8F	1.2
E12Q-STUPR/L1102-D140	●	●	14	12	7	180	27	11	0.6	+5°	-4°	0.4				
E12Q-STUPR/L1103-D140	●	●	14	12	7	180	27	11	0.7	+5°	-6°	0.4	TP□□1103*	CSTB-3L050	T-9F	1.4
E12G-STUPR/L1102-D160	●		16	12	9	90	27	11	0.6	+5°	-3°	0.4	TP□□1102	CSTB-2.5B	T-8F	1.2
E12J-STUPR/L1102-D160	●		16	12	9	110	27	11	0.6	+5°	-3°	0.4				
E12Q-STUPR/L1102-D160	●	●	16	12	9	180	27	11	0.6	+5°	-3°	0.4				
E16H-STUPR/L13-D180	●		18	16	9	100	32	15	0.9	+5°	-3°	0.4	TP□□1303	CSTB-3S	T-9F	1.4
E16R-STUPR/L1103-D180	●	●	18	16	9	200	32	15	0.8	+5°	-4°	0.4	TP□□1103*	CSTB-3S	T-9F	1.4
E16L-STUPR/L13-D180	●		18	16	9	130	32	15	0.6	+5°	-3°	0.4	TP□□1303	CSTB-3S	T-9F	1.4
E16R-STUPR/L13-D180	●	●	18	16	9	200	32	15	0.6	+5°	-3°	0.4				
E16H-STUPR/L13-D200	●		20	16	11	100	32	15	0.6	+5°	-3°	0.4				
E16L-STUPR/L13-D200	●		20	16	11	130	32	15	0.6	+5°	-3°	0.4				
E16R-STUPR/L13-D200	●	●	20	16	11	200	32	15	0.6	+5°	-3°	0.4				
E20S-STUPR/L1103-D220	●		22	20	11	250	36	18	0.7	+5°	-2°	0.4	TP□□1103*	CSTB-3S	T-9F	1.4
E20S-STUPR/L13-D220	●		22	20	11	250	36	18	0.6	+5°	-2°	0.4	TP□□1303	CSTB-3	T-9F	1.4
E25T-STUPR/L16-D270	●		27	25	13.5	300	45	23	0.5	+5°	-1°	0.8	TP□□16T3	CSTB-4M	T-15F	3.0

When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (STUPL □□ type), and the left hand insert (L) is used for the right hand toolholders (STUPR □□ type).

● : Stocked items

* TPGH1103 □□ is not applicable.

SVQBR/L Boring & internal profiling S-type (Positive, screw-on)



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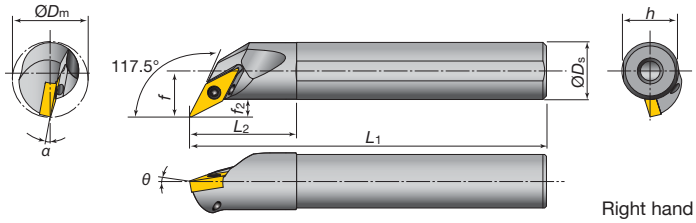


Right hand (R) shown

Steel shank

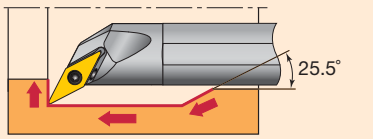
Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius rε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L1	L2	h	f2	θ	α			Clamping screw	Wrench	
A12M-SVQBR/L11-D170	●	●	17	12	10.5	150	24	11	4.5	-5°	-10°	0.4	VB□□1103	CSTB-2.5	T-8F	1.2
A16Q-SVQBR/L11-D215	●	●	21.5	16	13	180	30	15	5	-5°	-8°	0.4				
A20R-SVQBR/L11-D255	●	●	25.5	20	15	200	36	18	5	-5°	-6°	0.4				
A25S-SVQBR/L16-D305	●	●	30.5	25	17.5	250	45	23	5	-5°	-8°	0.8	VB□□1604	CSTB-3.5	T-15F	3.0

Carbide shank

Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius rε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L1	L2	h	f2	θ	α			Clamping screw	Wrench	
E12Q-SVQBR/L11-D170	●	●	17	12	10.5	180	27	11	4.5	-5°	-10°	0.4	VB□□1103	CSTB-2.5	T-8F	1.2
E16R-SVQBR/L11-D215	●	●	21.5	16	13	200	32	15	5	-5°	-8°	0.4				
E20S-SVQBR/L11-D255	●	●	25.5	20	15	250	36	18	5	-5°	-6°	0.4				
E25T-SVQBR/L16-D305	●	●	30.5	25	17.5	300	45	23	5	-5°	-8°	0.8	VB□□1604	CSTB-3.5	T-15F	3.0

When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SVQBL □□ type), and the left hand insert (L) is used for the right hand toolholders (SVQBR □□ type).

SVQCR/L Boring & internal profiling S-type (Positive, screw-on)



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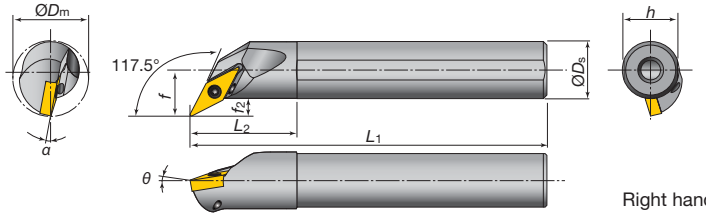


Right hand (R) shown

Steel shank

Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius rε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L1	L2	h	f2	θ	α			Clamping screw	Wrench	
A10K-SVQCR/L08-D135	●	●	13.5	10	8	125	20	9	3	-5°	-8°	0.4	VC□□0802	CSTB-2L	T-6F	0.6
New A16Q-SVQCR/L11-D215	●	●	21.5	16	13	180	30	15	4.9	-5°	-8°	0.4	VC□□1103	CSTB-2.5	T-8F	1.2
A25S-SVQCR/L16-D320			32	25	17	250	45	23	4.5	0°	-5°	0.8	VC□□1604	CSTB-3.5	T-15F	3.0
A32T-SVQCR/L16-D400			40	32	22	300	50	23	6	0°	-3°	0.8				
A40U-SVQCR/L16-D500			50	40	27	350	60	23	7	0°	-1°	0.8				

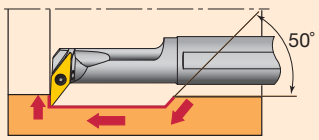
Carbide shank

Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius rε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L1	L2	h	f2	θ	α			Clamping screw	Wrench	
E10M-SVQCR/L08-D135	●	●	13.5	10	8	150	25	9	3	-5°	-8°	0.4	VC□□0802	CSTB-2L	T-6F	0.6
New E16R-SVQCR/L11-D215	●	●	21.5	16	13	200	32	15	4.9	-5°	-8°	0.4	VC□□1103	CSTB-2.5	T-8F	1.2

When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SVQCL □□ type), and the left hand insert (L) is used for the right hand toolholders (SVQCR □□ type).

● : Stocked items

SVUBR/L Boring & internal profiling S-type (Positive, screw-on)



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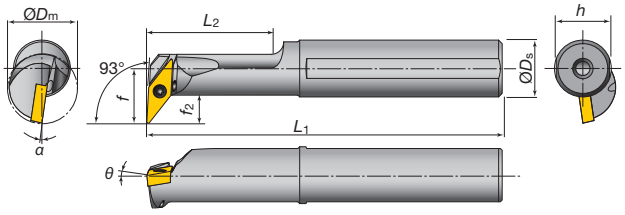
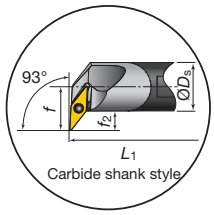




Right hand (R) shown

Steel shank

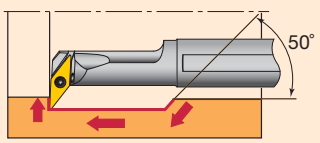
Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts: Clamping screw	Parts: Wrench	Torque (N·m)
A16Q-SVUBR/L11-D200	●	●	20	16	15.5	180	35	15	8	0°	-8°	0.4	VB□□1103	CSTB-2.5	T-8F	1.2
A20R-SVUBR/L11-D250	●	●	25	20	17.5	200	40	19	8	0°	-7°	0.4				
A25S-SVUBR/L16-D320	●	●	32	25	20.5	250	50	23	8.5	0°	-6°	0.8	VB□□1604	CSTB-3.5	T-15F	3.0

Carbide shank

Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts: Clamping screw	Parts: Wrench	Torque (N·m)
E16R-SVUBR/L11-D245	●	●	24.5	16	16	200	-	15	8	0°	-8°	0.4	VB□□1103	CSTB-2.5	T-8F	1.2
E20S-SVUBR/L11-D285	●	●	28.5	20	18	250	-	19	8	0°	-7°	0.4				
E25T-SVUBR/L16-D340	●	●	34	25	21	300	-	23	8.5	0°	-6°	0.8	VB□□1604	CSTB-3.5	T-15F	3.0

When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SVUBL □□ type), and the left hand insert (L) is used for the right hand toolholders (SVUBR □□ type).

SVUCR/L Boring & internal profiling S-type (Positive, screw-on)



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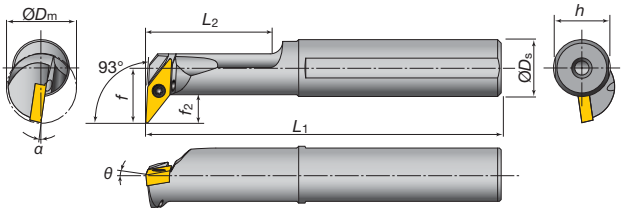
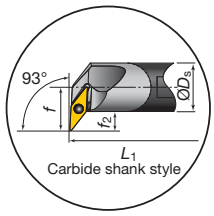




Right hand (R) shown

Steel shank

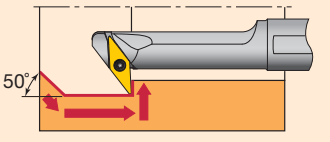
Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts: Clamping screw	Parts: Wrench	Torque (N·m)
A12M-SVUCR/L08-D160	●	●	16	12	11	150	30	11	5.5	0°	-8°	0.4	VC□□0802	CSTB-2L	T-6F	0.6
A25S-SVUCR/L16-D320	●	●	32	25	19	250	45	23	6.5	0°	-5°	0.8	VC□□1604	CSTB-3.5	T-15F	3.0
A32T-SVUCR/L16-D400			40	32	22	300	50	30	6	0°	-3°	0.8		CSTB-3.5L		
A40U-SVUCR/L16-D500			50	40	27	350	60	37	7	0°	-1°	0.8				

Carbide shank

Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts: Clamping screw	Parts: Wrench	Torque (N·m)
E12Q-SVUCR/L08-D180	●	●	18	12	11.5	180	-	11	5.5	0°	-8°	0.4	VC□□0802	CSTB-2L	T-6F	0.6
E25T-SVUCR/L16-D320	●	●	32	25	19	300	-	23	6.5	0°	-5°	0.8	VC□□1604	CSTB-3.5	T-15F	3.0

When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SVUCL □□ type), and the left hand insert (L) is used for the right hand toolholders (SVUCR □□ type).

SVZBR/L Internal retracting S-type (Positive, screw-on)



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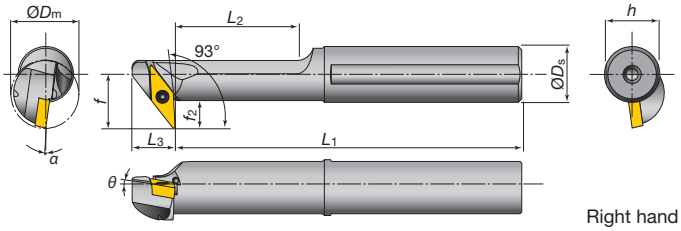


Right hand (R) shown

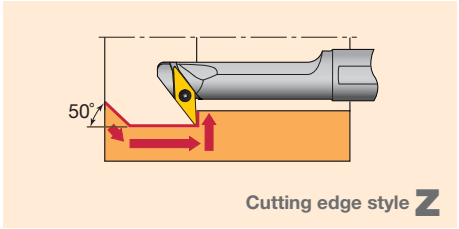
Steel shank

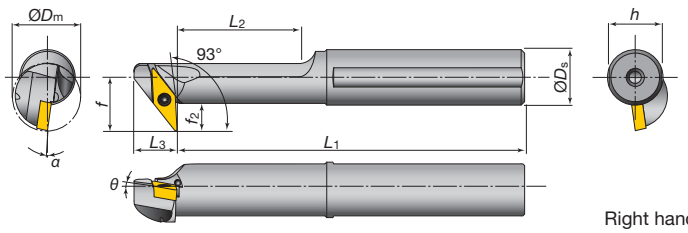
Toolholder Cat. No.	Stock R	Stock L	Min bore.dia ØDm	Dimensions (mm) ØDs	f	L1	L2	L3	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts: Clamping screw	Parts: Wrench	Torque (N·m)
A16Q-SVZBR/L11-D200	●	●	20	16	15.5	180	35	12.5	15	8	0°	-8°	0.4	VB□□1103	CSTB-2.5	T-8F	1.2
A20R-SVZBR/L11-D250	●	●	25	20	17.5	200	40	12.5	18	8	0°	-7°	0.4				
A25S-SVZBR/L16-D320	●	●	32	25	24	250	50	17.5	23	12	0°	-6°	0.8	VB□□1604	CSTB-3.5	T-15F	3.0
A32T-SVZBR/L16-D400	●	●	40	32	27.5	300	72	17.5	30	12	0°	-5°	0.8		CSTB-3.5L		

When using a right or left hand insert, the right hand insert (R) is used for the right hand toolholders (SVZBR □□ type), and the left hand insert (L) is used for the left hand toolholders (SVZBL □□ type).

● : Stocked items

SVZCR/L Internal retracting S-type (Positive, screw-on)





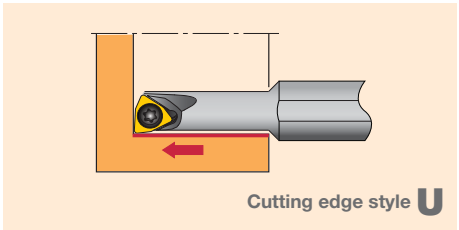
Right hand (R) shown

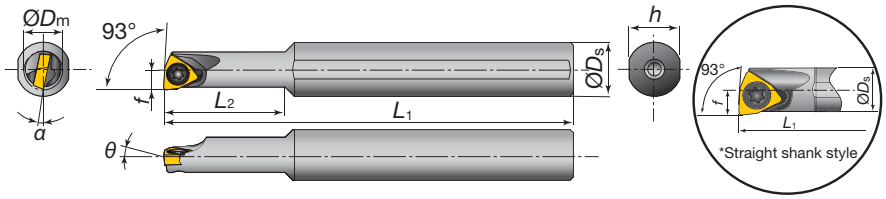
Steel shank

Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	L3	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts Clamping screw	Parts Wrench	Torque (N·m)
A12M-SVZCR/L08-D160	●	●	16	12	11	150	30	10	11	5.5	0°	-8°	0.4	VC□□0802	CSTB-2L	T-6F	0.6

When using a right or left hand insert, the right hand insert (R) is used for the right hand toolholders (SVZCR □□ type), and the left hand insert (L) is used for the left hand toolholders (SVZCL □□ type).

SWUBR/L Boring S-type (Positive, screw-on)





Steel shank

Right hand (R) shown

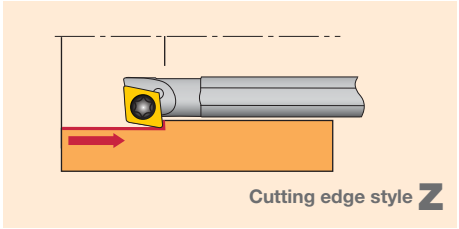
Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts Clamping screw	Parts Wrench	Torque (N·m)
New MINI *A05F-SWUBR/L03-D060	●	●	6	5	3	80	9	4.8			-13°					
New MINI *A06G-SWUBR/L03-D070	●	●	7	6	3.5	90	11	5.75	-	0°	-12°	0.4	WB□□0301	CSTB-2	T-6F	0.6
New MINI *A07G-SWUBR/L03-D080	●	●	8	7	4	90	12	6.75			-11°					
A08H-SWUBR03-D060	●		6	8	3.1	100	18	7.5	-	0°	-12°	0.4	WB□□0301	CSTB-2	T-6F	0.6
A08H-SWUBR03-D070	●		7	8	3.6	100	20	7.5	-	0°	-12°	0.4				

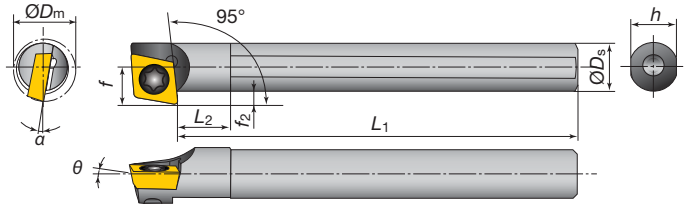
Carbide shank

Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts Clamping screw	Parts Wrench	Torque (N·m)
New MINI *E05G-SWUBR/L03-D060	●	●	6	5	3	90	10	4.8			-13°					
New MINI *E06H-SWUBR/L03-D070	●	●	7	6	3.5	100	12	5.75	-	0°	-12°	0.4	WB□□0301	CSTB-2	T-6F	0.6
New MINI *E07H-SWUBR/L03-D080	●	●	8	7	4	100	14	6.75			-11°					
E08K-SWUBR03-D060	●		6	8	3.1	125	30	7.5	-	0°	-12°	0.4	WB□□0301	CSTB-2	T-6F	0.6
E08K-SWUBR03-D070	●		7	8	3.6	125	40	7.5	-	0°	-12°	0.4				

When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SWUBL □□ type), and the left hand insert (L) is used for the right hand toolholders (SWUBR □□ type).

SEZPR/L Internal retracting S-type (Positive, screw-on)





Right hand (R) shown

Steel shank

Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts Clamping screw	Parts Wrench	Torque (N·m)
New MINI **A04F-SEZPR/L03-D055**	●	●	5.5	4	3.2	80	4	3.8	1.2	0°	-8°	0.2	EP□□03X1	CSTA-1.6	T-6F	0.6
New MINI **A05F-SEZPR/L03-D065**	●	●	6.5	5	3.7	80	5	4.8			-6°					

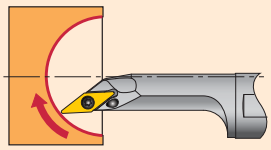
Carbide shank

Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts Clamping screw	Parts Wrench	Torque (N·m)
New MINI **E04G-SEZPR/L03-D055**	●	●	5.5	4	3.2	90	5	3.8	1.2	0°	-8°	0.2	EP□□03X1	CSTA-1.6	T-6F	0.6
New MINI **E05G-SEZPR/L03-D065**	●	●	6.5	5	3.7	90	6	4.8			-6°					

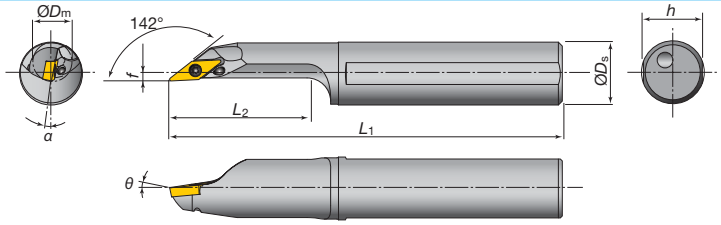
When using a right or left hand insert, the right hand insert (R) is used for the right hand toolholders (SEZPR □□ type), and the left hand insert (L) is used for the left hand toolholders (SEZPL □□ type).

● : Stocked items

SVJBR/L Internal sphere cutting S-type (Positive, screw-on)



Cutting edge style J



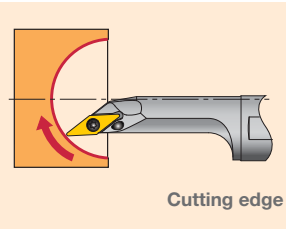
Right hand (R) shown

Steel shank

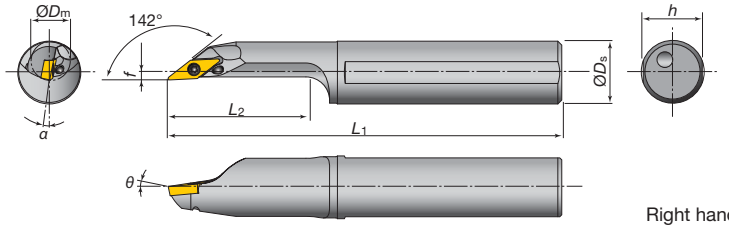
Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts Clamping screw	Parts Wrench	Torque (N·m)
A20R-SVJBR/L11-D250	●	●	25	20	2	200	40	18	-	-5°	-5°	0.4	VB□□1103	CSTB-2.5	T-8F	1.2
A25S-SVJBR/L11-D300	●	●	30	25	3.5	250	50	23	-	-5°	-5°	0.4				

When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SVJBL □□ type), and the left hand insert (L) is used for the right hand toolholders (SVJBR □□ type).

SVJCR/L Internal sphere cutting S-type (Positive, screw-on)



Cutting edge style J



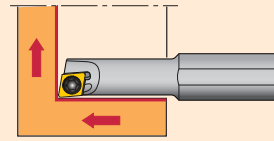
Right hand (R) shown

Steel shank

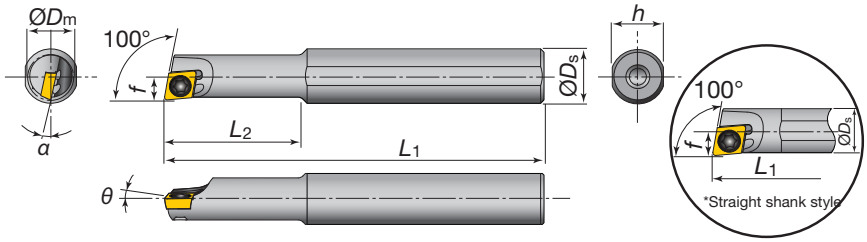
Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts Clamping screw	Parts Wrench	Torque (N·m)
A12M-SVJCR/L08-D160	●	●	16	12	2	150	28	11	-	-5°	-5°	0.4	VC□□0802	CSTB-2L	T-6F	0.6
A16Q-SVJCR/L08-D200	●	●	20	16	2	180	35	15	-	-5°	-5°	0.4				

When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SVJCL □□ type), and the left hand insert (L) is used for the right hand toolholders (SVJCR □□ type).

SEXPR/L Boring & internal facing S-type (Positive, screw-on)



Cutting edge style X



Right hand (R) shown

Steel shank

Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts Clamping screw	Parts Wrench	Torque (N·m)
New MINI *A04F-SEXPR/L03-D045	●	●	4.5	4	2.3	80	8	3.8	-	0°	-15°	0.2	EP□□03X1	CSTA-1.6	T-6F	0.6
New MINI *A04F-SEXPR/L03-D050	●	●	5	4	2.5	80	8	3.8	-	0°	-13°	0.2				
New MINI *A05F-SEXPR/L04-D055	●	●	5.5	5	2.75	80	9	4.8	-	0°	-12°	0.4	EP□□0401	CSTB-2	T-6F	0.6
New MINI *A06G-SEXPR/L04-D070	●	●	7	6	3.6	90	11	5.75	-	0°	-12°	0.4	EP□□0401	CSTB-2	T-6F	0.6
A08H-SEXPR/L04-D055	●	●	5.5	8	2.75	100	16	7.5	-	0°	-12°	0.4	EP□□0401	CSTB-2	T-6F	0.6
A08H-SEXPR/L04-D070	●	●	7	8	3.6	100	20	7.5	-	0°	-12°	0.4				0.6

Carbide shank

Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts Clamping screw	Parts Wrench	Torque (N·m)
New MINI *E04G-SEXPR/L03-D045	●	●	4.5	4	2.3	90	9	3.8	-	0°	-15°	0.2	EP□□03X1	CSTA-1.6	T-6F	0.6
New MINI *E04G-SEXPR/L03-D050	●	●	5	4	2.5	90	9	3.8	-	0°	-13°	0.2				
New MINI *E05G-SEXPR/L04-D055	●	●	5.5	5	2.75	90	10	4.8	-	0°	-12°	0.4	EP□□0401	CSTB-2	T-6F	0.6
New MINI *E06H-SEXPR/L04-D070	●	●	7	6	3.6	100	12	5.75	-	0°	-12°	0.4	EP□□0401	CSTB-2	T-6F	0.6
E08K-SEXPR/L04-D055	●	●	5.5	8	2.75	125	28	7.5	-	0°	-12°	0.4	EP□□0401	CSTB-2	T-6F	0.6
E08K-SEXPR/L04-D070	●	●	7	8	3.6	125	40	7.5	-	0°	-12°	0.4				0.6

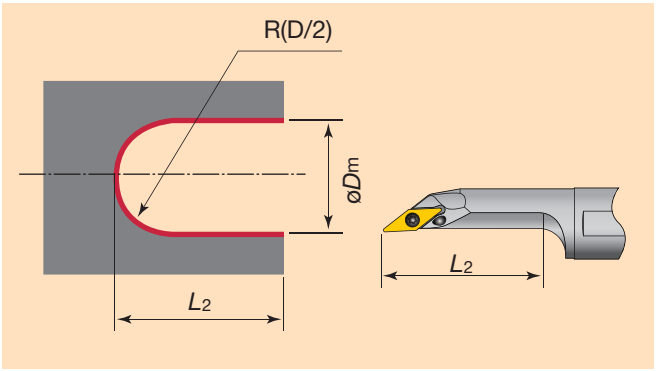
When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SEXPL □□ type), and the left hand insert (L) is used for the right hand toolholders (SEXPR □□ type).

● : Stocked items

How to use SVJC(B)R/L-type tools

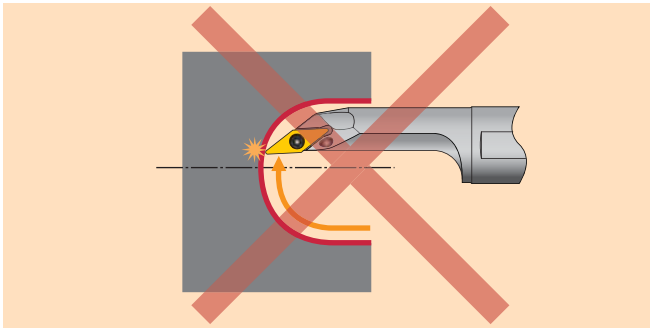
General machining information

The minimum machinable radius (R) of the internal sphere is 1/2 of the minimum bore diameter (øD_m).
The maximum machinable depth of the bore is within the L_2 size of the tool.

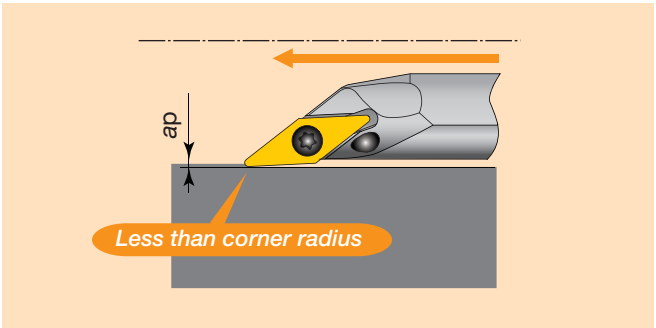


Cautionary points

To avoid insert breakage the tool point should not overrun the bore center.



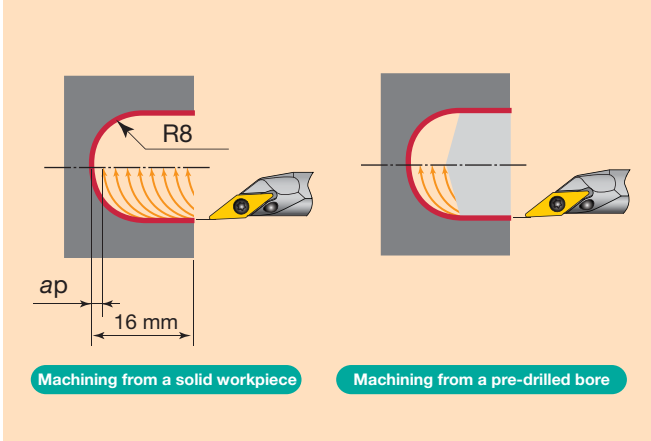
To avoid burr, the depth of cut should be within the corner radius.



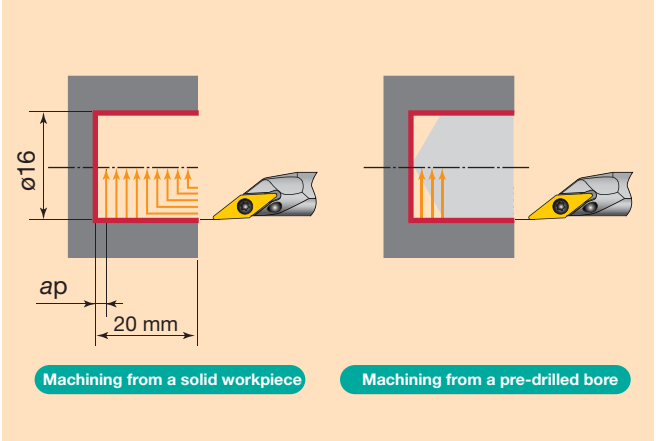
Machining examples

Machining of internal sphere

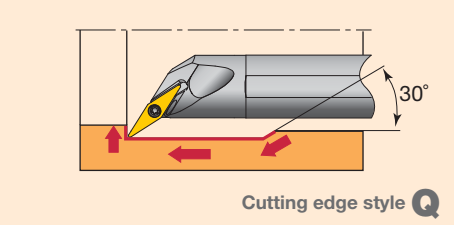
Work material : S45C
Toolholder : A12M-SVJCR08-D160
Insert : VCMT080204-PF (NS730)
Cutting speed : Vc = ~ 100 m/min
No of revs. : n = 3000 min^{-1} (constant)
Feed : f = 0.1 mm/rev
Depth of cut : ap = 0.5 mm

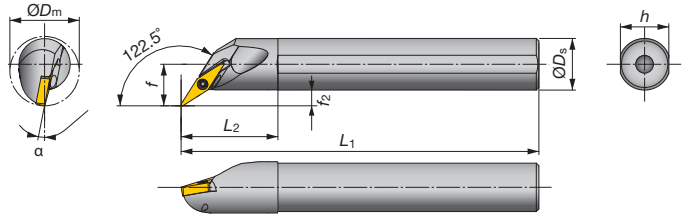


Work material : S45C
Toolholder : A12M-SVJCR08-D160
Insert : VCMT080204-PF (T9015)
Cutting speed : Vc = ~ 100 m/min
No of revs. : n = 3000 min^{-1} (constant)
Feed : f = 0.1 mm/rev
: f = 0.05 mm/rev (only for plunging)
Depth of cut : ap = 0.5 mm



SYQBR/L Internal undercut & profiling — S-type (Positive, screw-on)





Steel shank

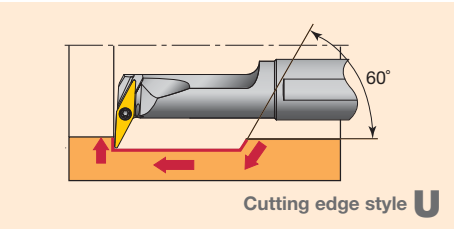
Right hand (R) shown

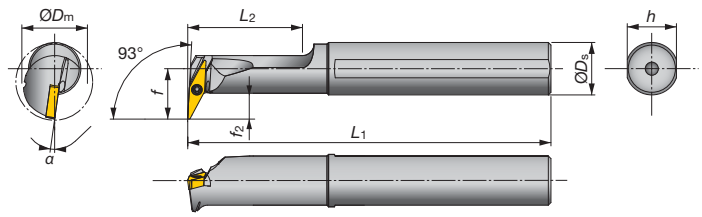
Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts Clamping screw	Parts Wrench	Torque (N·m)
A12M-SYQBR/L11-D170	●	●	17	12	10.5	150	24	11	4.5	-5°	-10°	0.4	YW□□11T2	CSTB-2L	T-6F	0.6
A16Q-SYQBR/L11-D215	●	●	21.5	16	13	180	30	15	5	-5°	-8°	0.4				

Carbide shank

Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts Clamping screw	Parts Wrench	Torque (N·m)
E12Q-SYQBR/L11-D170	●	●	17	12	10.5	180	27	11	4.5	-5°	-10°	0.4	YW□□11T2	CSTB-2L	T-6F	0.6
E16R-SYQBR/L11-D215	●	●	21.5	16	13	200	32	15	5	-5°	-8°	0.4				

SYUBR/L Boring & internal profiling — S-type (Positive, screw-on)





Steel shank

Right hand (R) shown

Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts Clamping screw	Parts Wrench	Torque (N·m)
A16Q-SYUBR/L11-D200	●	●	20	16	15.5	180	35	15	8	0°	-8°	0.4	YW□□11T2	CSTB-2L	T-6F	0.6

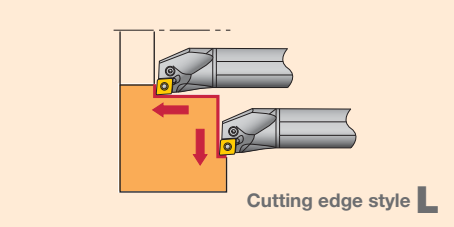
Carbide shank

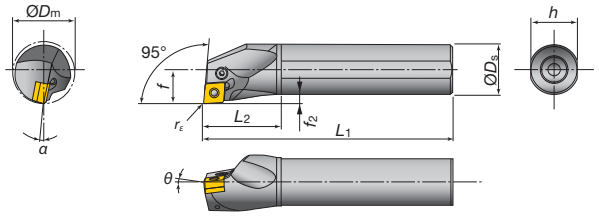
Toolholder Cat. No.	Stock R	Stock L	Min bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts Clamping screw	Parts Wrench	Torque (N·m)
E12Q-SYUBR/L11-D200	●	●	20	12	13.5	180	27	11	7.5	0°	-8°	0.4	YW□□11T2	CSTB-2L	T-6F	0.6
E16R-SYUBR/L11-D245	●	●	24.5	16	16	200	32	15	8	0°	-8°	0.4				

● : Stocked items

Internal toolholders, negative type

PCLNR/L Boring & internal facing — P-type (Negative, Lever-lock)





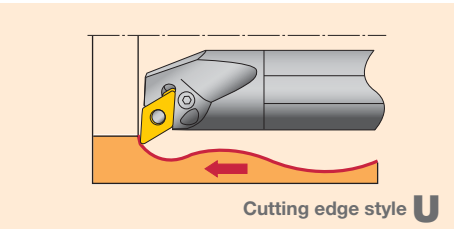
Right hand (R) shown

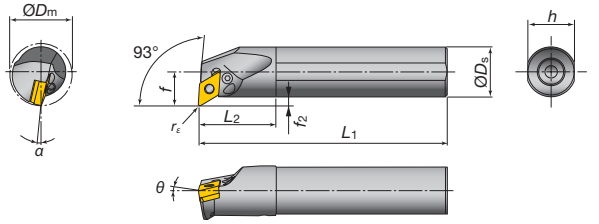
Steel shank

Toolholder Cat. No.	Stock R	Stock L	Min. bore dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts: Shim	Lever	Clamping screw	Spring pin	Wrench	Oil supply attachment	Screw for oil hole	Torque (N·m)
A16M-PCLNR/L09-D200	●	●	20	16	11	150	32	15	3	-6°	-14°	0.8	CN□□0903	-	LCL32N	LCS22A	-	P-2F	-	SSHM3-4	1.7
A20Q-PCLNR/L09-D250	●	●	25	20	13	180	36	18	3	-6°	-12°	0.8							EA-20		
A25R-PCLNR/L09-D320	●	●	32	25	17	200	45	23	4.5	-6°	-11°	0.8							EA-25	SSHM5-6	
A25R-PCLNR/L12-D320	●	●	32	25	17	200	45	23	4.5	-6°	-13°	0.8	CN□□1204	-	LCL43N	LCS43	-	P-2.5	EA-25	SSHM5-6	2.7
A32S-PCLNR/L12-D400	●	●	40	32	22	250	50	30	6	-6°	-11°	0.8		LSC42BR/L	LCL4	LCS4	LSP4	P-3	EA-32		4.8
A40T-PCLNR/L12-D500	●	●	50	40	27	300	60	37	7	-6°	-10°	0.8							-	SSHM6-6	
A50U-PCLNR/L12-D630	●	●	63	50	35	350	65	47	10	-6°	-8°	0.8									

When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (PCLNL □□ type), and the left hand insert (L) is used for the right hand toolholders (PCLNR □□ type).

PDUNR/L Internal profiling — P-type (Negative, Lever-lock)





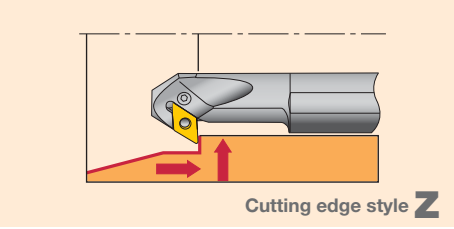
Right hand (R) shown

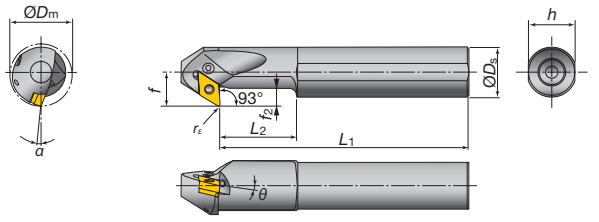
Steel shank

Toolholder Cat. No.	Stock R	Stock L	Min. bore dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts: Shim	Lever	Clamping screw	Spring pin	Wrench	Oil supply attachment	Screw for oil hole	Torque (N·m)
A20Q-PDUNR/L11-D250	●	●	25	20	13	180	36	18	3	-6°	-14°	0.8	DN□□1104	-	LCL33NL	LCS22A	-	P-2F	EA-20	SSHM2.5-3	1.7
A25R-PDUNR/L11-D320	●	●	32	25	17	200	45	23	4.5	-6°	-12°	0.8		ELSD317BR/L	LCL33L	LCS3	LSP3	P-2.5	EA-25	SSHM3-4	2.7
A32S-PDUNR/L15-D400	●	●	40	32	22	250	50	30	6	-6°	-13°	0.8	DN□□1504	LSD42BR/L	LCL4	LCS4	LSP4	P-3	EA-32	SSHM5-6	4.8
A40T-PDUNR/L15-D500	●	●	50	40	27	300	60	37	7	-6°	-10°	0.8							-	SSHM6-6	
A50U-PDUNR/L15-D630	●	●	63	50	35	350	65	47	10	-6°	-8°	0.8									
A32S-PDUNR/L1506-D400	●	●	40	32	22	250	50	30	6	-6°	-13°	0.8	DN□□1506	ELSD42	LCL44	ELCS4	LSP4S	P-3	EA-32	SSHM5-6	4.8
A40T-PDUNR/L1506-D500	●	●	50	40	27	300	60	37	7	-6°	-11°	0.8							-	SSHM6-6	
A50U-PDUNR/L1506-D630	●	●	63	50	35	350	65	47	10	-6°	-10°	0.8									

When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (PDUNL □□ type), and the left hand insert (L) is used for the right hand toolholders (PDUNR □□ type).

PDZNR/L Internal retracting — P-type (Negative, Lever-lock)





Right hand (R) shown

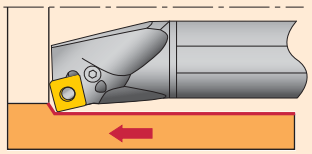
Steel shank

Toolholder Cat. No.	Stock R	Stock L	Min. bore dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts: Shim	Lever	Clamping screw	Spring pin	Wrench	Oil supply attachment	Screw for oil hole	Torque (N·m)
A32S-PDZNR/L15-D400	●	●	40	32	22	250	50	30	11.5	-6°	-13°	0.8	DN□□1504	LSZ42BR/L	LCL4	LCS4	LSP4	P-3	EA-32	SSHM4-5	4.8
A40T-PDZNR/L15-D500	●	●	50	40	27	300	60	37	14.5	-6°	-10°	0.8							-	SSHM5-6	
A50U-PDZNR/L15-D630	●	●	63	50	35	350	65	47	14.5	-6°	-8°	0.8								SSHM6-6	

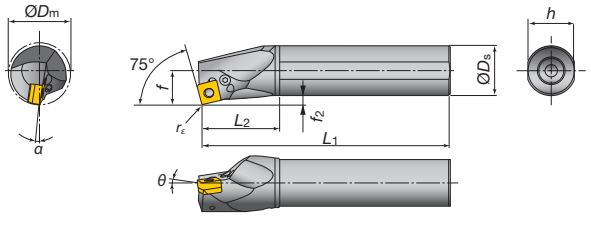
When using a right or left hand insert, the right hand insert (R) is used for the right hand toolholders (PDZNR □□ type), and the left hand insert (L) is used for the left hand toolholders (PDZNL □□ type).

● : Stocked items

PSKNR/L Through boring — P-type (Negative, Lever-lock)



Cutting edge style **K**



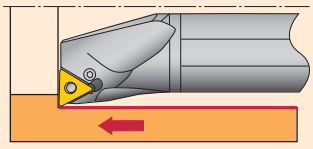
Right hand (R) shown

Steel shank

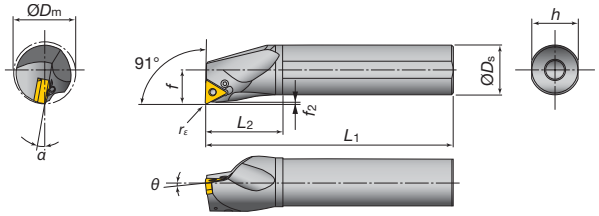
Toolholder Cat. No.	Stock R	Stock L	Min. bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts Shim	Lever	Clamping screw	Spring pin	Wrench	Oil supply attachment	Screw for oil hole	Torque (N·m)
A32S-PSKNR/L12-D400	●	●	40	32	22	250	50	30	6	-6°	-10°	0.8	SN□□1204	LSS42BR/L	LCL4	LCS4	LSP4	P-3	EA-32	SSHM4-5	4.8
A40T-PSKNR/L12-D500	●	●	50	40	27	300	60	37	7	-6°	-10°	0.8							-	SSHM6-6	
A50U-PSKNR/L12-D630	●	●	63	50	35	350	65	47	10	-6°	-8°	0.8									

When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (PSKNL □□ type), and the left hand insert (L) is used for the right hand toolholders (PSKNR □□ type).

PTFNR/L Boring — P-type (Negative, Lever-lock)



Cutting edge style **F**



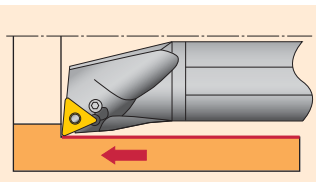
Right hand (R) shown

Steel shank

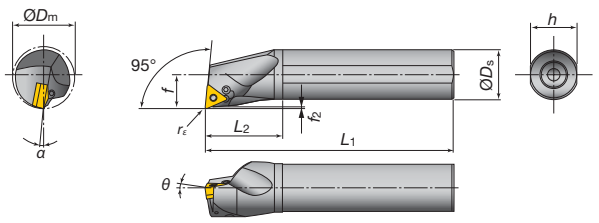
Toolholder Cat. No.	Stock R	Stock L	Min. bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts Shim	Lever	Clamping screw	Spring pin	Wrench	Oil supply attachment	Screw for oil hole	Torque (N·m)
A25R-PTFNR/L16-D320	●	●	32	25	17	200	45	23	1.2	-6°	-12°	0.8	TN□□1604	ELST317BR/L	LCL33	LCS3	LSP3	P-2.5	EA-25	SSHM4-5	2.7
A32S-PTFNR/L16-D400	●	●	40	32	22	250	50	30	1.1	-6°	-10°	0.8							EA-32		
A40T-PTFNR/L16-D500	●	●	50	40	27	300	60	37	1.1	-6°	-10°	0.8		LST317BR/L	LCL3				-	SSHM6-6	
A50U-PTFNR/L16-D630	●	●	63	50	35	350	65	47	1.1	-6°	-8°	0.8									

When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (PTFNL □□ type), and the left hand insert (L) is used for the right hand toolholders (PTFNR □□ type).

PTUNR/L Boring — P-type (Negative, Lever-lock)



Cutting edge style **U**



Right hand (R) shown

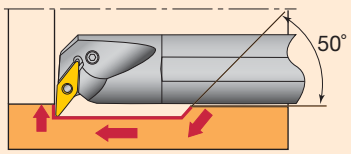
Steel shank

Toolholder Cat. No.	Stock R	Stock L	Min. bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts Shim	Lever	Clamping screw	Spring pin	Wrench	Oil supply attachment	Screw for oil hole	Torque (N·m)
A16M-PTUNR/L11-D200	●	●	20	16	11	150	32	15	1	-6°	-14°	0.4	TN□□1103	-	LCL22N	LCS22A	-	P-2F	-	SSHM3-4	1.7
A20Q-PTUNR/L11-D250	●	●	25	20	13	180	36	18	1	-6°	-12°	0.4							EA-20		
A25R-PTUNR/L16-D320	●	●	32	25	17	200	45	23	1.4	-6°	-12°	0.8	TN□□1604	ELST317BR/L	LCL33	LCS3	LSP3	P-2.5	EA-25	SSHM4-5	2.7
A32S-PTUNR/L16-D400	●	●	40	32	22	250	50	30	1.3	-6°	-10°	0.8		LST317BR/L	LCL3				EA-32		

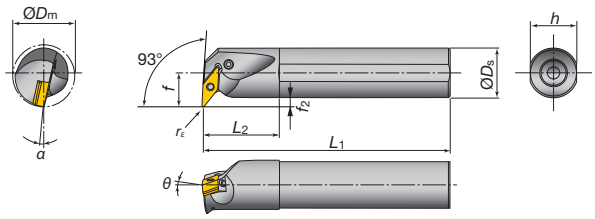
* The insert hole conforms to the ISO standard.
* Tool holder length may be different to the ISO standard.
When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (PTUNL □□ type), and the left hand insert (L) is used for the right hand toolholders (PTUNR □□ type).

● : Stocked items

PVUNR/L Boring & internal profiling — P-type (Negative, Lever-lock)



Cutting edge style U

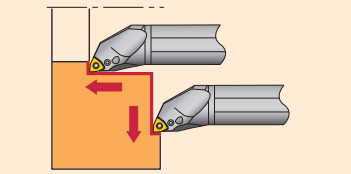


Right hand (R) shown

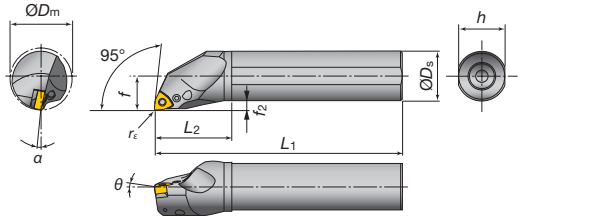
Steel shank

Toolholder Cat. No.	Stock R	Stock L	Min. bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts: Shim	Lever	Clamping screw	Spring pin	Wrench	Oil supply attachment	Screw for oil hole	Torque (N·m)
A25R-PVUNR/L16-D370	●	●	37	25	22	200	45	23	9.5	-5°	-14°	0.8	VN□□1604	LSV317BR/L	LCL3V	LCS3V	LSP3	P-2.5	EA-25	SSHM3-4	2.7
A32S-PVUNR/L16-D400	●	●	40	32	22	250	50	30	6	-5°	-12°	0.8							EA-32		
A40T-PVUNR/L16-D500	●	●	50	40	27	300	60	37	7	-5°	-10°	0.8							-	SSHM5-6	

PWLNR/L Boring & facing — P-type (Negative, Lever-lock)



Cutting edge style L



Right hand (R) shown

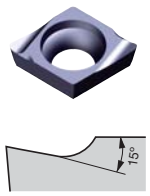
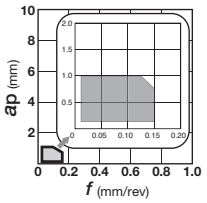
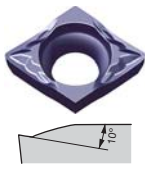
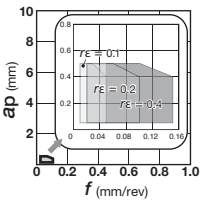
Steel shank

Toolholder Cat. No.	Stock R	Stock L	Min. bore.dia. ØDm	Dimensions (mm) ØDs	f	L1	L2	h	f2	θ	α	Std. corner radius rε	Applicable inserts	Parts: Shim	Lever	Clamping screw	Spring pin	Wrench	Oil supply attachment	Screw for oil hole	Torque (N·m)
A16M-PWLNR/L06-D200	●	●	20	16	11	150	32	15	3	-8°	-17°	0.8	WN□□0604	-	LCL33N	LCS33	-	P-2F	-	SSHM3-4	1.7
A20Q-PWLNR/L06-D250	●	●	25	20	13	180	36	18	3	-6°	-14°	0.8		-			-		EA-20		
A25R-PWLNR/L06-D320	●	●	32	25	17	200	45	23	4.5	-6°	-12°	0.8		LSW312BR/L	LCL3	LCS3B	LSP3	P-2.5	EA-25	SSHM5-6	2.7
A32S-PWLNR/L06-D400	●	●	40	32	22	250	50	30	6	-6°	-11°	0.8				LCS3		P-2.5	EA-32		
A25R-PWLNR/L08-D320	●	●	32	25	17	200	45	23	4.5	-6°	-13°	0.8	WN□□0804	-	LCL43N	LCS43	-	P-2.5	EA-25	SSHM5-6	2.7
A32S-PWLNR/L08-D400	●	●	40	32	22	250	50	30	6	-6°	-11°	0.8		LSW42BR/L	LCL4	LCS4	LSP4	P-3	EA-32		4.8
A40T-PWLNR/L08-D500	●	●	50	40	27	300	60	37	7	-6°	-10°	0.8							-	SSHM6-6	

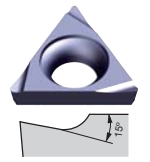
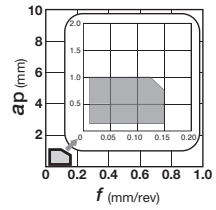
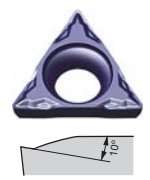
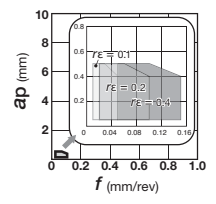
● : Stocked items

Inserts for small diameter applications

80° Rhombic, 7° positive with hole

Application	Chipbreaker Appearance (Cross section)	f - a_p	Insert Cat. No. (Metric)	Dimensions (mm) I.C. dia. ød	Thickness s	Hole dia. (Ø) ød1	Corner radius r_ε	Grades Coated SH730	Grades Carbide TH10
Finishing	W08 (G) 		CCGT03X100R-W08	3.57	1.39	1.9	0.03	●	●
			CCGT03X100L-W08					●	●
			CCGT03X101R-W08				0.10	●	●
			CCGT03X101L-W08					●	●
			CCGT03X102R-W08				0.20	●	●
			CCGT03X102L-W08					●	●
			CCGT03X104R-W08				0.40	●	●
			CCGT03X104L-W08					●	●
			CCGT04T100R-W08	4.37	1.79	2.3	0.03	●	●
			CCGT04T100L-W08					●	●
			CCGT04T101R-W08				0.10	●	●
			CCGT04T101L-W08					●	●
			*CCGT04T102R-W08				0.20	●	●
			CCGT04T102L-W08					●	●
			CCGT04T104R-W08				0.40	●	●
			CCGT04T104L-W08					●	●
	JS (G) 		CCGT03X101-JS	3.57	1.39	1.9	0.10	●	
			CCGT03X102-JS				0.20	●	
			CCGT03X104-JS				0.40	●	
			*CCGT04T101-JS	4.37	1.79	2.3	0.10	●	
			CCGT04T102-JS				0.20	●	
			CCGT04T104-JS				0.40	●	

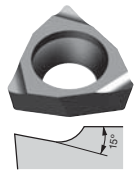
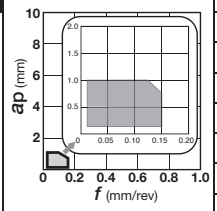
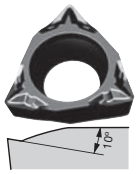
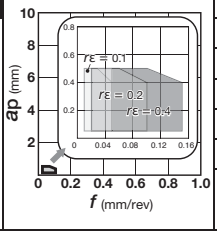
60° Triangular, 11° positive with hole

Application	Chipbreaker Appearance (Cross section)	f - a_p	Insert Cat. No. (Metric)	Dimensions (mm) I.C. dia. ød	Thickness s	Hole dia. (Ø) ød1	Corner radius r_ε	Grades Coated SH730	Grades Carbide TH10
Finishing	W08 (G) 		TPGT070100R-W08	4.37	1.59	2.58	0.03	●	●
			TPGT070100L-W08					●	●
			TPGT070101R-W08				0.10	●	●
			TPGT070101L-W08					●	●
			TPGT070102R-W08				0.20	●	●
			TPGT070102L-W08					●	●
			TPGT070104R-W08				0.40	●	●
			*TPGT070104L-W08					●	●
	JS (G) 		*TPGT070101-JS	4.37	1.59	2.58	0.10	●	
			TPGT070102-JS				0.20	●	
			TPGT070104-JS				0.40	●	

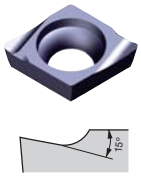
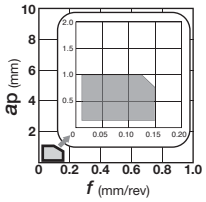
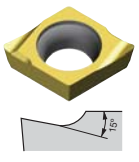
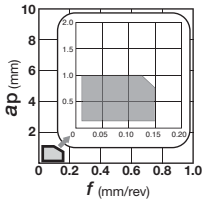
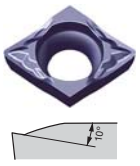
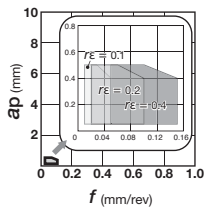
Note: Chipbreaker cross-sections are of * marked inserts.

● : Stocked items

80° Hexagon, 5° positive with hole

Application	Chipbreaker Appearance (Cross section)	f - a_p	Insert Cat. No. (Metric)	Dimensions (mm)				Grades				
								Coated		Cermet	Carbide	
				I.C. dia. ød	Thickness s	Hole dia. (Ø) ød1	Corner radius r_ε	SH730	GH110	NS530	TH10	UX30
Finishing	**W08 (G)** 		WBGT030100R-W08	3.97	1.59	2.3	0.03	●				
			WBGT030100L-W08					●		●	●	●
			WBGT030101R-W08				0.10	●				
			WBGT030101L-W08					●			●	
			*WBGT030102R-W08				0.20	●				
			WBGT030102L-W08					●	●	●	●	●
			WBGT030104R-W08				0.40	●				
			WBGT030104L-W08					●	●	●	●	●
	JS (G) 		*WBGT030101R-JS	3.97	1.59	2.3	0.10	●				
			WBGT030101L-JS					●				
			WBGT030102R-JS				0.20	●				
			WBGT030102L-JS					●				
			WBGT030104R-JS				0.40	●				
			WBGT030104L-JS					●				

75° Rhombus, 11° positive with hole

Application	Chipbreaker Appearance (Cross section)	f - a_p	Insert Cat. No. (Metric)	Dimensions (mm)				Grades						
								Coated			Cermet		Carbide	
				I.C. dia. ød	Thickness s	Hole dia. (Ø) ød1	Corner radius r_ε	SH730	J740	GH110	NS530	GT530	TH10	UX30
Finishing	**W08 (G)** 		EPGT03X100R-W08	3.57	1.39	1.9	0.03	●					●	
			EPGT03X100L-W08					●					●	
			EPGT03X101R-W08				0.10	●					●	
			EPGT03X101L-W08					●					●	
			*EPGT03X102R-W08				0.20	●					●	
			EPGT03X102L-W08					●					●	
			EPGT03X104R-W08				0.40	●					●	
			EPGT03X104L-W08					●					●	
			EPGT040100R-W08	3.97	1.59	2.3	0.03	●					●	
			EPGT040100L-W08					●		●	●		●	
			EPGT040101R-W08				0.10	●					●	
			EPGT040101L-W08					●					●	
			EPGT040102R-W08				0.20	●		●	●		●	
			EPGT040102L-W08					●		●	●	●	●	●
			EPGT040104R-W08				0.40	●		●	●		●	
			EPGT040104L-W08					●		●	●	●	●	●
	J08 (G) 		EPGT040100L-J08	3.97	1.59	2.3	0.03	●	●					
			*EPGT040102L-J08				0.20	●	●					
			EPGT040104L-J08				0.40	●	●					
	JS (G) 		EPGT03X101-JS	3.57	1.39	1.9	0.10	●						
			EPGT03X102-JS				0.20	●						
			EPGT03X104-JS				0.40	●						
			*EPGT040101-JS	3.97	1.59	2.3	0.10	●						
			EPGT040102-JS				0.20	●						
			EPGT040104-JS				0.40	●						

Note: Chipbreaker cross-sections are of * marked inserts.

● : Stocked items

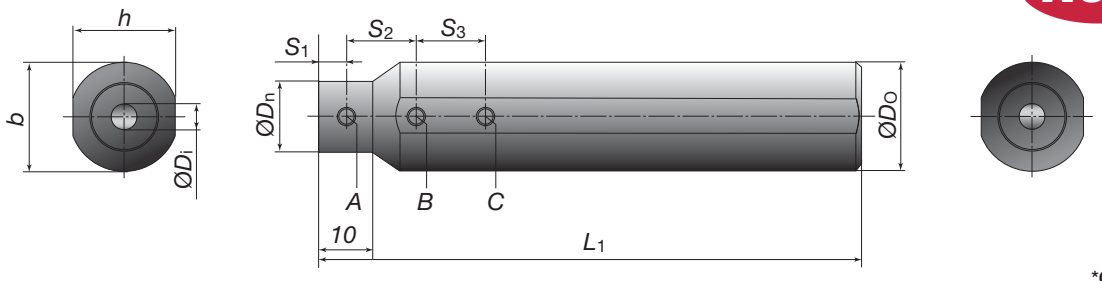
Standard cutting conditions

Work materials	Chip-breaker	Grades	Cutting Speed *Vc* (m/min)	Depth of cut *ap* (mm)	Feed *f* (mm/rev)			
					R0.03	R0.1	R0.2	R0.4
Steels S45C, SCM435 etc. (C45, 35CrMo4 etc.)	**W08** **J08**	**SH730**	50 - **100** - 150	0.05 - **0.5** - 1.0	0.005 ~ **0.01** ~ 0.02	0.01 ~ **0.03** ~ 0.05	0.02 ~ **0.06** ~ 0.10	0.05 ~ **0.10** ~ 0.15
Stainless steels SUS303, SUS304 etc. (X10CrNiS18-9 etc.)	**W08**		30 - **100** - 150					
Grey cast irons **Ductile cast irons** FC250, FCD450 etc. (GG25, GGG45 etc.)		**TH10**	30 - **70** - 100					
Aluminium alloys **Copper alloys** Si < 13%			100 - **300** - 500					
Titanium **Titanium alloys** Ti-6Al-4V etc.		**SH730**	30 - **60** - 100					

Sleeves

BLM type (Round shank for Stream Jet Bar MINI)

New

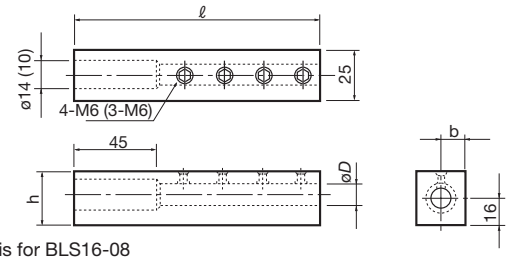


*Optional

Cat. No.	Stock	Dimensions (mm)									Replacement parts				
											Clamping screws			Wrench	Seal cap* (Inner screw)
		øDo	øDi	øDn	L1	h	b	S1	S2	S3	A	B	C		
BLM159-04	●	15.875	4	15	100	15	15.875	5	15	15	SSHM4-4	SSHM4-4	SSHM4-4	P-2	CA-16 (M6)
BLM159-05	●		5												
BLM159-06	●		6						20	20					
BLM159-07	●		7												
BLM16-04	●	16	4	15	100	15	16	5	15	15	SSHM4-4	SSHM4-4	SSHM4-4	P-2	CA-16 (M6)
BLM16-05	●		5												
BLM16-06	●		6						20	20					
BLM16-07	●		7												
BLM19-04	●	19.05	4	18	100	18	19.05	5	15	15	SSHM4-4	SSHM4-6	SSHM4-6	P-2	CA-16 (M6)
BLM19-05	●		5									SSHM4-4	SSHM4-4		
BLM19-06	●		6						20	20					
BLM19-07	●		7												
BLM20-04	●	20	4	13	100	19	20	5	15	15	SSHM4-4	SSHM4-6	SSHM4-6	P-2	CA-16 (M6)
BLM20-05	●		5	14											
BLM20-06	●		6	15					20	20		SSHM4-4	SSHM4-4		
BLM20-07	●		7	16											
BLM22-04	●	22	4	13	125	21	22	5	15	15	SSHM4-4	SSHM4-6	SSHM4-6	P-2	CA-16 (M6)
BLM22-05	●		5	14											
BLM22-06	●		6	15					20	20					
BLM22-07	●		7	16											
BLM25-04	●	25	4	13	125	24	25	5	15	15	SSHM4-4	SSHM4-8	SSHM4-8	P-2	CA-16 (M6)
BLM25-05	●		5	14											
BLM25-06	●		6	15					20	20					
BLM25-07	●		7	16								SSHM4-6	SSHM4-6		
BLM254-04	●	25.4	4	13	125	24	25.4	5	15	15	SSHM4-4	SSHM4-8	SSHM4-8	P-2	CA-16 (M6)
BLM254-05	●		5	14											
BLM254-06	●		6	15					20	20					
BLM254-07	●		7	16								SSHM4-6	SSHM4-6		

● : Stocked items

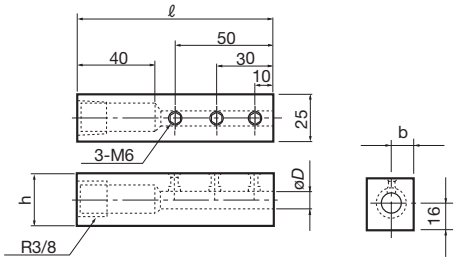
BLS type (Square shank)



( ) is for BLS16-08

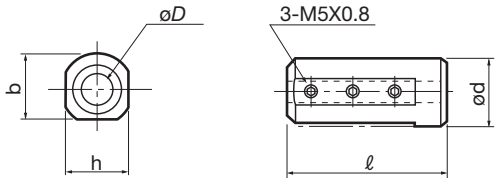
Cat. No.	Stock	Applicable shank dia. øD	Dimensions (mm)		
			ℓ	h	b
BLS16-08	●	8	125	28	12.5
BLS16-10	●	10			
BLS16-12	●	12			

BLS-C type (Square shank)



Cat. No.	Stock	Applicable shank dia. øD	Dimensions (mm)		
			ℓ	h	b
BLS16-08C	●	8	100	28	12.5
BLS16-10C	●	10			
BLS16-12C	●	12			

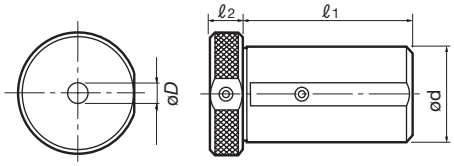
BLM type (Round shank)



Above drawing shows BLM25-**C type.

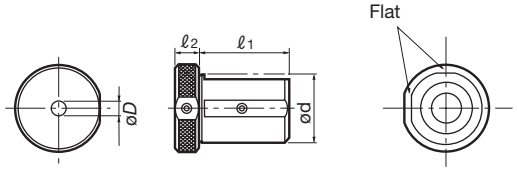
Cat. No.	Stock	Applicable shank dia. øD	Dimensions (mm)			
			ød	ℓ	h	b
BLM19-08	●	8	19.05	100	18	18
BLM20-08	●		20		19	
BLM22-08	●		22	125	21	21
BLM254-08	●		25.4		24	24
BLM25-08C	●		25	55		
BLM25-10C	●	10				23
BLM25-12C	●	12				

BLC type (Standard type)



Cat. No.	Stock	Applicable shank dia. øD	Dimensions (mm)		
			ℓ1	ℓ2	ød
BLC40-8	●	8	73	13	40
BLC40-10	●	10			
BLC40-12	●	12			
BLC40-16	●	16			

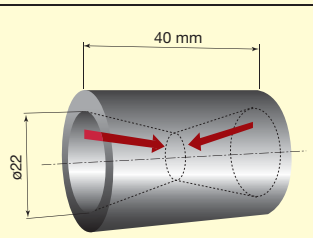
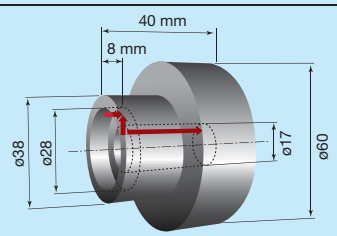
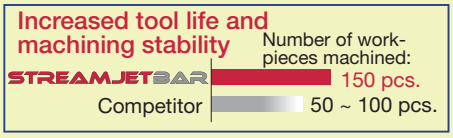
BLC type (Short type)

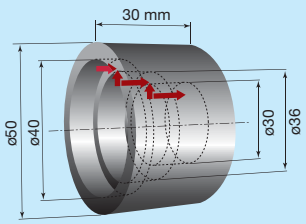
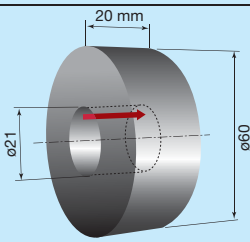
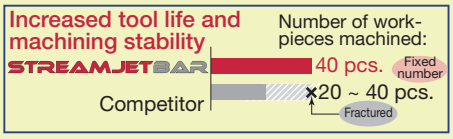
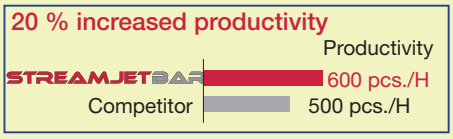


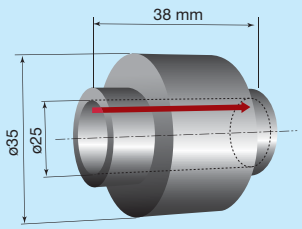
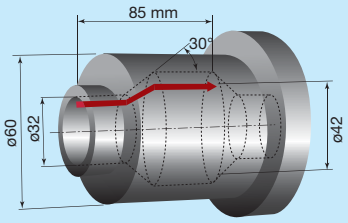
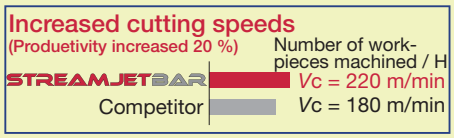
Cat. No.	Stock	Applicable shank dia. øD	Dimensions (mm)		
			ℓ1	ℓ2	ød
BLC32-8C	●	8	45	20	32
BLC32-10C	●	10			
BLC32-12C	●	12			
BLC40-8C	●	8	55	13	40
BLC40-10C	●	10			
BLC40-12C	●	12			
BLC40-16C	●	16			

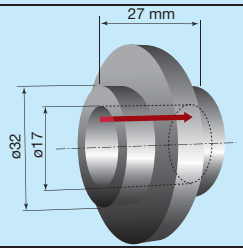
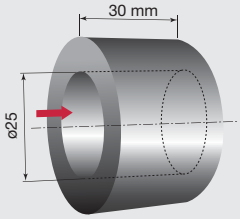
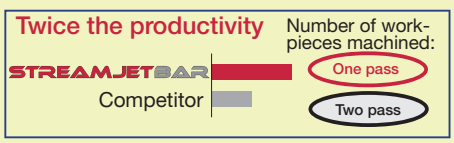
● : Stocked items

Practical examples

Work piece type		Machine parts	Automotive parts
Toolholder		A16Q-STUPR1103-D180	A12M-SDUCR07-D160
Insert		TPMT110308-PS	DCMT070204-PS
Grade		T6030	GT730
Work material		SUS304 (X5CrNi18-9)	S45C (C45)
			
Cutting conditions	Cutting speed: *Vc* (m/min)	120	170
	Feed : *f* (mm/rev)	0.15	0.15
	Depth of cut: *ap* (mm)	0.1 - 3.0	0.25
	Coolant	Water soluble (External supply)	Water soluble (Internal supply)
Results		 When competitor's tools are used, inserts often fractured due to chip re-cutting and tool life is unstable. With excellent chip control, the Stream Jet Bar excels in chip control and eliminates unexpected insert breakage caused by chip re-cutting and delivers consistent tool life. The tool also disposes of chip tangling and gives outstanding chip evacuation when taper boring.	 Compared with the previously used competitor's tool, the tool life was increased by 50 % and the surface finish was also improved. Even when machining the small diameter (ø17) portion, chip control was improved.

Work piece type		Automotive parts	Automotive parts
Toolholder		A16Q-SDUCR07-D200	A16Q-SCLPR09-D180
Insert		DCMT070208-PS	CPMT090308-PS
Grade		GH730	NS730
Work material		SCr420H (20Cr4H)	SCM42HV
			
Cutting conditions	Cutting speed: *Vc* (m/min)	70	185
	Feed : *f* (mm/rev)	0.18	0.15
	Depth of cut: *ap* (mm)	0.2	0.4
	Coolant	Water soluble (Internal supply)	Water soluble (Internal supply)
Results		 Competitor tools often showed unexpected fracture of the cutting edge and tool life was inconsistent. The Stream Jet Bar could suppress unexpected fracture and provide consistently long tool life.	 Competitor's tooling often showed chips tangling around the toolholder resulting in the machine having to be stopped to remove chips. This drastically reduces productivity. The Stream Jet Bar suppressed chip tangling and prevented unnecessary machine stoppages. The productivity per hour was improved by 20 % from 500 pcs./H to 600 pcs./H.

Work piece type		Automotive parts	Machine parts
Toolholder		**A12M-STUPR1103-D140**	**E20S-SDUCR11-D270**
Insert		**TPMT110304-PM**	**DCMT11T304-PS**
Grade		**GH730**	**T9115**
Work material		**S20C (C22)**	**S35C (C35)**
			
Cutting conditions	Cutting speed: ***Vc*** **(m/min)**	220	70 - 160
	Feed : ***f*** **(mm/rev)**	0.2	0.12 - 0.2
	Depth of cut: ***ap*** **(mm)**	0.5	1.0
	Coolant	Water soluble (External supply)	Water soluble (Internal supply)
Results		 Previously the cutting speed was limited to 180 m/min to suppress chatter. When using the Stream Jet Bar, chatter did not occur at speeds up to 220 m/min and the surface finish after machining the same number of parts was superior to those obtained with previous tools. The dimensional accuracy of the machined bore was also improved.	 Compared with a competitor chipbreaker tool for medium cutting, the PS-type chipbreaker improved chip control. Under stable machining, the Stream Jet Bar improved chip evacuation and eliminated insert fracturing caused by chip re-cutting. The result is improved tool life and surface finish.

Work piece type		Automotive parts	Automotive parts
Toolholder		**E12Q-SCLCR06-D140**	**E20S-SDQCR11-D250**
Insert		**CCMT060208-PM**	**2QP-DCGW11T304**
Grade		**T9125**	**BXM10**
Work material		**S45C (C45)**	**S45C (C45 Hardened steels)**
			
Cutting conditions	Cutting speed: ***Vc*** **(m/min)**	200	200
	Feed : ***f*** **(mm/rev)**	0.3	0.06
	Depth of cut: ***ap*** **(mm)**	1.0	0.08
	Coolant	Water soluble (External supply)	Dry
Results		 When using a competitor's tool, roughing and medium finishing processes were needed to machine this component. The high level of rigidity with the Stream Jet Bar allowed one-pass machining. Chip control and surface finish were also improved.	By switching from internal grinding, the productivity was increased due to the shortened machining process. In addition, the machining costs could be reduced by eliminating the grinding-sludge disposal cost.

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