

Chapter Composition of TAC Internal Toolholders

- ◆ Products are arranged by the series as follows: Stream Jet Bars → General purpose TAC boring toolholders
- ◆ In the same series, they are arranged by the insert shape to be used. In the same group, they are arranged by the cutting edge style.

Cat. No. of TAC boring toolholder

Typical application
Main application (such as internal turning, facing, profiling) of the toolholder type is illustrated.

Series name

Designation of toolholder type

Machining type

Minimum bore diameter and shank diameter range

Type of clamping system

Replacement parts

Overview of applicable TAC inserts
These charts indicate basic selection of grades and chipbreaker types by the work material and the application.

Stream Jet Bar S-type

SCLCR/L

Boring & internal facing

Steel Shank

Carbide Shank

Basic Selection Chipbreakers

Dimensions of toolholders

Symbol of stock status

Reference pages of relating items

Applicable TAC inserts

5-12

5-13

- Meaning of icons
- Min. bore diameter
 - Shank diameter
 - Shank material
 - Coolant through
- Min. bore dia.
ø5 mm
- Shank dia.
ø4~25 mm
- Steel Shank
- Carbide Shank
- Tsugar-Ichiban Shank
- Oli Hole

Ordering information

- When ordering TAC boring toolholders, please specify Cat. No. and quantity.
- Example: **A16Q-STUPR1103-D180** 1 piece
- Standard packing quantity is 1 piece
 - Inserts must be ordered separately.

Guidance

■ Designation system for TAC internal toolholders	5-2
■ Outline of new TAC boring toolholder, “DoMiniTurn”	5-4
■ Outline of new TAC boring toolholder, “StreamJetBar”	5-6
■ Clamping mechanism and features of TAC boring toolholders.....	5-9
■ “Stream Jet Bars” overview	5-10
■ Machining method of internal spherical surface	5-26

5 TAC Internal Toolholders

Products

■ “Stream Jet Bar”

● SCLCR/L type	(CC□□ inserts)	Boring & internal facing	5-12
● SCLPR/L type	(CP□□ inserts)	Boring & internal facing	5-14
● SDQCR/L • SDUCR/L type	(DC□□ inserts)	Boring & internal profiling	5-16
● SDZCR/L type	(DC□□ inserts)	Internal retracting	5-17
● SSKPR/L type	(SP□□ inserts)	Through boring	5-18
● STFCR/L type	(TC□□ inserts)	Blind hole boring	5-19
● STFCR/L type	(TP□□ inserts)	Blind hole boring	5-20
● STUPR/L type	(TP□□ inserts)	Boring	5-21
● SVQBR/L • SVUBR/L type	(VB□□ inserts)	Boring & internal profiling	5-22
● SVZBR/L type	(VB□□ inserts)	Internal retracting	5-23
● SVJBR/L type	(VB□□ inserts)	Internal sphere cutting	5-23
● SVQCR/L • SVUCR/L type	(VC□□ inserts)	Boring & internal profiling	5-24
● SVZCR/L type	(VC□□ inserts)	Internal retracting	5-25
● SVJCR/L type	(VC□□ inserts)	Internal sphere cutting	5-25
● SWUBR/L type	(WB□□ inserts)	Boring	5-27
● SEZPR/L type	(EP□□ inserts)	Internal retracting	5-28
● SEXPR/L type	(EP□□ inserts)	Boring & internal facing	5-28
● SYQBR/L type	(YW□□ inserts)	Internal undercut & profiling	5-30
● SYUBR/L type	(YW□□ inserts)	Boring & internal profiling	5-30

■ “DoMiniTurn”

● SWLXR/L type	(WX□□ inserts)	Boring & internal facing	5-31
● SDXXR/L type	(DX□□ inserts)	Boring & internal profiling	5-31
● SDZXR/L type	(DX□□ inserts)	Internal retracting	5-32

■ “Stream Jet Bar”

● PCLNR/L type	(CN□□ inserts)	Boring & internal facing	5-34
● PDUNR/L type	(DN□□ inserts)	Internal profiling	5-35
● PDZNR/L type	(DN□□ inserts)	Internal retracting	5-35
● PSKNR/L type	(SN□□ inserts)	Through boring	5-36
● PTFNR/L • PTUNR/L type	(TN□□ inserts)	Boring	5-37
● PVUNR/L type	(VN□□ inserts)	Boring & internal profiling	5-38
● PWLNR/L type	(WN□□ inserts)	Boring & facing	5-39

■ “Turning A”

● ACLNR/L type	(CN□□ inserts)	Boring & internal facing	5-40
● ADUNR/L type	(DN□□ inserts)	Boring & internal facing	5-41
● ASKNR/L type	(SN□□ inserts)	Through boring	5-42
● ATFNR/L type	(TN□□ inserts)	Blind hole boring	5-43
● AVUNR/L type	(VN□□ inserts)	Boring & internal profiling	5-44
● AWLNR/L type	(WN□□ inserts)	Boring & internal facing	5-45

■ “TurnTec”

● TLANR/L type	(LNMX inserts)	Boring & internal facing	5-46
----------------	----------------	--------------------------------	------

■ General purpose

● TAC boring toolholders	(TP□□, TN□□ inserts)	Boring / blind hole boring	5-48
● TAC boring toolholders	(TP□□, TN□□ inserts)	Boring	5-51
● TAC boring toolholders	(WB□□ inserts)	Boring	5-54
● TAC boring toolholders	(C□□□ inserts)	Boring / internal facing	5-55
● TAC boring toolholders	(WN□□ inserts)	Boring / internal facing	5-58
● TAC boring toolholders	(EP□□, SP□□ inserts)	Boring / internal facing	5-59
● TAC boring toolholders	(SN□□ inserts)	Boring / through boring	5-59
● TAC boring toolholders	(DC□□, DN□□ inserts)	Boring / internal profiling	5-62
● TAC boring toolholders	(VB□□, VC□□ inserts)	Boring / internal profiling	5-65
● TAC boring toolholders	(DC□□, DN□□ inserts)	Boring / internal retracting	5-67

■ Sleeves	5-68
-----------------	------

1

2

3

4

5

6

7

8

9

10

11

12

13

14

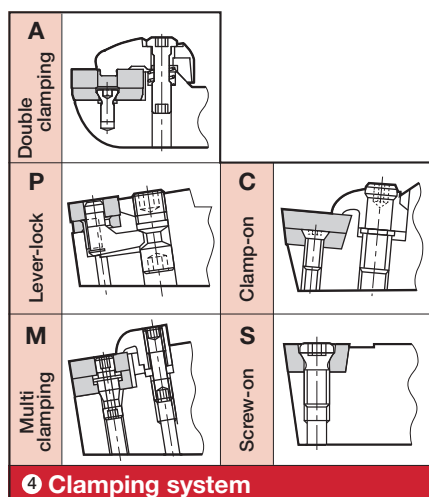
15

16

Designation System for TAC Internal Toolholders

5

TAC Internal Toolholders



C		80° Rhombic
D		55° Rhombic
K		55° Parallelogram
R		Round
S		Square
T		Triangular
V		35° Rhombic
Y		25° Rhombic (Non ISO)
W		Trigon

5 Insert shape

A

12

M

-

S

T

1 Bar composition	
A	Steel shank with oil hole
E	Carbide shank with steel head & oil hole
C	Carbide shank with steel head
S	Steel shank
T	Steel shank reinforced with carbide plates ("Tsuppari-Ichiban")
JS	J series Steel shank

2 Bar diameter
Bar diameter is shown in mm.

3 Toolholder length L_1 (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

Symbol	Style	Offset						
A		Without	G		With	S		With
			J		Without	V		Without
B		Without	K		With	U		With
C		Without	L		With	X*		With
D		Without	N		Without	Y		With
E		Without	P*		Without	Z		Without
F		With	Q*		With	Note *mark: Tungaloy standard No mark: ISO standard		

6 Cutting edge style

C	
B	
N	
P	
X	Special

7 Relief angle of insert

6 U 7 P 8 R 9 11 02 10 C 11 D140

8 Hand of tool	
R	
L	

9 Insert size $\ell + (S)$	
For M, S, & C types conformed to ISO	
ℓ	ℓ
"In ISO metric system, a two digit number indicates the edge length (R) of the insert to be used in mm. If the insert thickness is different for the same edge length, add the thickness symbol (s) (two digit number). In above example, TP□□1102□□ ℓ s	

10 Oil hole
Only "Tsuppari-Ichiban" holder

11 Min. bore diameter (mm)			
Stream Jet Bar		Tsuppari-Ichiban	
D140	ø14.0	D14	ø14.0

Remarkable sharpness reduces cutting forces while the double sided insert increases the number of cutting edges !

Features

5

TAC Internal Toolholders

● Uniquely designed double sided insert

Minimum bore diameter: $\varnothing 12$ mm

→ Economic advantages with twice the number of cutting edges

Advanced edge shape reduces the cutting forces

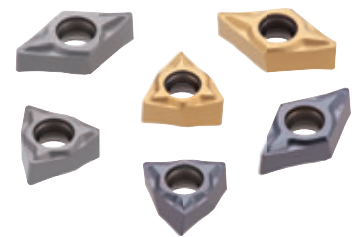
→ Similar design to positive type inserts to prevent chattering

One insert type for shank diameter range from $\varnothing 10$ mm ~ $\varnothing 20$ mm

→ Left & Right handed inserts with G-class accuracy create precision machining

Ideal grade series for various applications

→ **AH725** for general steel cutting, **GT530** with high wear resistance for fine surface finishes and the **NS530** for economic performance



● Originally designed exclusive insert

TS: general purpose

(Recommended for steel machining)



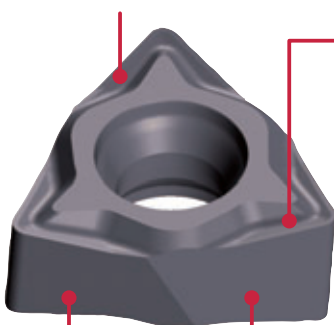
SS: generates low cutting forces

(Recommended for stainless steel machining)



Large inclination on edge

Reduces cutting forces and chattering

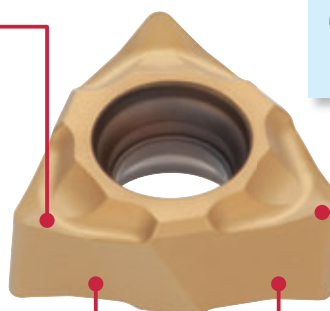


Wide chip-pocket

Prevents chip packing
Prevents the re-cutting of chips

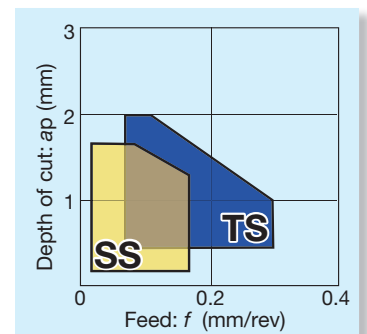
Enhances the clamping rigidity

Uniquely designed shape to precisely fit to the toolholder



Large rake angle and optimum pocket shape

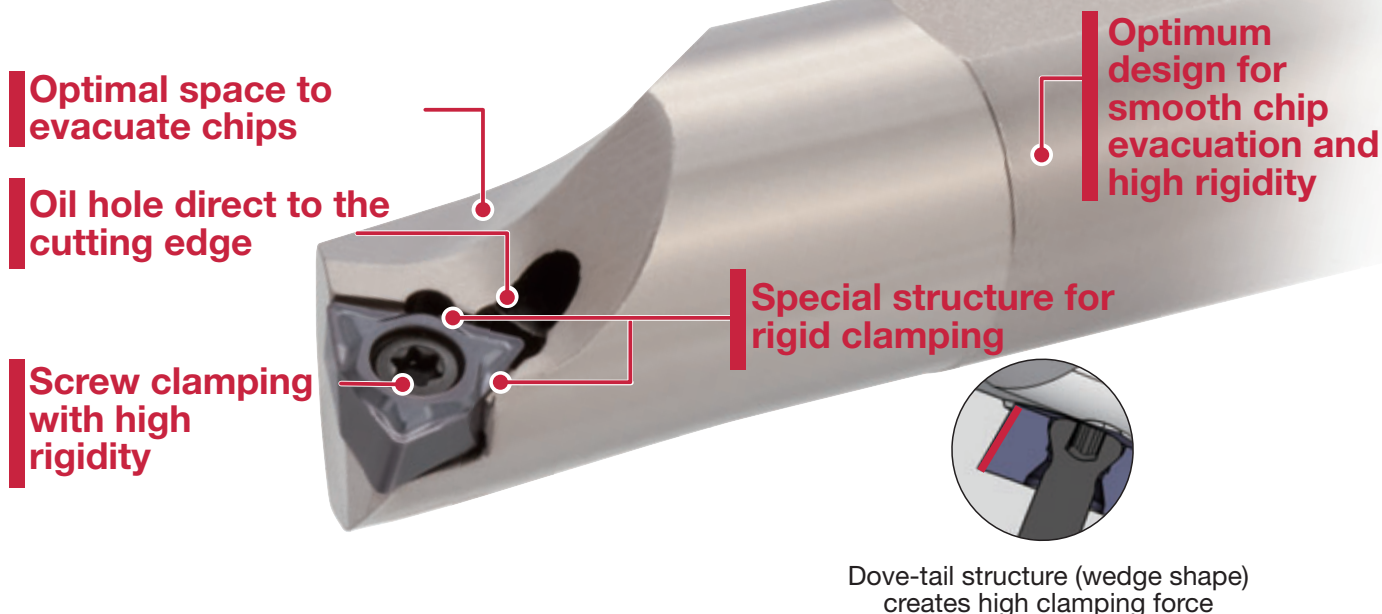
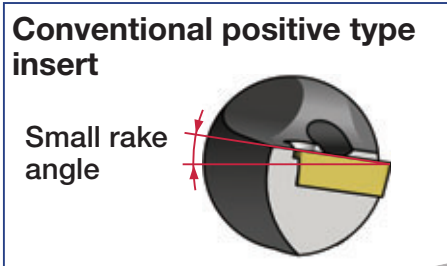
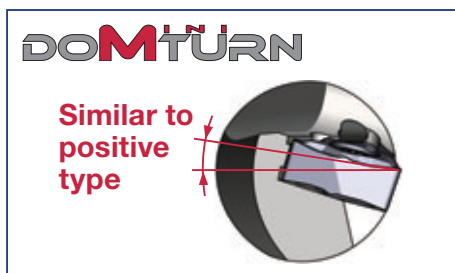
Drastically reduces cutting forces
Smooth chip evacuation



● High performance boring bars with optimum design

Excellent chip evacuation and high rigidity

(Same structure as StreamJetBar series)



5

TAC Internal Toolholders

Cutting performance

Anti-vibration strength

Same strength level as positive type inserts

■ Steel shank

Cutting speed : $V_c = 150$ m/min

Work material : S45C / C45

Coolant : Wet (internal supply)

Overhang length: 36 mm ($L/D = 3$) Shank diameter: $\phi 12$ mm

DOMTURN

Depth of cut: a_p (mm)	2.0	OK	OK	OK	OK
	1.5	OK	OK	OK	OK
	1.0	OK	OK	OK	OK
	0.5	OK	OK	OK	OK
a_p / f	0.05	0.10	0.15	0.20	

Feed: f (mm/rev)

Overhang length

Depth of cut: a_p (mm)	2.0	OK	OK	OK	OK
	1.5	OK	OK	OK	OK
	1.0	OK	OK	OK	OK
	0.5	OK	OK	OK	OK
a_p / f	0.05	0.10	0.15	0.20	

Feed: f (mm/rev)

TAC Internal Toolholders

STREAMJETBAR

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

1 Excellent performance for small diameter machining operations

- ▼ Minimum bore diameter from $\varnothing 4.5$ mm
- ▼ Steel & 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 & chatter by FEM (Finite Element Method)
- ▼ Added Z cutting edge style for back boring

2 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)

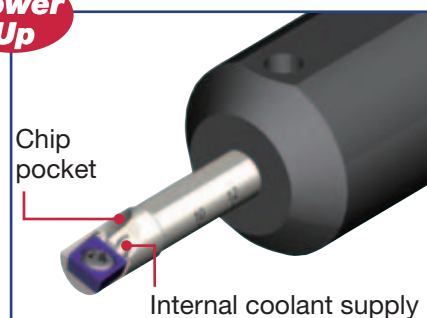


3 Stable tool life & excellent chip control

- ▼ 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**” & “**WBGTO3**” insert types



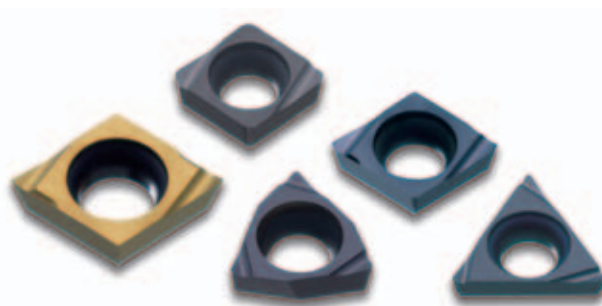
Power Up



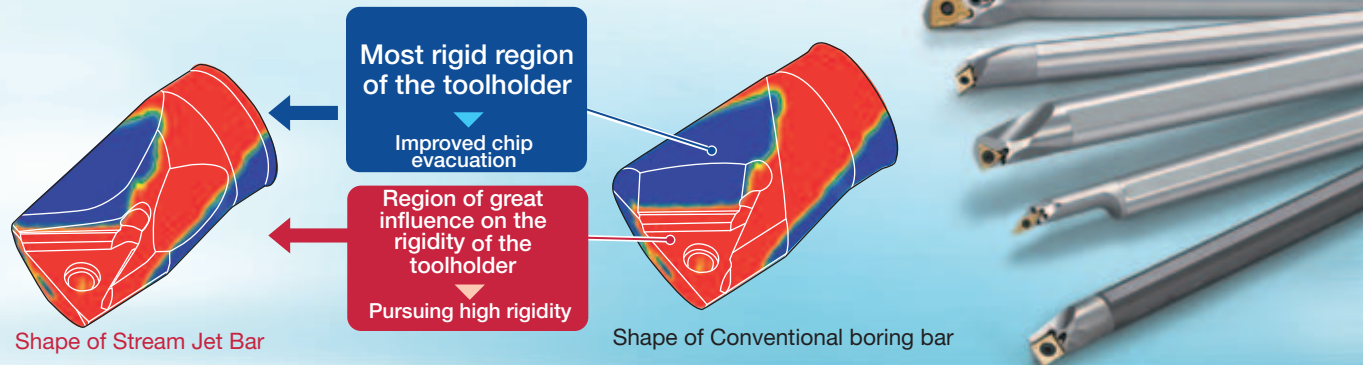
New Seal Cap* (Optional)



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



- Finite Analysis of the load transition



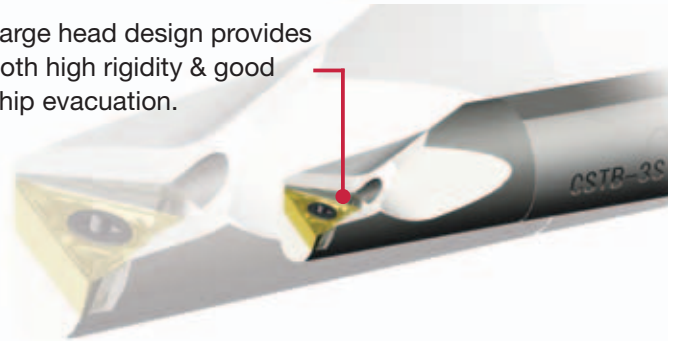
■ Increased rigidity for minimizing bar deflection & chatter

● Rigidity in comparison to 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.

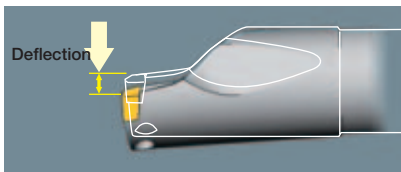
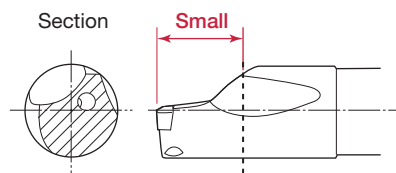
Note: Load 1000N ($V_c = 150$ m/min, $a_p = 1.5$ mm, $f = 0.2$ mm/rev are assumed) A16Q-STUPR13-D180

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

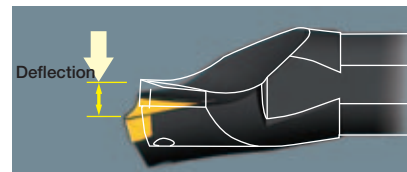
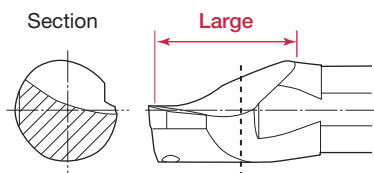


About 20% reduction in deflection compared to conventional bar

STREAMJETBAR



Conventional boring bar

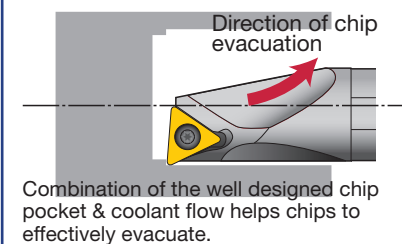


■ New pocket design for excellent chip evacuation

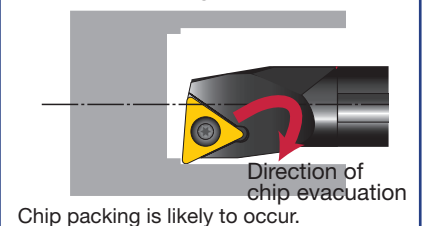
● Cutting performance

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

STREAMJETBAR



Conventional boring bar



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

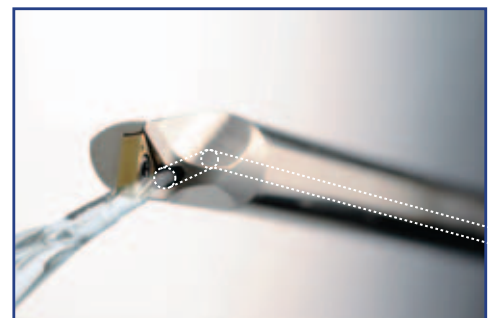
● Oil hole design

Distance between the cutting edge & 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

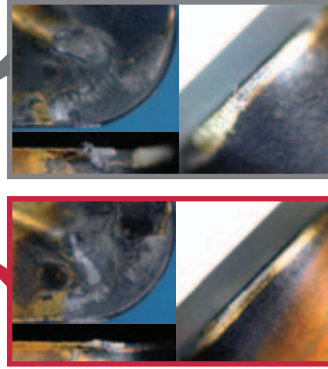
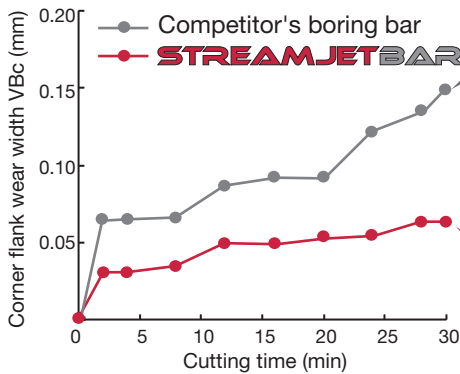


TAC Internal Toolholders

STREAMJETBAR

■ Improved tool life

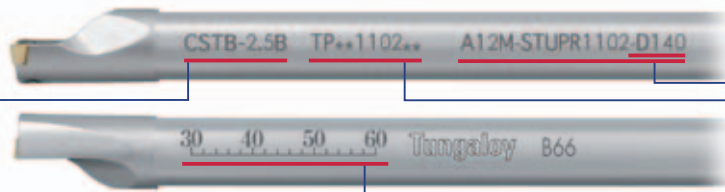
By supplying the optimum level of cutting fluid, flank wear & rake face wear are suppressed, considerably improving tool life.



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	: Wet

■ “Easy to use”

● Marking specifications


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.

Toolholder 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.

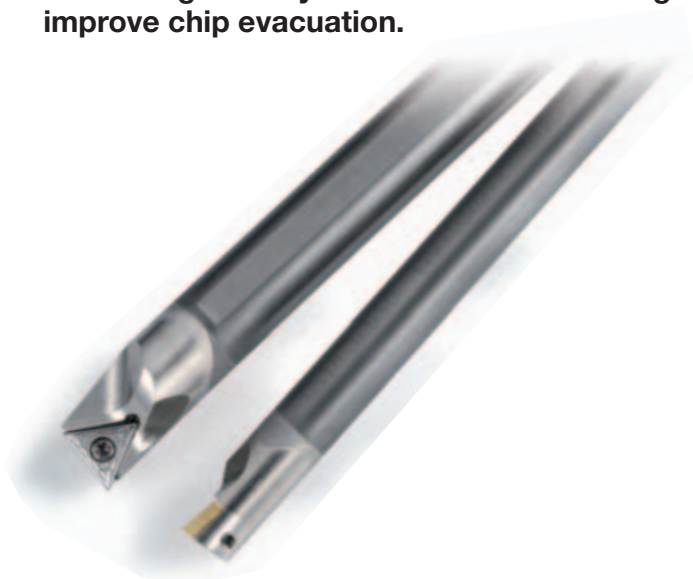
(Example)-D140 → 14.0 mm

Applicable insert Cat. No.

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

■ Carbide shank type

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



● Guide to L/D

Steel shank	Carbide shank
$L/D \leq 3$	$L/D \leq 5$

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

● For precision boring

The increased rigidity suppresses chatter, producing excellent surface finishes.

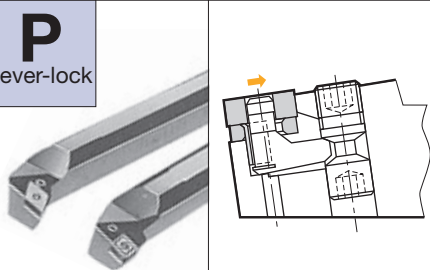
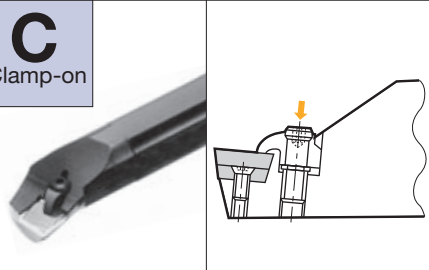
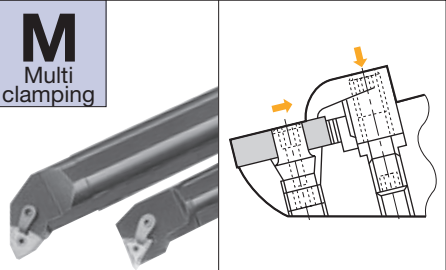
Excellent chip evacuation minimizes damage to the surface caused by chip re-cutting. This further improves surface finish.

Clamping Mechanism & Features of TAC Internal Toolholders

Shank material

Steel Shank	Carbide Shank	“Tsuppari-Ichiban”
		
● Economical. ● Min. bore dia: $\phi 4.5 \sim \phi 63$ mm. ● Screw-on, clamp-on, pin-lock & double clamping types are stocked.	● Finishing accuracy is good with excellent resistance to chatter. ● Screw-on & clamp-on types (min. bore dia: $\phi 4.5 \sim \phi 34$ mm) are standard stocked.	● Provides highly rigid shank reinforced with carbide plates. ● Good resistance to chatter. ● Low cost, close to steel shank. ● Min. bore dia: $\phi 20$ mm for P-type, $\phi 14$ mm for S-type. ● Also available in oil hole shank type.

Clamping system

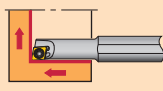
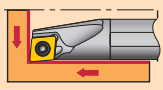
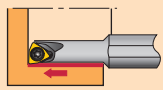
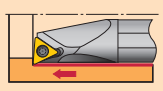
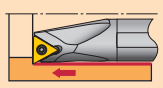
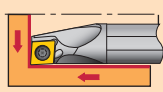
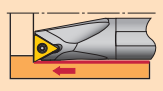
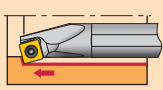
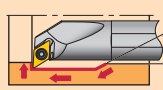
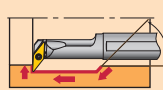
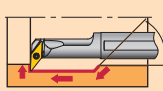
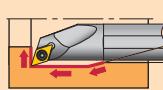
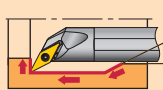
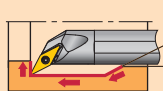
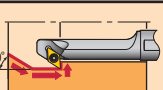
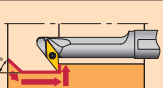
S Screw-on		A Double clamping	
● Simple clamping mechanism. ● Smart shape without overhang area. ● Minimum bore diameter: $\phi 4.5$ mm. ● Good cutting action by using positive inserts. ● Carbide shanks that have excellent resistance to chatter. ● “Tsuppari-Ichiban” shanks (reinforced with carbide plates) are also stocked.		● Increased clamping rigidity contributes to superior cutting edge positioning accuracy & longer tool life. ● Enlarged insert holding area of the clamp allows more accurate cutting edge positioning. It delivers high performance even when using VNMG type (35° corner angle) inserts, which tend to destabilize cutting edge positioning. ● Simple structure keeps cost low. Easy clamping with only one wrench.	
P Lever-lock		C Clamp-on	
● Negative rake, lever-lock type, round shank boring bars. ● The insert is positively held into a two wall pocket, excelling in indexing accuracy. ● Minimum bore diameter: $\phi 20$ mm. ● “Tsuppari-Ichiban” shanks that are reinforced with carbide plates are also stocked.		● Clamp-on type insert locking mechanism assures secure holding & accurate indexing. ● For inserts without a hole, it provides stronger cutting edge strength than S-type tools & can withstand heavier cutting conditions. ● Minimum bore diameter: $\phi 16$ mm	
		M Multi clamping	
		● Combination of lock-pin & top clamp provides positive insert holding & superior indexing accuracy. ● Suitable for medium to large diameter boring. ● Minimum bore diameter: $\phi 32$ mm	

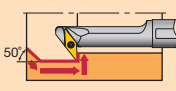
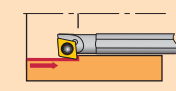
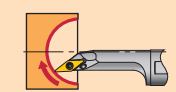
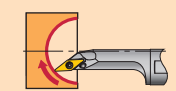
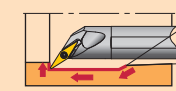
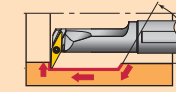
List of StreamJetBar & DoMiniTurn

A wide range of styles & size applicable for a variety of tooling

Positive type

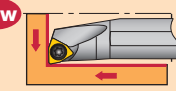
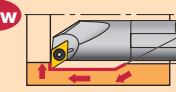
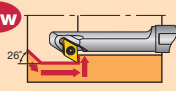
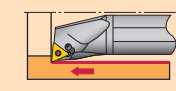
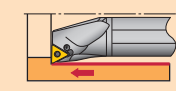
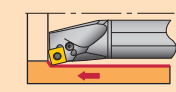
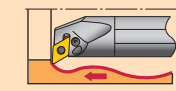
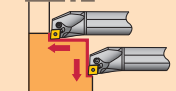
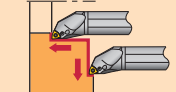
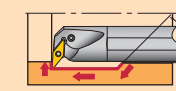
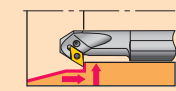
STREAMJETBAR

Style	Shank type	Shank diameter	Minimum bore diameter (mm)						
			0	10	20	30	40	50	
 SEXPR/L ▶ 5-28 Boring & internal facing Insert type: EP□□	Steel Carbide	ø4 ~ ø8 ø4 ~ ø8	ø4.5 ø4.5	ø7 ø7					
 SCLCR/L ▶ 5-12 Boring & internal facing Insert type: CC□□	Steel Carbide	ø4 ~ ø25 ø4 ~ ø25	ø5 ø5	ø27 ø27					
 SWUBR/L ▶ 5-27 Boring Insert type: WB□□	Steel Carbide	ø5 ~ ø8 ø5 ~ ø8	ø6 ø6	ø8 ø8					
 STUPR/L ▶ 5-21 Boring Insert type: TP□□	Steel Carbide	ø7 ~ ø32 ø7 ~ ø25	ø8 ø8	ø34 ø27					
 STFPR/L ▶ 5-20 Blind hole Boring Insert type: TP□□	Steel Carbide	ø8 ~ ø25 ø8 ~ ø20	ø10 ø10	ø27 ø22					
 SCLPR/L ▶ 5-14 Boring & internal facing Insert type: CP□□	Steel Carbide	ø8 ~ ø25 ø8 ~ ø16	ø10 ø10	ø27 ø20					
 STFCR/L ▶ 5-19 Blind hole Boring Insert type: TC□□	Steel Carbide	ø8 ~ ø25 ø8 ~ ø25	ø10 ø10	ø27 ø27					
 SSKPR/L ▶ 5-18 Through boring Insert type: SP□□	Steel	ø16 ~ ø25		ø20	ø31				
 SDUCR/L ▶ 5-16 Boring & internal profiling Insert type: DC□□	Steel Carbide	ø10 ~ ø25 ø10 ~ ø20		ø13 ø13	ø32 ø27				
 SVUCR/L ▶ 5-24 Boring & internal profiling Insert type: VC□□	Steel Carbide	ø12 ~ ø40 ø12 ~ ø25		ø16 ø18	ø32 ø32	ø50			
 SVUBR/L ▶ 5-22 Boring & internal profiling Insert type: VB□□	Steel Carbide	ø16 ~ ø25 ø16 ~ ø25		ø20 ø24.5	ø32 ø34				
 SDQCR/L ▶ 5-16 Boring & internal profiling Insert type: DC□□	Steel Carbide	ø10~ ø25 ø10~ ø20		ø13 ø13	ø30 ø25				
 SVQCR/L ▶ 5-24 Boring & internal profiling Insert type: VC□□	Steel Carbide	ø10~ ø40 ø10~ ø16		ø13.5 ø13.5	ø21.5 ø21.5	ø50			
 SVQBR/L ▶ 5-22 Boring & internal profiling Insert type: VB□□	Steel Carbide	ø12 ~ ø25 ø12 ~ ø25		ø17 ø17	ø30.5 ø30.5				
 SDZCR/L ▶ 5-17 Internal retracting Insert type: DC□□	Steel Carbide	ø12 ~ ø25 ø12 ~ ø16		ø14 ø18	ø25 ø22				
 SVZCR/L ▶ 5-25 Internal retracting Insert type: VC□□	Steel	ø12		ø16					

Style	Shank type	Shank diameter	Minimum bore diameter (mm)						
			0	10	20	30	40	50	
 SVZBR/L ▶ 5-23 Internal retracting Insert type: VE□□	Steel	ø16 ~ ø32			ø20		ø40		
 SEZPR/L ▶ 5-28 Internal retracting Insert type: EP□□	Steel Carbide	ø4 ~ ø5 ø4 ~ ø5	ø5.5	ø6.5					
 SVJCR/L ▶ 5-25 Internal sphere cutting Insert type: VC□□	Steel	ø12 ~ ø16			ø16	ø20			
 SVJBR/L ▶ 5-23 Internal sphere cutting Insert type: VB□□	Steel	ø20 ~ ø25				ø25	ø30		
 SYQBR/L ▶ 5-30 Internal undercut & profiling Insert type: YW□□	Steel Carbide	ø12 ~ ø16 ø12 ~ ø16			ø17	ø21.5			
 SYUBR/L ▶ 5-30 Boring & internal profiling Insert type: YW□□	Steel Carbide	ø16 ø12 ~ ø16			ø20		ø24.5		

Negative type

DOMTURN STREAMJETBAR

Style	Shank type	Shank diameter	Minimum bore diameter (mm)									
			0	10	20	30	40	50	60	70		
New  SWLXR/L ▶ 5-31 Boring and facing Insert type: WXGU	Steel Carbide	ø10 ~ ø20 ø10 ~ ø20		ø12	ø22							
New  SDXXR/L ▶ 5-31 Internal profiling Insert type: DXGU	Steel Carbide	ø10 ~ ø20 ø10 ~ ø20		ø13	ø24							
New  SDZXR/L ▶ 5-32 Internal retracting Insert type: DXGU	Steel Carbide	ø12 ~ ø20 ø12 ~ ø16		ø14	ø20							
 PTUNR/L ▶ 5-37 Boring Insert type: TN□□	Steel	ø16 ~ ø32			ø20		ø40					
 PTFNR/L ▶ 5-37 Boring Insert type: TN□□	Steel	ø25 ~ ø50				ø32		ø63				
 PSKNR/L ▶ 5-36 Through boring Insert type: SN□□	Steel	ø32 ~ ø50				ø40		ø63				
 PDUNR/L ▶ 5-35 Internal profiling Insert type: DN□□	Steel	ø20 ~ ø50				ø25		ø63				
 PCLNR/L ▶ 5-34 Boring & internal facing Insert type: CN□□	Steel	ø16 ~ ø50		ø20				ø63				
 PWLNR/L ▶ 5-39 Boring & facing Insert type: WN	Steel	ø16 ~ ø40		ø20				ø50				
 PVUNR/L ▶ 5-38 Boring & Internal profiling Insert type: VN□□	Steel	ø25 ~ ø40				ø37		ø50				
 PDZNR/L ▶ 5-35 Internal retracting Insert type: DN□□	Steel	ø32 ~ ø50					ø40		ø63			



Min. bore dia.
ø5 mm~

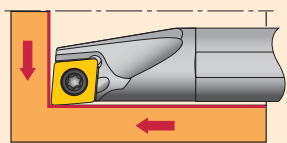
Shank dia.
ø4~25 mm

Positive rake / Screw-on system

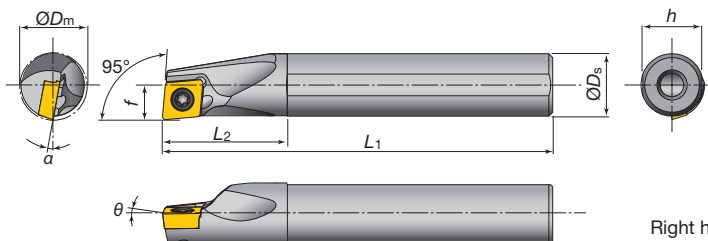
Steel
Shank

Carbide
Shank

Boring & internal facing



Cutting edge style **L**



Right hand (R) shown.



Steel Shank

Toolholder Cat. No.	Stock		Min bore dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Clamping screw	Wrench	
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
MINI A05F-SCLCR/L03-D060	●	●	6	5	3	80	9	4.8	-	0°	-13°					
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
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	CC□□09T3	CSTB-4S	T-15F	3.0
A16K-SCLCR/L09-D180	●		18	16	9	125	32	15	-	0°	-9°	0.8				
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		Min bore dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Clamping screw	Wrench	
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
MINI E05G-SCLCR/L03-D060	●	●	6	5	3	90	10	4.8	-	0°	-13°					
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
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	CC□□09T3	CSTB-4L060	T-15F	3.0
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				
E16L-SCLCR/L09-D180	●		18	16	9	130	32	15	-	0°	-10°	0.8	CC□□09T3	CSTB-4S	T-15F	3.0
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				
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.

5

TAC Internal Toolholders

Basic Selection Chipbreakers CC□□09T3□□-□□

P Steel	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	SH730	AH725	T9115	T9125
	Page	2-99	2-96	2-97	2-100
	Chipbreaker				
	Continuous	V_c (m/min) 120 (50-180) a_p (mm) 1.5 (0.1-3.0) f (mm/rev) 0.06 (0.02-0.1) r_ϵ (mm) 0.2	V_c (m/min) 120 (50-180) a_p (mm) 0.3 (0.1-0.5) f (mm/rev) 0.12 (0.08-0.2) r_ϵ (mm) 0.4	V_c (m/min) 220 (150-300) a_p (mm) 1.5 (0.5-2.5) f (mm/rev) 0.15 (0.08-0.3) r_ϵ (mm) 0.8	V_c (m/min) 180 (120-250) a_p (mm) 2.0 (1.0-3.0) f (mm/rev) 0.25 (0.07-0.3) r_ϵ (mm) 0.8

K Cast iron	Operation	Precision finishing	Finishing to medium cutting	Medium cutting
	Grade	BX930	T5115	T5115
	Page	3-14	2-97	2-101
	Chipbreaker			No chipbreaker
	Continuous	V_c (m/min) 700 (300-1200) a_p (mm) 0.3 (0.05-0.5) f (mm/rev) 0.06 (0.05-0.2) r_ϵ (mm) 0.4	V_c (m/min) 270 (140-400) a_p (mm) 1.0 (0.05-2.0) f (mm/rev) 0.2 (0.05-0.3) r_ϵ (mm) 0.8	V_c (m/min) 270 (140-400) a_p (mm) 1.5 (0.05-2.0) f (mm/rev) 0.15 (0.05-0.3) r_ϵ (mm) 0.8

S Superalloys	Operation	Precision finishing	Finishing
	Grade	BX470	BX950
	Page	3-12	3-14
	Chipbreaker		
	Continuous	V_c (m/min) 200 (100-280) a_p (mm) 0.1 (0.05-0.5) f (mm/rev) 0.1 (0.05-0.3) r_ϵ (mm) 0.4	V_c (m/min) 200 (70-300) a_p (mm) 0.3 (0.1-0.5) f (mm/rev) 0.1 (0.05-0.2) r_ϵ (mm) 0.4

M Stainless	Operation	Precision finishing	Finishing	Finishing to light cutting	Medium cutting
	Grade	GH330	AH725	AH725	T6130
	Page	2-97	2-96	2-97	2-100
	Chipbreaker				
	Continuous	V_c (m/min) 120 (100-150) a_p (mm) 0.5 (0.05-0.20) f (mm/rev) 0.1 (0.03-0.15) r_ϵ (mm) 0.4	V_c (m/min) 120 (50-150) a_p (mm) 0.3 (0.1-0.5) f (mm/rev) 0.12 (0.08-0.2) r_ϵ (mm) 0.4	V_c (m/min) 120 (50-150) a_p (mm) 1.2 (0.3-2.0) f (mm/rev) 0.15 (0.08-0.3) r_ϵ (mm) 0.8	V_c (m/min) 120 (70-150) a_p (mm) 2.0 (1.0-3.0) f (mm/rev) 0.25 (0.07-0.3) r_ϵ (mm) 0.8

N Non-ferrous	Operation	Precision finishing	Finishing	Finishing to medium cutting
	Grade	DX120	GH110	KS05F
	Page	3-22	2-97	2-98
	Chipbreaker			
	Continuous	V_c (m/min) 1500 (500-2500) a_p (mm) 0.1 (0.03-0.5) f (mm/rev) 0.1 (0.05-0.2) r_ϵ (mm) 0.4	V_c (m/min) 600 (100-1000) a_p (mm) 0.5 (0.05-2.0) f (mm/rev) 0.1 (0.03-0.15) r_ϵ (mm) 0.4	V_c (m/min) 400 (200-1500) a_p (mm) 2.0 (1.0-5.0) f (mm/rev) 0.3 (0.2-0.5) r_ϵ (mm) 0.8

H Hard Materials	Operation	Precision finishing	Finishing
	Grade	BXM10	BXM20
	Page	3-12	3-12
	Chipbreaker		
	Continuous	V_c (m/min) 200 (150-350) a_p (mm) 0.1 (0.05-0.30) f (mm/rev) 0.1 (0.03-0.18) r_ϵ (mm) 0.4	V_c (m/min) 150 (70-220) a_p (mm) 0.2 (0.05-0.30) f (mm/rev) 0.1 (0.05-0.25) r_ϵ (mm) 0.4

For other machining types, see "Selection System"

2-16~



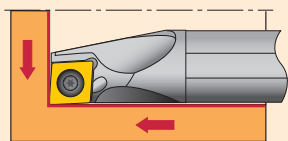
Min. bore dia.
ø10 mm~

Shank dia.
ø8~25 mm

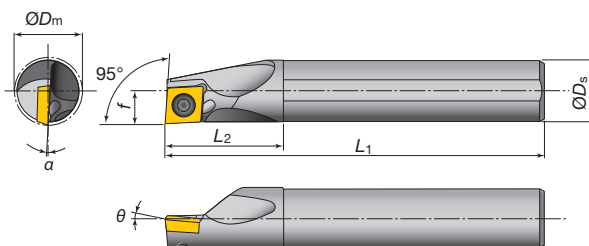
Steel
Shank

Carbide
Shank

Boring & internal facing



Cutting edge style **L**



Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius r _e	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Clamping screw	Wrench	
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
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
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 r _e	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Clamping screw	Wrench	
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
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				
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.

Basic Selection Chipbreakers CP□□0903□□-□□

P Steel	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	NS530	AH725	T9115	T9125
	Page	2-102	2-102	2-103	2-103
	Chipbreaker				
Continuous	Vc (m/min)	200 (150-250)	120 (50-180)	220 (150-300)	180 (120-250)
	ap (mm)	0.5 (0.05-2.5)	0.3 (0.1-0.5)	1.5 (0.5-2.5)	2.0 (1.0-3.0)
	f (mm/rev)	0.1 (0.03-0.15)	0.12 (0.08-0.2)	0.15 (0.08-0.3)	0.25 (0.07-0.3)
	fe (mm)	0.4	0.4	0.8	0.8

K Cast Iron	Operation	Finishing to medium cutting	Medium cutting
	Grade	T5115	T5115
	Page	2-103	2-104
	Chipbreaker		
Continuous	Vc (m/min)	270 (140-400)	270 (140-400)
	ap (mm)	1.0 (0.05-2.0)	1.5 (0.05-2.0)
	f (mm/rev)	0.2 (0.05-0.3)	0.15 (0.05-0.3)
	fe (mm)	0.8	0.8

For other machining types, see "Selection System"

2-16~

M Stainless	Operation	Finishing	Finishing to light cutting	Medium cutting
	Grade	AH725	AH725	T6130
	Page	2-102	2-102	2-103
	Chipbreaker			
Continuous	Vc (m/min)	120 (50-150)	120 (50-150)	120 (70-150)
	ap (mm)	0.3 (0.1-0.5)	1.2 (0.3-2.0)	2.0 (1.0-3.0)
	f (mm/rev)	0.12 (0.08-0.2)	0.15 (0.08-0.3)	0.25 (0.07-0.3)
	fe (mm)	0.4	0.8	0.8

N Non-ferrous	Operation	Finishing
	Grade	TH10
	Page	2-102
	Chipbreaker	
Continuous	Vc (m/min)	600 (100-1000)
	ap (mm)	0.5 (0.05-2.0)
	f (mm/rev)	0.1 (0.03-0.15)
	fe (mm)	0.4

STREAMJETBAR S-type

SDQCR/L



Min. bore dia.
ø13 mm~

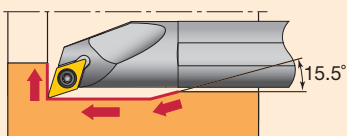
Shank dia.
ø10~25 mm

Positive rake / Screw-on system

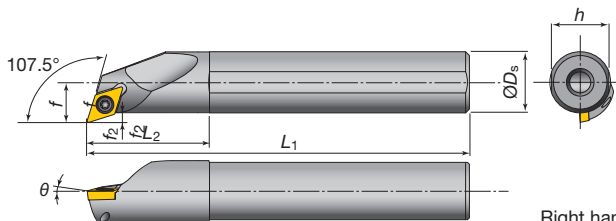
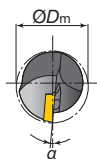
Steel
Shank

Carbide
Shank

Boring & internal profiling



Cutting edge style **Q**



Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min. bore dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	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 r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	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).

STREAMJETBAR S-type

SDUCR/L



Min. bore dia.
ø13 mm~

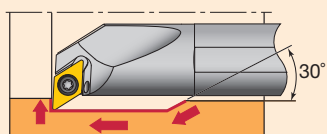
Shank dia.
ø10~25 mm

Positive rake / Screw-on system

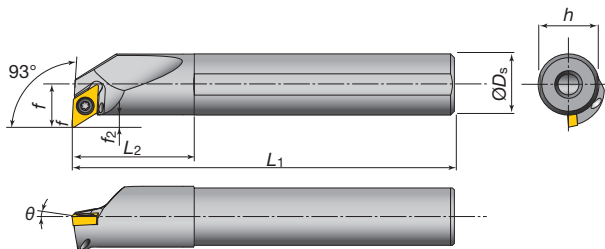
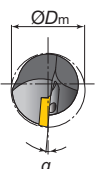
Steel
Shank

Carbide
Shank

Boring & internal profiling



Cutting edge style **U**



Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min. bore dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	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				
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 r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	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				
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.



Min. bore dia.
ø14 mm~

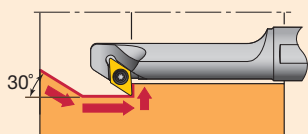
Shank dia.
ø12~25 mm

Positive rake / Screw-on system

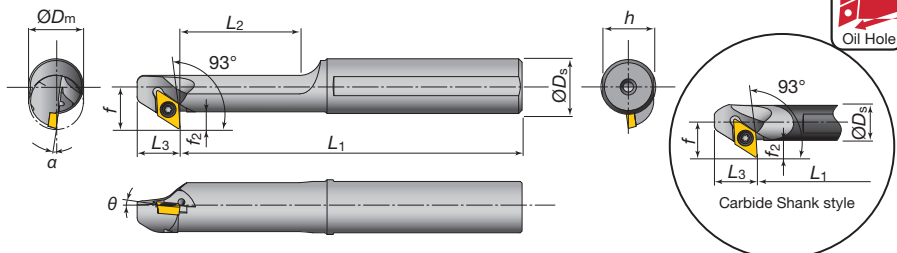
Steel
Shank

Carbide
Shank

Internal retracting



Cutting edge style **Z**



Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min. bore dia. ØDm	Dimensions (mm)									Std. corner radius r _e	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	L ₃	h	f ₂	θ	α			Clamping screw	Wrench	
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	DC□□11T3	CSTB-4S	T-15F	3.0
A20R-SDZCR/L11-D200	●	●	20	20	15.5	200	40	15	18	5.5	0°	-8°	0.8				
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. ØDm	Dimensions (mm)									Std. corner radius r _e	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	L ₃	h	f ₂	θ	α			Clamping screw	Wrench	
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).

Basic Selection Chipbreakers DC□□11T3□□-□□

P Steel	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	SH730	AH725	T9115	T9125
	Page	2-108	2-105	2-106	2-109
	Chipbreaker	JS	PSF	PS	PM
	Continuous				

Vc (m/min)	120 (50-180)	120 (50-180)	180 (120-250)	180 (120-250)
ap (mm)	1.5 (0.1-3.0)	0.3 (0.1-0.5)	3.0 (0.5-2.5)	2.0 (1.0-3.0)
f (mm/rev)	0.06 (0.02-0.1)	0.12 (0.08-0.2)	0.15 (0.08-0.3)	0.25 (0.07-0.3)
r _e (mm)	0.2	0.4	0.8	0.8

M Stainless	Operation	Precision finishing	Finishing	Finishing to light cutting	Medium cutting
	Grade	GH330	AH725	AH725	T6130
	Page	2-105	2-105	2-106	2-109
	Chipbreaker	W15	PSF	PSS	PM
	Continuous				

Vc (m/min)	120 (100-150)	120 (50-150)	120 (50-150)	120 (70-150)
ap (mm)	0.5 (0.05-2.0)	0.3 (0.1-0.5)	1.2 (0.3-2.0)	2.0 (1.0-3.0)
f (mm/rev)	0.1 (0.03-0.15)	0.12 (0.08-0.2)	0.15 (0.08-0.3)	0.25 (0.07-0.3)
r _e (mm)	0.4	0.4	0.8	0.8

K Cast iron	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	BX930	TH10	T5115	T5115
	Page	3-14	2-105	2-106	2-110
	Chipbreaker	T-CBN	W15	CM	No chipbreaker
	Continuous				

Vc (m/min)	700 (300-1200)	70 (30-100)	270 (140-400)	270 (140-400)
ap (mm)	0.3 (0.05-0.5)	0.5 (0.5-2.0)	1.0 (0.05-2.0)	1.0 (0.05-2.0)
f (mm/rev)	0.1 (0.05-0.2)	0.1 (0.03-0.15)	0.2 (0.05-0.3)	0.2 (0.05-0.3)
r _e (mm)	0.4	0.4	0.8	0.8

N Non-ferrous	Operation	Precision finishing	Finishing	Finishing
	Grade	DX120	TH10	KF05F
	Page	3-22	2-105	2-106
	Chipbreaker	T-DIA With chipbreaker	W15	AL
	Continuous			

Vc (m/min)	1500 (500-2500)	600 (100-1000)	400 (200-1500)
ap (mm)	0.1 (0.03-0.5)	1.0 (0.5-2.0)	2.0 (1.0-5.0)
f (mm/rev)	0.1 (0.05-0.2)	0.1 (0.03-0.15)	0.3 (0.2-0.5)
r _e (mm)	0.4	0.4	0.8

S Superalloys	Operation	Precision finishing	Finishing
	Grade	BX470	BX950
	Page	3-12	3-14
	Chipbreaker	T-CBN	T-CBN
	Continuous		

Vc (m/min)	200 (100-280)	200 (70-300)
ap (mm)	0.1 (0.05-0.5)	0.3 (0.1-0.5)
f (mm/rev)	0.1 (0.05-0.3)	0.1 (0.05-0.3)
r _e (mm)	0.4	0.4

H Hard Materials	Operation	Precision finishing	Finishing
	Grade	BXM10	BXM20
	Page	3-12	3-12
	Chipbreaker	T-CBN	T-CBN
	Continuous		

Vc (m/min)	200 (150-350)	150 (70-220)
ap (mm)	0.1 (0.05-0.30)	0.2 (0.05-0.30)
f (mm/rev)	0.1 (0.03-0.18)	0.1 (0.05-0.25)
r _e (mm)	0.4	0.4

For other machining types, see "Selection System"

2-16~

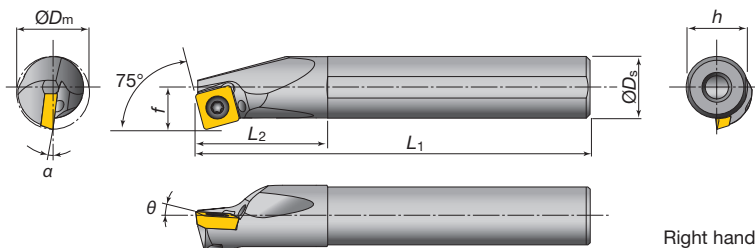
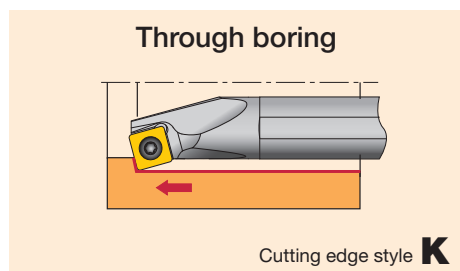
● : Stocked items.



Min. bore dia.
ø20 mm~

Shank dia.
ø16~25 mm

Steel
Shank



Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min bore dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Clamping screw	Wrench	
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).

Basic Selection Chipbreakers SP□□0903□□-□□

P Steel	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	NS530	GT730	T9115	T9125
	Page	2-114	2-114	2-114	2-114
	Chipbreaker	W15	PS	PS	PS
	V _c (m/min)	200 (150-250)	200 (150-300)	220 (150-300)	180 (120-250)
	a _p (mm)	0.5 (0.05-2.0)	1.5 (0.5-2.5)	1.5 (0.5-2.5)	1.5 (0.5-3.0)
Continuous	f (mm/rev)	0.1 (0.03-0.15)	0.15 (0.08-0.3)	0.15 (0.08-0.3)	0.15 (0.08-0.3)
	r _ε (mm)	0.4	0.4	0.8	0.8

M Stainless	Operation	Finishing	Finishing to medium cutting
	Grade	T6120	T6130
	Page	2-114	2-114
	Chipbreaker	PS	PS
	V _c (m/min)	150 (100-200)	120 (70-150)
	a _p (mm)	1.5 (0.5-2.5)	1.5 (0.5-2.5)
Continuous	f (mm/rev)	0.15 (0.08-0.3)	0.15 (0.08-0.3)
	r _ε (mm)	0.4	0.4

K Cast Iron	Operation	Finishing	Finishing to medium cutting	Medium cutting
	Grade	TH10	T5115	T5115
	Page	2-114	2-114	2-115
	Chipbreaker	W15	CM	No chipbreaker
	V _c (m/min)	70 (30-100)	270 (140-400)	270 (140-400)
	a _p (mm)	0.5 (0.05-2.0)	1.0 (0.05-2.0)	1.0 (0.05-2.0)
Continuous	f (mm/rev)	0.1 (0.03-0.15)	0.2 (0.05-0.3)	0.2 (0.05-0.3)
	r _ε (mm)	0.4	0.8	0.8

For other machining types, see "Selection System"

▶ 2-16~

● : Stocked items.



Min. bore dia.
ø10 mm~

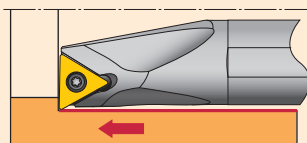
Shank dia.
ø8~25 mm

Positive rake / Screw-on system

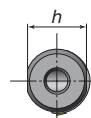
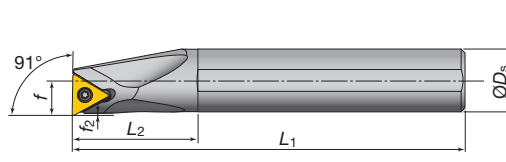
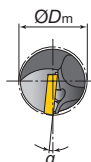
Steel
Shank

Carbide
Shank

Blind hole boring



Cutting edge style **F**



Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min. bore dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			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	TC□□1102	CSTB-2.5	T-8F	1.2
A10K-STFCR/L1102-D120			12	10	6.5	125	20	9	0.6	0°	-10°	0.4	TC□□1103	CSTB-2.5	T-8F	1.2
A10K-STFCR/L1103-D120	●	●	12	10	6.5	125	20	9	0.6	0°	-13°	0.4	TC□□0902	CSTB-2.2	T-7F	0.9
A12M-STFCR/L09-D140			14	12	7	150	24	11	0.5	0°	-8°	0.4	TC□□1102	CSTB-2.5	T-8F	1.2
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
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
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 r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			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	TC□□1102	CSTB-2.5	T-8F	1.2
E10M-STFCR/L1102-D120			12	10	6.5	150	25	9	0.6	0°	-10°	0.4	TC□□1103	CSTB-2.5	T-8F	1.2
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
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
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 (STFCR □□ type), and the left hand insert (L) is used for the right hand toolholders (STFCR □□ type).

Basic Selection Chipbreakers TC□□1102□□-□□

	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	SH730	AH725	T9115	T9125
P	Page	2-120	2-118	2-119	2-122
	Chipbreaker	JS	PSF	PS	PM
Continuous	Vc (m/min)	120 (50-180)	120 (50-180)	220 (150-300)	180 (120-250)
	ap (mm)	1.5 (0.1-3.0)	0.3 (0.1-0.5)	1.5 (0.5-2.5)	2.0 (1.0-3.0)
	f (mm/rev)	0.06 (0.02-0.1)	0.12 (0.08-0.2)	0.15 (0.08-0.3)	0.25 (0.07-0.3)
	r _ε (mm)	0.2	0.4	0.8	0.8

	Operation	Finishing	Finishing to light cutting	Medium cutting
	Grade	AH725	AH725	T6130
M	Page	2-118	2-118	2-122
	Chipbreaker	PSF	PSS	PM
Continuous	Vc (m/min)	120 (50-150)	120 (50-150)	120 (70-150)
	ap (mm)	0.3 (0.1-0.5)	1.2 (0.3-2.0)	1.5 (1.0-3.0)
	f (mm/rev)	0.12 (0.08-0.2)	0.15 (0.08-0.3)	0.25 (0.07-0.3)
	r _ε (mm)	0.4	0.8	0.8

	Operation	Precision finishing	Finishing to medium cutting
	Grade	DX120	KS05F
N	Page	3-22	2-120
	Chipbreaker	T-DIA With chipbreaker	AL
Continuous	Vc (m/min)	1500 (500-2500)	400 (200-1500)
	ap (mm)	0.3 (0.03-0.5)	2.0 (1.0-5.0)
	f (mm/rev)	0.1 (0.05-0.2)	0.3 (0.2-0.5)
	r _ε (mm)	0.4	0.8

For other machining types, see "Selection System"

● : Stocked items.



Min. bore dia.
ø10 mm~

Shank dia.
ø8~25 mm

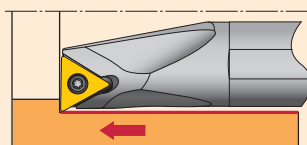
Positive rake / Screw-on system

Steel
Shank

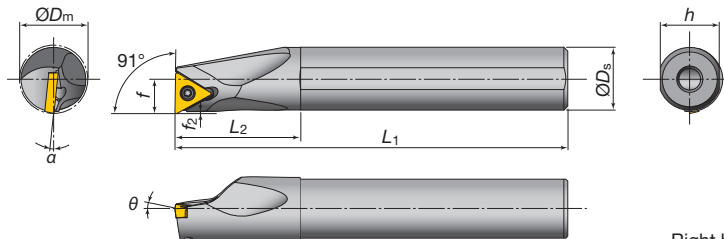
Carbide
Shank



Blind hole boring



Cutting edge style **F**



Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min bore dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			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	TP□□1303*	CSTB-3S	T-9F	1.4
A16Q-STFPR/L13-D180	●	●	18	16	9	180	32	15	0.7	+5°	-2°	0.4	TP□□1303*	CSTB-3	T-9F	1.4
A20R-STFPR/L13-D220	●		22	20	11	200	36	18	0.8	+5°	-2°	0.4	TP□□16T3*	CSTB-4M	T-15F	3.0
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 r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			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	TP□□1303*	CSTB-3S	T-9F	1.4
E16R-STFPR/L13-D180	●		18	16	9	200	32	15	0.7	+5°	-2°	0.4	TP□□1303*	CSTB-3	T-9F	1.4
E20S-STFPR/L13-D220	●		22	20	11	250	36	18	0.8	+5°	-2°	0.4	TP□□1303*	CSTB-3	T-9F	1.4

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).

* Inserts of TPGH, TPGM and TPGA are not applicable.

Basic Selection Chipbreakers TP□□1102□□-□□

	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	NS730	AH725	T9115	T9125
	Page	2-123	2-123	2-126	2-128
P Steel	Chipbreaker				
	Vc (m/min)	200 (150-250)	120 (50-180)	180 (120-250)	180 (120-250)
	ap (mm)	0.5 (0.05-0.5)	0.3 (0.1-0.5)	3.0 (0.5-2.5)	2.0 (1.0-3.0)
	f (mm/rev)	0.1 (0.03-0.15)	0.12 (0.08-0.2)	0.15 (0.08-0.3)	0.25 (0.07-0.3)
	r _ε (mm)	0.4	0.4	0.8	0.8

	Operation	Precision finishing	Finishing to medium cutting	Medium cutting
	Grade	BX930	T5115	T5115
	Page	3-14	2-126	2-128
K Cast iron	Chipbreaker			No chipbreaker
	Vc (m/min)	700 (300-1200)	270 (140-400)	270 (140-400)
	ap (mm)	0.3 (0.05-0.5)	1.0 (0.05-2.0)	1.0 (0.05-2.0)
	f (mm/rev)	0.1 (0.05-0.2)	0.2 (0.05-0.3)	0.2 (0.05-0.3)
	r _ε (mm)	0.4	0.8	0.8

	Operation	Precision finishing	Finishing
	Grade	BX470	BX950
	Page	3-12	3-14
S Superalloys	Chipbreaker		
	Vc (m/min)	200 (100-280)	200 (70-300)
	ap (mm)	0.1 (0.05-0.5)	0.3 (0.1-0.5)
	f (mm/rev)	0.1 (0.05-0.3)	0.1 (0.05-0.3)
	r _ε (mm)	0.4	0.4

	Operation	Precision finishing	Finishing	Finishing to light cutting	Medium cutting
	Grade	GH330	AH725	AH725	T6130
	Page	2-124	2-123	2-125	2-128
M Stainless	Chipbreaker				
	Vc (m/min)	120 (100-150)	120 (50-150)	120 (50-150)	120 (70-150)
	ap (mm)	0.5 (0.05-2.0)	0.3 (0.1-0.5)	1.2 (0.3-2.0)	2.0 (1.0-3.0)
	f (mm/rev)	0.1 (0.03-0.15)	0.12 (0.08-0.2)	0.15 (0.08-0.3)	0.25 (0.07-0.3)
	r _ε (mm)	0.4	0.4	0.8	0.8

	Operation	Precision finishing	Finishing
	Grade	DX140	GH110
	Page	3-22	2-124
N Non-ferrous	Chipbreaker		
	Vc (m/min)	1500 (500-2500)	600 (100-1000)
	ap (mm)	0.5 (0.05-1.0)	1.0 (0.5-2.0)
	f (mm/rev)	0.1 (0.05-0.2)	0.1 (0.03-0.15)
	r _ε (mm)	0.4	0.4

	Operation	Precision finishing	Finishing
	Grade	BXM10	BXM20
	Page	3-12	3-12
H Hard Materials	Chipbreaker		
	Vc (m/min)	200 (150-350)	150 (70-220)
	ap (mm)	0.1 (0.05-0.3)	0.2 (0.05-0.3)
	f (mm/rev)	0.1 (0.03-0.18)	0.1 (0.05-0.25)
	r _ε (mm)	0.4	0.4

● : Stocked items.

For other machining types, see "Selection System"

▶ 2-16~



Min. bore dia.
ø8 mm~

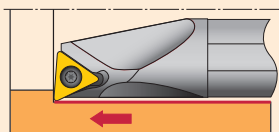
Shank dia.
ø7~32 mm

Positive rake / Screw-on system

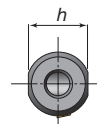
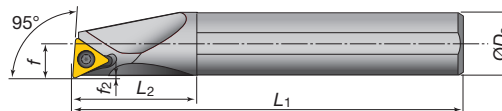
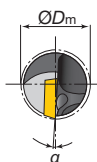
Steel
Shank

Carbide
Shank

Boring



Cutting edge style **U**



Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min. bore dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Clamping screw	Wrench	
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*	CSTB-3	T-9F	1.4
A20R-STUPR/L13-D220	●	●	22	20	11	200	36	18	0.7	+5°	-2°	0.4	TP□□1303*			
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		Min. bore dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Clamping screw	Wrench	
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	TP□□1103*	CSTB-3L050	T-9F	1.4
E10M-STUPR/L1103-D120	●	●	12	10	6.5	150	25	9	0.7	+5°	-10°	0.4				
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				
E12Q-STUPR/L1102-D140	●	●	14	12	7	180	27	11	0.6	+5°	-4°	0.4	TP□□1103*	CSTB-3L050	T-9F	1.4
E12Q-STUPR/L1103-D140	●	●	14	12	7	180	27	11	0.7	+5°	-6°	0.4				
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	TP□□1303*	CSTB-3S	T-9F	1.4
E16H-STUPR/L13-D180	●	●	18	16	9	100	32	15	0.9	+5°	-3°	0.4				
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	TP□□1303*	CSTB-3S	T-9F	1.4
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	TP□□1103*	CSTB-3S	T-9F	1.4
E20S-STUPR/L1103-D220	●	●	22	20	11	250	36	18	0.7	+5°	-2°	0.4				
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).

* Inserts of TPGH, TPGM and TPGA are not applicable.

● : Stocked items.

Features
(5-6)

Relating
pages

Sleeves
(5-68 ~)

Parts
(14-1~)



Min. bore dia.
ø17 mm~

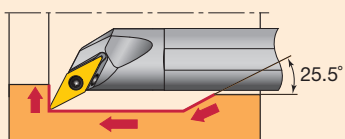
Shank dia.
ø12~25 mm

Positive rake / Screw-on system

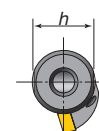
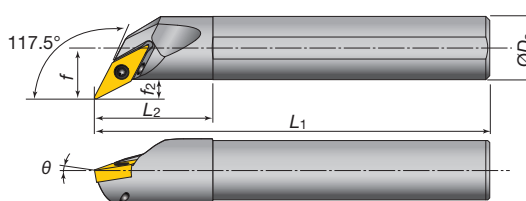
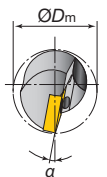
Steel
Shank

Carbide
Shank

Boring & internal profiling



Cutting edge style **F**



Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)							Std. corner radius r _E	Applicable inserts	Parts		Torque (N·m)	
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	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 r _E	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	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).



Min. bore dia.
ø20 mm~

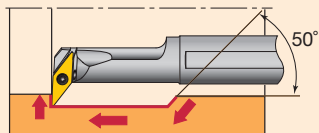
Shank dia.
ø16~25 mm

Positive rake / Screw-on system

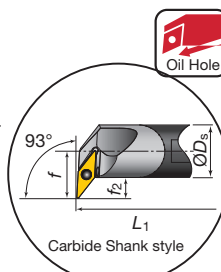
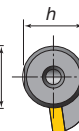
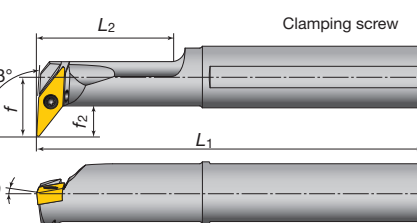
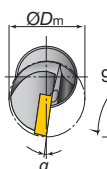
Steel
Shank

Carbide
Shank

Boring & internal profiling



Cutting edge style **U**



Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min bore,dia. ØDm	Dimensions (mm)							Std. corner radius r _E	Applicable inserts	Parts		Torque (N·m)	
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ			α	Clamping screw		Wrench
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		Min bore dia. ØDm	Dimensions (mm)								Std. corner radius r _E	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Clamping screw	Wrench	
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).

● : Stocked items.

STREAMJETBAR S-type

SVZBR/L



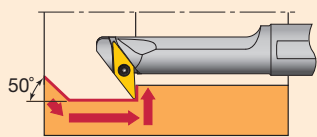
Min. bore dia.
ø20 mm~

Shank dia.
ø16~32 mm

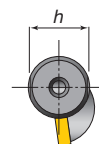
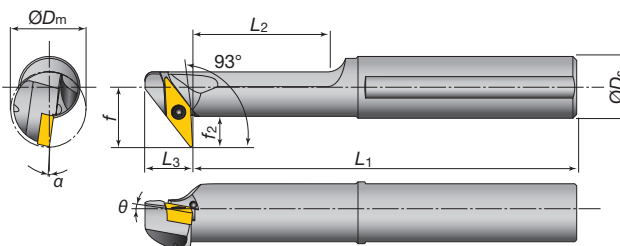
Positive rake / Screw-on system

Steel
Shank

Internal retracting



Cutting edge style **Z**



Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min bore dia ØDm	Dimensions (mm)									Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	L ₃	h	f ₂	θ	α			Clamping screw	Wrench	
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		CSTB-3.5	T-15F	
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	T-15F	

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).hh

STREAMJETBAR S-type

SVJBR/L



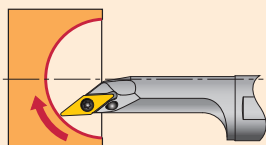
Min. bore dia.
ø25 mm~

Shank dia.
ø20~25 mm

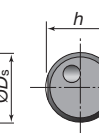
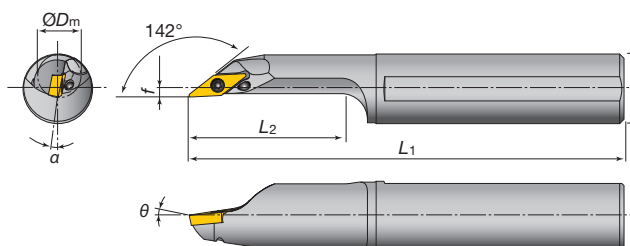
Positive rake / Screw-on system

Steel
Shank

Internal sphere cutting



Cutting edge style **J**



Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min bore dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Clamping screw	Wrench	
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		CSTB-2.5	T-8F	

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).

How to use SVJC(B)R/L-type tools [5-24](#)

Basic Selection Chipbreakers VB□□1103□□-□□

	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	SH730	AH725	T9115	T9125
	Page	2-134	2-133	2-133	2-133
P Steel	Chipbreaker	JS	PSF	PS	PSS
	Vc (m/min)	120 (50-180)	120 (50-180)	220 (150-300)	180 (120-150)
	ap (mm)	1.5 (0.1-3.0)	0.3 (0.1-0.5)	1.5 (0.5-2.5)	1.5 (0.5-3.0)
	f (mm/rev)	0.06 (0.02-0.1)	0.12 (0.08-0.2)	0.15 (0.08-0.3)	0.15 (0.08-0.3)
	r _ε (mm)	0.2	0.4	0.4	0.8

	Operation	Precision finishing	Finishing	Finishing to medium cutting
	Grade	BX930	TH10	T5115
	Page	3-14	2-134	2-133
K Cast Iron	Chipbreaker	T-CBN	J10	CM
	Vc (m/min)	700 (300-1200)	70 (30-100)	270 (140-400)
	ap (mm)	0.3 (0.05-0.5)	1.0 (0.5-2.0)	1.0 (0.05-2.0)
	f (mm/rev)	0.1 (0.05-0.2)	0.03 (0.01-0.05)	0.2 (0.05-0.3)
	r _ε (mm)	0.4	0.4	0.8

	Operation	Precision finishing	Finishing	Finishing to light cutting
	Grade	J740	AH725	AH725
	Page	2-134	2-133	2-133
M Stainless	Chipbreaker	FR/L-J10	PSF	PSS
	Vc (m/min)	50 (10-100)	120 (50-150)	120 (50-150)
	ap (mm)	1.0 (0.5-2.0)	0.3 (0.1-0.5)	1.2 (0.3-2.0)
	f (mm/rev)	0.03 (0.01-0.05)	0.12 (0.08-0.2)	0.15 (0.08-0.3)
	r _ε (mm)	0.2	0.4	0.8

	Operation	Precision finishing	Finishing
	Grade	BXM10	BXM20
	Page	3-13	3-13
H Hard Materials	Chipbreaker	T-CBN	T-CBN
	Vc (m/min)	200 (150-350)	150 (70-220)
	ap (mm)	0.1 (0.05-0.30)	0.2 (0.05-0.30)
	f (mm/rev)	0.1 (0.03-0.18)	0.1 (0.05-0.25)
	r _ε (mm)	0.4	0.4

For other machining types, see "Selection System"

[2-16~](#)

● : Stocked items.

5

TAC Internal Toolholders

Features
(5-6)

Relating
pages

Sleeves
(5-69)

Parts
(14-1~)

5-23

STREAMJETBAR S-type

SVQCR/L


Min. bore dia.
 $\phi 13.5 \text{ mm} \sim$

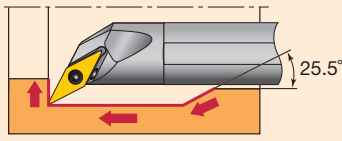
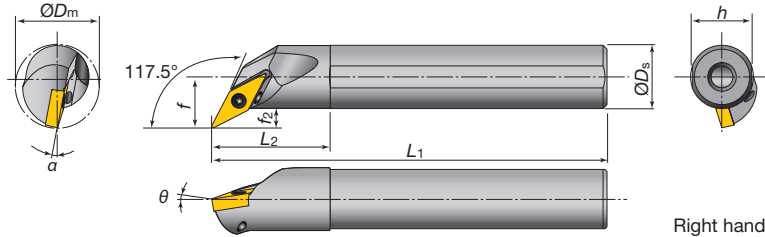
Shank dia.
 $\phi 10 \sim 40 \text{ mm}$

Steel
Shank

Carbide
Shank

Positive rake / Screw-on system

Boring & internal profiling


Cutting edge style **Q**


Right hand (R) shown.



Steel Shank

Toolholder Cat. No.	Stock		Min bore dia. ØDm	Dimensions (mm)								Std. corner radius r_E	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	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
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 r_E	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	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
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).

STREAMJETBAR S-type

SVUCR/L


Min. bore dia.
 $\phi 16 \text{ mm} \sim$

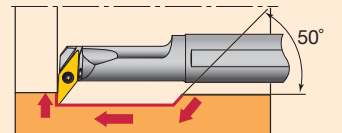
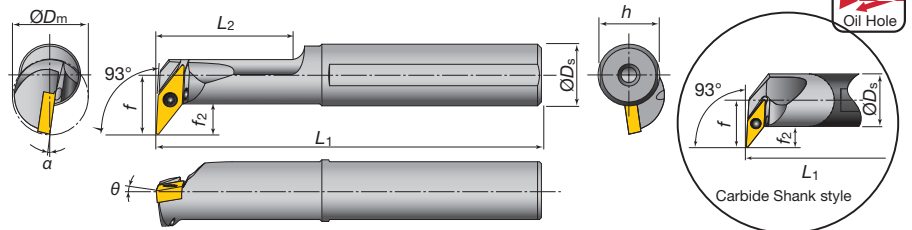
Shank dia.
 $\phi 12 \sim 40 \text{ mm}$

Steel
Shank

Carbide
Shank

Positive rake / Screw-on system

Boring & internal profiling


Cutting edge style **U**


Right hand (R) shown.



Steel Shank

Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius r _E	Applicable inserts	Parts		Torque (N·m)	
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Clamping screw	Wrench		
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		Min bore dia. ØDm	Dimensions (mm)								Std. corner radius r_E	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Clamping screw	Wrench	
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).

● : Stocked items.

STREAMJETBAR S-type SVZCR/L

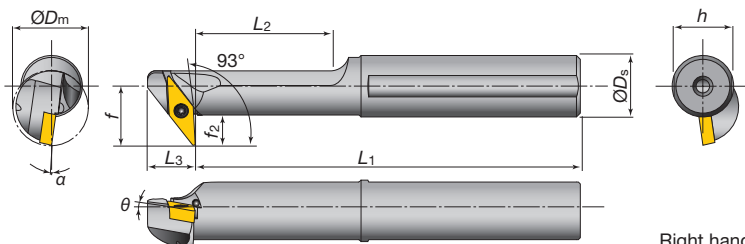
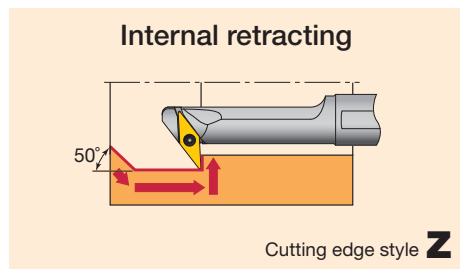


Min. bore dia.
Ø16 mm

Shank dia.
Ø12 mm

Positive rake / Screw-on system

Steel
Shank



Steel Shank

Toolholder Cat. No.	Stock		Min bore dia. ØDm	Dimensions (mm)									Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	L ₃	h	f ₂	θ	α			Clamping screw	Wrench	
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).

STREAMJETBAR S-type SVJCR/L

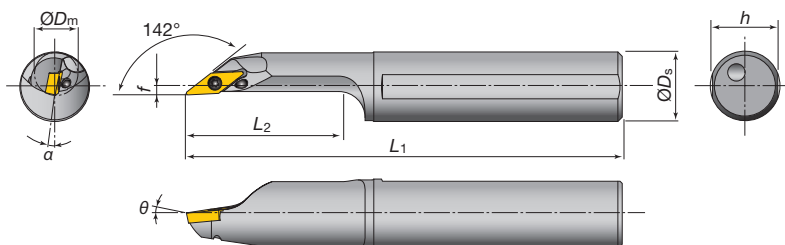
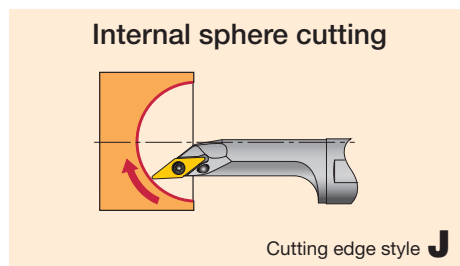


Min. bore dia.
Ø16 mm~

Shank dia.
Ø12~16 mm

Positive rake / Screw-on system

Steel
Shank



Steel Shank

Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Clamping screw	Wrench	
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).

How to use SVJC(B)/R/L-type tools [5-24](#)

Basic Selection Chipbreakers VC□□0802□□-□□

P Steel	Operation	Finishing to medium cutting
	Grade	AH725
	Page	2-135
	Chipbreaker	PSF
Continuous	Vc (m/min)	120 (50-180)
	ap (mm)	0.3 (0.1-0.5)
	f (mm/rev)	0.12 (0.08-0.2)
	r _ε (mm)	0.4

M Stainless	Operation	Finishing to medium cutting
	Grade	AH725
	Page	2-135
	Chipbreaker	PSF
Continuous	Vc (m/min)	120 (50-150)
	ap (mm)	0.3 (0.1-0.5)
	f (mm/rev)	0.12 (0.08-0.2)
	r _ε (mm)	0.4

● : Stocked items.

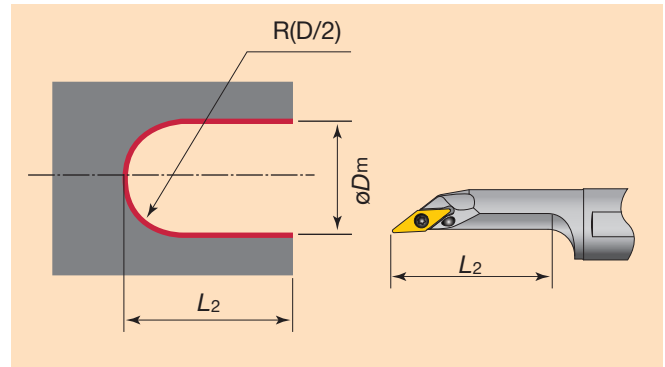
5

TAC Internal Toolholders

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

General machining information

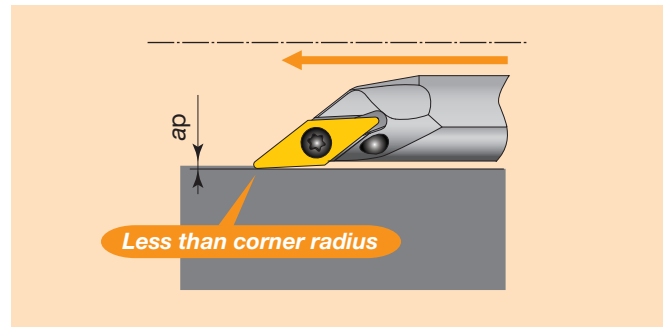
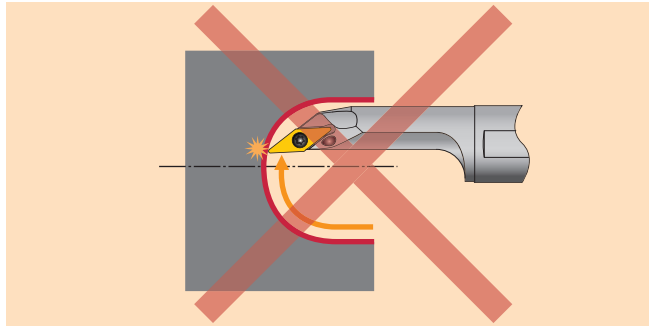
The minimum machinable radius (R) of the internal sphere is 1/2 of the minimum bore diameter (ϕD_m).
The maximum machinable depth of the bore is within the L_2 size of the tool.



Cautionary points

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

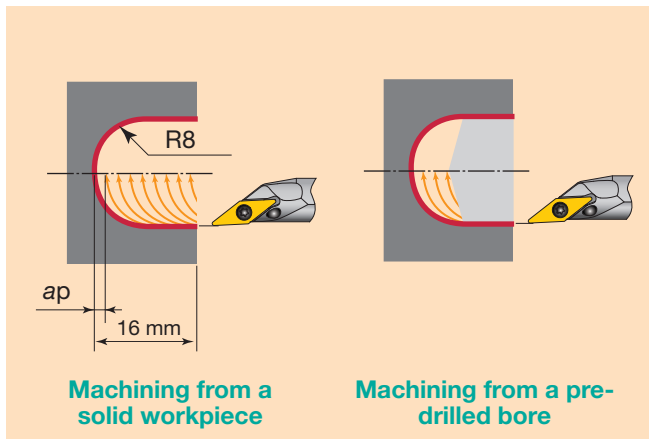
To avoid burr, the depth of cut should be within the corner radius.



Machining examples

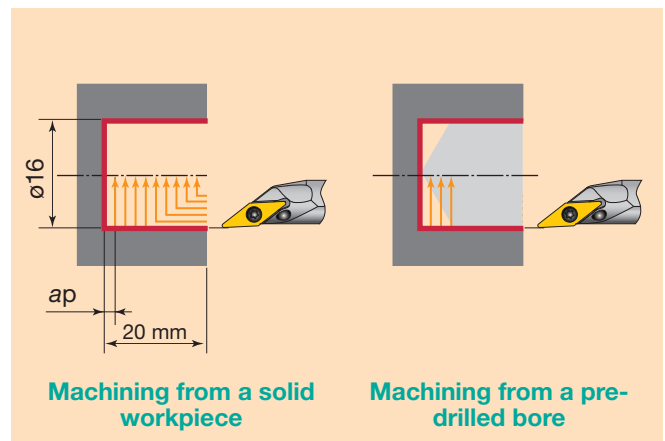
Machining of internal sphere

Work material : S45C
Toolholder : A12M-SVJCR08-D160
Insert : VCMT080204-PF (NS730)
Cutting speed : $V_c = \sim 100$ m/min
No of revs. : $n = 3000$ min⁻¹ (constant)
Feed : $f = 0.1$ mm/rev
Depth of cut : $a_p = 0.5$ mm



Machining of the bottom face of a bore

Work material : S45C
Toolholder : A12M-SVJCR08-D160
Insert : VCMT080204-PSF (T9115)
Cutting speed : $V_c = \sim 100$ 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 : $a_p = 0.5$ mm





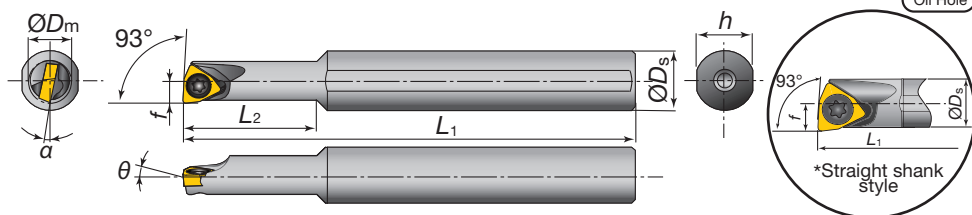
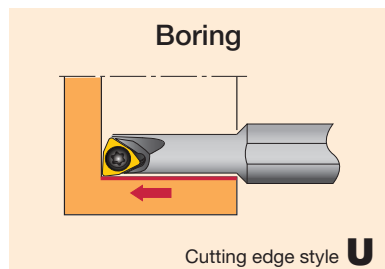
Min. bore dia.
ø6 mm~

Shank dia.
ø5~8 mm

Positive rake / Screw-on system

Steel
Shank

Carbide
Shank



Steel Shank

Right hand (R) shown.

Toolholder Cat. No.	Stock		Min. bore dia. ØDm	Dimensions (mm)								Std. corner radius r_ϵ	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L_1	L_2	h	f_2	θ	α			Clamping screw	Wrench	
MINI *A05F-SWUBR/L03-D060	●	●	6	5	3	80	9	4.8	-	0°	-13°	0.4	WB□□0301	CSTB-2	T-6F	0.6
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
MINI *A07G-SWUBR/L03-D080	●	●	8	7	4	90	12	6.75	-	0°	-11°	0.4	WB□□0301	CSTB-2	T-6F	0.6
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	WB□□0301	CSTB-2	T-6F	0.6

Carbide Shank

Toolholder Cat. No.	Stock		Min. bore dia. ØDm	Dimensions (mm)								Std. corner radius r_ϵ	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L_1	L_2	h	f_2	θ	α			Clamping screw	Wrench	
MINI *E05G-SWUBR/L03-D060	●	●	6	5	3	90	10	4.8	-	0°	-13°	0.4	WB□□0301	CSTB-2	T-6F	0.6
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
MINI *E07H-SWUBR/L03-D080	●	●	8	7	4	100	14	6.75	-	0°	-11°	0.4	WB□□0301	CSTB-2	T-6F	0.6
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	WB□□0301	CSTB-2	T-6F	0.6

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).

Basic Selection Chipbreakers WB□□0301□□-□□

P Steel	Operation	Finishing
	Grade	SH730
	Page	2-132
	Chipbreaker	
	Vc (m/min)	100 (50-150)
	ap (mm)	0.5 (0.05-1.0)
Continuous	f (mm/rev)	0.06 (0.02-0.1)
	f_ϵ (mm)	0.2

M Stainless	Operation	Finishing
	Grade	SH730
	Page	2-132
	Chipbreaker	
	Vc (m/min)	100 (30-150)
	ap (mm)	0.5 (0.05-1.0)
Continuous	f (mm/rev)	0.06 (0.02-0.1)
	f_ϵ (mm)	0.2

K Cast Iron	Operation	Finishing
	Grade	TH10
	Page	2-132
	Chipbreaker	
	Vc (m/min)	70 (30-100)
	ap (mm)	0.5 (0.05-2.0)
Continuous	f (mm/rev)	0.1 (0.03-0.2)
	f_ϵ (mm)	0.4

N Non-ferrous	Operation	Finishing
	Grade	GH110
	Page	2-132
	Chipbreaker	
	Vc (m/min)	600 (100-1000)
	ap (mm)	1.0 (0.5-2.0)
Continuous	f (mm/rev)	0.1 (0.03-0.2)
	f_ϵ (mm)	0.2

● : Stocked items.



Min. bore dia.
ø5.5 mm~

Shank dia.
ø4~5 mm

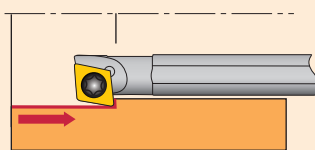
Positive rake / Screw-on system

Steel
Shank

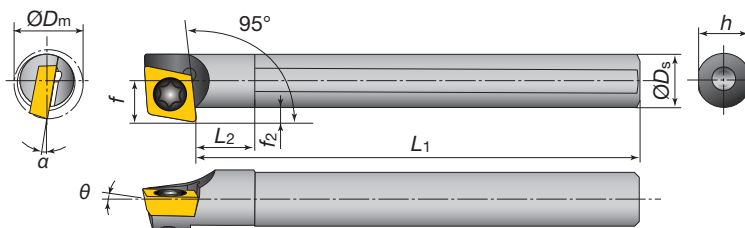
Carbide
Shank



Internal retracting



Cutting edge style **Z**



Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Clamping screw	Wrench	
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
MINI A05F-SEZPR/L03-D065	●	●	6.5	5	3.7	80	5	4.8			-6°					

Carbide Shank

Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Clamping screw	Wrench	
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
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).



Min. bore dia.
ø4.5 mm~

Shank dia.
ø4~8 mm

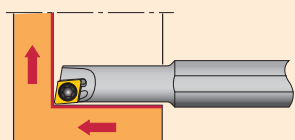
Positive rake / Screw-on system

Steel
Shank

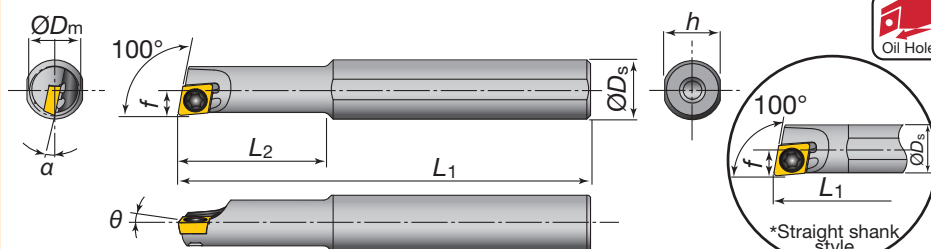
Carbide
Shank



Boring & internal facing



Cutting edge style **X**



Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Clamping screw	Wrench	
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
MINI *A04F-SEXPR/L03-D050	●	●	5	4	2.5	80	8	3.8	-	0°	-13°	0.2				
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
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				

Carbide Shank

Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Clamping screw	Wrench	
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
MINI *E04G-SEXPR/L03-D050	●	●	5	4	2.5	90	9	3.8	-	0°	-13°	0.2				
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
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				

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

● : Stocked items.

Basic Selection Chipbreakers EP□□0401□□-□□

P Steel	Operation	Finishing
	Grade	SH730
	Page	2-111
	Chipbreaker	W08 
	Vc (m/min)	100 (50-150)
	ap (mm)	0.5 (0.05-1.0)
Continuous	f (mm/rev)	0.06 (0.02-0.1)
	re (mm)	0.2

M Stainless	Operation	Finishing
	Grade	SH730
	Page	2-111
	Chipbreaker	W08 
	Vc (m/min)	100 (30-150)
	ap (mm)	0.5 (0.05-1.0)
Continuous	f (mm/rev)	0.06 (0.02-0.1)
	re (mm)	0.2

K Cast iron	Operation	Finishing
	Grade	TH10
	Page	2-111
	Chipbreaker	W08 
	Vc (m/min)	70 (30-100)
	ap (mm)	0.5 (0.05-2.0)
Continuous	f (mm/rev)	0.1 (0.03-0.2)
	re (mm)	0.4

N Non-ferrous	Operation	Precision finishing	Finishing
	Grade	DX140	GH110
	Page	3-23	2-111
	Chipbreaker	T-DIA 	W08 
	Vc (m/min)	1500 (500-2500)	600 (100-1000)
	ap (mm)	0.1 (0.03-0.5)	1.0 (0.5-2.0)
Continuous	f (mm/rev)	0.1 (0.05-0.15)	0.1 (0.03-0.2)
	re (mm)	0.2	0.4

H Hard Materials	Operation	Precision finishing
	Grade	BX310
	Page	3-15
	Chipbreaker	T-CBN 
	Vc (m/min)	80 (30-150)
	ap (mm)	0.1 (0.03-0.2)
Continuous	f (mm/rev)	0.05 (0.03-0.1)
	re (mm)	0.2

● : Stocked items.

STREAMJETBAR S-type

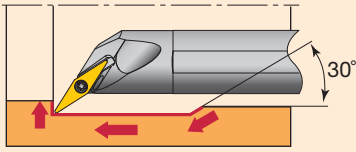
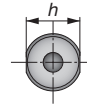
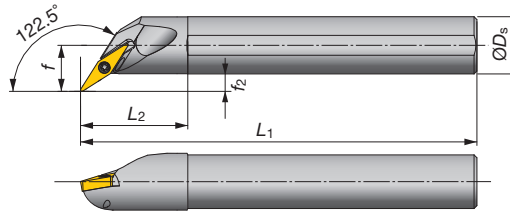
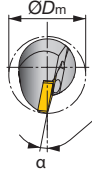
SYQBR/L

Min. bore dia.
ø17 mm~Shank dia.
ø12~16 mm

Positive rake / Screw-on system

Steel
ShankCarbide
Shank

Internal undercut & profiling

Cutting edge style **Q**

Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min bore dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Clamping screw	Wrench	
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		Min bore.dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Clamping screw	Wrench	
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				

STREAMJETBAR S-type

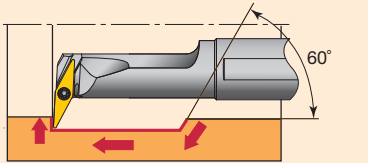
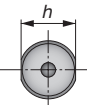
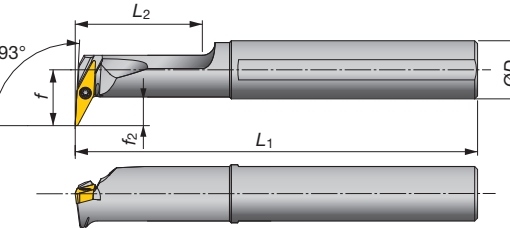
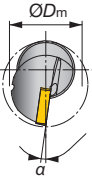
SYUBR/L

Min. bore dia.
ø20 mm~Shank dia.
ø12~16 mm

Positive rake / Screw-on system

Steel
ShankCarbide
Shank

Boring & internal profiling

Cutting edge style **U**

Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)							Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)	
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ			α	Clamping screw		Wrench
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		Min bore dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Clamping screw	Wrench	
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				

Basic Selection Chipbreakers YW□□11T2□□-□□

P Steel	Operation	Finishing	Finishing to medium cutting
	Grade	GT730	T9125
	Page	2-139	2-139
	Chipbreaker	ZF	ZM
Continuous	V _c (m/min)	200 (150-300)	180 (120-250)
	a _p (mm)	0.5 (0.2-1.0)	1.4 (0.75-2.0)
	f (mm/rev)	0.15 (0.08-0.2)	0.2 (0.1-0.25)
	r _ε (mm)	0.4	0.8

● : Stocked items.



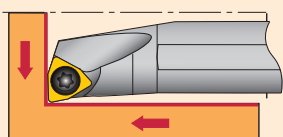
Min. bore dia.
ø12 mm~

Shank dia.
ø10~20 mm

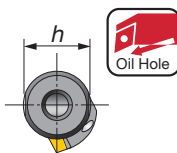
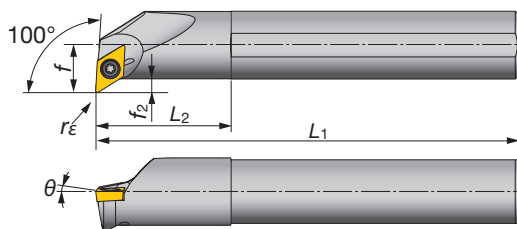
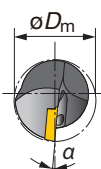
Steel
Shank

Carbide
Shank

Boring & internal facing



Cutting edge style **L**



Right hand (R) shown.

Steel shank

Cat. No	Stock		Min bore dia. øDm	Dimensions (mm)								Std. corner radius rE	Insert	Parts		Torque (N·m)
	R	L		øDs	f	L1	L2	h	f2	θ	α			Clamping screw	Wrench	
A10K-SWLXR/L04-D120	●	●	12	10	6	125	20	9	-	-10°	-16°	0.4	WXGU0403** L/R	SR34-514	T-7F	0.9
A12M-SWLXR/L04-D140	●	●	14	12	7	150	24	11	-	-10°	-14°	0.4				
A16Q-SWLXR/L04-D180	●	●	18	16	9	180	32	15	-	-10°	-11°	0.4				
A20R-SWLXR/L04-D220	●	●	22	20	11	200	36	18	-	-10°	-10°	0.4				

Carbide shank

Cat. No	Stock		Min bore dia. øDm	Dimensions (mm)								Std. corner radius rE	Insert	Parts		Torque (N·m)
	R	L		øDs	f	L1	L2	h	f2	θ	α			Clamping screw	Wrench	
E10M-SWLXR/L04-D120	●	●	12	10	6	150	25	9	-	-10°	-16°	0.4	WXGU0403** L/R	SR34-514	T-7F	0.9
E12Q-SWLXR/L04-D140	●	●	14	12	7	180	27	11	-	-10°	-14°	0.4				
E16R-SWLXR/L04-D180	●	●	18	16	9	200	32	15	-	-10°	-11°	0.4				
E20S-SWLXR/L04-D220	●	●	22	20	11	250	36	18	-	-10°	-10°	0.4				

When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SWLXL04-D**), and the left hand insert (L) is used for the right hand toolholders (SWLXR04-D**).



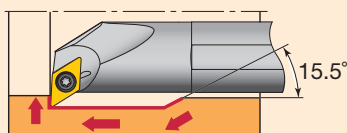
Min. bore dia.
ø13 mm~

Shank dia.
ø10~20 mm

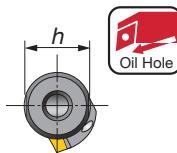
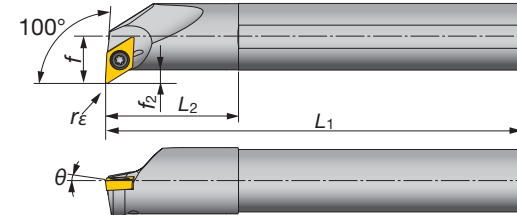
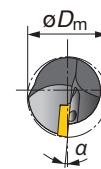
Steel
Shank

Carbide
Shank

Boring & internal profiling



Cutting edge style **X**



Right hand (R) shown.

Steel shank

Cat. No	Stock		Min bore dia. øDm	Dimensions (mm)								Std. corner radius rE	Insert	Parts		Torque (N·m)
	R	L		øDs	f	L1	L2	h	f2	θ	α			Clamping screw	Wrench	
A10K-SDXXR/L07-D130	●	●	13	10	7.6	125	20	9	2.6	-14°	-16°	0.4	DXGU0703** L/R	SR34-514	T-7F	0.9
A12M-SDXXR/L07-D160	●	●	16	12	8.6	150	24	11	2.6	-14°	-14°	0.4				
A16Q-SDXXR/L07-D200	●	●	20	16	10.6	180	32	15	2.6	-13°	-13°	0.4				
A20R-SDXXR/L07-D240	●	●	24	20	12.6	200	36	18	2.6	-13°	-12°	0.4				

Carbide shank

Cat. No	Stock		Min bore dia. øDm	Dimensions (mm)								Std. corner radius rE	Insert	Parts		Torque (N·m)
	R	L		øDs	f	L1	L2	h	f2	θ	α			Clamping screw	Wrench	
E10M-SDXXR/L07-D130	●	●	13	10	7.6	150	25	9	2.6	-14°	-16°	0.4	DXGU0703** L/R	SR34-514	T-7F	0.9
E12Q-SDXXR/L07-D160	●	●	16	12	8.6	180	27	11	2.6	-14°	-14°	0.4				
E16R-SDXXR/L07-D200	●	●	20	16	10.6	200	32	15	2.6	-13°	-13°	0.4				
E20S-SDXXR/L07-D240	●	●	24	20	12.6	250	36	18	2.6	-13°	-12°	0.4				

When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SDXXL07-D**), and the left hand insert (L) is used for the right hand toolholders (SDXXR07-D**).

● : Stocked items.



Min. bore dia.
ø14 mm~

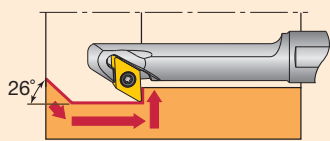
Shank dia.
ø12~20 mm

Steel
Shank

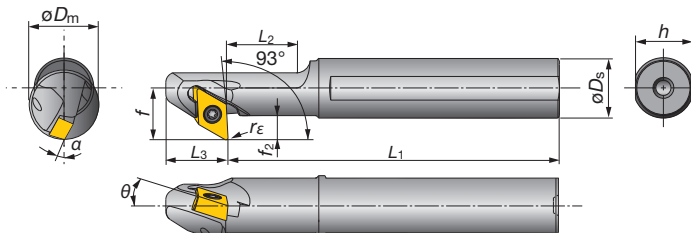
Carbide
Shank

New

Internal retracting



Cutting edge style **Z**



Right hand (R) shown.

Steel shank

Cat. No	Stock		Min bore dia. øDm	Dimensions (mm)									Std. corner radius r _ε	Insert	Parts		Torque (N·m)
	R	L		øDs	f	L ₁	L ₂	L ₃	h	f ₂	θ	α			Clamping screw	Wrench	
A12M-SDZXR/L07-D140	★	★	14	12	11	150	30	13	11	4.5	-10°	-14°	0.4	DXGU0703** R/L	SR34-514	T-7F	0.9
A16Q-SDZXR/L07-D160	★	★	16	16	13	180	35	13	15	4.5	-10°	-12.5°	0.4				
A20R-SDZXR/L07-D200	★	★	20	20	15	200	40	13	18	4.5	-10°	-10.5°	0.4				

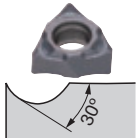
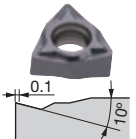
Carbide shank

Cat. No	Stock		Min bore dia. øDm	Dimensions (mm)									Std. corner radius r _ε	Insert	Parts		Torque (N·m)
	R	L		øDs	f	L ₁	L ₂	L ₃	h	f ₂	θ	α					
E12Q-SDZXR/L07-D180	★	★	18	12	11	180	-	13	11	4.5	-11°	-11°	0.4	DXGU0703** R/L	SR34-514	T-7F	0.9
E16R-SDZXR/L07-D220	★	★	22	16	13	200	-	13	15	4.5	-11°	-9°	0.4				

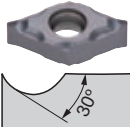
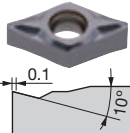
When using a right or left hand insert, the right hand insert (R) is used with the right hand toolholders (SDZXR07-D**), and the left hand insert (L) is used with the left hand toolholders (SDZXL07-D**).

● : Stocked items.
★ : Available in 2013

Inserts 80° Trigon

Application	Chipbreaker	Cat. No.	Grades			Dimensions (mm)			
	Appearance (Cross section)		Coated	Coated cermet	Cermet	I.C. dia. ød	Thickness s	Hole dia. ød1	Corner radius r _E
			AH725	GT530	NS530				
New Finishing (low cutting forces)	SS 	WXGU040302R-SS	●	●	●	6.35	3.18	2.7	0.2
		WXGU040302L-SS	●	●	●				0.4
		WXGU040304R-SS	●	●	●				
		*WXGU040304L-SS	●	●	●				
Finishing to medium cutting	TS 	WXGU040302R-TS	●	●	●	6.35	3.18	2.7	0.2
		WXGU040302L-TS	●	●	●				0.4
		WXGU040304R-TS	●	●	●				
		*WXGU040304L-TS	●	●	●				
		WXGU040308R-TS	●	●	●				0.8
		WXGU040308L-TS	●	●	●				

55° Rhombic

Application	Chipbreaker	Cat. No.	Grades			Dimensions (mm)			
	Appearance (Cross section)		Coated	Coated cermet	Cermet	I.C. dia. ød	Thickness s	Hole dia. ød1	Corner radius r _E
			AH725	GT530	NS530				
New Finishing (low cutting forces)	SS 	DXGU070302R-SS	●	●	●	6.35	3.18	2.7	0.2
	DXGU070302L-SS	●	●	●	0.4				
	DXGU070304R-SS	●	●	●					
	*DXGU070304L-SS	●	●	●					
Finishing to medium cutting	TS 	DXGU070302R-TS	●	●	●	6.35	3.18	2.7	0.2
	DXGU070302L-TS	●	●	●	0.4				
	DXGU070304R-TS	●	●	●					
	*DXGU070304L-TS	●	●	●					
	DXGU070308R-TS	●	●	●	0.8				
	DXGU070308L-TS	●	●	●					

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

● : Stocked items.

● Standard cutting conditions

Work materials	Priority	Grades	Cutting Speed V _c (m/min)	Chip- breaker	Depth of cut a _p (mm)	Feed f (mm/rev)
Low carbon steels SS400, SM490, S25C etc. (St42-1, St52-3, C25 etc.) Carbon steels S45C, S55C etc. (C45, C55 etc.) Low alloy steels SCM415 etc. Alloy steels SCM440, SCr420 etc. (42CrMo4, 20Cr4 etc.)	First choice	AH725	50 ~ 180	SS	0.15 - 1.5	0.05 - 0.2
				TS	0.3 - 2.0	0.08 - 0.3
	For improved surface finish	NS530	80 ~ 250	SS	0.15 - 1.5	0.05 - 0.2
				TS	0.3 - 2.0	0.08 - 0.3
	For wear resistance	GT530	80 ~ 300	SS	0.15 - 1.5	0.05 - 0.2
				TS	0.3 - 2.0	0.08 - 0.3
Stainless steels (Austenitic) SUS304, SUS316 etc. (X5CrNi18-9, X5CrNiMo17-12-2 etc.) Stainless steels (Martensitic and ferritic) SUS430, SUS416 etc. (X6Cr17, X20Cr13 etc.) Stainless steels (Precipitation hardening) SUS630 etc. (X5CrNiCuNb16-4 etc.)	First choice	AH725	50 ~ 150	SS	0.15 - 1.5	0.05 - 0.2
				TS	0.3 - 2.0	0.08 - 0.3
Grey cast irons FC250 etc. (GG25 etc.)	First choice	AH725	50 ~ 180	SS	0.15 - 1.5	0.05 - 0.2
				TS	0.3 - 2.0	0.08 - 0.3
	For improved surface finish	NS530	80 ~ 250	SS	0.15 - 1.5	0.05 - 0.2
				TS	0.3 - 2.0	0.08 - 0.3
	For wear resistance	GT530	80 ~ 300	SS	0.15 - 1.5	0.05 - 0.2
				TS	0.3 - 2.0	0.08 - 0.3
Ductile cast irons FCD700 etc. (GGG70 etc.)	First choice	AH725	50 ~ 120	SS	0.15 - 1.5	0.05 - 0.2
				TS	0.3 - 2.0	0.08 - 0.3
	For improved surface finish	NS530	80 ~ 150	SS	0.15 - 1.5	0.05 - 0.2
				TS	0.3 - 2.0	0.08 - 0.3
	For wear resistance	GT530	80 ~ 180	SS	0.15 - 1.5	0.05 - 0.2
				TS	0.3 - 2.0	0.08 - 0.3

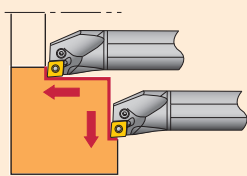


Min. bore dia.
ø20 mm~

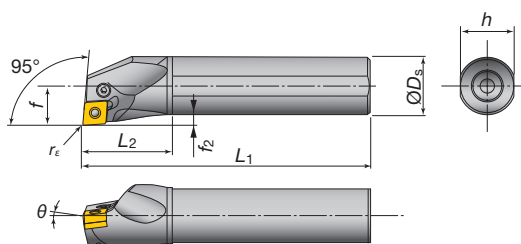
Shank dia.
ø16~50 mm

Steel
Shank

Boring & internal facing



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			Shim	Lever	Clamping screw	Spring pin	Wrench	Oil supply attachment	Screw for oil hole						
A16M-PCLNR/L09-D200	●	●	20	16	11	150	32	15	3	-6°	-14°	0.8	CN□□0903	-	LCL32N	LCS22A	-	P-2F	-	SSH3-4	1.7					
A20Q-PCLNR/L09-D250	●	●	25	20	13	180	36	18	3	-6°	-12°	0.8							EA-20	SSH5-6						
A25R-PCLNR/L09-D320	●	●	32	25	17	200	45	23	4.5	-6°	-11°	0.8							EA-25	SSH5-6						
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	SSH5-6	2.7					
A32S-PCLNR/L12-D400	●	●	40	32	22	250	50	30	6	-6°	-11°	0.8							EA-32	SSH6-6						
A40T-PCLNR/L12-D500	●	●	50	40	27	300	60	37	7	-6°	-10°	0.8							LSC42BR/L	LCL4	LCS4	LSP4	P-3	-	SSH6-6	4.8
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).

Basic Selection Chipbreakers CN□□1204□□-□□

P Steel	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	NS730	GT730	T9115	T9115
Continuous	Page	2-42	2-42	2-45	2-48
	Chipbreaker	TF	TSF	TM	TH
	Vc (m/min)	200 (150-250)	200 (150-300)	220 (150-300)	220 (150-300)
	ap (mm)	0.3 (0.05-0.5)	1.0 (0.3-1.5)	3.0 (1.0-5.0)	4.0 (3.0-6.0)
	f (mm/rev)	0.1 (0.03-0.15)	0.15 (0.08-0.3)	0.3 (0.2-0.5)	0.3 (0.2-0.6)
	rε (mm)	0.4	0.4	0.8	1.2

M Stainless	Operation	Finishing	Finishing to medium cutting	Medium cutting
	Grade	T6120	T6130	T6130
Continuous	Page	2-42	2-46	2-49
	Chipbreaker	SF	SM	SH
	Vc (m/min)	150 (100-200)	120 (70-150)	120 (70-150)
	ap (mm)	1.0 (0.5-3.0)	2.0 (0.5-4.0)	3.0 (3.0-6.0)
	f (mm/rev)	0.1 (0.03-0.15)	0.3 (0.2-0.5)	0.3 (0.2-0.5)
	rε (mm)	0.4	0.8	1.6

K Cast Iron	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	BX930	T5115	T5115	T5115
Continuous	Page	3-7	2-43	2-46	2-49
	Chipbreaker	T-CBN	CF	CM	CH
	Vc (m/min)	700 (300-1200)	270 (140-400)	270 (150-400)	270 (140-400)
	ap (mm)	0.3 (0.05-0.5)	1.0 (0.5-2.0)	2.0 (1.0-5.0)	4.0 (2.0-6.0)
	f (mm/rev)	0.1 (0.05-0.2)	0.15 (0.05-0.2)	0.3 (0.15-0.4)	0.4 (0.2-0.6)
	rε (mm)	0.4	0.4	0.8	1.2

N Non-ferrous	Operation	Precision finishing	Finishing	Finishing to medium cutting
	Grade	DX120	TH10	GH110
Continuous	Page	3-21	2-42	2-48
	Chipbreaker	T-DIA With chipbreaker	O1	P
	Vc (m/min)	1500 (500-2500)	600 (100-1000)	600 (100-1000)
	ap (mm)	0.5 (0.05-1.0)	0.5 (0.05-1.0)	2.0 (0.5-4.0)
	f (mm/rev)	0.1 (0.05-0.2)	0.1 (0.03-0.15)	0.3 (0.2-0.5)
	rε (mm)	0.4	0.4	0.8

S Superalloys	Operation	Precision finishing	Finishing to medium cutting	Medium cutting
	Grade	BX470	AH905	AH120
Continuous	Page	3-7	2-47	2-48
	Chipbreaker	T-CBN	HMM	SA
	Vc (m/min)	200 (100-280)	50 (20-100)	50 (20-80)
	ap (mm)	0.3 (0.1-0.5)	1.5 (0.5-3.0)	2.0 (1.0-4.0)
	f (mm/rev)	0.1 (0.05-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.5)
	rε (mm)	0.4	0.8	0.8

H Hard Materials	Operation	Precision finishing	Finishing
	Grade	BXM10	BXM20
Continuous	Page	3-7	3-7
	Chipbreaker	T-CBN	T-CBN
	Vc (m/min)	200 (150-350)	150 (70-220)
	ap (mm)	0.1 (0.05-0.30)	0.2 (0.05-0.30)
	f (mm/rev)	0.1 (0.03-0.18)	0.1 (0.05-0.25)
	rε (mm)	0.4	0.4

For other machining types, see "Selection System" ➤ 2-4 ~

● : Stocked items.

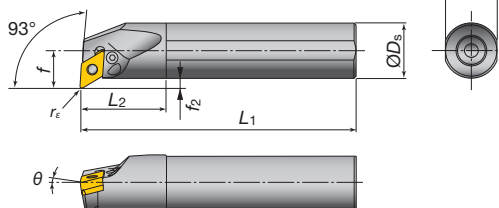
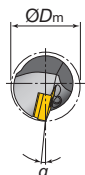
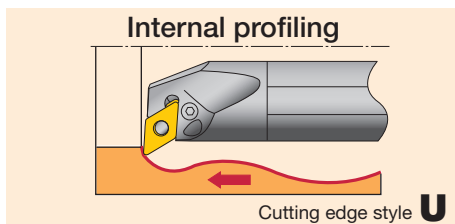
PDUNR/L



Min. bore dia.
ø25 mm~

Shank dia.
ø20~50 mm

Steel
Shank



Right hand (R) shown.



Steel Shank

Toolholder Cat. No.	Stock		Min bore dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts							Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Shim	Lever	Clamping screw	Spring pin	Wrench	Oil supply attachment	Screw for oil hole	
A20Q-PDUNR/L11-D250	●	●	25	20	13	180	36	18	3	-6°	-14°	0.8	DN□□1104	-	LCL33NL	LCS22A	-	P-2F	EA-20	SSH2.5-3	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	SSH3-4	2.7
A32S-PDUNR/L15-D400	●	●	40	32	22	250	50	30	6	-6°	-13°	0.8							EA-32	SSH5-6	
A40T-PDUNR/L15-D500	●	●	50	40	27	300	60	37	7	-6°	-10°	0.8	DN□□1504	LSD42BR/L	LCL4	LCS4	LSP4	P-3	-	SSH6-6	4.8
A50U-PDUNR/L15-D630	●	●	63	50	35	350	65	47	10	-6°	-8°	0.8							EA-32	SSH5-6	
A32S-PDUNR/L1506-D400	●	●	40	32	22	250	50	30	6	-6°	-13°	0.8							EA-32	SSH5-6	
A40T-PDUNR/L1506-D500	●	●	50	40	27	300	60	37	7	-6°	-11°	0.8	DN□□1506	ELSD42	LCL44	ELCS4	LSP4S	P-3	-	SSH6-6	4.8
A50U-PDUNR/L1506-D630	●	●	63	50	35	350	65	47	10	-6°	-10°	0.8							-	SSH6-6	

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).

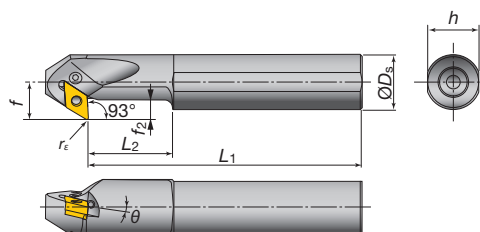
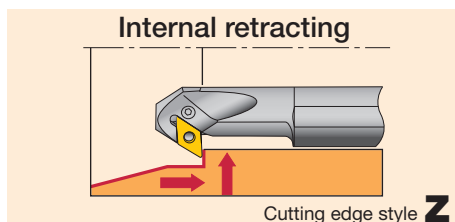
PDZNR/L



Min. bore dia.
ø40 mm~

Shank dia.
ø32~50 mm

Steel
Shank



Right hand (R) shown.



Steel Shank

Toolholder Cat. No.	Stock		Min bore dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts							Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Shim	Lever	Clamping screw	Spring pin	Wrench	Oil supply attachment	Screw for oil hole	
A32S-PDZNR/L15-D400	●	●	40	32	22	250	50	30	11.5	-6°	-13°	0.8							EA-32	SSH4-5	
A40T-PDZNR/L15-D500	●	●	50	40	27	300	60	37	14.5	-6°	-10°	0.8	DN□□1504	LSZ42BR/L	LCL4	LCS4	LSP4	P-3	-	SSH5-6	4.8
A50U-PDZNR/L15-D630	●	●	63	50	35	350	65	47	14.5	-6°	-8°	0.8							-	SSH6-6	

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).

Basic Selection Chipbreakers DN□□1504□□-□□

Operation	Precision finishing		Finishing		Finishing to medium cutting		Medium cutting	
	Grade	Page	Grade	Page	Grade	Page	Grade	Page
P Steel Continuous	NS730		GT730		T9115		T9115	
	2-52		2-52		2-55		2-58	
	TF		TSF		TM		TH	
	Vc (m/min)		200 (150-250)		200 (150-300)		220 (150-300)	
	ap (mm)		0.3 (0.05-0.5)		1.0 (0.3-1.5)		3.0 (1.0-5.0)	
	f (mm/rev)		0.1 (0.03-0.15)		0.15 (0.08-0.3)		0.3 (0.2-0.5)	
	r _ε (mm)		0.4		0.4		0.8	

Operation	Precision finishing		Finishing		Finishing to medium cutting		Medium cutting	
	Grade	Page	Grade	Page	Grade	Page	Grade	Page
K Cast Iron Continuous	BX930		T5115		T5115		T5115	
	3-7		2-53		2-56		2-59	
	T-CBN		CF		CM		CH	
	Vc (m/min)		700 (300-1200)		270 (140-400)		270 (140-400)	
	ap (mm)		0.3 (0.05-0.5)		1.0 (0.5-2.0)		4.0 (2.0-6.0)	
	f (mm/rev)		0.1 (0.05-0.2)		0.15 (0.05-0.2)		0.3 (0.15-0.4)	
	r _ε (mm)		0.4		0.4		0.8	

Operation	Precision finishing		Finishing		Finishing to medium cutting		Medium cutting	
	Grade	Page	Grade	Page	Grade	Page	Grade	Page
S Superalloys Continuous	BX470		KS20		AH905		AH120	
	3-7		2-53		2-56		2-55	
	T-CBN		SS		HMM		All-round	
	Vc (m/min)		200 (100-280)		50 (30-70)		50 (20-100)	
	ap (mm)		0.3 (0.1-0.5)		1.0 (0.5-3.0)		3.0 (1.0-6.0)	
	f (mm/rev)		0.1 (0.05-0.2)		0.15 (0.08-0.2)		0.2 (0.1-0.3)	
	r _ε (mm)		0.4		0.8		0.8	

Operation	Finishing		Finishing to medium cutting		Medium cutting	
	Grade	Page	Grade	Page	Grade	Page
M Stainless Continuous	T6120		T6130		T6130	
	2-53		2-55		2-58	
	SF		SM		SH	
	Vc (m/min)		150 (100-200)		120 (70-150)	
	ap (mm)		1.0 (0.5-3.0)		2.0 (0.5-4.0)	
	f (mm/rev)		0.1 (0.03-0.15)		0.3 (0.2-0.4)	
	r _ε (mm)		0.4		0.8	

Operation	Precision finishing		Finishing		Finishing to medium cutting	
	Grade	Page	Grade	Page	Grade	Page
N Non-ferrous Continuous	DX120		GH110		GH110	
	3-21		2-52		2-58	
	T-DIA With chipbreaker		O1		P	
	Vc (m/min)		1500 (500-2500)		600 (100-1000)	
	ap (mm)		0.5 (0.05-1.0)		2.0 (0.5-4.0)	
	f (mm/rev)		0.1 (0.05-0.2)		0.3 (0.2-0.5)	
	r _ε (mm)		0.4		0.8	

Operation	Precision finishing		Finishing	
	Grade	Page	Grade	Page
H Hard Materials Continuous	BXM10		BXM20	
	3-7		3-7	
	T-CBN		T-CBN	
	Vc (m/min)		200 (150-350)	
	ap (mm)		0.1 (0.05-0.30)	
	f (mm/rev)		0.1 (0.03-0.18)	
	r _ε (mm)		0.4	

For other machining types, see "Selection System"



PSKNR/L



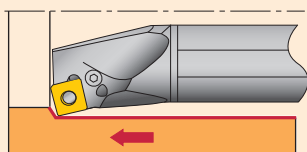
Min. bore dia.
ø40 mm~

Shank dia.
ø32~50 mm

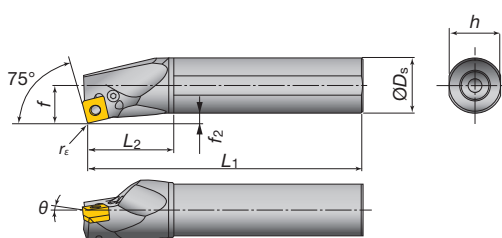
Steel
Shank



Through boring



Cutting edge style **K**



Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min bore dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts							Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Shim	Lever	Clamping screw	Spring pin	Wrench	Oil supply attachment	Screw for oil hole	
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	SSH4M4-5	4.8
A40T-PSKNR/L12-D500	●	●	50	40	27	300	60	37	7	-6°	-10°	0.8									
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).

Basic Selection Chipbreakers SN□□1204□□-□□

P Steel 	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	NS730	GT730	T9115	T9115
	Page	2-61	2-61	2-64	2-67
	Chipbreaker	TF	TSF	TM	TH
	V _c (m/min)	200 (150-250)	200 (150-300)	220 (150-300)	220 (150-300)
	ap (mm)	0.3 (0.05-0.5)	1.0 (0.3-1.5)	3.0 (1.0-5.0)	4.0 (3.0-6.0)
	f (mm/rev)	0.1 (0.03-0.15)	0.15 (0.08-0.3)	0.3 (0.2-0.5)	0.3 (0.2-0.5)
	r _ε (mm)	0.4	0.4	0.8	1.2

M Stainless 	Operation	Finishing	Finishing to medium cutting	Medium cutting
	Grade	T6120	T6130	T6130
	Page	2-62	2-64	2-67
	Chipbreaker	SF	SM	SH
	V _c (m/min)	150 (100-200)	120 (70-150)	120 (70-150)
	ap (mm)	1.0 (0.5-3.0)	2.0 (0.5-4.0)	3.0 (3.0-6.0)
	f (mm/rev)	0.1 (0.03-0.15)	0.3 (0.2-0.4)	0.3 (0.2-0.3)
	r _ε (mm)	0.4	0.8	1.6

K Cast Iron 	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	BX930	T5115	T5115	T5115
	Page	3-8	2-62	2-65	2-67
	Chipbreaker	T-CBN	CF	CM	CH
	V _c (m/min)	700 (300-1200)	270 (140-400)	270 (150-400)	270 (140-400)
	ap (mm)	0.3 (0.05-0.5)	1.0 (0.5-2.0)	2.0 (1.0-5.0)	4.0 (2.0-6.0)
	f (mm/rev)	0.1 (0.05-0.2)	0.15 (0.05-0.2)	0.3 (0.15-0.4)	0.4 (0.2-0.6)
	r _ε (mm)	0.4	0.4	0.8	1.2

N Non-ferrous 	Operation	Precision finishing	Finishing to medium cutting
	Grade	DX140	GH110
	Page	3-21	2-66
	Chipbreaker	T-DIA	P
	V _c (m/min)	1500 (500-2500)	600 (100-1000)
	ap (mm)	0.5 (0.05-1.0)	2.0 (0.5-4.0)
	f (mm/rev)	0.1 (0.05-0.2)	0.3 (0.2-0.5)
	r _ε (mm)	0.4	0.8

S Superalloys 	Operation	Finishing	Finishing to medium cutting	Medium cutting
	Grade	BX480	AH905	AH120
	Page	3-8	2-65	2-66
	Chipbreaker	T-CBN	HMM	SA
	V _c (m/min)	200 (70-300)	50 (20-100)	50 (20-80)
	ap (mm)	0.3 (0.1-0.5)	1.5 (0.5-3.0)	2.0 (1.0-4.0)
	f (mm/rev)	0.1 (0.05-0.3)	0.2 (0.1-0.3)	0.3 (0.2-0.5)
	r _ε (mm)	0.4	0.8	0.8

H Hard Materials 	Operation	Finishing
	Grade	BXM20
	Page	3-8
	Chipbreaker	T-CBN
	V _c (m/min)	150 (70-220)
	ap (mm)	0.2 (0.05-0.30)
	f (mm/rev)	0.1 (0.05-0.25)
	r _ε (mm)	0.4

For other machining types, see "Selection System"

➤ 2-4 ~

● : Stocked items.

STREAMJETBAR P-type

PTFNR/L

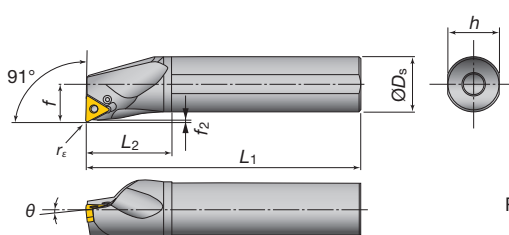
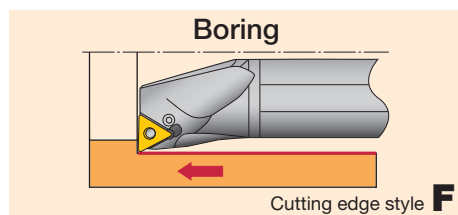


Min. bore dia.
ø32 mm~

Shank dia.
ø25~50 mm

Negative rake / Lever-lock system

Steel
Shank



Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min bore dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts							Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Shim	Lever	Clamping screw	Spring pin	Wrench	Oil supply attach- ment	Screw for oil hole	
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	SSH4-5	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				-		
A50U-PTFNR/L16-D630	●	●	63	50	35	350	65	47	1.1	-6°	-8°	0.8							SSH6-6		

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

STREAMJETBAR P-type

PTUNR/L

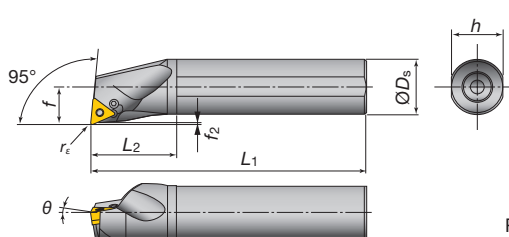
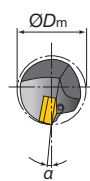
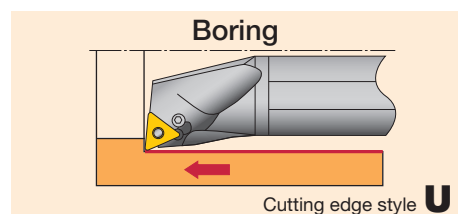


Min. bore dia.
ø20 mm~

Shank dia.
ø16~32 mm

Negative rake / Lever-lock system

Steel
Shank



Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min bore.dia. ØDm	Dimensions (mm)									Std. corner radius r _ε	Applicable inserts	Parts							Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α	Shim			Lever	Clamping screw	Spring pin	Wrench	Oil supply attach- ment	Screw for oil hole		
A16M-PTUNR/L11-D200	●	●	20	16	11	150	32	15	1	-6°	-14°	0.4	TN□□1103	-	LCL22N	LCS22A	-	P-2F	EA-20	SSH3-4	1.7	
A20Q-PTUNR/L11-D250	●	●	25	20	13	180	36	18	1	-6°	-12°	0.4										
A25R-PTUNR/L16-D320	●	●	32	25	17	200	45	23	1.4	-6°	-12°	0.8	TN□□1604	ELST317BR/L LST317BR/L	LCL33 LCL3	LCS3	LSP3	P-2.5	EA-25 EA-32	SSH4-5	2.7	
A32S-PTUNR/L16-D400	●	●	40	32	22	250	50	30	1.3	-6°	-10°	0.8										

* 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 (PTUNR □□ type), and the left hand insert (L) is used for the right hand toolholders (PTUNR □□ type).

Basic Selection Chipbreakers TN□□1604□□-□□

Operation	Precision finishing		Finishing	Finishing to medium cutting	Medium cutting
	Grade	NS730	GT730	T9115	T9115
Page	2-70		2-71	2-74	2-77
	TF		TSF	TM	TH
Chipbreaker					
	Vc (m/min)		200 (150-250)	200 (150-300)	220 (150-300)
	ap (mm)		0.3 (0.05-0.5)	1.0 (0.3-1.5)	3.0 (1.0-5.0)
	f (mm/rev)		0.1 (0.03-0.15)	0.15 (0.08-0.3)	0.3 (0.2-0.5)
	r _ε (mm)		0.4	0.4	0.8

Operation	Precision finishing		Finishing	Finishing to medium cutting	Medium cutting
	Grade	BX930	T5115	T5115	T5115
Page	3-8		2-72	2-75	2-77
	T-CBN		CF	CM	CH
Chipbreaker					
	Vc (m/min)		700 (300-1200)	270 (140-400)	270 (140-400)
	ap (mm)		0.3 (0.05-0.5)	1.0 (0.5-2.0)	4.0 (2.0-6.0)
	f (mm/rev)		0.1 (0.05-0.2)	0.15 (0.05-0.2)	0.3 (0.15-0.4)
	r _ε (mm)		0.4	0.4	0.8

Operation	Precision finishing		Finishing	Finishing to medium cutting	Medium cutting
	Grade	BX470	KS20	AH905	AH120
Page	3-8		2-71	2-75	2-76
	T-CBN		SS	HMM	SA
Chipbreaker					
	Vc (m/min)		200 (100-280)	50 (30-70)	50 (20-100)
	ap (mm)		0.3 (0.1-0.5)	1.0 (0.5-3.0)	2.0 (1.0-4.0)
	f (mm/rev)		0.1 (0.05-0.2)	0.1 (0.03-0.15)	0.2 (0.1-0.3)
	r _ε (mm)		0.4	0.4	0.8

Operation	Finishing		Finishing to medium cutting
	Grade	T6120	T6130
Page	2-71		2-74
	SF		SM
Chipbreaker			
	Vc (m/min)		150 (100-200)
	ap (mm)		1.0 (0.5-3.0)
	f (mm/rev)		0.1 (0.03-0.15)
	r _ε (mm)		0.4

Operation	Precision finishing		Finishing	Finishing to medium cutting
	Grade	DX120	GH110	GH110
Page	3-21		2-70	2-76h
	T-DIA With chipbreaker		O1	P
Chipbreaker				
	Vc (m/min)		1500 (500-2500)	600 (100-1000)
	ap (mm)		0.5 (0.05-1.0)	2.0 (0.5-4.0)
	f (mm/rev)		0.1 (0.05-0.2)	3.0 (0.2-0.5)
	r _ε (mm)		0.4	0.8

Operation	Precision finishing		Finishing
	Grade	BXM10	BXM20
Page	3-8		3-8
	T-CBN		T-CBN
Chipbreaker			
	Vc (m/min)		200 (150-350)
	ap (mm)		0.1 (0.05-0.30)
	f (mm/rev)		0.1 (0.03-0.18)
	r _ε (mm)		0.4

For other machining types, see "Selection System"

2-4 ~

● : Stocked items.

Features (5-6)

Relating pages

Sleeves (5-69)

Parts (14-1~)

PVUNR/L

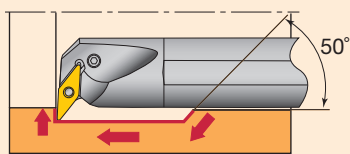


Min. bore dia.
ø37 mm~

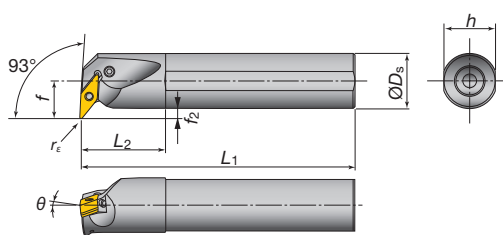
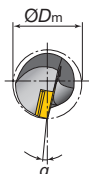
Shank dia.
ø25~40 mm

Steel
Shank

Boring & internal profiling



Cutting edge style **U**



Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min bore dia. ØDm	Dimensions (mm)								Std. corner radius r _ε	Applicable inserts	Parts							Torque (N·m)
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ	α			Shim	Lever	Clamping screw	Spring pin	Wrench	Oil supply attachment	Screw for oil hole	
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	SSHM3-4	
A40T-PVUNR/L16-D500	●	●	50	40	27	300	60	37	7	-5°	-10°	0.8							-	SSHM5-6	

Basic Selection Chipbreakers VN□□1604□□-□□

Operation	Precision finishing		Finishing		Finishing to medium cutting	
	Grade	Page	Grade	Page	Grade	Page
P Steel Continuous	TF	2-87	TSF	2-87	TM	2-89
	Chipbreaker					
	Vc (m/min)	200 (150-250)	200 (150-300)		180 (150-300)	
	ap (mm)	0.3 (0.05-0.5)	1.0 (0.3-1.5)		2.0 (1.0-4.0)	
	f (mm/rev)	0.1 (0.03-0.15)	0.15 (0.08-0.3)		0.3 (0.2-0.4)	
K Cast Iron Continuous	CF	2-88	CM	2-89		
	Chipbreaker					
	Vc (m/min)	700 (300-1200)	270 (140-400)		270 (150-400)	
	ap (mm)	0.3 (0.05-0.5)	1.0 (0.5-2.0)		2.0 (1.0-4.0)	
	f (mm/rev)	0.1 (0.05-0.2)	0.15 (0.05-0.2)		0.3 (0.15-0.4)	

Operation	Precision finishing		Finishing		Finishing to medium cutting	
	Grade	Page	Grade	Page	Grade	Page
S Superalloys Continuous	T-CBN	3-9	T-CBN	3-9	HMM	2-90
	Chipbreaker					
	Vc (m/min)	200 (100-280)	200 (70-300)		50 (20-100)	
	ap (mm)	0.3 (0.1-0.5)	0.3 (0.1-0.5)		1.5 (0.5-3.0)	
	f (mm/rev)	0.1 (0.05-0.2)	0.1 (0.05-0.3)		0.2 (0.1-0.3)	

Operation	Precision finishing		Finishing		Finishing to medium cutting	
	Grade	Page	Grade	Page	Grade	Page
N Non-ferrous Continuous	DX120	3-21	GH110	2-87		
	Chipbreaker					
	Vc (m/min)	1500 (500-2500)	600 (100-1000)			
	ap (mm)	0.5 (0.05-1.0)	0.5 (0.05-1.0)			
	f (mm/rev)	0.1 (0.05-0.2)	0.1 (0.03-0.15)			

For other machining types, see "Selection System"



Operation	Precision finishing		Finishing		Finishing to medium cutting	
	Grade	Page	Grade	Page	Grade	Page
M Stainless Continuous	T6120	2-87	T6130	2-89		
	Chipbreaker					
	Vc (m/min)	150 (100-200)	120 (70-150)			
	ap (mm)	1.0 (0.5-3.0)	2.0 (0.5-4.0)			
	f (mm/rev)	0.1 (0.03-0.15)	0.3 (0.2-0.4)			

Operation	Precision finishing		Finishing		Finishing to medium cutting	
	Grade	Page	Grade	Page	Grade	Page
H Hard Materials Continuous	BX470	3-9	BX480	3-9	AH905	2-90
	Chipbreaker					
	Vc (m/min)	200 (100-280)	200 (70-300)		50 (20-100)	
	ap (mm)	0.3 (0.1-0.5)	0.3 (0.1-0.5)		1.5 (0.5-3.0)	
	f (mm/rev)	0.1 (0.05-0.2)	0.1 (0.05-0.3)		0.2 (0.1-0.3)	

Operation	Precision finishing		Finishing		Finishing to medium cutting	
	Grade	Page	Grade	Page	Grade	Page
H Hard Materials Continuous	BXM10	3-9	BXM20	3-9		
	Chipbreaker					
	Vc (m/min)	200 (150-350)	150 (70-220)			
	ap (mm)	0.1 (0.05-0.30)	0.2 (0.05-0.30)			
	f (mm/rev)	0.1 (0.03-0.18)	0.1 (0.05-0.25)			

● : Stocked items.

PWLNRL/L



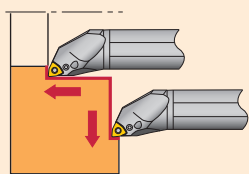
Min. bore dia.
ø20 mm~

Shank dia.
ø16~40 mm

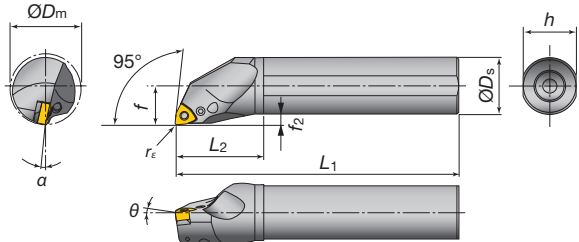
Steel
Shank



Boring & facing



Cutting edge style **L**



Right hand (R) shown.

Steel Shank

Toolholder Cat. No.	Stock		Min bore dia. ØDm	Dimensions (mm)							Std. corner radius r _ε	Applicable inserts	Parts							Torque (N·m)	
	R	L		ØDs	f	L ₁	L ₂	h	f ₂	θ			α	Shim	Lever	Clamping screw	Spring pin	Wrench	Oil supply attach- ment		Screw for oil hole
A16M-PWLNRL/L06-D200	●	●	20	16	11	150	32	15	3	-8°	-17°	0.8	WN□□0604	-	LCL33N	LCS33	-	P-2F	EA-20	SSH3M-4	1.7
A20Q-PWLNRL/L06-D250	●	●	25	20	13	180	36	18	3	-6°	-14°	0.8		-							
A25R-PWLNRL/L06-D320	●	●	32	25	17	200	45	23	4.5	-6°	-12°	0.8		LSW312BR/L	LCL3	LCS3B LCS3	LSP3	P-2.5	EA-25	SSH5M-6	
A32S-PWLNRL/L06-D400	●	●	40	32	22	250	50	30	6	-6°	-11°	0.8						P-2.5	EA-32		
A25R-PWLNRL/L08-D320	●	●	32	25	17	200	45	23	4.5	-6°	-13°	0.8	WN□□0804	-	LCL43N	LCS43	-	P-2.5	EA-25	SSH5M-6	2.7
A32S-PWLNRL/L08-D400	●	●	40	32	22	250	50	30	6	-6°	-11°	0.8		LSW42BR/L			LCL4				
A40T-PWLNRL/L08-D500	●	●	50	40	27	300	60	37	7	-6°	-10°	0.8			-	SSH6M-6					

Basic Selection Chipbreakers WN□□0804□□-□□

Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	Grade	Grade	Grade
Steel	NS730	GT730	T9115	T9115
Page	2-80	2-80	2-83	2-85
Chipbreaker	TF	TSF	TM	TH
Vc (m/min)	200 (150-250)	200 (150-300)	220 (150-300)	220 (150-250)
ap (mm)	0.3 (0.05-0.5)	1.0 (0.3-1.5)	3.0 (1.0-5.0)	4.0 (3.0-6.0)
f (mm/rev)	0.1 (0.03-0.15)	0.15 (0.08-0.3)	0.3 (0.2-0.5)	0.3 (0.2-0.5)
rε (mm)	0.4	0.4	0.8	1.2

Operation	Finishing	Finishing to medium cutting	Medium cutting
	Grade	Grade	Grade
Stainless	T6120	T6130	T6130
Page	2-80	2-83	2-85
Chipbreaker	SF	SM	SH
Vc (m/min)	150 (100-200)	120 (70-150)	120 (70-150)
ap (mm)	1.0 (0.5-3.0)	2.0 (0.5-4.0)	3.0 (3.0-6.0)
f (mm/rev)	0.1 (0.03-0.15)	0.3 (0.2-0.5)	0.3 (0.2-0.5)
rε (mm)	0.4	0.8	1.6

Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	Grade	Grade	Grade
Cast Iron	BX930	T5115	T5115	T5115
Page	3-9	2-81	2-84	2-86
Chipbreaker	T-CBN	CF	CM	CH
Vc (m/min)	700 (300-1200)	270 (140-400)	270 (150-400)	270 (140-400)
ap (mm)	0.3 (0.05-0.5)	1.0 (0.5-2.0)	2.0 (1.0-5.0)	4.0 (2.0-6.0)
f (mm/rev)	0.1 (0.05-0.2)	0.15 (0.05-0.2)	0.3 (0.15-0.4)	0.4 (0.2-0.5)
rε (mm)	0.4	0.4	0.8	1.2

Operation	Precision finishing	Finishing to medium cutting	Medium cutting
	Grade	Grade	Grade
Superalloys	BX480	AH905	KS20
Page	3-9	2-84	2-85
Chipbreaker	T-CBN	HMM	SA
Vc (m/min)	200 (70-300)	50 (20-100)	50 (20-80)
ap (mm)	0.3 (0.1-0.5)	1.5 (0.5-3.0)	3.0 (1.0-6.0)
f (mm/rev)	0.1 (0.05-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.5)
rε (mm)	0.4	0.8	0.8

Operation	Precision finishing	Finishing
	Grade	Grade
Hard Materials	BXM10	BXM20
Page	3-9	3-9
Chipbreaker	T-CBN	T-CBN
Vc (m/min)	200 (150-350)	150 (70-220)
ap (mm)	0.1 (0.05-0.30)	0.2 (0.05-0.30)
f (mm/rev)	0.1 (0.03-0.18)	0.1 (0.05-0.25)
rε (mm)	0.4	0.4

For other machining types, see "Selection System"

➤ 2-4 ~

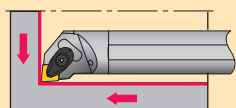
● : Stocked items.

Min. bore dia.
ø32 mm~

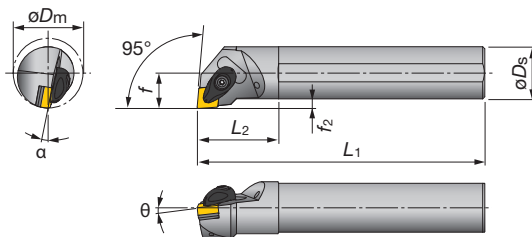
Shank dia.
ø25~50 mm

Steel
Shank

Boring & Internal facing



Cutting edge style **L**



Right hand (R) shown.

Cat. No.	Stock		Min bore.dia. ØD _m	Dimensions (mm)							Std. corner r _ε	Applicable inserts	Page	
	R	L		ØD _s	f	L ₁	L ₂	h	f ₂	α				θ
A25R-ACLNR/L12-D320	●	●	32	25	17	200	45	23	4.5	-13°	-6°	0.8	CN□□1204□□	2-42~
A32S-ACLNR/L12-D400	●	●	40	32	22	250	50	30	6	-10°				
A40T-ACLNR/L12-D500	●	●	50	40	27	300	55	37	7	-8°				
A50U-ACLNR/L12-D630	●	●	63	50	35	350	65	47	10	-7°				

T-CBN inserts ▶ 3-7~ T-DIA inserts ▶ 3-21~

5

TAC Internal Toolholders

Basic Selection Chipbreakers CN□□1204□□-□□

P Steel Continuous	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	NS730	GT730	T9115	T9115
	Page	2-42	2-42	2-45	2-48
	Chipbreaker				
	V _c (m/min)	200 (150-250)	200 (150-300)	220 (150-300)	220 (150-300)
	a _p (mm)	0.3 (0.05-0.5)	1.0 (0.3-1.5)	3.0 (1.0-5.0)	4.0 (3.0-6.0)
	f (mm/rev)	0.1 (0.03-0.15)	0.15 (0.08-0.3)	0.3 (0.2-0.5)	0.3 (0.2-0.6)
	r _ε (mm)	0.4	0.4	0.8	1.2

M Stainless Continuous	Operation	Finishing	Finishing to medium cutting	Medium cutting
	Grade	T6120	T6130	T6130
	Page	2-42	2-46	2-49
	Chipbreaker			
	V _c (m/min)	150 (100-200)	120 (70-150)	120 (70-150)
	a _p (mm)	1.0 (0.5-3.0)	2.0 (0.5-4.0)	3.0 (3.0-6.0)
	f (mm/rev)	0.1 (0.03-0.15)	0.3 (0.2-0.5)	0.3 (0.2-0.5)
	r _ε (mm)	0.4	0.8	1.6

K Cast Iron Continuous	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	BX930	T5115	T5115	T5115
	Page	3-7	2-43	2-46	2-49
	Chipbreaker				
	V _c (m/min)	700 (300-1200)	270 (140-400)	270 (150-400)	270 (140-400)
	a _p (mm)	0.3 (0.05-0.5)	1.0 (0.5-2.0)	2.0 (1.0-5.0)	4.0 (2.0-6.0)
	f (mm/rev)	0.1 (0.05-0.2)	0.15 (0.05-0.2)	0.3 (0.15-0.4)	0.4 (0.2-0.6)
	r _ε (mm)	0.4	0.4	0.8	1.2

N Non-ferrous Continuous	Operation	Precision finishing	Finishing	Finishing to medium cutting
	Grade	DX120	TH10	GH110
	Page	3-21	2-42	2-48
	Chipbreaker			
	V _c (m/min)	1500 (500-2500)	600 (100-1000)	600 (100-1000)
	a _p (mm)	0.5 (0.05-1.0)	0.5 (0.05-1.0)	2.0 (0.5-4.0)
	f (mm/rev)	0.1 (0.05-0.2)	0.1 (0.03-0.15)	0.3 (0.2-0.5)
	r _ε (mm)	0.4	0.4	0.8

S Superalloys Continuous	Operation	Precision finishing	Finishing to medium cutting	Medium cutting
	Grade	BX470	AH905	AH120
	Page	3-7	2-47	2-48
	Chipbreaker			
	V _c (m/min)	200 (100-280)	50 (20-100)	50 (20-80)
	a _p (mm)	0.3 (0.1-0.5)	1.5 (0.5-3.0)	2.0 (1.0-4.0)
	f (mm/rev)	0.1 (0.05-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.5)
	r _ε (mm)	0.4	0.8	0.8

H Hard Materials Continuous	Operation	Precision finishing	Finishing
	Grade	BXM10	BXM20
	Page	3-7	3-7
	Chipbreaker		
	V _c (m/min)	200 (150-350)	150 (70-220)
	a _p (mm)	0.1 (0.05-0.30)	0.2 (0.05-0.30)
	f (mm/rev)	0.1 (0.03-0.18)	0.1 (0.05-0.25)
	r _ε (mm)	0.4	0.4

For other machining types, see "Selection System" ▶ 2-4 ~

Parts for A-type

Cat. No.	Applicable inserts	Clamp	Clamping screw	Shim	Shim screw	Spring	Springpin	Wrench	Recommend clamping torque(N·m)
A□□□-ACLNR/L	CN□□1204□□	ACP4S	ACS-5W	ASC422	CSTB-3.5	BP-7	SP-2.5	T-15F	4.0

Note: Replacement parts of former A-type toolholders are not applicable to "Turning A" toolholders.

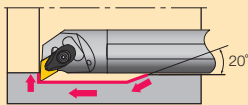
● : Stocked items.

Min. bore dia.
ø32 mm~

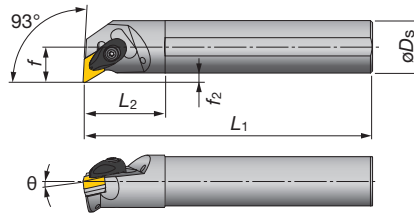
Shank dia.
ø25~50 mm

Steel
Shank

Boring & Internal facing



Cutting edge style **U**



Right hand (R) shown.

Cat. No.	Stock		Min bore dia. øD _m	Dimensions (mm)								Std. corner r _ε	Applicable inserts	Page
	R	L		øD _s	f	L ₁	L ₂	h	f ₂	α	θ			
A25R-ADUNR/L15-D320	●	●	32	25	17	200	45	23	4.5	-13°	-6°	0.8	DN□□1504□□	2-52~
A32S-ADUNR/L15-D400	●	●	40	32	22	250	50	30	6	-11°				
A40T-ADUNR/L15-D500	●		50	40	27	300	55	37	7	-8°				
A50U-ADUNR/L15-D630	●		63	50	35	350	65	47	10	-7°				
A25R-ADUNR/L1506-D320	●	●	32	25	17	200	45	23	4.5	-13°	-6°	0.8	DN□□1506□□	2-52~
A32S-ADUNR/L1506-D400	●	●	40	32	22	250	50	30	6	-11°				

T-CBN inserts ▶ 3-7~ T-DIA inserts ▶ 3-21~

Basic Selection Chipbreakers DN□□1504□□-□□

P Steel Continuous	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	NS730	GT730	T9115	T9115
	Page	2-52	2-52	2-55	2-58
	Chipbreaker				
	V _c (m/min)	200 (150-250)	200 (150-300)	220 (150-300)	220 (150-300)

K Cast Iron Continuous	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	BX930	T5115	T5115	T5115
	Page	3-7	2-53	2-56	2-59
	Chipbreaker				
	V _c (m/min)	700 (300-1200)	270 (140-400)	270 (150-400)	270 (140-400)

S Superalloys Continuous	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	BX470	KS20	AH905	AH120
	Page	3-7	2-53	2-56	2-55
	Chipbreaker				
	V _c (m/min)	200 (100-280)	50 (30-70)	50 (20-100)	50 (20-80)

M Stainless Continuous	Operation	Finishing	Finishing to medium cutting	Medium cutting
	Grade	T6120	T6130	T6130
	Page	2-53	2-55	2-58
	Chipbreaker			
	V _c (m/min)	150 (100-200)	120 (70-150)	120 (70-150)

N Non-ferrous Continuous	Operation	Precision finishing	Finishing	Finishing to medium cutting
	Grade	DX120	GH110	GH110
	Page	3-21	2-52	2-58
	Chipbreaker			
	V _c (m/min)	1500 (500-2500)	600 (100-1000)	600 (100-1000)

H Hard Materials Continuous	Operation	Precision finishing	Finishing
	Grade	BXM10	BXM20
	Page	3-7	3-7
	Chipbreaker		
	V _c (m/min)	200 (150-350)	150 (70-220)

For other machining types, see "Selection System"

▶ 2-4 ~

Parts for A-type

Cat. No.	Applicable inserts	Clamp	Clamping screw	Shim	Shim screw	Spring	Springpin	Wrench	Recommend clamping torque(N·m)
A□□□-ADUNR/L15	DN□□1504□□								4.0
A□□□-ADUNR/L1506	DN□□1506□□								4.0

Note: Replacement parts of former A-type toolholders are not applicable to "Turning A" toolholders.

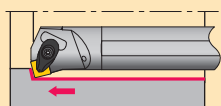
● : Stocked items.

Min. bore dia.
ø32 mm~

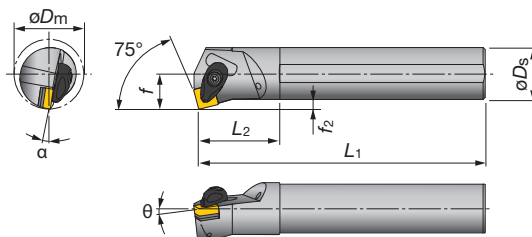
Shank dia.
ø25~32 mm

Steel
Shank

Through boring



Cutting edge style **K**



Right hand (R) shown.

Cat. No.	Stock		Min bore dia. øDm	Dimensions (mm)								Std. corner r _e	Applicable inserts	Page
	R	L		øDs	f	L ₁	L ₂	h	f ₂	α	θ			
A25R-ASKNR/L12-D320	●	●	32	25	17	200	45	23	4.5	-13°	-6°	0.8	SN□□1204□□	2-61~
A32S-ASKNR/L12-D400	●	●	40	32	22	250	50	30	6	-10°	-6°	0.8	SN□□1204□□	2-61~

T-CBN inserts ▶ 3-8~ T-DIA inserts ▶ 3-21~

5

TAC Internal Toolholders

Basic Selection Chipbreakers SN□□1204□□-□□

P Steel Continuous	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	NS730	GT730	T9115	T9115
	Page	2-61	2-61	2-64	2-67
	Chipbreaker	TF	TSF	TM	TH

K Cast Iron Continuous	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	BX930	T5115	T5115	T5115
	Page	3-8	2-62	2-65	2-67
	Chipbreaker	T-CBN	CF	CM	CH

S Superalloys Continuous	Operation	Finishing	Finishing to medium cutting	Medium cutting
	Grade	BX480	AH905	AH120
	Page	3-8	2-65	2-66
	Chipbreaker	T-CBN	HMM	SA

M Stainless Continuous	Operation	Finishing	Finishing to medium cutting	Medium cutting
	Grade	T6120	T6130	T6130
	Page	2-62	2-64	2-67
	Chipbreaker	SF	SM	SH

N Non-ferrous Continuous	Operation	Precision finishing	Finishing to medium cutting
	Grade	DX140	GH110
	Page	3-21	2-66
	Chipbreaker	T-DIA	P

H Hard Materials Continuous	Operation	Finishing
	Grade	BXM20
	Page	3-8
	Chipbreaker	T-CBN

For other machining types, see "Selection System"

▶ 2-4 ~

Parts for A-type

Cat. No.	Applicable inserts	Clamp	Clamping screw	Shim	Shim screw	Spring	Springpin	Wrench	Recommend clamping torque(N·m)
A□□□-ASKNR/L	SN□□1204□□	ACP4S	ACS-5W	ASS422	CSTB-3.5	BP-7	SP-2.5	T-15F	4.0

Note: Replacement parts of former A-type toolholders are not applicable to "Turning A" toolholders.

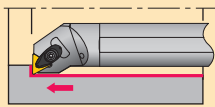
● : Stocked items.

Min. bore dia.
ø32 mm~

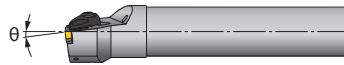
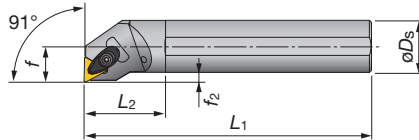
Shank dia.
ø25~32 mm

Steel
Shank

Blind hole boring



Cutting edge style **F**



Right hand (R) shown.

Cat. No.	Stock		Min bore dia. øDm	Dimensions (mm)								Std. corner rε	Applicable inserts	Page
	R	L		øDs	f	L1	L2	h	f2	a	θ			
A25R-ATFNR/L16-D320	●	●	32	25	17	200	45	23	4.5	-13°	-6°	0.8	TN□□1604□□	2-70~
A32S-ATFNR/L16-D400	●	●	40	32	22	250	50	30	6	-10°	-6°	0.8	TN□□1604□□	2-70~

T-CBN inserts ▶ 3-8~ T-DIA inserts ▶ 3-21~

Basic Selection Chipbreakers TN□□1604□□-□□

P Steel Continuous	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	NS730	GT730	T9115	T9115
	Page	2-70	2-71	2-74	2-77
	Chipbreaker				
	Vc (m/min)	200 (150-250)	200 (150-300)	200 (150-300)	220 (150-300)
	ap (mm)	0.3 (0.05-0.5)	1.0 (0.3-1.5)	3.0 (1.0-5.0)	4.0 (3.0-6.0)
	f (mm/rev)	0.1 (0.03-0.15)	0.15 (0.08-0.3)	0.3 (0.2-0.5)	0.3 (0.2-0.5)
	rε (mm)	0.4	0.4	0.8	1.2

M Stainless Continuous	Operation	Finishing	Finishing to medium cutting
	Grade	T6120	T6130
	Page	2-71	2-74
	Chipbreaker		
	Vc (m/min)	150 (100-200)	120 (70-150)
	ap (mm)	1.0 (0.5-3.0)	2.0 (0.5-4.0)
	f (mm/rev)	0.1 (0.03-0.15)	0.3 (0.2-0.4)
	rε (mm)	0.4	0.8

K Cast Iron Continuous	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	BX930	T5115	T5115	T5115
	Page	3-8	2-72	2-75	2-77
	Chipbreaker				
	Vc (m/min)	700 (300-1200)	270 (140-400)	270 (150-400)	270 (140-400)
	ap (mm)	0.3 (0.05-0.5)	1.0 (0.5-2.0)	2.0 (1.0-5.0)	4.0 (2.0-6.0)
	f (mm/rev)	0.1 (0.05-0.2)	0.15 (0.05-0.2)	0.3 (0.15-0.4)	0.4 (0.2-0.6)
	rε (mm)	0.4	0.4	0.8	1.2

N Non-ferrous Continuous	Operation	Precision finishing	Finishing	Finishing to medium cutting
	Grade	DX120	GH110	GH110
	Page	3-21	2-70	2-76h
	Chipbreaker			
	Vc (m/min)	1500 (500-2500)	600 (100-1000)	600 (100-1000)
	ap (mm)	0.5 (0.05-1.0)	0.5 (0.05-1.0)	2.0 (0.5-4.0)
	f (mm/rev)	0.1 (0.05-0.2)	0.1 (0.03-0.15)	3.0 (0.2-0.5)
	rε (mm)	0.4	0.4	0.8

S Superalloys Continuous	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	BX470	KS20	AH905	AH120
	Page	3-8	2-71	2-75	2-76
	Chipbreaker				
	Vc (m/min)	200 (100-280)	50 (30-70)	50 (20-100)	50 (20-80)
	ap (mm)	0.3 (0.1-0.5)	1.0 (0.5-3.0)	1.5 (0.5-3.0)	2.0 (1.0-4.0)
	f (mm/rev)	0.1 (0.05-0.2)	0.1 (0.03-0.15)	0.2 (0.1-0.3)	0.3 (0.2-0.5)
	rε (mm)	0.4	0.4	0.8	0.8

H Hard Materials Continuous	Operation	Precision finishing	Finishing
	Grade	BXM10	BXM20
	Page	3-8	3-8
	Chipbreaker		
	Vc (m/min)	200 (150-350)	150 (70-220)
	ap (mm)	0.1 (0.05-0.30)	0.2 (0.05-0.30)
	f (mm/rev)	0.1 (0.03-0.18)	0.1 (0.05-0.25)
	rε (mm)	0.4	0.4

For other machining types, see "Selection System"

▶ 2-4 ~

Parts for A-type

Cat. No.	Applicable inserts	Clamp	Clamping screw	Shim	Shim screw	Spring	Springpin	Wrench	Recommend clamping torque (N·m)
A□□□-ATFNR/L	TN□□1604□□	ACP3S	ACS-5W	AST322	CSTB-3.5	BP-7	SP-2.5	T-15F	3.0

Note: Replacement parts of former A-type toolholders are not applicable to "Turning A" toolholders.

● : Stocked items.

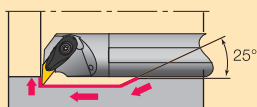
Min. bore dia.
ø40 mm~

Shank dia.
ø32~40 mm

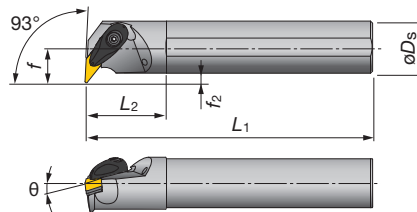
Steel
Shank



Boring & internal profiling



Cutting edge style **U**



Right hand (R) shown.

Cat. No.	Stock		Min bore dia. øD _m	Dimensions (mm)								Std. corner rε	Applicable inserts	Page
	R	L		øD _s	f	L ₁	L ₂	h	f ₂	α	θ			
A32S-AVUNR/L16-D400	●	●	40	32	22	250	50	30	6	-10°	-6°	0.8	VN□□1604□□	2-88~
A40T-AVUNR/L16-D500	●	●	50	40	27	300	55	37	7	-8°	-6°	0.8	YN□□1604□□	2-87~

T-CBN inserts ▶ 3-9~ T-DIA inserts ▶ 3-21~

5

TAC Internal Toolholders

Basic Selection Chipbreakers VN□□1604□□-□□

P Steel Continuous	Operation	Precision finishing	Finishing	Finishing to medium cutting
	Grade	NS730	GT730	T9115
	Page	2-87	2-87	2-89
	Chipbreaker	TF	TSF	TM
Continuous	Vc (m/min)	200 (150-250)	200 (150-300)	180 (150-300)
	ap (mm)	0.3 (0.05-0.5)	1.0 (0.3-1.5)	2.0 (1.0-4.0)
	f (mm/rev)	0.1 (0.03-0.15)	0.15 (0.08-0.3)	0.3 (0.2-0.4)
	rε (mm)	0.4	0.4	0.8

K Cast iron Continuous	Operation	Precision finishing	Finishing	Finishing to medium cutting
	Grade	BX930	T5115	T5115
	Page	3-9	2-88	2-89
	Chipbreaker	T-CBN	CF	CM
Continuous	Vc (m/min)	700 (300-1200)	270 (140-400)	270 (150-400)
	ap (mm)	0.3 (0.05-0.5)	1.0 (0.5-2.0)	2.0 (1.0-4.0)
	f (mm/rev)	0.1 (0.05-0.2)	0.15 (0.05-0.2)	0.3 (0.15-0.4)
	rε (mm)	0.4	0.4	0.8

S Superalloys Continuous	Operation	Precision finishing	Finishing	Finishing to medium cutting
	Grade	BX470	BX480	AH905
	Page	3-9	3-9	2-90
	Chipbreaker	T-CBN	T-CBN	HMM
Continuous	Vc (m/min)	200 (100-280)	200 (70-300)	50 (20-100)
	ap (mm)	0.3 (0.1-0.5)	0.3 (0.1-0.5)	1.5 (0.5-3.0)
	f (mm/rev)	0.1 (0.05-0.2)	0.1 (0.05-0.3)	0.2 (0.1-0.3)
	rε (mm)	0.4	0.4	0.8

For other machining types, see "Selection System"

▶ 2-4 ~

M Stainless Continuous	Operation	Finishing	Finishing to medium cutting
	Grade	T6120	T6130
	Page	2-87	2-89
	Chipbreaker	SF	SM
Continuous	Vc (m/min)	150 (100-200)	120 (70-150)
	ap (mm)	1.0 (0.5-3.0)	2.0 (0.5-4.0)
	f (mm/rev)	0.1 (0.03-0.15)	0.3 (0.2-0.4)
	rε (mm)	0.4	0.8

N Non-ferrous Continuous	Operation	Precision finishing	Finishing
	Grade	DX120	GH110
	Page	3-21	2-87
	Chipbreaker	T-DIA With chipbreaker	O1
Continuous	Vc (m/min)	1500 (500-2500)	600 (100-1000)
	ap (mm)	0.5 (0.05-1.0)	0.5 (0.05-1.0)
	f (mm/rev)	0.1 (0.05-0.2)	0.1 (0.03-0.15)
	rε (mm)	0.4	0.2

H Hard Materials Continuous	Operation	Precision finishing	Finishing
	Grade	BXM10	BXM20
	Page	3-9	3-9
	Chipbreaker	T-CBN	T-CBN
Continuous	Vc (m/min)	200 (150-350)	150 (70-220)
	ap (mm)	0.1 (0.05-0.30)	0.2 (0.05-0.30)
	f (mm/rev)	0.1 (0.03-0.18)	0.1 (0.05-0.25)
	rε (mm)	0.4	0.4

Parts for A-type

Cat. No.	Applicable inserts	Clamp	Clamping screw	Shim	Shim screw	Spring	Springpin	Wrench	Recommend clamping torque(N·m)
A□□□-AVUNR/L	VN□□1604□□ YN□□1604□□	ACP3L	ACS-5W	ASV322	CSTB-3.5	BP-7	SP-2.5	T-15F	3.0

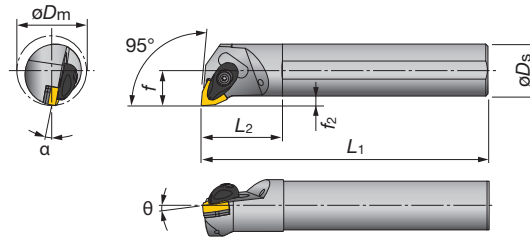
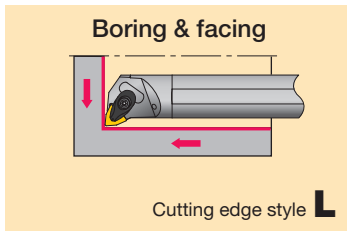
Note: Replacement parts of former A-type toolholders are not applicable to "Turning A" toolholders.

● : Stocked items.

Min. bore dia.
ø32 mm~

Shank dia.
ø25~50 mm

Steel
Shank



Right hand (R) shown.

Cat. No.	Stock		Min. bore dia. øDm	Dimensions (mm)								Std. corner r _ε	Applicable inserts	Page
	R	L		øDs	f	L ₁	L ₂	h	f ₂	α	θ			
A25R-AWLNR/L06-D320	●	●	32	25	17	200	45	23	4.5	-13°	-6°	0.8	WN□□0604□□	2-80~
A32S-AWLNR/L06-D400	●	●	40	32	22	250	50	30	6	-10°				
A25R-AWLNR/L08-D320	●	●	32	25	17	200	45	23	4.5	-13°				
A32S-AWLNR/L08-D400	●	●	40	32	22	250	50	30	6	-10°	-6°	0.8	WN□□0804□□	2-80~
A40T-AWLNR/L08-D500	●	●	50	40	27	300	55	37	7	-8°				
A50U-AWLNR/L08-D630	●	●	63	50	35	350	65	47	10	-7°				

T-CBN inserts 3-9~

Basic Selection Chipbreakers WN□□0804□□-□□

P Steel	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	NS730	GT730	T9115	T9115
Continuous	Page	2-80	2-80	2-83	2-85
	Chipbreaker	TF	TSF	TM	TH
	V _c (m/min)	200 (150-250)	200 (150-300)	220 (150-300)	220 (150-250)
	ap (mm)	0.3 (0.05-0.5)	1.0 (0.3-1.5)	3.0 (1.0-5.0)	4.0 (3.0-6.0)
	f (mm/rev)	0.1 (0.03-0.15)	0.15 (0.08-0.3)	0.3 (0.2-0.5)	0.3 (0.2-0.5)
	r _ε (mm)	0.4	0.4	0.8	1.2

M Stainless	Operation	Finishing	Finishing to medium cutting	Medium cutting
	Grade	T6120	T6130	T6130
Continuous	Page	2-80	2-83	2-85
	Chipbreaker	SF	SM	SH
	V _c (m/min)	150 (100-200)	120 (70-150)	120 (70-150)
	ap (mm)	1.0 (0.5-3.0)	2.0 (0.5-4.0)	3.0 (3.0-6.0)
	f (mm/rev)	0.1 (0.03-0.15)	0.3 (0.2-0.5)	0.3 (0.2-0.5)
	r _ε (mm)	0.4	0.8	1.6

K Cast Iron	Operation	Precision finishing	Finishing	Finishing to medium cutting	Medium cutting
	Grade	BX930	T5115	T5115	T5115
Continuous	Page	3-9	2-81	2-84	2-86
	Chipbreaker	T-CBN	CF	CM	CH
	V _c (m/min)	700 (300-1200)	270 (140-400)	270 (150-400)	270 (140-400)
	ap (mm)	0.3 (0.05-0.5)	1.0 (0.5-2.0)	2.0 (1.0-5.0)	4.0 (2.0-6.0)
	f (mm/rev)	0.1 (0.05-0.2)	0.15 (0.05-0.2)	0.3 (0.15-0.4)	0.4 (0.2-0.5)
	r _ε (mm)	0.4	0.4	0.8	1.2

S Superalloys	Operation	Precision finishing	Finishing to medium cutting	Medium cutting
	Grade	BX480	AH905	KS20
Continuous	Page	3-9	2-84	2-85
	Chipbreaker	T-CBN	HMM	SA
	V _c (m/min)	200 (70-300)	50 (20-100)	50 (20-80)
	ap (mm)	0.3 (0.1-0.5)	1.5 (0.5-3.0)	3.0 (1.0-6.0)
	f (mm/rev)	0.1 (0.05-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.5)
	r _ε (mm)	0.4	0.8	0.8

H Hard Materials	Operation	Precision finishing	Finishing
	Grade	BXM10	BXM20
Continuous	Page	3-9	3-9
	Chipbreaker	T-CBN	T-CBN
	V _c (m/min)	200 (150-350)	150 (70-220)
	ap (mm)	0.1 (0.05-0.30)	0.2 (0.05-0.30)
	f (mm/rev)	0.1 (0.03-0.18)	0.1 (0.05-0.25)
	r _ε (mm)	0.4	0.4

For other machining types, see "Selection System" 2-4 ~

● : Stocked items.

Parts for A-type

Cat. No.	Applicable inserts	Clamp	Clamping screw	Shim	Shim screw	Spring	Springpin	Wrench	Recommend clamping torque(N·m)
A□□□-AWLNR/L06	WN□□0604□□	ACP3S	ACS-5W	ASW322	CSTB-3.5	BP-7	SP-2.5	T-15F	3.0
A□□□-AWLNR/L08	WN□□0804□□	ACP4S	ACS-5W	ASW422	CSTB-3.5	BP-7	SP-2.5	T-15F	4.0

Note: Replacement parts of former A-type toolholders are not applicable to "Turning A" toolholders.

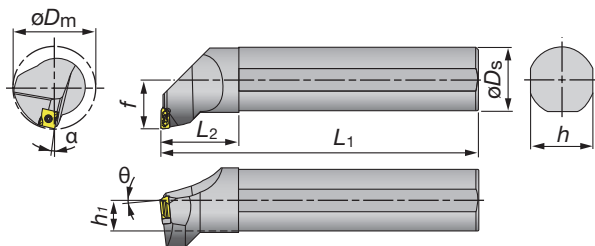
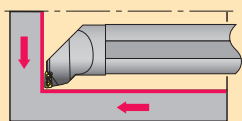
● : Stocked items.

Min. bore dia.
ø53 mm~

Shank dia.
ø25~50 mm

Steel
Shank

Boring & Internal facing



Right hand (R) shown.

Toolholders Cat. No.	Stock		Min bore dia. øD _m	Dimensions (mm)						α	θ	Applicable inserts
	R	L		øD _s	f	L ₁	L ₂	h	h ₁			
S25T-TLANR/L12-D530	●	●	53	25	17	300	40	23	11.5	-6°	-14°	LNMX1204□□L/R
S32U-TLANR/L12-D530	●	●	53	32	22	350	45	29	14.5	-6°	-14°	
S40V-TLANR/L12-D530	●	●	53	40	27	400	53	36	18	-6°	-14°	
S50U-TLANR/L16-D850	●	●	85	50	37	350	63	46	23	-6°	-10°	LNMX1606□□L/R

When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (S-TLANL□□ type), and the left hand insert (L) is used for the right hand toolholders (S-TLANR□□ type).

5

TAC Internal Toolholders

Inserts for TurnTec

Right hand (R) shown.

Cat. No.	Stocked grades						Dimensions (mm)							
	Coated						W	L	h	rε				
	T9115		T9125		AH725									
	R	L	R	L	R	L								
LNMX120408R/L-TDR	●	●	●	●			4.8	12.0	11.6	0.8				
LNMX120412R/L-TDR	●	●	●	●			4.8	12.0	11.6	1.2				
LNMX160608R/L-TDR	●	●	●	●			6.4	16.2	13.5	0.8				
LNMX160612R/L-TDR	●	●	●	●			6.4	16.2	13.5	1.2				
LNMX160616R/L-TDR	●	●	●	●			6.4	16.2	13.5	1.6				
LNMX160608R/L-MDR	●	●			★	★	6.4	16.2	13.5	0.8				
LNMX160612R/L-MDR	★	★			★	★	6.4	16.2	13.5	1.2				
LNMX120408R/L-TWR	★	★	★	★			4.8	12.0	11.6	0.8				
LNMX120412R/L-TWR	★	★	★	★			4.8	12.0	11.6	1.2				
LNMX160608R/L-TWR	★	★	★	★			6.4	16.2	13.5	0.8				
LNMX160612R/L-TWR	★	★	★	★			6.4	16.2	13.5	1.2				

Right hand (R) shown.

Parts for TurnTec

Toolholders Cat. No.	Applicable Inserts	Shim	Shim Screw	Spring pin	Wrench for shim screw	Clamping screw	Wrench
				—			
S25T-TLANR/L12-D530	LNMX1204□□L/R	TSL12L/RI	CSTF-2L055-S	—	T-6F-S	CSTB-3.5L115-S	KEYV-T10
S32U-TLANR/L12-D530							
S40V-TLANR/L12-D530							
S50U-TLANR/L16-D850	LNMX1606□□L/R	TSL16L/RI	—	PSP-16	—	CSTB-4L115-S	KEYV-T15

● : Stocked items
★ : Available from 2013

Standard cutting conditions

* Values in red shows the condition for facing

LNMX1204□□□-□□□

Work materials	Chip-breakers	Grades	Cutting speed Vc (m/min)	Depth of cut: a_p (mm)		Feed: f (mm/rev)	
				$r_\epsilon: 0.8$	$r_\epsilon: 1.2$	$r_\epsilon: 0.8$	$r_\epsilon: 1.2$
Steels S45C, SCM415 etc. (C45, 18CrMo4 etc.)	TDR	T9115	120 - 250	0.5 - 5 0.5 - 2.2	0.8 - 5 0.8 - 2.2	0.15 - 0.6	0.25 - 0.8
		T9125	80 - 180				
	TWR	T9115	120 - 250	0.5 - 5 0.5 - 2.2	0.8 - 5 0.8 - 2.2	0.15 - 0.6	0.25 - 0.8
		T9125	80 - 180				
Stainless steels SUS304, SUS316 etc. (X5CrNi18-9, X5CrNiMo17-12-2 etc.)	TDR	T9115	100 - 180	0.5 - 5 0.5 - 2.2	0.8 - 5 0.8 - 2.2	0.15 - 0.6	0.25 - 0.8
		T9125	80 - 180				
	TWR	T9115	100 - 180	0.5 - 5 0.5 - 2.2	0.8 - 5 0.8 - 2.2	0.15 - 0.6	0.25 - 0.8
		T9125	80 - 180				

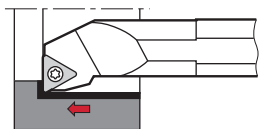
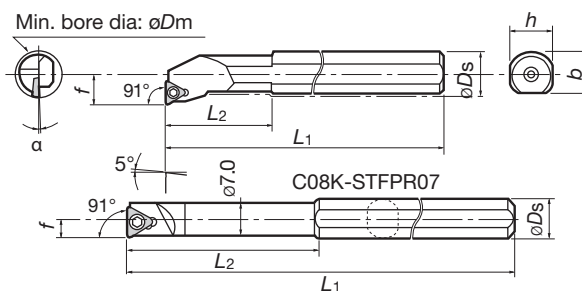
LNMX1606□□□-□□□

Work materials	Chip-breakers	Grades	Cutting speed Vc (m/min)	Depth of cut: a_p (mm)			Feed: f (mm/rev)		
				$r_\epsilon: 0.8$	$r_\epsilon: 1.2$	$r_\epsilon: 1.6$	$r_\epsilon: 0.8$	$r_\epsilon: 1.2$	$r_\epsilon: 1.6$
Steels S45C, SCM415 etc. (C45, 18CrMo4 etc.)	TDR	T9115	120 - 250	0.5 - 5 0.5 - 3.2	0.8 - 6 0.8 - 3.2	1 - 8 1 - 3.2	0.15 - 0.6	0.25 - 0.8	0.3 - 1
		T9125	80 - 180						
	TWR	T9115	120 - 250	0.5 - 5 0.5 - 3.2	0.8 - 6 0.8 - 3.2	-	0.15 - 0.6	0.25 - 0.8	-
		T9125	80 - 180						
Stainless steels SUS304, SUS316 etc. (X5CrNi18-9, X5CrNiMo17-12-2 etc.)	TDR	T9115	100 - 180	0.5 - 5 0.5 - 3.2	0.8 - 6 0.8 - 3.2	1 - 8 1 - 3.2	0.15 - 0.6	0.25 - 0.8	0.3 - 1
		T9125	80 - 180						
	MDR	T9115	100 - 150	1.5 - 6 0.5 - 3.2	1.5 - 7 0.8 - 3.2	-	0.1 - 0.5	0.15 - 0.7	-
		AH725	50 - 150						
	TWR	T9115	100 - 180	0.5 - 5 0.5 - 3.2	0.8 - 6 0.8 - 3.2	-	0.15 - 0.6	0.25 - 0.8	-
		T9125	80 - 180						

Min. bore dia.
ø8mm~Shank dia.
ø8~32mmSteel
ShankCarbide
Shank

Blind hole boring

STFPR/L

Cutting edge style **F**

Right hand (R) shown.

Steel Shank

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Dimensions (mm)						Std. corner r_{ε}	Applicable inserts		Clamping screw	Wrench	
	R	L		$\varnothing D_s$	f	L_1	L_2	h	b				a		
S08H-STFPR/L07			8	8	4	100	20	7	-	10°	0.4	TPGM	0701□□  2-127	CSTB-2.2S	T-7F
S08H-STFPR/L09			10	8	5.5	100	16	7	-	8°	0.4	TP□□ * Excepting TPGH, TPGM, TPGA	0902□□  2-123~	CSTB-2.2S	T-7F
S10K-STFPR/L11			12	10	6.5	125	20	9	-	6°	0.4		1102□□  2-123~	CSTB-2.5	T-8F
S12M-STFPR/L11			16	12	9	150	24	11	11.5	4°			1303□□  2-123~	CSTB-3	T-9F
S16Q-STFPR/L13			20	16	11	180	30	15	15.5	3°	0.4		16T3□□  2-123~	CSTB-4	T-15F
S20R-STFPR/L13			24	20	13	200	40	18	19	2°			16T3□□  2-123~	CSTB-4	T-15F
S25S-STFPR/L16			31	25	17	250	45	23	24	0°	0.8		16T3□□  2-123~	CSTB-4	T-15F
S32T-STFPR/L16			39	32	22	300	50	30	31				16T3□□  2-123~	CSTB-4	T-15F

T-CBN inserts ▶ 3-12 ~ T-DIA insert ▶ 3-22 ~

Carbide Shank

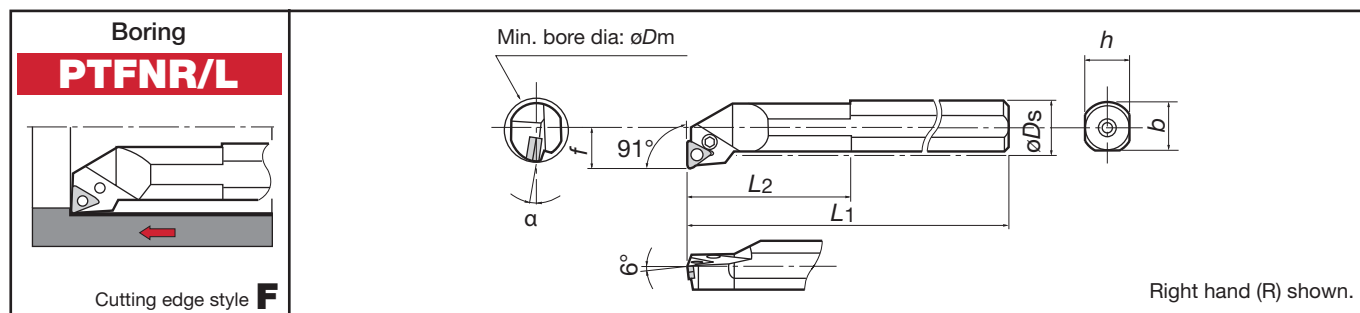
Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Dimensions (mm)						Std. corner r_E	Applicable inserts		Clamping screw 	Wrench 	
	R	L		$\varnothing D_s$	f	L_1	L_2	h	b						a
C08K-STFPR/L07			8	8	4	125	45	7	-	10°	0.4	TPGM	0701□□  2-127	CSTB-2.2S	T-7F
C08K-STFPR/L09			10	8	5.5	125	-	7	-	8°	0.4	TP□□ * Excepting TPGH, TPGM, TPGA	0902□□  2-123~	CSTB-2.2S	T-7F
C10M-STFPR/L11			12	10	6.5	150	-	9	-	6°	0.4		1102□□  2-123~	CSTB-2.5	T-8F
C12Q-STFPR/L11			16	12	9	180		11		4°					
C16R-STFPR/L13			20	16	11	200	-	15	-	3°	0.4		1303□□  2-123~	CSTB-3	T-9F
C20S-STFPR/L13			24	20	13	250		18		2°					
C25T-STFPR/L16			31	25	17	300	-	23	-	0°	0.8		16T3□□  2-123~	CSTB-4	T-15F

Notes: • When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

T-CBN inserts ▶ 3-12 ~ T-DIA insert ▶ 3-22 ~

● : Stocked items.

PTFNR/L

Min. bore dia.
ø40mm~Shank dia.
ø32~50mmSteel
Shank

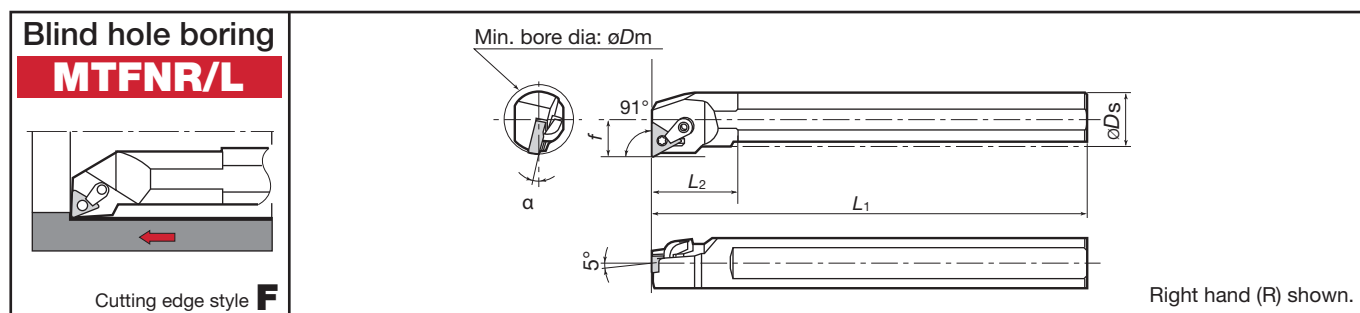
Steel Shank

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Dimensions (mm)						Std. corner r_E	Applicable inserts		Shim	Lever	Clamping screw	Spring	Wrench	
	R	L		$\varnothing D_s$	f	L_1	L_2	h	b				a					
S32S-PTFNR/L16	●	●	40	32	22	250	50	30	29.5	10°	0.8	TN□□	1604□□ 	 LST317B R / L	 LCL3	 LCS3	 LSP3	 P-2.5
S40T-PTFNR/L16	●	●	50	40	27	300	55	37	37.5									
S50U-PTFNR/L16	●		63	50	35	350	65	47	47.5	8°								

Notes: ● When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

T-CBN inserts ➤ 3-8 ~ T-DIA inserts ➤ 3-21

MTFNR/L

Min. bore dia.
ø32mmShank dia.
ø25mmSteel
Shank

Steel Shank

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Dimensions (mm)							Std. corner r_E	Applicable inserts		Lock pin	Clamp	Clamping screw	Shim	Wrench for lock pin	Wrench for clamp
	R	L		$\varnothing D_s$	f	L_1	L_2	h	b	a									
S25R-MTFNR/L16	▲	▲	32	25	17	200	40	23	22.5	12°	0.8	TN□□	1604□□  2-70~						

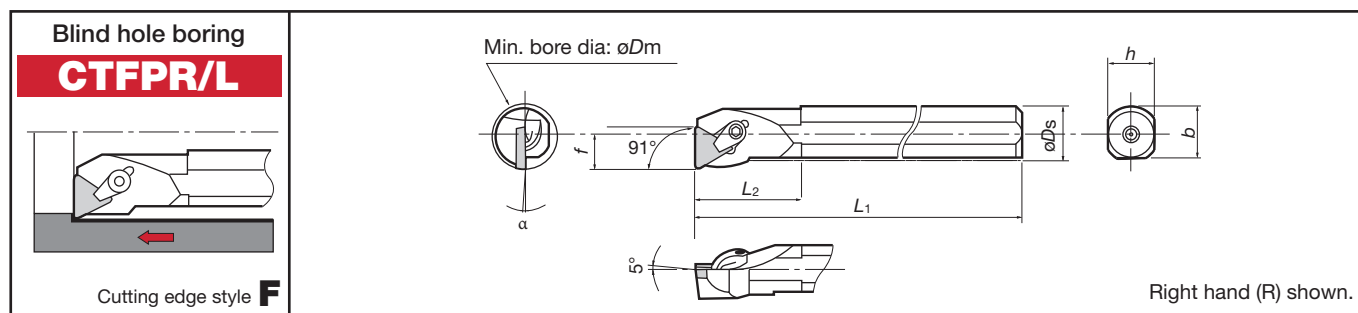
Notes: ● When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

T-CBN inserts ➤ 3-8 ~ T-DIA inserts ➤ 3-21

Note: * marked parts type No. is former type No.

● : Stocked items.
▲ : Will be replaced by new products.

CTFPR/L

Min. bore dia.
ø16mm~Shank dia.
ø12~32mmSteel
ShankCarbide
Shank

Steel Shank

Cat. No.	Stock		Min. bore dia. øD _m	Dimensions (mm)						Std. corner r _E	Applicable inserts	Clamp set	Wrench	Shim	Shim screw
	R	L		øD _s	f	L ₁	L ₂	h	b	α					
S12M-CTFPR/L11	●	●	16	12	9	150	25	11	11.5	6°	TP□□ (Without hole)	1103□□ ▶ 2-130~	CSW-00	P-2.5	-
S16Q-CTFPR/L11	●	●	20	16	11	180	30	15	15	4°		CSG-5S			
S20R-CTFPR/L16	●	●	25	20	13	200	40	18	18.5	2°	0.8	1603□□ ▶ 2-130~	CSG-6S	P-3	-
S25S-CTFPR/L16	●	●	32	25	17	250	45	23	22.5	0°		CSG-6			
S32T-CTFPR/L16	●	●	40	32	22	300	50	30	29.5				PAT-32	M3×0.5×6	

T-CBN inserts ▶ 3-14 ~ T-DIA inserts ▶ 3-23

Carbide Shank

Cat. No.	Stock		Min. bore dia. øD _m	Dimensions (mm)						Std. corner r _E	Applicable inserts	Clamp set	Wrench	Shim	Shim screw
	R	L		øD _s	f	L ₁	L ₂	h	b	α					
C12Q-CTFPR/L11	●	●	16	12	9	180	-	11	-	6°	TP□□ (Without hole)	1103□□ ▶ 2-130~	CSW-00	P-2.5	-
C16R-CTFPR/L11	●	●	20	16	11	200	-	15	-	4°		CSG-5S			

Notes: • The hole of inserts conforms to ISO standard.

T-CBN inserts ▶ 3-14 ~ T-DIA inserts ▶ 3-23

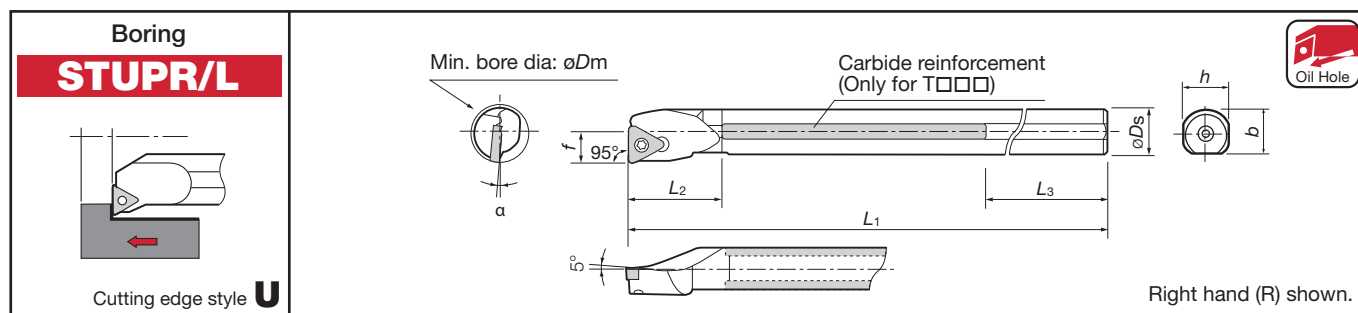
- When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

Parts for positive-rake C-type toolholders when using chipbreaker piece

Toolholder Cat. No.	Shape	Clamp set	Chipbreaker piece
C12Q / S12M-CTFPR/L11		-	-
C16R / S16Q-CTFPR/L11		CSG-5	CBT-2M, (S)
S20R-CTFPR/L16		CSG-6	CBT-3M, (S, L)
S25S-CTFPR/L16			
S32T-CTFPR/L16			

Note: When using chipbreaker piece, order above optional parts separately. Chipbreaker piece grade: TX30

● : Stocked items.

Min. bore dia.
ø8mm~Shank dia.
ø8~32mmTsuppari-
Ichiban
ShankSteel
ShankCarbide
Shank

“Tsuppari-Ichiban” (Reinforced with carbide)

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Oil hole	Dimensions (mm)								Std. corner r_{ϵ}	Applicable inserts				
	R	L			$\varnothing D_s$	f	L_1	L_2	L_3	h	b	α						
T12M-STUPR/L11-D14	●		14	-	12	7	150	24	59	11	-	4°	0.4	TP□□ *Excepting TPGH, TPGM, TPGA	1102□□ ➤ 2-123~	CSTB-2.5B	T-8F	
T12M-STUPR/L11	●	●	16			9		25	58						CSTB-2.5			
T16Q-STUPR/L13-D18	●		18	-	16	9	180	30	59	15	-	3.5°	0.4		1303□□ ➤ 2-123~	CSTB-3S	T-9F	
T16Q-STUPR/L13	●	●	20			11		40	18			3°				CSTB-3		
T20R-STUPR/L13C-D22	●		22	Rc1/4	20	35	49	18	2°	-	0.8	16T3□□ ➤ 2-123~	CSTB-3S			T-15F		
T20R-STUPR/L13	●	●	24	-		13	40	CSTB-3										
T25S-STUPR/L16C-D27	●		27	Rc1/4	25	13.5	250	40	64	23	-		1°		0.8	16T3□□ ➤ 2-123~	CSTB-4S	T-15F
T25S-STUPR/L16	●	●	31	-		17		45	0°									

T-CBN inserts ➤ 3-12~ T-DIA inserts ➤ 3-22~

Steel Shank

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Dimensions (mm)						Std. corner r_{ϵ}	Applicable inserts	Clamping screw	Wrench	Coolant supply attachment		
	R	L		$\varnothing D_s$	f	L ₁	L ₂	h	b			a				
S08H-STUPR/L07			8	8	4	100	21	7	-	10°	0.4	TPGM	0701□□  2-127	CSTB-2.2S	T-7F	-
S08H-STUPR/L09			10	8	5.5	100	16	7	-	8°	0.4	TP□□ *Excepting *TPGH, TPGM, TPGA	0902□□  2-123~	CSTB-2.2S	T-7F	-
S10K-STUPR/L11			12	10	6.5	125	20	9	-	6°	0.4		1102□□  2-123~	CSTB-2.5	T-8F	-
S12M-STUPR/L11			16	12	9	150	24	11	11.5	4°			1303□□  2-123~	CSTB-3	T-9F	-
S16Q-STUPR/L13			20	16	11	180	30	15	15.5	3°	0.4		16T3□□  2-123~	CSTB-4S	T-15F	-
S20R-STUPR/L13			24	20	13	200	40	18	19	2°						
S25S-STUPR/L16			31	25	17	250	45	23	24	0°	0.8					
S32T-STUPR/L16			39	32	22	300	50	30	31							
A20R-STUPR/L13			24	20	13	200	40	18	19		0.4	TP□□ *Excepting TPGH, TPGM, TPGA	1303□□  2-123~	CSTB-3	T-9F	EA-20
A25S-STUPR/L16			31	25	17	250	45	23	24		0.8		16T3□□  2-123~	CSTB-4S	T-15F	EA-25

Notes: ● When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

T-CBN inserts ➤ 3-12~ T-DIA inserts ➤ 3-22~

● : Stocked items.

STUPR/L

Min. bore dia.
ø8mm~Shank dia.
ø8~32mmSteel
ShankCarbide
Shank

Carbide Shank

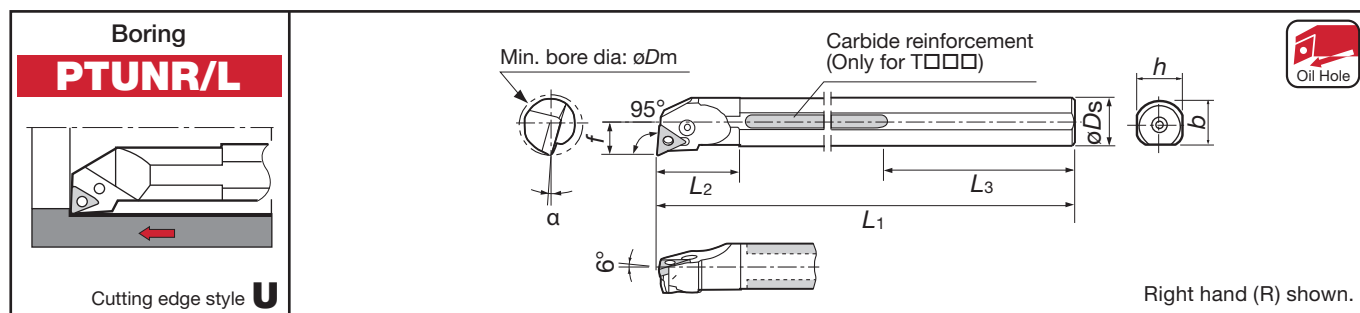
Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Oil hole	Dimensions (mm)								Std. corner r_E	Applicable inserts	Clamping screw	Wrench			
	R	L			$\varnothing D_s$	f	L_1	L_2	L_3	h	b	a							
C08K-STUPR/L07			8	-	8	4	125	45	-	7	-	10°	0.4	TPGM	0701□□ 	CSTB-2.2S	T-7F		
C08K-STUPR/L09			10	-	8	5.5	125	-	-	7	-	8°	0.4	TP□□ *Excepting TPGH, TPGM, TPGA	0902□□ 	CSTB-2.2S	T-7F		
C10M-STUPR/L11			12	-	10	6.5	150	-	-	9	-	6°	0.4		1102□□ 	CSTB-2.5	T-8F		
C12Q-STUPR/L11			16		12	9	180			11		4°							
C16R-STUPR/L13			20	-	16	11	200	-	-	15	-	3°	0.4		1303□□ 	CSTB-3	T-9F		
C20S-STUPR/L13			24		20	13	250			18		2°							
C25T-STUPR/L16			31	-	25	17	300	-	-	23	-	0°	0.8		16T3□□ 	CSTB-4S	T-15F		
E08J-STUPR/L07			8	-	8	4	110	40	-	7.5	-	-	0.4	TPGM	0701□□ 	CSTB-2.2S	T-7F		
E08G-STUPR/L07						90													
E08J-STUPR/L09			10	-	8	5.5	110	-	-	7.5	-	-	0.4	TP□□ *Excepting TPGH, TPGM, TPGA	0902□□ 	CSTB-2.2S	T-7F		
E08G-STUPR/L09						90													
E10K-STUPR/L11			12	-	10	6.5	120	-	-	9.5	-	-	0.4		1102□□ 	CSTB-2.5	T-8F		
E10H-STUPR/L11						100													
E12L-STUPR/L11		16	-	12	9	130	11.5			-	-								
E12J-STUPR/L11						110													
E16M-STUPR/L13			20	-	16	11	150	-	-	15.5	-	-	0.4	1303□□ 				CSTB-3	T-9F
E16L-STUPR/L13						130													

Note: • When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

T-CBN inserts ➤ 3-12 ~

T-DIA inserts ➤ 3-22 ~

PTUNR/L

Min. bore dia.
ø20mm~Shank dia.
ø16~50mmTsuppari-
Ichiban
ShankCarbide
Shank

■ “Tsuppari-Ichiban” (Reinforced with carbide)

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Oil hole	Dimensions (mm)							Std. corner r_E	Applicable inserts		Clamping screw	Wrench	Lever	Spring	Shim					
	R	L			$\varnothing D_s$	f	L_1	L_2	L_3	h	b									a				
T16Q-PTUNR/L11	●		20	-	16	11	180	27	59	15	-	14°	0.4	TN□□	1103□□ ▶ 2-70~	LCS22A	P-2F	LCL22N	-	-				
T20R-PTUNR/L11C	●		25	Rc1/4	20	13	200	35	49	18	-	12°												
T25S-PTUNR/L16C	●		32	Rc1/2	25	17	250	40	64	23	-	12°	0.8		1604□□ ▶ 2-70~	LCS3	P-2.5	LCL3	LSP3	ELST317/ R/L				
T32U-PTUNR/L16C	●		40		32	22	350	50	103	30	-	10°												LST317/ R/L
T40V-PTUNR/L16C	●		50		40	27	400	55	88	37	-	10°												
T50W-PTUNR/L16C	●		63		50	35	450	65	63	47	-	8°												

T-CBN inserts ➤ 3-8 ~ T-DIA inserts ➤ 3-21

■ Steel Shank

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Dimensions (mm)							Std. corner r_{E}	Applicable inserts	Clamping screw	Wrench	Lever	Spring	Shim	Coolant supp. attachment	
	R	L		$\varnothing D_s$	f	L_1	L_2	h	b	a									
S16M-PTUNR/L11	●	●	20	16	11	150	30	15	15.5	14°	0.4	TN□□	1103□□  2-70~	LCS22A	P-2F	LCL22N	-	-	-
S20Q-PTUNR/L11	●	●	25	20	13	180	35	18	19	12°									
S25R-PTUNR/L16	●	●	32	25	17	200	40	23	24	12°	0.8	TN□□	1604□□  2-70~	LCS3	P-2.5	LCL33	LSP3	ELST317B R/L	-
A32S-PTUNR/L16	●	●	40	32	22	250	50	30	29.5	12°	0.8	TN□□	1604□□  2-70~	LCS3	P-2.5	LCL3	LSP3	LST317B R/L	EA-32

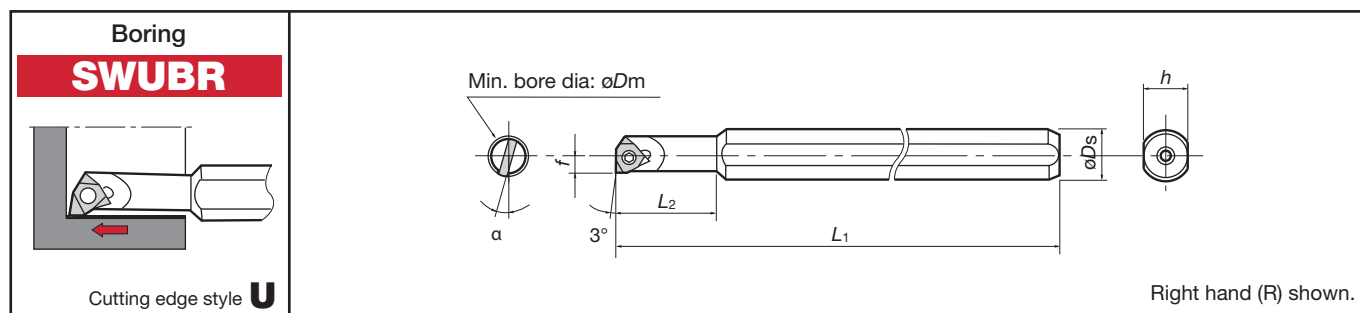
Notes : • The hole of inserts conforms to ISO standard.

T-CBN inserts ➤ 3-8 ~ T-DIA inserts ➤ 3-21

• Toolholder lengths do not always conform to ISO.

• When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

● : Stocked items.

Min. bore dia.
ø6mm~Shank dia.
ø8mmSteel
ShankCarbide
Shank

Steel Shank

Cat. No.	Stock	Min. bore dia. øD _m	Dimensions (mm)								Std. corner r _ε	Applicable inserts		Clamping screw	Wrench
	R		øD _s	f	L ₁	L ₂	h	b	α	a					
S08H-SWUBR036		6	8	3.1	100	18	7	-	12°	-	0.4	WB□□	0301□□ ➤ 2-132	CSTB-2	T-6F
S08H-SWUBR037		7		3.6		20									

Carbide Shank

Cat. No.	Stock	Min. bore dia. øD _m	Dimensions (mm)								Std. corner r _ε	Applicable inserts		Clamping screw	Wrench
	R		øD _s	f	L ₁	L ₂	h	b	α	a					
C08K-SWUBR036		6	8	3.1	125	30	7	-	12°	-	0.4	WB□□	0301□□ ➤ 2-132	CSTB-2	T-6F
C08K-SWUBR037		7		3.6		40									

Notes : • The hole of inserts conforms to ISO standard.

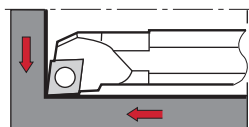
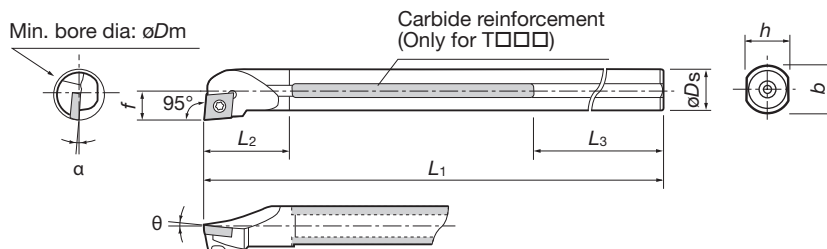
• When using a left hand insert, it is used for right hand toolholders.

● : Stocked items.

Min. bore dia.
ø10mm~Shank dia.
ø8~25mmTsuppari-
Ichiban
ShankSteel
ShankCarbide
Shank

Boring & Internal facing

SCLCR/L

Cutting edge style **L**

Right hand (R) shown.

■ “Tsuppari-Ichiban” (Reinforced with carbide)

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Oil hole	Dimensions (mm)									Std. corner r_{ϵ}	Applicable inserts		Clamping screw	Wrench
	R	L			$\varnothing D_s$	f	L_1	L_2	L_3	h	b	α	θ					
T12M-SCLCR/L06	●	●	16	-	12	9	150	22	59	11	-	10°	0°	0.4	CC□□	0602□□ ➤ 2-96~	CSTB-2.5	T-8F
T16Q-SCLCR/L09	●	●	20	-	16	11	180	27	59	15	-	10°	0°	0.8		09T3□□ ➤ 2-96~	CSTB-4S	T-15F
T20R-SCLCR/L09C	●	●	25	Rc1/4	20	13	200	35	49	18		8°						
T25S-SCLCR/L09C	●	●	32	Rc1/4	25	17	250	40	64	23		6°						

T-CBN inserts ➤ 3-12 ~ T-DIA inserts ➤ 3-22

■ Steel Shank

Cat. No.	Stock		Min. bore dia. øD _m	Oil hole	Dimensions (mm)								Std. corner rε	Applicable inserts	Clamping screw	Wrench
	R	L			øD _s	f	L ₁	L ₂	L ₃	h	b	α	θ			
S08H-SCLCR/L06			10		8	5.5	100	16		7		13°		CC□□ 0602□□ ➤ 2-96~ 09T3□□ ➤ 2-96~	CSTB-2.5S	T-8F
S10K-SCLCR/L06			13	-	10	7	125			9		12°	0°		CSTB-2.5	
S12M-SCLCR/L06			16		12	9	150	25		11	11.5	10°				
S16Q-SCLCR/L09			20		16	11	180	30		15	15.5	10°				
S20R-SCLCR/L09			25	-	20	13	200	35		18	19	6°	0°	0.8	CSTB-4S	T-15F
S25S-SCLCR/L09			32		25	17	250	40		23	24			0.8		

T-CBN inserts ➤ 3-12 ~ T-DIA inserts ➤ 3-22

■ Carbide Shank

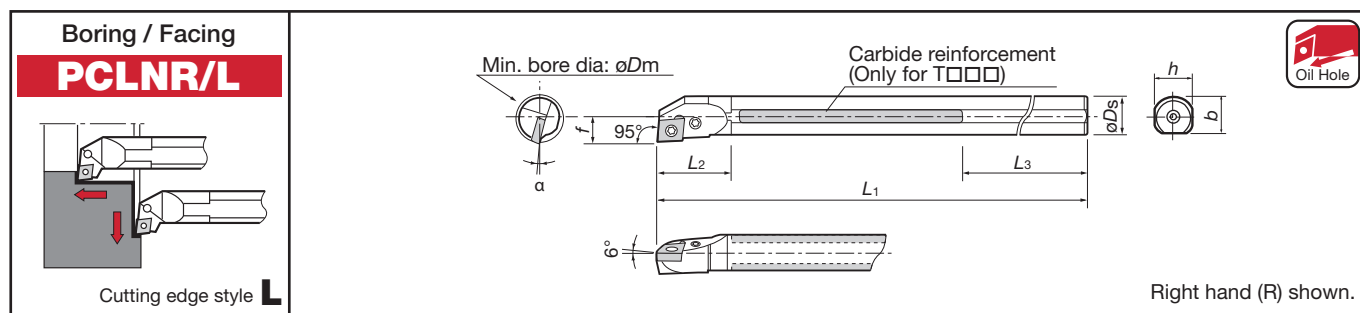
Cat. No.	Stock		Min. bore dia. øD _m	Oil hole	Dimensions (mm)								Std. corner rε	Applicable inserts	Clamping screw	Wrench
	R	L			øD _s	f	L ₁	L ₂	L ₃	h	b	α	θ			
C08K-SCLCR/L06			10		8	5.5	125	21.5		7		13°		CC□□ 0602□□ ➤ 2-96~ 09T3□□ ➤ 2-96~	CSTB-2.5S	T-8F
C10M-SCLCR/L06			13	-	10	7	150			9		12°	0°		CSTB-2.5	
C12Q-SCLCR/L06			16		12	9	180			11		10°				
C16R-SCLCR/L09			20		16	11	200			15		10°				
C20S-SCLCR/L09			25	-	20	13	250			18		8°	0°	0.8	CSTB-4S	T-15F
C25T-SCLCR/L09			32		25	17	300			23		6°		0.8		

T-CBN inserts ➤ 3-12 ~ T-DIA inserts ➤ 3-22

- Notes:
- The hole of inserts conforms to ISO standard.
 - When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

● : Stocked items.

PCLNR/L

Min. bore dia.
ø20mm~Shank dia.
ø16~50mmTsuppari-
Ichiban
ShankSteel
Shank

■ “Tsuppari-Ichiban” (Reinforced with carbide)

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Oil hole	Dimensions (mm)								Std. corner r_E	Applicable inserts					
	R	L			$\varnothing D_s$	f	L_1	L_2	L_3	h	b	α							
T16Q-PCLNR/L09	●		20	-	16	11	180	27	59	15		14°	0.8	CN□□ 					
T20R-PCLNR/L09C	●		25	Rc1/4	20	13	200	35	49	18	-	12°							
T25S-PCLNR/L09C	●		32		25	17	250	40	64	23		11°							
T32U-PCLNR/L12C	●		40		32	22	350	50	103	30		11°	0.8						
T40V-PCLNR/L12C	●		50	Rc1/2	40	27	400	55	88	37	-	10°							
T50W-PCLNR/L12C	●		63		50	35	450	65	63	47		8°							

T-CBN inserts ➤ 3-7 ~ T-DIA inserts ➤ 3-21

■ Steel Shank

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Oil hole	Dimensions (mm)								Std. corner r_{ξ}	Applicable inserts	Clamping screw 	Wrench 	Lever 	Shim 	Spring 	
	R	L			$\varnothing D_s$	f	L_1	L_2	L_3	h	b	α								
S16M-PCLNR/L09	●	●	20	-	16	11	150	30	-	15	15.5	14°	0.8	CN□□ 0903□□ ▶ 2-42~	LCS22A	P-2F	LCL32N	-	-	
S20Q-PCLNR/L09	●	●	25	-	20	13	180	35		18	19	12°								
S25R-PCLNR/L09	●	●	32	-	25	17	200	40		23	24	11°								
S32S-PCLNR/L12	●	●	40	-	32	22	250	50	-	30	29.5	11°	0.8		1204□□ ▶ 2-42~	LCS4	P-3	LCL4	LSC42B R/L	LSP4
S40T-PCLNR/L12	●	●	50	-	40	27	300	55		37	37.5	10°								
S50U-PCLNR/L12	●	●	63	-	50	35	350	65		47	47.5	8°								

Notes: • When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

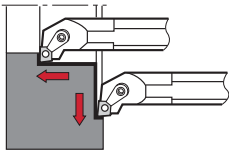
T-CBN inserts ➤ 3-7 ~ T-DIA inserts ➤ 3-21

● : Stocked items.

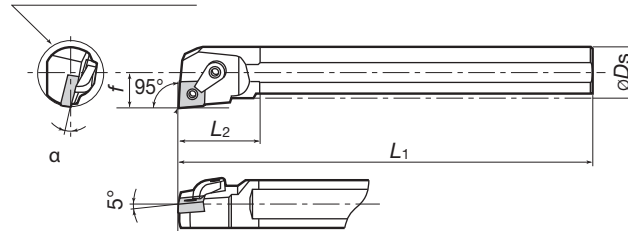
MCLNR/L

Min. bore dia.
ø32mmShank dia.
ø25mmSteel
Shank

Boring / facing

MCLNR/LCutting edge style **L**

Min. bore dia: øDm



Right hand (R) shown.

Steel Shank

Cat. No.	Stock		Min. bore dia. øDm	Dimensions (mm)							Std. corner rε	Applicable inserts	Lock pin	Clamp	Clamping screw	Shim	Wrench for lock pin	Wrench for clamp
	R	L		øDs	f	L1	L2	h	b	α								
S25R-MCLNR/L12	●	●	32	25	17	200	40	23	22.5	12°	0.8	CN□□ ▶ 2-42~	MLP44	MCPM-21	MCS620-3	-	P-2.5F	P-3

T-CBN inserts ▶ 3-7 ~ T-DIA inserts ▶ 3-21

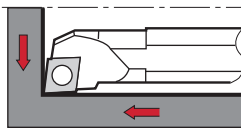
S-type / Internal Turning

Positive rake / Screw-on system

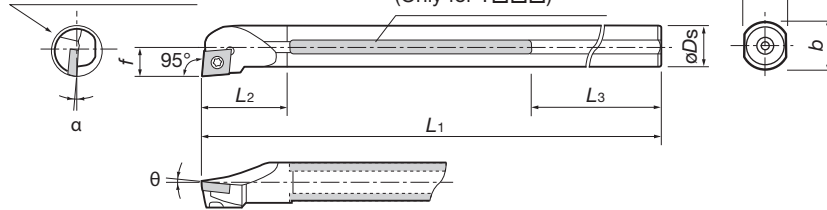
SCLPR/L

Min. bore dia.
ø14mm~Shank dia.
ø12~25mmTsuppari-
Ichiban
Shank

Boring / facing

SCLPR/LCutting edge style **L**

Min. bore dia: øDm



Right hand (R) shown.



“Tsuppari-Ichiban” (Reinforced with carbide)

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Oil hole	Dimensions (mm)								Std. corner r_E	Applicable inserts	Clamping screw	Wrench						
	R	L			$\varnothing D_s$	f	L_1	L_2	L_3	h	α	θ										
T12M-SCLPR/L08-D14	●		14	-	12	7	150	22	59	11	4°	5°	0.4	CP□□	0802□□ 	CSTB-3L050	T-9F					
T12M-SCLPR/L08	●	●	16			9					25				3°							
T16Q-SCLPR/L09-D18	●		18	-	16	9	180	27	59	15	3.5°	5°	0.8				CSTB-4L060	T-15F				
T16Q-SCLPR/L09	●	●	20			11					30					4°						
T20R-SCLPR/L09C-D22	●		22	Rc1/4	20	200	35	49	18	2°	5°	0.8				0903□□ 	CSTB-4L060					
T20R-SCLPR/L09	●	●	25	-												13						
T25S-SCLPR/L09C-D27	●		27	Rc1/4	25	13.5	250	40	64	23	1°	5°				0.8					CSTB-4L060	
T25S-SCLPR/L09	●	●	32	-							17											

Notes: ● When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

● : Stocked items.

P-type / Internal Turning

PWLNRL/L

Negative rake / Lever-lock system

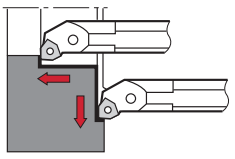
Min. bore dia.
ø20mm~

Shank dia.
ø16~25mm

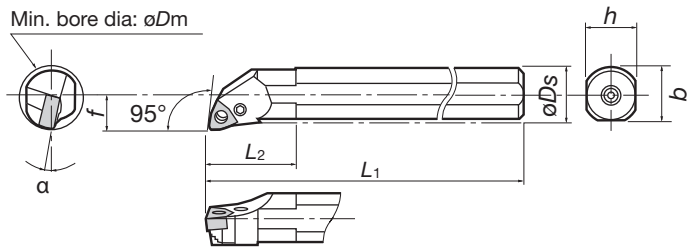
Steel
Shank

Boring / facing

PWLNRL/L



Cutting edge style **L**



Right hand (R) shown.

Steel Shank

Cat. No.	Stock		Min. bore dia. øD _m	Dimensions (mm)						Std. corner r _E	Applicable inserts		Shim	Lever	Clamping screw	Spring	Wrench
	R	L		øD _s	f	L ₁	L ₂	h	b								
S16M-PWLNRL/L06	●	●	20	16	11	150	30	15	15.5	17°	0.8	WN□□ 0604□□ ▶ 2-80~	-	LCL33N	LCS33	-	P-2F
S20Q-PWLNRL/L06	●	●	25	20	13	180	35	18	19	14°			LSW312B R/L	LCL3	LCS3B	LSP3	P-2.5
S25R-PWLNRL/L06	●	●	32	25	17	200	40	23	24	12°							

M-type / Internal Turning

MWLNRL/L

Negative rake / Multi clamping system

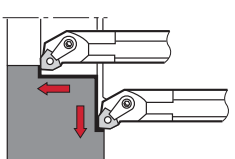
Min. bore dia.
ø32mm~

Shank dia.
ø25~50mm

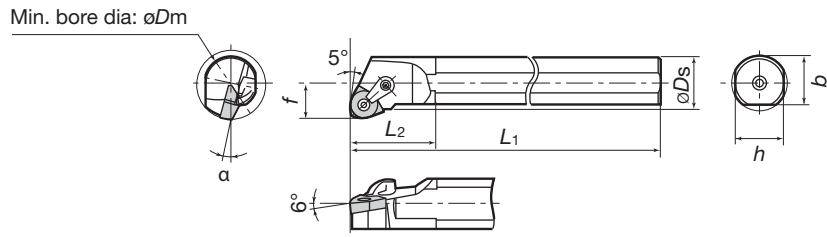
Steel
Shank

Boring / facing

MWLNRL/L



Cutting edge style **L**



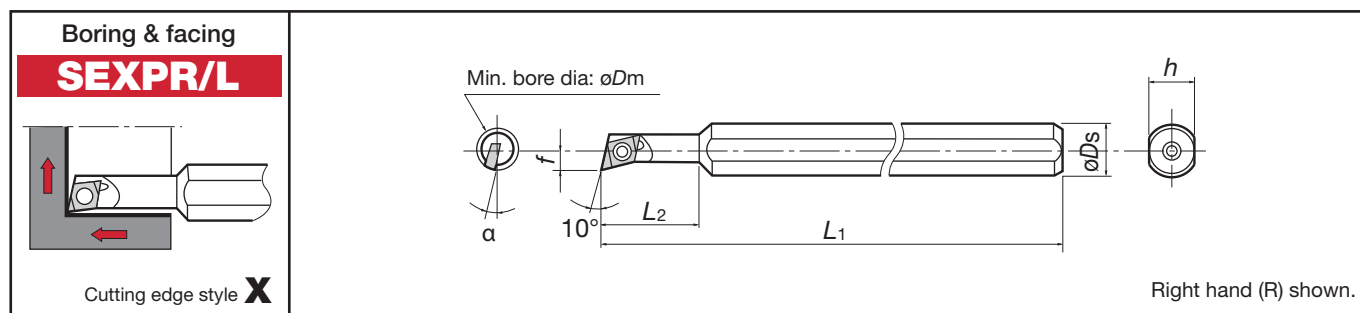
Right hand (R) shown.

Steel Shank

Cat. No.	Stock		Min. bore dia. ϕD_m	Dimensions (mm)						Std. corner r_E	Applicable inserts		Lock pin	Clamp	Clamping screw	Shim	Wrench for lock pin	Wrench for clamp	
	R	L		ϕD_s	f	L_1	L_2	h	b				a						
S25R-MWLNR/L08	▲	▲	32	25	17	200	40	23	22.5	12°	0.8	WN□□	0804□□  2-80~	MLP44	MCPM-6	MCS 520-2.5	-	P-2.5F	P-2.5
S32S-MWLNR/L08	▲	▲	44	32	22	250	50	30	29.5										
S40T-MWLNR/L08	▲	▲	54	40	27	300	60	37	37.5	10°				MLP46			MSW -432BR/L		
S50U-MWLNR/L08	▲	▲	70	50	35	350	75	47	47.5										

T-CBN inserts ▶ 3-9

● : Stocked items.
▲ : Will be replaced by new products.

Min. bore dia.
ø5.5mm~Shank dia.
ø8mmSteel
ShankCarbide
Shank

Steel Shank

Cat. No.	Stock		Min. bore dia. øD _m	Dimensions (mm)							Std. corner rε	Applicable inserts		Clamping screw	Wrench
	R	L		øD _s	f	L ₁	L ₂	h	b	a					
S08H-SEXPR/L045			5.5	8	2.75	100	16	7	-	12°	0.4	EP□□	0401□□ ➤ 2-111	CSTB-2	T-6F
JS08H-SEXPR/L045	●				2.7										
S08H-SEXPR/L047			7	8	3.6	100	20	7	-	12°	0.4	EP□□	0401□□ ➤ 2-111	CSTB-2	T-6F
JS08H-SEXPR/L047	●														

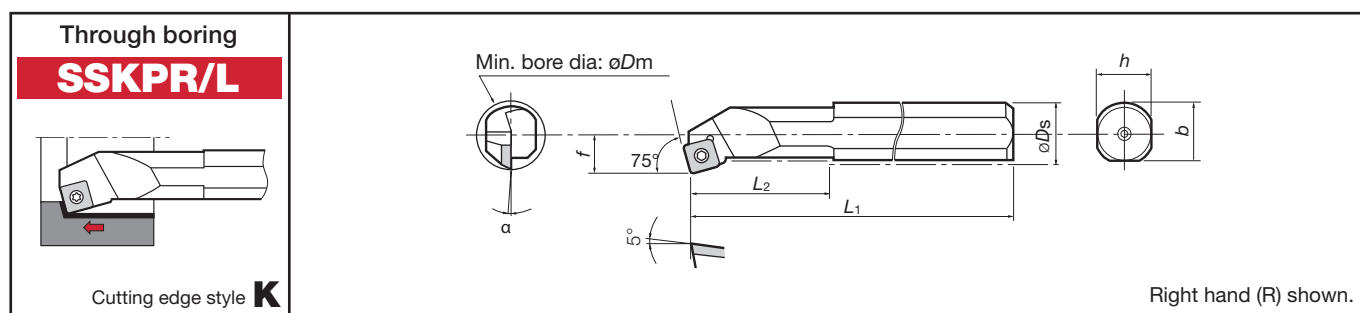
T-DIA inserts ➤ 3-23

Carbide Shank

Cat. No.	Stock		Min. bore dia. øD _m	Dimensions (mm)							Std. corner rε	Applicable inserts		Clamping screw	Wrench
	R	L		øD _s	f	L ₁	L ₂	h	b	a					
C08K-SEXPR/L045			5.5	8	2.75	125	28	7	-	12°	0.4	EP□□	0401□□ ➤ 2-111	CSTB-2	T-6F
C08K-SEXPR/L047			7		3.6		40								

Notes: • When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

T-DIA inserts ➤ 3-23

Min. bore dia.
ø20mm~Shank dia.
ø16~32mmSteel
Shank

Steel Shank

Cat. No.	Stock		Min. bore dia. øD _m	Dimensions (mm)							Std. corner rε	Applicable inserts		Clamping screw	Wrench
	R	L		øD _s	f	L ₁	L ₂	h	b	a					
S16Q-SSKPR/L09			20	16	11	180	30	15	15.5	6°	0.8	SP□□	0903□□ ➤ 2-114	CSTB-4S	T-15F
S20R-SSKPR/L09			24	20	13	200	40	18	19	2°					
S25S-SSKPR/L12			31	25	17	250	45	23	24	2°	0.8	SP□□	1204□□ ➤ 2-114	CSTB-5	T-20F
S32T-SSKPR/L12			39	32	22	300	50	30	31	0°					

Notes: • The hole of inserts conforms to ISO standard.
• When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

T-CBN inserts ➤ 3-15

● : Stocked items.

P-type / Internal Turning

PSKNR/L

Negative rake / Lever-lock system

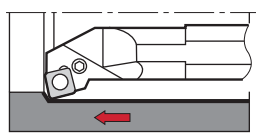
Min. bore dia.
ø40mm~

Shank dia.
ø32~50mm

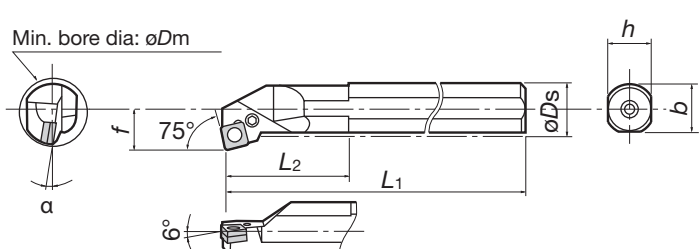
Steel
Shank

Through boring

PSKNR/L



Cutting edge style **K**



Right hand (R) shown.

Steel Shank

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Dimensions (mm)							Std. corner r_{ϵ}	Applicable inserts			Shim	Lever	Clamping screw	Spring	Wrench
	R	L		$\varnothing D_s$	f	L_1	L_2	h	b	a									
S32S-PSKNR/L12	●		40	32	22	250	50	30	29.5	10°	0.8	SN□□	1204□□ 						
S40T-PSKNR/L12	●		50	40	27	300	55	37	37.5										
S50U-PSKNR/L12	●		63	50	35	350	65	47	47.5										8°

Notes: • When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

T-CBN inserts ▶ 3-8 ~ T-DIA inserts ▶ 3-21

M-type / Internal Turning

MSKNR/L

Negative rake / Multi clamping system

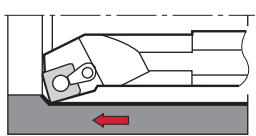
Min. bore dia.
ø32mm

Shank dia.
ø25mm

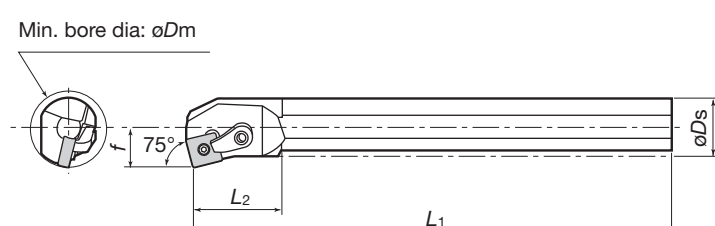
Steel
Shank

Boring & through boring

MSKNR/L



Cutting edge style **K**



Right hand (R) shown.

Steel Shank

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Dimensions (mm)							Std. corner r_E	Applicable inserts		Lock pin	Clamp	Clamping screw	Shim	Wrench for lock pin	Wrench for clamp
	R	L		$\varnothing D_s$	f	L_1	L_2	h	b	a									
S25R-MSKNR/L12	▲	▲	32	25	17	200	40	23	22.5	12°	0.8	SN□□	1204□□  2-61~				-	P-2.5F	P-3

Notes: • When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

T-CBN inserts ▶ 3-8 ~ T-DIA inserts ▶ 3-21

Note: * marked parts type No. is former type No.

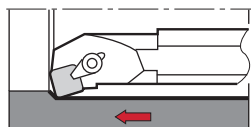
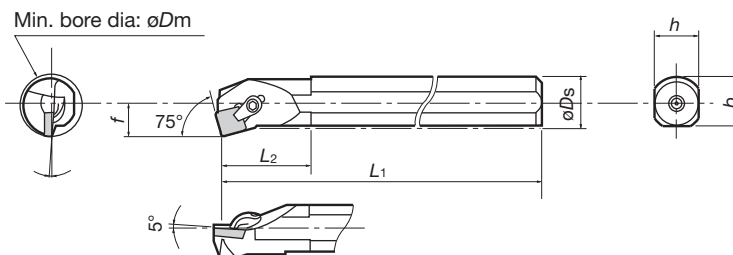
● : Stocked items.
▲ : Will be replaced by new products.

CSKPR/L

Min. bore dia.
ø20mm~Shank dia.
ø16~32mmSteel
ShankCarbide
Shank

Boring & Through boring

CSKPR/L

Cutting edge style **K**

Right hand (R) shown.

Steel Shank

Cat. No.	Stock		Min. bore dia. øD _m	Dimensions (mm)						Std. corner rE	Applicable inserts		Clamp set	Wrench	Shim	Shim screw	
	R	L		øD _s	f	L ₁	L ₂	h	b				a				
S16Q-CSKPR/L09	●		20	16	11	180	30	15	15	4°	0.8	SP□□ (Without hole)	0903□□  2-116	CSG-5S	P-2.5	-	-
S20R-CSKPR/L09	●	●	25	20	13	200	40	18	18.5	2°			CSG-5				
S25S-CSKPR/L12	●		32	25	17	250	45	23	22.5	0°	0.8	1203□□  2-116	CSG-6	P-3	-	-	
S32T-CSKPR/L12			40	32	22	300	50	30	29.5						PAS-42	SM3 x0.5x6	

T-CBN inserts ➤ 3-14 ~ T-DIA inserts ➤ 3-22

Carbide Shank

Cat. No.	Stock		Min. bore dia. øD _m	Dimensions (mm)						Std. corner r _E	Applicable inserts	Clamp set	Wrench	Shim	Shim screw
	R	L		øD _s	f	L ₁	L ₂	h	b	α					
C16R-CSKPR/L09	●		20	16	11	200	-	15	-	4°	SP□□ (Without hole)	0903□□ ➤ 2-116	CSG-5S	P-2.5	-

Notes: • When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

T-CBN inserts ➤ 3-14 ~ T-DIA inserts ➤ 3-22

Parts for positive-rake C-type toolholders when using chipbreaker piece

Toolholder Cat. No.	Shape	Clamp set	Chipbreaker piece
C16R · S16Q-CSKPR / L09		CSG-5	CBS-3M, (S, L)
S20R - CSKPR / L09			
S25S - CSKPR / L12		CSG-6	CBS - 4M, (S, L)
S32T - CSKPR / L12			

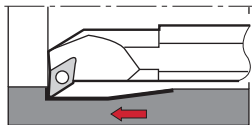
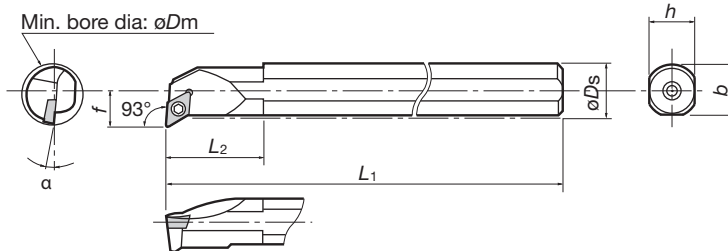
Note: When using chipbreaker piece, order above optional parts separately. Chipbreaker piece grade:TX30

● : Stocked items.

Min. bore dia.
ø13mm~Shank dia.
ø10~25mmSteel
ShankCarbide
Shank

Internal profiling

SDUCR/L

Cutting edge style **U**

Right hand (R) shown.

Steel Shank

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Dimensions (mm)						Std. corner r_E	Applicable inserts		Clamping screw	Wrench	
	R	L		$\varnothing D_s$	f	L_1	L_2	h	b				a		
S10K-SDUCR/L07			13	10	7	125	25	9	10	10°	0.4	DC□□	0702□□ 	CSTB-2.5	T-8F
S12M-SDUCR/L07			16	12	9	150	25	11	11.5	8°					
S16Q-SDUCR/L07			20	16	11	180	30	15	15.5	6°					
S20R-SDUCR/L11			25	20	13	200	35	18	18.5	8°	0.4	11T3□□ 	CSTB-4S	T-15F	
S25S-SDUCR/L11			32	25	17	250	40	23	24	4°			CSTB-4		

T-CBN inserts ➤ 3-12 ~ T-DIA inserts ➤ 3-22

Carbide Shank

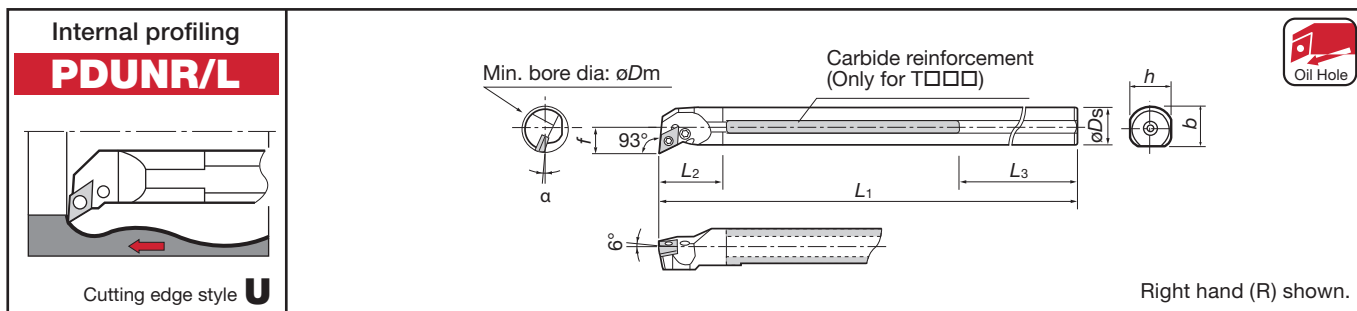
Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Dimensions (mm)						Std. corner r_{ϵ}	Applicable inserts		Clamping screw	Wrench	
	R	L		$\varnothing D_s$	f	L_1	L_2	h	b				a		
C10M-SDUCR/L07			13	10	7	150	24	9	-	10°	0.4	DC□□	0702□□ ▶ 2-105~	CSTB-2.5	T-8F
C12Q-SDUCR/L07			16	12	9	180	-	11	12	8°					
C16R-SDUCR/L07			20	16	11	200		15	16	6°					
C20S-SDUCR/L11			25	20	13	250	-	18	-	8°	0.4		11T3□□ ▶ 2-105~	CSTB-4S	T-15F

T-CBN inserts ➤ 3-12 ~ T-DIA inserts ➤ 3-22

Notes: • The hole of inserts conforms to ISO standard.

- When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

PDUNR/L

Min. bore dia.
ø25mm~Shank dia.
ø20~50mmTsuppari-
Ichiban
ShankSteel
Shank

■ “Tsuppari-Ichiban” (Reinforced with carbide)

Cat. No.	Stock		Min. bore dia. ϕD_m	Oil hole	Dimensions (mm)							Std. corner $r\epsilon$	Applicable inserts							
	R	L			ϕD_s	f	L_1	L_2	L_3	h	b									α
T32U-PDUNR/L15C	●		40	Rc1/2	32	22	350	50	103	30		13°	0.8	DN□□		LCS4	P-3	LCL4	LSD42B R / L	LSP4
T40V-PDUNR/L15C	●		50		40	27	400	55	88	37	-	10°								
T50W-PDUNR/L15C	●		63		50	35	450	65	63	47		8°								

T-CBN inserts  3-7 ~ T-DIA inserts  3-21

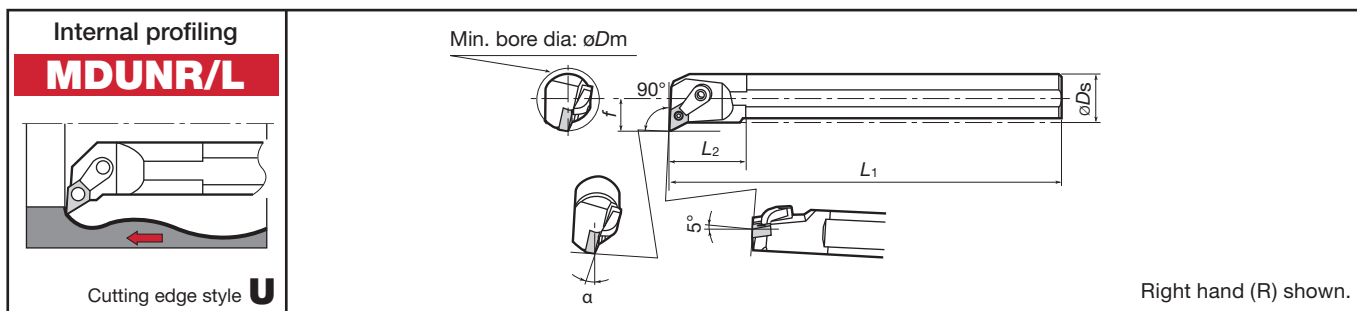
■ Steel Shank

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Oil hole	Dimensions (mm)							Std. corner $r\epsilon$	Applicable inserts		Clamping screw	Wrench	Lever	Shim	Spring	
	R	L			$\varnothing D_s$	f	L_1	L_2	L_3	h	b				a					
S20Q-PDUNR/L11	●	●	25	-	20	13	180	35	-	18	19	14°	0.8	DN□□	1104□□ 	LCS22A	P-2F	LCL33NL	-	-
S25R-PDUNR/L11	●	●	32		25	17	200	40		23	24	12°			LCS3	P-2.5	LCL33L	ELSD317B R / L	LSP3	
S32S-PDUNR/L15	●	●	40	-	32	22	250	50	-	30	29.5	13°	0.8	DN□□	1504□□ 	LCS4	P-3	LCL4	LSD42B R / L	LSP4
S40T-PDUNR/L15	●	●	50		40	27	300	55		37	37.5	10°								
S50U-PDUNR/L15	●	●	63		50	35	350	65		47	47.5	8°								

T-CBN inserts ▶ 3-7 ~ T-DIA inserts ▶ 3-21

Notes: • When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

MDUNR/L

Min. bore dia.
ø32mm~Shank dia.
ø25mmSteel
Shank

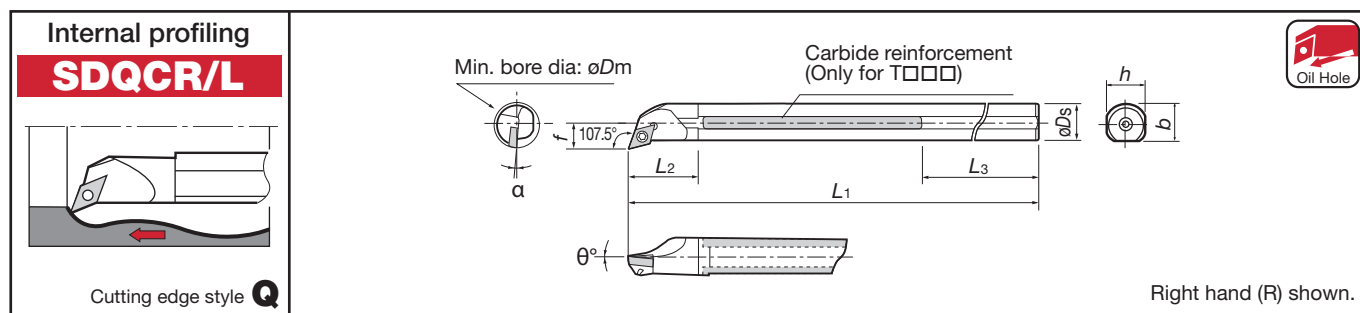
■ Steel Shank

Cat. No.	Stock		Min. bore dia. øDm	Dimensions (mm)							Std. corner rε	Applicable inserts		Lock pin	Clamp	Clamping screw	Shim	Wrench for lock pin	Wrench for clamp
	R	L		øDs	f	L1	L2	h	b	α									
S25R-MDUNR/L11	▲	▲	32	25	17	200	40	23	22.5	12°	0.8	DN□□	1104□□ ▶ 2-52~	MLP33L	MCL- 6+ MCPM-21	MCS620-3	-	P-2F	P-3

Notes: • When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

Note: * marked parts type No. is former type No.

● : Stocked items.
▲ : Will be replaced by new products.

Min. bore dia.
ø13mm~Shank dia.
ø10~25mmTsuppari-
Ichiban
ShankSteel
ShankCarbide
Shank

“Tsuppari-Ichiban” (Reinforced with carbide)

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Oil hole	Dimensions (mm)							Std. corner r_{ε}	Applicable inserts		Clamping screw	Wrench	
	R	L			$\varnothing D_s$	f	L_1	L_2	L_3	h	b				a		
T16Q-SDQCR/L07	●	●	20	-	16	11	180	27	59	15	-	6°	0.4	DC□□  2-105	CSTB-2.5	T-8F	
T20R-SDQCR/L11C	●	●	25	Rc1/4	20	13	200	35	49	18	-	6°	0.8		11T3□□  2-105	CSTB-4M	T-15F
T25S-SDQCR/L11C	●	●	32		25	17	250	40	64	23		4°			CSTB-4		

T-CBN inserts ▶ 3-12 ~ T-DIA inserts ▶ 3-22

Steel Shank

Cat. No.	Stock		Min. bore dia. øDm	Oil hole	Dimensions (mm)								Std. corner rε	Applicable inserts	Clamping screw	Wrench
	R	L			øDs	f	L1	L2	L3	h	b	a				
S10K-SDQCR/L07			13	-	10	7	125	25	-	9	-	10°	0.4	DC□□ 0702□□ ▶ 2-105	CSTB-2.5	T-8F
S12M-SDQCR/L07			16		12	9	150	25	-	11	11.5	7°				
S16Q-SDQCR/L07			20		16	11	180	30	-	15	15.5	6°				
S20R-SDQCR/L11			25	-	20	13	200	35	-	18	19	6°	0.8	11T3□□ ▶ 2-105	CSTB-4M	T-15F
S25S-SDQCR/L11			32		25	17	250	40	-	23	24	4°			CSTB-4	

T-CBN inserts ▶ 3-12 ~ T-DIA inserts ▶ 3-22

Carbide Shank

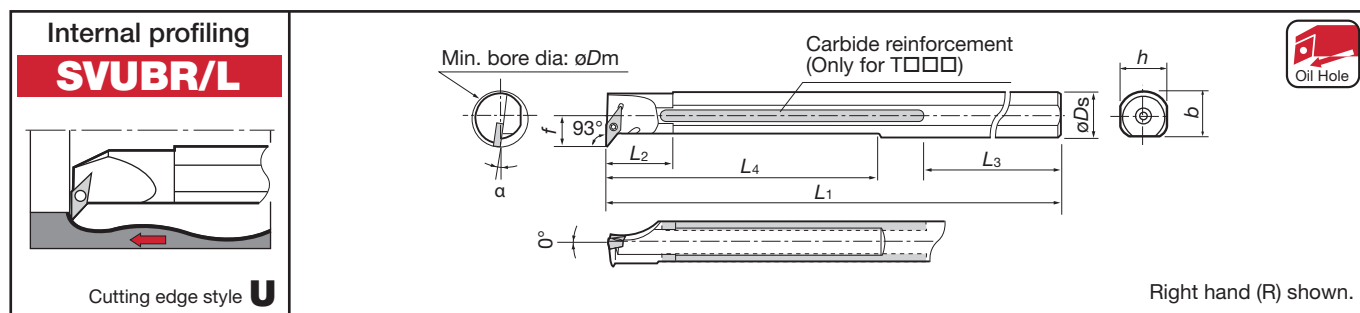
Cat. No.	Stock		Min. bore dia. øDm	Oil hole	Dimensions (mm)								Std. corner rε	Applicable inserts	Clamping screw	Wrench
	R	L			øDs	f	L1	L2	L3	h	b	a				
C10M-SDQCR/L07			13	-	10	7	150	-	-	9	-	10°	0.4	DC□□ 0702□□ ▶ 2-105	CSTB-2.5	T-8F
C12Q-SDQCR/L07			16		12	9	180	-	-	11	-	7°				
C16R-SDQCR/L07			20		16	11	200	-	-	15	-	6°				
C20S-SDQCR/L11			25	-	20	13	250	-	-	18	-	6°	0.8	11T3□□ ▶ 2-105	CSTB-4M	T-15F

T-CBN inserts ▶ 3-12 ~ T-DIA inserts ▶ 3-22

Notes: • The hole of inserts conforms to ISO standard.

- When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

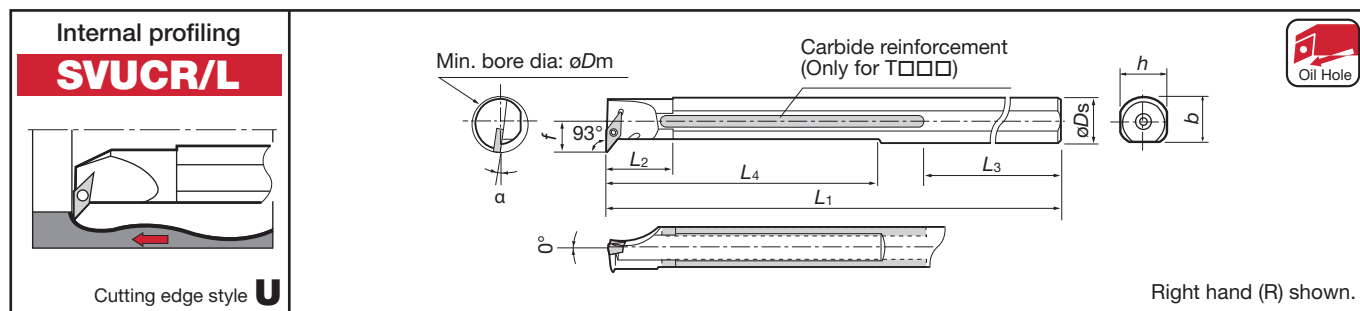
● : Stocked items.

Min. bore dia.
ø25mmShank dia.
ø20mmTsuppari-
Ichiban
Shank

“Tsuppari-Ichiban” (Reinforced with carbide)

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Oil hole	Dimensions (mm)									Std. corner r_E	Applicable inserts					
	R	L			$\varnothing D_s$	f	L_1	L_2	L_3	L_4	h	b	a							
T20R-SVUBR/L11C	●		25	Rc1/4	20	14	200	30	59	121	18	-	8°	0.4	VB□□  2-133	CSTB-2.5	T-8F	-	-	-

T-CBN inserts ▶ 3-13 ~

Min. bore dia.
ø32mm~Shank dia.
ø25~40mmTsuppari-
Ichiban
ShankSteel
Shank

“Tsuppari-Ichiban” (Reinforced with carbide)

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Oil hole	Dimensions (mm)									Std. corner r_E	Applicable inserts					
	R	L			$\varnothing D_s$	f	L_1	L_2	L_3	L_4	h	b	α							
T25S-SVUCR/L16C	●		32	Rc1/4	25	19	250	40	64	-	23	-	5°	0.8	VC□□  2-135	CSTB-3.5L	T-15F	-	-	-

T-CBN inserts ▶ 3-13 ~ T-DIA inserts ▶ 3-22 ~

Steel Shank

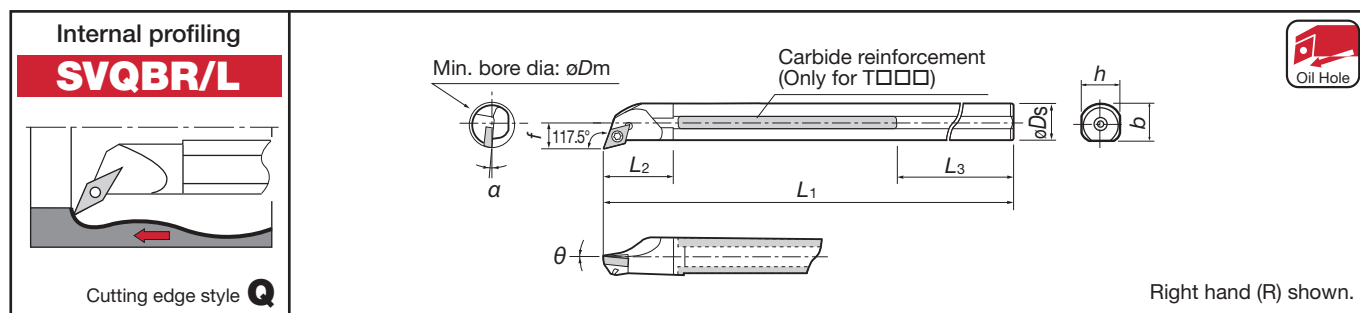
Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Oil hole	Dimensions (mm)									Std. corner r_{ϵ}	Applicable inserts		Clamping screw	Wrench	Shim	Shim screw	Wrench			
	R	L			$\varnothing D_s$	f	L_1	L_2	L_3	L_4	h	b	α											
S25S-SVUCR/L16			32	-	25	19	250	40	-	-	23	24	5°	0.8	VC□□	1604□□ ▶ 2-135	CSTB-3.5L	T-15F	-	-	-			
S32T-SVUCR/L16			40		32	22	300	50			30	31	3°									SSV32 (Grade:D30)	DTSS-3.5	P-3.5
S40U-SVUCR/L16			50		40	27	350	60			37	38.5	1°											

Notes: • The hole of inserts conforms to ISO standard.

T-CBN inserts ▶ 3-13 ~ T-DIA inserts ▶ 3-22 ~

- When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

● : Stocked items.

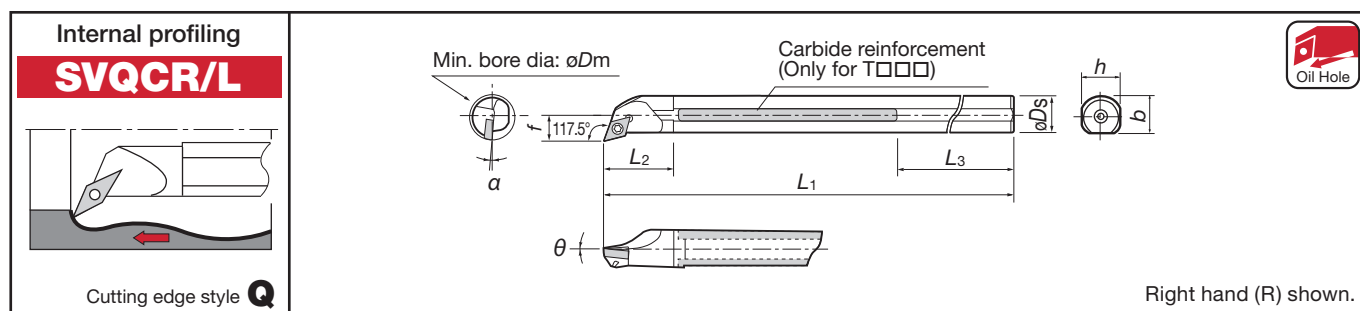
Min. bore dia.
ø25mmShank dia.
ø20mmTsuppari-
Ichiban
Shank

“Tsuppari-Ichiban” (Reinforced with carbide)

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Oil hole	Dimensions (mm)									Std. corner r_{ε}	Applicable inserts						
	R	L			$\varnothing D_s$	f	L_1	L_2	L_3	h	b	a	θ								
T20R-SVQBR/L11C	●		25	Rc1/4	20	14	200	30	59	18	-	7°	5°	0.4	VB□□	1103□□ ➤ 2-133	CSTB-2.5	T-8F	-	-	-

Notes: • The hole of inserts conforms to ISO standard.

T-CBN inserts ➤ 3-13 ~

Min. bore dia.
ø32mm~Shank dia.
ø25~40mmTsuppari-
Ichiban
ShankSteel
Shank

“Tsuppari-Ichiban” (Reinforced with carbide)

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Oil hole	Dimensions (mm)									Std. corner r_{ϵ}	Applicable inserts						
	R	L			$\varnothing D_s$	f	L_1	L_2	L_3	h	b	a	θ								
T25S-SVQCR/L16C	●		32	Rc1/4	25	17	250	40	64	23	-	5°	0°	0.8	VC□□	1604□□ ▶ 2-135	CSTB-3.5L	T-15F	-	-	-

T-CBN inserts ➤ 3-13 ~ T-DIA inserts ➤ 3-22 ~

Steel Shank

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Oil hole	Dimensions (mm)									Std. corner $r\epsilon$	Applicable inserts						
	R	L			$\varnothing D_s$	f	L ₁	L ₂	L ₃	h	b	a	θ								
S25S-SVQCR/L16			32	-	25	17	250	40	-	23	24	5°	0°	0.8	VC□□	1604□□ ▶2-135 ~	CSTB-3.5L	T-15F	-	-	-
S32T-SVQCR/L16			40		32	22	300	50		30	31	3°							SSV32 (Grade:D30)	DTS5-3.5	P-3.5
S40U-SVQCR/L16			50		40	27	350	60		37	38.5	1°									

Notes: • The hole of inserts conforms to ISO standard.

- When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

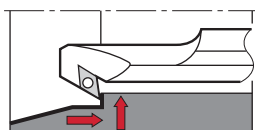
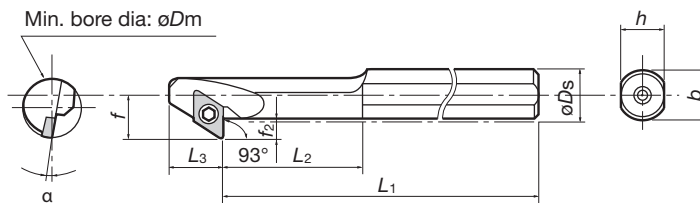
T-CBN inserts ➤ 3-13 ~ T-DIA inserts ➤ 3-22 ~

● : Stocked items.

Min. bore dia.
ø14mm~Shank dia.
ø12~25mmSteel
ShankCarbide
Shank

Internal retracting

SDZCR/L

Cutting edge style **Z**

Right hand (R) shown.

Steel Shank

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Dimensions (mm)									Std. corner r_E	Applicable inserts	Clamping screw	Wrench		
	R	L		$\varnothing D_s$	f	L_1	L_2	L_3	h	b	a	f_2						
S12M-SDZCR/L07			14	12	10.5	150	32.5	12.5	11	11.5	9°	5	0.4	DC□□	0702□□ 2-105~	CSTB-2.5	T-8F	
S16Q-SDZCR/L07			16	16	12.5	180	37.5		15	15.5	8°							
S20R-SDZCR/L11			20	20	15.5	200	40	14.4	18	19	8°	6.5	0.8			11T3□□ 2-105~	CSTB-4S	T-15F
S25S-SDZCR/L11			25	25	18	250	50		23	24	6°							

T-CBN inserts ▶ 3-12 ~ T-DIA inserts ▶ 3-22

Carbide Shank

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Dimensions (mm)									Std. corner r_E	Applicable inserts		Clamping screw	Wrench
	R	L		$\varnothing D_s$	f	L_1	L_2	L_3	h	b	a	f_2					
C12Q-SDZCR/L07			18	12	10.5	180	-	12.5	11	-	8°	4.5	0.4	DC□□	0702□□ 2-105~	CSTB-2.5	T-8F
C16R-SDZCR/L07			22	16	12.5	200			15		6°						

Notes: • The hole of inserts conforms to ISO standard.

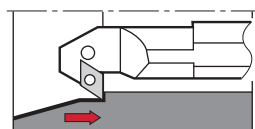
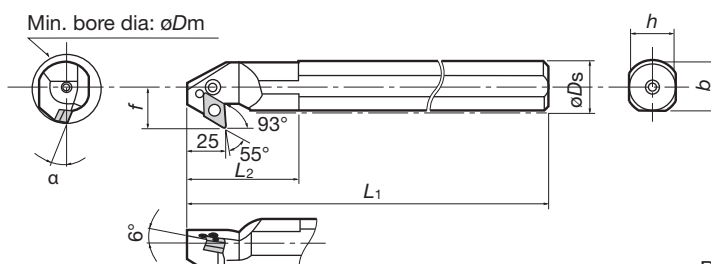
T-CBN inserts ▶ 3-12 ~ T-DIA inserts ▶ 3-22

• When using a right or left hand insert, the right hand insert is used for right hand toolholders and the left hand insert is used for left hand toolholders.

Min. bore dia.
ø40mm~Shank dia.
ø32~50mmSteel
Shank

Internal retracting

PDZNR/L

Cutting edge style **Z**

Right hand (R) shown.

Steel Shank

Cat. No.	Stock		Min. bore dia. $\varnothing D_m$	Dimensions (mm)						Std. corner r_E	Applicable inserts		Shim	Lever	Clamping screw	Spring	Wrench	
	R	L		$\varnothing D_s$	f	L_1	L_2	h	b									a
S32S-PDZNR/L15	●	●	40	32	22	275	55	30	29.5	13°	0.8	DN□□	1504□□ ▶ 2-52~	LSZ42B R/L	LCL4	LCS4	LSP4	P-3
S40T-PDZNR/L15	●		50	40	27	325	60	37	37.5	10°								
S50U-PDZNR/L15	●		60	50	35	375	65	47	47.5	8°								

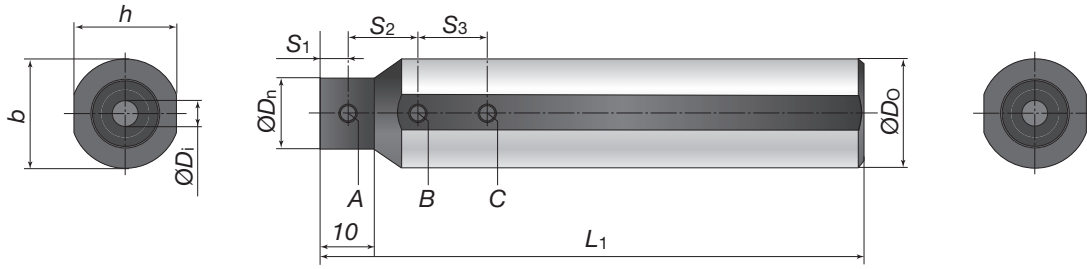
Notes: • When using a right or left hand insert, the right hand insert is used for right hand toolholders and the left hand insert is used for left hand toolholders.

T-CBN inserts ▶ 3-7 T-DIA inserts ▶ 3-21

● : Stocked items.

Sleeves

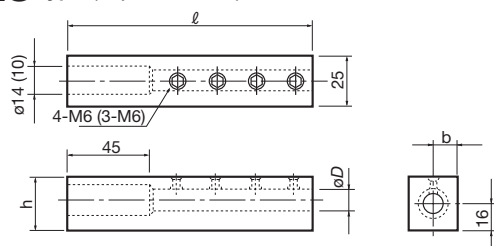
BLM type (Round shank for StreamJetBarMini)



Cat. No.	Stock	Dimensions (mm)									Replacement parts					
		øDo	øDi	øDn	L1	h	b	S1	S2	S3	Clamping screws			Wrench	Seal cap* (Inner screw)	
											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						20	20						
BLM159-06	●		6													
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						20	20						
BLM16-06	●		6													
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						20	20		SSHM4-4	SSHM4-4			SSHM4-4
BLM19-06	●		6													
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					20	20		SSHM4-4	SSHM4-4			SSHM4-4
BLM20-06	●		6	15												
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					20	20						
BLM22-06	●		6	15												
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					20	20		SSHM4-4	SSHM4-8			SSHM4-8
BLM25-06	●		6	15												
BLM25-07	●		7	16												
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					20	20		SSHM4-4	SSHM4-8			SSHM4-8
BLM254-06	●		6	15												
BLM254-07	●		7	16												

*Seal cap (optional)

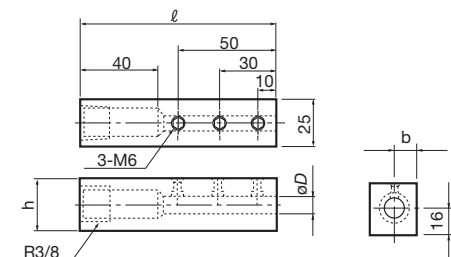
BLS type (Square shank)



() is for BLS16-08

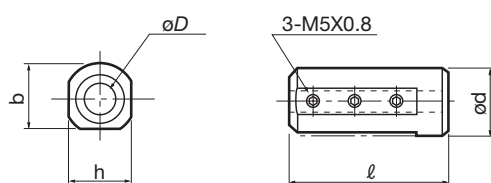
Cat. No.	Stock	Applicable shank dia. ϕD	Dimensions (mm)		
			ℓ	h	b
BLS16-08	●	8	125	28	12.5
BLS16-10	●	10			
BLS16-12	●	12			

BLS-C type (Square shank)



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

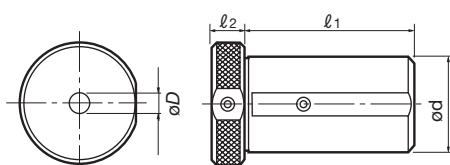
BLM type (Round shank)



Above drawing shows BLM25-□□□ type.

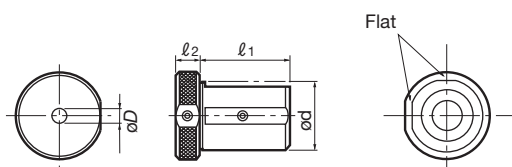
Cat. No.	Stock	Applicable shank dia. ϕD	Dimensions (mm)			
			ϕd	ℓ	h	b
BLM19-08	●	8	19.05	100	18	18
BLM20-08	●		20		19	
BLM22-08	●		22	125	21	21
BLM254-08	●		25.4		24	24
BLM25-08C	●	10	25	55	24	23
BLM25-10C	●					
BLM25-12C	●	12				

BLC type (Standard type)



Cat. No.	Stock	Applicable shank dia. ϕD	Dimensions (mm)		
			ℓ_1	ℓ_2	ϕd
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. ϕD	Dimensions (mm)		
			ℓ_1	ℓ_2	ϕd
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.