TurnLine

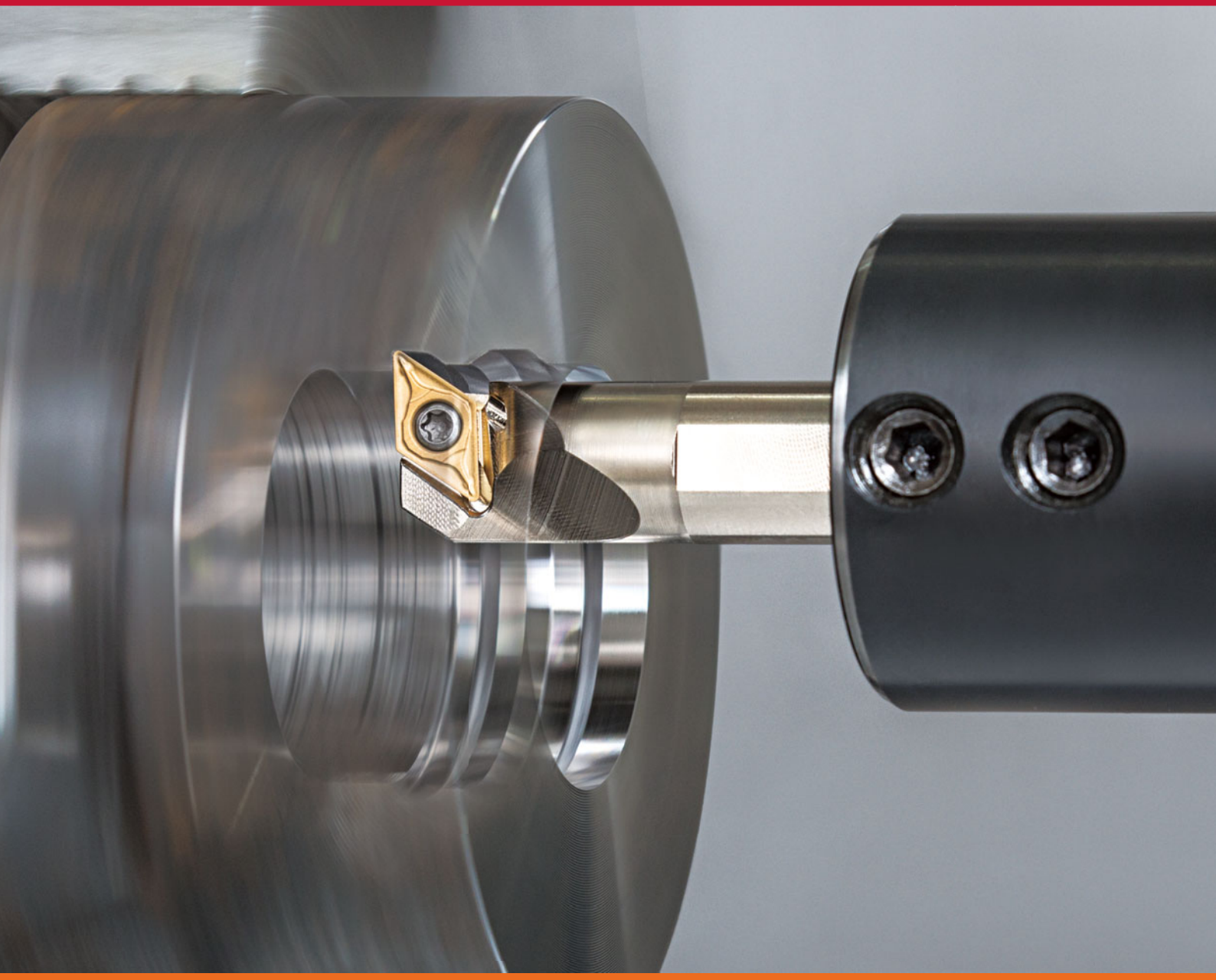
STREAMJETBAR

www.tungaloy.com

Tungaloy Report No. 357-G

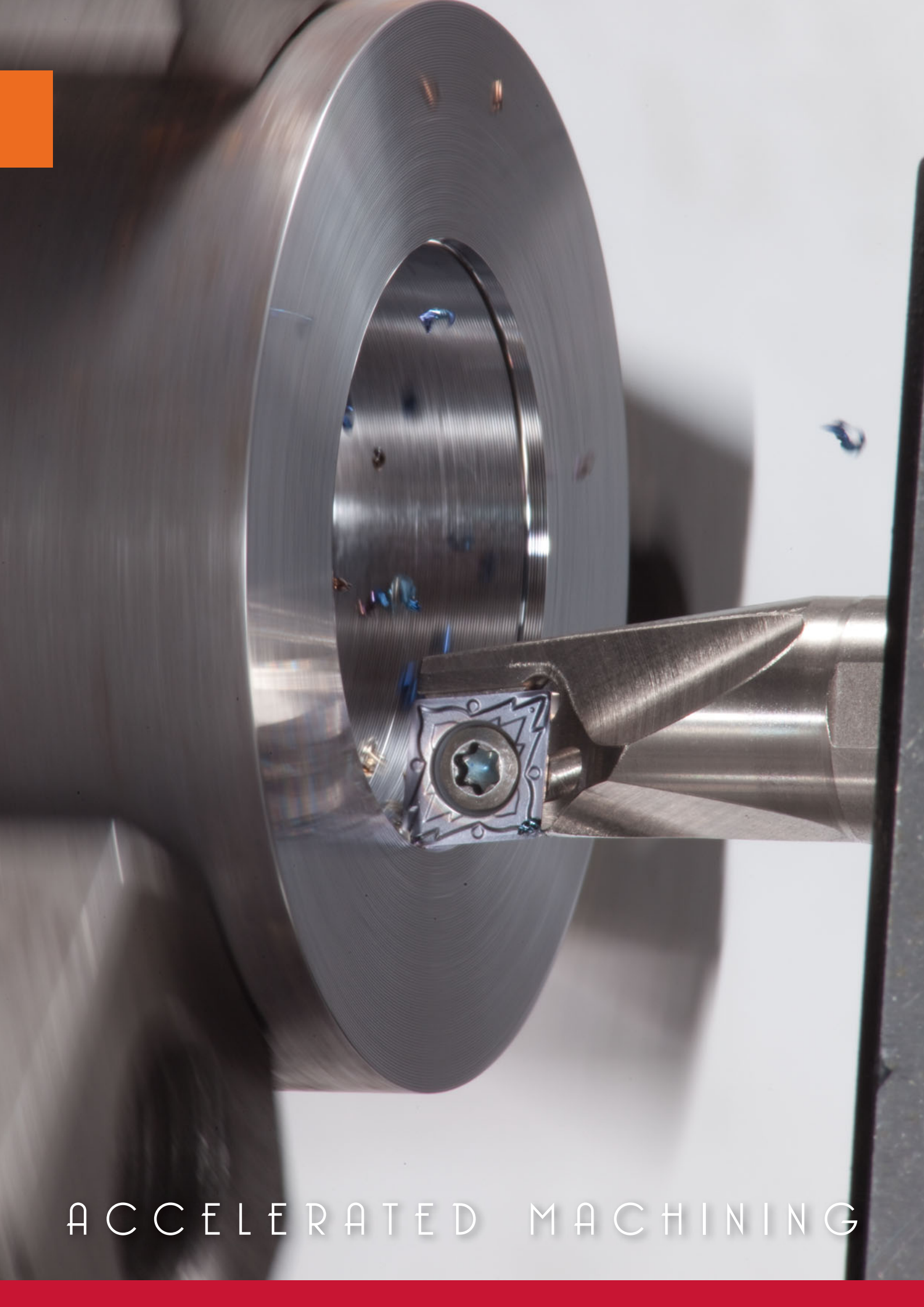
Member IMC Group Tungaloy

Highly rigid internal toolholders with excellent chip evacuation



INDUSTRY 4.0

FEED the SPEED!


ACCELERATED MACHINING

TurnLine

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TUNG FORCE TURN

ACCELERATED MACHINING

Now available with new DPMT series for improved chatter stability

STREAMJETBAR
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Engineered for tool strength and optimal chip evacuation

Tool body of special alloy steel, designed to reduce chatter !

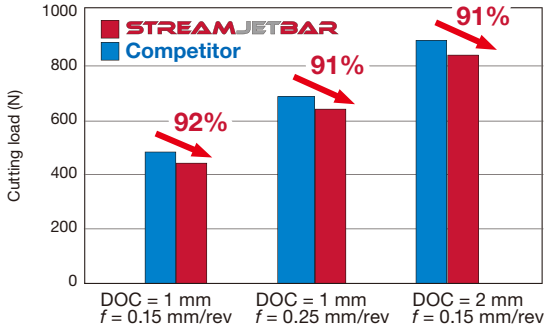
- Ensures superior surface finish quality over conventional ID turning tools !
- Improved tool life, efficiency, and economy !

Competitor

STREAMJETBAR

Optimal holder design assures low cutting load and high performance in the smallest bore diameters !

Cutting load comparison



P
Steel

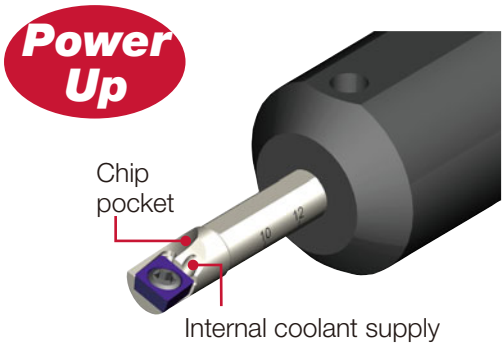
Toolholder	: A16Q-SDUPL07-D220
Insert	: DPMT070204-PS
Workpiece material	: S55C / C55
Cutting speed	: *Vc* = 150 m/min
Coolant	: Wet

Cutting load is reduced by 10% than conventional tool !

New DPMT insert with 11° flank clearance helps reduce cutting load !

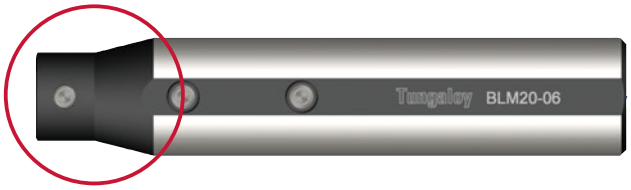
Excellent performance for small diameter machining operations

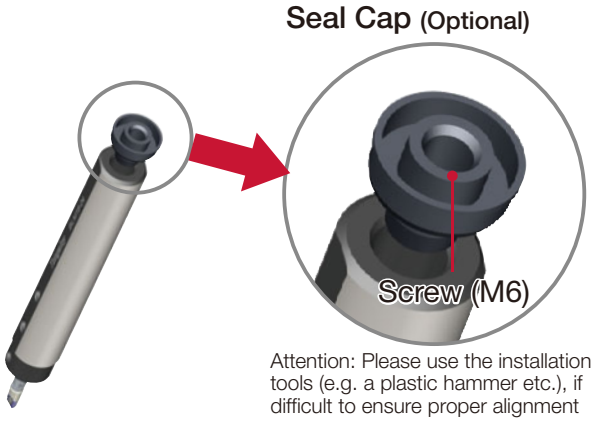
- Minimum bore diameter from ø4.5 mm
- Steel and carbide shank available
- Straight shank type available
- Can be used with internal coolant supply
- Well designed chip pocket for excellent chip evacuation
- Easy to adjust overhang due to marked scale on shank
- Improved rigidity for minimizing bar deflection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



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)

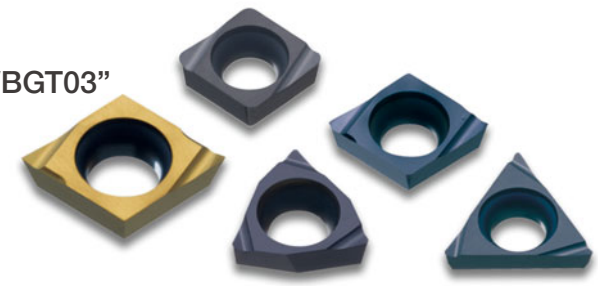




Attention: Please use the installation tools (e.g. a plastic hammer etc.), if difficult to ensure proper alignment

Stable tool life and excellent chip control

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



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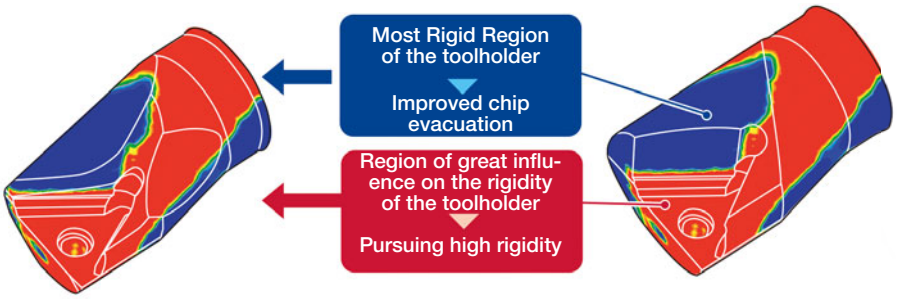
Finite Analysis of the load transition



Shape of Stream Jet Bar

Shape of Conventional boring bar

Increased rigidity for minimizing bar deflection and chatter

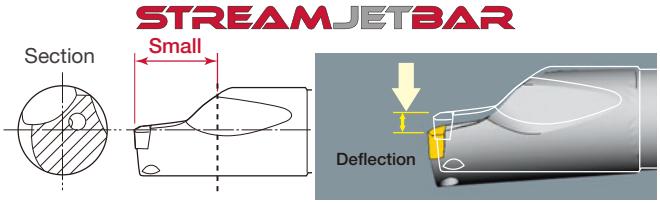
Rigidity comparison with a conventional boring bar (Illustrations)

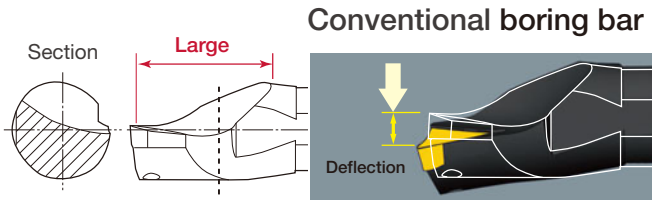
The rigidity of the bar in the direction of the principal force is maximized because the thickest portion of the head is located as close as possible to the cutting edge.

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

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

About 20% reduction in deflection compared with conventional bar

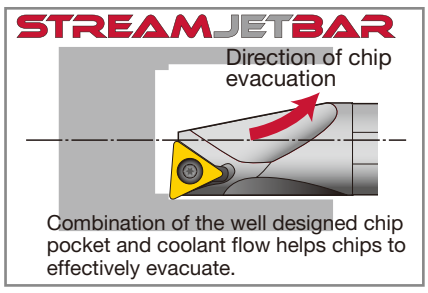


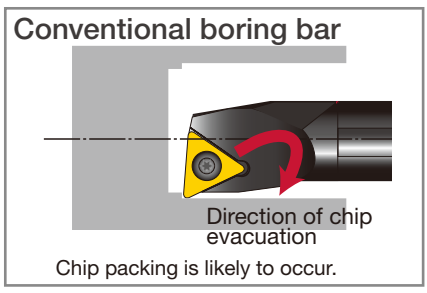


New pocket design for excellent chip evacuation

Cutting performance

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





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

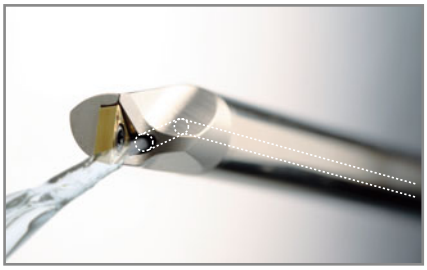
- Oil hole design

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

- Screw for oil hole*

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

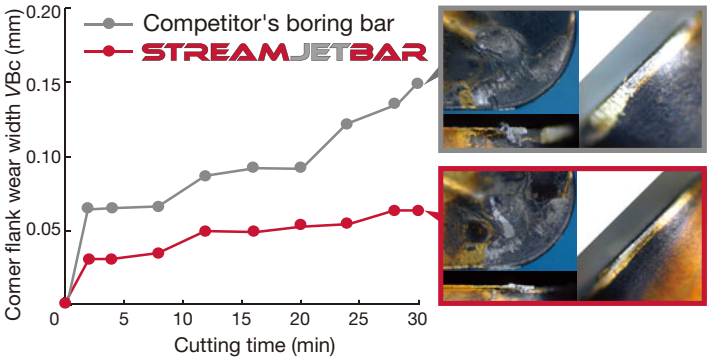
* Negative type only



Improved tool life

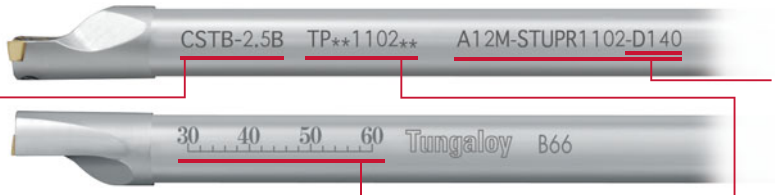
By supplying the optimum level of cutting fluid, flank wear and rake face wear are suppressed, considerably improving tool life.

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



Easy to use

Marking specifications



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

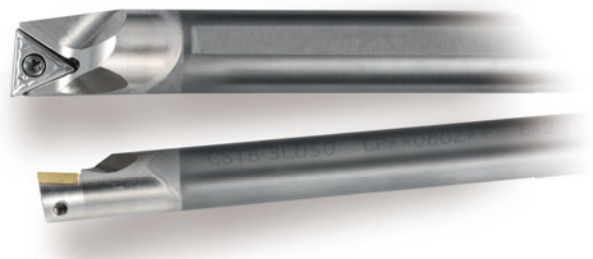
Applicable clamping screw Cat. No. **(Positive type only)**
If screw is missing this detail simplifies locating a replacement with Cat. No.

Scale of overhang length
Useful for easy setting of the toolholder.

Applicable insert Cat. No.
Can identify the insert size and relief angle at a glance. Simplified tool management.

Carbide shank type

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



Guide to L/D

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

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

- For precision boring

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

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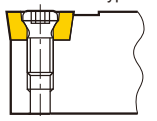
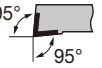
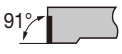
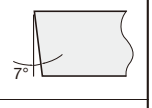
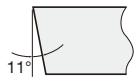
DESIGNATION SYSTEM FOR TAC BORING TOOLHOLDERS

4 Clamping mechanism	
P	Lever-lock type 
S	Screw-on type 

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

6 Cutting edge style											
Symbol	Style	Offset									
A		without	G		with	S		with
						V		without
B		without	J		with	U		with
C		without	K		with	X*		with
D		without	L		with	Y		with
E		without	N		without	Z		without
F		with	P*		without	Note: *mark.-Tungaloy Standard No mark: ISO standard		
			Q*		with			

7 Relief angle of insert	
C	
B	
N	
P	

A 12 M - S T U P R 1102 D140

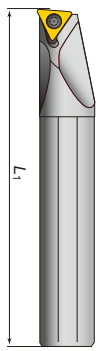
(1) (2) (3) (4) (5) (6) (7) (8) (9) (10)

1 Bar composition	
A	Steel shank with oil hole
E	Carbide shank with steel head and oil hole

2 Bar diameter

Bar diameter is shown in mm.

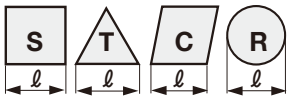
3 Toolholder length L1 (mm)	
F	80
G	90
H	100
J	110
K	125
L	130
M	150
P	170
Q	180
R	200
S	250
T	300
U	350



8 Hand of tool	
R	
L	

9 Insert size ℓ + (S)

For M, S, and C types conformed to ISO



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

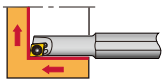
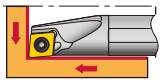
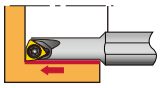
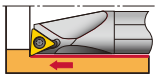
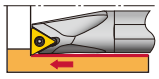
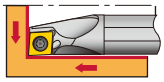
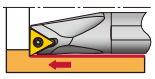
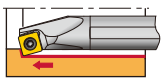
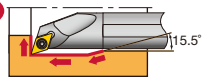
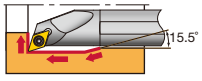
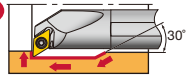
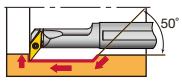
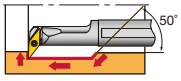
In above example,
TP□□1102□□
ℓ S

10 Min. bore. diameter	
Stream Jet Bars	
140	ø14.0 mm

LIST OF STREAM JET BARS

A wide range of styles and sizes available

Positive type

Style	Shank type	Shank diameter	Minimum bore diameter (mm) (0 / 10 / 20 / 30 / 40 / 50)
 **SEXPR/L** P.13,29 Boring and facing Insert type: EP□□	Steel Carbide	ø4 ~ ø8 ø4 ~ ø8	ø4.5 ~ ø7 ø4.5 ~ ø7
 **SCLCR/L** P.12,13 Boring and facing Insert type: CC□□	Steel Carbide	ø4 ~ ø25 ø4 ~ ø25	ø5 ~ ø27 ø5 ~ ø27
 **SWUBR/L** P.27 Boring Insert type: WB□□	Steel Carbide	ø5 ~ ø8 ø5 ~ ø8	ø6 ~ ø8 ø6 ~ ø8
 **STUPR/L** P.22,23 Boring Insert type: TP□□	Steel Carbide	ø7 ~ ø32 ø7 ~ ø25	ø8 ~ ø34 ø8 ~ ø27
 **STFPR/L** P.21 Boring Insert type: TP□□	Steel Carbide	ø8 ~ ø25 ø8 ~ ø20	ø10 ~ ø27 ø10 ~ ø22
 **SCLPR/L** P.14 Through boring Insert type: CP□□	Steel Carbide	ø8 ~ ø25 ø8 ~ ø16	ø10 ~ ø27 ø10 ~ ø20
 **STFCR/L** P.20 Boring Insert type: SP□□	Steel Carbide	ø8 ~ ø25 ø8 ~ ø25	ø10 ~ ø27 ø10 ~ ø27
 **SSKPR/L** P.19 Through boring Insert type: SP□□	Steel	ø16 ~ ø25	ø20 ~ ø31
 **SDUCR/L** P.17 Internal profiling Insert type: DC□□	Steel Carbide	ø10 ~ ø25 ø10 ~ ø20	ø13 ~ ø32 ø13 ~ ø27
New  **SDUPR/L** P.18 Internal profiling Insert type: DC□□	Steel Carbide	ø12 ~ ø16 ø12 ~ ø16	ø15 ~ ø22 ø15 ~ ø22
 **SDQCR/L** P.15 Internal profiling Insert type: VC□□	Steel Carbide	ø12 ~ ø16 ø12 ~ ø16	ø13 ~ ø30 ø13 ~ ø25
New  **SDQPR/L** P.16 Internal profiling Insert type: VB□□	Steel Carbide	ø12 ~ ø16 ø12 ~ ø16	ø15 ~ ø22 ø15 ~ ø22
 **SVUCR/L** P.26 Internal profiling Insert type: DC□□	Steel Carbide	ø12 ~ ø40 ø12 ~ ø25	ø16 ~ ø50 ø18 ~ ø32
 **SVUBR/L** P.25 Internal profiling Insert type: DC□□	Steel Carbide	ø16 ~ ø25 ø16 ~ ø25	ø20 ~ ø32 ø24.5 ~ ø34

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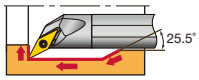
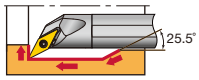
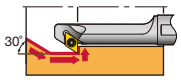
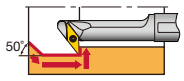
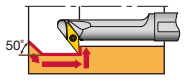
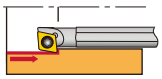
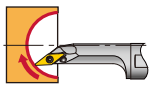
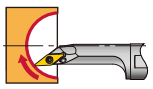
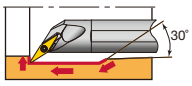
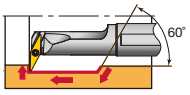
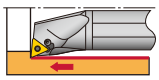
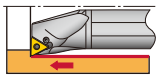
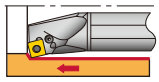
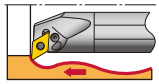
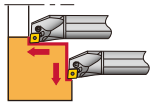
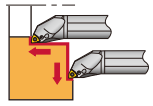
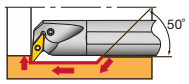
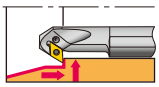
Positive type

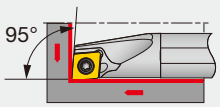
Style	Shank type	Shank diameter	Minimum bore diameter (mm) 0 10 20 30 40 50
 **SVQCR/L** P.25 Internal profiling Insert type: VC□□	Steel Carbide	ø10~ ø40 ø10~ ø16	ø13.5 ø50 ø13.5 ø21.5
 **SVQBR/L** P.24 Internal profiling Insert type: VB□□	Steel Carbide	ø12 ~ ø25 ø12 ~ ø25	ø17 ø30.5 ø17 ø30.5
 **SDZCR/L** P.19 Internal retracting Insert type: DC□□	Steel Carbide	ø12 ~ ø25 ø12 ~ ø16	ø14 ø25 ø18 ø22
 **SVZCR/L** P.27 Internal retracting Insert type: VC□□	Steel	ø12	ø16
 **SVZBR/L** P.26 Internal retracting Insert type: VB□□	Steel	ø16 ~ ø32	ø20 ø40
 **SEZPR/L** P.28 Internal retracting Insert type: EP□□	Steel Carbide	ø4 ~ ø5 ø4 ~ ø5	ø5.5 ø6.5 ø5.5 ø6.5
 **SVJCR/L** P.29,30 Internal sphere cutting Insert type: VC□□	Steel	ø12 ~ ø16	ø16 ø20
 **SVJBR/L** P.28,30 Internal sphere cutting Insert type: VB□□	Steel	ø20 ~ ø25	ø25 ø30
 **SYQBR/L** P.31 Internal undercut and profiling Insert type: YW□□	Steel Carbide	ø12 ~ ø16 ø12 ~ ø16	ø17 ø21.5 ø17 ø21.5
 **SYUBR/L** P.31 Internal profiling Insert type: YW□□	Steel Carbide	ø16 ø12 ~ ø16	ø20 ø20 ø24.5

Negative type

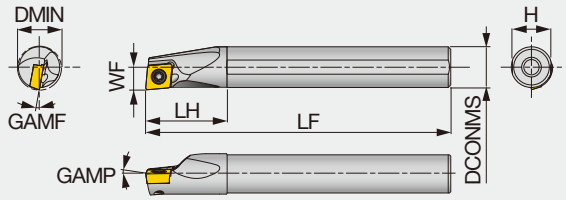
Style	Shank type	Shank diameter	Minimum bore diameter (mm) 0 10 20 30 40 50 60 70
 **PTUNR/L** P.35 Boring Insert type: TN□□	Steel	ø16 ~ ø32	ø20 ~ ø40
 **PTFNR/L** P.35 Boring Insert type: TN□□	Steel	ø25 ~ ø50	ø32 ~ ø63
 **PSKNR/L** P.34 Through boring Insert type: SN□□	Steel	ø32 ~ ø50	ø40 ~ ø63
 **PDUNR/L** P.33 Internal profiling Insert type: DN□□	Steel	ø20 ~ ø50	ø25 ~ ø63
 **PCLNR/L** P.32 Boring and facing Insert type: CN□□	Steel	ø16 ~ ø50	ø20 ~ ø63
 **PWLNR/L** P.37 Boring and facing Insert type: WN□□	Steel	ø16 ~ ø40	ø20 ~ ø50
 **PVUNR/L** P.36 Internal profiling Insert type: VN□□	Steel	ø25 ~ ø40	ø37 ~ ø50
 **PDZNR/L** P.34 Internal retracting Insert type: DN□□	Steel	ø32 ~ ø50	ø40 ~ ø63

A/E-SCLCR/L

Screw-on boring bars, for positive 80° rhombic inserts



Cutting edge style **L**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	GAMP	GAMF	RE**	Insert	Torque*
A04F-SCLCR/L03-D050	STEEL	5	4	2.5	80	8	3.8	0	-15	0.2	CC**03X1...	0.6
A05F-SCLCR/L03-D060	STEEL	6	5	3	80	9	4.8	0	-13	0.2	CC**03X1...	0.6
A06G-SCLCR/L04-D070	STEEL	7	6	3.5	90	11	5.75	0	-13	0.2	CC**04T1...	0.6
A07G-SCLCR/L04-D080	STEEL	8	7	4	90	12	6.75	0	-11	0.2	CC**04T1...	0.6
A08H-SCLCR/L06-D100	STEEL	10	8	5.5	100	16	7.5	0	-13	0.4	CC**0602...	1.2
A10F-SCLCR06-D120	STEEL	12	10	6	80	20	9	0	-10	0.4	CC**0602...	1.2
A10K-SCLCR/L06-D120	STEEL	12	10	6	125	20	9	0	-10	0.4	CC**0602...	1.2
A12H-SCLCR06-D140	STEEL	14	12	7	100	24	11	0	-8	0.4	CC**0602...	1.2
A12M-SCLCR/L06-D140	STEEL	14	12	7	150	24	11	0	-8	0.4	CC**0602...	1.2
A12H-SCLCR06-D160	STEEL	16	12	9	100	24	11	0	-7	0.4	CC**0602...	1.2
A12M-SCLCR/L06-D160	STEEL	16	12	9	150	24	11	0	-7	0.4	CC**0602...	1.2
A16K-SCLCR09-D180	STEEL	18	16	9	125	32	15	0	-9	0.8	CC**09T3...	3
A16Q-SCLCR/L09-D180	STEEL	18	16	9	180	32	15	0	-10	0.8	CC**09T3...	3
A16K-SCLCR09-D200	STEEL	20	16	11	125	32	15	0	-9	0.8	CC**09T3...	3
A16Q-SCLCR/L09-D200	STEEL	20	16	11	180	32	15	0	-9	0.8	CC**09T3...	3
A20R-SCLCR/L09-D220	STEEL	22	20	11	200	32	18	0	-8	0.8	CC**09T3...	3
A25S-SCLCR/L09-D270	STEEL	27	25	13.5	250	45	23	0	-6	0.8	CC**09T3...	3
E04G-SCLCR/L03-D050	CARBIDE	5	4	2.5	90	9	3.8	0	-15	0.2	CC**03X1...	0.6
E05G-SCLCR/L03-D060	CARBIDE	6	5	3	90	10	4.8	0	-13	0.2	CC**03X1...	0.6
E06H-SCLCR/L04-D070	CARBIDE	7	6	3.5	100	12	5.75	0	-13	0.2	CC**04T1...	0.6
E07H-SCLCR/L04-D080	CARBIDE	8	7	4	100	14	6.75	0	-11	0.2	CC**04T1...	0.6
E08G-SCLCR06-D100	CARBIDE	10	8	5.5	90	22	7.5	0	-13	0.4	CC**0602...	1.2
E08K-SCLCR/L06-D100	CARBIDE	10	8	5.5	125	22	7.5	0	-13	0.4	CC**0602...	1.2
E10F-SCLCR06-D120	CARBIDE	12	10	6	80	25	9	0	-10	0.4	CC**0602...	1.2
E10H-SCLCR06-D120	CARBIDE	12	10	6	100	25	9	0	-10	0.4	CC**0602...	1.2
E10M-SCLCR/L06-D120	CARBIDE	12	10	6	150	25	9	0	-10	0.4	CC**0602...	1.2
E12G-SCLCR06-D140	CARBIDE	14	12	7	90	27	11	0	-8	0.4	CC**0602...	1.2
E12J-SCLCR06-D140	CARBIDE	14	12	7	110	27	11	0	-8	0.4	CC**0602...	1.2
E12Q-SCLCR/L06-D140	CARBIDE	14	12	7	180	27	11	0	-8	0.4	CC**0602...	1.2
E12G-SCLCR06-D160	CARBIDE	16	12	9	90	27	11	0	-7	0.4	CC**0602...	1.2
E12J-SCLCR06-D160	CARBIDE	16	12	9	110	27	11	0	-7	0.4	CC**0602...	1.2
E12Q-SCLCR/L06-D160	CARBIDE	16	12	9	180	27	11	0	-7	0.4	CC**0602...	1.2
E16H-SCLCR09-D180	CARBIDE	18	16	9	100	32	15	0	-10	0.8	CC**09T3...	3
E16L-SCLCR09-D180	CARBIDE	18	16	9	130	32	15	0	-10	0.8	CC**09T3...	3
E16R-SCLCR/L09-D180	CARBIDE	18	16	9	200	32	15	0	-10	0.8	CC**09T3...	3
E16H-SCLCR09-D200	CARBIDE	20	16	11	100	32	15	0	-9	0.8	CC**09T3...	3
E16L-SCLCR09-D200	CARBIDE	20	16	11	130	32	15	0	-9	0.8	CC**09T3...	3
E16R-SCLCR/L09-D200	CARBIDE	20	16	11	200	32	15	0	-9	0.8	CC**09T3...	3
E20S-SCLCR09-D220	CARBIDE	22	20	11	250	36	18	0	-8	0.8	CC**09T3...	3
E25T-SCLCR09-D270	CARBIDE	27	25	13.5	300	45	23	0	-6	0.8	CC**09T3...	3

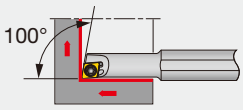
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SCLCL** type), and the left hand insert (L) is used for the right hand toolholders (SCLCR** type).

SPARE PARTS

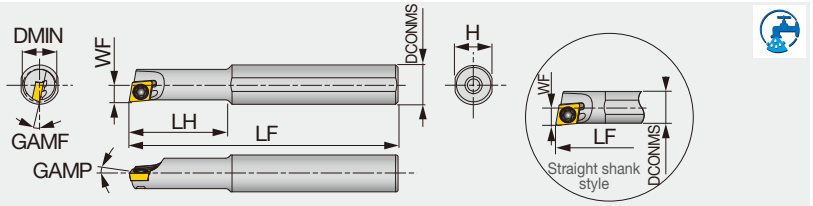
Designation	Clamping screw	Wrench
A**-SCLCR/L03-D...	CSTA-1.6	T-6F
A**-SCLCR/L04-D...	CSTB-2	T-6F
A**-SCLCR/L06-D...	CSTB-2.5S	T-8F
A**-SCLCR/L09-D...	CSTB-4S	T-15F
E**-SCLCR/L03-D...	CSTA-1.6	T-6F
E**-SCLCR/L04-D...	CSTB-2	T-6F
E**-SCLCR/L06-D...	CSTB-2.5S	T-8F
E16*-SCLCR/L09-D...	CSTB-4L060	T-15F
E2**-SCLCR/L09-D...	CSTB-4S	T-15F

A/E-SEXPR/L

Screw-on boring bars, for positive 75° rhombic inserts



Cutting edge style **X**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	GAMP	GAMF	RE**	Insert	Torque*
A04F-SEXPR/L03-D045	STEEL	4.5	4	2.3	80	8	3.8	0	-15	0.2	EP**03X1...	0.6
A04F-SEXPR/L03-D050	STEEL	5	4	2.5	80	8	3.8	0	-13	0.2	EP**03X1...	0.6
A05F-SEXPR/L04-D055	STEEL	5.5	5	2.75	80	9	4.8	0	-12	0.4	EP**0401...	0.6
A06G-SEXPR/L04-D070	STEEL	7	6	3.6	90	11	5.75	0	-12	0.4	EP**0401...	0.6
A08H-SEXPR/L04-D055	STEEL	5.5	8	2.75	100	16	7.5	0	-12	0.4	EP**0401...	0.6
A08H-SEXPR/L04-D070	STEEL	7	8	3.6	100	20	7.5	0	-12	0.4	EP**0401...	0.6
E04G-SEXPR/L03-D045	CARBIDE	4.5	4	2.3	90	9	3.8	0	-15	0.2	EP**03X1...	0.6
E04G-SEXPR/L03-D050	CARBIDE	5	4	2.5	90	9	3.8	0	-13	0.2	EP**03X1...	0.6
E05G-SEXPR/L04-D055	CARBIDE	5.5	5	2.75	90	10	4.8	0	-12	0.4	EP**0401...	0.6
E06H-SEXPR/L04-D070	CARBIDE	7	6	3.6	100	12	5.75	0	-12	0.4	EP**0401...	0.6
E08K-SEXPR/L04-D055	CARBIDE	5.5	8	2.75	125	28	7.5	0	-12	0.4	EP**0401...	0.6
E08K-SEXPR/L04-D070	CARBIDE	7	8	3.6	125	40	7.5	0	-12	0.4	EP**0401...	0.6

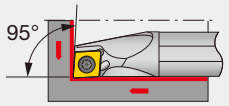
*Torque: Recommended torque (N·m) for clamping **r_ε: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SEXPL** type), and the left hand insert (L) is used for the right hand toolholders (SEXPR** type).

SPARE PARTS

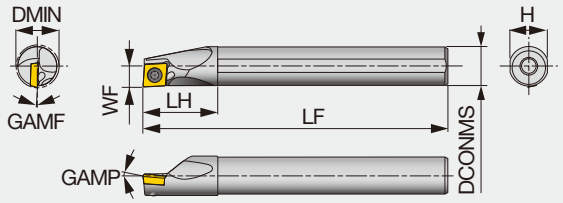
Designation	Clamping screw	Wrench
A**-SEXPR/L03-D...	CSTA-1.6	T-6F
A**-SEXPR/L04-D...	CSTB-2	T-6F
E**-SEXPR/L03-D...	CSTA-1.6	T-6F
E**-SEXPR/L04-D...	CSTB-2	T-6F

A/E-SCLPR/L

Screw-on boring bars, for positive 80° rhombic inserts



Cutting edge style **L**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	GAMP	GAMF	RE**	Insert	Torque*
A08H-SCLPR/L06-D100	STEEL	10	8	5.5	100	16	7.5	5	-8	0.4	CP**0602...	1.2
A10K-SCLPR/L06-D120	STEEL	12	10	6	125	20	9	5	-5	0.4	CP**0602...	1.2
A10K-SCLPR/L08-D120	STEEL	12	10	6	125	20	9	5	-5	0.4	CP**0802...	1.4
A12M-SCLPR/L06-D140	STEEL	14	12	7	150	24	11	5	-4	0.4	CP**0602...	1.2
A12M-SCLPR/L08-D140	STEEL	14	12	7	150	24	11	5	-4	0.4	CP**0802...	1.4
A12M-SCLPR/L08-D160	STEEL	16	12	9	150	24	11	5	-3	0.4	CP**0802...	1.4
A16Q-SCLPR/L09-D180	STEEL	18	16	9	180	32	15	5	-3.5	0.8	CP**0903...	3
A16Q-SCLPR/L09-D200	STEEL	20	16	11	180	32	15	5	-3	0.8	CP**0903...	3
A20R-SCLPR/L09-D220	STEEL	22	20	11	200	36	18	5	-2	0.8	CP**0903...	3
A25S-SCLPR/L09-D270	STEEL	27	25	13.5	250	45	23	5	-1	0.8	CP**0903...	3
E08K-SCLPR/L06-D100	CARBIDE	10	8	5.5	125	22	7.5	5	-8	0.4	CP**0602...	1.2
E10M-SCLPR/L06-D120	CARBIDE	12	10	6	150	25	9	5	-5	0.4	CP**0602...	1.2
E10H-SCLPR08-D120	CARBIDE	12	10	6	100	25	9	5	-5	0.4	CP**0802...	1.4
E10M-SCLPR/L08-D120	CARBIDE	12	10	6	150	25	9	5	-5	0.4	CP**0802...	1.4
E12Q-SCLPR/L06-D140	CARBIDE	14	12	7	180	27	11	5	-4	0.4	CP**0602...	1.2
E12G-SCLPR08-D140	CARBIDE	14	12	7	90	27	11	5	-4	0.4	CP**0802...	1.4
E12J-SCLPR08-D140	CARBIDE	14	12	7	110	27	11	5	-4	0.4	CP**0802...	1.4
E12Q-SCLPR/L08-D140	CARBIDE	14	12	7	180	27	11	5	-4	0.4	CP**0802...	1.4
E12G-SCLPR08-D160	CARBIDE	16	12	9	90	27	11	5	-3	0.4	CP**0802...	1.4
E12J-SCLPR08-D160	CARBIDE	16	12	9	110	27	11	5	-3	0.4	CP**0802...	1.4
E12Q-SCLPR/L08-D160	CARBIDE	16	12	9	180	27	11	5	-3	0.4	CP**0802...	1.4
E16H-SCLPR09-D180	CARBIDE	18	16	9	100	32	15	5	-3.5	0.8	CP**0903...	3
E16L-SCLPR09-D180	CARBIDE	18	16	9	130	32	15	5	-3.5	0.8	CP**0903...	3
E16R-SCLPL09-D180	CARBIDE	18	16	9	200	32	15	5	-3.5	0.8	CP**0903...	3
E16H-SCLPR09-D200	CARBIDE	20	16	11	100	32	15	5	-3	0.8	CP**0903...	3
E16L-SCLPR09-D200	CARBIDE	20	16	11	130	32	15	5	-3	0.8	CP**0903...	3
E16R-SCLPL09-D200	CARBIDE	20	16	11	200	32	15	5	-3	0.8	CP**0903...	3

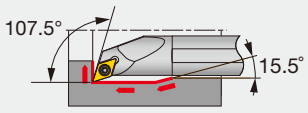
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SCLPL** type), and the left hand insert (L) is used for the right hand toolholders (SCLPR** type).

SPARE PARTS

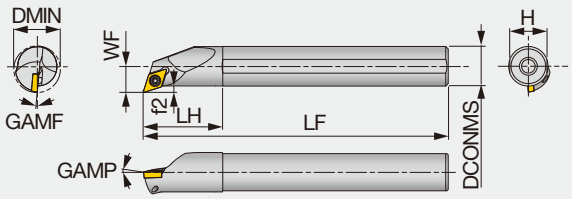

Designation	Clamping screw	Wrench
A**-SCLPR/L06-D...	CSTB-2.5S	T-8F
A10K-SCLPR/L08-D120	CSTB-3L042	T-9F
A12M-SCLPR/L08-D...	CSTB-3L050	T-9F
A**-SCLPR/L09-D...	CSTB-4L060	T-15F
E**-SCLPR/L06-D...	CSTB-2.5S	T-8F
E10*-SCLPR/L08-D...	CSTB-3L042	T-9F
E12*-SCLPR/L08-D...	CSTB-3L050	T-9F
E16*-SCLPR/L09-D...	CSTB-4L060	T-15F

A/E-SDQCR/L

Screw-on boring bars, for positive 55° rhombic inserts



Cutting edge style **Q**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A10K-SDQCR/L07-D130	STEEL	13	10	7.6	125	20	9	2.6	0	-8	0.4	DC**0702...	1.2
A12M-SDQCR/L07-D160	STEEL	16	12	8.6	150	24	11	2.6	0	-6	0.4	DC**0702...	1.2
A16Q-SDQCR/L07-D200	STEEL	20	16	10.6	180	32	15	2.6	0	-5	0.4	DC**0702...	1.2
A20R-SDQCR/L11-D250	STEEL	25	20	13.7	200	36	18	3.7	0	-7	0.8	DC**11T3...	3
A25S-SDQCR/L11-D300	STEEL	30	25	16.2	250	45	23	3.7	0	-4	0.8	DC**11T3...	3
E10H-SDQCR07-D130	CARBIDE	13	10	7.6	100	25	9	2.5	0	-8	0.4	DC**0702...	1.2
E10M-SDQCR/L07-D130	CARBIDE	13	10	7.6	150	25	9	2.6	0	-8	0.4	DC**0702...	1.2
E12J-SDQCR07-D160	CARBIDE	16	12	8.6	110	27	11	2.5	0	-6	0.4	DC**0702...	1.2
E12Q-SDQCR/L07-D160	CARBIDE	16	12	8.6	180	27	11	2.6	0	-6	0.4	DC**0702...	1.2
E16L-SDQCR07-D200	CARBIDE	20	16	10.6	130	32	15	2.5	0	-5	0.4	DC**0702...	1.2
E16R-SDQCR/L07-D200	CARBIDE	20	16	10.6	200	32	15	2.6	0	-5	0.4	DC**0702...	1.2
E20S-SDQCR/L11-D250	CARBIDE	25	20	13.7	250	36	18	3.7	0	-7	0.8	DC**11T3...	3

*Torque: Recommended torque (N·m) for clamping **RE:Standard corner radius
Note: 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).

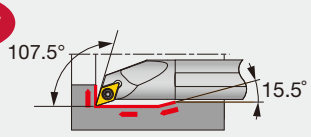
SPARE PARTS


Designation	Clamping screw	Wrench
A1**-SDQCR/L07-D**0	CSTB-2.5S	T-8F
A2**-SDQCR/L11-D**0	CSTB-4S	T-15F
E1**-SDQCR/L07-D**0	CSTB-2.5S	T-8F
E20S-SDQCR/L11-D250	CSTB-4S	T-15F

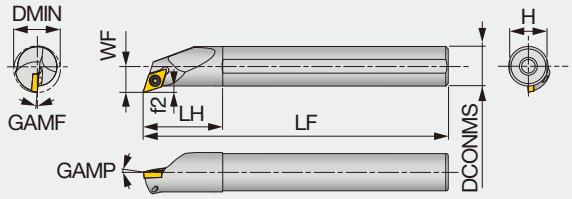
A/E-SDQPR/L

Screw-on boring bars, for Posi 55deg rhombic insert with 11 deg clearance

New



Cutting edge style **Q**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A12M-SDQPR07-D150-P	SPECIAL ALLOY STEEL	15	12	8.3	150	24	11	2.3	5	0	0.40	DPMT0702...	1.2
A12M-SDQPL07-D150-P	SPECIAL ALLOY STEEL	15	12	8.3	150	24	11	2.3	5	0	0.40	DPMT0702...	1.2
A12M-SDQPR07-D180-P	SPECIAL ALLOY STEEL	18	12	9.6	150	24	11	3.6	5	0	0.40	DPMT0702...	1.2
A12M-SDQPL07-D180-P	SPECIAL ALLOY STEEL	18	12	9.6	150	24	11	3.6	5	0	0.40	DPMT0702...	1.2
A16Q-SDQPR07-D220-P	SPECIAL ALLOY STEEL	22	16	11.6	180	32	15	3.6	5	0	0.40	DPMT0702...	1.2
A16Q-SDQPL07-D220-P	SPECIAL ALLOY STEEL	22	16	11.6	180	32	15	3.6	5	0	0.40	DPMT0702...	1.2
E12Q-SDQPR07-D150	CARBIDE	15	12	8.3	180	27	11	2.3	5	0	0.40	DPMT0702...	1.2
E12Q-SDQPL07-D150	CARBIDE	15	12	8.3	180	27	11	2.3	5	0	0.40	DPMT0702...	1.2
E12Q-SDQPR07-D180	CARBIDE	18	12	9.6	180	27	11	3.6	5	0	0.40	DPMT0702...	1.2
E12Q-SDQPL07-D180	CARBIDE	18	12	9.6	180	27	11	3.6	5	0	0.40	DPMT0702...	1.2
E16R-SDQPR07-D220	CARBIDE	22	16	11.6	200	32	15	3.6	5	0	0.40	DPMT0702...	1.2
E16R-SDQPL07-D220	CARBIDE	22	16	11.6	200	32	15	3.6	5	0	0.40	DPMT0702...	1.2

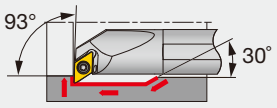
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SDQCL** type), and the left hand insert (L) is used for the right hand toolholders (SDQCR** type).

SPARE PARTS

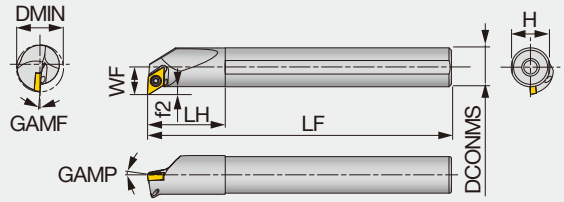

Designation	Clamping screw	Wrench
A**-SDQPR/L07-D**0-P	CSTB-2.5S	T-8F
E**-SDQPR/L07-D**0	CSTB-2.5S	T-8F

A/E-SDUCR/L

Screw-on boring bars, for positive 55° rhombic inserts



Cutting edge style **U**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A10K-SDUCR/L07-D130	STEEL	13	10	7	125	20	9	2	0	-10	0.4	DC**0702...	1.2
A12M-SDUCR/L07-D160	STEEL	16	12	9.3	150	24	11	3.3	0	-6	0.4	DC**0702...	1.2
A16Q-SDUCR/L07-D200	STEEL	20	16	11.3	180	32	15	3.3	0	-5	0.4	DC**0702...	1.2
A20R-SDUCR/L11-D270	STEEL	27	20	16.1	200	36	18	6.1	0	-5	0.8	DC**11T3...	3
A25S-SDUCR/L11-D320	STEEL	32	25	18.6	250	45	23	6.1	0	-4	0.8	DC**11T3...	3
E10H-SDUCR07-D130	CARBIDE	13	10	7	100	25	9	1.9	5	-3.5	0.4	DC**0702...	1.2
E10M-SDUCR/L07-D130	CARBIDE	13	10	7	150	25	9	2	0	-10	0.4	DC**0702...	1.2
E12J-SDUCR07-D160	CARBIDE	16	12	9.3	110	27	11	3.2	0	-6	0.4	DC**0702...	1.2
E12Q-SDUCR/L07-D160	CARBIDE	16	12	9.3	180	27	11	3.3	0	-6	0.4	DC**0702...	1.2
E16L-SDUCR07-D200	CARBIDE	20	16	11.3	130	32	15	3.2	0	-5	0.4	DC**0702...	1.2
E16R-SDUCR/L07-D200	CARBIDE	20	16	11.3	200	32	15	3.3	0	-5	0.4	DC**0702...	1.2
E20S-SDUCR11-D270	CARBIDE	27	20	16.1	250	36	18	6.1	0	-5	0.8	DC**11T3...	3

*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: 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).

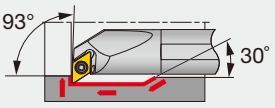
SPARE PARTS


Designation	Clamping screw	Wrench
A1**-SDUCR/L07-D1*0	CSTB-2.5S	T-8F
A16Q-SDUCR/L07-D200	CSTB-2.5	T-8F
A2**-SDUCR/L11-D**0	CSTB-4S	T-15F
E1**-SDUCR/L07-D1*0	CSTB-2.5S	T-8F
E16*-SDUCR/L07-D200	CSTB-2.5	T-8F
E20S-SDUCR11-D270	CSTB-4S	T-15F

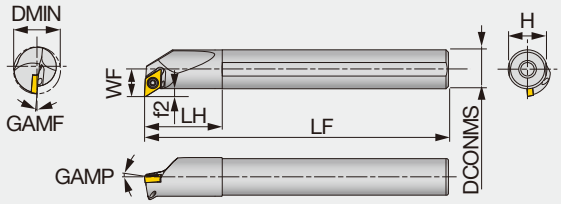
A/E-SDUPR/L

Screw-on boring bars, for Posi 55deg rhombic insert with 11 deg clearance

New



Cutting edge style **U**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A12M-SDUPR07-D150-P	SPECIAL ALLOY STEEL	15	12	8.3	150	24	11	2.3	5	0	0.4	DPMT0702**-PS	1.2
A12M-SDUPL07-D150-P	SPECIAL ALLOY STEEL	15	12	8.3	150	24	11	2.3	5	0	0.4	DPMT0702**-PS	1.2
A12M-SDUPR07-D180-P	SPECIAL ALLOY STEEL	18	12	10.3	150	24	11	4.3	5	0	0.4	DPMT0702**-PS	1.2
A12M-SDUPL07-D180-P	SPECIAL ALLOY STEEL	18	12	10.3	150	24	11	4.3	5	0	0.4	DPMT0702**-PS	1.2
A16Q-SDUPR07-D220-P	SPECIAL ALLOY STEEL	22	16	12.3	180	32	15	4.3	5	0	0.4	DPMT0702**-PS	1.2
A16Q-SDUPL07-D220-P	SPECIAL ALLOY STEEL	22	16	12.3	180	32	15	4.3	5	0	0.4	DPMT0702**-PS	1.2
E12Q-SDUPR07-D150	CARBIDE	15	12	8.3	180	27	11	2.3	5	0	0.4	DPMT0702**-PS	1.2
E12Q-SDUPL07-D150	CARBIDE	15	12	8.3	180	27	11	2.3	5	0	0.4	DPMT0702**-PS	1.2
E12Q-SDUPR07-D180	CARBIDE	18	12	10.3	180	27	11	4.3	5	0	0.4	DPMT0702**-PS	1.2
E12Q-SDUPL07-D180	CARBIDE	18	12	10.3	180	27	11	4.3	5	0	0.4	DPMT0702**-PS	1.2
E16R-SDUPR07-D220	CARBIDE	22	16	12.3	200	32	15	4.3	5	0	0.4	DPMT0702**-PS	1.2
E16R-SDUPL07-D220	CARBIDE	22	16	12.3	200	32	15	4.3	5	0	0.4	DPMT0702**-PS	1.2

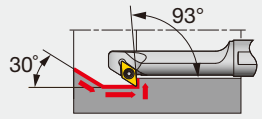
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SDUCL** type), and the left hand insert (L) is used for the right hand toolholders (SDUCR** type).

SPARE PARTS

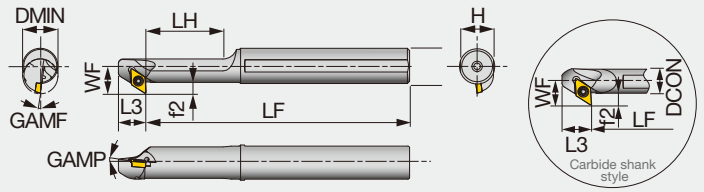

Designation	Clamping screw	Wrench
A**-SDUPR/L07-D**0-P	CSTB-2.5S	T-8F
E**-SDUPR/L07-D**0	CSTB-2.5S	T-8F

A/E-SDZCR/L

Screw-on boring bars, for positive 55° rhombic inserts



Cutting edge style **Z**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	L3	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A12M-SDZCR/L07-D140	STEEL	14	12	10.5	150	30	12.5	11	4.5	0	-9	0.4	DC**0702...	1.2
A16Q-SDZCR/L07-D160	STEEL	16	16	12.5	180	35	12.5	15	4.5	0	-8	0.4	DC**0702...	1.2
A20R-SDZCR/L11-D200	STEEL	20	20	15.5	200	40	15.0	18	5.5	0	-8	0.8	DC**11T3...	3
A25S-SDZCR/L11-D250	STEEL	25	25	18	250	50	15	23	5.5	0	-6	0.8	DC**11T3...	3
E12Q-SDZCR/L07-D180	CARBIDE	18	12	10.5	180	-	12.5	11	4.5	0	-8	0.4	DC**0702...	1.2
E16R-SDZCR/L07-D220	CARBIDE	22	16	12.5	200	-	12.5	15	4.5	0	-6	0.4	DC**0702...	1.2

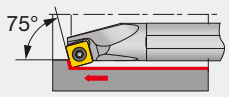
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the right hand toolholders (SDZCR ** type), and the left hand insert (L) is used for the left hand toolholders (SDZCL ** type).

SPARE PARTS

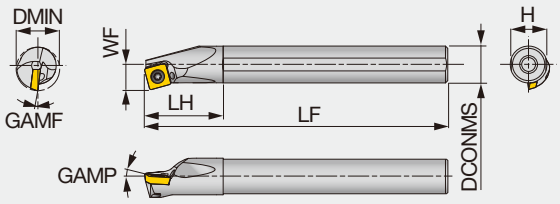

Designation	Clamping screw	Wrench
A1**-SDZCR/L07-D1*0	CSTB-2.5	T-8F
A2**-SDZCR/L11-D2*0	CSTB-4S	T-15F
E1**-SDZCR/L07-D**0	CSTB-2.5	T-8F

A-SSKPR

Screw-on boring bars, for positive square inserts



Cutting edge style **K**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	GAMP	GAMF	RE**	Insert	Torque*
A16Q-SSKPR09-D200	STEEL	20	16	11	180	32	15	5	-6	0.8	SP**0903...	3
A20R-SSKPR09-D240	STEEL	24	20	13	200	36	18	5	-2	0.8	SP**0903...	3
A25S-SSKPR12-D310	STEEL	31	25	17	250	45	23	5	-2	0.8	SP**1204...	6

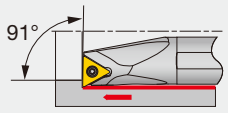
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SSKPL** type), and the left hand insert (L) is used for the right hand toolholders (SSKPR** type).

SPARE PARTS

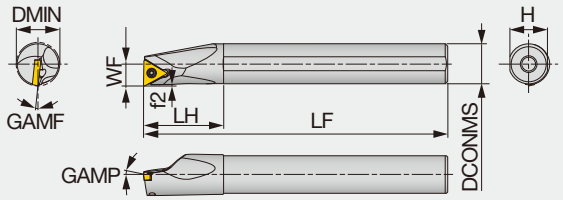

Designation	Clamping screw	Wrench
A**-SSKPR09-D2*0	CSTB-4L060	T-15F
A25S-SSKPR12-D310	CSTB-5S	T-20F

A/E-STFCR/L

Screw-on boring bars, for positive triangle inserts



Cutting edge style **F**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A10K-STFCR/L1103-D120	STEEL	12	10	6.5	125	20	9	0.6	0	-13	0.4	TC**1103...	1.2
A12M-STFCR/L1103-D140	STEEL	14	12	7	150	24	11	0.5	0	-10	0.4	TC**1103...	1.2
A16Q-STFCR/L1103-D180	STEEL	18	16	9	180	32	15	0.5	0	-7	0.4	TC**1103...	1.2
E10M-STFCR/L1103-D120	CARBIDE	12	10	6.5	150	25	9	0.7	0	-13	0.4	TC**1103...	1.2
E12Q-STFCR/L1103-D140	CARBIDE	14	12	7	180	27	11	0.5	0	-10	0.4	TC**1103...	1.2
E16R-STFCR/L1103-D180	CARBIDE	18	16	9	200	32	15	0.5	0	-7	0.4	TC**1103...	1.2

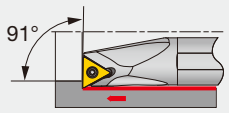
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (STFCL** type), and the left hand insert (L) is used for the right hand toolholders (STFCR** type).

SPARE PARTS

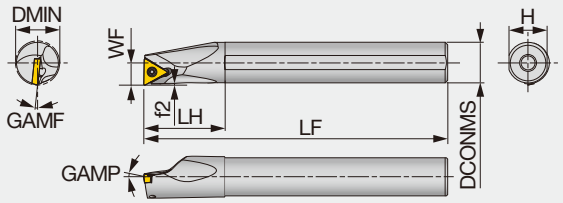

Designation	Clamping screw	Wrench
A**-STFCR/L1103-D...	CSTB-2.5	T-8F
E**-STFCR/L1103-D...	CSTB-2.5	T-8F

A/E-STFPR/L

Screw-on boring bars, for positive triangle inserts



Cutting edge style **F**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A08H-STFPR/L09-D100	STEEL	10	8	5.5	100	16	7.5	0.7	5	-8	0.4	TP**0902...	0.9
A10K-STFPR/L1102-D120	STEEL	12	10	6.5	125	20	9	0.7	5	-6	0.4	TP**1102...	1.2
A12M-STFPR/L1102-D140	STEEL	14	12	7.0	150	24	11	0.6	5	-4	0.4	TP**1102...	1.2
A16Q-STFPR/L13-D180	STEEL	18	16	9	180	32	15	0.7	5	-2	0.4	TP**1303...	1.4
A20R-STFPR13-D220	STEEL	22	20	11	200	36	18	0.8	5	-2	0.4	TP**1303...	1.4
A25S-STFPR16-D270	STEEL	27	25	13.5	250	45	23	0.6	5	-1	0.4	TP**16T3...	3
E08K-STFPR/L09-D100	CARBIDE	10	8	5.5	125	22	7.5	0.7	5	-8	0.4	TP**0902...	0.9
E10M-STFPR/L1102-D120	CARBIDE	12	10	6.5	150	25	9	0.7	5	-6	0.4	TP**1102...	1.2
E12Q-STFPR/L1102-D140	CARBIDE	14	12	7	180	27	11	0.6	5	-4	0.4	TP**1102...	1.2
E16R-STFPR13-D180	CARBIDE	18	16	9	200	32	15	0.7	5	-2	0.4	TP**1303...	1.4
E20S-STFPR13-D220	CARBIDE	22	20	11	250	36	18	0.8	5	-2	0.4	TP**1303...	1.4

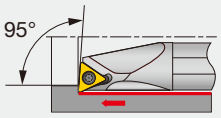
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (STFPL ** type), and the left hand insert (L) is used for the right hand toolholders (STFPR ** type).
(1) Inserts of TPGH, TPGM and TPGA are not applicable.

SPARE PARTS

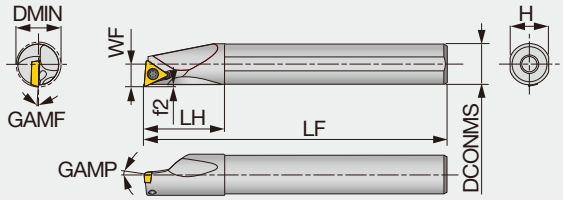

Designation	Clamping screw	Wrench
A08H-STFPR/L09-D100	CSTB-2.2S	T-7F
A10K-STFPR/L1102-D120	CSTB-2.5B	T-8F
A12M-STFPR/L1102-D140	CSTB-2.5	T-8F
A16Q-STFPR/L13-D180	CSTB-3S	T-9F
A20R-STFPR13-D220	CSTB-3	T-9F
A25S-STFPR16-D270	CSTB-4M	T-15F
E08K-STFPR/L09-D100	CSTB-2.2S	T-7F
E10M-STFPR/L1102-D120	CSTB-2.5B	T-8F
E12Q-STFPR/L1102-D140	CSTB-2.5	T-8F
E16R-STFPR13-D180	CSTB-3S	T-9F
E20S-STFPR13-D220	CSTB-3	T-9F

A/E-STUPR/L

Screw-on boring bars, for positive triangle inserts



Cutting edge style **U**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A07G-STUPR/L07-D080	STEEL	8	7	4	90	12	6.75	0.4	5	-10	0.4	TP**0701...	0.9
A08H-STUPR/L07-D080	STEEL	8	8	4	100	19.5	7.5	0.5	5	-10	0.4	TP**0701...	0.9
A08H-STUPR/L09-D100	STEEL	10	8	5.5	100	16	7.5	0.6	5	-8	0.4	TP**0902...(1)	0.9
A10F-STUPR1102-D120	STEEL	12	10	6.5	80	20	9	1.4	5	-6	0.4	TP**1102...(1)	1.2
A10K-STUPR/L1102-D120	STEEL	12	10	6.5	125	20	9	0.7	5	-6	0.4	TP**1102...(1)	1.2
A10K-STUPR/L1103-D120	STEEL	12	10	6.5	125	20	9	0.6	5	-10	0.4	TP**1103...(1)	1.4
A12H-STUPR1102-D140	STEEL	14	12	7	100	24	11	0.8	5	-4	0.4	TP**1102...(1)	1.2
A12M-STUPR/L1102-D140	STEEL	14	12	7	150	24	11	0.8	5	-4	0.4	TP**1102...(1)	1.2
A12M-STUPR/L1103-D140	STEEL	14	12	7	150	24	11	0.6	5	-6	0.4	TP**1103...(1)	1.4
A12H-STUPR1102-D160	STEEL	16	12	9	100	24	11	0.6	5	-3	0.4	TP**1102...(1)	1.2
A12M-STUPR/L1102-D160	STEEL	16	12	9	150	24	11	0.6	5	-3	0.4	TP**1102...(1)	1.2
A16K-STUPR13-D180	STEEL	18	16	9	125	32	15	0.8	5	-3	0.4	TP**1303...(1)	1.4
A16Q-STUPR/L1103-D180	STEEL	18	16	9	180	32	15	0.8	5	-4	0.4	TP**1103...(1)	1.4
A16Q-STUPR/L13-D180	STEEL	18	16	9	180	32	15	0.8	5	-3	0.4	TP**1303...(1)	1.4
A16K-STUPR13-D200	STEEL	20	16	11	125	32	15	0.6	5	-3	0.4	TP**1303...(1)	1.4
A16Q-STUPR/L13-D200	STEEL	20	16	11	180	32	15	0.6	5	-3	0.4	TP**1303...(1)	1.4
A20R-STUPR/L1103-D220	STEEL	22	20	11	200	36	18	0.7	5	-2	0.4	TP**1103...(1)	1.4
A20R-STUPR/L13-D220	STEEL	22	20	11	200	36	18	0.7	5	-2	0.4	TP**1303...(1)	1.4
A25S-STUPR/L16-D270	STEEL	27	25	13.5	250	45	23	0.5	5	-1	0.8	TP**16T3...(1)	3
A32T-STUPR/L16-D340	STEEL	34	32	17	300	50	30	0.7	5	0	0.8	TP**16T3...	3
E07H-STUPR/L07-D080	CARBIDE	8	7	4	100	14	6.75	0.3	5	-10	0.4	TP**0701...	0.9
E08G-STUPR07-D080	CARBIDE	8	8	4	90	44.5	7.5	0.5	5	-10	0.4	TP**0701...	0.9
E08K-STUPR/L07-D080	CARBIDE	8	8	4	125	44.5	7.5	0.5	5	-10	0.4	TP**0701...	0.9
E08G-STUPR09-D100	CARBIDE	10	8	5.5	90	22	7	0.6	5	-8	0.4	TP**0902...(1)	0.9
E08K-STUPR/L09-D100	CARBIDE	10	8	5.5	125	22	7	0.6	5	-8	0.4	TP**0902...(1)	0.9
E10F-STUPR1102-D120	CARBIDE	12	10	6.5	80	25	9	0.5	5	-6	0.4	TP**1102...(1)	1.2
E10H-STUPR1102-D120	CARBIDE	12	10	6.5	100	25	9	0.6	5	-6	0.4	TP**1102...(1)	1.2
E10M-STUPR/L1102-D120	CARBIDE	12	10	6.5	150	25	9	0.6	5	-6	0.4	TP**1102...(1)	1.2
E10M-STUPR/L1103-D120	CARBIDE	12	10	6.5	150	25	9	0.7	5	-10	0.4	TP**1103...(1)	1.4
E12G-STUPR1102-D140	CARBIDE	14	12	7	90	27	11	0.8	5	-4	0.4	TP**1102...(1)	1.2
E12J-STUPR1102-D140	CARBIDE	14	12	7	110	27	11	0.8	5	-4	0.4	TP**1102...(1)	1.2
E12Q-STUPR/L1102-D140	CARBIDE	14	12	7	180	27	11	0.8	5	-4	0.4	TP**1102...(1)	1.2
E12Q-STUPR/L1103-D140	CARBIDE	14	12	7	180	27	11	0.7	5	-6	0.4	TP**1103...(1)	1.4
E12G-STUPR1102-D160	CARBIDE	16	12	9	90	27	11	0.6	5	-3	0.4	TP**1102...(1)	1.2
E12J-STUPR1102-D160	CARBIDE	16	12	9	110	27	11	0.6	5	-3	0.4	TP**1102...(1)	1.2
E12Q-STUPR/L1102-D160	CARBIDE	16	12	9	180	27	11	0.6	5	-3	0.4	TP**1102...(1)	1.2
E16H-STUPR13-D180	CARBIDE	18	16	9	100	32	15	0.9	5	-3	0.4	TP**1303...(1)	1.4
E16R-STUPR/L1103-D180	CARBIDE	18	16	9	200	32	15	0.8	5	-3	0.4	TP**1103...(1)	1.4
E16L-STUPR13-D180	CARBIDE	18	16	9	130	32	15	0.6	5	-3	0.4	TP**1303...(1)	1.4
E16R-STUPR/L13-D180	CARBIDE	18	16	9	200	32	15	0.6	5	-3	0.4	TP**1303...(1)	1.4
E16H-STUPR13-D200	CARBIDE	20	16	11	100	32	15	0.6	5	-3	0.4	TP**1303...(1)	1.4
E16L-STUPR13-D200	CARBIDE	20	16	11	130	32	15	0.6	5	-3	0.4	TP**1303...(1)	1.4
E16R-STUPL13-D200	CARBIDE	20	16	11	200	32	15	0.6	5	-3	0.4	TP**1303...(1)	1.4
E20S-STUPR1103-D220	CARBIDE	22	20	11	250	36	18	0.7	5	-2	0.4	TP**1103...(1)	1.4
E20S-STUPR13-D220	CARBIDE	22	20	11	250	36	18	0.6	5	-2	0.4	TP**1303...(1)	1.4
E25T-STUPR16-D270	CARBIDE	27	25	13.5	300	45	23	0.5	5	-1	0.8	TP**16T3...	3

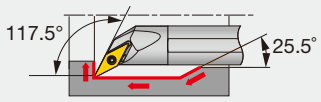
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (STUPL ** type), and the left hand insert (L) is used for the right hand toolholders (STUPR ** type).
(1) Inserts of TPGH, TPGM and TPGA are not applicable.

SPARE PARTS

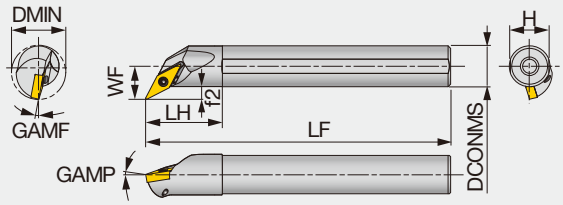

Designation	Clamping screw	Wrench
A07/08-STUPR/L07/09-D...	CSTB-2.2L038	T-7F
A10*-STUPR/L1102-D120	CSTB-2.5S	T-8F
A12*-STUPR/L1102-D...	CSTB-2.5B	T-8F
A12M-STUPR/L1103-D140	CSTB-3L050	T-9F
A16*-STUPR/L13-D...	CSTB-3S	T-9F
A20R-STUPR/L13-D220	CSTB-3	T-9F
A**-STUPR/L16-D...	CSTB-4M	T-15F
E07/08-STUPR/L07/09-D...	CSTB-2.2L038	T-7F
E10*-STUPR/L1102-D120	CSTB-2.5S	T-8F
E12*-STUPR/L1102-D...	CSTB-2.5B	T-8F
E**-STUPR/L1103-D...	CSTB-3L050	T-9F
E16*-STUPR/L13-D...	CSTB-3S	T-9F
E20S-STUPR13-D220	CSTB-3	T-9F
E25T-STUPR16-D270	CSTB-4M	T-15F

A/E-SVQBR/L

Screw-on boring bars, for positive 35° rhombic inserts



Cutting edge style **Q**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A12M-SVQBR/L11-D170	STEEL	17	12	10.5	150	24	11	4.5	-5	-10	0.4	VB**1103...	1.2
A16Q-SVQBR/L11-D215	STEEL	21.5	16	13	180	30	15	5	-5	-8	0.4	VB**1103...	1.2
A20R-SVQBR/L11-D255	STEEL	25.5	20	15	200	36	18	5	-5	-6	0.4	VB**1103...	1.2
A25S-SVQBR/L16-D305	STEEL	30.5	25	17.5	250	45	23	5	-5	-8	0.8	VB**1604...	3
E12Q-SVQBR/L11-D170	CARBIDE	17	12	10.5	180	27	11	4.5	-5	-10	0.4	VB**1103...	1.2
E16R-SVQBR/L11-D215	CARBIDE	21.5	16	13	200	32	15	5	-5	-8	0.4	VB**1103...	1.2
E20S-SVQBR/L11-D255	CARBIDE	25.5	20	15	250	36	18	5	-5	-6	0.4	VB**1103...	1.2
E25T-SVQBR/L16-D305	CARBIDE	30.5	25	17.5	300	45	23	5	-5	-8	0.8	VB**1604...	3

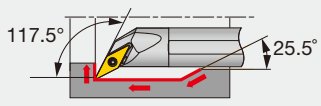
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SVQBL type), and the left hand insert (L) is used for the right hand toolholders (SVQBR type).

SPARE PARTS

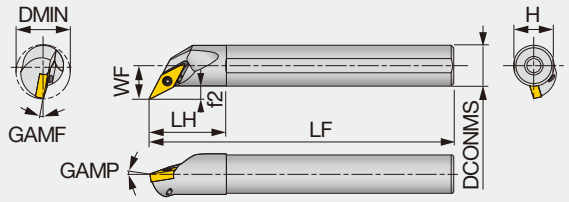

Designation	Clamping screw	Wrench
A**-SVQBR/L11-D...	CSTB-2.5	T-8F
A25S-SVQBR/L16-D305	CSTB-3.5	T-15F
E**-SVQBR/L11-D...	CSTB-2.5	T-8F
E25T-SVQBR/L16-D305	CSTB-3.5	T-15F

A/E-SVQCR/L

Screw-on boring bars, for positive 35° rhombic inserts



Cutting edge style **Q**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A10K-SVQCR/L08-D135	STEEL	13.5	10	8	125	20	9	3	-5	-8	0.4	VC**0802...	0.6
A16Q-SVQCR/L11-D215	STEEL	21.5	16	13	180	30	15	4.9	-5	-8	0.4	VC**1103...	1.2
E10M-SVQCR/L08-D135	CARBIDE	13.5	10	8	150	25	9	3	-5	-8	0.4	VC**0802...	0.6
E16R-SVQCR/L11-D215	CARBIDE	21.5	16	13	200	32	15	4.9	-5	-8	0.4	VC**1103...	1.2

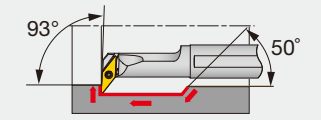
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SVQCL ** type), and the left hand insert (L) is used for the right hand toolholders (SVQCR ** type).

SPARE PARTS

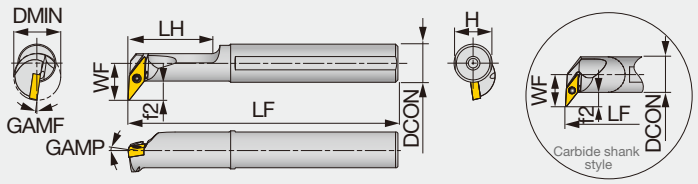
Designation	Clamping screw	Wrench
A10K-SVQCR/L08-D135	CSTB-2L	T-6F
A16Q-SVQCR/L11-D215	CSTB-2.5	T-8F
E10M-SVQCR/L08-D135	CSTB-2L	T-6F
E16R-SVQCR/L11-D215	CSTB-2.5	T-8F

A/E-SVUBR/L

Screw-on boring bars, for positive 35° rhombic inserts



Cutting edge style **U**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A16Q-SVUBR/L11-D200	STEEL	20	16	15.5	180	35	15	8	0	-8	0.4	VB**1103...	1.2
A20R-SVUBR/L11-D250	STEEL	25	20	17.5	200	40	19	8	0	-7	0.4	VB**1103...	1.2
A25S-SVUBR/L16-D320	STEEL	32	25	20.5	250	50	23	8.5	0	-6	0.8	VB**1604...	3
E16R-SVUBR/L11-D245	CARBIDE	24.5	16	16	200	-	15	8	0	-8	0.4	VB**1103...	1.2
E20S-SVUBR/L11-D285	CARBIDE	28.5	20	18	250	-	19	8	0	-7	0.4	VB**1103...	1.2
E25T-SVUBR/L16-D340	CARBIDE	34	25	21	300	-	23	8.5	0	-6	0.8	VB**1604...	3

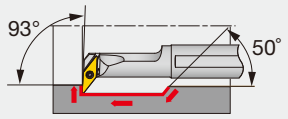
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SVUBL** type), and the left hand insert (L) is used for the right hand toolholders (SVUBR** type).

SPARE PARTS

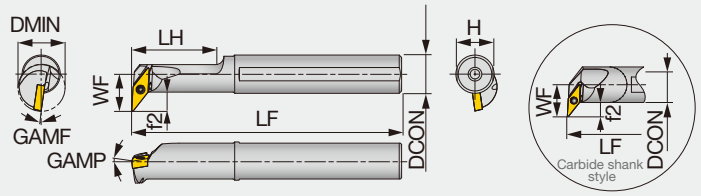
Designation	Clamping screw	Wrench
A**-SVUBR/L11-D2*0	CSTB-2.5	T-8F
A25S-SVUBR/L16-D320	CSTB-3.5	T-15F
E**-SVUBR/L11-D2*5	CSTB-2.5	T-8F
E25T-SVUBR/L16-D340	CSTB-3.5	T-15F

A/E-SVUCR/L

Screw-on boring bars, for positive 35° rhombic inserts



Cutting edge style **U**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A12M-SVUCR/L08-D160	STEEL	16	12	11	150	30	11	5.5	0	-8	0.4	VC**0802...	0.6
A25S-SVUCR/L16-D320	STEEL	32	25	19	250	45	23	6.5	0	-5	0.8	VC**1604...	3
E12Q-SVUCR/L08-D180	CARBIDE	18	12	11.5	180	-	11	5.5	0	-8	0.4	VC**0802...	0.6
E25T-SVUCR/L16-D320	CARBIDE	32	25	19	300	-	23	6.5	0	-5	0.8	VC**1604...	3

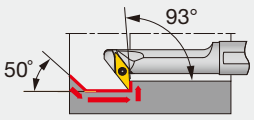
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SVUCL** type), and the left hand insert (L) is used for the right hand toolholders (SVUCR** type).

SPARE PARTS

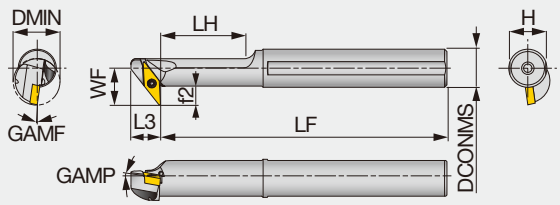
Designation	Clamping screw	Wrench
A12M-SVUCR/L08-D160	CSTB-2L	T-6F
A25S-SVUCR/L16-D320	CSTB-3.5	T-15F
E12Q-SVUCR/L08-D180	CSTB-2L	T-6F
E25T-SVUCR/L16-D320	CSTB-3.5	T-15F

A-SVZBR/L

Screw-on boring bars, for positive 35° rhombic inserts



Cutting edge style **Z**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	*L3*	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A16Q-SVZBR/L11-D200	STEEL	20	16	15.5	180	35	12.5	15	8	0	-8	0.4	VB**1103...	1.2
A20R-SVZBR/L11-D250	STEEL	25	20	17.5	200	40	12.5	18	8	0	-7	0.4	VB**1103...	1.2
A25S-SVZBR/L16-D320	STEEL	32	25	24	250	50	17.5	23	12	0	-6	0.8	VB**1604...	3
A32T-SVZBR/L16-D400	STEEL	40	32	27.5	300	72	17.5	30	12	0	-5	0.8	VB**1604...	3

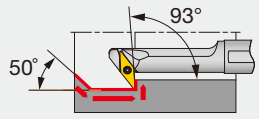
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the right hand toolholders (SVZBR type), and the left hand insert (L) is used for the left hand toolholders (SVZBL type).

SPARE PARTS

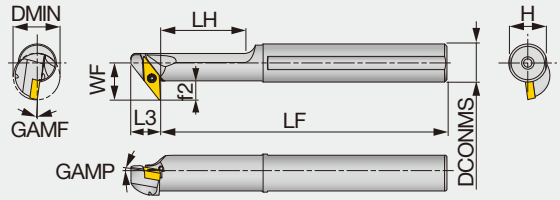
Designation	Clamping screw	Wrench
A**-SVZBR/L11-D2*0	CSTB-2.5	T-8F
A25S-SVZBR/L16-D320	CSTB-3.5	T-15F
A32T-SVZBR/L16-D400	CSTB-3.5L	T-15F

A-SVZCR/L

Screw-on boring bars, for positive 35° rhombic inserts



Cutting edge style **Z**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	L3	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A12M-SVZCR/L08-D160	STEEL	16	12	11	150	30	10	11	5.5	0	-8	0.4	VC**0802...	0.6

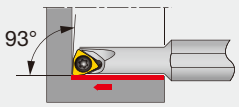
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the right hand toolholders (SVZCR ** type), and the left hand insert (L) is used for the left hand toolholders (SVZCL ** type).

SPARE PARTS

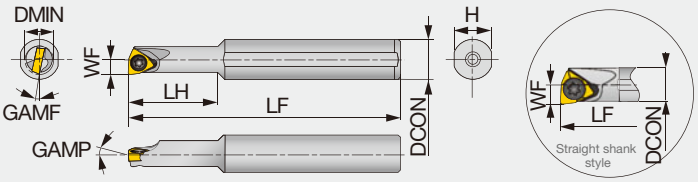

Designation	Clamping screw	Wrench
A12M-SVZCR/L08-D160	CSTB-2L	T-6F

A/E-SWUBR/L

Screw-on boring bars, for positive trigon inserts



Cutting edge style **U**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	GAMP	GAMF	RE**	Insert	Torque*
A05F-SWUBR/L03-D060	STEEL	6	5	3	80	9	4.8	0	-13	0.4	WB**0301...	0.6
A06G-SWUBR/L03-D070	STEEL	7	6	3.5	90	11	5.75	0	-12	0.4	WB**0301...	0.6
A07G-SWUBR/L03-D080	STEEL	8	7	4	90	12	6.75	0	-11	0.4	WB**0301...	0.6
A08H-SWUBR03-D060	STEEL	6	8	3.1	100	18	7.5	0	-12	0.4	WB**0301...	0.6
A08H-SWUBR03-D070	STEEL	7	8	3.6	100	20	7.5	0	-12	0.4	WB**0301...	0.6
E05G-SWUBR/L03-D060	CARBIDE	6	5	3	90	10	4.8	0	-13	0.4	WB**0301...	0.6
E06H-SWUBR/L03-D070	CARBIDE	7	6	3.5	100	12	5.75	0	-12	0.4	WB**0301...	0.6
E07H-SWUBR/L03-D080	CARBIDE	8	7	4	100	14	6.75	0	-11	0.4	WB**0301...	0.6
E08K-SWUBR03-D060	CARBIDE	6	8	3.1	125	30	7.5	0	-12	0.4	WB**0301...	0.6
E08K-SWUBR03-D070	CARBIDE	7	8	3.6	125	40	7.5	0	-12	0.4	WB**0301...	0.6

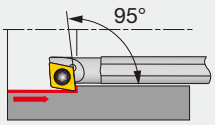
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SWUBL** type), and the left hand insert (L) is used for the right hand toolholders (SWUBR** type).

SPARE PARTS

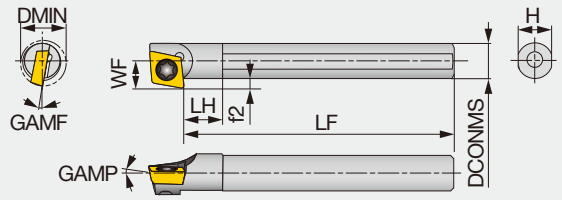

Designation	Clamping screw	Wrench
A/E**-SWUBR/L...	CSTB-2	T-6F

A/E-SEZPR/L

Screw-on boring bars, for positive 75° rhombic inserts



Cutting edge style **Z**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A04F-SEZPR/L03-D055	STEEL	5.5	4	3.2	80	4	3.8	1.2	0	-8	0.2	EP**03X1...	0.6
A05F-SEZPR/L03-D065	STEEL	6.5	5	3.7	80	5	4.8	1.2	0	-6	0.2	EP**03X1...	0.6
E04G-SEZPR/L03-D055	CARBIDE	5.5	4	3.2	90	5	3.8	1.2	0	-8	0.2	EP**03X1...	0.6
E05G-SEZPR/L03-D065	CARBIDE	6.5	5	3.7	90	6	4.8	1.2	0	-6	0.2	EP**03X1...	0.6

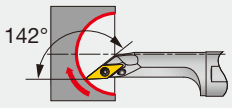
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the right hand toolholders (SEZPR ** type), and the left hand insert (L) is used for the left hand toolholders (SEZPL ** type).

SPARE PARTS

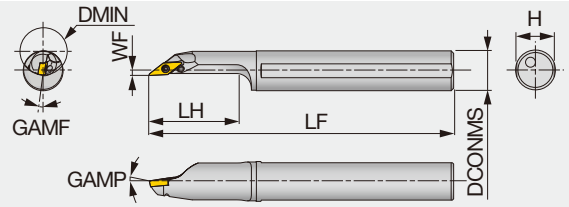
Designation	Clamping screw	Wrench
A**-SEZPR/L03-D...	CSTA-1.6	T-6F
E**-SEZPR/L03-D...	CSTA-1.6	T-6F

A-SVJBR/L

Screw-on boring bars, for positive 35° rhombic inserts



Cutting edge style **J**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	GAMP	GAMF	RE**	Insert	Torque*
A20R-SVJBR/L11-D250	STEEL	25	20	2	200	40	18	-5	-5	0.4	VB**1103...	1.2
A25S-SVJBR/L11-D300	STEEL	30	25	3.5	250	50	23	-5	-5	0.4	VB**1103...	1.2

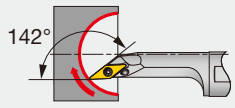
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SVJBL** type), and the left hand insert (L) is used for the right hand toolholders (SVJBR** type).

SPARE PARTS

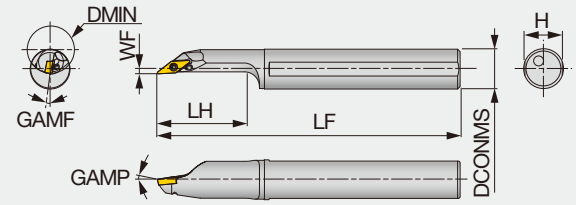
Designation	Clamping screw	Wrench
A**-SVJB*11-D...	CSTB-2.5	T-8F

A-SVJCR/L

Screw-on boring bars, for positive 35° rhombic inserts



Cutting edge style **J**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	GAMP	GAMF	RE**	Insert	Torque*
A12M-SVJCR/L08-D160	STEEL	16	12	2	150	28	11	-5	-5	0.4	VC**0802...	0.6
A16Q-SVJCR/L08-D200	STEEL	20	16	2	180	35	15	-5	-5	0.4	VC**0802...	0.6

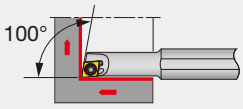
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SVJCL** type), and the left hand insert (L) is used for the right hand toolholders (SVJCR** type).

SPARE PARTS

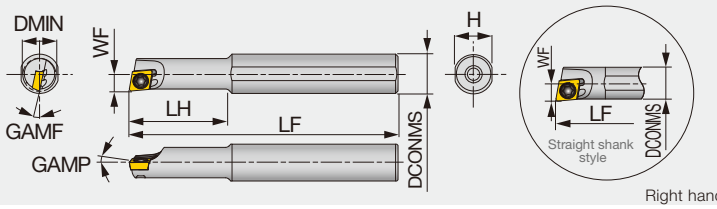
Designation	Clamping screw	Wrench
A**-SVJC*08-D...	CSTB-2L	T-6F

A/E-SEXPR/L

Screw-on boring bars, for positive 75° rhombic inserts



Cutting edge style **X**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	GAMP	GAMF	RE**	Insert	Torque*
A04F-SEXPR/L03-D045	STEEL	4.5	4	2.3	80	8	3.8	0	-15	0.2	EP**03X1...	0.6
A04F-SEXPR/L03-D050	STEEL	5	4	2.5	80	8	3.8	0	-13	0.2	EP**03X1...	0.6
A05F-SEXPR/L04-D055	STEEL	5.5	5	2.75	80	9	4.8	0	-12	0.4	EP**0401...	0.6
A06G-SEXPR/L04-D070	STEEL	7	6	3.6	90	11	5.75	0	-12	0.4	EP**0401...	0.6
A08H-SEXPR/L04-D055	STEEL	5.5	8	2.75	100	16	7.5	0	-12	0.4	EP**0401...	0.6
A08H-SEXPR/L04-D070	STEEL	7	8	3.6	100	20	7.5	0	-12	0.4	EP**0401...	0.6
E04G-SEXPR/L03-D045	CARBIDE	4.5	4	2.3	90	9	3.8	0	-15	0.2	EP**03X1...	0.6
E04G-SEXPR/L03-D050	CARBIDE	5	4	2.5	90	9	3.8	0	-13	0.2	EP**03X1...	0.6
E05G-SEXPR/L04-D055	CARBIDE	5.5	5	2.75	90	10	4.8	0	-12	0.4	EP**0401...	0.6
E06H-SEXPR/L04-D070	CARBIDE	7	6	3.6	100	12	5.75	0	-12	0.4	EP**0401...	0.6
E08K-SEXPR/L04-D055	CARBIDE	5.5	8	2.75	125	28	7.5	0	-12	0.4	EP**0401...	0.6
E08K-SEXPR/L04-D070	CARBIDE	7	8	3.6	125	40	7.5	0	-12	0.4	EP**0401...	0.6

*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SEXPL** type), and the left hand insert (L) is used for the right hand toolholders (SEXPR** type).

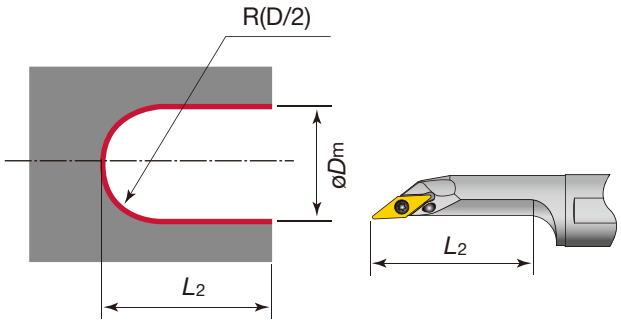
SPARE PARTS

Designation	Clamping screw	Wrench
A**-SEXPR/L03-D...	CSTA-1.6	T-6F
A**-SEXPR/L04-D...	CSTB-2	T-6F
E**-SEXPR/L03-D...	CSTA-1.6	T-6F
E**-SEXPR/L04-D...	CSTB-2	T-6F

HOW TO USE SVJC(B)R/L-TYPE TOOLS

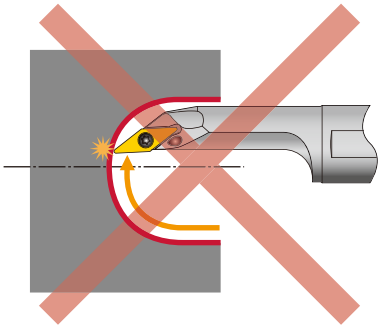
General machining information

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

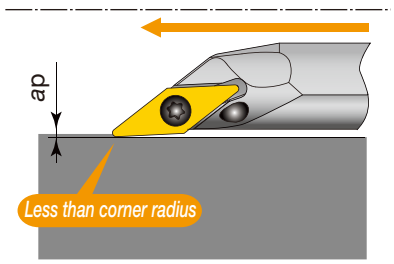


Cautionary points

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



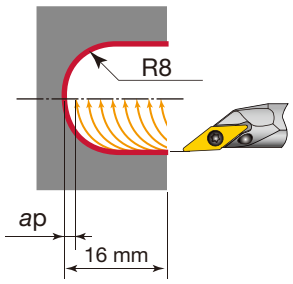
To avoid burr, the depth of cut should be within the corner radius.



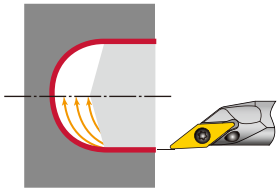
Machining examples

Machining of internal sphere

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

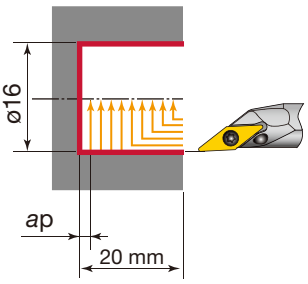


Machining from a solid workpiece

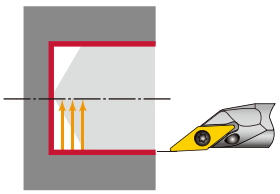


Machining from a pre-drilled bore

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



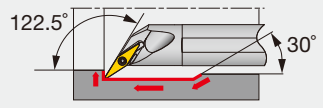
Machining from a solid workpiece



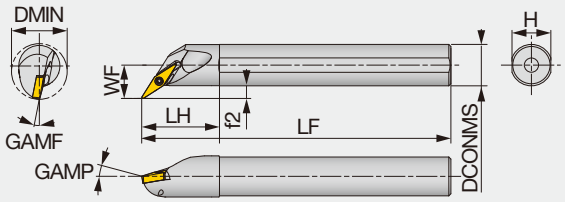
Machining from a pre-drilled bore

A/E-SYQBR/L

Screw-on boring bars, for positive 25° rhombic inserts



Cutting edge style **Q**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A12M-SYQBR/L11-D170	STEEL	17	12	10.5	150	24	11	4.5	-5	-10	0.4	YW**11T2...	0.6
A16Q-SYQBR/L11-D215	STEEL	21.5	16	13	180	30	15	5	-5	-8	0.4	YW**11T2...	0.6
E12Q-SYQBR/L11-D170	CARBIDE	17	12	10.5	180	27	11	4.5	-5	-10	0.4	YW**11T2...	0.6
E16R-SYQBR/L11-D215	CARBIDE	21.5	16	13	200	32	15	5	-5	-8	0.4	YW**11T2...	0.6

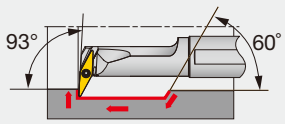
*Torque: Recommended torque (N·m) for clamping
**RE: Standard corner radius

SPARE PARTS

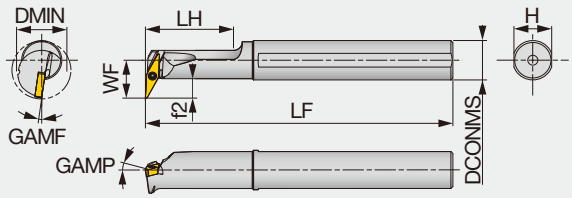
Designation	Clamping screw	Wrench
A**-SYQBR/L11-D...	CSTB-2L	T-6F
E**-SYQBR/L11-D...	CSTB-2L	T-6F

A/E-SYUBR/L

Screw-on boring bars, for positive 25° rhombic inserts



Cutting edge style **U**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A16Q-SYUBR/L11-D200	STEEL	20	16	15.5	180	35	15	8	0	-8	0.4	YW**11T2...	0.6
E12Q-SYUBR/L11-D200	CARBIDE	20	12	13.5	180	27	11	7.5	0	-8	0.4	YW**11T2...	0.6
E16R-SYUBR/L11-D245	CARBIDE	24.5	16	16	200	32	15	8	0	-8	0.4	YW**11T2...	0.6

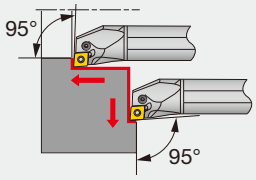
*Torque: Recommended torque (N·m) for clamping
**RE: Standard corner radius

SPARE PARTS

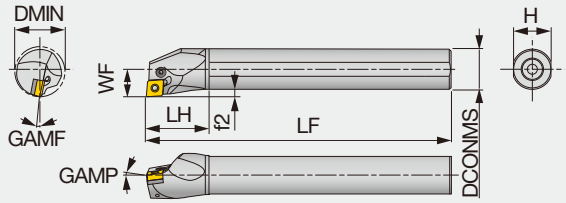
Designation	Clamping screw	Wrench
A16Q-SYUBR/L11-D200	CSTB-2L	T-6F
E**-SYUBR/L11-D...	CSTB-2L	T-6F

A-PCLNR/L

Lever-lock boring bars, for negative 80° rhombic inserts



Cutting edge style **L**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A16M-PCLNR/L09-D200	STEEL	20	16	11	150	32	15	3	-6	-14	0.8	CN**0903...	1.7
A20Q-PCLNR/L09-D250	STEEL	25	20	13	180	36	18	3	-6	-12	0.8	CN**0903...	1.7
A25R-PCLNR/L09-D320	STEEL	32	25	17	200	45	23	4.5	-6	-11	0.8	CN**0903...	1.7
A25R-PCLNR/L12-D320	STEEL	32	25	17	200	45	23	4.5	-6	-13	0.8	CN**1204...	2.7
A32S-PCLNR/L12-D400	STEEL	40	32	22	250	50	30	6	-6	-11	0.8	CN**1204...	4.8
A40T-PCLNR/L12-D500	STEEL	50	40	27	300	60	37	7	-6	-10	0.8	CN**1204...	4.8
A50U-PCLNR/L12-D630	STEEL	63	50	35	350	65	47	10	-6	-8	0.8	CN**1204...	4.8

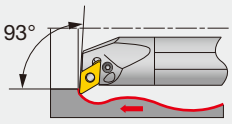
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (PCLNL ** type), and the left hand insert (L) is used for the right hand toolholders (PCLNR ** type).

SPARE PARTS

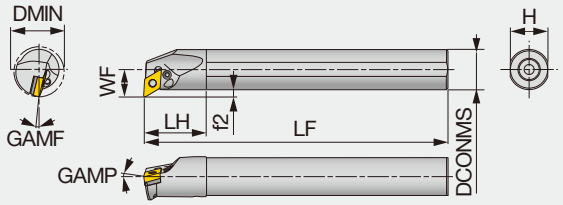
Designation	Shim	Clamping screw 1	Clamping screw 2	Wrench 1	Wrench 2	Spring	Lever	Oil supply attach-ment (Optional parts)	Screw for oil hole (Optional parts)
A**-PCLNR/L09-D**0	-	LCS22A	-	P-2F	-	-	LCL32N	EA-25	SSHM5-6
A25R-PCLNR/L12-D320	-	LCS43	-	-	P-2.5	-	LCL43N	EA-32	SSHM5-6
A32S-PCLNR12-D400	LSC42BR	-	LCS4	-	P-3	LSP4	LCL4	EA-32	SSHM5-6
A32S-PCLNL12-D400	LSC42BL	-	LCS4	-	P-3	LSP4	LCL4	-	SSHM6-6
A40T-PCLNR12-D500	LSC42BR	-	LCS4	-	P-3	LSP4	LCL4	-	SSHM6-6
A40T-PCLNL12-D500	LSC42BL	-	LCS4	-	P-3	LSP4	LCL4	-	SSHM6-6
A50U-PCLNR12-D630	LSC42BR	-	LCS4	-	P-3	LSP4	LCL4	-	SSHM6-6
A50U-PCLNL12-D630	LSC42BL	-	LCS4	-	P-3	LSP4	LCL4	-	SSHM6-6

A-PDUNR/L

Lever-lock boring bars, for negative 55° rhombic inserts



Cutting edge style **U**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A20Q-PDUNR/L11-D250	STEEL	25	20	13	180	36	18	3	-6	-14	0.8	DN**1104...	1.7
A25R-PDUNR/L11-D320	STEEL	32	25	17	200	45	23	4.5	-6	-12	0.8	DN**1104...	2.7
A32S-PDUNR/L15-D400	STEEL	40	32	22	250	50	30	6	-6	-13	0.8	DN**1504...	4.8
A40T-PDUNR/L15-D500	STEEL	50	40	27	300	60	37	7	-6	-10	0.8	DN**1504...	4.8
A50U-PDUNR/L15-D630	STEEL	63	50	35	350	65	47	10	-6	-8	0.8	DN**1504...	4.8
A32S-PDUNR/L1506-D400	STEEL	40	32	22	250	50	30	6	-6	-13	0.8	DN**1506...	4.8
A40T-PDUNR/L1506-D500	STEEL	50	40	27	300	60	37	7	-6	-11	0.8	DN**1506...	4.8
A50U-PDUNR/L1506-D630	STEEL	63	50	35	350	65	47	10	-6	-10	0.8	DN**1506...	4.8

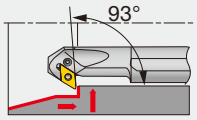
*Torque: Recommended torque (N·m) for clamping
**RE: Standard corner radius

SPARE PARTS

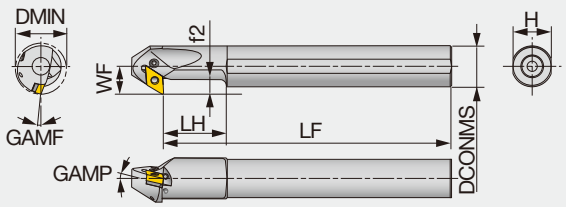
Designation	Shim	Clamping screw 1	Clamping screw 2	Wrench 1	Wrench 2	Spring	Lever	Oil supply attach-ment (Optional parts)	Screw for oil hole (Optional parts)
A20Q-PDUNR/L11-D250	-	LCS22A	-	P-2F	-	-	LCL33NL	EA-20	SSHM2.5-3
A25R-PDUNR/L11-D320	ELSD317BR/L	-	LCS3	-	P-2.5	LSP3	LCL33L	EA-25	SSHM3-4
A32S-PDUNR/L15-D400	LSD42BR/L	-	LCS4	-	P-3	LSP4	LCL4	EA-32	SSHM5-6
A40T-PDUNR/L15-D500	LSD42BR/L	-	LCS4	-	P-3	LSP4	LCL4	-	SSHM6-6
A50U-PDUNR/L15-D630	LSD42BR/L	-	LCS4	-	P-3	LSP4	LCL4	-	SSHM6-6
A32S-PDUNR/L1506-D400	ELSD42	-	ELCS4	-	P-3	LSP4S	LCL44	EA-20	SSHM5-6
A40T-PDUNR/L1506-D500	ELSD42	-	ELCS4	-	P-3	LSP4S	LCL44	-	SSHM6-6
A50U-PDUNR/L1506-D630	ELSD42	-	ELCS4	-	P-3	LSP4S	LCL44	-	SSHM6-6

A-PDZNR/L

Lever-lock boring bars, for negative 55° rhombic inserts



Cutting edge style **Z**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A32S-PDZNR/L15-D400	STEEL	40	32	22	250	50	30	11.5	-6	-13	0.8	DN**1504...	4.8
A40T-PDZNR/L15-D500	STEEL	50	40	27	300	60	37	14.5	-6	-10	0.8	DN**1504...	4.8
A50U-PDZNR/L15-D630	STEEL	63	50	35	350	65	47	14.5	-6	-8	0.8	DN**1504...	4.8

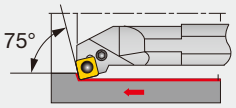
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the right hand toolholders (PDZNR** type), and the left hand insert (L) is used for the left hand toolholders (PDZNL** type).

SPARE PARTS

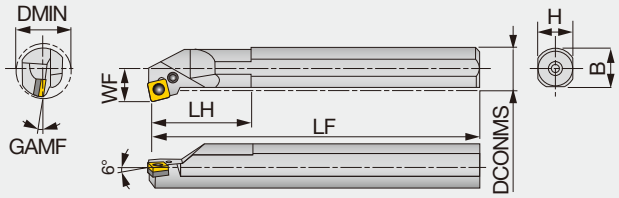
Designation	Shim	Clamping screw	Wrench	Spring	Lever	Oil supply attach-ment (Optional parts)	Screw for oil hole (Optional parts)
A32S-PDZNR15-D400	LSZ42BR	LCS4	P-3	LSP4	LCL4	EA-32	SSHM4-5
A32S-PDZNL15-D400	LSZ42BL	LCS4	P-3	LSP4	LCL4	EA-32	SSHM4-5
A40T-PDZNR15-D500	LSZ42BR	LCS4	P-3	LSP4	LCL4	-	SSHM5-6
A40T-PDZNL15-D500	LSZ42BL	LCS4	P-3	LSP4	LCL4	-	SSHM5-6
A50U-PDZNR15-D630	LSZ42BR	LCS4	P-3	LSP4	LCL4	-	SSHM6-6
A50U-PDZNL15-D630	LSZ42BL	LCS4	P-3	LSP4	LCL4	-	SSHM6-6

S-PSKNR

Lever-lock boring bars, for negative square inserts



Cutting edge style **K**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	B	GAMF	RE**	Insert
S32S-PSKNR12	STEEL	40	32	22	250	50	30	29.5	-10	0.8	SN**1204...
S40T-PSKNR12	STEEL	50	40	27	300	55	37	37.5	-10	0.8	SN**1204...
S50U-PSKNR12	STEEL	63	50	35	350	65	47	47.5	-8	0.8	SN**1204...

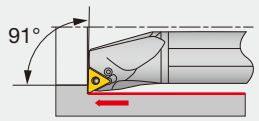
**RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert is used for left hand toolholders and the left hand insert is used for right hand toolholders.

SPARE PARTS

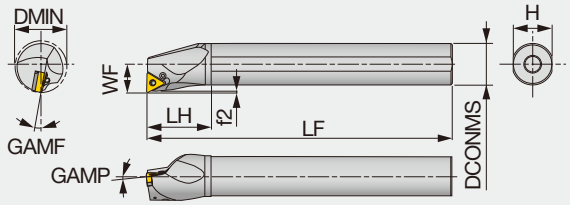
Designation	Shim	Clamping screw	Wrench	Spring	Lever
S**-PSKNR12	LSS42BR	LCS4	P-3	LSP4	LCL4

A-PTFNR/L

Lever lock type boring bar, for negative triangle inserts



Cutting edge style **F**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A25R-PTFNR/L16-D320	STEEL	32	25	17	200	45	23	1.2	-6	-12	0.8	TN**1604...	2.7
A32S-PTFNR/L16-D400	STEEL	40	32	22	250	50	30	1.1	-6	-10	0.8	TN**1604...	2.7
A40T-PTFNR/L16-D500	STEEL	50	40	27	300	60	37	1.1	-6	-10	0.8	TN**1604...	2.7
A50U-PTFNR/L16-D630	STEEL	63	50	35	350	65	47	1.1	-6	-8	0.8	TN**1604...	2.7

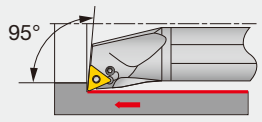
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (PTFNL ** type), and the left hand insert (L) is used for the right hand toolholders (PTFNR ** type).

SPARE PARTS

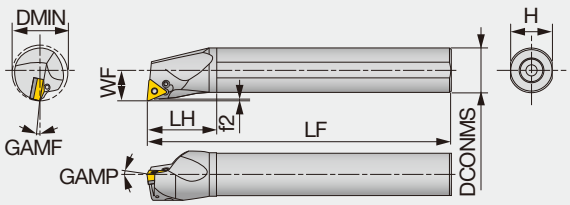
Designation	Shim	Clamping screw	Wrench	Spring	Lever	Oil supply attachment (Optional parts)	Screw for oil hole (Optional parts)
A25R-PTFNR/L16-D320	ELST317BR/L	LCS3	P-2.5	LSP3	LCL33	(EA-25)	(SSHM4-5)
A32S-PTFNR/L16-D400	LST317BR/L	LCS3	P-2.5	LSP3	LCL3	(EA-32)	(SSHM4-5)
A40T-PTFNR/L16-D500	LST317BR/L	LCS3	P-2.5	LSP3	LCL3	-	(SSHM6-6)
A50U-PTFNR/L16-D630	LST317BR/L	LCS3	P-2.5	LSP3	LCL3	-	(SSHM6-6)

A-PTUNR/L

Lever-lock boring bars, for negative triangle inserts



Cutting edge style **U**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A16M-PTUNR/L11-D200	STEEL	20	16	11	150	32	15	1	-6	-14	0.4	TN**1103...	1.7
A20Q-PTUNR/L11-D250	STEEL	25	20	13	180	36	18	1	-6	-12	0.4	TN**1103...	1.7
A25R-PTUNR/L16-D320	STEEL	32	25	17	200	45	23	1.4	-6	-12	0.8	TN**1604...	2.7
A32S-PTUNR/L16-D400	STEEL	40	32	22	250	50	30	1.3	-6	-10	0.8	TN**1604...	2.7

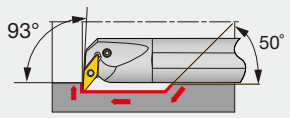
*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius
Note: The insert hole conforms to the ISO standard.
Tool holder length may be different to the ISO standard.
When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (PTUNL ** type), and the left hand insert (L) is used for the right hand toolholders (PTUNR ** type).

SPARE PARTS

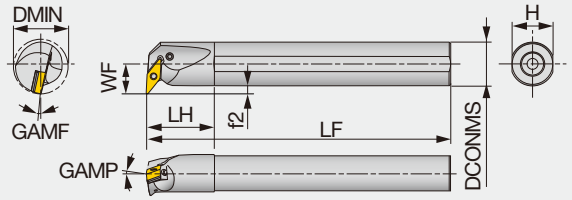
Designation	Shim	Clamping screw 1	Clamping screw2	Wrench 1	Wrench 2	Spring	Lever	Oil supply attachment (Optional parts)	Screw for oil hole (Optional parts)
A16M-PTUNR/L11-D200	-	LCS22A	-	P-2F	-	-	LCL22N	-	(SSHM3-4)
A20Q-PTUNR/L11-D250	-	LCS22A	-	P-2F	-	-	LCL22N	(EA-20)	(SSHM3-4)
A25R-PTUNR/L16-D320	ELST317BR/L	-	LCS3	-	P-2.5	LSP3	LCL33	(EA-25)	(SSHM4-5)
A32S-PTUNR/L16-D400	LST317BR/L	-	LCS3	-	P-2.5	LSP3	LCL3	(EA-32)	(SSHM4-5)

A-PVUNR/L

Lever-lock boring bars, for negative 35° rhombic inserts



Cutting edge style **U**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A25R-PVUNR/L16-D370	STEEL	37	25	22	200	45	23	9.5	-5	-14	0.8	V/YN**1604...	2.7
A32S-PVUNR/L16-D400	STEEL	40	32	22	250	50	30	6	-5	-12	0.8	V/YN**1604...	2.7
A40T-PVUNR/L16-D500	STEEL	50	40	27	300	60	37	7	-5	-10	0.8	V/YN**1604...	2.7

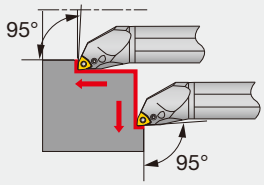
*Torque: Recommended torque (N·m) for clamping
**RE: Standard corner radius

SPARE PARTS

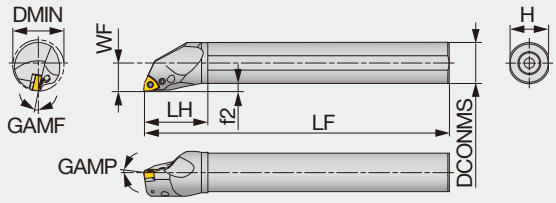
Designation	Shim	Clamping screw	Wrench	Spring	Lever	Oil supply attach-ment (Optional parts)	Screw for oil hole (Optional parts)
A25R-PVUNR/L16-D370	LSV317BR/L	LCS3V	P-2.5	LSP3	LCL3V	EA-25	SSHM4-5
A32S-PVUNR/L16-D400	LSV317BR/L	LCS3V	P-2.5	LSP3	LCL3V	EA-32	SSHM4-5
A40T-PVUNR/L16-D500	LSV317BR/L	LCS3V	P-2.5	LSP3	LCL3V	-	SSHM5-6

A-PWLNR/L

Lever-lock boring bars, for negative trigon inserts



Cutting edge style **L**



Right hand (R) shown.

Designation	Material	DMIN	DCONMS	WF	LF	LH	H	f2	GAMP	GAMF	RE**	Insert	Torque*
A16M-PWLNR/L06-D200	STEEL	20	16	11	150	32	15	3	-8	-17	0.8	WN**0604...	1.7
A20Q-PWLNR/L06-D250	STEEL	25	20	13	180	36	18	3	-6	-14	0.8	WN**0604...	1.7
A25R-PWLNR/L06-D320	STEEL	32	25	17	200	45	23	4.5	-6	-12	0.8	WN**0604...	2.7
A32S-PWLNR/L06-D400	STEEL	40	32	22	250	50	30	6	-6	-11	0.8	WN**0604...	2.7
A25R-PWLNR/L08-D320	STEEL	32	25	17	200	45	23	4.5	-6	-13	0.8	WN**0804...	2.7
A32S-PWLNR/L08-D400	STEEL	40	32	22	250	50	30	6	-6	-11	0.8	WN**0804...	4.8
A40T-PWLNR/L08-D500	STEEL	50	40	27	300	60	37	7	-6	-10	0.8	WN**0804...	4.8

*Torque: Recommended torque (N·m) for clamping **RE: Standard corner radius

Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (PWLNL ** type), and the left hand insert (L) is used for the right hand toolholders (PCLNR ** type).

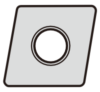
SPARE PARTS

Designation	Shim	Clamping screw 1	Clamping screw 2	Wrench 1	Wrench 2	Spring	Lever	Oil supply attachment (Optional parts)	Screw for oil hole (Optional parts)
A16M-PWLNR/L06-D200	-	LCS33	-	P-2F	-	-	LCL33N	-	SSHM3-4
A20Q-PWLNR/L06-D250	-	LCS33	-	P-2F	-	-	LCL33N	EA-20	SSHM3-4
A25R-PWLNR/L06-D320	LSW312BR/L	-	LCS3B	-	P-2.5	LSP3	LCL3	EA-25	SSHM4-5
A32S-PWLNR/L06-D400	LSW312BR/L	-	LCS3	-	P-2.5	LSP3	LCL3	EA-32	SSHM4-5
A25R-PWLNR/L08-D320	-	LCS43	-	-	P-2.5	-	LCL43N	EA-25	SSHM4-5
A32S-PWLNR/L08-D400	LSW42BR/L	-	LCS4	-	P-3	LSP4	LCL4	EA-32	SSHM4-5
A40T-PWLNR/L08-D500	LSW42BR/L	-	LCS4	-	P-3	LSP4	LCL4	-	SSHM4-5

TurnLine - Insert

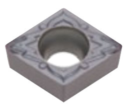
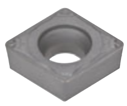
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Rhombic, 80°
with hole
Positive 7°

		Coated										Coated cermet	Cermet
		T9215	T9115	T9125	T6130	AH725	AH8005	AH8015	GH730	SH725	J740	GT9530	NS9530
P	Steel	●◐	●◐	◐✠	✠	◐			◐	●◐	●◐	●◐	●◐
M	Stainless	●◐			◐	◐	●	◐	◐	●◐	●◐		
K	Cast iron	●◐	●◐			◐			◐			●◐	●◐
N	Non-ferrous												
S	Superalloys					●	●	◐					
H	Hard materials												

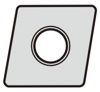
Application	Chipbreaker	Designation	Corner radius	T9215	T9115	T9125	T6130	AH725	AH8005	AH8015	GH730	SH725	J740	GT9530	NS9530
Precision finishing	**01** 	**CCGT060202-01**	0.2										●		
		CCGT09T302-01	0.2										●		
Precision finishing (Sharp edge)	**01** 	**CCGT060202F-01**	0.2									●			
		CCGT060204F-01	0.4									●			
		CCGT09T302F-01	0.2									●			
Finishing	**PSF** 	**CCMT060202-PSF**	0.2					●						●	●
		CCMT060204-PSF	0.4	●	●	●		●	●	●				●	●
		CCMT09T302-PSF	0.2					●							●
		CCMT09T304-PSF	0.4	●	●	●		●	●	●				●	●
		CCMT09T308-PSF	0.8	●	●	●		●						●	●
	PF 	**CCMT060202-PF**	0.2								●			●	●
		CCMT060204-PF	0.4				●				●			●	●
		CCMT060208-PF	0.8											●	●
		CCMT09T302-PF	0.2								●				●
		CCMT09T304-PF	0.4								●			●	●
		CCMT09T308-PF	0.8			●								●	●

● : Line up

TurnLine - Insert

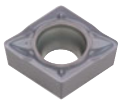
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Rhombic, 80° with hole Positive 7°

Material	T9215	T9115	T9125	T6120	T6130	AH630	AH645	AH120	AH725	AH8005	AH8015	GH730	GT9530	NS9530
P Steel	●◐	●◐	◐✠	◐	✠	◐✠	✠	●◐	◐			◐	●◐	●◐
M Stainless	●◐			●	◐	◐	✠	●◐	◐	●	◐	◐		
K Cast iron	●◐	●◐						●◐	◐			◐	●◐	●◐
N Non-ferrous														
S Superalloys								●◐	●	●	◐			
H Hard materials														

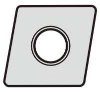
Application	Chipbreaker	Designation	Corner radius	Coated: T9215	T9115	T9125	T6120	T6130	AH630	AH645	AH120	AH725	AH8005	AH8015	GH730	Coated cermet: GT9530	Cermet: NS9530
Finishing to light cutting	**PSS**	**CCMT060204-PSS**	0.4	●	●	●	●	●	●	●		●	●	●		●	●
		**CCMT060208-PSS**	0.8	●	●	●	●	●	●	●		●	●	●		●	●
		CCMT09T304-PSS	0.4	●	●	●	●	●	●	●		●	●	●		●	●
		CCMT09T308-PSS	0.8	●	●	●	●	●	●	●		●	●	●		●	●
		CCMT120404-PSS	0.4	●	●	●	●	●	●	●		●					
		CCMT120408-PSS	0.8	●	●	●	●	●	●	●		●					
		CCMT120412-PSS	1.2	●	●	●	●	●	●	●		●					
Finishing to medium cutting	**PS**	**CCMT060202-PS**	0.2	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		**CCMT060204-PS**	0.4	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		CCMT060208-PS	0.8	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		CCMT09T302-PS	0.2	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		CCMT09T304-PS	0.4	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		CCMT09T308-PS	0.8	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		CCMT120404-PS	0.4	●	●	●	●	●	●	●		●	●	●			
		CCMT120408-PS	0.8	●	●	●	●	●	●	●		●	●	●			
		CCMT120412-PS	1.2	●	●	●	●	●	●	●		●					

● : Line up

TurnLine - Insert

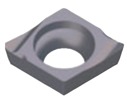
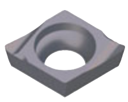
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Rhombic, 80° with hole Positive 7°

	Material	SH725	SH730	TH10
P	Steel	●◐	●◐	●
M	Stainless	●◐	●◐	●
K	Cast iron			●
N	Non-ferrous			●
S	Superalloys		●◐	
H	Hard materials			

Application	Chipbreaker	Designation	Corner radius	SH725 (Coated)	SH730 (Coated)	TH10 (Uncoated)
Finishing	W08 	CCGT03X100R-W08	0.03		●	●
		CCGT03X100L-W08	0.03		●	●
		CCGT03X101R-W08	0.1		●	●
		CCGT03X101L-W08	0.1		●	●
		CCGT03X102R-W08	0.2		●	●
		CCGT03X102L-W08	0.2		●	●
		CCGT03X104R-W08	0.4		●	●
		CCGT03X104L-W08	0.4		●	●
		CCGT04T100R-W08	0.03		●	●
		CCGT04T100L-W08	0.03		●	●
		CCGT04T101R-W08	0.1		●	●
		CCGT04T101L-W08	0.1		●	●
		CCGT04T102R-W08	0.2		●	●
		CCGT04T102L-W08	0.2		●	●
		CCGT04T104R-W08	0.4		●	●
		CCGT04T104L-W08	0.4		●	●
Finishing (Sharp edge)	W08 	CCGT03X100FL-W08	0.03	●		
		CCGT03X100FR-W08	0.03	●		
		CCGT03X101FL-W08	0.1	●		
		CCGT03X101FR-W08	0.1	●		
		CCGT03X102FL-W08	0.2	●		
		CCGT03X102FR-W08	0.2	●		
		CCGT03X104FL-W08	0.4	●		
		CCGT03X104FR-W08	0.4	●		
		CCGT04T100FL-W08	0.03	●		
		CCGT04T100FR-W08	0.03	●		
		CCGT04T101FL-W08	0.1	●		
		CCGT04T101FR-W08	0.1	●		
		CCGT04T102FL-W08	0.2	●		
		CCGT04T102FR-W08	0.2	●		
		CCGT04T104FL-W08	0.4	●		
		CCGT04T104FR-W08	0.4	●		

● : Line up

TurnLine - Insert

● : Continuous cutting
ᑕ : Light interrupted cutting
✣ : Heavy interrupted cutting

Positive type

Rhombic, 80° with hole Positive 7°

P	Steel	●ᑕ	●ᑕ	●ᑕ	●✣	ᑕ	✣	ᑕ✣	✣			●ᑕ	ᑕ	●	●ᑕ	ᑕ		●ᑕ			●ᑕ				●	ᑕ								
M	Stainless	●ᑕ			●	ᑕ	ᑕ	✣				●ᑕ	ᑕ	●	●ᑕ	ᑕ									●	ᑕ								
K	Cast iron	●ᑕ	●ᑕ						●ᑕ	ᑕ		●ᑕ	ᑕ	●	●ᑕ	ᑕ		●ᑕ			●ᑕ				●									
N	Non-ferrous																								●									
S	Superalloys											●ᑕ	●	●																				
H	Hard materials																																	

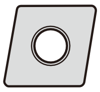
Application	Chipbreaker	Designation	Corner radius	Coated															Coated cermet			Cermet			Uncoated			
				T9215	T9115	T9125	T6120	T6130	AH630	AH645	T515	T5115	AH120	AH725	GH110	GH330	GH730		GT9530			NS9530			TH10	UX30		
Finishing	**W15**	**CCGT060200R-W15**	0.03																						●			
		CCGT060200L-W15	0.03																			●			●			
		CCGT060202R-W15	0.2																			●			●			
		CCGT060202L-W15	0.2																●			●			●			
		CCGT060204R-W15	0.4													●						●			●			
		CCGT060204L-W15	0.4												●	●			●			●			●	●		
	W20	**CCGT09T302R-W20**	0.2																			●			●			
		CCGT09T302L-W20	0.2																●			●			●			
		CCGT09T304R-W20	0.4																			●						
		CCGT09T304L-W20	0.4												●	●			●			●			●			
		CCGT09T308R-W20	0.8																			●						
		CCGT09T308L-W20	0.8																●			●						
Medium cutting	**PM**	**CCMT060204-PM**	0.4	●	●	●	●	●	●	●			●	●			●		●			●						
		CCMT060208-PM	0.8	●	●	●	●	●	●	●			●	●			●		●			●						
		CCMT09T304-PM	0.4	●	●	●	●	●	●	●			●	●			●		●			●						
		CCMT09T308-PM	0.8	●	●	●	●	●	●	●			●	●			●		●			●						
		CCMT09T312-PM	1.2	●	●	●	●	●	●	●				●														
		CCMT120408-PM	0.8				●	●	●	●				●														
		CCMT120412-PM	1.2				●	●	●	●				●														
Finishing to medium cutting	**CM**	**CCMT060204-CM**	0.4								●	●																
		CCMT060208-CM	0.8								●	●																
		CCMT09T304-CM	0.4								●	●																
		CCMT09T308-CM	0.8								●	●																
		CCMT09T312-CM	1.2									●																
		CCMT120404-CM	0.4									●																
		CCMT120408-CM	0.8									●																

● : Line up

TurnLine - Insert

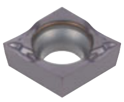
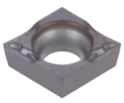
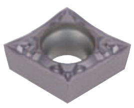
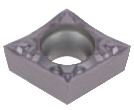
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Rhombic, 80°
with hole
Positive 7°

ISO	Material	AH725	SH725	SH730
P	Steel	◐	●◐	●◐
M	Stainless	◐	●◐	●◐
K	Cast iron	◐		
N	Non-ferrous			
S	Superalloys	●		●◐
H	Hard materials			

Application	Chipbreaker	Designation	Corner radius	AH725 (Coated)	SH725 (Coated)	SH730 (Coated)
For internal turning on small lathes	JS 	CCGT03X101-JS	0.1			●
		CCGT03X102-JS	0.2			●
		CCGT03X104-JS	0.4			●
		CCGT04T101-JS	0.1			●
		CCGT04T102-JS	0.2			●
		CCGT04T104-JS	0.4			●
For internal turning on small lathes (Sharp edge)	JS 	CCGT03X101F-JS	0.1		●	
		CCGT03X102F-JS	0.2		●	
		CCGT03X104F-JS	0.4		●	
		CCGT04T101F-JS	0.1		●	
		CCGT04T102F-JS	0.2		●	
		CCGT04T104F-JS	0.4		●	
For external turning on small lathes	JS 	CCGT060201N-JS	0.1	●		
		CCGT060202N-JS	0.2	●		
		CCGT060204N-JS	0.4	●		
		CCGT09T301N-JS	0.1	●		
		CCGT09T302N-JS	0.2	●		
		CCGT09T304N-JS	0.4	●		
For external turning on small lathes (Sharp edge)	JS 	CCGT060200FN-JS	0.03		●	●
		CCGT060201FN-JS	0.1		●	●
		CCGT060202FN-JS	0.2		●	●
		CCGT060204FN-JS	0.4		●	●
		CCGT09T300FN-JS	0.03		●	●
		CCGT09T301FN-JS	0.1		●	●
		CCGT09T302FN-JS	0.2		●	●
		CCGT09T304FN-JS	0.4		●	●

● : Line up

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

Rhombic, 80° with hole Positive 7°

	Material	SH725	J740	NS9530	TH10
P	Steel	●◐	●◐	●◐	●
M	Stainless	●◐	●◐		●
K	Cast iron			●◐	●
N	Non-ferrous				●
S	Superalloys				
H	Hard materials				

Application	Chipbreaker	Designation	Corner radius	Coated: SH725	Coated: J740	Cermet: NS9530	Uncoated: TH10
For external turning on small lathes (Sharp edge)	**J10**	**CCGT060200FR-J10**	0.03	●	●		●
		CCGT060200FL-J10	0.03	●	●		●
		CCGT060201FR-J10	0.1	●	●	●	●
		CCGT060201FL-J10	0.1	●	●		●
		CCGT060202FR-J10	0.2	●	●	●	●
		CCGT060202FL-J10	0.2	●	●	●	●
		**CCGT09T300FR-J10**	0.03	●	●		●
		CCGT09T300FL-J10	0.03	●	●		●
		CCGT09T301FR-J10	0.1	●	●		●
		CCGT09T301FL-J10	0.1	●	●		●
		CCGT09T302FR-J10	0.2	●	●		●
		CCGT09T302FL-J10	0.2	●	●		●
		CCGT09T304FR-J10	0.4	●			

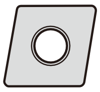
● : Line up

STREAMJETBAR
TUNGALOY

TurnLine - Insert

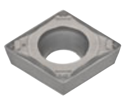
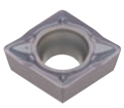
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Rhombic, 80° with hole Positive 11°

		Coated													Coated cermet				Cermet							
		T9215	T9115	T9125	T6120	T6130	AH630	AH645	AH120	AH725	AH8005	AH8015	GH730		GT9530				NS9530							
P	Steel	●◐	●◐	◐✠	◐	✠	◐✠	✠	●◐	◐			◐		●◐				●◐							
M	Stainless	●◐			●	◐	◐	✠	●◐	◐	●	◐	◐													
K	Cast iron	●◐	●◐						●◐	◐			◐		●◐				●◐							
N	Non-ferrous																									
S	Superalloys								●◐	●	●	◐														
H	Hard materials																									

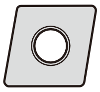
Application	Chipbreaker	Designation	Corner radius	T9215	T9115	T9125	T6120	T6130	AH630	AH645	AH120	AH725	AH8005	AH8015	GH730		GT9530				NS9530							
Finishing	PSF	CPMT060202-PSF	0.2									●																
		CPMT060204-PSF	0.4	●	●	●						●																
		CPMT080202-PSF	0.2									●																
		CPMT080204-PSF	0.4	●	●	●						●																
		CPMT090302-PSF	0.2									●					●				●							
		CPMT090304-PSF	0.4	●	●	●						●					●				●							
		CPMT09T302-PSF	0.2									●																
		CPMT09T304-PSF	0.4	●	●	●						●																
	PF	CPMT090302-PF	0.2														●				●							
		CPMT090304-PF	0.4														●				●							
Finishing to light cutting	PSS	CPMT060204-PSS	0.4	●	●	●						●					●				●							
		CPMT080204-PSS	0.4	●	●	●	●	●	●	●		●					●				●							
		CPMT080208-PSS	0.8	●	●	●	●	●	●	●		●					●				●							
		CPMT090304-PSS	0.4	●	●	●	●	●	●	●		●					●				●							
		CPMT090308-PSS	0.8	●	●	●	●	●	●	●		●					●				●							
		CPMT09T304-PSS	0.4	●	●	●						●																
		CPMT09T308-PSS	0.8	●	●	●						●																
Finishing to medium cutting	PS	CPMT060202-PS	0.2	●	●	●						●	●	●	●						●							
		CPMT060204-PS	0.4	●	●	●					●	●	●	●	●		●				●							
		CPMT080202-PS	0.2	●	●	●	●	●	●	●		●					●				●							
		CPMT080204-PS	0.4	●	●	●	●	●	●	●		●					●				●							
		CPMT080208-PS	0.8	●	●	●	●	●	●	●		●					●				●							
		CPMT090304-PS	0.4	●	●	●	●	●	●	●		●					●				●							
		CPMT090308-PS	0.8	●	●	●	●	●	●	●		●					●				●							
		CPMT09T302-PS	0.2	●	●	●						●	●	●														
		CPMT09T304-PS	0.4	●	●	●						●	●	●							●							
		CPMT09T308-PS	0.8	●	●	●					●	●	●	●														

● : Line up

TurnLine - Insert

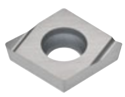
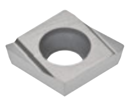
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Rhombic, 80°
with hole
Positive 11°

		T9215	T6120	T6130	AH630	AH645	T515	T5115	AH725	NS9530	TH10
P	Steel	●◐	◐	✠	◐✠	✠			◐	●◐	●
M	Stainless	●◐	●	◐	◐	✠			◐		●
K	Cast iron	●◐					●◐	◐	◐	●◐	●
N	Non-ferrous										●
S	Superalloys								●		
H	Hard materials										

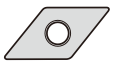
Application	Chipbreaker	Designation	Corner radius	Coated: T9215	T6120	T6130	AH630	AH645	T515	T5115	AH725	Cermet: NS9530	Uncoated: TH10
Finishing	W15 	CPGT050202L-W15	0.2									●	
		CPGT050204L-W15	0.4									●	
		CPGT080202R-W15	0.2										●
		CPGT080202L-W15	0.2									●	●
		CPGT080204R-W15	0.4										●
		CPGT080204L-W15	0.4									●	●
	W20 	CPGT090302R-W20	0.2									●	●
		CPGT090302L-W20	0.2									●	●
		CPGT090304R-W20	0.4									●	●
		CPGT090304L-W20	0.4									●	●
Medium cutting	PM 	CPMT060204-PM	0.4		●	●	●	●			●		
		CPMT060208-PM	0.8	●	●	●	●	●			●		
		CPMT090304-PM	0.4	●	●	●	●	●			●	●	
		CPMT090308-PM	0.8	●	●	●	●	●			●	●	
Finishing to medium cutting	CM 	CPMT060204-CM	0.4							●			
		CPMT060208-CM	0.8							●			
		CPMT080204-CM	0.4							●			
		CPMT080208-CM	0.8							●			
		CPMT090304-CM	0.4						●	●			
		CPMT090308-CM	0.8						●	●			
		CPMT09T304-CM	0.4						●	●			
		CPMT09T308-CM	0.8						●	●			
		CPMT09T312-CM	1.2							●			
		CPMT120408-CM	0.8							●			
		CPMT120412-CM	1.2							●			

● : Line up

TurnLine - Insert

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

Positive type



Rhombic, 55° with hole Positive 7°

		Coated														Coated cermet				Cermet								
		T9215	T9115	T9125	AH725	AH8005	AH8015	AH905	GH730	SH725	J740					GT9530	J9530			NS9530								
P	Steel	●ɔ	●ɔ	●ɔ	✣ɔ	ɔ				ɔ	●ɔ	●ɔ				●ɔ	●ɔ			●ɔ								
M	Stainless	●ɔ			ɔ	●	ɔ		ɔ	●ɔ	●ɔ																	
K	Cast iron	●ɔ	●ɔ		ɔ				ɔ							●ɔ	●ɔ			●ɔ								
N	Non-ferrous																											
S	Superalloys				●	●	ɔ	ɔ																				
H	Hard materials																											

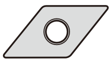
Application	Chipbreaker	Designation	Corner radius	T9215	T9115	T9125	AH725	AH8005	AH8015	AH905	GH730	SH725	J740					GT9530	J9530			NS9530								
Precision finishing	01	DCGT070202-01	0.2										●						●											
		DCGT11T302-01	0.2										●																	
Precision finishing (Sharp edge)	01	DCGT070202F-01	0.2									●																		
		DCGT11T302F-01	0.2									●																		
Finishing	PSF	DCMT070202-PSF	0.2				●											●				●								
		DCMT070204-PSF	0.4	●	●	●	●											●				●								
		DCMT11T302-PSF	0.2				●											●				●								
		DCMT11T304-PSF	0.4	●	●	●	●	●	●	●								●				●								
		DCMT11T308-PSF	0.8	●	●	●	●	●	●	●																				
	PF	DCMT070202-PF	0.2								●							●				●								
		DCMT070204-PF	0.4								●							●				●								
		DCMT070208-PF	0.8															●				●								
		DCMT11T302-PF	0.2								●							●				●								
		DCMT11T304-PF	0.4								●							●				●								
		DCMT11T308-PF	0.8															●												

● : Line up

TurnLine - Insert

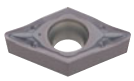
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Rhombic, 55°
with hole
Positive 7°

Material	T9215	T9115	T9125	T6120	T6130	AH630	AH645	AH120	AH725	AH8005	AH8015	AH905	GH730	GT9530	NS9530
P Steel	●◐	●◐	◐✠	◐	✠	◐✠	✠	●◐	◐				◐	●◐	●◐
M Stainless	●◐			●	◐	◐	✠	●◐	◐	●	◐		◐		
K Cast iron	●◐	●◐						●◐	◐				◐	●◐	●◐
N Non-ferrous															
S Superalloys								●◐	●	●	◐	◐			
H Hard materials															

Application	Chipbreaker	Designation	Corner radius	Coated													Coated cermet	Cermet
				T9215	T9115	T9125	T6120	T6130	AH630	AH645	AH120	AH725	AH8005	AH8015	AH905	GH730	GT9530	NS9530
Finishing to light cutting	**PSS**	**DCMT070204-PSS**	0.4	●	●	●	●	●	●	●		●					●	●
		**DCMT070208-PSS**	0.8	●	●	●	●	●	●	●		●					●	●
		DCMT11T304-PSS	0.4	●	●	●	●	●	●	●		●	●	●	●		●	●
		DCMT11T308-PSS	0.8	●	●	●	●	●	●	●		●	●	●	●		●	●
		DCMT11T312-PSS	1.2	●	●	●	●	●	●	●		●	●	●	●			
Finishing to medium cutting	**PS**	**DCMT070202-PS**	0.2	●	●	●	●	●	●	●	●	●	●	●		●	●	●
		**DCMT070204-PS**	0.4	●	●	●	●	●	●	●	●	●	●	●		●	●	●
		DCMT070208-PS	0.8	●	●	●						●	●	●		●	●	●
		DCMT11T302-PS	0.2	●	●	●	●	●	●	●	●	●	●	●		●	●	●
		DCMT11T304-PS	0.4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		DCMT11T308-PS	0.8	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		DCMT11T312-PS	1.2	●	●	●	●	●	●	●		●	●	●	●			

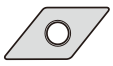
● : Line up

STREAMJETBAR
TUNGALOY

TurnLine - Insert

● : Continuous cutting
c : Light interrupted cutting
✣ : Heavy interrupted cutting

Positive type



Rhombic, 55° with hole Positive 7°

		Coated													Coated cermet			Cermet				Uncoated				
		T9215	T9115	T9125	T6120	T6130	AH630	AH645	T515	T5115	AH120	AH725	GH330	GH730	GT9530			NS9530				TH10				
P	Steel	●c	●c	●c	●✣	c	✣	c✣	✣			●c	c	●c	c			●c				●				
M	Stainless	●c			●	c	c	✣				●c	c	●c	c							●				
K	Cast iron	●c	●c						●c	c		●c	c	●c	c			●c				●				
N	Non-ferrous																					●				
S	Superalloys										●c	●														
H	Hard materials																									

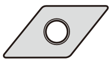
Application	Chipbreaker	Designation	Corner radius	T9215	T9115	T9125	T6120	T6130	AH630	AH645	T515	T5115	AH120	AH725	GH330	GH730	GT9530	NS9530	TH10
Finishing	W10	DCGT070200R-W10	0.03																●
		DCGT070200L-W10	0.03																●
		DCGT070202R-W10	0.2															●	●
		DCGT070202L-W10	0.2														●	●	
		DCGT070204R-W10	0.4												●			●	●
		DCGT070204L-W10	0.4												●		●	●	●
	W15	DCGT11T302R-W15	0.2															●	●
		DCGT11T302L-W15	0.2														●	●	
		DCGT11T304R-W15	0.4															●	
		DCGT11T304L-W15	0.4												●		●	●	●
		DCGT11T308R-W15	0.8															●	●
		DCGT11T308L-W15	0.8															●	●
Medium cutting	PM	DCMT070204-PM	0.4	●	●	●	●	●	●	●			●	●		●	●	●	
		DCMT070208-PM	0.8	●	●	●	●	●	●	●			●	●		●	●	●	
		DCMT11T304-PM	0.4	●	●	●	●	●	●	●			●	●		●	●	●	
		DCMT11T308-PM	0.8	●	●	●	●	●	●	●			●	●		●	●	●	
		DCMT11T312-PM	1.2			●	●	●	●	●				●					
Finishing to medium cutting	CM	DCMT070204-CM	0.4									●							
		DCMT070208-CM	0.8									●							
		DCMT11T304-CM	0.4								●	●							
		DCMT11T308-CM	0.8								●	●							
		DCMT11T312-CM	1.2									●							

● : Line up

TurnLine - Insert

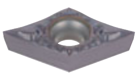
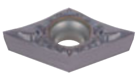
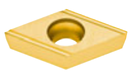
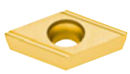
● : Continuous cutting
◐ : Light interrupted cutting
✤ : Heavy interrupted cutting

Positive type



Rhombic, 55° with hole
Positive 7°

	Material	AH725	SH725	SH730	J9530	NS9530	TH10
P	Steel	◐	●◐	●◐	●◐	●◐	●
M	Stainless	◐	●◐	●◐			●
K	Cast iron	◐			●◐	●◐	●
N	Non-ferrous						●
S	Superalloys	●		●◐			
H	Hard materials						

Application	Chipbreaker	Designation	Corner radius	AH725 (Coated)	SH725 (Coated)	SH730 (Coated)	J9530 (Coated cermet)	NS9530 (Cermet)	TH10 (Uncoated)
For external turning on small lathes (Sharp edge)	JS 	DCGT070200FN-JS	0.03		●	●			
		DCGT070201FN-JS	0.1		●	●			
		DCGT070202FN-JS	0.2		●	●			
		DCGT11T300FN-JS	0.03		●	●			
		DCGT11T301FN-JS	0.1		●	●			
		DCGT11T302FN-JS	0.2		●	●			
		DCGT11T304FN-JS	0.4		●	●			
For external turning on small lathes	JS 	DCGT070201N-JS	0.1	●					
		DCGT070202N-JS	0.2	●					
		DCGT11T301N-JS	0.1	●					
		DCGT11T302N-JS	0.2	●					
		DCGT11T304N-JS	0.4	●					
For external turning on small lathes (Sharp edge)	J10 	DCGT070200FR-J10	0.03	●		●			●
		DCGT070200FL-J10	0.03	●		●			●
		DCGT070201FR-J10	0.1	●		●		●	●
		DCGT070201FL-J10	0.1	●		●		●	●
		DCGT070202FR-J10	0.2	●		●		●	●
		DCGT070202FL-J10	0.2	●		●		●	●
		DCGT070204FR-J10	0.4	●					
		DCGT070204FL-J10	0.4	●					
		DCGT11T300FR-J10	0.03	●		●			●
		DCGT11T300FL-J10	0.03	●		●			●
		DCGT11T301FR-J10	0.1	●		●		●	●
		DCGT11T301FL-J10	0.1	●		●		●	●
		DCGT11T302FR-J10	0.2	●		●		●	●
		DCGT11T302FL-J10	0.2	●		●		●	●
On small lathes (Honed edge)	J10 	DCGT070202R-J10	0.2				●		
		DCGT11T302R-J10	0.2				●		

● : Line up

STREAMJETBAR
TUNGALOY

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

New

Rhombic, 55°
with hole
Positive 11°

	Coated: T9125	Coated: AH8015	Cermet: NS9530
P Steel	◐✠		●◐
M Stainless		◐	
K Cast iron			●◐
N Non-ferrous			
S Superalloys		◐	
H Hard materials			

Application	Chipbreaker	Designation	Corner radius	T9125	AH8015	NS9530
Finishing to medium cutting	PS	DPMT070202-PS	0.2	●	●	●
		DPMT070204-PS	0.4	●	●	●
		DPMT070208-PS	0.8	●	●	●

● : Line up

TurnLine - Insert

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

Positive type

Rhombic, 75° with hole Positive 11°

		Coated			Coated cermet	Cermet	Uncoated	
P	Steel	●	●ɔ	●ɔ	●ɔ	●ɔ	●	ɔ
M	Stainless	●	●ɔ	●ɔ			●	ɔ
K	Cast iron	●			●ɔ	●ɔ	●	
N	Non-ferrous						●	
S	Superalloys	●		●ɔ				
H	Hard materials							

Application	Chipbreaker	Designation	Corner radius	GH110	SH725	SH730	GT9530	NS9530	TH10	UX30
Finishing	W08	EPGT03X100R-W08	0.03			●			●	
		EPGT03X100L-W08	0.03			●			●	
		EPGT03X101R-W08	0.1			●			●	
		EPGT03X101L-W08	0.1			●			●	
		EPGT03X102R-W08	0.2			●			●	
		EPGT03X102L-W08	0.2			●			●	
		EPGT03X104R-W08	0.4			●			●	
		EPGT03X104L-W08	0.4			●			●	
		EPGT040100R-W08	0.03			●			●	
		EPGT040100L-W08	0.03	●		●		●	●	
		EPGT040101R-W08	0.1			●			●	
		EPGT040101L-W08	0.1			●			●	
		EPGT040102R-W08	0.2	●		●		●	●	
		EPGT040102L-W08	0.2	●		●	●	●	●	●
		EPGT040104R-W08	0.4	●		●		●	●	
		EPGT040104L-W08	0.4	●		●	●	●	●	●
Finishing (Sharp edge)	W08	EPGT03X100FL-W08	0.03		●					
		EPGT03X100FR-W08	0.03		●					
		EPGT03X101FL-W08	0.1		●					
		EPGT03X101FR-W08	0.1		●					
		EPGT03X102FL-W08	0.2		●					
		EPGT03X102FR-W08	0.2		●					
		EPGT03X104FL-W08	0.4		●					
		EPGT03X104FR-W08	0.4		●					
		EPGT040100FL-W08	0.03		●					
		EPGT040100FR-W08	0.03		●					
		EPGT040101FL-W08	0.1		●					
		EPGT040101FR-W08	0.1		●					
		EPGT040102FL-W08	0.2		●					
		EPGT040102FR-W08	0.2		●					
		EPGT040104FL-W08	0.4		●					
		EPGT040104FR-W08	0.4		●					

● : Line up

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

Positive type

Rhombic, 75° with hole Positive 11°

P	Steel	●◐	●◐	●◐
M	Stainless	●◐	●◐	●◐
K	Cast iron			
N	Non-ferrous			
S	Superalloys		●◐	
H	Hard materials			

Application	Chipbreaker	Designation	Corner radius	Coated SH725	Coated SH730	Coated J740
For internal turning on small lathes	JS	EPGT03X101-JS	0.1		●	
		EPGT03X102-JS	0.2		●	
		EPGT03X104-JS	0.4		●	
		EPGT040101-JS	0.1		●	
		EPGT040102-JS	0.2		●	
		EPGT040104-JS	0.4		●	
For internal turning on small lathes (Sharp edge)	JS	EPGT03X101F-JS	0.1	●		
		EPGT03X102F-JS	0.2	●		
		EPGT03X104F-JS	0.4	●		
		EPGT040101F-JS	0.1	●		
		EPGT040102F-JS	0.2	●		
		EPGT040104F-JS	0.4	●		
Finishing	J08	EPGT040100L-J08	0.03		●	●
		EPGT040102L-J08	0.2		●	●
		EPGT040104L-J08	0.4		●	●
Finishing (Sharp edge)	J08	EPGT040100FL-J08	0.03	●		
		EPGT040102FL-J08	0.2	●		
		EPGT040104FL-J08	0.4	●		

● : Line up

TurnLine - Insert

● : Continuous cutting
ᑕ : Light interrupted cutting
✣ : Heavy interrupted cutting

Positive type

Round, with hole Positive 7°

P	Steel	
M	Stainless	
K	Cast iron	ᑕ
N	Non-ferrous	
S	Superalloys	
H	Hard materials	

Application	Chipbreaker	Designation	Corner radius	Coated: T5115
Finishing to medium cutting	CM	RCMT0502M0-CM	-	●
		RCMT0602M0-CM	-	●
		RCMT0803M0-CM	-	●

POSITIVE TYPE

Square, 90° with hole Positive 7°

P	Steel	●ᑕ ●ᑕ ᑕ✣ ᑕ ✣ ᑕ✣ ✣ ᑕ ●ᑕ
M	Stainless	●ᑕ ● ᑕ ᑕ ✣ ᑕ
K	Cast iron	●ᑕ ●ᑕ ●ᑕ ●ᑕ ●ᑕ
N	Non-ferrous	
S	Superalloys	●
H	Hard materials	

Application	Chipbreaker	Designation	Corner radius	Coated: T9215	T9115	T9125	T6120	T6130	AH630	AH645	T515	T5115	AH725	Coated cermet: GT9530	Cermet: NS9530
Finishing to medium cutting	PS	SCMT09T304-PS	0.4	●	●	●	●	●	●	●			●	●	●
		SCMT09T308-PS	0.8	●	●	●	●	●	●	●			●	●	●
		SCMT120404-PS	0.4	●	●	●	●	●	●	●			●		●
		SCMT120408-PS	0.8	●	●	●	●	●	●	●			●		●
Medium cutting	PM	SCMT09T304-PM	0.4	●	●	●	●	●	●	●			●		●
		SCMT09T308-PM	0.8	●	●	●	●	●	●	●			●		●
		SCMT120408-PM	0.8	●	●	●	●	●	●	●			●		●
		SCMT120412-PM	1.2			●	●	●	●	●			●		●
Finishing to medium cutting	CM	SCMT09T304-CM	0.4								●	●			
		SCMT09T308-CM	0.8								●	●			
		SCMT09T312-CM	1.2									●			
		SCMT120404-CM	0.4								●	●			
		SCMT120408-CM	0.8								●	●			

● : Line up

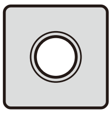
STREAMJETBAR

TUNGALOY

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Square, 90° with hole Positive 11°

Material	T9215	T9115	T9125	T6120	T6130	T515	T5115	AH630	AH645	AH725					GT9530				NS9530				TH10		
P Steel	●◐	●◐	◐✠	◐	✠			◐✠	✠	◐					●◐				●◐				●		
M Stainless	●◐			●	◐			◐	✠	◐													●		
K Cast iron	●◐	●◐				●◐	◐			◐					●◐				●◐				●		
N Non-ferrous																							●		
S Superalloys										●															
H Hard materials																									

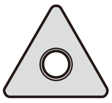
Application	Chipbreaker	Designation	Corner radius	Coated														Coated cermet				Cermet				Uncoated		
				T9215	T9115	T9125	T6120	T6130	T515	T5115	AH630	AH645	AH725					GT9530				NS9530				TH10		
Finishing to medium cutting	PS 	SPMT090304-PS	0.4	●	●	●	●	●			●	●	●					●				●						
		SPMT090308-PS	0.8	●	●	●	●	●			●	●	●					●				●						
		SPMT120404-PS	0.4	●	●	●	●	●			●	●	●															
		SPMT120408-PS	0.8	●	●	●	●	●			●	●	●															
Finishing	W15 	SPGT090302L-W15	0.2																			●						
		SPGT090304L-W15	0.4																			●				●		
		SPGT090308R-W15	0.8																							●		
		SPGT090308L-W15	0.8																			●				●		
	W20 	SPGT120404L-W20	0.4																			●						
Finishing to medium cutting	CM 	SPMT090304-CM	0.4							●																		
		SPMT090308-CM	0.8							●																		
		SPMT120404-CM	0.4						●	●																		
		SPMT120408-CM	0.8						●	●																		

● : Line up

TurnLine - Insert

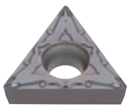
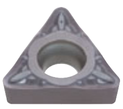
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Triangular, 60° with hole Positive 7°

Material	T9215	T9115	T9125	AH725	SH725	J740	GT9530	NS9530	NS520	TH10
P Steel	●◐	●◐	◐✠	◐	●◐	●◐	●◐	●◐	●◐	●
M Stainless	●◐			◐	●◐	●◐				●
K Cast iron	●◐	●◐		◐			●◐	●◐	●◐	●
N Non-ferrous										●
S Superalloys				●						
H Hard materials										

Application	Chipbreaker	Designation	Corner radius	T9215 (Coated)	T9115 (Coated)	T9125 (Coated)	AH725 (Coated)	SH725 (Coated)	J740 (Coated)	GT9530 (Coated cermet)	NS9530 (Cermet)	NS520 (Cermet)	TH10 (Uncoated)
Precision finishing	01 	TCGT090204-01	0.4									●	●
		TCGT110202-01	0.2						●				
		TCGT110204-01	0.4							●	●	●	●
		TCGT110208-01	0.8								●		
		TCGT16T304-01	0.4										●
		TCGT16T308-01	0.8									●	●
Precision finishing (Sharp edge)	01 	TCGT110202F-01	0.2					●					
Finishing	PSF 	TCMT090202-PSF	0.2				●						
		TCMT090204-PSF	0.4	●	●	●	●						
		TCMT110202-PSF	0.2				●						
		TCMT110204-PSF	0.4	●	●	●	●						
		TCMT110302-PSF	0.2				●						
		TCMT110304-PSF	0.4	●	●	●	●						
		TCMT16T304-PSF	0.4	●	●	●	●						
Finishing to light cutting	PSS 	TCMT090204-PSS	0.4	●	●	●	●						
		TCMT090208-PSS	0.8	●	●	●	●						
		TCMT110204-PSS	0.4	●	●	●	●						
		TCMT110208-PSS	0.8	●	●	●	●						
		TCMT110304-PSS	0.4	●	●	●	●						
		TCMT110308-PSS	0.8	●	●	●	●						
		TCMT16T304-PSS	0.4	●	●	●	●						
		TCMT16T308-PSS	0.8	●	●	●	●						
		TCMT16T312-PSS	1.2	●	●	●	●						

● : Line up

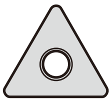
STREAMJETBAR

TUNGALOY

TurnLine - Insert

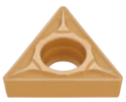
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Triangular, 60° with hole
Positive 7°

Material		T9215	T9115	T9125	T6120	T6130	AH630	AH645	AH725	GH730	GT9530	NS9530	TH10
P	Steel	●◐	●◐	◐✠	◐	✠	◐✠	✠	◐	◐	●◐	●◐	●
M	Stainless	●◐			●	◐	◐	✠	◐	◐			●
K	Cast iron	●◐	●◐						◐	◐	●◐	●◐	●
N	Non-ferrous												●
S	Superalloys								●				
H	Hard materials												

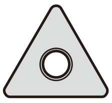
Application	Chipbreaker	Designation	Corner radius	Coated: T9215	T9115	T9125	T6120	T6130	AH630	AH645	AH725	GH730	Coated cermet: GT9530	Cermet: NS9530	Uncoated: TH10
Finishing to medium cutting	PS 	TCMT090204-PS	0.4								●				
		TCMT090208-PS	0.8								●				
		TCMT110202-PS	0.2	●	●	●	●	●	●	●	●	●	●	●	
		TCMT110204-PS	0.4	●	●	●	●	●	●	●	●	●	●	●	
		TCMT110208-PS	0.8	●	●	●	●	●	●	●	●	●	●	●	
		TCMT110302-PS	0.2	●	●	●	●	●	●	●					
		TCMT110304-PS	0.4	●	●	●	●	●	●	●					
		TCMT110308-PS	0.8	●	●	●	●	●	●	●					
		TCMT16T302-PS	0.2	●	●	●	●	●	●	●	●			●	
		TCMT16T304-PS	0.4	●	●	●	●	●	●	●	●			●	
		TCMT16T308-PS	0.8	●	●	●	●	●	●	●	●				
Finishing	W15 	TCGT16T302L-W15	0.2												●
		TCGT16T304L-W15	0.4											●	●
		TCGT16T308L-W15	0.8												●

● : Line up

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Triangular, 60° with hole
Positive 7°

Material	T9215	T9115	T9125	T6120	T6130	AH630	AH645	T515	T5115	AH725	NS9530	KS05F
P Steel	●◐	●◐	◐✠	◐	✠	◐✠	✠		●◐	◐	●◐	
M Stainless	●◐			●	◐	◐	✠			◐		
K Cast iron	●◐	●◐						●◐	●◐	◐	●◐	●
N Non-ferrous												●
S Superalloys										●		●
H Hard materials												

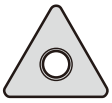
Application	Chipbreaker	Designation	Corner radius	Coated: T9215	T9115	T9125	T6120	T6130	AH630	AH645	T515	T5115	AH725	Cermet: NS9530	Uncoated: KS05F
Medium cutting	PM 	TCMT110202-PM	0.2				●	●	●	●			●		
		TCMT110204-PM	0.4	●	●	●	●	●	●	●			●	●	
		TCMT110208-PM	0.8	●	●	●	●	●	●	●			●	●	
		TCMT110302-PM	0.2				●	●	●	●					
		TCMT110304-PM	0.4	●			●	●	●	●					
		TCMT110308-PM	0.8				●	●	●	●					
		TCMT16T304-PM	0.4		●	●	●	●	●	●			●	●	
		TCMT16T308-PM	0.8	●	●	●	●	●	●	●			●	●	
		TCMT16T312-PM	1.2	●	●	●	●	●	●	●			●		
Finishing to medium cutting	CM 	TCMT090204-CM	0.4									●			
		TCMT090208-CM	0.8									●			
		TCMT110204-CM	0.4									●			
		TCMT110208-CM	0.8									●			
		TCMT110304-CM	0.4									●			
		TCMT110308-CM	0.8									●			
		TCMT16T304-CM	0.4								●	●			
		TCMT16T308-CM	0.8								●	●			
		TCMT16T312-CM	1.2								●	●			

● : Line up

TurnLine - Insert

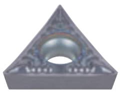
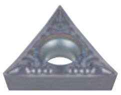
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Triangular, 60° with hole Positive 7°

		AH725	SH725	SH730	J740	NS9530	TH10
P	Steel	◐	●◐	●◐	●◐	●◐	●
M	Stainless	◐	●◐	●◐	●◐		●
K	Cast iron	◐				●◐	●
N	Non-ferrous						●
S	Superalloys	●		●◐			
H	Hard materials						

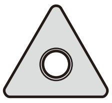
Application	Chipbreaker	Designation	Corner radius	AH725 (Coated)	SH725 (Coated)	SH730 (Coated)	J740 (Coated)	NS9530 (Cermet)	TH10 (Uncoated)
For external turning on small lathes (Sharp edge)	JS 	TCGT110200FN-JS	0.03		●	●			
		TCGT110201FN-JS	0.1		●	●			
		TCGT110202FN-JS	0.2		●	●			
		TCGT110204FN-JS	0.4		●	●			
On small lathes (Honed edge)	JS 	TCGT110201N-JS	0.1	●					
		TCGT110202N-JS	0.2	●					
		TCGT110204N-JS	0.4	●					
For external turning on small lathes (Sharp edge)	J08 	TCGT080200FR-J08	0.03		●		●		●
		TCGT080200FL-J08	0.03		●		●		●
		TCGT080201FR-J08	0.1		●		●		●
		TCGT080201FL-J08	0.1		●		●		●
		TCGT080202FR-J08	0.2		●		●		●
		TCGT080202FL-J08	0.2		●		●		●
		TCGT080204FR-J08	0.4		●				

● : Line up

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Triangular, 60° with hole Positive 7°

		Coated: SH725	Coated: J740	Coated cermet: J9530	Cermet: NS9530	Uncoated: TH10
P	Steel	●◐	●◐	●◐	●◐	●
M	Stainless	●◐	●◐			●
K	Cast iron			●◐	●◐	●
N	Non-ferrous					●
S	Superalloys					
H	Hard materials					

Application	Chipbreaker	Designation	Corner radius	SH725	J740	J9530	NS9530	TH10
For external turning on small lathes (Sharp edge)	J10 	TCGT110200FR-J10	0.03	●	●			●
		TCGT110200FL-J10	0.03	●	●			●
		TCGT110201FR-J10	0.1	●	●			●
		TCGT110201FL-J10	0.1	●	●			●
		TCGT110202FR-J10	0.2	●	●		●	●
		TCGT110202FL-J10	0.2	●	●		●	●
		TCGT110204FR-J10	0.4	●				
		TCGT110300FR-J10	0.03	●	●			●
		TCGT110300FL-J10	0.03	●	●			●
		TCGT110301FR-J10	0.1	●	●			●
		TCGT110301FL-J10	0.1	●	●			●
		TCGT110302FR-J10	0.2	●	●		●	●
		TCGT110302FL-J10	0.2	●	●		●	●
On small lathes (Honed edge)	J10 	TCGT110302R-J10	0.2			●		
		TCGT110302L-J10	0.2			●		

● : Line up

TurnLine - Insert

● : Continuous cutting
c : Light interrupted cutting
✣ : Heavy interrupted cutting

Positive type

Triangular, 60° with hole Positive 11°

		Coated					Coated cermet		Cermet		Uncoated
P	Steel	●c	●c	c✣	c	c	●c	●c	●c	●c	●
M	Stainless	●c			c	c					●
K	Cast iron	●c	●c		c	c	●c	●c	●c	●c	●
N	Non-ferrous										●
S	Superalloys				●						
H	Hard materials										

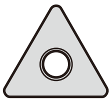
Application	Chipbreaker	Designation	Corner radius	T9215	T9115	T9125	AH725	GH730	GT9530	GT720	NS9530	NS520	TH10
Precision finishing	01	TPGT090202-01	0.2						●		●		
		TPGT090204-01	0.4						●		●	●	●
		TPGT110202-01	0.2						●		●		
		TPGT110204-01	0.4						●		●	●	●
		TPGT110208-01	0.8								●		
		TPGT130302-01	0.2							●	●		
		TPGT130304-01	0.4						●		●	●	●
		TPGT130308-01	0.8								●	●	
		TPGT16T304-01	0.4						●		●	●	●
		TPGT16T308-01	0.8							●	●	●	
Finishing	PSF	TPMT090202-PSF	0.2				●				●		
		TPMT090204-PSF	0.4	●	●	●	●		●		●		
		TPMT110202-PSF	0.2				●		●		●		
		TPMT110204-PSF	0.4	●	●	●	●		●		●		
		TPMT110302-PSF	0.2				●				●		
		TPMT110304-PSF	0.4	●	●	●	●		●		●		
		TPMT130304-PSF	0.4	●	●	●	●						
		TPMT16T304-PSF	0.4	●	●	●	●						
	PF	TPMT110204-PF	0.4					●	●		●		
		TPMT110208-PF	0.8						●		●		
		TPMT110302-PF	0.2					●			●		
		TPMT110304-PF	0.4					●	●		●		
		TPMT130304-PF	0.4						●		●		
		TPMT130308-PF	0.8								●		
		TPMT16T304-PF	0.4						●		●		

● : Line up

TurnLine - Insert

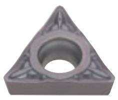
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Triangular, 60° with hole Positive 11°

ISO	Material	T9215	T9115	T9125	T6120	T6130	AH630	AH645	AH120	AH725	GH730				GT9530				NS9530							
P	Steel	●◐	●◐	◐✠	◐	✠	◐✠	✠	●◐	◐	◐				●◐				●◐							
M	Stainless	●◐			●	◐	◐	✠	●◐	◐	◐															
K	Cast iron	●◐	●◐						●◐	◐	◐				●◐				●◐							
N	Non-ferrous																									
S	Superalloys								●◐	●																
H	Hard materials																									

Application	Chipbreaker	Designation	Corner radius	Coated: T9215	T9115	T9125	T6120	T6130	AH630	AH645	AH120	AH725	GH730				Coated cermet: GT9530				Cermet: NS9530							
Finishing to light cutting	PSS 	TPMT090204-PSS	0.4	●	●	●	●	●	●	●		●					●				●							
		TPMT090208-PSS	0.8	●	●	●	●	●	●	●		●					●				●							
		TPMT110204-PSS	0.4	●	●	●	●	●	●	●		●					●				●							
		TPMT110208-PSS	0.8	●	●	●	●	●	●	●		●					●				●							
		TPMT110304-PSS	0.4	●	●	●	●	●	●	●		●																
		TPMT110308-PSS	0.8	●	●	●	●	●	●	●		●																
		TPMT130304-PSS	0.4	●	●	●	●	●	●	●		●																
		TPMT130308-PSS	0.8	●	●	●	●	●	●	●		●					●				●							
		TPMT16T304-PSS	0.4	●	●	●	●	●	●	●		●					●				●							
		TPMT16T308-PSS	0.8	●	●	●	●	●	●	●		●					●				●							
Finishing to medium cutting	PS 	TPMT090202-PS	0.2	●	●	●	●	●	●	●		●	●				●				●							
		TPMT090204-PS	0.4	●	●	●	●	●	●	●		●	●				●				●							
		TPMT090208-PS	0.8	●	●	●	●	●	●	●		●	●				●				●							
		TPMT110202-PS	0.2	●	●	●	●	●	●	●		●	●				●				●							
		TPMT110204-PS	0.4	●	●	●	●	●	●	●	●	●	●				●				●							
		TPMT110208-PS	0.8	●	●	●	●	●	●	●	●	●	●				●				●							
		TPMT110304-PS	0.4	●	●	●	●	●	●	●		●	●				●				●							
		TPMT110308-PS	0.8	●	●	●	●	●	●	●		●	●				●				●							
		TPMT130302-PS	0.2	●	●	●						●					●				●							
		TPMT130304-PS	0.4	●	●	●	●	●	●	●		●					●				●							
		TPMT130308-PS	0.8	●	●	●	●	●	●	●		●					●				●							
		TPMT16T304-PS	0.4	●	●	●	●	●	●	●		●					●				●							
		TPMT16T308-PS	0.8	●	●	●	●	●	●	●		●					●				●							

● : Line up

STREAMJETBAR
TUNGALOY

TurnLine - Insert

● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

Positive type

Triangular, 60° with hole Positive 11°

		GH110	SH725	SH730	GT9530	NS9530	TH10	UX30
P	Steel	●	●ɔ	●ɔ	●ɔ	●ɔ	●	ɔ
M	Stainless	●	●ɔ	●ɔ			●	ɔ
K	Cast iron	●			●ɔ	●ɔ	●	
N	Non-ferrous						●	
S	Superalloys	●		●ɔ				
H	Hard materials							

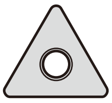
Application	Chipbreaker	Designation	Corner radius	Coated			Coated cermet	Cermet	Uncoated	
				GH110	SH725	SH730	GT9530	NS9530	TH10	UX30
Finishing	W08	TPGT070100R-W08	0.03			●			●	
		TPGT070100L-W08	0.03			●			●	
		TPGT070101R-W08	0.1			●			●	
		TPGT070101L-W08	0.1			●			●	
		TPGT070102R-W08	0.2			●			●	
		TPGT070102L-W08	0.2			●			●	
		TPGT070104R-W08	0.4			●			●	
		TPGT070104L-W08	0.4			●			●	
		TPGT080200L-W08	0.03				●	●		
		TPGT080202L-W08	0.2	●			●	●	●	●
		TPGT080204L-W08	0.4	●			●	●	●	●
Finishing (Sharp edge)	W08	TPGT070100FL-W08	0.03		●					
		TPGT070100FR-W08	0.03		●					
		TPGT070101FL-W08	0.1		●					
		TPGT070101FR-W08	0.1		●					
		TPGT070102FL-W08	0.2		●					
		TPGT070102FR-W08	0.2		●					
		TPGT070104FL-W08	0.4		●					
		TPGT070104FR-W08	0.4		●					

● : Line up

TurnLine - Insert

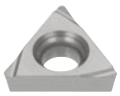
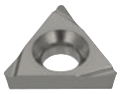
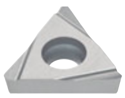
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Triangular, 60° with hole Positive 11°

Material	GH110	GH330	GT9530	NS9530	TH10	UX30
P Steel	●	●◐	●◐	●◐	●	◐
M Stainless	●	●◐			●	◐
K Cast iron	●	●◐	●◐	●◐	●	
N Non-ferrous					●	
S Superalloys	●					
H Hard materials						

Application	Chipbreaker	Designation	Corner radius	GH110 (Coated)	GH330 (Coated)	GT9530 (Coated cermet)	NS9530 (Cermet)	TH10 (Uncoated)	UX30 (Uncoated)
Finishing	W10 	TPGH080202L-W10	0.2			●	●		
		TPGH080204L-W10	0.4			●	●		
		TPGH090204L-W10	0.4			●	●		
	W13 	TPGH110204L-W13	0.4			●	●		
		TPGH110302L-W13	0.2			●	●		
		TPGH110304L-W13	0.4			●	●		
	W15 	TPGT090202R-W15	0.2				●		
		TPGT090202L-W15	0.2			●	●	●	
		TPGT090204R-W15	0.4				●		
		TPGT090204L-W15	0.4	●	●	●	●	●	●
		TPGT110202R-W15	0.2				●		
		TPGT110202L-W15	0.2			●	●	●	
		TPGT110204L-W15	0.4	●	●	●	●	●	●
		TPGT110208R-W15	0.8				●		
		TPGT110208L-W15	0.8						●
		TPGT110302L-W15	0.2				●		
		TPGT110304R-W15	0.4				●		
		TPGT110304L-W15	0.4				●		
		TPGT110308L-W15	0.8				●		
		TPGT130302R-W15	0.2				●		
		TPGT130302L-W15	0.2			●	●	●	
		TPGT130304R-W15	0.4	●			●		
		TPGT130304L-W15	0.4	●	●	●	●	●	●
		TPGT130308L-W15	0.8				●	●	
		TPGT16T302R-W15	0.2				●		
		TPGT16T302L-W15	0.2			●	●	●	
		TPGT16T304R-W15	0.4				●	●	
		TPGT16T304L-W15	0.4	●	●	●	●	●	●
		TPGT16T308L-W15	0.8				●	●	●

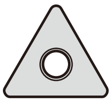
● : Line up

STREAMJETBAR
TUNGALOY

TurnLine - Insert

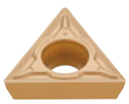
● : Continuous cutting
◐ : Light interrupted cutting
✜ : Heavy interrupted cutting

Positive type



Triangular, 60° with hole
Positive 11°

		T9215	T9115	T9125	T6120	T6130	AH630	AH645	T515	T5115	AH120	AH725	GH330	GH730	GT9530	NS9530
P	Steel	●◐	●◐	◐✜	◐	✜	◐✜	✜			●◐	◐	●◐	◐	●◐	●◐
M	Stainless	●◐			●	◐	◐	✜			●◐	◐	●◐	◐		
K	Cast iron	●◐	●◐						●◐	◐	●◐	◐	●◐	◐	●◐	●◐
N	Non-ferrous															
S	Superalloys										●◐	●				
H	Hard materials															

Application	Chipbreaker	Designation	Corner radius	Coated: T9215	T9115	T9125	T6120	T6130	AH630	AH645	T515	T5115	AH120	AH725	GH330	GH730	Coated cermet: GT9530	Cermet: NS9530
Medium cutting	**PM**	**TPMT090204-PM**	0.4				●	●	●	●				●				
		TPMT090208-PM	0.8				●	●	●	●				●				
		TPMT110204-PM	0.4	●	●	●	●	●	●	●				●		●	●	●
		TPMT110208-PM	0.8	●	●	●	●	●	●	●			●	●		●		
		TPMT110304-PM	0.4	●	●	●	●	●	●	●				●		●	●	●
		**TPMT110308-PM**	0.8	●	●	●	●	●	●	●				●		●		
		TPMT130304-PM	0.4			●	●	●	●	●				●				●
		TPMT130308-PM	0.8			●	●	●	●	●				●			●	●
		TPMT16T304-PM	0.4			●	●	●	●	●				●				●
		TPMT16T308-PM	0.8			●	●	●	●	●				●				
		TPMT16T312-PM	1.2			●	●	●	●	●				●				
Finishing to medium cutting	**CM**	**TPMT090204-CM**	0.4									●						
		TPMT090208-CM	0.8									●						
		TPMT110204-CM	0.4									●						
		TPMT110208-CM	0.8									●						
		TPMT110304-CM	0.4									●						
		**TPMT110308-CM**	0.8									●						
		TPMT130304-CM	0.4									●						
		TPMT130308-CM	0.8									●						
		TPMT16T304-CM	0.4								●	●						
		TPMT16T308-CM	0.8								●	●						
		TPMT16T312-CM	1.2								●	●						

● : Line up

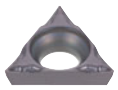
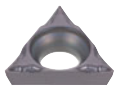
TurnLine - Insert

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

Triangular, 60°
with hole
Positive 11°

P	Steel	●ⓒ●ⓒ
M	Stainless	●ⓒ●ⓒ
K	Cast iron	
N	Non-ferrous	
S	Superalloys	●ⓒ
H	Hard materials	

Application	Chipbreaker	Designation	Corner radius	Coated SH725	Coated SH730
For internal turning on small lathes	JS 	TPGT070101-JS	0.1		●
		TPGT070102-JS	0.2		●
		TPGT070104-JS	0.4		●
For internal turning on small lathes (Sharp edge)	JS 	TPGT070101F-JS	0.1	●	
		TPGT070102F-JS	0.2	●	
		TPGT070104F-JS	0.4	●	

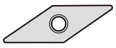
● : Line up

STREAMJETBAR
TUNGALOY

TurnLine - Insert

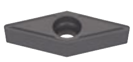
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Rhombic, 35°
with hole
Positive 5°

		T9215	T9115	T9125	T6120	T6130	AH630	AH645	T515	T5115	AH120	AH725	AH8005	AH8015	GT9530	NS9530
P	Steel	●◐	●◐	◐✠	◐	✠	◐✠	✠			●◐	◐			●◐	●◐
M	Stainless	●◐			●	◐	◐	✠			●◐	◐	●	◐		
K	Cast iron	●◐	●◐						●◐	◐	●◐	◐			●◐	●◐
N	Non-ferrous															
S	Superalloys										●◐	●	●	◐		
H	Hard materials															

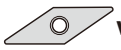
Application	Chipbreaker	Designation	Corner radius	Coated: T9215	T9115	T9125	T6120	T6130	AH630	AH645	T515	T5115	AH120	AH725	AH8005	AH8015	Coated cermet: GT9530	Cermet: NS9530
Finishing	**PSF**	**VBMT110302-PSF**	0.2											●			●	●
		**VBMT110304-PSF**	0.4	●	●	●								●			●	●
		VBMT160402-PSF	0.2											●			●	●
		VBMT160404-PSF	0.4	●	●	●								●			●	●
	PF	**VBMT110302-PF**	0.2														●	●
		**VBMT110304-PF**	0.4														●	●
		VBMT110308-PF	0.8														●	●
		VBMT160404-PF	0.4														●	●
		VBMT160408-PF	0.8			●											●	●
Finishing to light cutting	**PSS**	**VBMT110304-PSS**	0.4	●	●	●	●	●	●	●				●			●	●
		**VBMT110308-PSS**	0.8	●	●	●	●	●	●	●				●			●	●
		VBMT160404-PSS	0.4	●	●	●	●	●	●	●				●			●	●
		VBMT160408-PSS	0.8	●	●	●	●	●	●	●				●			●	●
		VBMT160412-PSS	1.2	●	●	●								●				
Finishing to medium cutting	**PS**	**VBMT110302-PS**	0.2	●	●	●	●	●	●	●				●	●	●	●	●
		**VBMT110304-PS**	0.4	●	●	●	●	●	●	●			●	●	●	●	●	●
		VBMT110308-PS	0.8	●	●	●	●	●	●	●			●	●	●	●	●	●
		VBMT160402-PS	0.2	●	●	●	●	●	●	●				●	●	●	●	●
		VBMT160404-PS	0.4	●	●	●	●	●	●	●			●	●	●	●	●	●
		VBMT160408-PS	0.8	●	●	●	●	●	●	●			●	●	●	●	●	●
	CM	**VBMT110304-CM**	0.4									●						
		**VBMT110308-CM**	0.8									●						
		VBMT160404-CM	0.4								●	●						
		VBMT160408-CM	0.8								●	●						
		VBMT160412-CM	1.2								●	●						

● : Line up

TurnLine - Insert

● : Continuous cutting
ᑕ : Light interrupted cutting
✣ : Heavy interrupted cutting

Positive type



Rhombic, 35° with hole Positive 5°

		AH725	SH725	SH730	J740	J9530	NS9530	TH10
P	Steel	ᑕ	●ᑕ	●ᑕ	●ᑕ	●ᑕ	●ᑕ	●
M	Stainless	ᑕ	●ᑕ	●ᑕ	●ᑕ			●
K	Cast iron	ᑕ				●ᑕ	●ᑕ	●
N	Non-ferrous							●
S	Superalloys	●		●ᑕ				
H	Hard materials							

Application	Chipbreaker	Designation	Corner radius	AH725	SH725	SH730	J740	J9530	NS9530	TH10
For external turning on small lathes (Sharp edge)	JS	VBGT110300FN-JS	0.03		●	●				
		VBGT110301FN-JS	0.1		●	●				
		VBGT110302FN-JS	0.2		●	●				
		VBGT110304FN-JS	0.4		●	●				
For external turning on small lathes	JS	VBGT110301N-JS	0.1	●						
		VBGT110302N-JS	0.2	●						
		VBGT110304N-JS	0.4	●						
For external turning on small lathes (Sharp edge)	J10	VBGT110300FR-J10	0.03		●		●			●
		VBGT110300FL-J10	0.03		●		●			●
		VBGT110301FR-J10	0.1		●		●		●	●
		VBGT110301FL-J10	0.1		●		●		●	●
		VBGT110302FR-J10	0.2		●		●		●	●
		VBGT110302FL-J10	0.2		●		●		●	●
		VBGT110304FR-J10	0.4		●		●		●	●
		VBGT110304FL-J10	0.4		●		●		●	●
On small lathes (Honed edge)	J10	VBGT110302R-J10	0.2					●		
		VBGT110302L-J10	0.2					●		
		VBGT110304R-J10	0.4					●		
		VBGT110304L-J10	0.4					●		

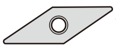
● : Line up

STREAMJETBAR
TUNGALOY

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Rhombic, 35°
with hole
Positive 7°

		T9215	T9115	T9125	T6120	T6130	T515	T5115	AH630	AH645	AH120	AH725	AH8005	AH8015	AH905	GT9530	NS9530
P	Steel	●◐	●◐	◐✠	◐	✠			◐✠	✠	●◐	◐				●◐	●◐
M	Stainless	●◐			●	◐			◐	✠	●◐	◐	●	◐			
K	Cast iron	●◐	●◐				●◐	◐			●◐	◐				●◐	●◐
N	Non-ferrous																
S	Superalloys										●◐	●	●	◐	◐		
H	Hard materials																

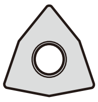
Application	Chipbreaker	Designation	Corner radius	Coated														Coated cermet	Cermet
				T9215	T9115	T9125	T6120	T6130	T515	T5115	AH630	AH645	AH120	AH725	AH8005	AH8015	AH905	GT9530	NS9530
Finishing	**PSF**	**VCMT080202-PSF**	0.2											●				●	●
		**VCMT080204-PSF**	0.4	●	●	●								●				●	●
		VCMT110302-PSF	0.2											●					
		VCMT110304-PSF	0.4	●	●	●								●					
		VCMT160404-PSF	0.4	●	●	●								●	●	●	●	●	●
		VCMT160408-PSF	0.8	●	●	●								●	●	●	●	●	●
	PF	**VCMT080202-PF**	0.2															●	●
		**VCMT080204-PF**	0.4															●	●
		VCMT160404-PF	0.4															●	●
		VCMT160408-PF	0.8															●	●
Finishing to light cutting	**PSS**	**VCMT110304-PSS**	0.4	●	●	●	●	●			●	●		●				●	●
		**VCMT110308-PSS**	0.8	●	●	●	●	●			●	●		●				●	●
		VCMT160404-PSS	0.4	●	●	●	●	●			●	●		●	●	●	●	●	●
		VCMT160408-PSS	0.8	●	●	●	●	●			●	●		●	●	●	●	●	●
Finishing to medium cutting	**PS**	**VCMT110302-PS**	0.2	●	●	●	●	●			●	●		●	●	●		●	●
		**VCMT110304-PS**	0.4	●	●	●	●	●			●	●		●	●	●		●	●
		VCMT110308-PS	0.8	●	●	●	●	●			●	●		●	●	●		●	●
		VCMT160404-PS	0.4	●	●	●	●	●			●	●	●	●	●	●	●	●	●
		VCMT160408-PS	0.8	●	●	●	●	●			●	●	●	●	●	●	●	●	●
	CM	**VCMT080204-CM**	0.4							●									
		**VCMT160404-CM**	0.4						●	●									
		VCMT160408-CM	0.8						●	●									
		VCMT160412-CM	1.2							●									

● : Line up

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

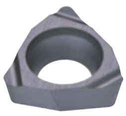
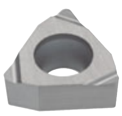
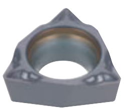
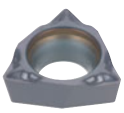
TurnLine - Insert

Positive type



Trigon, 80°
with hole
Positive 5°

	Material	GH110	SH725	SH730	NS9530	TH10	UX30
P	Steel	●	●◐	●◐	●◐	●	◐
M	Stainless	●	●◐	●◐		●	◐
K	Cast iron	●			●◐	●	
N	Non-ferrous					●	
S	Superalloys	●		●◐			
H	Hard materials						

Application	Chipbreaker	Designation	Corner radius	GH110 (Coated)	SH725 (Coated)	SH730 (Coated)	NS9530 (Cermet)	TH10 (Uncoated)	UX30 (Uncoated)
Finishing	W08	WBGT030100R-W08	0.03			●			
		WBGT030100L-W08	0.03			●	●	●	●
		WBGT030101R-W08	0.1			●			
		WBGT030101L-W08	0.1			●		●	
		WBGT030102R-W08	0.2			●			
		WBGT030102L-W08	0.2	●		●	●	●	●
		WBGT030104R-W08	0.4			●			
		WBGT030104L-W08	0.4	●		●	●	●	●
Finishing (Sharp edge)	W08	WBGT030100FL-W08	0.03		●				
		WBGT030100FR-W08	0.03		●				
		WBGT030101FL-W08	0.1		●				
		WBGT030101FR-W08	0.1		●				
		WBGT030102FL-W08	0.2		●				
		WBGT030102FR-W08	0.2		●				
		WBGT030104FL-W08	0.4		●				
		WBGT030104FR-W08	0.4		●				
	W11	WBGT060102L-W11	0.2	●			●		
		WBGT060104L-W11	0.4				●		
		WBGT080202L-W11	0.2				●		
		WBGT080204L-W11	0.4				●		
For internal turning on small lathes	JS	WBGT030101R-JS	0.1			●			
		WBGT030101L-JS	0.1			●			
		WBGT030102R-JS	0.2			●			
		WBGT030102L-JS	0.2			●			
		WBGT030104R-JS	0.4			●			
		WBGT030104L-JS	0.4			●			
For internal turning on small lathes (Sharp edge)	JS	WBGT030101FL-JS	0.1		●				
		WBGT030101FR-JS	0.1		●				
		WBGT030102FL-JS	0.2		●				
		WBGT030102FR-JS	0.2		●				
		WBGT030104FL-JS	0.4		●				
		WBGT030104FR-JS	0.4		●				

● : Line up

STREAMJETBAR
TUNGALOY

STANDARD CUTTING CONDITIONS

ISO	Operation	Work condition	Chip-breaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed: *Vc* (m/min)		
							Low carbon steels, Alloy steels	Medium carbon steels, Alloy steels	High carbon steels, Alloy steels
P	Precision finishing	Continuous	01	NS9530	0.05 - 0.5	0.03 - 0.15	150 - 250	80 - 220	80 - 180
		Light interrupted	01	NS9530	0.05 - 0.5	0.03 - 0.15	150 - 250	80 - 220	80 - 180
	Finishing	Continuous	PSS	NS9530	0.1 - 0.5	0.05 - 0.3	150 - 250	80 - 220	80 - 180
		Light interrupted	PSS	NS9530	0.1 - 0.5	0.05 - 0.3	150 - 250	80 - 220	80 - 180
		Heavy interrupted	PSS	NS9530	0.1 - 0.5	0.05 - 0.3	150 - 250	80 - 220	80 - 180
	Finishing to light cutting	Continuous	PS	NS9530	0.3 - 2.0	0.08 - 0.3	150 - 250	80 - 220	80 - 180
		Light interrupted	PS	NS9530	0.3 - 2.0	0.08 - 0.3	150 - 250	80 - 220	80 - 180
		Heavy interrupted	PS	NS9530	0.3 - 2.0	0.08 - 0.3	150 - 250	80 - 220	80 - 180
	Finishing to Medium cutting	Continuous to Heavy interrupted	PS	T9215	0.5 - 2.5	0.08 - 0.3	120 - 300	100 - 300	80 - 250
			PS	T9125	0.5 - 2.5	0.08 - 0.3	120 - 250	80 - 180	80 - 120
	Medium cutting	Continuous to Heavy interrupted	PM	T9215	1.0 - 3.0	0.15 - 0.3	120 - 300	100 - 300	80 - 250
			PM	T9125	1.0 - 3.0	0.15 - 0.3	120 - 250	80 - 180	80 - 120

Low carbon steels, Alloy steels: S10C, SCM415, SS400, SCr420H, etc. C10, 18CrMo4, E275A, 20Cr4, etc. Medium carbon steels, Alloy steels: S45C, SCM440, etc. C45, 42CrMo4, etc. Hi carbon steels, Alloy steels: SNCM439, etc. 41CrNiMo2, etc.

ISO	Operation	Work condition	Chip-breaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed *Vc* (m/min)
M	Precision finishing	Continuous	Whh	GH330	0.05 - 2.0	0.03 - 0.2	100 - 150
	Finishing	Continuous	PSF	AH725	0.1 - 0.5	0.05 - 0.3	50 - 150
		Light interrupted	PSF	AH725	0.1 - 0.5	0.05 - 0.3	50 - 150
		Heavy interrupted	PSF	AH725	0.1 - 0.5	0.05 - 0.3	50 - 120
	Finishing to light cutting	Continuous	PSS	AH630	0.3 - 2.0	0.08 - 0.3	90 - 190
		Light interrupted	PSS	AH630	0.3 - 2.0	0.08 - 0.3	90 - 190
		Heavy interrupted	PSS	AH630	0.3 - 2.0	0.08 - 0.3	90 - 190
	Finishing to medium cutting	Continuous	PS	T6130	0.5 - 2.5	0.08 - 0.3	100 - 200
		Light interrupted	PS	AH630	0.5 - 2.5	0.08 - 0.3	90 - 190
		Heavy interrupted	PS	AH630	0.5 - 2.5	0.08 - 0.3	90 - 190
	Medium cutting	Continuous	PM	T6130	1.0 - 3.0*	0.15 - 0.3	100 - 200
		Light interrupted	PM	AH630	1.0 - 3.0*	0.15 - 0.3	90 - 190
		Heavy interrupted	PM	AH630	1.0 - 3.0*	0.15 - 0.3	90 - 190

* For CCMT0602 and DCMT0702 type inserts, *ap* = 0.5 - 2.5
Stainless steels: SUS304, SUS316, etc. X5CrNi18-9, X5CrNiMo17-12-3, etc.

ISO	Operation	Work condition	Chip-breaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed: *Vc* (m/min)	
							Grey cast irons	Ductile cast irons
K	Finishing	Continuous	CM	T515	0.05 - 2.0	0.05 - 0.3	150 - 700	150 - 300
		Heavy interrupted	CM	T515	0.05 - 2.0	0.05 - 0.3	100 - 200	100 - 200
	Medium cutting	Light interrupted	CM	T515	0.05 - 2.0	0.05 - 0.3	100 - 300	100 - 250

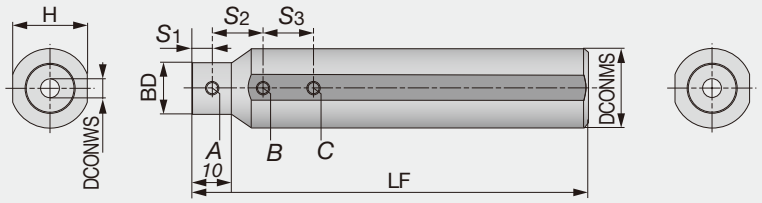
Grey cast irons: FC250, etc. 250, etc.
Ductile cast irons: FCD450, etc. 450-10S, etc.

ISO	Operation	Work condition	Chip-breaker	Grade	Depth of cut *ap* (mm)	Feed *f* (mm/rev)	Cutting speed: *Vc* (m/min)	
							Titanium alloys	Ni-base alloys
S	Finishing	Continuous	PSS	AH8015	0.3 - 2.0	0.02 - 0.3	20 - 150	20 - 100
		Light interrupted	PSS	AH8015	0.3 - 2.0	0.02 - 0.3	20 - 150	20 - 100
	Finishing to medium cutting	Continuous	PS	AH8015	0.5 - 2.5	0.02 - 0.3	20 - 150	20 - 100
		Light interrupted	PS	AH8015	0.5 - 2.5	0.02 - 0.3	20 - 150	20 - 100

Ni-base alloys: INCONEL718 etc.
Titanium alloys: Ti - 6Al - 4V etc.

BLM sleeves

Standard Sleeves for SJB-Mini series with round shank



Designation	DCONMS	DCONWS	BD	LF	H	S_1	S_2	S_3
BLM159-04	15.875	4	15	100	15	5	15	15
BLM159-05	15.875	5	15	100	15	5	15	15
BLM159-06	15.875	6	15	100	15	5	20	20
BLM159-07	15.875	7	15	100	15	5	20	20
BLM16-04	16	4	15	100	15	5	15	15
BLM16-05	16	5	15	100	15	5	15	15
BLM16-06	16	6	15	100	15	5	20	20
BLM16-07	16	7	15	100	15	5	20	20
BLM19-04	19.05	4	18	100	18	5	15	15
BLM19-05	19.05	5	18	100	18	5	15	15
BLM19-06	19.05	6	18	100	18	5	20	20
BLM19-07	19.05	7	18	100	18	5	20	20
BLM20-04	20	4	13	100	19	5	15	15
BLM20-05	20	5	14	100	19	5	15	15
BLM20-06	20	6	15	100	19	5	20	20
BLM20-07	20	7	16	100	19	5	20	20
BLM22-04	22	4	13	125	21	5	15	15
BLM22-05	22	5	14	125	21	5	15	15
BLM22-06	22	6	15	125	21	5	20	20
BLM22-07	22	7	16	125	21	5	20	20
BLM25-04	25	4	13	125	24	5	15	15
BLM25-05	25	5	14	125	24	5	15	15
BLM25-06	25	6	15	125	24	5	20	20
BLM25-07	25	7	16	125	24	5	20	20
BLM254-04	25.4	4	13	125	24	5	15	15
BLM254-05	25.4	5	14	125	24	5	15	15
BLM254-06	25.4	6	15	125	24	5	20	20
BLM254-07	25.4	7	16	125	24	5	20	20

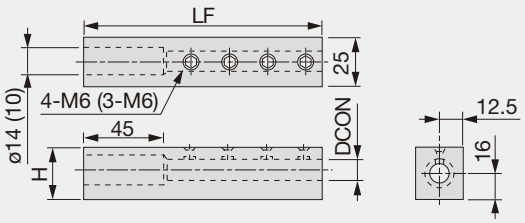
SPARE PARTS




Designation	Clamping screw *A*	Clamping screw *B*, *C*	Wrench	Seal cap (Optional parts: inner screw)
BLM159, 16...	SSHM4-4	SSHM4-4	P-2	CA-16(M6)
BLM19-04	SSHM4-4	SSHM4-6	P-2	CA-16(M6)
BLM19-05, 06, 07	SSHM4-4	SSHM4-4	P-2	CA-16(M6)
BLM20-04, 05	SSHM4-4	SSHM4-6	P-2	CA-16(M6)
BLM20-06, 07	SSHM4-4	SSHM4-4	P-2	CA-16(M6)
BLM22-...	SSHM4-4	SSHM4-6	P-2	CA-16(M6)
BLM25-04, 05	SSHM4-4	SSHM4-8	P-2	CA-16(M6)
BLM25-06	SSHM4-4	SSHM4-8	P-2	CA-16(M6)
BLM25-07	SSHM4-4	SSHM4-6	P-2	CA-16(M6)
BLM254-04, 05, 06	SSHM4-4	SSHM4-8	P-2	CA-16(M6)
BLM254-07	SSHM4-4	SSHM4-6	P-2	CA-16(M6)

BLS sleeves

Sleeves for boring bars with square shank (regular length)



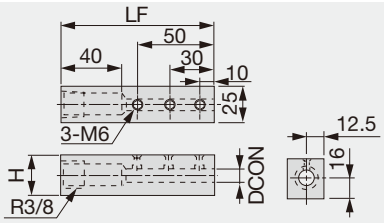
Designation	DCONWS	LF	H
BLS16-08	8	125	28
BLS16-10	10	125	28
BLS16-12	12	125	28

SPARE PARTS

Designation	Wrench
BLS16-...	P-3

BLS-C sleeves

Sleeves for boring bars with square shank (short type)



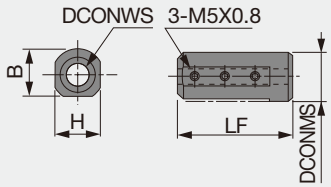
Designation	DCONWS	LF	H
BLS16-08C	8	100	28
BLS16-10C	10	100	28
BLS16-12C	12	100	28

SPARE PARTS

Designation	Wrench
BLS16-**C	P-3

BLM sleeves

Sleeves for boring bars with round shank



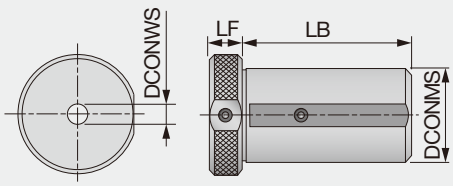
Designation	DCONWS	DCONMS	LF	H	B
BLM19-08	8	19.05	100	18	18
BLM20-08	8	20	100	19	18
BLM22-08	8	22	125	21	21
BLM254-08	8	25.4	125	24	24
BLM25-08C	8	25	55	24	23
BLM25-10C	10	25	55	24	23
BLM25-12C	12	25	55	24	23

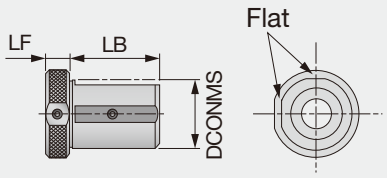
SPARE PARTS

Designation	Wrench
BLM...	P-2.5

BLC sleeves

Standard Sleeves for boring bars with round shank





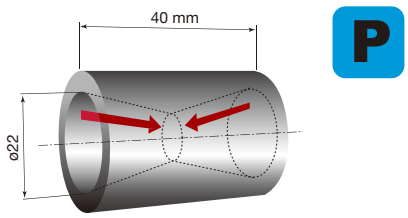
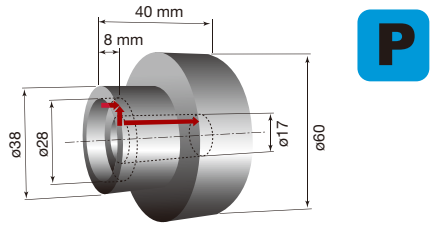
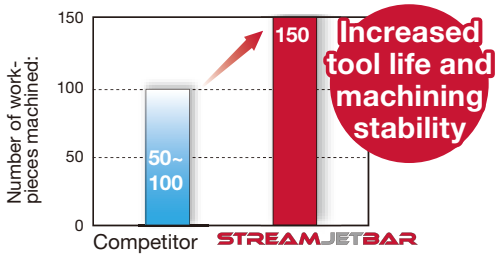
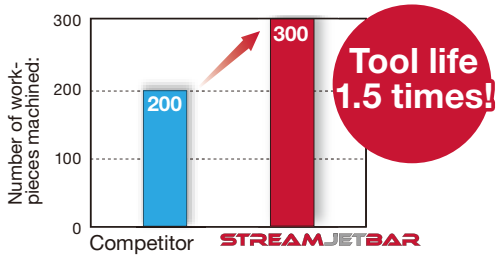
Designation	DCONWS	LB	LF	DCONMS
BLC40-8	8	73	13	40
BLC40-10	10	73	13	40
BLC40-12	12	73	13	40
BLC40-16	16	73	13	40
BLC32-8C	8	45	20	32
BLC32-10C	10	45	20	32
BLC32-12C	12	45	20	32
BLC40-8C	8	55	13	40
BLC40-10C	10	55	13	40
BLC40-12C	12	55	13	40
BLC40-16C	16	55	13	40

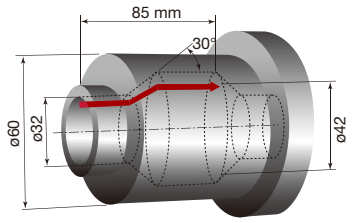
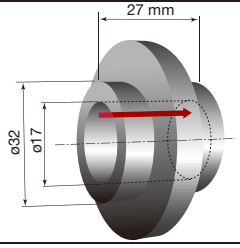
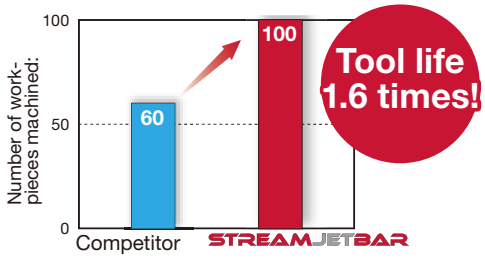
SPARE PARTS

Designation	Wrench
BLC40-8	P-3
BLC40-1...	P-4
BLC32-8C	P-3
BLC32-1*C	P-4
BLC40-8C	P-3
BLC40-1*C	P-4

STREAMJETBAR
TUNGALOY

PRACTICAL EXAMPLES

Workpiece type		Machine parts	Automotive parts
Toolholder		A16Q-STUPR1103-D180	A12M-SDUCR07-D160
Insert		TPMT110308-PS	DCMT070204-PS
Grade		T6130	GT9530
Workpiece material		SUS304 (X5CrNi18-9)	S45C (C45)
			
Cutting conditions	Cutting speed: *Vc* (m/min)	300	170
	Feed : *f* (mm/rev)	0.25	0.15
	Depth of cut : *ap* (mm)	1.5	0.25
	Coolant	Water soluble (External supply)	Water soluble (Internal supply)
Results		 When competitor's tools are used, inserts often fractured due to chip re-cutting and tool life is unstable. With excellent chip control, the Stream Jet Bar excels in chip control and eliminates unexpected insert breakage caused by chip re-cutting and delivers consistent tool life. The tool also disposes of chip tangling and gives outstanding chip evacuation when taper boring.	 Compared with the previously used competitor's tool, the tool life was increased by 50 % and the surface finish was also improved. Even when machining the small diameter (ø17) portion, chip control was improved.

Workpiece type		Machine parts	Automotive parts
Toolholder		E20S-SDUCR11-D270	A12M-SDUPL07-D180-P
Insert		DCMT11T304-PS	DPMT070204-PS
Grade		T9215	T9215
Workpiece material		S35C (C35)	S45C (C45)
		 P	 P
Cutting conditions	Cutting speed: *Vc* (m/min)	70 - 160	130
	Feed : *f* (mm/rev)	0.12 - 0.2	0.1
	Depth of cut : *ap* (mm)	1.0	1.5
	Coolant	Water soluble (Internal supply)	Water soluble (External supply)
Results		 Compared with a competitor chipbreaker tool for medium cutting, the PS-type chipbreaker improved chip control. Under stable machining, the Stream Jet Bar improved chip evacuation and eliminated insert fracturing caused by chip re-cutting. The result is improved tool life and surface finish.	Chattering was a common issue with the competitor's tool. JetStreamBar and DPMT insert significantly reduced chatter, improving surface finish quality.

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