

# DYNAMIC-BAR

## Streamlined Head for

- Improved chip evacuation
- Reduced chattering
- Stable machining

### Stromlinienförmiger Spankanal für

- Verbesserte Spanabfuhr.
- Verringerte Vibrationsneigung.
- Stabile Bearbeitung.

### Tête aérodynamique pour

- Meilleure évacuation de copeaux.
- Réduction du broutage.
- Haute rigidité.

### Testa aerodinamica per ottenere

- Evacuazione del truciolo.
- Riduzioni delle vibrazioni.
- Stabilità in lavorazione.

# Streamlined Head driven by the latest computer simulation technology

**Tool holder design through stress analysis:**  
Maximum structural thickness for high tool holder rigidity.  
Controls chattering to achieve stable machining.

**Large chip pocket:**  
Exhibits superior chip evacuation.

**Gestaltung der Spankammer mit computergestützter Simulationstechnologie:**

Durch Belastungsanalysen optimierte Bohrstange, ermöglicht eine größtmögliche Stabilität der Bohrstange und reduziert die Vibrationsneigung bei gleichbleibender stabiler Bearbeitung.

Große Spankammer ermöglicht hervorragende Spanabfuhr.

**Concept du logement développé par CAO:**

Rigidité accrue par un renforcement maximal de la structure de l'outil. Moins de vibrations pour un usinage stable.

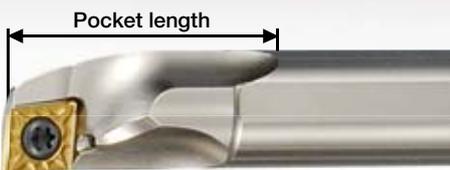
Large poche pour une meilleure évacuation des copeaux.

**Bareno progettato attraverso il concetto di analisi FEM:**

Massimo spessore strutturale per ottenere un'alta rigidità ed una riduzione delle vibrazioni con conseguente stabilità di lavorazione.

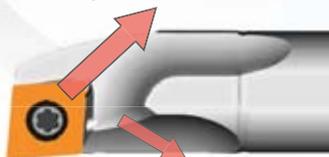
Largo canale di evacuazione truciolo per un miglior controllo dello stesso.

## ■ Comparison of pocket length Vergleich Spankammerlänge Comparaison de poche copeaux Confronto della lunghezza del canale di evacuazione

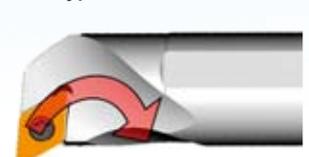


## ■ Chip evacuation direction Spanabfuhr Richtung Direction du flux des copeaux Direzione evacuazione truciolo

C•T•W-type insert

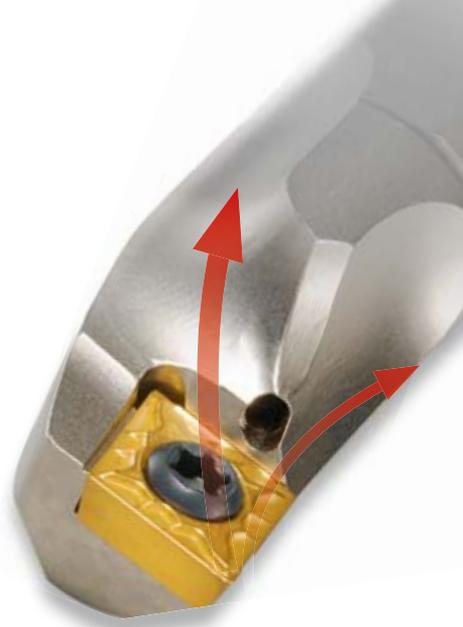
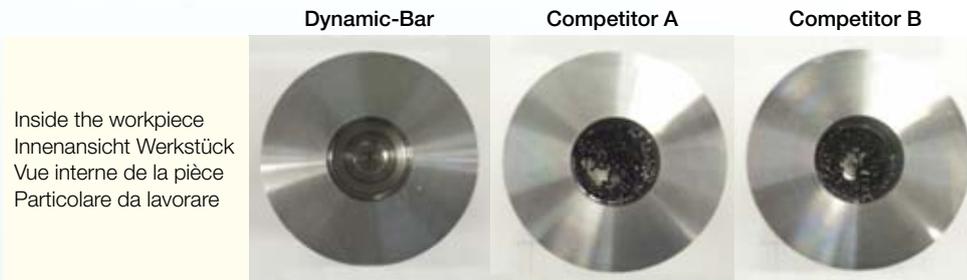


D•V-type insert



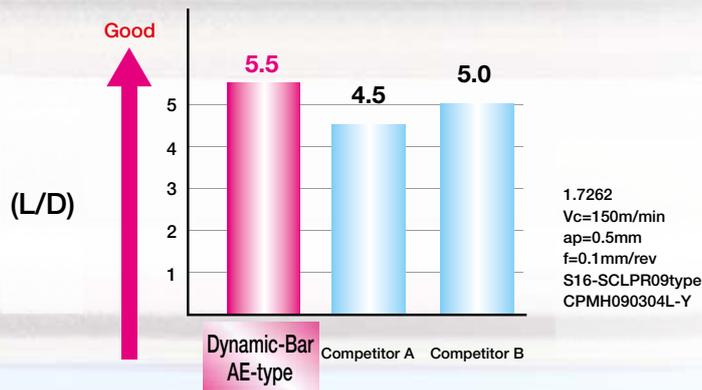
Description Bezeichnung Désignation Descrizione	Pocket length Spankammer Poche Copeaux Lunghezza del canale di evacuazione	
	Dynamic-Bar	Competitor A
A16-SCLPR09-18 Type	37	29
A20-SCLCR09-22 Type	48	32

**Superior chip evacuation (External coolant)**  
**Ausgezeichnete Spanabfuhr (Außenkühlung)**  
**Meilleure évacuation des copeaux (Arrosage extér)**  
**Evacuazione truciolo superiore (Refrigerante esterno)**



In the products of competitors A and B chips remain inside the workpiece, but chips from the Dynamic-Bar are all evacuated from the workpiece.  
 Im Gegensatz zum Wettbewerb verbleiben beim Einsatz der Dynamic-Bar keine Späne im Werkstück. Geringe Ratterneigung bei der Dynamic-Bar.  
 Pour les concurrents A et B les copeaux sont refoulés dans l'alésage, alors qu'avec la Dynamic-Bar, les copeaux sont tous évacués vers l'extérieur de la pièce.  
 Nei baren dei concorrenti A e B, il truciolo rimane dentro al pezzo in lavorazione, ma con l'uso della Dynamic-Bar è evacuato completamente.

**Anti chatter vibration performance | Vergleich Vibrationsneigung**  
**Broutage et vibrations réduits | Prestazione di Anti vibrazione**



Minimum of chattering by the Dynamic-Bar  
 Geringste Neigung zur Vibration mit Dynamic-Bar  
 Moins de vibrations avec la Dynamic-Bar  
 Le vibrazioni di Dynamic-Bar sono minime

**Comparison of surface finish | Vergleich der Oberflächen**  
**Comparatif d'état de surface | Confronto finitura superficiale**

	Dynamic-Bar	Competitor A	Competitor B
Surface roughness Oberflächen Rauigkeiten Etat de surface Rugosità superficiale	 Ra=0.4µm Rz=2.3µm	 Ra=0.6µm Rz=3.6µm	 Ra=3.4µm Rz=14.0µm
Oscillatory waveform Schwingsungsverlauf Ondulation Movimento oscillatorio dell'onda			

Vibration of the Dynamic-Bar was minimal even at high cutting speeds, enabling stable machining.

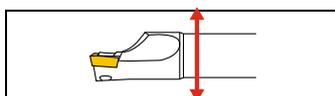
Auch bei höheren Schnittgeschwindigkeiten war die Vibrationsneigung sehr gering und ermöglichte eine Stabile Bearbeitung.

Vibration minimale avec la Dynamic-Bar même à vitesse élevée, d'où un usinage stable.

Le vibrazioni della Dynamic-bar sono minime anche ad alte velocità di taglio permettendo stabilità in lavorazione.

1.7262  
 Vc=210m/min  
 ap=0.5mm  
 f=0.1mm/rev  
 A16Q-SCLPR09-18type  
 CPMT090304XP (PV7020)  
 L/D=4  
 External coolant

Direction of vibration measurement  
 Richtung der Vibrationsmessung  
 Mesure des vibrations  
 Direzione della misura di vibrazione



**Indexability**  
**Indexierbarkeit**  
**Indexabilité**  
**Indexabile**

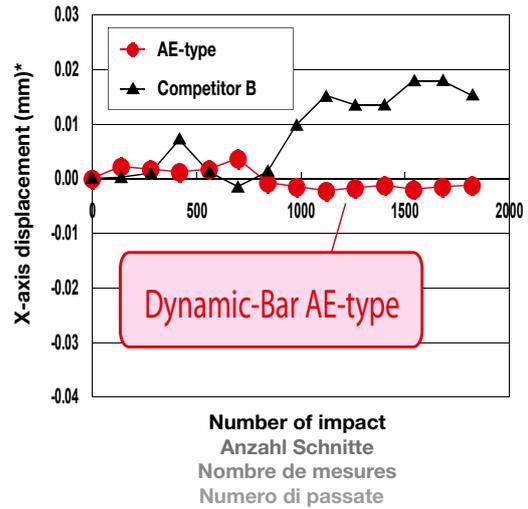
In particular, the AE type Dynamic-Bar maintains high cutting edge positional accuracy through the use of a special alloy, thereby achieving high precision machining.

Speziell die Dynamic-Bar AE Ausführung erreicht eine hohe Lagegenauigkeit und ermöglicht hochpräzise Bearbeitungen.

La Dynamic-Bar type AE confère une très grande précision de positionnement et une grande rigidité, en particulier lors d'usinage d'aciers alliés.

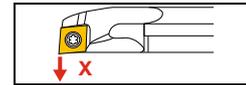
In particolare, la AE Dynamic-Bar ha un'ottima ripetibilità di riposizionamento dell'inserto nella propria sede dovuta ad un'adeguata scelta del materiale costruttivo costituito da una lega speciale. Il tutto consente lavorazioni davvero precise.

\* X-Achse Auslenkung | Axe X flexion | Scostamento asse X

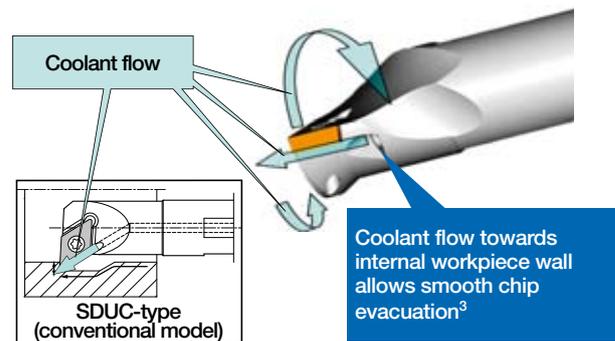
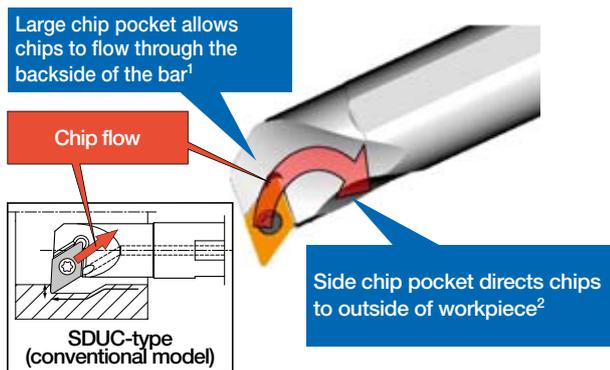


1.7220  
Vc=180m/min, ap=2mm  
f=0.2mm/rev  
S/A16Q-SCLPR09-18type  
CPMH090308(CA5525)  
L/D=4  
External coolant

Direction of vibration measurement  
Richtung der Vibrationsmessung  
Mesure des vibrations  
Direzione della misura di vibrazione



**Advantages of Dynamic-Bar (D and V type insert)**  
**Vorteile der Dynamic-Bar (D und V WSP Typ)**  
**Avantages de la Dynamic-Bar (D et V type plaquette)**  
**Vantaggi della Dynamic-Bar (D e V tipo inserto)**



<sup>1</sup> Große Spankammer ermöglicht Spanabfuhr über die Rückseite der Bohrstange.

<sup>1</sup> La poche copeaux sur dimensionnée entraîne les copeaux vers l'arrière de l'outil.

<sup>1</sup> Una larga tasca per lo smaltimento del truciolo consente l'evacuazione dalla parte posteriore del bareno.

<sup>2</sup> Seitliche Spankammer leitet den Span aus der Bohrung.

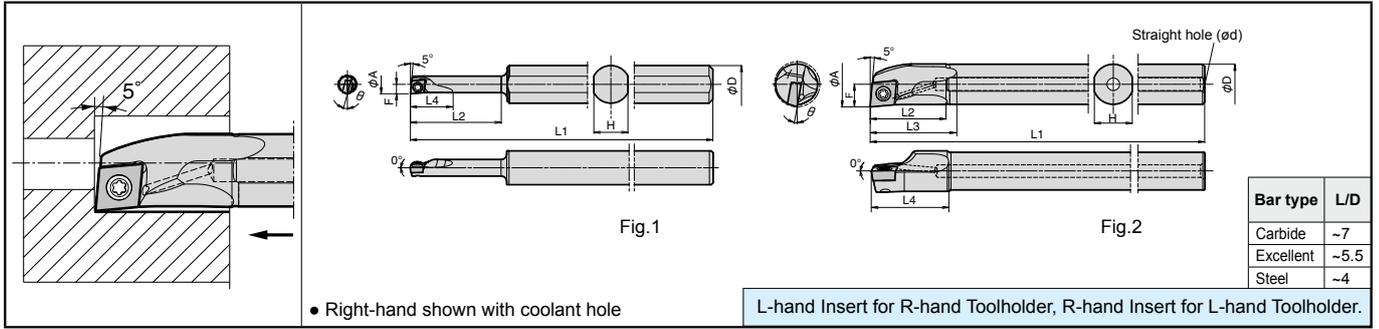
<sup>2</sup> La poche latérale dirige les copeaux hors de la pièce.

<sup>2</sup> Le tasche laterali dirigono il truciolo fuori dal pezzo in lavorazione.

<sup>3</sup> Gleichmäßige Spanabfuhr bei Zuführung der Kühlflüssigkeit zur Innenwand des Werkstücks.

<sup>3</sup> L'orientation du jet vers l'intérieur de la pièce permet une excellente évacuation des copeaux.

<sup>3</sup> Il foro della lubrificazione interna è inclinato nella direzione del pezzo in lavoro.

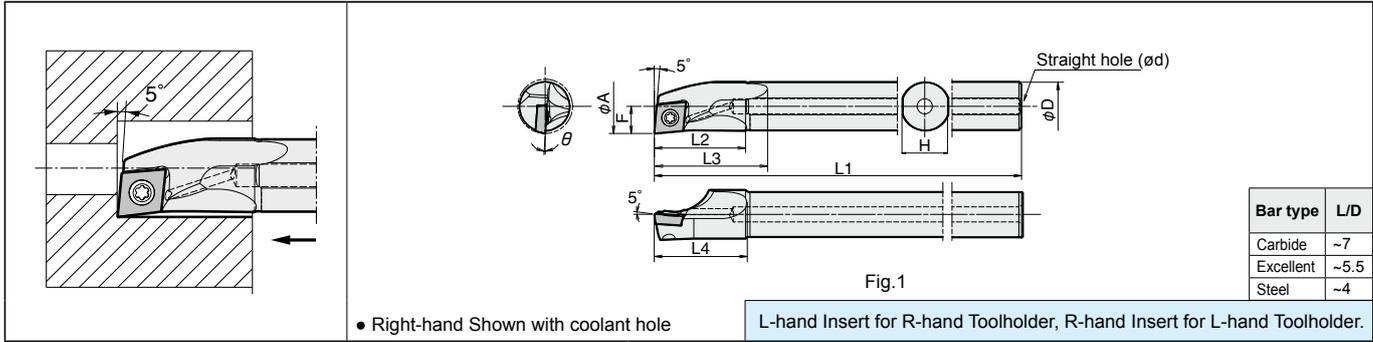


● Toolholder Dimensions

Description	Stock		Min. Bore Dia. øA	Dimension (mm)							θ	Standard Corner-R (rε)	Coolant Hole	Drawing	Spare Parts					
	R	L		øD	H	L1	L2	L3	L4	F					Clamp Screw	Wrench				
Excellent Bar	●	●	5	10	9	100	-	-	-	-	15°	0.2	No	Fig.1	SB-1635TR	FT-6				
	●	●	6														24	11	2.5	13°
	●	●	7														28	13	3	13°
	●	●	8														32	15	3.5	11°
	●	●	8														37	15	4	11°
Steel	●	●	10	8	7	120	16	20	17	5	14°	0.4	Yes	Fig.2	SB-2545TR	FT-8				
	●	●	12	10	9	140	20	25	21	6	12°									
	●	●	14	12	11	150	24	30	25	7	10°									
	●	●	18	16	15	180	30	34	31	9	8°									
	●	●	22	20	19	200	36	49	37	11	8°									
	●	●	27	25	24	250	46	55	46	13.5	6°									
	●	●	27	25	24	250	46	55	46	13.5	6°									
Carbide	●	●	5	4	3.8	90	9	-	-	-	15°	0.2	No	Fig.2	SB-1635TR	FT-6				
	●	●	6	5	4.4	100	11										8	2.5	13°	
	●	●	7	6	5.4	110	12										11	3	13°	
	●	●	8	7	6.4	125	13	-	-	-	11°	0.2	No	Fig.2	SB-2035TR	FT-6				
	●	●	8	7	6.4	125	13										12	3.5	13°	
	●	●	8	7	6.4	125	13										13	4	11°	
	●	●	10	8	7	140	16	15	15	5	14°	0.4	Yes	Fig.2	SB-2545TR	FT-8				
	●	●				90														
	●	●	12	10	9	160	20	19	19	6	12°									
	●	●				105														
	●	●	14	12	11	180	23	22	22	7	10°									
	●	●				120														
	●	●	18	16	15	220	28	27	27	9	10°									
	●	●				145														
	●	●	22	20	19	250	32	31	31	11	8°									
●	●	165																		
●	●	27	25	24	300	38	37	37	13.5	6°										
●	●				200															

● Applicable Inserts

Toolholder	Applicable Inserts
...SCLC%/03-...	CC ○ ○ 0301
...SCLC%/04-...	CC ○ ○ 0401
...SCLC%/06-...	CC ○ ○ 0602
...SCLC%/09-...	CC ○ ○ 09T3

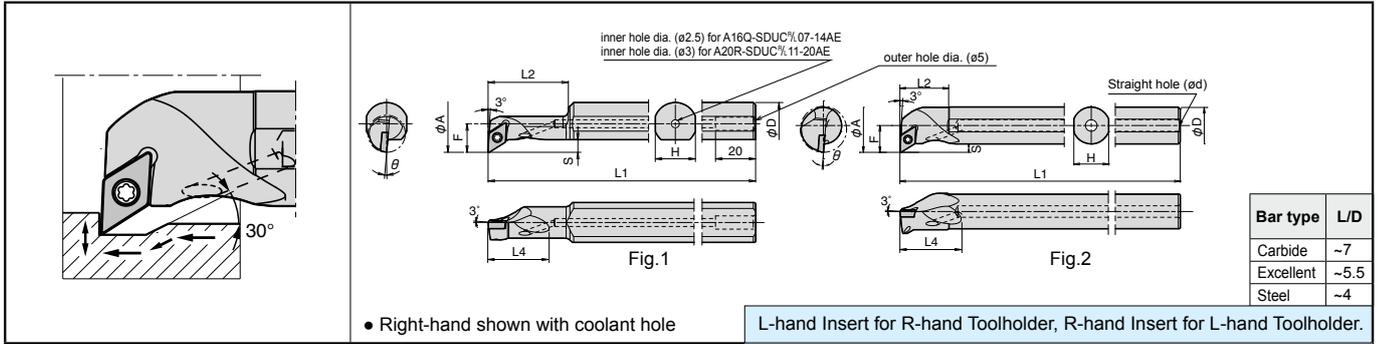


● Toolholder Dimensions

Description	Stock		Min. Bore Dia.	Dimension (mm)							θ	Standard Corner-R (rε)	Coolant Hole	Drawing	Spare Parts									
	R	L		φA	φD	H	L1	L2	L3	L4					F	Clamp Screw	Wrench							
		●	●																					
<b>Excellent Bar</b>																								
A10L-SCLP <sup>φ</sup> /L08-12AE	●	●	12	10	9	140	20	25	20	6	5°	0.4	Yes	Fig.1	SB-3060TR	FT-10								
A12M-SCLP <sup>φ</sup> /L08-14AE	●	●	14	12	11	150	24	29	24	7	4°													
A12M-SCLP <sup>φ</sup> /L09-16AE	●	●	16														18	15	180	30	37	30	9	3.5°
A16Q-SCLP <sup>φ</sup> /L09-18AE	●	●	18	20	19	200	36	47	37	11	2°													
A20R-SCLP <sup>φ</sup> /L09-22AE	●	●	22																					
A25S-SCLP <sup>φ</sup> /L09-27AE	●	●	27																					
<b>Steel</b>																								
S10L-SCLP <sup>φ</sup> /L08-12A	●	●	12	10	9	140	20	25	20	6	5°	0.4	No	Fig.1	SB-3060TR	FT-10								
S12M-SCLP <sup>φ</sup> /L08-14A	●	●	14	12	11	150	24	29	24	7	4°													
S12M-SCLP <sup>φ</sup> /L09-16A	●	●	16														18	15	180	30	37	30	9	3.5°
S16Q-SCLP <sup>φ</sup> /L09-18A	●	●	18	20	19	200	36	47	37	11	2°													
S20R-SCLP <sup>φ</sup> /L09-22A	●	●	22																					
S25S-SCLP <sup>φ</sup> /L09-27A	●	●	27																					
<b>Carbide</b>																								
E10N-SCLP <sup>φ</sup> /L08-12A	●	●	12	10	9	160	20	19	19	6	5°	0.4	Yes	Fig.1	SB-3060TR	FT-10								
E10N-SCLP <sup>φ</sup> /L08-12A-2 / 3	●					105																		
E10N-SCLP <sup>φ</sup> /L08-12A-1 / 2	●					80																		
E12Q-SCLP <sup>φ</sup> /L08-14A	●	●	14	12	11	180	23	22	22	7	4°													
E12Q-SCLP <sup>φ</sup> /L08-14A-2 / 3	●					120																		
E12Q-SCLP <sup>φ</sup> /L08-14A-1 / 2	●					90																		
E16X-SCLP <sup>φ</sup> /L09-18A	●	●	18	16	15	220	28	27	27	9	3.5°	0.4	Yes	Fig.1	SB-4065TR	FT-15								
E16X-SCLP <sup>φ</sup> /L09-18A-2 / 3	●					145																		
E16X-SCLP <sup>φ</sup> /L09-18A-1 / 2	●					110																		
E20S-SCLP <sup>φ</sup> /L09-22A	●	●	22	20	19	250	32	31	31	11	2°													
E20S-SCLP <sup>φ</sup> /L09-22A-2 / 3	●					165																		
E20S-SCLP <sup>φ</sup> /L09-22A-1 / 2	●					125																		
E25T-SCLP <sup>φ</sup> /L09-27A	●	●	27	25	24	300	38	37	37	13.5	0°	0.4	Yes	Fig.1	SB-4065TR	FT-15								
E25T-SCLP <sup>φ</sup> /L09-27A-2 / 3	●					200																		

● Applicable Inserts

Toolholder	Applicable Inserts
...SCLP <sup>φ</sup> /L08-...	CP ○○ 0802
...SCLP <sup>φ</sup> /L09-...	CP ○○ 0903

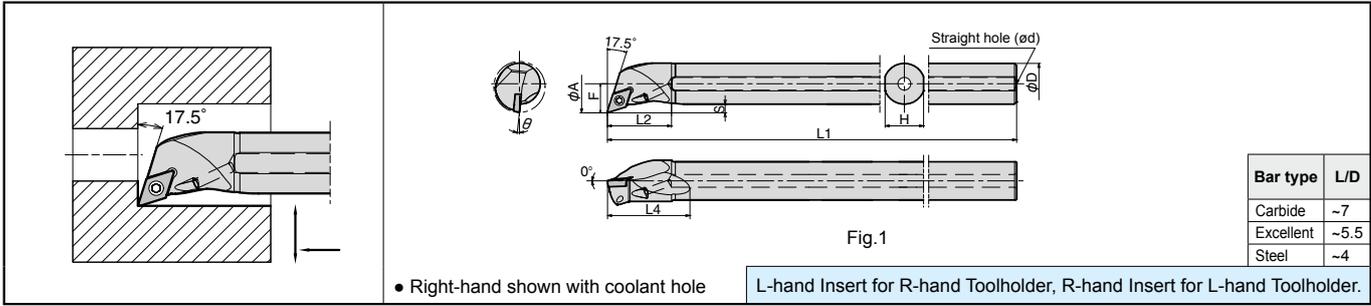


● Toolholder Dimensions

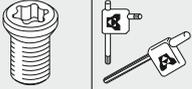
Description	Stock		Min. Bore Dia.	Dimension (mm)								θ	Standard Corner-R (rε)	Coolant Hole	Drawing	Spare Parts					
	R	L		øA	øD	H	L1	L2	L3	L4	F					S	Clamp Screw	Wrench			
Excellent Bar	A16Q-SDUC%/07-14AE	●	●	14	16	15	180	28	-	23	10.8	4.4	5°	0.4	Yes	Fig.1	SB-2560TR	FT-8			
	A20R-SDUC%/11-20AE	●	●	20	20	19	200	48	-	30	15.6	6.1					SB-4065TR	FT-15			
	A10L-SDUC%/07-14AE	●	●	14	10	9	140	19	-	20	8.7	3.3	5°	0.4		Fig.2	SB-2560TR	FT-8			
	A12M-SDUC%/07-16AE	●	●	16	12	11	150	-	24	9.7	11.7						6.1	SB-4065TR	FT-15		
	A16Q-SDUC%/07-20AE	●	●	20	16	15	180	21	-	31	14.5	6.1	5°	0.4	Fig.2	SB-4065TR	FT-15				
	A16Q-SDUC%/11-23AE	●	●	23																	
	A20R-SDUC%/11-27AE	●	●	27	20	19	200	23	-	36	16.5	6.1	5°	0.4	No	Fig.1	SB-2560TR	FT-8			
	A25S-SDUC%/11-32AE	●	●	32	25	24	250	24	-	39	19	6.1					SB-4065TR	FT-15			
Steel	S16Q-SDUC%/07-14A	●	●	14	16	15	180	28	-	23	10.8	4.4	5°	0.4		No	Fig.1	SB-2560TR	FT-8		
	S20R-SDUC%/11-20A	●	●	20	20	19	200	48	-	30	15.6	6.1						SB-4065TR	FT-15		
	S10L-SDUC%/07-14A	●	●	14	10	9	140	19	-	20	8.7	3.3	5°	0.4	Fig.2		SB-2560TR	FT-8			
	S12M-SDUC%/07-16A	●	●	16	12	11	150	-	24	9.7	11.7						6.1	SB-4065TR	FT-15		
	S16Q-SDUC%/07-20A	●	●	20	16	15	180	21	-	31	14.5	6.1	5°	0.4	Fig.2	SB-4065TR	FT-15				
	S16Q-SDUC%/11-23A	●	●	23																	
	S20R-SDUC%/11-27A	●	●	27	20	19	200	23	-	36	16.5	6.1	5°	0.4	Yes	Fig.2	SB-2560TR	FT-8			
	S25S-SDUC%/11-32A	●	●	32	25	24	250	24	-	39	19	6.1					SB-4065TR	FT-15			
Carbide	E10N-SDUC%/07-14A	●	●	14	10	9	160	20	-	19	8.7	3.3	5°	0.4		Yes	Fig.2	SB-2560TR	FT-8		
	E10N-SDUC%/07-14A-2 / 3	●	●				105														
	E12Q-SDUC%/07-16A	●	●	16	12	11	180	23	-	22	9.7	6.1	5°	0.4	Fig.2					SB-4065TR	FT-15
	E12Q-SDUC%/07-16A-2 / 3	●	●				120														
	E16X-SDUC%/07-20A	●	●	20	16	15	220	28	-	26	11.7	6.1	5°	0.4	Fig.2	SB-4065TR	FT-15				
	E16X-SDUC%/07-20A-2 / 3	●	●				145														
	E16X-SDUC%/11-23A	●	●	23	16	15	220	28	-	27	14.5	6.1	5°	0.4	Fig.2	SB-4065TR	FT-15				
	E16X-SDUC%/11-23A-2 / 3	●	●				145														
	E20S-SDUC%/11-27A	●	●	27	20	19	250	32	-	31	16.5	6.1	5°	0.4	Fig.2	SB-4065TR	FT-15				
	E20S-SDUC%/11-27A-2 / 3	●	●				165														
	E25T-SDUC%/11-32A	●	●	32	25	24	300	38	-	37	19	6.1	5°	0.4	Fig.2	SB-4065TR	FT-15				
	E25T-SDUC%/11-32A-2 / 3	●	●				200														

● Applicable Inserts

Toolholder	Applicable Inserts
....SDUC%/07....	DC ○○ 0702
....SDUC%/11....	DC ○○ 11T3

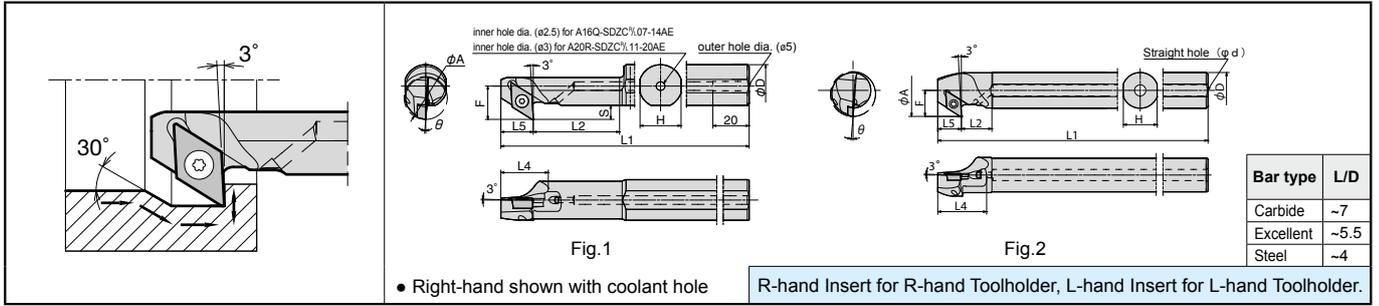


● Toolholder Dimensions

Description	Stock		Min. Bore Dia.	Dimension (mm)										θ	Standard Corner-R (R)	Coolant Hole	Drawing	Spare Parts		
	R	L		øA	øD	H	L1	L2	L3	L4	F	S	Clamp Screw					Wrench		
																				
Excellent Bar	A10L-SDQC%07-13AE	●	●	13	10	9	140	19				21	7.5	2.1	10°	0.4	Yes	Fig.1	SB-2560TR	FT-8
	A12M-SDQC%07-16AE	●	●	16	12	11	150	22				25	9.25	2.6	8°					
	A16Q-SDQC%07-20AE	●	●	20	16	15	180	25				32	11.3	2.6	6°					
	A20R-SDQC%11-25AE	●	●	25	20	19	200	31	-			37	14.4	3.7	5°					
	A25S-SDQC%11-30AE	●	●	30	25	24	250	38				45	16.9	3.7	4°					
Steel	S10L-SDQC%07-13A	●	●	13	10	9	140	19				21	7.5	2.1	10°	0.4	No	Fig.1	SB-2560TR	FT-8
	S12M-SDQC%07-16A	●	●	16	12	11	150	22				25	9.25	2.6	8°					
	S16Q-SDQC%07-20A	●	●	20	16	15	180	25				32	11.3	2.6	6°					
	S20R-SDQC%11-25A	●	●	25	20	19	200	31	-			37	14.4	3.7	5°					
	S25S-SDQC%11-30A	●	●	30	25	24	250	38				45	16.9	3.7	4°					
Carbide	E10N-SDQC%07-13A	●	●	13	10	9	160	20	-	19	7.5	2.1	10°	0.4	Yes	Fig.1	SB-2560TR	FT-8		
	E10N-SDQC%07-13A-2 / 3	●					105													
	E12Q-SDQC%07-16A	●	●	16	12	11	180	23	-	22	9.25	2.6	8°							
	E12Q-SDQC%07-16A-2 / 3	●					120													
	E16X-SDQC%07-20A	●	●	20	16	15	220	28	-	27	11.3	2.6	6°							
	E16X-SDQC%07-20A-2 / 3	●					145													
	E20S-SDQC%11-25A	●	●	25	20	19	250	32	-	31	14.4	3.7	5°							
	E20S-SDQC%11-25A-2 / 3	●					165													
	E25T-SDQC%11-30A	●	●	30	25	24	300	38	-	37	16.9	3.7	4°							
E25T-SDQC%11-30A-2 / 3	●		200																	

● Applicable Inserts

Toolholder	Applicable Inserts
...-SDQC%07-...	DC ○○ 0702
...-SDQC%11-...	DC ○○ 11T3

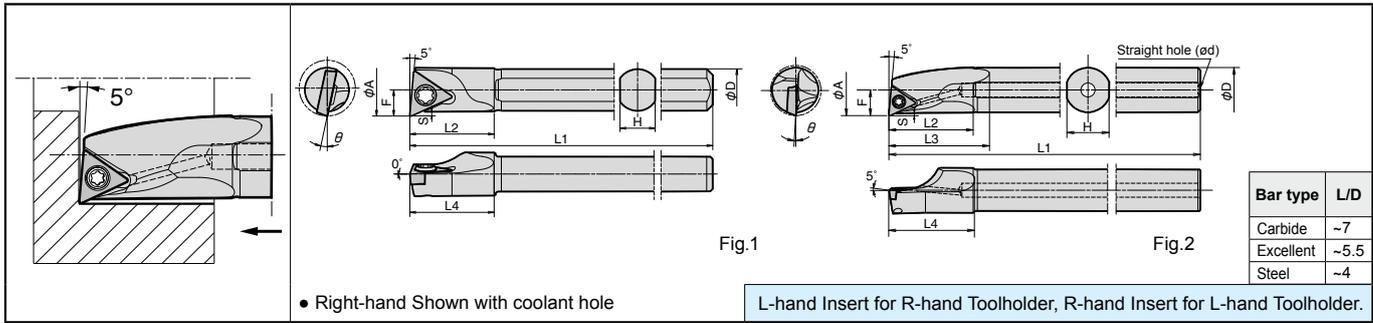


● Toolholder Dimensions

Description	Stock		Min. Bore Dia.	Dimension (mm)								$\theta$	Standard Corner-R (R)	Coolant Hole	Drawing	Spare Parts																																																																																																																																																																																																																																																																																																																																																					
	R	L		$\phi A$	$\phi D$	H	L1	L2	L4	L5	F					S	Clamp Screw	Wrench																																																																																																																																																																																																																																																																																																																																																			
	<table border="1"> <thead> <tr> <th colspan="2">Excellent Bar</th> <th colspan="2">Steel</th> <th colspan="2">Carbide</th> </tr> </thead> <tbody> <tr> <td>A16Q-SDZC%07-14AE</td> <td>●</td> <td>●</td> <td>14</td> <td>16</td> <td>15</td> <td>180</td> <td>30</td> <td>17</td> <td>10</td> <td>10.8</td> <td>4.4</td> <td rowspan="2">5°</td> <td rowspan="2">0.4</td> <td rowspan="2">Yes</td> <td rowspan="2">Fig.1</td> <td>SB-2545TR</td> <td>FT-8</td> </tr> <tr> <td>A20R-SDZC%11-20AE</td> <td>●</td> <td>●</td> <td>20</td> <td>20</td> <td>19</td> <td>200</td> <td>40</td> <td>24</td> <td>15</td> <td>15.6</td> <td>6.1</td> <td>SB-4065TR</td> <td>FT-15</td> </tr> <tr> <td>A10L-SDZC%07-14AE</td> <td>●</td> <td>●</td> <td>14</td> <td>10</td> <td>9</td> <td>140</td> <td>14</td> <td>16</td> <td>9.5</td> <td>8.7</td> <td>3.3</td> <td rowspan="2">5°</td> <td rowspan="2">0.4</td> <td rowspan="2">Yes</td> <td rowspan="2">Fig.2</td> <td>SB-2545TR</td> <td rowspan="2">FT-8</td> </tr> <tr> <td>A12M-SDZC%07-16AE</td> <td>●</td> <td>●</td> <td>16</td> <td>12</td> <td>11</td> <td>150</td> <td>14</td> <td>20</td> <td>10.5</td> <td>9.7</td> <td>3.3</td> <td>SB-2560TR</td> </tr> <tr> <td>A16Q-SDZC%07-20AE</td> <td>●</td> <td>●</td> <td>20</td> <td>16</td> <td>15</td> <td>180</td> <td>14</td> <td>22</td> <td>10.5</td> <td>11.7</td> <td>3.3</td> <td rowspan="2">5°</td> <td rowspan="2">0.4</td> <td rowspan="2">No</td> <td rowspan="2">Fig.2</td> <td>SB-4065TR</td> <td>FT-15</td> </tr> <tr> <td>A16Q-SDZC%11-23AE</td> <td>●</td> <td>●</td> <td>23</td> <td>16</td> <td>15</td> <td>180</td> <td>15</td> <td>22</td> <td>15</td> <td>14.5</td> <td>6.1</td> <td>SB-2545TR</td> <td>FT-8</td> </tr> <tr> <td>A20R-SDZC%11-27AE</td> <td>●</td> <td>●</td> <td>27</td> <td>20</td> <td>19</td> <td>200</td> <td>15</td> <td>25</td> <td>15</td> <td>16.5</td> <td>6.1</td> <td rowspan="2">5°</td> <td rowspan="2">0.4</td> <td rowspan="2">No</td> <td rowspan="2">Fig.2</td> <td>SB-4065TR</td> <td>FT-15</td> </tr> <tr> <td>A25S-SDZC%11-32AE</td> <td>●</td> <td>●</td> <td>32</td> <td>25</td> <td>24</td> <td>250</td> <td>15</td> <td>26</td> <td>15</td> <td>19</td> <td>6.1</td> <td>SB-2545TR</td> <td>FT-8</td> </tr> <tr> <td>S16Q-SDZC%07-14A</td> <td>●</td> <td>●</td> <td>14</td> <td>16</td> <td>15</td> <td>180</td> <td>30</td> <td>17</td> <td>10</td> <td>10.8</td> <td>4.4</td> <td rowspan="2">5°</td> <td rowspan="2">0.4</td> <td rowspan="2">No</td> <td rowspan="2">Fig.1</td> <td>SB-2545TR</td> <td>FT-8</td> </tr> <tr> <td>S20R-SDZC%11-20A</td> <td>●</td> <td>●</td> <td>20</td> <td>20</td> <td>19</td> <td>200</td> <td>40</td> <td>24</td> <td>15</td> <td>15.6</td> <td>6.1</td> <td>SB-4065TR</td> <td>FT-15</td> </tr> <tr> <td>S10L-SDZC%07-14A</td> <td>●</td> <td>●</td> <td>14</td> <td>10</td> <td>9</td> <td>140</td> <td>14</td> <td>16</td> <td>9.5</td> <td>8.7</td> <td>3.3</td> <td rowspan="2">5°</td> <td rowspan="2">0.4</td> <td rowspan="2">No</td> <td rowspan="2">Fig.2</td> <td>SB-2545TR</td> 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Bar		Steel		Carbide		A16Q-SDZC%07-14AE	●	●	14	16	15	180	30	17	10	10.8	4.4	5°	0.4	Yes	Fig.1	SB-2545TR	FT-8	A20R-SDZC%11-20AE	●	●	20	20	19	200	40	24	15	15.6	6.1	SB-4065TR	FT-15	A10L-SDZC%07-14AE	●	●	14	10	9	140	14	16	9.5	8.7	3.3	5°	0.4	Yes	Fig.2	SB-2545TR	FT-8	A12M-SDZC%07-16AE	●	●	16	12	11	150	14	20	10.5	9.7	3.3	SB-2560TR	A16Q-SDZC%07-20AE	●	●	20	16	15	180	14	22	10.5	11.7	3.3	5°	0.4	No	Fig.2	SB-4065TR	FT-15	A16Q-SDZC%11-23AE	●	●	23	16	15	180	15	22	15	14.5	6.1	SB-2545TR	FT-8	A20R-SDZC%11-27AE	●	●	27	20	19	200	15	25	15	16.5	6.1	5°	0.4	No	Fig.2	SB-4065TR	FT-15	A25S-SDZC%11-32AE	●	●	32	25	24	250	15	26	15	19	6.1	SB-2545TR	FT-8	S16Q-SDZC%07-14A	●	●	14	16	15	180	30	17	10	10.8	4.4	5°	0.4	No	Fig.1	SB-2545TR	FT-8	S20R-SDZC%11-20A	●	●	20	20	19	200	40	24	15	15.6	6.1	SB-4065TR	FT-15	S10L-SDZC%07-14A	●	●	14	10	9	140	14	16	9.5	8.7	3.3	5°	0.4	No	Fig.2	SB-2545TR	FT-8	S12M-SDZC%07-16A	●	●	16	12	11	150	14	20	10.5	9.7	3.3	SB-2560TR	S16Q-SDZC%07-20A	●	●	20	16	15	180	14	22	10.5	11.7	3.3	5°	0.4	No	Fig.2	SB-4065TR	FT-15	S16Q-SDZC%11-23A	●	●	23	16	15	180	15	22	15	14.5	6.1	SB-2545TR	FT-8	S20R-SDZC%11-27A	●	●	27	20	19	200	15	25	15	16.5	6.1	5°	0.4	Yes	Fig.2	SB-2560TR	FT-8	S25S-SDZC%11-32A	●	●	32	25	24	250	15	26	15	19	6.1	SB-4065TR	FT-15	E10N-SDZC%07-14A	●		14	10	9	160	10.5	16	9.5	8.7	3.3	5°	0.4	Yes	Fig.2	SB-2545TR	FT-8	E12Q-SDZC%07-16A	●		16	12	11	180	12.5	20	10.5	9.7	3.3	SB-2560TR	E16X-SDZC%07-20A	●		20	16	15	220	17.5	22	10.5	11.7	3.3	5°	0.4	Yes	Fig.2	SB-4065TR	FT-15	E16X-SDZC%11-23A	●		23	16	15	220	17	22	15	14.5	6.1	SB-2545TR	FT-8	E20S-SDZC%11-27A	●		27	20	19	250	23	25	15	16.5	6.1	5°	0.4	Yes	Fig.2	SB-4065TR
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● Applicable Inserts

Toolholder	Applicable Inserts
...-SDZC%07-...	DC ○○ 0702
...-SDZC%11-...	DC ○○ 11T3

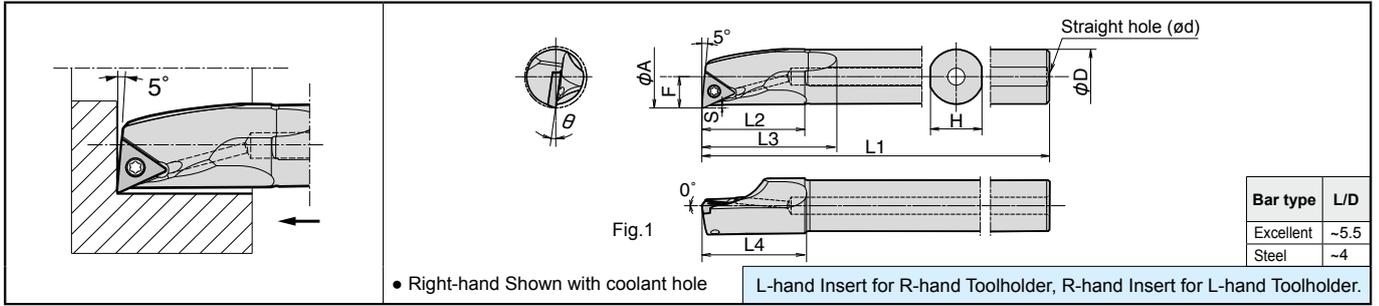


● Toolholder Dimensions

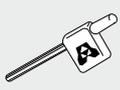
Description	Stock		Min. Bore Dia.	Dimension (mm)										θ	Standard Corner-R (rε)	Coolant Hole	Drawing	Spare Parts		
	R	L		∅A	∅D	H	L1	L2	L3	L4	F	S	Clamp Screw					Wrench		
Excellent Bar	●	●	8	6	5	100	12	-	12	3.8	0.5	12°	0.2	No	Fig.1	SB-2035TR	FT-6			
	●	●	10	8	7	120	16	22	16	5	0.5	10°				SB-2545TR	FT-8			
	●	●	12	10	9	140	20	25	20	6.2	0.9	8°				0.4	Yes	Fig.2	SB-3060TR	FT-10
	●	●	14	12	11	150	24	30	24	7.2	0.8	7°								
	●	●	18	16	15	180	30	36	30	9.2	3.5°									
	●	●	22	20	19	200	36	46	37	11.2	0.7	2°								
	●	●	27	25	24	250	46	55	46	13.7	0°									
Steel	●	●	8	6	5	100	12	-	12	3.8	0.5	12°	0.4	No	Fig.1	SB-2035TR	FT-6			
	●	●	10	8	7	120	16	22	16	5	0.5	10°				SB-2545TR	FT-8			
	●	●	12	10	9	140	20	25	20	6.2	0.9	8°				0.4	Yes	Fig.2	SB-3060TR	FT-10
	●	●	14	12	11	150	24	30	24	7.2	0.8	7°								
	●	●	18	16	15	180	30	36	30	9.2	3.5°									
	●	●	22	20	19	200	36	46	37	11.2	0.7	2°								
	●	●	27	25	24	250	46	55	46	13.7	0°									
	Carbide	●	●	8	6	5.4	110	12	-	12	3.8	0.5				12°	0.4	Yes	Fig.2	SB-2035TR
●		●	10	8	7	140	16	15	15	5	0.5	10°	0.4	Yes	Fig.2	SB-3060TR				FT-10
●		●	12	10	9	160	20	19	19	6.2	0.9	8°								
●		●	14	12	11	180	23	22	22	7.2	0.8	7°								
●		●	18	16	15	220	28	27	27	9.2	3.5°	0.7	2°							
●		●	22	20	19	250	32	31	31	11.2	0°									
●		●	27	25	24	300	38	37	37	13.7	0°									
●		●	22	20	19	165	32	31	31	11.2	0°									
●		●	27	25	24	200	38	37	37	13.7	0°									

● Applicable Inserts

Toolholder	Applicable Inserts
...-STLB%06-...	TB ○○ 0601
...-STLP%09-...	TP ○○ 0902
...-STLP%11-...	TP ○○ 1103
...-STLP%16-...	TP ○○ 1603



● Toolholder Dimensions

Description	Stock		Min. Bore Dia.	Dimension (mm)										θ	Standard Corner-R (r)	Coolant Hole	Drawing	Spare Parts	
	R	L		øA	øD	H	L1	L2	L3	L4	F	S	Clamp Screw					Wrench	
																			
Excellent Bar	A08X-STLC <sup>®</sup> /09-10AE	●	●	10	8	7	120	16	22	16	5	0.5	14°	0.4	Yes	Fig.1		SB-2250TR	FT-7
	A10L-STLC <sup>®</sup> /09-12AE	●	●	12	10	9	140	20	26	20	6.2	0.9	12°						
	A10L-STLC <sup>®</sup> /11-12AE	●	●	12	10	9	140	20	26	20	6.2	0.9	12°						
	A12M-STLC <sup>®</sup> /11-14AE	●	●	14	12	11	150	24	30	25	7.2	0.7	10°						
	A16Q-STLC <sup>®</sup> /11-18AE	●	●	18	16	15	180	30	39	31	9.2	0.7	8°						
A20R-STLC <sup>®</sup> /11-22AE	●	●	22	20	19	200	36	44	36	11.2	0.7	6°							
Steel	S08X-STLC <sup>®</sup> /09-10A	●	●	10	8	7	120	16	22	16	5	0.5	14°	0.4	No	Fig.1		SB-2250TR	FT-7
	S10L-STLC <sup>®</sup> /09-12A	●	●	12	10	9	140	20	26	20	6.2	0.9	12°						
	S10L-STLC <sup>®</sup> /11-12A	●	●	12	10	9	140	20	26	20	6.2	0.9	12°						
	S12M-STLC <sup>®</sup> /11-14A	●	●	14	12	11	150	24	30	25	7.2	0.7	10°						
	S16Q-STLC <sup>®</sup> /11-18A	●	●	18	16	15	180	30	39	31	9.2	0.7	8°						
	S20R-STLC <sup>®</sup> /11-22A	●	●	22	20	19	200	36	44	36	11.2	0.7	6°						

● Applicable Inserts

Toolholder	Applicable Inserts
...-STLC <sup>®</sup> /09-...	TC ○○ 0902
...-STLC <sup>®</sup> /11-...	TC ○○ 1102

# SVJP(C)(B)

# Screw Clamp

Fig. 1 Fig. 2

\* No shim for SVJP(C) 08 type / SVJB 11 type.

- Right-hand shown with coolant hole
- L-hand Insert for R-hand Toolholder, R-hand Insert for L-hand Toolholder.

Bar type	L/D
Excellent	~5.5
Steel	~4

# SVPC(B)

# Screw Clamp

Fig. 3 Fig. 4

\* No shim for SVPC 08 type / SVPB 11 type.

- Right-hand shown with coolant hole
- L-hand Insert for R-hand Toolholder, R-hand Insert for L-hand Toolholder.

Bar type	L/D
Carbide	~7
Excellent	~5.5
Steel	~4

## Toolholder Dimensions

Description	Stock		Min. Bore Dia.	Dimension (mm)								θ	Standard Corner-R (re)	Coolant Hole	Drawing	Spare Parts		
	R	L		ØA	ØD	H	L1	L2	L3	L4	F					S	Clamp Screw	Wrench
Excellent Bar	●	●	16	12	11	150	26	33	21	2	-	5°	0.2	Yes	Fig.1	SB-2050TR	FT-6	
	●	●	16	12	11	150	26	33	20	2	-	5°				SB-2570TR	FT-8	
	●	●	20	16	15	180	36	43	22	2	-	5°				Fig.2	SB-40125TRN	FT-15
	●	●	25	20	19	200	37.5	48	30	2	-	5°						
	●	●	30	25	24	250	45	58	33	3.5	-	5°						
	●	●	40	32	31	250	60	74	45	3.5	-	8°						
●	●	50	40	39	300	75	91	49	4.5	-	7°							
Steel	●	●	16	12	11	150	26	33	21	2	-	5°	0.2	No	Fig.1	SB-2050TR	FT-6	
	●	●	16	12	11	150	26	33	20	2	-	5°				Fig.2	SB-40125TRN	FT-15
	●	●	20	16	15	180	36	43	22	2	-	5°						
	●	●	25	20	19	200	37.5	48	30	2	-	5°						
	●	●	30	25	24	250	45	58	33	3.5	-	5°						
	●	●	40	32	31	250	60	74	45	3.5	-	8°						
●	●	50	40	39	300	75	91	49	4.5	-	7°							
Excellent Bar	●	●	14	10	9	140	24	-	21	8.5	3	8°	0.4	Yes	Fig.3	SB-2050TR	FT-6	
	●	●	18	12	11	150	29	-	26	11	4.5	8°				Fig.4	SB-40125TRN	FT-15
	●	●	22	16	15	180	35	-	33	13.5	5	5°						
	●	●	26	20	19	200	41	-	39	15.5	5	5°						
	●	●	31	25	24	250	51	-	49	18	5	13°						
	●	●	40	32	31	250	54	-	53	23	6.5	9°						
Steel	●	●	14	10	9	140	24	-	21	8.5	3	8°	0.4	No	Fig.3	SB-2050TR	FT-6	
	●	●	18	12	11	150	29	-	26	11	4.5	8°				Fig.4	SB-40125TRN	FT-15
	●	●	22	16	15	180	35	-	33	13.5	5	5°						
	●	●	26	20	19	200	41	-	39	15.5	5	5°						
	●	●	31	25	24	250	51	-	49	18	5	13°						
	●	●	40	32	31	250	54	-	53	23	6.5	9°						
Carbide	●	●	14	10	9	160	20	-	18.5	8.5	3	8°	0.4	Yes	Fig.3	SB-2050TR	FT-6	
	●	●	18	12	11	180	23	-	22	11	4.5	8°				Fig.4	SB-40125TRN	FT-15
	●	●	22	16	15	220	28	-	27	13.5	5	5°						
	●	●	26	20	19	250	32	-	31	15.5	5	5°						
	●	●	31	25	24	300	38	-	37	18	5	13°						

## Applicable Inserts

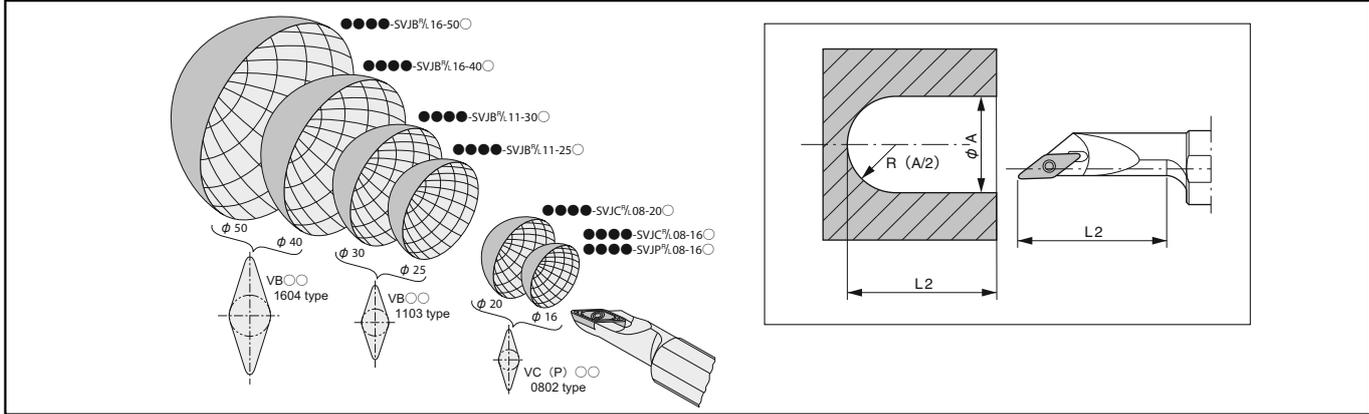
Toolholder	Applicable Inserts
...-SVJP 08-...	VP ○○ 0802 VC ○○ 0802
...-SVJC 08-...	VC ○○ 0802
...-SVJB 11-...	VB ○○ 1103
...-SVPB 11-...	VB ○○ 1103
...-SVJB 16-...	VB ○○ 1604
...-SVPB 16-...	VB ○○ 1604

## Spare Parts

Description	Spare Parts		
	Shim	Shim Screw	Wrench (for Shim Screw)
○32S-SVJB 16-40A○ ○40T-SVJB 16-50A○ ○25S-SVPB 16-31A○ ○32S-SVPB 16-40A○	SVN-32N	SS-4N	LW-4

# Application of SVJ

## 1. Application Range



## 2. Machining method

Case with No Existing Hole	Finishing
<p>Spherical Machining</p> <p>Internal Facing</p> <p>(Note) f shall be under 0.05mm/rev at internal facing.</p>	<p>Spherical Machining</p>
<p>Case with Drilled Hole</p> <p>Spherical Machining</p> <p>Internal Facing</p> <p>Drilled Hole</p> <p>(Note) f shall be under 0.05mm/rev at internal facing.</p>	<p>Internal Facing</p> <p>Machining Process</p> <p>① Finish the internal face first.</p> <p>② Next, finish the internal diameter.</p>

## 3. Caution

When machining past the center of the workpiece, insert breakage may occur.

Fix the insert edge at the center of the workpiece.

Adjust the machining program of radius smaller by Corner-R ( $r_\epsilon$ ) value.

For internal profiling,  $a_p$  should be less than the value of Corner-R ( $r_\epsilon$ ).

Machining of this kind is available, but the oblique part may be scratched by chips.

Poor finish

[Burs may occur, if  $a_p$  is bigger than Corner-R ( $r_\epsilon$ ).]

# SVUC(B)

# Screw Clamp

inner hole dia. (ø3) for A12M-SVUC%08-16AE  
 inner hole dia. (ø3) for A16Q-SVUB%11-20AE  
 inner hole dia. (ø3) for A20R-SVUB%11-25AE  
 Straight hole dia. (ø5) for A32S-SVUB%16-40AE

Bar type	L/D
Carbide	~7
Excellent	~5.5
Steel	~4

• Right-hand shown with coolant hole      L-hand Insert for R-hand Toolholder, R-hand Insert for L-hand Toolholder.

# SVZC(B)

# Screw Clamp

inner hole dia. (ø3) for A12M-SVZC%08-16AE  
 inner hole dia. (ø3) for A16Q-SVZB%11-20AE  
 inner hole dia. (ø3) for A20R-SVZB%11-25AE  
 Straight hole dia. (ø5) for A32S-SVZB%16-40AE

Bar type	L/D
Excellent	~5.5
Steel	~4

• Right-hand shown with coolant hole      \* No shim for SVZC%08 type / SVZB%11 type.  
 R-hand Insert for R-hand Toolholder, L-hand Insert for L-hand Toolholder.

## Toolholder Dimensions

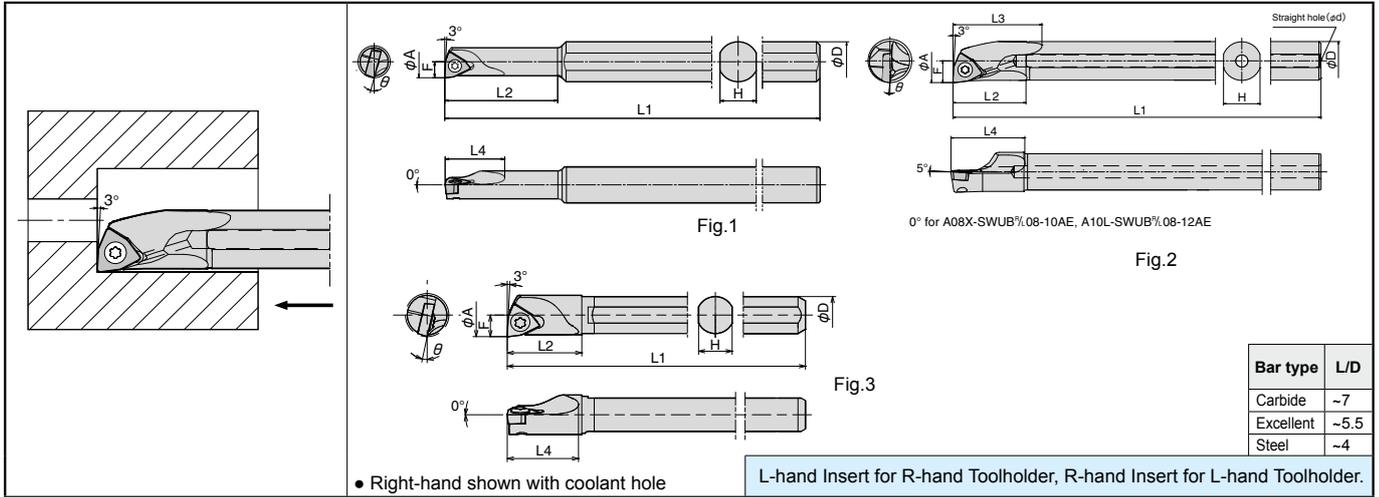
Description	Stock		Min. Bore Dia. øA	Dimension (mm)								θ	Standard Corner-R (rc)	Coolant Hole	Drawing	Spare Parts		
	R	L		øD	H	L1	L2	L4	L5	F	S					Clamp Screw	Wrench	
Excellent Bar	A12M-SVUC%08-16AE	●	●	16	12	11	150	25.5	23	-	11.5	5.5	8°	0.4	Yes	Fig.1	SB-2050TR	FT-6
	A16Q-SVUB%11-20AE	●	●	20	16	15	180	32.5	27	-	16	8	8°				SB-2570TR	FT-8
	A20R-SVUB%11-25AE	●	●	25	20	19	200	40.5	31	-	18	8	7°				SB-40125TRN	FT-15
	A25S-SVUB%16-34AE	●	●	34	25	24	250	40	37	-	20.5	8.5	13°				SB-40125TRN	FT-15
	A32S-SVUB%16-40AE	●	●	40	32	31	250	84	47	-	28	12	9°				SB-40125TRN	FT-15
Steel	S12M-SVUC%08-16A	●	●	16	12	11	150	25.5	23	-	11.5	5.5	8°	0.4	No	Fig.1	SB-2050TR	FT-6
	S16Q-SVUB%11-20A	●	●	20	16	15	180	32.5	27	-	16	8	8°				SB-2570TR	FT-8
	S20R-SVUB%11-25A	●	●	25	20	19	200	40.5	31	-	18	8	7°				SB-40125TRN	FT-15
	S25S-SVUB%16-34A	●	●	34	25	24	250	40	37	-	20.5	8.5	13°				SB-40125TRN	FT-15
	S32S-SVUB%16-40A	●	●	40	32	31	250	84	47	-	28	12	9°				SB-40125TRN	FT-15
Carbide	E12Q-SVUC%08-18A	●		18	12	11	180	23	22	-	11.5	5.5	8°	0.4	Yes	Fig.2	SB-2050TR	FT-6
	E16X-SVUB%11-25A	●		25	16	15	220	28	27	-	16	8	8°				SB-2570TR	FT-8
	E20S-SVUB%11-29A	●		29	20	19	250	32	30	-	18	8	7°				SB-40125TRN	FT-15
	E25T-SVUB%16-34A	●		34	25	24	300	38	37	-	21	8.5	13°				SB-40125TRN	FT-15
	E32S-SVUB%16-40A	●		40	32	31	250	84	47	-	28	12	9°				SB-40125TRN	FT-15
Excellent Bar	A12M-SVZC%08-16AE	●	●	16	12	11	150	25.5	14	7.5	11.5	5.5	8°	0.4	Yes	Fig.3	SB-2050TR	FT-6
	A16Q-SVZB%11-20AE	●	●	20	16	15	180	32.5	20	10	16	8	8°				SB-2570TR	FT-8
	A20R-SVZB%11-25AE	●	●	25	20	19	200	40.5	23	10	18	8	7°				SB-40125TRN	FT-15
	A25S-SVZB%16-34AE	●	●	34	25	24	250	30	34	17.5	20.5	8.5	13°				SB-40125TRN	FT-15
	A32S-SVZB%16-40AE	●	●	40	32	31	250	72.5	36	17.5	28	12	9°				SB-40125TRN	FT-15
Steel	S12M-SVZC%08-16A	●	●	16	12	11	150	25.5	14	7.5	11.5	5.5	8°	0.4	No	Fig.3	SB-2050TR	FT-6
	S16Q-SVZB%11-20A	●	●	20	16	15	180	32.5	20	10	16	8	8°				SB-2570TR	FT-8
	S20R-SVZB%11-25A	●	●	25	20	19	200	40.5	23	10	18	8	7°				SB-40125TRN	FT-15
	S25S-SVZB%16-34A	●	●	34	25	24	250	30	34	17.5	20.5	8.5	13°				SB-40125TRN	FT-15
	S32S-SVZB%16-40A	●	●	40	32	31	250	72.5	36	17.5	28	12	9°				SB-40125TRN	FT-15

## Applicable Inserts

Toolholder	Applicable Inserts
...-SVUC%08-...	VC ○○ 0802
...-SVZC%08-...	VC ○○ 0802
...-SVUB%11-...	VB ○○ 1103
...-SVZB%11-...	VB ○○ 1103
...-SVUB%16-...	VB ○○ 1604
...-SVZB%16-...	VB ○○ 1604

## Spare Parts

Description	Spare Parts		
	Shim	Shim Screw	Wrench (for Shim Screw)
A25S-SVUB%16-34AE			
A32S-SVUB%16-40AE			
A25S-SVZB%16-34AE			
A32S-SVZB%16-40AE			
	SVN-32N	SS-4N	LW-4



● Toolholder Dimensions

Description	Stock		Min. Bore Dia. $\phi A$	Dimension (mm)								$\theta$	Standard Corner-R (r <sub>c</sub> )	Coolant Hole	Drawing	Spare Parts		
	R	L		$\phi D$	H	L1	L2	L3	L4	F	S					Clamp Screw	Wrench	
Excellent Bar	S10H-SWUB <sup>®</sup> /L06-06AE	●	●	6	10	9	100	21	-	13	3	-	15°	0.2	No	Fig.1	SB-2035TR	FT-6
	S10H-SWUB <sup>®</sup> /L06-07AE	●	●	7	10	9	100	24.5	-	15	3.5	-	13°				SB-2050TR	
	S10H-SWUB <sup>®</sup> /L08-08AE	●	●	8	10	9	100	28	-	15	4	-	15°	0.4	Yes	Fig.2	SB-2545TR	FT-8
	A08X-SWUB <sup>®</sup> /L08-10AE	●	●	10	8	7	120	16	21	16	5	-	13°				SB-4065TR	
	A10L-SWUB <sup>®</sup> /L08-12AE	●	●	12	10	9	140	20	25	20	6	-	10°	0.8			SB-2545TR	FT-8
	A12M-SWUP <sup>®</sup> /L11-14AE	●	●	14	12	11	150	24	30	24	7	-	4°				SB-4065TR	
	A16Q-SWUP <sup>®</sup> /L11-18AE	●	●	18	16	15	180	30	37	30	9	-	1°	0.8			SB-4065TR	FT-15
	A16Q-SWUP <sup>®</sup> /L16-18AE	●	●	18	16	15	180	30	37	30	9	-	3.5°					
A20R-SWUP <sup>®</sup> /L16-22AE	●	●	22	20	19	200	36	46	37	11	-	2°						
Steel	S10H-SWUB <sup>®</sup> /L06-06A	●	●	6	10	9	100	21	-	13	3	-	15°	0.2	No	Fig.1	SB-2035TR	FT-6
	S10H-SWUB <sup>®</sup> /L06-07A	●	●	7	10	9	100	25	-	15	3.5	-	13°				SB-2050TR	
	S10H-SWUB <sup>®</sup> /L08-08A	●	●	8	10	9	100	28	-	15	4	-	15°	0.4	Yes	Fig.2	SB-2545TR	FT-8
	S08X-SWUB <sup>®</sup> /L08-10A	●	●	10	8	7	120	16	21	16	5	-	13°				SB-4065TR	
	S10L-SWUB <sup>®</sup> /L08-12A	●	●	12	10	9	140	20	25	20	6	-	10°	0.8			SB-2545TR	FT-8
	S12M-SWUP <sup>®</sup> /L11-14A	●	●	14	12	11	150	24	30	24	7	-	4°				SB-4065TR	
	S16Q-SWUP <sup>®</sup> /L11-18A	●	●	18	16	15	180	30	37	30	9	-	1°					
	S16Q-SWUP <sup>®</sup> /L16-18A	●	●	18	16	15	180	30	37	30	9	-	3.5°					
S20R-SWUP <sup>®</sup> /L16-22A	●	●	22	20	19	200	36	46	37	11	-	2°						
Carbide	C05H-SWUB <sup>®</sup> /L06-06A	●	●	6	5	4.4	100	11	-	11	3	-	13°	0.2	No	Fig.3	SB-2035TR	FT-6
	C06J-SWUB <sup>®</sup> /L06-07A	●	●	7	6	5.4	110	12	-	12	3.5	-	13°				SB-2050TR	
	C07K-SWUB <sup>®</sup> /L08-08A	●	●	8	7	6.4	125	13	-	13	4	-	13°	0.4	Yes	Fig.2	SB-2545TR	FT-8
	E08L-SWUB <sup>®</sup> /L08-10A	●	●	10	8	7	140	16	15	15	5	-	13°				SB-4065TR	
	E10N-SWUB <sup>®</sup> /L08-12A	●	●	12	10	9	160	20	19	19	6	-	10°	0.8				
	E10N-SWUB <sup>®</sup> /L08-12A-2 / 3	●					105											
	E10N-SWUB <sup>®</sup> /L08-12A-1 / 2	●		80														
	E12Q-SWUP <sup>®</sup> /L11-14A	●	●	14	12	11	180	23	22	22	7	-	4°	0.4	Yes	Fig.2	SB-2545TR	FT-8
	E12Q-SWUP <sup>®</sup> /L11-14A-2 / 3	●					120											
	E12Q-SWUP <sup>®</sup> /L11-14A-1 / 2	●		90														
	E16X-SWUP <sup>®</sup> /L11-18A	●	●	18	16	15	220	28	27	27	9	-	1°	0.8				
	E16X-SWUP <sup>®</sup> /L11-18A-2 / 3	●					145											
	E16X-SWUP <sup>®</sup> /L11-18A-1 / 2	●		110														
	E16X-SWUP <sup>®</sup> /L16-18A	●	●	18	16	15	220	28	27	27	9	-	3.5°	0.8				
	E16X-SWUP <sup>®</sup> /L16-18A-2 / 3	●					145											
	E16X-SWUP <sup>®</sup> /L16-18A-1 / 2	●		110														
E20S-SWUP <sup>®</sup> /L16-22A	●	●	22	20	19	250	32	31	31	11	-	2°	0.8					
E20S-SWUP <sup>®</sup> /L16-22A-2 / 3	●					165												
E20S-SWUP <sup>®</sup> /L16-22A-1 / 2	●		125															

● Applicable Inserts

Toolholder	Applicable Inserts
...-SWUB <sup>®</sup> /L06-...	WB ○○ 0601
...-SWUB <sup>®</sup> /L08-...	WB ○○ 0802
...-SWUP <sup>®</sup> /L11-...	WP ○○ 1102
...-SWUP <sup>®</sup> /L16-...	WP ○○ 1603

■ **Toolholder Lineup**  
**Bohrstangen Ausführung**  
**Gamme de porte-outils**  
**Serie portautensile**

**Excellent Bar**

With internal coolant hole provides better chip evacuation.

Die Innenkühlbohrung gewährleistet eine verbesserte Spanabfuhr.

Avec lubrification (arrosage central) garantit une meilleure évacuation des copeaux.

Con foro per la lubro-refrigerazione interna garantisce una migliore evacuazione del truciolo.

**Steel Bar**

Provides superior cost performance (without coolant hole).

Ermöglicht kosteneffizientes Arbeiten (ohne Kühlmittelbohrung).

Les barres acier sont très économiques (sans arrosage interne).

Per lavorazioni standard ha costi minori rispetto al bareno mod. Excellent (senza foro per la lubro-refrigerazione).

**Carbide Bar**

High rigidity toolholder for precision and longer overhang length.

Werkzeughalter mit hoher Steifigkeit für Präzise Bearbeitung und größerer Auskraglänge.

Porte-à- faux et précision accrues du fait de la grande rigidité du porte outil.

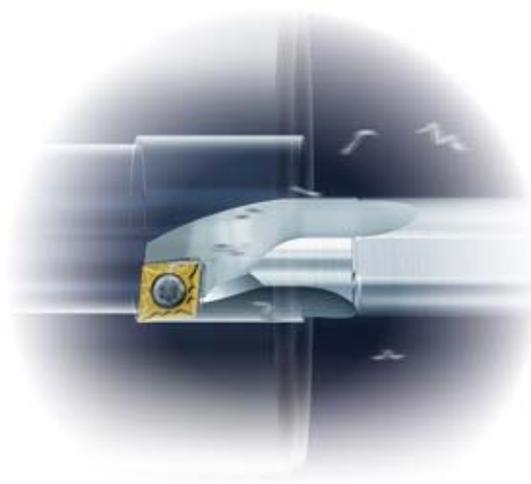
Bareno ad alta rigidità per lavorazioni di precisione a sbalzo.



Excellent Bar



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