

**New**

**Internal  
Machining**

## Carbide Shank Boring Bars

### Features

- Excellent cutting performance in wide range of boring size even at vibration cutting condition.
- Applied for various workpiece such as steel, stainless steel, cast iron, etc.
- Assures longer tool life and excellent surface finish.











# Carbide Shank Boring Bars

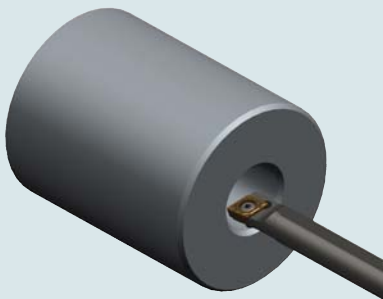
Code System | Application example

## Code System

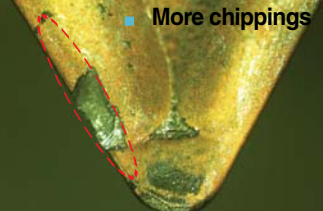
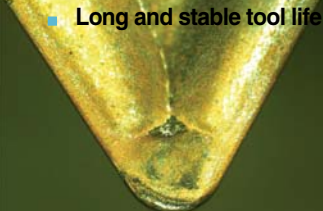


<b>C</b>	<b>12</b>	<b>M</b>	—
<b>Shank type</b>	<b>Shank diameter</b>	<b>Shank length (inch)</b>	
<b>S</b> : Steel shank <b>A</b> : Steel shank with oil hole <b>C</b> : Carbide shank <b>E</b> : Carbide shank with oil hole	ISO : mm AISI : inch	<b>F</b> : 3.0 <b>R</b> : 8.0 <b>G</b> : 3.5 <b>S</b> : 10.3 <b>H</b> : 4.0 <b>T</b> : 12.0 <b>J</b> : 4.5 <b>U</b> : 14.0 <b>K</b> : 5.0 <b>V</b> : 16.0 <b>M</b> : 6.0 <b>W</b> : 18.0 <b>Q</b> : 7.0 <b>Y</b> : 20.0	

<b>S</b>	<b>C</b>	<b>L</b>	<b>C</b>	<b>R</b>	—	<b>06</b>
<b>Clamping system</b>	<b>Insert shape</b>	<b>Lead angle</b>	<b>Relief angle of Insert</b>	<b>Hand of tool</b>		<b>Length of cutting edge</b>
<b>S</b> : Screw on <b>P</b> : Lever lock <b>C</b> : Clamp on <b>M</b> : Multi lock <b>W</b> : Wedge clamp <b>D</b> : Double clamp	<b>C</b> : 80° Rhombic <b>D</b> : 55° Rhombic <b>S</b> : 90° Square <b>T</b> : 60° Triangular <b>V</b> : 35° Rhombic <b>W</b> : 80° Trigon	<b>F</b> : 90° <b>K</b> : 75° <b>L</b> : 95° <b>Q</b> : 108° <b>U</b> : 93°	<b>B</b> : 5° Positive <b>C</b> : 7° Positive <b>N</b> : 0° <b>P</b> : 11° Positive	<b>R</b> : Right <b>L</b> : Left		<b>80° Rhombic</b>  <b>55° Rhombic</b>  <b>90° Square</b>  <b>60° Triangular</b>  <b>35° Rhombic</b>  <b>80° Trigon</b> 

## Application example



- Cutting conditions
- Insert : TCMT21.51-HMP
- Boring bar : C08M-STFCR/L-2
- Workpiece : AISI 4140
- Cutting speed : 660 sfm
- Feed : 0.006 ipr
- Depth of cut : 0.02 inch

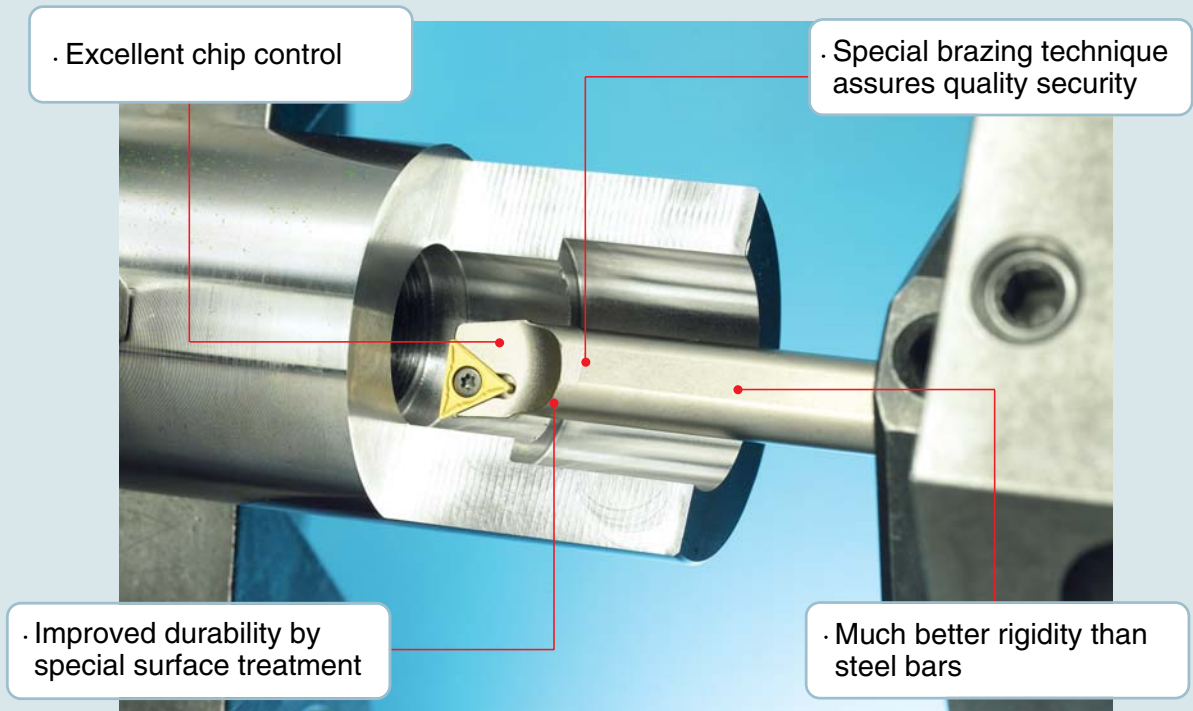
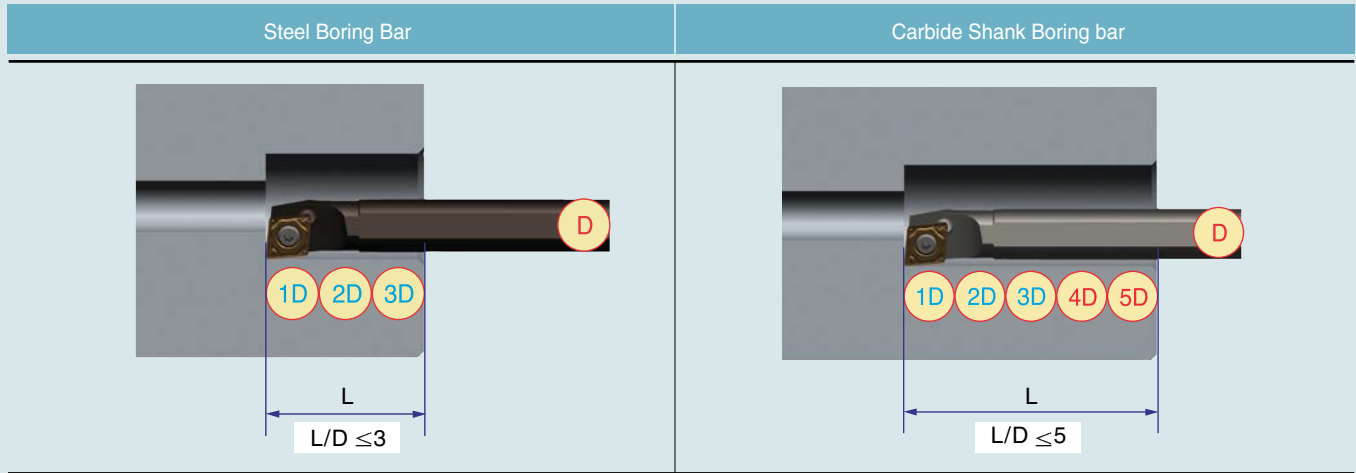
	Steel boring bar			Carbide boring bar		
<b>5D Machining test</b> (After 40passes)	 <p>More chippings</p>			 <p>Long and stable tool life</p>		
<b>Surface Roughness</b> (5D machining)						
	<b>Rmax</b>	<b>Rz</b>	<b>Ra</b>	<b>Rmax</b>	<b>Rz</b>	<b>Ra</b>
	4.67	3.68	0.62	3.07	2.76	0.53



# Carbide Shank Boring Bars

Features

## Features

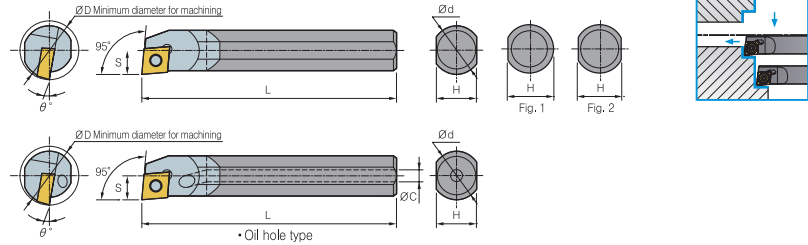




# Carbide Shank Boring Bars

SCLCR/L

SCLCR/L



Desingation	Stock		$\varnothing D$	$\varnothing d$	H	L	S	$\theta^\circ$	Parts Insert	Screw	Wrench	Fig.
	R	L										
C025G-SCLCR/L-1.2	●	○	0.197	0.156	0.150	3.5	0.098	-15°	CC□T1.21□□	FTNA01633	TW06P	1
C03H-SCLCR/L-1.2	●	○	0.260	0.188	0.168	4.0	0.126	-15°	CC□T1.21□□	FTNA01633	TW06P	1
C04H-SCLCR/L-1.5	●	○	0.293	0.250	0.230	4.0	0.156	-15°	CC□T1.51□□	FTNA0238	TW06P	1
C045K-SCLCR/L-1.5	●	○	0.313	0.281	0.252	5.0	0.158	-12°	CC□T1.51□□	FTNA0238	TW06P	1
C05K-SCLCR/L-2	●	○	0.415	0.313	0.273	5.0	0.219	-12°	CC□T2.15□□	FTKA02555	TW07P	2
C06K-SCLCR/L-2	●	○	0.480	0.375	0.336	5.0	0.250	-12°	CC□T2.15□□	FTKA02565	TW07P	2
C06M-SCLCR/L-2	●	○	0.480	0.375	0.336	6.0	0.250	-12°	CC□T2.15□□	FTKA02565	TW07P	2
C08M-SCLCR/L-2	●	○	0.600	0.500	0.461	6.0	0.312	-12°	CC□T2.15□□	FTKA02565	TW07P	2
C08Q-SCLCR/L-2	●	○	0.600	0.500	0.461	7.0	0.312	-12°	CC□T2.15□□	FTKA02565	TW07P	2
C08M-SCLCR/L-3	●	○	0.600	0.500	0.461	6.0	0.312	-12°	CC□T32.5□□	FTGA03508	TW15P	2
C08Q-SCLCR/L-3	●	○	0.600	0.500	0.461	7.0	0.312	-12°	CC□T32.5□□	FTGA03508	TW15P	2
C10R-SCLCR/L-3	●	○	0.770	0.625	0.586	8.0	0.406	-12°	CC□T32.5□□	FTGA03508	TW15P	2
C10S-SCLCR/L-3	●	○	0.770	0.625	0.586	10.0	0.406	-12°	CC□T32.5□□	FTGA03508	TW15P	2
C12R-SCLCR/L-3	●	○	0.930	0.750	0.671	8.0	0.500	-8°	CC□T32.5□□	FTGA03508	TW15P	2
C12S-SCLCR/L-3	●	○	0.930	0.750	0.671	10.0	0.500	-8°	CC□T32.5□□	FTGA03508	TW15P	2
C16T-SCLCR/L-4	●	○	1.200	1.000	0.921	12.0	0.640	-6°	CC□T43□□	FTGA0411F	TW15P	2
E04H-SCLCR/L-1.5	●	○	0.321	0.250	0.230	4.0	0.156	-15°	CC□T1.51□□	FTNA0238	TW06P	1
E045K-SCLCR/L-1.5	●	○	0.315	0.281	0.252	5.0	0.158	-12°	CC□T1.51□□	FTNA0238	TW06P	1
E05K-SCLCR/L-2	●	○	0.415	0.313	0.273	5.0	0.219	-12°	CC□T2.15□□	FTKA02555	TW07P	2
E06K-SCLCR/L-2	●	○	0.480	0.375	0.336	5.0	0.250	-12°	CC□T2.15□□	FTKA02565	TW07P	2
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E08M-SCLCR/L-3	●	○	0.600	0.500	0.461	6.0	0.312	-12°	CC□T32.5□□	FTGA03508	TW15P	2
E08Q-SCLCR/L-3	●	○	0.600	0.500	0.461	7.0	0.312	-12°	CC□T32.5□□	FTGA03508	TW15P	2
E10R-SCLCR/L-3	●	○	0.770	0.625	0.586	8.0	0.406	-12°	CC□T32.5□□	FTGA03508	TW15P	2
E10S-SCLCR/L-3	●	○	0.770	0.625	0.586	10.0	0.406	-12°	CC□T32.5□□	FTGA03508	TW15P	2
E12R-SCLCR/L-3	●	○	0.930	0.750	0.671	8.0	0.500	-8°	CC□T32.5□□	FTGA03508	TW15P	2
E12S-SCLCR/L-3	●	○	0.930	0.750	0.671	10.0	0.500	-8°	CC□T32.5□□	FTGA03508	TW15P	2
E16T-SCLCR/L-4	●	○	1.200	1.000	0.921	12.0	0.640	-6°	CC□T43□□	FTGA0411F	TW15P	2

● Stock item, ○ Under preparing for stock

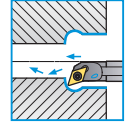
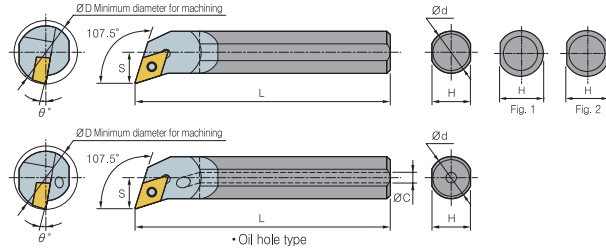




# Carbide Shank Boring Bars

SDQCR/L

SDQCR/L



Desingation	Stock		øD	ød	H	L	S	θ°	Parts Insert	Screw	Wrench	Fig.
	R	L										
C05K-SDQCR/L-2	●	○	0.415	0.313	0.273	5.0	0.219	-15°	DC □T2.15 □□	FTKA02555	TW07P	2
C06K-SDQCR/L-2	●	○	0.600	0.375	0.336	5.0	0.375	-15°	DC □T2.15 □□	FTKA02555	TW07P	2
C08M-SDQCR/L-2	●	○	0.730	0.500	0.461	6.0	0.437	-10°	DC □T2.15 □□	FTKA02565	TW07P	2
C10R-SDQCR/L-2	●	○	0.850	0.625	0.586	8.0	0.500	-6°	DC □T2.15 □□	FTKA02565	TW07P	2
C10R-SDQCR/L-3	●	○	0.850	0.625	0.586	8.0	0.500	-6°	DC □T32.5 □□	FTGA03508	TW15P	2
C12R-SDQCR/L-3	●	○	0.980	0.750	0.671	8.0	0.562	-6°	DC □T32.5 □□	FTGA03508	TW15P	2
C12S-SDQCR/L-3	●	○	0.980	0.750	0.671	10.0	0.562	-6°	DC □T32.5 □□	FTGA03508	TW15P	2
E05K-SDQCR/L-2	●	○	0.415	0.313	0.273	5.0	0.219	-15°	DC □T2.15 □□	FTKA02555	TW07P	2
E06K-SDQCR/L-2	●	○	0.600	0.375	0.336	5.0	0.375	-15°	DC □T2.15 □□	FTKA02555	TW07P	2
E08M-SDQCR/L-2	●	○	0.730	0.500	0.461	6.0	0.437	-10°	DC □T2.15 □□	FTKA02565	TW07P	2
E10R-SDQCR/L-2	●	○	0.850	0.625	0.586	8.0	0.500	-6°	DC □T2.15 □□	FTKA02565	TW07P	2
E10R-SDQCR/L-3	●	○	0.850	0.625	0.586	8.0	0.500	-6°	DC □T32.5 □□	FTGA03508	TW15P	2
E12R-SDQCR/L-3	●	○	0.980	0.750	0.671	8.0	0.562	-6°	DC □T32.5 □□	FTGA03508	TW15P	2
E12S-SDQCR/L-3	●	○	0.980	0.750	0.671	10.0	0.562	-6°	DC □T32.5 □□	FTGA03508	TW15P	2

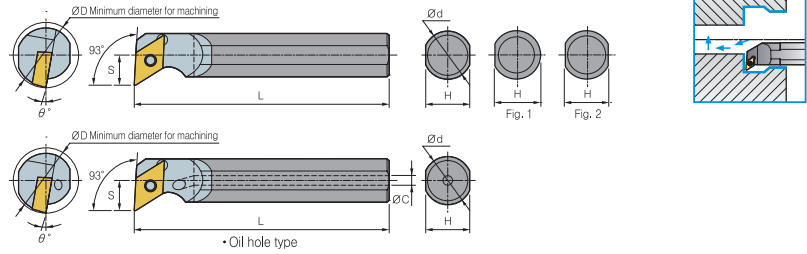
● Stock item, ○ Under preparing for stock



# Carbide Shank Boring Bars

SDUCR/L

SDUCR/L



Desingation	Stock		øD	ød	H	L	S	θ°	Parts		Screw	Wrench	Fig.
	R	L							Insert				
C06K-SDUCR/L-2	●	○	0.600	0.375	0.336	5.0	0.375	-15°	DC□T21.5□□	FTKA02555	TW07P	2	
C06M-SDUCR/L-2	●	○	0.600	0.375	0.336	6.0	0.375	-15°	DC□T21.5□□	FTKA02555	TW07P	2	
C08M-SDUCR/L-2	●	○	0.730	0.500	0.461	6.0	0.437	-10°	DC□T21.5□□	FTKA02565	TW07P	2	
C08Q-SDUCR/L-2	●	○	0.730	0.500	0.461	7.0	0.437	-10°	DC□T21.5□□	FTKA02565	TW07P	2	
C10R-SDUCR/L-2	●	○	0.850	0.625	0.586	8.0	0.500	-6°	DC□T21.5□□	FTKA02565	TW07P	2	
C10S-SDUCR/L-2	●	○	0.850	0.625	0.586	10.0	0.500	-6°	DC□T21.5□□	FTKA02565	TW07P	2	
C10R-SDUCR/L-3	●	○	0.850	0.625	0.586	8.0	0.500	-6°	DC□T32.5□□	FTGA03508	TW15P	2	
C10S-SDUCR/L-3	●	○	0.850	0.625	0.586	10.0	0.500	-6°	DC□T32.5□□	FTGA03508	TW15P	2	
C12R-SDUCR/L-3	●	○	0.980	0.750	0.671	8.0	0.562	-6°	DC□T32.5□□	FTGA03508	TW15P	2	
C12S-SDUCR/L-3	●	○	0.980	0.750	0.671	10.0	0.562	-6°	DC□T32.5□□	FTGA03508	TW15P	2	
C16T-SDUCR/L-3	●	○	1.300	1.000	0.921	12.0	0.640	-6°	DC□T32.5□□	FTGA03510	TW15P	2	
E06K-SDUCR/L-2	●	○	0.600	0.375	0.336	5.0	0.375	-15°	DC□T21.5□□	FTKA02555	TW07P	2	
E06M-SDUCR/L-2	●	○	0.600	0.375	0.336	6.0	0.375	-15°	DC□T21.5□□	FTKA02555	TW07P	2	
E08M-SDUCR/L-2	●	○	0.730	0.500	0.461	6.0	0.437	-10°	DC□T21.5□□	FTKA02565	TW07P	2	
E08Q-SDUCR/L-2	●	○	0.730	0.500	0.461	7.0	0.437	-10°	DC□T21.5□□	FTKA02565	TW07P	2	
E10R-SDUCR/L-2	●	○	0.850	0.625	0.586	8.0	0.500	-6°	DC□T21.5□□	FTKA02565	TW07P	2	
E10S-SDUCR/L-2	●	○	0.850	0.625	0.586	10.0	0.500	-6°	DC□T21.5□□	FTKA02565	TW07P	2	
E10R-SDUCR/L-3	●	○	0.850	0.625	0.586	8.0	0.500	-6°	DC□T32.5□□	FTGA03508	TW15P	2	
E10S-SDUCR/L-3	●	○	0.850	0.625	0.586	10.0	0.500	-6°	DC□T32.5□□	FTGA03508	TW15P	2	
E12R-SDUCR/L-3	●	○	0.980	0.750	0.671	8.0	0.562	-6°	DC□T32.5□□	FTGA03508	TW15P	2	
E12S-SDUCR/L-3	●	○	0.980	0.750	0.671	10.0	0.562	-6°	DC□T32.5□□	FTGA03508	TW15P	2	
E16T-SDUCR/L-3	●	○	1.300	1.000	0.921	12.0	0.640	-6°	DC□T32.5□□	FTKA02555	TW15P	2	

● Stock item, ○ Under preparing for stock



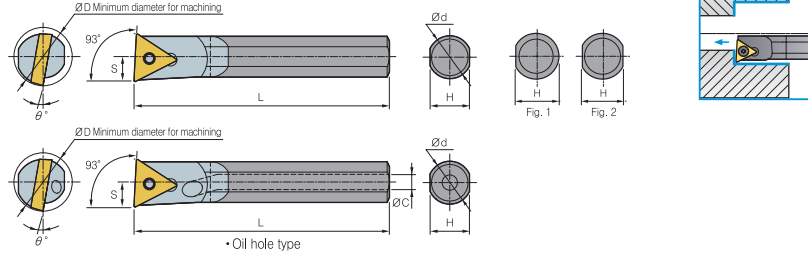




# Carbide Shank Boring Bars

STUPR/L

STUPR/L



Desingation	Stock		øD	ød	H	L	S	θ°	Parts Insert	Screw	Wrench	Fig.
	R	L										
C05K-STUPR/L-1.5	●	○	0.415	0.313	0.273	5.0	0.219	-10°	TP□T1.51.5□□	FTNA02205	TW06P	2
C06K-STUPR/L-2	●	○	0.480	0.375	0.336	5.0	0.250	-10°	TP□T22□□	FTNA0305	TW09P	2
C06M-STUPR/L-2	●	○	0.480	0.375	0.336	6.0	0.250	-10°	TP□T22□□	FTNA0305	TW09P	2
C08M-STUPR/L-2	●	○	0.600	0.500	0.461	6.0	0.312	-10°	TP□T22□□	FTNA0307	TW09P	2
C08Q-STUPR/L-2	●	○	0.600	0.500	0.461	7.0	0.312	-10°	TP□T22□□	FTNA0307	TW09P	2
C10R-STUPR/L-2	●	○	0.850	0.625	0.586	8.0	0.500	-6°	TP□T22□□	FTNA0307	TW09P	2
C10S-STUPR/L-2	●	○	0.850	0.625	0.586	10.0	0.500	-6°	TP□T22□□	FTNA0307	TW09P	2
C12R-STUPR/L-2	●	○	0.930	0.750	0.671	8.0	0.500	-6°	TP□T22□□	FTNA0307	TW09P	2
C12S-STUPR/L-2	●	○	0.930	0.750	0.671	10.0	0.500	-6°	TP□T22□□	FTNA0307	TW09P	2
C12R-STUPR/L-3	●	○	0.930	0.750	0.671	8.0	0.500	-6°	TP□T33□□	FTNA0408	TW15P	2
C12S-STUPR/L-3	●	○	0.930	0.750	0.671	10.0	0.500	-6°	TP□T33□□	FTNA0408	TW15P	2
C16T-STUPR/L-3	●	○	1.300	1.000	0.921	12.0	0.640	-6°	TP□T33□□	FTNA0408	TW15P	2
E05K-STUPR/L-1.5	●	○	0.415	0.313	0.273	5.0	0.219	-10°	TP□T1.51.5□□	FTNA02205	TW06P	2
E06K-STUPR/L-2	●	○	0.480	0.375	0.336	5.0	0.250	-10°	TP□T22□□	FTNA0305	TW09P	2
E06M-STUPR/L-2	●	○	0.480	0.375	0.336	6.0	0.250	-10°	TP□T22□□	FTNA0305	TW09P	2
E08M-STUPR/L-2	●	○	0.600	0.500	0.461	6.0	0.312	-10°	TP□T22□□	FTNA0307	TW09P	2
E08Q-STUPR/L-2	●	○	0.600	0.500	0.461	7.0	0.312	-10°	TP□T22□□	FTNA0307	TW09P	2
E10R-STUPR/L-2	●	○	0.850	0.625	0.586	8.0	0.500	-6°	TP□T22□□	FTNA0307	TW09P	2
E10S-STUPR/L-2	●	○	0.850	0.625	0.586	10.0	0.500	-6°	TP□T22□□	FTNA0307	TW09P	2
E12R-STUPR/L-2	●	○	0.930	0.750	0.671	8.0	0.500	-6°	TP□T22□□	FTNA0307	TW09P	2
E12S-STUPR/L-2	●	○	0.930	0.750	0.671	10.0	0.500	-6°	TP□T22□□	FTNA0307	TW09P	2
E12R-STUPR/L-3	●	○	0.930	0.750	0.671	8.0	0.500	-6°	TP□T33□□	FTNA0408	TW15P	2
E12S-STUPR/L-3	●	○	0.930	0.750	0.671	10.0	0.500	-6°	TP□T33□□	FTNA0408	TW15P	2
E16T-STUPR/L-3	●	○	1.300	1.000	0.921	12.0	0.640	-6°	TP□T33□□	FTNA0408	TW15P	2

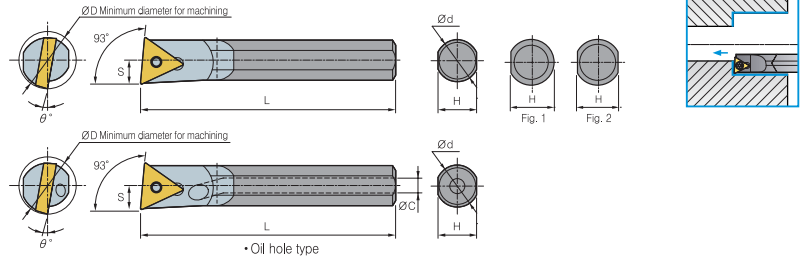
● Stock item, ○ Under preparing for stock



# Carbide Shank Boring Bars

STUBR/L | SWUBR/L

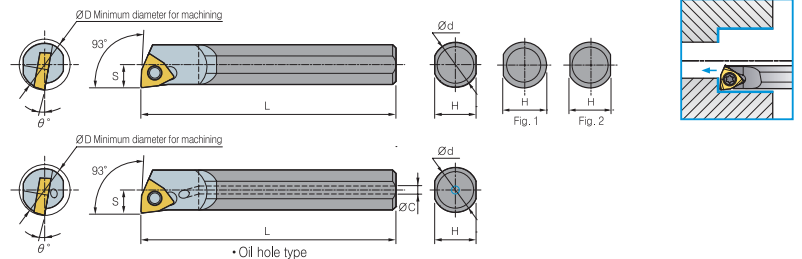
## STUBR/L



Desingation	Stock		øD	ød	H	L	S	θ	Parts Insert	Screw	Wrench	Fig.
	R	L										
C05K-STUBR/L-1.2	●	○	0.415	0.313	0.273	5.0	0.219	-10°	TB□T1.21□□	FTNA0204	TW06P	2
C06K-STUBR/L-1.2	●	○	0.480	0.375	0.336	5.0	0.250	-10°	TB□T1.21□□	FTNA0204	TW06P	2
E05K-STUBR/L-1.2	●	○	0.415	0.313	0.273	5.0	0.219	-10°	TB□T1.21□□	FTNA0204	TW06P	2
E06K-STUBR/L-1.2	●	○	0.480	0.375	0.336	5.0	0.250	-10°	TB□T1.21□□	FTNA0204	TW06P	2

● Stock item, ○ Under preparing for stock

## SWUBR/L



Desingation	Stock		øD	ød	H	L	S	θ	Parts Insert	Screw	Wrench	Fig.
	R	L										
C03H-SWUBR/L-1.2	●	○	0.260	0.188	0.173	4.0	0.126	-15°	WB□T1.21□□	FTNA0203	TW06P	1
C04H-SWUBR/L-1.2	●	○	0.321	0.250	0.213	4.0	0.156	-15°	WB□T1.21□□	FTNA0203	TW06P	1
C05K-SWUBR/L-1.2	●	○	0.415	0.313	0.273	5.0	0.219	-12°	WB□T1.21□□	FTNA02033	TW06P	2
C05K-SWUBR/L-1.5	●	○	0.415	0.313	0.273	5.0	0.219	-12°	WB□T1.51.5□□	FTNA02205	TW06P	2
E04H-SWUBR/L-1.2	●	○	0.321	0.250	0.213	4.0	0.156	-15°	WB□T1.21□□	FTNA0203	TW06P	1
E05K-SWUBR/L-1.2	●	○	0.415	0.313	0.273	5.0	0.219	-12°	WB□T1.21□□	FTNA02033	TW06P	2
E05K-SWUBR/L-1.5	●	○	0.415	0.313	0.273	5.0	0.219	-12°	WB□T1.51.5□□	FTNA02205	TW06P	2

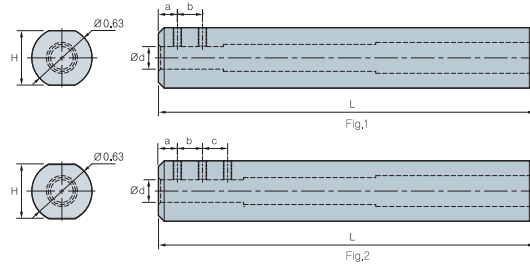
● Stock item, ○ Under preparing for stock



# Carbide Shank Boring Bars

SL(SLEEVE)

## SL(SLEEVE)



Designation	Stock	$\phi d$	a	b	c	H	L	Screw	Wrench	Fig.
SL-1002	●	0.158	0.197	0.236	-	0.551	4.0	M4	HW20L	1
SL-1003	●	0.197	0.197	0.315	-	0.551	4.0	M4	HW20L	1
SL-1004	●	0.236	0.197	0.236	0.236	0.551	4.0	M4	HW20L	2
SL-1005	●	0.276	0.197	0.236	0.315	0.551	4.0	M4	HW20L	2

● Stock item, ○ Under preparing for stock



**Warning**

### ※ Safety instruction

- Use glasses safely and face cover with protective equipment. If cutting condition and use method are inaccurate, you may be injured by broken tools or scattered chips.
- Excessive cutting load may influence badly on both tool and machine.  
Make suitable tool replacement for preventing failure of machining.
- After machine stopped, clean remained chips from machine with special cleaning equipment.
- Keep safety distance from acute and hot chip during machining.
- Make precaution for prevention of fire in advance when you use insoluble cutting oil.
- Assembled parts may be scattered at high speed cutting. Please use protective equipment.