

TAC Boring Bars

Stream Jet Bars MINI (SJB)

For small diameter machining applications!

**Highly Rigid Internal Toolholders
with Excellent Chip Evacuation**



Stream Jet Bars MINI

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

Stream Jet Bar MINI
for small diameter machining applications!

■ Features

1 Excellent performance for small diameter machining operations

- ▼ Minimum bore diameters from $\phi 1.77$ in
- ▼ Steel and carbide shanks 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



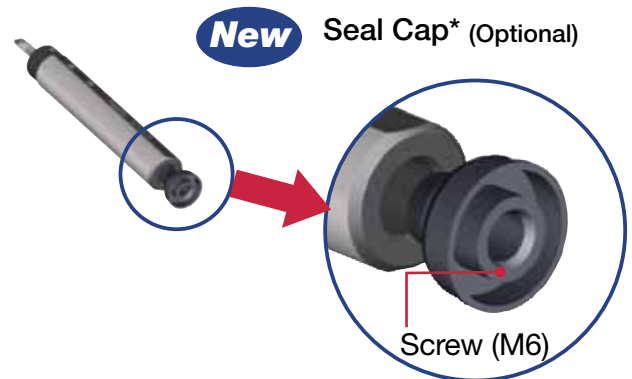
2 Applicable for a wide variety of machines

- ▼ Sleeves with Inch and metric O.D.'s are available
- ▼ Seal cap* (optional)
- ▼ Newly designed sleeve for directed external coolant flow (see picture below)



3 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 radius to include R0.1mm on "EPGT04" and "WBG03" insert types



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

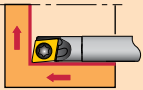
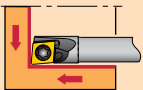
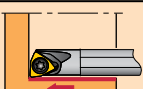
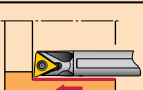
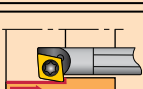


List of Stream Jet Bars MINI

A wide range of styles and sizes available

Positive type

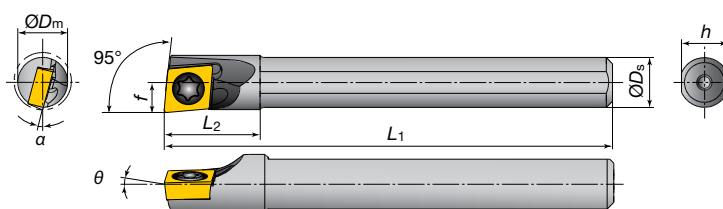
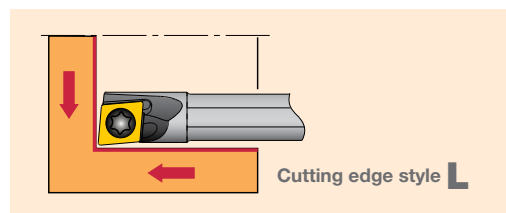
MINI

Style	Shank type	Shank diameter	Minimum bore diameter (mm)						
			0	10	20	30	40	50	
 SEXPR/L pg. 4 Boring and facing Insert type: EP□□	Steel	ø4 ~ ø6	ø4.5	ø7					
	Carbide	ø4 ~ ø6	ø4.5	ø7					
 SCLCR/L pg. 2 Boring and facing Insert type: CC□□	Steel	ø4 ~ ø7	ø5	ø8					
	Carbide	ø4 ~ ø7	ø5	ø8					
 SWUBR/L pg. 3 Boring Insert type: WB□□	Steel	ø5 ~ ø7	ø6	ø8					
	Carbide	ø5 ~ ø7	ø6	ø8					
 STUPR/L pg. 3 Boring Insert type: TP□□	Steel	ø7	ø8						
	Carbide	ø7	ø8						
 SEZPR/L pg. 3 Internal retracting Insert type: EP□□	Steel	ø4 ~ ø5	ø5.5	ø6.5					
	Carbide	ø4 ~ ø5	ø5.5	ø6.5					

SCLCR/L

Boring & Internal Facing

S-type (Positive, screw-on)



Steel shank

Toolholder	Stock		Min. Bore dia. ØDm	Dimensions (mm)								Std. Corner Radius rE	Applicable Inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L1	L2	h	f2	θ	a			Clamping Screw	Wrench	
A04F-SCLCR/L03-D050	●	●	5	4	2.5	80	8	3.8	-	0°	-15°	0.2	CC□□03X1	CSTA-1.6	T-6F	0.6
A05F-SCLCR/L03-D060	●	●	6	5	3	80	9	4.8	-	0°	-13°					
A06G-SCLCR/L04-D070	●	●	7	6	3.5	90	11	5.75	-	0°	-13°	0.2	CC□□04T1	CSTB-2	T-6F	0.6
A07G-SCLCR/L04-D080	●	●	8	7	4	90	12	6.75	-	0°	-11°					

Carbide shank

Toolholder	Stock		Min. Bore dia ØDm	Dimensions (mm)								Std Corner Radius rE	Applicable Inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L1	L2	h	f2	θ	a			Screw	Wrench	
E04G-SCLCR/L03-D050	●	●	5	4	2.5	90	9	3.8	-	0°	-15°	0.2	CC□□03X1	CSTA-1.6	T-6F	0.6
E05G-SCLCR/L03-D060	●	●	6	5	3	90	10	4.8	-	0°	-13°					
E06H-SCLCR/L04-D070	●	●	7	6	3.5	100	12	5.75	-	0°	-13°	0.2	CC□□04T1	CSTB-2	T-6F	0.6
E07H-SCLCR/L04-D080	●	●	8	7	4	100	14	6.75	-	0°	-11°					

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

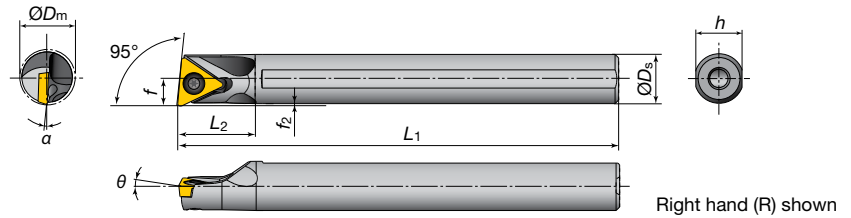
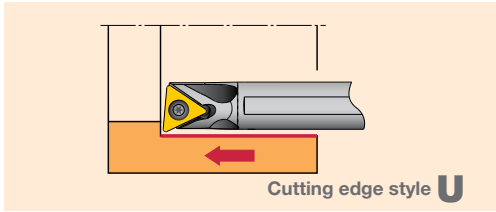
● : Stocked Standard

Stream Jet Bars MINI

STUPR/L

Boring

S-type (Positive, screw-on)



Steel shank

Toolholder	Stock		Min. Bore dia ϕD_m	Dimensions (mm)								Std Corner Radius rE	Applicable Inserts	Parts		Torque (N·m)
	R	L		ϕD_s	f	L ₁	L ₂	h	f ₂	θ	α			Clamping Screw	Wrench	
A07G-STUPR/L07-D080	●	●	8	7	4	90	12	6.75	0.4	+5°	-10°	0.4	TP□□0701	CSTB-2.2L038	T-7F	0.9

Carbide shank

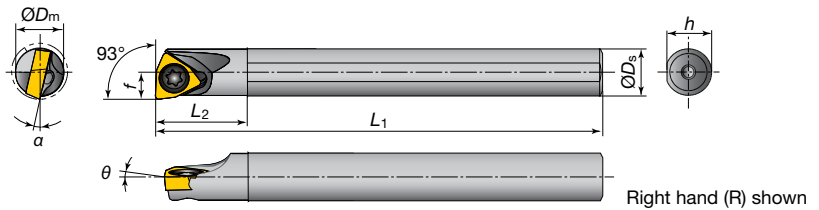
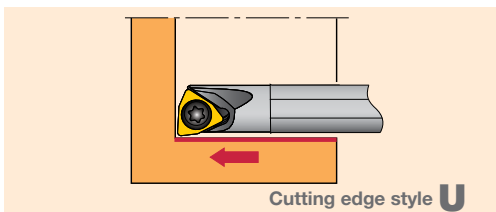
Toolholder	Stock		Min. Bore dia ϕD_m	Dimensions (mm)								Std Corner Radius rE	Applicable Inserts	Parts		Torque (N·m)
	R	L		ϕD_s	f	L ₁	L ₂	h	f ₂	θ	α			Clamping Screw	Wrench	
E07H-STUPR/L07-D080	●	●	8	7	4	100	14	6.75	0.3	+5°	-10°	0.4	TP□□0701	CSTB-2.2L038	T-7F	0.9

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).

SWUBR/L

Boring

S-type (Positive, screw-on)



Steel shank

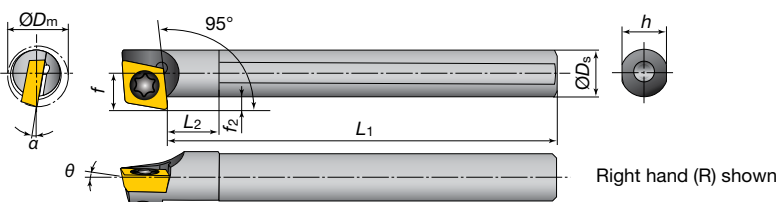
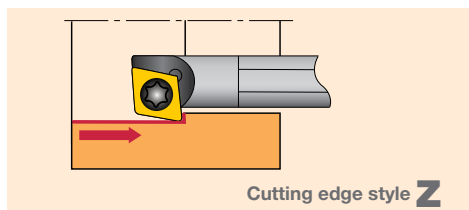
Toolholder	Stock		Min. Bore dia ϕD_m	Dimensions (mm)								Std Corner Radius rE	Applicable Inserts	Parts		Torque (N·m)
	R	L		ϕD_s	f	L ₁	L ₂	h	f ₂	θ	α			Clamping Screw	Wrench	
A05F-SWUBR/L03-D060	●	●	6	5	3	80	9	4.8	-	0°	-13°	0.4	WB□□0301	CSTB-2	T-6F	0.6
A06G-SWUBR/L03-D070	●	●	7	6	3.5	90	11	5.75			-12°					
A07G-SWUBR/L03-D080	●	●	8	7	4	90	12	6.75			-11°					

Carbide shank

Toolholder	Stock		Min. Bore dia ϕD_m	Dimensions (mm)								Std Corner Radius rE	Applicable Inserts	Parts		Torque (N·m)
	R	L		ϕD_s	f	L ₁	L ₂	h	f ₂	θ	α			Clamping Screw	Wrench	
E05G-SWUBR/L03-D060	●	●	6	5	3	90	10	4.8	-	0°	-13°	0.4	WB□□0301	CSTB-2	T-6F	0.6
E06H-SWUBR/L03-D070	●	●	7	6	3.5	100	12	5.75			-12°					
E07H-SWUBR/L03-D080	●	●	8	7	4	100	14	6.75			-11°					

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).

● : Stocked Standard

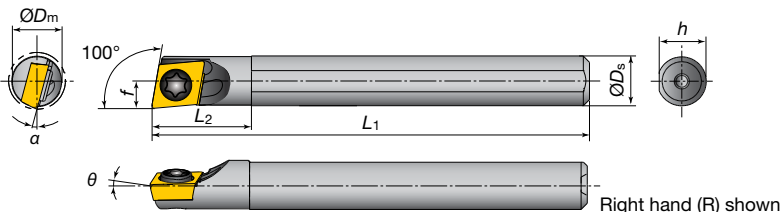
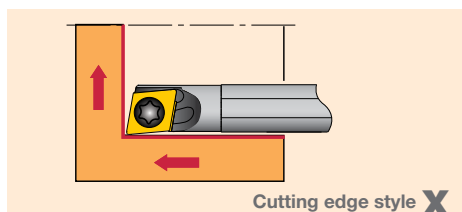
SEZPR/L**Internal retracting****S-type (Positive, screw-on)****Steel shank**

Toolholder	Stock		Min. Bore dia ØDm	Dimensions (mm)								Std Corner Radius rE	Applicable Inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L1	L2	h	f2	θ	α			Clamping Screw	Wrench	
A04F-SEZPR/L03-D055	●	●	5.5	4	3.2	80	4	3.8	1.2	0°	-8°	0.2	EP□□03X1	CSTA-1.6	T-6F	0.6
A05F-SEZPR/L03-D065	●	●	6.5	5	3.7	80	5	4.8			-6°					

Carbide shank

Toolholder	Stock		Min. Bore dia ØDm	Dimensions (mm)								Std Corner Radius rE	Applicable Inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L1	L2	h	f2	θ	α			Clamping Screw	Wrench	
E04G-SEZPR/L03-D055	●	●	5.5	4	3.2	90	5	3.8	1.2	0°	-8°	0.2	EP□□03X1	CSTA-1.6	T-6F	0.6
E05G-SEZPR/L03-D065	●	●	6.5	5	3.7	90	6	4.8			-6°					

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

SEXPR/L Boring & Internal Facing**S-type (Positive, screw-on)****Steel shank**

Toolholder	Stock		Min. Bore dia ØDm	Dimensions (mm)								Std Corner Radius rE	Applicable Inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L1	L2	h	f2	θ	α			Clamping Screw	Wrench	
A04F-SEXPR/L03-D045	●	●	4.5	4	2.3	80	8	3.8	-	0°	-15°	0.2	EP□□03X1	CSTA-1.6	T-6F	0.6
A04F-SEXPR/L03-D050	●	●	5	4	2.5	80	8	3.8	-	0°	-13°					
A05F-SEXPR/L04-D055	●	●	5.5	5	2.75	80	9	4.8	-	0°	-12°	0.4	EP□□0401	CSTB-2	T-6F	0.6
A06G-SEXPR/L04-D070	●	●	7	6	3.6	90	11	5.75	-	0°	-12°					

Carbide shank

Toolholder	Stock		Min. Bore dia ØDm	Dimensions (mm)								Std Corner Radius rE	Applicable Inserts	Parts		Torque (N·m)
	R	L		ØDs	f	L1	L2	h	f2	θ	α			Clamping Screw	Wrench	
E04G-SEXPR/L03-D045	●	●	4.5	4	2.3	90	9	3.8	-	0°	-15°	0.2	EP□□03X1	CSTA-1.6	T-6F	0.6
E04G-SEXPR/L03-D050	●	●	5	4	2.5	90	9	3.8	-	0°	-13°					
E05G-SEXPR/L04-D055	●	●	5.5	5	2.75	90	10	4.8	-	0°	-12°	0.4	EP□□0401	CSTB-2	T-6F	0.6
E06H-SEXPR/L04-D070	●	●	7	6	3.6	100	12	5.75	-	0°	-12°					

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

● : Stocked Standard

Stream Jet Bars MINI

Inserts for small diameter applications

80° Rhombic, 7° positive with hole

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

75° Rhombic, 11° positive with hole

Application	Chipbreaker	Insert Cat. No. (Metric)	Dimensions (mm)				Grades						
	Appearance (Cross section)						I.C. dia. ød	Thickness s	Hole dia.(Ø) ød1	Corner radius rε	Coated		Cermet
			SH730	J740	GH110	NS530					GT530	TH10	UX30
Finishing	W08	EPGT03X100R-W08	3.57	1.39	1.9	0.03	●					●	
	EPGT03X100L-W08	●									●		
	EPGT03X101R-W08	●									●		
	EPGT03X101L-W08	●									●		
	EPGT03X102R-W08	0.20				●					●		
	EPGT03X102L-W08					●					●		
	EPGT03X104R-W08					●					●		
	EPGT03X104L-W08					●					●		
	EPGT040100R-W08	3.97	1.59	2.3	0.03	●			●		●		
	EPGT040100L-W08					●		●			●		
	EPGT040101R-W08					●		●			●		
	EPGT040101L-W08					●					●		
	EPGT040102R-W08				0.20	●		●	●		●		
	EPGT040102L-W08					●		●	●	○	●	○	
	EPGT040104R-W08					●		●	●		●		
	EPGT040104L-W08					●		●	●	○	●	○	
For small lathes with honing	J08	EPGT040100L-J08	3.97	1.59	2.3	0.03	●	○					
	EPGT040102L-J08	0.20				●	○						
	EPGT040104L-J08	0.40				●	○						

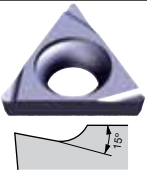
80° Hexagon, 5° positive with hole

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

● : Stocked Standard

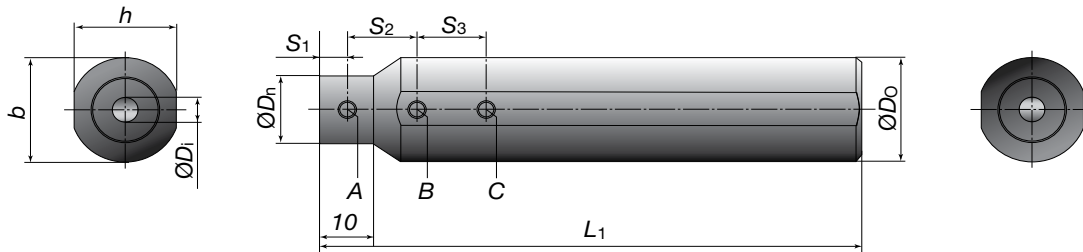
○ : Stocked in Japan

60° Triangular, 11° positive with hole

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

Sleeves

BLM type (Round shank for Stream Jet Bar MINI)



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

*Seal cap (optional): Available Late 2010

● : Stocked Standard

Standard cutting conditions

Work material	Chip-breaker	Grades	Cutting Speed Vc (SFM)	Depth of cut ap (in)	Feed f (in/rev)			
					R0.03	R0.1	R0.2	R0.4
Steels 1008 - 1045 SAE	W08 J08	SH730	160 - 500	.002 ~ .025	.001	.004	.008	.015
Stainless steels SUS303, SUS304 etc.		GH110	200 - 400		.0003 ~ .0008	.0004 ~ .002	.0007 ~ .004	.002 ~ .005
Grey cast irons Ductile cast irons FC250, FCD450 etc.		TH10	200 - 500					
Aluminium alloys Copper alloys Si < 13%			500 - 1200					
Titanium Titanium alloys Ti-6Al-4V etc.		SH730	100 - 200					

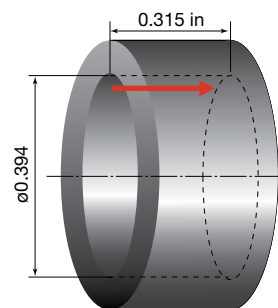
Practical examples

Toolholder : E07K-SCLCR04-D080
Insert : CCGT04T102L-W08 (SH730)

Work material : 1045 SAE
Cutting speed : Vc = 160 SFM
Depth of cut : ap = 0.006 in
Feed : f = 0.002 in/rev
Cutting fluid : Water soluble type
(Internal supply)

30 % increased tool life

Stream Jet Bar 400 pcs.
Competitor 300 pcs.



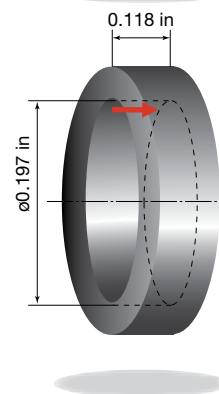
SJB MINI accomplished 30% longer tool life with excellent surface roughness than the competitor's product.

Toolholder : A04F-SCLCR03-D050
Insert : CCGT03X104L-W08 (SH730)

Work material : 52100 Bearing Steel
Cutting speed : Vc = 80 SFM
Depth of cut : ap = 0.008 in
Feed : f = 0.002 in/rev
Cutting fluid : Cutting oil
(external supply)

Twice increased tool life

Stream Jet Bar 1000 pcs.
Competitor 500 pcs.



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