Member IMC Group Tungaloy

TurnLine

For more information

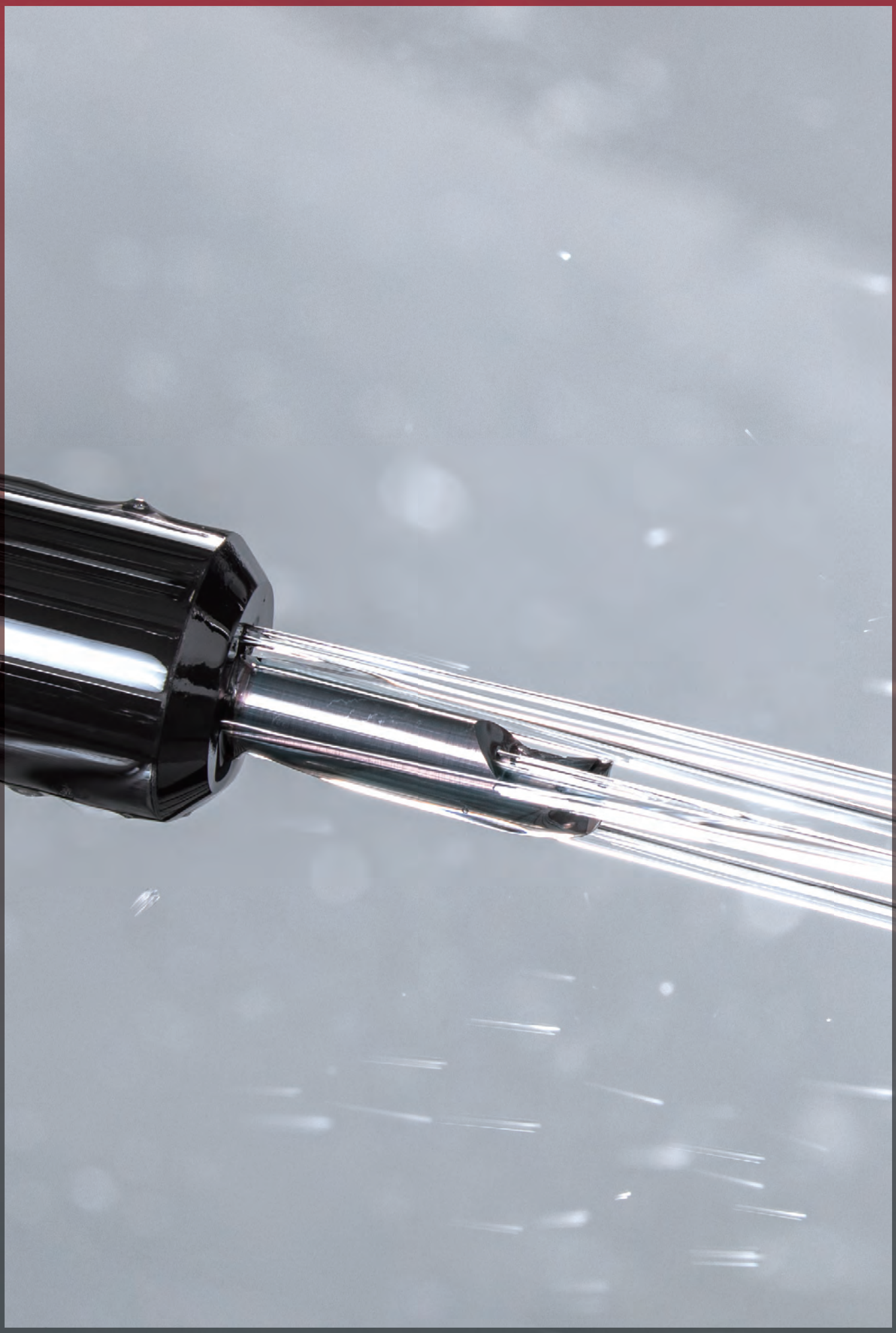
Small diameter internal turning tool

TINYMINITURN

Tungaloy Report No. 402-G

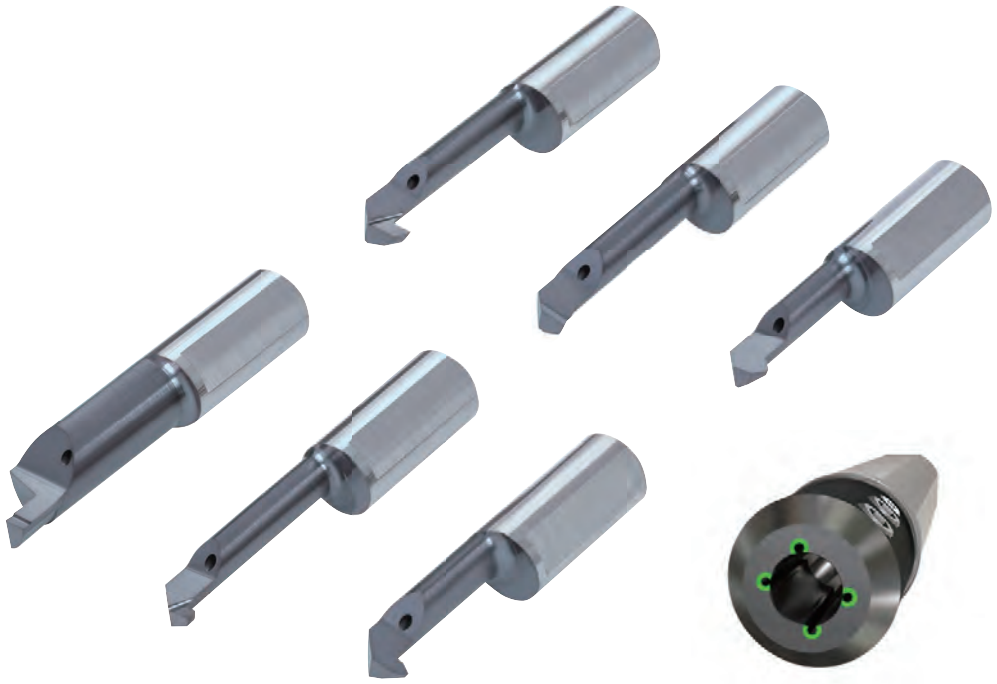
Expansion of SH725 grade with coolant hole solid carbide boring bar

TUNGALOY ADDFORCE ACCELERATED LINES



TUNGALOY ADDFORCE TURN
ACCELERATED TURNING & THREADING

TINYMINI TURN



5 strategically placed coolant holes one in the solid carbide bar and 4 within the sleeve, for superior chip formation, efficient evacuation, and extended tool life.

Solid carbide boring bar series

< ø0.6 mm

SH725

New

JB**

With coolant hole

TB**

Without coolant hole

Solid carbide boring bar - CBN

< ø2.8 mm

JBTR**

P.13

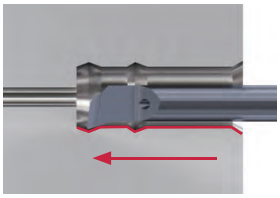
Indexable type

< ø5 mm

A/E-SEXPR**
A/E-SEZPR**

P.25

10 geometries covers a wide range of machining

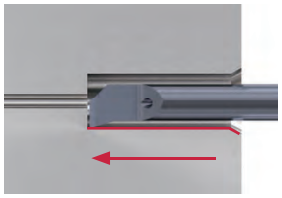


Boring, profiling, chamfering

JBTR/L, TBTR/L****

DMIN = 0.6 mm

P.12 - P.14

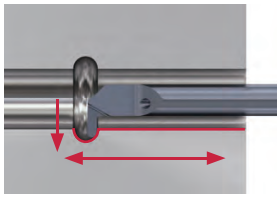


Boring, chamfering

JBPR, TBPR****

DMIN = 2.8 mm

P.15

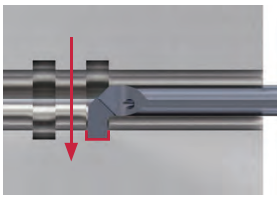


Profiling

JBRR, TBRR****

DMIN = 5 mm

P.16

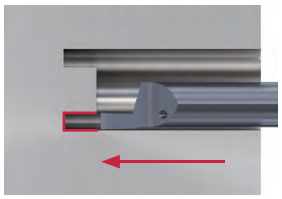


Internal grooving

JBGR/L, TBGR****

DMIN = 2 mm

P.17 - P.18

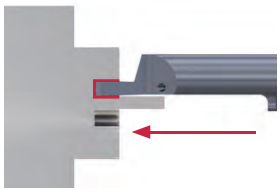


Internal face grooving

JBFR/L, TBFR****

DMIN = 6 mm

P.19

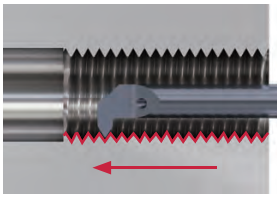


Face grooving for shaft

JBSR, TBSR****

DMIN = 6 mm

P.20

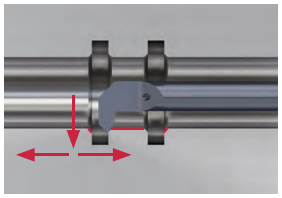


Internal threading

JBIR, TBIR****

DMIN = 4 mm

P.21

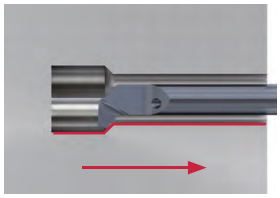


Chamfering

JBCR, TBCR****

DMIN = 5 mm

P.22

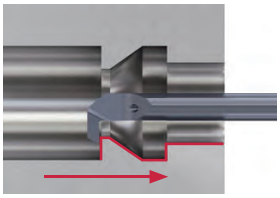


Back boring, chamfering

JBUR, TBUR****

DMIN = 5 mm

P.23



Back boring

JBBR, TBBR****

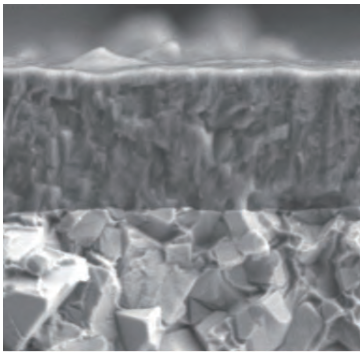
DMIN = 3 mm

P.24

Expansion of SH725 grade for solid carbide boring bar lineup

- Excellent wear and chipping resistance offers longer and predictable tool life combined with stable machining
- Solid bars with coolant hole

SH725



PVD coated grade SH725

(Ti,Al)N coating combined with a tough carbide substrate dedicated for small parts machining offers excellent coating adhesion and edge sharpness.

Excellent resistance to wear and chip welding

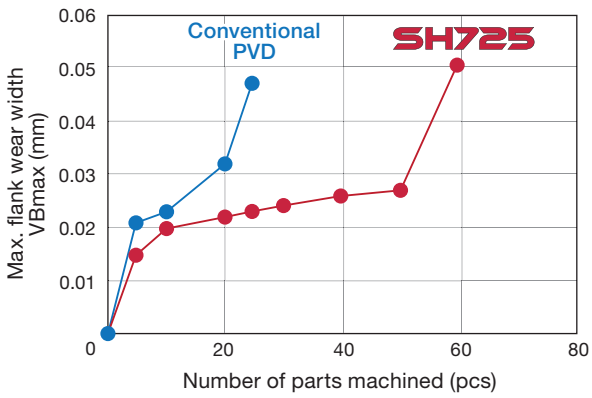
Smooth coating surface of the cutting edge prevents coating from peeling off, while its incredible wear resistance provides longer tool life than existing grades.

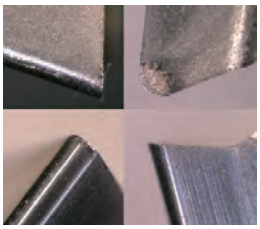
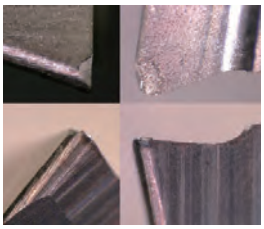
High resistance to plastic deformation

Tough carbide substrate offers stable and longer tool life.

CUTTING PERFORMANCE

M SUS316L / X2CrNiMo17-12-2



After machining 50 pcs	After machining 25 pcs
	
SH725	Conventional PVD

Solid bar	: **TBTR07210015-D060**
Grade	: **SH725**
Cutting speed	: *V*c = 60 m/min
Feed	: *f* = 0.02 mm/rev
Depth of cut	: *a*p = 0.5 mm
Coolant	: Wet

SH725 showed excellent wear resistance.

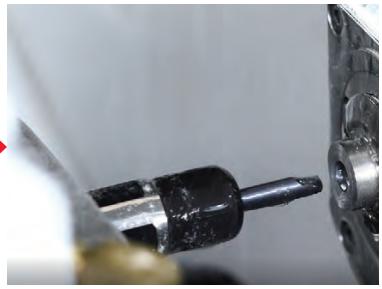
New sleeve with 4 coolant holes for optimal performance

- Optimum sleeve for all boring operations.
  Sleeves with four coolant holes can be used with all TinyMini-Turn tools
- 4 streams of coolant jets are directed to the cutting point, improving chip evacuation
- Sufficient coolant supply eliminates chip bird-nesting on the tools or workpiece, enabling trouble-free, unattended operation over an extended time
- Significantly prolongs tool life

Perfect chip evacuation

Internal coolant sleeve

Excellent chip evacuation



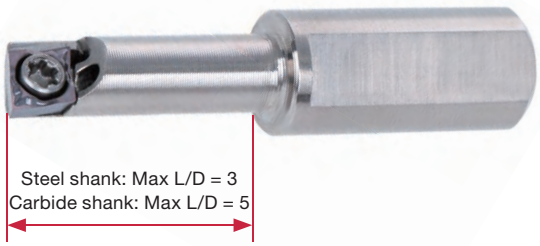
- No chip jamming
- No machine stoppage
- No downtime

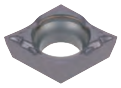
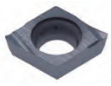
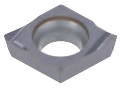
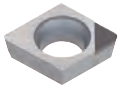
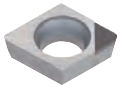
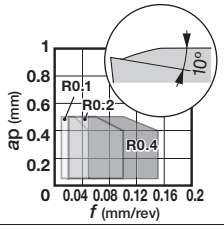
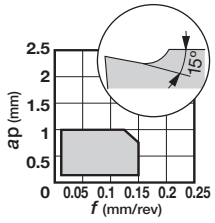
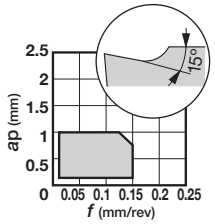
Conventional (External coolant)

- Chip jamming
- Increased machine downtime

New economical indexable solution for miniature boring applications

- Applicable for boring operations as small as ø5 mm
- Available in a wide variety of chipbreakers and grades
- Provides excellent chip control due to unique chipbreakers
- Coolant-through tools dramatically improve chip evacuation
- Long overhang with carbide tools

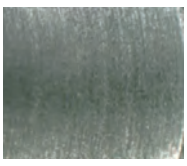


Workpiece material	P M S	P M N S	P M S	S H	N
Chipbreaker	JS	W08	J08	None	None
Image					
Applicable grade EPG*04...	SH7025 / SH725	SH7025 / SH725 GT9530 / NS9530 TH10	SH7025 / SH725 J740	BX310* / BX470*	DX140
Applicable grade EPG*03...	SH7025 / SH725	SH7025 / SH725 TH10	-	BX310* / BX470*	-
Chip control range				-	-

*Designation: 1QP-EPGW...

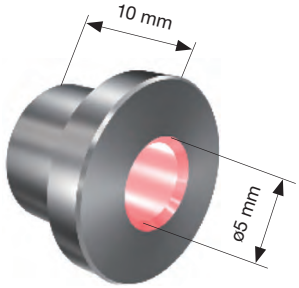
CUTTING PERFORMANCE

P S45C / C45

Tool	New indexable tool	Conventional
	 Tool: A07050-SEXPR03-3 Insert: EPGT040101F-JS **SH725**	 Solid bar: Conventional PVD
Chipbreaker		
Surface quality		

Cutting speed : *Vc* = 80 m/min
Feed : *f* = 0.03 mm/rev
Depth of cut : *ap* = 0.3 mm
Coolant : Wet

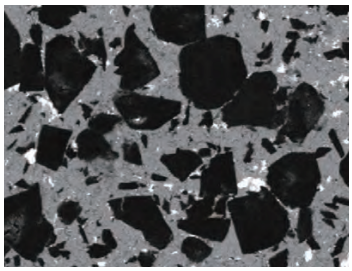
Excellent chip control and surface finish thanks to tool stability and perfect chip formation and evacuation.



TinyMini-Turn CBN for as small as 2.8 mm bore diameter

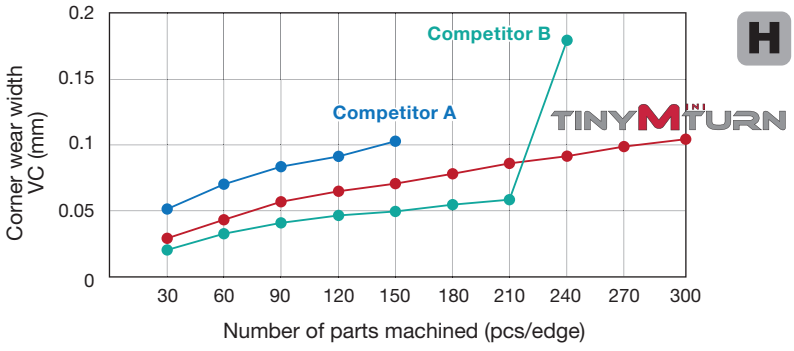
- Available in three minimum bore diameters (DMIN): 2.8, 4 and 5 mm
- Available in 2xD and 3xD tool lengths
- Through-coolant

Uncoated CBN grade
BX310



Thanks to extremely wear resistant Ti-ceramic binder, BX310 provides long and predictable tool life in small-diameter boring operations where high cutting speed operation is difficult.

CUTTING PERFORMANCE



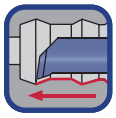
H

Insert	: JBTR04060010-D028ST BX310
Sleeve	: JBBS19-4-L100C
Workpiece material	: SCM420 (60-62HRC)
Cutting speed	: *Vc* = 28 m/min
Number of revolutions	: *n* = 3,000 min^{-1}
Feed	: *f* = 0.02 mm/rev
Depth of cut	: *ap* = 0.01 mm
Coolant	: Wet

TinyMini-Turn CBN enabled long and predictable tool life

STANDARD CUTTING CONDITIONS

For solid boring bar

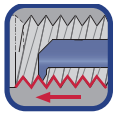


Boring, profiling, chamfering, back boring

ISO	Workpiece material	Grade	Cutting speed *Vc* (m/min)	Feed *f* (mm/rev)
P	Low carbon steels S15C, S25C, etc. C15E, C15E4, etc.	SH725	40 - 140	0.01 - 0.08
P	Carbon steels, Alloy steels S55C, SCM440, etc. C55, 42CrMo4, etc.	SH725	40 - 140	0.01 - 0.08
P	Prehardened steels NAK80, PX5, etc.	SH725	40 - 140	0.01 - 0.08
M	Stainless steels SUS304, SUS316, etc. X5CrNi18-9, X5CrNiMo17-12-3, etc.	SH725	40 - 140	0.01 - 0.08
K	Grey cast irons FC250, FCD300, etc. GG25, 250, GG30, 300, etc.	SH725	30 - 100	0.01 - 0.08
K	Ductile cast irons FC450, FCD600, etc. GGG60, 600-3, etc.	SH725	30 - 100	0.01 - 0.08
N	Aluminium alloys, Copper alloys Si < 12%	SH725	90 - 200	0.01 - 0.08
S	Titanium alloys Ti-6Al-4V, etc.	SH725	30 - 100	0.01 - 0.08
S	Superalloys Inconel718, etc.	SH725	30 - 100	0.01 - 0.08

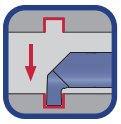
ISO	Workpiece material	Hardness	Grade	Cutting speed *Vc* (m/min)	Feed *f* (mm/rev)
H	Hardened steel	55 - 65 HRC	BX310	15 - 100	0.01 - 0.1*

*Set the D.O.C. and feed according to the tool's corner radius (RE) outlined in the chart below.



Threading (metric thread)

ISO	Workpiece material	Grade	Cutting speed *Vc* (m/min)	Number of passes Pitch (mm) 0.5	0.75	1	1.25	1.5
P	Low carbon steels S15C, S25C, etc. C15E, C15E4, etc.	SH725	40 - 140	6 - 8	8 - 10	10 - 12	12 - 15	15 - 18
P	Carbon steels, Alloy steels S55C, SCM440, etc. C55, 42CrMo4, etc.	SH725	40 - 140	6 - 8	8 - 10	10 - 12	12 - 15	15 - 18
P	Prehardened steels NAK80, PX5, etc.	SH725	40 - 140	6 - 8	8 - 10	10 - 12	12 - 15	15 - 18
M	Stainless steels SUS304, SUS316, etc. X5CrNi18-9, X5CrNiMo17-12-3, etc.	SH725	40 - 140	8	10	12	15	18
K	Grey cast irons FC250, FCD300, etc. GG25, 250, GG30, 300, etc.	SH725	30 - 100	7	9	12	14	17
K	Ductile cast irons FC450, FCD600, etc. GGG60, 600-3, etc.	SH725	30 - 100	7	9	12	14	17
N	Aluminium alloys, Copper alloys Si < 12%	SH725	90 - 200	6	8	10	12	15
S	Titanium alloys Ti-6Al-4V, etc.	SH725	30 - 100	8	10	12	15	18
S	Superalloys Inconel718, etc.	SH725	30 - 100	8	10	12	15	18



Internal grooving

ISO	Workpiece material	Grade	Cutting speed *Vc* (m/min)	Feed *f* (mm/rev)
P	Low carbon steels S15C, S25C, etc. C15E, C15E4, etc.	SH725	40 - 140	0.01 - 0.03
P	Carbon steels, Alloy steels S55C, SCM440, etc. C55, 42CrMo4, etc.	SH725	40 - 140	0.01 - 0.03
P	Prehardened steels NAK80, PX5, etc.	SH725	40 - 140	0.01 - 0.03
M	Stainless steels SUS304, SUS316, etc. X5CrNi18-9, X5CrNiMo17-12-3, etc.	SH725	40 - 140	0.01 - 0.03
K	Grey cast irons FC250, FCD300, etc. GG25, 250, GG30, 300, etc.	SH725	30 - 100	0.01 - 0.03
K	Ductile cast irons FC450, FCD600, etc. GGG60, 600-3, etc.	SH725	30 - 100	0.01 - 0.03
N	Aluminium alloys, Copper alloys Si < 12%	SH725	90 - 200	0.01 - 0.03
S	Titanium alloys Ti-6Al-4V, etc.	SH725	30 - 100	0.01 - 0.03
S	Superalloys Inconel718, etc.	SH725	30 - 100	0.01 - 0.03

Face grooving

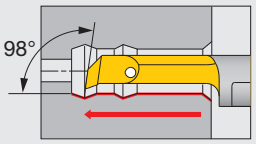
ISO	Workpiece material	Grade	Cutting speed *Vc* (m/min)	Feed *f* (mm/rev)
P	Low carbon steels S15C, S25C, etc. C15E, C15E4, etc.	SH725	40 - 140	0.01 - 0.05
P	Carbon steels, Alloy steels S55C, SCM440, etc. C55, 42CrMo4, etc.	SH725	40 - 140	0.01 - 0.05
P	Prehardened steels NAK80, PX5, etc.	SH725	40 - 140	0.01 - 0.05
M	Stainless steels SUS304, SUS316, etc. X5CrNi18-9, X5CrNiMo17-12-3, etc.	SH725	40 - 140	0.01 - 0.05
K	Grey cast irons FC250, FCD300, etc. GG25, 250, GG30, 300, etc.	SH725	30 - 100	0.01 - 0.05
K	Ductile cast irons FC450, FCD600, etc. GGG60, 600-3, etc.	SH725	30 - 100	0.01 - 0.05
N	Aluminium alloys, Copper alloys Si < 12%	SH725	90 - 200	0.01 - 0.05
S	Titanium alloys Ti-6Al-4V, etc.	SH725	30 - 100	0.01 - 0.05
S	Superalloys Inconel718, etc.	SH725	30 - 100	0.01 - 0.05

For new indexable boring bar (EPG*04 / EPG*03 insert)

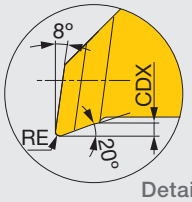
ISO	Workpiece material	Grade	Cutting speed *Vc* (m/min)
P	Low carbon steels S15C, S25C, etc. C15E, C15E4, etc. Carbon steels S45C, S55C, etc. C45, C55, etc. Alloy steels SCM440, SCr420, etc. 42CrMo4, 20Cr4, etc.	SH7025	10 - 200
		SH725	10 - 200
		SH730	10 - 150
		J740	10 - 100
		NS9530	150 - 300
		GT9530	150 - 300
M	Stainless steels SUS304, SUS316, etc. X5CrNi18-9, X5CrNiMo17-12-3, etc.	SH7025	10 - 200
		SH725	10 - 200
		SH730	10 - 150
K	Grey cast iron FC250, GG25, 250, etc.	TH10	30 - 100
N	Aluminium alloys Si < 12%	TH10	> 100
		DX140	> 500
	Aluminium alloys Si > 12%	TH10	> 100
		DX140	> 400
	Copper alloys	TH10	> 100
		DX140	> 500
H	Hardened materials	BX310	30 - 150
Powder metal	Sintered powder metals	BX470	100 - 300

JBTR/L

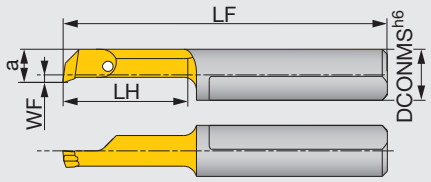
Solid boring bar for boring, profiling, and chamfering



with coolant hole



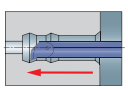
Details of edge



Right hand (R) shown.

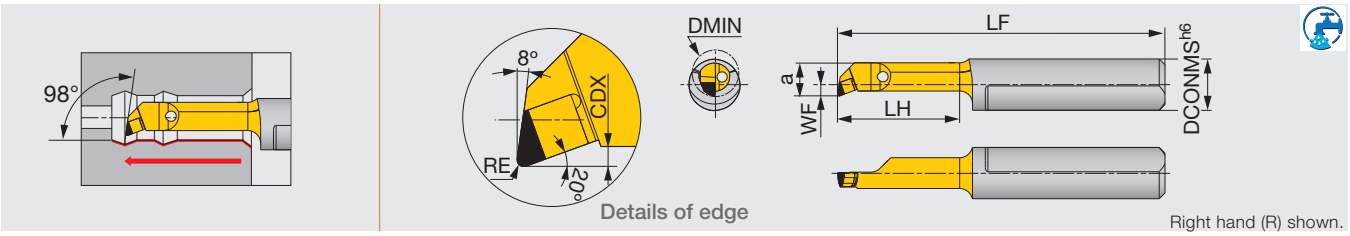
Designation	SH725	DMIN	DCONMS	WF	a	LF	LH	CDX	RE $^{+0.05}_{0}$
JBTR04020004-D006	●	0.6	4	-1.5	0.5	18.5	2	0.08	0.04
JBTR04030004-D006	●	0.6	4	-1.5	0.5	19.5	3	0.08	0.04
JBTR04045005-D010	●	1	4	-1.1	0.9	21	4.5	0.1	0.05
JBTR04065005-D010	●	1	4	-1.1	0.9	23	6.5	0.1	0.05
JBTR04040005-D020	●	2	4	-0.3	1.7	20.5	4	0.1	0.05
JBTR04090005-D020	●	2	4	-0.3	1.7	25.5	9	0.1	0.05
JBTR04140005-D020	●	2	4	-0.3	1.7	30.5	14	0.1	0.05
JBTR/L04090010-D028	●	2.8	4	0.9	2.6	25.5	9	0.2	0.1
JBTR/L04150010-D028	●	2.8	4	0.9	2.6	31.5	15	0.2	0.1
JBTR/L04190010-D028	●	2.8	4	0.9	2.6	35.5	19	0.2	0.1
JBTR/L04090010-D040	●	4	4	1.5	3.5	25.5	9	0.3	0.1
JBTR/L04150010-D040	●	4	4	1.5	3.5	31.5	15	0.3	0.1
JBTR/L04190010-D040	●	4	4	1.5	3.5	35.5	19	0.3	0.1
JBTR04230010-D040	●	4	4	1.5	3.5	39.5	23	0.3	0.1
JBTR04270010-D040	●	4	4	1.5	3.5	43.5	27	0.3	0.1
JBTR/L07090015-D050	●	5	7	0.9	4.4	25	9	0.5	0.15
JBTR/L07140015-D050	●	5	7	0.9	4.4	30	14	0.5	0.15
JBTR/L07190015-D050	●	5	7	0.9	4.4	35	19	0.5	0.15
JBTR/L07240015-D050	●	5	7	0.9	4.4	40	24	0.5	0.15
JBTR07290015-D050	●	5	7	0.9	4.4	45	29	0.5	0.15
JBTR07340015-D050	●	5	7	0.9	4.4	50	34	0.5	0.15
JBTL07340015-D050	●	5	7	0.9	4.4	50	34	0.5	0.15
JBTR/L07140015-D060	●	6	7	1.8	5.3	30	14	0.5	0.15
JBTR/L07210015-D060	●	6	7	1.8	5.3	37	21	0.5	0.15
JBTR/L07240015-D060	●	6	7	1.8	5.3	40	24	0.5	0.15
JBTR/L07290015-D060	●	6	7	1.8	5.3	45	29	0.5	0.15
JBTR07340015-D060	●	6	7	1.8	5.3	50	34	0.5	0.15
JBTR07410015-D060	●	6	7	1.8	5.3	57	41	0.5	0.15
JBTR/L07190015-D068	●	6.8	7	2.8	6.3	35	19	0.6	0.15
JBTR07240015-D068	●	6.8	7	2.8	6.3	40	24	0.6	0.15
JBTR/L07290015-D068	●	6.8	7	2.8	6.3	45	29	0.6	0.15
JBTR/L07340015-D070	●	7	7	2.8	6.3	50	34	0.6	0.15
JBTR07390015-D070	●	7	7	2.8	6.3	55	39	0.6	0.15
JBTR07440015-D070	●	7	7	2.8	6.3	60	44	0.6	0.15
JBTR07490015-D070	●	7	7	2.8	6.3	65	49	0.6	0.15

● : New

Application		Description	Material	Through coolant	Cylindrical shank ø4	Cylindrical shank ø7	Groove width	Min. bore diameter DMIN (mm) 0 2 4 6 8 10 12 14 15
Boring, profiling & chamfering		JBT	Carbide	○	○	○	-	ø0.6 ▬▬▬▬ ø7

JBTR

For boring, profiling, and chamfering

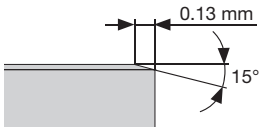


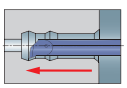
Designation	BX310	DMIN	DCONMS	WF	a	LF	LH	CDX	RE $^{+0.05}_{0}$
JBTR04060010-D028ST	●	2.8	4	0.9	2.6	22	6	0.3	0.1
JBTR04095010-D028ST	●	2.8	4	0.9	2.6	25.5	9.5	0.3	0.1
JBTR04070015-D040ST	●	4	4	1.5	3.5	23	7	0.5	0.15
JBTR04110015-D040ST	●	4	4	1.5	3.5	27	11	0.5	0.15
JBTR07090020-D050ST	●	5	7	0.6	4.15	25	9	0.4	0.2
JBTR07140020-D050ST	●	5	7	0.6	4.15	30	14	0.4	0.2

● : New

Edge preparation

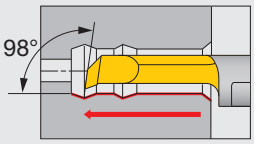
ST: T01315

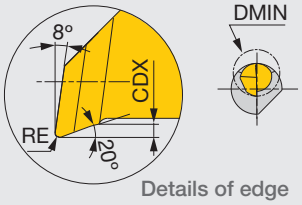


	Application	Description	Material	Through coolant	Cylindrical shank ø4	Cylindrical shank ø7	Groove width	Min. bore diameter DMIN (mm) 0 2 4 6 8 10 12 14 15
Boring, profiling & chamfering		**JBT**	Carbide	○	○	○	-	ø2.8 ø5

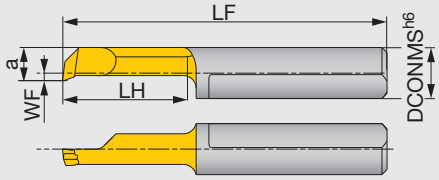
TBTR/L

Solid boring bar for boring, profiling, and chamfering





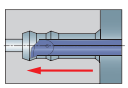
Details of edge



Right hand (R) shown.

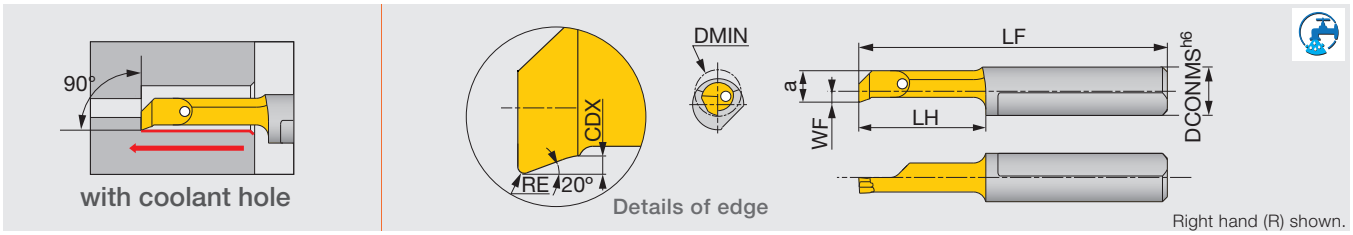
Designation	SH725	DMIN	DCONMS	WF	a	LF	LH	CDX	RE $^{+0.05}_{0}$
TBTR04045005-D010	●	1	4	-1.1	0.9	21	4.5	0.1	0.05
TBTR04065005-D010	●	1	4	-1.1	0.9	23	6.5	0.1	0.05
TBTR04040005-D020	●	2	4	-0.3	1.7	20.5	4	0.1	0.05
TBTR04090005-D020	●	2	4	-0.3	1.7	25.5	9	0.1	0.05
TBTR04140005-D020	●	2	4	-0.3	1.7	30.5	14	0.1	0.05
TBTR/L04090010-D028	●	2.8	4	0.9	2.6	25.5	9	0.2	0.1
TBTR04150010-D028	●	2.8	4	0.9	2.6	31.5	15	0.2	0.1
TBTR04190010-D028	●	2.8	4	0.9	2.6	35.5	19	0.2	0.1
TBTR04090010-D040	●	4	4	1.5	3.5	25.5	9	0.3	0.1
TBTR04150010-D040	●	4	4	1.5	3.5	31.5	15	0.3	0.1
TBTR04190010-D040	●	4	4	1.5	3.5	35.5	19	0.3	0.1
TBTR04230010-D040	●	4	4	1.5	3.5	39.5	23	0.3	0.1
TBTR04270010-D040	●	4	4	1.5	3.5	43.5	27	0.3	0.1
TBTR07090015-D050	●	5	7	0.9	4.4	25	9	0.5	0.15
TBTR07140015-D050	●	5	7	0.9	4.4	30	14	0.5	0.15
TBTR07190015-D050	●	5	7	0.9	4.4	35	19	0.5	0.15
TBTR07240015-D050	●	5	7	0.9	4.4	40	24	0.5	0.15
TBTR07290015-D050	●	5	7	0.9	4.4	45	29	0.5	0.15
TBTR07340015-D050	●	5	7	0.9	4.4	50	34	0.5	0.15
TBTR07140015-D060	●	6	7	1.8	5.3	30	14	0.5	0.15
TBTR/L07210015-D060	●	6	7	1.8	5.3	37	21	0.5	0.15
TBTR07240015-D060	●	6	7	1.8	5.3	40	24	0.5	0.15
TBTR07290015-D060	●	6	7	1.8	5.3	45	29	0.5	0.15
TBTR07340015-D060	●	6	7	1.8	5.3	50	34	0.5	0.15
TBTR07410015-D060	●	6	7	1.8	5.3	57	41	0.5	0.15
TBTR07190015-D068	●	6.8	7	2.8	6.3	35	19	0.6	0.15
TBTR07240015-D068	●	6.8	7	2.8	6.3	40	24	0.6	0.15
TBTR07290015-D068	●	6.8	7	2.8	6.3	45	29	0.6	0.15
TBTR07340015-D070	●	7	7	2.8	6.3	50	34	0.6	0.15
TBTR07390015-D070	●	7	7	2.8	6.3	55	39	0.6	0.15
TBTR07440015-D070	●	7	7	2.8	6.3	60	44	0.6	0.15
TBTR07490015-D070	●	7	7	2.8	6.3	65	49	0.6	0.15

● : New

Application		Description	Material	Through coolant	Cylindrical shank ø4	Cylindrical shank ø7	Groove width	Min. bore diameter DMIN (mm) 0 2 4 6 8 10 12 14 15
Boring, profiling & chamfering		TBT	Carbide	-	○	○	-	ø1 — ø7

JBPR

Solid boring bar for boring and chamfering

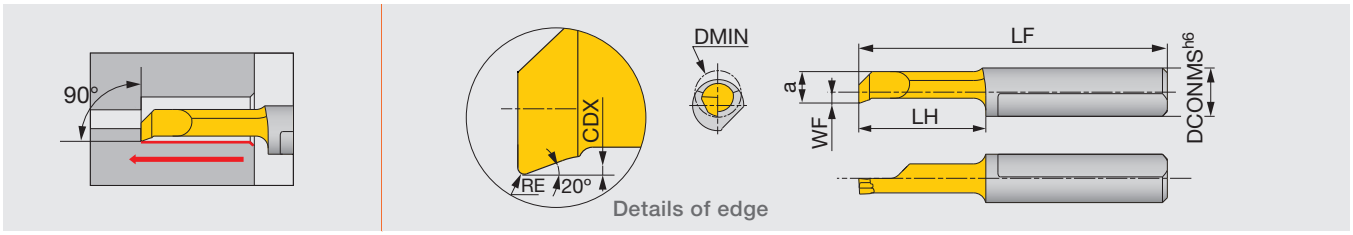


Designation	SH725	DMIN	DCONMS	WF	a	LF	LH	CDX	RE $^{+0.05}_{0}$
JBPR04090010-D028	●	2.8	4	0.9	2.6	25.5	9	0.2	0.1
JBPR04150010-D028	●	2.8	4	0.9	2.6	31.5	15	0.2	0.1
JBPR04090010-D040	●	4	4	1.5	3.5	25.5	9	0.3	0.1
JBPR04150010-D040	●	4	4	1.5	3.5	31.5	15	0.3	0.1
JBPR07140015-D050	●	5	7	0.9	4.4	30	14	0.5	0.15
JBPR07190015-D050	●	5	7	0.9	4.4	35	19	0.5	0.15

● : New

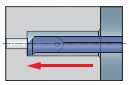
TBPR

Solid boring bar for boring and chamfering



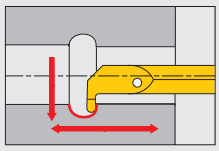
Designation	SH725	DMIN	DCONMS	WF	a	LF	LH	CDX	RE $^{+0.05}_{0}$
TBPR04090010-D028	●	2.8	4	0.9	2.6	25.5	9	0.2	0.1
TBPR04150010-D040	●	4	4	1.5	3.5	31.5	15	0.3	0.1
TBPR07140015-D050	●	5	7	0.9	4.4	30	14	0.5	0.15
TBPR07190015-D050	●	5	7	0.9	4.4	35	19	0.5	0.15

● : New

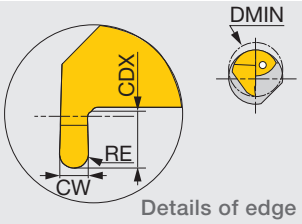
	Application	Description	Material	Through coolant	Cylindrical shank ø4	Cylindrical shank ø7	Groove width	Min. bore diameter DMIN (mm) 0 2 4 6 8 10 12 14 15
Boring, profiling & chamfering		JBP	Carbide	○	○	○	-	ø2.8 – ø5
		TBP	Carbide	-	○	○	-	ø2.8 – ø5

JBRR

Solid boring bar for boring and profiling



with coolant hole



Details of edge

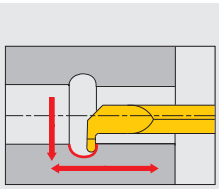
Right hand (R) shown.

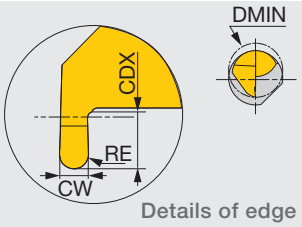
Designation	SH725	CW $^{+0.05}_{0}$	DMIN	DCONMS	WF	a	LF	LH	CDX	RE
JBRR07190050-D050	●	1	5	7	0.9	4.4	35	19	1	0.5
JBRR07240050-D060	●	1	6	7	1.8	5.3	40	24	1.8	0.5
JBRR07290050-D068	●	1	6.8	7	2.8	6.3	45	29	2.5	0.5

● : New

TBRR

Solid boring bar for boring and profiling

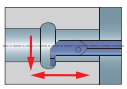




Details of edge

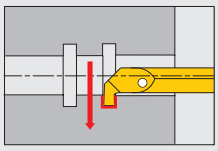
Designation	SH725	CW $^{+0.05}_{0}$	DMIN	DCONMS	WF	a	LF	LH	CDX	RE
TBRR07190050-D050	●	1	5	7	0.9	4.4	35	19	1	0.5
TBRR07240050-D060	●	1	6	7	1.8	5.3	40	24	1.8	0.5
TBRR07290050-D068	●	1	6.8	7	2.8	6.3	45	29	2.5	0.5

● : New

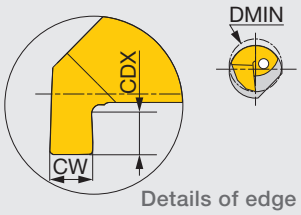
	Application	Description	Material	Through coolant	Cylindrical shank ø4	Cylindrical shank ø7	Groove width	Min. bore diameter DMIN (mm) 0 2 4 6 8 10 12 14 15
Boring & profiling (full radius type)		JBR	Carbide	○	-	○	-	ø5 ø6.8
		TBR	Carbide	-	-	○	1	ø5 ø6.8

JBGR/L

Solid boring bar for internal grooving



with coolant hole



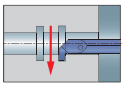
Details of edge

Right hand (R) shown.

Designation	SH725	CW $^{+0.05}_{0}$	DMIN	DCONMS	WF	a	LF	LH	CDX
JBGR04050050-D020	●	0.5	2	4	-0.2	1.8	21	5	0.4
JBGR04100050-D020	●	0.5	2	4	-0.2	1.8	26	10	0.4
JBGR04050070-D030	●	0.7	3	4	0.7	2.7	21	5	0.6
JBGR04100070-D030	●	0.7	3	4	0.7	2.7	26	10	0.6
JBGR04090100-D040	●	1	4	4	1.5	3.5	25.5	9	0.8
JBGR04150100-D040	●	1	4	4	1.5	3.5	31.5	15	0.8
JBGR07090100-D050	●	1	5	7	0.9	4.4	25	9	1
JBGR07140100-D050	●	1	5	7	0.9	4.4	30	14	1
JBGR07090150-D050	●	1.5	5	7	0.9	4.4	25	9	1
JBGR07140150-D050	●	1.5	5	7	0.9	4.4	30	14	1
JBGR07090200-D050	●	2	5	7	0.9	4.4	25	9	1
JBGR07190200-D050	●	2	5	7	0.9	4.4	35	19	1
JBGR/L07090100-D060	●	1	6	7	1.8	5.3	25	9	1.8
JBGR07140100-D060	●	1	6	7	1.8	5.3	30	14	1.8
JBGR07210100-D060	●	1	6	7	1.8	5.3	37	21	1.8
JBGR07290100-D060	●	1	6	7	1.8	5.3	45	29	1.8
JBGR/L07090150-D060	●	1.5	6	7	1.8	5.3	25	9	1.8
JBGR07140150-D060	●	1.5	6	7	1.8	5.3	30	14	1.8
JBGR07210150-D060	●	1.5	6	7	1.8	5.3	37	21	1.8
JBGR07240150-D060	●	1.5	6	7	1.8	5.3	40	24	1.8
JBGR07290150-D060	●	1.5	6	7	1.8	5.3	45	29	1.8
JBGR07090200-D060	●	2	6	7	1.8	5.3	25	9	1.8
JBGR07140200-D060	●	2	6	7	1.8	5.3	30	14	1.8
JBGR07210200-D060	●	2	6	7	1.8	5.3	37	21	1.8
JBGR07240200-D060	●	2	6	7	1.8	5.3	40	24	1.8
JBGR07290200-D060	●	2	6	7	1.8	5.3	45	29	1.8
JBGR07090100-D068	●	1	6.8	7	2.7	6.2	25	9	2.5
JBGR07140100-D068	●	1	6.8	7	2.7	6.2	30	14	2.5
JBGR07210100-D068	●	1	6.8	7	2.7	6.2	37	21	2.5
JBGR07090150-D068	●	1.5	6.8	7	2.7	6.2	25	9	2.5
JBGR07140150-D068	●	1.5	6.8	7	2.7	6.2	30	14	2.5
JBGR07210150-D068	●	1.5	6.8	7	2.7	6.2	37	21	2.5
JBGR07290150-D068	●	1.5	6.8	7	2.7	6.2	45	29	2.5
JBGR07090200-D068	●	2	6.8	7	2.7	6.2	25	9	2.5
JBGR/L07140200-D068	●	2	6.8	7	2.7	6.2	30	14	2.5
JBGR07210200-D068	●	2	6.8	7	2.7	6.2	37	21	2.5
JBGR07250200-D068	●	2	6.8	7	2.7	6.2	40	24	2.5
JBGR07290200-D068	●	2	6.8	7	2.7	6.2	45	29	2.5

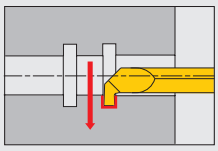
Corner radius: less than 0.1 mm

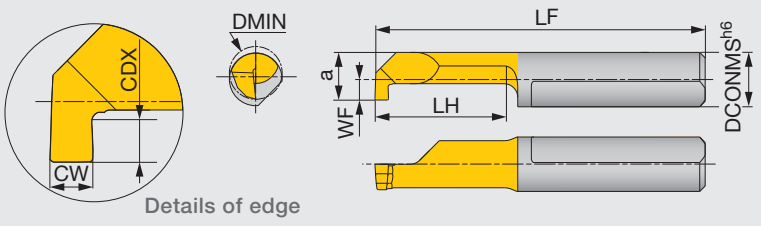
● : New

	Application	Description	Material	Through coolant	Cylindrical shank ø4	Cylindrical shank ø7	Groove width	Min. bore diameter DMIN (mm) 0 2 4 6 8 10 12 14 15
Internal Grooving		JBG	Carbide	○	○	○	-	ø0.5 — ø6.8

TBGR

Solid boring bar for internal grooving





Designation	SH725	CW $^{+0.05}_{0}$	DMIN	DCONMS	WF	a	LF	LH	CDX
TBGR04100050-D020	●	0.5	2	4	-0.2	1.8	26	10	0.4
TBGR04090100-D040	●	1	4	4	1.5	3.5	25.5	9	0.8
TBGR04150100-D040	●	1	4	4	1.5	3.5	31.5	15	0.8
TBGR07090200-D050	●	2	5	7	0.9	4.4	25	9	1
TBGR07090100-D060	●	1	6	7	1.8	5.3	25	9	1.8
TBGR07140100-D060	●	1	6	7	1.8	5.3	30	14	1.8
TBGR07090150-D060	●	1.5	6	7	1.8	5.3	25	9	1.8
TBGR07090200-D060	●	2	6	7	1.8	5.3	25	9	1.8
TBGR07140200-D060	●	2	6	7	1.8	5.3	30	14	1.8
TBGR07090100-D068	●	1	6.8	7	2.7	6.2	25	9	2.5
TBGR07090150-D068	●	1.5	6.8	7	2.7	6.2	25	9	2.5
TBGR07140150-D068	●	1.5	6.8	7	2.7	6.2	30	14	2.5
TBGR07090200-D068	●	2	6.8	7	2.7	6.2	25	9	2.5
TBGR07140200-D068	●	2	6.8	7	2.7	6.2	30	14	2.5
TBGR07210200-D068	●	2	6.8	7	2.7	6.2	37	21	2.5
TBGR07290200-D068	●	2	6.8	7	2.7	6.2	45	29	2.5

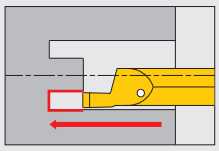
Corner radius : less than 0.1 mm.

● : New

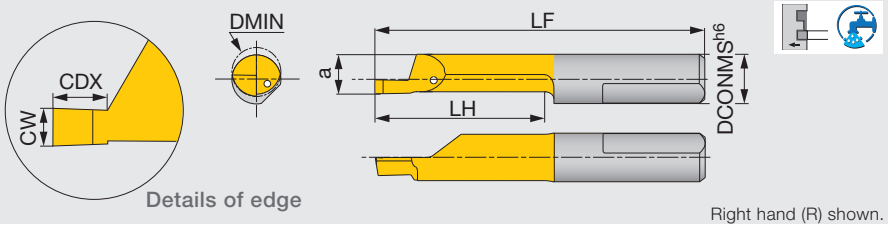
Application	Description	Material	Through coolant	Cylindrical shank ø4	Cylindrical shank ø7	Groove width	Min. bore diameter DMIN (mm) 0 2 4 6 8 10 12 14 15
Internal Grooving	TBG	Carbide	-	○	○	0.5 - 2	ø2 ▬▬▬ ø6.8

JBFR/L

Solid boring bar for face grooving



with coolant hole



Right hand (R) shown.

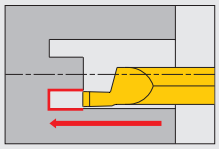
Designation	SH725	CW $^{+0.05}_{0}$	DMIN	DCONMS	a	LF	LH	CDX
JBFR07110100-D060	●	1	6	7	5.2	27	10	1.5
JBFR07110150-D060	●	1.5	6	7	5.2	27	10	2
JBFR07110200-D060	●	2	6	7	5.2	27	10	3
JBFR07110100-D080	●	1	8	7	5.9	27	11	1.5
JBFR07110150-D080	●	1.5	8	7	5.9	27	11	2.5
JBFR07110200-D080	●	2	8	7	5.9	27	11	3
JBFR07110250-D080	●	2.5	8	7	5.9	27	11	3.5
JBFR07110300-D080	●	3	8	7	5.9	27	11	3.5
JBFR/L07210150-D080	●	1.5	8	7	5.9	36	21	2.5
JBFR07210200-D080	●	2	8	7	5.9	36	21	3
JBFR07210250-D080	●	2.5	8	7	5.9	36	21	3.5
JBFR07210300-D080	●	3	8	7	5.9	36	21	3.5
JBFR/L07300200-D080	●	2	8	7	5.9	46	30	3
JBFR07300300-D080	●	3	8	7	5.9	46	30	3.5
JBFR07200200-D080	●	2	8	7	5.9	36	20	3
JBFR07200250-D150	●	2.5	15	7	5.9	36	20	20
JBFR07200300-D150	●	3	15	7	5.9	36	20	20
JBFR07300300-D150	●	3	15	7	5.9	46	30	30

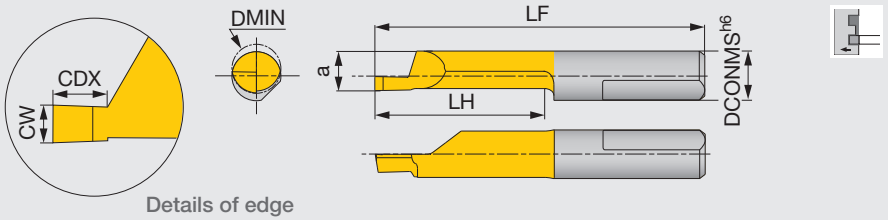
Corner radius: less than 0.1 mm

● : New

TBFR

Solid boring bar for face grooving

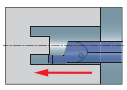




Designation	SH725	CW $^{+0.05}_{0}$	DMIN	DCONMS	a	LF	LH	CDX
TBFR07110100-D060	●	1	6	7	5.2	27	10	1.5
TBFR07110200-D060	●	2	6	7	5.2	27	10	3
TBFR07110100-D080	●	1	8	7	5.9	27	11	1.5
TBFR07110250-D080	●	2.5	8	7	5.9	27	11	3.5
TBFR07300300-D080	●	3	8	7	5.9	46	30	3.5
TBFR07200250-D150	●	2.5	15	7	5.9	36	20	20
TBFR07200300-D150	●	3	15	7	5.9	36	20	20
TBFR07300300-D150	●	3	15	7	5.9	46	30	30

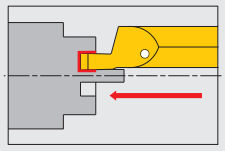
Corner radius : less than 0.1 mm.

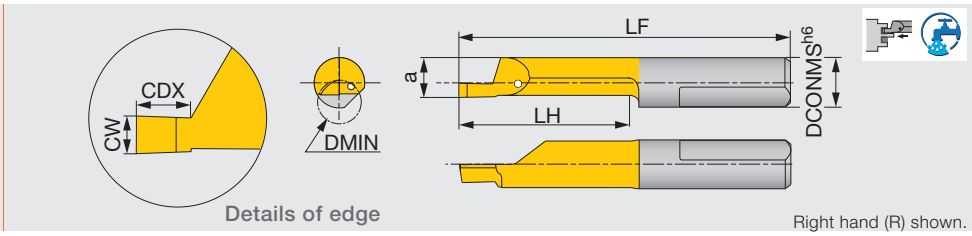
● : New

	Application	Description	Material	Through coolant	Cylindrical shank ø4	Cylindrical shank ø7	Groove width	Min. bore diameter DMIN (mm) 0 2 4 6 8 10 12 14 15
Face grooving		JBF	Carbide	○	-	○	-	ø6 — ø15
		TBF	Carbide	-	-	○	1 - 3	ø6 — ø15

JBSR

Solid boring bar for face grooving (for shaft)





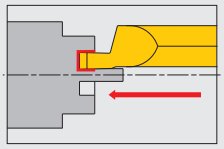
Designation	SH725	CW $^{+0.05}_{0}$	DMIN	DCONMS	a	LF	LH	CDX
JBSR07200200-D060	●	2	6	7	5.2	36	20	4

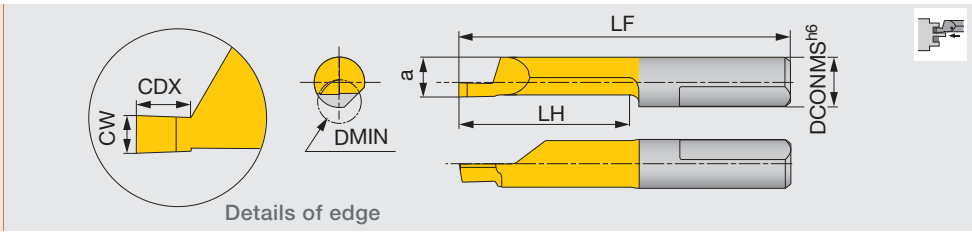
Corner radius: less than 0.1 mm

● : New

TBSR

Solid boring bar for face grooving (for shaft)

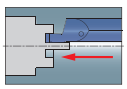




Designation	SH725	CW $^{+0.05}_{0}$	DMIN	DCONMS	a	LF	LH	CDX
TBSR07200200-D060	●	2	6	7	5.2	36	20	4

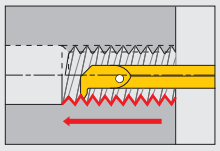
Corner radius : less than 0.1 mm.

● : New

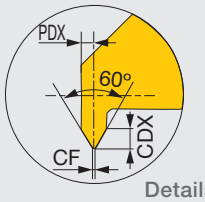
	Application	Description	Material	Through coolant	Cylindrical shank ø4	Cylindrical shank ø7	Groove width	Min. bore diameter DMIN (mm) 0 2 4 6 8 10 12 14 15
Face grooving (for shaft)		**JBS**	Carbide	○	-	○	-	ø6
		TBS	Carbide	-	-	○	2	ø6

JBIR

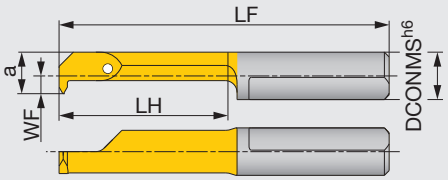
Solid boring bar for threading (metric)



with coolant hole



Details of edge



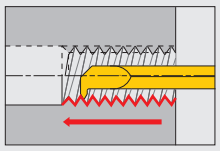
Right hand (R) shown.

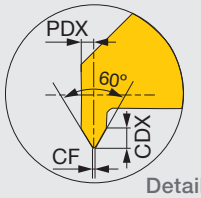
Designation	SH725	Pitch	DMIN	CF -0 -0.02	DCONMS	WF	a	LF	LH	CDX	PDX
JBIR04140050-D040	●	0.5	4	0.06	4	1.5	3.5	30	14	0.3	0.35
JBIR07140050-D050	●	0.5	5	0.06	7	0.9	4.4	30	14	0.3	0.35
JBIR07140075-D050	●	0.75	5	0.09	7	0.9	4.4	30	14	0.4	0.45
JBIR07140100-D048	●	1	4.8	0.12	7	0.9	4.4	30	14	0.6	0.55
JBIR07140100-D060	●	1	6	0.12	7	1.8	5.3	30	14	0.6	0.55
JBIR07140125-D060	●	1.25	6	0.15	7	1.8	5.3	30	14	0.7	0.65
JBIR07140150-D060	●	1.5	6	0.18	7	1.8	5.3	30	14	0.8	0.75
JBIR07140150-D070	●	1.5	7	0.18	7	2.8	6.3	30	14	0.8	0.75

● : New

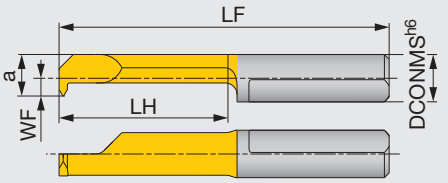
TBIR

Solid boring bar for threading (metric)



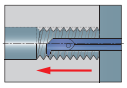


Details of edge



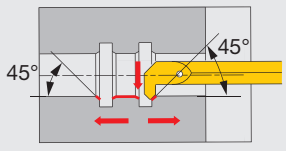
Designation	SH725	Pitch	DMIN	CF -0 -0.02	DCONMS	WF	a	LF	LH	CDX	PDX
TBIR04140050-D040	●	0.5	4	0.06	4	1.5	3.5	30	14	0.3	0.35
TBIR07140050-D050	●	0.5	5	0.06	7	0.9	4.4	30	14	0.3	0.35
TBIR07140075-D050	●	0.75	5	0.09	7	0.9	4.4	30	14	0.4	0.45
TBIR07140100-D048	●	1	4.8	0.12	7	0.9	4.4	30	14	0.6	0.55
TBIR07140100-D060	●	1	6	0.12	7	1.8	5.3	30	14	0.6	0.55
TBIR07140150-D060	●	1.5	6	0.18	7	1.8	5.3	30	14	0.8	0.75

● : New

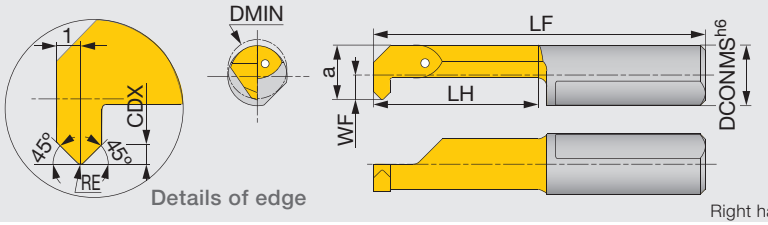
	Application	Description	Material	Through coolant	Cylindrical shank ø4	Cylindrical shank ø7	Groove width	Min. bore diameter DMIN (mm) 0 2 4 6 8 10 12 14 15
Threading (Metric thread)		**JBI**	Carbide	○	○	○	-	ø4 – ø7
		TBI	Carbide	-	○	○	-	ø4 – ø6

JBCR

Solid boring bar for boring and 45° chamfering



with coolant hole



Details of edge

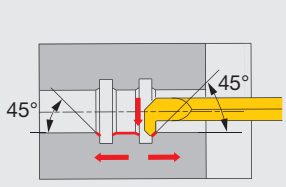
Right hand (R) shown.

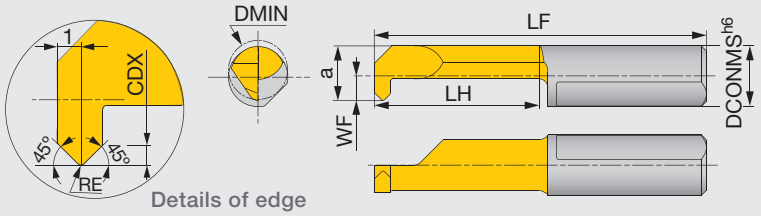
Designation	SH725	DMIN	DCONMS	WF	a	LF	LH	CDX	RE ±0.05
JBCR07140020-D050	●	5	7	0.9	4.4	30	14	0.7	0.2
JBCR07190020-D050	●	5	7	0.9	4.4	35	19	0.7	0.2
JBCR07190020-D068	●	6.8	7	2.8	6.3	35	19	0.7	0.2

● : New

TBCR

Solid boring bar for boring and 45° chamfering

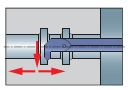




Details of edge

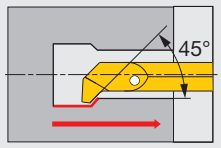
Designation	SH725	DMIN	DCONMS	WF	a	LF	LH	CDX	RE +0.05 0
TBCR07140020-D050	●	5	7	0.9	4.4	30	14	0.7	0.2
TBCR07190020-D068	●	6.8	7	2.8	6.3	35	19	0.7	0.2

● : New

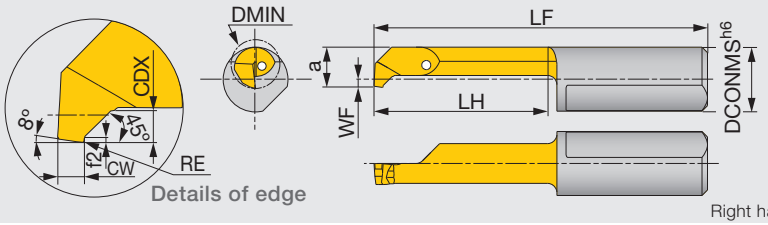
	Application	Description	Material	Through coolant	Cylindrical shank ø4	Cylindrical shank ø7	Groove width	Min. bore diameter DMIN (mm) 0 2 4 6 8 10 12 14 15
Boring & 45°chamfering		JBC	Carbide	○	-	○	-	ø5 ø6.8
		TBC	Carbide	-	-	○	-	ø5 ø6.8

JBUR

Solid boring bar for back boring and chamfering



with coolant hole



Details of edge

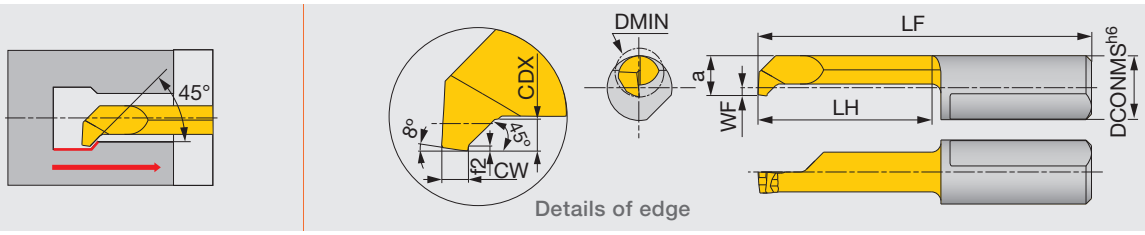
Right hand (R) shown.

Designation	SH725	DMIN	DCONMS	WF	a	LF	LH	f2	CDX	CW $^{+0.05}_{0}$	RE
JBUR07140010-D050	●	5	7	0.9	4.4	30	14	0.2	1	1	0.1
JBUR07190010-D050	●	5	7	0.9	4.4	35	19	0.2	1	1	0.1

● : New

TBUR

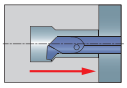
Solid boring bar for back boring and chamfering



Details of edge

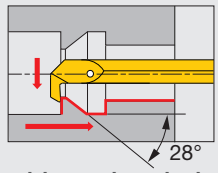
Designation	SH725	DMIN	DCONMS	WF	a	LF	LH	f2	CDX	CW $^{+0.05}_{0}$
TBUR07140010-D050	●	5	7	0.9	4.4	30	14	0.2	1	1
TBUR07190010-D050	●	5	7	0.9	4.4	35	19	0.2	1	1

● : New

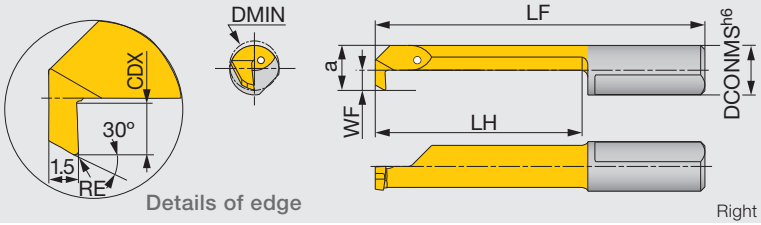
	Application	Description	Material	Through coolant	Cylindrical shank ø4	Cylindrical shank ø7	Groove width	Min. bore diameter DMIN (mm) 0 2 4 6 8 10 12 14 15
Back boring & chamfering		**JBU**	Carbide	○	-	○	-	ø5
		TBU	Carbide	-	-	○	-	ø5

JBBR

Solid boring bar for back boring



with coolant hole



Details of edge

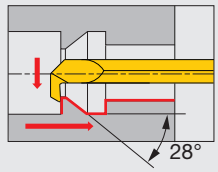
Right hand (R) shown.

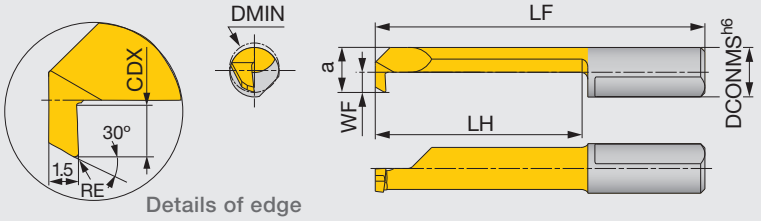
Designation	SH725	DMIN	DCONMS	WF	a	LF	LH	CDX	RE +0.05
JBBR04140020-D030	●	3	4	0.6	2.6	30	14	0.5	0.2
JBBR04190020-D030	●	3	4	0.6	2.6	35	19	0.5	0.2
JBBR04140015-D040	●	4	4	1.5	3.5	30	14	0.8	0.15
JBBR04240015-D040	●	4	4	1.5	3.5	40	24	0.8	0.15
JBBR07190020-D050	●	5	7	0.9	4.4	35	19	1	0.2
JBBR07290020-D050	●	5	7	0.9	4.4	45	29	1	0.2
JBBR07190020-D060	●	6	7	1.8	5.3	35	19	1.8	0.2
JBBR07290020-D060	●	6	7	1.8	5.3	45	29	1.8	0.2
JBBR07190020-D070	●	7	7	2.8	6.3	35	19	2.5	0.2
JBBR07290020-D070	●	7	7	2.8	6.3	45	29	2.5	0.2

● : New

TBBR

Solid boring bar for back boring

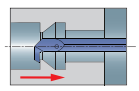




Details of edge

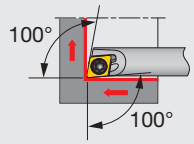
Designation	SH725	DMIN	DCONMS	WF	a	LF	LH	CDX	RE +0.05 0
TBBR04140020-D030	●	3	4	0.6	2.6	30	14	0.5	0.2
TBBR04140015-D040	●	4	4	1.5	3.5	30	14	0.8	0.15
TBBR07190020-D050	●	5	7	0.9	4.4	35	19	1	0.2

● : New

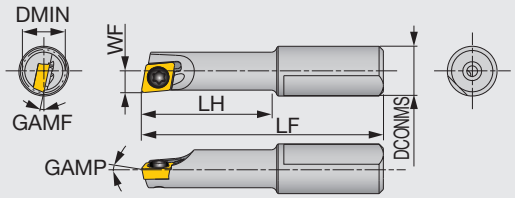
	Application	Description	Material	Through coolant	Cylindrical shank ø4	Cylindrical shank ø7	Groove width	Min. bore diameter DMIN (mm) 0 2 4 6 8 10 12 14 15
Back boring		**JBB**	Carbide	○	○	○	-	ø3 — ø7
		TBB	Carbide	-	○	○	-	ø3 — ø5

A/E-SEXPR

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



Cutting edge style **X**

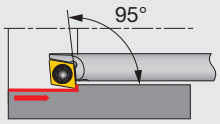


Designation	Material	DMIN	DCONMS	WF	LF	LH	GAMP	GAMF	RE**	Insert	Torque*
A07050-SEXPR03-3	Steel	5	7	2.5	31	15	0°	-13°	0.2	EPGT03X1...	0.6
A07060-SEXPR04-3	Steel	6	7	3.1	34	18	0°	-12°	0.2	EPGT0401...	0.6
E07050-SEXPR03-4	Carbide	5	7	2.5	37	20	0°	-13°	0.2	EPGT03X1...	0.6
E07050-SEXPR03-5	Carbide	5	7	2.5	42	25	0°	-13°	0.2	EPGT03X1...	0.6
E07060-SEXPR04-5	Carbide	6	7	3.1	46	30	0°	-12°	0.2	EPGT0401...	0.6

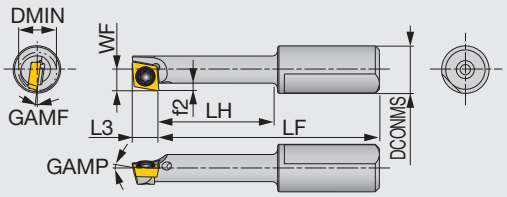
*Torque: Recommended clamping torque (N·m)
**RE : Standard corner radius
Note: Use right-hand toolholders (SEXPR**) with left-hand inserts (L).

A/E-SEZPR

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



Cutting edge style **Z**



Designation	Material	DMIN	DCONMS	WF	LF	LH	f2	L3	GAMP	GAMF	RE**	Insert	Torque*
A07055-SEZPR03-3	Steel	5.5	7	3.2	32.5	16.5	1.2	3.9	0°	-8°	0.2	EPGT03X1...	0.6
E07055-SEZPR03-5	Carbide	5.5	7	3.2	44.7	27.5	1.2	3.9	0°	-8°	0.2	EPGT03X1...	0.6

*Torque: Recommended clamping torque (N·m)
**RE : Standard corner radius
Note: Use right-hand toolholders (SEZPR**) with right-hand inserts (R).

SPARE PARTS

Designation	Clamping screw	Wrench
A/E070**03-...	CSTA-1.6	T-6F
A/E070**04-...	CSTB-2	T-6F

Application	Description	Cylindrical shank ø7	Through coolant	Min. bore diameter DMIN (mm) 0 2 4 6 8 10
Boring & internal facing	SEXPR	○	○	ø5 ø6
Back boring	SEZPR	○	○	ø5.5

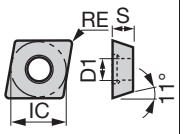
Insert POSITIVE TYPE

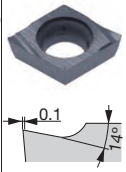
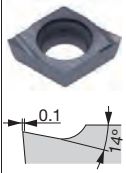
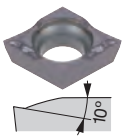
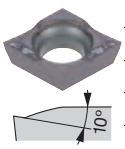
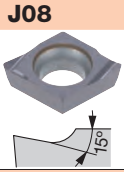
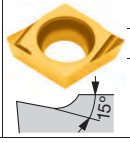
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

EP

Rhombic, 75° with hole Positive 11°

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



Application	Chipbreaker	Designation	Coated					Coated cermet		Cermet		Uncoated				Dimension (mm)			
			SH7025	SH725	SH730	GH110	J740	GT9530		NS9530		TH10				RE	IC	S	D1
Internal finishing (sharp edge)	W08	EPGT03X100FR-W08	●	●												0.03	3.57	1.39	1.9
		EPGT03X100FL-W08		●												0.03	3.57	1.39	1.9
		EPGT03X101FR-W08	●	●												0.1	3.57	1.39	1.9
		EPGT03X101FL-W08		●												0.1	3.57	1.39	1.9
		EPGT03X102FR/L-W08	●	●												0.2	3.57	1.39	1.9
		EPGT03X104FR/L-W08	●	●												0.4	3.57	1.39	1.9
		EPGT040100FR-W08	●	●												0.03	3.97	1.59	2.3
		EPGT040100FL-W08		●												0.03	3.97	1.59	2.3
		EPGT040101FR-W08	●	●												0.1	3.97	1.59	2.3
		EPGT040101FL-W08		●												0.1	3.97	1.59	2.3
		EPGT040102FR/L-W08	●	●												0.2	3.97	1.59	2.3
		EPGT040104FR/L-W08	●	●												0.4	3.97	1.59	2.3
Internal finishing	W08	EPGT03X100R/L-W08			●							●				0.03	3.57	1.39	1.9
		EPGT03X101R/L-W08			●							●				0.1	3.57	1.39	1.9
		EPGT03X102R/L-W08			●							●				0.2	3.57	1.39	1.9
		EPGT03X104R/L-W08			●							●				0.4	3.57	1.39	1.9
		EPGT040100R-W08			●							●				0.03	3.97	1.59	2.3
		EPGT040100L-W08			●	●				●		●				0.03	3.97	1.59	2.3
		EPGT040101R/L-W08			●							●				0.1	3.97	1.59	2.3
		EPGT040102R-W08			●	●				●		●				0.2	3.97	1.59	2.3
		EPGT040102L-W08			●	●		●		●		●				0.2	3.97	1.59	2.3
		EPGT040104R-W08			●	●				●		●				0.4	3.97	1.59	2.3
		EPGT040104L-W08			●	●		●		●		●				0.4	3.97	1.59	2.3
Internal finishing (sharp edge)	JS	EPGT03X101F-JS	●	●												<0.1	3.57	1.39	1.9
		EPGT03X102F-JS	●	●												<0.2	3.57	1.39	1.9
		EPGT03X104F-JS	●	●												<0.4	3.57	1.39	1.9
		EPGT040101F-JS	●	●												<0.1	3.97	1.59	2.3
		EPGT040102F-JS	●	●												<0.2	3.97	1.59	2.3
		EPGT040104F-JS	●	●												<0.4	3.97	1.59	2.3
Internal finishing	JS	EPGT03X101-JS			●											<0.1	3.57	1.39	1.9
		EPGT03X102-JS			●											<0.2	3.57	1.39	1.9
		EPGT03X104-JS			●											<0.4	3.57	1.39	1.9
		EPGT040101-JS			●											<0.1	3.97	1.59	2.3
		EPGT040102-JS			●											<0.2	3.97	1.59	2.3
		EPGT040104-JS			●											<0.4	3.97	1.59	2.3
Internal finishing (sharp edge)	J08	EPGT040100FL-J08		●												0.03	3.97	1.59	2.3
		EPGT040102FL-J08	●	●												0.2	3.97	1.59	2.3
		EPGT040104FL-J08	●	●												0.4	3.97	1.59	2.3
Internal finishing	J08	EPGT040100L-J08			●		●									0.03	3.97	1.59	2.3
		EPGT040102L-J08			●		●									0.2	3.97	1.59	2.3
		EPGT040104L-J08			●		●									0.4	3.97	1.59	2.3

Nose radius (RE) values with "<" indicate that the nose radius is made to a minus tolerance

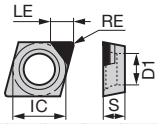
● : New
● : Line up

CBN Insert POSITIVE TYPE

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

EP

Rhombic, 75°
with hole
Positive 11°



IC : 3.57 mm
D1 : 1.9 mm
S : 1.39 mm

K	Cast iron
S	Superalloy
H	Hard material
	Sintered metal

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Wiper	Standard	Problem: Burr	Problem: Flnak wear	Problem: Crater wear	Problem: Chipping	BX310	BX470
Finishing	**1QP-EPGW03X102**	0.2	1.4	1		○					●	●
	1QP-EPGW03X104	0.4	1.3	1		○					●	●
	1QP-EPGW040102	0.2	1.7	1		○					●	●
	1QP-EPGW040104	0.4	1.6	1		○					●	●

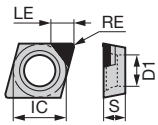
● : Line up

PCD Insert POSITIVE TYPE

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

EP

Rhombic, 75°
with hole
Positive 11°



IC : 3.97 mm
D1 : 2.3 mm
S : 1.59 mm

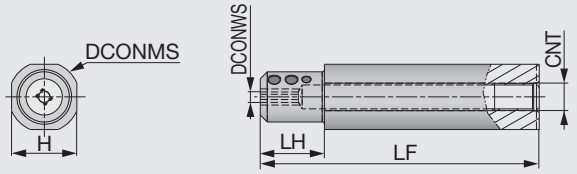
N	Non-ferrous

Application	Designation	Dimension (mm) RE	Dimension (mm) LE	No. of corners	Chipbreaker	DX140
Finishing	**EPGW040102-DIA**	0.2	2	1		●
	EPGW040104-DIA	0.4	1.9	1		●

● : Line up

JBBS-4N

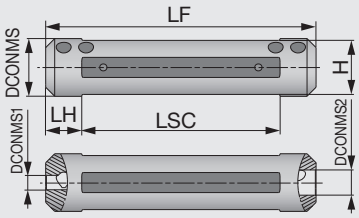
Sleeve for internal coolant supply with 4 coolant holes



Designation	DCONMS	DCONWS	LF	LH	H	CNT
JBBS12-4-L80C-4N	12	4	80	10	10.3	Rc1/16
JBBS127-4-L80C-4N	12.7	4	80	10	11.6	Rc1/16
JBBS14-4-L80C-4N	14	4	80	10	12	Rc1/8
JBBS159-4-L100C-4N	15.875	4	100	10	14.58	Rc1/8
JBBS159-7-L100C-4N	15.875	7	100	10	14.58	Rc1/8
JBBS16-4-L100C-4N	16	4	100	10	15	Rc1/8
JBBS16-7-L100C-4N	16	7	100	10	15	Rc1/8
JBBS19-4-L100C-4N	19.05	4	100	20	17.2	Rc1/8
JBBS19-7-L100C-4N	19.05	7	100	20	17.2	Rc1/8
JBBS20-4-L100C-4N	20	4	100	20	18	Rc1/8
JBBS20-7-L100C-4N	20	7	100	20	18	Rc1/8
JBBS22-4-L100C-4N	22	4	100	20	20	Rc1/8
JBBS22-7-L100C-4N	22	7	100	20	20	Rc1/8
JBBS25-4-L100C-4N	25	4	100	23	23	Rc1/8
JBBS25-7-L100C-4N	25	7	100	23	23	Rc1/8
JBBS254-4-L100C-4N	25.4	4	100	23	23.4	Rc1/8
JBBS254-7-L100C-4N	25.4	7	100	23	23.4	Rc1/8

JBBS

Sleeve for external coolant supply

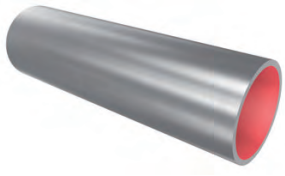
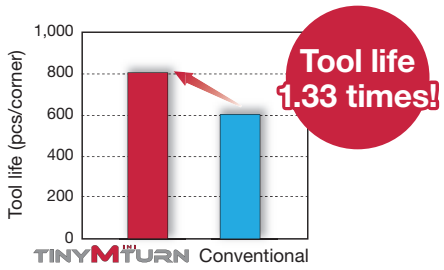
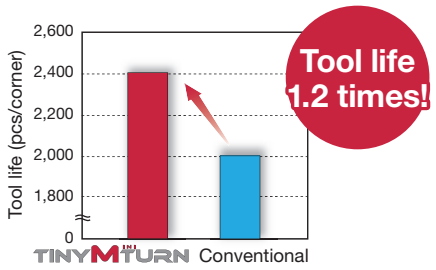


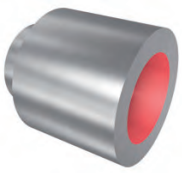
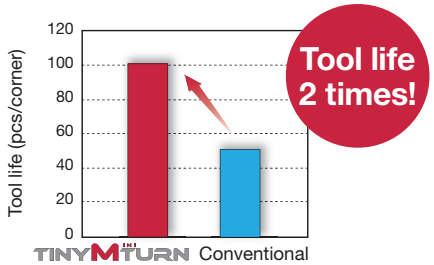
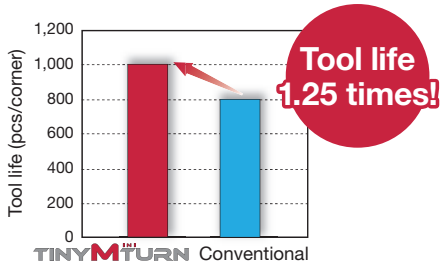
Designation	DCONMS	DCONWS1	DCONWS2	LF	LH	LSC	H
JBBS12-4-4	12	4	4	75	10	55	10.3
JBBS127-4-4	12.7	4	4	76.2	10	56.2	11.6
JBBS14-4-4	14	4	4	75	10	55	12
JBBS159-4-7	15.875	4	7	76.2	10	56.2	14
JBBS16-4-7	16	4	7	75	10	55	15
JBBS19-4-7	19.05	4	7	89	10	69	17.2
JBBS20-4-7	20	4	7	90	10	70	18
JBBS22-4-7	22	4	7	90	10	70	20
JBBS25-4-7	25	4	7	100	10	80	23
JBBS254-4-7	25.4	4	7	90	10	70	23.4

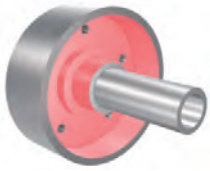
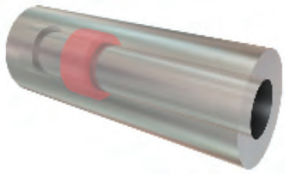
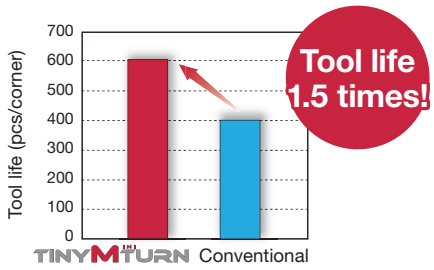
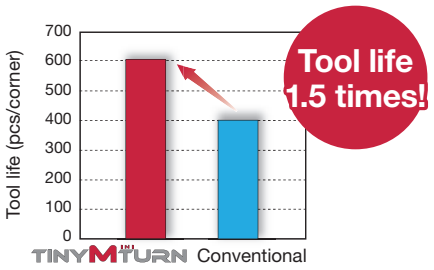
SPARE PARTS

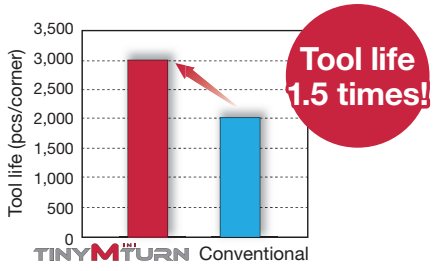
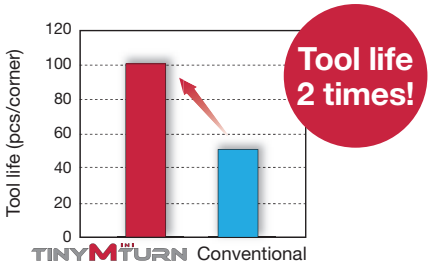
Designation	Clamping screw	Wrench
JBBS**-4-L***C-4N, JBBS127-4-4, JBBS**-4-7	SSHM5-6PF-S	P-2.5
JBBS**-7-L***C-4N, JBBS12-4-4, JBBS14-4-4	SSHM5-4PF-S	P-2.5

PRACTICAL EXAMPLE

Workpiece type		Sleeve	Motor part
Sleeve / Toolholder		JBBS16-4-7	JBBS25-4-7 / A07050-SEXPR03-3
Insert		TBTR04090010-D028	EPGT03X102F-JS
Grade		SH725	SH725
Workpiece material		SUS303 / X10CrNiS18-9	SUM24L / 11SMnPb28
		 M	P
Cutting conditions	Cutting speed: *Vc* (m/min)	61	120
	Feed : *f* (mm/rev)	0.02	0.02
	Depth of cut : *ap* (mm)	0.5	0.1
	Machining	Internal turning	Internal turning
	Coolant	Wet (External)	Wet (External)
Results		 TinyMini-Turn SH725 provides high adhesion and excellent wear resistance, achieving 1.33 times longer tool life than the competitor.	 SH725 grade combined with JS geometry drastically improved chip control over the competitor's solid bar, providing 1.2 times tool life.

Workpiece type		Socket	Connector
Sleeve		JBBS16-7-L100C-4N	JBBS25-7-L100C-4N
Insert		TBTR07140015-D060	TBBR07190020-D050
Grade		SH725	SH725
Workpiece material		SUS316 / X5CrNiMo17-12-3	SUS304 / X5CrNi18-9
		 M	M
Cutting conditions	Cutting speed: *Vc* (m/min)	60	90
	Feed : *f* (mm/rev)	0.06	0.05
	Depth of cut : *ap* (mm)	0.15	0.1
	Machining	Internal turning	Back boring
	Coolant	Wet (Internal)	Wet (Internal)
Results		 New JBBS-4N sleeve, combined with SH725 grade insert, eliminated chip jamming thanks to its four streams of coolant jets, while achieving double tool life.	 New JBBS-4N sleeve, combined with SH725 grade insert, eliminated chip jamming in back boring application, thanks to its four streams of coolant jets, while achieving 1.25 times tool life.

Workpiece type		Gear head	Gear part
Sleeve		JBBS16-7-L100C-4N	JBBS20-7-L100C-4N
Insert		TBFR07110250-D080	TBGR07140200-D060
Grade		SH725	SH725
Workpiece material		SUS316L	SUJ2 / 100Cr6
		 M	 P
Cutting conditions	Cutting speed: *Vc* (m/min)	80	152
	Feed : *f* (mm/rev)	0.02	0.1
	Grooving depth (mm)	3	1
	Machining	Face grooving	Internal grooving
	Coolant	Wet (Internal)	Wet (Internal)
Results		 New JBBS-4N sleeve, combined with SH725 grade insert, eliminated chip jamming in face grooving application, thanks to its four streams of coolant jets, while achieving 1.5 times tool life.	 New JBBS-4N sleeve, combined with SH725 grade insert, eliminated chip jamming thanks to its four streams of coolant jets, while providing 1.5 times tool life.

Workpiece type		Thrust spacer	Valve
Sleeve / Toolholder		JBBS16-7-L100C-4N / A07050-SEXPR03-3	JBBS19-7-L100C-4N / E07060-SEXPR04-5
Insert		EPGT03X104R-W08	1QP-EPGW040102
Grade		SH725	BX310
Workpiece material		S15C / C15	SCM415H
		P	H
Cutting conditions	Cutting speed: *Vc* (m/min)	113	60
	Feed : *f* (mm/rev)	0.05	0.03
	Depth of cut : *ap* (mm)	0.3	0.05
	Machining	Internal turning	Internal turning
	Coolant	Wet (Internal)	Wet (Internal)
Results		 New JBBS-4N sleeve, combined with W08 geometry & SH725 grade insert, eliminated chip jamming thanks to its four streams of coolant jets, while achieving 1.5 times tool life.	 New JBBS-4N sleeve, combined with BX310 grade insert, eliminated chip jamming thanks to its four streams of coolant jets, while achieving double tool life.

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