

NEW

2026.04

B278E

XB SERIES

**EXCHANGEABLE HEAD TYPE TURNING TOOLS
COMPREHENSIVE CHOICE OF DIFFERENT HEADS
FOR A WIDE RANGE OF APPLICATIONS**



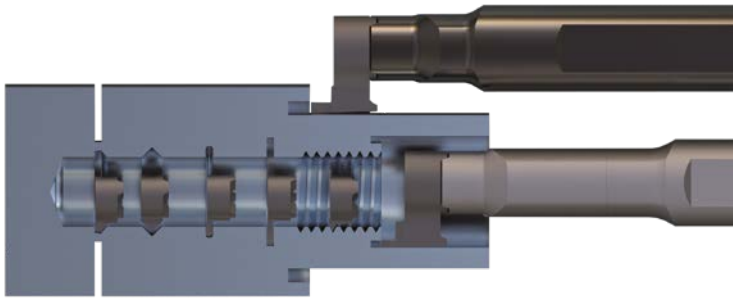
 **MITSUBISHI MATERIALS**

XB SERIES

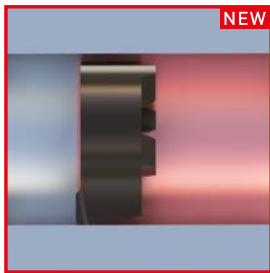
EXCHANGEABLE HEAD TYPE TURNING TOOLS

VERSATILE RANGE OF APPLICATIONS WITH ONE HOLDER

With high-quality cutting edges and excellent sharpness, a full range of tools for a variety of applications is available. Experience the efficiency and stability provided by this new indexable turning tool.

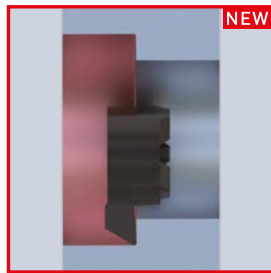


BORING



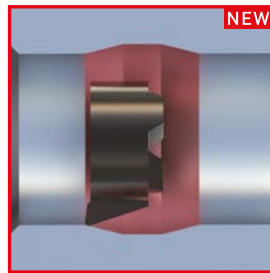
XBBA

BACK BORING



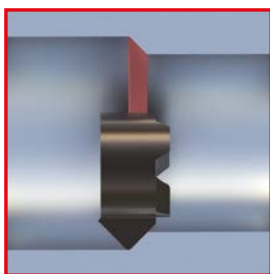
XBBB

COPYING (PROFILING)



XBPA/B/C/D

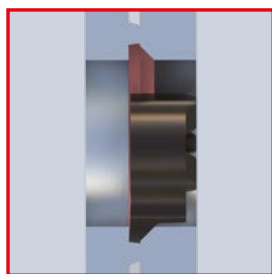
CHAMFERING



XBSC

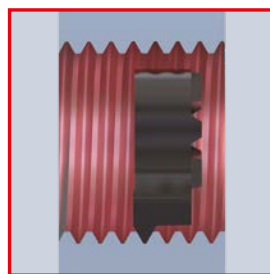
PRE-CHAMFERING

(internal machining before cutting off)



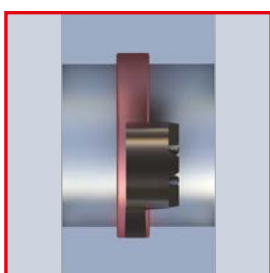
XBSX

THREADING



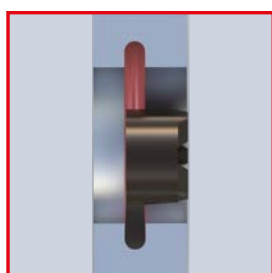
XBST

GROOVING (Flat type)



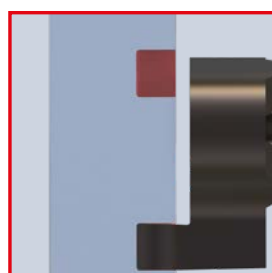
XBGG

GROOVING (Round type)



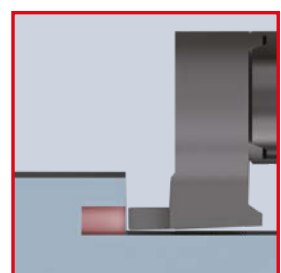
XBSR

INTERNAL SIDE FACE GROOVING



XBSF

EXTERNAL SIDE FACE GROOVING



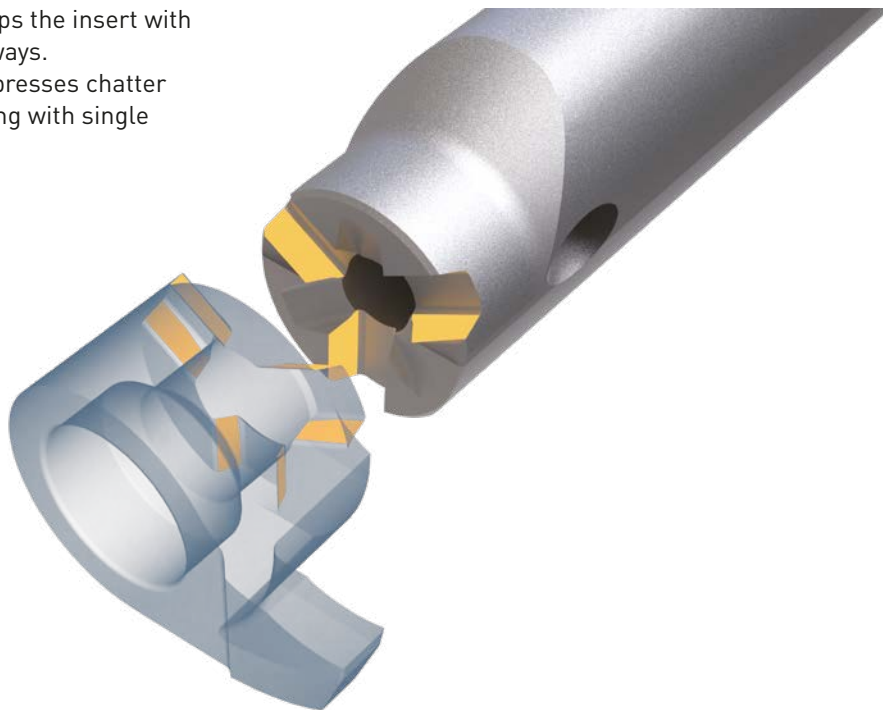
XBSE

XB SERIES

FEATURES

SIX-SIDED RESTRAINT

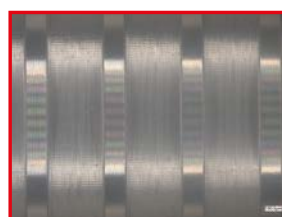
Highly rigid design that firmly clamps the insert with six-side restraints located in 3 keyways. Stable machining process that suppresses chatter and vibration is achieved by clamping with single screw from the front.



COMPARISON OF GROOVE SURFACES WHEN MACHINING SUS304:

The XB Series excels at suppressing chatter and vibration.

Material	SUS304
Head	XBSG08H08200R005R
Vc (m/min)	65
f (mm/rev)	0.01
Groove Shape (mm)	2.0 (Width) 0.75 (ap)
Cutting mode	Internal coolant 1 MPa



XB Series



Conventional

Chatter and vibration occurred.

DEDICATED CARBIDE BASE MATERIAL: MPB115

By applying a multilayer PVD coating with excellent heat and wear resistance to a dedicated carbide base material, both wear resistance and edge stability have been achieved.



Al-Rich Technology AlTiN-Based improved wear and heat resistance.

Alternating multilayers of (TiAl)N with different Ti and Al ratios achieve high wear resistance.

Dedicated carbide base material.

XB SERIES

FEATURES

INTERNAL AND EXTERNAL COOLANT TYPE

Both types of holders, carbide and steel are supplied as standard with internal coolant. External coolant type is also standard for the steel holders, but it can be combined with the internal coolant type SLV sleeve holder.



COMPARISON OF CHIP EVACUATION MACHINING BLIND HOLES IN S45C MATERIAL

The combination with SLV sleeves offers excellent chip evacuation performance by suppressing chip build-up.

Material	JIS S45C
Vc (m/min)	80
f (mm/rev)	0.02
ap (mm)	1.0
Coolant pressure	0.5 MPa

Chip buildup



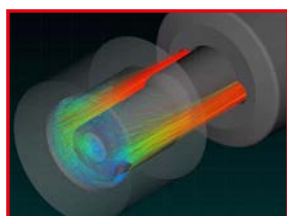
Steel shank with coolant hole



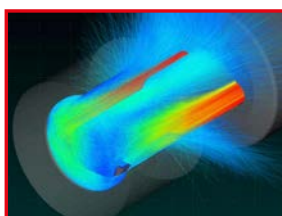
Steel shank without coolant hole + SLV sleeve

COMBINATION WITH SLV SLEEVE HOLDER

The internal coolant type SLV sleeve holder has a taper pipe thread at the rear end of the sleeve, that enables direct connection of high-pressure coolant. Supplying copious coolant through the tool provides adequate cooling and improves chip removal. This significantly reduces problems during internal machining.



Delivers large amounts of coolant.



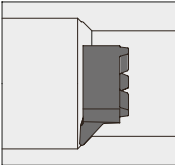
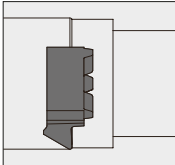
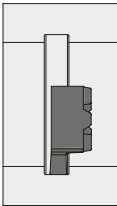
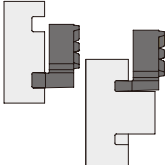
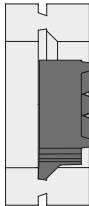
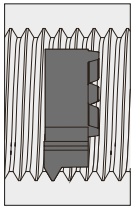
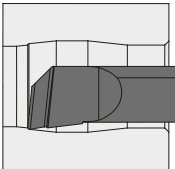
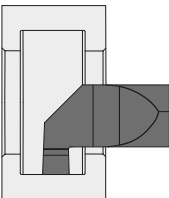
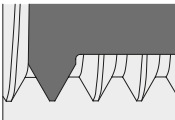
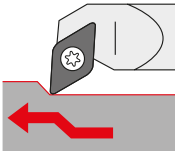
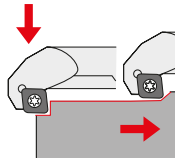
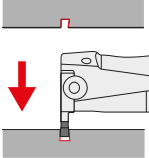
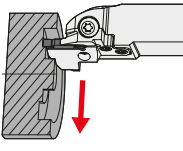
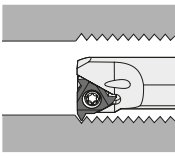
Easily penetrates to the bottom of the hole and prevents chip accumulation.



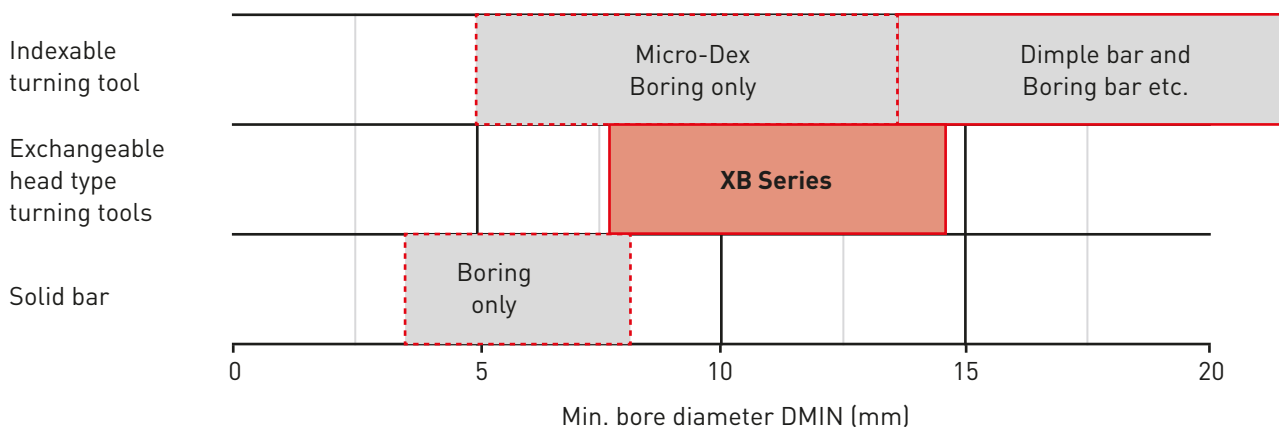
CLASSIFICATION

New additional tools for applications not covered by the Micro-Mini Twin and ISO boring bars.

VERSATILE RANGE OF TOOLS FOR ALL APPLICATIONS

DMIN	Boring copying	Back boring	Grooving	Face grooving	Pre-chamfering	Threading
XB SERIES						
≥ 7.8						
DC	7.0 – 13.8	7.0 – 13.8	7.0 – 20.0	E = 12.0, 16.0 / F = 14.0, 18.0	8.0 – 14.0	7.0 – 14.0
MICRO-MINI TWIN						
≥ 2.0		—		—	—	
DC	2.2 – 8.2	—	3.0 – 7.0	—	—	3.0 – 7.0
BORING BAR						
≤ 50.0					—	
DC	Copying ≥ 14	≥ 20.0	≥ 25.0	≥ 35.0	—	≥ 13.0

BORING AND COPYING (PROFILING)



SIGNIFICANT EXPANSION OF THE SERIES

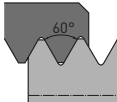
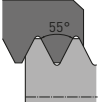
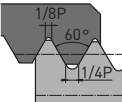
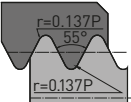
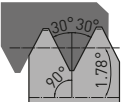
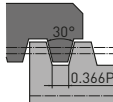
BORING AND COPYING (PROFILING)

The optimal tool can be selected according for the machining application.

Holder size	DMIN	Head type					
		NEW XBBA	NEW XBPA	NEW XBPB	NEW XBPC	NEW XBPD	NEW XBBB
		Image of machining					
		Max. ramping angle					
			Boring	$\alpha = 8^\circ$ $\beta = 18^\circ$	$\alpha = 20^\circ$ $\beta = 20^\circ$ Internal recessing	$\alpha = 5^\circ$ $\beta = 30^\circ$	$\alpha = 3^\circ$ $\beta = 47^\circ$ Back boring
		CDX					
H07	7.0	1.20		✓		✓	
H08	7.8	0.50 – 1.30	✓	✓	✓	✓	✓
H09	9.0	0.50 – 1.70	✓	✓	✓	✓	✓
	10.0	2.30					✓
H11	9.8	1.00		✓			
	11.0	0.50 – 2.30	✓	✓	✓	✓	✓
H14	13.7	4.00			✓	✓	
	13.8	3.50 – 4.00		✓	✓		✓

THREADING

New heads for machining four additional types of thread.

Holder size	DMIN	Head type		NEW					
				XBST-60R	XBST-55R	XBST-ISOR	XBST-WR	XBST-NPTR	XBST-TRR
		Type		Partial profile 60°	Partial profile 55°	ISO Metric	Whitworth for BSW, BSP	American NPT	ISO Trapezoidal 30°
				General	General	Wiper	Wiper	Wiper	Wiper
		Pitch/mm	Thread/in						
H07	7	0.50 – 1.50	24.00 – 18.00	✓	✓	✓			
H08	8	0.50 – 1.81	27.00 – 14.00	✓		✓		✓	
H09	9	0.50 – 3.00	18.00 – 14.00	✓	✓	✓			
	10	4	—					✓	
H11	11	0.50 – 4.00	19.00 – 14.00	✓	✓	✓	✓	✓	
H14	14	0.50 – 5.00	19.00 – 14.00	✓		✓	✓	✓	

SIGNIFICANT EXPANSION OF THE SERIES

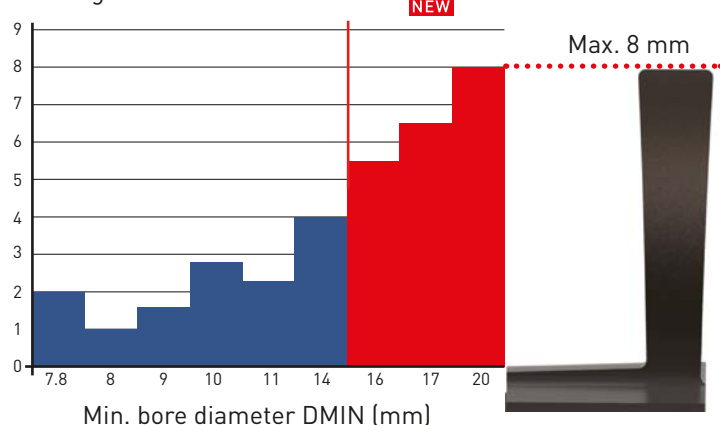
GROOVING

Expansion of the range of inserts for different groove width and depths.

Added groove width : Flat type CW 0.8 mm, Round type CW 1.6 mm

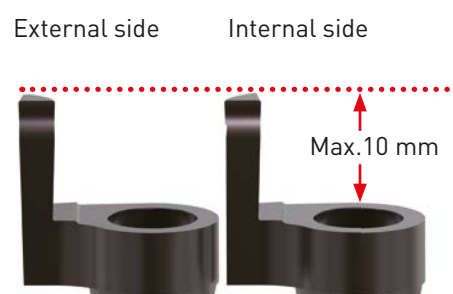
Added groove depth

Grooving



NEW

Face grooving



Holder size	DMIN	Head type		XBSG	XBSR	XBSE	XBSF
		Type		Flat type	Round type	External side face grooving	Internal side face grooving
		CW	CDX				
H07	7, 8	1.00 – 2.00	2.00	✓			
H08	8	0.79 – 2.00	1.00	✓	✓		
H09	9	0.80 – 2.00	1.60 – 1.80	✓	✓		
	10	1.00 – 3.00	2.80	✓			
H11	11	0.79 – 3.00	2.30	✓	✓		
	12	1.00 – 3.00	1.50 – 6.00			✓	
H14	14	1.00 – 3.00	1.50 – 6.00	✓	✓		✓
	16	1.50 – 3.00	5.50	✓			
	17	1.50 – 3.00	6.50	✓			
	16	3.00	10.00			✓	
H18	18	3.00	10.00				✓
	20	1.50 – 2.00	8.00	✓			

SIGNIFICANT EXPANSION OF THE SERIES

FLEXIBLE HOLDER + DEDICATED SLEEVE

Flexible holders with freely adjustable neck lengths have been added.



Flexible holder



Dedicated sleeve



The dedicated sleeve is designed to allow variable overhang.

Holder type	Tool Material	Coolant hole	H07	H08	H09	H11	H14	H18
Standard holder	Steel	without	✓	✓	✓	✓	✓	
		with	✓	✓	✓	✓	✓	✓
	Carbide	with	✓	✓	✓	✓	✓	✓
Flexible holder	Carbide	without		✓				
		with				✓		

VARIETY OF TYPES OFFERING ABUNDANT OPTIONS

Both types of holders, carbide and steel are supplied as standard with internal coolant. External coolant type is also standard for the steel holders, and can be combined with the internal coolant type SLV sleeve holder.

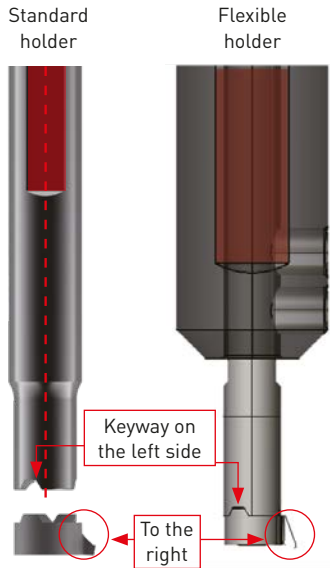
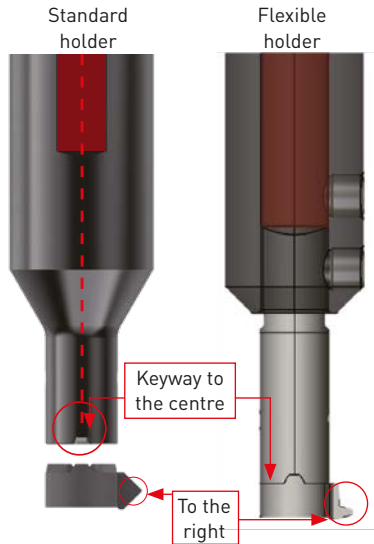
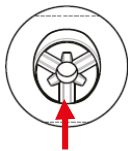
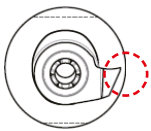
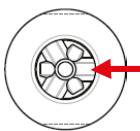
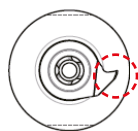
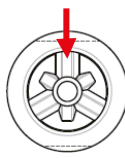
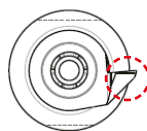


Versatile holder

XB SERIES

PRECAUTIONS WHEN INSTALLING INSERTS

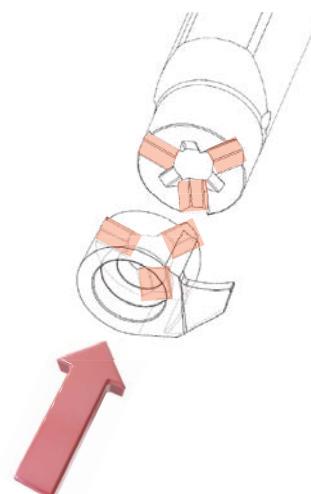
Set the cutting edge so that the tip faces to the right, using the flat surface of the holder as a reference.
The location of the keyway varies depending on the holder size.

XBSH07/XBSH09/ XBSH14/XBSH18		XBSH08		XBSH11	
					
View from head mount		View from head mount		View from head mount	
Keyway at the bottom	Cutting edge to the right	Keyway on the left side	Cutting edge to the right	Keyway to the centre	Cutting edge to the right
					
Holder side	Head installed condition	Holder side	Head installed condition	Holder side	Head installed condition

PREVENTION OF INCORRECT MOUNTING

The key on the head seat has its orientation modified to prevent incorrect mounting on heads of similar neck diameter.

Head type	Mounting diameter	Front view
H07	Ø 4.8	
H08	Ø 6.0	
H09	Ø 6.2	
H11	Ø 8.0	
H14	Ø 9.0	
H18	Ø 11.5	



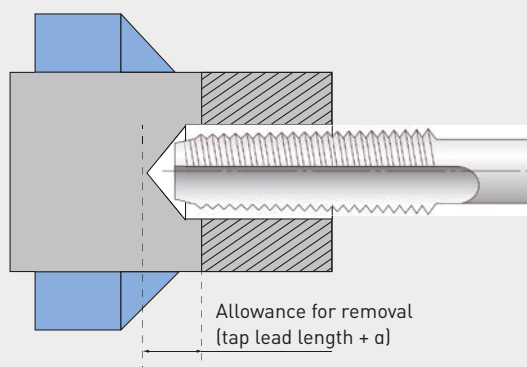
XB SERIES

PROPOSE A SOLUTION

THREADING: REPLACE TAPPING WITH AN INDEXABLE TURNING TOOL

Compared to tapping, which requires a clearance (lead length + α), the XB Series can save work material and reduce cycle times. Therefore it is recommended to switch from tapping to using an indexable tool.

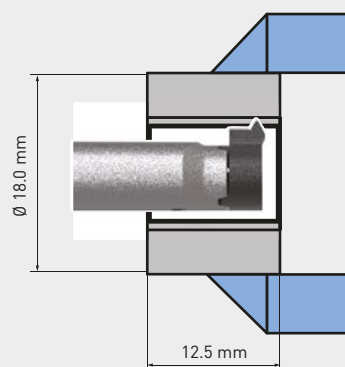
Conventional Tapping – Four steps processing is required to remove the chips.



Tool	Carbide tap
Vc (m/min)	40
f (mm/rev)	1.25

A four step process is required to remove the chips.

With the XB Series, threading can be started immediately after cutting-off.



Tool	XB Series
Vc (m/min)	60
f (mm/rev)	1.25

6 passes

Tool life comparison using a tap and threading insert

Tap – Number of components machined – 100

XB Threading insert – Number of components machined – 176

REALISE BURR-FREE MACHINING BY UTILISING INTERNAL CUTTING OFF

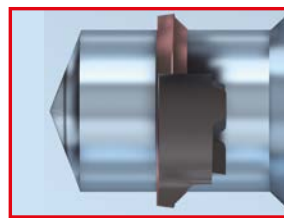
Chamfering before cutting-off reduces the need for a deburring process.



Cutting off without chamfer with burrs

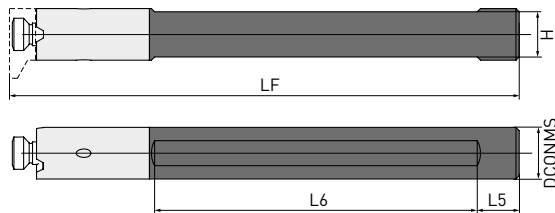
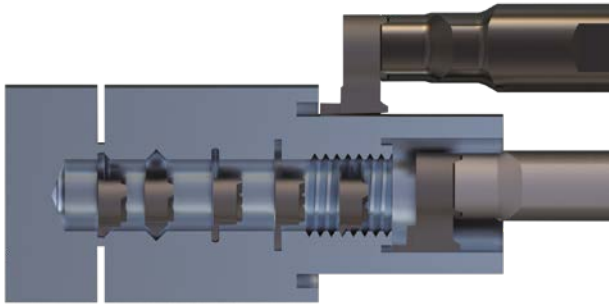


Cutting off after chamfering



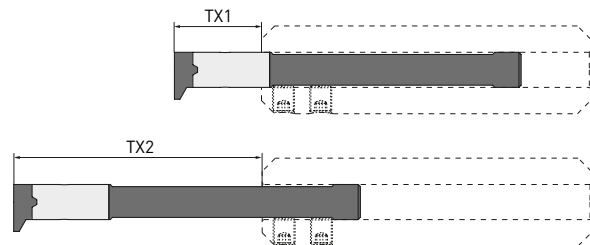
XBSH_FC/FC-C

CARBIDE SHANK FLEXIBLE HOLDER



Protrusion adjustment

Please use the flexible holder in combination with the dedicated sleeve.



TX1 = Min. adjustable protrusion,
TX2 = Max. adjustable protrusion

Order number	Stock	DCOMNS	LF*	H	L5	L6	TX1	TX2	Coolant hole	Suitable head
XBSH080600065FC	●	6	65	5	9.5	38	18	42	without	XB-H08
XBSH080600103FC	●	6	103	5	9.5	52	40	80	without	XB-H08
XBSH110800079FC-C	●	8	79	7	6.5	50	20	55	with	XB-H11
XBSH110800129FC-C	●	8	129	7	7.5	69	50	105	with	XB-H11

1/1

* The LF dimension varies depending on the head to be mounted.
Please check the S dimension of the head on P19.



Tool holder

S13 Dimension of head

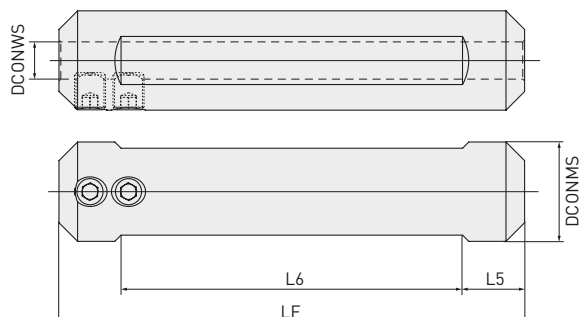
XBSH08	3.3
XBSH11	4.2

SPARE PARTS

Tool holder type			Torque (Nm)
	Clamp screw	Wrench	
XBSH08	TPS26-X	TIP8F-X	1.2
XBSH11	TPS35-X	TIP10F-X	3.5

XBSHSL

DEDICATED SLEEVE FOR FLEXIBLE HOLDER



Order number	Stock	DCONMS	DCONWS	LF	L5	L6
XBSHSL1600075S6N	●	16	6	75	10	55
XBSHSL1600075S8N	●	16	8	75	10	55
XBSHSL2000075S6N	●	20	6	75	10	55
XBSHSL2000075S8N	●	20	8	75	10	55

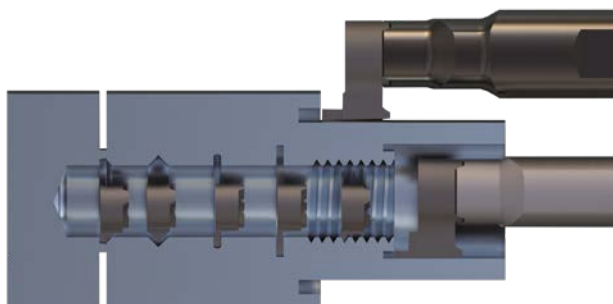
1/1

SPARE PARTS

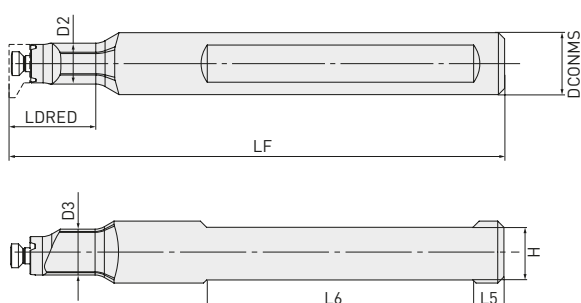
Tool holder type			Torque (Nm)
	Clamp screw	Wrench	
XBSHSL○○○○○○○○S6N	P-HSS05	HKY25R	1.2
XBSHSL○○○○○○○○S8N	P-HSS06	HKY25R	1.2

XBSH_S

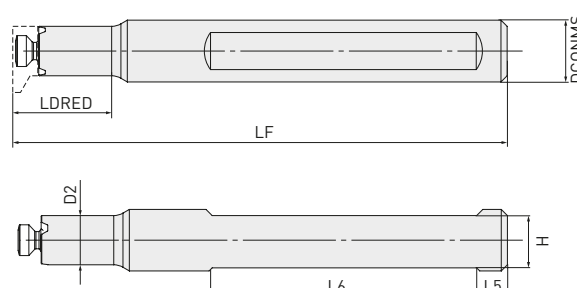
STEEL SHANK WITHOUT COOLANT HOLE



1



2



Order number	Stock	DCONMS	D2	D3	LF*	LDRED	H	L5	L6	Suitable head	Type
XBSH070700080S	●	7	4.8	6.0	80	12	5.5	5	43	XB-H07	1
XBSH080700080S	●	7	6.0	—	80	12	6.0	5	43	XB-H08	2
XBSH091000080S	●	10	6.6	7.4	80	14	8.5	5	43	XB-H09	1
XBSH111000080S	●	10	8.0	—	80	16	8.5	5	43	XB-H11	2
XBSH141200080S	●	12	9.5	11.0	80	18	10.5	5	43	XB-H14	1

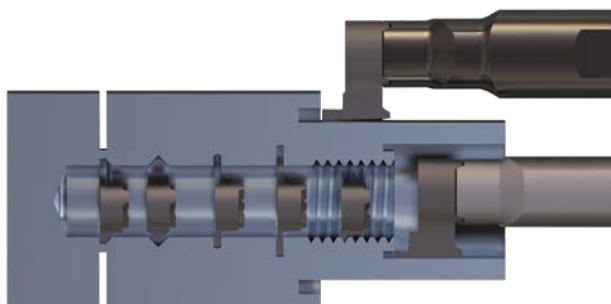
1/1

* The LF dimension varies depending on the head to be mounted.
Please check the S dimension of the head on P19.

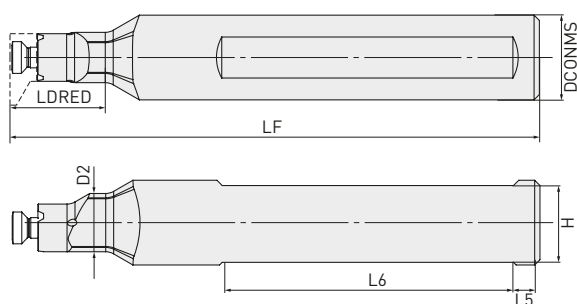
26

XBSH_S-C

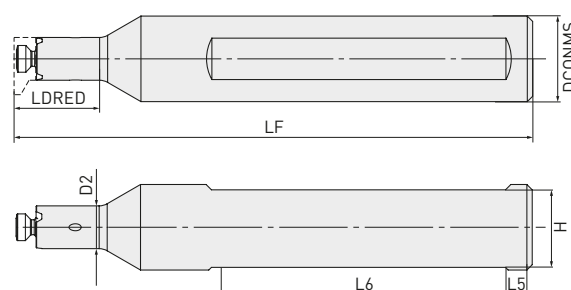
STEEL SHANK WITH COOLANT HOLE



1



2



Order number	Stock	DCONMS	D2	D3	LF*	LDRED	H	L5	L6	Suitable head	Type
XBSH071600080S-C	●	16	4.8	6.0	80	12	14.5	5	43	XB-H07	1
XBSH081600080S-C	●	16	6.0	—	80	12	15.0	5	43	XB-H08	2
XBSH091600095S-C	●	16	6.6	7.4	95	14	14.5	5	55	XB-H09	1
XBSH111600097S-C	●	16	8.0	—	97	16	14.5	5	55	XB-H11	2
XBSH141600100S-C	●	16	9.5	11.0	100	18	14.5	5	55	XB-H14	1
XBSH182000095S-C	●	20	11.5	14.2	95	25	18.5	5	55	XB-H18	1

1/1

* The LF dimension varies depending on the head to be mounted.
Please check the S dimension of the head on P19.

26

Tool holder

S13 Dimension of head

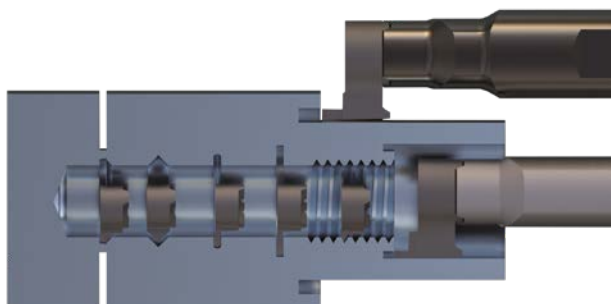
XBSH07	3.7
XBSH08	3.3
XBSH09	3.3
XBSH11	4.2
XBSH14	5.2
XBSH18	5.6

● / ★ = Expansion

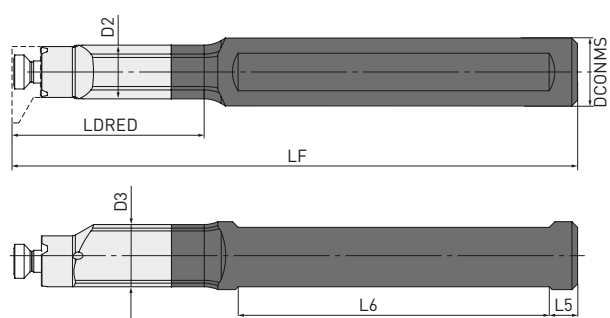
● : Inventory maintained. ★ : Inventory maintained in Japan.

XBSH_C-C

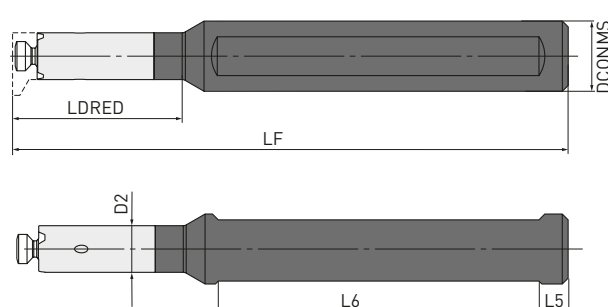
CARBIDE SHANK WITH COOLANT HOLE



1



2



Order number	Stock	DCONMS	D2	D3	LF*	LDRED	H	L5	L6	Suitable head	Type
XBSH071200080C-C	●	12	4.8	6.0	80	21	10.5	5	43	XB-H07	1
XBSH081200080C-C	●	12	6.0	—	80	21	11.0	5	43	XB-H08	2
XBSH091200090C-C	●	12	6.6	7.4	90	22	10.5	5	50	XB-H09	1
XBSH091200098C-C	●	12	6.6	7.4	98	30	10.5	5	50	XB-H09	1
XBSH111200095C-C	●	12	8.0	—	95	29	10.5	5	55	XB-H11	2
XBSH111200110C-C	●	12	8.0	—	110	42	10.5	5	55	XB-H11	2
XBSH141200100C-C	●	12	9.5	11.0	100	34	10.5	5	55	XB-H14	1
XBSH141200110C-C	●	12	9.5	11.0	110	45	10.5	5	50	XB-H14	1
XBSH181600100C-C	●	16	11.5	14.3	100	42	14.5	5	45	XB-H18	1
XBSH181600130C-C	●	16	11.5	14.3	130	60	14.5	5	55	XB-H18	1

1/1

* The LF dimension varies depending on the head to be mounted.
Please check the S dimension of the head on P19.

26 

● / ★ = Expansion

● : Inventory maintained. ★ : Inventory maintained in Japan.

XBESH_C-C - CARBIDE SHANK WITH COOLANT HOLE

SPARE PARTS

Tool holder type			Torque (Nm)
	Clamp screw	Wrench	
XBESH07	TPS20-X	TIP7F-X	0.8
XBESH08	TPS26-X	TIP8F-X	1.2
XBESH09	TPS26-X	TIP8F-X	1.2
XBESH11	TPS35-X	TIP10F-X	3.5
XBESH14	TPS40-X	TIP15F-X	4.5
XBESH18	TPS50-X	TIP20F-X	7.0

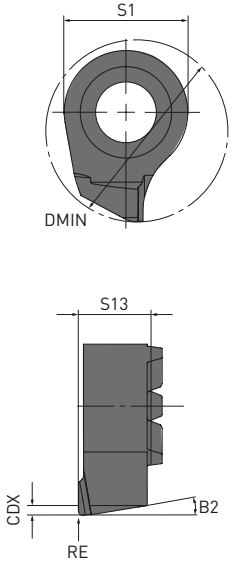
Tool holder S13 Dimension of head

XBESH07	3.7
XBESH08	3.3
XBESH09	3.3
XBESH11	4.2
XBESH14	5.2
XBESH18	5.6

XB SERIES

INSERTS

BORING

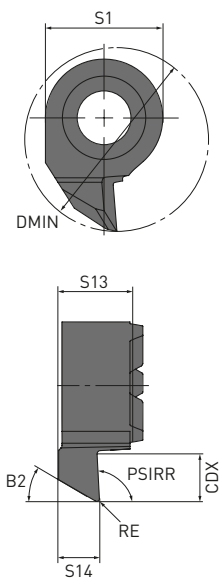
Order number	Hand	MPB115*	DMIN	RE	B2	S1	S13	CDX	Holder type	Geometry
XBBA08H08CR020R	R	●	7.8	0.2	10°	6.0	3.5	0.5	H08	
XBBA09H09CR020R	R	●	9.0	0.2	10°	6.2	3.6	0.5	H09	
XBBA11H11CR020R	R	●	11.0	0.2	10°	8.0	4.2	0.5	H11	

1/1

* Coated



BACK BORING

Order number	Hand	MPB115*	DMIN	RE	B2	PSIRR	S14	S1	S13	CDX	Holder type	Geometry
XBBB08H08R020R	R	●	7.8	0.2	30°	93°	2.3	6.0	3.3	1.3	H08	
XBBB09H09R020R	R	●	9.0	0.2	30°	93°	2.4	6.2	3.6	1.7	H09	
XBBB10H09R020R	R	●	10.0	0.2	30°	93°	2.4	6.2	3.6	2.3	H09	
XBBB11H11R020R	R	●	11.0	0.2	30°	93°	2.7	8.0	4.3	2.3	H11	
XBBB14H14R020R	R	●	13.8	0.2	30°	93°	3.0	9.0	5.4	3.5	H14	

1/1

* Coated



XB SERIES – INSERTS

COPYING
(PROFILING)

Order number	Hand	MPB115*	DMIN	RE	B2	RAL	S1	S13	CDX	Holder type	Geometry
XBPA07H07R010R	R	●	7.0	0.1	18°	8°	4.8	3.7	1.2	H07	
XBPA07H07R020R	R	●	7.0	0.2	18°	8°	4.8	3.7	1.2	H07	
XBPA08H08R020R	R	●	7.8	0.2	18°	8°	6.0	3.5	1.2	H08	
XBPA09H09R020R	R	●	9.0	0.2	18°	8°	6.2	3.6	1.5	H09	
XBPA10H11R020R	R	●	9.8	0.2	18°	8°	8.0	4.2	1.0	H11	
XBPA11H11R020R	R	●	11.0	0.2	18°	8°	8.0	4.2	2.3	H11	
XBPA14H14R020R	R	●	13.8	0.2	18°	8°	9.0	5.3	4.0	H14	
XBPB08H08R020R	R	●	7.8	0.2	20°	20°	6.0	3.5	1.2	H08	
XBPB09H09R020R	R	●	9.0	0.2	20°	20°	6.2	3.6	1.5	H09	
XBPB11H11R020R	R	●	11.0	0.2	20°	20°	8.0	4.2	2.3	H11	
XBPB14H14R020R	R	●	13.8	0.2	20°	20°	9.0	5.3	4.0	H14	
XBPC08H08R020R	R	●	7.8	0.2	30°	5°	6.0	3.5	1.0	H08	
XBPC11H11R020R	R	●	11.0	0.2	30°	5°	8.0	4.2	2.3	H11	
XBPC14H14R020R	R	●	13.7	0.2	30°	5°	9.0	5.3	4.0	H14	
XBPD07H07R020R	R	●	7.0	0.2	47°	3°	4.8	3.7	1.2	H07	
XBPD08H08R010R	R	●	7.8	0.1	47°	3°	6.0	3.5	1.2	H08	
XBPD08H08R020R	R	●	7.8	0.2	47°	3°	6.0	3.5	1.2	H08	
XBPD09H09R020R	R	●	9.0	0.2	47°	3°	6.2	3.5	1.5	H09	
XBPD11H11R020R	R	●	11.0	0.2	47°	3°	8.0	4.2	2.3	H11	
XBPD14H14R020R	R	●	13.7	0.2	47°	3°	9.0	5.3	4.0	H14	
XBPD14H14R040R	R	●	13.7	0.4	47°	3°	9.0	5.3	4.0	H14	

* Coated

XB SERIES – INSERTS

GROOVING
(FLAT TYPE)

Order number	Hand	MPB115*	DMIN	RER, REL	CW	S1	S13	CDX	Holder type	Geometry
XBSG08H07100R005R	R	●	7.8	0.05	1.0	4.8	3.7	2.0	H07	
XBSG08H07125R005R	R	●	7.8	0.05	1.25	4.8	3.7	2.0	H07	
XBSG08H07150R005R	R	●	7.8	0.05	1.5	4.8	3.7	2.0	H07	
XBSG08H07200R005R	R	●	7.8	0.05	2.0	4.8	3.7	2.0	H07	
XBSG08H08079R	R	●	8.0	—	0.8	6.0	3.3	1.0	H08	
XBSG08H08079R020R	R	●	8.0	0.2	0.8	6.0	3.3	1.0	H08	
XBSG08H08100R005R	R	●	8.0	0.05	1.0	5.9	3.3	1.0	H08	
XBSG08H08125R005R	R	●	8.0	0.05	1.25	6.0	3.3	1.0	H08	
XBSG08H08150R005R	R	●	8.0	0.05	1.5	5.9	3.3	1.0	H08	
XBSG08H08200R005R	R	●	8.0	0.05	2.0	5.9	3.3	1.0	H08	
XBSG09H09100R005R	R	●	9.0	0.05	1.0	6.2	3.6	1.8	H09	
XBSG09H09125R005R	R	●	9.0	0.05	1.25	6.2	3.6	1.8	H09	
XBSG09H09150R005R	R	●	9.0	0.05	1.5	6.2	3.6	1.8	H09	
XBSG09H09200R005R	R	●	9.0	0.05	2.0	6.2	3.6	1.8	H09	
XBSG10H09100R005R	R	●	10.0	0.05	1.0	6.2	3.6	2.8	H09	
XBSG10H09125R005R	R	●	10.0	0.05	1.25	6.2	3.6	2.8	H09	
XBSG10H09150R005R	R	●	10.0	0.05	1.5	6.2	3.6	2.8	H09	
XBSG10H09200R005R	R	●	10.0	0.05	2.0	6.2	3.6	2.8	H09	
XBSG10H09250R010R	R	●	10.0	0.1	2.5	6.2	3.6	2.8	H09	
XBSG10H09300R010R	R	●	10.0	0.1	3.0	6.2	3.6	2.8	H09	
XBSG11H11079R020R	R	●	11.0	0.2	0.8	8.0	4.2	2.3	H11	
XBSG11H11100R005R	R	●	11.0	0.05	1.0	8.0	4.2	2.3	H11	
XBSG11H11125R005R	R	●	11.0	0.05	1.25	8.0	4.2	2.3	H11	
XBSG11H11150R010R	R	●	11.0	0.1	1.5	8.0	4.2	2.3	H11	
XBSG11H11200R010R	R	●	11.0	0.1	2.0	8.0	4.2	2.3	H11	
XBSG11H11250R020R	R	●	11.0	0.2	2.5	8.0	4.2	2.3	H11	
XBSG11H11300R020R	R	●	11.0	0.2	3.0	8.0	4.2	2.3	H11	
XBSG14H14100R005R	R	●	14.0	0.05	1.0	9.0	5.3	4.0	H14	
XBSG14H14125R005R	R	●	14.0	0.05	1.25	9.0	5.3	4.0	H14	
XBSG14H14150R010R	R	●	14.0	0.1	1.5	9.0	5.3	4.0	H14	
XBSG14H14200R010R	R	●	14.0	0.1	2.0	9.0	5.3	4.0	H14	
XBSG14H14250R020R	R	●	14.0	0.2	2.5	9.0	5.3	4.0	H14	
XBSG14H14300R020R	R	●	14.0	0.2	3.0	9.0	5.3	4.0	H14	
XBSG16H14150R020R	R	●	16.0	0.2	1.5	9.0	5.0	5.5	H14	
XBSG16H14200R020R	R	●	16.0	0.2	2.0	9.0	5.2	5.5	H14	
XBSG16H14250R020R	R	●	16.0	0.2	2.5	9.0	5.2	5.5	H14	
XBSG16H14300R020R	R	●	16.0	0.2	3.0	9.0	5.2	5.5	H14	
XBSG17H14150R020R	R	●	17.0	0.2	1.5	9.0	5.0	6.5	H14	
XBSG17H14200R020R	R	●	17.0	0.2	2.0	9.0	5.2	6.5	H14	
XBSG17H14250R020R	R	●	17.0	0.2	2.5	9.0	5.2	6.5	H14	
XBSG17H14300R020R	R	●	17.0	0.2	3.0	9.0	5.2	6.5	H14	
XBSG20H18150R020R	R	●	20.0	0.2	1.5	11.0	5.6	8.0	H18	
XBSG20H18200R020R	R	●	20.0	0.2	2.0	11.0	5.6	8.0	H18	

1/1

* Coated

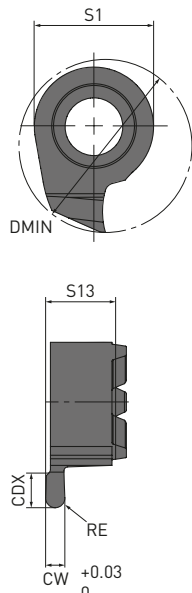


● / ★ = Expansion

● : Inventory maintained. ★ : Inventory maintained in Japan.

XB SERIES – INSERTS

GROOVING
(ROUND TYPE)

Order number	Hand	MPB115*	DMIN	RE	CW	S1	S13	CDX	Holder type	Geometry
XBSR08H08080R040R	R	●	8.0	0.4	0.8	5.9	3.3	1.0	H08	
XBSR08H08100R050R	R	●	8.0	0.5	1.0	5.9	3.3	1.0	H08	
XBSR08H08200R100R	R	●	8.0	1.0	2.0	5.9	3.3	1.0	H08	
XBSR09H09080R040R	R	●	9.0	0.4	0.8	6.2	3.6	1.6	H09	
XBSR09H09100R050R	R	●	9.0	0.5	1.0	6.2	3.6	1.6	H09	
XBSR09H09200R100R	R	●	9.0	1.0	2.0	6.2	3.6	1.6	H09	
XBSR11H11080R040R	R	●	11.0	0.4	0.8	8.0	4.2	2.3	H11	
XBSR11H11100R050R	R	●	11.0	0.5	1.0	8.0	4.2	2.3	H11	
XBSR11H11200R100R	R	●	11.0	1.0	2.0	8.0	4.2	2.3	H11	
XBSR14H14100R050R	R	●	14.0	0.5	1.0	9.0	5.3	4.0	H14	
XBSR14H14157R080R	R	●	14.0	0.79	1.6	9.0	5.3	4.0	H14	
XBSR14H14200R100R	R	●	14.0	1.0	2.0	9.0	5.3	4.0	H14	
XBSR14H14300R150R	R	●	14.0	1.5	3.0	9.0	5.3	4.0	H14	

1/1

* Coated

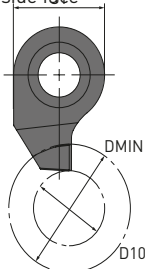
26 

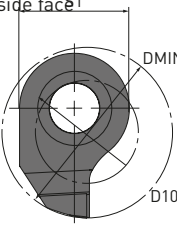
● / ★ = Expansion

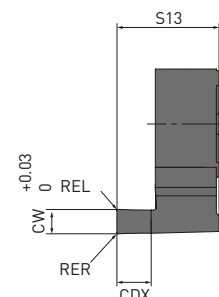
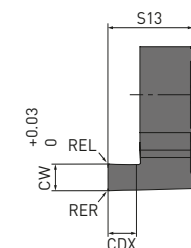
● : Inventory maintained. ★ : Inventory maintained in Japan.

XB SERIES – INSERTS

EXTERNAL AND INTERNAL SIDE FACE GROOVING

Order number	Hand	MPB115*	D _{MIN}	RER, REL	CW	S1	S13	CDX	D10	Holder type	Geometry
XBSE12H14100R010R	R	●	12.0	0.1	1.0	9.0	8.3	1.5	10.0	H14	External side face 
XBSE12H14150R010R	R	●	12.0	0.1	1.5	9.0	8.3	2.5	9.0	H14	
XBSE12H14200R010R	R	●	12.0	0.1	2.0	9.0	8.3	3.0	8.0	H14	
XBSE12H14250AR010R	R	●	12.0	0.1	2.5	9.0	8.3	3.0	7.0	H14	
XBSE12H14250BR010R	R	●	12.0	0.1	2.5	9.0	10.3	5.0	7.0	H14	
XBSE12H14300AR010R	R	●	12.0	0.1	3.0	9.0	8.3	3.0	6.0	H14	
XBSE12H14300BR010R	R	●	12.0	0.1	3.0	9.0	11.3	6.0	6.0	H14	
XBSE16H18300R020R	R	●	16.0	0.2	3.0	11.0	15.8	10.0	10.0	H18	

XBSF14H14100R010R	R	●	14.0	0.1	1.0	9.0	8.3	1.5	12.0	H14	Internal side face 
XBSF14H14150R010R	R	●	14.0	0.1	1.5	9.0	8.3	2.5	11.0	H14	
XBSF14H14200R010R	R	●	14.0	0.1	2.0	9.0	8.3	3.0	10.0	H14	
XBSF14H14250AR010R	R	●	14.0	0.1	2.5	9.0	8.3	3.0	9.0	H14	
XBSF14H14250BR010R	R	●	14.0	0.1	2.5	9.0	10.3	5.0	9.0	H14	
XBSF14H14300AR010R	R	●	14.0	0.1	3.0	9.0	8.3	3.0	8.0	H14	
XBSF14H14300BR010R	R	●	14.0	0.1	3.0	9.0	11.3	6.0	8.0	H14	
XBSF18H18300R020R	R	●	18.0	0.2	3.0	11.0	15.8	10.0	12.0	H18	



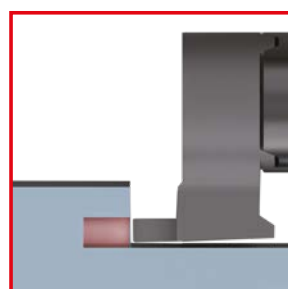
1/1

* Coated

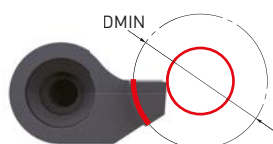
26 

It is designed to avoid interference, therefore correct installation is important.

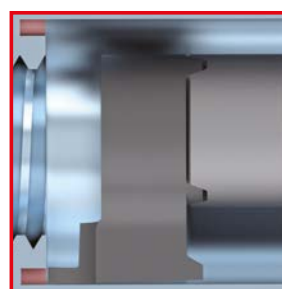
EXTERNAL SIDE FACE



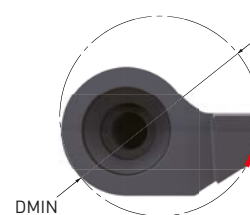
Relief angle is inside



INTERNAL SIDE FACE



Relief angle is outside

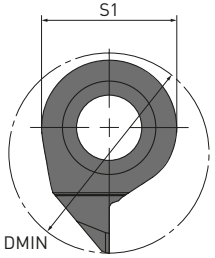
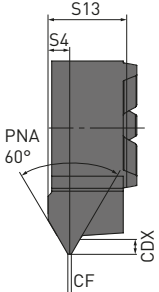
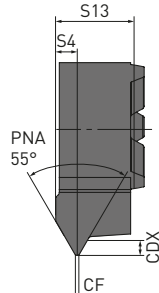


● / ★ = Expansion

● : Inventory maintained. ★ : Inventory maintained in Japan.

XB SERIES – INSERTS

INTERNAL THREADING

Order number	Hand	MPB115*	TP	TPI	DMIN	CF	S1	S13	S4	CDX	Holder type	Geometry
XBST07H0705060R	R	●	0.5 – 0.75	48 – 36	7.0	0.05	4.8	3.4	0.50	0.44	H07	
XBST07H0710060R	R	●	1.0 – 1.25	24	7.0	0.11	4.8	3.4	0.70	0.70	H07	
XBST07H0715060R	R	●	1.5 – 1.75	16	7.0	0.17	4.8	3.4	0.90	0.97	H07	
XBST08H0805060R	R	●	0.5 – 0.75	48 – 36	8.0	0.05	5.9	3.4	0.45	0.43	H08	
XBST08H0810060R	R	●	1.0 – 1.25	24	8.0	0.11	5.9	3.4	0.80	0.70	H08	
XBST08H0815060R	R	●	1.5 – 1.75	16	8.0	0.17	5.9	3.4	1.30	0.98	H08	
XBST09H0905060R	R	●	0.5 – 0.75	48 – 36	9.0	0.06	6.2	3.6	0.35	0.44	H09	
XBST09H0910060R	R	●	1.0 – 1.25	24	9.0	0.11	6.2	3.6	0.55	0.54	H09	
XBST09H0915060R	R	●	1.5 – 1.75	16	9.0	0.17	6.2	3.6	0.75	0.81	H09	
XBST09H0917560R	R	●	1.75 – 2.0	14 – 13	9.0	0.19	6.2	3.6	0.95	0.95	H09	
XBST09H0920060R	R	●	2.0 – 2.5	12 – 11	9.0	0.24	6.2	3.6	1.05	1.08	H09	
XBST09H0925060R	R	●	2.5 – 3.0	10 – 9	9.0	0.30	6.2	3.6	1.45	1.35	H09	
XBST09H0930060R	R	●	3.0 – 3.5	8	9.0	0.36	6.2	3.4	1.45	1.62	H09	
XBST11H1105060R	R	●	0.5 – 0.75	48 – 36	11.0	0.05	8.0	4.2	0.45	0.43	H11	
XBST11H1110060R	R	●	1.0 – 1.25	24	11.0	0.17	8.0	4.2	0.60	0.70	H11	
XBST11H1115060R	R	●	1.5 – 1.75	16	11.0	0.24	8.0	4.2	1.00	0.98	H11	
XBST11H1120060R	R	●	2.0 – 2.5	12 – 11	11.0	0.25	8.0	4.2	1.30	1.41	H11	
XBST11H1125060R	R	●	2.5 – 3.0	10 – 9	11.0	0.30	8.0	4.2	1.40	1.68	H11	
XBST14H1410060R	R	●	1.0 – 1.25	24	14.0	0.11	9.0	5.4	0.80	0.55	H14	
XBST14H1415060R	R	●	1.5 – 1.75	16	14.0	0.17	9.0	5.4	1.10	0.81	H14	
XBST14H1420060R	R	●	2.0 – 2.5	12 – 11	14.0	0.24	9.0	5.4	1.50	1.08	H14	
XBST14H1425060R	R	●	2.5 – 3.0	10 – 9	14.0	0.30	9.0	5.4	1.85	1.35	H14	
XBST07H0701855R	R	●	—	18 – 14	7.0	0.25	4.8	3.3	0.90	1.25	H07	
XBST07H0702455R	R	●	—	24 – 18	7.0	0.18	4.8	3.3	0.75	1.00	H07	
XBST07H0703255R	R	●	—	32 – 24	7.0	0.13	4.8	3.3	0.60	0.75	H07	
XBST09H0901455R	R	●	—	14 – 11	9.0	0.30	6.2	3.5	1.10	1.60	H09	
XBST09H0901855R	R	●	—	18 – 14	9.0	0.24	6.2	3.5	0.90	1.25	H09	
XBST09H0902455R	R	●	—	24 – 18	9.0	0.18	6.2	3.5	0.75	1.00	H09	
XBST11H1102455R	R	●	—	24 – 18	11.0	0.18	8.0	4.2	0.75	1.00	H11	

1/1

* Coated

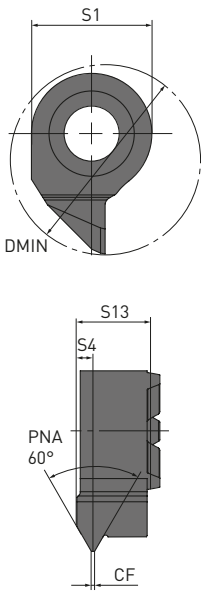
26 

● / ★ = Expansion

● : Inventory maintained. ★ : Inventory maintained in Japan.

XB SERIES – INSERTS

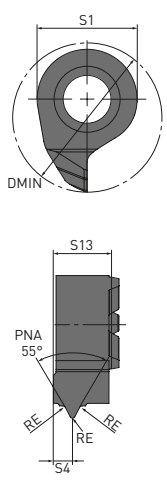
INTERNAL THREADING

Order number	Hand	MPB115*	TP	DMIN	CF	S1	S13	S4	Holder type	Geometry
XBST07H07075ISOR	R	●	0.75	7.0	0.08	4.8	3.3	0.60	H07	
XBST07H07100ISOR	R	●	1.00	7.0	0.11	4.8	3.3	0.60	H07	
XBST07H07125ISOR	R	●	1.25	7.0	0.14	4.8	3.3	0.60	H07	
XBST08H08075ISOR	R	●	0.75	8.0	0.08	6.0	3.6	0.82	H08	
XBST08H08100ISOR	R	●	1.00	8.0	0.11	6.0	3.6	0.82	H08	
XBST08H08125ISOR	R	●	1.25	8.0	0.14	6.0	3.6	0.82	H08	
XBST09H09050ISOR	R	●	0.50	9.0	0.05	6.2	3.7	0.40	H09	
XBST09H09075ISOR	R	●	0.75	9.0	0.08	6.2	3.7	0.65	H09	
XBST09H09100ISOR	R	●	1.00	9.0	0.11	6.2	3.7	0.65	H09	
XBST09H09125ISOR	R	●	1.25	9.0	0.14	6.2	3.6	0.80	H09	
XBST09H09150ISOR	R	●	1.50	9.0	0.17	6.2	3.6	0.80	H09	
XBST09H09175ISOR	R	●	1.75	9.0	0.19	6.2	3.6	1.00	H09	
XBST09H09200ISOR	R	●	2.00	9.0	0.24	6.2	3.6	0.95	H09	
XBST09H09250ISOR	R	●	2.50	9.0	0.30	6.2	3.6	1.05	H09	
XBST09H09300ISOR	R	●	3.00	9.0	0.36	6.2	3.6	1.35	H09	
XBST11H11100ISOR	R	●	1.00	11.0	0.11	8.0	4.3	0.70	H11	
XBST11H11150ISOR	R	●	1.50	11.0	0.17	8.0	4.3	1.00	H11	
XBST11H11200ISOR	R	●	2.00	11.0	0.24	8.0	4.3	1.40	H11	
XBST11H11250ISOR	R	●	2.50	11.0	0.30	8.0	4.3	1.35	H11	
XBST11H11300ISOR	R	●	3.00	11.0	0.36	8.0	4.3	1.40	H11	
XBST14H14050ISOR	R	●	0.50	14.0	0.05	9.0	5.4	0.60	H14	
XBST14H14100ISOR	R	●	1.00	14.0	0.11	9.0	5.4	0.70	H14	
XBST14H14150ISOR	R	●	1.50	14.0	0.17	9.0	5.4	1.10	H14	
XBST14H14200ISOR	R	●	2.00	14.0	0.24	9.0	5.4	1.20	H14	
XBST14H14250ISOR	R	●	2.50	14.0	0.30	9.0	5.4	1.00	H14	

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* Coated



Order number	Hand	MPB115*	TPI	DMIN	CF	S1	S13	S4	Holder type	Geometry
XBST11H11014WR	R	●	14	11.0	0.24	8.0	4.3	1.30	H11	
XBST11H11019WR	R	●	19	11.0	0.18	8.0	4.3	1.60	H11	
XBST14H14014WR	R	●	14	14.0	0.24	9.0	5.4	1.80	H14	
XBST14H14019WR	R	●	19	14.0	0.18	9.0	5.4	1.55	H14	

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* Coated



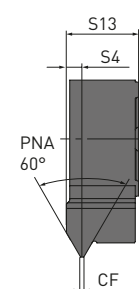
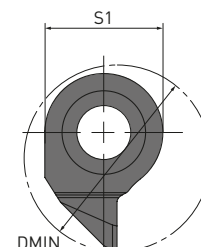
● / ★ = Expansion

● : Inventory maintained. ★ : Inventory maintained in Japan.

XB SERIES – INSERTS

INTERNAL THREADING

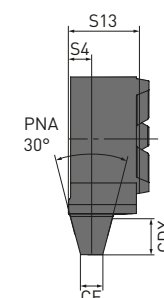
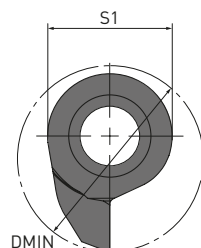
Order number	Hand	MPB115*	TPI	DMIN	CF	S1	S13	S4	Holder type	Geometry
XBST08H08014NPTR	R	●	14	8.0	0.06	6.0	3.2	1.20	H08	American NPT full form
XBST08H08018NPTR	R	●	18	8.0	0.04	6.0	3.5	0.90	H08	
XBST08H08027NPTR	R	●	27	8.0	0.03	6.0	3.5	0.70	H08	



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* Coated

Order number	Hand	MPB115*	TP	DMIN	CF	S1	S13	S4	CDX	Holder type	Geometry
XBST09H09150TRR	R	●	1.5	9.0	0.46	6.2	3.6	0.55	0.90	H09	ISO Trapezoidal 30° partial form
XBST09H09200TRR	R	●	2.0	9.0	0.59	6.2	3.6	0.70	1.25	H09	
XBST09H09300TRR	R	●	3.0	9.0	0.95	6.2	3.4	1.10	1.75	H09	
XBST10H09400TRR	R	●	4.0	10.0	1.32	6.2	3.6	1.30	2.25	H09	
XBST11H11150TRR	R	●	1.5	11.0	0.46	8.0	4.3	0.60	0.90	H11	
XBST11H11200TRR	R	●	2.0	11.0	0.59	8.0	4.3	0.80	1.25	H11	
XBST11H11300TRR	R	●	3.0	11.0	0.95	8.0	4.3	1.10	1.75	H11	
XBST11H11400TRR	R	●	4.0	11.0	1.32	8.0	4.0	1.40	2.25	H11	
XBST14H14200TRR	R	●	2.0	14.0	0.59	9.0	5.3	1.00	1.25	H14	
XBST14H14300TRR	R	●	3.0	14.0	0.95	9.0	5.3	1.30	1.75	H14	
XBST14H14400TRR	R	●	4.0	14.0	1.32	9.0	5.3	1.30	2.25	H14	
XBST14H14500TRR	R	●	5.0	14.0	1.68	9.0	5.3	1.75	2.75	H14	



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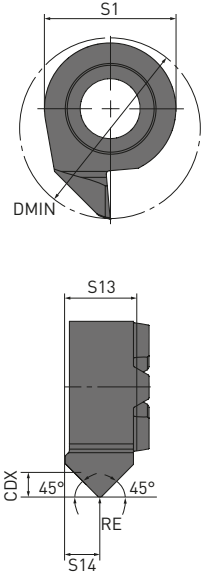
* Coated

● / ★ = Expansion

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XB SERIES – INSERTS

CHAMFERING

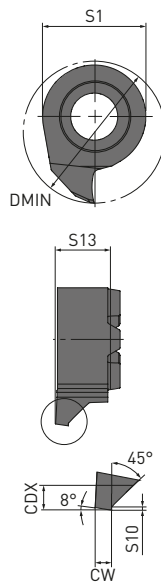
Order number	Hand	MPB115*	DMIN	RE	S14	S1	S13	CDX	Holder type	Geometry
XBSC07H074545R020R	R	●	7.0	0.2	1.2	4.8	3.5	0.8	H07	
XBSC08H084545R020R	R	●	8.0	0.2	1.7	5.9	3.4	1.4	H08	
XBSC09H094545R020R	R	●	9.0	0.2	1.8	6.2	3.6	1.3	H09	
XBSC11H114545R020R	R	●	11.0	0.2	2.1	8.0	4.3	1.5	H11	
XBSC14H144545R020R	R	●	14.0	0.2	2.6	9.0	5.4	1.5	H14	

1/1

* Coated



PRE-CHAMFERING (INTERNAL MACHINING BEFORE CUTTING OFF)

Order number	Hand	MPB115*	DMIN	CW	S10	S1	S13	CDX	Holder type	Geometry
XBSX08H080845R	R	●	8.0	1.0	0.2	5.9	3.3	1.0	H08	
XBSX09H090845R	R	●	9.0	1.0	0.2	6.2	3.6	1.5	H09	
XBSX11H110845R	R	●	11.0	1.0	0.2	8.0	4.2	1.5	H11	
XBSX14H140845R	R	●	14.0	1.0	0.2	9.0	5.3	1.5	H14	

1/1

* Coated



● : Inventory maintained. ★ : Inventory maintained in Japan.

XB SERIES

RECOMMENDED CUTTING CONDITIONS

CUTTING SPEED

Material	Vc
P Pure iron, Free cutting steel, Soft magnetic Iron	160 (100 – 260)
Carbon steel, Alloy steel	110 (60 – 170)
M Stainless steel	80 (40 – 150)
K Cast iron, Ductile cast iron	100 (50 – 200)
N Non-Ferrous metal	200 (120 – 380)
S Titanium alloys, Heat resistant alloys	40 (20 – 70)
H Hardened steel	60 (30 – 90)

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DEPTH OF CUT / FEED PER REVOLUTION

Machining	f (mm / rev)	ap (mm)
Grooving, Pre chamfering	0.02 (0.01 – 0.03)	—
Boring and copying	0.03 (0.03 – 0.10)	0.2 – 0.5
End face grooving, Chamfering	0.04 (0.02 – 0.06)	—

XB SERIES

STANDARD DEPTH OF CUT FOR THREADING

PURE IRON, FREE CUTTING STEEL, SOFT MAGNETIC IRON, LOW CARBON STEEL
NON-FERROUS METAL

ISO METRIC (HEAD: XBST-60R, XBST-ISOR)

Pitch (mm)	Total cutting depth	Number of passes																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
0.5	0.30	0.08	0.07	0.06	0.05	0.04																			
0.75	0.40	0.10	0.08	0.07	0.06	0.05	0.04																		
1.0	0.54	0.12	0.10	0.09	0.07	0.06	0.05	0.05																	
1.25	0.68	0.14	0.12	0.10	0.09	0.06	0.06	0.06	0.05																
1.5	0.81	0.15	0.12	0.11	0.09	0.07	0.06	0.06	0.05	0.05	0.05														
1.75	0.95	0.16	0.13	0.12	0.09	0.07	0.07	0.06	0.06	0.05	0.05	0.05	0.04												
2.0	1.08	0.17	0.14	0.13	0.10	0.08	0.08	0.06	0.06	0.06	0.06	0.05	0.05	0.04											
2.5	1.35	0.20	0.16	0.15	0.11	0.10	0.09	0.07	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.05									
3.0	1.62	0.23	0.19	0.17	0.13	0.12	0.10	0.08	0.09	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.05								
3.5	1.89	0.27	0.22	0.20	0.16	0.13	0.11	0.11	0.09	0.09	0.08	0.08	0.08	0.07	0.07	0.07	0.06								

WHITWORTH 55° (HEAD: XBST-55R, XBST-WR)

Threads (inch)	Total cutting depth	Number of passes																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
32	0.51	0.12	0.11	0.09	0.08	0.06	0.05																		
28	0.58	0.13	0.11	0.09	0.08	0.06	0.06	0.05																	
24	0.68	0.15	0.13	0.11	0.09	0.08	0.06	0.06																	
22	0.74	0.15	0.13	0.12	0.08	0.08	0.07	0.06	0.05																
20	0.81	0.17	0.14	0.12	0.10	0.08	0.07	0.07	0.06																
19	0.86	0.18	0.15	0.13	0.10	0.09	0.08	0.07	0.06																
18	0.90	0.16	0.14	0.12	0.10	0.08	0.07	0.06	0.06	0.05															
16	1.02	0.19	0.15	0.14	0.11	0.09	0.08	0.07	0.07	0.06	0.06														
14	1.16	0.19	0.16	0.14	0.12	0.09	0.08	0.08	0.07	0.06	0.06	0.06	0.05												
12	1.36	0.22	0.17	0.17	0.12	0.11	0.09	0.08	0.08	0.07	0.07	0.06	0.06	0.06											
11	1.48	0.23	0.20	0.17	0.14	0.11	0.11	0.09	0.08	0.08	0.07	0.07	0.07	0.06											

AMERICAN NPT (HEAD: XBST-NPTR)

Threads (inch)	Total cutting depth	Number of passes																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
27	0.80	0.17	0.13	0.13	0.09	0.08	0.08	0.06	0.06																
18	1.19	0.23	0.19	0.18	0.13	0.11	0.10	0.09	0.08	0.08															
14	1.48	0.24	0.21	0.18	0.14	0.12	0.11	0.09	0.09	0.08	0.08	0.07	0.07												

ISO TRAPEZOIDAL 30° (HEAD: XBST-TRR)

Pitch (mm)	Total cutting depth	Number of passes																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1.5	0.90	0.16	0.14	0.12	0.10	0.08	0.07	0.06	0.06	0.06	0.05														
2.0	1.25	0.20	0.16	0.15	0.12	0.09	0.09	0.07	0.07	0.07	0.06	0.06	0.06	0.05											
3.0	1.75	0.25	0.20	0.19	0.14	0.12	0.11	0.10	0.09	0.08	0.08	0.07	0.07	0.07	0.06	0.06	0.06								
4.0	2.25	0.30	0.25	0.22	0.18	0.14	0.13	0.12	0.10	0.10	0.10	0.09	0.08	0.08	0.08	0.07	0.07	0.07	0.07						
5.0	2.75	0.35	0.28	0.26	0.20	0.17	0.15	0.14	0.12	0.11	0.11	0.11	0.10	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.07			

XB SERIES – STANDARD DEPTH OF CUT FOR THREADING**CARBON STEEL, ALLOY STEEL
CAST IRON****ISO METRIC (HEAD: XBST-60R, XBST-ISOR)**

Pitch (mm)	Total cutting depth	Number of passes																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
0.5	0.30	0.08	0.07	0.06	0.05	0.04																			
0.75	0.40	0.10	0.08	0.07	0.06	0.05	0.04																		
1.0	0.54	0.12	0.10	0.09	0.07	0.06	0.05	0.05																	
1.25	0.68	0.14	0.12	0.10	0.09	0.06	0.06	0.06	0.05																
1.5	0.81	0.15	0.12	0.11	0.09	0.07	0.06	0.06	0.05	0.05	0.05														
1.75	0.95	0.16	0.13	0.12	0.09	0.07	0.07	0.06	0.06	0.05	0.05	0.05	0.04												
2.0	1.08	0.17	0.14	0.13	0.10	0.08	0.08	0.06	0.06	0.06	0.06	0.05	0.05	0.04											
2.5	1.35	0.19	0.16	0.14	0.11	0.10	0.08	0.07	0.07	0.07	0.06	0.05	0.06	0.05	0.05	0.05	0.04								
3.0	1.62	0.22	0.19	0.16	0.13	0.11	0.10	0.08	0.08	0.08	0.06	0.07	0.06	0.06	0.06	0.06	0.05	0.05							
3.5	1.89	0.26	0.21	0.20	0.15	0.13	0.11	0.10	0.09	0.09	0.08	0.08	0.07	0.07	0.07	0.06	0.06	0.06							

WHITWORTH 55° (HEAD: XBST-55R, XBST-WR)

Threads (inch)	Total cutting depth	Number of passes																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
32	0.51	0.12	0.11	0.09	0.08	0.06	0.05																		
28	0.58	0.13	0.11	0.09	0.08	0.06	0.06	0.05																	
24	0.68	0.15	0.13	0.11	0.09	0.08	0.06	0.06																	
22	0.74	0.15	0.13	0.12	0.08	0.08	0.07	0.06	0.05																
20	0.81	0.17	0.14	0.12	0.10	0.08	0.07	0.07	0.06																
19	0.86	0.18	0.15	0.13	0.10	0.09	0.08	0.07	0.06																
18	0.90	0.16	0.14	0.12	0.10	0.08	0.07	0.06	0.06	0.06	0.05														
16	1.02	0.19	0.15	0.14	0.11	0.09	0.08	0.07	0.07	0.06	0.06														
14	1.16	0.19	0.16	0.14	0.12	0.09	0.08	0.08	0.07	0.06	0.06	0.06	0.05												
12	1.36	0.22	0.17	0.17	0.12	0.11	0.09	0.08	0.08	0.07	0.07	0.06	0.06	0.06											
11	1.48	0.23	0.20	0.17	0.14	0.11	0.11	0.09	0.08	0.08	0.07	0.07	0.07	0.06											

AMERICAN NPT (HEAD: XBST-NPTR)

Threads (inch)	Total cutting depth	Number of passes																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
27	0.80	0.17	0.13	0.13	0.09	0.08	0.08	0.06	0.06																
18	1.19	0.23	0.19	0.18	0.13	0.11	0.10	0.09	0.08	0.08															
14	1.48	0.24	0.21	0.18	0.14	0.12	0.11	0.09	0.09	0.08	0.08	0.07	0.07												

ISO TRAPEZOIDAL 30° (HEAD: XBST-TRR)

Pitch (mm)	Total cutting depth	Number of passes																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1.5	0.90	0.16	0.14	0.12	0.10	0.08	0.07	0.06	0.06	0.06	0.05														
2.0	1.25	0.20	0.16	0.15	0.12	0.09	0.09	0.07	0.07	0.07	0.06	0.06	0.06	0.05											
3.0	1.75	0.24	0.20	0.18	0.14	0.12	0.10	0.09	0.09	0.08	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.05							
4.0	2.25	0.29	0.24	0.22	0.17	0.14	0.13	0.11	0.10	0.10	0.09	0.09	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.06					
5.0	2.75	0.34	0.27	0.26	0.20	0.16	0.15	0.13	0.12	0.11	0.10	0.10	0.10	0.09	0.09	0.08	0.08	0.08	0.08	0.07	0.07	0.07			

XB SERIES – STANDARD DEPTH OF CUT FOR THREADING

STAINLESS STEEL
TITANIUM ALLOYS, HEAT RESISTANT ALLOYS
HARDENED STEEL

ISO METRIC (HEAD: XBST-60R, XBST-ISOR)

Pitch (mm)	Total Cutting Depth	Number of passes																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
0.5	0.30	0.06	0.05	0.05	0.04	0.03	0.02	0.03	0.02																
0.75	0.40	0.08	0.07	0.06	0.05	0.04	0.04	0.03	0.03																
1.0	0.54	0.11	0.09	0.09	0.06	0.06	0.05	0.04	0.04																
1.25	0.68	0.12	0.11	0.09	0.07	0.06	0.06	0.05	0.04	0.04	0.04														
1.5	0.81	0.13	0.11	0.11	0.07	0.07	0.06	0.05	0.05	0.04	0.04	0.04	0.04												
1.75	0.95	0.14	0.12	0.11	0.09	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.04	0.04										
2.0	1.08	0.16	0.13	0.12	0.09	0.08	0.07	0.06	0.05	0.06	0.05	0.05	0.04	0.04	0.04	0.04									
2.5	1.35	0.18	0.15	0.13	0.11	0.08	0.08	0.07	0.07	0.06	0.05	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.04						
3.0	1.62	0.20	0.17	0.16	0.11	0.10	0.09	0.08	0.07	0.07	0.06	0.07	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.04				
3.5	1.89	0.24	0.19	0.18	0.14	0.12	0.10	0.09	0.09	0.08	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05				

WHITWORTH 55° (HEAD: XBST-55R, XBST-WR)

Threads (inch)	Total cutting depth	Number of passes																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
32	0.51	0.11	0.08	0.08	0.06	0.06	0.04	0.04	0.04																
28	0.58	0.12	0.10	0.09	0.07	0.06	0.05	0.05	0.04																
24	0.68	0.14	0.12	0.10	0.09	0.06	0.06	0.06	0.05																
22	0.74	0.14	0.11	0.10	0.08	0.06	0.06	0.05	0.05	0.05	0.04														
20	0.81	0.15	0.12	0.11	0.09	0.07	0.06	0.06	0.05	0.05	0.05														
19	0.86	0.16	0.13	0.12	0.09	0.07	0.07	0.06	0.06	0.05	0.05														
18	0.90	0.15	0.12	0.11	0.09	0.07	0.07	0.06	0.05	0.05	0.05	0.04	0.04												
16	1.02	0.17	0.14	0.12	0.10	0.09	0.07	0.06	0.06	0.06	0.05	0.05	0.05												
14	1.16	0.18	0.14	0.13	0.11	0.08	0.08	0.07	0.06	0.06	0.06	0.05	0.05	0.05	0.04										
12	1.36	0.20	0.16	0.15	0.12	0.10	0.08	0.08	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.05									
11	1.48	0.22	0.18	0.16	0.13	0.10	0.09	0.09	0.08	0.07	0.07	0.06	0.06	0.06	0.06	0.05									

AMERICAN NPT (HEAD: XBST-NPTR)

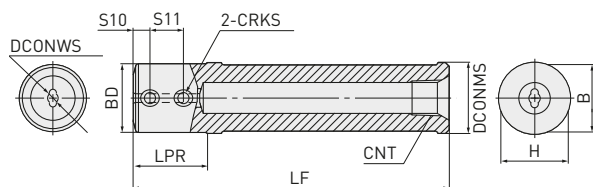
Pitch (inch)	Total cutting depth	Number of passes																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
27	0.80	0.15	0.12	0.11	0.08	0.07	0.07	0.05	0.06	0.05	0.04														
18	1.19	0.21	0.17	0.15	0.12	0.10	0.09	0.08	0.08	0.07	0.06	0.06													
14	1.48	0.22	0.19	0.17	0.13	0.11	0.10	0.09	0.08	0.07	0.07	0.07	0.06	0.06	0.06										

ISO TRAPEZOIDAL 30° (HEAD: XBST-TRR)

Pitch (mm)	Total cutting depth	Number of passes																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1.5	0.90	0.15	0.12	0.11	0.09	0.07	0.07	0.05	0.06	0.05	0.05	0.04	0.04												
2.0	1.25	0.18	0.15	0.14	0.11	0.09	0.08	0.07	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.04									
3.0	1.75	0.22	0.18	0.17	0.13	0.10	0.10	0.08	0.08	0.08	0.07	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.04					
4.0	2.25	0.27	0.22	0.20	0.16	0.13	0.12	0.10	0.10	0.09	0.08	0.08	0.08	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.05		
5.0	2.75	0.31	0.26	0.24	0.18	0.16	0.13	0.12	0.12	0.10	0.10	0.09	0.09	0.09	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06

XB SERIES

SLV_A HOLDER



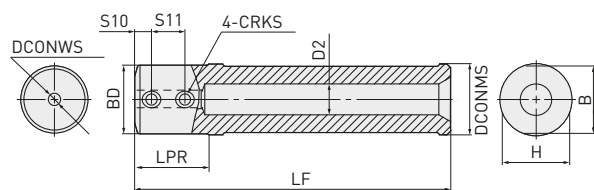
WITH COOLANT HOLE

Order number	Stock	DCONMS	DCONWS	BD	LF	LPR	H	B	S10	S11	CNT
SLV190080060A	●	19.05	6	18.5	80	20	17.8	17.8	5	10	RC1/8
SLV190080070A	●	19.05	7	18.5	80	20	17.8	17.8	5	10	RC1/8
SLV190080080A	●	19.05	8	18.5	80	20	17.8	17.8	5	10	RC1/8
SLV190110060A	●	19.05	6	18.5	110	20	17.8	17.8	5	10	RC1/8
SLV190110070A	●	19.05	7	18.5	110	20	17.8	17.8	5	10	RC1/8
SLV190110080A	●	19.05	8	18.5	110	20	17.8	17.8	5	10	RC1/8
SLV200080060A	●	20	6	19	80	20	18.8	18.8	5	10	RC1/8
SLV200080070A	●	20	7	19	80	20	18.8	18.8	5	10	RC1/8
SLV200080080A	●	20	8	19	80	20	18.8	18.8	5	10	RC1/8
SLV220115060A	●	22	6	20	115	20	20.8	20.8	5	10	RC1/8
SLV220115070A	●	22	7	20	115	20	20.8	20.8	5	10	RC1/8
SLV220115080A	●	22	8	20	115	20	20.8	20.8	5	10	RC1/8
SLV250067060A	●	25	6	20	67	20	23.9	23.9	5	10	RC1/8
SLV250067070A	●	25	7	20	67	20	23.9	23.9	5	10	RC1/8
SLV250067080A	●	25	8	20	67	20	23.9	23.9	5	10	RC1/8
SLV250110060A	●	25	6	20	110	20	23.9	23.9	5	10	RC1/8
SLV250110070A	●	25	7	20	110	20	23.9	23.9	5	10	RC1/8
SLV250110080A	●	25	8	20	110	20	23.9	23.9	5	10	RC1/8
SLV254080060A	●	25.4	6	20	80	20	24.4	24.4	5	10	RC1/8
SLV254080070A	●	25.4	7	20	80	20	24.4	24.4	5	10	RC1/8
SLV254080080A	●	25.4	8	20	80	20	24.4	24.4	5	10	RC1/8
SLV254110060A	●	25.4	6	20	110	20	24.4	24.4	5	10	RC1/8
SLV254110070A	●	25.4	7	20	110	20	24.4	24.4	5	10	RC1/8
SLV254110080A	●	25.4	8	20	110	20	24.4	24.4	5	10	RC1/8
SLV320110060A	●	32	6	20	110	22	31.1	31.1	5	10	RC1/8
SLV320110070A	●	32	7	20	110	22	31.1	31.1	5	10	RC1/8
SLV320110080A	●	32	8	20	110	22	31.1	31.1	5	10	RC1/8
SLV320110100A	●	32	10	25	110	22	31.1	31.1	5	10	RC1/4
SLV320110120A	●	32	12	25	110	22	31.1	31.1	5	10	RC3/8

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XB SERIES

SLV_N HOLDER



WITHOUT HOLE

Order number	Stock	DCONMS	DCONWS	BD	LF	LPR	H	B	S10	S11	D2
SLV160085060N	●	16	6	15.5	85	20	14.4	14.4	5	10	8.3
SLV160085070N	●	16	7	15.5	85	20	14.4	14.4	5	10	8.3
SLV160085080N	●	16	8	15.5	85	20	14.4	14.4	5	10	8.3
SLV190080060N	●	19.05	6	18.5	80	20	17.8	17.8	5	10	8.3
SLV190080070N	●	19.05	7	18.5	80	20	17.8	17.8	5	10	8.3
SLV190080080N	●	19.05	8	18.5	80	20	17.8	17.8	5	10	8.3
SLV190110060N	●	19.05	6	18.5	110	20	17.8	17.8	5	10	8.3
SLV190110070N	●	19.05	7	18.5	110	20	17.8	17.8	5	10	8.3
SLV190110080N	●	19.05	8	18.5	110	20	17.8	17.8	5	10	8.3
SLV200080060N	●	20	6	19	80	20	18.8	18.8	5	10	8.3
SLV200080070N	●	20	7	19	80	20	18.8	18.8	5	10	8.3
SLV200080080N	●	20	8	19	80	20	18.8	18.8	5	10	8.3
SLV220135060N	●	22	6	20	135	20	20.8	20.8	5	10	8.3
SLV220135070N	●	22	7	20	135	20	20.8	20.8	5	10	8.3
SLV220135080N	●	22	8	20	135	20	20.8	20.8	5	10	8.3
SLV220135100N	●	22	10	20	135	20	20.8	20.8	5	10	11.0
SLV220135120N	●	22	12	20	135	20	20.8	20.8	5	10	14.5
SLV250067060N	●	25	6	20	67	20	23.9	23.9	5	10	8.3
SLV250067070N	●	25	7	20	67	20	23.9	23.9	5	10	8.3
SLV250067080N	●	25	8	20	67	20	23.9	23.9	5	10	8.3
SLV250067100N	●	25	10	22	67	20	23.9	23.9	5	10	11.0
SLV250067120N	●	25	12	22	67	20	23.9	23.9	5	10	14.5
SLV250110060N	●	25	6	20	110	20	23.9	23.9	5	10	8.3
SLV250110070N	●	25	7	20	110	20	23.9	23.9	5	10	8.3
SLV250110080N	●	25	8	20	110	20	23.9	23.9	5	10	8.3
SLV250110100N	●	25	10	22	110	20	23.9	23.9	5	10	11.0
SLV250110120N	●	25	12	22	110	20	23.9	23.9	5	10	14.5
SLV254080060N	●	25.4	6	20	80	20	24.4	24.4	5	10	8.3
SLV254080070N	●	25.4	7	20	80	20	24.4	24.4	5	10	8.3
SLV254080080N	●	25.4	8	20	80	20	24.4	24.4	5	10	8.3
SLV254080100N	●	25.4	10	22	80	20	24.4	24.4	5	10	11.0
SLV254080120N	●	25.4	12	22	80	20	24.4	24.4	5	10	14.5
SLV254110060N	●	25.4	6	20	110	20	24.4	24.4	5	10	8.3
SLV254110070N	●	25.4	7	20	110	20	24.4	24.4	5	10	8.3
SLV254110080N	●	25.4	8	20	110	20	24.4	24.4	5	10	8.3
SLV254110100N	●	25.4	10	22	110	20	24.4	24.4	5	10	11.0
SLV254110120N	●	25.4	12	22	110	20	24.4	24.4	5	10	14.5

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XB SERIES – SLV HOLDER

MOUNTING CHART

Series		Boring bar type	Holder type
XB	Multifunction	XBSH07	SLV0000000070A/N
XB	Multifunction	XBSH08	SLV0000000070A/N
XB	Multifunction	XBSH09	SLV0000000100A/N
XB	Multifunction	XBSH11	SLV0000000100A/N
XB	Multifunction	XBSH14	SLV0000000120A/N
MICRO-MINI TWIN	Boring	CB07RS	SLV0000000070A/N
MICRO-MINI TWIN	Grooving	CG0712RS	SLV0000000070A/N
MICRO-MINI TWIN	Grooving	CG0713RS	SLV0000000070A/N
MICRO-MINI TWIN	Grooving	CG07RS	SLV0000000070A/N
MICRO-DEX	Internal	C07KS000R00	SLV0000000070A/N
BORING BAR	Internal	C08-07S000R/L	SLV0000000070A/N
BORING BAR	Internal	C12-10S000R/L	SLV0000000100A/N
BORING BAR	Internal	C13-10SDQCR/L	SLV0000000100A/N
BORING BAR	Internal	C14-10SDUCR/L	SLV0000000100A/N
BORING BAR	Internal	C/S14-12S000R/L	SLV0000000120A/N
BORING BAR	Internal	C16-10SVPCR/L	SLV0000000100A/N
BORING BAR	Internal	C/S16-12S000R/L	SLV0000000120A/N
BORING BAR	Internal	C/S20-12SVPBR/L	SLV0000000120A/N

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* The flexible holder is designed to be used in combination with a dedicated sleeve.

If the sleeve outer diameter does not match due to machine specifications, the following SLV sleeves can be used as substitutes:

For XBSH08000000FC, use SLV0000000060A/N

For XBSH11000000FC-C, use SLV0000000080A/N

When combining a flexible holder and an SLV sleeve, external coolant is recommended.

SPARE PARTS

Tool holder type			Torque (Nm)
	Clamp screw	Wrench	
SLV0000000060A/N	HSS05004	HKY25R	4.0
SLV0000000070A/N			
SLV0000000080A/N			
SLV0000000100A/N			
SLV0000000120A/N			

SYMBOLS



Recommended cutting conditions

NEW

Completely new products or expansions released in the current Spring or Autumn product launch and are not included in the latest version of the General Catalogue.

NEW

Products or expansions that have already been introduced in one of the previous Spring or Autumn product launches but are not included in the latest General Catalogue.

APPLICATION



Face milling



Chamfer milling



Shoulder milling with R



Face milling close to a wall



Shoulder milling



Side milling



Slot milling



Ramping



Pocket milling



Slot milling with R



Copy milling



T-Slot milling

MACHINING TYPE



Roughing



Medium cutting



Light cutting



Pre-finishing



Finishing



Fine-finishing

TOOL MATERIAL



UWC Ultra micro grain carbide
Ultra micro grain carbide substrate material.



CBN Cubic boron nitride
Mitsubishi Materials' original CBN material.



CERAMIC Ceramic
For high speed efficient machining of super alloys due to the excellent high temperature strength property.



KHA S High hardness powder metallurgy HSS
High hardness powder metallurgy HSS substrate material.



HG HSS High grade high alloy HSS
High grade high alloy HSS substrate material.



CO HSS Cobalt high speed steel
Cobalt high speed steel substrate material.



HSS High speed steel
High speed steel substrate material.

SYMBOLS

COATING



SMART MIRACLE coating

New smooth and dense coating technology for high efficiency milling of difficult to cut materials.



CRN coating

Newly developed CrN coating for Copper Electrodes machining.



Violet coating

Increased tool life of 2-3 times more than TiN coated products.



DP coating

New generation coating suitable for a wide range of materials.



MIRACLE coating

The original Miracle (Al,Ti)N coating. Also suitable for dry cutting.



[Al, Ti]N coating

[Al,Ti]N highly versatile application range.



[Al,Ti,Cr]N multi-layer coating

For carbon, alloy and hardened steels.



IMPACT MIRACLE coating

Single phase nano crystal coating technology has higher film hardness and heat resistance.



MIRACLE coating

The original MIRACLE (Al,Ti)N coating. Also suitable for dry cutting.



VFR coating

The [AlCrSi]N/[AlTiSi]N PVD multilayer coating is ideal for machining of extremely hard materials up to 70 HRC.



DLC coating

Hardness similar to CVD diamond coating achieved with high adhesion strength.



Diamond coating

Suitable for CFRP and CFRP-aluminium materials.



Diamond coating

Suitable for graphite machining.



Diamond coating

The original CVD diamond coating.



CVD Diamond coating

Unique multi-layer micro-grain diamond crystal control technology drastically improves wear resistance and smoothness.

CUTTING EDGE PROPERTIES



Sharp corner edge

Indicates the end mill has a sharp corner edge.



Gash land

Indicates the end mill cutting edge has a protective chamfer.



Rake angle



Helix angle

Indicates the helix angle of the end mill.



Point angle

Indicates the drill point angle.



Roughing flute geometry



Variable helix



Rounded gash



Corner angle

WEB THINNING



X type point geometry

X web thinning used at the drill point.



XR type point geometry

XR web thinning used at the drill point.



S type point geometry

Easy cutting geometry.



N type point geometry

Effective when the point web is thick.



Chipbreaker

SYMBOLS

TOLERANCES



Tolerance of taper angle
Indicates the tolerance of the taper angle.



R tolerance
Indicates the radial tolerance of a ball nose end mill.



R tolerance
Indicates the radial tolerance of the corner radius.



R tolerance
Indicates the radial tolerance of a cutter with a corner radius.



Outside diameter tolerance
Indicates the diameter tolerance of the end mill.



Peak tolerance
Indicates the tolerance for the end diameter.



Shank diameter tolerance



Shank diameter tolerance



Drill tolerance / diameter

COOLANT HOLES



External coolant



Internal coolant



Internal coolant



Centered, internal coolant hole



Radial, internal coolant holes



Internal coolant holes



Internal coolant holes

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