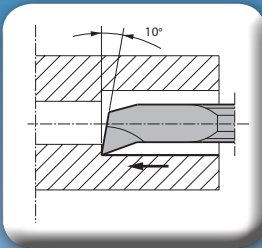
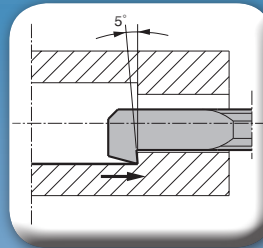


SYSTEM TIP-BAR

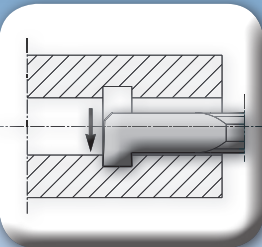
High Machining Accuracy



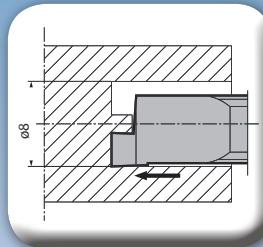
- Boring
- Innendrehen
- Barenatura
- Alesage



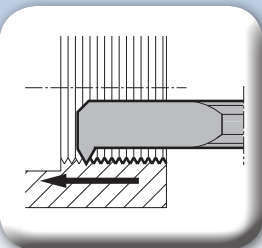
- Back Boring
- Rückwärts-Innendrehen
- Barenatura in trazione
- Alesage en tirant



- Grooving
- Stechen
- Scanlatura
- gorge interne



- Face Grooving
- Axialstechen
- Scanlatura frontale
- gorge faciale



- Threading
- Gewinde
- Filettatura
- Filetage

Hohe Bearbeitungs-
genauigkeit

D'usinage de haute
précision

Alta Precisione di
lavorazione

System Tip-Bar

Machining Quality Bearbeitungsqualität Qualité d'usage Qualità della lavorazione

Excellent chip evacuation due to complete flat top face of insert.
Superior finishing without chips scratching or biting.

Ausgezeichnete Spanabfuhr wegen der flachen, ebenen Konstruktion des Schneideneinsatzes.
Außergewöhnliche Feinstbearbeitung, ohne Oberflächenverletzung, Riefen.

Bonne évacuation des copeaux. Excellent état de surface.

Perfetta evacuazione del truciolo grazie alla geometria piatta dell'inserto.
Ottima finitura, i trucioli non graffiano la superficie lavorata.

Selection of Solid Tip-Bars

Recommended toolholder may change according to machines used and actual position.
Automatic Lathes have various toolpost types other than those below.

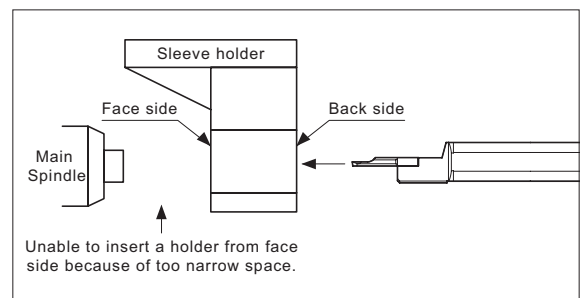
Gang-Type (Horizontal)	Gang-Type	Gang-Type (Front Loading Sleeve Type)	Gang-Type (Back Loading Sleeve Type)
Square Shank (Straight)	Square Shank (L-shape)	Square Shank	Square Shank
Round Shank (Standard)		Round Shank (Standard)	Round Shank (Standard)
Round Shank (Straight)		Round Shank (Straight)	Round Shank (Straight)

Q: There are standard type (head dia. Is larger than shank) and straight type for round shank.

What are the usages for each one?

A: The straight type is used when it cannot be inserted from the face side of the sleeve holder and can be inserted only from the back side due to space limitation (Refer to Fig. on the right).

On the other hand, the standard type should be installed when it can be inserted from the face side, and the head end is used for positioning as stopper.



S...SVN-N Round Shank (Standard, without side stopper)

S...SVN-SN Round Shank (Straight, without side stopper)

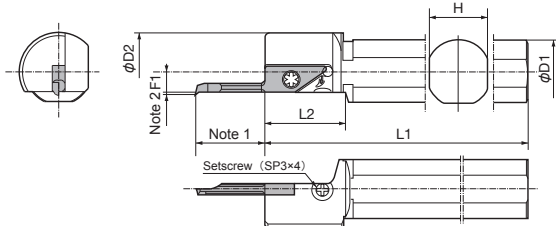


Fig.1 (S...SVN-N)

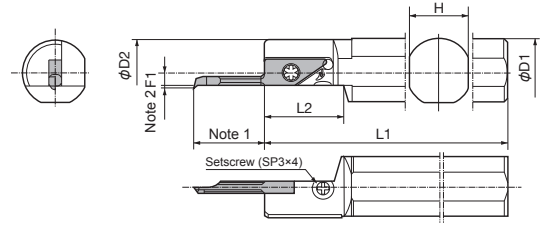


Fig.2 (S...SVN-SN)

● Right-hand shown

R-hand Insert for R-hand Toolholder.

Note 1 & Note 2 : For insert dimensions, see page [Page 6~7](#)

S...SVN Round Shank (Standard)

S...SVN-S Round Shank (Straight)

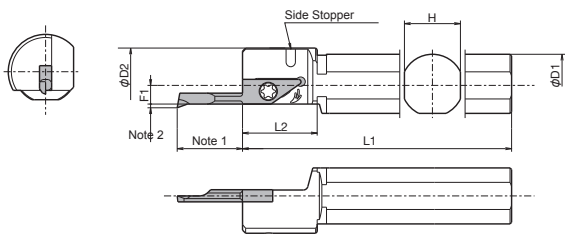


Fig.3 (S...SVN)

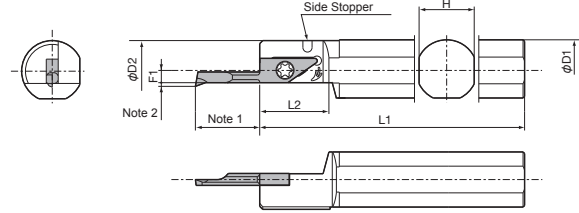


Fig.4 (S...SVN-S)

● Right-hand shown

R-hand Insert for R-hand Toolholder.

Note 1 & Note 2 : For insert dimensions, see page [Page 6~7](#)

● Toolholder Dimensions

Description	Std.	Dimension (mm)						Drawing	Spare Parts					Applicable Inserts Page 6~7 Page 10 Page 11 Page 12							
		$\phi D1$	$\phi D2$	H	L1	L2	F1		Clamp Screw	Wrench	Screw (Side Stopper)	Setscrew	Wrench								
S12F-SVNR12N	●	12	20	11	80	23	4	Fig.1	SB-3080TR	FT-10	-	SP3X4	-	VNBRO○○○○-○○ VNBTR○○○○-○○○ VNGRO○○○○-○○ VNFGR○○○○-○○ VNTR○○○-○○							
S14G-SVNR12N	●	14	20	13	90																
S16H-SVNR12N	●	16	24	15	100																
S19H-SVNR12N	●	19.05	24	17	100																
S19N-SVNR12N	●				160																
S20H-SVNR12N	●	20	24	18	100	24	6														
S25H-SVNR12N	●	25.4	30	23	100																
S25Q-SVNR12N	●				180																
S19H-SVNR12SN	●	19.05	18.5	17	100	23	4								Fig.2	SB-3080TR	FT-10	-	SP3X4	-	VNBRO○○○○-○○ VNBTR○○○○-○○○ VNGRO○○○○-○○ VNFGR○○○○-○○ VNTR○○○-○○
S20H-SVNR12SN	●	20	19.5	18																	
S22K-SVNR12SN	●	22	21.5	20	125																
S25.0G-SVNR12SN	●	25	24.5	23	90																
S12F-SVNR12	●	12	20	11	80	23	4	Fig.3	SB-3080TR	FT-10	HS3X4	-	LW-15	VNBRO○○○○-○○ VNBTR○○○○-○○○ VNGRO○○○○-○○ VNFGR○○○○-○○ VNTR○○○-○○							
S14G-SVNR12	●	14	20	13	90																
S16H-SVNR12	●	16	24	15	100																
S19H-SVNR12	●	19.05	24	17	100																
S19N-SVNR12	●				160																
S20H-SVNR12	●	20	24	18	100	24	6														
S25H-SVNR12	●	25.4	30	23	100																
S25Q-SVNR12	●				180																
S19H-SVNR12S	●	19.05	18.5	17	100	23	4				Fig.4				SB-3080TR	FT-10	HS3X4	-	LW-15	VNBRO○○○○-○○ VNBTR○○○○-○○○ VNGRO○○○○-○○ VNFGR○○○○-○○ VNTR○○○-○○	
S20H-SVNR12S	●	20	19.5	18																	
S22K-SVNR12S	●	22	21.5	20	125																
S25.0G-SVNR12S	●	25	24.5	23	90																

- S...SVN-N and S...SVN-SN (without side stopper) retain high index accuracy by simple restraint.
- S...SVN-N and S...SVN-SN (without side stopper) have a setscrew SP3X4. Changing the setscrew SP3X4 to a screw HS3X4 (sold separately) enables the holder to be used as a binding effect holder like with the side stopper holder.
- In case of machining insert emphasizing on binding effect, (e.g. varying loading direction of under cutting, internal and external or face cutting by one tool) please use [S...SVN and S...SVN-S Holders] with attached side stoppers.

System Tip-Bar

SVN-N (without side stopper)

SVNS-N (without side stopper / without setscrew)

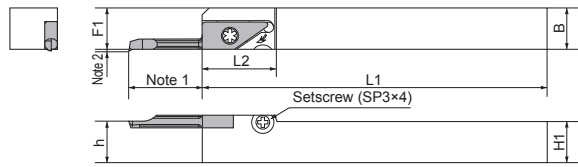


Fig.1 (SVN-N)

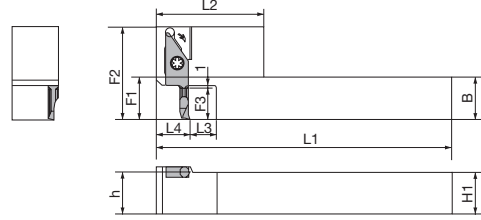


Fig.2 (SVNS-N)

● Right-hand shown

R-hand Insert for R-hand Toolholder.

Note 1 & Note 2 : For insert dimensions, see page [Page 6~7](#)

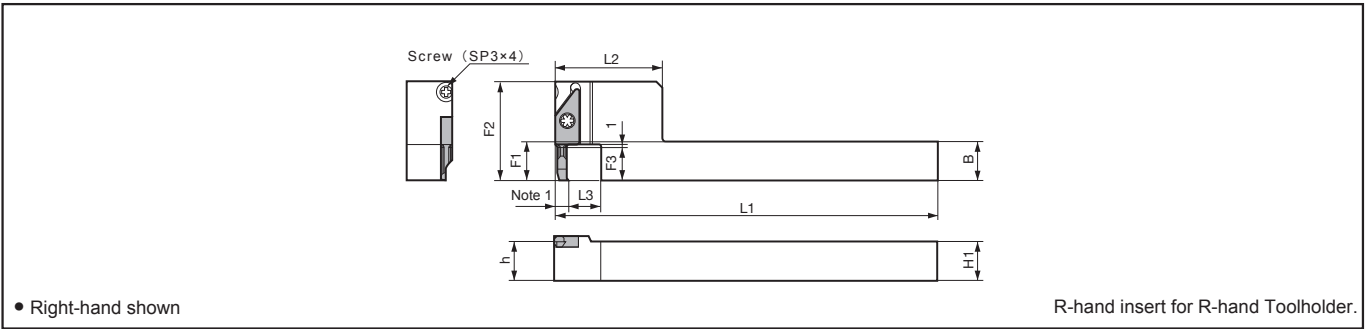
Toolholder Dimensions

Description	Std.	Dimension (mm)										Drawing	Spare Parts			Applicable Inserts Page 6~7 Page 10 Page 11 Page 12	
		H1=h	B	L1	L2	L3	L4	F1	F2	F3	Clamp Screw		Wrench	Setscrew			
SVNR 1010H-12N	●	10	10	100				10									VNBR0000-000
1212K-12N	●	12	12					12									VNBTR0000-000
1616K-12N	●	16	16	125	22	-	-	16	-	-	Fig.1	SB-3080TR	FT-10	SP3X4			VNGR0000-00
2020K-12N	●	20	20					20									VNFGR0000-00
2525M-12N	●	25	25	150				25									VNTR0000-00
SVNSR 1010K-12-06N	●	10	10	125		10	12	10	29	6							(VNBR0006-000)*
1010K-12-11N	●	10	10	125		10	12	10	33	11							(VNBTR0011-000)* (VNBTR0011-000)* (VNGR0000-11)* (VNTR0000-11)*
1212M-12-06N	●	12	12	150		10	12	12	29	6							(VNBR0006-000)* (VNBR0011-000)*
1212M-12-11N	●	12	12	150		10	12	12	33	11							(VNBTR0011-000)* (VNGR0000-11)* (VNTR0000-11)*
1212M-12-20N	●	12	12	150	45	10	13	12	42	20	Fig.2	SB-3080TR	LTW-10S	-			(VNBR0020-000)* (VNBTR0020-000)* (VNGR0000-20)*
1616M-12-06N	●	16	16	150		16	12	16	29	6							(VNBR0006-000)* (VNBR0011-000)*
1616M-12-11N	●	16	16	150		16	12	16	33	11							(VNBTR0011-000)* (VNGR0000-11)* (VNTR0000-11)*
1616M-12-20N	●	16	16	150		16	13	16	42	20							(VNBR0020-000)* (VNBTR0020-000)* (VNGR0000-20)*

- SVN-N (without side stopper) retains high index accuracy by simple restraint.
- SVN-N (without side stopper) has a setscrew SP3X4. Changing the setscrew SP3X4 to a screw HS3X4 (sold separately) enables the holder to be used as a binding effect holder like with the side stopper holder.
- In case of machining insert emphasizing on binding effect, (e.g. varying loading direction of under cutting, internal and external or face cutting by one tool) please use [SVN and SVNS Holders] with attached side stoppers.

All System Tip-Bar Inserts are used with a SVNSR-N Toolholder, however, When setting the cutting edge at the face level of the toolholder as shown in Fig.2, use the insert shown in (). In these cases, the F3 dimension of the toolholder corresponds to the L2 dimension of the insert.

SVNS-XN Square Shank (L-shape)



Note 1 : The dimension of Note 1 is same size as the applicable insert (VNBX [Page 9](#)) F2 dimension.

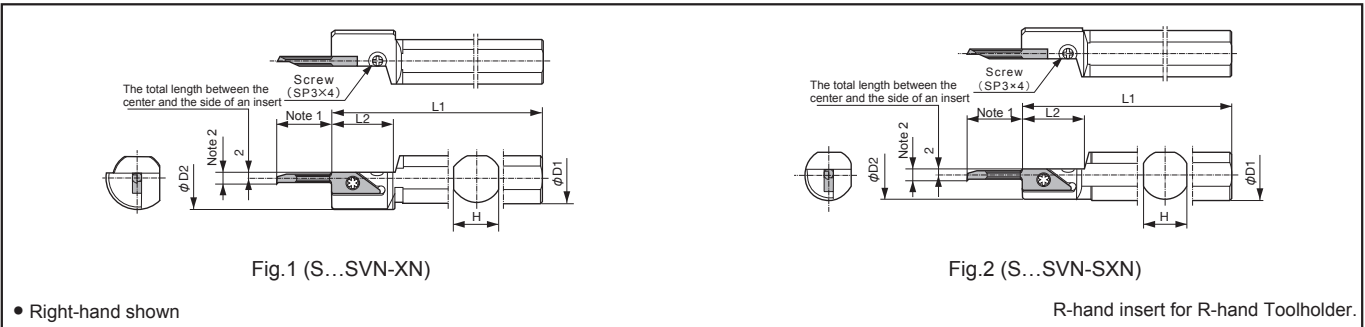
● Toolholder Dimensions (L-shape square shank applicable to gang tool post)

Description	Std.	Dimension (mm)									Spare Parts			* Applicable Inserts Page 9
		H1-h	B	L1	L2	L3	F1	F2	F3	Clamp Screw 	Wrench 	Screw 		
SVNSR 1010K-12-06XN	●	10	10	125	45	10	10	29	6	SB-3080TR	LTW-10S	SP3×4	(VNBXR01..~02..)	
1010K-12-11XN	●						33	11	(VNBXR○○11..)					
1212M-12-06XN	●	12	12	150	16	16	10	29	6	SB-3080TR	LTW-10S	SP3×4	(VNBXR01..~02..)	
1212M-12-11XN	●						12	33	11				(VNBXR○○11..)	
1212M-12-20XN	●	16	16	150	16	16	12	42	20	SB-3080TR	LTW-10S	SP3×4	(VNBXR03516 / 0420..)	
1616M-12-06XN	●						16	29	6				(VNBXR01..~02..)	
1616M-12-11XN	●						16	33	11				(VNBXR○○11..)	
1616M-12-20XN	●						16	42	20				(VNBXR03516 / 0420..)	

* All System Tip-Bar Inserts are used with a SVNS-XN Toolholder, however, When setting the cutting edge at the face level of the toolholder as shown in Fig., use the insert shown in ().

S...SVN-XN (Round Shank: Standard type)

S...SVN-SXN (Round Shank: Straight type)



Note 1 : The dimension of Note 1 shows the applicable insert (VNBX [Page 9](#)) L2 dimension + 1 mm.

Note 2 : The dimension of Note 2 is the same as the applicable insert (VNBX [Page 9](#)) F2 dimension.

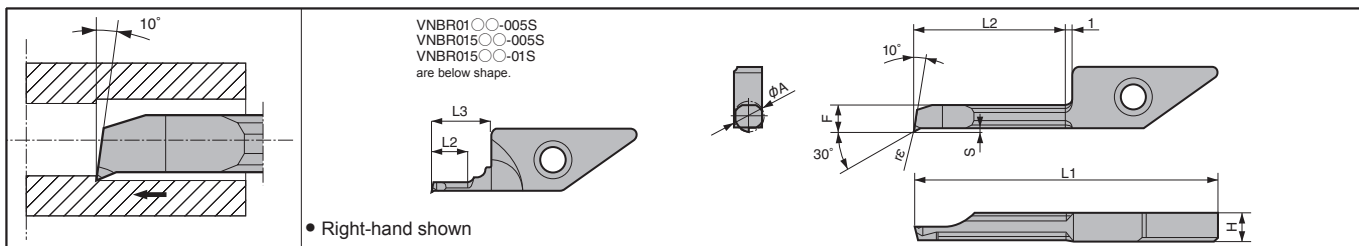
● Toolholder Dimensions (Holder center axis core and insert center are coaxial type)

Description	Std.	Dimension (mm)						Drawing	Spare Parts			Applicable Inserts Page 9
		φD1	φD2	H	L1	L2	Clamp Screw 		Wrench 	Screw 		
S12F -SVNR12XN	●	12	20	11	80	23	Fig.1	SB-3080TR	FT-10	SP3×4	VNBXR...	
S14G -SVNR12XN	●	14		13	90							
S15H -SVNR12XN	●	15.875	15	100								
S16H -SVNR12XN	●	16	17	160								
S19H -SVNR12XN	●	19.05	18	100								
S19N -SVNR12XN	●	19.05	17	160								
S20H -SVNR12XN	●	20	18	100								
S25H -SVNR12XN	●	25.4	30	23	180							
S25Q -SVNR12XN	●	25.4	30	23	180							
S19H -SVNR12SXN	●	19.05	18.5	17	100	Fig.2						SB-3080TR
S20H -SVNR12SXN	●	20	19.5	18	23							
S22K -SVNR12SXN	●	22	21.5	20	125							
S25.0G -SVNR12SXN	●	25	24.5	23	90							

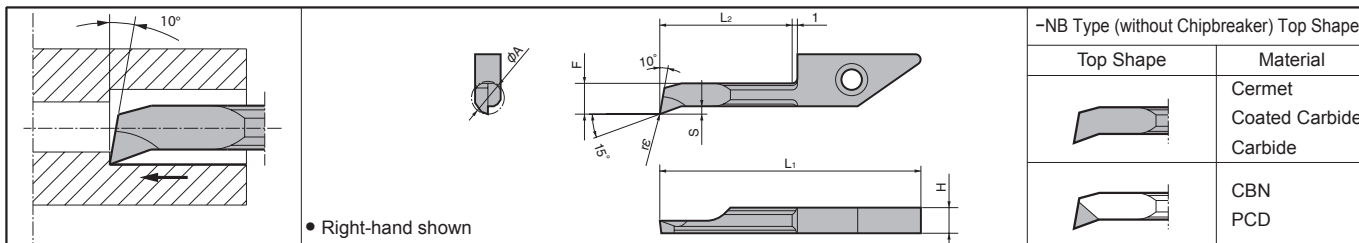
* Reminder of applicable insert.

System Tip-Bar

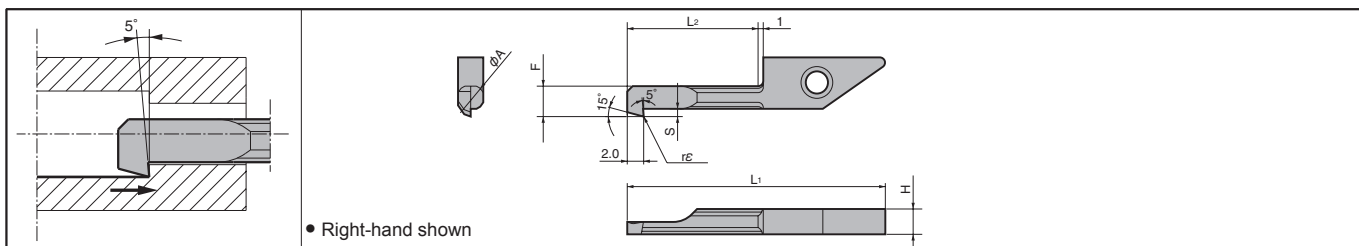
VNB-S (Boring) [Corner- R (rε) Tolerance: + 0/-0.025mm]



VNB (Boring)



VNBT (Back Boring)



Insert Dimensions

Description	Min. Bore Dia.	Dimension (mm)							Insert Grade								
		øA	H	L1	L2	L3	F	S	rε ⁺⁰ _{-0.025}	Cermet	PVD Coated Carbide		Carbide	CBN	PCD		
										TC60	PR915	PR930	KW10	KBN510	KPD001	KPD010	
VNBR 0103-005S 0105-005S 01503-005S 01505-005S 0206-005S 025075-005S 0311-005S 03515-005S 0411-005S 0420-005S	1.0	3.9	26.5	3	7	0.85	0.2	0.05			●						
				5													
	1.5			3													
				5													
	2.0			6													
	2.5			28.1					7.5			2.1	0.4				
	3.0			30.8					11			2.6	0.4				
	3.5			34.8					15			2.9	0.5				
	4.0			30.8					11			3.5	0.5				
39.8	20																
VNBR 01503-01S 01505-01S 0206-01S 025075-01S 0311-01S 03515-01S 0411-01S 0420-01S	1.5	3.9	26.5	3	7	1.3	0.2	0.1			●						
				5													
	2.0			6													
	2.5			28.1					7.5			2.1	0.4				
	3.0			30.8					11			2.6	0.4				
	3.5			34.8					15			2.9	0.5				
	4.0			30.8					11			3.5	0.5				
39.8	20																
VNBR 0411-02S 0420-02S	4.0	3.9	30.8	11	-	3.5	0.5	0.2			●						
				39.8					20								

Recommended Cutting Conditions (In the case of VNB-S)

Workpiece Material	Recommended Insert Grade (Cutting Speed: m/min)							VNB01-S Type VNB015-S Type		VNB02-S Type VNB04-S Type		Remarks
	Cermet	PVD Coated Carbide	Carbide	CBN	PCD		ap	f	ap	f		
	TC60	PR915	PR930	KW10	KBN510	KPD001					KPD010	
Carbon Steel / Alloy Steel			★ 30~100					~0.1	~0.01	~0.2	~0.03	Coolant
Stainless Steel			★ 30~80					~0.1	~0.01	~0.2	~0.02	

★ : 1st Recommendation

● : Std. Item ○ : Check Availability R : Std. Item (R-hand Only) L : Std. Item (L-hand Only)

System-Tip-Bars are sold in 5 piece boxes.

● Insert Dimensions

Description	Min. Bore Dia.	Dimension (mm)							Insert Grade						
		øA	H	L1	L2	F	S	rε	Cermet	PVD Coated Carbide		Carbide	CBN	PCD	
									TC60	PR915	PR930	KW10	KBN510	KPD001	KPD010
VNBR 0206-003 0311-003 0411-003 0420-003 0511-003 0520-003 0620-003 0630-003 0720-003 0730-003	2	3.9	26.5	6	1.8	0.25	0.03			●	●				
	3		30.8	11	2.6	0.4				●	●				
	4		30.8	11	3.5	0.5		●	●	●	●				
	4		39.8	20				●	●	●	●				
	5		30.8	11	4.5	0.7		●	●	●	●				
	5		39.8	20				●	●	●	●				
	6		39.8	20	5.3	1.0		●	●	●	●				
	6		49.8	30				●	●	●	●				
7	39.8	20	6.2	1.0	●	●	●	●							
7	49.8	30			●	●	●	●							
VNBR 0206-02 0311-02 0411-02 0420-02 0511-02 0520-02 0620-02 0630-02 0720-02 0730-02	2	3.9	26.5	6	1.8	0.25	0.2		●	●	●				
	3		30.8	11	2.6	0.4			●	●	●				
	4		30.8	11	3.5	0.5			●	●	●				
	4		39.8	20					●	●	●				
	5		30.8	11	4.5	0.7			●	●	●				
	5		39.8	20					●	●	●				
	6		39.8	20	5.3	1.0			●	●	●				
	6		49.8	30					●	●	●				
7	39.8	20	6.2	1.0		●	●	●							
7	49.8	30				●	●	●							
VNBR 0206-01 0311-01 0411-01 0420-01 0511-01 0520-01 0620-01 0630-01 0720-01 0730-01	2	3.9	26.5	6	1.8	0.25	0.1			●	●				
	3		30.8	11	2.6	0.4				●	●				
	4		39.8	20	3.5	0.5				●	●				
	4		30.8	11						●	●	●	●		
	5		30.8	11	4.5	0.7				●	●				
	5		39.8	20						●	●	●	●		
	6		49.8	30	5.3	1.0				●	●				
	6		39.8	20						●	●	●	●		
7	39.8	20	6.2	1.0			●	●							
7	49.8	30					●	●	●	●					
VNBR 0206-003NB 0311-003NB 0411-003NB 0420-003NB 0511-003NB 0520-003NB 0620-003NB 0630-003NB 0720-003NB 0730-003NB	2	3.9	26.5	6	1.8	0.25	0.03			●	●				
	3		30.8	11	2.6	0.4				●	●				
	4		30.8	11	3.5	0.5				●	●				
	4		39.8	20						●	●	●	●		
	5		30.8	11	4.5	0.7				●	●				
	5		39.8	20						●	●	●	●		
	6		39.8	20	5.3	1.0				●	●				
	6		49.8	30						●	●	●	●		
7	39.8	20	6.2	1.0			●	●							
7	49.8	30					●	●	●	●					
VNBR 0206-02NB 0311-02NB 0411-02NB 0420-02NB 0511-02NB 0520-02NB 0620-02NB 0630-02NB 0720-02NB 0730-02NB	2	3.9	26.5	6	1.8	0.25	0.2			●	●				
	3		30.8	11	2.6	0.4				●	●				
	4		30.8	11	3.5	0.5				●	●			●	●
	4		39.8	20						●	●	●	●		
	5		30.8	11	4.5	0.7				●	●			●	●
	5		39.8	20						●	●	●	●		
	6		39.8	20	5.3	1.0				●	●			●	●
	6		49.8	30						●	●	●	●		
7	39.8	20	6.2	1.0			●	●			●	●			
7	49.8	30					●	●	●	●					
VNBT 0411-003 0420-003 0511-003 0520-003	4	3.9	30.8	11	3.6	1.0	0.03			●	●				
	4		39.8	20						●	●				
	5		30.8	11	4.6	1.3				●	●				
	5		39.8	20						●	●	●	●		
VNBT 0411-01 0420-01 0511-01 0520-01	4	3.9	30.8	11	3.6	1.0	0.1			●	●				
	4		39.8	20						●	●				
	5		30.8	11	4.6	1.3				●	●				
	5		39.8	20						●	●	●	●		

◆ Recommended Cutting Conditions (In the case of VNB / VNB-NB / VNBT)

Workpiece Material	Recommended Insert Grade (Cutting Speed: m/min)							VNB02 Type		VNB03 Type		VNB04 VNB07 Type		VNB05 VNB06 VNB07 VNB05 Type		Remarks
	Cermet	PVD Coated Carbide	Carbide	CBN	PCD		Cut: ap(mm), Feed: f(mm/rev)									
	TC60	PR915	PR930	KW10	KBN510	KPD001	KPD010	ap	f	ap	f	ap	f			
Carbon Steel / Alloy Steel	☆ 60~120	☆ 50~150	★ 30~100					~0.3	~0.03	~0.4	~0.04	~0.45	~0.07	~0.5	~0.1	Coolant
Stainless Steel	☆ 50~100	☆ 50~150	★ 30~80					~0.3	~0.02	~0.4	~0.03	~0.45	~0.05	~0.5	~0.07	
Non-ferrous Metals				☆ ~100		★ ~300	☆ ~300	~0.3	~0.05	~0.4	~0.06	~0.45	~0.1	~0.5	~0.15	

★ : 1st Recommendation ☆ : 2nd Recommendation

● : Std. Item ○ : Check Availability R : Std. Item (R-hand Only) L : Std. Item (L-hand Only)

System-Tip-Bars are sold in 5 piece boxes.

System Tip-Bar

SVN Square Shank (Straight)

SVNS Square Shank (L-shape)

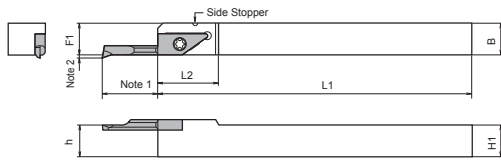


Fig.1 (SVN)

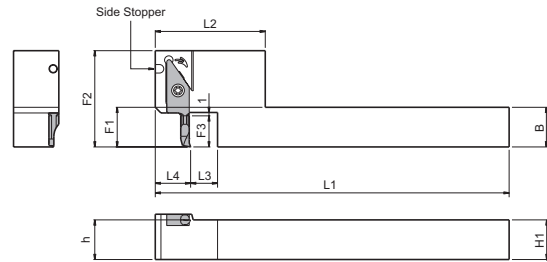


Fig.2 (SVNS)

• Right-hand shown

R-hand Insert for R-hand Toolholder.

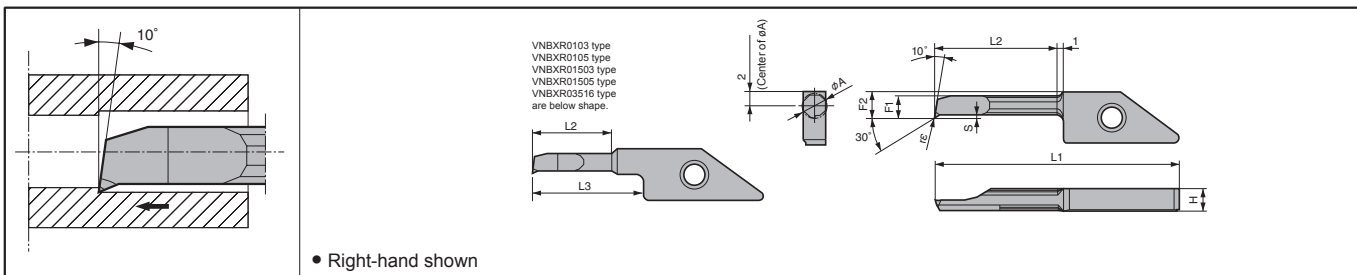
Note 1 & Note 2 : For insert dimensions, see page [Page 6~7](#)

Toolholder Dimensions

Description	Std.	Dimension (mm)										Drawing	Spare Parts				Applicable Inserts
		H1=h	B	L1	L2	L3	L4	F1	F2	F3	Clamp Screw		Wrench	Screw (Side Stopper)	Wrench		
SVNR 1010H-12	●	10	10	100					10			Fig.1	SB-3080TR	FT-10	HS3×4	LW-1.5	VNBRO000-000 VNBTR0000-000 VNGRO0000-00 VNFRG0000-00 VNTR0000-00
1212K-12	●	12	12					12									
1616K-12	●	16	16	125	22	-	-	16	-	-							
2020K-12	●	20	20					20									
2525M-12	●	25	25	150				25									
SVNSR 1010K-12-06	●	10	10	125		10	12	10	29	6	Fig.2	SB-3080TR	LTW-10S	HS3×4	LW-1.5	(VNBRO006-000)* (VNBRO011-000)* (VNBTR0011-000)* (VNGRO000-11)* (VNTR0000-11)*	
1010K-12-11	●	10	10	125	45	10	12	10	33	11							
1212M-12-06	●	12	12	150		10	12	12	29	6							
1212M-12-11	●	12	12	150	45	10	12	12	33	11							
1212M-12-20	●	12	12	150		10	12.5	12	42	20							
1616M-12-06	●	16	16	150		16	12	16	29	6							
1616M-12-11	●	16	16	150	45	16	12	16	33	11							
1616M-12-20	●	16	16	150		16	12.5	16	42	20							

All System Tip-Bar Inserts are used with a SVNSR Toolholder, however, When setting the cutting edge at the face level of the toolholder as shown in Fig.2, use the insert shown in (). In these cases, the F3 dimension of the toolholder corresponds to the L2 dimension of the insert.

VNBX-S (Boring) [Corner-R (rε) Tolerance: + 0/-0.025mm]



● Insert Dimensions (VNBX-S)

Description	Min. Bore Dia.	Dimension (mm)								Insert Grade								
		φA	H	L1	L2	L3	F1	F2	S	rε ⁺⁰ / _{-0.025}	Cermet	PVD Coated Carbide			Carbide	CBN	PCD	
											TC60	PR630	PR915	PR930	KW10	KBN510	KPD001	KPD010
VNBXR 0103-005S 0105-005S 01503-005S 01505-005S 0206-005S 0311-005S 03511-005S 03516-005S 0411-005S 0420-005S	1.0	3.9	26.5	3	7	0.85	2.5	0.2	0.05				●					
				5														
				3														
	5																	
	6																	
	1.5																	
	2.0																	
	3.0																	
	3.5																	
4.0																		
VNBXR 01503-01S 01505-01S 0206-01S 0311-01S 03511-01S 03516-01S 0411-01S 0420-01S	1.5	3.9	26.5	3	7	1.3	2.75	0.2	0.1				●					
				5														
				6														
	2.0																	
	3.0																	
	3.5																	
	4.0																	
4.0																		
VNBXR 0411-02S 0420-02S	4.0	3.9	30.8	11	-	3.5	4	0.5	0.2				●					
				30.8														
				39.8														

◆ Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grade (Cutting Speed: m/min)								VNBX01-S Type VNBX015-S Type		VNBX02-S Type VNBX04-S Type		Remarks
	Cermet		PVD Coated Carbide		Carbide	CBN	PCD		ap	f	ap	f	
	TC60	PR630	PR915	PR930	KW10	KBN510	KPD001	KPD010					
	Cut: ap (mm), Feed: f (mm/rev)												
Carbon Steel / Alloy Steel				★ 30-100					~0.1	~0.01	~0.2	~0.03	Coolant
Stainless Steel				★ 30-80					~0.1	~0.01	~0.2	~0.02	

● Attachment holder for VNBX-S System Tip-Bar

★ : 1st Recommendation

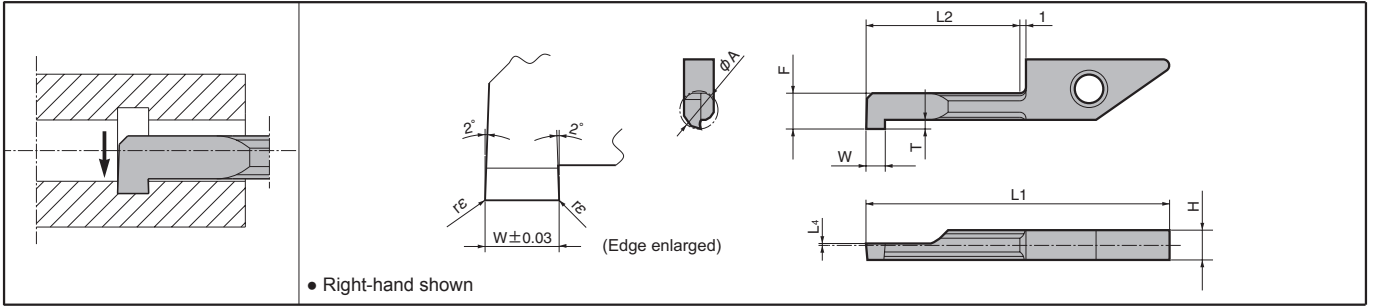
- Attachment holder of VNBX-S System Tip-Bar is below three types (See page F17).
 - SVNS-XN Type (without Side Stopper)
 - S...SVN-XN Type (without Side Stopper)
 - S...SVN-SXN Type (without Side Stopper)
- Above holders assure high index accuracy by easy restraint.
- Clamp screws (SP3×4) are attached. Holders without Side Stopper can be used as a binding effect holder when removing the clamp screws and inserting screws (HS3×4: sold separately) with a wrench (LW-1.5: sold separately).

System-Tip-Bars are sold in 5 piece boxes.

● : Std. Item ○ : Check Availability R : Std. Item (R-hand Only) L : Std. Item (L-hand Only)

System Tip-Bar for Micro Internal Grooving

VNG



Classification of usage ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice	P	Carbon Steel / Alloy Steel					●				
	M	Stainless Steel					○				
	K	Cast Iron						●			
	N	Non-ferrous Metals									
	S	Titanium Alloy									
	H	Hard materials (under 40HRC) Hard materials (over 40HRC)							●		

Insert Dimensions

Description	Min. Cutting Dia.	Dimension (mm)											Cermet	PVD Coated Carbide	Carbide	PCD	Ref. Page for Toolholder F12 F13 F14										
		øA	W	rε	øD	H	L1	L2	L3	L4	F	T						TC60	PR630	PR915	PR930	KW10	KPD001	KPD010			
VNGR	0410-11	4	1.0	0.05	-	3.9	30.8	11	-	0.1	3.5	0.8						●	●								
	0420-11		2.0	0.10																							
	0510-11	5	1.0	0.05														4.4	1.0	●	●			●	●		
	0520-11		2.0	0.10																							
	0610-20	6	1.0	0.05									39.8	20	-	0.3		5.2	1.8	●	●			●	●		
	0620-20		2.0	0.10																							
	0710-20	7	1.0	0.05														6.2	2.0	●	●			●	●		
0720-20	2.0		0.10																								
VNGR	0410-11NB	4	1.0	0.05			30.8	11	-	0.1	3.5	0.8							○	○							
	0420-11NB		2.0	0.10																							
	0510-11NB	5	1.0	0.05											4.4	1.0							○	○			
	0520-11NB		2.0	0.10																							
	0610-20NB	6	1.0	0.05							39.8	20	-	0.3	5.2	1.8							○	○			
	0620-20NB		2.0	0.10																							
	0710-20NB	7	1.0	0.05											6.2	2.0							○	○			
0720-20NB	2.0		0.10																								

• Dimension T shows available grooving depth.

• Dimension L4 indicates the cutting edge is above the Tool's Center Position.

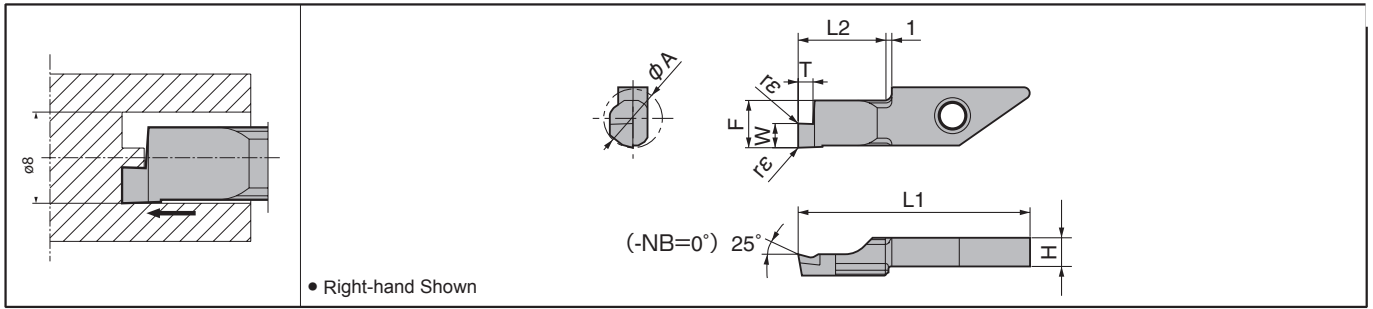
Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grade (Cutting Speed: m/min)				VNG04 VNG05	VNG06 VNG07	Remarks
	Cermet	PVD Coated Carbide	Carbide				
	TC60	PR630	PR930	KW10	f (mm/rev)		
Carbon Steel / Alloy Steel	☆ 60~120	☆ 30~100	★ 30~100		~0.03	~0.05	Coolant
Stainless Steel	☆ 50~100	☆ 30~80	★ 30~80		~0.02	~0.03	
Non-ferrous Metals				★ ~300	~0.05	~0.08	

★ : 1st Recommendation ☆ : 2nd Recommendation

Small Diameter Face Grooving

VNFG (System Tip-Bar)



Insert Dimensions

Classification of usage	P	Carbon Steel / Alloy Steel				●			
	M	Stainless Steel				○			
● : Continuous / 1st Choice	K	Cast Iron					●		
○ : Continuous / 2nd Choice	N	Non-ferrous Metals					○	●	
	S	Titanium Alloy					○	●	
	H	Hard materials (under 40HRC)					●		
		Hard materials (over 40HRC)							

Description	Min. Cutting Dia.	Dimension (mm)								Cermet		PVD Coated Carbide			Carbide		PCD		Ref. Page for Toolholder
		ϕA	$W^{\pm 0.03}$	$r\epsilon$	H	L1	L2	F	T	TC60	PR630	PR915	PR930	KW10	KPD001	KPD010			
VNFGR 0810-10	8	1.0	0.05	3.9	29.6	10	7.3	2.0	●	●		●	●					F12 F13 F14	
	8	2.0						3.0	●	●		●	●						
	8	3.0						3.0	●	●		●	●						
VNFGR 0820-10NB	8	2.0	0.05	3.9	29.6	10	7.3	2.0							○	○		F12 F13 F14	
	8	2.0						3.0											
	8	3.0						3.0											

• Dimension T shows available grooving depth.

Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grade (Cutting Speed: m/min)				VNFG0810	VNFG0820	VNFG0830	Remarks
	Cermet		Carbide					
	TC60	PR630	PR930	KW10				
Carbon Steel / Alloy Steel	☆ 60~120	☆ 30~100	★ 30~100		~0.02	~0.04	~0.05	Coolant
Stainless Steel	☆ 50~100	☆ 30~80	★ 30~80		~0.01	~0.02	~0.03	
Non-ferrous Metals			★ ~300		~0.04	~0.06	~0.08	

★ : 1st Recommendation ☆ : 2nd Recommendation

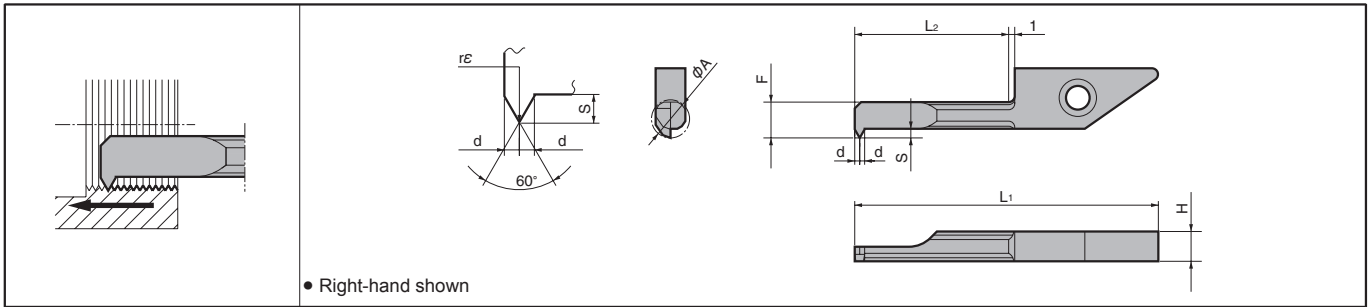
System Tip-Bars are sold in 5 piece boxes.

CBN & PCD Tools are sold in 1 piece boxes.

● : Std. Item ○ : Check Availability
R : Std. Item (R-hand Only) L : Std. Item (L-hand Only)

System Tip-Bar for Micro Threading

VNT (System Tip-Bar)



• Right-hand shown

Insert Dimensions

Description	Min. Bore Dia.	Dimension (mm)								Insert Grade			Applicable Thread			
		øA	H	L1	L2	F	S	d	rε	Cermet	PVD Coated Carbide	Carbide	Metric		Unified	
										TC60	PR930	KW10	Nominal Thread	Pitch (mm)	Nominal Thread	Pitch (TPI)
VNTR	045-11	4.5				3.6	1.3	0.6	0.05		●	●	M6 and over	P0.75 ~P1.25	1/4-20UNC, 1/4-28UNF and over	28~20
	060-11	6.0	3.9	30.8	11	4.6	1.6	0.8			●	●	M8 and over	P0.75 ~P1.50	5/16-18UNC, 5/16-24UNF and over	24~18

● For applicable Toolholder, see page **F12-F14**.

◆ Depth of Cut & Number of Passes (Metric)

Pitch (mm)	Total ap (mm)	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass
0.75	0.44	10	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.03	0.03	0.03							
1.00	0.60	12	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03	0.03					
1.25	0.76	14	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.03			
1.50	0.92	17	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.03

<Note> 1) The standard cutting speed is Vc=30~50m/min. The table feed may not follow the expected conditions when machining small diameter workpieces at high speeds.
2) Coolant is recommended.

● : Std. Item ○ : Check Availability R : Std. Item (R-hand Only) L : Std. Item (L-hand Only)

System Tip-Bars are are sold in 5 piece boxes.