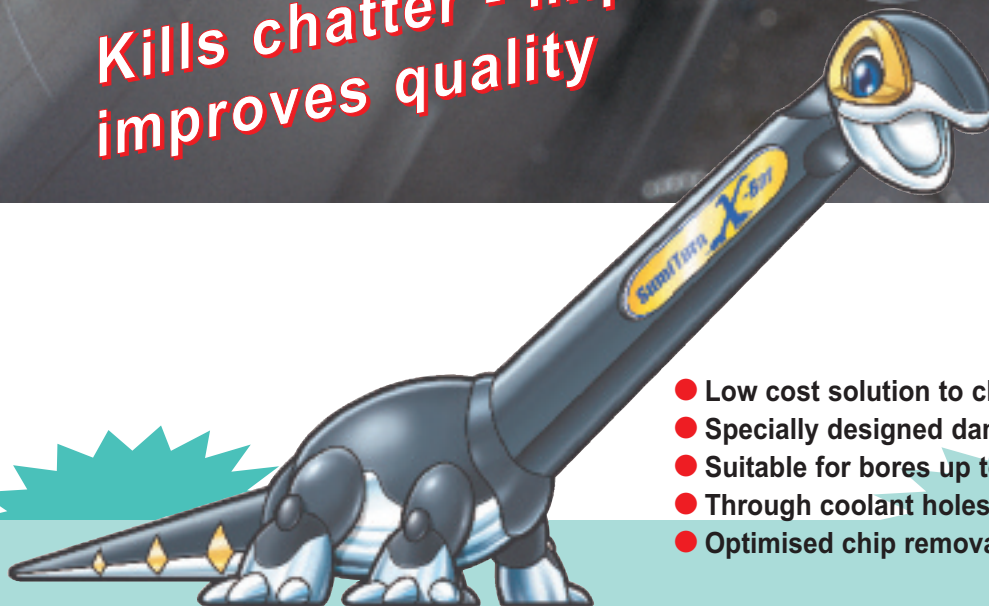


# Low Cost Anti-Vibration Boring Bars

**SumiTurn**  **X Bar**

**PROGRAMME  
EXPANSION**

**Kills chatter - improves productivity -  
improves quality**



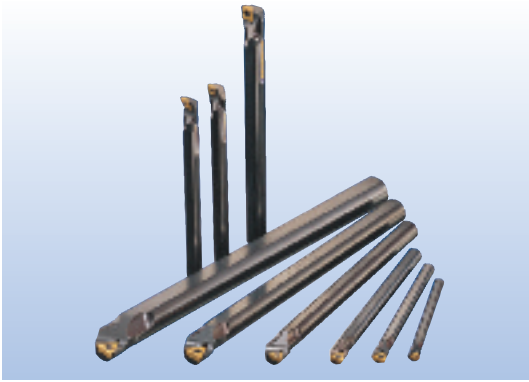
- Low cost solution to chatter when deep hole boring
- Specially designed damper prevents in cut vibration
- Suitable for bores up to 7 x D
- Through coolant holes
- Optimised chip removal

 **SUMITOMO**

CARBIDE - CBN - DIAMOND

# Anti-Vibration Boring Bars SumiTurn "X Bar" Series

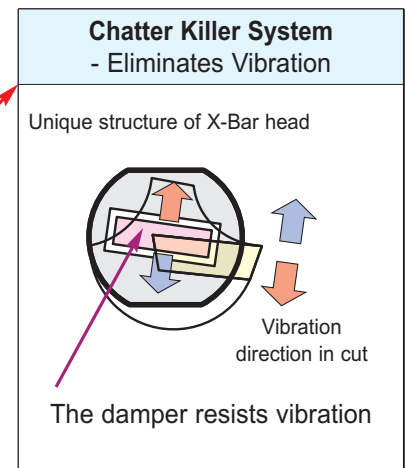
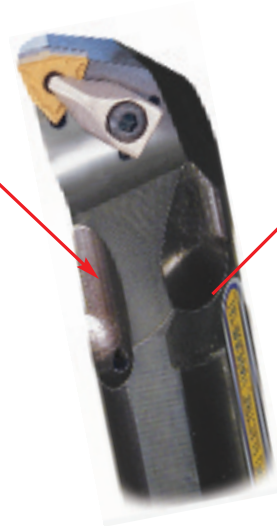
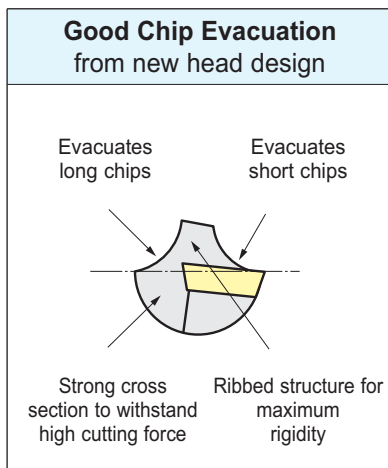
Chatter killer system eliminates vibration



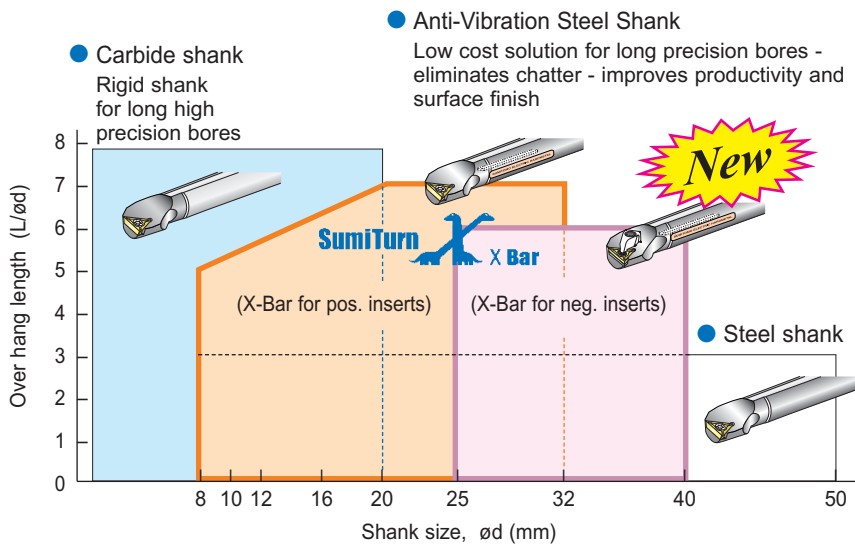
## Low cost high performance boring tool

- Kills chatter
- Improves productivity
- Improves sizing
- Improves tool life

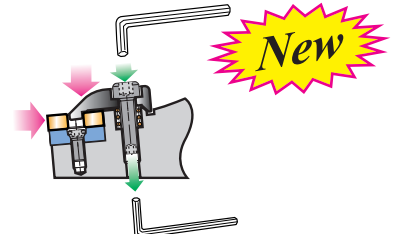
### SumiTurn "X Bar" Series



### Application Guide



- New negative type "X Bar" with high performance double clamping system



**SumiTurn "X Bar"**

**ATTENTION:**

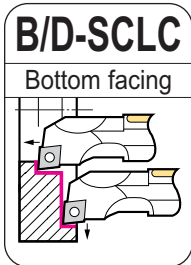
Please keep this area free to get the effect of "X Bar" chattering killer system

Min. over hang length = 3,5 x ød

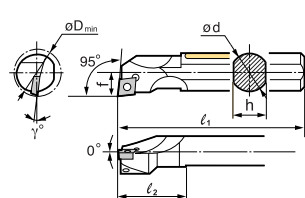
### Comparison of Vibration and Surface Finish

<p><b>SumiTurn "X Bar"</b> B12M - SCLPR 0802-14</p>	<p>No vibration</p>	<p>Excellent surface roughness</p>	<p>Work material: 20Cr4</p> <p>Inserts: CPMT 080204 NSU</p> <p>Shank diameter: ø 12,0 mm</p> <p>Over hang length: 60 mm (L/d = 5)</p>
<p>Competitor's Boring Bar (Type SCLPR 08)</p>	<p>Vibration</p>	<p>Bad surface roughness</p>	<p>Cutting conditions: v<sub>c</sub> = 120 m/min f = 0,1 mm/rev d<sub>oc</sub> = 0,5 mm Dry</p>

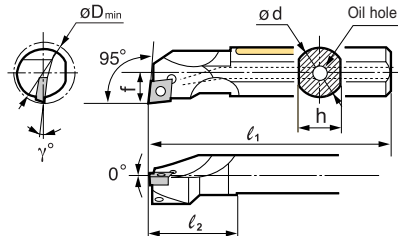
# X Bar – Centre Screw – Positive Type B/D...SCLC / STUP



**B Type** (Fig.1)  
Without oil hole



**D Type** (Fig.2)  
With oil hole



Insert (eg.)



### Spare Parts

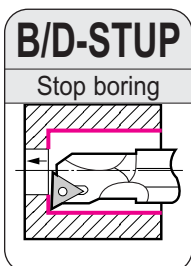
Insert (eg.)	Screw	Wrench
CC□T 0602□□	BFTX02505N	TRX08
	BFTX02506N	
CC□T 09T3□□	BFTX0407N	TRX15
	BFTX0409N	
CC□T 1204□□	BFTX0511N	TRX20

### ■ Holders

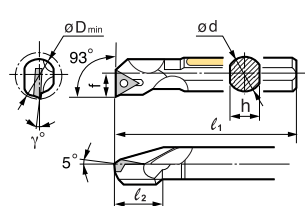
Steel shank	Ordering No.	Stock		$\phi D_{min}$	Dimensions (mm)					Fig.	Insert (eg.)	Screw	Wrench	
		R	L		$\phi d$	h	$l_1$	f	$l_2$					$\gamma^\circ$
Anti-vibration B type	B08H - SCLC R/L 0602-10	●	●	10	8	7	100	5,5	19	-13	1.	CC□T 0602□□	BFTX02505N	TRX08
	B10K - SCLC R/L 0602-12	●	●	12	10	9	125	6	21	-12				
Anti-vibration D type with oil hole	D12M - SCLC R/L 0602-14	●	●	14	12	11	150	7	25	-10	2.	CC□T 09T3□□	BFTX0407N	TRX15
	D16R - SCLC R/L 09T3-18	●	●	18	16	15	200	11	30	-8				
	D20S - SCLC R/L 09T3-22	●	●	22	20	18	250	13	30	-7				
	D25T - SCLC R/L 1204-32	●	●	32	25	23	300	17	38	-6				
	D32T - SCLC R/L 1204-40	●	●	40	32	30	300	20	53	-6				

All figures show right hand tools.

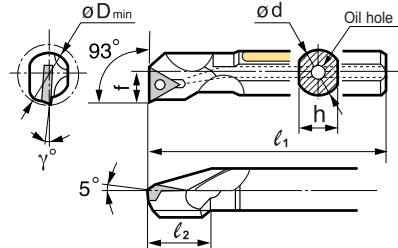
Remarks: Right handed tool holders are applicable with left handed or neutral inserts.  
Left handed tool holders are applicable with right handed or neutral inserts.



**B Type** (Fig.1)  
Without oil hole



**D Type** (Fig.2)  
With oil hole



Insert (eg.)



### ■ Spare Parts

Insert (eg.)	Screw	Wrench
TP□T 0802	BFTX0204A	TRX06
TP□T 1103□□	BFTX0306A	TRX10
	BFTX0307A	
TP□T 1604□□	BFTX0410A	TRX15

### ■ Holders

Steel shank	Ordering No.	Stock		$\phi D_{min}$	Dimensions (mm)					Fig.	Insert (eg.)	Screw	Wrench	
		R	L		$\phi d$	h	$l_1$	f	$l_2$					$\gamma^\circ$
Anti-vibration B type	B08H - STUP R/L 0802-10	●	●	10	8	7	100	5	13	-10	1.	TP□T 0802	BFTX0204A	TRX06
	B10K - STUP R/L 1103-12	●	●	12	10	9	125	6	15	-8				
Anti-vibration D type with oil hole	D12M - STUP R/L 1103-14	●	●	14	12	11	150	7	17	-7	2.	TP□T 1103□□	BFTX0306A	TRX10
	D16R - STUP R/L 1103-18	●	●	18	16	15	200	9	18	-4				
	D20S - STUP R/L 1103-22	●	●	22	20	18	250	11	18	-3				
	D25T - STUP R/L 1604-28	●	●	28	25	22	300	14	18	-2				
	D32T - STUP R/L 1604-40	●	●	40	32	30	300	20	13	-2				

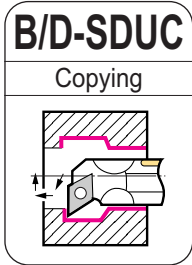
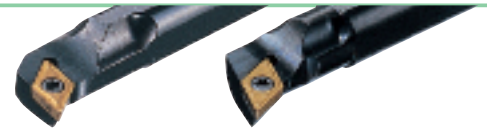
All figures show right hand tools.

Remarks: Right handed tool holders are applicable with left handed or neutral inserts.  
Left handed tool holders are applicable with right handed or neutral inserts.

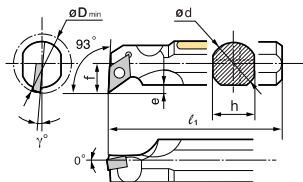
Boring Bars  
for pos. Insert

# X Bar – Centre Screw – Positive Type B/D...SDUC / SDQC

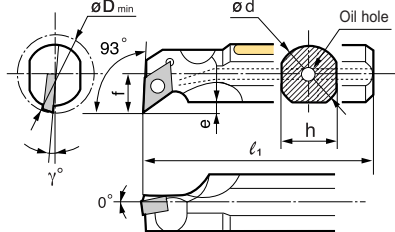
For Positive DC \_\_ - Inserts ( $\alpha = 7^\circ$ )



**B Type** (Fig.1)  
Without oil hole



**D Type** (Fig.2)  
With oil hole



SumiTurn X Bar

Insert (eg.)

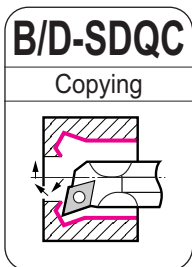


## Spare Parts

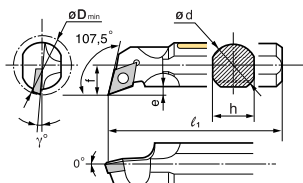
Steel shank	Ordering No.	Stock	Dimensions (mm)							Fig.	Insert (eg.)	Screw	Wrench
		R L	$\phi D_{min}$	$\phi d$	h	$\ell_1$	f	e	$\gamma^\circ$				
Anti-vibration B type	<b>B10M - SDUC R/L 0702-13</b>	● ●	13	10	9	150	7	2,5	-8	1.	DC□T 0702□□	BFTX02506N	TRX08
Anti-vibration D type with oil hole	<b>D12M - SDUC R/L 0702-16</b>	● ●	16	12	11	150	9	3,5	-8	2.	DC□T 11T3□□	BFTX0409N	TRX15
	<b>D16R - SDUC R/L 0702-20</b>	● ●	20	16	15	200	11	4,0	-6				
	<b>D20S - SDUC R/L 11T3-25</b>	● ●	25	20	18	250	13	4,5	-6				
	<b>D25S - SDUC R/L 11T3-32</b>	● ●	32	25	22	250	17	7,0	-6				
	<b>D32T - SDUC R/L 11T3-40</b>	● ●	40	32	30	300	22	8,0	-6				

All figures show right hand tools.

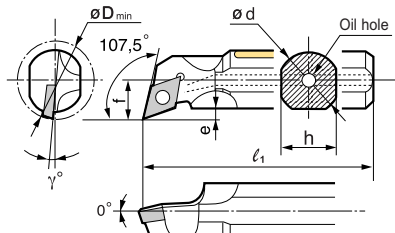
Remarks: Right handed tool holders are applicable with left handed or neutral inserts.  
Left handed tool holders are applicable with right handed or neutral inserts.



**B Type** (Fig.1)  
Without oil hole



**D Type** (Fig.2)  
With oil hole



SumiTurn X Bar

Insert (eg.)



## Spare Parts

Steel shank	Ordering No.	Stock	Dimensions (mm)							Fig.	Insert (eg.)	Screw	Wrench
		R L	$\phi D_{min}$	$\phi d$	h	$\ell_1$	f	e	$\gamma^\circ$				
Anti-vibration B type	<b>B10M - SDQC R/L 0702-13</b>	● ●	13	10	9	150	7	2,5	-8	1.	DC□T 0702□□	BFTX02506N	TRX08
Anti-vibration D type with oil hole	<b>D12M - SDQC R/L 0702-16</b>	● ●	16	12	11	150	9	3,5	-8	2.	DC□T 11T3□□	BFTX0409N	TRX15
	<b>D16R - SDQC R/L 0702-20</b>	● ●	20	16	15	200	11	4,0	-6				
	<b>D20S - SDQC R/L 11T3-25</b>	● ●	25	20	18	250	13	4,5	-6				
	<b>D25S - SDQC R/L 11T3-32</b>	● ●	32	25	22	250	17	7,0	-6				
	<b>D32T - SDQC R/L 11T3-40</b>	● ●	40	32	30	300	22	7,0	-10				

All figures show right hand tools.

Remarks: Right handed tool holders are applicable with left handed or neutral inserts.  
Left handed tool holders are applicable with right handed or neutral inserts.

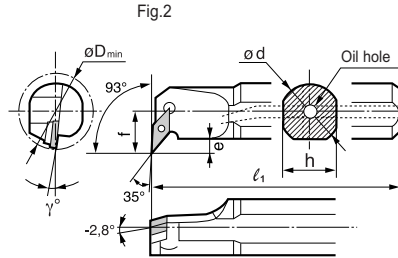
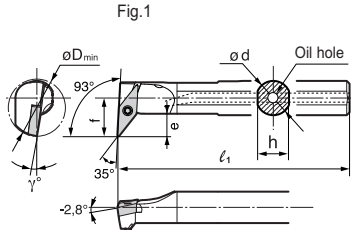
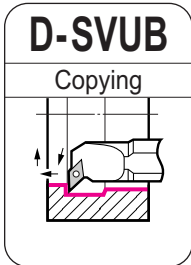
Boring Bars for pos. insert



Insert (eg.)



Anti-vibration D type with oil hole



### Spare Parts

Pin	Clamp screw	Shim	Screw	Wrench	Wrench
			BFTX 02506	TRX08	
			BFTX 03508	TRX10	LH020

### Holders

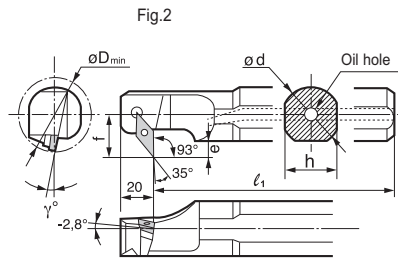
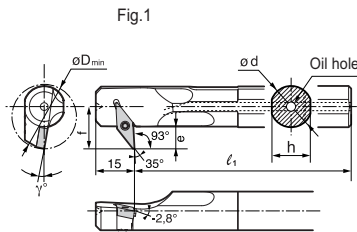
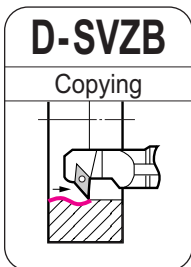
Above figures show right hand tools.

Ordering No.	Stock		$\phi D_{min}$	Dimensions (mm)						Fig.	Insert (eg.)
	R	L		$\phi d$	h	$\ell_1$	f	e	$\gamma^\circ$		
D16R - SVUB R/L 1103-22	●	●	22	16	15	200	13	5	-7	1.	VB□ 1103○
D20S - SVUB R/L 1103-27	●	●	27	20	18	250	15	5	-5		
D25T - SVUB R/L 1604-35	●	●	35	25	23	300	20,5	9	-7,5	2.	VB□ 1603○
D32T - SVUB R/L 1604-40	●	●	40	32	30	300	22	9	-7,5		

Remarks: Right handed tool holders are applicable with left handed or neutral inserts.  
Left handed tool holders are applicable with right handed or neutral inserts.

Boring Bars for pos. Insert

Anti-vibration D type with oil hole



### Spare Parts

Pin	Clamp screw	Shim	Screw	Wrench	Wrench
			BFTX 02506	TRX08	
			BFTX 03508	TRX10	LH020

### Holders

Above figures show right hand tools.

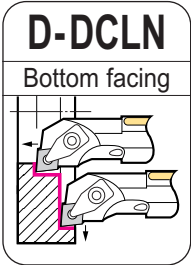
Ordering No.	Stock		$\phi D_{min}$	Dimensions (mm)						Fig.	Insert (eg.)
	R	L		$\phi d$	h	$\ell_1$	f	e	$\gamma^\circ$		
D16R - SVZB R/L 1103-22	●	●	22	16	15	200	13	5	-7	1.	VB□ 1103○
D20S - SVZB R/L 1103-27	●	●	27	20	18	250	15	5	-5		
D25T - SVZB R/L 1604-35	●	●	35	25	23	300	20,5	9	-7,5	2.	VB□ 1603○
D32T - SVZB R/L 1604-40	●	●	40	32	30	300	22	9	-7,5		

# X Bar – Double clamp – Negative Type D...DCLN / DTFN

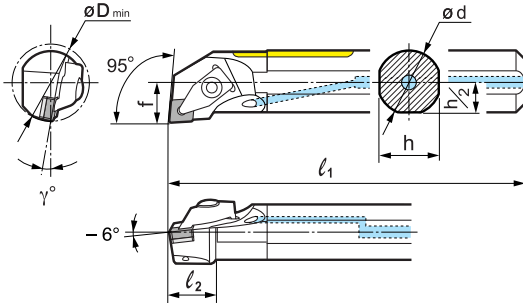
For Negative CN \_\_ and DN \_\_ - Insert ( $\alpha = 0^\circ$ )



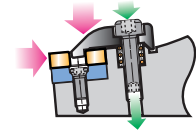
**New**



Anti-vibration D type with oil hole



SumiTurn X Bar



Insert (eg.)



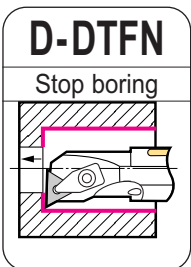
## Spare Parts

Ordering No.	Stock		$\phi D_{min}$	Dimensions (mm)						Insert (eg.)	Clamp	Spring	Clamp bolt	Shim	Shim screw	Wrench		
	R	L		$\phi d$	h	$l_1$	$l_2$	f	$\gamma^\circ$							LH040	LH025	
D25T - DCLN R/L 1204-32	●	●	32	25	23	300	26	17	-12	CN□□1204□□	SCP-2			CNS1203B	BFTX0307N	TRX10 <sup>(*)</sup>		
D32T - DCLN R/L 1204-40	●	●	40	32	30	300	26	22	-10					CNS1204B	BFTX0409N	TRX15 <sup>(*)</sup>	LH040	LH025
D40U - DCLN R/L 1204-50	●	●	50	40	37	350	26	27	-10									

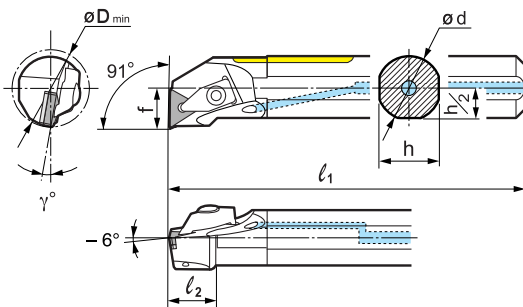
(\*) Note: Wrench (TRX type) for shim screw is not included.

Remarks: Right handed tool holders are applicable with left handed or neutral inserts.  
Left handed tool holders are applicable with right handed or neutral inserts.

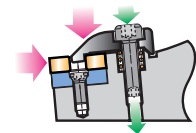
**New**



Anti-vibration D type with oil hole



SumiTurn X Bar



Insert (eg.)



## Spare Parts

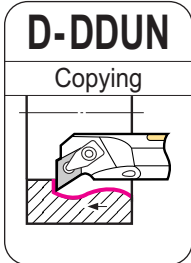
Ordering No.	Stock		$\phi D_{min}$	Dimensions (mm)						Insert (eg.)	Clamp	Spring	Clamp bolt	Shim	Shim Screw	Wrench		
	R	L		$\phi d$	h	$l_1$	$l_2$	f	$\gamma^\circ$							LH040	LH025	
D25T - DTFN R/L 1604-32	●	●	32	25	23	300	21	17	-12	TN□□1604□□	SCP-1			TNS1603B	BFTX0307N	TRX10 <sup>(*)</sup>	LH040	LH025
D32T - DTFN R/L 1604-40	●	●	40	32	30	300	26	22	-10					TNS1604B				
D40U - DTFN R/L 1604-50	●	●	50	40	37	350	26	27	-10									

(\*) Note: Wrench (TRX type) for shim screw is not included.

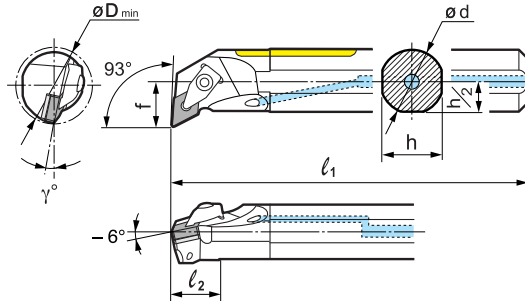


# X Bar – Double clamp – Negative Type D...DDUN / DWLN

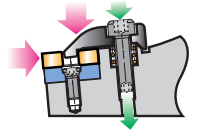
**New**



Anti-vibration D type with oil hole



SumiTurn X Bar



Insert (eg.)



N-GU

## ■ Holders

Above figures show right hand tools.

Ordering No.	Stock		$\phi D_{min}$	Dimensions (mm)						Insert (eg.)
	R	L		$\phi d$	h	$l_1$	$l_2$	f	$\gamma^\circ$	
D32T - DDUN R/L 1104-40	●	●	40	32	30	300	26	22	-10	DN□□1104□□
D32T - DDUN R/L 1506-40	●	●	40	32	30	300	26	22	-12	DN□□1506□□
D40U - DDUN R/L 1506-50	●	●	50	40	37	350	26	27	-12	

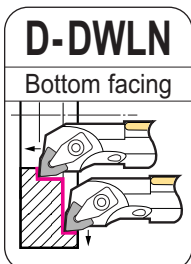
## ■ Spare Parts

Clamp	Spring	Clamp bolt	Shim	Shim Screw	Wrench	Wrench
SCP-1			DNS1104B	BFTX0307N	TRX10(*)	
SCP-2			DNS1506B	BFTX0409N	TRX15(*)	LH040 LH025

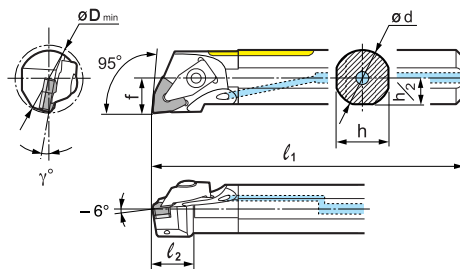
(\*) Note: Wrench (TRX type) for shim screw is not included.

Remarks: Right handed tool holders are applicable with left handed or neutral inserts.  
Left handed tool holders are applicable with right handed or neutral inserts.

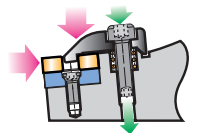
**New**



Anti-vibration D type with oil hole



SumiTurn X Bar



Insert (eg.)



N-GU

## ■ Holders

Above figures show right hand tools.

Ordering No.	Stock		$\phi D_{min}$	Dimensions (mm)						Insert (eg.)
	R	L		$\phi d$	h	$l_1$	$l_2$	f	$\gamma^\circ$	
D25T - DWLN R/L 0804-32	●	●	32	25	23	300	26	17	-12	
D32T - DWLN R/L 0804-40	●	●	40	32	30	300	26	22	-10	WN□□0804□□
D40U - DWLN R/L 0804-50	●	●	50	40	37	350	26	27	-10	

## ■ Spare Parts

Clamp	Spring	Clamp bolt	Shim	Shim Screw	Wrench	Wrench
			WNS0803B	BFTX0307N	TRX10(*)	
			WNS0804B	BFTX0409N	TRX15(*)	LH040 LH025

(\*) Note: Wrench (TRX type) for shim screw is not included.



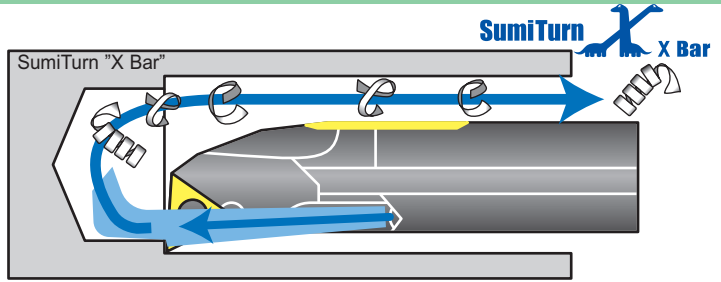
Boring Bars for neg. Insert

# X Bars Anti-Vibration Boring Bars with integral coolant holes

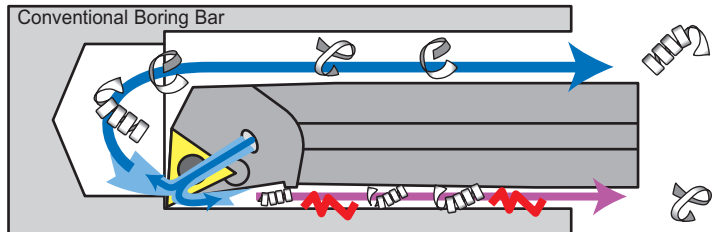
## ■ Excellent Chip Removal



Increased feed rates – Improved tool life – Improved bore quality



Excellent surface roughness



Inconsistent surface roughness

## ■ Application Examples

● S6-5-5 High speed tool steel (1.3243)	● DIN XCrNiMo17122 Joint parts
<p><i>L/d = 5,2 Non-vibration !</i></p>	<p><i>L/d = 7 Non-vibration !</i></p>
Holder: B16R - STUPR 1103-20 Ober hang length: 83 mm (L/d=5,2) Insert: TPMT 110304 NSU (AC2000) Cutting data: $v_c = 120$ m/min, $f = 0,2$ mm/rev, $d_{oc} = 1,0$ mm, Wet	Holder: B25T - STUPR 1604-32 Ober hang length: 175 mm (L/d=7) Insert: TPMT 160404 NSU (AC2000) Cutting data: $v_c = 104$ m/min, $f = 0,25$ mm/rev, $d_{oc} = 0,15$ mm, Wet



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