

TurnLine

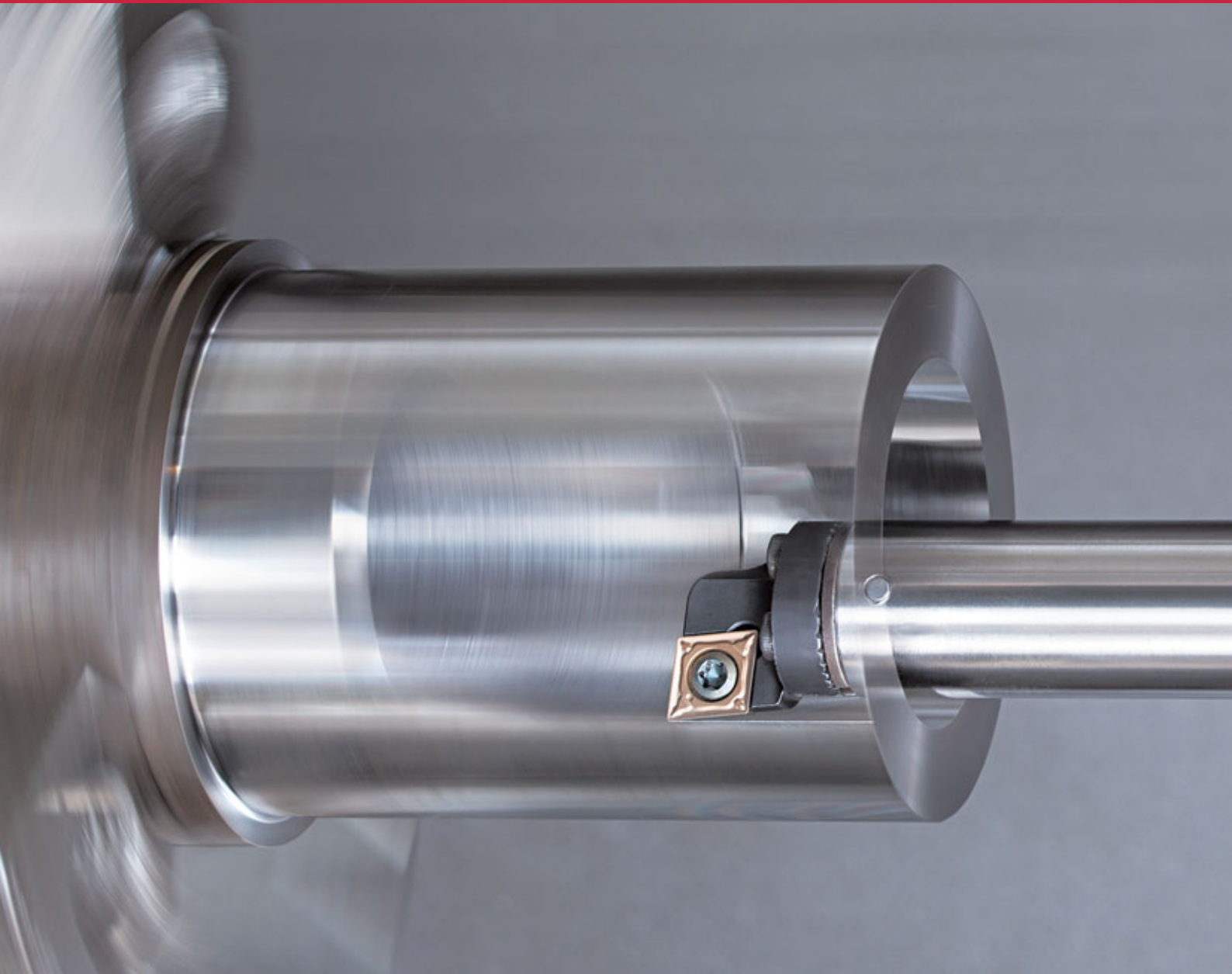
**BOREMEISTER**

www.tungaloy.com

Tungaloy Report No. 517-G



## Vibration-Free Solution for Deep-Hole Boring



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ACCELERATED MACHINING



TurnLine

**BOREMEISTER**

TUNGALOY ANTI-VIBRATION TURNING

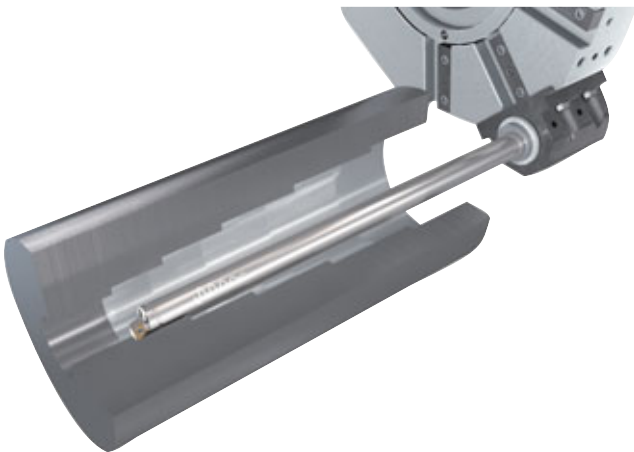


The ultimate solution for overcoming tool overhang challenges of up to  $L/D = 10$

[www.tungaloy.com](http://www.tungaloy.com)

Unique anti-vibration mechanism in the tool body reduces vibration during deep hole boring with long overhangs of up to **L/D = 10**

- Minimum bore diameter:  $\varnothing 20$  mm
- Internal coolant supply improves chip evacuation during deep hole machining
- Various types of cutting heads are available to accommodate different insert shapes



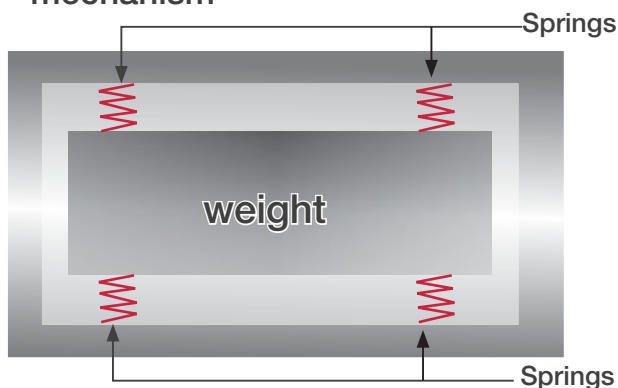
## Vibration Dampening Mechanism

When cutting forces create vibration on a boring bar set up with long overhangs, the bar's dampening mechanism counters the tool's motion and cancels the vibration.

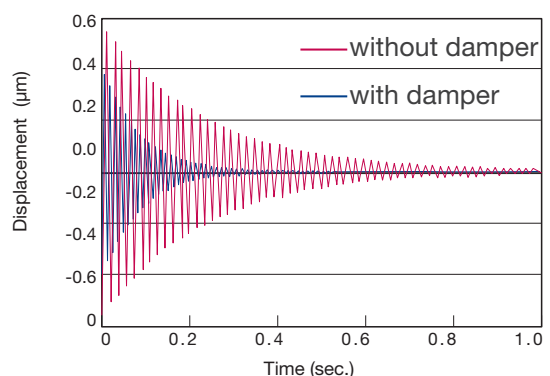
The dampening mechanism consists of a weight supported by spring elements.

The vibrations die out quickly eliminating noise and chatter marks.

### - Concept image of dampening mechanism



### - Tool vibration with and without vibration damper



## Standard Lineup

### BoreMeister anti-vibration bars

L/D	Shank diameter (mm)						
	ø16	ø20	ø25	ø32	ø40	ø50	ø60
7	○	○	○	○	△	△	△
10	●	●	○	○	△	△	△

- : steel shank
- : carbide shank
- △ : on demand

### BoreMeister head

Insert shape	Shank diameter (mm)				
	ø16	ø20	ø25	ø32	ø40, ø50, ø60
CCMT	○	○	○	○	△
DCMT	○	○	○	○	△
VCMT		○	○	△	△
DNMG				△	△
VNMG					△

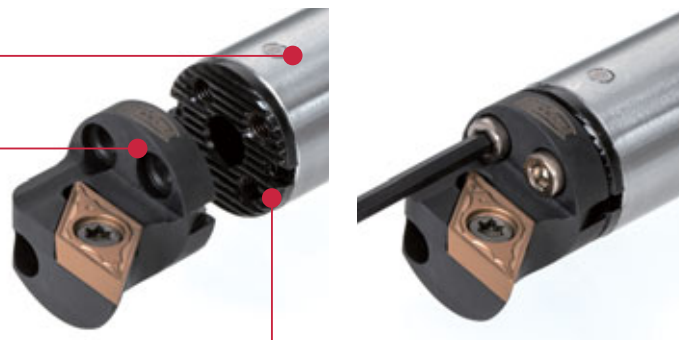
- : standard
- △ : on demand

BoreMeister is comprised of the anti-vibration bar and interchangeable boring head, featuring serrated interfaces for high precision indexing. They are connected by screws, allowing the fitting of a wide range of cutting heads for increased flexibility.

Anti vibration bar

Boring head

Serration



## Boring bar selection guide

For machining of long overhangs over  $5xL/D$ , the use of an anti-vibration bar is highly effective.

### Tool selection according to length-to-diameter ratio

Steel shank	Carbide reinforced	Carbide shank	BoreMeister
$L/D \leq 3$	$L/D \leq 4$	$L/D \leq 5$	$L/D \leq 10$

For custom tooling inquiries, contact Tungaloy



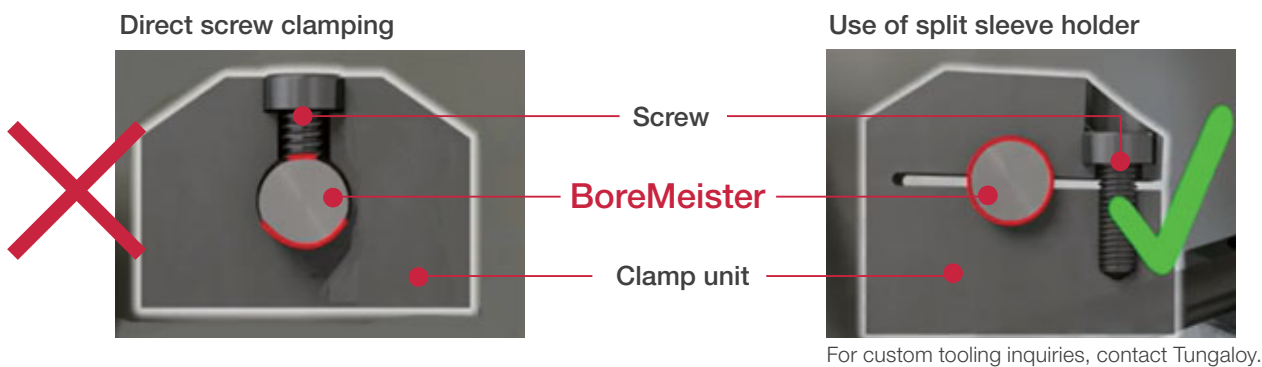


## General use recommendations

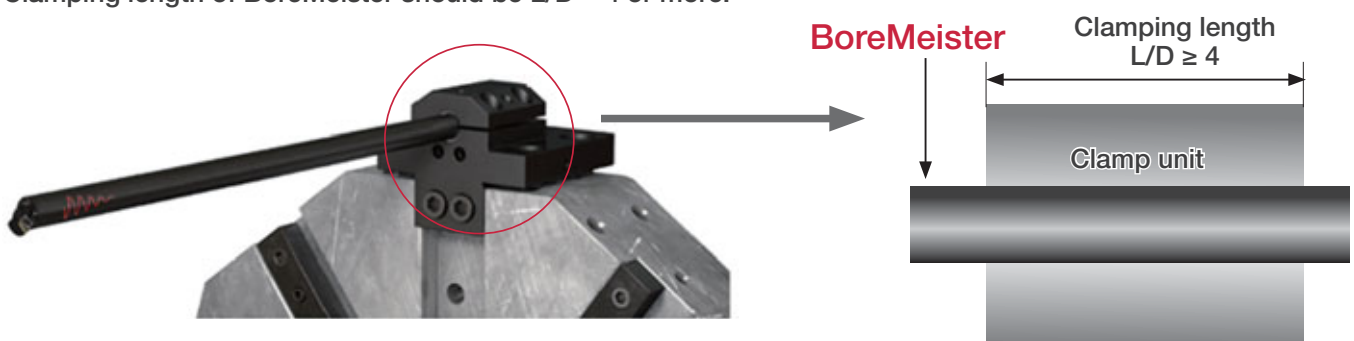
### 1. Machine clamping recommendation

For BoreMeister to maximize its vibration dampening capability, clamping stability is extremely important. When clamping the cylindrical boring bar, Tungaloy recommends the use of a split sleeve holders, which encompass the tool shank, securing maximum contact area. Never use a conventional screw clamp method as it may damage the tool and will not properly prevent vibration.

#### Clamping method



Clamping length of BoreMeister should be  $L/D = 4$  or more.



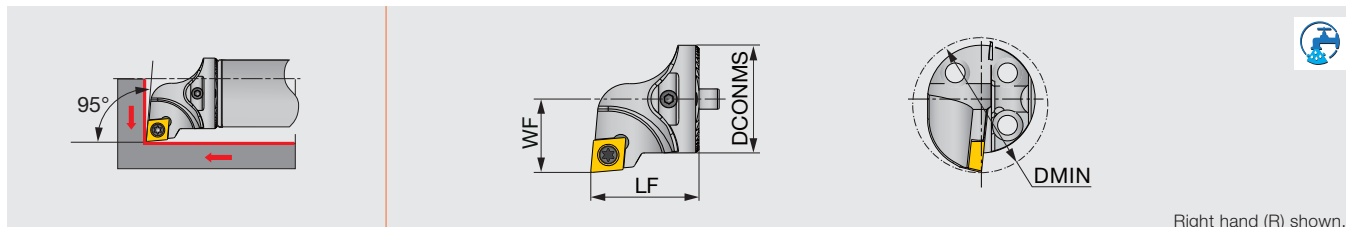
### 2. Center height positioning

Precise center height positioning is another important factor to achieve the right dimensional tolerances and surface finish. BoreMeister has no flats on its cylindrical shank to secure the tool center. Use a dial gauge to properly adjust the tool center height while fine-sliding the boring head on the serrated interface.



## S-SCLCR/L-H

Screw-on clamp interchangeable boring heads for positive 80° rhombic inserts



Right hand (R) shown.

Designation	DMIN	DCONMS	WF	LF	Shank size	Insert
S16-SCLCR/L06-H	20	16	11	20	D/G16	CC**0602...
S20-SCLCR/L09-H	25	20	13	20	D/G20	CC**09T3...
S25-SCLCR/L09-H	32	25	17	22	D25	CC**09T3...
S32-SCLCR/L09-H	40	30	22	32	D32	CC**09T3...
S40-SCLCR/L12T-H	50	40	27	38	D40, D50, D60	CC**1204...

Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SCLCL\*\* type), and the left hand insert (L) is used for the right hand toolholders (SCLCR\*\* type).

### SPARE PARTS

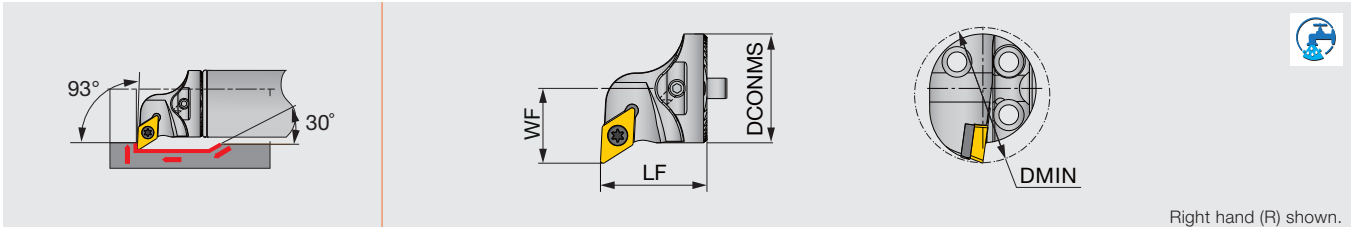


Designation	Clamping screw	Wrench	Shim	Shim screw
S16-SCLCR/L06-H	SR14-548	T-7/5	-	-
S20-SCLCR/L09-H	SR16-236	T-15/5	-	-
S25-SCLCR/L09-H	SR16-236	T-15/5	-	-
S32-SCLCR/L09-H	SR16-236	T-15/5	-	-
S40-SCLCR/L12T-H	SR16-212	T-20/5	TCC4-2	SRTC-4



## S-SDUCR/L-H

Screw-on clamp interchangeable boring heads for positive 55° rhombic inserts



Designation	DMIN	DCONMS	WF	LF	Shank size	Insert
S16-SDUCR/L07-H	20	16	11	20	D/G16	DC**0702...
S20-SDUCR/L11-H	25	20	13	20	D/G20	DC**11T3...
S25-SDUCR/L11-H	32	25	17	20	D25	DC**11T3...
S32-SDUCR/L11T-H	40	32	22	32	D32	DC**11T3...
S40-SDUCR/L11T-H	50	40	27	32	D40, D50, D60	DC**11T3...

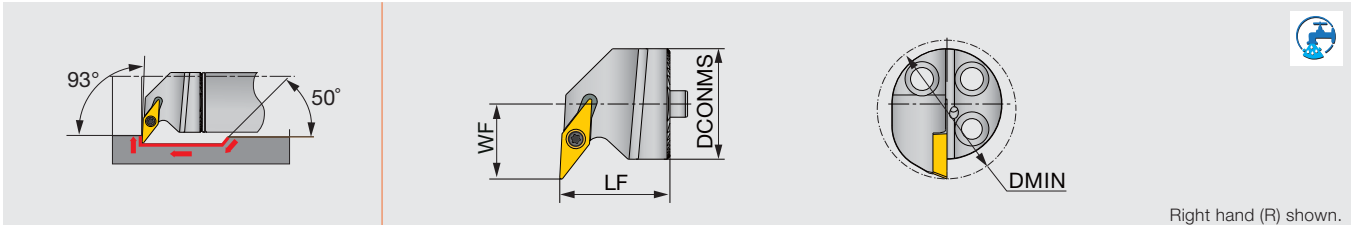
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SDUCL\*\* type), and the left hand insert (L) is used for the right hand toolholders (SDUCR\*\* type).

### SPARE PARTS

Designation	Clamping screw	Wrench	Shim	Shim screw
S16-SDUCR/L07-H	SR14-548	T-7/5	-	-
S20-SDUCR/L11-H	SR16-236P	T-15/5	-	-
S25-SDUCR/L11-H	SR16-236P	T-15/5	-	-
S32-SDUCR/L11T-H	SR16-236P	T-15/5	TDC3-1P	SRTC-3P
S40-SDUCR/L11T-H	SR16-236P	T-15/5	TDC3-1P	SRTC-3P

## S-SVUCR/L-H

Screw-on clamp interchangeable boring heads for positive 35° rhombic inserts



Right hand (R) shown.

Designation	DMIN	DCONMS	WF	LF	Shank size	Insert
S20-SVUCR/L11-H	27	20	16	20	D/G20	VC**1103...
S25-SVUCR/L11-H	31	25	17	25	D25	VC**1103...

Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SVUCL\*\* type), and the left hand insert (L) is used for the right hand toolholders (SVUCR\*\* type).

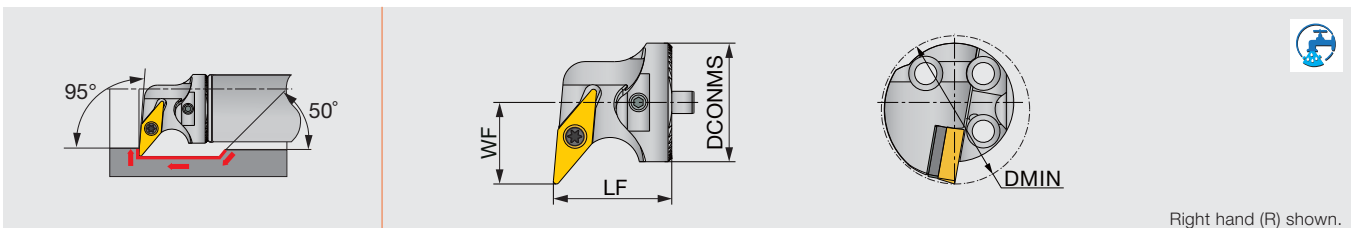
### SPARE PARTS



Designation	Clamping screw	Wrench
S20-SVUCR/L11-H	SR14-560	T-8/5
S25-SVUCR/L11-H	SR14-560	T-8/5

## S-SVLCR/L-H

Screw-on clamp interchangeable boring heads for positive 35° rhombic inserts



Right hand (R) shown.

Designation	DMIN	DCONMS	WF	LF	Shank size	Insert
S32-SVLCR/L16T-H	40	32	22	32	D32	VC**1604...
S40-SVLCR/L16T-H	50	40	27	32	D40, D50, D60	VC**1604...

Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (SVLCL\*\* type), and the left hand insert (L) is used for the right hand toolholders (SVLCR\*\* type).

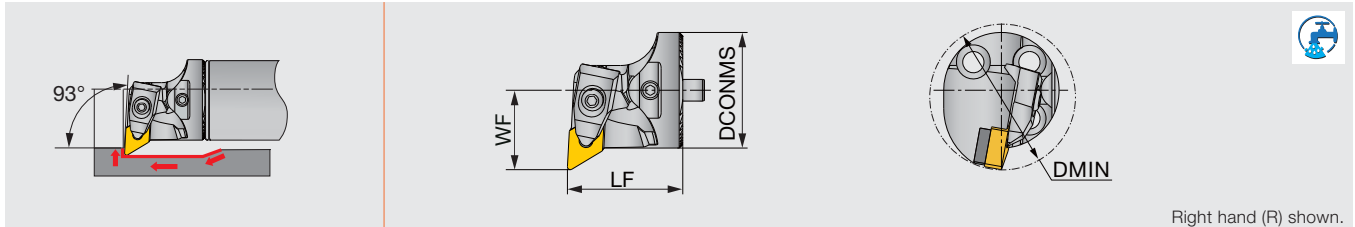
### SPARE PARTS



Designation	Clamping screw	Wrench	Shim	Shim screw
S32-SVLCR/L16T-H	SR16-236P	T-15/5	TVC 3-1P	SRTC-3P
S40-SVLCR/L16T-H	SR16-236P	T-15/5	TVC 3-1P	SRTC-3P

## S-DDUNR/L-H

Double clamp interchangeable boring heads for negative 55° rhombic inserts



Right hand (R) shown.

Designation	DMIN	DCONMS	WF	LF	Shank size	Insert
S32-DDUNR/L11T-H	40	32	22	32	D32	DN**1104...
S40-DDUNR/L15T-H	50	40	27	32	D40, D50, D60	DN**1504/06...

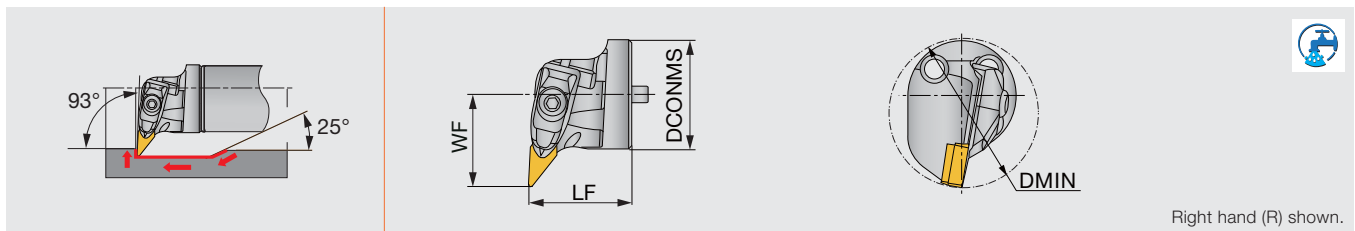
Note: When using a right or left hand insert, the right hand insert (R) is used for the left hand toolholders (DDUNL\*\* type), and the left hand insert (L) is used for the right hand toolholders (DDUNR\*\* type).

### SPARE PARTS

Designation	Shim	Shim screw	Clamp	Clamping screw	Spring	Wrench
S32-DDUNR/L11T-H	RDT3-2	SR40085I	LCGR-3	SRRC3	KSP3	HW2.5
S40-DDUNR/L15T-H	RDT433	SR14-506	DLM4	DLS4	DSP4	HW3.0
S40-DDUNR/L15T-H	RDT443	SR14-506	DLM4	DLS4	DSP4	HW3.0

## S-DVUNR/L-H

Double clamp interchangeable boring heads for negative 35° rhombic inserts



Right hand (R) shown.

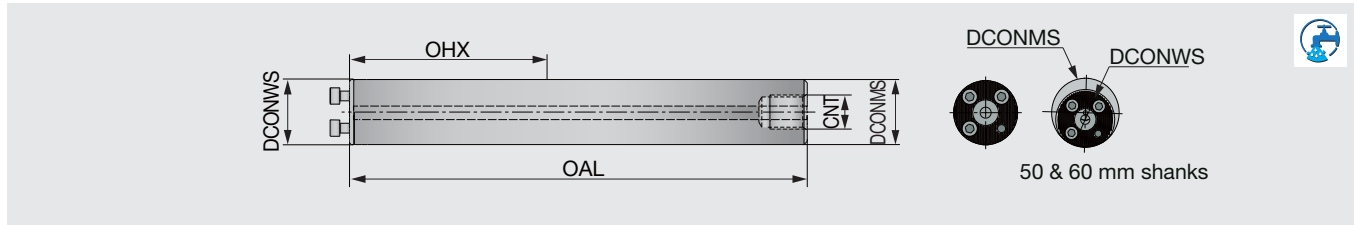
Designation	DMIN	DCONMS	WF	LF	Shank size	Insert
S40-DVUNR/L16T-H	52	40	30	36	D40, D50, D60	VN**1604...

### SPARE PARTS

Designation	Shim	Shim screw	Clamp	Clamping screw	Spring	Wrench
S40-DVUNR/L16T-H	ASV322	SR35080I	DLM3V	SR10402267	KSP5	HW4.0

## Straight Shank

Anti-vibration bars with through coolant for interchangeable turning heads



Designation	Material	DCONWS	DCONMS	OAL	OHX	CNT
D16-L156-7D-C	Steel	16	16	156.3	92	G1/8
G16-L204-10D-E	Carbide	16	16	204.3	140	-
D20-L200-7D-C	Steel	20	20	200.3	120	G1/4
G20-L260-10D-E	Carbide	20	20	260.3	180	-
D25-L255-7D-C	Steel	25	25	257.5	155	G1/4
D25-L330-10D-C	Steel	25	25	332.5	230	G1/4
D32-L320-7D-C	Steel	32	32	323	192	G3/8
D32-L416-10D-C	Steel	32	32	419	288	G3/8
D40-L408-7D-C	Steel	40	40	411	248	G1/2
D40-L528-10D-C	Steel	40	40	531	368	G1/2
D50-L518-7D-C	Steel	40	50	523	318	G1/2
D50-L668-10D-C	Steel	40	50	673	468	G1/2
D60-L628-7D-C	Steel	40	60	633	388	G3/4
D60-L808-10D-C	Steel	40	60	813	568	G3/4

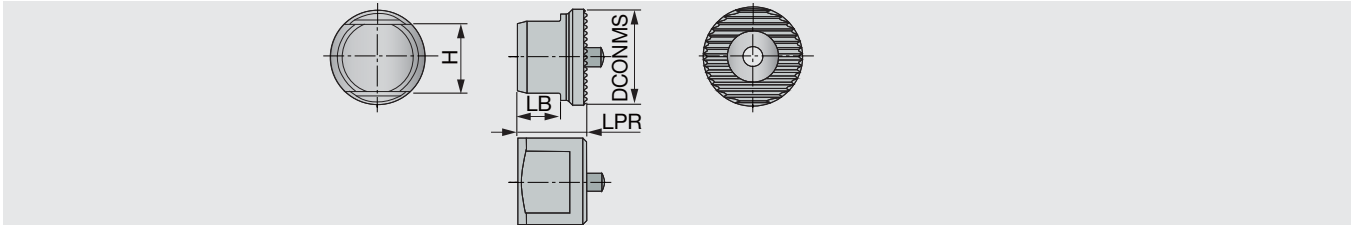
### SPARE PARTS



Designation	Clamping screw	Wrench
D16-L..., G16-L...	SRM3X10DIN912	HW2.5
D20-L..., G20-L...	SRM3.5X10DIN912	HW2.5
D25-L...	SRM4X12DIN912	HW3.0
D32-L...	SRM5X12DIN912	HW4.0
D40-L..., D50-L..., D60-L...	SRM6X16DIN912-12.9	HW5.0

## AVC-SET

Center height set up device



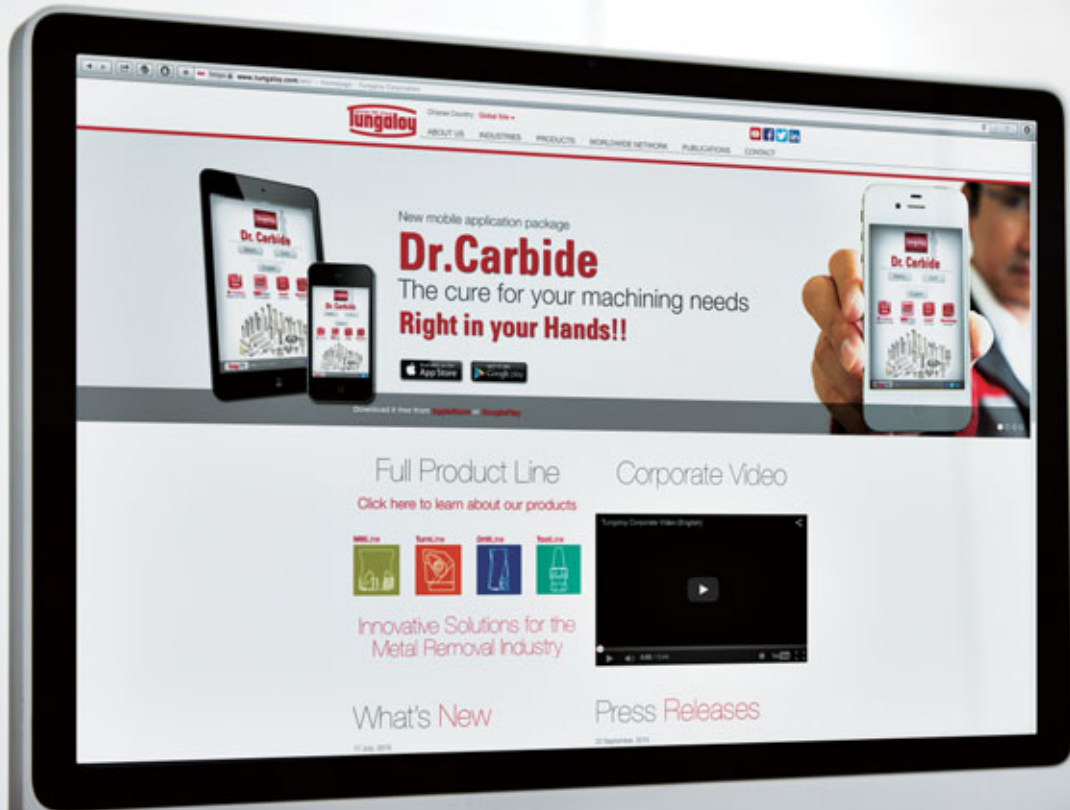
Designation	DCONMS	H	LPR	LB	Applicable shank
AVC-SET 16-25	20	15	14.5	8.9	16, 20, 25
AVC-SET 32-60	29	16	17.5	11.43	32, 40, 50, 60

# MEMO

A large grid of graph paper for taking notes, consisting of 20 columns and 30 rows of small squares.



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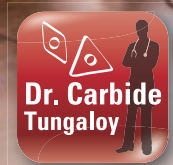
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