



INTERNAL MACHINING

## **Mini-V**

Precise Turning, Grooving,  
Threading & Face Grooving

METRIC

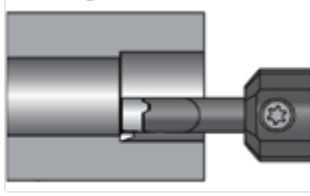
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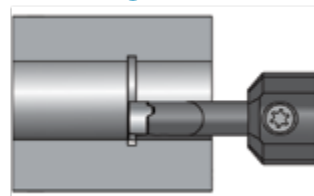
## Applications

### Boring



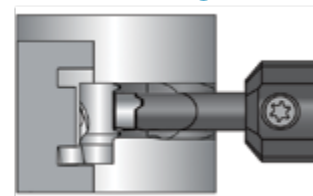
- Boring
- Boring with Chip Former
- Profiling
- Back Boring
- Chamfering

### Grooving



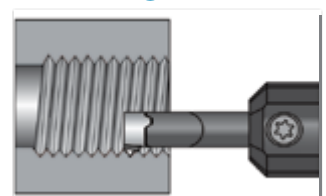
- Square Grooving D472
- Square Grooving
- Round Grooving

### Face Grooving



- Square Face Grooving Internal
- Square Face Grooving External
- Round Face Grooving Internal
- Round Face Grooving External

### Threading



- Partial 60°
- Partial 55°
- ISO Metric
- American UN
- Whitworth
- BSPT
- NPT
- NPTF
- Trapez

## Mini-V Technical Data

Recommended Grades, Cutting Speeds Vc [m/min],  
Feed f [mm/rev] and Max. Depth [mm]

Material Group	Vargus No.	Material		Hardness Brinell HB	VBX		
					Vc [m/min]		
					Threading Boring	Grooving	Boring
<b>P</b> Steel	1	Unalloyed steel	Low carbon (C=.1-.25%)	125	40-80	40-180	0.30-0.50
	2		Medium carbon (C=.25-.55%)	150	40-80	40-170	0.30-0.50
	3		High Carbon (C=.55-.85%)	170	40-80	40-160	0.25-0.35
	4	Low alloy steel (alloying elements≤5%)	Non hardened	180	40-80	40-155	0.28-0.45
	5		Hardened	275	40-80	40-160	0.25-0.45
	6		Hardened	350	40-80	40-150	0.25-0.40
	7	High alloy steel (alloying elements>5%)	Annealed	200	40-60	40-115	0.20-0.30
	8		Hardened	325	40-60	40-100	0.18-0.30
	9	Cast steel	Low alloy (alloying elements <5%)	200	40-60	40-170	0.20-0.30
	10		High alloy (alloying elements >5%)	225	40-60	40-130	0.17-0.30
<b>M</b> Stainless Steel	11	Stainless steel Ferritic	Non hardened	200	40-60	40-180	0.22-0.34
	12		Hardened	330	40-60	40-180	0.21-0.32
	13	Stainless steel Austenitic	Austenitic	180	40-60	40-140	0.25-0.40
	14		Super Austenitic	200	40-60	40-140	0.17-0.26
	15	Stainless steel Cast Ferritic	Non hardened	200	40-60	40-140	0.25-0.37
	16		Hardened	330	40-60	40-140	0.17-0.26
	17	Stainless steel Cast austenitic	Austenitic	200	40-60	40-120	0.20-0.30
	18		Hardened	330	40-60	40-120	0.17-0.26
<b>K</b> Cast Iron	28	Malleable Cast iron	Ferritic (short chips)	130	40-80	40-120	0.25-0.37
	29		Pearlitic (long chips)	230	40-80	40-100	0.20-0.30
	30	Grey cast iron	Low tensile strength	180	40-80	40-100	0.22-0.34
	31		High tensile strength	260	40-80	40-100	0.20-0.30
	32	Nodular SG iron	Ferritic	160	40-80	40-100	0.15-0.25
	33		Pearlitic	260	40-80	40-90	0.20-0.30
<b>N(K)</b> Non-Ferrous Metals	34	Aluminium alloys Wrought	Non aging	60	40-120	40-400	0.60-1.00
	35		Aged	100	40-120	40-400	0.50-0.90
	36	Aluminium alloys	Cast	75	40-120	40-400	0.50-0.90
	37		Cast & aged	90	40-120	40-200	0.40-0.60
	38	Aluminium alloys	Cast Si 13-22%	130	40-120	40-200	0.50-0.90
	39	Copper and Copper alloys	Brass	90	40-120	40-200	0.60-1.00
	40		Bronze and non leaded copper	100	40-120	40-200	0.50-0.90
<b>S(M)</b> Heat Resistant Material	19	High temperature alloys	Annealed (Iron based )	200	20-30	20-30	0.12-0.22
	20		Aged (Iron based)	280	20-30	20-30	0.10-0.20
	21		Annealed (Nickel or Cobalt based)	250	15-20	15-20	0.08-0.20
	22		Aged (Nickel or Cobalt based)	350	10-15	10-15	0.08-0.20
	23	Titanium alloys	Pure 99.5 Ti	400Rm	40-60	40-60	0.10-0.20
	24		α+β alloys	1050Rm	20-30	20-30	0.10-0.20

### VTX

Excellent for Boring applications in medium-to-high cutting speeds and in dry conditions.  
Multi-layered AlTiN PVD coated, general purpose grade for prevention of peeling and chipping.

\* For **VTX Grade**, increase speed by 20%.

### VBX

Excellent for all applications and outstanding wear resistance in low-to-medium cutting speeds, combined with good fracture toughness.  
TiCN PVD coated.

## Feed Rate f [mm/rev]

<b>Grooving</b>	0.01 - 0.03 mm
<b>Boring</b>	0.03 - 0.10 mm

## Threading

### Depths of Cut and Number of Passes

1. High pressure coolant is recommended
2. Infeed method - modified flank infeed 1°

#### Option of modified volume chip

		Pitch mm	0.5	0.75	1	1.25	1.5	1.75	2	2.5	3	3.5	4			
		Pitch tpi	48	32	27	24	20	19	18	16	14	12	10	8	7	6
Insert Style	Standard	Passes (modified volume)														
V08	ISO															
	UN	13	19		25	16			19	22						
	W															
	NPT															
	NPTF			28				43								
V11	ISO															
	UN	13	19		25	16			19	22	24					
	W															
	BSPT							19								
V14	ISO															
	UN	7	10		13	16			19	22	24	32	38			
	W															
V16	ISO															
	UN	7	10		13	16			19	22	24	32	38			
	W															

#### Option of constant depth chip

		Pitch mm	0.5	0.75	1	1.25	1.5	1.75	2	2.5	3	3.5	4			
		Pitch tpi	48	32	27	24	20	19	18	16	14	12	10	8	7	6
Insert Style	Standard	Passes (same)														
V08	ISO															
	UN	11-24	17-35		23-48	18-28			21-34	25-40						
	W															
	NPT															
	NPTF			25-53				40-83								
V11	TR										50-104	70-145				
	ISO															
	UN	11-24	17-35		23-48	14-28			17-34	20-40	23-46					
	W															
V14	BSPT							21-34								
	TR															90-187
	ISO															
V16	UN	11-24	17-35		23-48	14-28			9-15	11-18	11-18	12-21	18-24			
	W															
	ISO															

Number of passes can be decreased when high pressure coolant is used.

# Mini-V Inserts

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## Mini-V Inserts Ordering Code System

### Boring Inserts

<b>V</b>	<b>08</b>	<b>CL</b>		<b>R</b>	<b>VBX</b>
1	2	3	4	5	6

<b>1 - Line Name</b> V - Mini-V	<b>3 - Type of Application</b> BC - Boring BCF - Boring with Chip Former CL - Profiling BB - Back Boring CH45 - Chamfering 45°	<b>4 - Copy Angle</b> None - Profiling 20° 3 - Profiling 30° CL+ None - Profiling 45°	<b>5 - RH or LH</b> R - RH L - LH	<b>6 - Carbide Grade</b> VBX VTX
<b>2 - Insert Size</b> 08, 11, 14, 16				

### Grooving Inserts

<b>V</b>	<b>08</b>	<b>GS</b>	<b>W120</b>	<b>T 100</b>	<b>R</b>	<b>VBX</b>
1	2	3	4	5	6	7

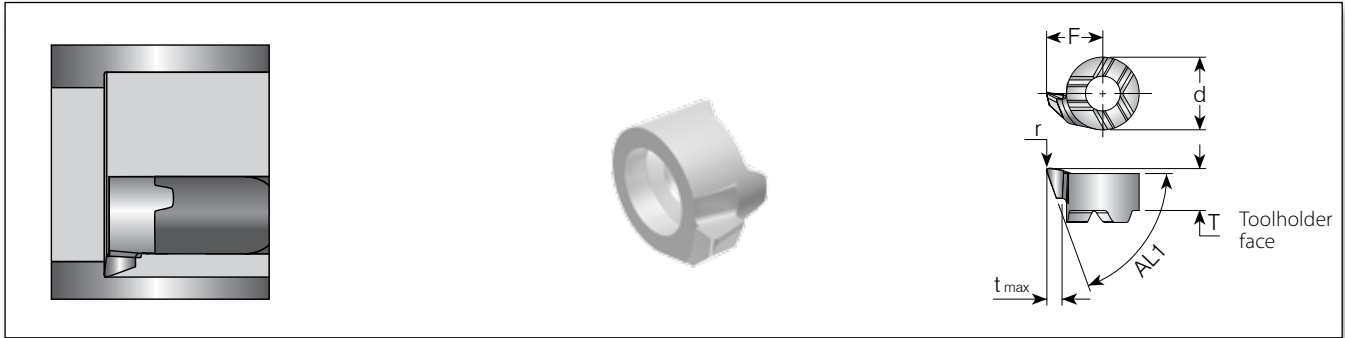
<b>1 - Line Name</b> V - Mini-V	<b>3 - Type of Application</b> D472 - Square Grooving Sharp Corner Radius GS - Square Grooving 0.05 mm Corner Radius GSR - Square Grooving 0.2 mm Corner Radius D7993 - Round Grooving D7993 FGW - Square Face Grooving Internal FGR - Round Face Grooving Internal FEGW - Square Face Grooving External FEGR - Round Face Grooving External	<b>4 - Groove Width</b> W070 - 0.7 mm W080 - 0.8 mm W090 - 0.9 mm W100 - 1.0 mm W110 - 1.1 mm W120 - 1.2 mm W130 - 1.3 mm W150 - 1.5 mm W160 - 1.6 mm W180 - 1.8 mm W200 - 2.0 mm W250 - 2.5 mm W300 - 3.0 mm W350 - 3.5 mm W400 - 4.0 mm	<b>5 - Groove Depth</b> T100 - 1.0 mm T230 - 2.3 mm T400 - 4.0mm T430 - 4.3mm	<b>6 - RH or LH</b> R - RH L - LH	<b>7 - Carbide Grade</b> VBX VTX
<b>2 - Insert Size</b> 08, 11, 14, 16					

### Threading Inserts

<b>V</b>	<b>08</b>	<b>TH</b>	<b>.5</b>	<b>ISO</b>	<b>R</b>	<b>VBX</b>
1	2	3	4	5	6	7

<b>1 - Line Name</b> V - Mini-V	<b>4 - Pitch (for Threading)</b> <b>Full Profile - Pitch Range</b> TPI                      mm 32-12                    0.5-2.0 <b>Partial Profile - Pitch Range</b> TPI                      mm H 48-32                H 0.5-.75 I 24-20                 I 1.0-1.25 J 16-14                 J 1.5-1.75 G 14-8                 G 1.75-3.0 AG 48-8                AG 0.5-3.0	<b>5 - Threading Standard</b> 60° - Partial Profile 60° 55° - Partial Profile 55° ISO - ISO Metric UN - American UN W - Whitworth for BSW, BSP BSPT - British Standard Pipe Thread NPT - NPT National Pipe Thread NPTF - NPTF National Seal Pipe Thread TR - Trapez Din 103	<b>6 - RH or LH</b> R - RH L - LH	<b>7 - Carbide Grade</b> VBX VTX
<b>2 - Insert Size</b> 08, 11, 14, 16				
<b>3 - Type of Application</b> TH - Threading				

## Boring



Insert Style	Ordering Code	Dimensions mm						Min. Bore Dia. mm	Grades	
		r	d	T	t max	AL1	F		VBX	VTX
V08	V08BC R	0.2	6	3.65	1.3	69.8°	4.65	7.8	•	•
V11	V11BC R	0.2	8	4.0	2.3	69.8°	6.70	11.0	•	•
V14	V14BC R	0.2	9	5.6	4.0	69.8°	8.7	13.8	•	•
V16	V16BC R	0.2	11	5.6	4.3	69.8°	9.7	15.5	•	•

- In stock ◦ Available upon request

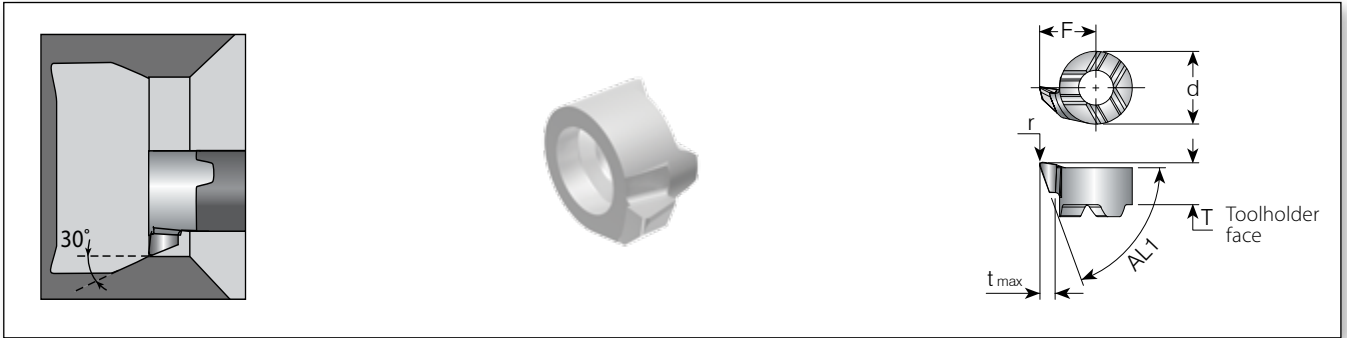
## Boring with Chip Former



Insert Style	Ordering Code	Dimensions mm						Min. Bore Dia. mm	Grades	
		r	d	T	t max	AL1	F		VBX	VTX
V08	V08BCF R	0.2	6	3.65	1.3	69.8°	4.65	7.8	•	•
V11	V11BCF R	0.2	8	4.0	2.2	69.8°	6.70	11.0	•	•

- In stock ◦ Available upon request

## Profiling 30°



Insert Style	Ordering Code	Dimensions mm						Min. Bore Dia. mm	Grades	
		r	d	T	t max	AL1	F		VBX	VTX
V08	V08BC3 R	0.2	6	3.65	1.3	59.8°	4.65	7.8	•	•
V11	V11BC3 R	0.2	8	4.0	2.3	59.8°	6.70	11.0	•	•

• In stock ◦ Available upon request

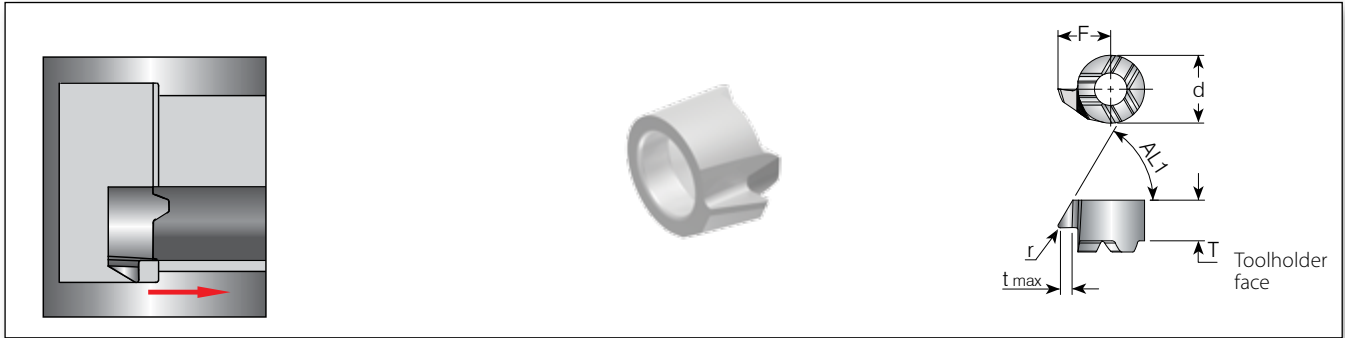
## Profiling 45°



Insert Style	Ordering Code	Dimensions mm						Min. Bore Dia. mm	Grades	
		r	d	T	t max	AL1	F		VBX	VTX
V08	V08CL R	0.2	6	3.65	1.2	43°	4.65	7.8	•	•
V11	V11CL R	0.2	8	4.1	2.3	43°	6.70	11.0	•	•
V14	V14CL R	0.2	9	5.6	4.0	43°	8.7	13.7	•	•
V16	V16CL R	0.2	11	5.6	4.3	43°	10.2	15.8	•	•

• In stock ◦ Available upon request

## Back Boring



Insert Style	Ordering Code	Dimensions mm						Min. Bore Dia. mm	Grades	
		r	d	T	t max	AL1	F		VBX	VTX
V08	V08BB R	0.2	6	3.8	1.2	59.5°	4.65	7.8	•	•
V11	V11BB R	0.2	8	4.0	2.2	59.5°	6.70	11.0	•	•
V14	V14BB R	0.2	9	5.6	3.5	59.5°	8.7	13.8	•	•

• In stock ◦ Available upon request

## Chamfering



Insert Style	Ordering Code	Dimensions mm						Min. Bore Dia. mm	Grades		
		r	d	$W^{+0.03}$	T	t max	AL1		F	VBX	VTX
V08	V08CH45 R	0.2	6	1.3	3.8	1.0	45°	4.65	8.0	•	•
V14	V14CH45 R	0.2	9	2.7	5.6	2.6	45°	9	14.0	•	•

• In stock ◦ Available upon request



## Grooving DIN 472 - Sharp Corner Radius



Insert Style	Ordering Code	Width of Circlip		Dimensions mm						Min. Bore Dia.	Grades	
		m	W <sup>+0.03</sup>	d	t max	T	F	r	D min		VBX	VTX
V08	V08D472 W070T100 R	0.7	0.73	6	1.0	3.6	4.8	0	8	•	•	
	V08D472 W080T100 R	0.8	0.83							•	•	
	V08D472 W090T100 R	0.9	0.93							•	•	
	V08D472 W110T100 R	1.1	1.20							•	•	
	V08D472 W130T100 R	1.3	1.40							•	•	
	V08D472 W160T100 R	1.6	1.70							•	•	
V11	V11D472 W070T120 R	0.7	0.73	8	1.2	4.0	6.7	0	11	•	•	
	V11D472 W080T130 R	0.8	0.83		1.3					•	•	
	V11D472 W090T150 R	0.9	0.93		1.5					•	•	
	V11D472 W110T230 R	1.1	1.20		2.2					•	•	
	V11D472 W130T230 R	1.3	1.40		2.2					•	•	
	V11D472 W160T230 R	1.6	1.70		2.2					•	•	
V14	V14D472 W130T400 R	1.3	1.40	9	4.3	5.6	9	0	14	•	•	
	V14D472 W160T400 R	1.6	1.70							•	•	

• In stock ◦ Available upon request

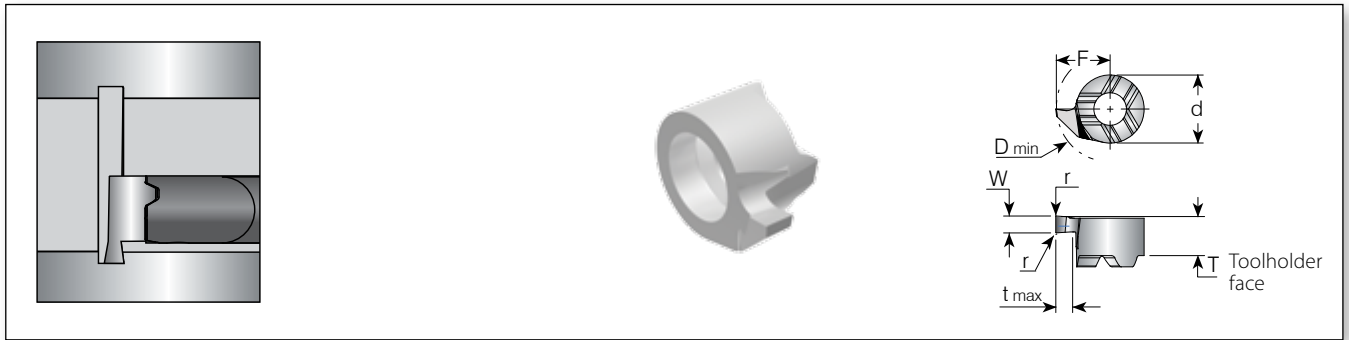
## Grooving - 0.05mm Corner Radius



Insert Style	Ordering Code	Dimensions mm						Min. Bore Dia.	Grades	
		d	W <sup>+0.03</sup>	t max	T	F	r		VBX	VTX
V08	V08GS W078T100 R	6	0.78	1.0	3.6	4.8	0.05	8	•	•
	V08GS W086T100 R		0.86						•	•
	V08GS W100T100 R		1.00						•	•
	V08GS W117T100 R		1.17						•	•
	V08GS W150T100 R		1.50						•	•
	V08GS W157T100 R		1.57						•	•
	V08GS W198T100 R		1.98						•	•
	V08GS W200T100 R		2.00						•	•
V11	V11GS W100T230 R	8	1.00	2.3	4.0	6.7	0.05	11	•	•
	V11GS W117T230 R		1.17						•	•
	V11GS W120T230 R		1.20						•	•
	V11GS W142T230 R		1.42						•	•
	V11GS W150T230 R		1.50						•	•
	V11GS W157T230 R		1.57						•	•
	V11GS W198T230 R		1.98						•	•
	V11GS W200T230 R		2.00						•	•
	V11GS W238T230 R		2.38						•	•
	V11GS W250T230 R		2.50						•	•
V11GS W318T230 R	3.18	•	•							
V14	V14GS W117T400 R	9	1.17	4.0	5.6	9.0	0.05	14	•	•
	V14GS W150T400 R		1.50						•	•
	V14GS W157T400 R		1.57						•	•
	V14GS W198T400 R		1.98						•	•
	V14GS W200T400 R		2.00						•	•
	V14GS W238T400 R		2.38						•	•
	V14GS W250T400 R		2.50						•	•
	V14GS W300T400 R		3.00						•	•
V14GS W318T400 R	3.18	•	•							
V16	V16GS W117T430 R	11	1.17	4.3	5.6	10.2	0.05	16	•	•
	V16GS W142T430 R		1.42						•	•
	V16GS W157T430 R		1.57						•	•
	V16GS W400T430 R		4.00						•	•
	V16GS W198T430 R		1.98						•	•
	V16GS W200T430 R		2.00						•	•
	V16GS W238T430 R		2.38						•	•
	V16GS W300T430 R		3.00						•	•
	V16GS W318T430 R		3.18						•	•
	V16GS W350T430 R		3.50						•	•

• In stock ◦ Available upon request

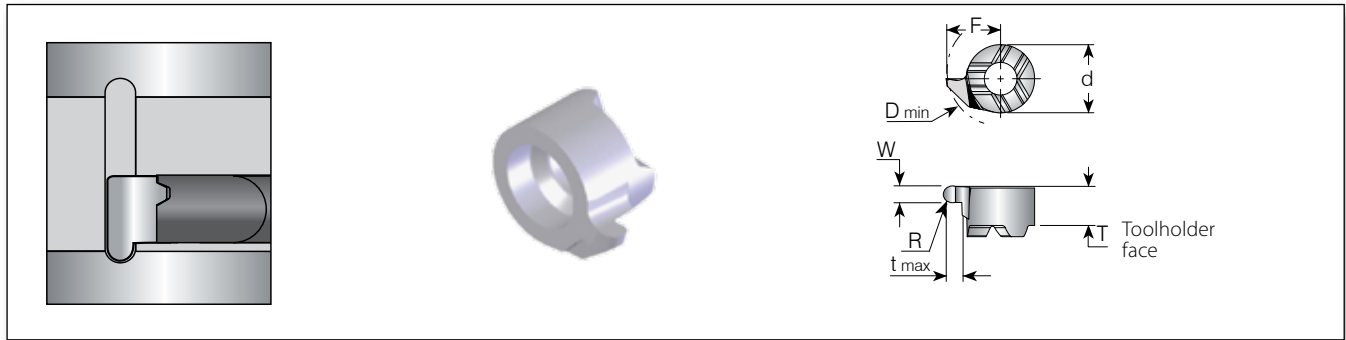
## Grooving - 0.2mm Corner Radius



Insert Style	Ordering Code	Dimensions mm						Min. Bore Dia.	Grades		
		RH	d	W <sup>+0.03</sup>	t max	T	F		r	VBX	VTX
V08	V08GSR W078T100 R		6	0.78	1.0	3.6	4.8	0.2	8	•	•
	V08GSR W117T100 R	1.17		•						•	
	V08GSR W150T100 R	1.50		•						•	
	V08GSR W157T100 R	1.57		•						•	
	V08GSR W198T100 R	1.98		•						•	
V11	V11GSR W117T230 R		8	1.17	2.3	4.0	6.7	0.2	11	•	•
	V11GSR W157T230 R	1.57		•						•	
	V11GSR W198T230 R	1.98		•						•	
	V11GSR W200T230 R	2.00		•						•	
	V11GSR W238T230 R	2.38		•						•	
V14	V14GSR W318T230 R		9	3.18	4.0	5.6	9.0	0.2	14	•	•
	V14GSR W078T400 R	0.78		•						•	
	V14GSR W117T400 R	1.17		•						•	
	V14GSR W150T400 R	1.50		•						•	
	V14GSR W157T400 R	1.57		•						•	
	V14GSR W198T400 R	1.98		•						•	
	V14GSR W200T400 R	2.00		•						•	
V16	V16GSR W238T400 R		11	2.38	4.3	5.6	10.2	0.2	16	•	•
	V16GSR W318T400 R	3.18		•						•	
	V16GSR W117T430 R	1.17		•						•	
	V16GSR W157T430 R	1.57		•						•	
	V16GSR W198T430 R	1.98		•						•	

• In stock ◦ Available upon request

# Round Grooving



Insert Style	Ordering Code	Dimensions mm					Min. Bore Dia.	Grades		
		d	W <sup>+0.03</sup>	t max	T	F		r	VBX	VTX
V08	V08D7993 W080T100 R	6	0.80	1.0	3.6	4.8	0.4	8	•	•
	V08D7993 W120T100 R		1.20				0.6		•	•
	V08D7993 W160T100 R		1.60				0.8		•	•
	V08D7993 W180T100 R		1.80				0.9		•	•
	V08D7993 W200T100 R		2.00				1.0		•	•
V11	V11D7993 W080T230 R	8	0.80	2.3	4.0	6.7	0.4	11	•	•
	V11D7993 W120T230 R		1.20				0.6		•	•
	V11D7993 W157T230 R		1.57				0.785		•	•
	V11D7993 W180T230 R		1.80				0.9		•	•
	V11D7993 W200T230 R		2.00				1.0		•	•
	V11D7993 W240T230 R		2.40				1.2		•	•
V14	V14D7993 W120T400 R	9	1.20	4.0	5.6	9.0	0.6	14	•	•
	V14D7993 W157T400 R		1.57				0.785		•	•
	V14D7993 W180T400 R		1.80				0.9		•	•
	V14D7993 W200T400 R		2.00				1.0		•	•
	V14D7993 W220T400 R		2.20				1.1		•	•
	V14D7993 W238T400 R		2.38				1.19		•	•
	V14D7993 W300T400 R		3.00				1.5		•	•
	V14D7993 W318T400 R		3.18				1.59		•	•

• In stock ◦ Available upon request

## Square Face Grooving



Insert Style	Ordering Code	Dimensions mm						Min. Bore Dia.	Grades		
		RH	d	W <sup>+0.03</sup>	t max	T	F		r	D min	VBX
V-14	V14FGW100T150 R			1.00	1.5	7.7		0.2	14	•	○
	V14FGW150T250 R			1.50	2.5	8.7				•	○
	V14FGW200T300 R			2.00	3.0	9.2				•	○
	V14FGW200T500 R	9		2.00	5.0	10.7	9			•	○
	V14FGW250T300 R			2.50	3.0	9.2				•	○
	V14FGW250T500 R			2.50	5.0	10.7				•	○
	V14FGW300T300 R			3.00	3.0	9.2				•	○

• In stock ○ Available upon request

## Square Face Grooving



Insert Style	Ordering Code	Dimensions mm						Min. Bore Dia.	Grades		
		RH	d	W <sup>+0.03</sup>	t max	T	F		r	D min	VBX
V-14	V14FEGW100T150 R			1.00	1.5	7.3		0.2	12	•	○
	V14FEGW150T250 R			1.50	2.5	8.3				•	○
	V14FEGW200T300 R			2.00	3.0	8.8				•	○
	V14FEGW200T500 R	9		2.00	5.0	10.7	9			•	○
	V14FEGW250T300 R			2.50	3.0	8.8				•	○
	V14FEGW250T500 R			2.50	5.0	10.7				•	○
	V14FEGW300T300 R			3.00	3.0	8.8				•	○

• In stock ○ Available upon request

## Round Face Grooving



Insert Style	Ordering Code	Dimensions mm					Min. Bore Dia.	Grades		
	RH	d	W <sup>+0.03</sup>	t max	T	F	r	D min	VBX	VTX
V-14	V14FGR050T150 R	9	1.00	1.5	7.7	9	0.5	14	•	○
	V14FGR100T300 R		2.00	3.0	9.2		1.0		•	○
	V14FGR150T300 R		3.00	3.0	9.2		1.5		•	○

• In stock ○ Available upon request

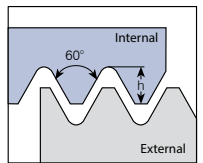
## Round Face Grooving



Insert Style	Ordering Code	Dimensions mm					Min. Bore Dia.	Grades		
	RH	d	W <sup>+0.03</sup>	t max	T	F	r	D min	VBX	VTX
V-14	V14FEGR100T500 R	9	2.00	5.0	10.7	9	1.00	12	•	○
	V14FEGR125T500 R		2.50				1.25		•	○

• In stock ○ Available upon request

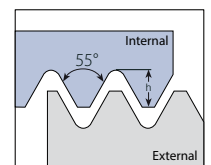
# Threading



## Partial Profile 60°

Insert Style	Pitch		Ordering Code	Dimensions mm						Helix		Grades	
	TPI	mm		RH	d	T	F	Y	r	h max	Deg.	VBX	VTX
V08	48-32	0.5-0.75	V08TH H60 R	6	3.8	4.20	0.5	0.025	0.49	1.5	•	•	
	24-20	1.0-1.25	V08TH I60 R			4.46	0.8	0.095	0.74	2.5	•	•	
	16-14	1.5-1.75	V08TH J60 R			4.76	0.9	0.137	1.04	3	•	•	
V11	48-32	0.5-0.75	V11TH H60 R	8	4.2	5.80	0.5	0.025	0.49	1.5	•	•	
	24-20	1.0-1.25	V11TH I60 R			6.06	0.8	0.095	0.74	1.5	•	•	
	16-14	1.5-1.75	V11TH J60 R			5.61	0.9	0.137	1.04	3	•	•	
V14	48-16	0.5-1.5	V14TH A60 R	9	5.7	9	0.9	0.05	1.485	1.5	•	•	
	14-8	1.75-3.0	V14TH G60 R				1.7	0.16	2.350		•	•	
	48-8	0.5-3.0	V14TH AG60 R				1.7	0.05	2.350		•	•	
V16	48-16	0.5-1.5	V16TH A60 R	11	5.7	10.2	0.9	0.05	1.485	1.5	•	•	
	14-8	1.75-3.0	V16TH G60 R				1.7	0.16	2.835		•	•	
	48-8	0.5-3.0	V16TH AG60 R				1.7	0.05	2.835		•	•	

• In stock ◦ Available upon request



## Partial Profile 55°

Insert Style	Pitch		Ordering Code	Dimensions mm						Helix		Grades	
	TPI	mm		RH	d	T	F	Y	r	h max	Deg.	VBX	VTX
V14	48-16	0.5-1.5	V14TH A55 R	9	5.7	9	0.9	0.05	1.71	1.5	•	•	
	14-8	1.75-3.0	V14TH G55 R				1.7	0.21	2.700		•	•	
	48-8	0.5-3.0	V14TH AG55 R				1.7	0.07	2.700		•	•	
V16	48-16	0.5-1.5	V16TH A55 R	11	5.7	10.2	0.9	0.07	1.71	1.5	•	•	
	14-8	1.75-3.0	V16TH G55 R				1.7	0.25	3.236		•	•	
	48-8	0.5-3.0	V16TH AG55 R				1.7	0.07	3.236		•	•	

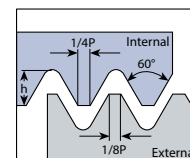
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# Threading



## ISO Metric

Defined by: R262 (DIN 13)  
Tolerance class: 6g/6H

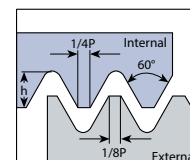


Min Thread	Insert Style	Ordering Code	Dimensions mm						Helix		Grades	
			mm	RH	d	T	F	Y	h min	Deg.	VBX	VTX
M8x.5	V08	V08TH .50ISO R	0.5	RH	6	3.8	3.86	0.35	0.29	1	•	•
M8.5x.75		V08TH .75ISO R	.75	4.19			0.5	0.43	1.5	•	•	
M9x1.0		V08TH 1.00ISO R	1	4.29			0.5	0.58	2	•	•	
M10x1.25		V08TH 1.25ISO R	1.25	4.44			0.8	0.72	2.5	•	•	
M10x1.5		V08TH 1.50ISO R	1.5	4.58			0.9	0.87	3	•	•	
M12x1.75		V08TH 1.75ISO R	1.75	4.80			0.9	1.01	3	•	•	
M14x2.0	V11	V11TH 2.00ISO R	2	RH	8	4.2	6.47	1.1	1.15	2.5	•	•

• In stock ◦ Available upon request

## American UN

Defined by: ANSI B1.1:74  
Tolerance class: 2A/2B

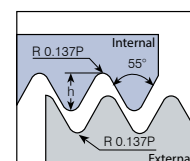


Min Thread	Insert Style	Ordering Code	Dimensions mm						Helix		Grades	
			TPI	RH	d	T	F	Y	h min	Deg.	VBX	VTX
3/8"-32UNEF	V08	V08TH 32UN R	32	RH	6	3.8	4.21	0.5	0.46	1.5	•	•
3/8"-28UN		V08TH 28UN R	28	4.28			0.5	0.52	2	•	•	
3/8"-24UNF		V08TH 24UN R	24	4.32			0.65	0.61	2	•	•	
3/8"-20UN		V08TH 20UN R	20	4.45			0.8	0.73	2.5	•	•	
3/8"-18UNS		V08TH 18UN R	18	4.53			0.85	0.81	2.5	•	•	
3/8"-16UNC		V08TH 16UN R	16	4.33			0.95	0.92	2.5	•	•	
7/16"-14UNC		V08TH 14UN R	14	4.78			1.1	1.05	3	•	•	
9/16"-12UNC	V11	V11TH 12UN R	12	RH	8	4.2	6.44	1.24	1.22	2.5	•	•

• In stock ◦ Available upon request

## Whitworth - BSW, BSP, BSF, BSB

Defined by: B.S.84:1956, DIN 259, ISO228/1:1982  
Tolerance class: Medium Class A



Min Thread	Insert Style	Ordering Code	Dimensions mm						Helix		Grades	
			TPI	RH	d	T	F	Y	h min	Deg.	VBX	VTX
1/2"x19W	V11	V11TH 19W R	19	RH	8	4.2	6.18	0.8	0.86	2	•	•

• In stock ◦ Available upon request

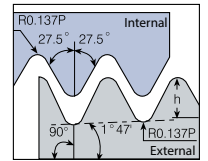


# Threading



## BSPT

Defined by: B.S.21:1985  
Tolerance class: Standard BSPT

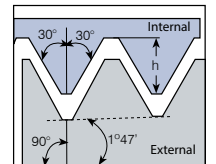


Min Thread	Insert Style	Ordering Code	Dimensions mm							Helix	Grades	
			TPI	RH	d	T	F	Y	h min		Deg.	VBX
1/4"-19BSPT	V11	19	V11TH 19BSPT R	8	4.2	6.13	0.9	0.86	2.5	•	•	

• In stock ◦ Available upon request

## NPT

Defined by: USAS B2.1:1968  
Tolerance class: Standard NPT

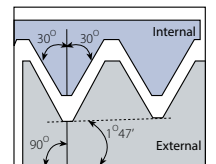


Min Thread	Insert Style	Ordering Code	Dimensions mm							Helix	Grades	
			TPI	RH	d	T	F	Y	h min		Deg.	VBX
1/8"-27NPT	V08	27	V08TH 27NPT R	6	3.8	4.35	0.6	0.64	2	•	•	
1/4"-18NPT		18	V08TH 18NPT R			4.8	0.9	1.0	2	•	•	

• In stock ◦ Available upon request

## NPTF

Defined by: ANSI 1.2.3-1976  
Tolerance class: Standard NPTF

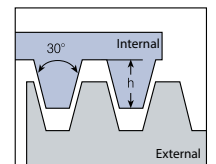


Min Thread	Insert Style	Ordering Code	Dimensions mm							Helix	Grades	
			TPI	RH	d	T	F	Y	h min		Deg.	VBX
1/4"-18NPTF	V08	18	V08TH 18NPTF R	6	3.8	4.64	0.9	1.0	2	•	•	

• In stock ◦ Available upon request

## Trapez

Defined by: DIN 103  
Tolerance class: 7e/7H



Min Thread	Insert Style	Ordering Code	Dimensions mm							Helix	Grades	
			mm	RH	d	T	F	Y	h min		Deg.	VBX
TR10x2.0	V08	2	V08TH 2.0TR R	6	3.8	4.79	0.9	1.25	3.5	•	•	
TR11x3.0		3	V08TH 3.0TR R			4.95	1.18	1.75	5	•	•	
TR16x4.0	V11	4	V11TH 4.0TR R	8	4.2	6.53	1.55	2.25	4.5	•	•	

• In stock ◦ Available upon request

## Mini-V Holders

Carbide Shank.....	19
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Alloy Steel Shank.....	21
Sleeve Clamping System.....	22



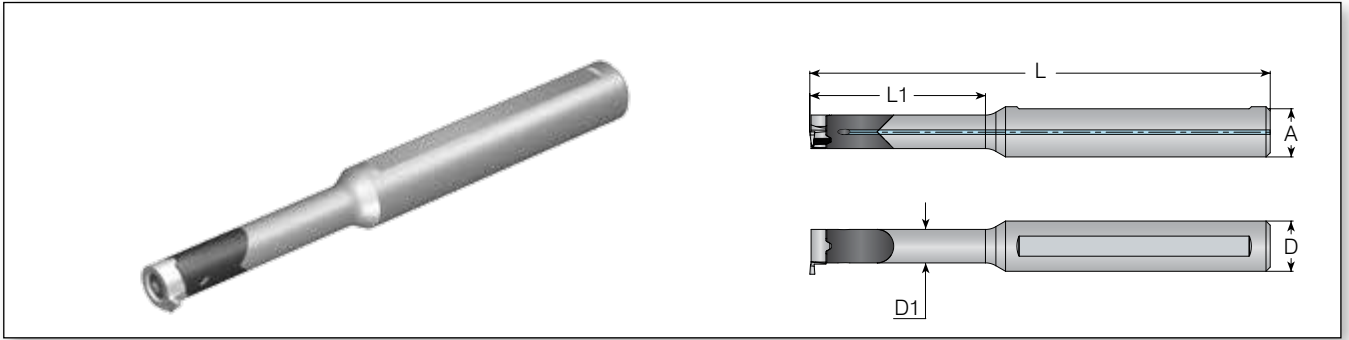
## Mini-V Holders Ordering Code System



<b>C</b>	<b>V</b>	<b>08</b>	<b>-</b>	<b>12</b>	<b>21</b>	<b>-</b>
<b>1</b>	<b>2</b>	<b>3</b>		<b>4</b>	<b>5</b>	<b>6</b>
<b>1- Holder Type</b>	<b>2 - Product Line</b>	<b>3 - Insert Size</b>	<b>4 - Shank Diameter</b>	<b>5 - Tool Overhang</b>	<b>6 - RH or LH</b>	
C - Carbide Shank None - Steel Shank	V - Mini-V	08, 11, 14, 16	6, 8, 12, 16	12, 21, 29, 30, 42, 50, 56, 64, 80	None - RH L - LH	

## Mini-V Sleeves

<b>MH</b>	<b>C</b>	<b>16</b>	<b>-</b>	<b>6</b>
<b>1</b>	<b>2</b>	<b>3</b>		<b>4</b>
<b>1- Holder Type</b>	<b>2 - Coolant</b>	<b>3 - Shank Diameter</b>	<b>4 - Sleeve Bore Dia.</b>	
MH - Microscope Holder	C - Coolant Channels	12, 16, 20	6, 8	

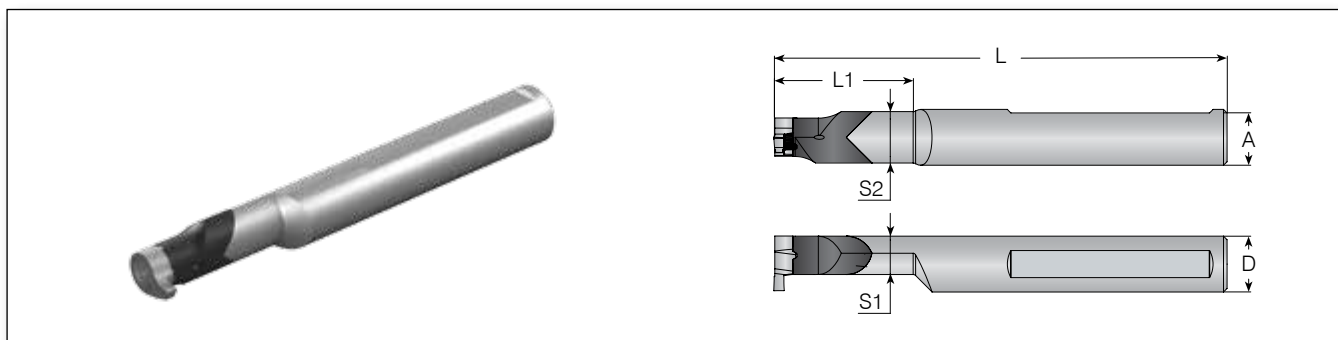
# Carbide Shank





Insert Style							Spare Parts		
Dimensions mm									
Holder RH	A	L	L1	D	D1	Screw	Size	Key	
V08	CV08-1221	11.5	80.5	21	12	6	SNV08	M2.6x.45x8	K2T
	CV08-1230		90.5	30					
	CV08-1242 *		100.5	42					
	CV08-1250 *		115	50					
V11	CV11-1229	11.5	95	29	12	8	SNV11	M3.5x.6x10	K3T
	CV11-1242		110	42					
	CV11-1256 *		120	56					
	CV11-1264 *		130	64					
V16	CV16-1240	11.0	130	40	12	11	SNV16	M5x0.8x12	K4T
	CV16-1256		130	56					
	CV16-1280		150	80					

\* For Boring and Chamfering only.

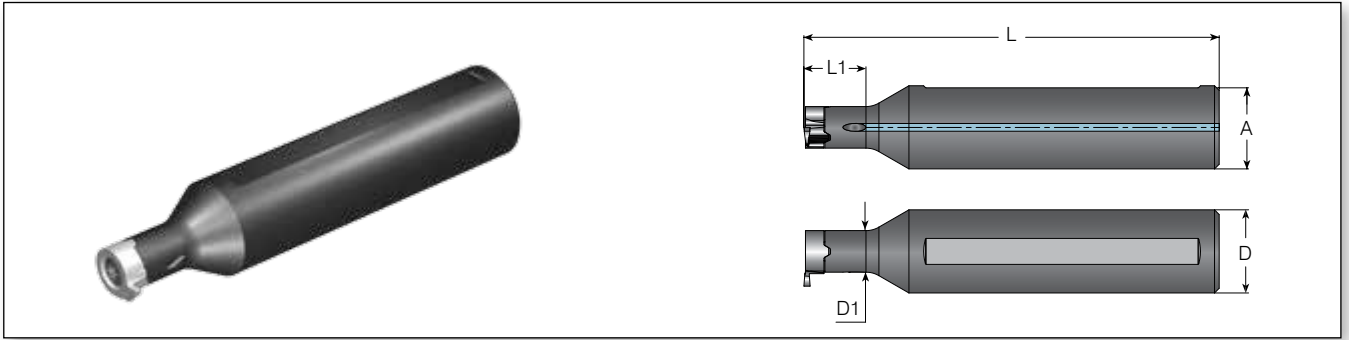
## Reinforced Carbide Shank



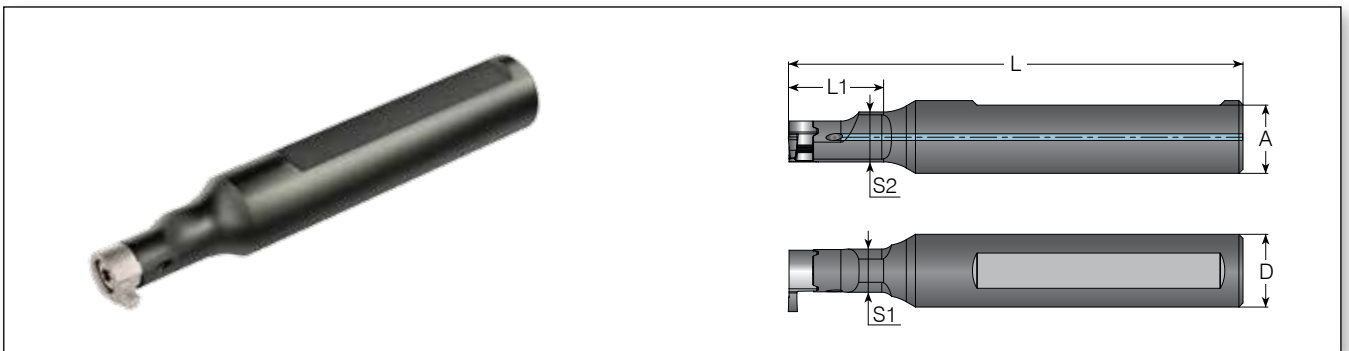
								Spare Parts		
Insert Style	Ordering Code	Dimensions mm								
	Holder RH	A	L	L1	D	S1	S2	Screw	Size	Key
V14	CV14-1234	11	100	34	12	9.3	11.9	SNV14	M4x0.7x12	KT15
	CV14-1245*		110	45						
	CV14-1264*		130	64						
	CV14-1634	15	100	34	16	9.3	12.45			
	CV14-1645*		110	45						
	CV14-1664*		130	64						
CV14-1675*	145		75							
V16	CV16-1640	15	129.7	39.7	16	11	14.75	SNV16	M5x0.8x12	K4T
	CV16-1656*		129.7	55.7						
	CV16-1680*		149.7	79.7						

\* For boring, chamfering and face grooving only.

# Alloy Steel Shank

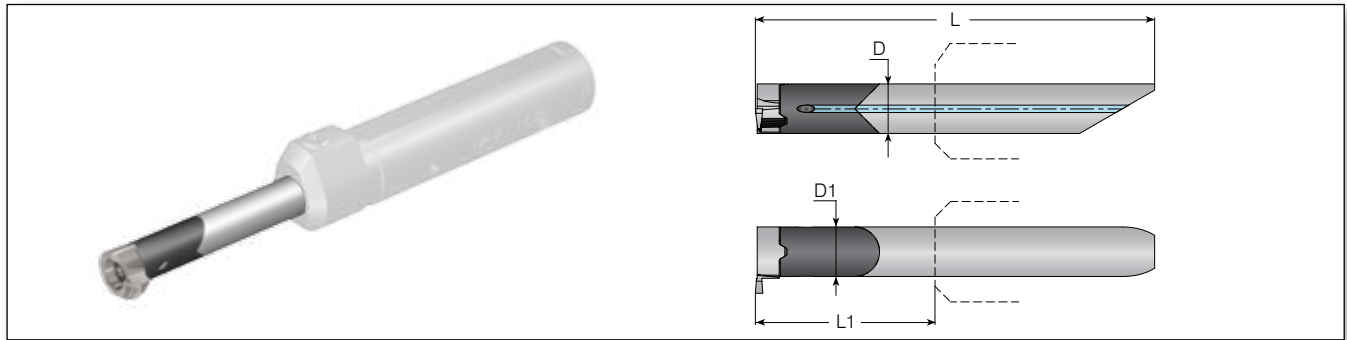


Insert Style	Ordering Code	Dimensions mm					Spare Parts		
							Screw	Size	Key
	<b>Holder RH</b>	<b>A</b>	<b>L</b>	<b>L1</b>	<b>D</b>	<b>D1</b>			
V08	V08-1612	15.6	80	12	16	6	SNV08	M2.6x.45x8	K2T
V11	V11-1612	15.6	80	12	16	8	SNV11	M3.5x.6x10	K3T
V16	V16-1622	15	100	22	16	11	SNV16	M5.0x.8x12	K4T



Insert Style	Ordering Code	Dimensions mm								Spare Parts		
										Screw	Size	Key
	<b>Holder RH</b>	<b>A</b>	<b>L</b>	<b>L1</b>	<b>D</b>	<b>S1</b>	<b>S2</b>					
V14	V14-1620	15.0	100	20	16	9.5	11	SNV14	M4x.7x12	KT15		

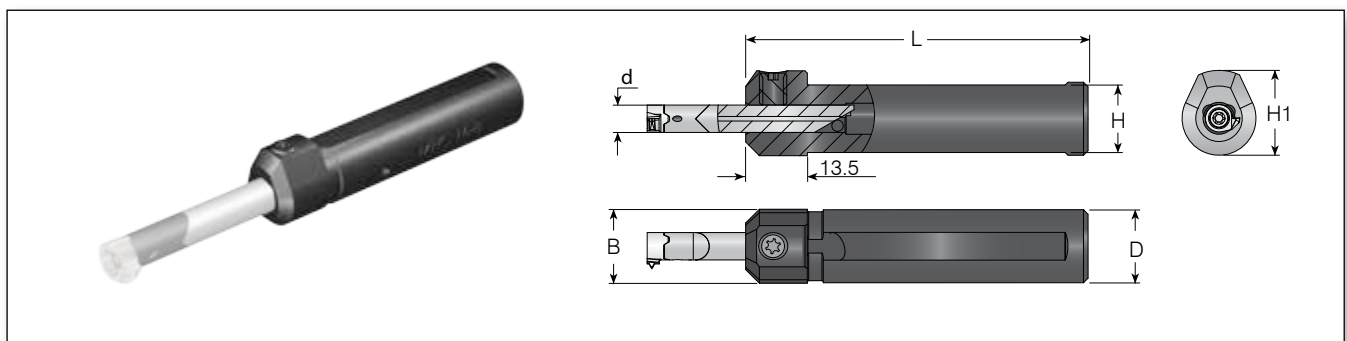
## Sleeve Clamping



Insert Style	Ordering Code	Dimensions mm					Ordering Code	Spare Parts		
		A	L	L1	D	D1		Screw	Size	Key
V08	Holder RH	-	45	21	6	6	Sleeve	SNV08	M2.6x.45x8	K2T
	CV08-0621	-	54	30						
V11	Holder RH	-	64.5	29	8	8	Sleeve	SNV11	M3.5x.6x10	K3T
	CV11-0829	-	77.5	42						

\* For boring and chamfering only.

## Sleeves



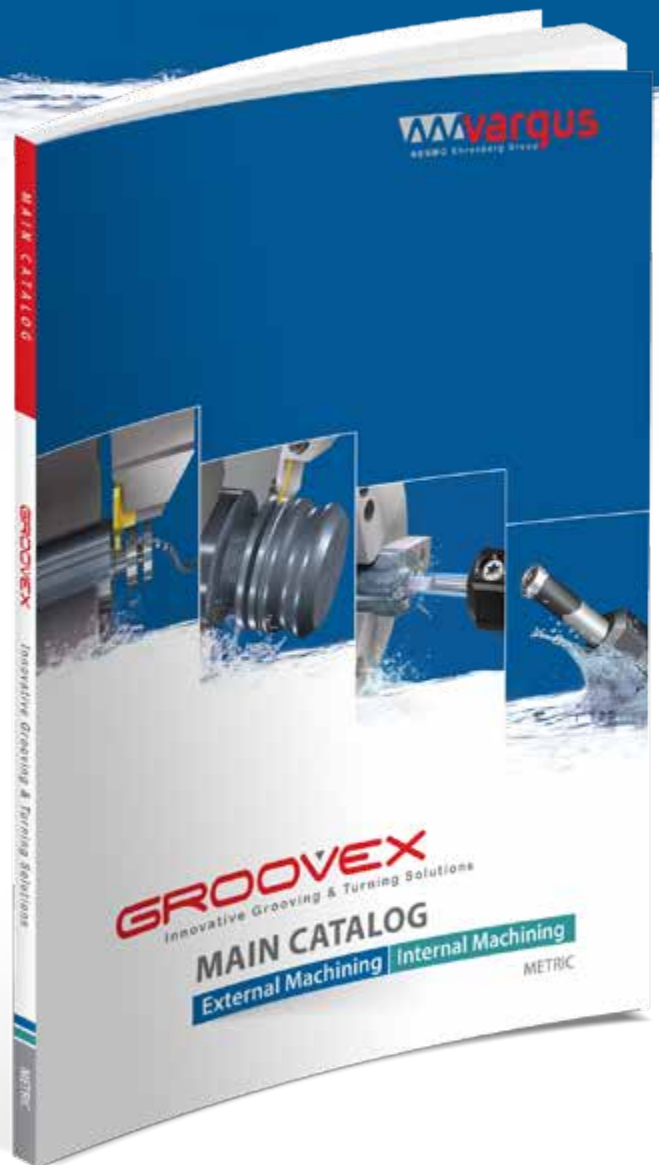
d	Ordering Code	Dimensions mm				Screw	Key
		Sleeve	D=B	H1	H		
6	MHC 12-6	12	16	10.8	70	SL7DT 15	KT15
	MHC 16-6	16	18.6	14.8	75		
	MHC 20-6	20	22	18.8	84		
8	MHC 16-8	16	18.6	14.8	100	SL7DT 15	KT15
	MHC 20-8	20	22	18.8	103.5		

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