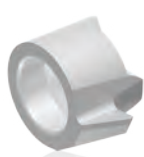
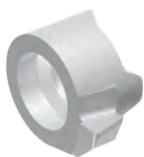
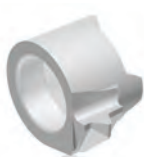




Mini-V

Mini Tools for Small and Medium Bores



METRIC

GROOVEX

Innovative Grooving Solutions

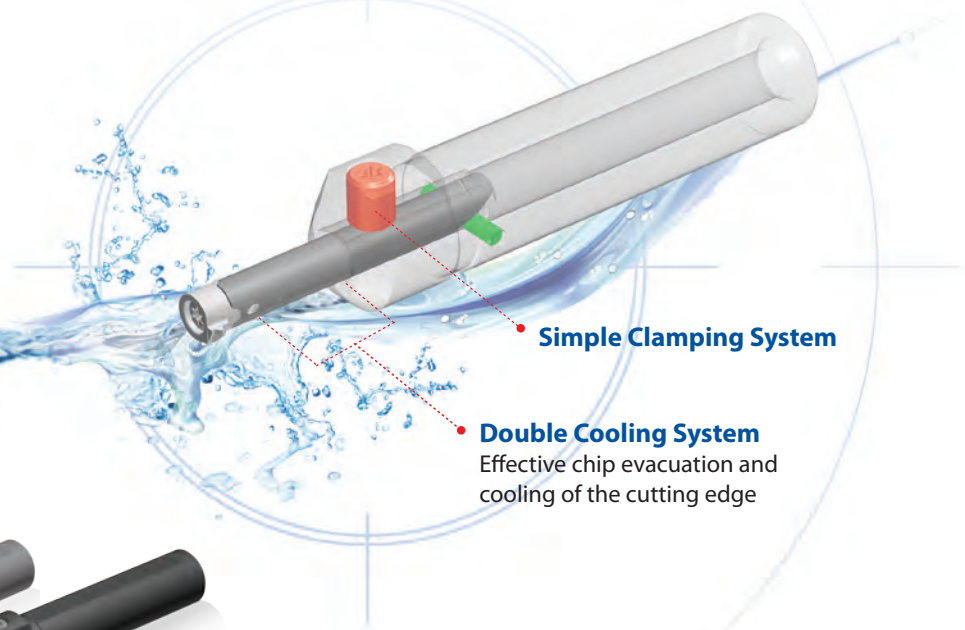
Mini-V

New family of mini indexable inserts

The Mini-V line by **Groovex** offers new and improved solutions for mini grooving, boring and threading in bores starting from 8mm.



See it in action

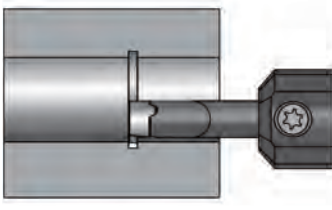


The Mini-V line offers two improved styles:

- * Sleeve
- * Integral Holder

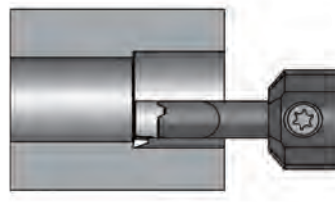
Applications

Grooving



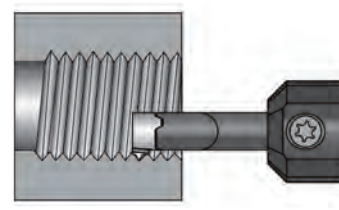
- Square
- DIN 472
- Grooving with R
- Round Partial DIN 7993

Boring



- Bore
- NC Profiling
- Copy Long Nose
- Back Boring
- Chamfering

Threading



- ISO
- UN
- Partial 60°
- Partial 55°
- Whitworth
- BSPT
- NPT
- NPTF
- TR



Mini-V CATALOG

■ Mini-V Ordering Code System	Page 4
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INSERTS

GROOVING

■ Grooving	Page 5
■ Grooving DIN 472	Page 6
■ Grooving with R	Page 7
■ Grooving DIN 7993	Page 8
■ Face Grooving	Page 9

BORING

■ Boring	Page 11
■ Boring with Chip Former	Page 11
■ NC Profiling (Boring)	Page 12
■ Copy Long Nose	Page 12
■ Back Boring	Page 13
■ Chamfering	Page 13

THREADING

■ Threading – Partial Profile 60°	Page 14
■ Threading – Partial Profile 55°	Page 14
■ Threading – ISO Metric	Page 15
■ Threading – American UN	Page 15
■ Threading – Whitworth	Page 15
■ Threading – BSPT	Page 16
■ Threading – NPT	Page 16
■ Threading – NPTF	Page 16
■ Threading – Trapez	Page 16

MINI-V TOOLHOLDERS

■ Carbide Shank with Alloy Steel Head	Page 17
■ Reinforced Carbide Shank	Page 18
■ Alloy Steel Shank	Page 19
■ Sleeve Clamping	Page 20
■ Sleeves	Page 21

TECHNICAL DATA

■ Recommended Grades, Cutting Speeds and Feed	Page 22
■ Depths of Cut and Number of Passes	Page 23

Mini-V Ordering Code System

Mini-V Grooving Inserts

V	08	GS	W120	T 100	R	VBX			
1	2	3	4	5	6	7			
1- Product Line	2 - Insert Style	3 - Type of Application			4 - Groove Width	5 - Groove Depth	6 - RH or LH		
V- Mini-V	08, 11, 14, 16	GS - Square Grooving D472 - DIN 472 Grooving Square Partial GSR - Grooving Square with R D7993 - D7993 Grooving Round Partial FGW - Face Grooving Internal Square FGR - Face Grooving Internal Round FEGW - Face Grooving External Square FEGR - Face Grooving External Round			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	T100 - 1.0 mm T230 - 2.3 mm T400 - 4.0mm T430 - 4.3mm	R - RH L - LH		
					7 - Carbide Grade				
					VBX				

Mini-V Boring Inserts

V	08	CL		R	VBX
1	2	3	4	5	6

Mini-V Boring Inserts

V	08	CL		R	VBX	W350 - 3.5 mm W400 - 4.0 mm	
1	2	3	4	5	6		
1 - Product Line	2 - Insert Style	3 - Type of Application			4 - Other	5 - RH or LH	6 - Carbide Grade
V- Mini-V	08, 11, 14, 16	CL - Copy Long Nose BC - Boring BCF - Boring with Chip Former BB - Back Boring CH45 - Chamfering 45°			None - Boring 70 Deg 3 - Boring 60 Deg	R - RH L - LH	VBX VTX

Mini-V Threading Inserts

V	08	TH	.5	ISO	R	VBX																												
1	2	3	4	5	6	7																												
1 - Product Line		2 - Insert Style	3 - Type of Application																															
V- Mini-V		08, 11, 14, 16	TH - Threading																															
6 - RH or LH		7 - Carbide Grade		4 - Pitch (for Threading) Full Profile - Pitch Range <table><tr><td>tpi</td><td>mm</td></tr><tr><td>32-12</td><td>0.5-2.0</td></tr></table> Partial Profile - Pitch Range <table><tr><td></td><td>tpi</td><td></td><td>mm</td></tr><tr><td>H</td><td>48-32</td><td>H</td><td>0.5-.75</td></tr><tr><td>I</td><td>24-20</td><td>I</td><td>1.0-1.25</td></tr><tr><td>J</td><td>16-14</td><td>J</td><td>1.5-1.75</td></tr><tr><td>G</td><td>14-8</td><td>G</td><td>1.75-3.0</td></tr><tr><td>AG</td><td>48-8</td><td>AG</td><td>0.5-3.0</td></tr></table> 5 - Threading Standard ISO - ISO Metric UN - American UN 60° - Partial Profile 60° 55° - Partial Profile 55° 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			tpi	mm	32-12	0.5-2.0		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
tpi	mm																																	
32-12	0.5-2.0																																	
	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																															
R - RH		VBX																																
L - LH																																		

Mini-V Holders

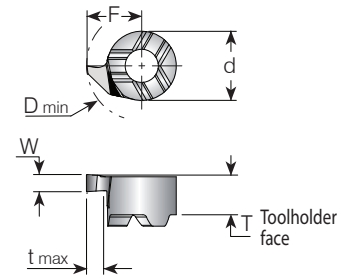
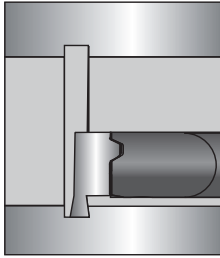
C	V	08	-	12	21	-
1	2	3		4	5	6
1- Holder Type	2 - Product Line	3 - Insert Style	4 - Shank Diameter	5 - Tool Overhang	6 - RH or LH	
C - Carbide Shank None - Steel Shank	V - Mini-V	08 , 11, 14, 16	6, 8, 12, 16	12, 21, 29, 30, 42, 50, 56, 64, 80	None - RH L - LH	

Mini-V Sleeves

MH	C	16	-	6	
1	2	3		4	
1- Holder Type		2 - Cooling		3 - Shank Dia.	4 - Sleeve Bore Dia.
MH - Microscope Holder		C - Cooling Channels		12, 16, 20	6, 8

Grooving

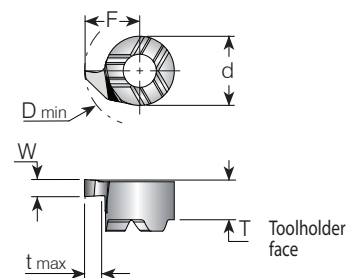
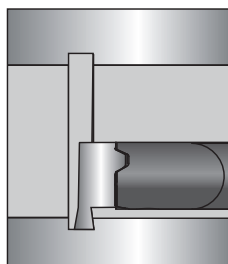
Internal



Insert Style	Ordering Code	Dimensions (mm)						Min. Bore dia.	Toolholder
	RH	d	W	t max	r	T	F	D min	
V08	V08GS W078T100 R...	6	0.78	1	0.05	3.6	4.8	8	.V08-...
	V08GS W086T100 R...		0.86						
	V08GS W100T100 R...		1						
	V08GS W117T100 R...		1.17						
	V08GS W150T100 R...		1.5						
	V08GS W157T100 R...		1.57						
	V08GS W198T100 R...		1.98						
	V08GS W200T100 R...		2						
V11	V11GS W100T230 R...	8	1	2.3	0.05	4.0	6.7	11	.V11-...
	V11GS W117T230 R...		1.17						
	V11GS W120T230 R...		1.2						
	V11GS W142T230 R...		1.42						
	V11GS W150T230 R...		1.5						
	V11GS W157T230 R...		1.57						
	V11GS W198T230 R...		1.98						
	V11GS W200T230 R...		2						
	V11GS W238T230 R...		2.38						
	V11GS W250T230 R...		2.5						
V14	V14GS W318T230 R...	9	3.18	4.0	0.05	5.6	9.0	14	.V14-...
	V14GS W117T400 R...		1.17						
	V14GS W150T400 R...		1.5						
	V14GS W157T400 R...		1.57						
	V14GS W198T400 R...		1.98						
	V14GS W200T400 R...		2						
	V14GS W238T400 R...		2.38						
	V14GS W250T400 R...		2.5						
	V14GS W300T400 R...		3						
V16	V16GS W318T400 R...	11	3.18	4.3	0.05	5.6	10.2	16	.V16-...
	V16GS W117T430 R...		1.17						
	V16GS W142T430 R...		1.42						
	V16GS W157T430 R...		1.57						
	V16GS W400T430 R...		4						
	V16GS W198T430 R...		1.98						
	V16GS W200T430 R...		2						
	V16GS W238T430 R...		2.38						
	V16GS W300T430 R...		3						
	V16GS W318T430 R...		3.18						
	V16GS W350T430 R...		3.5						

Grooving DIN 472

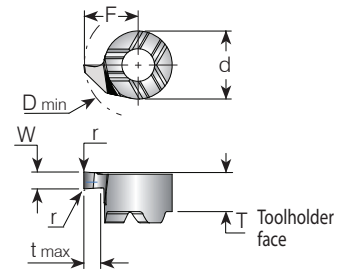
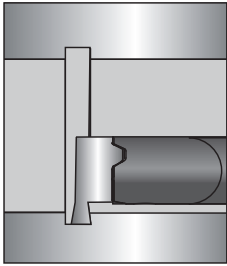
Internal



Insert Style	Ordering Code	Width of Circlip (mm)		Dimensions (mm)				Min. Bore dia.	
	RH	m	W	d	t max	T	F	D min	Toolholder
V08	V08D472 W070T100 R...	0.7	0.73	6	1	3.6	4.8	8	.V08-...
	V08D472 W080T100 R...	0.8	0.83						
	V08D472 W090T100 R...	0.9	0.93						
	V08D472 W110T100 R...	1.1	1.2						
	V08D472 W130T100 R...	1.3	1.4						
	V08D472 W160T100 R...	1.6	1.7						
V11	V11D472 W070T120 R...	0.7	0.73	8	1.2	4.0	6.7	11	.V11-...
	V11D472 W080T130 R...	0.8	0.83		1.3				
	V11D472 W090T150 R...	0.9	0.93		1.5				
	V11D472 W110T230 R...	1.1	1.2		2.2				
	V11D472 W130T230 R...	1.3	1.4		2.2				
	V11D472 W160T230 R...	1.6	1.7		2.2				
V14	V14D472 W130T400 R...	1.3	1.4	9	4.3	5.6	9	14	.V14-...
	V14D472 W160T400 R...	1.6	1.7						

Grooving with R

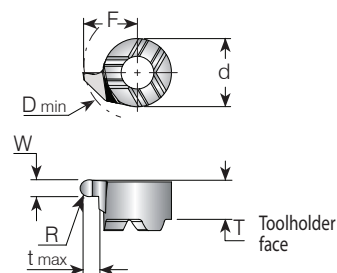
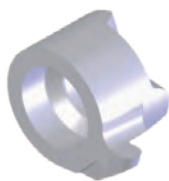
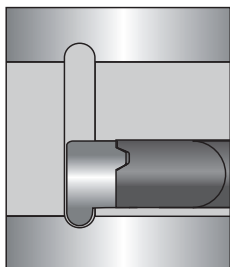
Internal



Insert Style	Ordering Code	Dimensions (mm)						Min. Bore dia.	
	RH	d	W	t max	T	F	r	D min	Toolholder
V08	V08GSR W078T100 R...	6	0.78	1	3.6	4.8	0.2	8	.V08-...
	V08GSR W117T100 R...		1.17						
	V08GSR W150T100 R...		1.5						
	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	.V11-...
	V11GSR W157T230 R...		1.57						
	V11GSR W198T230 R...		1.98						
	V11GSR W200T230 R...		2						
	V11GSR W238T230 R...		2.38						
V14	V14GSR W318T230 R...	9	3.18	4	5.6	9	0.2	14	.V14-...
	V14GSR W078T400 R...		0.78						
	V14GSR W117T400 R...		1.17						
	V14GSR W150T400 R...		1.50						
	V14GSR W157T400 R...		1.57						
V16	V16GSR W198T400 R...	11	1.98	4.3	5.6	10.2	0.2	16	.V16-...
	V16GSR W200T400 R...		2.00						
	V16GSR W238T400 R...		2.38						
	V16GSR W318T400 R...		3.18						
	V16GSR W117T430 R...		1.17						
	V16GSR W157T430 R...		1.57						
	V16GSR W198T430 R...		1.98						
	V16GSR W238T430 R...		2.38						
	V16GSR W318T430 R...		3.18						

Grooving DIN 7993 - Round Partial

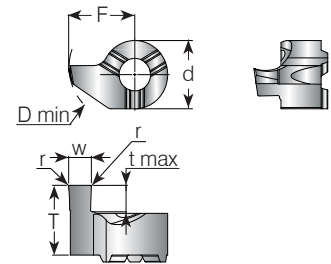
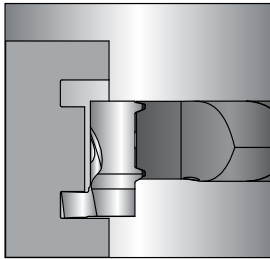
Internal



Insert Style	Ordering Code	Dimensions (mm)						Min. Bore dia.	
	RH	d	W	t max	T	F	r	D min	Toolholder
V08	V08D7993 W080T100 R...	6	0.8	1	3.6	4.8	0.4	8	.V08-...
	V08D7993 W120T100 R...		1.2				0.6		
	V08D7993 W160T100 R...		1.6				0.8		
	V08D7993 W180T100 R...		1.8				0.9		
	V08D7993 W200T100 R...		2				1		
V11	V11D7993 W080T230 R...	8	0.8	2.3	4.0	6.7	0.4	11	.V11-...
	V11D7993 W120T230 R...		1.2				0.6		
	V11D7993 W157T230 R...		1.57				0.785		
	V11D7993 W180T230 R...		1.8				0.9		
	V11D7993 W200T230 R...		2				1		
	V11D7993 W240T230 R...		2.4				1.2		
	V11D7993 W300T230 R...		3				1.5		
V14	V14D7993 W120T400 R...	9	1.2	4	5.6	9	0.6	14	.V14 ...
	V14D7993 W157T400 R...		1.57				0.785		
	V14D7993 W180T400 R...		1.8				0.9		
	V14D7993 W200T400 R...		2				1		
	V14D7993 W220T400 R...		2.2				1.1		
	V14D7993 W238T400 R...		2.38				1.19		
	V14D7993 W300T400 R...		3				1.5		
	V14D7993 W318T400 R...		3.18				1.59		

Face Grooving Square

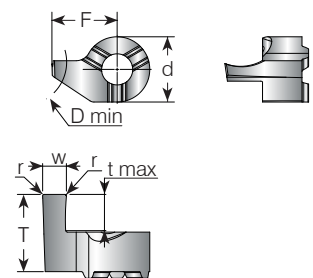
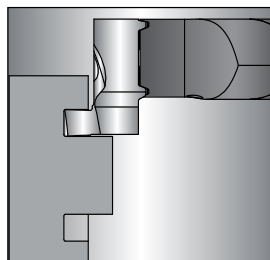
Internal



Insert Style	Ordering Code	Dimensions (mm)						Min. Bore dia.	
	RH	d	W	t max	T	F	r	D min	Toolholder
V-14	V14FGW100T150 R...	9	1	1.5	7.7	9	0.2	14	.V14-...
	V14FGW150T250 R...		1.5	2.5	8.7				
	V14FGW200T300 R...		2	3	9.2				
	V14FGW200T500 R...		2	5	10.7				
	V14FGW250T300 R...		2.5	3	9.2				
	V14FGW250T500 R...		2.5	5	10.7				
	V14FGW300T300 R...		3	3	9.2				

Face Grooving Square

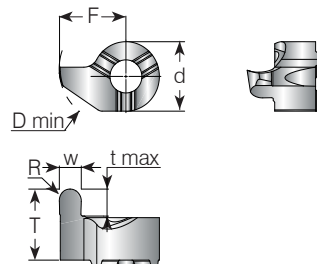
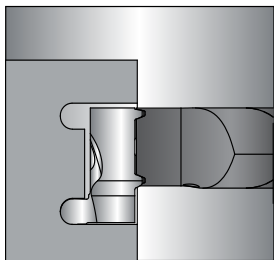
External



Insert Style	Ordering Code	Dimensions (mm)						Min. Bore dia.	
	RH	d	W	t max	T	F	r	D min	Toolholder
V-14	V14FEGW100T150 R...	9	1	1.5	7.3	9	0.2	12	.V14-...
	V14FEGW150T250 R...		1.5	2.5	8.3				
	V14FEGW200T300 R...		2	3	8.8				
	V14FEGW200T500 R...		2	5	10.7				
	V14FEGW250T300 R...		2.5	3	8.8				
	V14FEGW250T500 R...		2.5	5	10.7				
	V14FEGW300T300 R...		3	3	8.8				

Face Grooving Round

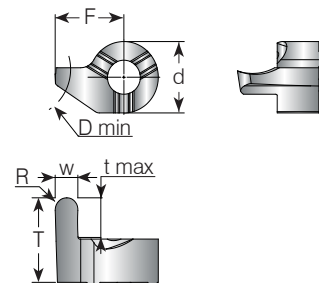
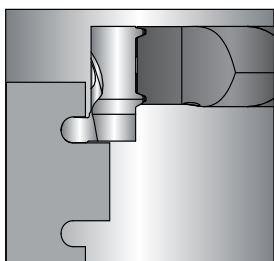
Internal



Insert Style	Ordering Code	Dimensions (mm)							Min. Bore dia.	Toolholder
	RH	d	W	t max	T	F	r	D min		
V-14	V14FGR050T150 R...	9	1	1.5	7.7	9	0.5	14		.V14-...
	V14FGR100T300 R...		2	3	9.2		1			
	V14FGR150T300 R...		3	3	9.2		1.5			

Face Grooving Round

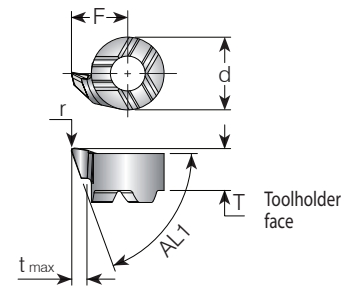
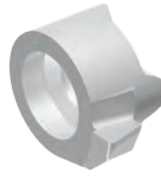
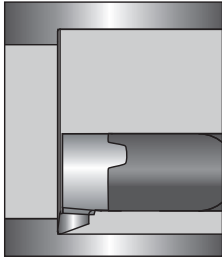
External



Insert Style	Ordering Code	Dimensions (mm)							Min. Bore dia.	Toolholder
	RH	d	W	t max	T	F	r	D min		
V-14	V14FEGR100T500 R...	9	2	5	10.7	9	1	12		.V14-...
	V14FEGR125T500 R...		2.5				1.25			

Boring

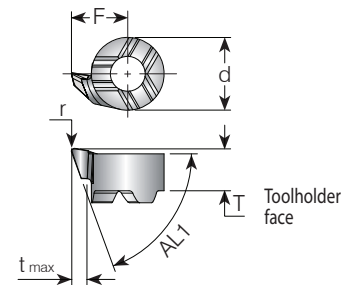
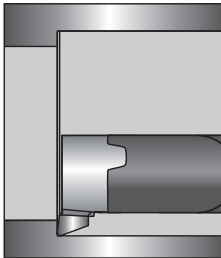
Internal



Insert Style	Ordering Code	Dimensions (mm)						Min. Bore dia.	
	RH	r	d	T	t max	AL1	F	mm	Toolholder
V08	V08BC R...	0.2	6	3.65	1.3	70°	4.65	7.8	.V08-....
V11	V11BC R...	0.2	8	4.0	2.3	70°	6.70	11.0	.V11-....
V14	V14BC R...	0.2	9	5.6	4.0	70°	8.7	13.8	.V14-....
V16	V16BC R...	0.2	11	5.6	4.3	70°	9.7	15.5	.V16-....

Boring with Chip Former

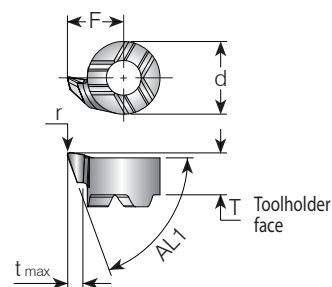
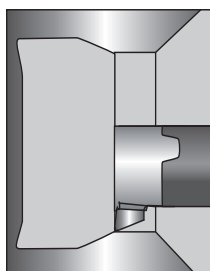
Internal



Insert Style	Ordering Code	Dimensions (mm)						Min. Bore dia.	
	RH	r	d	T	t max	AL1	F	mm	Toolholder
V08	V08BCF R...	0.2	6	3.65	1.3	70°	4.65	7.8	.V08-....
V11	V11BCF R...	0.2	8	4.0	2.2	70°	6.70	11.0	.V11-....

NC Profiling (Boring)

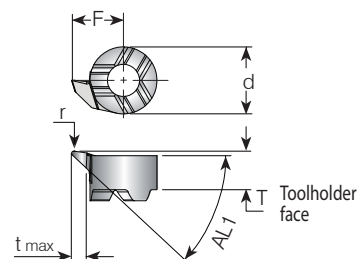
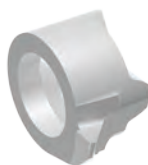
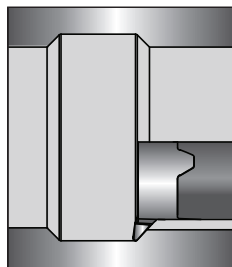
Internal



Insert Style	Ordering Code	Dimensions (mm)							Min. Bore dia.	
	RH	r	d	T	t max	AL1	F	mm		Toolholder
V08	V08BC3 R...	0.2	6	3.65	1.3	60°	4.65	7.8		.V08-....
V11	V11BC3 R...	0.2	8	4.0	2.3	60°	6.70	11.0		.V11-....

Copy Long Nose

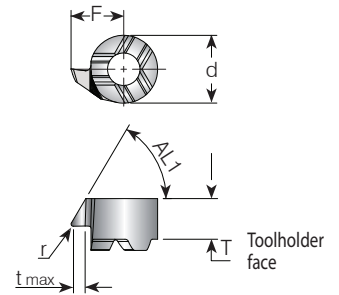
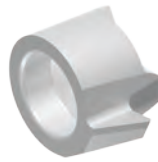
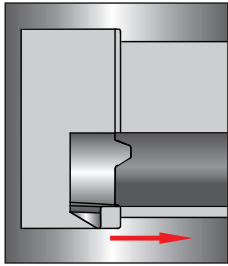
Internal



Insert Style	Ordering Code	Dimensions (mm)							Min. Bore dia.	
	RH	r	d	T	t max	AL1	F	mm		Toolholder
V08	V08CL R...	0.2	6	3.65	1.2	43°	4.65	7.8		.V08-....
V11	V11CL R...	0.2	8	4.1	2.3	43°	6.70	11.0		.V11-....
V14	V14CL R...	0.2	9	5.6	4	43°	8.7	13.7		.V14-....
V16	V16CL R...	0.2	11	5.6	4.3	43°	10.2	15.8		.V16-....

Back Boring

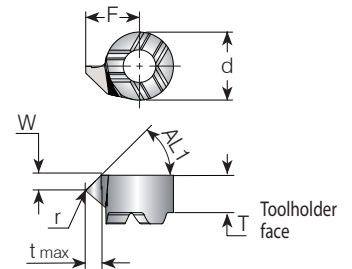
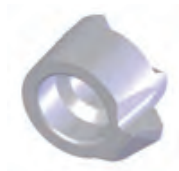
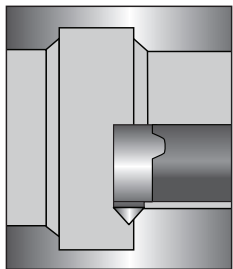
Internal



Insert Style	Ordering Code	Dimensions (mm)							Min. Bore dia.	
	RH	r	d	T	t max	AL1	F	mm		Toolholder
V08	V08BB R...	0.2	6	3.8	1.2	60°	4.65	7.8		.V08-....
V11	V11BB R...	0.2	8	4.0	2.2	60°	6.70	11.0		.V11-....
V14	V14BB R...	0.2	9	5.6	3.5	60°	8.7	13.8		.V14-....

Chamfering

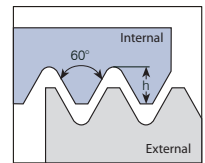
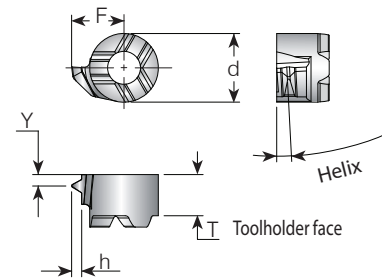
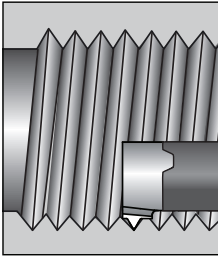
Internal



Insert Style	Ordering Code	Dimensions (mm)							Min. Bore dia.	
	RH	r	d	W	T	t max	AL1	F	mm	Toolholder
V08	V08CH45 R...	0.2	6	1.3	3.8	1.0	45°	4.65	8.0	.315
V14	V14CH45 R...	0.2	9	2.7	5.6	2.6	45°	9	14.0	.551

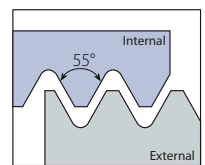
Threading

Internal



Partial Profile 60°

Insert Style	Pitch		Ordering Code	Dimensions (mm)						Helix	Toolholder
	tpi	mm		d	T	F	Y	r	h max	Deg.	
V08	48-32	0.5-.75	V08TH H60 R...	6	3.8	4.20	0.5	0.025	0.49	1.5	.V08-....
	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-.75	V11TH H60 R...	8	4.2	5.80	0.5	0.025	0.49	1.5	.V11-....
	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	.V14-....
	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	.V16-....
	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		

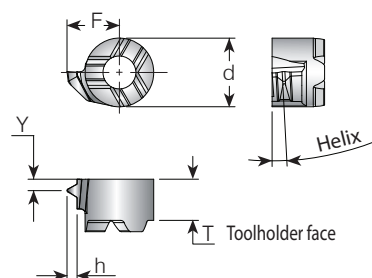
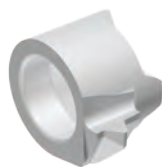
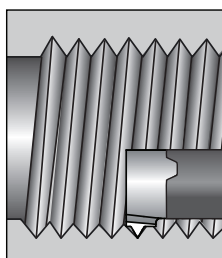


Partial Profile 55°

Insert Style	Pitch		Ordering Code	Dimensions (mm)						Helix	Toolholder
	tpi	mm		d	T	F	Y	r	h max	Deg.	
V14	48-16	0.5-1.5	V14TH A55 R...	9	5.7	9	0.9	0.05	1.71	1.5	.V14-....
	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	.V16-....
	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		

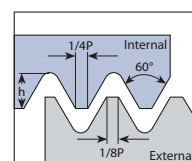
Threading

Internal



ISO Metric

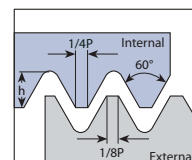
Defined by: R262 (DIN 13)
Tolerance class: 6g/6H



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

American UN

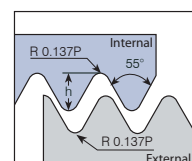
Defined by: ANSI B1.1:74
Tolerance class: 2A/2B



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

Whitworth - BSW, BSP, BSF, BSB

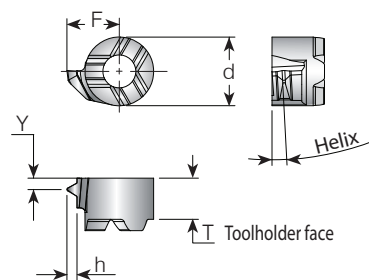
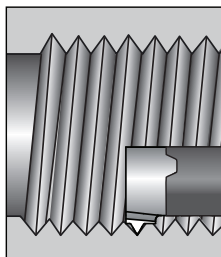
Defined by: B.S.84:1956, DIN 259,
ISO228/1:1982
Tolerance class: Medium Class A



Min Thread	Insert Style	Ordering Code	Dimensions (mm)					Helix	Toolholder
			d	T	F	Y	h min	Deg.	
1/2"x19W	V11	V11TH 19W R...	8	4.2	6.18	0.8	0.86	2	.V11-....

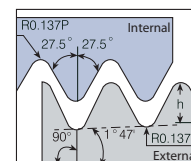
Threading

Internal



BSPT

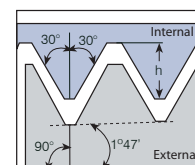
Defined by: B.S.21:1985
Tolerance class: Standard BSPT



Min Thread	Insert Style	Ordering Code	Dimensions (mm)						Helix	Toolholder
	tpi	RH / LH	d	T	F	Y	h min	Deg.		
1/4"-19BSPT	V11	19	V11TH 19BSPT R...	8	4.2	6.13	0.9	0.86	2.5	.V11-....

NPT

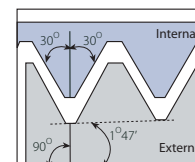
Defined by: USAS B2.1:1968
Tolerance class: Standard NPT



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

NPTF

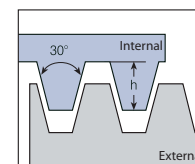
Defined by: ANSI 1.2.3-1976
Tolerance class: Standard NPTF



Min Thread	Insert Style	Ordering Code	Dimensions (mm)						Helix	Toolholder
	tpi	RH / LH	d	T	F	Y	h min	Deg.		
1/4"-18NPTF	V08	18	V08TH 18NPTF R...	6	3.8	4.64	0.9	1.0	2	.V08-....

Trapez

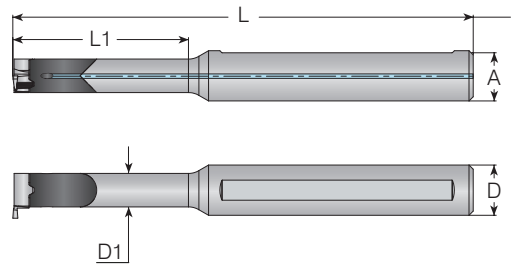
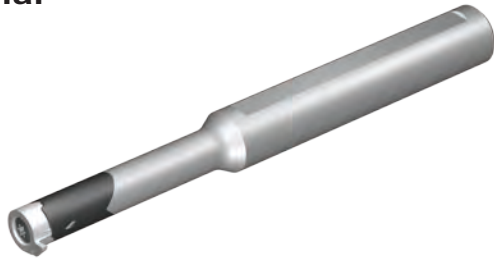
Defined by: DIN 103
Tolerance class: 7e/7H



Min Thread	Insert Style	Ordering Code	Dimensions (mm)						Helix	Toolholder
	tpi	RH / LH	d	T	F	Y	h min	Deg.		
TR10x2.0	V08	2	V08TH 2.0TR R...	6	3.8	4.79	0.9	1.25	3.5	.V08-....
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	.V11-....

Mini-V Toolholders - Carbide Shank with Alloy Steel Head

Internal

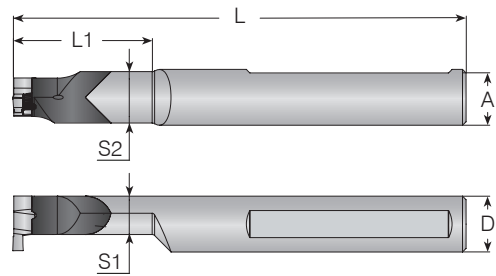


								Spare Parts		
Insert Style	Ordering Code		Dimensions (mm)							
	Sleeve	Holder RH	A	L	L1	D	D1	Screw	Size	Key
V08	-	CV08-1221	11.5	80.5	21	12	6	SNV08	M2.6x.45x8	K2T
	-	CV08-1230		90.5	30					
	-	* CV08-1242		100.5	42					
	-	* CV08-1250		115	50					
V11	-	CV11-1229	11.5	95	29	12	8	SNV11	M3.5x.6x10	K3T
	-	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

Mini-V Toolholders - Reinforced Carbide Shank

Internal

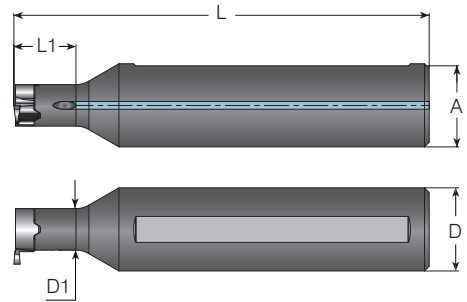


									Spare Parts		
Insert Style	Ordering Code		Dimensions (mm)								
	Sleeve	Holder RH	A	L	L1	D	S1	S2	Screw	Size	Key
V14	-	CV14-1234	11	100	34	12	9.3	11.9	SNV14	M4x0.7x12	KT15
	-	* CV14-1245		110	45						
	-	* CV14-1264		130	64						
	-	CV14-1634	15	100	34	16	9.3	12.45			
	-	* CV14-1645		110	45						
	-	* 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.

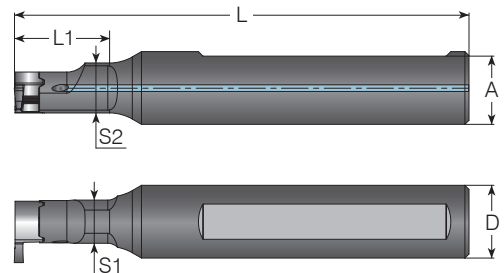
Mini-V Toolholders - Alloy Steel Shank

Internal



								Spare Parts		
Insert Style	Ordering Code		Dimensions (mm)							
	Sleeve	Holder RH	A	L	L1	D	D1	Screw	Size	Key
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

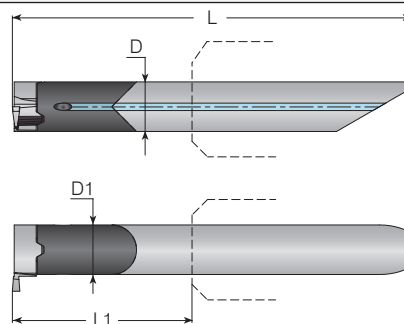
Internal



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

Mini-V Toolholders - Sleeve Clamping

Internal

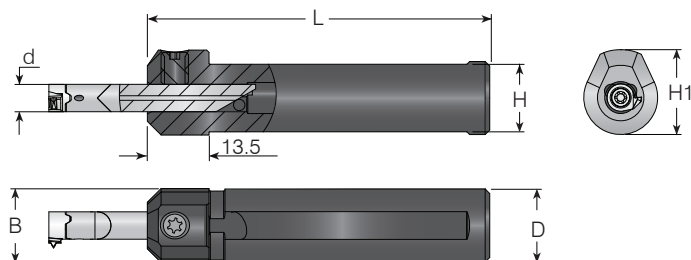


								Spare Parts		
Insert Style	Ordering Code	Dimensions (mm)					Ordering Code			
Holder RH		A	L	L1	D	D1	Sleeve	Screw	Size	Key
V08	CV08-0621	-	45	21	6	6	MHC ...-6	SNV08	M2.6x.45x8	K2T
	*CV08-0630	-	54	30						
V11	CV11-0829	-	64.5	29	8	8	MHC...-8	SNV11	M3.5x.6x10	K3T
	*CV11-0842	-	77.5	42						

* For boring and chamfering only.

Mini-V - Sleeves

Internal



Ordering Code						Spare Parts	
Dimensions (mm)							
d	Sleeve	D=B	H1	H	L	Screw	Key
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		
	MHC 20-8	20	22	18.8	103.5		

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		Max Depth on R [mm]
					Vc [m/min]		
					Threading Boring	Grooving	Boring
P 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
M Stainless Steel	11	Stainless steel Feritic	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 Feritic	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
K 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	Feritic	160	40-80	40-100	0.15-0.25
	33		Pearlitic	260	40-80	40-90	0.20-0.30
N(K) 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
S(M) 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

Depths of Cut and Number of Passes

Threading

1. Intensive coolant is strongly recommended.
2. Infeed method - modified flank infeed 1°

Option of modified volume chip

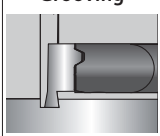
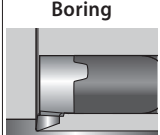
	Pitch mm	0.5	0.75		1	1.25			1.5	1.75	2	2.5	3	3.5	4
	Pitch tpi	48	32	27	24	20	19	18	16	14	12	10	8	7	6
Insert Style	Standard	Passes (modified volume)													
V08	ISO														
	UN	13	19		25	16			19	22					
	W														
	NPT			28				43							
	NPTF														
V11	ISO														
	UN	13	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	11-24	17-35		23-48	18-28			21-34	25-40						
	UN															
	W															
	NPT			25-53			40-83									
	NPTF															
	TR										50-104		70-145			
V11	ISO	11-24	17-35		23-48	14-28			17-34	20-40	23-46					
	UN															
	W															
	BSPT						21-34									
	TR															90-187
V14	ISO	11-24	17-35		23-48	14-28			9-15	11-18	11-18	12-21	18-24			
	UN															
	W															
V16	ISO	11-24	17-35		23-48	14-28			9-15	11-18	11-18	12-21	18-24			
	UN															
	W															

Number of passes can be decreased when High Pressure cooling is used.

Feed Rate f [mm/rev]

	0.01 - 0.03 mm
	0.03 - 0.10 mm

Grades

Grade	Application Type	Sample
VBX	General use carbide grade for Mini-V inserts. TiCN coated.	
VTX*	TiAlN coated carbide grade. Ideal for Stainless Steel and high cutting speeds. * Available for sizes V08 and V11. Sizes V14 and V16 are available upon request.	

Mini-V

Mini Tools for Small and Medium Bores



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