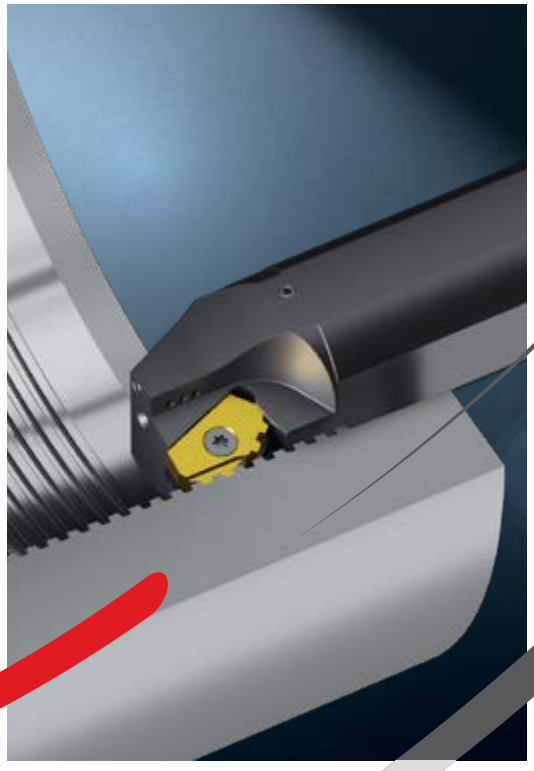
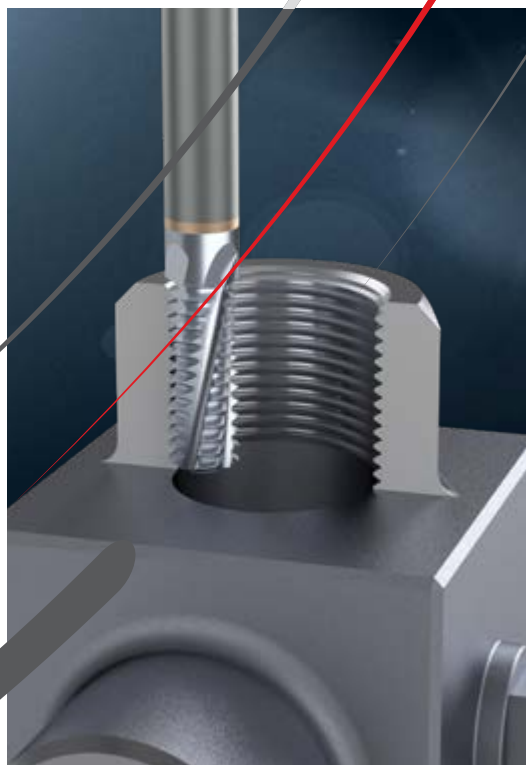
vargus
NEUMO Ehrenberg Group

AHB
TOOLING & MACHINERY
COMPLETE METALWORKING SOLUTIONS
(800) 991-4225 www.ahbinc.com
ISO Certified customerservice@ahbinc.com

MACH
Supersonic Threading

UNMATCHED PRODUCTIVITY





METRIC

VARDEX
Advanced Threading Solutions

UNMATCHED PRODUCTIVITY

MACH TT Supersonic Thread Turning

MACH 25 Specialized Oil & Gas Threading Solutions

Oil&Gas

MACH TM Supersonic Thread Milling

MORE THAN 2 TIMES FASTER

MACH Supersonic Threading

MACH TT External

Application: M64x3.0x33 | Material: SAE 4140 | Cutting Speed: Vc = 100 m/min

STANDARD
15 Passes | 40 sec.

MACH TT
6 Passes | 15 sec.

60%
less passes

60%
less machining time

50%
more tool life

FEWER PASSES FOR MACHINING MACH TT

MACH TT Internal

Application: M36x2.0x17 | Material: SAE 4140 | Cutting Speed: Vc = 100 m/min

STANDARD
12 Passes | 13 sec.

MACH TT
5 Passes | 5 sec.

60%
less passes

60%
less machining time

50%
more tool life

FEWER PASSES FOR MACHINING MACH TT

MACH TM

Application: M10x1.5x20 | Material: SAE 4140 | Cutting Speed: Vc = 90 m/min

STANDARD (3 Flutes)
feed 0.15 mm/rev | 7 sec.

MACH TM (4 Flutes)
feed 0.4 mm/rev | 3 sec.

100%
higher feed (mm/flute)

60%
less machining time

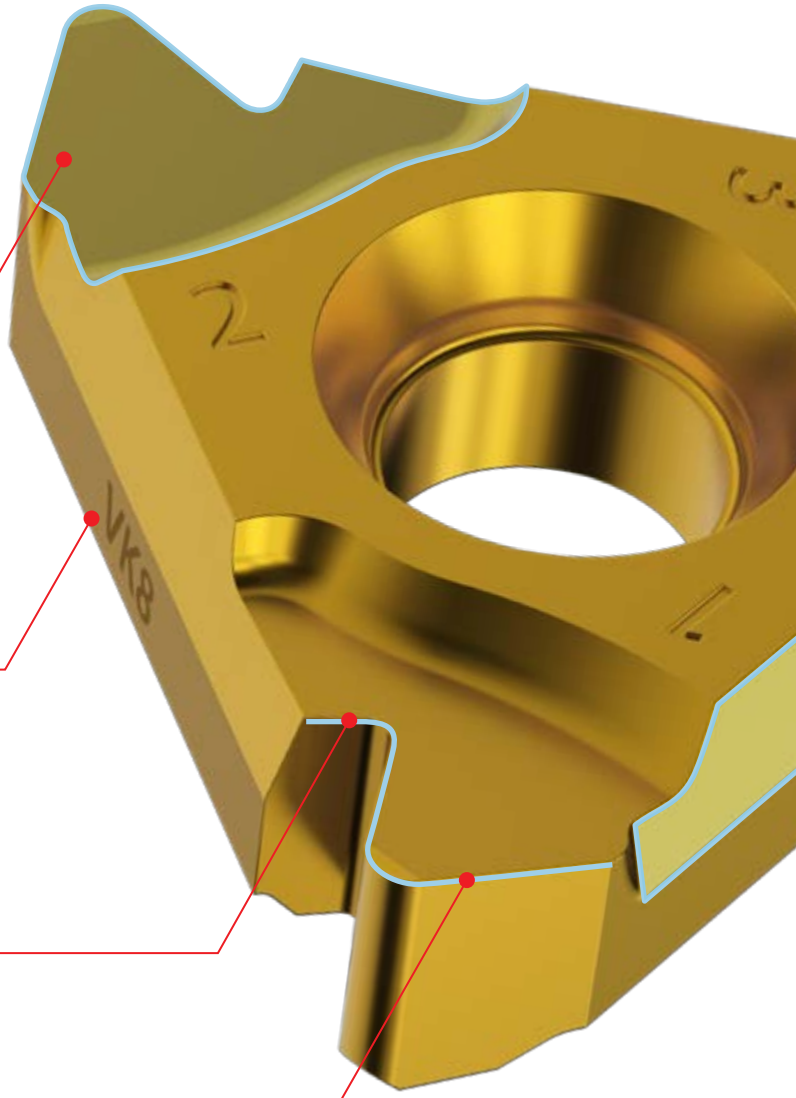
25%
more tool life

HIGH feed mm/flute MACH TM

MACH TT *Supersonic Thread Turning*

Now available in:
External - IC 3/8" & IC 1/2" | Internal - IC 3/8"

Features and Innovations



Improved Rake & Reinforced Geometry

For high resistance with a reduced number of passes

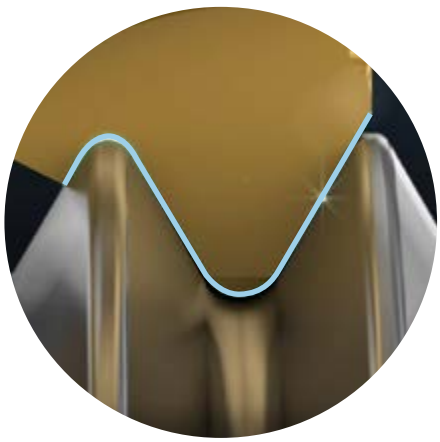
VK8 Grade

High wear resistance for general purpose applications

AlTiN + TiN PVD coating

Improved Profile Design

Superior threading surface finish



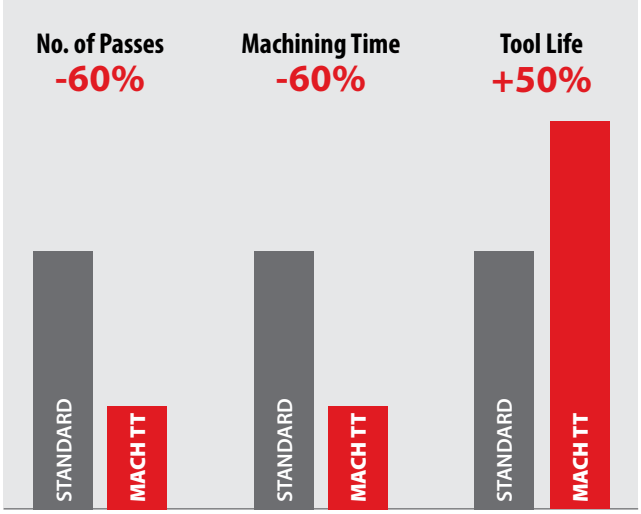
Advanced Surface Treatment

Reinforced cutting edge and smooth surface finish

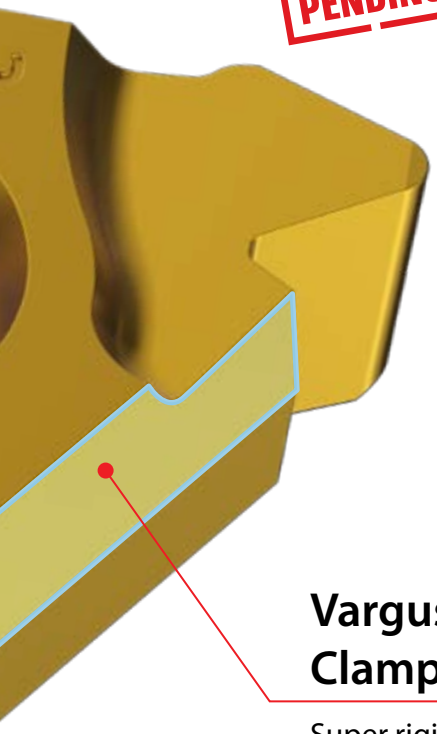
FEWER PASSES FOR MACHINING

MACH TT

UNMATCHED PRODUCTIVITY



PATENT PENDING



Vargus Dovetail Clamping System

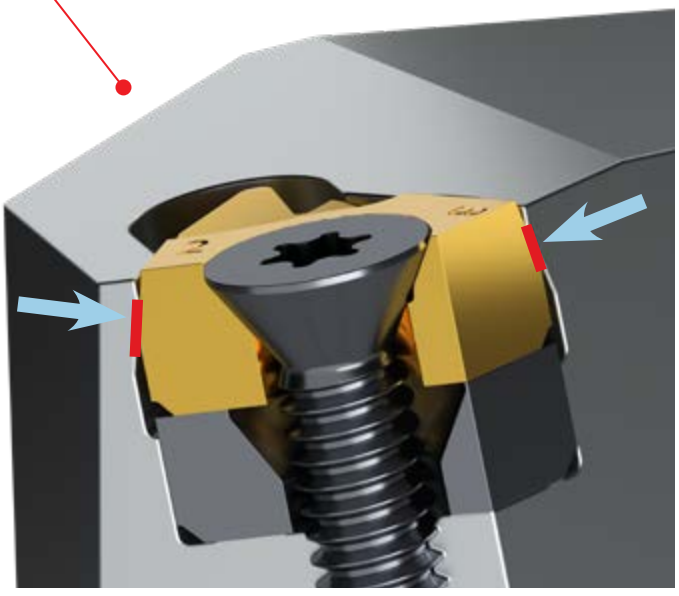
Super rigid - designed for high loads

Advantages

- Significantly reduces the number of passes
- Dramatically decreases machining time
- Extended tool life
- Excellent surface finish
- Eccentric tool overhang design for deeper threads and improved stability (internal)

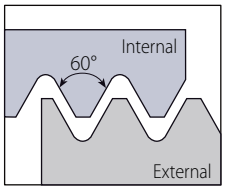
SUPER RIGID

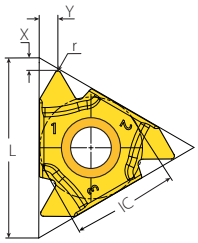
MACH TT



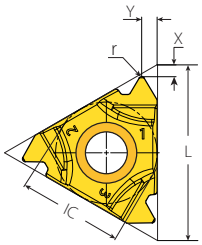
Partial Profile 60°

External / Internal





External



Internal

External

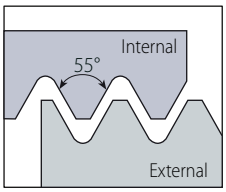
Insert Size		Pitch		Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	mm	TPI	RH		r	X	Y	RH	Toolholder
3/8"	16	0.5-1.5	48-16	3DTERA60...	*16**DT**ERA60...*	0.05	1.2	1.2	YE3	AL..-3DT
		1.75-3.0	14-8	3DTERG60...	*16**DT**ERG60...*	0.27	1.1	1.7		
		0.5-3.0	48-8	3DTERAG60...	*16**DT**ERAG60...*	0.08	1.1	1.7		
1/2"	22	3.5-5.0	7-5	4DTERN60...	*22**DT**ERN60...*	0.53	1.8	2.5	YE4	AL..-4DT

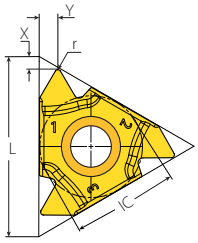
Internal

Insert Size		Pitch		Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	mm	TPI	RH		r	X	Y	RH	Toolholder
3/8"	16	0.5-1.5	48-16	3DTIRA60...	*16**DT**IRA60...*	0.05	1.3	1.3	YI3	.VRC..-3DT
		1.75-3.0	14-8	3DTIRG60...	*16**DT**IRG60...*	0.16	1.2	1.5		
		0.5-3.0	48-8	3DTIRAG60...	*16**DT**IRAG60...*	0.05	1.2	1.5		

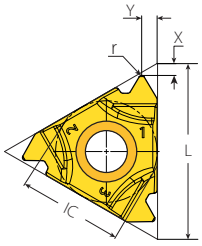
Partial Profile 55°

External / Internal





External



Internal

External

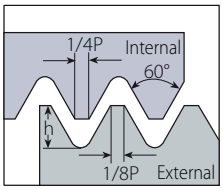
Insert Size		Pitch		Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	mm	TPI	RH		r	X	Y	RH	Toolholder
3/8"	16	0.5-1.5	48-16	3DTERA55...	*16**DT**ERA55...*	0.05	1.2	1.2	YE3	AL..-3DT
		1.75-3.0	14-8	3DTERG55...	*16**DT**ERG55...*	0.21	1.1	1.7		
		0.5-3.0	48-8	3DTERAG55...	*16**DT**ERAG55...*	0.07	1.1	1.7		
1/2"	22	3.5-5.0	7-5	4DTERN55...	*22**DT**ERN55...*	0.43	1.8	2.2	YE4	AL..-4DT

Internal

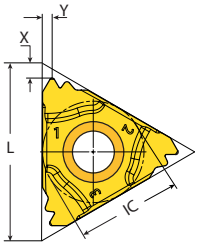
Insert Size		Pitch		Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	mm	TPI	RH		r	X	Y	RH	Toolholder
3/8"	16	0.5-1.5	48-16	3DTIRA55...	*16**DT**IRA55...*	0.05	1.3	1.3	YI3	.VRC..-3DT
		1.75-3.0	14-8	3DTIRG55...	*16**DT**IRG55...*	0.21	1.1	1.6		
		0.5-3.0	48-8	3DTIRAG55...	*16**DT**IRAG55...*	0.07	1.1	1.7		

ISO Metric

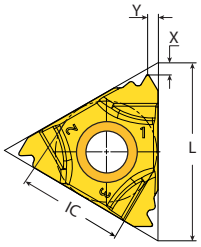
External / Internal



Defined by: DIN 13
Tolerance class: 6g/6H



External



Internal

External

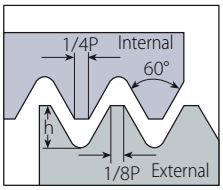
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	mm	RH		h min	X	Y	RH	Toolholder
3/8"	16	0.7	3DTER0.7ISO...	*16DTER0.7ISO...*	0.43	1.6	0.5	YE3	AL..-3DT
		0.75	3DTER0.75ISO...	*16DTER0.75ISO...*	0.46	1.6	0.5		
		0.8	3DTER0.8ISO...	*16DTER0.8ISO...*	0.49	1.6	0.6		
		1.0	3DTER1.0ISO...	*16DTER1.0ISO...*	0.61	1.5	0.6		
		1.25	3DTER1.25ISO...	*16DTER1.25ISO...*	0.77	1.5	0.8		
		1.5	3DTER1.5ISO...	*16DTER1.5ISO...*	0.92	1.4	0.9		
		1.75	3DTER1.75ISO...	*16DTER1.75ISO...*	1.07	1.4	1.2		
		2.0	3DTER2.0ISO...	*16DTER2.0ISO...*	1.23	1.4	1.3		
		2.5	3DTER2.5ISO...	*16DTER2.5ISO...*	1.53	1.4	1.4		
		3.0	3DTER3.0ISO...	*16DTER3.0ISO...*	1.84	1.3	1.5		
		3.5	3DTER3.5ISO...	*16DTER3.5ISO...*	2.15	1.1	1.7		
1/2"	22	3.5	4DTER3.5ISO...	*22DTER3.5ISO...*	2.15	1.8	2.2	YE4	AL..-4DT
		4.0	4DTER4.0ISO...	*22DTER4.0ISO...*	2.45	1.8	2.1		
		4.5	4DTER4.5ISO...	*22DTER4.5ISO...*	2.76	1.7	2.2		
		5.0	4DTER5.0ISO...	*22DTER5.0ISO...*	3.07	1.7	2.3		
		5.5	4DTER5.5ISO...	*22DTER5.5ISO...*	3.37	1.9	2.6		
		6.0	4DTER6.0ISO...	*22DTER6.0ISO...*	3.68	1.8	2.7		

Internal

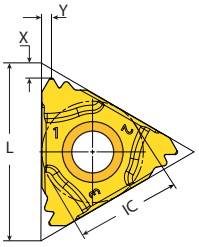
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	mm	RH		h min	X	Y	RH	Toolholder
3/8"	16	0.5	3DTIR0.5ISO...	*16DTIR0.5ISO...*	0.29	1.5	0.4	YI3	.VRC..-3DT
		0.7	3DTIR0.7ISO...	*16DTIR0.7ISO...*	0.40	1.4	0.5		
		0.75	3DTIR0.75ISO...	*16DTIR0.75ISO...*	0.43	1.5	0.5		
		0.8	3DTIR0.8ISO...	*16DTIR0.8ISO...*	0.46	1.5	0.5		
		1.0	3DTIR1.0ISO...	*16DTIR1.0ISO...*	0.58	1.3	0.6		
		1.25	3DTIR1.25ISO...	*16DTIR1.25ISO...*	0.72	1.2	0.7		
		1.5	3DTIR1.5ISO...	*16DTIR1.5ISO...*	0.87	1.2	0.8		
		1.75	3DTIR1.75ISO...	*16DTIR1.75ISO...*	1.01	1.2	1.0		
		2.0	3DTIR2.0ISO...	*16DTIR2.0ISO...*	1.15	1.1	1.3		
		2.5	3DTIR2.5ISO...	*16DTIR2.5ISO...*	1.44	1.1	1.3		
		3.0	3DTIR3.0ISO...	*16DTIR3.0ISO...*	1.73	1.1	1.4		
		3.5	3DTIR3.5ISO...	*16DTIR3.5ISO...*	2.02	1.1	1.5		

American UN

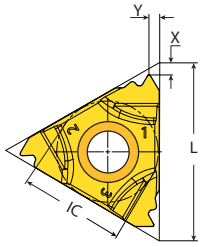
External / Internal



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

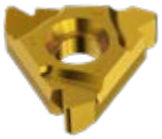


External



Internal

External



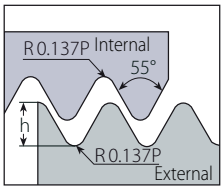
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	TPI	RH		h min	X	Y	RH	Toolholder
3/8"	16	32	3DTER32UN...	*16DTER32UN...*	0.49	1.6	0.6	YE3	AL..-3DT
		28	3DTER28UN...	*16DTER28UN...*	0.56	1.6	0.6		
		27	3DTER27UN...	*16DTER27UN...*	0.58	1.6	0.6		
		24	3DTER24UN...	*16DTER24UN...*	0.65	1.5	0.7		
		20	3DTER20UN...	*16DTER20UN...*	0.78	1.5	0.8		
		18	3DTER18UN...	*16DTER18UN...*	0.87	1.4	0.8		
		16	3DTER16UN...	*16DTER16UN...*	0.97	1.4	1.0		
		14	3DTER14UN...	*16DTER14UN...*	1.11	1.4	1.3		
		13	3DTER13UN...	*16DTER13UN...*	1.20	1.4	1.3		
		12	3DTER12UN...	*16DTER12UN...*	1.30	1.4	1.4		
		11.5	3DTER11.5UN...	*16DTER11.5UN...*	1.35	1.4	1.4		
		11	3DTER11UN...	*16DTER11UN...*	1.42	1.4	1.4		
		10	3DTER10UN...	*16DTER10UN...*	1.56	1.4	1.7		
		9	3DTER9UN...	*16DTER9UN...*	1.73	1.4	1.6		
		8	3DTER8UN...	*16DTER8UN...*	1.95	1.3	1.6		
1/2"	22	7	4DTER7UN...	*22DTER7UN...*	2.22	1.80	2.2	YE4	AL..-4DT
		6	4DTER6UN...	*22DTER6UN...*	2.60	1.78	2.1		
		5	4DTER5UN...	*22DTER5UN...*	3.12	1.87	2.5		

Internal

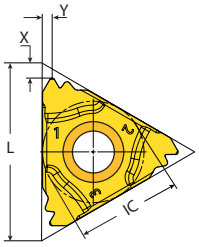
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	TPI	RH		h min	X	Y	RH	Toolholder
3/8"	16	32	3DTIR32UN...	*16DTIR32UN...*	0.51	1.4	0.5	YI3	.VRC..-3DT
		28	3DTIR28UN...	*16DTIR28UN...*	0.52	1.5	0.5		
		24	3DTIR24UN...	*16DTIR24UN...*	0.61	1.4	0.6		
		20	3DTIR20UN...	*16DTIR20UN...*	0.73	1.2	0.7		
		18	3DTIR18UN...	*16DTIR18UN...*	0.81	1.2	0.7		
		16	3DTIR16UN...	*16DTIR16UN...*	0.92	1.2	0.9		
		14	3DTIR14UN...	*16DTIR14UN...*	1.05	1.2	1.0		
		13	3DTIR13UN...	*16DTIR13UN...*	1.13	1.2	0.9		
		12	3DTIR12UN...	*16DTIR12UN...*	1.22	1.1	1.2		
		11.5	3DTIR11.5UN...	*16DTIR11.5UN...*	1.28	1.2	1.2		
		11	3DTIR11UN...	*16DTIR11UN...*	1.33	1.2	1.2		
		10	3DTIR10UN...	*16DTIR10UN...*	1.47	1.1	1.2		
		9	3DTIR9UN...	*16DTIR9UN...*	1.63	1.1	1.3		
		8	3DTIR8UN...	*16DTIR8UN...*	1.83	1.1	1.4		

Whitworth for BSW, BSP

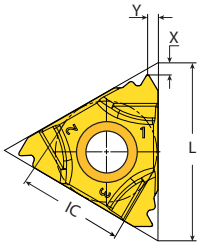
External / Internal



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

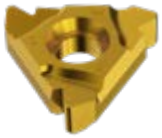


External



Internal

External



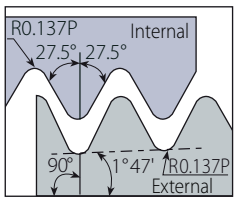
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	TPI	RH		h min	X	Y	RH	Toolholder
3/8"	16	28	3DTER28W...	*16DTER28W...*	0.58	1.6	0.6	YE3	AL..-3DT
		26	3DTER26W...	*16DTER26W...*	0.63	1.6	0.6		
		20	3DTER20W...	*16DTER20W...*	0.81	1.5	0.7		
		19	3DTER19W...	*16DTER19W...*	0.86	1.5	0.8		
		18	3DTER18W...	*16DTER18W...*	0.90	1.4	1.0		
		16	3DTER16W...	*16DTER16W...*	1.02	1.4	1.2		
		14	3DTER14W...	*16DTER14W...*	1.16	1.4	1.2		
		12	3DTER12W...	*16DTER12W...*	1.36	1.4	1.3		
		11	3DTER11W...	*16DTER11W...*	1.48	1.4	1.3		
		10	3DTER10W...	*16DTER10W...*	1.63	1.4	1.3		
		9	3DTER9W...	*16DTER9W...*	1.81	1.4	1.7		
		8	3DTER8W...	*16DTER8W...*	2.03	1.1	1.5		
1/2"	22	7	4DTER7W...	*22DTER7W...*	2.41	1.8	2.2	YE4	AL..-4DT
		6	4DTER6W...	*22DTER6W...*	2.71	1.8	2.0		
		5	4DTER5W...	*22DTER5W...*	3.25	1.7	2.3		

Internal

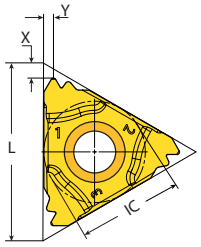
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	TPI	RH		h min	X	Y	RH	Toolholder
3/8"	16	28	3DTIR28W...	*16DTIR28W...*	0.58	1.4	0.6	YI3	.VRC..-3DT
		26	3DTIR26W...	*16DTIR26W...*	0.63	1.3	0.6		
		24	3DTIR24W...	*16DTIR24W...*	0.68	1.2	0.6		
		20	3DTIR20W...	*16DTIR20W...*	0.81	1.1	0.7		
		19	3DTIR19W...	*16DTIR19W...*	0.86	1.1	0.8		
		18	3DTIR18W...	*16DTIR18W...*	0.90	1.1	0.8		
		16	3DTIR16W...	*16DTIR16W...*	1.02	1.1	0.9		
		14	3DTIR14W...	*16DTIR14W...*	1.16	1.1	0.9		
		12	3DTIR12W...	*16DTIR12W...*	1.36	1.1	1.3		
		11	3DTR11W...	*16DTIR11W...*	1.48	1.1	1.2		
		10	3DTIR10W...	*16DTIR10W...*	1.63	1.0	1.3		
		9	3DTIR9W...	*16DTIR9W...*	1.81	1.0	1.4		
		8	3DTIR8W...	*16DTIR8W...*	2.03	1.0	1.5		

BSPT

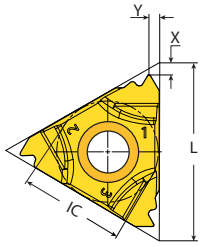
External / Internal



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



External



Internal

External

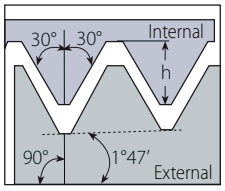
Insert Size			Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	TPI	RH		h min	X	Y	RH	Toolholder
3/8"	16	28	3DTER28BSPT...	*16DTER28BSPT...*	0.58	1.6	0.6	YE3	AL..-3DT
		19	3DTER19BSPT...	*16DTER19BSPT...*	0.86	1.2	0.8		
		14	3DTER14BSPT...	*16DTER14BSPT...*	1.16	1.4	1.3		
		11	3DTER11BSPT...	*16DTER11BSPT...*	1.48	1.4	1.5		

Internal

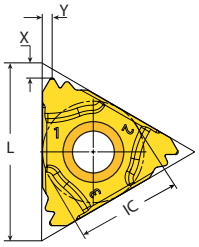
Insert Size			Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	TPI	RH		h min	X	Y	RH	Toolholder
3/8"	16	28	3DTIR28BSPT...	*16DTIR28BSPT...*	0.58	1.3	0.6	YI3	.VRC..-3DT
		19	3DTIR19BSPT...	*16DTIR19BSPT...*	0.86	1.2	0.8		
		14	3DTIR14BSPT...	*16DTIR14BSPT...*	1.16	1.1	1.2		
		11	3DTIR11BSPT...	*16DTIR11BSPT...*	1.48	1.1	1.2		

NPT

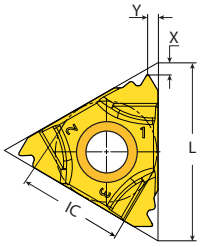
External / Internal



Defined by: ANSI B1.20.1-1983
Tolerance class: Standard NPT

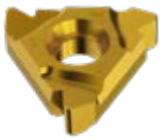


External



Internal

External



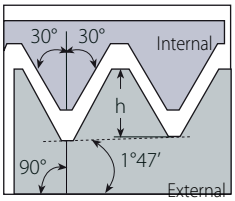
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	TPI	RH		h min	X	Y	RH	Toolholder
3/8"	16	27	3DTER27NPT...	*16DTER27NPT...*	0.66	1.6	0.8	YE3	AL..-3DT
		18	3DTER18NPT...	*16DTER18NPT...*	1.01	1.2	0.9		
		14	3DTER14NPT...	*16DTER14NPT...*	1.33	1.2	1.2		
		11.5	3DTER11.5NPT...	*16DTER11.5NPT...*	1.64	1.2	1.4		
		8	3DTER8NPT...	*16DTER8NPT...*	2.42	1.2	1.8		

Internal

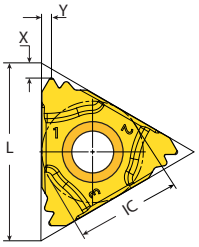
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	TPI	RH		h min	X	Y	RH	Toolholder
3/8"	16	27	3DTIR27NPT...	*16DTIR27NPT...*	0.66	1.3	0.6	YI3	.VRC..-3DT
		18	3DTIR18NPT...	*16DTIR18NPT...*	1.01	1.1	1.0		
		14	3DTIR14NPT...	*16DTIR14NPT...*	1.33	1.2	1.2		
		11.5	3DTIR11.5NPT...	*16DTIR11.5NPT...*	1.64	1.2	1.3		
		8	3DTIR8NPT...	*16DTIR8NPT...*	2.42	1.2	1.7		

NPTF

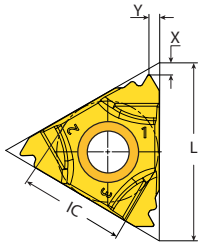
External / Internal



Defined by: ANSI B1.20.3-1976
Tolerance class: Standard NPTF

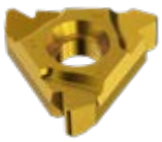


External



Internal

External



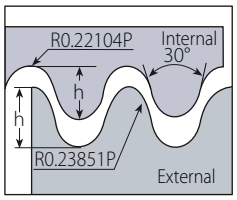
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	TPI	RH		h min	X	Y	RH	Toolholder
3/8"	16	27	3DTER27NPTF...	*16DTER27NPTF...*	0.64	1.6	0.8	YE3	AL..-3DT
		18	3DTER18NPTF...	*16DTER18NPTF...*	1.00	1.5	1.4		
		14	3DTER14NPTF...	*16DTER14NPTF...*	1.35	1.2	1.2		
		11.5	3DTER11.5NPTF...	*16DTER11.5NPTF...*	1.63	1.2	1.3		
		8	3DTER8NPTF...	*16DTER8NPTF...*	2.38	1.2	1.7		

Internal

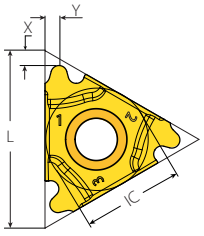
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	TPI	RH		h min	X	Y	RH	Toolholder
3/8"	16	27	3DTIR27NPTF...	*16DTIR27NPTF...*	0.64	1.3	0.6	YI3	.VRC..-3DT
		18	3DTIR18NPTF...	*16DTIR18NPTF...*	1.00	1.2	1.0		
		14	3DTIR14NPTF...	*16DTIR14NPTF...*	1.35	1.2	1.0		
		11.5	3DTIR11.5NPTF...	*16DTIR11.5NPTF...*	1.63	1.2	1.3		
		8	3DTIR8NPTF...	*16DTIR8NPTF...*	2.38	1.2	1.7		

Round (DIN 405)

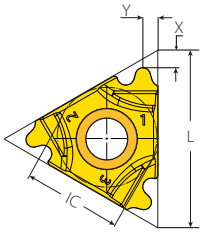
External



Defined by: DIN 405
Tolerance class: 7h/7H



External



Internal

External

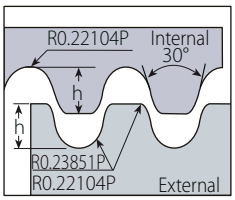
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	TPI	RH		h min	X	Y	RH	Toolholder
3/8"	16	8	3DTER8RD...	*16DTER8RD...*	1.59	1.5	1.3	YE3	AL..-3DT
		6	3DTER6RD...	*16DTER6RD...*	2.12	1.3	1.5		
1/2"	22	6	4DTER6RD...	*22DTER6RD...*	2.12	2.2	2.0	YE4	AL..-4DT
		4	4DTER4RD...	*22DTER4RD...*	3.18	2.2	1.9		

Internal

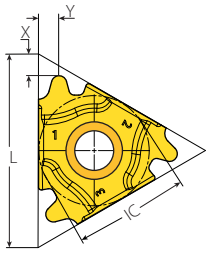
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	TPI	RH		h min	X	Y	RH	Toolholder
3/8"	16	8	3DTIR8RD...	*16DTIR8RD...*	1.59	1.6	1.4	YI3	.VRC..-3DT

Round (DIN 20400)

External



Defined by: DIN 20400
Tolerance class: Standard



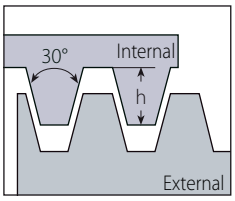
External

External

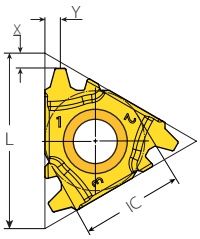
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	mm	RH		h min	X	Y	RH	Toolholder
1/2"	22	3	4DTER3.0RD20400...	*22DTER3.0RD20400...*	1.65	2.1	2.1	YE4	AL..-4DT
		4	4DTER4.0RD20400...	*22DTER4.0RD20400...*	2.20	2.4	2.4		
		5	4DTER5.0RD20400...	*22DTER5.0RD20400...*	2.75	2.2	2.1		
		6	4DTER6.0RD20400...	*22DTER6.0RD20400...*	3.30	2.2	2.1		

Trapez

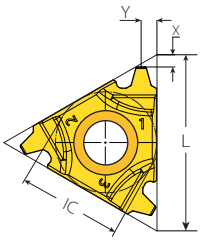
External / Internal



Defined by: DIN 103
Tolerance class: 7e



External



Internal

External

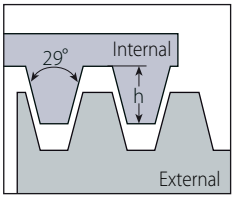
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	mm	RH		h min	X	Y	RH	Toolholder
3/8"	16	1.5	3DTER1.5TR...	*16DTER1.5TR...*	0.90	1.2	1.1	YE3	AL..-3DT
		2.0	3DTER2.0TR...	*16DTER2.0TR...*	1.25	1.2	1.3		
		3.0	3DTER3.0TR...	*16DTER3.0TR...*	1.75	1.2	1.5		
1/2"	22	4.0	4DTER4.0TR...	*22DTER4.0TR...*	2.25	1.9	2.2	YE4	AL..-4DT
		5.0	4DTER5.0TR...	*22DTER5.0TR...*	2.75	1.9	2.2		
		6.0	4DTER6.0TR...	*22DTER6.0TR...*	3.50	1.8	2.0		

Internal

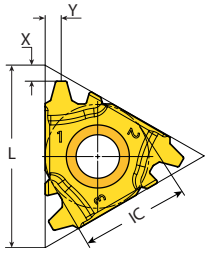
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	mm	RH		h min	X	Y	RH	Toolholder
3/8"	16	1.5	3DTIR1.5TR...	*16DTIR1.5TR...*	0.90	1.2	1.1	YI3	.VRC..-3DT
		2.0	3DTIR2.0TR...	*16DTIR2.0TR...*	1.25	1.1	1.2		
		3.0	3DTIR3.0TR...	*16DTIR3.0TR...*	1.75	1.1	1.5		

American ACME

External



Defined by: ANSI B1.5:1988
Tolerance class: 3G



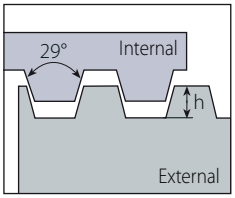
External

External

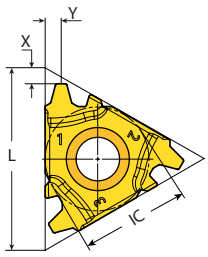
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	TPI	RH		h min	X	Y	RH	Toolholder
1/2"	22	7	4DTER7ACME...	*22DTER7ACME...*	2.08	2.1	2.2	YE4	AL..-4DT
		6	4DTER6ACME...	*22DTER6ACME...*	2.37	1.9	2.1		
		5	4DTER5ACME...	*22DTER5ACME...*	2.79	1.9	2.2		

Stub ACME

External



Defined by: ANSI B1.8:1988
Tolerance class: 2G



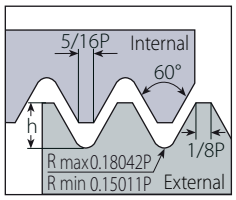
External

External

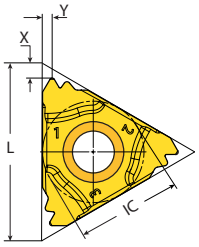
Insert Size			Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	TPI	RH		h min	X	Y	RH	Toolholder
1/2"	22	6	4DTER6STACME...	*22DTER6STACME...*	1.52	2.1	1.8	YE4	AL..-4DT
		5	4DTER5STACME...	*22DTER5STACME...*	1.78	2.1	2.0		
		4	4DTER4STACME...	*22DTER4STACME...*	2.16	2.1	2.1		

UNJ

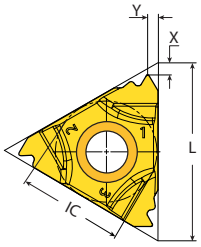
External / Internal



Defined by: MIL-S-8879C
Tolerance class: 3A/3B



External



Internal

External

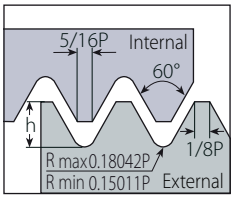
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	TPI	RH		h min	X	Y	RH	Toolholder
3/8"	16	32	3DTER32UNJ...	*16DTER32UNJ ...*	0.46	1.6	0.6	YE3	AL..3DT
		28	3DTER28UNJ...	*16DTER28UNJ...*	0.52	1.5	0.6		
		24	3DTER24UNJ...	*16DTER24UNJ...*	0.61	1.5	0.7		
		20	3DTER20UNJ...	*16DTER20UNJ...*	0.73	1.5	0.8		
		18	3DTER18UNJ...	*16DTER18UNJ...*	0.81	1.4	0.8		
		16	3DTER16UNJ...	*16DTER16UNJ...*	0.92	1.4	0.9		
		14	3DTER14UNJ...	*16DTER14UNJ...*	1.05	1.4	1.2		
		13	3DTER13UNJ...	*16DTER13UNJ...*	1.13	1.4	1.2		
		12	3DTER12UNJ...	*16DTER12UNJ...*	1.22	1.4	1.2		
		10	3DTER10UNJ...	*16DTER10UNJ...*	1.47	1.4	1.2		
1/2"	22	7	4DTER7UNJ...	*22DTER7UNJ...*	2.09	1.9	2.1	YE4	AL..-4DT
		6	4DTER6UNJ...	*22DTER6UNJ...*	2.44	1.9	2.1		
		5	4DTER5UNJ...	*22DTER5UNJ...*	2.93	1.8	2.4		

Internal

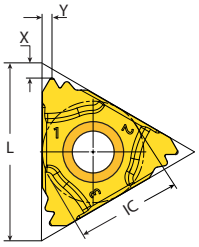
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	TPI	RH		h min	X	Y	RH	Toolholder
3/8"	16	32	3DTIR32UNJ...	*16DTIR32UNJ...*	0.42	1.4	0.5	YI3	.VRC..-3DT
		28	3DTIR28UNJ...	*16DTIR28UNJ...*	0.47	1.4	0.5		
		24	3DTIR24UNJ...	*16DTIR24UNJ...*	0.55	1.3	0.5		
		20	3DTIR20UNJ...	*16DTIR20UNJ...*	0.66	1.3	0.6		
		18	3DTIR18UNJ...	*16DTIR18UNJ...*	0.74	1.3	0.7		
		16	3DTIR16UNJ...	*16DTIR16UNJ...*	0.83	1.3	1.0		
		14	3DTIR14UNJ...	*16DTIR14UNJ...*	0.95	1.3	1.0		
		12	3DTIR12UNJ...	*16DTIR12UNJ...*	1.11	1.2	1.2		

MJ

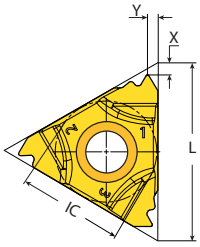
External / Internal



Defined by: ISO 5855
Tolerance class: 4h/6h-4H/5H



External



Internal

External

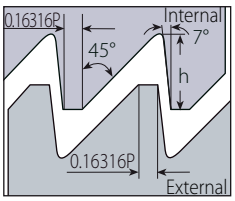
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	mm	RH		h min	X	Y	RH	Toolholder
3/8"	16	1.0	3DTER1.0MJ...	*16DTER1.0MJ...*	0.58	1.5	0.6	YE3	AL..-3DT
		1.5	3DTER1.5MJ...	*16DTER1.5MJ...*	0.87	1.4	0.9		
		2.0	3DTER2.0MJ...	*16DTER2.0MJ...*	1.15	1.39	1.20		
		3.0	3DTER3.0MJ...	*16DTER3.0MJ...*	1.73	1.32	1.50		

Internal

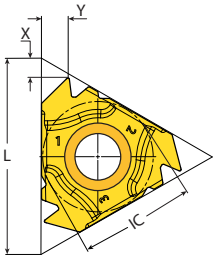
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	mm	RH		h min	X	Y	RH	Toolholder
3/8"	16	1.0	3DTIR1.0MJ...	*16DTIR1.0MJ...*	0.49	1.4	0.5	YI3	.VRC..-3DT
		1.5	3DTIR1.5MJ...	*16DTIR1.5MJ...*	0.73	1.3	1.0		
		2.0	3DTIR2.0MJ...	*16DTIR2.0MJ...*	0.97	1.3	1.0		
		3.0	3DTIR3.0MJ...	*16DTIR3.0MJ...*	1.46	1.15	1.15		

American Buttress

External



Defined by: ANSI B1.9.1973
Tolerance class: Class 2



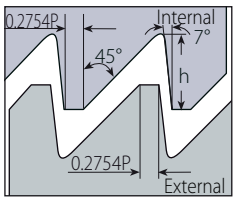
External

External

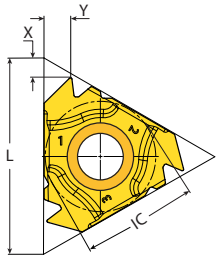
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	TPI	RH		h min	X	Y	RH	Toolholder
1/2"	22	8	4DTER8ABUT...	*22DTER8ABUT...*	2.10	2.1	3.1	YE4	AL..-4DT
		6	4DTER6ABUT...	*22DTER6ABUT...*	2.80	2.1	3.4		

British Buttress

External



Defined by: B.S. 1657: 1950
Tolerance class: Medium Class



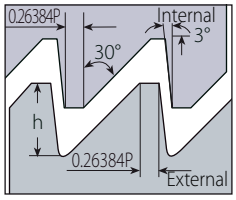
External

External

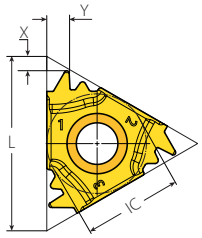
Insert Size			Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	TPI	RH		h min	X	Y	RH	Toolholder
1/2"	22	8	4DTER8BBUT..	*22DTER8BBUT.....*	1.61	1.84	2.60	YE4	AL..-4DT

Metric Buttress (Sägengewinde)

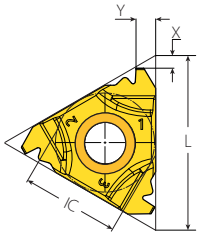
External / Internal



Defined by: DIN 513
Tolerance class: Medium Class



External



Internal

External

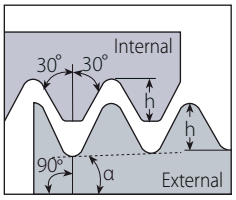
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	mm	RH		h min	X	Y	RH	Toolholder
3/8"	16	2.0	3DTER2.0SAGE...	*16DTER2.0SAGE...*	1.74	1.3	2.1	YE3	AL..-3DT
1/2"	22	2.0	4DTER2.0SAGE...	*22DTER2.0SAGE...*	1.74	1.9	2.9	YE4	AL..-4DT
		3.0	4DTER3.0SAGE...	*22DTER3.0SAGE...*	2.60	1.8	3.2		
		4.0	4DTER4.0SAGE...	*22DTER4.0SAGE...*	3.55	1.7	3.1		

Internal

Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	mm	RH		h min	X	Y	RH	Toolholder
3/8"	16	2.0	3DTIR2.0SAGE...	*16DTIR2.0SAGE...*	1.50	1.2	1.8	YI3	.VRC..-3DT

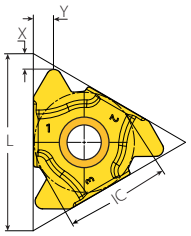
API

External



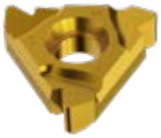
α = arctg (IPF/24)

Defined by: API SPEC. 7:1990
Tolerance class: Standard API



External

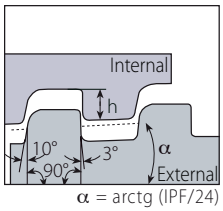
External



Insert Size		Pitch	Thread	Taper	Ordering Code	Market Description	Size	Dimensions mm			Anvil	
IC	L mm	TPI		IPF	RH			h min	X	Y	RH	Tool-holder
1/2"	22	4	V-0.038R	2	4DTER4API382...	*22DTER4API382...*	NC23-NC50, 2 3/8", 6 5/8" IF	3.09	1.8	2.6	YEI 4-API-1P or YE4	AL..-4DT
		4	V-0.038R	3	4DTER4API383...	*22DTER4API383...*	NC56-NC77	3.08	1.9	2.6		
		5	V-0.040	3	4DTER5API403...	*22DTER5API403...*	2 3/8"-4 1/2" REG	2.99	1.8	2.4		
		4	V-0.050	2	4DTER4API502...	*22DTER4API502...*	6 5/8" REG, 5 1/2"FH, 6 5/8" FH	3.75	1.7	2.7		
		4	V-0.050	3	4DTER4API503...	*22DTER4API503...*	5 1/2", 7 5/8", 8 5/8" REG	3.74	1.7	2.7		
		6	V-0.055	1.5	4DTER6API551...	*22DTER6API551...*	NC10-NC16	1.41	1.8	2.6		

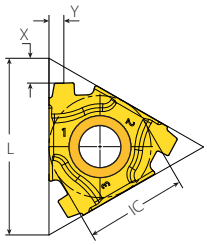
API Buttress Casing

External



α = arctg (IPF/24)

Defined by: STD.5B.1979
Tolerance class: Standard API



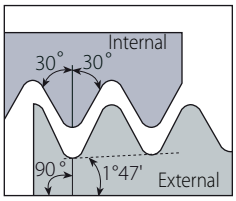
External

External

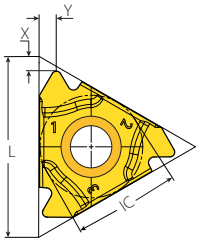
Insert Size		Pitch	Taper	Ordering Code	Market Description	Size	Dimensions mm			Anvil	
IC	L mm	TPI	IPF	RH			h min	X	Y	RH	Toolholder
1/2"	22	5	0.75	4DTER5BUT75...	*22DTER5BUT75...*	4 1/2"-13 3/8"	1.55	3.1	1.9	YEI 4-BUT or YE4	AL..-4DT
		5	1	4DTER5BUT1...	*22DTER5BUT1...*	16"-20"	1.55	3.1	1.9		

API Round Casing & Tubing

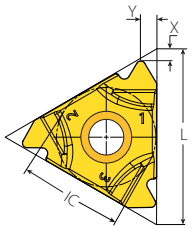
External / Internal



Defined by: API SPEC. 5B
Tolerance class: Standard API RD



External



Internal

External

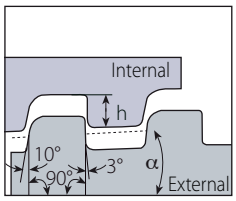
Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	TPI	RH		h min	X	Y	RH	Toolholder
3/8"	16	10	3DTER10APIRD...	*16DTER10APIRD...*	1.41	1.4	1.5	YE3	AL..-3DT
		8	3DTER8APIRD...	*16DTER8APIRD...*	1.81	1.4	1.6		

Internal

Insert Size		Pitch	Ordering Code	Market Description	Dimensions mm			Anvil	
IC	L mm	TPI	RH		h min	X	Y	RH	Toolholder
3/8"	16	10	3DTIR10APIRD...	*16DTIR10APIRD...*	1.41	1.1	1.3	YI3	.VRC..-3DT
		8	3DTIR8APIRD...	*16DTIR8APIRD...*	1.81	1.1	1.5		

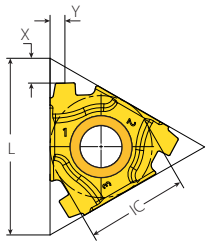
VAM

External



α = arctg (IPF/24)

Defined by: VAM
Tolerance class: Standard VAM



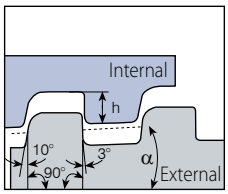
External

External

Insert Size		Pitch	Taper	Ordering Code	Market Description	Size	Dimensions mm			Anvil	
IC	L mm	TPI	IPF	RH			h min	X	Y	RH	Toolholder
1/2"	22	6	0.75	4DTER6VAM...	*22DTER6VAM...*	3 1/2"	0.97	2.1	1.9	YE4	AL..-4DT
	22	5	0.75	4DTER5VAM...	*22DTER5VAM...*	5"-9 5/8"	1.55	3.1	1.9		

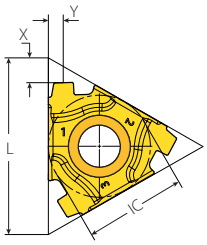
New VAM

External



α= arctg (IPF/24)

Defined by: VAM
Tolerance class: Standard VAM



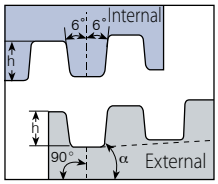
External

External

Insert Size		Pitch	Taper	Ordering Code	Market Description	Size	Dimensions mm			Anvil	
IC	L mm	TPI	IPF	RH			h min	X	Y	RH	Toolholder
1/2"	22	6	0.75	4DTER6NVAM...	*22DTER6NVAM...*	3 1/2"	0.97	2.1	1.9	YE4	AL..-4DT
		5	0.75	4DTER5NVAM...	*22DTER5NVAM...*	5"-9 5/8"	1.55	3.1	2.0		

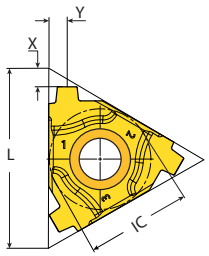
EL-Extreme Line

External



α= arctg (IPF/24)

Defined by: API STD,5B:1979
Tolerance class: Standard

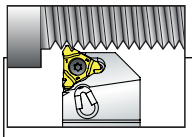


External

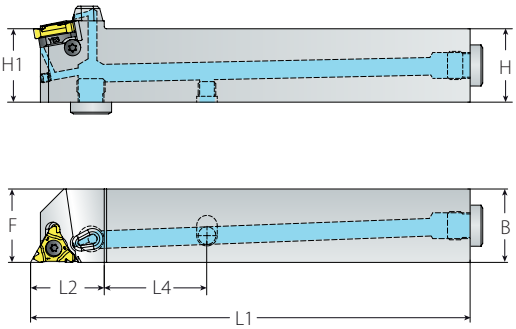
External

Insert Size		Pitch	Taper	Ordering Code	Market Description	Size	Dimensions mm			Anvil	
IC	L mm	TPI	IPF	RH			h min	X	Y	RH	Toolholder
1/2"	22	6	1.5	4DTER6EL15...	*22DTER6EL15...*	5"-7 5/8"	1.21	2.1	1.9	YE4	AL..-4DT
		5	1.25	4DTER5EL125...	*22DTER5EL125...*	8 5/8"-10 3/4"	1.71	2.1	2.3		

External Toolholders



Max. 70 bar

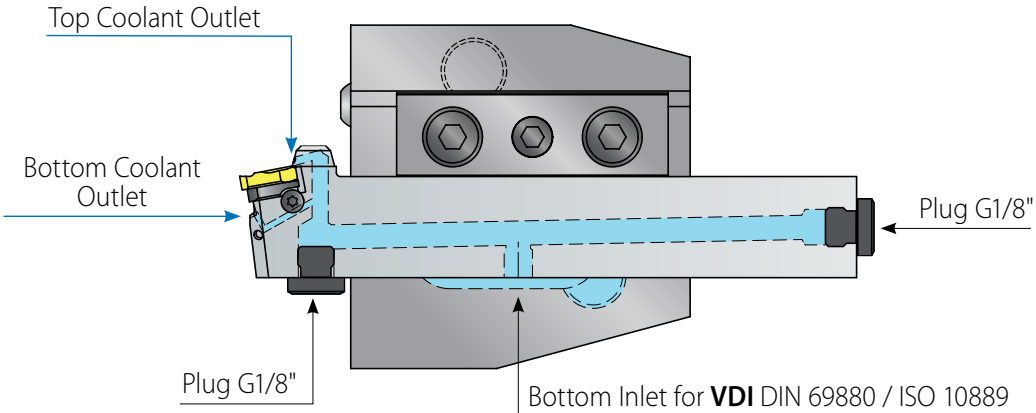


MACH TT with Coolant (HPC) - 3 Inlets

Insert Size	Ordering Code	Market Description	Dimensions mm				
IC	RH		H=H1=B	F	L1	L2	L4
3/8"	ALCN16-3DT	*ALCN16-16**DT***	16	16	100	25.4	25
	ALCN20-3DT	*ALCN20-16**DT***	20	20	125		30
	ALCN25-3DT	*ALCN25-16**DT***	25	25	150		35
	ALCN32-3DT	*ALCN32-16**DT***	32	32	170		35

Spare Parts

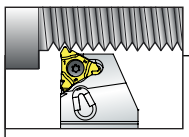
Insert Screw	Anvil Screw	Torx Key	Anvil RH	Plug Screw x 2	Socket Screw
SA3T (2.0 Nm)	SY3T	K3T	YE3	Plug G1/8"	Socket Screw M6x5



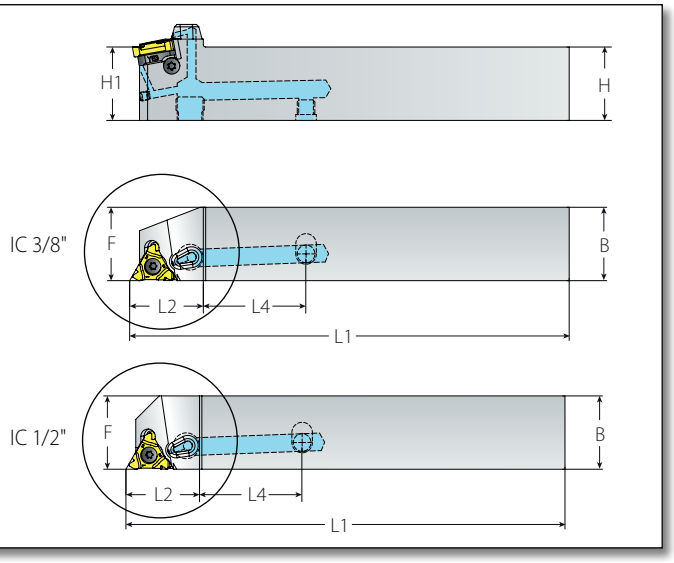
The following HPC accessories (not included) can be ordered separately:

Image	Ordering Code	Item Number
	Tube Connector 25-6	013-00941
	Angled Fitting G1_8x6	013-00947
	Straight Fitting G1_8x6	013-00942

External Toolholders

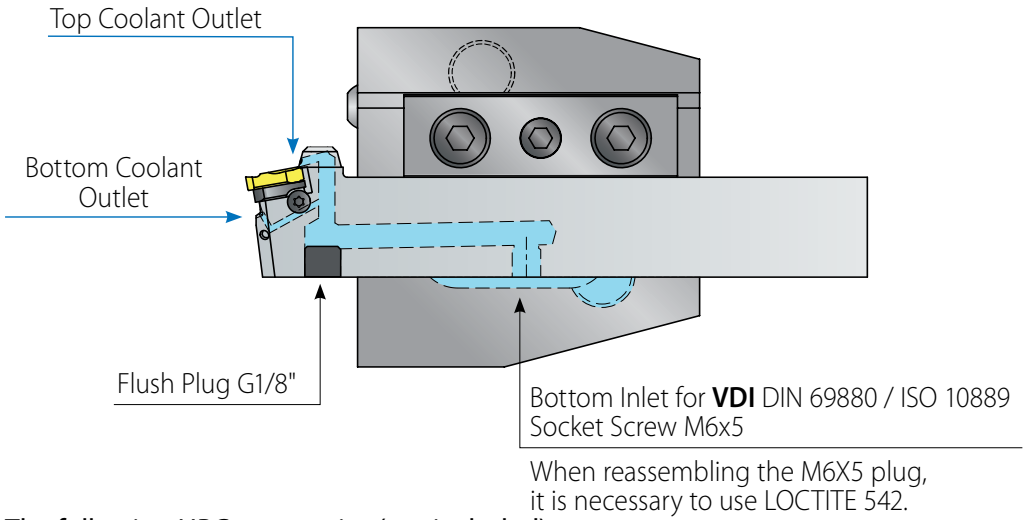


Max. 70 bar



MACH TT with Coolant (HPC) - 2 Inlets

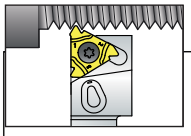
Insert Size	Ordering Code	Market Description	Dimensions mm					Spare Parts					
													
IC	RH		H=H1=B	F	L1	L2	L4	Insert Screw	Anvil Screw	Torx Key	Anvil RH	Plug Screw	Socket Screw
3/8"	ALC16-3DT	*ALC16-16DT*	16	16	100	25.4	24.0	SA3T (2.0Nm)	SY3T	K3T	YE3	Flush Plug G1/8"	Socket Screw M6x5
	ALC20-3DT	*ALC20-16DT*	20	20	125		21.0						
	ALC25-3DT	*ALC25-16DT*	25	25	150		32.5						
	ALC32-3DT	*ALC32-16DT*	32	32	170		30.0						
1/2"	ALC25-4DT	*ALC25-22DT*	25	25	150	27.5	32.5	SA4T (3.0 Nm)	SY4T	K4T	YE4	Flush Plug G1/8"	Socket Screw M6x5
	ALC32-4DT	*ALC32-22DT*	32	32	170		30.0						
	ALC40-4DT	*ALC40-22DT*	40	40	206		35.0						



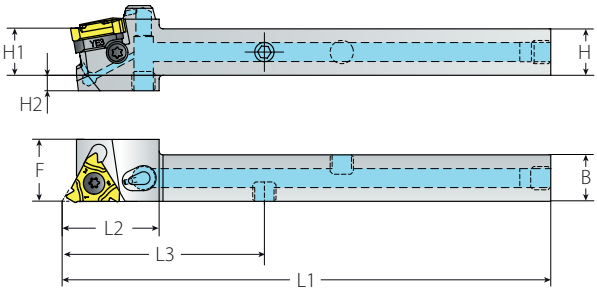
The following HPC accessories (not included) can be ordered separately:

Image	Ordering Code	Item Number
	Tube Connector 25-6	013-00941
	Angled Fitting G1_8x6	013-00947
	Straight Fitting G1_8x6	013-00942

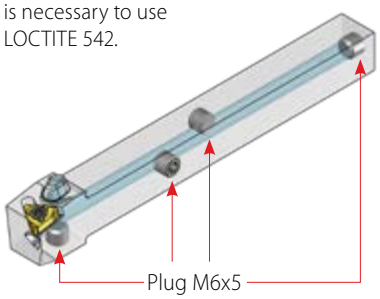
External Toolholders



Max. 70 bar



When reassembling the M6X5 plug, it is necessary to use LOCTITE 542.

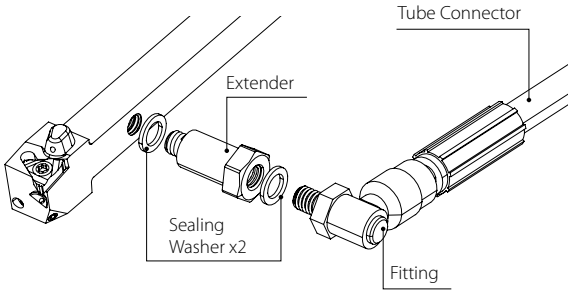


MACH TT with Coolant for Swiss Type Machines (HPC)

Spare Parts

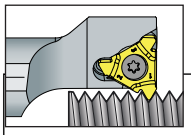
Insert Size	Ordering Code	Market Description	Dimensions mm						Insert Screw	Anvil Screw	Torx Key	Anvil RH	Plug x 4
IC	RH		H=H1=B	F	L1	L2	L3	H2					
3/8"	ALCS12-3DT	*ALCS12-16DT*	12	16	126.5	25.4	52.5	4	SA3T (2.0 Nm)	SY3T	K3T	YE3	Plug M6x5

When working with Shank 12x12 the extender is necessary to connect the fitting.

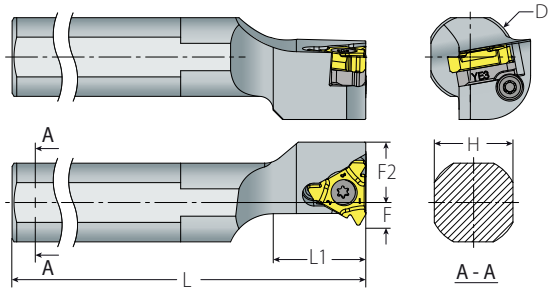


HPC accessories (not included) can be ordered separately:

Image	Ordering Code	Item Number
	Tube Connector 25-6	013-00941
	Angled Fitting M6x6	013-01011
	Straight Fitting M6x6	013-01012
	Extender M6x5	013-01096
	Sealing Washer M6	013-01097



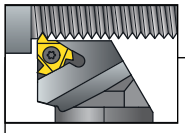
External Toolholders with Round Shanks



MACH TT Toolholders for Swiss Type Machines

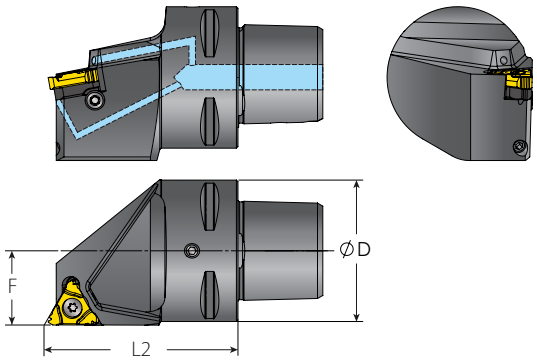
Spare Parts

Insert Size	Ordering Code	Market Description	Dimensions mm						Insert Screw	Anvil Screw	Torx Key	Anvil RH
IC	RH		H	L	L1	D	F	F2				
3/8"	ALVR075-3DT-LH	*ALVR075-16DT-LH*	17	140	20	.75 (inch)	6	13.5	SA3T	SY3T	K3T	YE3
	ALVR100-3DT-LH	*ALVR100-16DT-LH*	23			1.0 (inch)	10	16.0				
	ALVR20-3DT-LH	*ALVR20-16DT-LH*	18			20 (mm)	6	13.5				
	ALVR22-3DT-LH	*ALVR22-16DT-LH*	20			22 (mm)	6	13.5				
	ALVR25-3DT-LH	*ALVR25-16DT-LH*	23			25 (mm)	10	16.0				



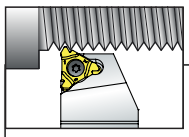
External Toolholders

Max. 70 bar

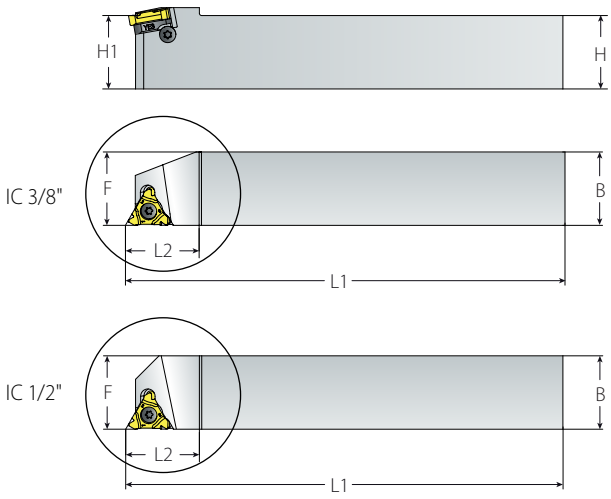


MACH TT V-CAP with Coolant (HPC)

Insert Size	Ordering Code	Market Description	Dimensions mm			Spare Parts			
IC	RH		D	F	L2	Insert Screw	Anvil Screw	Torx Key	Anvil RH
3/8"	VCAP32-SER17047-3DT	*VCAP32-SER17047-16**DT***	32	17	47	SA3T (2.0 Nm)	SY3T	K3T	YE3
	VCAP40-SER21055-3DT	*VCAP40-SER21055-16**DT***	40	21	55				
	VCAP50-SER26065-3DT	*VCAP50-SER26065-16**DT***	50	26	65				
	VCAP63-SER33075-3DT	*VCAP63-SER33075-16**DT***	63	33	75				
1/2"	VCAP40-SER21055-4DT	*VCAP40-SER21055-22**DT***	40	21	55	SA4T (3.0Nm)	SY4T	K4T	YE4
	VCAP50-SER26065-4DT	*VCAP50-SER26065-22**DT***	50	26	65				
	VCAP63-SER33075-4DT	*VCAP63-SER33075-22**DT***	63	33	75				
	VCAP80-SER42080-4DT	*VCAP80-SER42080-22**DT***	80	42	80				



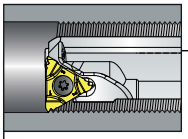
External Toolholders

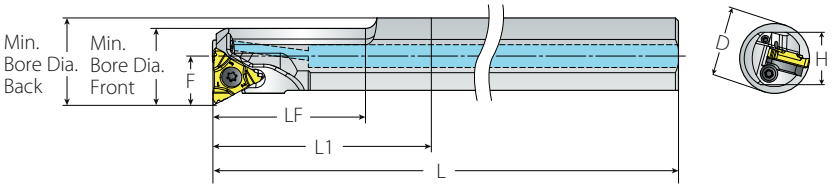


MACH TT

Insert Size	Ordering Code	Market Description	Dimensions mm				Spare Parts			
IC	RH		H=H1=B	F	L1	L2	Insert Screw	Anvil Screw	Torx Key	Anvil RH
3/8"	AL12-3DT	*AL12-16**DT***	12	16	85	20.7	SA3T (2.0 Nm)	SY3T	K3T	YE3
	AL16-3DT	*AL16-16**DT***	16	16	100	22.0				
	AL20-3DT	*AL20-16**DT***	20	20	127	24.5				
	AL25-3DT	*AL25-16**DT***	25	25	150	25.8				
	AL32-3DT	*AL32-16**DT***	32	32	170	29.5				
1/2"	AL25-4DT	*AL25-22**DT***	25	25	150	27.5	SA4T (3.0Nm)	SY4T	K4T	YE4
	AL32-4DT	*AL32-22**DT***	32	32	168	27.5				
	AL40-4DT	*AL40-22**DT***	40	40	198	27.5				

Internal Toolholders





MACH TT with Coolant (HPC)

Insert Size	Ordering Code	Market Description	Dimensions mm								Spare Parts			
IC	RH		H	L	LF	L1	D	F	Minimum Bore Ø Front	Minimum Bore Ø Back	Insert Screw*	Anvil Screw	Insert Key	Anvil
3/8"	NVRC-1617-3DT	*NVRC-1617-16**DT***	15	150	27	48	16	11.7	17	20.0	SN3T	-	K3T	-
	NVRC-2020-3DT	*NVRC-2020-16**DT***	18	180	40	60	20	13.7	20	24.1		-		-
	AVRC-2022-3DT	*AVRC-2022-16**DT***	18	180	40	60	20	13.7	22	24.0	SA3T	SY3T		YI3
	NVRC-2022-3DT	*NVRC-2022-16**DT***	18	180	40	60	20	13.7	22	24.0	SN3T	-		-
	AVRC-2526-3DT	*AVRC-2526-16**DT***	23	200	40	75	25	16.1	26	29.0	SA3T	SY3T		YI3
	AVRC-3229-3DT	*AVRC-3229-16**DT***	29	250	40	96	32	19.7	29	36.5				
	AVRC-3236-3DT	*AVRC-3236-16**DT***	29	250	40	96	32	19.7	36	36.0				
	AVRC-4037-3DT	*AVRC-4037-16**DT***	36	300	40	120	40	23.6	37	44.0				

* All insert screws max. torque 2.0 Nm

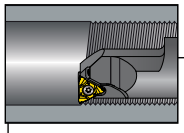
New Ordering Code System for MACH TT Internal Holders

The numbers in the ordering code represent the shank diameter (D) and Minimum Bore Ø Front.

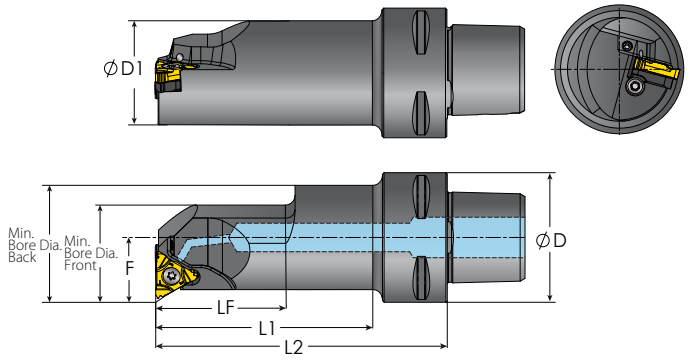
For example: **AVRC – 20 22 -3DT**

D = 20 mm

Minimum Bore Ø Front = 22 mm



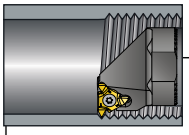
Internal Toolholders



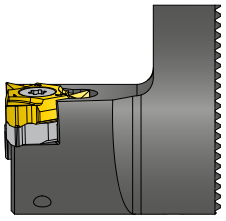
MACH TT V-CAP with Coolant (HPC)

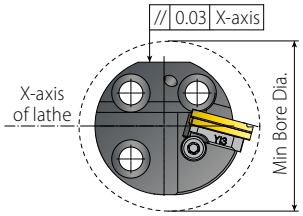
Insert Size	Ordering Code	Market Description	Dimensions mm								Spare Parts			
IC	RH		D	D1	F	L2	LF	L1	Minimum Bore Ø Front	Minimum Bore Ø Back	Insert Screw*	Anvil Screw	Insert Key	Anvil
3/8"	VCAP32-SIR12055-3DT	*VCAP32-SIR12055-16DT*	32	16.2	12	55	27	37	18.5	20.5	SN3T	-	K3T	-
	VCAP40-SIR10060-3DT	*VCAP40-SIR10060-16DT*	40	12.9	10.3	60	27	37	-	17.0	SN3TM	-		-
	VCAP40-SIR12060-3DT	*VCAP40-SIR12060-16DT*		16.2	12	60	27	37	18.5	20.5	SN3T	-		-
	VCAP40-SIR14060-3DT	*VCAP40-SIR14060-16DT*		20.6	14	60	27	37	23	25.0	SA3T	SY3T		YI3
	VCAP40-SIR17070-3DT	*VCAP40-SIR17070-16DT*		26.2	17	70	32	47	27.5	31.0				
	VCAP40-SIR20090-3DT	*VCAP40-SIR20090-16DT*		32.2	20	90	40	67	33	36.5				
	VCAP40-SIR24080-3DT	*VCAP40-SIR24080-16DT*		40.2	24	80	45	60	40	44.5				
	VCAP50-SIR12060-3DT	*VCAP50-SIR12060-16DT*	50	16.2	12	60	27	37	18.5	20.5	SN3T	-		-
	VCAP50-SIR14060-3DT	*VCAP50-SIR14060-16DT*		20.6	14	60	27	37	23	25.0	SA3T	SY3T		YI3
	VCAP50-SIR17070-3DT	*VCAP50-SIR17070-16DT*		26.2	17	70	32	47	27.5	30.5				
	VCAP50-SIR20090-3DT	*VCAP50-SIR20090-16DT*		32.2	20	90	40	67	33	36.5				
	VCAP50-SIR24105-3DT	*VCAP50-SIR24105-16DT*		40.2	24	105	45	82	40	44.5				
	VCAP63-SIR14070-3DT	*VCAP63-SIR14070-16DT*	63	20.5	14	70	27	45	23	25.0				
	VCAP63-SIR17075-3DT	*VCAP63-SIR17075-16DT*		26.2	17	75	32	50	27.5	31.0				
	VCAP63-SIR20090-3DT	*VCAP63-SIR20090-16DT*		32.2	20	90	40	65	33	36.5				
	VCAP63-SIR24105-3DT	*VCAP63-SIR24105-16DT*		40.2	24	105	45	80	40	44.5				

* All insert screws max. torque 2.0 Nm

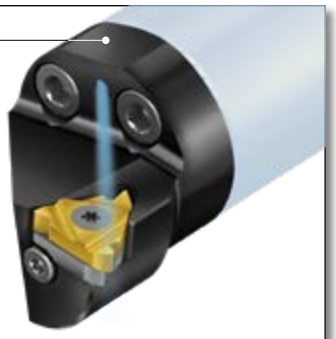


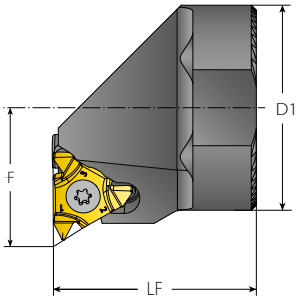
Internal Toolholders

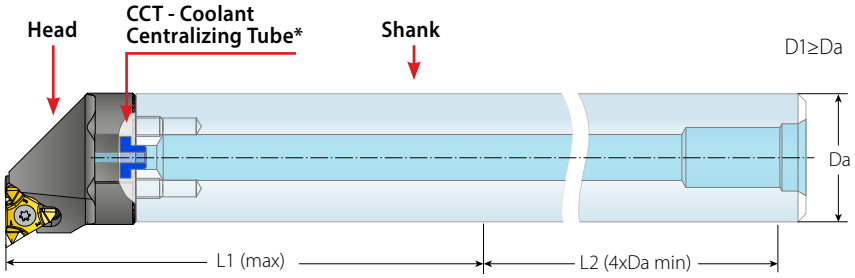




Flat surface to adjust the orientation of the shank







Shank not included

MACH TT Smooth Cut System

Insert Size	Ordering Code	Market Description	Dimensions mm							Spare Parts				
IC	RH		D1	Da mm	Da inch	F	L1 max	LF	Min. Bore Dia.	Insert Screw	Anvil Screw	Insert Key	Anvil	CCT - Coolant Centralizing Tube*
3/8"	VAS32-IR3222-3DT	*VAS32-IR3222-16**DT***	32.3	32	1.25"	22	160	32.25	40	SA3T (2.0 Nm)	SY3T	K3T	YI3	CCT12
	VAS40-IR3227-3DT	*VAS40-IR3227-16**DT***	40	40	1.50"	27	200	32.25	50					

* When assembling the CCT, it is recommended to use LOCTITE 648

Recommended Cutting Speeds Vc [m/min] for MACH TT

Material Group	Vargus No.	Material		Hardness Brinell HB	Vc [m/min] VK8
P Steel	1	Unalloyed Steel	Low Carbon (C=0.1-0.25%)	125	115-175
	2		Medium Carbon (C=0.25-0.55%)	150	100-165
	3		High Carbon (C=0.55-0.85%)	170	90-155
	4	Low Alloy Steel (alloying elements≤5%)	Non Hardened	180	100-165
	5		Hardened	275	75-130
	6		Hardened	350	70-125
	7	High Alloy Steel (alloying elements>5%)	Annealed	200	80-110
	8		Hardened	325	50-95
	9	Cast Steel	Low Alloy (alloying elements <5%)	200	70-120
	10		High Alloy (alloying elements >5%)	225	60-110
M Stainless Steel	11	Stainless Steel Ferritic	Non Hardened	200	70-120
	12		Hardened	330	60-105
	13	Stainless Steel Austenitic	Austenitic	180	90-130
	14		Super Austenitic	200	40-100
	15	Stainless Steel Cast Ferritic	Non Hardened	200	90-110
	16		Hardened	330	65-100
	17	Stainless Steel Cast Austenitic	Austenitic	200	85-100
	18		Hardened	330	60-100
K Cast Iron	28	Malleable Cast Iron	Ferritic (short chips)	130	60-70
	29		Pearlitic (long chips)	230	60-135
	30	Grey Cast Iron	Low Tensile Strength	180	70-120
	31		High Tensile Strength	260	60-105
	32	Nodular Sg Iron	Ferritic	160	125-145
	33		Pearlitic	260	90-110
N Non-Ferrous Metals	34	Aluminum Alloys Wrought	Non Aging	60	100-325
	35		Aged	100	80-205
	36	Aluminum Alloys	Cast	75	200-370
	37		Cast & Aged	90	200-260
	38	Aluminum Alloys	Cast Si 13-22%	130	60-165
	39	Copper and Copper Alloys	Brass	90	80-210
	40		Bronze And Non Leaded Copper	100	80-235
S Heat Resistant Material	19	High Temperature Alloys	Annealed (iron based)	200	45-60
	20		Aged (iron based)	280	30-50
	21		Annealed (nickel or cobalt based)	250	20-30
	22		Aged (nickel or cobalt based)	350	15-25
	23	Titanium Alloys	Pure 99.5 Ti	400Rm	140-160
	24		α+β Alloys	1050Rm	50-70
H Hardened Material	25	Extra Hard Steel	Hardened & Tempered	45-50HRc	45-60
	26			51-55HRc	40-50

Grade	Application	Sample
VK8	High wear resistance for general purpose applications. AlTiN+TiN PVD Coating	

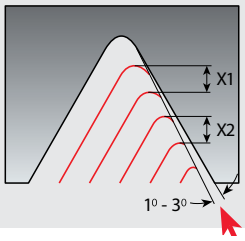
Number of Passes for MACH TT

Pitch	mm	0.70	0.75	1.00	1.25	1.50	1.75	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00
	TPI	36	32	24	20	16	14	12	10	8	7	6	5.5	5	4.5	4
No. of passes - MACH TT *		**2-4**	**2-4**	**2-4**	**3-4**	**3-4**	**4-6**	**4-6**	**5-7**	**5-7**	**6-8**	**6-8**	**7-9**	**8-10**	**9-12**	**11-14**
In comparison (for your reference): No. of passes for Standard tools		*(4-7)*	*(4-7)*	*(4-8)*	*(5-9)*	*(6-10)*	*(7-12)*	*(7-12)*	*(8-14)*	*(9-16)*	*(10-18)*	*(11-18)*	*(11-19)*	*(12-20)*	*(12-20)*	*(12-20)*

* For **internal** threading an additional pass is required.

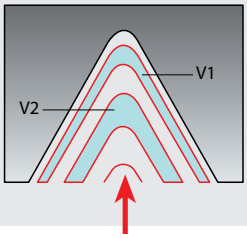
Infeed Methods and Type of Passes

MACH TT **3/8"** EX & IN Tools - **Flank Infeed method**



1. Use the flank infeed method (modified) with 1º - 3º.
2. Use the constant depth type of passes. X1 = X2

MACH TT **1/2"** EX Tools - **Radial Infeed method**

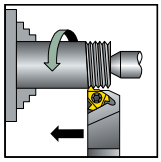


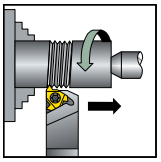
1. Use the Radial Infeed method.
2. Use the constant volume type of passes. V1 = V2

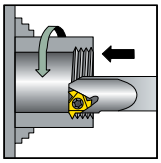
Thread Turning Methods for Symmetrical Inserts

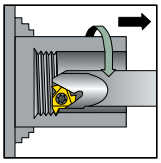
Thread	Inserts & Toolholder	Rotation	Feed Direction	Helix Method	Drawing
Right Hand External	EX RH	Counterclockwise	Towards chuck	Regular	1
Left Hand External	EX RH	Counterclockwise	From chuck	Reversed	6
Right Hand Internal	IN RH	Counterclockwise	Towards chuck	Regular	3
Left Hand Internal	IN RH	Clockwise	From chuck	Reversed	8

MACH TT tools are designed for Right Hand applications, but can also be used for Left Hand threads.


External RH (1)


External LH (6)


Internal RH (3)


Internal LH (8)

Anvils

	Resultant Helix Angle			2.5°	1.5°	0.5°
	Insert Size		Holder	Ordering Code		
	IC	L mm				
	3/8"	16	ER	YE3-1P	YE3	YE3-1N
	1/2"	22	ER	YE4-1P	YE4	YE4-1N
	3/8"	16	IR	YI3-1P	YI3	YI3-1N

Insert & Toolholder Combinations

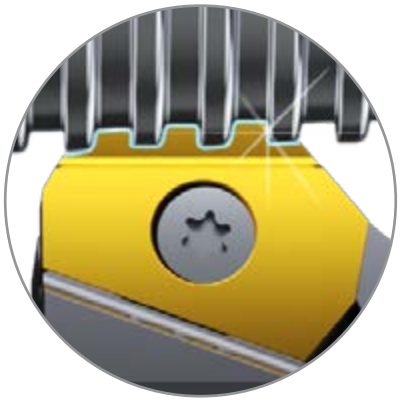
MACH TT Insert	Standard Insert
MACH TT Holder	✓✓✓ 	✗ 
Standard Holder	✓✓ 	✓ 

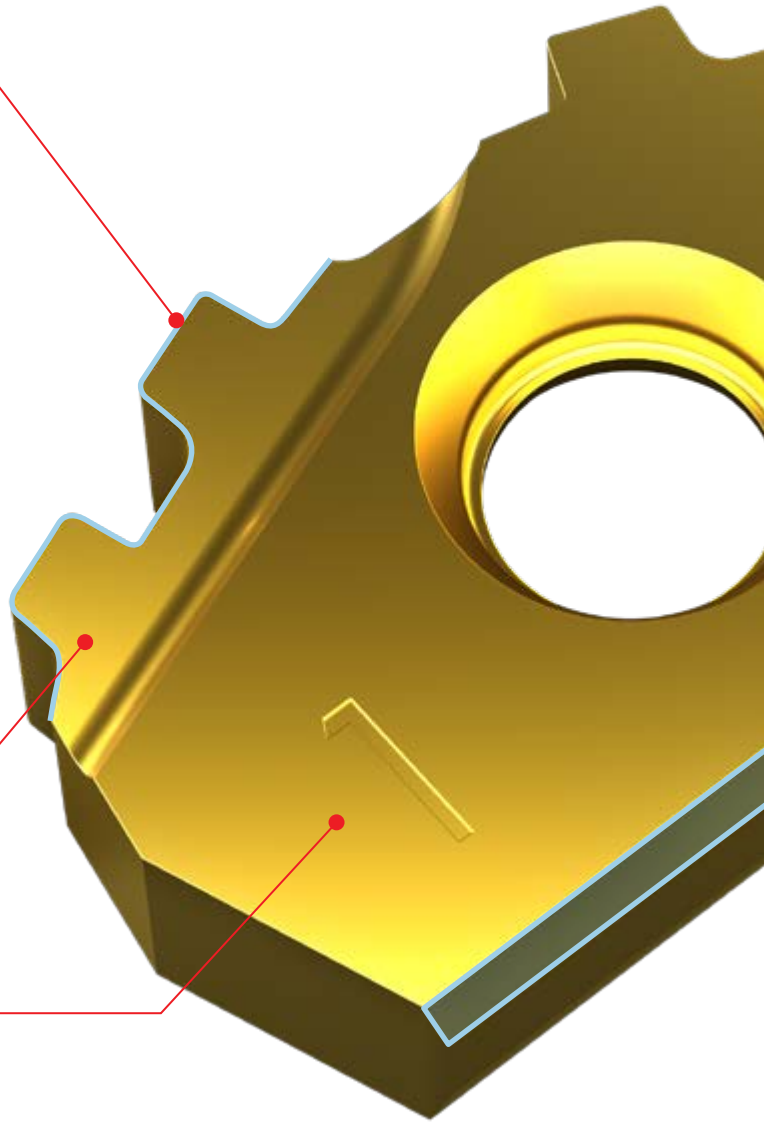
MACH toolholders are suitable with MACH inserts only
Standard toolholders can be used with MACH inserts **but is less recommended**

Features and Innovations

Improved Profile Design

Superior threading surface finish





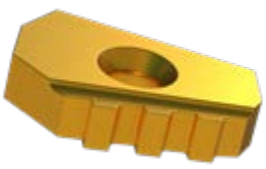
Improved Rake & Reinforced Geometry

For high resistance with a reduced number of passes

Versatile System

One holder can use either single-sided or double-sided inserts

25D
(double-sided)



25S
(single-sided)

UNMATCHED PRODUCTIVITY

Advanced Surface Treatment

Reinforced cutting edge and smooth surface finish

Advantages

- Decreased Number of Passes
- Reduced Machining Time
- Longer Tool Life

VK8 Grade

High wear resistance for general purpose applications

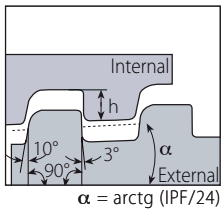
AlTiN + TiN PVD coating

Vargus Dovetail Clamping System

Super rigid - designed for high loads

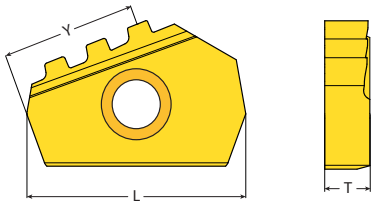
API Buttress Casing

External

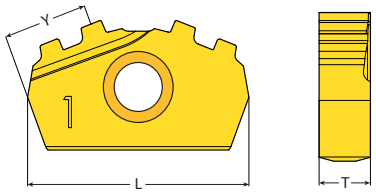


α = arctg (IPF/24)

Defined by: STD.5B.1979
Tolerance class: Standard API



25S



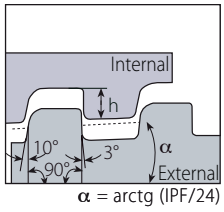
25D

External

Insert Style	Insert Size	Pitch		Teeth	Ordering Code	Size	Dimensions mm		Anvil	
	L mm	TPI	IPF		RH		h min	Y	T	RH	Toolholder
25S	25	5	0.75	3	25SER5BUT75-3TH...	4 1/2"- 13 3/8"	1.55	15.2	5	YE25M	ALC..-25DT
		5	1	3	25SER5BUT1-3TH...	16" - 20"	1.55	15.2			
25D		5	0.75	2	25DER5BUT75-2TH...	4 1/2"- 13 3/8"	1.55	9.5			
		5	1	2	25DER5BUT1-2TH...	16" - 20"	1.55	9.7			

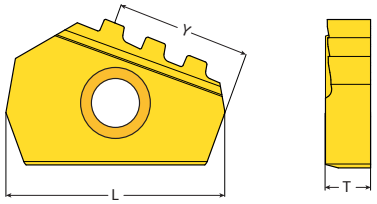
API Buttress Casing

Internal

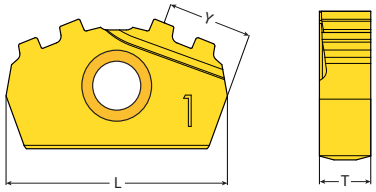


α = arctg (IPF/24)

Defined by: STD.5B.1979
Tolerance class: Standard API



25S



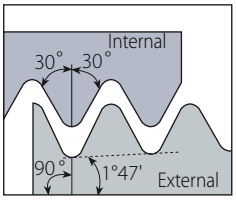
25D

Internal

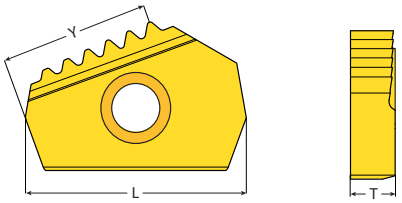
Insert Style	Insert Size	Pitch		Teeth	Ordering Code	Size	Dimensions mm		Anvil	
	L mm	TPI	IPF		RH		h min	Y	T	RH	Toolholder
25S	25	5	0.75	3	25SIR5BUT75-3TH...	4 1/2"- 13 3/8"	1.55	15.2	5	YI25M	AVRC..-25DT
		5	1	3	25SIR5BUT1-3TH...	16" - 20"	1.55	15.8			
25D		5	0.75	2	25DIR5BUT75-2TH...	4 1/2"- 13 3/8"	1.55	9.9			
		5	1	2	25DIR5BUT1-2TH...	16" - 20"	1.55	9.7			

API Round Casing & Tubing

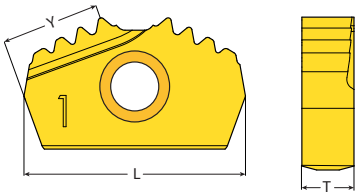
External



Defined by: API SPEC. 5B
Tolerance class: Standard API RD



25S



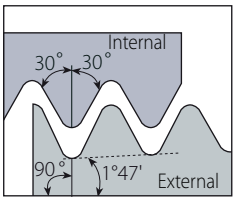
25D

External

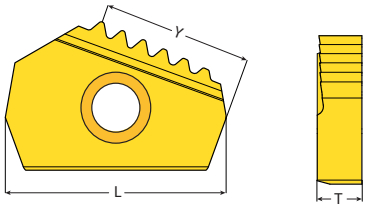
Insert Style	Insert Size	Pitch	Teeth	Ordering Code	Dimensions mm		Anvil		
	L mm	TPI		RH	h min	Y	T	RH	Toolholder
25S	25	10	4	25SER10APIRD-4TH...	1.41	11	5	YE25M	ALC..-25DT
		10	6	25SER10APIRD-6TH...	1.41	16.7			
		8	5	25SER8APIRD-5TH...	1.81	16.8			
25D		10	3	25DER10APIRD-3TH...	1.41	8.5			
		10	4	25DER10APIRD-4TH...	1.41	11.0			
		8	3	25DER8APIRD-3TH...	1.81	10.0			

API Round Casing & Tubing

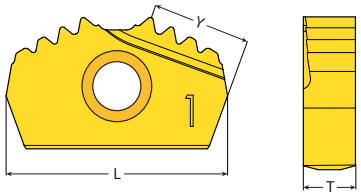
Internal



Defined by: API SPEC. 5B
Tolerance class: Standard API RD



25S



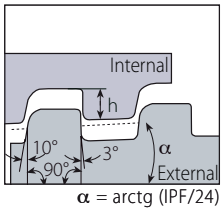
25D

Internal

Insert Style	Insert Size	Pitch	Teeth	Ordering Code	Dimensions mm		Anvil		
	L mm	TPI		RH	h min	Y	T	RH	Toolholder
25S	25	10	6	25SIR10APIRD-6TH...	1.41	16.5	5	YI25M	AVRC..-25DT
		10	4	25SIR10APIRD-4TH...	1.41	11.0			
		8	5	25SIR8APIRD-5TH...	1.81	16.2			
		8	4	25SIR8APIRD-4TH...	1.81	13.5			
25D		10	4	25DIR10APIRD-4TH...	1.41	11.0			
		10	3	25DIR10APIRD-3TH...	1.41	8.5			
		8	3	25DIR8APIRD-3TH...	1.81	8.5			

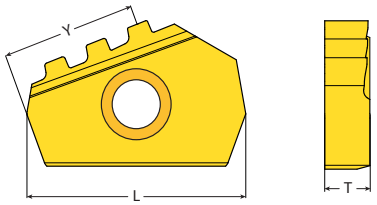
GOST (OTTM / OTTG)

External



α = arctg (IPF/24)

Defined by: Standard
Tolerance class: 632-80



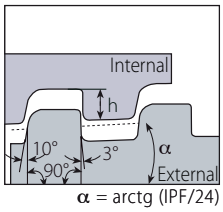
25S

External

Insert Style	Insert Size	Pitch	Teeth		Ordering Code	Dimensions mm			Anvil	
	L mm	TPI		IPF	RH	h min	Y	T	RH	Toolholder
25S	25	5	3	0.75	25SER5OTTM-3TH...	1.6	15.7	5	YE25M	ALC..-25DT

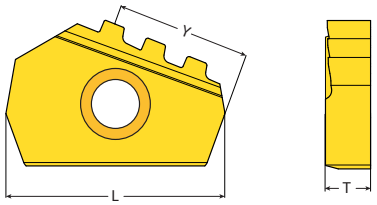
GOST (OTTM / OTTG)

Internal

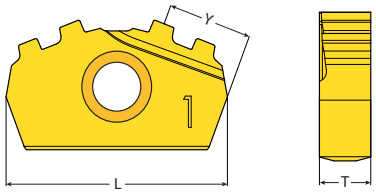


α = arctg (IPF/24)

Defined by: Standard
Tolerance class: 632-80



25S

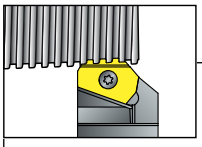


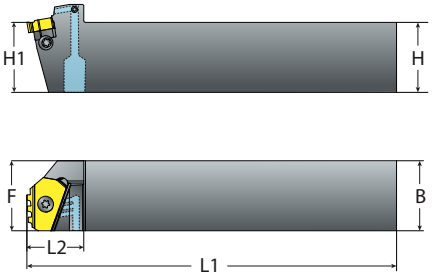
25D

Internal

Insert Style	Insert Size	Pitch		Teeth	Ordering Code	Dimensions mm			Anvil	
	L mm	TPI	IPF		RH	h min	Y	T	RH	Toolholder
25S	25	5	0.75	3	25SIR5OTTM-3TH...	1.6	14.3	5	YI25M	ALC..-25DT
25D				2	25DIR5OTTM-2TH...	1.6	9.5			

External Toolholders



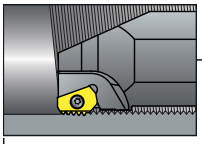


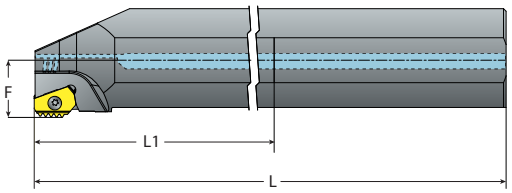
MACH 25* with Coolant

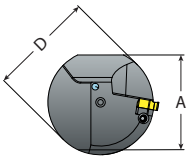
Insert Size	Ordering Code	Dimensions mm				Spare Parts			
	RH	H=H1=B	F	L1	L2	Insert Screw	Anvil Screw	Torx Key	Anvil RH
25	ALC25-25DT	25	30	150	26	SA4T	SY25TW	K6T	YE25M
	ALC32-25DT	32	32	170					
	ALC40-25DT	40	40	200					

* All MACH 25 style toolholders have a 0° helix angle

Internal Toolholders







MACH 25* with Coolant

Insert Size	Ordering Code	Dimensions mm						Spare Parts			
	RH	A	L	L1 max	D	F	Minimum Bore Ø	Insert Screw	Anvil Screw	Torx Key	Anvil
25	AVRC40-25DT	36	300	160	40	23.3	60	SA4T	SY25TW	K6T	YI25M
	AVRC50-25DT	45	350	200	50	28.3	70				
	AVRC60-25DT	54	400	240	60	33.3	80				

* All MACH 25 style toolholders have a 0° helix angle

Recommended Cutting Speeds Vc [m/min] for MACH 25

VARGUS GENius™ Tool Selector and CNC Program Generator

MACH 25

Material Group	Vargus No.	Material		Hardness Brinell HB	Vc [m/min] VK8
P Steel	1	Unalloyed Steel	Low Carbon (C=0.1-0.25%)	125	115-175
	2		Medium Carbon (C=0.25-0.55%)	150	100-165
	3		High Carbon (C=0.55-0.85%)	170	90-155
	4	Low Alloy Steel (alloying elements≤5%)	Non Hardened	180	100-165
	5		Hardened	275	75-130
	6		Hardened	350	70-125
	7	High Alloy Steel (alloying elements>5%)	Annealed	200	80-110
	8		Hardened	325	50-95
	9	Cast Steel	Low Alloy (alloying elements <5%)	200	70-120
	10		High Alloy (alloying elements >5%)	225	60-110
M Stainless Steel	11	Stainless Steel Ferritic	Non Hardened	200	70-120
	12		Hardened	330	60-105
	13	Stainless Steel Austenitic	Austenitic	180	90-130
	14		Super Austenitic	200	40-100
	15	Stainless Steel Cast Ferritic	Non Hardened	200	90-110
	16		Hardened	330	65-100
	17	Stainless Steel Cast Austenitic	Austenitic	200	85-100
	18		Hardened	330	60-100
K Cast Iron	28	Malleable Cast Iron	Ferritic (short chips)	130	60-70
	29		Pearlitic (long chips)	230	60-135
	30	Grey Cast Iron	Low Tensile Strength	180	70-120
	31		High Tensile Strength	260	60-105
	32	Nodular Sg Iron	Ferritic	160	125-145
	33		Pearlitic	260	90-110
N Non-Ferrous Metals	34	Aluminum Alloys Wrought	Non Aging	60	100-325
	35		Aged	100	80-205
	36	Aluminum Alloys	Cast	75	200-370
	37		Cast & Aged	90	200-260
	38	Aluminum Alloys	Cast Si 13-22%	130	60-165
	39	Copper and Copper Alloys	Brass	90	80-210
	40		Bronze And Non Leaded Copper	100	80-235
S Heat Resistant Material	19	High Temperature Alloys	Annealed (iron based)	200	45-60
	20		Aged (iron based)	280	30-50
	21		Annealed (nickel or cobalt based)	250	20-30
	22		Aged (nickel or cobalt based)	350	15-25
	23	Titanium Alloys	Pure 99.5 Ti	400Rm	140-160
	24		α+β Alloys	1050Rm	50-70
H Hardened Material	25	Extra Hard Steel	Hardened & Tempered	45-50HRc	45-60
	26			51-55HRc	40-50

Grade	Application	Sample
VK8	High wear resistance for general purpose applications. AlTiN+TiN PVD Coating	

Cutting Pass Division Recommendations for Multi Tooth Inserts

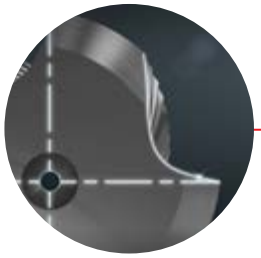
The following table provides the optimal cutting pass division options, depending on the material, machine stability and clamping conditions:

Application	No. of Passes/ Pass No.	1	2	3	4	5	6
APIRD 8 Ex, In	3 passes	0.89	0.81	0.11			
	4 passes	0.60	0.58	0.52	0.11		
	5 passes	0.47	0.47	0.43	0.33	0.11	
	6 passes	0.39	0.41	0.37	0.29	0.24	0.11
APIRD 10 Ex, In	3 passes	0.67	0.63	0.11			
	4 passes	0.44	0.45	0.41	0.11		
	5 passes	0.34	0.37	0.33	0.26	0.11	
	6 passes	0.28	0.32	0.29	0.22	0.19	0.11
BUT 5 Ex, In	3 passes	0.760	0.705	0.110			
	4 passes	0.506	0.501	0.458	0.110		
	5 passes	0.395	0.409	0.374	0.287	0.110	
	6 passes	0.329	0.353	0.324	0.249	0.210	0.110
OTTM 5 Ex , In OTTG 5 Ex , In	3 passes	0.760	0.730	0.110			
	4 passes	0.506	0.501	0.483	0.110		
	5 passes	0.395	0.409	0.374	0.312	0.110	
	6 passes	0.329	0.353	0.324	0.249	0.235	0.110

Anvils

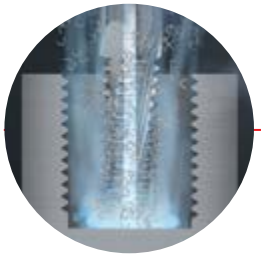
	Resultant Helix Angle			0°
	Insert Size		Holder	Ordering Code
	IC	L mm		
	25S/25D	25	ER	YE25M
	25S/25D	25	IR	YI25M

Features and Innovations



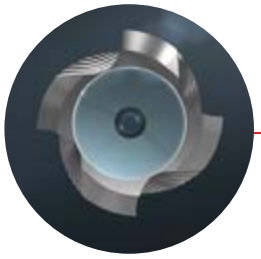
Improved Cutting Edge & Reinforced Geometry

For high loads



Coolant Thru

For better chip flow and surface finish

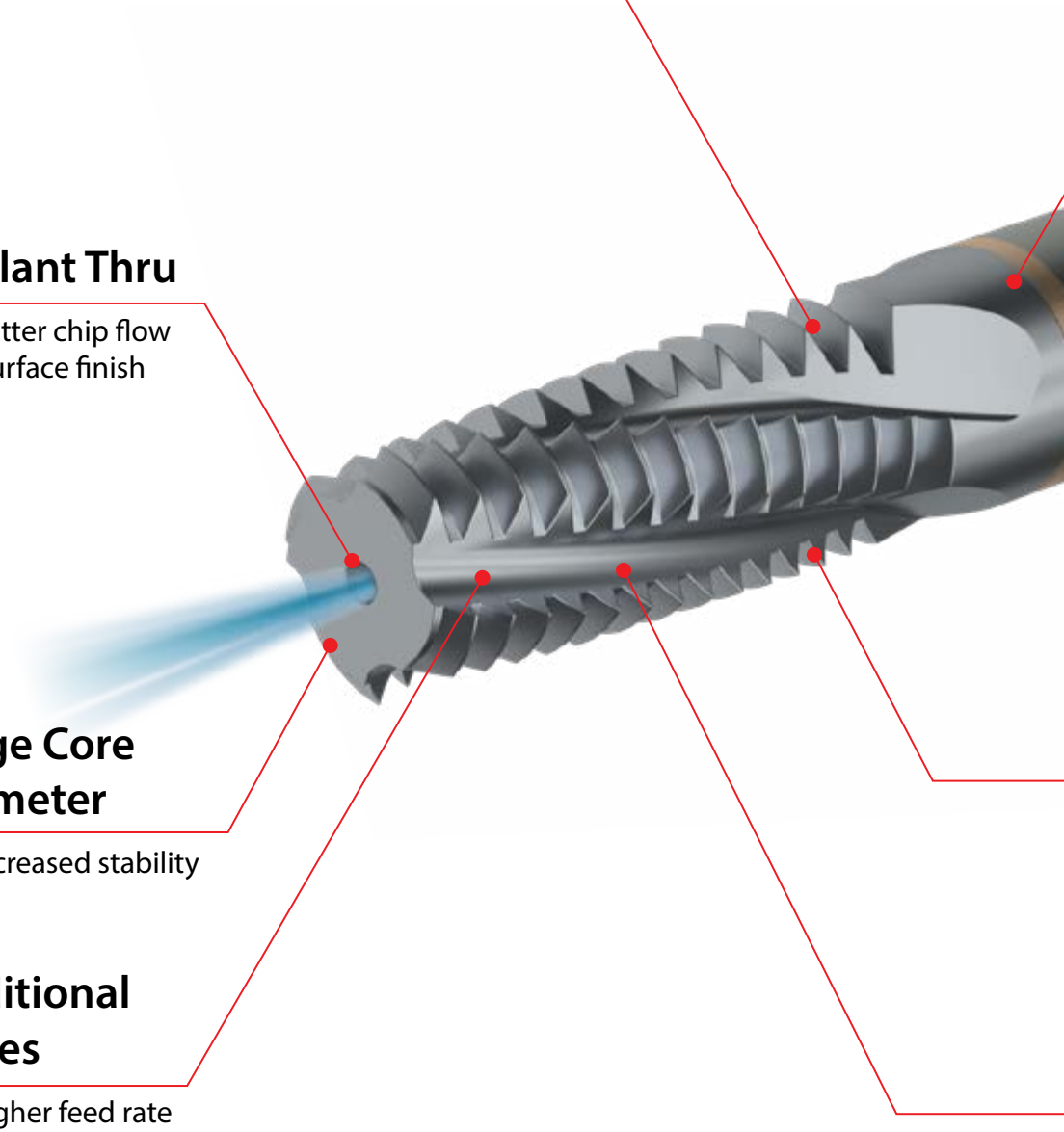


Large Core Diameter

For increased stability

Additional Flutes

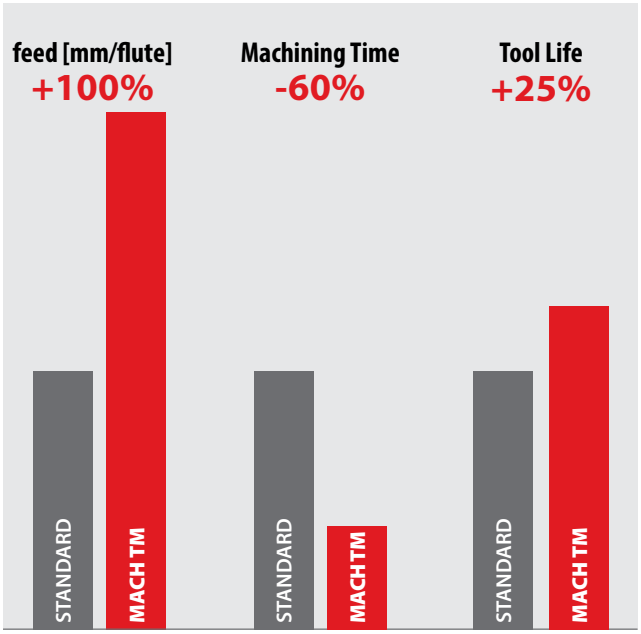
For higher feed rate



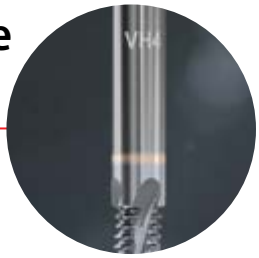
HIGH feed mm/flute

MACH TM

UNMATCHED PRODUCTIVITY



New Innovative VH4 Grade



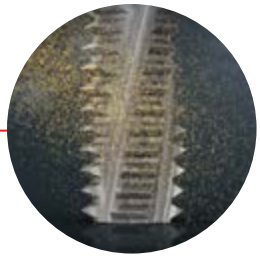
High wear resistance for general purpose applications - TiCN PVD Coating

Advantages

- High feed mm/flute
- Dramatically decreases machining time
- Extended tool life
- Excellent surface finish

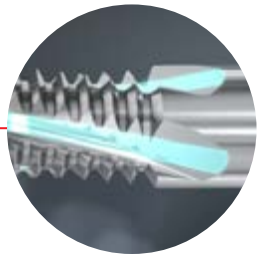
Advanced Surface Treatment

Reinforced cutting edge and improved surface finish



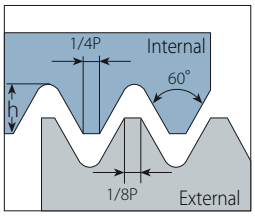
Optimal Flute Length

For higher rigidity and efficient chip evacuation

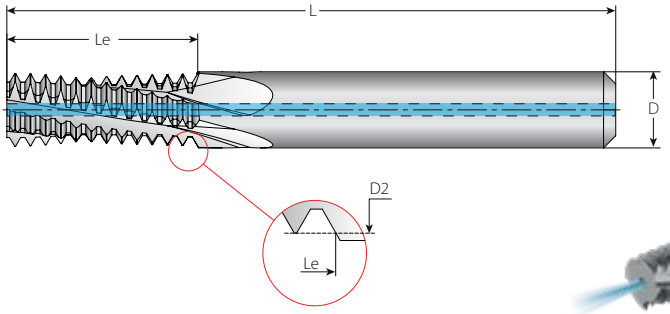


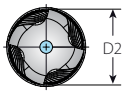
ISO Metric

Internal



Defined by: DIN 13
Tolerance class: 6H





Helical Flutes with Thru-Hole Coolant

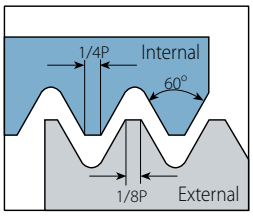
2 x Do (Le ≤ 2 x Thread Diameter)

Thread		Pitch	Ordering Code	Dimensions mm				No. of Flutes	Teeth	Bore Dia.**
M Coarse	M Fine	mm	Internal	D	D2	L	Le	Z	Zt	mm
M3x0.5	M3.5-M16x0.5	0.5	HCF03024L06-I0.50ISOTM4	3	2.4	28.0	6.2	4	12	2.5
	M4x0.5	0.5	HCF03029L08-I0.50ISOTM4...	3	2.9	28.0	8.2	4	16	3.5
M4x0.7		0.7	HCF03029L08-I0.70ISOTM4...	3	2.9	30.0	8.7	4	12	3.3
	M6x0.75	0.75	HCF05049L12-I0.75ISOTM4...	5	4.9	40.0	12.4	4	16	5.3
M5x0.8		0.8	HCF04039L10-I0.80ISOTM4...	4	3.9	35.0	10.8	4	13	4.2
M6x1.0	M8-M40x1.0	1.0	HCF05048L12-I1.00ISOTM4...	5	4.8	41.0	12.5	4	12	5.0
M8x1.25		1.25	HCF06059L16-I1.25ISOTM4...	6	5.9	61.0	16.9	4	13	6.8
M10x1.5	M12-M48x1.5	1.5	HCF08079L20-I1.50ISOTM4...	8	7.9	64.0	20.2	4	13	8.5
M12x1.75		1.75	HCF10099L25-I1.75ISOTM5...	10	9.9	73.0	25.4	5	14	10.2
M14x2.0	M17-M80x2.0	2.0	HCF12116L29-I2.00ISOTM5...	12	11.6	80.0	29.0	5	14	12.0
M16x2.0	M17-M80x2.0	2.0	HCF12119L33-I2.00ISOTM5...	12	11.9	92.0	33.0	5	16	14.0
M20x2.5		2.5	HCF16159L41-I2.50ISOTM5...	16	15.9	102.0	41.2	5	16	17.5

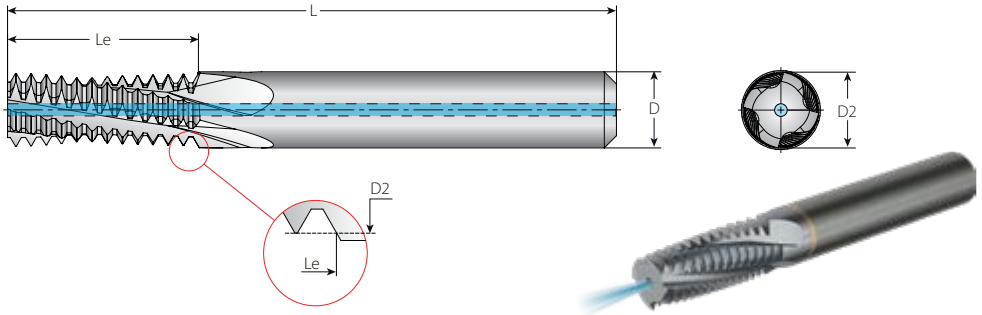
** Bore diameter applies to smallest thread dia.

American UN

Internal



Defined by: ANSI B1.1
Tolerance class: 2B



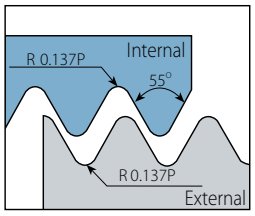
Helical Flutes with Thru-Hole Coolant

2 x Do (Le ≤ 2 x Thread Diameter)

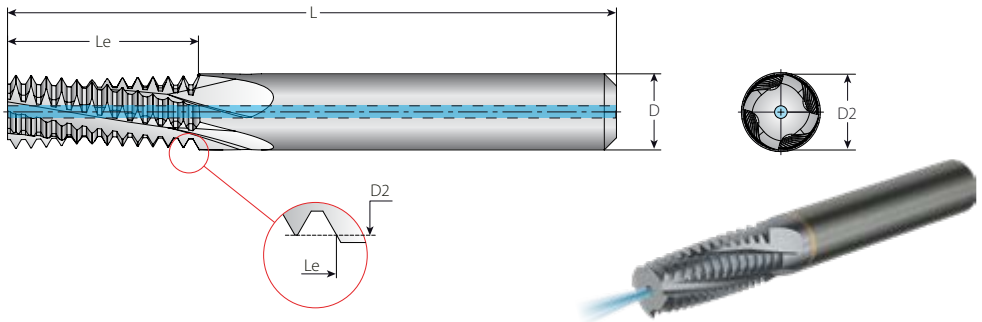
Thread			Pitch	Ordering Code	Dimensions mm				No. of Flutes	Teeth	Bore Dia.**
UNC	UNF	UNEF	TPI	Internal	D	D2	L	Le	Z	Zt	mm
	1/4"x28	7/16"-1/2"x28	28	HCF05049L13-I28UNTM4...	5	4.90	40	13.1	4	14	5.5
	5/16"; 3/8"x24	9/16"-11/16"x24	24	HCF06059L16-I24UNTM4...	6	5.90	59	16.4	4	15	6.8
	3/8"x24	9/16"-11/16"x24	24	HCF08079L19-I24UNTM4...	8	7.90	62	19.6	4	18	8.5
1/4"-20	7/16"; 1/2"x20	3/4"-1"x20	20	HCF05049L13-I20UNTM4...	5	4.90	41	13.3	4	10	5.2
	7/16",1/2"x20	3/4"-1"x20	20	HCF10096L22-I20UNTM4...	10	9.60	72	22.2	4	17	9.8
5/16"x18	9/16"; 5/8"x18	11/16"-1 11/16"x18	18	HCF06059L16-I18UNTM4...	6	5.90	59	16.2	4	11	6.5
3/8"x16	3/4"x16		16	HCF08076L19-I16UNTM4...	8	7.60	64	19.8	4	12	8.0
7/16"x14	7/8"x14		14	HCF08078L22-I14UNTM4...	8	7.80	67	22.7	4	12	9.3
1/2"x13			13	HCF10099L26-I13UNTM5...	10	9.90	75	26.4	5	13	10.8
9/16"x12	1"-1 1/2"x12		12	HCF12118L28-I12UNTM5...	12	11.80	83	28.6	5	13	12.3
5/8"x11			11	HCF14131L33-I11UNTM5...	14	13.10	90	33.5	5	14	13.5
3/4"x10			10	HCF16159L39-I10UNTM5...	16	15.90	98	39.4	5	15	16.5
1x8"			8	HCF20199L52-I8UNTM5...	20	19.90	107	52.4	5	16	22.0

BSP

External / Internal



Defined by: ISO228/1:1982
Tolerance class: Medium class



Helical Flutes with Thru-Hole Coolant

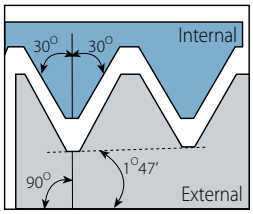
2 x Do (Le ≤ 2 x Thread Diameter)

Thread	Pitch	Ordering Code	Dimensions mm				No. of Flutes	Teeth	Bore Dia.
Standard	TPI	External / Internal	D	D2	L	Le	Z	Zt	mm
1/8"x28	28	HCF08079L19-EI28BSPTM4...	8	7.90	62	19.5	4	21	8.7
1/4"x19, 3/8"x19	19	HCF10099L27-EI19BSPTM5...	10	9.90	75	27.4	5	20	11.8, 15.2
1/2"x14, 3/4"x14	14	HCF16159L42-EI14BSPTM5...	16	15.90	99	42.6	5	23	19.0, 24.4

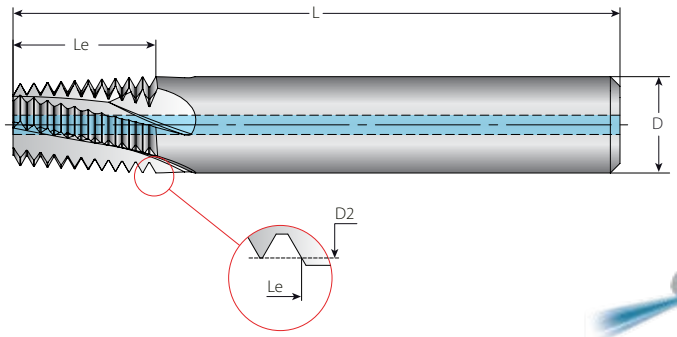
** Bore diameter applies to smallest thread dia.

NPT

External / Internal



Defined by: ANSI B.120.1-1983
Tolerance class: Standard NPT



Helical Flutes with Thru-Hole Coolant

Thread	Pitch	Ordering Code	Dimensions mm				No. of Flutes	Teeth	Bore Dia.
Standard	TPI	External / Internal	D	D2	L	Le	Z	Zt	mm
1/16"x27	27	HCF06059L09-EI27NPT-TM4...	6	5.90	53	9.9	4	10	6.3
1/8"x27	27	HCF08076L09-EI27NPT-TM4...	8	7.65	53	9.9	4	10	8.5
1/4"x18, 3/8"x18	18	HCF10099L14-EI18NPT-TM4...	10	9.90	63	14.8	4	10	11.1, 14.5
1/2"; 3/4"x14	14	HCF14139L19-EI14NPT-TM5...	14	13.90	75	19.0	5	10	17.7, 23.0
1", 1 1/4", 1 1/2", 2", x11.5	11.5	HCF18179L23-EI11.5NPT-TM5...	18	17.90	80	23.2	5	10	29.0, 37.7, 44.0, 56.0

Recommended Cutting Speeds Vc [m/min] and Feed f [mm/tooth] for MACH TM

Material Group	Vargus No.	Material		Hardness Brinell HB	Vc [m/min]	Feed f [mm/tooth]		
					VH4	D2≤4 mm	D2≤8 mm	D2>8 mm
P Steel	1	Unalloyed Steel	Low Carbon (C=0.1-0.25%)	125	80-250	0.04-0.08	0.09-0.13	0.06-0.20
	2		Medium Carbon (C=0.25-0.55%)	150	80-230	0.04-0.08	0.09-0.13	0.06-0.20
	3		High Carbon (C=0.55-0.85%)	170	80-200	0.04-0.08	0.09-0.13	0.06-0.20
	4	Low Alloy Steel (alloying elements≤5%)	Non Hardened	180	60-180	0.04-0.08	0.09-0.13	0.06-0.20
	5		Hardened	275	60-170	0.04-0.08	0.09-0.13	0.06-0.20
	6		Hardened	350	60-160	0.03-0.06	0.05-0.10	0.06-0.12
	7	High Alloy Steel (alloying elements>5%)	Annealed	200	40-100	0.04-0.08	0.09-0.13	0.06-0.20
	8		Hardened	325	30-80	0.03-0.06	0.05-0.10	0.06-0.12
	9	Cast Steel	Low Alloy (alloying elements <5%)	200	80-250	0.04-0.08	0.09-0.13	0.06-0.20
	10		High Alloy (alloying elements >5%)	225	60-170	0.04-0.08	0.09-0.13	0.06-0.20
M Stainless Steel	11	Stainless Steel Ferritic	Non Hardened	200	60-150	0.03-0.06	0.05-0.10	0.06-0.12
	12		Hardened	330	60-120	0.015-0.03	0.03-0.05	0.02-0.06
	13	Stainless Steel Austenitic	Austenitic	180	60-140	0.04-0.08	0.09-0.13	0.06-0.20
	14		Super Austenitic	200	60-130	0.03-0.06	0.05-0.10	0.06-0.12
	15	Stainless Steel Cast Ferritic	Non Hardened	200	60-160	0.03-0.06	0.05-0.10	0.06-0.12
	16		Hardened	330	60-110	0.03-0.06	0.05-0.10	0.06-0.12
	17	Stainless Steel Cast Austenitic	Austenitic	200	60-150	0.03-0.05	0.05-0.10	0.05-0.11
	18		Hardened	330	60-100	0.015-0.03	0.03-0.05	0.02-0.06
K Cast Iron	28	Malleable Cast Iron	Ferritic (short chips)	130	60-70	0.04-0.08	0.09-0.13	0.06-0.20
	29		Pearlitic (long chips)	230	60-150	0.04-0.08	0.09-0.13	0.06-0.20
	30	Grey Cast Iron	Low Tensile Strength	180	70-160	0.04-0.08	0.09-0.13	0.06-0.20
	31		High Tensile Strength	260	40-120	0.03-0.06	0.05-0.10	0.06-0.12
	32	Nodular Sg Iron	Ferritic	160	40-110	0.04-0.08	0.09-0.13	0.06-0.20
	33		Pearlitic	260	40-100	0.03-0.06	0.05-0.10	0.06-0.12
N Non-Ferrous Metals	34	Aluminum Alloys Wrought	Non Aging	60	200-300	0.06-0.11	0.10-0.17	0.09-0.20
	35		Aged	100	150-250	0.03-0.09	0.05-0.12	0.05-0.14
	36	Aluminum Alloys	Cast	75	100-200	0.06-0.11	0.10-0.17	0.09-0.20
	37		Cast & Aged	90	120-220	0.03-0.09	0.05-0.12	0.05-0.14
	38	Aluminum Alloys	Cast Si 13-22%	130	200-300	0.06-0.11	0.10-0.17	0.09-0.20
	39	Copper and Copper Alloys	Brass	90	200-300	0.06-0.11	0.10-0.17	0.09-0.20
	40		Bronze And Non Leaded Copper	100	150-250	0.03-0.09	0.05-0.12	0.05-0.14
S Heat Resistant Material	19	High Temperature Alloys	Annealed (iron based)	200	30-60	0.03-0.06	0.05-0.10	0.06-0.12
	20		Aged (iron based)	280	20-50	0.015-0.03	0.03-0.05	0.02-0.06
	21		Annealed (nickel or cobalt based)	250	15-35	0.015-0.03	0.03-0.05	0.02-0.06
	22		Aged (nickel or cobalt based)	350	15-30	0.015-0.03	0.03-0.05	0.02-0.06
	23	Titanium Alloys	Pure 99.5 Ti	400Rm	40-80	0.015-0.03	0.03-0.05	0.02-0.06
	24		α+β Alloys	1050Rm	20-50	0.015-0.03	0.03-0.05	0.02-0.06

Pitch		No. of Passes
mm	TPI	
≤1.75	≥14	1
≥1.75-2.0	≤14-12	2
≥2.0	≤12	Multi-passes

VARGUS GENius™ Tool Selector and CNC Program Generator

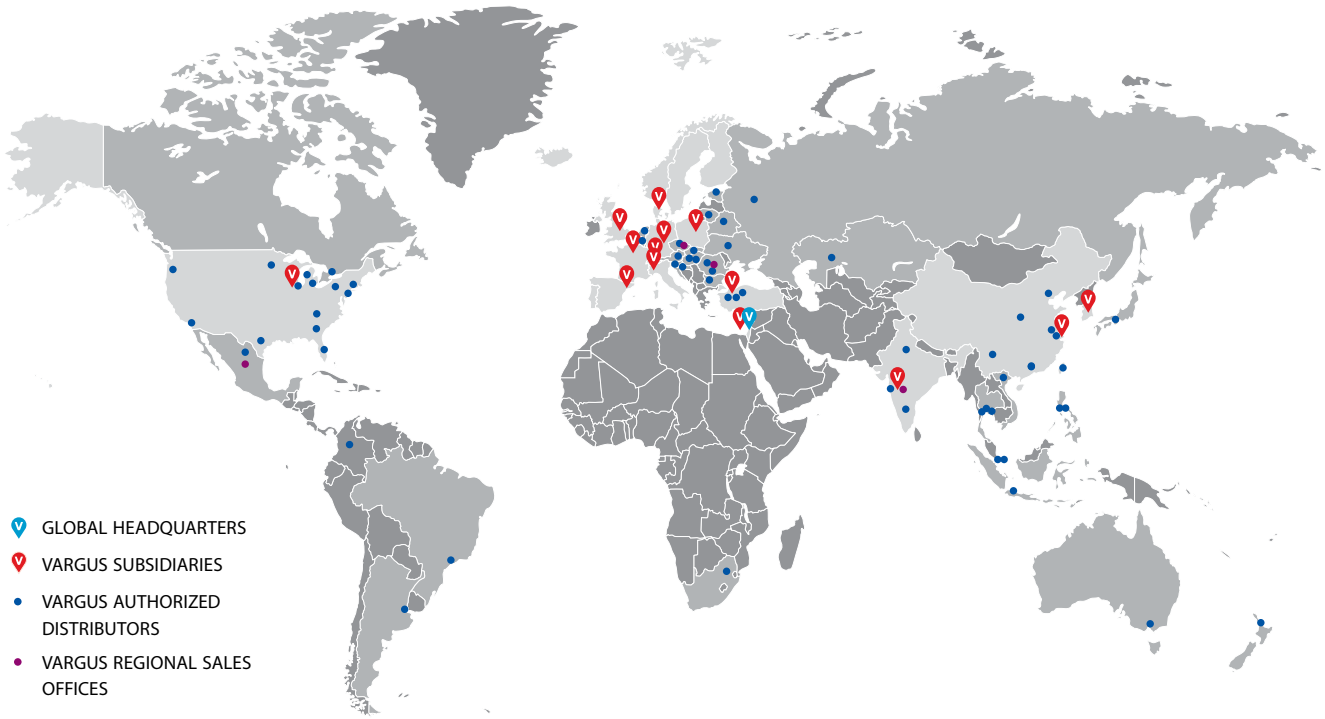
Grade	Application	Sample
VH4	High wear resistance for general purpose applications. TiCN PVD Coating	

When using the higher feed of the range [mm/tooth], we recommend increasing the depth of the pre-drilled hole by 2-3 pitches.

vargus WORLDWIDE

NEUMO Ehrenberg Group

With a network of 14 international companies and hundreds of distributors, warehouses and certified ISO 9001 manufacturing facilities, VARGUS Ltd. serves customers in more than 100 countries around the globe. A customer-focused organization, VARGUS Ltd. is committed to providing innovative products and solutions of the highest quality and excellent value, and is renowned for its technical expertise and uncompromising service.



VARGUS Ltd. - Global Headquarters | ISRAEL +972 4 9855 101 | mrktg@vargus.com

EUROPE

VARGUS Scandinavia
vargus@vargus.dk

VARGUS France
commercial@vargus.fr

VARGUS Germany
info@vargus.de

NEUMO-VARGUS
neumo@neumo-vargus.co.il

VARGUS Novatea
info@novatea.it

VARGUS Poland
vargus@neumo.pl

VARGUS Ibérica
sales@vargus.es

VARGUS Switzerland
info@vargus.ch

VARGUS Turkey
ugurc@vargus.com

VARGUS Tooling UK
tooling.uk@vargustooling.co.uk

Romania Sales Office
sales-ro@vargus.com

Czech Republic & Slovakia Sales Office
sales-czsk@vargus.com

ASIA

VARGUS China
info@varguschina.net

VARGUS India
info@vargusindia.com

VARGUS Korea
info@varguskorea.co.kr

Asia Pacific Sales Office
prasadp@vargus.com

NORTH AMERICA

VARGUS USA
sales@vargususa.com

Mexico Sales Office
sales-mx@vargus.com

221-01847
METRIC EE
03/2024
EDITION 06