VARGUS

Multi plus

Multi-tooth inserts for high-volume production.

Available in three styles

M+ Style

2-3 teeth

Z+ Style

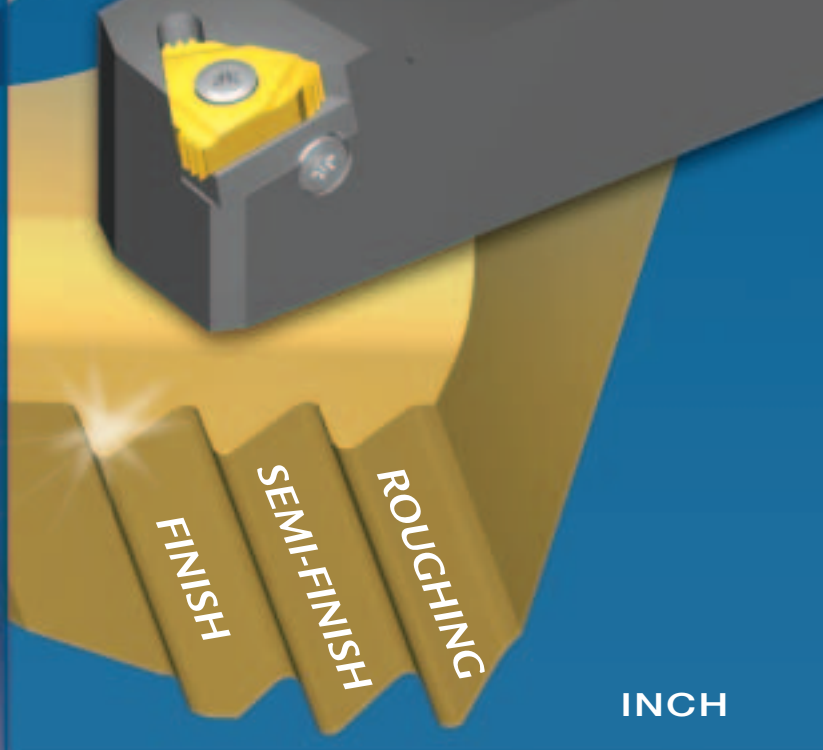
2 teeth

T+ Style

Up to 8 teeth

NEW *Improved design!*

- Fewer passes for higher productivity
- Optimal distribution of cutting load
- Longer tool life



INCH

VARDEX Threading Solutions

ISO Metric

External

M+ Style

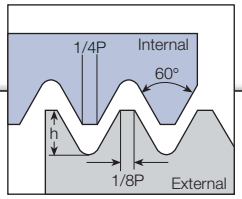
T+ Style

Insert Size IC	L inch	Pitch mm	Teeth	Ordering Code RH	h min	X	Y	Anvil RH	Toolholder
3/8"	.63	1.0	3	3ER1.0ISO3M+...	.024	.07	.10	YE3M	AL..-3
		1.5	2	3ER1.5ISO2M+...	.036	.06	.09		
		2.0	2	3ER2.0ISO2M+...	.048	.08	.12		
1/2"	.87	1.5	3	4ER1.5ISO3M+...	.036	.10	.15	YE4M	AL..-4
		2.0	2	4ER2.0ISO2M+...	.048	.08	.12		
		2.0	3	4ER2.0ISO3M+...	.048	.13	.20		
		2.5	2	4ER2.5ISO2M+...	.060	.10	.15		
1/2"T	.87	2.0	8	4ER2.0ISO8T+...	.048	.01	.69	Y4T	AL..-4T

Internal

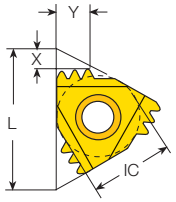
M+ Style

Insert Size IC	L inch	Pitch mm	Teeth	Ordering Code RH	h min	X	Y	Anvil RH	Toolholder
3/8"	.63	1.0	3	3IR1.0ISO3M+...	.023	.07	.10	YI3M	AVR..-3
		1.5	2	3IR1.5ISO2M+...	.034	.06	.09		
		2.0	2	3IR2.0ISO2M+...	.045	.08	.12		
1/2"	.87	2.0	2	4IR2.0ISO2M+...	.045	.08	.12	YI4M	AVR..-4
		2.0	3	4IR2.0ISO3M+...	.045	.13	.20		

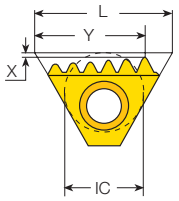


Defined by: R262 (DIN 13)
Tolerance class: 6g/6H

External

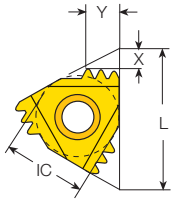


M+ Style



T+ Style

Internal



M+ Style

American UN

External

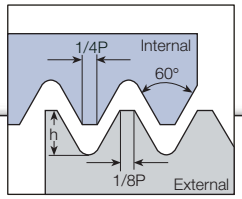
M+ Style

Insert Size IC	L inch	tpi	Teeth	Ordering Code RH	h min	X	Y	Anvil RH	Toolholder
3/8"	.63	20	3	3ER20UN3M+...	.031	.09	.13	YE3M	AL..-3
		18	3	3ER18UN3M+...	.034	.09	.14		
		16	2	3ER16UN2M+...	.038	.07	.10		
		14	2	3ER14UN2M+...	.044	.07	.11		
		12	2	3ER12UN2M+...	.051	.09	.13		
1/2"	.87	16	3	4ER16UN3M+...	.038	.10	.16	YE4M	AL..-4
		12	2	4ER12UN2M+...	.051	.09	.13		
		12	3	4ER12UN3M+...	.051	.13	.21		
		11	2	4ER11UN2M+...	.056	.09	.14		
		10	2	4ER10UN2M+...	.061	.10	.15		
5/8"	1.06	8	2	5ER8UN2M+...	.077	.12	.19	YE5M	AL..-5M

Internal

M+ Style

Insert Size IC	L inch	tpi	Teeth	Ordering Code RH	h min	X	Y	Anvil RH	Toolholder
3/8"	.63	12	2	3IR12UN2M+...	.048	.09	.13	YI3M	AVR..-3
		16	2	3IR16UN2M+...	.036	.07	.10		
1/2"	.87	16	3	4IR16UN3M+...	.036	.10	.16	YI4M	AVR..-4
		12	2	4IR12UN2M+...	.048	.09	.13		
		12	3	4IR12UN3M+...	.048	.13	.21		
5/8"	1.06	8	2	5IR8UN2M+...	.072	.12	.19	YI5M	AVR..-5M



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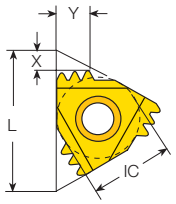
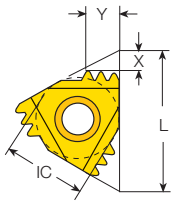


M+ Style

Internal



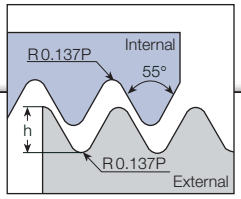
M+ Style

Whitworth for BSW, BSP

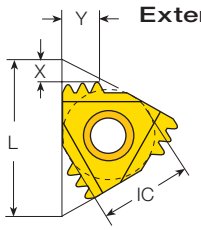
External

M+ Style

Insert Size		Pitch	Teeth	Ordering Code	Dimensions inch			Anvil	
IC	L inch	tpi		RH	h min	X	Y	RH	Toolholder
3/8"	.63	19	3	3ER19W3M+...	.034	.09	.13	YE3M	AL..-3
		14	2	3ER14W2M+...	.046	.08	.12		
1/2"	.87	14	3	4ER14W3M+...	.046	.11	.18	YE4M	AL..-4
		11	2	4ER11W2M+...	.058	.09	.14		



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

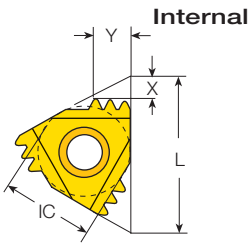


M+ Style

Internal

M+ Style

Insert Size		Pitch	Teeth	Ordering Code	Dimensions inch			Anvil	
IC	L inch	tpi		RH	h min	X	Y	RH	Toolholder
3/8"	.63	14	2	3IR14W2M+...	.046	.08	.12	YI3M	AVR..-3
1/2"	.87	11	2	4IR11W2M+...	.058	.09	.14	YI4M	AVR..-4



M+ Style

NPT

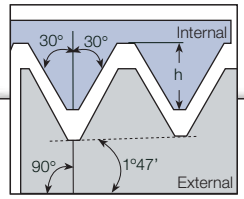
External

M+ Style

Insert Size		Pitch	Teeth	Ordering Code	Dimensions inch			Anvil	
IC	L inch	tpi		RH	h min	X	Y	RH	Toolholder
1/2"	.87	11.5	2	4ER11.5NPT2M+...	.065	.09	.13	YE4M	AL..-4
5/8"	1.06	11.5	3	5ER11.5NPT3M+...	.065	.14	.22	YE5M	AL..-5M
		8	2	5ER8NPT2M+...	.095	.12	.19		

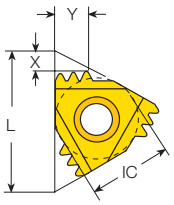
Z+ Style

1/2"	.87	11.5	2	4ER11.5NPT2Z+...	.065	.11	.39	YE4Z	AL..-4Z
		8	2	4ER8NPT2Z+...	.095	.13	.38		

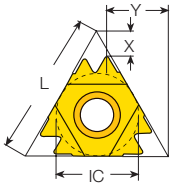


Defined by: USAS B2.1:1968
Tolerance class: Standard NPT

External



M+ Style



Z+ Style

Internal

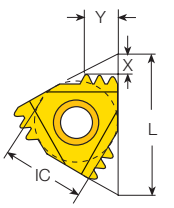
M+ Style

Insert Size		Pitch	Teeth	Ordering Code	Dimensions inch			Anvil	
IC	L inch	tpi		RH	h min	X	Y	RH	Toolholder
1/2"	.87	11.5	2	4IR11.5NPT2M+...	.065	.09	.13	YI4M	AVR..-4
5/8"	1.06	11.5	3	5IR11.5NPT3M+...	.065	.14	.22	YI5M	AVR..-5M
		8	2	5IR8NPT2M+...	.095	.12	.19		

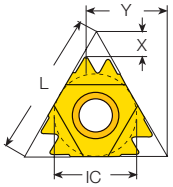
Z+ Style

1/2"	.87	11.5	2	4IR11.5NPT2Z+...	.065	.11	.39	YI4Z	AVR..-4Z
		8	2	4IR8NPT2Z+...	.095	.13	.38		

Internal



M+ Style



Z+ Style

API Buttress Casing

External

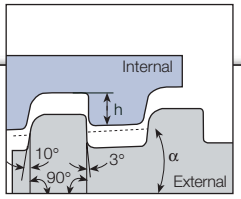
T+ Style

Insert Size		Pitch	Teeth	Ordering Code	Dimensions inch			Anvil	
IC	L inch	tpi		RH	h min	X	Y	RH	Toolholder
1/2"T	.87	5	3	4ER5BUT753T+...	.061	.004	.63	Y4T	AL..-4T

Internal

T+ Style

Insert Size		Pitch	Teeth	Ordering Code	Dimensions inch			Anvil	
IC	L inch	tpi		RH	h min	X	Y	RH	Toolholder
1/2"T	.87	5	3	4IR5BUT753T+...	.061	.004	.63	Y4T	AVR..-4T



α = arctg (IPF/24)

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

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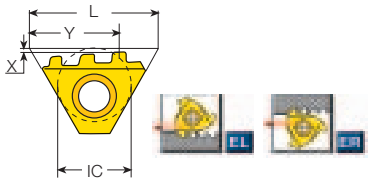
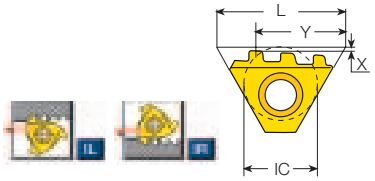


T+ Style

Internal



T+ Style

API Round Casing & Tubing

External

M+ Style

Insert Size		Pitch	Teeth	Ordering Code	Dimensions inch			Anvil	
IC	L inch	tpi		RH	h min	X	Y	RH	Toolholder
5/8"	1.06	10	3	5ER10APIRD3M+...	.056	.15	.25	YE5M	AL..-5M
		8	2	5ER8APIRD2M+...	.071	.11	.18		

T+ Style

1/2"T	.87	8	3	4ER8APIRD3T+...	.071	.01	.56	Y4T	AL..-4T
		8	5	4ER8APIRD5T+...	.071	.01	.66		

Internal

M+ Style

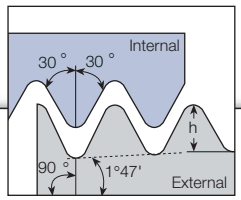
Insert Size		Pitch	Teeth	Ordering Code	Dimensions inch			Anvil	
IC	L inch	tpi		RH	h min	X	Y	RH	Toolholder
1/2"	.87	10	2	4IR10APIRD2M+...	.056	.09	.15	YI4M	AVR..-4
5/8"	1.06	10	3	5IR10APIRD3M+...	.056	.15	.25	YI5M	AVR..-5M
		8	2	5IR8APIRD2M+...	.071	.11	.18		

Z+ Style

1/2"	.87	8	2	4IR8APIRD2Z+...	.071	.15	.38	YI4Z	AVR..-4Z

T+ Style

1/2"T	.87	8	5	4IR8APIRD5T+...	.071	.01	.66	Y4T	AVR..-4T



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Tolerance class: Standard API RD

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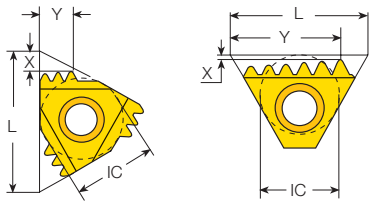
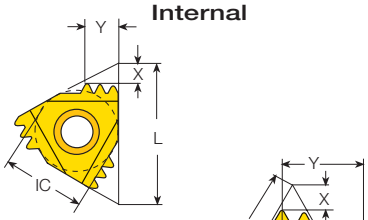
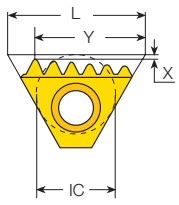


M+ Style T+ Style

Internal

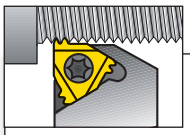


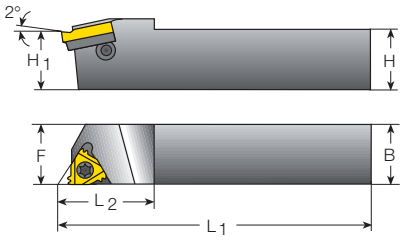
M+ Style Z+ Style



T+ Style

External Toolholders



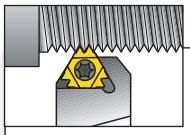


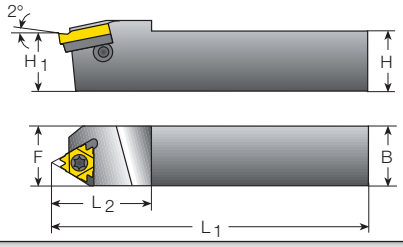
M Style

Insert Size	Ordering Code	Dimensions Inch				Spare Parts				
IC		H=H1=B	F	L1	L2	Insert Screw	Anvil Screw	Torx Key	Anvil RH	Anvil LH
5/8"M	AL125-5M	1.25	1.25	7.00	1.57	SA5T	SY5T	K5T	YE5M	YI5M
	AL150-5M	1.50	1.50	8.00	1.57					
	AL200-5M	2.00	2.00	10.00	1.57					

All M Style toolholders have a 1.5° helix angle.

External Toolholders



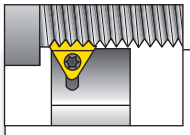


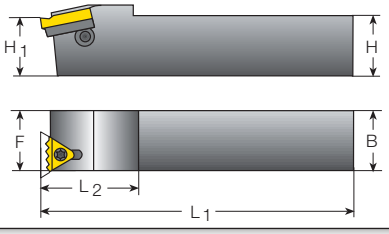
Z Style

Insert Size	Ordering Code	Dimensions Inch				Spare Parts				
IC		H=H1=B	F	L1	L2	Insert Screw	Anvil Screw	Torx Key	Anvil RH	Anvil LH
1/2"Z	AL125-4Z	1.25	1.25	7.00	1.52	SA4T	SY4T	K4T	YE4Z	YI4Z
	AL150-4Z	1.50	1.50	8.00	1.52					
5/8"Z	AL125-5Z	1.25	1.25	7.00	1.57	SA5T	SY5T	K5T	YE5Z	YI5Z
	AL150-5Z	1.50	1.50	8.00	1.57					
	AL200-5Z	2.00	2.00	10.00	1.57					

All Z Style toolholders have a 1.5° helix angle.

External Toolholders



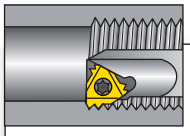


T Style

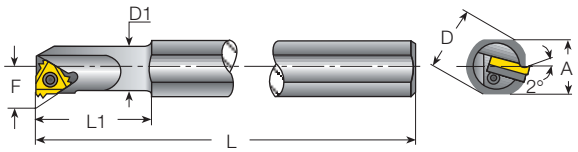
Insert Size	Ordering Code	Dimensions Inch				Spare Parts				
IC		H=H1=B	F	L1	L2	Insert Screw	Anvil Screw	Insert Torx Key	Anvil Torx Key	Anvil RH/LH
1/2"T	AL100-4T	1.00	1.08	6.00	1.2	SA4T	SY4K2	K4T	K2	Y4T
	AL125-4T	1.25	1.33	7.00	1.2					
	AL150-4T	1.50	1.58	8.00	1.2					

All T Style toolholders have a 0° helix angle.

For the complete list of VARDEX toolholders, see our main catalogue.



Internal Toolholders



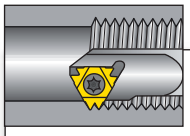
M Style

Insert Size	Ordering Code	Dimensions Inch						Min. bore dia
IC		A	L	L1	D	D1	F	Inch
5/8"M	AVR125-5M	1.12	10.0	2.50	1.25	1.25	.88	1.55
	AVR150-5M	1.34	12.0	2.50	1.50	1.50	1.00	1.80
	AVR200-5M	1.80	14.0	3.00	2.00	2.00	1.25	2.30
	AVR250-5M	2.26	16.0	3.00	2.50	2.50	1.50	2.80

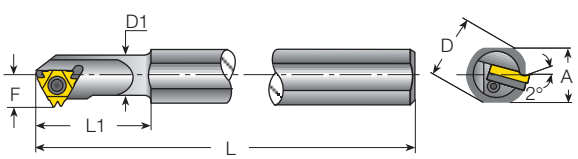
Spare Parts

Insert Screw	Anvil Screw	Torx Key	Anvil RH	Anvil LH
SA5T	SY5T	K5T	YI5M	YE5M

All M style toolholders have a 1.5° helix angle.
Holders with coolant channel available as standard. Sample order: AVRC 125-5M



Internal Toolholders



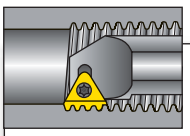
Z Style

Insert Size	Ordering Code	Dimensions Inch						Min. bore dia
IC		A	L	L1	D	D1	F	Inch
1/2"Z	AVR125-4Z	1.12	10.0	2.50	1.25	1.25	1.01	1.65
	AVR150-4Z	1.34	12.0	2.50	1.50	1.50	1.12	1.90
5/8"Z	NVR125-5Z	1.12	10.0	2.50	1.25	1.25	.98	1.65
	AVR150-5Z	1.34	12.0	2.50	1.50	1.50	1.13	1.90
	AVR200-5Z	1.80	14.0	3.00	2.00	2.00	1.37	2.40
	AVR250-5Z	2.26	16.0	3.00	2.50	2.50	1.61	2.90

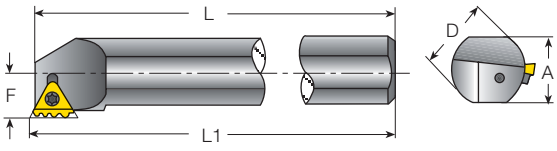
Spare Parts

Insert Screw	Anvil Screw	Torx Key	Anvil RH	Anvil LH
SA4T	SY4T	K4T	YI4Z	YE4Z
SA5T	SY5T	K5T	YI5Z	YE5Z

All Z style toolholders have a 1.5° helix angle.
Holders with coolant channel available as standard. Sample order: AVRC 125-4Z



Internal Toolholders



T Style

Insert Size	Ordering Code	Dimensions Inch					Min. bore dia
IC		A	L	L1	D	F	Inch
1/2"T	AVR150-4T	1.34	12.0	12.078	1.50	.88	2.40
	AVR200-4T	1.80	14.0	14.079	2.00	1.13	2.75
	AVR250-4T	2.26	16.0	16.079	2.50	1.38	3.25

Spare Parts

Insert Screw	Anvil Screw	Torx Key	Anvil Torx Key	Anvil RH/LH
SA4T	SY4K2	K4T	K2	Y4T

All T style toolholders have a 0° helix angle.
Holders with coolant channel available as standard. Sample order: AVRC 150-4T

Number of Passes and Depth of Cut Per Pass for MultiPlus Inserts

NEW!

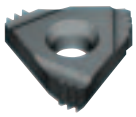
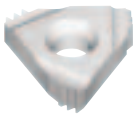
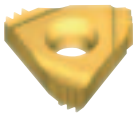
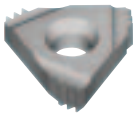
Standard	Insert Type	Insert Size		Pitch	Teeth	Ordering Code	Passes	Depth of cut per pass			
		IC	L inch			RH		1	2	3	4
ISO External	M+	3/8"	.63	1.0 mm	3	3ER1.0ISO3M+...	2	.013	.012		
				1.5 mm	2	3ER1.5ISO2M+...	3	.013	.012	.011	
				2.0 mm	2	3ER2.0ISO2M+...	3	.018	.016	.015	
	M+	1/2"	.87	1.5 mm	3	4ER1.5ISO3M+...	2	.019	.018		
				2.0 mm	2	4ER2.0ISO2M+...	3	.018	.016	.015	
				2.0 mm	3	4ER2.0ISO3M+...	2	.025	.023		
				2.5 mm	2	4ER2.5ISO2M+...	4	.018	.017	.015	.014
	T+	1/2"T	.87	2.0 mm	8	4ER2.0ISO8T+...	1	.048			
ISO Internal	M+	3/8"	.63	1.0 mm	3	3IR1.0ISO3M+...	2	.012	.011		
				1.5 mm	2	3IR1.5ISO2M+...	3	.012	.011	.011	
				2.0 mm	2	3IR2.0ISO2M+...	3	.017	.015	.014	
	M+	1/2"	.87	2.0 mm	2	4IR2.0ISO2M+...	3	.017	.015	.014	
				2.0 mm	3	4IR2.0ISO3M+...	2	.023	.022		
UN External	M+	3/8"	.63	20 tpi	3	3ER20UN3M+...	2	.016	.015		
				18 tpi	3	3ER18UN3M+...	2	.018	.017		
				16 tpi	2	3ER16UN2M+...	3	.014	.013	.012	
				14 tpi	2	3ER14UN2M+...	3	.017	.015	.015	
				12 tpi	2	3ER12UN2M+...	3	.019	.017	.016	
	M+	1/2"	.87	16 tpi	3	4ER16UN3M+...	2	.020	.019		
				12 tpi	2	4ER12UN2M+...	3	.019	.017	.016	
				12 tpi	3	4ER12UN3M+...	2	.026	.025		
				11 tpi	2	4ER11UN2M+...	4	.017	.015	.014	.013
				10 tpi	2	4ER10UN2M+...	4	.018	.017	.016	.014
	M+	5/8"	1.06	8 tpi	2	5ER8UN2M+...	4	.022	.020	.019	.016
UN Internal	M+	3/8"	.63	12 tpi	2	3IR12UN2M+...	3	.018	.015	.015	
				16 tpi	2	3IR16UN2M+...	3	.013	.012	.011	
	M+	1/2"	.87	16 tpi	3	4IR16UN3M+...	2	.019	.017		
				12 tpi	2	4IR12UN2M+...	3	.018	.015	.015	
				12 tpi	3	4IR12UN3M+...	2	.025	.023		
	M+	5/8"	1.06	8 tpi	2	5IR8UN2M+...	4	.020	.019	.017	.015
BSW External	M+	3/8"	.63	19 tpi	3	3ER19W3M+...	2	.018	.016		
				14 tpi	2	3ER14W2M+...	3	.017	.015	.014	
	M+	1/2"	.87	14 tpi	3	4ER14W3M+...	2	.024	.022		
				11 tpi	2	4ER11W2M+...	4	.017	.015	.014	.012
BSW Internal	M+	3/8"	.63	14 tpi	2	3IR14W2M+...	3	.017	.015	.014	
	M+	1/2"	.87	11 tpi	2	4IR11W2M+...	4	.017	.015	.014	.012
NPT External	M+	1/2"	.87	11.5 tpi	2	4ER11.5NPT2M+...	4	.018	.017	.017	.016
	M+	5/8"	1.06	11.5 tpi	3	5ER11.5NPT3M+...	4	.019	.017	.017	.015
				8 tpi	2	5ER8NPT2M+...	4	.028	.025	.024	.021
	Z+	1/2"	.87	11.5 tpi	2	4ER11.5NPT2Z+...	4	.018	.017	.017	.016
				8 tpi	2	4ER8NPT2Z+...	4	.028	.025	.024	.021
NPT Internal	M+	1/2"	.87	11.5 tpi	2	4IR11.5NPT2M+...	4	.018	.017	.017	.016
	M+	5/8"	1.06	11.5 tpi	3	5IR11.5NPT3M+...	4	.019	.017	.017	.015
				8 tpi	2	5IR8NPT2M+...	4	.028	.025	.024	.021
	Z+	1/2"	.87	11.5 tpi	2	4IR11.5NPT2Z+...	4	.018	.017	.017	.016
				8 tpi	2	4IR8NPT2Z+...	4	.028	.025	.024	.021
API BUT External	T+	1/2"	.87	5 tpi	3	4ER5BUT753T+...	3	.022	.020	.020	
API BUT Internal	T+	1/2"	.87	5 tpi	3	4IR5BUT753T+...	3	.022	.020	.020	
API RD External	M+	5/8"	1.06	10 tpi	3	5ER10APIRD3M+...	2	.029	.027		
				8 tpi	2	5ER8APIRD2M+...	3	.026	.024	.023	
	T+	1/2"	.87	8 tpi	3	4ER8APIRD3T+...	2	.037	.035		
				8 tpi	5	4ER8APIRD5T+...	2	.037	.035		
API RD Internal	M+	1/2"	.87	10 tpi	2	4IR10APIRD2M+...	3	.020	.018	.018	
	M+	5/8"	1.06	10 tpi	3	5IR10APIRD3M+...	3	.019	.019	.019	
				8 tpi	2	5IR8APIRD2M+...	3	.026	.024	.023	
	Z+	1/2"	.87	8 tpi	2	4IR8APIRD2Z+...	3	.026	.024	.023	
	T+	1/2"	.87	8 tpi	5	4IR8APIRD5T+...	2	.037	.035		

Multi plus

Recommended Grades and Cutting Speeds Vc [ft/min]

	Material		Hardness Brinell HB	Vc [ft/min]			
				Coated			Uncoated
				VTX	VM7	VKX	VK2
P	Unalloyed steel	Medium carbon (0.25-0.55 %)	150	328-574		394-590	
P	Low alloy steel	Non hardened	180	279-476		328-508	
M	Stainless steel	Austenitic	180	295-459	295-525	230-328	
K	Aluminum alloys	Non aging	60	328-1197		328-787	328-820

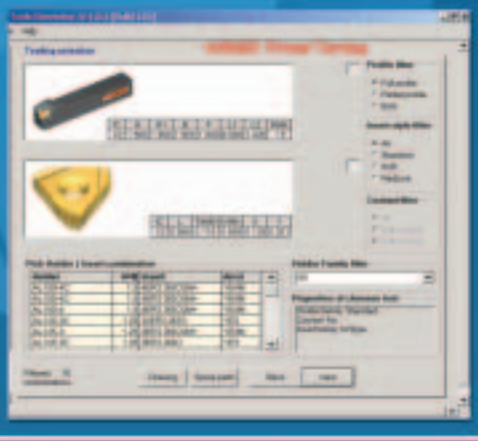
Grades and Applications

Grade	Application	Sample
VTX	A tough sub-micron substrate with TiAlN coating for general use. Provides fracture toughness and excellent wear resistance.	
VM7	Premium grade for stainless steel. Extra tough coating. Special multi-layer PVD coating guaranteeing higher resistance to wear in Stainless Steel application.	
VKX	High hardness substrate for steels, stainless steel, non ferrous & aluminum. Recommended for rigid machine conditions. TiN coating.	
VK2	The uncoated grade for nonferrous, aluminum, high temperature and titanium alloys.	

TT Gen - Thread Turning Tool Selection Software

VARGUS' new TT Gen software guides you to the right thread turning tool and the best cutting conditions for your application in seconds. For TT Gen updates, see www.vargus.com

Take the guesswork out of threading!



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