



FLINE

Fixed Clamping System



METRIC

FLINE

Fixed Clamping System



All internal toolholders
come with coolant thru

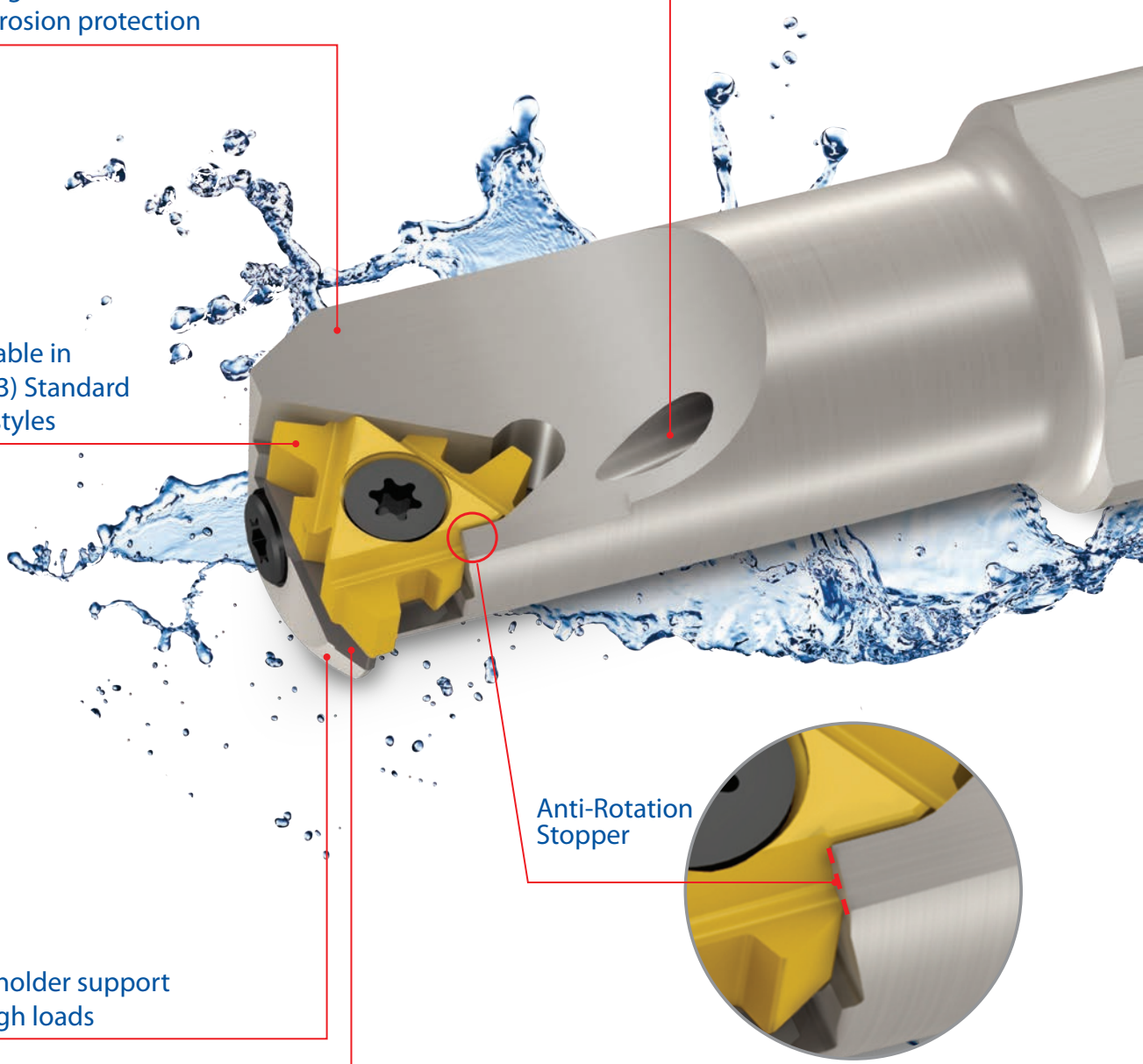
Nickel coating for better wear resistance
and anti-corrosion protection

Inserts available in
IC 1/2" F (13.3) Standard
and Multi+ styles

Anti-Rotation
Stopper

Unique toolholder support
suited for high loads

Reinforced anvil - Extra support
for the cutting corner



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VARGUS GENiUS™ Tool Selector and CNC Program Generator

The most popular and advanced thread turning and thread milling software on the market today.

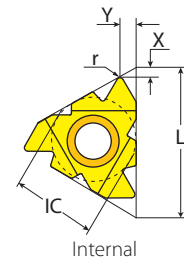
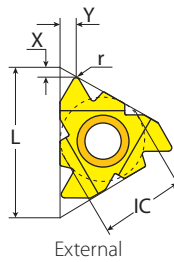
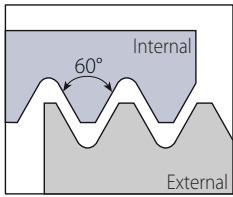


Now available in 3 Versions at www.vargus.com



Partial Profile 60°

External / Internal



External



Insert Size		Pitch		Ordering Code	Dimensions mm			Anvil	Toolholder
IC	L mm	mm	tpi	RH	r	X	Y	RH	Toolholder
1/2" F	23	3.5-5.0	7-5	4FERN60...	0.53	1.7	2.5	YE4F	AL...-4F

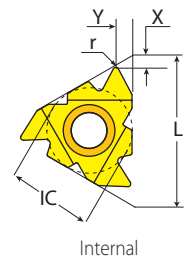
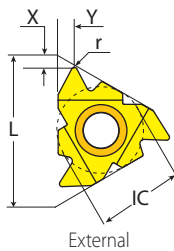
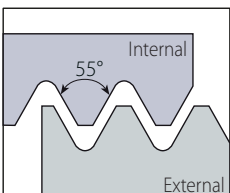
Internal



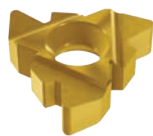
Insert Size		Pitch		Ordering Code	Dimensions mm			Anvil	Toolholder
IC	L mm	mm	tpi	RH	r	X	Y	RH	Toolholder
1/2" F	23	3.5-5.0	7-5	4FIRN60...	0.3	1.7	2.5	YI4F	AVRC...-4F

Partial Profile 55°

External / Internal

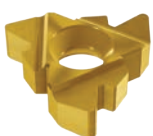


External



Insert Size		Pitch		Ordering Code	Dimensions mm			Anvil	Toolholder
IC	L mm	mm	tpi	RH	r	X	Y	RH	Toolholder
1/2" F	23	3.5-5.0	7-5	4FERN55...	0.43	1.7	2.5	YE4F	AL...-4F

Internal



Insert Size		Pitch		Ordering Code	Dimensions mm			Anvil	Toolholder
IC	L mm	mm	tpi	RH	r	X	Y	RH	Toolholder
1/2" F	23	3.5-5.0	7-5	4FIRN55...	0.43	1.7	2.5	YI4F	AVRC...-4F

ISO Metric

External / Internal

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

External Standard



Insert Size		Pitch	Ordering Code	Dimensions mm			Anvil	
IC	L mm	mm	RH	h min	X	Y	RH	Toolholder
1/2" F	23	3.5	4FER3.5ISO...	2.15	1.6	2.3	YE4F	AL...-4F
		4.0	4FER4.0ISO...	2.45	1.6	2.3		
		4.5	4FER4.5ISO...	2.76	1.7	2.4		
		5.0	4FER5.0ISO...	3.07	1.7	2.5		
		5.5	4FER5.5ISO...	3.37	1.9	2.7		
		6.0	4FER6.0ISO...	3.68	1.8	2.7		

Internal Standard



Insert Size		Pitch	Ordering Code	Dimensions mm			Anvil	
IC	L mm	mm	RH	h min	X	Y	RH	Toolholder
1/2" F	23	3.5	4FIR3.5ISO...	2.02	1.6	2.3	YI4F	AVRC...-4F
		4.0	4FIR4.0ISO...	2.31	1.6	2.3		
		4.5	4FIR4.5ISO...	2.60	1.6	2.4		
		5.0	4FIR5.0ISO...	2.89	1.6	2.3		
		5.5	4FIR5.5ISO...	3.18	1.6	2.3		
		6.0	4FIR6.0ISO...	3.46	1.8	2.5		

External M+ Style



Insert Size		Pitch	Teeth	Ordering Code	Dimensions mm			Anvil	
IC	L mm	mm		RH	h min	X	Y	RH	Toolholder
1/2" F	23	2.0	2	4FER2.0ISO 2M+...	1.23	2.1	3.1	YE4M2F	AL...-4MF
		2.0	3	4FER2.0ISO 3M+...	1.23	3.2	5.1	YE4M3F	

Internal M+ Style

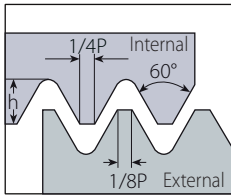


Insert Size		Pitch	Teeth	Ordering Code	Dimensions mm			Anvil	
IC	L mm	mm		RH	h min	X	Y	RH	Toolholder
1/2" F	23	2.0	2	4FIR2.0ISO2M+...	1.15	2	3.1	YI4M2F	AVRC...-4MF

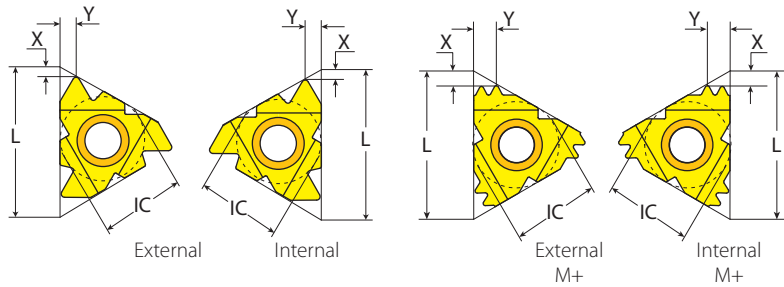


American UN - UNC, UNF, UNEF, UNS

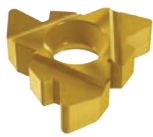
External / Internal



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



External Standard



Insert Size		Pitch	Ordering Code	Dimensions mm			Anvil	
IC	L mm	tpi	RH	h min	X	Y	RH	Toolholder
1/2" F	23	7	4FER7UN...	2.22	1.6	2.3	YE4F	AL...-4F
		6	4FER6UN...	2.6	1.6	2.3		
		5	4FER5UN...	3.12	1.7	2.5		

Internal Standard



Insert Size		Pitch	Ordering Code	Dimensions mm			Anvil	
IC	L mm	tpi	RH	h min	X	Y	RH	Toolholder
1/2" F	23	7	4FIR7UN...	2.09	1.6	2.3	YI4F	AVRC...-4F
		6	4FIR6UN...	2.44	1.6	2.3		
		5	4FIR5UN...	2.93	1.6	2.3		

External M+ Style



Insert Size		Pitch	Teeth	Ordering Code	Dimensions mm			Anvil	
IC	L mm	tpi		RH	h min	X	Y	RH	Toolholder
1/2" F	23	16	3	4FER16UN3M+...	0.97	2.6	4.1	YE4M3F	AL...-4MF
		12	3	4FER12UN3M+...	1.3	3.4	5.4		
		12	2	4FER12UN2M+...	1.3	2.2	3.3	YE4M2F	
		10	2	4FER10UN2M+...	1.56	2.5	3.9		

Internal M+ Style



Insert Size		Pitch	Teeth	Ordering Code	Dimensions mm			Anvil	
IC	L mm	tpi		RH	h min	X	Y	RH	Toolholder
1/2" F	23	12	2	4FIR12UN2M+...	1.22	2.2	3.3	YI4M2F	AVRC...-4MF

Whitworth - BSW, BSP, BSF, BSB

External / Internal

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

External Standard



Insert Size		Pitch	Ordering Code	Dimensions mm			Anvil	Toolholder
IC	L mm	tpi	RH	h min	X	Y	RH	Toolholder
1/2" F	23	7	4FER7W...	2.41	1.6	2.6	YE4F	AL...-4F
		6	4FER6W...	2.71	1.6	2.3		
		5	4FER5W...	3.25	1.7	2.4		

Internal Standard



Insert Size		Pitch	Ordering Code	Dimensions mm			Anvil	Toolholder
IC	L mm	tpi	RH	h min	X	Y	RH	Toolholder
1/2" F	23	7	4FIR7W...	2.41	1.6	2.3	YI4F	AVRC...-4F
		6	4FIR6W...	2.71	1.6	2.3		
		5	4FIR5W...	3.25	1.7	2.4		

External M+ Style



Insert Size		Pitch	Teeth	Ordering Code	Dimensions mm			Anvil	Toolholder
IC	L mm	tpi		RH	h min	X	Y	RH	Toolholder
1/2" F	23	11	2	4FER11W2M+...	1.48	2.3	3.5	YE4M2F	AL...-4MF

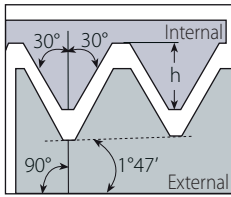
Internal M+ Style



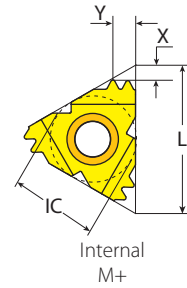
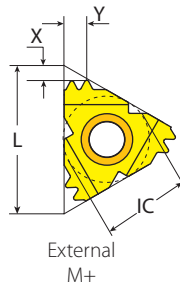
Insert Size		Pitch	Teeth	Ordering Code	Dimensions mm			Anvil	Toolholder
IC	L mm	tpi		RH	h min	X	Y	RH	Toolholder
1/2" F	23	11	2	4FIR11W2M+...	1.48	2.3	3.5	YI4M2F	AVRC...-4MF

NPT

External / Internal



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



External M+ Style



Insert Size		Pitch	Teeth	Ordering Code	Dimensions mm			Anvil		
IC	L mm	tpi		RH	h min	X	Y	RH	Toolholder	
1/2" F	23	11.5	2	4FER11.5NPT2M+...	1.64	2.2	3.4	YE4M2F	AL...-4MF	

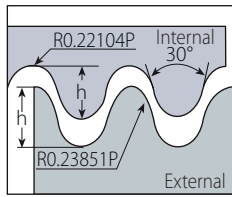
Internal M+ Style



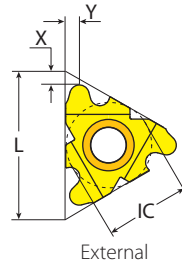
Insert Size		Pitch	Teeth	Ordering Code	Dimensions mm			Anvil		
IC	L mm	tpi		RH	h min	X	Y	RH	Toolholder	
1/2" F	23	11.5	2	4FIR11.5NPT2M+...	1.64	2.2	3.4	YI4M2F	AVRC...-4MF	

Round (DIN 405)

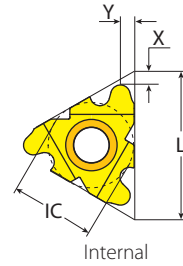
External / Internal



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



External



Internal

External Standard



Insert Size		Pitch	Ordering Code	Dimensions mm			Anvil		
IC	L mm	tpi	RH	h min	X	Y	RH	Toolholder	
1/2" F	23	6	4FER6RD...	2.12	1.5	1.7	YE4F	AL...-4F	
		4	4FER4RD...	3.18	2.2	2.3			

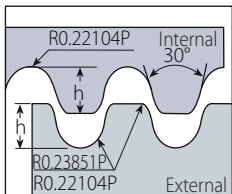
Internal Standard



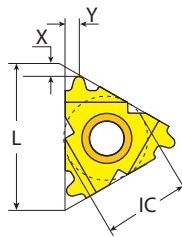
Insert Size		Pitch	Ordering Code	Dimensions mm			Anvil		
IC	L mm	tpi	RH	h min	X	Y	RH	Toolholder	
1/2" F	23	6	4FIR6RD...	2.12	1.5	1.7	YI4F	AVRC...-4F	
		4	4FIR4RD...	3.18	2.2	2.3			

Round (DIN 20400)

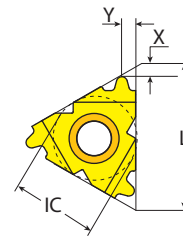
External / Internal



Defined by: DIN 20400
Tolerance class: Standard



External



Internal

External Standard



Insert Size		Pitch	Ordering Code	Dimensions mm			Anvil		
IC	L mm	mm	RH	h min	X	Y	RH	Toolholder	
1/2" F	23	3	4FER3.ORD20400...	1.65	1.3	1.7	YE4F	AL...-4F	
		4	4FER4.ORD20400...	2.2	1.6	2.2			
		5	4FER5.ORD20400...	2.75	1.4	1.7			
		6	4FER6.ORD20400...	3.3	1.7	2.1			

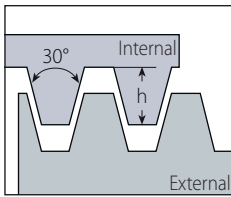
Internal Standard



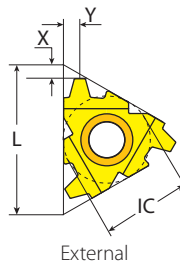
Insert Size		Pitch	Ordering Code	Dimensions mm			Anvil		
IC	L mm	mm	RH	h min	X	Y	RH	Toolholder	
1/2" F	23	3	4FIR3.ORD20400...	1.65	1.3	1.7	YI4F	AVRC...-4F	
		4	4FIR4.ORD20400...	2.2	1.6	2.2			
		5	4FIR5.ORD20400...	2.75	1.4	1.7			
		6	4FIR6.ORD20400...	3.3	1.7	2.1			

Trapez

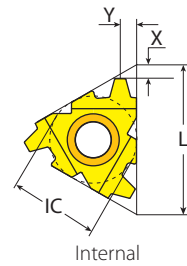
External / Internal



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



External



Internal

External Standard



Insert Size		Pitch	Ordering Code	Dimensions mm			Anvil	
IC	L min	mm	RH	h min	X	Y	RH	Toolholder
1/2" F	23	4	4FER4.0TR...	2.25	1.7	1.9	YE4F	AL...-4F
		5	4FER5.0TR...	2.75	2.1	2.5		
		6	4FER6.0TR...	3.5	2.3	2.7		

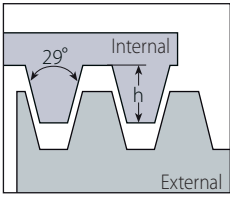
Internal Standard



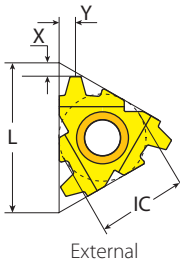
Insert Size		Pitch	Ordering Code	Dimensions mm			Anvil	
IC	L min	mm	RH	h min	X	Y	RH	Toolholder
1/2" F	23	4	4FIR4.0TR...	2.25	1.7	1.9	YI4F	AVRC...-4F
		5	4FIR5.0TR...	2.75	2.1	2.5		
		6	4FIR6.0TR...	3.5	2.3	2.7		

American ACME

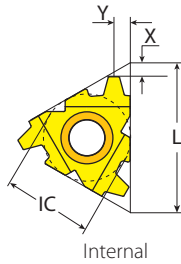
External / Internal



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



External



Internal

External Standard



Insert Size		Pitch	Ordering Code	Dimensions mm			Anvil	
IC	L min	tpi	RH	h min	X	Y	RH	Toolholder
1/2" F	23	6	4FER6ACME...	2.37	1.8	2.1	RH	AL...-4F
		5	4FER5ACME...	2.79	2	2.3	YE4F	

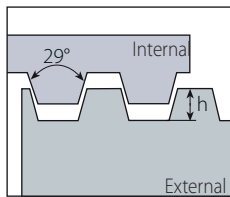
Internal Standard



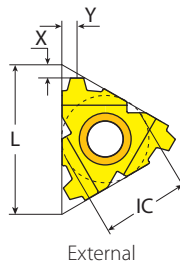
Insert Size		Pitch	Ordering Code	Dimensions mm			Anvil	
IC	L min	tpi	RH	h min	X	Y	RH	Toolholder
1/2" F	23	6	4FIR6ACME...	2.37	1.8	2.1	RH	AVRC...-4F
		5	4FIR5ACME...	2.79	2	2.3	YI4F	

Stub ACME

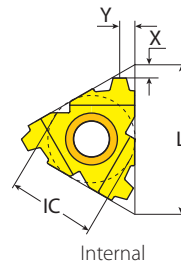
External / Internal



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



External



Internal

External Standard



Insert Size		Pitch	Ordering Code	Dimensions mm			Anvil	
IC	L min	tpi	RH	h min	X	Y	RH	Toolholder
1/2" F	23	6	4FER6STACME...	1.52	1.7	1.8	YE4F	AL...-4F
		5	4FER5STACME...	1.78	2.1	2.3		
		4	4FER4STACME...	2.16	2.3	2.3		

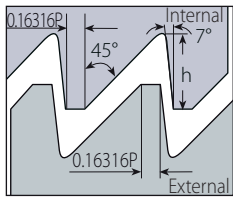
Internal Standard



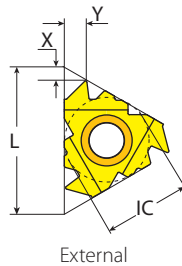
Insert Size		Pitch	Ordering Code	Dimensions mm			Anvil	
IC	L min	tpi	RH	h min	X	Y	RH	Toolholder
1/2" F	23	6	4FIR6STACME...	1.52	1.7	1.8	YI4F	AVRC...-4F
		5	4FIR5STACME...	1.78	2.1	2.3		
		4	4FIR4STACME...	2.16	2.3	2.3		

American Buttress

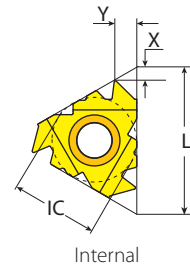
External / Internal



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



External



Internal

External Standard



Insert Size		Pitch	Ordering Code	Dimensions mm			Anvil	
IC	L mm	tpi	RH	h min	X	Y	RH	Toolholder
1/2" F	23	8	4FER8ABUT...	2.1	2	3.2	YE4F	AL...-4F
		6	4FER6ABUT...	2.8	2.2	3.5		

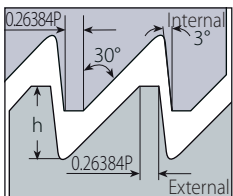
Internal Standard



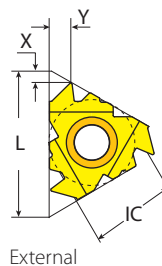
Insert Size		Pitch	Ordering Code	Dimensions mm			Anvil	
IC	L mm	tpi	RH	h min	X	Y	RH	Toolholder
1/2" F	23	8	4FIR8ABUT...	2.1	2	3.2	YI4F	AVRC...-4F
		6	4FIR6ABUT...	2.8	2.2	3.5		

Metric Buttress (Sägengewinde)

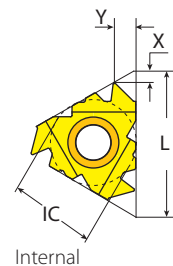
External / Internal



Defined by: DIN 513
Tolerance class: Medium Class



External



Internal

External Standard



Insert Size		Pitch	Ordering Code	Dimensions mm			Anvil	
IC	L mm	mm	RH	h min	X	Y	RH	Toolholder
1/2" F	23	3	4FER3.0SAGE...	2.6	1.8	2.6	YE4F	AL...-4F
		4	4FER4.0SAGE...	3.55	1.75	3.1		

Internal Standard



Insert Size		Pitch	Ordering Code	Dimensions mm			Anvil	
IC	L mm	mm	RH	h min	X	Y	RH	Toolholder
1/2" F	23	3	4FIR3.0SAGE...	2.25	1.7	2.9	YI4F	AVRC...-4F
		4	4FIR4.0SAGE...	3.09	2.03	3.25		

API


External / Internal

$\alpha = \arctg (IPF/24)$

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

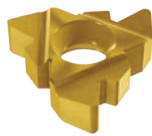
External Internal

External Standard



Insert Size	Pitch	Thread	Taper	Ordering Code	Size	Dimensions mm			Anvil		
IC	L mm	tpi	IPF	RH		h min	X	Y	RH	Toolholder	
1/2" F	23	4	V-0.038R	2	4FER4API382...	NC23-NC50	3.09	2.1	2.8	YE4F	AL...-4F
		4	V-0.038R	3	4FER4API383...	NC56-NC77	3.08	2.1	2.8		
		4	V-0.050	2	4FER4API502...	6 5/8" REG, 5 1/2" FH, 6 5/8" FH	3.75	2	2.9		
		4	V-0.050	3	4FER4API503...	5 1/2", 7 5/8", 8 5/8" REG	3.74	2	2.9		
		5	V-0.040	3	4FER5API403...	2 3/8"-4 1/2" REG	2.99	1.8	2.6		
		6	V-0.055	1.5	4FER6API551...	NC10-NC16	1.41	2.6	2		

Internal Standard



Insert Size	Pitch	Thread	Taper	Ordering Code	Size	Dimensions mm			Anvil		
IC	L mm	tpi	IPF	RH		h min	X	Y	RH	Toolholder	
1/2" F	23	4	V-0.038R	2	4FIR4API382...	NC23-NC50	3.09	2.1	2.8	YI4F	AVRC...-4F
		4	V-0.038R	3	4FIR4API383...	NC56-NC77	3.08	2.1	2.8		
		4	V-0.050	2	4FIR4API502...	6 5/8" REG, 5 1/2" FH, 6 5/8" FH	3.75	2.1	3.1		
		4	V-0.050	3	4FIR4API503...	5 1/2", 7 5/8", 8 5/8" REG	3.74	2	2.9		
		5	V-0.040	3	4FIR5API403...	2 3/8"-4 1/2" REG	2.99	1.8	2.6		
		6	V-0.055	1.5	4FIR6API551...	NC10-NC16	1.41	2.6	2		

API Buttress Casing


External / Internal

$\alpha = \arctg (IPF/24)$

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


External Internal

External Standard



Insert Size	Pitch	Taper	Ordering Code	Size	Dimensions mm			Anvil		
IC	L mm	tpi	IPF	RH	h min	X	Y	RH	Toolholder	
1/2" F	23	5	0.75	4FERSBUT75...	4 1/2"-13 3/8"	1.57	3.1	1.9	YE4F	AL...-4F
		5	1	4FERSBUT1...	16"-20"	1.57	3.1	1.9		

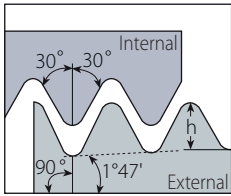
Internal Standard



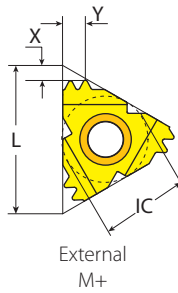
Insert Size	Pitch	Taper	Ordering Code	Size	Dimensions mm			Anvil		
IC	L mm	tpi	IPF	RH	h min	X	Y	RH	Toolholder	
1/2" F	23	5	0.75	4FIRS5BUT75...	4 1/2"-13 3/8"	1.57	2.8	1.9	YI4F	AVRC...-4F
		5	1	4FIRS5BUT1...	16"-20"	1.57	2.8	1.9		

API Round Casing & Tubing

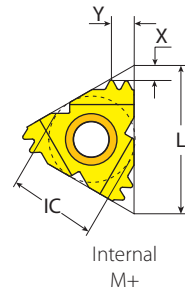
External / Internal



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



External
M+



Internal
M+

External M+ Style



Insert Size		Pitch	Teeth	Ordering Code	Dimensions mm			Anvil	
IC	L mm	tpi		RH	h min	X	Y	RH	Toolholder
1/2" F	23	10	2	4FIR10APIRD2M+...	1.41	2.3	3.8	YE4M2F	AL...-4MF

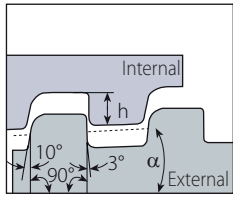
Internal M+ Style



Insert Size		Pitch	Teeth	Ordering Code	Dimensions mm			Anvil	
IC	L mm	tpi		RH	h min	X	Y	RH	Toolholder
1/2" F	23	10	2	4FIR10APIRD2M+...	1.41	2.4	3.7	YI4M2F	AVRC ...-4MF

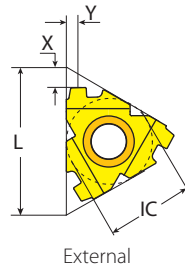
VAM

External / Internal

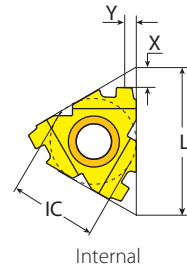


$$\alpha = \arctg (IPF/24)$$

Defined by: VAM
Tolerance class: Standard VAM



External



Internal

External Standard



Insert Size		Pitch	Taper	Ordering Code	Size	Dimensions mm			Anvil	
IC	L mm	tpi	IPF	RH		h min	X	Y	RH	Toolholder
1/2" F	23	6	0.75	4FER6VAM...	3 1/2"	0.97	2.4	2.4	YE4F	AL...-4F
		5	0.75	4FER5VAM...	5"-9 5/8"	1.54	2.4	2.7		

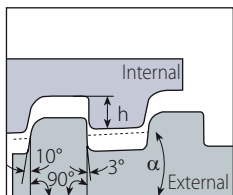
Internal Standard



Insert Size		Pitch	Taper	Ordering Code	Size	Dimensions mm			Anvil	
IC	L mm	tpi	IPF	RH		h min	X	Y	RH	Toolholder
1/2" F	23	6	0.75	4FIR6VAM...	3 1/2"	1.04	2.5	2.5	Y14F	AVRC...-4F
		5	0.75	4FIR5VAM...	5"-9 5/8"	1.54	2.4	2.5		

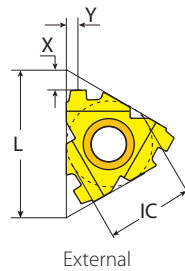
NEW VAM

External / Internal

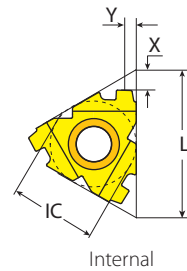


$$\alpha = \arctg (IPF/24)$$

Defined by: VAM
Tolerance class: Standard VAM



External



Internal

External Standard



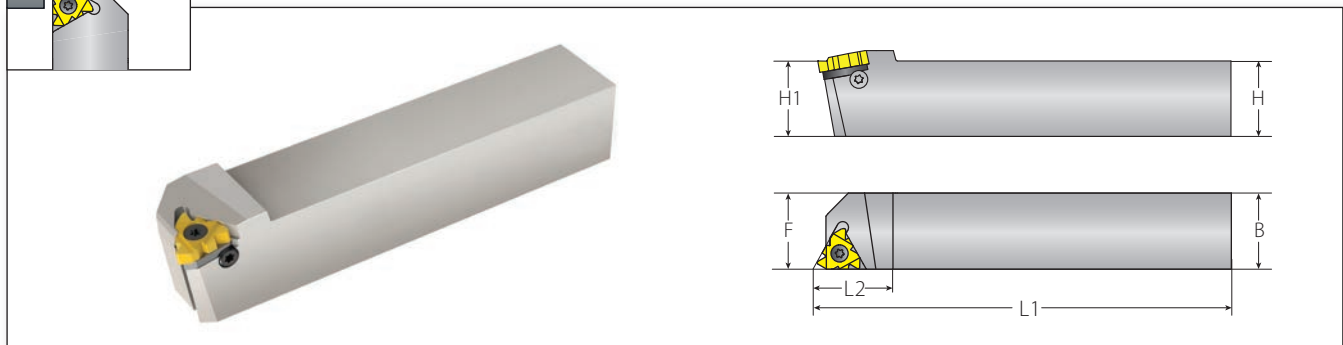
Insert Size		Pitch	Taper	Ordering Code	Size	Dimensions mm			Anvil	
IC	L mm	tpi	IPF	RH		h min	X	Y	RH	Toolholder
1/2" F	23	6	0.75	4FER6NVAM...	3 1/2"	0.97	2.2	2.1	YE4F	AL...-4F
		5	0.75	4FER5NVAM...	5"-9 5/8"	1.55	2.5	2.3		

Internal Standard



Insert Size		Pitch	Taper	Ordering Code	Size	Dimensions mm			Anvil	
IC	L mm	tpi	IPF	RH		h min	X	Y	RH	Toolholder
1/2" F	23	6	0.75	4FIR6NVAM...	3 1/2"	1.23	2.0	1.8	Y14F	AVRC...-4F
		5	0.75	4FIR5NVAM...	5"-9 5/8"	1.76	2.1	2.1		

External Toolholders



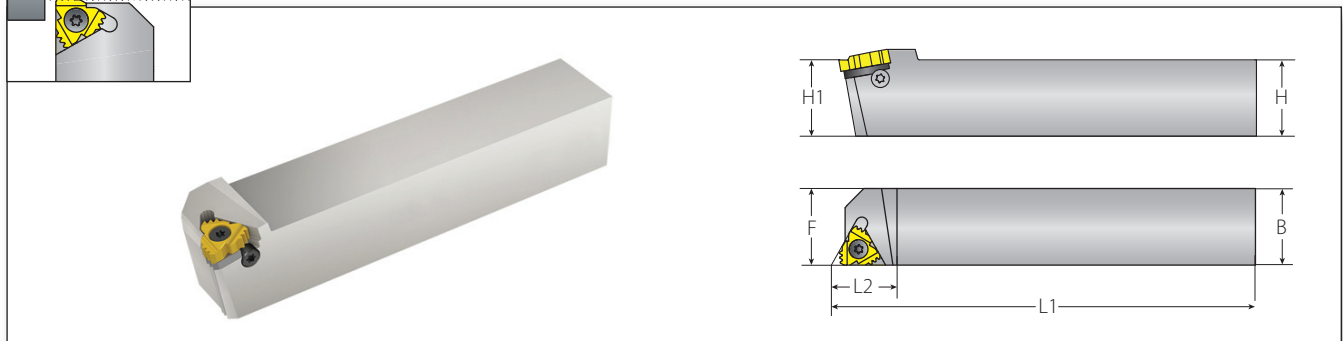
Standard

Insert Size	Ordering Code	Dimensions mm			
IC	RH	H=H1=B	F	L1	L2
1/2" F	AL25-4F	25	25	155	33
	AL32-4F	32	32	175	33
	AL40-4F	40	40	205	33

Spare Parts

Insert Screw	Anvil Screw	Torx Key	Anvil RH
SA4T	SY4T	K4T	YE4F

External Toolholders

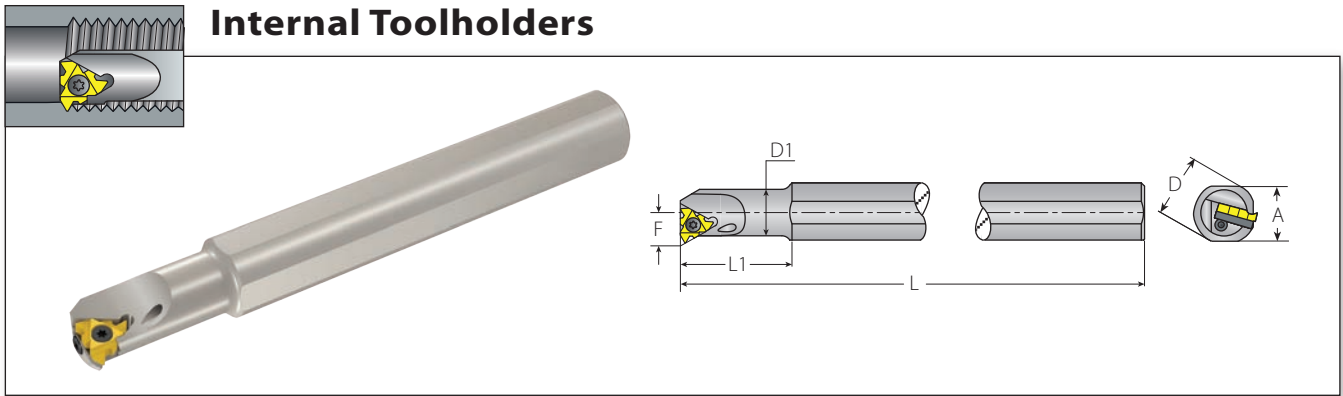


Multi+ Style

Insert Size	Ordering Code	Dimensions mm			
IC	RH	H=H1=B	F	L1	L2
1/2" F	AL32-4MF	32	32	175	33
	AL40-4MF	40	40	205	33

Spare Parts

Insert Screw	Anvil Screw	Torx Key	Anvil RH
SA4T	SY4T	K4T	YE4M2F

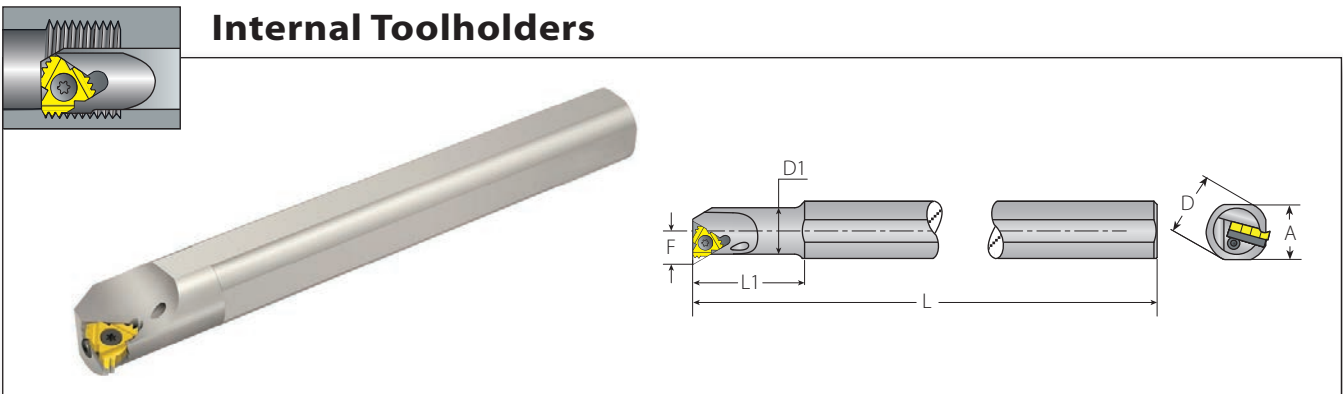


Standard

Insert Size	Ordering Code	Dimensions mm							Min. Bore dia
IC	RH	A	L	L1	D	D1	F	mm	
1/2" F	AVRC25-4F	29.0	250	60	32	25.0	16.1	32	
	AVRC25D-4F	22.6	200	100	25	24.6	16.1	32	
	AVRC32-4F	29.0	250	128	32	32.0	19.8	39	
	AVRC40-4F	36.0	300	160	40	40.0	23.6	47	

Spare Parts

Insert Screw	Anvil Screw	Torx Key	Anvil RH
SA4T	SY4T	K4T	Y14F



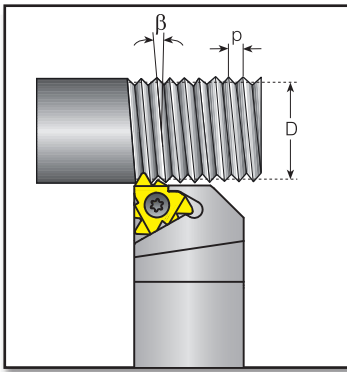
Multi+ Style

Insert Size	Ordering Code	Dimensions mm							Min. Bore dia
IC	RH	A	L	L1	D	D1	F	mm	
1/2" F	AVRC25-4MF	29.0	250	60	32	25.0	16.1	32	
	AVRC25D-4MF	22.6	200	100	25	24.6	16.1	32	
	AVRC32-4MF	29.0	250	128	32	32.0	19.6	39	
	AVRC40-4MF	36.0	300	160	40	40.0	23.8	47	

Spare Parts

Insert Screw	Anvil Screw	Torx Key	Anvil RH
SA4T	SY4T	K4T	Y14M2F

Calculating the Helix Angle β



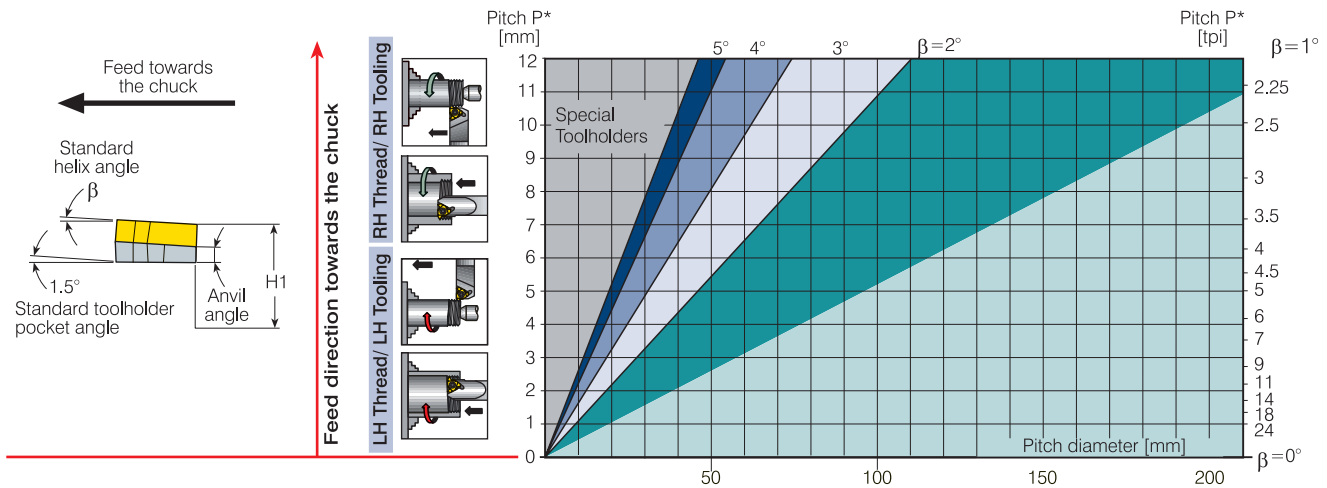
The helix angle is calculated by the following formula:

$$\beta = \arctan \frac{P \times N}{\pi \times D}$$

β - Helix angle [°]
 P - Pitch [mm]
 N - No. of starts
 D - Pitch diameter [mm]
 Lead = P x N

The helix angle can also be found in the diagram below.

Helix Angle Diagram



* For Multi-start threads, use the lead value instead of the pitch.

Anvils

Resultant Helix Angle		4.5°	3.5°	2.5°	1.5°	0.5°	0°
Insert Size	Holder	Ordering Code					
IC	L mm						
1/2"F	ER	YE4F-3P	YE4F-2P	YE4F-1P	YE4F	YE4F-1N	YE4F-1.5N
	IR	YI4F-3P	YI4F-2P	YI4F-1P	YI4F	YI4F-1N	YI4F-1.5N
1/2"F 2M+	23	—	—	YE4M2F-1P	YE4M2F	YE4M2F-1N	YE4M2F-1.5N
1/2"F 3M+		ER	—	YE4M3F-1P	YE4M3F	YE4M3F-1N	YE4M3F-1.5N
1/2"F 2M+		IR	—	—	YI4M2F-1P	YI4M2F	YI4M2F-1N

Number of Passes

Pitch	mm	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	8.00
	tpi	10	8	7	6	5.5	5	4.5	4	3
No. of passes		8-14	9-16	10-18	11-18	11-19	12-20	12-20	12-20	15-24

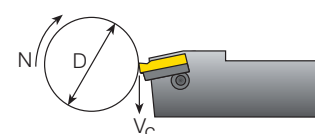
Recommended Grades and Cutting Speeds Vc [m/min]

Material Group	Vardex No.	Material	Hardness Brinell HB	Vc [m/min]	
				VTX / VRX	
P Steel	1	Unalloyed Steel	Low Carbon (C=0.1-0.25%)	125	115-190
	2		Medium Carbon (C=0.25-0.55%)	150	100-175
	3		High Carbon (C=0.55-0.85%)	170	90-165
	4	Low Alloy Steel (alloying elements ≤5%)	Non Hardened	180	100-180
	5		Hardened	275	75-140
	6		Hardened	350	70-135
	7	High Alloy Steel (alloying elements >5%)	Annealed	200	80-120
	8		Hardened	325	50-100
	9	Cast Steel	Low Alloy (alloying elements <5%)	200	70-130
	10		High Alloy (alloying elements >5%)	225	60-120
M Stainless Steel	11	Stainless Steel Ferritic	Non Hardened	200	70-130
	12		Hardened	330	60-115
	13	Stainless Steel Austenitic	Austenitic	180	90-140
	14		Super Austenitic	200	40-110
	15	Stainless Steel Cast Ferritic	Non Hardened	200	90-120
	16		Hardened	330	65-110
	17	Stainless Steel Cast Austenitic	Austenitic	200	85-110
	18		Hardened	330	60-100
K Cast Iron	28	Malleable Cast Iron	Ferritic (short chips)	130	60-70
	29		Pearlitic (long chips)	230	60-145
	30	Grey Cast Iron	Low Tensile Strength	180	70-130
	31		High Tensile Strength	260	60-115
	32	Nodular Sg Iron	Ferritic	160	125-160
33	Pearlitic		260	90-120	
N(k) Non-Ferrous Metals	34	Aluminium Alloys Wrought	Non Aging	60	100-365
	35		Aged	100	80-220
	36	Aluminium Alloys	Cast	75	200-400
	37		Cast & Aged	90	200-280
	38	Aluminium Alloys	Cast Si 13-22%	130	60-180
	39	Copper and Copper Alloys	Brass	90	80-225
40	Bronze and Non Leaded Copper		100	80-255	
S(M) 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	140-170
24	α+β alloys		1050Rm	50-70	
H(k) Hardened Material	25	Extra Hard Steel	Hardened & Tempered	45-50HRc	45-60
	26			51-55HRc	40-50

Calculation of N [RPM]

$$N = \frac{1000 \times V_c}{\pi \times D}$$

$$V_c = \frac{N \times \pi \times D}{1000}$$



- N - Revolution Per Minute [RPM]
- V_c - Cutting Speed [m/min]
- D - Workpiece Diameter [mm]

Grade	Application	Sample
VTX	General purpose grade with tough submicron substrate. Provides good fracture toughness in non-rigid cutting conditions. TiAlN coated.	

Grade	Application	Sample
VRX	Premium multipurpose submicron grade for stronger wear resistance and improved productivity. AlTiN alloyed PVD coating.	



FLINE
Fixed Clamping System

VARDEX
Advanced Threading Solutions