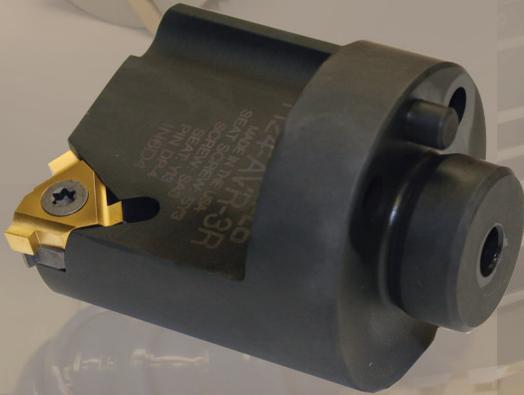




# TOOL-FLO



TOOL-FLO  
CR-5B75-4E  
TF22675 G50

TOOL-FLO  
CR-8R-3E  
TF19310 GP50

TOOL-FLO  
CR-8R-3E  
TF19310 GP50



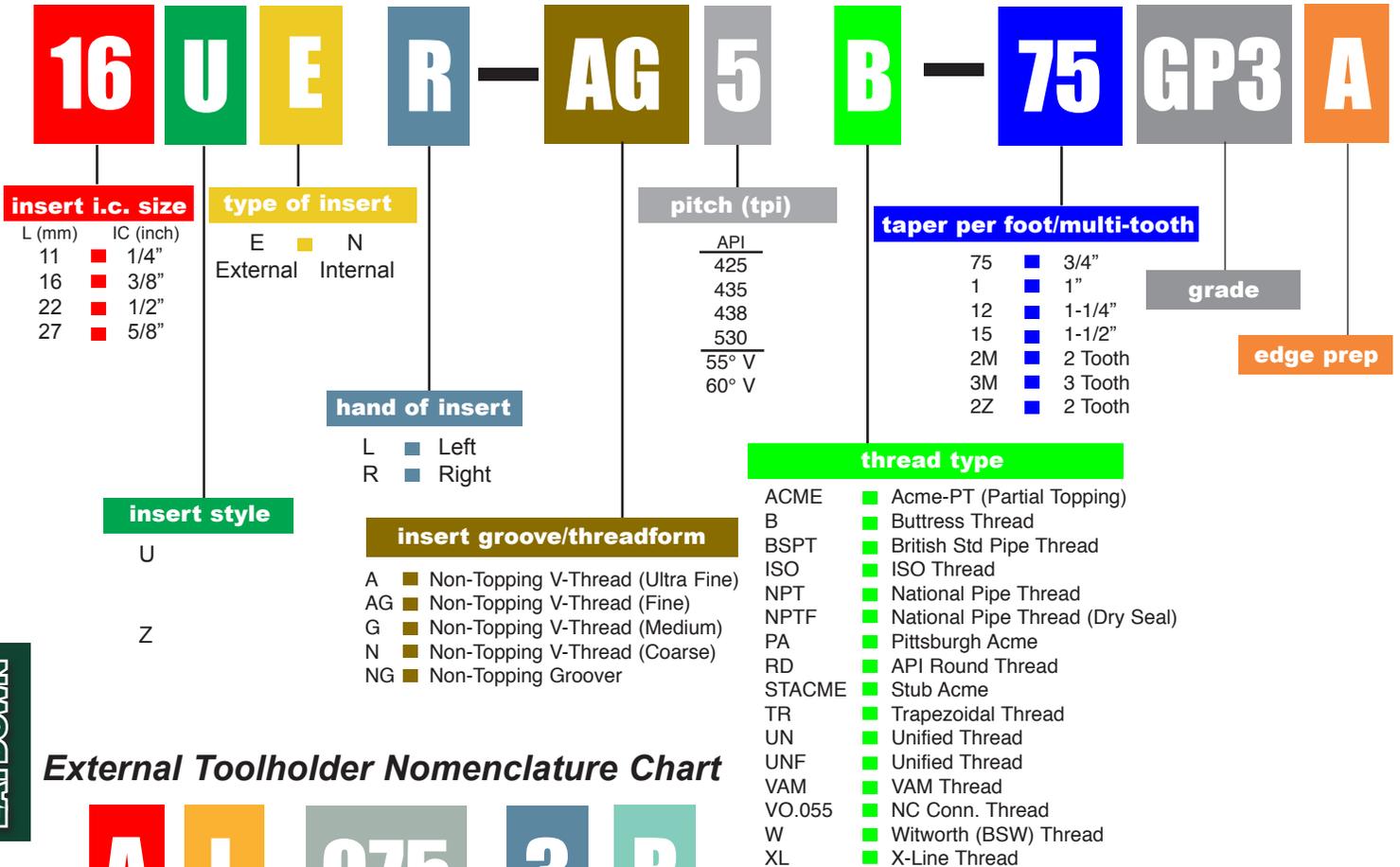
## LAYDOWN

Threading & Grooving

# LAYDOWN

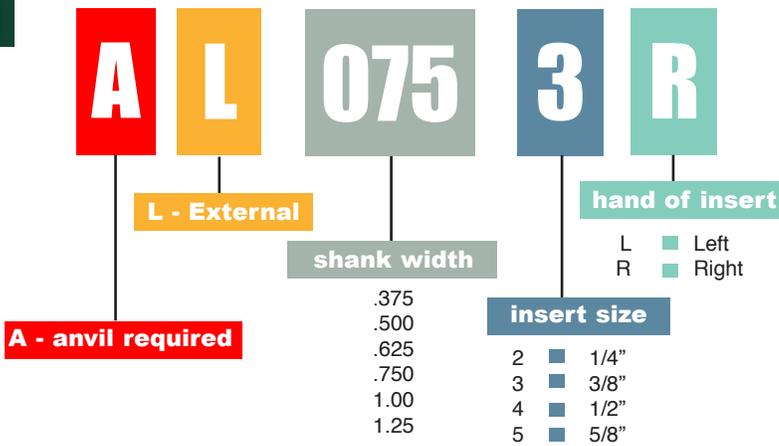


## LT Style Laydown Insert Nomenclature Chart

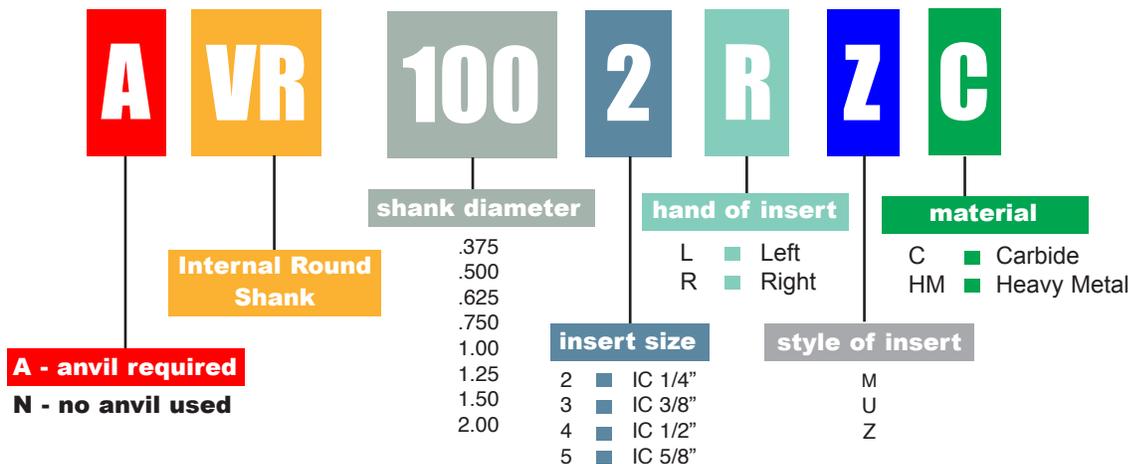


LAYDOWN

## External Toolholder Nomenclature Chart



## Internal Bar Nomenclature Chart

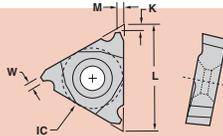




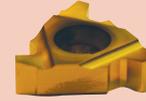
# LAYDOWN

## ACME

### 16, 22 & 27NR/ER - 3/8", 1/2", 5/8" I.C.



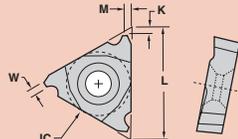
INT RH SHOWN  
EXT OPPOSITE



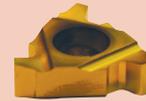
Description	EDP Code	TPI	W	IC	L	M	K	TIN Coated		A11N Coated		
								GP22	GP50	AC22	AC3	AC50
16ER 16ACME-PT	5006216PT	16	.0206	3/8	.63	.04	.04	●	●	●	●	●
16EL 16ACME-PT	5046216PT	16	.0206	3/8	.63	.04	.04	●	●	●	●	●
16ER 14ACME-PT	5006214PT	14	.0239	3/8	.63	.05	.04	●	●	●	●	●
16EL 14ACME-PT	5046214PT	14	.0239	3/8	.63	.05	.04	●	●	●	●	●
16ER 12ACME-PT	5006212PT	12	.0283	3/8	.63	.05	.04	●	●	●	●	●
16EL 12ACME-PT	5046212PT	12	.0283	3/8	.63	.05	.04	●	●	●	●	●
16ER 10ACME-PT	5006210PT	10	.0319	3/8	.63	.06	.05	●	●	●	●	●
16EL 10ACME-PT	5046210PT	10	.0319	3/8	.63	.06	.05	●	●	●	●	●
16ER 8ACME-PT	5006208PT	8	.0411	3/8	.63	.06	.06	●	●	●	●	●
16EL 8ACME-PT	5046208PT	8	.0411	3/8	.63	.06	.06	●	●	●	●	●
22ER 6ACME-PT	5106206PT	6	.0566	1/2	.87	.08	.07	●	●	●	●	●
22EL 6ACME-PT	5146206PT	6	.0566	1/2	.87	.08	.07	●	●	●	●	●
22ER 5ACME-PT	5106205PT	5	.0689	1/2	.87	.09	.08	●	●	●	●	●
22EL 5ACME-PT	5146205PT	5	.0689	1/2	.87	.09	.08	●	●	●	●	●
27ER 4ACME-PT	5206204PT	4	.0875	5/8	1.06	.11	.09	●	●	●	●	●
27EL 4ACME-PT	5246204PT	4	.0875	5/8	1.06	.11	.09	●	●	●	●	●
16NR 16ACME-PT	5026216PT	16	.0206	3/8	.63	.04	.04	●	●	●	●	●
16NL 16ACME-PT	5066216PT	16	.0206	3/8	.63	.04	.04	●	●	●	●	●
16NR 14ACME-PT	5026214PT	14	.0239	3/8	.63	.05	.04	●	●	●	●	●
16NL 14ACME-PT	5066214PT	14	.0239	3/8	.63	.05	.04	●	●	●	●	●
16NR 12ACME-PT	5026212PT	12	.0283	3/8	.63	.05	.05	●	●	●	●	●
16NL 12ACME-PT	5066212PT	12	.0283	3/8	.63	.05	.05	●	●	●	●	●
16NR 10ACME-PT	5026210PT	10	.0319	3/8	.63	.05	.05	●	●	●	●	●
16NL 10ACME-PT	5066210PT	10	.0319	3/8	.63	.05	.05	●	●	●	●	●
16NR 8ACME-PT	5026208PT	8	.0411	3/8	.63	.06	.06	●	●	●	●	●
16NL 8ACME-PT	5066208PT	8	.0411	3/8	.63	.06	.06	●	●	●	●	●
22NR 6ACME-PT	5126206PT	6	.0566	1/2	.87	.08	.07	●	●	●	●	●
22NL 6ACME-PT	5166206PT	6	.0566	1/2	.87	.08	.07	●	●	●	●	●
22NR 5ACME-PT	5126205PT	5	.0689	1/2	.87	.09	.08	●	●	●	●	●
22NL 5ACME-PT	5166205PT	5	.0689	1/2	.87	.09	.08	●	●	●	●	●
27NR 4ACME-PT	5226204PT	4	.0875	5/8	1.06	.10	.09	●	●	●	●	●
27NL 4ACME-PT	5266204PT	4	.0875	5/8	1.06	.10	.09	●	●	●	●	●

## ACME STUB

### 16, 22 & 27NR/ER - 3/8", 1/2", 5/8" I.C.



INT RH SHOWN  
EXT OPPOSITE



Description	EDP Code	TPI	W	IC	L	M	K	TIN Coated		A11N Coated		
								GP22	GP50	AC22	AC3	AC50
16ER 16STACME-PT	5006416PT	16	.0238	3/8	.63	.04	.04	●	●	●	●	●
16EL 16STACME-PT	5046416PT	16	.0238	3/8	.63	.04	.04	●	●	●	●	●
16ER 14STACME-PT	5006414PT	14	.0276	3/8	.63	.04	.04	●	●	●	●	●
16EL 14STACME-PT	5046414PT	14	.0276	3/8	.63	.04	.04	●	●	●	●	●
16ER 12STACME-PT	5006412PT	12	.0326	3/8	.63	.05	.05	●	●	●	●	●
16EL 12STACME-PT	5046412PT	12	.0326	3/8	.63	.05	.05	●	●	●	●	●
16ER 10STACME-PT	5006410PT	10	.0370	3/8	.63	.05	.05	●	●	●	●	●
16EL 10STACME-PT	5046410PT	10	.0370	3/8	.63	.05	.05	●	●	●	●	●
16ER 8STACME-PT	5006408PT	8	.0476	3/8	.63	.06	.06	●	●	●	●	●
16EL 8STACME-PT	5046408PT	8	.0476	3/8	.63	.06	.06	●	●	●	●	●
22ER 6STACME-PT	5106406PT	6	.0652	1/2	.87	.07	.07	●	●	●	●	●
22EL 6STACME-PT	5146406PT	6	.0652	1/2	.87	.07	.07	●	●	●	●	●
22ER 5STACME-PT	5106405PT	5	.0793	1/2	.87	.08	.08	●	●	●	●	●
22EL 5STACME-PT	5146405PT	5	.0793	1/2	.87	.08	.08	●	●	●	●	●
27ER 4STACME-PT	5206404PT	4	.1004	5/8	1.06	.09	.11	●	●	●	●	●
27EL 4STACME-PT	5246404PT	4	.1004	5/8	1.06	.09	.11	●	●	●	●	●
16NR 16STACME-PT	5026416PT	16	.0238	3/8	.63	.04	.04	●	●	●	●	●
16NL 16STACME-PT	5066416PT	16	.0238	3/8	.63	.04	.04	●	●	●	●	●
16NR 14STACME-PT	5026414PT	14	.0276	3/8	.63	.04	.04	●	●	●	●	●
16NL 14STACME-PT	5066414PT	14	.0276	3/8	.63	.04	.04	●	●	●	●	●
16NR 12STACME-PT	5026412PT	12	.0326	3/8	.63	.05	.04	●	●	●	●	●
16NL 12STACME-PT	5066412PT	12	.0326	3/8	.63	.05	.04	●	●	●	●	●
16NR 10STACME-PT	5026410PT	10	.0370	3/8	.63	.05	.05	●	●	●	●	●
16NL 10STACME-PT	5066410PT	10	.0370	3/8	.63	.05	.05	●	●	●	●	●
16NR 8STACME-PT	5026408PT	8	.0476	3/8	.63	.06	.06	●	●	●	●	●
16NL 8STACME-PT	5066408PT	8	.0476	3/8	.63	.06	.06	●	●	●	●	●
22NR 6STACME-PT	5126406PT	6	.0652	1/2	.87	.07	.07	●	●	●	●	●
22NL 6STACME-PT	5166406PT	6	.0652	1/2	.87	.07	.07	●	●	●	●	●
22NR 5STACME-PT	5126405PT	5	.0793	1/2	.87	.09	.08	●	●	●	●	●
22NL 5STACME-PT	5166405PT	5	.0793	1/2	.87	.09	.08	●	●	●	●	●
27NR 4STACME-PT	5226404PT	4	.1004	5/8	1.06	.09	.09	●	●	●	●	●
27NL 4STACME-PT	5266404PT	4	.1004	5/8	1.06	.09	.09	●	●	●	●	●

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

Cast Iron	▲	●	●
Non-Ferrous	▲	●	●
Stainless/High Temp	▲	●	●
Steel	▲	●	●

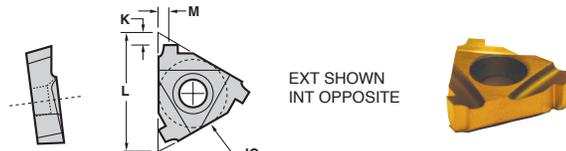
LAYDOWN

# LAYDOWN



## API BUTTRESS

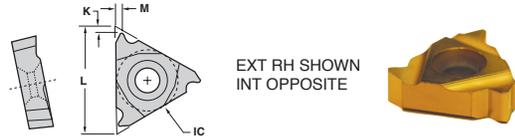
22NR/ER - 1/2" I.C.



Description	EDP Code	TPI	TPF	IC	L	M	K	Conn. No.	TIN Coated		A1TIN Coated		
									GP22	GP50	AC22	AC3	AC50
22ER 8B75	5102100	8	3/4	1/2	.87	.102	.073	U.S. Improved Buttress	●	●	●	●	●
22ER 5B75	5101600	5	3/4	1/2	.87	.087	.087	4-1/2 - 13-3/8	●	●	●	●	●
22ER 5B1	5101700	5	1	1/2	.87	.095	.087	16 and larger	●	●	●	●	●
22NR 8B75	5122100	8	3/4	1/2	.87	.102	.073	U.S. Improved Buttress	●	●	●	●	●
22NR 5B75	5121600	5	3/4	1/2	.87	.081	.087	4-1/2 - 13-3/8	●	●	●	●	●
22NR 5B1	5121700	5	1	1/2	.87	.081	.090	16 and larger	●	●	●	●	●

## API ROTARY SHOULDER CONNECTION

22 & 27NR/ER - 1/2" & 5/8" I.C.



Description	EDP Code	TPI	TPF	IC	L	M	K	Conn. No.	TIN Coated		A1TIN Coated		
									GP22	GP50	AC22	AC3	AC50
22ER 530	5101300	5	3	1/2	.87	.10	.08	3-1/2FH, 2-3/8, 4-1/2 Reg.	●	●	●	●	●
22ER 4PAC	5101500	4	1-1/2	1/2	.87	.11	.08	American Open Hole	●	●	●	●	●
22ER 438	5101200	4	3	1/2	.87	.11	.11	NC56 - NC71	●	●	●	●	●
22ER 435	5101100	4	3	1/2	.87	.11	.08	5-1/2, 7-5/8, 8-5/8 Reg.	●	●	●	●	●
22ER 42F*	5101400	4	2	1/2	.87	.11	.08	VO.065*	●	●	●	●	●
22ER 428	5101000	4	2	1/2	.87	.10	.08	NC23-NC50, 2-3/8 - 5-1/2IF	●	●	●	●	●
22ER 425	5100900	4	2	1/2	.87	.10	.08	5-1/2, 6-5/8FH, 6-5/8 Reg.	●	●	●	●	●
22NR 530	5121300	5	3	1/2	.87	.10	.08	3-1/2FH, 2-3/8, 4-1/2 Reg.	●	●	●	●	●
22NR 4PAC	5121500	4	1-1/2	1/2	.87	.11	.08	American Open Hole	●	●	●	●	●
22NR 438	5121200	4	3	1/2	.87	.11	.11	NC56 - NC71	●	●	●	●	●
22NR 435	5121100	4	3	1/2	.87	.11	.08	5-1/2, 7-5/8, 8-5/8 Reg.	●	●	●	●	●
22NR 42F*	5121400	4	2	1/2	.87	.11	.08	VO.065*	●	●	●	●	●
22NR 428	5121000	4	2	1/2	.87	.10	.08	NC23-NC50, 2-3/8 - 5-1/2IF	●	●	●	●	●
22NR 425	5120900	4	2	1/2	.87	.10	.08	5-1/2, 6-5/8FH, 6-5/8 Reg.	●	●	●	●	●
27ER 530	5201300	5	3	5/8	.126	.11	.07	3-1/2FH, 2-3/8, 4-1/2 Reg.	●	●	●	●	●
27ER 438	5201200	4	3	5/8	.126	.11	.08	NC56 - NC71	●	●	●	●	●
27ER 435	5201100	4	3	5/8	.126	.12	.08	5-1/2, 7-5/8, 8-5/8 Reg.	●	●	●	●	●
27ER 428	5201000	4	2	5/8	.126	.11	.08	NC23-NC50, 2-3/8 - 5-1/2IF	●	●	●	●	●
27ER 425	5200900	4	2	5/8	.126	.12	.08	5-1/2, 6-5/8FH, 6-5/8 Reg.	●	●	●	●	●
27NR 530	5221300	5	3	5/8	.126	.11	.08	3-1/2FH, 2-3/8, 4-1/2 Reg.	●	●	●	●	●
27NR 438	5221200	4	3	5/8	.126	.11	.08	NC56 - NC71	●	●	●	●	●
27NR 435	5221100	4	3	5/8	.126	.12	.08	5-1/2, 7-5/8, 8-5/8 Reg.	●	●	●	●	●
27NR 428	5221000	4	2	5/8	.126	.11	.08	NC23-NC50, 2-3/8 - 5-1/2IF	●	●	●	●	●
27NR 425	5220900	4	2	5/8	.126	.12	.08	5-1/2, 6-5/8FH, 6-5/8 Reg.	●	●	●	●	●

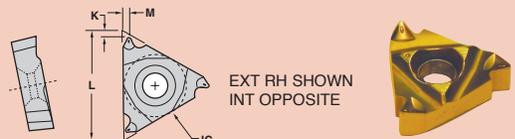
\* Obsolete thread form, See A.P.I. Spec 7, 35th Edition, May 1, 1995, Section 9.4

## API ROUND

16NR/ER - 3/8" I.C.

w/patented chipbreaker

Exclusive patented chipbreaker!



Description	EDP Code	TPI	IC	L	M	K	Uncoated		TIN Coated		A1TIN Coated		
							C22	GP22	GP50	AC22	AC3	AC50	
16ER 8RD-CB	5003200HC	8	3/8	.63	.051	.059	●	●	●	●	●	●	●
16ER 10RD-CB	5003400HC	10	3/8	.63	.047	.059	●	●	●	●	●	●	●
16NR 8RD-CB	5023200HC	8	3/8	.63	.051	.059	●	●	●	●	●	●	●
16NR 10RD-CB	5023400HC	10	3/8	.63	.047	.059	●	●	●	●	●	●	●

## API ROUND

16 & 22NR/ER - 3/8" & 1/2" I.C.



Description	EDP Code	TPI	IC	L	M	K	TIN Coated		A1TIN Coated		
							GP22	GP50	AC22	AC3	AC50
16ER 8RD	5003200	8	3/8	.65	.059	.056	●	●	●	●	●
16ER 10RD	5003400	10	3/8	.65	.059	.056	●	●	●	●	●
22ER 8RD	5103200	8	1/2	.87	.060	.056	●	●	●	●	●
22ER 10RD	5103400	10	1/2	.87	.046	.048	●	●	●	●	●
16NR 8RD	5023200	8	3/8	.65	.059	.056	●	●	●	●	●
16NR 10RD	5023400	10	3/8	.65	.059	.056	●	●	●	●	●
22NR 8RD	5123200	8	1/2	.87	.060	.056	●	●	●	●	●
22NR 10RD	5123400	10	1/2	.87	.046	.048	●	●	●	●	●

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

Material	GP22	GP50	AC22	AC3	AC50
Cast Iron					●
Non-Ferrous					●
Stainless/High Temp					●
Steel			▲		●

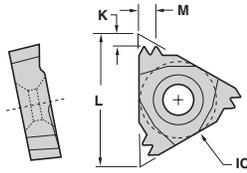


# LAYDOWN

## API ROUND

22 & 27NR/ER - 1/2" & 5/8" I.C.

Multi-tooth



EXT RH SHOWN  
INT OPPOSITE

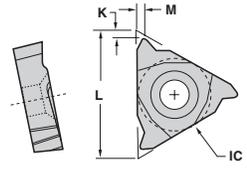


Description	EDP Code	TPI	IC	L	M	K	GP22	GP50	AC22	AC3	AC50
27ER 8RD2M	5203300	8	5/8	1.08	.177	.114		●	●	●	●
22ER 10RD2M	5103500	10	1/2	0.87	.146	.094		●	●	●	●
27NR 8RD2M	5223300	8	5/8	1.08	.177	.114		●	●	●	●
22NR 10RD2M	5123500	10	1/2	0.87	.146	.094		●	●	●	●

## API VO.055

American MT, AMT, AMMT\*

16 & 22NR/ER - 3/8" & 1/2" I.C.



EXT RH SHOWN  
INT OPPOSITE

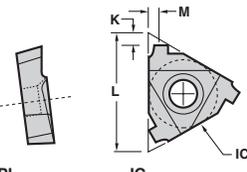


Description	EDP Code	TPI	TPF	IC	L	M	K	Connection	GP22	GP50	AC22	AC3	AC50
16ER 6P VO.055 MT	5004300	6	1-1/2	3/8	.65	.059	.051	NC10-NC16, VO.055, 1, 1-1/2 REG	●	●	●	●	
22ER 6P VO.055 MT	5104300	6	1-1/2	1/2	.87	.072	.060	NC10-NC16, VO.055, 1, 1-1/2 REG		●	●	●	
16NR 6P VO.055 MT	5024300	6	1-1/2	3/8	.65	.059	.051	NC10-NC16, VO.055, 1, 1-1/2 REG	●	●	●	●	
22NR 6P VO.055 MT	5124300	6	1-1/2	1/2	.87	.072	.060	NC10-NC16, VO.055, 1, 1-1/2 REG		●	●	●	

\* MT is Macaroni Tubing, AMT is American Macaroni Tubing and AMMT is American Mining Macaroni Tubing.

## API VAM

22NR/ER - 1/2" I.C.



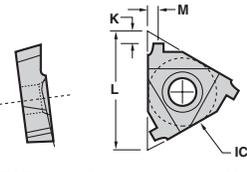
EXT RH SHOWN  
INT OPPOSITE



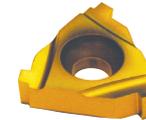
Description	EDP Code	TPI	IC	L	M	K	GP22	GP50	AC22	AC3	AC50
22ER 8VAM	5102500	8	1/2	.87	.059	.059		●	●	●	
22ER 6VAM	5102400	6	1/2	.87	.079	.079		●	●	●	
22ER 5VAM	5102300	5	1/2	.87	.079	.079		●	●	●	
22NR 8VAM	5122500	8	1/2	.87	.059	.059		●	●	●	
22NR 6VAM	5122400	6	1/2	.87	.079	.079		●	●	●	
22NR 5VAM	5122300	5	1/2	.87	.079	.079		●	●	●	

## API X-LINE

22NR/ER - 1/2" I.C.



EXT RH SHOWN



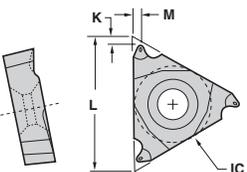
Description	EDP Code	TPI	TPF	IC	L	M	K	Conn. No.	GP22	GP50	AC22	AC3	AC50
22ER 6XL75	5102000	6	3/4	1/2	.87	.075	.078			●	●	●	
22ER 6XL15	5101900	6	1-1/2	1/2	.87	.075	.086	5 - 7-5/8		●	●	●	
22ER 5XL12	5101800	5	1-1/4	1/2	.87	.087	.083	8-5/8 - 10-3/4		●	●	●	
22NR 6XL75	5122000	6	3/4	1/2	.87	.075	.078			●	●	●	
22NR 6XL15	5121900	6	1-1/2	1/2	.87	.075	.086	5 - 7-5/8		●	●	●	
22NR 5XL12	5121800	5	1-1/4	1/2	.87	.087	.083	8-5/8 - 10-3/4		●	●	●	

## BSPT

16NR/ER - 3/8" I.C.

55° w/patented chipbreaker

Exclusive patented chipbreaker!



EXT RH SHOWN



Description	EDP Code	TPI	IC	L	M	K	GP22	GP50	AC22	AC3	AC50
16ER 28BSPT-CB	5004428HC	28	3/8	.63	.031	.028	●	●	●	●	
16ER 19BSPT-CB	5004419HC	19	3/8	.63	.031	.028	●	●	●	●	
16ER 14BSPT-CB	5004414HC	14	3/8	.63	.059	.059	●	●	●	●	
16ER 11BSPT-CB	5004411HC	11	3/8	.63	.059	.059	●	●	●	●	
16NR 28BSPT-CB	5024428HC	28	3/8	.63	.031	.031	●	●	●	●	
16NR 19BSPT-CB	5024419HC	19	3/8	.63	.031	.031	●	●	●	●	
16NR 14BSPT-CB	5024428HC	14	3/8	.63	.031	.031	●	●	●	●	
16NR 11BSPT-CB	5024419HC	11	3/8	.63	.031	.031	●	●	●	●	

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

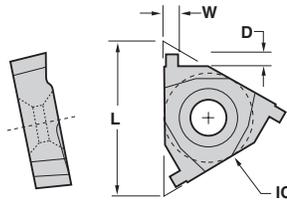
- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

Cast Iron	Non-Ferrous	Stainless/High Temp	Steel
			●
			●
			●
			●

# LAYDOWN



## GROOVING 16NR/ER - 3/8" I.C.



EXT RH SHOWN



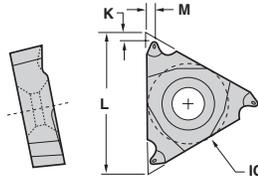
Description	EDP Code	IC	W	D	L	TIN Coated		AlTiN Coated		
						GP22	GP50	AC22	AC3	AC50
16ER NG W.031	5007431	3/8	.031	.050	.63	●	●			●
16EL NG W.031	5047431	3/8	.031	.050	.63	●				
16ER NG W.047	5007447	3/8	.047	.070	.63	●	●			●
16EL NG W.047	5047447	3/8	.047	.070	.63	●				
16ER NG W.062	5007462	3/8	.062	.080	.63	●	●			●
16EL NG W.062	5047462	3/8	.062	.080	.63	●				
16ER NG W.093	5007493	3/8	.093	.070	.63	●	●			●
16EL NG W.093	5047493	3/8	.093	.070	.63	●				
16ER NG W.125	5007625	3/8	.125	.045	.63	●	●			●
16EL NG W.125	5047625	3/8	.125	.045	.63	●				
16NR NG W.031	5027431	3/8	.031	.050	.63	●	●			●
16NL NG W.031	5067431	3/8	.031	.050	.63	●				
16NR NG W.047	5027447	3/8	.047	.070	.63	●	●			●
16NL NG W.047	5067447	3/8	.047	.070	.63	●				
16NR NG W.062	5027462	3/8	.062	.080	.63	●	●			●
16NL NG W.062	5067462	3/8	.062	.080	.63	●				
16NR NG W.093	5027493	3/8	.093	.070	.63	●	●			●
16NL NG W.093	5067493	3/8	.093	.070	.63	●				
16NR NG W.125	5027625	3/8	.125	.045	.63	●	●			●
16NL NG W.125	5067625	3/8	.125	.045	.63	●				

LAYDOWN

## ISO 16NR/ER - 3/8" I.C.

w/patented chipbreaker

Exclusive patented chipbreaker!



EXT RH SHOWN



Description	EDP Code	Pitch	IC	L	M	K	TIN Coated		AlTiN Coated		
							GP22	GP50	AC22	AC3	AC50
16NR 0.75ISO-CB	50242075HC	0,75	3/8	.63	.02	.04	●	●	●	●	●
16NR 1.0ISO-CB	5024201HC	1,00	3/8	.63	.03	.03	●	●	●	●	●
16NR 1.25ISO-CB	502420125HC	1,25	3/8	.63	.03	.03	●	●	●	●	●
16NR 1.5ISO-CB	50242015HC	1,50	3/8	.63	.03	.03	●	●	●	●	●
16NR 1.75ISO-CB	502420175HC	1,75	3/8	.63	.06	.04	●	●	●	●	●
16NR 2.0ISO-CB	5024202HC	2,00	3/8	.63	.06	.04	●	●	●	●	●
16NR 2.5ISO-CB	50242025HC	2,50	3/8	.63	.06	.04	●	●	●	●	●
16NR 3.0ISO-CB	5024203HC	3,00	3/8	.63	.06	.04	●	●	●	●	●
16ER 0.75ISO-CB	50042075HC	0,75	3/8	.63	.02	.04	●	●	●	●	●
16ER 1.0ISO-CB	5004201HC	1,00	3/8	.63	.03	.03	●	●	●	●	●
16ER 1.25ISO-CB	500420125HC	1,25	3/8	.63	.03	.03	●	●	●	●	●
16ER 1.5ISO-CB	50042015HC	1,50	3/8	.63	.03	.03	●	●	●	●	●
16ER 1.75ISO-CB	500420175HC	1,75	3/8	.63	.06	.04	●	●	●	●	●
16ER 2.0ISO-CB	5004202HC	2,00	3/8	.63	.06	.04	●	●	●	●	●
16ER 2.5ISO-CB	50042025HC	2,50	3/8	.63	.06	.04	●	●	●	●	●
16ER 3.0ISO-CB	5004203HC	3,00	3/8	.63	.06	.04	●	●	●	●	●

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

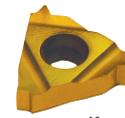
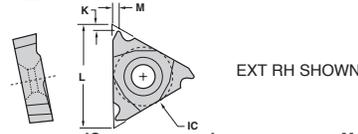
Cast Iron					●
Non-Ferrous					
Stainless/High Temp					●
Steel	▲				●



# LAYDOWN

## ISO

11, 16, 22 & 27NR/ER - 1/4", 3/8", 1/2" & 5/8" I.C.

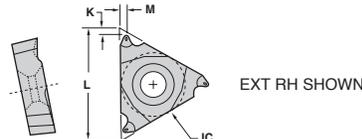


Description	EDP Code	Pitch	IC	L	M	K	TiN Coated		AlTiN Coated		
							GP22	GP50	AC22	AC3	AC50
11NR 0.5ISO	4924205	0,50	1/4	.43	.02	.015	●	●	●	●	●
11NR 0.75ISO	49242075	0,75	1/4	.43	.02	.02	●	●	●	●	●
11NR 1.0ISO	4924210	1,0	1/4	.43	.03	.03	●	●	●	●	●
16NR 1.0ISO	5024201	1,0	3/8	.63	.03	.02	●	●	●	●	●
16NR 1.5ISO	50242015	1,5	3/8	.63	.04	.03	●	●	●	●	●
16NR 2.0ISO	5024202	2,0	3/8	.63	.05	.04	●	●	●	●	●
22NR 3.5ISO	51242035	3,5	1/2	.87	.09	.06	●	●	●	●	●
22NR 4.0ISO	5124204	4,0	1/2	.87	.09	.06	●	●	●	●	●
22NR 5.0ISO	5124205	5,0	1/2	.87	.09	.06	●	●	●	●	●
27NR 5.5ISO	52242055	5,5	5/8	1.06	.09	.06	●	●	●	●	●
27NR 6.0ISO	5224206	6,0	5/8	1.06	.10	.07	●	●	●	●	●
11ER 0.5ISO	4904205	0,50	1/4	.43	.02	.02	●	●	●	●	●
11ER 0.75ISO	49042075	0,75	1/4	.43	.02	.02	●	●	●	●	●
11ER 1.0ISO	4904210	1,0	1/4	.43	.03	.02	●	●	●	●	●
16ER 1.0ISO	5004201	1,0	3/8	.63	.03	.03	●	●	●	●	●
16ER 1.5ISO	50042015	1,5	3/8	.63	.04	.03	●	●	●	●	●
16ER 2.0ISO	5004202	2,0	3/8	.63	.05	.04	●	●	●	●	●
22ER 3.5ISO	50042035	3,5	1/2	.87	.09	.06	●	●	●	●	●
22ER 4.0ISO	5104204	4,0	1/2	.87	.09	.07	●	●	●	●	●
22ER 5.0ISO	5104205	5,0	1/2	.87	.10	.07	●	●	●	●	●
27ER 5.5ISO	52042055	5,5	5/8	1.06	.11	.07	●	●	●	●	●
27ER 6.0ISO	5204206	6,0	5/8	1.06	.11	.08	●	●	●	●	●

## NPT

16NR/ER - 3/8" I.C.  
w/patented chipbreaker

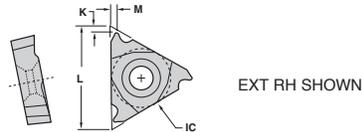
Exclusive patented chipbreaker!



Description	EDP Code	TPI	IC	L	M	K	TiN Coated		AlTiN Coated		
							GP22	GP50	AC22	AC3	AC50
16ER 27NPT-CB	5003627HC	27	3/8	.63	.03	.02	●	●	●	●	●
16ER 18NPT-CB	5003618HC	18	3/8	.63	.03	.02	●	●	●	●	●
16ER 14NPT-CB	5003614HC	14	3/8	.63	.06	.04	●	●	●	●	●
16ER 11.5NPT-CB	5003611HC	11.5	3/8	.63	.06	.04	●	●	●	●	●
16ER 8NPT-CB	5003608HC	8	3/8	.63	.06	.04	●	●	●	●	●
16NR 27NPT-CB	5023627HC	27	3/8	.63	.03	.02	●	●	●	●	●
16NR 18NPT-CB	5023618HC	18	3/8	.63	.03	.02	●	●	●	●	●
16NR 14NPT-CB	5023614HC	14	3/8	.63	.06	.04	●	●	●	●	●
16NR 11.5NPT-CB	5023611HC	11.5	3/8	.63	.06	.04	●	●	●	●	●
16NR 8NPT-CB	5023608HC	8	3/8	.63	.06	.04	●	●	●	●	●

## NPT

11 & 16NR/ER - 1/4" & 3/8" I.C.



Description	EDP Code	TPI	IC	L	M	K	TiN Coated		AlTiN Coated		
							GP22	GP50	AC22	AC3	AC50
16ER 27NPT	5003627	27	3/8	.63	.03	.03	●	●	●	●	●
16EL 27NPT	5043627	27	3/8	.63	.03	.03	●	●	●	●	●
16ER 18NPT	5003618	18	3/8	.63	.04	.03	●	●	●	●	●
16EL 18NPT	5043618	18	3/8	.63	.04	.03	●	●	●	●	●
16ER 14NPT	5003614	14	3/8	.63	.05	.04	●	●	●	●	●
16EL 14NPT	5043614	14	3/8	.63	.05	.04	●	●	●	●	●
16ER 11.5NPT	5003611	11.5	3/8	.63	.06	.04	●	●	●	●	●
16EL 11.5NPT	5043611	11.5	3/8	.63	.06	.04	●	●	●	●	●
16ER 8NPT	5003608	8	3/8	.63	.07	.05	●	●	●	●	●
16EL 8NPT	5043608	8	3/8	.63	.07	.05	●	●	●	●	●
11NR 18NPT	4923618	18	1/4	.43	.04	.03	●	●	●	●	●
11NR 27NPT	4923627	27	1/4	.43	.03	.03	●	●	●	●	●
16NR 27NPT	5023627	27	3/8	.63	.03	.03	●	●	●	●	●
16NL 27NPT	5063627	27	3/8	.63	.03	.03	●	●	●	●	●
16NR 18NPT	5023618	18	3/8	.63	.04	.03	●	●	●	●	●
16NL 18NPT	5063618	18	3/8	.63	.04	.03	●	●	●	●	●
16NR 14NPT	5023614	14	3/8	.63	.05	.04	●	●	●	●	●
16NL 14NPT	5063614	14	3/8	.63	.05	.04	●	●	●	●	●
16NR 11.5NPT	5023611	11.5	3/8	.63	.06	.04	●	●	●	●	●
16NL 11.5NPT	5063611	11.5	3/8	.63	.06	.04	●	●	●	●	●
16NR 8NPT	5023608	8	3/8	.63	.06	.05	●	●	●	●	●
16NL 8NPT	5063608	8	3/8	.63	.06	.05	●	●	●	●	●

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

Material	GP22	GP50	AC22	AC3	AC50
Cast Iron	▲	●	●	●	●
Non-Ferrous	▲	●	●	●	●
Stainless/High Temp	▲	●	●	●	●
Steel	▲	●	●	●	●

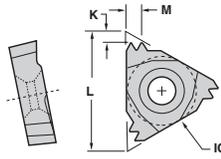
# LAYDOWN



## NPT

22 & 27NR/ER - 1/2" & 5/8" I.C.

Multi-tooth



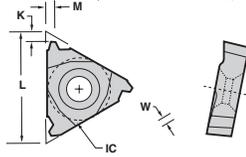
EXT RH SHOWN



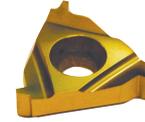
Description	EDP Code	TPI	IC	L	M	K	TIN Coated		A1TIN Coated		
							GP22	GP50	AC22	AC3	AC50
22ER 11.5NPT2M	5103811	11.5	1/2	0.87	.13	.09	●	●	●	●	●
27ER 11.5NPT3M	5203811	11.5	5/8	1.06	.22	.14	●	●	●	●	●
27ER 8NPT2M	5203808	8	5/8	1.06	.19	.11	●	●	●	●	●
22NR 11.5NPT2M	5123811	11.5	1/2	0.87	.13	.09	●	●	●	●	●
27NR 11.5NPT3M	5223811	11.5	5/8	1.06	.22	.14	●	●	●	●	●
27NR 8NPT2M	5223808	8	5/8	1.06	.19	.11	●	●	●	●	●

## TRAPEZOIDAL

16NR/ER - 3/8" I.C.



EXT RH SHOWN



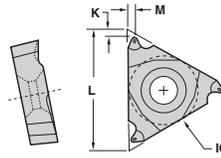
Description	EDP Code	Pitch	IC	L	M	K	TIN Coated		A1TIN Coated		
							GP22	GP50	AC22	AC3	AC50
16ER 1.5TR	5007015	1.5	3/8	.63	.04	.04	●	●	●	●	●
16ER 2.0TR	5007020	2.0	3/8	.63	.05	.04	●	●	●	●	●
16ER 3.0TR	5007030	3.0	3/8	.63	.06	.05	●	●	●	●	●
16NR 1.5TR	5027015	1.5	3/8	.63	.04	.04	●	●	●	●	●
16NR 2.0TR	5027020	2.0	3/8	.63	.05	.04	●	●	●	●	●
16NR 3.0TR	5027030	3.0	3/8	.63	.06	.05	●	●	●	●	●

## NPTF DRY SEAL

16NR/ER - 3/8" I.C.

w/ patented chipbreaker

*Exclusive patented chipbreaker!*



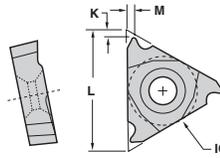
EXT RH SHOWN



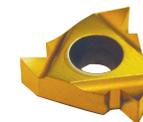
Description	EDP Code	TPI	IC	L	M	K	TIN Coated		A1TIN Coated		
							GP22	GP50	AC22	AC3	AC50
16ER 27NPTF-CB	5004027HC	27	3/8	.63	.03	.03	●	●	●	●	●
16ER 18NPTF-CB	5004018HC	18	3/8	.63	.04	.03	●	●	●	●	●
16ER 14NPTF-CB	5004014HC	14	3/8	.63	.05	.04	●	●	●	●	●
16ER 11.5NPTF-CB	5004011HC	11.5	3/8	.63	.06	.04	●	●	●	●	●
16ER 8NPTF-CB	5004008HC	8	3/8	.63	.07	.05	●	●	●	●	●
16NR 27NPTF-CB	5024027HC	27	3/8	.63	.03	.03	●	●	●	●	●
16NR 18NPTF-CB	5024018HC	18	3/8	.63	.03	.02	●	●	●	●	●
16NR 14NPTF-CB	5024014HC	14	3/8	.63	.06	.04	●	●	●	●	●
16NR 11.5NPTF-CB	5024011HC	11.5	3/8	.63	.06	.04	●	●	●	●	●
16NR 8NPTF-CB	5024008HC	8	3/8	.63	.06	.04	●	●	●	●	●

## NPTF DRY SEAL

11 & 16NR/NL/ER/EL - 1/4" & 3/8" I.C.



EXT RH SHOWN



Description	EDP Code	TPI	IC	L	M	K	TIN Coated		A1TIN Coated		
							GP22	GP50	AC22	AC3	AC50
16ER 27NPTF	5004027	27	3/8	.63	.03	.03	●	●	●	●	●
16EL 27NPTF	5043827	27	3/8	.63	.03	.03	●	●	●	●	●
16ER 18NPTF	5004018	18	3/8	.63	.04	.03	●	●	●	●	●
16EL 18NPTF	5043818	18	3/8	.63	.04	.03	●	●	●	●	●
16ER 14NPTF	5004014	14	3/8	.63	.05	.04	●	●	●	●	●
16EL 14NPTF	5043814	14	3/8	.63	.05	.04	●	●	●	●	●
16ER 11.5NPTF	5004011	11.5	3/8	.63	.06	.04	●	●	●	●	●
16EL 11.5NPTF	5043811	11.5	3/8	.63	.06	.04	●	●	●	●	●
16ER 8NPTF	5004008	8	3/8	.63	.07	.05	●	●	●	●	●
16EL 8NPTF	5043808	8	3/8	.63	.07	.05	●	●	●	●	●
11NR 27NPTF	4923827	27	1/4	.43	.03	.03	●	●	●	●	●
11NR 18NPTF	4924018	18	1/4	.43	.04	.03	●	●	●	●	●
16NR 27NPTF	5024027	27	3/8	.63	.03	.03	●	●	●	●	●
16NL 27NPTF	5063827	27	3/8	.63	.03	.03	●	●	●	●	●
16NR 18NPTF	5024018	18	3/8	.63	.04	.03	●	●	●	●	●
16NL 18NPTF	5063818	18	3/8	.63	.04	.03	●	●	●	●	●
16NR 14NPTF	5024014	14	3/8	.63	.05	.04	●	●	●	●	●
16NL 14NPTF	5063814	14	3/8	.63	.05	.04	●	●	●	●	●
16NR 11.5NPTF	5024011	11.5	3/8	.63	.06	.04	●	●	●	●	●
16NL 11.5NPTF	5063811	11.5	3/8	.63	.06	.04	●	●	●	●	●
16NR 8NPTF	5024008	8	3/8	.63	.07	.05	●	●	●	●	●
16NL 8NPTF	5063808	8	3/8	.63	.07	.05	●	●	●	●	●

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

	GP22	GP50	AC22	AC3	AC50
Cast Iron	▲	●	●	●	●
Non-Ferrous	▲	●	●	●	●
Stainless/High Temp	▲	●	●	●	●
Steel	▲	●	●	●	●



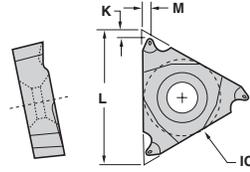
# LAYDOWN

## UN

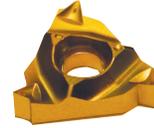
### 16ER - 3/8" I.C.

w/ patented chipbreaker

*Exclusive patented chipbreaker!*



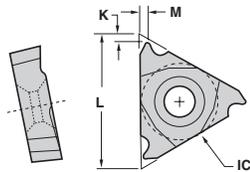
EXT RH SHOWN



Description	EDP Code	TPI	IC	L	M	K	TIN Coated		AlTiN Coated	
							GP22	GP50	AC22	AC3
16ER 32UN-CB	5006632HC	32	3/8	.63	.01	.05	●	●	●	●
16ER 28UN-CB	5006628HC	28	3/8	.63	.03	.03	●	●	●	●
16ER 24UN-CB	5006624HC	24	3/8	.63	.03	.03	●	●	●	●
16ER 20UN-CB	5006620HC	20	3/8	.63	.03	.03	●	●	●	●
16ER 18UN-CB	5006618HC	18	3/8	.63	.03	.03	●	●	●	●
16ER 16UN-CB	5006616HC	16	3/8	.63	.03	.03	●	●	●	●
16ER 14UN-CB	5006614HC	14	3/8	.63	.06	.05	●	●	●	●
16ER 13UN-CB	5006613HC	13	3/8	.63	.06	.05	●	●	●	●
16ER 12UN-CB	5006612HC	12	3/8	.63	.06	.05	●	●	●	●
16ER 10UN-CB	5006610HC	10	3/8	.63	.06	.05	●	●	●	●
16ER 8UN-CB	5006608HC	8	3/8	.63	.06	.05	●	●	●	●

## UN

### 16 & 22ER/EL - 3/8" & 1/2" I.C.



EXT RH SHOWN



Description	EDP Code	TPI	IC	L	M	K	TIN Coated		AlTiN Coated	
							GP22	GP50	AC22	AC3
16ER 32UN	5006632	32	3/8	.63	.02	.02	●	●	●	●
16EL 32UN	5046632	32	3/8	.63	.02	.02	●	●	●	●
16ER 28UN	5006628	28	3/8	.63	.03	.02	●	●	●	●
16EL 28UN	5046628	28	3/8	.63	.03	.02	●	●	●	●
16ER 24UN	5006624	24	3/8	.63	.03	.03	●	●	●	●
16EL 24UN	5046624	24	3/8	.63	.03	.03	●	●	●	●
16ER 20UN	5006620	20	3/8	.63	.04	.03	●	●	●	●
16EL 20UN	5046620	20	3/8	.63	.04	.03	●	●	●	●
16ER 18UN	5006618	18	3/8	.63	.04	.03	●	●	●	●
16EL 18UN	5046618	18	3/8	.63	.04	.03	●	●	●	●
16ER 16UN	5006616	16	3/8	.63	.04	.04	●	●	●	●
16EL 16UN	5046616	16	3/8	.63	.04	.04	●	●	●	●
16ER 14UN	5006614	14	3/8	.63	.05	.04	●	●	●	●
16EL 14UN	5046614	14	3/8	.63	.05	.04	●	●	●	●
16ER 13UN	5006613	13	3/8	.63	.05	.04	●	●	●	●
16EL 13UN	5046613	13	3/8	.63	.05	.04	●	●	●	●
16ER 12UN	5006612	12	3/8	.63	.06	.04	●	●	●	●
16EL 12UN	5046612	12	3/8	.63	.06	.04	●	●	●	●
16ER 11UN	5006611	11	3/8	.63	.06	.04	●	●	●	●
16EL 11UN	5046611	11	3/8	.63	.06	.04	●	●	●	●
16ER 10UN	5006610	10	3/8	.63	.06	.04	●	●	●	●
16EL 10UN	5046610	10	3/8	.63	.06	.04	●	●	●	●
16ER 9UN	5006609	9	3/8	.63	.07	.05	●	●	●	●
16EL 9UN	5046609	9	3/8	.63	.07	.05	●	●	●	●
16ER 8UN	5006608	8	3/8	.63	.06	.05	●	●	●	●
16EL 8UN	5046608	8	3/8	.63	.06	.05	●	●	●	●
22ER 7UN	5106607	7	1/2	.87	.09	.06	●	●	●	●
22EL 7UN	5146607	7	1/2	.87	.09	.06	●	●	●	●
22ER 6UN	5106606	6	1/2	.87	.09	.06	●	●	●	●
22EL 6UN	5146606	6	1/2	.87	.09	.06	●	●	●	●
22ER 5UN	5106605	5	1/2	.87	.10	.07	●	●	●	●
22EL 5UN	5146605	5	1/2	.87	.10	.07	●	●	●	●
27ER 4.5UN	52066045	4.5	5/8	1.06	.11	.07	●	●	●	●
27EL 4.5UN	52466045	4.5	5/8	1.06	.11	.07	●	●	●	●
27ER 4UN	5206604	4	5/8	1.06	.12	.08	●	●	●	●
27EL 4UN	5246604	4	5/8	1.06	.12	.08	●	●	●	●

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

Cast Iron	▲			●
Non-Ferrous	▲			
Stainless/High Temp	▲			●
Steel		▲		●

LAYDOWN

# LAYDOWN

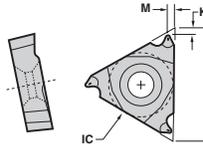


## UN

### 16NR - 3/8" I.C.

w/ patented chipbreaker

Exclusive patented chipbreaker!



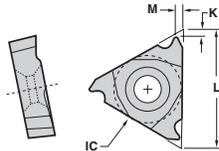
INT RH SHOWN



Description	EDP Code	TPI	IC	L	M	K	TIN Coated		AlTiN Coated		
							GP22	GP50	AC22	AC3	AC50
16NR 32UN-CB	5026632HC	32	3/8	.63	.02	.04	●	●	●	●	●
16NR 28UN-CB	5026628HC	28	3/8	.63	.03	.02	●	●	●	●	●
16NR 24UN-CB	5026624HC	24	3/8	.63	.03	.03	●	●	●	●	●
16NR 20UN-CB	5026620HC	20	3/8	.63	.03	.02	●	●	●	●	●
16NR 18UN-CB	5026618HC	18	3/8	.63	.03	.02	●	●	●	●	●
16NR 16UN-CB	5026616HC	16	3/8	.63	.03	.03	●	●	●	●	●
16NR 14UN-CB	5026614HC	14	3/8	.63	.05	.04	●	●	●	●	●
16NR 13UN-CB	5026613HC	13	3/8	.63	.05	.04	●	●	●	●	●
16NR 12UN-CB	5026612HC	12	3/8	.63	.05	.04	●	●	●	●	●
16NR 10UN-CB	5026610HC	10	3/8	.63	.05	.04	●	●	●	●	●
16NR 8UN-CB	5026608HC	8	3/8	.63	.05	.04	●	●	●	●	●

## UN

### 11, 16, 22 & 27NR - 1/4", 3/8", 1/2" & 5/8" I.C.



INT RH SHOWN



Description	EDP Code	TPI	IC	L	M	K	TIN Coated		AlTiN Coated		
							GP22	GP50	AC22	AC3	AC50
11NR 32UN	4926632	32	1/4	.43	.02	.02	●	●	●	●	●
11NR 28UN	4926628	28	1/4	.43	.03	.02	●	●	●	●	●
11NR 24UN	4926624	24	1/4	.43	.03	.03	●	●	●	●	●
11NR 20UN	4926620	20	1/4	.43	.04	.03	●	●	●	●	●
11NR 18UN	4926618	18	1/4	.43	.04	.03	●	●	●	●	●
16NR 32UN	5026632	32	3/8	.63	.02	.02	●	●	●	●	●
16NL 32UN	5066632	32	3/8	.63	.02	.02	●	●	●	●	●
16NR 28UN	5026628	28	3/8	.63	.03	.02	●	●	●	●	●
16NL 28UN	5066628	28	3/8	.63	.03	.02	●	●	●	●	●
16NR 24UN	5026624	24	3/8	.63	.03	.03	●	●	●	●	●
16NL 24UN	5066624	24	3/8	.63	.03	.03	●	●	●	●	●
16NR 20UN	5026620	20	3/8	.63	.04	.03	●	●	●	●	●
16NL 20UN	5066620	20	3/8	.63	.04	.03	●	●	●	●	●
16NR 18UN	5026618	18	3/8	.63	.04	.03	●	●	●	●	●
16NL 18UN	5066618	18	3/8	.63	.04	.03	●	●	●	●	●
16NR 16UN	5026616	16	3/8	.63	.04	.04	●	●	●	●	●
16NL 16UN	5066616	16	3/8	.63	.04	.04	●	●	●	●	●
16NR 14UN	5026614	14	3/8	.63	.05	.04	●	●	●	●	●
16NL 14UN	5066614	14	3/8	.63	.05	.04	●	●	●	●	●
16NR 13UN	5026613	13	3/8	.63	.05	.04	●	●	●	●	●
16NL 13UN	5066613	13	3/8	.63	.05	.04	●	●	●	●	●
16NR 12UN	5026612	12	3/8	.63	.06	.04	●	●	●	●	●
16NL 12UN	5066612	12	3/8	.63	.06	.04	●	●	●	●	●
16NR 11UN	5026611	11	3/8	.63	.06	.04	●	●	●	●	●
16NL 11UN	5066611	11	3/8	.63	.06	.04	●	●	●	●	●
16NR 10UN	5026610	10	3/8	.63	.06	.04	●	●	●	●	●
16NL 10UN	5066610	10	3/8	.63	.06	.04	●	●	●	●	●
16NR 9UN	5026609	9	3/8	.63	.07	.05	●	●	●	●	●
16NL 9UN	5066609	9	3/8	.63	.07	.05	●	●	●	●	●
16NR 8UN	5026608	8	3/8	.63	.06	.04	●	●	●	●	●
16NL 8UN	5066608	8	3/8	.63	.06	.04	●	●	●	●	●
22NR 7UN	5126607	7	1/2	.87	.09	.06	●	●	●	●	●
22NL 7UN	5166607	7	1/2	.87	.09	.06	●	●	●	●	●
22NR 6UN	5126606	6	1/2	.87	.09	.06	●	●	●	●	●
22NL 6UN	5166606	6	1/2	.87	.09	.06	●	●	●	●	●
22NR 5UN	5126605	5	1/2	.87	.09	.06	●	●	●	●	●
22NL 5UN	5166605	5	1/2	.87	.09	.06	●	●	●	●	●
27NR 4.5UN	52266045	4.5	5/8	1.06	.09	.07	●	●	●	●	●
27NL 4.5UN	52666045	4.5	5/8	1.06	.09	.07	●	●	●	●	●
27NR 4UN	5226604	4	5/8	1.06	.11	.07	●	●	●	●	●
27NL 4UN	5266604	4	5/8	1.06	.11	.07	●	●	●	●	●

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

Material	GP22	GP50	AC22	AC3	AC50
Cast Iron	▲				●
Non-Ferrous	▲				●
Stainless/High Temp	▲				●
Steel		▲			●

LAYDOWN



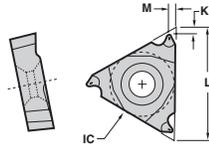
# LAYDOWN

## UNJ

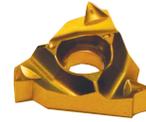
16NR - 3/8" I.C.

w/ patented chipbreaker

*Exclusive patented chipbreaker!*



INT RH SHOWN



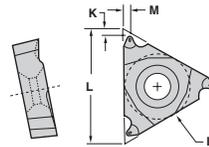
Description	EDP Code	TPI	IC	L	M	K	TIN Coated		AlTiN Coated		
							GP22	GP50	AC22	AC3	AC50
16NR 32UNJ-CB	5026832HC	32	3/8	.63	.02	.04	●	●	●	●	●
16NR 28UNJ-CB	5026828HC	28	3/8	.63	.03	.02	●	●	●	●	●
16NR 24UNJ-CB	5026824HC	24	3/8	.63	.03	.02	●	●	●	●	●
16NR 20UNJ-CB	5026820HC	20	3/8	.63	.03	.02	●	●	●	●	●
16NR 18UNJ-CB	5026818HC	18	3/8	.63	.03	.02	●	●	●	●	●
16NR 16UNJ-CB	5026816HC	16	3/8	.63	.03	.02	●	●	●	●	●
16NR 14UNJ-CB	5026814HC	14	3/8	.63	.06	.04	●	●	●	●	●
16NR 12UNJ-CB	5026812HC	12	3/8	.63	.06	.04	●	●	●	●	●
16NR 10UNJ-CB	5026810HC	10	3/8	.63	.06	.04	●	●	●	●	●

## UNJ

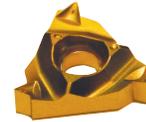
16ER - 3/8" I.C.

w/ patented chipbreaker

*Exclusive patented chipbreaker!*



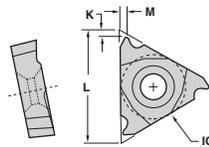
EXT RH SHOWN



Description	EDP Code	TPI	IC	L	M	K	TIN Coated		AlTiN Coated		
							GP22	GP50	AC22	AC3	AC50
16ER 32UNJ-CB	5006832HC	32	3/8	.63	.02	.05	●	●	●	●	●
16ER 28UNJ-CB	5006828HC	28	3/8	.63	.03	.03	●	●	●	●	●
16ER 24UNJ-CB	5006824HC	24	3/8	.63	.03	.03	●	●	●	●	●
16ER 20UNJ-CB	5006820HC	20	3/8	.63	.03	.03	●	●	●	●	●
16ER 18UNJ-CB	5006818HC	18	3/8	.63	.03	.03	●	●	●	●	●
16ER 16UNJ-CB	5006816HC	16	3/8	.63	.03	.03	●	●	●	●	●
16ER 14UNJ-CB	5006814HC	14	3/8	.63	.06	.05	●	●	●	●	●
16ER 12UNJ-CB	5006812HC	12	3/8	.63	.06	.05	●	●	●	●	●
16ER 10UNJ-CB	5006810HC	10	3/8	.63	.06	.05	●	●	●	●	●

## UNJ

16ER - 3/8" I.C.



EXT RH SHOWN



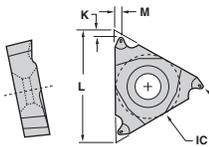
Description	EDP Code	TPI	IC	L	M	K	TIN Coated		AlTiN Coated		
							GP22	GP50	AC22	AC3	AC50
16ER 32UNJ	5006832	32	3/8	.63	.03	.02	●	●	●	●	●
16ER 28UNJ	5006828	28	3/8	.63	.03	.03	●	●	●	●	●
16ER 24UNJ	5006824	24	3/8	.63	.03	.03	●	●	●	●	●
16ER 20UNJ	5006820	20	3/8	.63	.04	.03	●	●	●	●	●
16ER 18UNJ	5006818	18	3/8	.63	.04	.03	●	●	●	●	●
16ER 16UNJ	5006816	16	3/8	.63	.04	.04	●	●	●	●	●
16ER 14UNJ	5006814	14	3/8	.63	.05	.04	●	●	●	●	●
16ER 12UNJ	5006812	12	3/8	.63	.05	.04	●	●	●	●	●
16ER 10UNJ	5006810	10	3/8	.63	.06	.05	●	●	●	●	●
16ER 8UNJ	5006808	8	3/8	.63	.06	.05	●	●	●	●	●

## V THREADING - 60°

16ER/NR - 3/8" I.C.

w/ patented chipbreaker

*Exclusive patented chipbreaker!*



EXT RH SHOWN



Description	EDP Code	TPI	IC	L	M	K	R	TIN Coated		AlTiN Coated		
								GP22	GP50	AC22	AC3	AC50
16ER A60-CB	5004600HC	16-48	3/8	.63	.03	.02	.003	●	●	●	●	●
16ER AG60-CB	5004800HC	8-48	3/8	.63	.06	.04	.003	●	●	●	●	●
16ER G60-CB	5005000HC	8-14	3/8	.63	.06	.04	.007	●	●	●	●	●
16NR A60-CB	5024600HC	16-48	3/8	.63	.03	.03	.002	●	●	●	●	●
16NR AG60-CB	5024800HC	8-48	3/8	.63	.06	.04	.002	●	●	●	●	●
16NR G60-CB	5025000HC	8-14	3/8	.63	.06	.04	.007	●	●	●	●	●

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

Cast Iron	▲	●	●	●	●
Non-Ferrous	▲	●	●	●	●
Stainless/High Temp	▲	●	●	●	●
Steel	▲	●	●	●	●

LAYDOWN

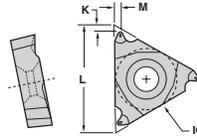


## V THREADING - 55°

16ER/NR - 3/8" I.C.

w/ patented chipbreaker

*Exclusive patented chipbreaker!*



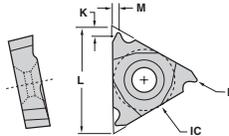
EXT RH SHOWN



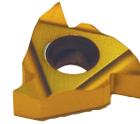
Description	EDP Code	TPI	IC	L	M	K	R	TiN Coated		AlTiN Coated		
								GP22	GP50	AC22	AC3	AC50
16ER A55-CB	5005400HC	16-48	3/8	.63	.03	.02	.002	●	●	●	●	●
16ER AG55-CB	5005600HC	8-48	3/8	.63	.06	.04	.003	●	●	●	●	●
16ER G55-CB	5005800HC	8-14	3/8	.63	.06	.04	.008	●	●	●	●	●
16NR A55-CB	5025400HC	16-48	3/8	.63	.03	.02	.002	●	●	●	●	●
16NR AG55-CB	5025600HC	8-48	3/8	.63	.06	.04	.003	●	●	●	●	●
16NR G55-CB	5025800HC	8-14	3/8	.63	.06	.04	.008	●	●	●	●	●

## V THREADING - 55° & 60°

11, 16 & 22ER/NR - 1/4", 3/8" & 1/2" I.C.



EXT RH SHOWN



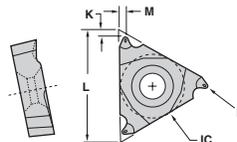
Description	EDP Code	TPI	IC	L	M	K	R	TiN Coated		AlTiN Coated		
								GP22	GP50	AC22	AC3	AC50
16ER A60	5004600	16-48	3/8	.63	.04	.03	.003	●	●	●	●	●
16EL A60	5044600	16-48	3/8	.63	.04	.03	.003	●	●	●	●	●
16ER AG60	5004800	8-48	3/8	.63	.07	.05	.003	●	●	●	●	●
16EL AG60	5044800	8-48	3/8	.63	.07	.05	.003	●	●	●	●	●
16ER G60	5005000	8-14	3/8	.63	.07	.05	.007	●	●	●	●	●
16EL G60	5045000	8-14	3/8	.63	.07	.05	.007	●	●	●	●	●
22ER N60	5105200	5-7	1/2	.87	.10	.07	.016	●	●	●	●	●
22EL N60	5145200	5-7	1/2	.87	.10	.07	.016	●	●	●	●	●
11NR A55	4925400	16-48	1/4	.43	.04	.03	.003	●	●	●	●	●
11NR A60	4924600	16-48	1/4	.43	.04	.03	.003	●	●	●	●	●
16NR A60	5024600	16-48	3/8	.63	.04	.03	.003	●	●	●	●	●
16NL A60	5064600	16-48	3/8	.63	.04	.03	.003	●	●	●	●	●
16NR AG60	5024800	8-48	3/8	.63	.07	.05	.003	●	●	●	●	●
16NL AG60	5064800	8-48	3/8	.63	.07	.05	.003	●	●	●	●	●
16NR G60	5025000	8-14	3/8	.63	.07	.05	.007	●	●	●	●	●
16NL G60	5065000	8-14	3/8	.63	.07	.05	.007	●	●	●	●	●
22NR N60	5125200	5-7	1/2	.87	.10	.07	.010	●	●	●	●	●
22NL N60	5165200	5-7	1/2	.87	.10	.07	.010	●	●	●	●	●

## WHITWORTH

16ER/NR - 3/8" I.C.

w/ patented chipbreaker

*Exclusive patented chipbreaker!*



EXT RH SHOWN



Description	EDP Code	TPI	IC	L	M	K	TiN Coated		AlTiN Coated		
							GP22	GP50	AC22	AC3	AC50
16ER 36W-CB	5006036HC	36	3/8	.63	.02	.05	●	●	●	●	●
16ER 32W-CB	5006032HC	32	3/8	.63	.02	.05	●	●	●	●	●
16ER 28W-CB	5006028HC	28	3/8	.63	.03	.03	●	●	●	●	●
16ER 24W-CB	5006024HC	24	3/8	.63	.03	.03	●	●	●	●	●
16ER 20W-CB	5006020HC	20	3/8	.63	.03	.03	●	●	●	●	●
16ER 19W-CB	5006019HC	19	3/8	.63	.03	.03	●	●	●	●	●
16ER 18W-CB	5006018HC	18	3/8	.63	.03	.03	●	●	●	●	●
16ER 16W-CB	5006016HC	16	3/8	.63	.03	.03	●	●	●	●	●
16ER 14W-CB	5006014HC	14	3/8	.63	.06	.05	●	●	●	●	●
16ER 12W-CB	5006012HC	12	3/8	.63	.06	.05	●	●	●	●	●
16ER 11W-CB	5006011HC	11	3/8	.63	.06	.05	●	●	●	●	●
16ER 10W-CB	5006010HC	10	3/8	.63	.06	.05	●	●	●	●	●
16ER 8W-CB	5006008HC	8	3/8	.63	.06	.05	●	●	●	●	●
16NR 28W-CB	5026028HC	28	3/8	.63	.03	.03	●	●	●	●	●
16NR 24W-CB	5026024HC	24	3/8	.63	.03	.03	●	●	●	●	●
16NR 20W-CB	5026020HC	20	3/8	.63	.03	.03	●	●	●	●	●
16NR 19W-CB	5026019HC	19	3/8	.63	.03	.03	●	●	●	●	●

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

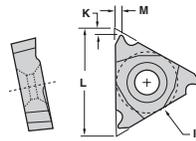
Cast Iron	▲	●	●	●
Non-Ferrous	▲	●	●	●
Stainless/High Temp	▲	●	●	●
Steel	▲	●	●	●



# LAYDOWN

## WHITWORTH

16, 22 & 27ER/NR - 3/8", 1/2" & 5/8" I.C.



EXT RH SHOWN



Description	EDP Code	TPI	IC	L	M	K	TIN Coated		AlTiN Coated		
							GP22	GP50	AC22	AC3	AC50
16ER 28W	5006028	28	3/8	.63	.03	.02	●				●
16ER 20W	5006020	20	3/8	.63	.04	.03	●				●
16ER 19W	5006019	19	3/8	.63	.04	.03	●				●
16ER 18W	5006018	18	3/8	.63	.04	.03	●				●
16ER 16W	5006016	16	3/8	.63	.04	.04	●				●
16ER 14W	5006014	14	3/8	.63	.05	.04	●				●
16ER 12W	5006012	12	3/8	.63	.06	.04	●		●		●
16ER 11W	5006011	11	3/8	.63	.06	.04	●		●		●
16ER 10W	5006010	10	3/8	.63	.06	.04	●	●			●
16ER 9W	5006009	9	3/8	.63	.07	.05	●				●
16ER 8W	5006008	8	3/8	.63	.06	.05	●		●		●
22ER 7W	5106007	7	1/2	.87	.09	.06	●	●			●
22ER 6W	5106006	6	1/2	.87	.09	.06	●				●
22ER 5W	5106005	5	1/2	.87	.09	.07	●				●
27ER 4W	5206004	4	5/8	1.06	.11	.08	●	●	●		●
16NR 28W	5026028	28	3/8	.63	.03	.02	●				●
16NR 20W	5026020	20	3/8	.63	.04	.03	●	●			●
16NR 19W	5026019	19	3/8	.63	.04	.03	●				●
16NR 18W	5026018	18	3/8	.63	.04	.03	●				●
16NR 16W	5026016	16	3/8	.63	.04	.04	●				●
16NR 14W	5026014	14	3/8	.63	.05	.04	●				●
16NR 12W	5026012	12	3/8	.63	.06	.04	●		●		●
16NR 11W	5026011	11	3/8	.63	.06	.04	●		●		●
16NR 10W	5026010	10	3/8	.63	.06	.04	●		●		●
16NR 9W	5026009	9	3/8	.63	.07	.05	●				●
16NR 8W	5026008	8	3/8	.63	.08	.05	●		●		●
22NR 7W	5126007	7	1/2	.87	.06	.05	●				●
22NR 6W	5126006	6	1/2	.87	.09	.06	●				●
22NR 5W	5126005	5	1/2	.87	.09	.07	●				●
27NR 4W	5226004	4	5/8	1.06	.11	.08	●				●

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

- ▲ Cast Iron
- ▲ Non-Ferrous
- ▲ Stainless/High Temp
- ▲ Steel

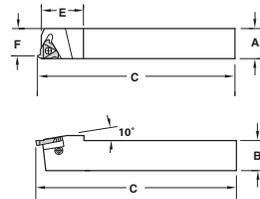
## EXTERNAL HOLDER

AL

For Threading and Grooving

Inch **Most holders available with coolant port**

(ie: Add CP to end of description)



RH Holder uses RH Inserts



RH SHOWN

Description	EDP Code	Insert	A	B	C	E	F*	Insert Screw	Seat Screw	Wrench	Seat
AL0500-3L	916050352	16EL	1/2	1/2	3.27	1.15	.63	SA3	SY3	K3	YI3
AL0625-3R	916052361	16ER	5/8	5/8	5	1.15	.63	SA3	SY3	K3	YE3
AL075-3R	916056361	16ER	3/4	3/4	5	1.2	.75	SA3	SY3	K3	YE3
AL075-3L	916056362	16EL	3/4	3/4	5	1.2	.75	SA3	SY3	K3	YI3
AL100-3R	916064361	16ER	1	1	6	1.2	1.0	SA3	SY3	K3	YE3
AL100-3L	916064362	16EL	1	1	6	1.2	1.0	SA3	SY3	K3	YI3
AL100-4R	916064401	22ER	1	1	6	1.42	1.0	SA4	SY4	K4	YE4
AL100-4L	916064402	22EL	1	1	6	1.42	1.0	SA4	SY4	K4	YI4
AL125-4R	916068401	22ER	1-1/4	1-1/4	7	1.42	1.125	SA4	SY4	K4	YE4
AL125-5R	916068441	27ER	1-1/4	1-1/4	7	1.57	1.125	SA5	SY5	K5	YE5
AL125-5L	916068442	27EL	1-1/4	1-1/4	7	1.57	1.125	SA5	SY5	K5	YI5
AL150-5R	916070441	27ER	1-1/2	1-1/2	8	1.57	1.500	SA5	SY5	K5	YE5

## METRIC

Description	EDP Code	Insert	A	B	C	E	F*	Insert Screw	Seat Screw	Wrench	Seat
AL2020M-3L	916120362	16EL	20,0	20,0	128,6	30,0	20,0	SA3	SY3	K3	YI3
AL2525M-3R	916125361	16ER	25,0	25,0	150,0	30,0	25,0	SA3	SY3	K3	YE3
AL2525M-3L	916125362	16EL	25,0	25,0	150,0	30,0	25,0	SA3	SY3	K3	YI3
AL3232M-3R	916132361	16ER	32,0	32,0	173,6	30,0	32,0	SA3	SY3	K3	YE3
AL3232M-3L	916132362	16EL	32,0	32,0	173,6	30,0	32,0	SA3	SY3	K3	YI3
AL2525M-4R	916125401	22ER	25,0	25,0	150,0	30,0	25,0	SA3	SY3	K3	YE4
AL2525M-4L	916125402	22EL	25,0	25,0	150,0	30,0	25,0	SA4	SY4	K4	YI4
AL3232M-4R	916132401	22ER	32,0	32,0	173,6	30,0	32,0	SA4	SY4	K4	YE4
AL3232M-4L	916132402	22EL	32,0	32,0	173,6	30,0	32,0	SA4	SY4	K4	YI4
AL3232M-5R	916032441	27ER	32,0	32,0	173,6	30,0	32,0	SA5	SY5	K5	YE5
AL3232M-5L	916032442	27EL	32,0	32,0	173,6	30,0	32,0	SA5	SY5	K5	YI5
AL4040M-5R	916040441	27ER	40,0	40,0	206,6	36,0	38,1	SA5	SY5	K5	YE5

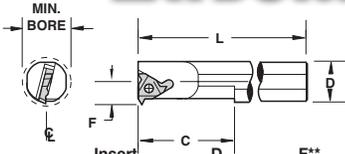


# LAYDOWN

## INTERNAL BAR

### AVR/NVR

Inch **Most bars available with coolant port**  
(ie: Add CP to end of description)



RH SHOWN

Description	EDP Code	Insert	D	F**	L	C	Min. Bore	Insert Screw	Seat Screw & Washer	Wrench	Seat
NVR 375-2R*	962048351	11NR	.375	.280	7	N/A	.500	SA3	-	K3	-
NVR 500-2R*	962008511	11NR	.500	.370	7	N/A	.625	SA3	-	K3	-
NVR 500-3R*	962008361	16NR	.500	.370	7	1.25	.670	SA3	-	K3	-
NVR 625-3R*	962052361	16NR	.625	.312	7	2.50	.700	SA3	-	K3	-
NVR 625-3L*	962052362	16NL	.625	.312	7	2.50	.700	SA3	-	K3	-
AVR 750-3R	918056361	16NR	.750	.510	7	2.75	.950	SA3	SY3	K3	Y13
AVR 750-3L	918056362	16NL	.750	.510	7	2.75	.950	SA3	SY3	K3	YE3
AVR 100-3R	918064361	16NR	1.000	.640	10	3.00	1.150	SA3	SY3	K3	Y13
AVR 100-3L	918064362	16NL	1.000	.640	10	3.00	1.150	SA3	SY3	K3	YE3
AVR 125-3R	918068361	16NR	1.250	.770	10	3.00	1.400	SA3	SY3	K3	Y13
AVR 125-3L	918068362	16NL	1.250	.770	10	3.00	1.400	SA3	SY3	K3	YE3
AVR 150-3R	918072361	16NR	1.500	.900	12	3.00	1.700	SA3	SY3	K3	Y13
AVR 150-3L	918072362	16NL	1.500	.900	12	3.00	1.700	SA3	SY3	K3	YE3
NVR 750-4R	962056401	22NR	.750	.610	7	2.75	1.100	SA4	-	K4	-
NVR 750-4L	962056402	22NL	.750	.610	7	2.75	1.100	SA4	-	K4	-
AVR 100-4R	918064401	22NR	1.000	.710	10	3.00	1.200	SA4	SY4	K4	Y14
AVR 100-4L	918064402	22NL	1.000	.710	10	3.00	1.200	SA4	SY4	K4	YE4
AVR 125-4R	918068401	22NR	1.250	.840	10	3.00	1.500	SA4	SY4	K4	Y14
AVR 125-4L	918068402	22NL	1.250	.840	10	3.00	1.500	SA4	SY4	K4	YE4
AVR 150-4R	918072401	22NR	1.500	.980	12	3.00	1.800	SA4	SY4	K4	Y14
AVR 150-4L	918072402	22NL	1.500	.980	12	3.00	1.800	SA4	SY4	K4	YE4
AVR 125-5R	918068441	27NR	1.250	.880	10	3.00	1.800	SA5	SY5	K4	Y15
AVR 125-5L	918068442	27NL	1.250	.880	10	3.00	1.800	SA5	SY5	K4	YE5
AVR 150-5R	918072441	27NR	1.500	1.000	12	3.00	1.900	SA5	SY5	K4	Y15
AVR 150-5L	918072442	27NL	1.500	1.000	12	3.00	1.900	SA5	SY5	K4	YE5
AVR 200-5R	918080441	27NR	2.000	1.125	12	3.00	2.400	SA5	SY5	K4	Y15
AVR 200-5L	918080442	27NL	2.000	1.125	12	3.00	2.400	SA5	SY5	K4	YE5

\*Over NV Insert

\*\*Support must be slightly modified if used for grooving.

### METRIC

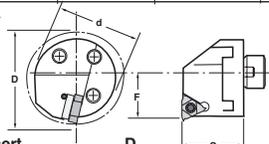
Description	EDP Code	Insert	D	F**	L	C	Min. Bore	Insert Screw	Seat Screw & Washer	Wrench	Seat
AVR 20M-3R	918020M361	16NR	20,0	13,4	180,0	20,0	26,8	SA3	SY3	K3	Y13
AVR 20M-3L	918020M362	16NL	20,0	13,4	180,0	20,0	26,8	SA3	SY3	K3	YE3
AVR 25M-3R	918025M361	16NR	25,0	16,3	250,0	20,0	32,6	SA3	SY3	K3	Y13
AVR 25M-3L	918025M362	16NL	25,0	16,3	250,0	20,0	32,6	SA3	SY3	K3	YE3
AVR 32M-3R	918032M361	16NR	32,0	19,5	254,0	76,2	39,1	SA3	SY3	K3	Y13
AVR 32M-3L	918032M362	16NL	32,0	19,5	254,0	76,2	39,1	SA3	SY3	K3	YE3
AVR 40M-3R	918040M361	16NR	40,0	22,8	304,8	76,2	45,7	SA3	SY3	K3	Y13
AVR 40M-3L	918040M362	16NL	40,0	22,8	304,8	76,2	45,7	SA3	SY3	K3	YE3
AVR 25M-4R	918025M401	22NR	25,0	17,4	250,0	20,0	34,8	SA4	SY4	K4	Y14
AVR 25M-4L	918025M402	22NL	25,0	17,4	250,0	20,0	34,8	SA4	SY4	K4	YE4
AVR 32M-4R	918032M401	22NR	32,0	21,3	254,0	20,0	42,6	SA4	SY4	K4	Y14
AVR 32M-4L	918032M402	22NL	32,0	21,3	254,0	20,0	42,6	SA4	SY4	K4	YE4
AVR 40M-4R	918040M401	22NR	40,0	25,7	300,0	22,2	51,5	SA4	SY4	K4	Y14
AVR 40M-4L	918040M402	22NL	40,0	25,7	300,0	22,2	51,5	SA4	SY4	K4	YE4
AVR 50M-4R	918050M401	22NR	50,0	30,8	350,0	25,4	61,6	SA5	SY4	K4	Y14
AVR 50M-4L	918050M402	22NL	50,0	30,8	350,0	25,4	61,6	SA5	SY4	K4	YE4
AVR 50M-5R	918050M41	27NR	50,0	31,7	350,0	25,4	63,5	SA5	SY5	K4	Y15
AVR 50M-5L	918050M42	27NL	50,0	31,7	350,0	25,4	63,5	SA5	SY5	K4	YE5

\*Over NV Insert

\*\*Support must be slightly modified if used for grooving.

### H-AVR/L\*

**Most bars available with coolant port**  
(ie: Add CP to end of description)



RH SHOWN

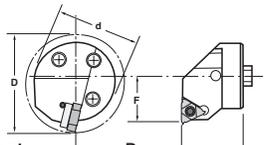
#### PARTS

Description	EDP Code	Insert	D	C	F	Min. Bore	Insert Screw	Seat Screw	Seat
H16-AVR-3R	9IH18064361	16NR	1.000	1.625	0.650	1.200	SA-3	SY-3	Y13
H20-AVR-3R	9IH18068361	16NR	1.250	1.625	0.765	1.450	SA-3	SY-3	Y13
H24-AVR-3R	9IH18072361	16NR	1.500	1.625	0.890	1.760	SA-3	SY-3	Y13
H32-AVR-3R	9IH18080361	16NR	2.000	1.625	1.281	2.400	SA-3	SY-3	Y13
H24-AVR-4R	9IH18072401	22NR	1.500	1.625	0.978	1.760	SA-4	SY-4	Y14
H32-AVR-4R	9IH18080401	22NR	2.000	1.625	1.281	2.400	SA-4	SY-4	Y14

\*Left Hand quoted on request.

### HS-AVR/L\*

**Most bars available with coolant port**  
(ie: Add CP to end of description)



RH SHOWN

#### PARTS

Description	EDP Code	Insert	D	C	F	Min. Bore	Insert Screw	Seat Screw	Seat
HS25-AVR-3R	9IHS18025M361	16NR	0.98	0.98	0.669	1.260	SA-3	SY-3	Y13
HS32-AVR-3R	9IHS18032M361	16NR	1.26	1.26	0.866	1.570	SA-3	SY-3	Y13
HS40-AVR-3R	9IHS18040M361	16NR	1.57	1.26	1.063	1.970	SA-3	SY-3	Y13
HS50-AVR-3R	9IHS18050M361	16NR	1.97	1.57	1.378	2.480	SA-3	SY-3	Y13
HS40-AVR-4R	9IHS18040M401	22NR	1.57	1.26	1.063	1.970	SA-4	SY-4	Y14
HS50-AVR-4R	9IHS18050M401	22NR	1.97	1.57	1.378	2.480	SA-4	SY-4	Y14

\*Left Hand quoted on request.



# LAYDOWN

## ANVILS

Resultant Helix Angle	4.5°	3.5°	2.5°	1.5°	0.5°	0°	-0.5°	-1.5°
-----------------------	------	------	------	------	------	----	-------	-------

IC	L	Holder	Anvil Description							
3/8"	.63 .63	ER/NL EL/NR	YE3-3P YI3-3P	YE3-2P YI3-2P	YE3-1P YI3-1P	YE3 YI3	YE3-1N YI3-1N	YE3-1.5N YI3-1.5N	YE3-2N YI3-2N	YE3-3N YI3-3N
1/2"	.87 .87	ER/NL EL/NR	YE4-3P YI4-3P	YE4-2P YI4-2P	YE4-1P YI4-1P	YE4 YI4	YE4-1N YI4-1N	YE4-1.5N YI4-1.5N	YE4-2N YI4-2N	YE4-3N YI4-3N
5/8"	1.06 1.06	ER/NL EL/NR	YE5-3P YI5-3P	YE5-2P YI5-2P	YE5-1P YI5-1P	YE5 YI5	YE5-1N YI5-1N	YE5-1.5N YI5-1.5N	YE5-2N YI5-2N	YE5-3N YI5-3N
3/8"M	.63 .63	ER/NL EL/NR				YE3M YI3M	YE3M-1N YI3M-1N	YE3M-1.5N YI3M-1.5N	YE3M-2N	
1/2"M	.87 .87	ER/NL EL/NR				YE4M YI4M	YE4M-1N YI4M-1N	YE4M-1.5N YI4M-1.5N	YE4M-2N	
5/8"M	1.06 1.06	ER/NL EL/NR				YE5M YI5M	YE5M-1N YI5M-1N	YE5M-1.5N YI5M-1.5N		
1/2"Z	.87	EL/NR			YI4Z-1P					
1/2"U	.87 .87	ER/NL EL/NR	YE4U-3P YI4U-3P	YE4U-2P YI4U-2P	YE4U-1P YI4U-1P	YE4U YI4U	YE4U-1N YI4U-1N	YE4U-1.5N YI4U-1.5N	YE4U-2N YI4U-2N	YE4U-1N YI4U-1N

IC	L	TF #	Included Anvils
<b>ANVIL KITS</b>	3/8"	KTY3	YE3-2P, 1P, 1N, 2N, 3N YI3-2P, 1P, 1N, 2N, 3N
		KTY4	YE4-2P, 1P, 1N, 2N, 3N YI4-2P, 1P, 1N, 2N, 3N
	1/2"U	KTY4U	YE4U-2P, 1P, 1N, 2N, 3N YI4U-2P, 1P, 1N, 2N, 3N
		KTYE5	YE5-2P, 1P, 1N, 2N, 3N
	5/8"U	KTYE5U	YE5U-2P, 1P, 1N, 2N, 3N
		KTYI5U	YI5U-2P, 1P, 1N, 2N, 3N

Standard Anvil		M Style Anvil		Z Style Anvil	
ER/NL	EL/NR	ER/NL	EL/NR	ER/NL	EL/NR

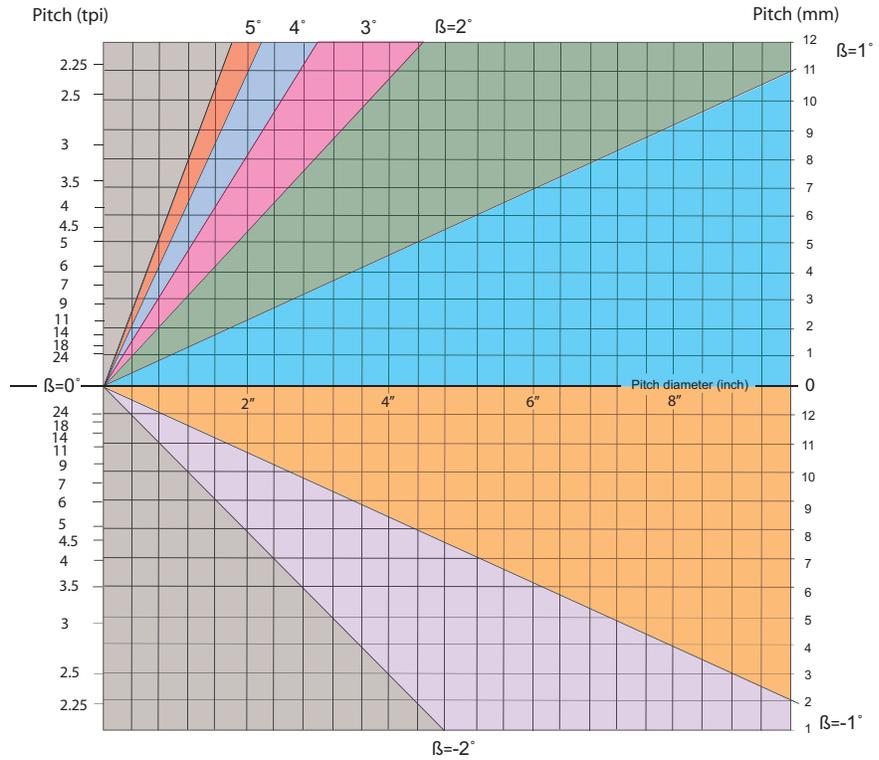
ANVIL FORMS	
1/2"	YE4-11.5NPT-2M YI4-11.5NPT-2M
5/8"	YE5-8NPT-2M, YE5-8RD-2M YI5-8NPT-2M, YI5-8RD-2M

### Helix Angle Table (For Given Pitch and Diameter)

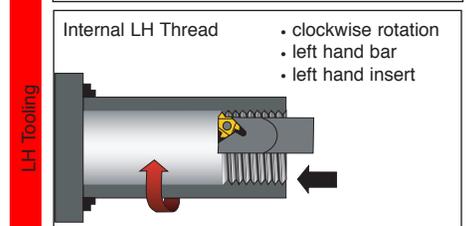
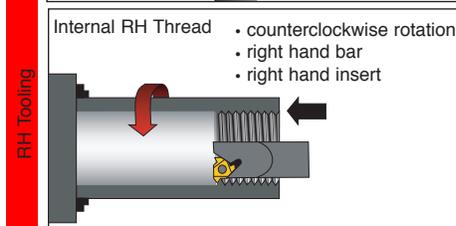
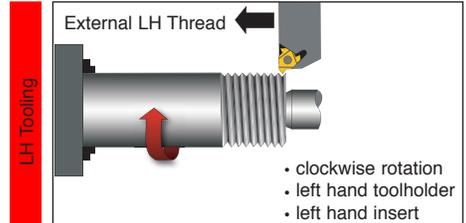
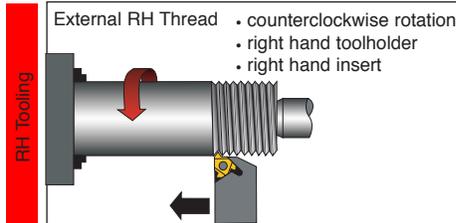
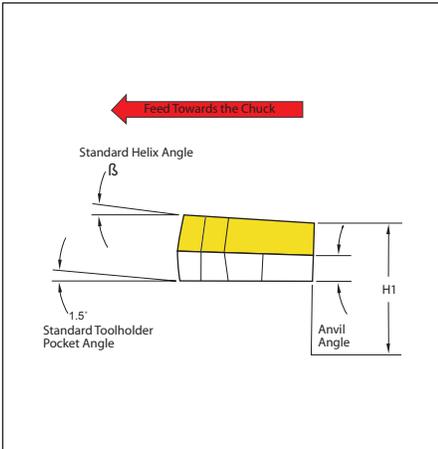
resultant helical angle	4.5°	3.5°	2.5°	1.5°	0.5°	0°	-0.5°	-1.5°
threads per inch	D I A M E T E R							
48			0.12 - 0.18	0.18 - 0.48	0.48 - 1.28	> 1.28	1.28 - 0.48	0.48 - 0.18
44		0.13 - 0.20	0.20 - 0.52	0.52 - 1.40	> 1.40	1.40 - 0.52	0.52 - 0.20	
40		0.11 - 0.14	0.14 - 0.22	0.22 - 0.57	0.57 - 1.52	> 1.52	1.52 - 0.57	0.57 - 0.22
36		0.12 - 0.16	0.16 - 0.24	0.24 - 0.64	0.64 - 1.70	> 1.70	1.70 - 0.64	0.64 - 0.24
32	0.12 - 0.13	0.13 - 0.18	0.18 - 0.27	0.27 - 0.71	0.71 - 1.90	> 1.90	1.90 - 0.71	0.71 - 0.27
28	0.12 - 0.15	0.15 - 0.20	0.20 - 0.31	0.31 - 0.82	0.82 - 2.19	> 2.19	2.19 - 0.82	0.82 - 0.31
27	0.14 - 0.16	0.16 - 0.21	0.21 - 0.32	0.32 - 0.84	0.84 - 2.25	> 2.25	2.25 - 0.84	0.84 - 0.32
24	0.16 - 0.18	0.18 - 0.24	0.24 - 0.36	0.36 - 0.96	0.96 - 2.55	> 2.55	2.55 - 0.86	0.96 - 0.36
20	0.19 - 0.22	0.22 - 0.28	0.28 - 0.43	0.43 - 1.14	1.14 - 3.04	> 3.04	3.04 - 1.14	1.14 - 0.43
18	0.21 - 0.24	0.24 - 0.32	0.32 - 0.49	0.49 - 1.28	1.28 - 3.40	> 3.40	3.40 - 1.28	1.28 - 0.49
16	0.23 - 0.27	0.27 - 0.35	0.35 - 0.54	0.54 - 1.41	1.41 - 3.77	> 3.77	3.77 - 1.41	1.41 - 0.54
14	0.27 - 0.31	0.31 - 0.40	0.40 - 0.62	0.62 - 1.62	1.62 - 4.32	> 4.32	4.32 - 1.62	1.62 - 0.62
13	0.29 - 0.33	0.33 - 0.44	0.44 - 0.67	0.67 - 1.76	1.76 - 4.68	> 4.68	4.68 - 1.76	1.76 - 0.67
12	0.32 - 0.36	0.36 - 0.48	0.48 - 0.73	0.73 - 1.92	1.92 - 5.11	> 5.11	5.11 - 1.92	1.92 - 0.73
11.5	0.33 - 0.38	0.38 - 0.49	0.49 - 0.76	0.76 - 1.98	1.98 - 5.29	> 5.29	5.29 - 1.98	1.98 - 0.76
11	0.35 - 0.39	0.39 - 0.52	0.52 - 0.79	0.79 - 2.07	2.07 - 5.53	> 5.53	5.53 - 2.07	2.07 - 0.79
10	0.38 - 0.43	0.43 - 0.57	0.57 - 0.87	0.87 - 2.28	2.28 - 6.08	> 6.08	6.08 - 2.28	2.28 - 0.87
9	0.42 - 0.48	0.48 - 0.63	0.63 - 0.96	0.96 - 2.53	2.53 - 6.75	> 6.75	6.75 - 2.53	2.53 - 0.96
8	0.47 - 0.54	0.54 - 0.71	0.71 - 1.09	1.09 - 2.85	2.85 - 7.60	> 7.60	7.60 - 2.85	2.85 - 1.09
7	0.54 - 0.62	0.62 - 0.81	0.81 - 1.24	1.24 - 3.26	3.26 - 8.69	> 8.69	8.69 - 3.26	3.26 - 1.24
6	0.63 - 0.72	0.72 - 0.95	0.95 - 1.45	1.45 - 3.81	3.81 - 10.15	> 10.15	10.15 - 3.81	3.81 - 1.45
5	0.76 - 0.87	0.87 - 1.14	1.14 - 1.74	1.74 - 4.56	4.56 - 12.16	> 12.16	12.16 - 4.56	4.56 - 1.74
4.5	0.84 - 0.96	0.96 - 1.26	1.26 - 1.93	1.93 - 5.06	5.06 - 13.49	> 13.49	13.49 - 5.06	5.06 - 1.93
4	0.95 - 1.08	1.08 - 1.42	1.42 - 2.17	2.17 - 5.70	5.70 - 15.20	> 15.20	15.20 - 5.70	5.70 - 2.17



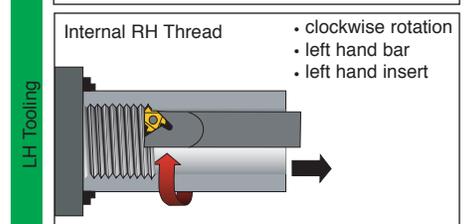
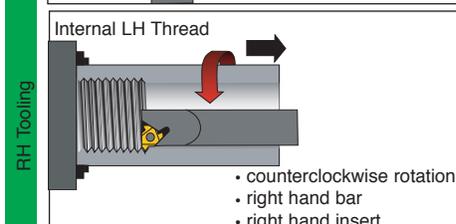
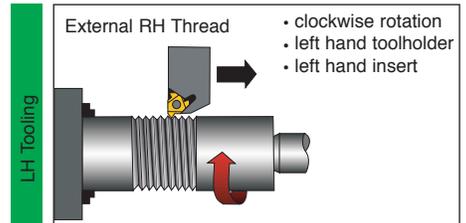
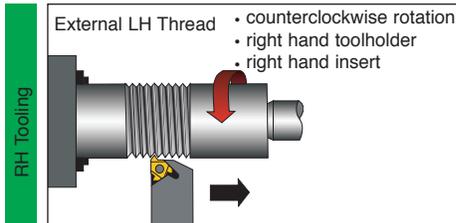
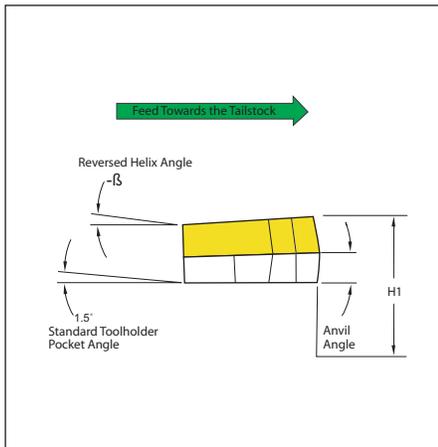
## Helix Angle Diagram



## Feed direction towards the chuck



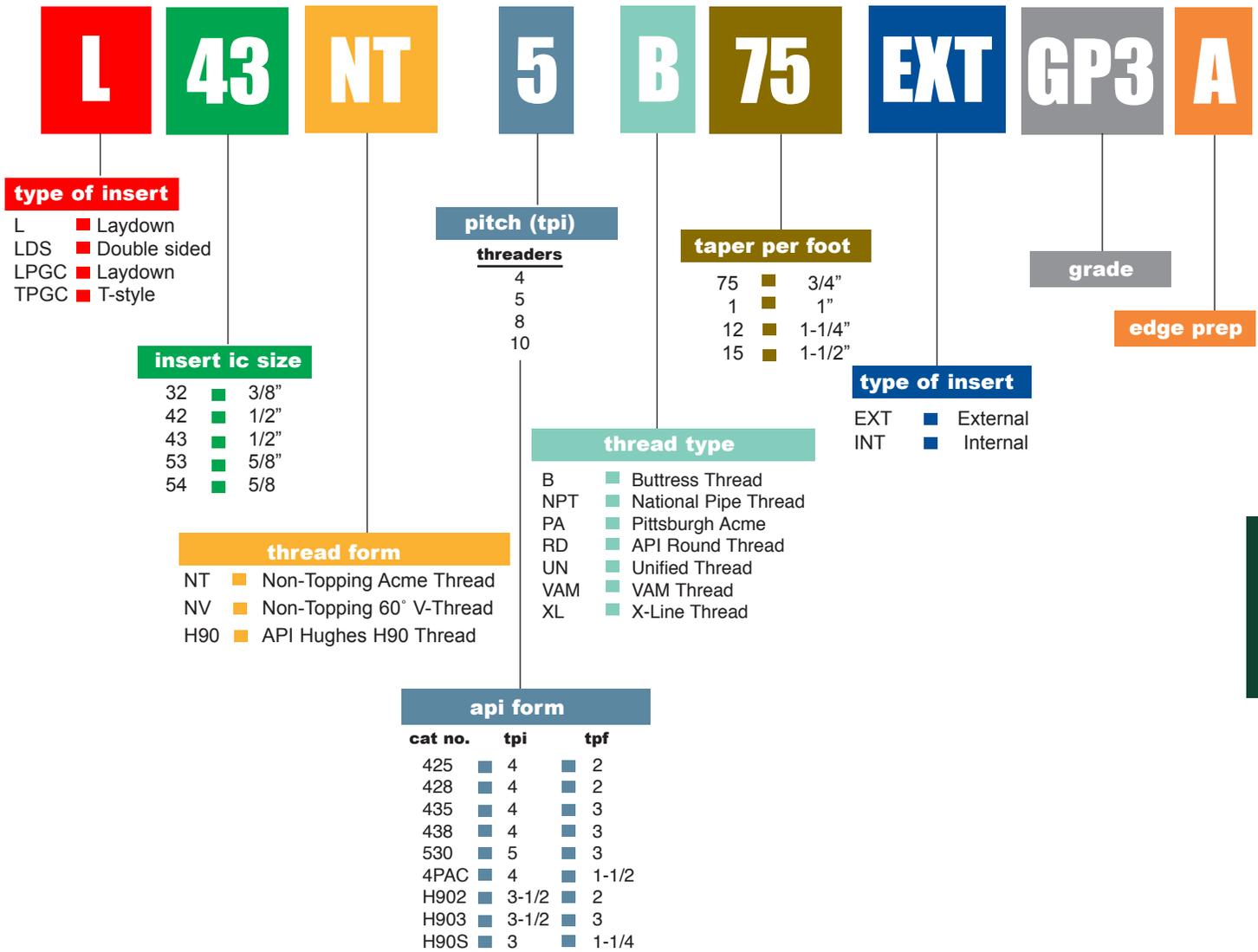
## Feed direction towards the tailstock





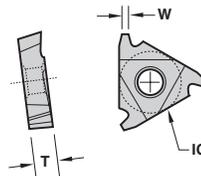
# LAYDOWN

## L-Style Laydown Insert Nomenclature Chart

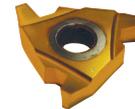


LAYDOWN

## ACME L43/L53 - 1/2" & 5/8" I.C.



EXT SHOWN  
INT OPPOSITE



Description	EDP Code	TPI	W	IC	T	TIN Coated			AlTiN Coated		
						GP22	GP50	GP5	AC22	AC3	AC50
L43 NT 8P EXT	0215C080	8	.0411	.500	.189		●				●
L43 NT 6P EXT	0215C060	6	.0566	.500	.189		●				●
L43 NT 5P EXT	0215C050	5	.0689	.500	.189		●				●
L53 NT 4P EXT	0247C040	4	.0875	.625	.189		●				●
L43 NT 8P INT	0215A080	8	.0411	.500	.189		●				●
L43 NT 6P INT	0215A060	6	.0566	.500	.189		●				●
L43 NT 5P INT	0215A050	5	.0689	.500	.189		●				●
L53 NT 4P INT	0247A040	4	.0875	.625	.189		●				●

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

● High performance choice in optimal conditions.  
▲ Recommended grade under general conditions.

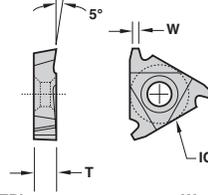
Cast Iron		▲			●
Non-Ferrous		▲			●
Stainless/High Temp		▲			●
Steel		▲			●

# LAYDOWN

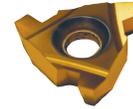


## ACME

### LPGC 32, 42 & 43 - 3/8" & 1/2 I.C.



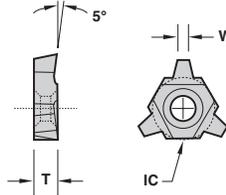
EXT SHOWN  
INT OPPOSITE



Description	EDP Code	TPI	W	IC	T	TIN Coated			A11N Coated		
						GP22	GP50	GP5	AC22	AC3	AC50
LPGC 32 NT 12P INT RH	0204A120	12	.0283	.375	.127			●			
LPGC 32 NT 10P INT RH	0204A100	10	.0319	.375	.127			●			
LPGC 32 NT 8P INT RH	0204A080	8	.0411	.375	.127			●			
LPGC 42 NT 8P INT RH	0213A080	8	.0411	.500	.127			●			
LPGC 42 NT 6P INT RH	0213A060	6	.0566	.500	.127			●			
LPGC 42 NT 5P INT RH	0213A050	5	.0689	.500	.127			●			
LPGC 42 NT 4P INT RH*	0213A040	4	.0875	.500	.127			●			
LPGC 43 NT 8P INT RH	0227A080	8	.0411	.500	.189			●			
LPGC 43 NT 6P INT RH	0227A060	6	.0566	.500	.189			●			
LPGC 43 NT 5P INT RH	0227A050	5	.0689	.500	.189			●			
LPGC 43 NT 4P INT RH*	0227A040	4	.0875	.500	.189			●			

\*Bar must be modified to clear depth.

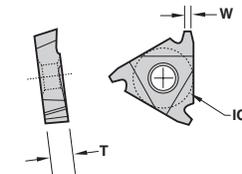
### TPGC 32, 42 & 43 - 3/8" & 1/2 I.C.



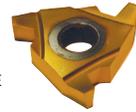
Description	EDP Code	TPI	W	IC	T	TIN Coated			A11N Coated		
						GP22	GP50	GP5	AC22	AC3	AC50
TPGC 32 NT 10P	0207100	10	.0319	.375	.127			●			
TPGC 32 NT 8P	0207080	8	.0411	.375	.127			●			
TPGC 32 NT 6P	0207060	6	.0566	.375	.127			●			
TPGC 32 NT 5P	0207050	5	.0689	.375	.127			●			
TPGC 42 NT 8P	0214080	8	.0411	.500	.127			●			
TPGC 42 NT 6P	0214060	6	.0566	.500	.127			●			
TPGC 42 NT 5P	0214050	5	.0689	.500	.127			●			
TPGC 42 NT 4P	0214040	4	.0875	.500	.127			●			
TPGC 43 NT 5P	0238050	5	.0689	.500	.189			●			
TPGC 43 NT 4P	0238040	4	.0875	.500	.189			●			

## ACME STUB

### L43/L53 - 1/2" & 5/8" I.C.

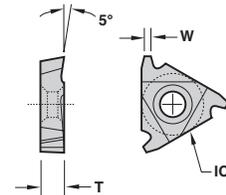


INT SHOWN  
EXT OPPOSITE

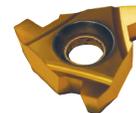


Description	EDP Code	TPI	W	IC	T	TIN Coated			A11N Coated		
						GP22	GP50	GP54	AC22	AC3	AC50
L43 NT 8P STUB EXT	0215C081	8	.0476	.500	.189		●				
L43 NT 6P STUB EXT	0215C061	6	.0652	.500	.189		●				
L43 NT 5P STUB EXT	0215C051	5	.0793	.500	.189		●				
L53 NT 4P STUB EXT	0247C041	4	.1004	.625	.189		●				
L43 NT 8P STUB INT	0215A081	8	.0476	.500	.189		●				
L43 NT 6P STUB INT	0215A061	6	.0652	.500	.189		●				
L43 NT 5P STUB INT	0215A051	5	.0793	.500	.189		●				
L53 NT 4P STUB INT	0247A041	4	.1004	.625	.189		●				

### LPGC 32, 42 & 43 - 3/8" & 1/2 I.C.



EXT SHOWN  
INT OPPOSITE



Description	EDP Code	TPI	W	IC	T	TIN Coated			A11N Coated		
						GP22	GP5	GP50	AC25	AC3	AC50
LPGC 32 NT 8P STUB INT RH	0204A081	8	.0476	.375	.127						
LPGC 42 NT 8P STUB INT RH	0213A081	8	.0476	.500	.127		●	●			
LPGC 42 NT 6P STUB INT RH	0213A061	6	.0652	.500	.127		●	●			
LPGC 42 NT 5P STUB INT RH	0213A051	5	.0793	.500	.127		●	●			
LPGC 42 NT 4P STUB INT RH	0213A041	4	.1004	.500	.127		●	●			
LPGC 43 NT 8P STUB INT RH	0227A081	8	.0476	.500	.189		●	●			
LPGC 43 NT 6P STUB INT RH	0227A061	6	.0652	.500	.189		●	●			
LPGC 43 NT 5P STUB INT RH	0227A051	5	.0793	.500	.189		●	●	●		
LPGC 43 NT 4P STUB INT RH	0227A041	4	.1004	.500	.189		●	●			

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- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

Cast Iron  
Non-Ferrous  
Stainless/High Temp  
Steel

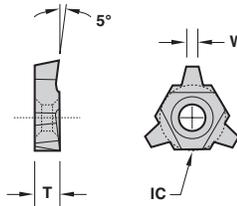
	▲				



# LAYDOWN

## ACME STUB

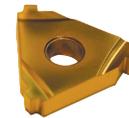
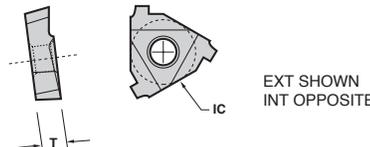
TPGC 32, 42 & 43 - 3/8" & 1/2 I.C.



Description	EDP Code	TPI	W	IC	T	TIN Coated			A1TIN Coated		
						GP22	GP5	GP50	AC22	AC3	AC50
TPGC 32 NT 8P STUB	0207081	8	.0476	.375	.127		●	●			
TPGC 32 NT 6P STUB	0207061	6	.0652	.375	.127		●	●			
TPGC 32 NT 5P STUB	0207051	5	.0793	.375	.127		●	●			
TPGC 42 NT 8P STUB	0214081	8	.0476	.500	.127		●	●			
TPGC 42 NT 6P STUB	0214061	6	.0652	.500	.127		●	●			
TPGC 42 NT 5P STUB	0214051	5	.0793	.500	.127		●	●			
TPGC 42 NT 4P STUB	0214041	4	.1004	.500	.127		●	●			
TPGC 43 NT 5P STUB	0238051	5	.0793	.500	.189		●	●			
TPGC 43 NT 4P STUB	0238041	4	.1004	.500	.189		●	●			

## API BUTTRESS

L43/L53 - 1/2" & 5/8" I.C.

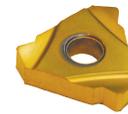
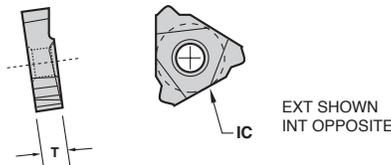


Description	EDP Code	TPI	TPF	IC	T	Conn. No.	TIN Coated			A1TIN Coated		
							GP22	GP50	GP54	AC22	AC3	AC50
L43 5B75 EXT-FC	16154F	5	3/4	.500	.189	4-1/2 - 13-3/8		●				
L43 5B1 EXT -FC	17154F	5	1	.500	.189	16 and larger		●			●	●
L43 8B75 EXT-FC	21154F	8	3/4	.500	.189	US Improved Buttress		●				
L53 5B75 EXT-FC	16474F	5	3/4	.625	.189	4-1/2 - 13-3/8		●				
L53 5B1 EXT-FC	17474F	5	1	.625	.189	16 and larger		●			●	●
L53 8B75 EXT-FC	21474F	8	3/4	.625	.189	US Improved Buttress		●				
L43 5B75 INT-FC	16158F	5	3/4	.500	.189	4-1/2 - 13-3/8		●				
L43 5B1 INT-FC	17158F	5	1	.500	.189	16 and larger		●			●	●
L43 8B75 INT-FC	21158F	8	3/4	.500	.189	US Improved Buttress		●				
L53 5B75 INT-FC	16478F	5	3/4	.625	.189	4-1/2 - 13-3/8		●				
L53 5B1 INT-FC	17478F	5	1	.625	.189	16 and larger		●			●	●
L53 8B75 INT-FC	21478F	8	3/4	.625	.189	US Improved Buttress		●				

FC designates 5° flank clearance

## API HUGHES H90

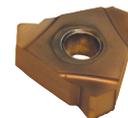
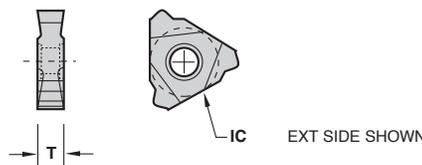
L53 - 5/8" I.C.



Description	EDP Code	TPI	TPF	IC	T	Conn. No.	TIN Coated			A1TIN Coated		
							GP22	GP50	GP54	AC22	AC3	AC50
L53 H902 EXT	28474	3-1/2	2	.625	.189	3-1/2 - 6-5/8 H90		●				
L53 H903 EXT	29474	3-1/2	3	.625	.189	7 - 8-5/8 H90		●				
L53 H90S EXT	27474	3	1-1/4	.625	.189	2-3/8 - 3-1/2 Slimline		●				
L53 H902 INT	28478	3-1/2	2	.625	.189	3-1/2 - 6-5/8 H90		●				
L53 H903 INT	29478	3-1/2	3	.625	.189	7 - 8-5/8 H90		●				
L53 H90S INT	27478	3	1-1/4	.625	.189	2-3/8 - 3-1/2 Slimline		●				

## LDS 54 - 5/8 I.C.

Double Sided



Description	EDP Code	TPI	TPF	IC	T	Conn. No.	TIN Coated			A1TIN Coated		
							GP22	GP50	GP54	AC22	AC3	AC50
LDS 54 H902	28490	3-1/2	2	.625	.252	3-1/2 - 6-5/8 H90			●			
LDS 54 H903	29490	3-1/2	3	.625	.252	7 - 8-5/8 H90			●			
LDS 54 H90S	27490	3	1-1/4	.625	.252	2-3/8 - 3-1/2 Slimline			●			

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- ▲ Recommended grade under general conditions.

Cast Iron  
Non-Ferrous  
Stainless/High Temp  
Steel

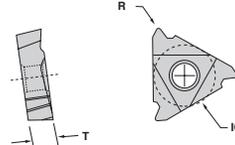
# LAYDOWN



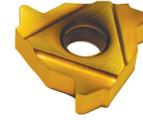
## API ROTARY SHOULDER CONNECTION

L43/53 - 1/2" & 5/8" I.C.

■ Must be used with API bars.



EXT SHOWN  
INT OPPOSITE



Description	EDP Code	TPI	TPF	R	IC	T	Connection	TiN Coated		AlTiN Coated		
								GP50	GP54	AC22	AC3	AC50
L43 425 EXT	09154	4	2	.025	.500	.189	5-1/2 FH 6-5/8 FH 6-5/8 Reg.	●	●	●	●	●
L43 428 EXT	10154	4	2	.038	.500	.189	NC 23-NC50 2-3/8 - 5-1/2 IF	●	●	●	●	●
L43 42F EXT*	14154	4	2	---	.500	.189	V0.065*	●	●	●	●	●
L43 435 EXT	11154	4	3	.025	.500	.189	5-1/2 Rg. 7-5/8 Reg. 8-5/8 Reg.	●	●	●	●	●
L43 438 EXT	12154	4	3	.038	.500	.189	NC56 - NC71	●	●	●	●	●
L43 530 EXT	13154	5	3	.020	.500	.189	3-1/2 FH 2-3/8 - 4-1/2 Reg.	●	●	●	●	●
L43 4PAC EXT	15154	4	1-1/2	---	.500	.189	American Open Hole	●	●	●	●	●
L53 425 EXT	09474	4	2	.025	.625	.189	5-1/2 FH 6-5/8 FH 6-5/8 Reg.	●	●	●	●	●
L53 428 EXT	10474	4	2	.038	.625	.189	NC 23-NC50 2-3/8 - 5-1/2 IF	●	●	●	●	●
L53 42F EXT*	14474	4	2	---	.625	.189	V0.065*	●	●	●	●	●
L53 435 EXT	11474	4	3	.025	.625	.189	5-1/2 Rg. 7-5/8 Reg. 8-5/8 Reg.	●	●	●	●	●
L53 438 EXT	12474	4	3	.038	.625	.189	NC56 - NC71	●	●	●	●	●
L53 530 EXT	13474	5	3	.020	.625	.189	3-1/2 FH 2-3/8 - 4-1/2 Reg.	●	●	●	●	●
L53 4PAC EXT	15474	4	1-1/2	---	.625	.189	American Open Hole	●	●	●	●	●
L43 425 INT	09158	4	2	.025	.500	.189	5-1/2 FH 6-5/8 FH 6-5/8 Reg.	●	●	●	●	●
L43 428 INT	10158	4	2	.038	.500	.189	NC 23-NC50 2-3/8 - 5-1/2 IF	●	●	●	●	●
L43 42F INT*	14158	4	2	---	.500	.189	V0.065*	●	●	●	●	●
L43 435 INT	11158	4	3	.025	.500	.189	5-1/2 Rg. 7-5/8 Reg. 8-5/8 Reg.	●	●	●	●	●
L43 438 INT	12158	4	3	.038	.500	.189	NC56 - NC71	●	●	●	●	●
L43 530 INT	13158	5	3	.020	.500	.189	3-1/2 FH 2-3/8 - 4-1/2 Reg.	●	●	●	●	●
L43 4PAC INT	15158	4	1-1/2	---	.500	.189	American Open Hole	●	●	●	●	●
L53 425 INT	09478	4	2	.025	.625	.189	5-1/2 FH 6-5/8 FH 6-5/8 Reg.	●	●	●	●	●
L53 428 INT	10478	4	2	.038	.625	.189	NC 23-NC50 2-3/8 - 5-1/2 IF	●	●	●	●	●
L53 42F INT*	14478	4	2	---	.625	.189	V0.065*	●	●	●	●	●
L53 435 INT	11478	4	3	.025	.625	.189	5-1/2 Rg. 7-5/8 Reg. 8-5/8 Reg.	●	●	●	●	●
L53 438 INT	12478	4	3	.038	.625	.189	NC56 - NC71	●	●	●	●	●
L53 530 INT	13478	5	3	.020	.625	.189	3-1/2 FH 2-3/8 - 4-1/2 Reg.	●	●	●	●	●
L53 4PAC INT	15478	4	1-1/2	---	.625	.189	American Open Hole	●	●	●	●	●

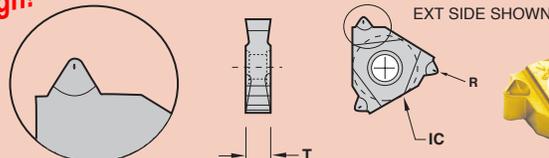
\* Obsolete thread form, See A.P.I. Spec 7, 35th Edition, May 1, 1995, Section 9.4

LAYDOWN

## LDS 54 Double Sided Lead Follow Topping Internal/External with patented chipbreaker

*Exclusive patented design!*

■ For holders see pg. 136, 138

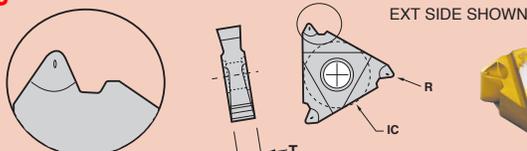


Description	EDP Code	TPI	TPF	R	IC	T	Connection	TiN Coated		AlTiN Coated		
								GP54	AC22	AC3	AC50	AC54
LDS 54 428-CB #1	10490HC	4	2	.038	.625	.252	NC23-NC50, 2-3/8-5-1/2 IF	●	●	●	●	●
LDS 54 438-CB #2	12490HC	4	3	.038	.625	.252	NC56-NC71	●	●	●	●	●
LDS 54 425-CB #3	09490HC	4	2	.025	.625	.252	5-1/2 FH, 6-5/8 FH, 6-5/8 Reg.	●	●	●	●	●
LDS 54 435-CB #4	11490HC	4	3	.025	.625	.252	5-1/2 Reg. 7-5/8 Reg 8-5/8 Reg.	●	●	●	●	●
LDS 54 530-CB #5	13490HC	5	3	.020	.625	.252	3-1/2 FH 2-3/8 - 4-1/2 Reg.	●	●	●	●	●

## LDS 54 Double Sided Follow Topping Internal/External with patented chipbreaker

*Exclusive patented design!*

■ For holders see pg. 136, 138



Description	EDP Code	TPI	TPF	R	IC	T	Connection	TiN Coated		AlTiN Coated		
								GP54	AC22	AC3	AC50	AC54
LDS 54 428 FT-CB #1	10495HC	4	2	.038	.625	.252	NC23-NC50, 2-3/8-5-1/2 IF	●	●	●	●	●
LDS 54 438 FT-CB #2	12495HC	4	3	.038	.625	.252	NC56-NC71	●	●	●	●	●
LDS 54 425 FT-CB #3	09495HC	4	2	.025	.625	.252	5-1/2 FH, 6-5/8 FH, 6-5/8 Reg.	●	●	●	●	●
LDS 54 435 FT-CB #4	11495HC	4	3	.025	.625	.252	5-1/2 Reg. 7-5/8 Reg 8-5/8 Reg.	●	●	●	●	●
LDS 54 530 FT-CB #5	13495HC	5	3	.020	.625	.252	3-1/2 FH 2-3/8 - 4-1/2 Reg.	●	●	●	●	●

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

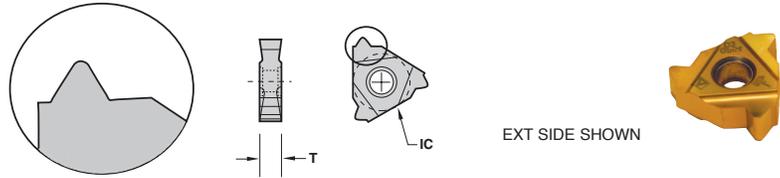
Material	GP54	AC22	AC3	AC50	AC54
Cast Iron				●	
Non-Ferrous				●	
Stainless/High Temp				●	
Steel	▲	●	●		



# LAYDOWN

## API ROTARY SHOULDER CONNECTION

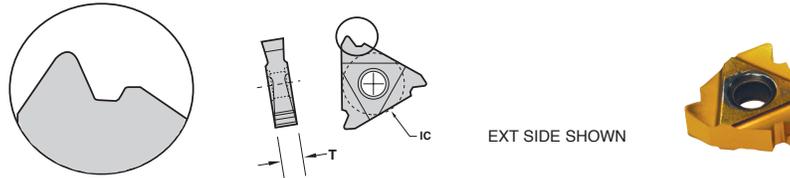
**LDS 54 - 5/8" I.C.**  
**Double Sided**  
**Full Topping**



Description	EDP Code	TPI	TPF	IC	T	Conn. No.	TIN Coated		A1TIN Coated			
							GP22	GP54	AC22	AC3	AC50	AC54
LDS 54 428 #1	10490	4	2	.625	.252	NC23-NC50, 2-3/8-5-1/2 IF	●	●	●	●	●	●
LDS 54 438 #2	12490	4	3	.625	.252	NC56-NC71	●	●	●	●	●	●
LDS 54 425 #3	09490	4	2	.625	.252	5-1/2 FH, 6-5/8 FH, 6-5/8 Reg.	●	●	●	●	●	●
LDS 54 435 #4	11490	4	3	.625	.252	5-1/2 Reg. 7-5/8 Reg 8-5/8 Reg.	●	●	●	●	●	●
LDS 54 530 #5	13490	5	3	.625	.252	3-1/2 FH 2-3/8 - 4-1/2 Reg.	●	●	●	●	●	●
LDS 54 42F*	14490	4	2	.625	.252	V0.065*	●	●	●	●	●	●
LDS 54 4PAC	15490	4	1-1/2	.625	.252	American Open Hole	●	●	●	●	●	●

\* Obsolete thread form, See A.P.I. Spec 7, 35th Edition, May 1, 1995, Section 9.4

**LDS 54 - 5/8" I.C.**  
**Double Sided**  
**Follow Topping**

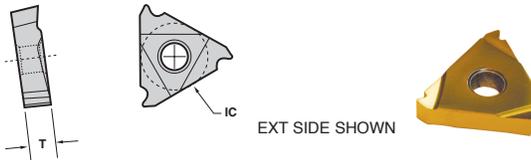


Description	EDP Code	TPI	TPF	IC	T	Conn. No.	TIN Coated		A1TIN Coated			
							GP22	GP54	AC22	AC3	AC50	AC54
LDS 54 428 #1 FT	10495	4	2	.625	.252	NC23-NC50, 2-3/8-5-1/2 IF	●	●	●	●	●	●
LDS 54 438 #2 FT	12495	4	3	.625	.252	NC56-NC71	●	●	●	●	●	●
LDS 54 425 #3 FT	09495	4	2	.625	.252	5-1/2 FH, 6-5/8 FH, 6-5/8 Reg.	●	●	●	●	●	●
LDS 54 435 #4 FT	11495	4	3	.625	.252	5-1/2 Reg. 7-5/8 Reg 8-5/8 Reg.	●	●	●	●	●	●
LDS 54 530 #5 FT	13495	5	3	.625	.252	3-1/2 FH 2-3/8 - 4-1/2 Reg.	●	●	●	●	●	●
LDS 54 42F* FT	14495	4	2	.625	.252	V0.065*	●	●	●	●	●	●
LDS 54 4PAC FT	15495	4	1-1/2	.625	.252	American Open Hole	●	●	●	●	●	●

\* Obsolete thread form, See A.P.I. Spec 7, 35th Edition, May 1, 1995, Section 9.4

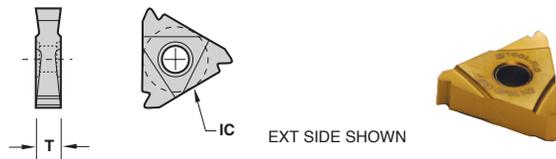
## API ROUND

**L43/L53 - 1/2" & 5/8" I.C.**



Description	EDP Code	TPI	TPF	IC	T	TIN Coated		A1TIN Coated		
						GP22	GP50	GP54	AC22	AC3
L43 10RD EXT	34154	10	3/4	.500	.189	●	●	●	●	●
L43 8RD EXT	32154	8	3/4	.500	.189	●	●	●	●	●
L53 8RD EXT	32474	8	3/4	.625	.189	●	●	●	●	●
L43 8RD INT	34158	8	3/4	.500	.189	●	●	●	●	●
L43 10RD INT	32158	10	3/4	.500	.189	●	●	●	●	●
L53 8RD INT	32478	8	3/4	.625	.189	●	●	●	●	●

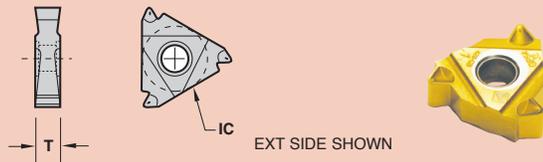
**LDS 43 & 54 - 1/2" & 5/8" I.C.**  
**Double Sided**



Description	EDP Code	TPI	TPF	IC	T	TIN Coated		A1TIN Coated		
						GP22	GP50	GP54	AC22	AC3
LDS 43 10RD	34180	10	3/4	.500	.189	●	●	●	●	●
LDS 43 8RD	32180	8	3/4	.500	.189	●	●	●	●	●
LDS 54 10RD	34490	10	3/4	.625	.252	●	●	●	●	●
LDS 54 8RD	32490	8	3/4	.625	.252	●	●	●	●	●

**LDS 54 - 5/8" I.C.**  
**Double Sided**  
 Internal/External  
 with patented chipbreaker

*Exclusive patented design!*



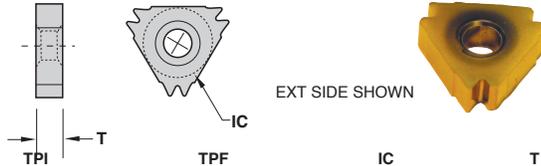
Description	EDP Code	TPI	TPF	IC	T	TIN Coated		A1TIN Coated		
						GP22	GP50	GP54	AC22	AC3
LDS 54 10RD-CB	34490	10	3/4	.625	.252	●	●	●	●	●
LDS 54 8RD-CB	32490	8	3/4	.625	.252	●	●	●	●	●

LAYDOWN

# LAYDOWN



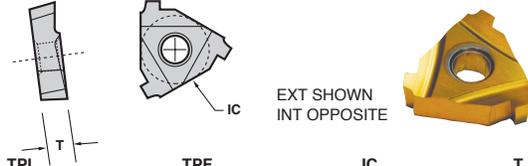
## API ROUND TNFA 43 - 1/2" I.C.



Description	EDP Code	TPI	TPF	IC	T
TNFA 43 8RD	32N70	8	3/4	.500	.187

TIN Coated			A1TIN Coated		
GP22	GP50	GP54	AC22	AC3	AC50
●	●			●	●

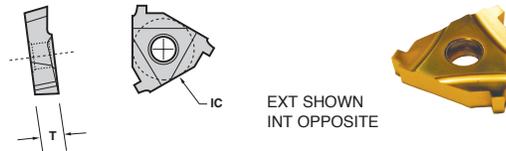
## API VAM L43 - 1/2" I.C.



Description	EDP Code	TPI	TPF	IC	T
L43 5VAM EXT	23154	5	3/4	.500	.189
L43 6VAM EXT	24154	6	3/4	.500	.189
L43 8VAM EXT	25154	8	3/4	.500	.189
L43 5VAM INT	23158	5	3/4	.500	.189
L43 6VAM INT	24158	6	3/4	.500	.189
L43 8VAM INT	25158	8	3/4	.500	.189

TIN Coated			A1TIN Coated		
GP22	GP50	GP54	AC22	AC3	AC50
●	●			●	●

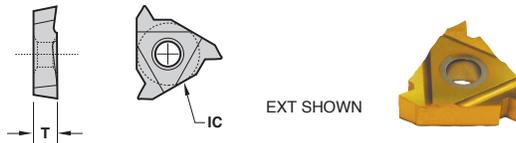
## API X-LINE L43/L53 - 1/2" & 5/8" I.C.



Description	EDP Code	TPI	TPF	IC	T	Conn. No.
L43 6XL15 EXT	19154	6	1-1/2	.500	.189	5 - 7-5/8
L43 6XL75 EXT	20154	6	3/4	.500	.189	-
L43 5XL12 EXT	18154	5	1-1/4	.500	.189	8-5/8 - 10-3/4
L53 6XL15 EXT	19474	6	1-1/2	.625	.189	5 - 7-5/8
L53 6XL75 EXT	20474	6	3/4	.625	.189	-
L53 5XL12 EXT	18474	5	1-1/4	.625	.189	8-5/8 - 10-3/4
L43 6XL15 INT	19158	6	1-1/2	.500	.189	5 - 7-5/8
L43 6XL75 INT	20158	6	3/4	.500	.189	-
L43 5XL12 INT	18158	5	1-1/4	.500	.189	8-5/8 - 10-3/4
L53 6XL15 INT	19478	6	1-1/2	.625	.189	5 - 7-5/8
L53 6XL75 INT	20478	6	3/4	.625	.189	-
L53 5XL12 INT	18478	5	1-1/4	.625	.189	8-5/8 - 10-3/4

TIN Coated			A1TIN Coated		
GP22	GP50	GP54	AC22	AC3	AC50
●	●			●	●

## NPT L43 - 1/2" I.C.



Description	EDP Code	TPI	TPF	IC	T
L43 11.5NPT EXT	3615114	11.5	3/4	.500	.189
L43 8NPT EXT	3615084	8	3/4	.500	.189
L43 11.5NPT INT	3615118	11.5	3/4	.500	.189
L43 8NPT INT	3615088	8	3/4	.500	.189

TIN Coated			A1TIN Coated		
GP22	GP50	GP54	AC22	AC3	AC50
●	●			●	●

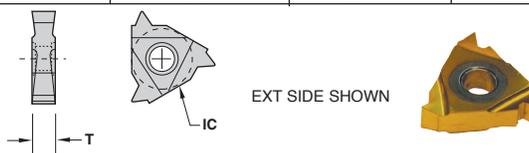
## L43 - 1/2" I.C. Multi-Tooth



Description	EDP Code	TPI	TPF	IC	T
L43 11.5NPT2M EXT	3615114T	11.5	3/4	.500	.189
L43 11.5NPT2M INT	3615118T	11.5	3/4	.500	.189

TIN Coated			A1TIN Coated		
GP22	GP50	GP54	AC22	AC3	AC50
●	●		●	●	●

## LDS 43 - 1/2" I.C. Double Sided



Description	EDP Code	TPI	TPF	IC	T
LDS 43 14NPT	3618140	14	3/4	.500	.189
LDS 43 11.5NPT	3618110	11.5	3/4	.500	.189
LDS 43 8NPT	3618080	8	3/4	.500	.189

TIN Coated			A1TIN Coated		
GP22	GP50	GP54	AC22	AC3	AC50
		●			
		●			
		●			

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

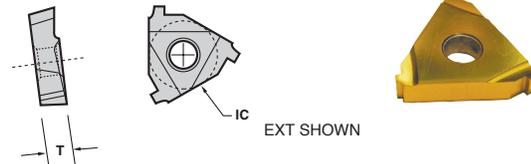
- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

Cast Iron	
Non-Ferrous	
Stainless/High Temp	
Steel	



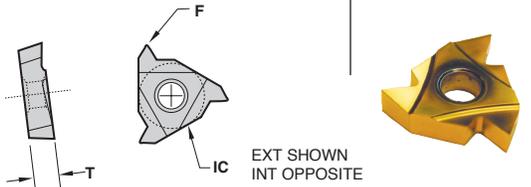
# LAYDOWN

## PITTSBURGH ACME L43/L53 - 1/2" & 5/8" I.C.



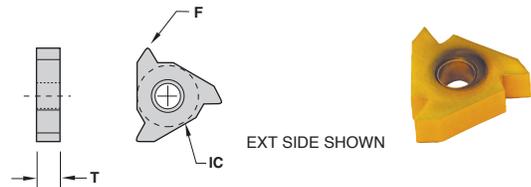
Description	EDP Code	TPI	TPF	IC	T	TIN Coated			A1TIN Coated		
						GP22	GP50	GP54	AC22	AC3	AC50
L43 8PA75 EXT	22154	8	3/4	.500	.189	●	●				
L53 8PA75 EXT	22474	8	3/4	.625	.189	●	●				
L43 8PA75 INT	22158	8	3/4	.500	.189	●	●				
L53 8PA75 INT	22478	8	3/4	.625	.189	●	●				

## V THREADING - 60° L43 & 53- 1/2" & 5/8" I.C.



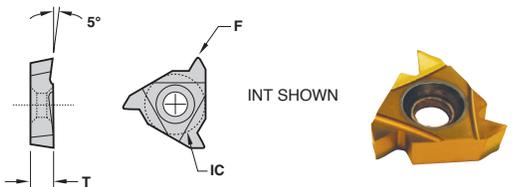
Description	EDP Code	TPI	F	IC	T	TIN Coated			A1TIN Coated		
						GP22	GP50	GP54	AC22	AC3	AC50
L43 NV EXT	0115040	8-48	.006/.008	.500	.189		●			●	●
L53 NV EXT	0147040	5-32	.006/.008	.625	.189		●			●	●
L43 NV INT	0115080	8-48	.006/.008	.500	.189		●			●	●
L53 NV INT	0147080	5-32	.006/.008	.625	.189		●			●	●

## LN 43 - 1/2" I.C. Double Sided



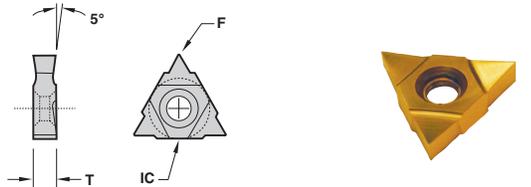
Description	EDP Code	TPI	F	IC	T	TIN Coated			A1TIN Coated		
						GP22	GP50	GP54	AC22	AC3	AC50
LN 43 NV	0120000	8-48	.006/.008	.500	.189	●					

## V THREADING - 60° LPGC 32, 42 & 43 - 3/8" & 1/2" I.C.



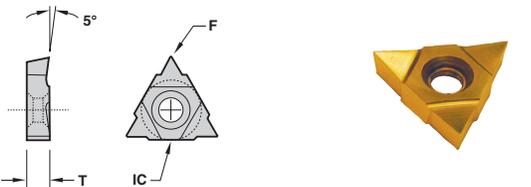
Description	EDP Code	TPI	F	IC	T	TIN Coated			A1TIN Coated		
						GP22	GP5	GP54	AC25	AC3	AC50
LPGC 32 NV INT RH	0104R80	8-48	.004/.006	.375	.127		●				
LPGC 32 NV INT LH	0104L80	8-48	.004/.006	.375	.127		●				
LPGC 42 NV INT RH	0113R80	8-20	.006/.008	.500	.127		●			●	
LPGC 42 NV INT LH	0113L80	8-20	.006/.008	.500	.127		●			●	
LPGC 43 NV INT RH	0127R80	5-16	.006/.008	.500	.189		●			●	
LPGC 43 NV INT LH	0127L80	5-16	.006/.008	.500	.189		●			●	

## TNPGC 43 - 1/2" I.C. Double Sided



Description	EDP Code	TPI	F	IC	T	TIN Coated			A1TIN Coated		
						GP22	GP50	GP54	AC22	AC3	AC50
TNPGC 43 NV	0137000	8-48	.005/.007	.500	.189	●					

## TPGC 32, 42 & 43 - 3/8" & 1/2" I.C.



Description	EDP Code	TPI	F	IC	T	TIN Coated			A1TIN Coated		
						GP22	GP5	GP54	AC22	AC3	AC50
TPGC 32 NV	0107000	8-48	.005/.007	.375	.127		●		●		
TPGC 42 NV	0114000	5-32	.005/.007	.500	.127		●				
TPGC 43 NV	0138000	4-16	.005/.007	.500	.189		●				

In an effort to improve our stock standard grade offering, there are periodic changes. Please see current price list for up to date grade offering.

- High performance choice in optimal conditions.
- ▲ Recommended grade under general conditions.

Cast Iron  
Non-Ferrous  
Stainless/High Temp  
Steel

				●	
				●	
				●	
▲					

LAYDOWN

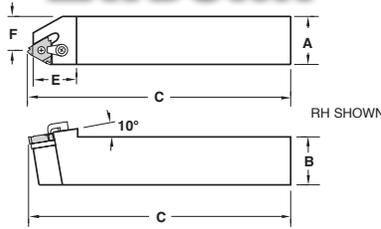


# LAYDOWN

## EXTERNAL HOLDER

### MTENR/L

Threading



### PARTS

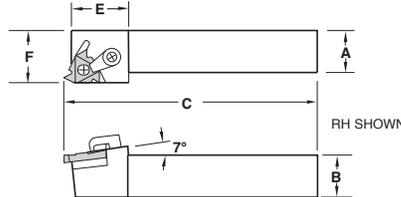
Description	EDP Code	Insert	A	B	C	E	F*	Seat	Lock Pin	Clamp	Clamp Screw
MTENR-164	95201656	TNPGC 43	1	1	6	1.47	.63	TS 43*	NL46	TC-190	STC5
MTENR-204	95202056	TNPGC 43	1-1/4	1-1/4	7	1.47	.88	TS 43*	NL46	TC-190	STC5

\*Seats can be ordered as NO FORM or a FORM can be specified. Ex: TS 43 API EXT Seat.

### MTVNR/L

Threading & Grooving

Inch



### PARTS

Description	EDP Code	Insert	A	B	C	E	F*	Seat	Lock Pin	Clamp	Clamp Screw
MTVNR-164	95801656	L43	1	1	6	1.27	1.250	LS43*	NL46	TC-190	STC5
MTVNL-164	95701656	L43	1	1	6	1.27	1.250	LS43*	NL46	TC-190	STC5
MTVNR-204	95802056	L43	1-1/4	1-1/4	7	1.27	1.500	LS43*	NL46	TC-190	STC5
MTVNR-165	95801662	L53	1	1	6	1.53	1.250	LS53*	NL58	TC-250	STC11
MTVNL-165	95701662	L53	1	1	6	1.53	1.250	LS53*	NL58	TC-250	STC11
MTVNR-205	95802062	L53	1-1/4	1-1/4	7	1.53	1.500	LS53*	NL58	TC-250	STC11
MTVNR-2054	95802064	LDS 54	1-1/4	1-1/4	7	1.53	1.500	LS53*	NL58	TC-250	STC11

\*Seats can be ordered as NO FORM or a FORM can be specified. Ex: LS 43 API EXT. Seat.

## METRIC

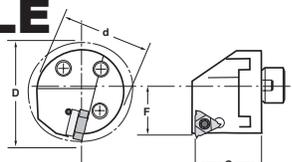
### PARTS

Description	EDP Code	Insert	A	B	C	E	F*	Seat	Lock Pin	Clamp	Clamp Screw
MTVNR-2525M4	9580M2556	L43	1	1	6	1.27	1.250	LS43*	NL46	TC-190	STC5
MTVNL-2525M4	9570M2556	L43	1	1	6	1.27	1.250	LS43*	NL46	TC-190	STC5
MTVNR-3232M4	9580M3256	L43	1-1/4	1-1/4	7	1.27	1.500	LS43*	NL46	TC-190	STC5
MTVNR-2525M5	9580M2562	L53	1	1	6	1.53	1.250	LS53*	NL58	TC-250	STC11
MTVNL-2525M5	9570M2562	L53	1	1	6	1.53	1.250	LS53*	NL58	TC-250	STC11
MTVNR-3232M5	9580M3262	L53	1-1/4	1-1/4	7	1.53	1.500	LS53*	NL58	TC-250	STC11
MTVNR-3232M54	9580M3264	LDS 54	1-1/4	1-1/4	7	1.53	1.500	LS53*	NL58	TC-250	STC11

\*Seats can be ordered as NO FORM or a FORM can be specified. Ex: LS 43 API EXT. Seat.

## INTERCHANGEABLE HEADS

### H-LNFR/L\*



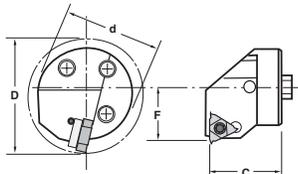
RH SHOWN

### PARTS

Description	EDP Code	Insert	d	C	F	Min. Bore (D)	Seat	Clamp	Clamp Screw	Lock Pin
H20-LNFR-43	9IH4206856	L43	1.250	1.625	0.765	1.450	-	TC-190	STC-9	NL-44
H24-LNFR-43	9IH4207256	L43	1.500	1.625	0.890	1.760	-	TC-190	STC-9	NL-44
H32-LNFR-43	9IH4208056	L43	2.000	1.625	1.281	2.400	LS43	TC-190	STC-5	NL-46
H24-LNFR-53API	9IH4407262	L53	1.500	1.625	0.890	1.760	-	TC-250	STC-11	NL-56
H32-LNFR-53API	9IH4408062	L53	2.000	1.625	1.281	2.400	-	TC-250	STC-11	NL-56
H24-LNFR-54API	9IH4407264	LDS 54	1.500	1.625	0.890	1.760	-	TC-250	STC-11	H410-1
H32-LNFR-54API	9IH4408064	LDS 54	2.000	1.625	1.281	2.400	-	TC-250	STC-11	NL-56

\*Non API heads only for 8RD, 10RD, 5B75, 5B1 threads. API heads required for rotary shoulder connections threads.

### HS-LNFR/L\*



RH SHOWN

### PARTS

Description	EDP Code	Insert	d	C	F	Min. Bore (D)	Clamp	Clamp Screw	Lock Pin
HS32-LNFR-43	9IHS42032M56	L43	1.25	1.26	0.866	1.570	TC-190	STC-9	NL-44
HS40-LNFR-43	9IHS42040M56	L43	1.57	1.26	1.063	1.970	TC-190	STC-9	NL-44
HS50-LNFR-43	9IHS42050M56	L43	1.97	1.57	1.378	2.480	TC-190	STC-9	NL-44
HS40-LNFR-53API	9IHS4440M62	L53	1.57	1.26	1.063	1.970	TC-250	STC-11	NL-56
HS50-LNFR-53API	9IHS44450M62	L53	1.97	1.57	1.378	2.480	TC-250	STC-11	NL-56
HS40-LNFR-54API	9IHS4440M64	LDS 54	1.57	1.26	1.063	1.970	TC-250	STC-11	H410-1
HS50-LNFR-54API	9IHS44450M64	LDS 54	1.97	1.57	1.378	2.480	TC-250	STC-11	NL-56

\*Non API heads only for 8RD, 10RD, 5B75, 5B1 threads. API heads required for rotary shoulder connections threads.

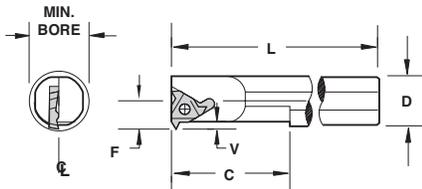


# LAYDOWN

## INTERNAL BAR

### LFR/L

Threading & Grooving



RH SHOWN

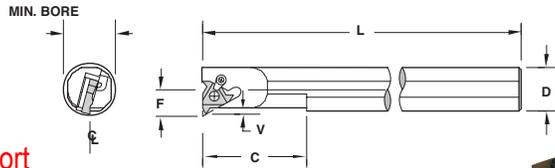
Most bars available with coolant port  
(ie: Add CP to end of description)

Description	EDP Code	Insert	Min. Bore	L	D	C	F	V	Torx Screw
LFR 625-32	93905248	LPGC 32	.625	8	.625	2-1/2	.312	.100	SF30
LFL 625-32	93805248	LPGC 32	.625	8	.625	2-1/2	.312	.100	SF30
LFR 750-32	93905648	LPGC 32	.750	8	.750	2-3/4	.375	.100	SF30
LFL 750-32	93805648	LPGC 32	.750	8	.750	2-3/4	.375	.100	SF30
LFR 100-32	93906448	LPGC 32	1.000	10	1.000	2-3/4	.500	.100	SF30
LFL 100-32	93806448	LPGC 32	1.000	10	1.000	2-3/4	.500	.100	SF40
LFR 750-42	93905654	LPGC 42	.750	8	.750	2-3/4	.375	.100	SF50
LFL 750-42	93805654	LPGC 42	.750	8	.750	2-3/4	.375	.100	SF60
LFR 100-43	93906456	LPGC 43	1.000	10	1.000	2-3/4	.500	.125	SF60
LFL 100-43	93806456	LPGC 43	1.000	10	1.000	2-3/4	.500	.125	SF60
LFR 125-43	93906856	LPGC 43	1.250	12	1.250	2-3/4	.625	.125	SF60
LFL 125-43	93806856	LPGC 43	1.250	12	1.250	2-3/4	.625	.125	SF60
LFR 150-43	93907256	LPGC 43	1.500	14	1.500	3-3/4	.750	.125	SF60
LFL 150-43	93807256	LPGC 43	1.500	14	1.500	3-3/4	.750	.125	SF60
LFR 200-43	93908056	LPGC 43	2.000	14	2.000	3-3/4	1.000	.125	SF60
LFL 200-43	93808056	LPGC 43	2.000	14	2.000	3-3/4	1.000	.125	SF60
LFR 150-53	93907262	LPGC 53	1.500	14	1.500	3-3/4	.750	.150	SF67
LFL 150-53	93807262	LPGC 53	1.500	14	1.500	3-3/4	.750	.150	SF67
LFR 200-53	93908062	LPGC 53	2.000	14	2.000	3-3/4	1.000	.150	SF85

\*Over NV Insert

## LNFR/L

Threading & Grooving  
Inch



RH SHOWN

Most bars available with coolant port  
(ie: Add CP to end of description)

Description	EDP Code	Insert	Min. Bore	L	D	C	F	V*	Seat	Screw/ Lock Pin	Clamp	Clamp Screw
LNFR 100-43	94206456	L43	1.031	10	1	2-3/4	.564	.125	-	TS65	-	-
LNFL 100-43	94106456	L43	1.031	10	1	2-3/4	.564	.125	-	TS65	-	-
LNFR 125-43	94206856	L43	1.250	12	1-1/4	2-3/4	.625	.125	-	NL44	TC190	STC-5
LNFL 125-43	94106856	L43	1.250	12	1-1/4	2-3/4	.625	.125	-	NL44	TC190	STC-5
LNFR 150-43	94207256	L43	1.500	14	1-1/2	3-3/4	.750	.125	-	NL44	TC190	STC-9
LNFL 150-43	94107256	L43	1.500	14	1-1/2	3-3/4	.750	.125	-	NL44	TC190	STC-9
LNFR 200-43	94208056	L43	2.000	14	2	3-3/4	1.000	.125	LS43*	NL46	TC190	STC-9
LNFL 200-43	94108056	L43	2.000	14	2	3-3/4	1.000	.125	LS43*	NL46	TC190	STC-9
LNFR 150-53	94207262	L53	1.500	14	1-1/2	3-3/4	.750	.150	-	NL56	TC250	STC-11
LNFL 150-53	94107262	L53	1.500	14	1-1/2	3-3/4	.750	.150	-	NL56	TC250	STC-11
LNFR 200-53	94208062	L53	2.000	14	2	3-3/4	1.000	.150	LS53*	NL58	TC250	STC-11
LNFL 200-53	94108062	L53	2.000	14	2	3-3/4	1.000	.150	LS53*	NL58	TC250	STC-11
LNFR 150-54	94207264	LDS54	1.500	14	1-1/2	3-3/4	.750	.150	-	NL56	TC250	STC-11
LNFL 150-54	94107264	LDS54	1.500	14	1-1/2	3-3/4	.750	.150	-	NL56	TC250	STC-11
LNFR 200-54	94208064	LDS54	2.000	14	2	3-3/4	1.000	.150	-	NL56	TC250	STC-11
LNFL 200-54	94108064	LDS54	2.000	14	2	3-3/4	1.000	.150	-	NL56	TC250	STC-11

\*Seat can be ordered as NO FORM or a FORM can be specified. EX: LS 43 API INT SEAT \*\* Over Sharp

\*\*Non API bars will work for 8/10RD and 5B75/5B1 threadforms. API bars required for rotary shoulder connection threadforms.

## METRIC

Description	EDP Code	Insert	Min. Bore	L	D	C	F	V*	Seat	Screw/ Lock Pin	Clamp	Clamp Screw
LNFR 32M-43	942M3256	L43	35,0	304,8	32,0	69,5	17,5	3,2	-	NL44	TC190	STC-5
LNFL 32M-43	941M3256	L43	35,0	304,8	32,0	69,5	17,5	3,2	-	NL44	TC190	STC-5
LNFR 40M-43	942M4056	L43	43,2	355,6	40,0	95,2	21,6	3,2	-	NL44	TC190	STC-9
LNFL 40M-43	941M4056	L43	43,2	355,6	40,0	95,2	21,6	3,2	-	NL44	TC190	STC-9
LNFR 50M-43	942M5056	L43	54,1	355,6	50,0	101,6	27,0	3,2	LS43*	NL46	TC190	STC-5
LNFL 50M-43	941M5056	L43	54,1	355,6	50,0	101,6	27,0	3,2	LS43*	NL46	TC190	STC-5
LNFR 40M-53	942M4062	L53	44,1	355,6	40,0	101,6	22,0	3,8	-	NL56	TC250	STC-11
LNFL 40M-53	941M4062	L53	44,1	355,6	40,0	101,6	22,0	3,8	-	NL56	TC250	STC-11
LNFR 50M-53	942M5062	L53	54,1	355,6	50,0	101,6	27,4	3,8	LS53*	NL58	TC250	STC-11
LNFL 50M-53	941M5062	L53	54,1	355,6	50,0	101,6	27,4	3,8	LS53*	NL58	TC250	STC-11
LNFR 40M-54	942M4064	LDS54	44,1	355,6	40,0	101,6	22,0	3,8	-	NL56	TC250	STC-11
LNFL 40M-54	941M4064	LDS54	44,1	355,6	40,0	101,6	22,0	3,8	-	NL56	TC250	STC-11
LNFR 50M-54	942M5064	LDS54	54,1	355,6	50,0	101,6	27,4	3,8	-	NL56	TC250	STC-11
LNFL 50M-54	941M5064	LDS54	54,1	355,6	50,0	101,6	27,4	3,8	-	NL56	TC250	STC-11

\*Seat can be ordered as NO FORM or a FORM can be specified. EX: LS 43 API INT SEAT \*\* Over Sharp

\*\*Non API bars will work for 8/10RD and 5B75/5B1 threadforms. API bars required for rotary shoulder connection threadforms.

## PARTS

LAYDOWN

# LAYDOWN

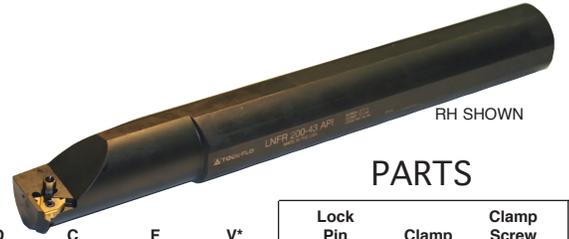
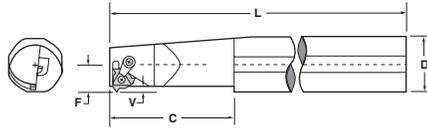


## INTERNAL BAR

### LNFR/L-API

Threading  
Inch

Tapered Head for  
API Forms



Most bars available with coolant port  
(ie: Add CP to end of description)

### PARTS

Description	EDP Code	Insert	Min. Bore	L	D	C	F	V*	Lock Pin	Clamp	Clamp Screw
LNFR 150-43API	94407256	L43	1.500	14	1-1/2	4-1/2	.750	.167	NL44	TC190	XNS-36
LNFR 200-43API	94408056	L43	2.000	14	2	4-1/2	1.000	.167	NL44	TC190	XNS-36
LNFR 150-53API	94407262	L53	1.500	16	1-1/2	4-1/2	.750	.200	NL56	TC250	STC-11
LNFR 200-53API	94408062	L53	2.000	16	2	4-1/2	1.000	.200	NL56	TC250	STC-11
LNFR 200-54API	94408064	LDS 54	2.000	16	2	4-1/2	1.000	.200	NL56	TC250	STC-11

\*Seat can be ordered as NO FORM or a FORM can be specified. EX: LS 43 API INT SEAT if required.  
\*\*Required for rotary shoulder connection threading inserts.

### METRIC

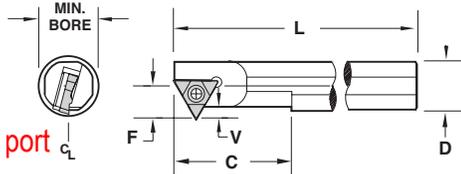
Description	EDP Code	Insert	Min. Bore	L	D	C	F	V*	Lock Pin	Clamp	Clamp Screw
LNFR 40M-43API	944M4056	L43	41,9	355,6	40,0	114,3	20,9	4,2	NL44	TC190	XNS-36
LNFR 50M-43API	944M5056	L43	55,0	355,6	50,0	114,3	27,4	4,2	NL44	TC190	XNS-36
LNFR 40M-53API	944M4062	L53	42,1	355,6	40,0	114,3	20,9	5,8	NL56	TC250	STC-11
LNFR 50M-53API	944M5062	L53	55,2	406,4	50,0	114,3	27,6	5,8	NL56	TC250	STC-11
LNFR 50M-54API	944M5064	LDS 54	55,2	406,4	50,0	114,3	27,6	5,8	NL56	TC250	STC-11

\*Seat can be ordered as NO FORM or a FORM can be specified. EX: LS 43 API INT SEAT if required.  
\*\*Required for rotary shoulder connection threading inserts.

### PARTS

### LNTR/L

Threading



Most bars available with coolant port  
(ie: Add CP to end of description)

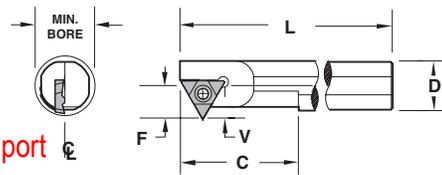


Description	EDP Code	Insert	Min. Bore	L	D	C	F*	V	Torx Screw
LNTR 880-43	94706056	TNPGC 43	.880	8	1.000	2.750	.440	.199	SF60
LNTR 100-43	94706456	TNPGC 43	1.000	10	1.000	2.750	.490	.213	SF60
LNTR 125-43	94706856	TNPGC 43	1.250	12	1.250	2.750	.640	.213	SF60
LNTR 150-43	94707256	TNPGC 43	1.500	14	1.500	3.750	.740	.213	SF60
LNTR 200-43	94708056	TNPGC 43	2.000	14	2.000	3.750	.990	.213	SF60

\*Over NV Insert

### LTR/L

Threading & Grooving



Most bars available with coolant port  
(ie: Add CP to end of description)



Description	EDP Code	Insert	Min. Bore	L	D	C	F	V*	Torx Screw
LTR 625-32	95005248	TPGC 32	.625	8	.625	2.500	.375	.150	SF40
LTR 750-32	95005648	TPGC 32	.750	8	.750	2.750	.375	.150	SF40
LTR 100-32	95006448	TPGC 32	1.000	10	1.000	2.750	.500	.150	SF40
LTR 150-42	95005654	TPGC 42	.800**	8	.750	2.750	.390	.125	SF60
LTR 100-43	95006456	TPGC 43	1.000	10	1.000	2.750	.500	.213	SF60
LTR 125-43	95006856	TPGC 43	1.250	12	1.250	2.750	.625	.213	SF60
LTR 150-43	95007256	TPGC 43	1.500	14	1.500	3.750	.750	.213	SF60
LTR 200-43	95008056	TPGC 43	2.000	14	2.000	3.750	1.000	.213	SF60
LTR 150-53	95007262	TPGC 53	1.500	14	1.500	3.750	.750	.300	SF85
LTR 200-53	95008062	TPGC 53	2.000	14	2.000	3.750	1.000	.300	SF85

\*Over NV Insert

\*\*Over 4P Acme Insert