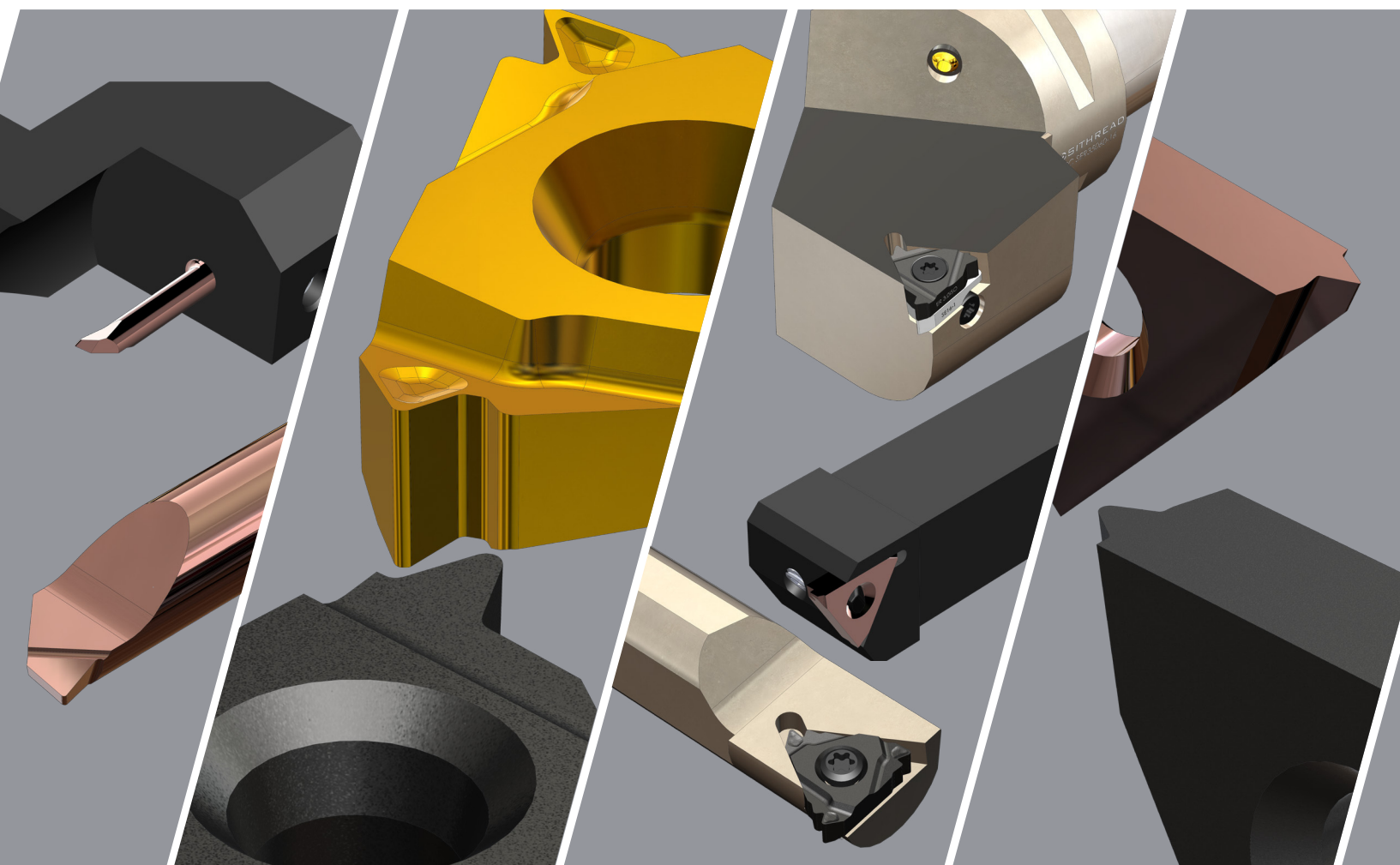


POSITHREAD



THREAD TURNING

TOOLING FOR OIL & GAS ▪ AUTOMOTIVE ▪ AEROSPACE ▪ GENERAL ENGINEERING

LAYDOWN INSERTS

Laydown Inserts Identification Code	4
GENERAL	
Partial Profile 60°	5
Partial Profile 55°	6
ISO Metric	7
Unified	10
Whitworth	13
AEROSPACE	
UNJ	16
ISO-MJ	17
TRANSMISSION	
ACME	18
Stub ACME	19
Trapezoidal	20
MISCELLANEOUS	
PG DIN40430	21
British Association	22
Round DIN405	23
Grooving	24
PIPE	
NPT	25
NPTF	26
BSPT	27
BUTTRESS	
British Buttress	28
American Buttress	29
OILFIELD	
Oilfield Identification Code	30
API Rotary	31
API Round	33
PAC	34
Buttress Casing	35
MULTI-TOOTH	
ISO	36
Unified	37
Whitworth	38
NPT	38

X SERIES INSERTS

ISO Metric	40
Unified	41
Whitworth	42
Partial Profile 60°	43
Partial Profile 55°	43
NPT	44
API Round	44

LAYDOWN TOOLING

EXTERNAL	
Clamp Type	46
Screw Type	48
Sliding Head	49
PSC	50
INTERNAL	
Clamp Type	51
Screw Type	52
PSC	53
Anvils	54

ON-EDGE INSERTS

On-Edge Insert Identification Code	56
GENERAL	
Partial Profile	57
ISO	57
Unified	58
Whitworth	58
PIPE	
NPT	59
BSPT	59
TRANSMISSION	
ACME	60
ACME with Break Corner Chamfers	61
Stub ACME	62
Stub ACME with Break Corner Chamfers	63
GROOVING	
Square	64
Radius	64
Turning	64

ON-EDGE TOOLING

EXTERNAL	
Wedge Type	66
Clamp Type	66
Pin Type	67
Screw Type for Sliding Head	67
INTERNAL	
Clamp Type	68
Wedge Type	68

MINI THREADING

ISO	70
Unified	70
Partial Profile	71

MINI GROOVING

Square	72
Round	73

MINI BORING

Internal Boring	74
-----------------	----

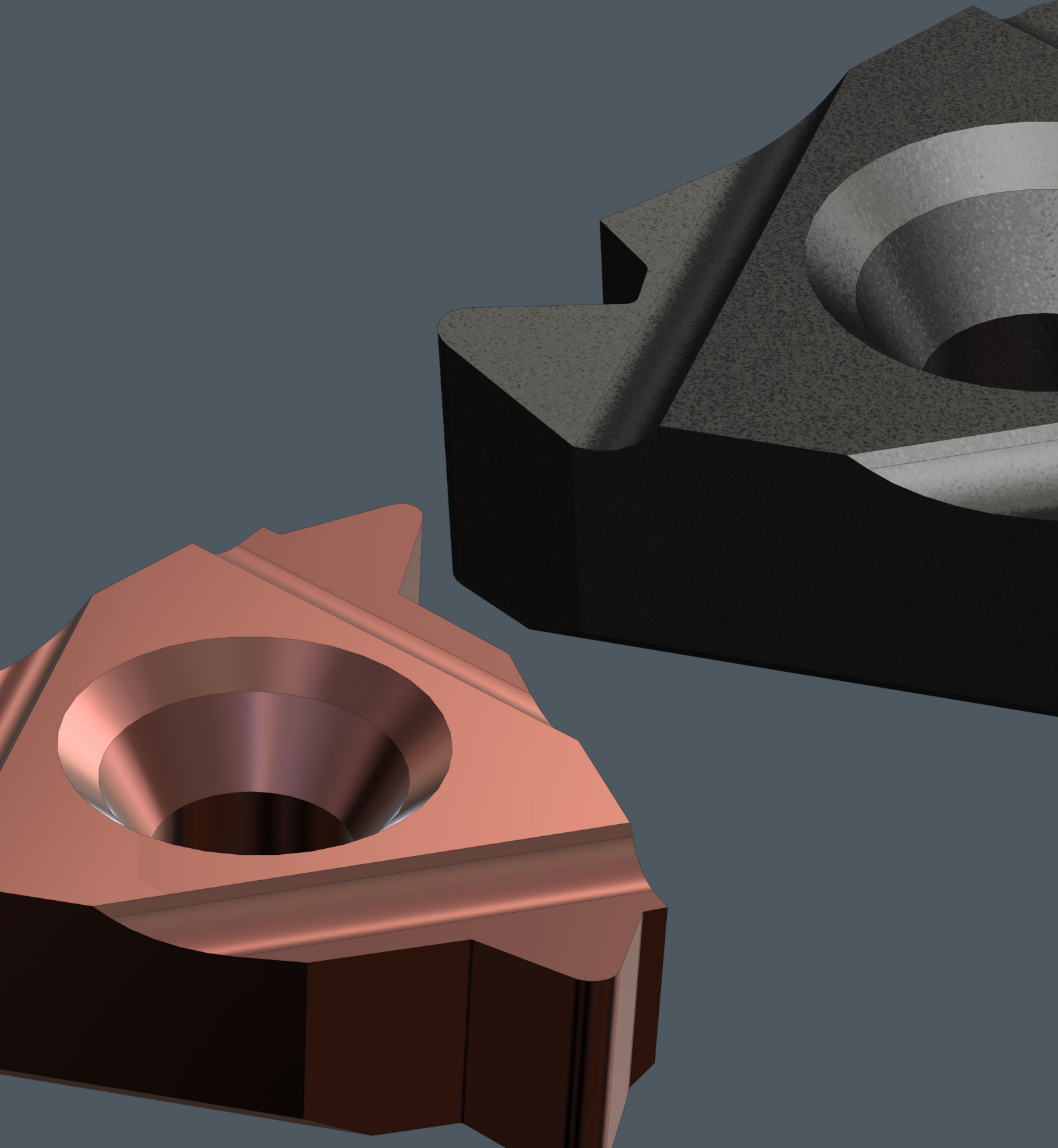
MINI TOOLING

Round Shank	76
Square Shank	77
Drop-head	78

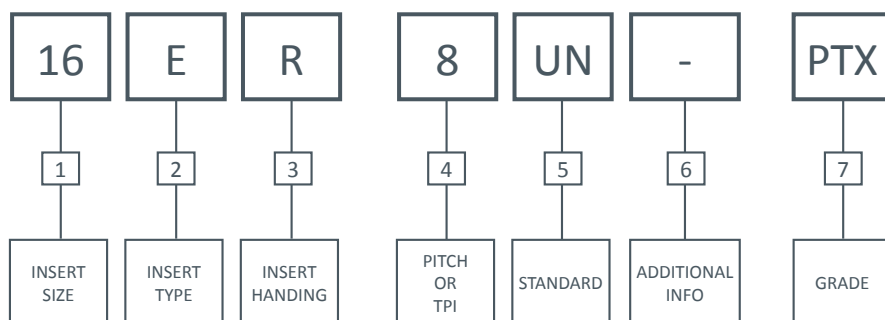
TECHNICAL

Thread Terminology	80
Anvil & Helix Data	81
Grades & Cutting Speeds	83

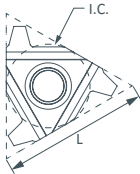
POSITHREAD
LAYDOWN
THREADING INSERTS



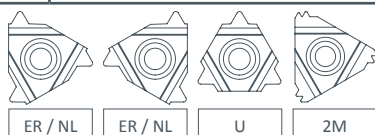
LAYDOWN INSERT IDENTIFICATION CODE



1 INSERT SIZE		
L	EDGE LENGTH	I.C.
06	6.00mm	1/2"
08	8.00mm	3/16"
11	11.00mm	1/4"
16	16.00mm	3/8"
22	22.00mm	1/2"
27	27.00mm	3/4"



2 INSERT TYPE	
E	EXTERNAL
I	INTERNAL



3 INSERT HANDING	
R	RIGHT HAND
L	LEFT HAND
U	NEUTRAL

4 PITCH OR TPI	
PITCH	IN mm
TPI	THREADS PER INCH

5 STANDARD	
55	55 PARTIAL PROFILE
60	60 PARTIAL PROFILE
W	WHITWORTH
ISO	ISO METRIC
UN	AMERICAN UNIFIED
NPT	NATIONAL PIPE THREAD
BSPT	BRITISH STANDARD PIPE THREAD
RD	ROUND
TR	TRAPEZOIDAL
ACME	ACME GENERAL PURPOSE
STACME	STUB ACME
API	AMERICAN PETROLEUM INSTITUTE
H90	HUGHES H90
SL H90	SLIMLINE H90
ELC	EXTREME LINE CASING
PAC	PAC & AOH

6 ADDITIONAL INFORMATION		
2M / 3M	MULTI-TOOTH INSERTS	
386	V0.038R 2TPF	API THREAD FORM/ TAPER
504	V0.050 3TPF	
558	V0.055 1 1/2 TPF	

7 GRADE		
PTX		AVAILABLE FROM STOCK ^o
DBC		AVAILABLE FROM STOCK ^o
PTC2		AVAILABLE FROM STOCK ^o

ADDITIONAL INFORMATION

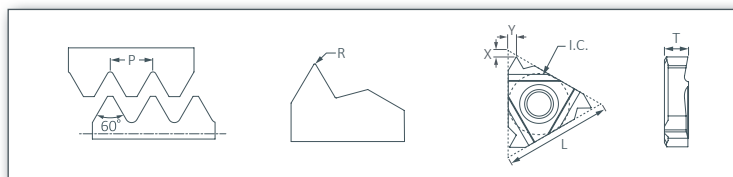
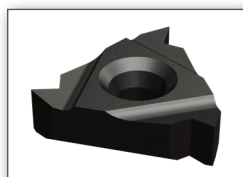
CROSSOVERS	
POSIThread REFERENCE	OTHER MANUFACTURER
11NR 1.5ISO	2IR 1.5ISO
16ER 10UN	3ER 10UN
22NR 6ACME	4IR 6ACME
27ER 4W	5ER 4W

PARTIAL PROFILE REFERENCES		
	mm	TPI
A	0.50 - 1.25	48 - 20
AG	0.50 - 3.00	48 - 8
MR	1.00 - 2.50	24 - 11
G	1.75 - 3.00	14 - 8
N	3.50 - 5.00	7 - 5
S	5.50 - 8.00	4 1/2 - 3 1/2

^oINSERT GRADE AVAILABILITY IS LISTED AT THE BOTTOM OF EACH PAGE

PARTIAL PROFILE 60° INCLUSIVE

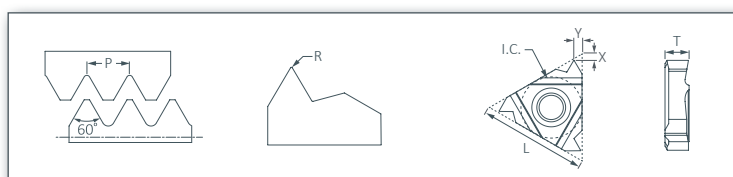
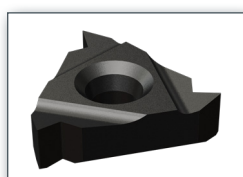
EXTERNAL



DESCRIPTION	PITCH	TPI	R MAX	X	Y	I.C.	L	T
16ER A60	0.50 - 1.50	48 - 16	0.07	0.70	0.80	9.525	16.00	3.50
16ER AG60	0.50 - 3.00	48 - 8	0.07	1.30	1.50			
16ER MR60	1.00 - 2.50	24 - 11	0.14	1.30	1.50			
16ER G60	1.75 - 3.00	14 - 8	0.25	1.30	1.50			
16ER A60 TD	0.50 - 1.50	48 - 16	0.07	0.70	0.80			
16ER AG60 TD	0.50 - 3.00	48 - 8	0.07	1.30	1.50			
22ER AG60	0.50 - 3.00	48 - 8	0.07	1.30	1.50	12.70	22.00	4.76
22ER N60	3.50 - 5.00	7 - 5	0.51	1.80	2.50			
22EU 60	5.50 - 6.00	4 ½ - 3 ¼	0.39	0.80	11.00			
27ER S60	5.50 - 8.00	4 ½ - 3	0.39	2.50	4.00	15.875	27.00	6.30
27EU 60	6.50 - 9.00	4 - 2 ¾	0.47	1.00	13.50			

PARTIAL PROFILE 60° INCLUSIVE

INTERNAL



DESCRIPTION	PITCH	TPI	R MAX	X	Y	I.C.	L	T
08NR A60	0.50 - 1.50	48 - 16	0.04	0.60	0.70	4.76	8.00	2.21
11NR A60	0.50 - 1.50	48 - 16	0.04	0.70	0.80	6.35	11.00	3.25
16NR A60	0.50 - 1.50	48 - 16	0.04	0.70	0.80	9.525	16.00	3.50
16NR AG60	0.50 - 3.00	48 - 8	0.04	1.30	1.50			
16NR MR60	1.00 - 2.50	24 - 11	0.07	1.30	1.50			
16NR G60	1.75 - 3.00	14 - 8	0.13	1.30	1.50			
16NR A60 TD	0.50 - 1.50	48 - 16	0.04	0.70	0.80			
16NR AG60 TD	0.50 - 3.00	48 - 8	0.04	1.30	1.50			
22NR AG60	0.50 - 3.00	48 - 8	0.04	1.30	1.50	12.70	22.00	4.76
22NR N60	3.50 - 5.00	7 - 5	0.25	1.80	2.50			
22NU 60	5.50 - 6.00	4 ½ - 3 ¼	0.39	0.80	11.00			
27NR S60	5.50 - 8.00	4 ½ - 3	0.39	2.50	4.00	15.875	27.00	6.30
27NU 60	6.50 - 9.00	4 - 2 ¾	0.47	1.00	13.50			

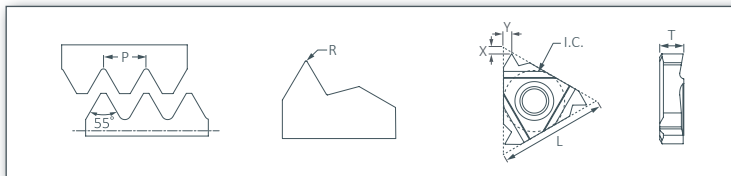
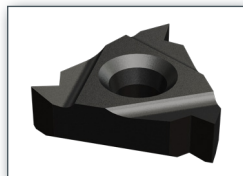


GENERAL

PARTIAL PROFILE

EXTERNAL

55° INCLUSIVE

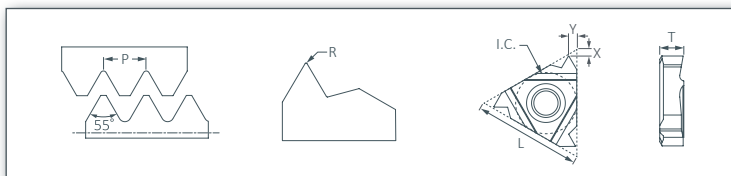
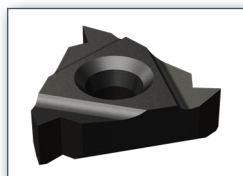


DESCRIPTION	PITCH	TPI	R MAX	X	Y	I.C.	L	T
16ER A55	0.50 - 1.50	48 - 16	0.07	0.70	0.80	9.525	16.00	3.50
16ER AG55	0.50 - 3.00	48 - 8	0.07	1.30	1.50			
16ER MR55	1.00 - 2.50	24 - 11	0.14	1.30	1.50			
16ER G55	1.75 - 3.00	14 - 8	0.25	1.30	1.50			
16ER A55 TD	0.50 - 1.50	48 - 16	0.07	0.70	0.80			
16ER AG55 TD	0.50 - 3.00	48 - 8	0.07	1.30	1.50			
16ER G55 TD	1.75 - 3.00	14 - 8	0.25	1.30	1.50			
22ER N55	3.50 - 5.00	7 - 5	0.51	1.80	2.50	12.70	22.00	4.76
22EU 55	5.50 - 6.00	4 ½ - 3 ¼	0.39	0.80	11.00			
27ER S55	5.50 - 8.00	4 ½ - 3	0.39	2.50	4.00	15.875	27.00	6.30
27EU 55	6.50 - 9.00	4 - 2 ¾	0.47	1.00	13.50			

PARTIAL PROFILE

INTERNAL

55° INCLUSIVE



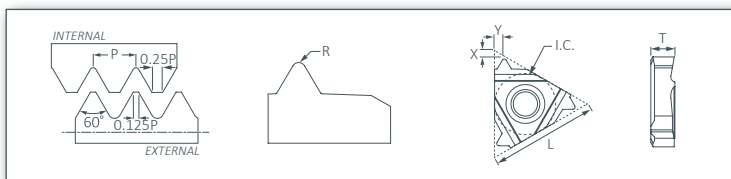
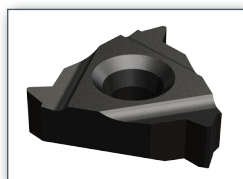
DESCRIPTION	PITCH	TPI	R MAX	X	Y	I.C.	L	T
08NR A55	0.50 - 1.50	48 - 16	0.04	0.60	0.70	4.76	8.00	2.21
11NR A55	0.50 - 1.50	48 - 16	0.04	0.70	0.80	6.35	11.00	3.25
16NR A55	0.50 - 1.50	48 - 16	0.04	0.70	0.80	9.525	16.00	3.50
16NR AG55	0.50 - 3.00	48 - 8	0.04	1.30	1.50			
16NR MR55	1.00 - 2.50	24 - 11	0.07	1.30	1.50			
16NR G55	1.75 - 3.00	14 - 8	0.13	1.30	1.50			
16NR A55 TD	0.50 - 1.50	48 - 16	0.04	0.70	0.80			
16NR AG55 TD	0.50 - 3.00	48 - 8	0.04	1.30	1.50			
16NR G55 TD	1.75 - 3.00	14 - 8	0.13	1.30	1.50			
22NR N55	3.50 - 5.00	7 - 5	0.25	1.80	2.50	12.70	22.00	4.76
22NU 55	5.50 - 6.00	4 ½ - 3 ¼	0.39	0.80	11.00			
27NR S55	5.50 - 8.00	4 ½ - 3	0.39	2.50	4.00	15.875	27.00	6.30
27NU 55	6.50 - 9.00	4 - 2 ¾	0.47	1.00	13.50			



ISO

EXTERNAL

DIN13 60° INCLUSIVE



DESCRIPTION	PITCH	R MAX	X	Y	I.C.	L	T
11ER 0.25ISO	0.25	0.036	0.50	0.40	6.35	11.00	3.25
11ER 0.35ISO	0.35	0.051	0.50	0.40			
11ER 0.5ISO	0.50	0.072	0.70	0.50			
11ER 0.6ISO	0.60	0.087	0.70	0.50			
11ER 0.7ISO	0.70	0.101	0.70	0.50			
11ER 0.75ISO	0.75	0.108	0.70	0.50			
11ER 0.8ISO	0.80	0.115	0.70	0.50			
11ER 1.0ISO	1.00	0.144	0.70	0.80			
11ER 1.25ISO	1.25	0.180	0.70	0.80			
11ER 1.5ISO	1.50	0.217	0.70	0.90			
11ER 1.75ISO	1.75	0.253	0.70	0.90			
11ER 2.0ISO	2.00	0.289	0.70	1.00			
16ER 0.25ISO	0.25	0.036	0.50	0.40	9.525	16.00	3.50
16ER 0.35ISO	0.35	0.051	0.50	0.40			
16ER 0.5ISO	0.50	0.072	0.70	0.50			
16ER 0.6ISO	0.60	0.087	0.70	0.50			
16ER 0.7ISO	0.70	0.101	0.70	0.50			
16ER 0.75ISO	0.75	0.108	0.70	0.50			
16ER 0.8ISO	0.80	0.115	0.70	0.50			
16ER 1.0ISO	1.00	0.144	0.80	0.80			
16ER 1.25ISO	1.25	0.180	0.70	0.80			
16ER 1.5ISO	1.50	0.217	0.80	0.80			
16ER 1.75ISO	1.75	0.253	1.30	1.50			
16ER 2.0ISO	2.00	0.289	1.30	1.50			
16ER 2.5ISO	2.50	0.361	1.30	1.50	12.70	22.00	4.76
16ER 3.0ISO	3.00	0.433	1.30	1.50			
16ER 3.5ISO	3.50	0.505	1.30	1.50			
22ER 3.5ISO	3.50	0.505	1.80	2.50			
22ER 4.0ISO	4.00	0.577	1.80	2.50			
22ER 4.5ISO	4.50	0.650	1.80	2.50			
22ER 5.0ISO	5.00	0.722	1.80	2.50			
22ER 5.5ISO	5.50	0.794	1.80	2.50			
22ER 6.0ISO	6.00	0.866	1.80	2.50			
22EU 5.5ISO	5.50	0.794	1.50	11.00			
22EU 6.0ISO	6.00	0.866	1.90	11.00			
22EU 8.0ISO	8.00	1.155	2.50	11.00	15.875	27.00	6.30
27ER 4.5ISO	4.50	0.650	2.10	3.20			
27ER 5.0ISO	5.00	0.722	2.10	3.20			
27ER 5.5ISO	5.50	0.794	2.10	3.20			
27ER 6.0ISO	6.00	0.866	2.10	3.20			
27ER 8.0ISO	8.00	1.155	2.20	3.20			

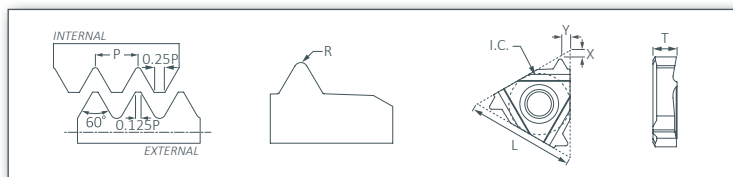
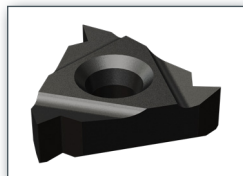


GENERAL

ISO

INTERNAL

DIN13 60° INCLUSIVE



DESCRIPTION	PITCH	R MAX	X	Y	I.C.	L	T
06NR 0.25ISO	0.25	0.018	0.50	0.50	3.97	6.00	1.775
06NR 0.35ISO	0.35	0.025	0.50	0.50			
06NR 0.5ISO	0.50	0.036	0.50	0.50			
06NR 0.75ISO	0.75	0.054	0.50	0.50			
06NR 1.0ISO	1.00	0.072	0.60	0.60			
06NR 1.25ISO	1.25	0.090	0.60	0.70			
08NR 0.5ISO	0.50	0.036	0.50	0.50	4.76	8.00	2.21
08NR 0.75ISO	0.75	0.054	0.50	0.50			
08NR 1.0ISO	1.00	0.072	0.60	0.60			
08NR 1.25ISO	1.25	0.090	0.60	0.70			
08NR 1.5ISO	1.50	0.108	0.70	0.80			
11NR 0.25ISO	0.25	0.40	0.50	0.40	6.35	11.00	3.25
11NR 0.35ISO	0.35	0.40	0.50	0.40			
11NR 0.5ISO	0.50	0.50	0.70	0.50			
11NR 0.6ISO	0.60	0.50	0.70	0.50			
11NR 0.7ISO	0.70	0.50	0.70	0.50			
11NR 0.75ISO	0.75	0.50	0.70	0.50			
11NR 0.8ISO	0.80	0.50	0.70	0.50			
11NR 1.0ISO	1.00	0.80	0.70	0.80			
11NR 1.25ISO	1.25	0.80	0.70	0.80			
11NR 1.5ISO	1.50	0.90	0.70	0.90			
11NR 1.75ISO	1.75	0.90	0.70	0.90			
11NR 2.0ISO	2.00	1.00	0.70	1.00			

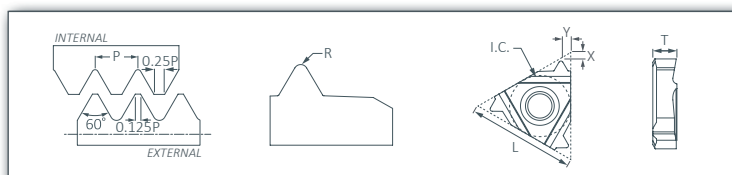
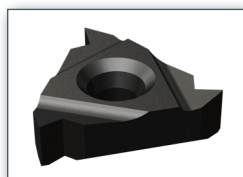


PTX DBC PTC2

ISO

INTERNAL

DIN13 60° INCLUSIVE



DESCRIPTION	PITCH	R MAX	X	Y	I.C.	L	T
16NR 0.25ISO	0.25	0.018	0.50	0.40	9.525	16.00	3.50
16NR 0.35ISO	0.35	0.025	0.50	0.40			
16NR 0.5ISO	0.50	0.036	0.70	0.50			
16NR 0.6ISO	0.60	0.043	0.70	0.50			
16NR 0.7ISO	0.70	0.051	0.70	0.50			
16NR 0.75ISO	0.75	0.054	0.70	0.50			
16NR 0.8ISO	0.80	0.058	0.70	0.50			
16NR 1.0ISO	1.00	0.072	0.80	0.80			
16NR 1.25ISO	1.25	0.090	0.70	0.80			
16NR 1.5ISO	1.50	0.108	0.80	0.80			
16NR 1.75ISO	1.75	0.126	1.30	1.50			
16NR 2.0ISO	2.00	0.144	1.30	1.50			
16NR 2.5ISO	2.50	0.180	1.30	1.50			
16NR 3.0ISO	3.00	0.217	1.30	1.50			
16NR 3.5ISO	3.50	0.253	1.30	1.50			
22NR 3.5ISO	3.50	0.253	1.80	2.50	12.70	22.00	4.76
22NR 4.0ISO	4.00	0.289	1.80	2.50			
22NR 4.5ISO	4.50	0.325	1.80	2.50			
22NR 5.0ISO	5.00	0.361	1.80	2.50			
22NR 5.5ISO	5.50	0.397	1.80	2.50			
22NR 6.0ISO	6.00	0.433	1.80	2.50			
22NU 5.5ISO	5.50	0.397	1.50	11.00			
22NU 6.0ISO	6.00	0.433	1.90	11.00			
22NU 8.0ISO	8.00	0.577	2.50	11.00			
27NR 4.5ISO	4.50	0.325	2.10	3.20	15.875	27.00	6.30
27NR 5.0ISO	5.00	0.361	2.10	3.20			
27NR 5.5ISO	5.50	0.397	2.10	3.20			
27NR 6.0ISO	6.00	0.433	2.10	3.20			
27NR 8.0ISO	8.00	0.577	2.20	3.20			



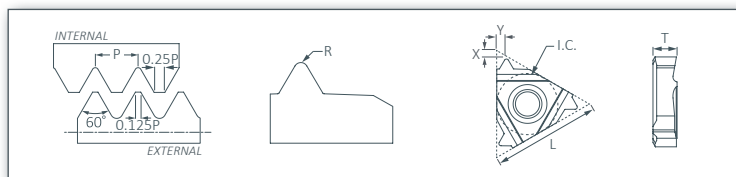
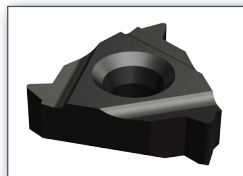
PTX DBC PTC2

GENERAL

UNIFIED

EXTERNAL

ASME/ANSI B1.1 - 60° INCLUSIVE



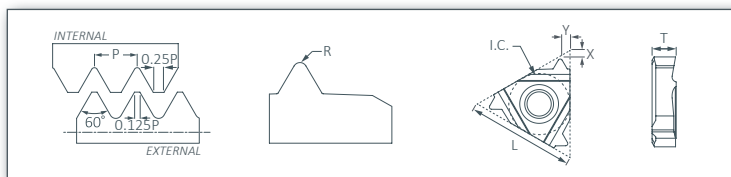
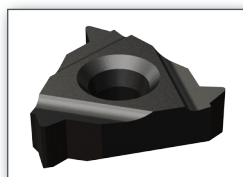
DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
11ER 72UN	72	0.051	0.5	0.4	6.35	11.00	3.25
11ER 64UN	60	0.057	0.5	0.4			
11ER 56UN	56	0.065	0.7	0.5			
11ER 36UN	36	0.102	0.7	0.5			
11ER 28UN	28	0.131	0.7	0.5			
11ER 24UN	24	0.153	0.7	0.5			
11ER 20UN	20	0.183	0.7	0.5			
11ER 18UN	18	0.204	0.7	0.8			
11ER 16UN	16	0.229	0.7	0.8			
11ER 14UN	14	0.262	0.7	0.9			
11ER 12UN	12	0.306	0.7	0.9			
11ER 11UN	11	0.333	0.7	1.0			
16ER 72UN	72	0.051	0.5	0.4	9.525	16	3.50
16ER 64UN	64	0.057	0.5	0.4			
16ER 56UN	56	0.065	0.7	0.5			
16ER 44UN	44	0.083	0.7	0.5			
16ER 40UN	40	0.092	0.7	0.5			
16ER 36UN	36	0.102	0.7	0.5			
16ER 32UN	32	0.115	0.7	0.5			
16ER 28UN	28	0.131	0.8	0.8			
16ER 27UN	27	0.136	0.7	0.8			
16ER 24UN	24	0.153	0.8	0.8			
16ER 20UN	20	0.183	1.3	1.5			
16ER 18UN	18	0.204	1.3	1.5			
16ER 16UN	16	0.229	1.3	1.5			
16ER 14UN	14	0.262	1.3	1.5			
16ER 13UN	13	0.282	1.3	1.5			
16ER 12UN	12	0.306	1.3	1.5			
16ER 11UN	11	0.333	1.3	1.5			
16ER 10UN	10	0.367	1.3	1.5			
16ER 9UN	9	0.407	1.3	1.5			
16ER 8UN	8	0.458	1.3	1.5			
16ER 7UN	7	0.524	1.3	1.5			
22ER 7UN	7	0.524	1.8	2.5	12.70	22	4.76
22ER 6UN	6	0.611	1.8	2.5			
22ER 5UN	5	0.733	1.8	2.5			
22EU 4.5UN	4.5	0.815	1.9	2.5			
22EU 4UN	4	0.917	2.5	11	15.875	27	6.30
27ER 4.5UN	4.5	0.815	2.1	3.2			
27ER 4UN	4	0.917	2.1	3.2			



UNIFIED

INTERNAL

ASME/ANSI B1.1 - 60° INCLUSIVE



DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
06NR 40UN	40	0.046	0.50	0.50	3.97	6.00	1.775
06NR 36UN	36	0.051	0.50	0.50			
06NR 32UN	32	0.057	0.50	0.50			
06NR 28UN	28	0.065	0.50	0.50			
06NR 24UN	24	0.076	0.60	0.60			
06NR 20UN	20	0.092	0.60	0.70			
08NR 40UN	40	0.046	0.50	0.50	4.76	8.00	2.21
08NR 36UN	36	0.051	0.50	0.50			
08NR 32UN	32	0.057	0.50	0.50			
08NR 28UN	28	0.065	0.50	0.50			
08NR 24UN	24	0.076	0.60	0.60			
08NR 20UN	20	0.092	0.60	0.70			
08NR 18UN	18	0.102	0.70	0.80			
11NR 72UN	72	0.025	0.50	0.40	6.35	11.00	3.25
11NR 60UN	60	0.031	0.50	0.40			
11NR 56UN	56	0.033	0.70	0.50			
11NR 36UN	36	0.051	0.70	0.50			
11NR 28UN	28	0.065	0.70	0.50			
11NR 24UN	24	0.076	0.70	0.50			
11NR 20UN	20	0.092	0.70	0.50			
11NR 18UN	18	0.102	0.70	0.80			
11NR 16UN	16	0.115	0.70	0.80			
11NR 14UN	14	0.131	0.70	0.90			
11NR 12UN	12	0.153	0.70	0.90			
11NR 11UN	11	0.167	0.70	1.0			



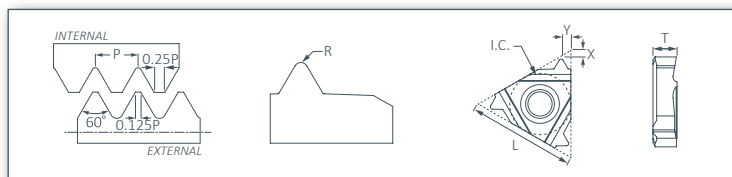
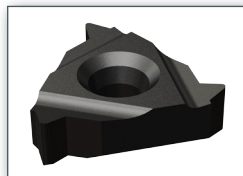
PTX DBC PTC2

GENERAL

UNIFIED

INTERNAL

ASME/ANSI B1.1 - 60° INCLUSIVE



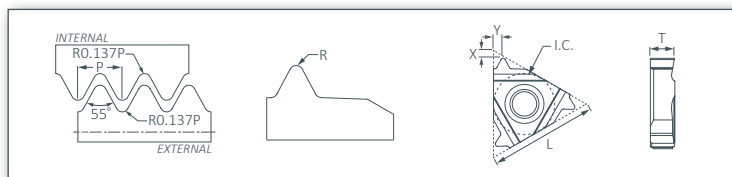
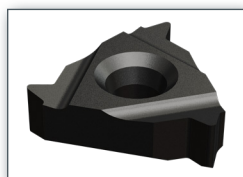
DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
16NR 72UN	72	0.025	0.5	0.4	9.525	16.00	3.50
16NR 64UN	64	0.029	0.5	0.4			
16NR 56UN	56	0.033	0.7	0.5			
16NR 44UN	44	0.042	0.7	0.5			
16NR 40UN	40	0.046	0.7	0.5			
16NR 36UN	36	0.051	0.7	0.5			
16NR 32UN	32	0.057	0.7	0.5			
16NR 28UN	28	0.065	0.8	0.8			
16NR 27UN	27	0.068	0.7	0.8			
16NR 24UN	24	0.076	0.8	0.8			
16NR 20UN	20	0.092	1.3	1.5			
16NR 18UN	18	0.102	1.3	1.5			
16NR 16UN	16	0.115	1.3	1.5			
16NR 14UN	14	0.131	1.3	1.5			
16NR 13UN	13	0.141	1.3	1.5			
16NR 12UN	12	0.153	1.3	1.5			
16NR 11UN	11	0.167	1.3	1.5			
16NR 10UN	10	0.183	1.3	1.5			
16NR 9UN	9	0.204	1.3	1.5			
16NR 8UN	8	0.229	1.3	1.5			
16NR 7UN	7	0.262	1.3	1.5			
22NR 7UN	7	0.262	1.8	2.5	12.70	22.00	4.76
22NR 6UN	6	0.306	1.8	2.5			
22NR 5UN	5	0.367	1.8	2.5			
22NU 4.5UN	4.5	0.407	1.9	2.5			
22NU 4UN	4	0.458	2.5	11	15.875	27.00	6.30
27NR 4.5UN	4.5	0.407	2.1	3.2			
27NR 4UN	4	0.458	2.1	3.2			



WHITWORTH

EXTERNAL

DIN2999/BS84 55° INCLUSIVE



DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
11ER 40W	40	0.087	0.70	0.50	6.35	11.00	3.25
11ER 36W	36	0.097	0.70	0.50			
11ER 32W	32	0.109	0.70	0.50			
11ER 28W	28	0.125	0.70	0.80			
11ER 26W	26	0.134	0.70	0.80			
11ER 24W	24	0.145	0.70	0.80			
11ER 22W	22	0.159	0.70	0.80			
11ER 20W	20	0.174	0.70	0.80			
11ER 19W	19	0.184	0.70	0.80			
11ER 14W	14	0.249	0.70	0.80			
16ER 72W	72	0.048	0.70	0.50	9.525	16.00	3.50
16ER 60W	60	0.058	0.70	0.50			
16ER 56W	56	0.062	0.70	0.50			
16ER 48W	48	0.073	0.70	0.50			
16ER 40W	40	0.087	0.70	0.50			
16ER 36W	36	0.097	0.80	0.50			
16ER 32W	32	0.109	0.80	0.50			
16ER 28W	28	0.125	0.80	0.80			
16ER 26W	26	0.134	0.70	0.80			
16ER 22W	22	0.159	0.80	0.80			
16ER 20W	20	0.174	0.70	0.80			
16ER 19W	19	0.184	0.80	0.80			
16ER 14W	14	0.249	1.30	1.50			
16ER 12W	12	0.291	1.30	1.50			
16ER 11W	11	0.317	1.30	1.50			
16ER 10W	10	0.349	1.30	1.50			
16ER 9W	9	0.388	1.30	1.50			
16ER 8W	8	0.436	1.30	1.50			
16ER 7W	7	0.498	1.30	1.50			
22ER 8W	8	0.436	1.80	2.50	12.70	22.00	4.76
22ER 7W	7	0.498	1.80	2.50			
22ER 6W	6	0.581	1.80	2.50			
22ER 5W	5	0.698	1.80	2.50			
22EU 4.5W	4 ½	0.775	2.00	11.00			
22EU 4W	4	0.872	2.90	11.00	15.875	27.00	6.25
27ER 4.5W	4 ½	0.775	2.10	3.20			
27ER 4W	4	0.872	2.10	3.20			
27EU 3.5W	3 ½	0.997	2.20	13.50			
27ER 3.25W	3 ¼	1.073	2.20	13.50			
27ER 3W	3	1.163	2.20	13.50			
27ER 2.75W	2 ¾	1.268	2.20	13.50			

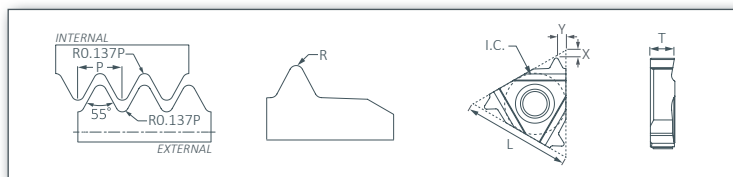
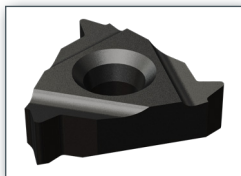


GENERAL

WHITWORTH

INTERNAL

DIN2999/BS84 55° INCLUSIVE



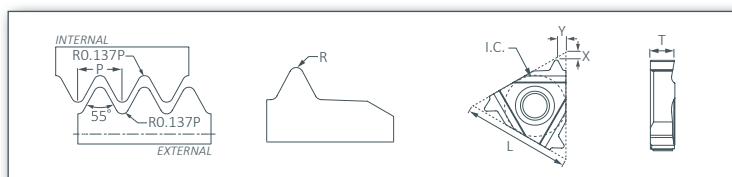
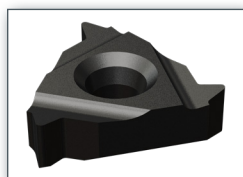
DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
06NR 40W	40	0.087	0.5	0.5	3.97	6.00	1.775
06NR 36W	36	0.097	0.5	0.5			
06NR 32W	32	0.109	0.5	0.5			
06NR 28W	28	0.125	0.5	0.5			
06NR 24W	24	0.145	0.6	0.6			
06NR 20W	20	0.174	0.6	0.7			
08NR 28W	28	0.125	0.5	0.5	4.76	8.00	2.21
08NR 26W	26	0.134	0.5	0.5			
08NR 20W	20	0.174	0.6	0.6			
08NR 19W	19	0.184	0.6	0.7			
08NR 16W	16	0.218	0.7	0.8			
11NR 72W	72	0.048	0.7	0.5	6.35	11.00	3.25
11NR 60W	60	0.058	0.7	0.5			
11NR 56W	56	0.062	0.7	0.5			
11NR 48W	48	0.073	0.7	0.5			
11NR 40W	40	0.087	0.70	0.50			
11NR 36W	36	0.097	0.70	0.50			
11NR 32W	32	0.109	0.70	0.50			
11NR 28W	28	0.125	0.70	0.80			
11NR 26W	26	0.134	0.70	0.80			
11NR 24W	24	0.145	0.70	0.80			
11NR 22W	22	0.159	0.70	0.80			
11NR 20W	20	0.174	0.70	0.80			
11NR 19W	19	0.184	0.70	0.80			
11NR 14W	14	0.249	0.70	0.80			



WHITWORTH

INTERNAL

DIN2999/BS84 55° INCLUSIVE



DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
16NR 72W	72	0.048	0.70	0.50	9.525	16.00	3.50
16NR 60W	60	0.058	0.70	0.50			
16NR 56W	56	0.062	0.70	0.50			
16NR 48W	48	0.073	0.70	0.50			
16NR 40W	40	0.087	0.70	0.50			
16NR 36W	36	0.097	0.80	0.50			
16NR 32W	32	0.109	0.80	0.50			
16NR 28W	28	0.125	0.80	0.80			
16NR 26W	26	0.134	0.70	0.80			
16NR 22W	22	0.159	0.80	0.80			
16NR 20W	20	0.174	0.70	0.80			
16NR 19W	19	0.184	0.80	0.80			
16NR 14W	14	0.249	1.30	1.50			
16NR 12W	12	0.291	1.30	1.50			
16NR 11W	11	0.317	1.30	1.50			
16NR 10W	10	0.349	1.30	1.50			
16NR 9W	9	0.388	1.30	1.50			
16NR 8W	8	0.436	1.30	1.50			
16NR 7W	7	0.498	1.30	1.50			
22NR 8W	8	0.436	1.80	2.50	12.70	22.00	4.76
22NR 7W	7	0.498	1.80	2.50			
22NR 6W	6	0.581	1.80	2.50			
22NR 5W	5	0.698	1.80	2.50			
22NU 4.5W	4 ½	0.775	2.00	11.00			
22NU 4W	4	0.872	2.90	11.00			
27NR 4.5W	4 ½	0.775	2.10	3.20	15.875	27.00	6.25
27NR 4W	4	0.872	2.10	3.20			
27NU 3.5W	3 ½	0.997	2.20	13.50			
27NR 3.25W	3 ¼	1.073	2.20	13.50			
27NR 3W	3	1.163	2.20	13.50			
27NR 2.75W	2 ¾	1.268	2.20	13.50			

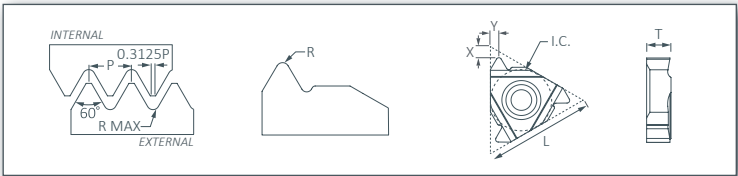
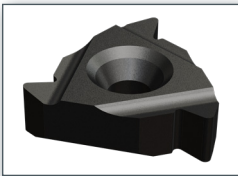


AEROSPACE

UNJ

EXTERNAL

BS A 346:2000 60° INCLUSIVE

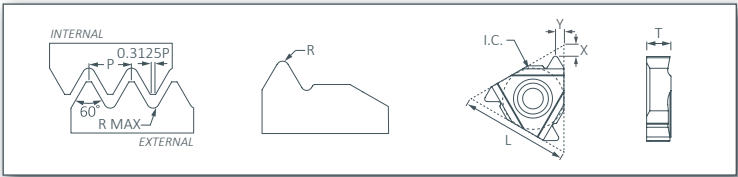
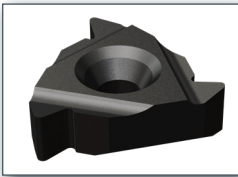


DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
16ER 28UNJ	28	0.164	0.80	0.50	9.525	16.00	3.50
16ER 24UNJ	24	0.191	0.90	0.60			
16ER 20UNJ	20	0.229	1.00	0.70			
16ER 18UNJ	18	0.254	1.20	0.80			
16ER 16UNJ	16	0.286	1.30	0.80			
16ER 14UNJ	14	0.327	1.20	1.00			
16ER 12UNJ	12	0.382	1.30	1.20			
16ER 10UNJ	10	0.458	1.20	1.20	12.70	22.00	4.76
22ER 8UNJ	8	0.572	2.40	1.40			

UNJ

INTERNAL

BS A 346:2000 60° INCLUSIVE



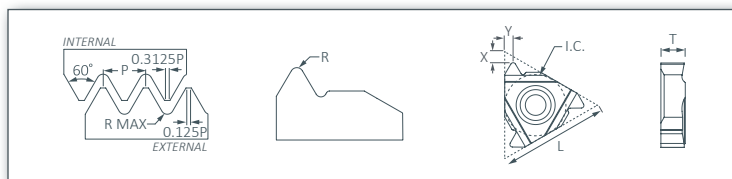
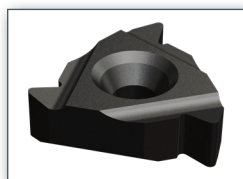
DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
16NR 28UNJ	28	0.065	0.80	0.50	9.525	16.00	3.50
16NR 24UNJ	24	0.076	0.90	0.60			
16NR 20UNJ	20	0.092	1.00	0.70			
16NR 18UNJ	18	0.102	1.20	0.80			
16NR 16UNJ	16	0.115	1.30	0.80			
16NR 14UNJ	14	0.131	1.20	1.00			
16NR 12UNJ	12	0.153	1.30	1.20			
16NR 10UNJ	10	0.183	1.20	1.20	12.70	22.00	4.76
22NR 8UNJ	8	0.229	2.40	1.40			



ISO-MJ

EXTERNAL

BS6293-1 60° INCLUSIVE

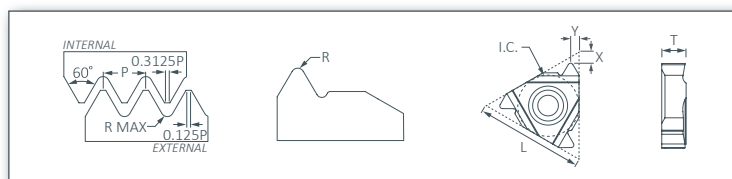
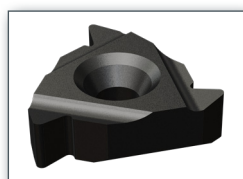


DESCRIPTION	PITCH	R MAX	X	Y	I.C.	L	T
16ER 0.5ISO MJ	0.50	0.090	0.70	0.50	9.525	16.00	3.50
16ER 0.7ISO MJ	0.70	6.543	0.70	0.50			
16ER 0.8ISO MJ	0.80	5.725	0.70	0.50			
16ER 1.0ISO MJ	1.00	4.580	0.70	0.50			
16ER 1.5ISO MJ	1.50	3.053	1.00	0.80			
16ER 1.75ISO MJ	1.75	2.617	1.20	0.90			
16ER 2.0ISO MJ	2.00	2.290	1.30	1.00			
16ER 2.5ISO MJ	2.50	1.832	1.60	1.30			
16ER 3.0ISO MJ	3.00	1.527	2.00	1.50			

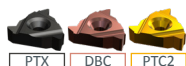
ISO-MJ

INTERNAL

BS6293-1 60° INCLUSIVE



DESCRIPTION	PITCH	R MAX	X	Y	I.C.	L	T
16NR 0.5ISO MJ	0.50	0.036	0.50	0.40	9.525	16.00	3.50
16NR 0.7ISO MJ	0.70	2.619	0.60	0.40			
16NR 0.8ISO MJ	0.80	2.291	0.70	0.40			
16NR 1.0ISO MJ	1.00	1.833	0.80	0.50			
16NR 1.5ISO MJ	1.50	1.222	1.20	0.70			
16NR 1.75ISO MJ	1.75	1.047	1.40	0.80			
16NR 2.0ISO MJ	2.00	0.917	1.50	0.90			
16NR 2.5ISO MJ	2.50	0.733	1.90	1.10			
16NR 3.0ISO MJ	3.00	0.611	2.00	1.30			

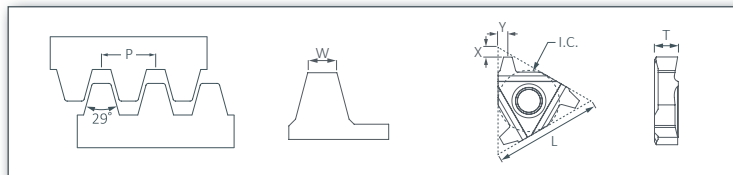
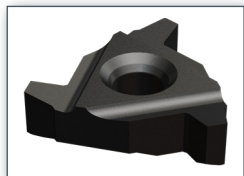


TRANSMISSION

ACME

EXTERNAL

ASME/ANSI B1.5 - 29° INCLUSIVE

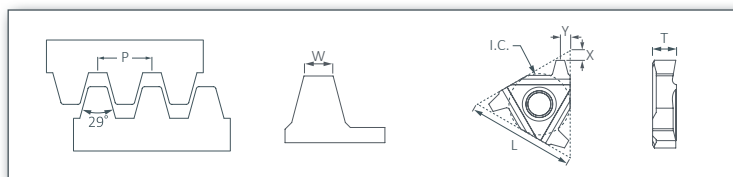
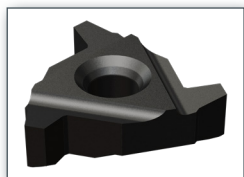


DESCRIPTION	TPI	W	X	Y	I.C.	L	T
16ER 16ACME	16	0.523	0.90	0.60	9.525	16.00	3.50
16ER 14ACME	14	0.607	1.00	0.70			
16ER 12ACME	12	0.719	1.20	0.80			
16ER 10ACME	10	0.810	1.30	0.80			
16ER 8ACME	8	1.045	1.20	1.00			
16ER 6ACME	6	1.438	1.30	1.20	12.70	22.00	4.76
22ER 6ACME	6	1.438	1.20	1.00			
22ER 5ACME	5	1.752	1.30	1.20			
22ER 4ACME SE*	4	2.222	1.20	1.20	15.875	27.00	6.30
27ER 4ACME	4	2.222	2.40	1.40			
27ER 3ACME SE*	3	3.007	2.60	2.90			

ACME

INTERNAL

ASME/ANSI B1.5 - 29° INCLUSIVE



DESCRIPTION	TPI	W	X	Y	I.C.	L	T
11NR 16ACME	16	0.523	0.8	0.5	6.35	11.00	3.25
16NR 16ACME	16	0.523	0.9	0.6			
16NR 14ACME	14	0.607	1.0	0.7			
16NR 12ACME	12	0.719	1.2	0.8			
16NR 10ACME	10	0.810	1.3	0.8			
16NR 8ACME	8	1.045	1.2	1	9.525	16.00	3.50
16NR 6ACME	6	1.438	1.3	1.2			
22NR 6ACME	6	1.438	1.2	1			
22NR 5ACME	5	1.752	1.3	1.2	12.70	22.00	4.76
22NR 4ACME SE*	4	2.222	1.2	1.2			
27NR 4ACME	4	2.222	2.4	1.4			
27NR 3ACME SE*	3	3.007	2.60	2.90	15.875	27.00	6.30

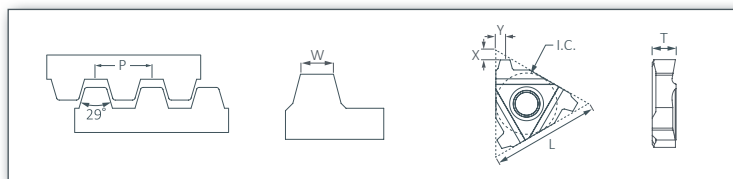
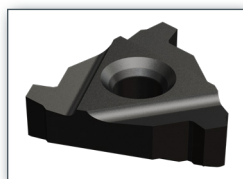
*SINGLE EDGE INSERT



STUB ACME

EXTERNAL

ASME/ANSI B1.8 - 29° INCLUSIVE

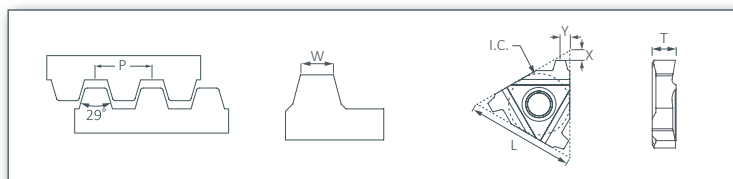
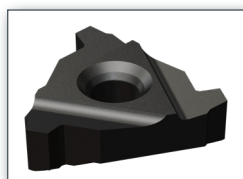


DESCRIPTION	TPI	W	X	Y	I.C.	L	T
16ER 16STACME	16	0.605	0.80	0.80	9.525	16.00	3.50
16ER 14STACME	14	0.701	0.80	0.80			
16ER 12STACME	12	0.762	0.80	1.60			
16ER 10STACME	10	0.941	1.30	1.60			
16ER 8STACME	8	1.210	1.40	1.60			
16ER 6STACME	6	1.657	1.60	1.60			
22ER 6STACME	6	1.657	2.20	2.60	12.70	22.00	4.76
22ER 5STACME	5	2.014	2.20	2.60			
22ER 4STACME	4	2.551	1.90	2.10			
27ER 4STACME	4	2.551	2.90	3.30	15.875	27.00	6.30
27ER 3STACME	3	3.445	3.00	3.30			

STUB ACME

INTERNAL

ASME/ANSI B1.8 - 29° INCLUSIVE



DESCRIPTION	TPI	W	X	Y	I.C.	L	T
11NR 16STACME	16	0.605	0.80	0.80	6.35	11.00	3.25
16NR 16STACME	16	0.605	0.80	0.80	9.525	16.00	3.50
16NR 14STACME	14	0.701	0.80	0.80			
16NR 12STACME	12	0.762	0.80	1.60			
16NR 10STACME	10	0.941	1.30	1.60			
16NR 8STACME	8	1.210	1.40	1.60			
16NR 6STACME	6	1.657	1.60	1.60			
22NR 6STACME	6	1.657	2.20	2.60	12.70	22.00	4.76
22NR 5STACME	5	2.014	2.20	2.60			
22NR 4STACME	4	2.551	1.90	2.10			
27NR 4STACME	4	2.551	2.90	3.30	15.875	27.00	6.30
27NR 3STACME	3	3.445	3.00	3.30			

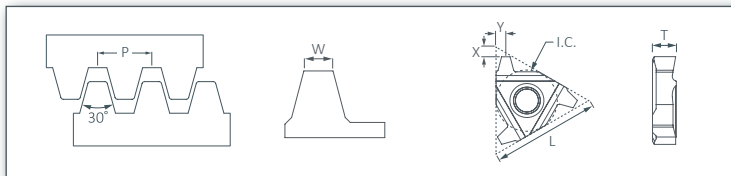
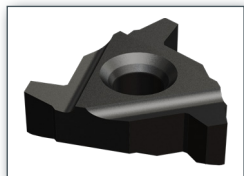


TRANSMISSON

TRAPEZOIDAL

EXTERNAL

DIN 103 BS5346 30° INCLUSIVE

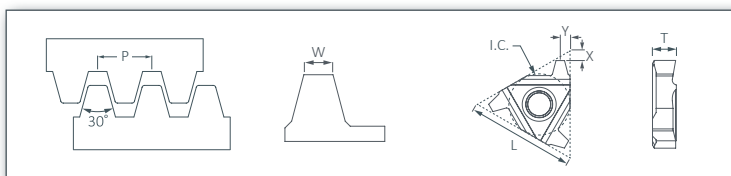
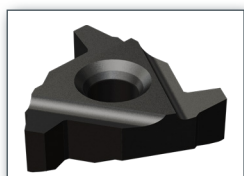


DESCRIPTION	PITCH	W	X	Y	I.C.	L	T
16ER 1.5TR	1.50	0.469	0.70	0.80	9.525	16.00	3.50
16ER 2.0TR	2.00	0.598	0.70	0.80			
16ER 2.5TR	2.50	0.781	1.30	1.50			
16ER 3.0TR	3.00	0.964	1.30	1.50	12.70	22.00	4.76
22ER 4.0TR	4.00	1.330	2.00	2.50			
22ER 5.0TR	5.00	1.696	2.10	2.50			
22ER 6.0TR SE*	6.00	1.928	2.00	11.00			
22EU 7.0TR	7.00	2.294	2.30	11.00	15.875	27.00	6.30
27ER 6.0TR	6.00	1.928	2.50	3.20			
27ER 7.0TR	7.00	2.294	2.70	3.20			
27EU 8.0TR	8.00	2.660	2.60	13.50			
27EU 9.0TR	9.00	3.026	3.00	13.50			

TRAPEZOIDAL

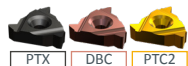
INTERNAL

DIN 103 BS5346 30° INCLUSIVE



DESCRIPTION	PITCH	W	X	Y	I.C.	L	T
11NR 1.5TR	1.50	0.469	0.7	0.8	6.35	11.00	3.25
11NR 2.0TR	2.00	0.598	0.7	0.8			
11NR 2.5TR	2.50	0.781	0.9	1.0			
16NR 1.5TR	1.50	0.469	0.70	0.80	9.525	16.00	3.50
16NR 2.0TR	2.00	0.598	0.70	0.80			
16NR 2.5TR	2.50	0.781	1.30	1.50			
16NR 3.0TR	3.00	0.964	1.30	1.50			
22NR 4.0TR	4.00	1.330	2.00	2.50	12.70	22.00	4.76
22NR 5.0TR	5.00	1.696	2.10	2.50			
22NR 6.0TR SE*	6.00	1.928	2.00	11.00			
22NU 7.0TR	7.00	2.294	2.30	11.00			
27NR 6.0TR	6.00	1.928	2.50	3.20	15.875	27.00	6.30
27NR 7.0TR	7.00	2.294	2.70	3.20			
27NU 8.0TR	8.00	2.660	2.60	13.50			
27NU 9.0TR	9.00	3.026	3.00	13.50			

*SINGLE EDGE INSERT

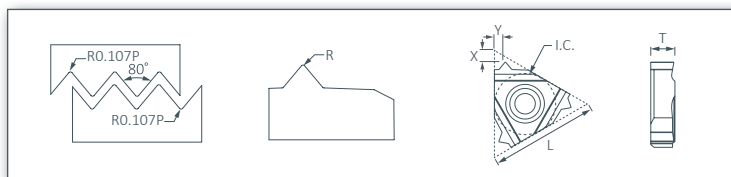
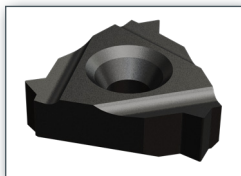


PTX DBC PTC2

STAHLPANZERROHR GEWINDE

EXTERNAL

DIN 40430 80° INCLUSIVE

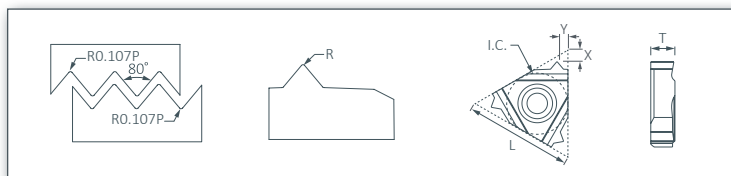
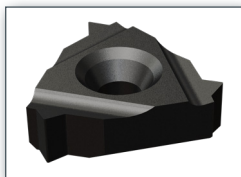


DESCRIPTION	PG REF	TPI	R MAX	X	Y	I.C.	L	T
16ER 20TPI PG	PG 7	20	0.136	0.70	0.80	9.525	16.00	3.50
16ER 18TPI PG	PG 9	18	0.151	0.70	0.80			
	PG 11							
	PG 13.5							
	PG 16							
16ER 16TPI PG	PG 21	16	0.170	0.80	1.00			
	PG 29							
	PG 36							
	PG 42							
	PG 48							

STAHLPANZERROHR GEWINDE

INTERNAL

DIN 40430 80° INCLUSIVE



DESCRIPTION	PG REF	TPI	R MAX	X	Y	I.C.	L	T
08NR 20TPI PG	PG 7	20	0.136	0.70	0.80	4.76	8.00	2.21
11NR 18TPI PG	PG 9	18	0.151	0.70	0.80	6.35	11.00	3.25
16NR 20TPI PG	PG 7	20	0.136	0.70	0.80	9.525	16.00	3.50
16NR 18TPI PG	PG 9	18	0.151	0.70	0.80			
	PG 11							
	PG 13.5							
	PG 16							
16NR 16TPI PG	PG 21	16	0.170	0.80	1.00			
	PG 29							
	PG 36							
	PG 42							
	PG 48							

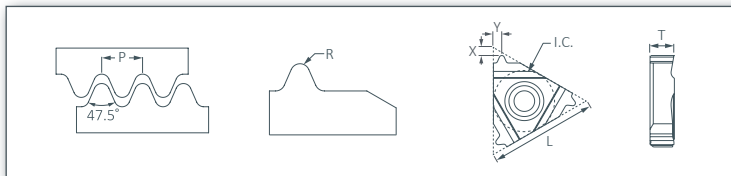
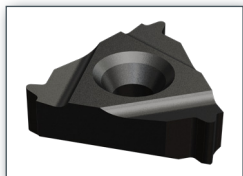


MISCELLANEOUS

BRITISH ASSOCIATION

EXTERNAL

BS93 47.5° INCLUSIVE

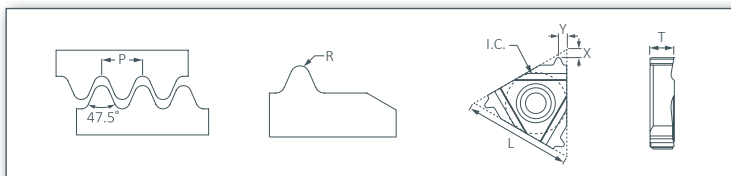
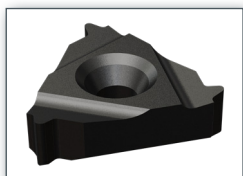


DESCRIPTION	PITCH	R MAX	X	Y	I.C.	L	T
16ER 8BA	0.430	0.078	0.40	0.40	9.525	16.00	3.50
16ER 6BA	0.530	0.096	0.40	0.40			
16ER 4BA	0.660	0.119	0.70	0.50			
16ER 2BA	0.810	0.146	0.80	0.70			
16ER 0BA	1.000	0.181	0.80	0.70			

BRITISH ASSOCIATION

INTERNAL

BS93 47.5° INCLUSIVE



DESCRIPTION	PITCH	R MAX	X	Y	I.C.	L	T
11NR 8BA	0.430	0.780	0.40	0.40	6.35	11.00	3.25
11NR 4BA	0.660	0.119	0.70	0.50			
16NR 8BA	0.430	0.078	0.40	0.40	9.525	16.00	3.50
16NR 6BA	0.530	0.096	0.40	0.40			
16NR 4BA	0.660	0.119	0.70	0.50			
16NR 2BA	0.810	0.146	0.80	0.70			
16NR 0BA	1.000	0.181	0.80	0.70			

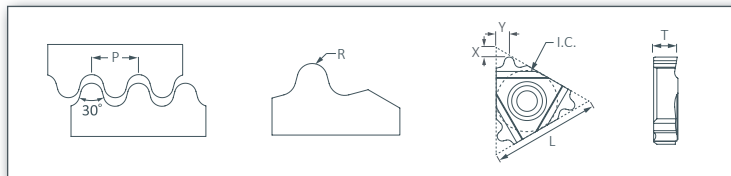
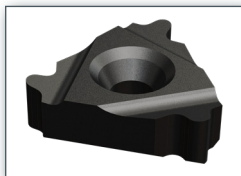


PTX DBC PTC2

ROUND

EXTERNAL

DIN 405 30° INCLUSIVE

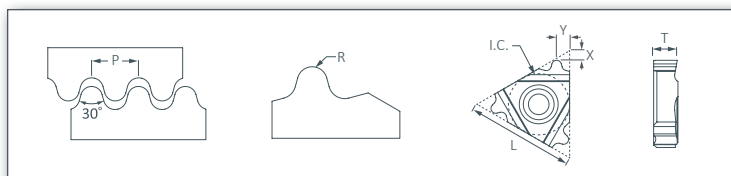
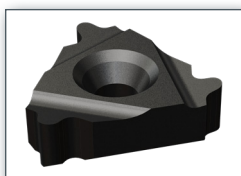


DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
16ER 10RD DIN405	10	0.606	1.30	1.50	9.525	16.00	3.50
16ER 8RD DIN405	8	0.760	1.30	1.50			
16ER 6RD DIN405	6	1.010	1.50	1.80			
22ER 6RD DIN405	6	1.010	1.80	2.50	12.70	22.00	4.76
22ER 4RD DIN405	4	1.515	1.80	2.60			
27ER 4RD DIN405	4	1.515	2.40	3.20	15.875	27.00	6.25
27ER 3RD DIN405	3	2.019	3.00	4.30			

ROUND

INTERNAL

DIN 405 30° INCLUSIVE



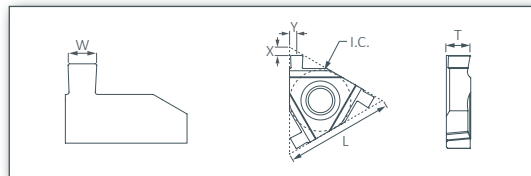
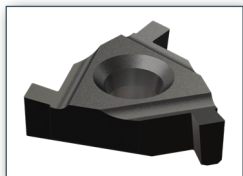
DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
16NR 10RD DIN405	10	0.561	1.30	1.50	9.525	16.00	3.50
16NR 8RD DIN405	8	0.702	1.30	1.50			
16NR 6RD DIN405	6	0.936	1.50	1.80			
22NR 6RD DIN405	6	0.936	1.80	2.50	12.70	22.00	4.76
22NR 4RD DIN405	4	1.404	1.80	2.60			
27NR 4RD DIN405	4	1.404	2.40	3.20	15.875	27.00	6.25
27NR 3RD DIN405	3	1.872	3.00	4.30			



MISCELLANEOUS

GROOVING
SQUARE

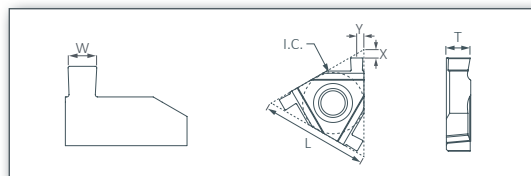
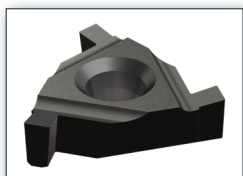
EXTERNAL



DESCRIPTION	W	D	R	X	Y	I.C.	L	T
16ER GW0.5	0.50	1.00	0.10	1.30	0.35	9.525	16.00	3.50
16ER GW1.0	1.00	1.80	0.10	1.30	0.60			
16ER GW1.5	1.50	2.00	0.10	1.30	0.85			
16ER GW2.0	2.00	2.00	0.10	1.30	1.10			

GROOVING
SQUARE

INTERNAL



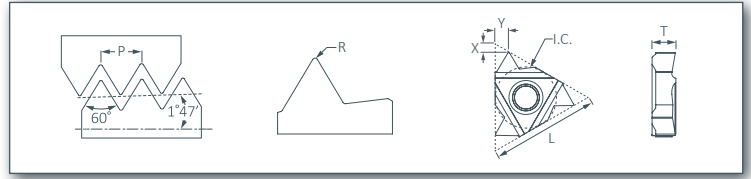
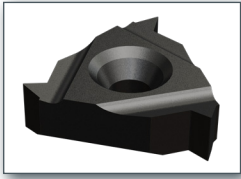
DESCRIPTION	W	D	R	X	Y	I.C.	L	T
16NR GW0.5	0.50	1.00	0.10	1.30	0.35	9.525	16.00	3.50
16NR GW1.0	1.00	1.80	0.10	1.30	0.60			
16NR GW1.5	1.50	2.00	0.10	1.30	0.85			
16NR GW2.0	2.00	2.00	0.10	1.30	1.10			



NPT

EXTERNAL

ASME/ANSI B1.20.1 60° INCLUSIVE 1/16 TAPER

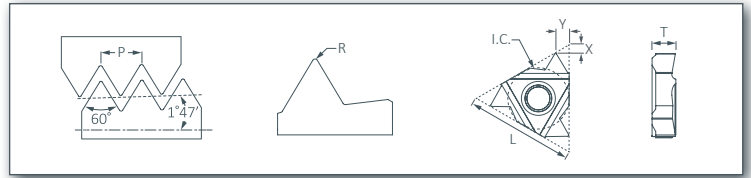
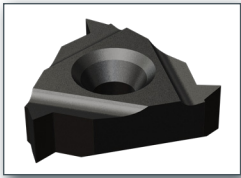


DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
16ER 27NPT	27	0.060	0.70	0.80	9.525	16.00	3.50
16ER 18NPT	18	0.084	0.70	0.80			
16ER 14NPT	14	0.094	1.30	1.50			
16ER 11.5NPT	11 ½	0.107	1.30	1.50			
16ER 8NPT	8	0.132	1.30	1.70			

NPT

INTERNAL

ASME/ANSI B1.20.1 60° INCLUSIVE 1/16 TAPER



DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
06NR 27NPT	27	0.060	0.60	0.60	3.97	6.00	1.775
08NR 27NPT	27	0.060	0.60	0.60	4.76	8.00	2.21
08NR 18NPT	18	0.084	0.70	0.80			
11NR 27NPT	27	0.060	0.70	0.80	6.35	11.00	3.25
11NR 18NPT	18	0.084	0.70	0.80			
11NR 14NPT	14	0.094	0.70	1.00			
16NR 27NPT	27	0.060	0.70	0.80	9.525	16.00	3.50
16NR 18NPT	18	0.084	0.70	0.80			
16NR 14NPT	14	0.094	1.30	1.50			
16NR 11.5NPT	11 ½	0.107	1.30	1.50			
16NR 8NPT	8	0.132	1.30	1.70			

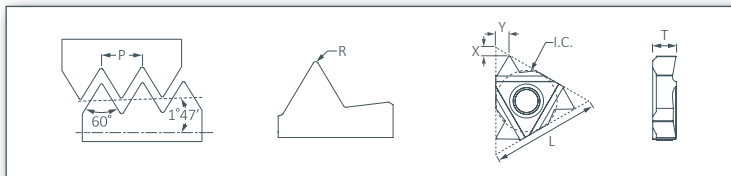
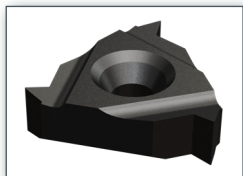


PIPE

NPTF

EXTERNAL

ASME/ANSI B1.20.3 60° INCLUSIVE 1/16 TAPER

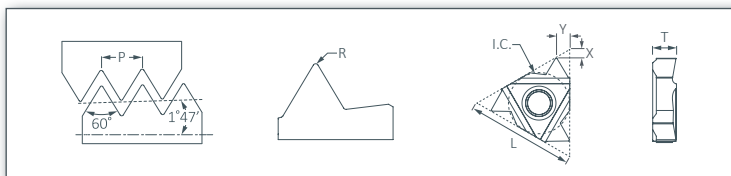
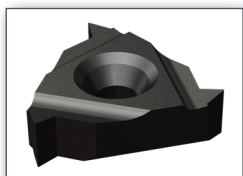


DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
16ER 27NPTF	27	0.089	0.70	0.80	9.525	16.00	3.50
16ER 18NPTF	18	0.110	0.70	0.80			
16ER 14NPTF	14	0.110	1.30	1.50			
16ER 11.5NPTF	11 ½	0.131	1.30	1.50			
16ER 8NPTF	8	0.180	1.30	1.70			

NPTF

INTERNAL

ASME/ANSI B1.20.3 60° INCLUSIVE 1/16 TAPER



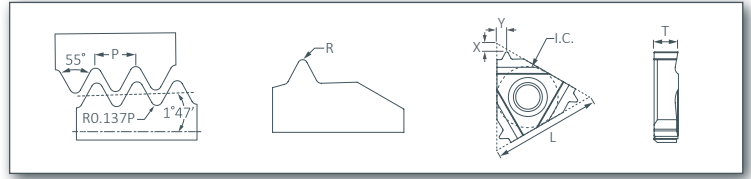
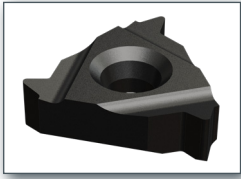
DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
06NR 27NPTF	27	0.089	0.60	0.60	3.97	6.00	1.775
08NR 27NPTF	27	0.089	0.60	0.60	4.76	8.00	2.21
08NR 18NPTF	18	0.110	0.70	0.80			
11NR 27NPTF	27	0.089	0.70	0.80	6.35	11.00	3.25
11NR 18NPTF	18	0.110	0.70	0.80			
11NR 14NPTF	14	0.110	0.70	1.00			
16NR 27NPTF	27	0.089	0.70	0.80	9.525	16.00	3.50
16NR 18NPTF	18	0.110	0.70	0.80			
16NR 14NPTF	14	0.110	1.30	1.50			
16NR 11.5NPTF	11 ½	0.131	1.30	1.50			
16NR 8NPTF	8	0.180	1.30	1.70			



BSPT

EXTERNAL

BS21 55° INCLUSIVE 1/16 TAPER

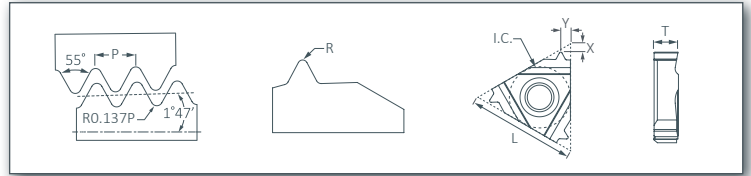
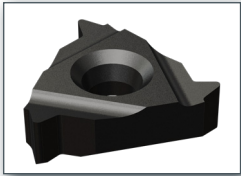


DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
16ER 28BSPT	28	0.125	0.70	0.80	9.525	16.00	3.50
16ER 19BSPT	19	0.184	0.70	0.80			
16ER 14BSPT	14	0.249	1.30	1.50			
16ER 11BSPT	11	0.317	1.30	1.50			

BSPT

INTERNAL

BS21 55° INCLUSIVE 1/16 TAPER



DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
06NR 28BSPT	28	0.125	0.50	0.60	3.97	6.00	1.775
08NR 19BSPT	19	0.184	0.70	0.80	4.76	8.00	2.21
11NR 28BSPT	28	0.125	0.70	0.80	6.35	11.00	3.25
11NR 19BSPT	19	0.184	0.70	0.80			
16NR 28BSPT	28	0.125	0.70	0.80	9.525	16.00	3.50
16NR 19BSPT	19	0.184	0.70	0.80			
16NR 14BSPT	14	0.249	1.30	1.50			
16NR 11BSPT	11	0.317	1.30	1.50			

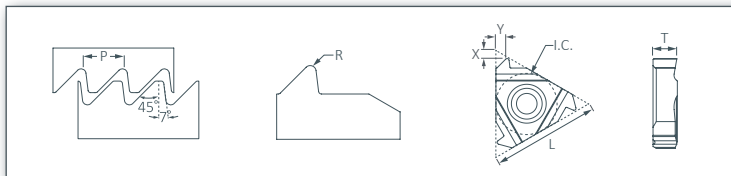
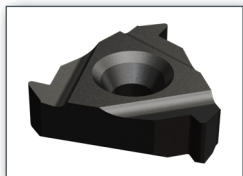


BUTTRESS

BRITISH BUTTRESS

EXTERNAL

BS1657 45°/7° - 52° INCLUSIVE

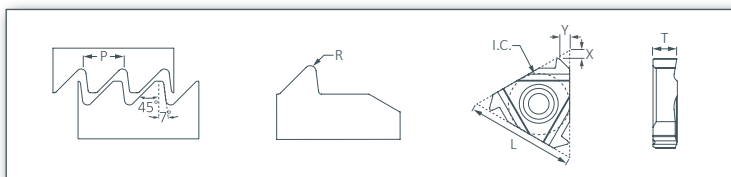
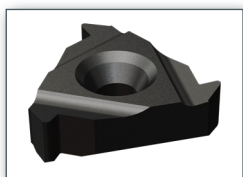


DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
16ER 20BBUTT	20	0.153	0.7	0.9	9.525	16.00	3.50
16ER 16BBUTT	16	0.191	0.8	1.2			
16ER 12BBUTT	12	0.255	1.0	1.5			
16ER 10BBUTT	10	0.306	1.2	1.8			
22ER 8BBUTT	8	0.383	1.5	2.3	12.70	22.00	4.76
22ER 6BBUTT	6	0.510	2.0	3.0			
27ER 4BBUTT	4	0.765	3.0	4.5	15.875	27.00	6.25
27EU 4BBUTT	4	0.765	2.9	13.5			

BRITISH BUTTRESS

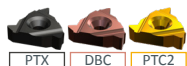
INTERNAL

BS1657 45°/7° - 52° INCLUSIVE



DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
16NR 20BBUTT	20	0.153	0.7	0.9	9.525	16.00	3.50
16NR 16BBUTT	16	0.191	0.8	1.2			
16NR 12BBUTT	12	0.255	1.0	1.5			
16NR 10BBUTT	10	0.306	1.2	1.8			
22NR 8BBUTT	8	0.383	1.5	2.3	12.70	22.00	4.76
22NR 6BBUTT	6	0.510	2.0	3.0			
27NR 4BBUTT	4	0.765	3.0	4.5	15.875	27.00	6.25
27NU 4BBUTT	4	0.765	2.9	13.5			

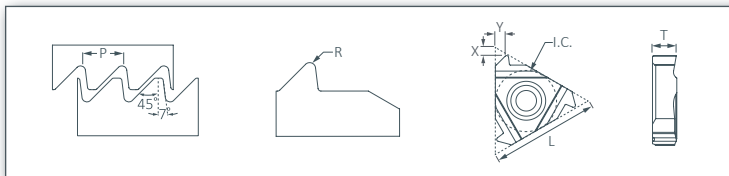
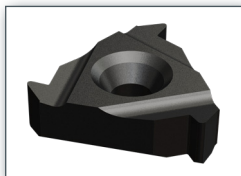
PLEASE BE ADVISED THAT SOME LARGER BUTTRESS FORMS WILL REQUIRE MODIFICATION TO ANVIL TO CLEAR PROFILE DEPTH



AMERICAN BUTTRESS

EXTERNAL

ASME/ANSI B1.9 45°/7° - 52° INCLUSIVE

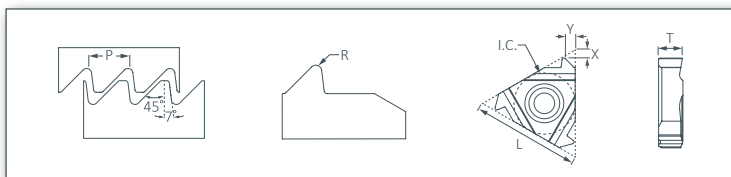
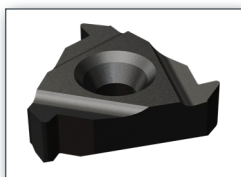


DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
16ER 20ABUTT	20	0.068	0.70	1.00	9.525	16.00	3.50
16ER 16ABUTT	16	0.085	2.00	1.30			
16ER 12ABUTT	12	0.113	1.20	1.80			
16ER 10ABUTT	10	0.136	1.30	2.00			
22ER 8ABUTT	8	0.170	1.60	2.50	12.70	22.00	4.76
22ER 6ABUTT	6	0.227	2.00	3.10			
27ER 4ABUTT	4	0.340	3.20	5.00	15.875	27.00	6.25
27EU 4ABUTT	4	0.340	3.10	13.50			

AMERICAN BUTTRESS

INTERNAL

ASME/ANSI B1.9 45°/7° - 52° INCLUSIVE



DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
16NR 20ABUTT	20	0.068	0.70	1.00	9.525	16.00	3.50
16NR 16ABUTT	16	0.085	2.00	1.30			
16NR 12ABUTT	12	0.113	1.20	1.80			
16NR 10ABUTT	10	0.136	1.30	2.00			
22NR 8ABUTT	8	0.170	1.60	2.50	12.70	22.00	4.76
22NR 6ABUTT	6	0.227	2.00	3.10			
27NR 4ABUTT	4	0.340	3.20	5.00	15.875	27.00	6.25
27NU 4ABUTT	4	0.340	3.10	13.50			

PLEASE BE ADVISED THAT SOME LARGER BUTTRESS FORMS WILL REQUIRE MODIFICATION TO ANVIL TO CLEAR PROFILE DEPTH



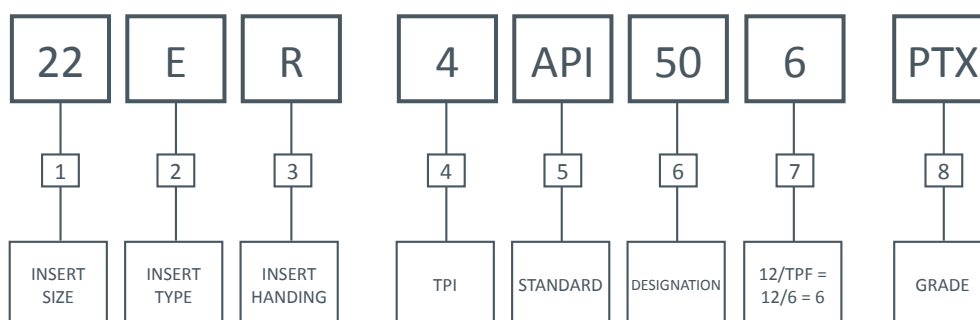
OILFIELD

LAYDOWN INSERT

NOMENCLATURE

OILFIELD PART REFERENCES	THREAD FORM REFERENCE		CONNECTION REFERENCE	PART REF.
	API V0.038R (V0.065 SUPERCEDED BY V0.038 2TPF)	NC23, NC26, NC31, NC35, NC38, NC40, NC44, NC46, NC50 4 FH, 2 3/8 IF, 3 1/2 IF, 4 IF, 4 1/2 IF, 5 1/2 IF		4 API 386
		NC56, NC61, NC70, NC77		4 API 384
	API V0.040	2 3/8 REG, 2 7/8 REG, 3 1/2 REG, 4 1/2 REG 3 1/2 FH, 4 1/2 FH		5 API 404
	API V0.050	6 5/8 REG, 5 1/2 FH, 6 5/8 FH		4 API 506
		5 1/2 REG, 7 5/8 REG, 8 5/8 REG		4 API 504
	API V0.055 AMERICAN MT AMT AMMT	NC10, NC12, NC13, NC16		6 API 558
	API ROUND	NUE 1.05 - 3 1/2, EUE/L 1.05 - 1.9, IJ 1.315 - 2.063		10API RD
		NUE 4 - 4 1/2, EUE/L 2 3/8 - 4 1/2, STC 4 1/2 - 20, LTC 4 1/2 - 20		8API RD
	API BUTTRESS CASING	4 1/2 - 13 3/8		5 API 2.5
		16 - 20		5 API 2.6
	PAC (PACIFIC ASIA CONNECTION) AOH (AMERICAN OPEN HOLE)	2 3/8 - 2 7/8 - 3 1/2		4 PAC

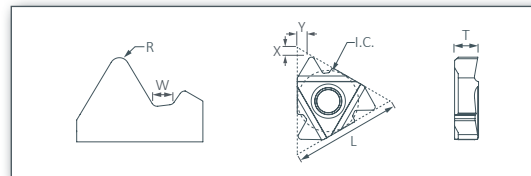
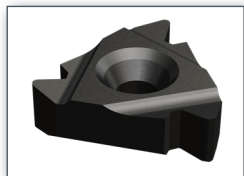
EXAMPLE ORDER CODE



ROTARY

EXTERNAL

API SPEC 7-2 60° INCLUSIVE



V0.038R

DESCRIPTION	TPI	TPF	R	W	X	Y	I.C.	L	T
22ER 4API 386	4	2	0.965 (0.038")	1.651 (0.065")	2.00	2.90	12.70	22.00	4.76
22ER 4API 384	4	3	0.965 (0.038")	1.651 (0.065")	1.90	2.80			
27ER 4API 386	4	2	0.965 (0.038")	1.651 (0.065")	2.00	2.90	15.875	27.00	6.25
27ER 4API 384	4	3	0.965 (0.038")	1.651 (0.065")	1.90	2.80			

V0.040

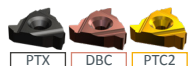
DESCRIPTION	TPI	TPF	R	W	X	Y	I.C.	L	T
22ER 5API 404	5	3	0.508 (0.020")	1.061 (0.040")	1.80	2.50	12.70	22.00	4.76

V0.050

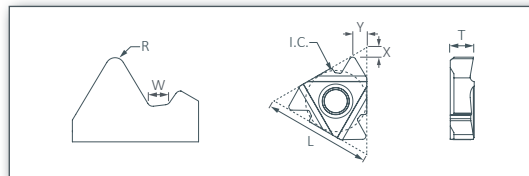
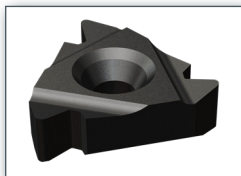
DESCRIPTION	TPI	TPF	R	W	X	Y	I.C.	L	T
22ER 4API 506	4	2	0.635 (0.025")	1.270 (0.050")	1.80	2.50	12.70	22.00	4.76
22ER 4API 504	4	3	0.635 (0.025")	1.270 (0.050")	1.80	2.50			
27ER 4API 506	4	2	0.635 (0.025")	1.270 (0.050")	2.00	2.90	15.875	27.00	6.25
27ER 4API 504	4	3	0.635 (0.025")	1.270 (0.050")	2.00	2.80			

V0.055

DESCRIPTION	TPI	TPF	W	X	Y	I.C.	L	T
22ER 6API 558	6	1 ½	1.397 (0.055")	2.50	12.70	22.00	4.76	4.76



API SPEC 7-2 60° INCLUSIVE



V0.038R

DESCRIPTION	TPI	TPF	R	W	X	Y	I.C.	L	T
22NR 4API 386	4	2	0.965 (0.038")	1.651 (0.065")	2.00	2.90	12.70	22.00	4.76
22NR 4API 384	4	3	0.965 (0.038")	1.651 (0.065")	1.90	2.80			
27NR 4API 386	4	2	0.965 (0.038")	1.651 (0.065")	2.00	2.90	15.875	27.00	6.25
27NR 4API 384	4	3	0.965 (0.038")	1.651 (0.065")	1.90	2.80			

V0.040

DESCRIPTION	TPI	TPF	R	W	X	Y	I.C.	L	T
22NR 5API 404	5	3	0.508 (0.020")	1.061 (0.040")	1.80	2.50	12.70	22.00	4.76

V0.050

DESCRIPTION	TPI	TPF	R	W	X	Y	I.C.	L	T
22NR 4API 506	4	2	0.635 (0.025")	1.270 (0.050")	1.80	2.50	12.70	22.00	4.76
22NR 4API 504	4	3	0.635 (0.025")	1.270 (0.050")	1.80	2.50			
27NR 4API 506	4	2	0.635 (0.025")	1.270 (0.050")	2.00	2.90	15.875	27.00	6.25
27NR 4API 504	4	3	0.635 (0.025")	1.270 (0.050")	2.00	2.80			

V0.055

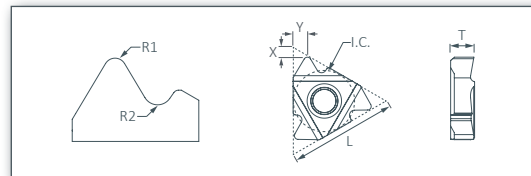
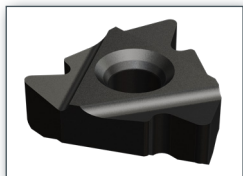
DESCRIPTION	TPI	TPF	W	X	Y	I.C.	L	T
22NR 6API 558	6	1 ½	1.397 (0.055")	2.50	12.70	22.00	4.76	4.76



ROUND

EXTERNAL

API SPEC 5-B 60° INCLUSIVE

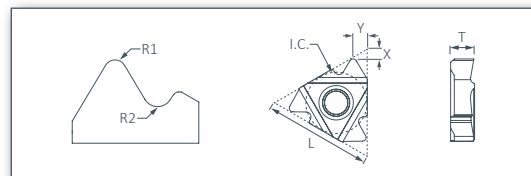
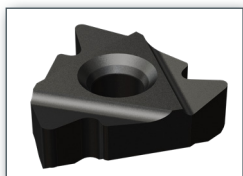


DESCRIPTION	TPI	TPF	R1	R2	X	Y	I.C.	L	T
16ER 10API RD	10	¾	0.356 (0.014")	0.432 (0.017")	1.30	1.50	9.525	16.00	3.50
16ER 8API RD	8	¾	0.432 (0.017")	0.508 (0.020")	1.30	1.50			

ROUND

INTERNAL

API SPEC 5-B 60° INCLUSIVE



DESCRIPTION	TPI	TPF	R1	R2	X	Y	I.C.	L	T
16NR 10API RD	10	¾	0.356 (0.014")	0.432 (0.017")	1.30	1.50	9.525	16.00	3.50
16NR 8API RD	8	¾	0.432 (0.017")	0.508 (0.020")	1.30	1.50			



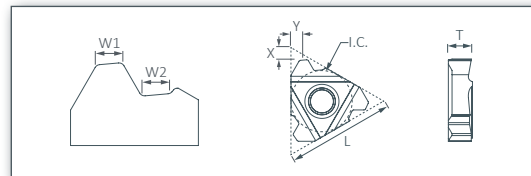
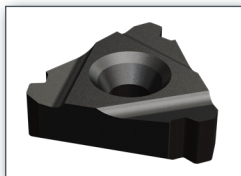
PTX DBC PTC2

API

PAC

EXTERNAL

AOH V-076 60° INCLUSIVE

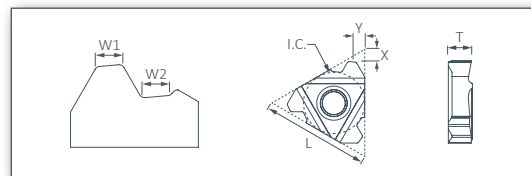
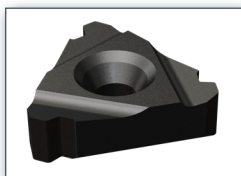


DESCRIPTION	TPI	TPF	W1	W2	X	Y	I.C.	L	T
22ER 4PAC	4	1 ½	1.702 (0.067")	1.931 (0.076")	2.40	2.50	12.70	22.00	4.76
27ER 4PAC	4	1 ½	1.702 (0.067")	1.931 (0.076")	2.50	3.00	15.875	27.00	6.25

PAC

INTERNAL

AOH V-076 60° INCLUSIVE



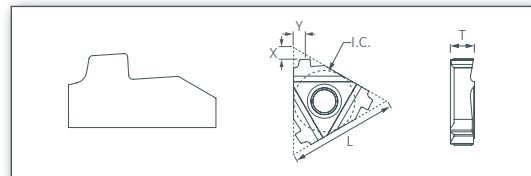
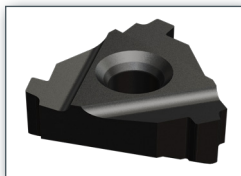
DESCRIPTION	TPI	TPF	W1	W2	X	Y	I.C.	L	T
22NR 4PAC	4	1 ½	1.702 (0.067")	1.931 (0.076")	2.40	2.50	12.70	22.00	4.76
27NR 4PAC	4	1 ½	1.702 (0.067")	1.931 (0.076")	2.50	3.00	15.875	27.00	6.25



BUTTRESS CASING

EXTERNAL

API SPEC 5-B 10°/3° - 13° INCLUSIVE

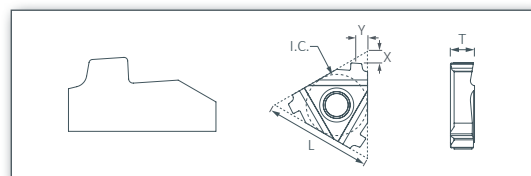
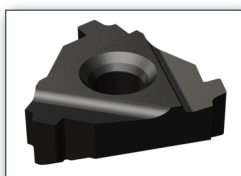


DESCRIPTION	TPI	TPF	X	Y	I.C.	L	T
22ER 5API 2.5	5	¾	2.20	2.50	12.70	22.00	4.76
22ER 5API 2.6	5	1	2.20	2.50			

BUTTRESS CASING

INTERNAL

API SPEC 5-B 10°/3° - 13° INCLUSIVE



DESCRIPTION	TPI	TPF	X	Y	I.C.	L	T
22NR 5API 2.5	5	¾	2.20	2.50	12.70	22.00	4.76
22NR 5API 2.6	5	1	2.20	2.50			

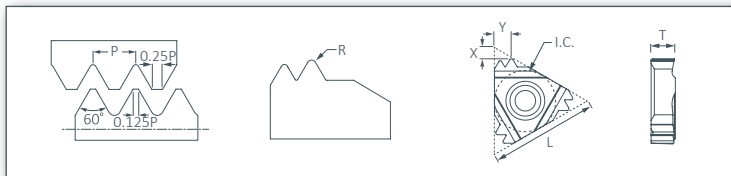
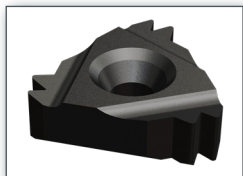


MULTI-TOOTH

ISO

EXTERNAL

DIN13 60° INCLUSIVE

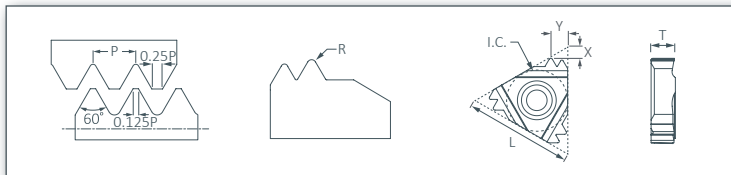
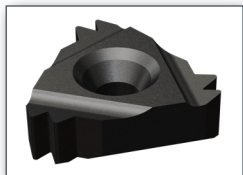


DESCRIPTION	PITCH	NO. TEETH	R MAX	X	Y	I.C.	L	T
16ER 1.0ISO 2M	1.00	2	0.144	1.20	1.60	9.525	16.00	3.50
16ER 1.0ISO 3M	1.00	3	0.144	1.70	2.60			
16ER 1.5ISO 2M	1.50	2	0.217	1.60	2.30			
22ER 2.0ISO 2M	2.00	2	0.289	2.00	3.00	12.70	22.00	4.76
22ER 2.5ISO 2M	2.50	2	0.361	2.40	3.80			
27ER 3.0ISO 2M	3.00	2	0.433	2.70	4.50	15.875	27.00	6.25

ISO

INTERNAL

DIN13 60° INCLUSIVE



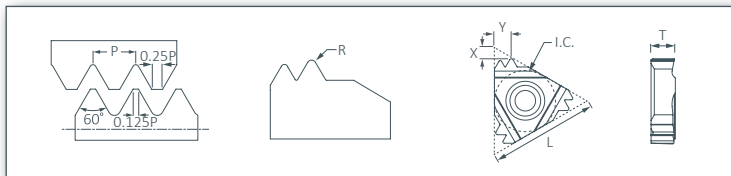
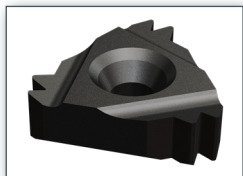
DESCRIPTION	PITCH	NO. TEETH	R MAX	X	Y	I.C.	L	T
16NR 1.0ISO 2M	1.00	2	0.072	1.20	1.60	9.525	16.00	3.50
16NR 1.0ISO 3M	1.00	3	0.072	1.70	2.60			
16NR 1.5ISO 2M	1.50	2	0.108	1.60	2.30			
22NR 2.0ISO 2M	2.00	2	0.144	2.00	3.00	12.70	22.00	4.76
22NR 2.5ISO 2M	2.50	2	0.180	2.40	3.80			
27NR 3.0ISO 2M	3.00	2	0.217	2.70	4.50	15.875	27.00	6.25



UNIFIED

EXTERNAL

ASME/ANSI B1.1 60° INCLUSIVE

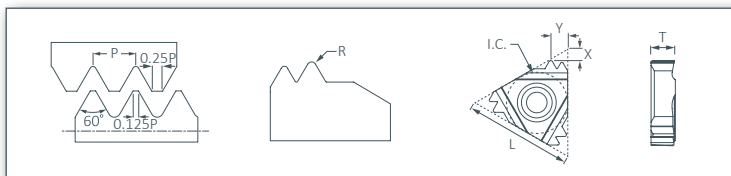
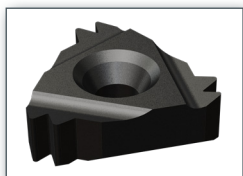


DESCRIPTION	TPI	NO. TEETH	R MAX	X	Y	I.C.	L	T
16ER 16UN 2M	16	2	0.229	1.7	2.4	9.525	16.00	3.50
16ER 12UN 2M	12	2	0.306	2.4	3.1			
22ER 12UN 2M	12	2	0.306	3.2	5.3	12.70	22.00	4.76
27ER 8UN 2M	8	2	0.458	3.0	4.8	15.875	27.00	6.25

UNIFIED

INTERNAL

ASME/ANSI B1.1 60° INCLUSIVE



DESCRIPTION	PITCH	NO. TEETH	R MAX	X	Y	I.C.	L	T
16NR 16UN 2M	16	2	0.115	1.7	2.4	9.525	16.00	3.50
16NR 12UN 2M	12	2	0.153	2.4	3.1			
22NR 12UN 2M	12	2	0.153	3.2	5.3	12.70	22.00	4.76
27NR 8UN 2M	8	2	0.229	3.0	4.8	15.875	27.00	6.25

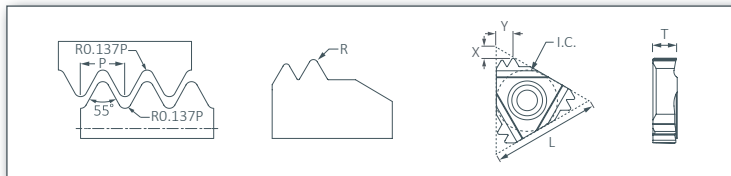
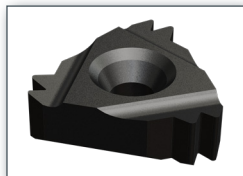


MULTI-TOOTH

WHITWORTH

EXTERNAL

DIN 2999/BS84 55° INCLUSIVE

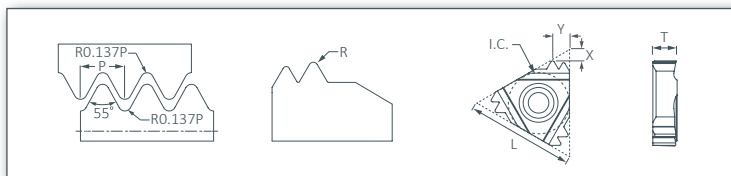
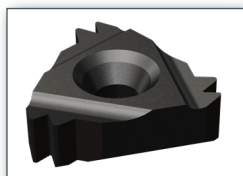


DESCRIPTION	TPI	NO. TEETH	R MAX	X	Y	I.C.	L	T
16ER 14W 2M	14	2	0.249	1.90	2.80	9.525	16.00	3.50
16ER 14W 3M	14	3	0.249	2.90	4.60			
22ER 11W 2M	11	2	0.317	2.00	3.30	12.70	22.00	4.76

WHITWORTH

INTERNAL

DIN 2999/BS84 55° INCLUSIVE

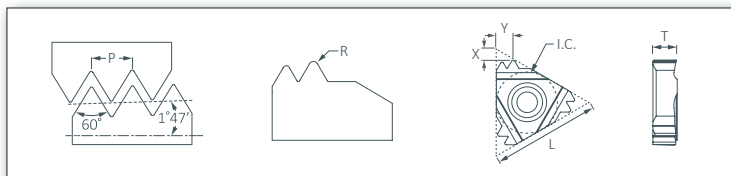
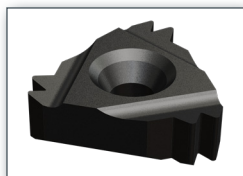


DESCRIPTION	TPI	NO. TEETH	R MAX	X	Y	I.C.	L	T
16NR 14W 2M	14	2	0.249	1.90	2.80	9.525	16.00	3.50
16NR 14W 3M	14	3	0.249	2.90	4.60			
22NR 11W 2M	11	2	0.317	2.00	3.30	12.70	22.00	4.76

NPT

EXTERNAL

ASME/ANSI B1.20.1 60° INCLUSIVE 1/16 TAPER

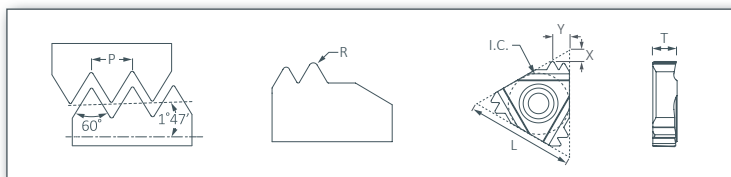
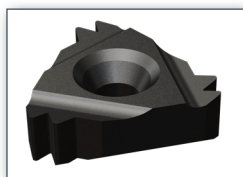


DESCRIPTION	TPI	NO. TEETH	R MAX	X	Y	I.C.	L	T
22ER 11.5NPT 2M	11 ½	2	0.107	1.90	2.80	12.70	22.00	4.79
22ER 11.5NPT 3M	11 ½	3	0.107	2.90	4.60			
27ER 8NPT 2M	8	2	0.132	2.00	3.30	15.875	27.00	6.25

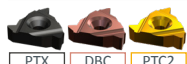
NPT

INTERNAL

ASME/ANSI B1.20.1 60° INCLUSIVE 1/16 TAPER



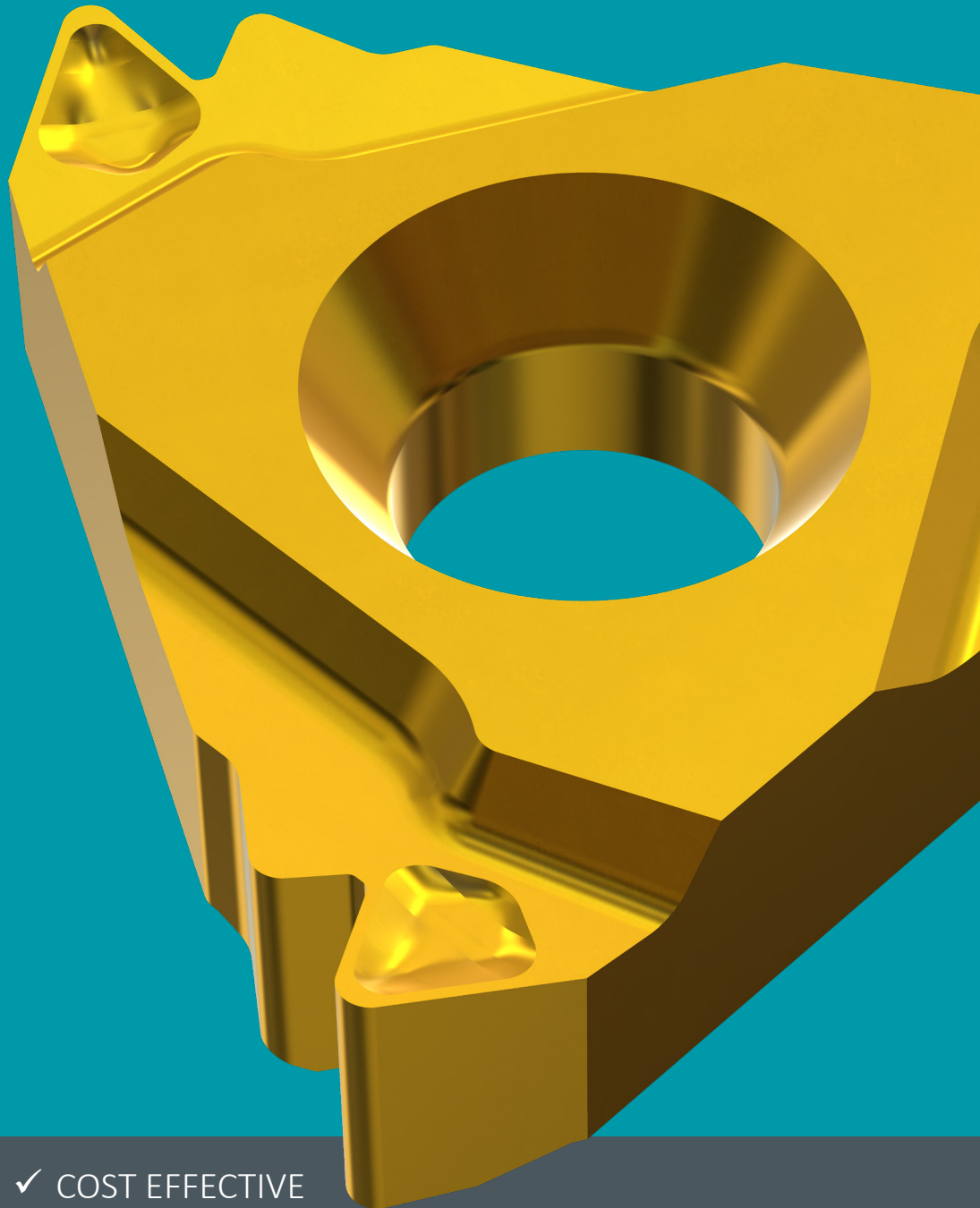
DESCRIPTION	TPI	NO. TEETH	R MAX	X	Y	I.C.	L	T
22NR 11.5NPT 2M	11 ½	2	0.107	1.90	2.80	12.70	22.00	4.79
22NR 11.5NPT 3M	11 ½	3	0.107	2.90	4.60			
27NR 8NPT 2M	8	2	0.132	2.00	3.30	15.875	27.00	6.25



POSIThread

X
SERIES

MOULDED THREADING INSERTS



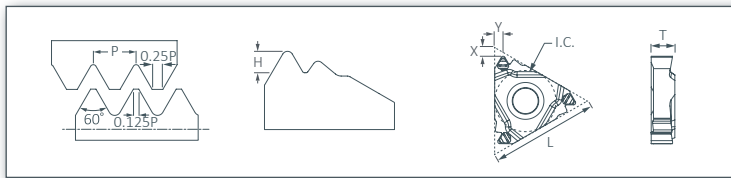
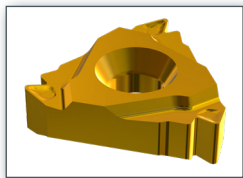
- ✓ COST EFFECTIVE
- ✓ DESIGNED FOR EFFECTIVE CHIP FLOW
- ✓ COMPATIBLE WITH STANDARD LAYDOWN THREADING HOLDERS
- ✓ A SOLUTION FOR ALL MATERIALS

GENERAL

ISO

EXTERNAL

DIN13 60° INCLUSIVE 6g/6H

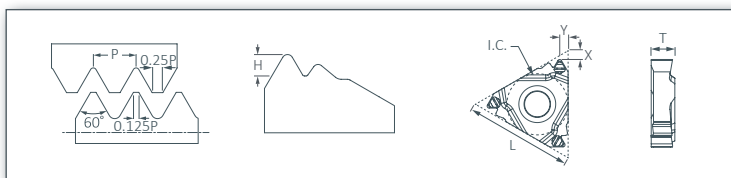
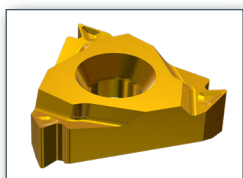


DESCRIPTION	PITCH	H	X	Y	I.C.	L	T
PS 16ER 1.0ISO	1.00	0.61	1.50	0.70	9.525	16.00	3.30
PS 16ER 1.25ISO	1.25	0.77	1.40	0.8			
PS 16ER 1.5ISO	1.50	0.92	1.25	0.90			
PS 16ER 1.75ISO	1.75	1.08	0.95	1.10			
PS 16ER 2.0ISO	2.00	1.23	1.35	1.30			
PS 16ER 2.5ISO	2.50	1.53	1.55	1.50			
PS 16ER 3.0ISO	3.00	1.84	1.55	1.60			

ISO

INTERNAL

DIN13 60° INCLUSIVE 6g/6H



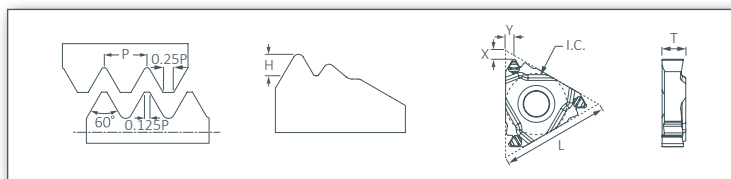
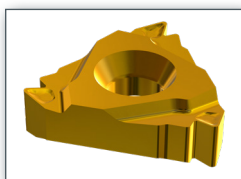
DESCRIPTION	PITCH	H	X	Y	I.C.	L	T
PS 11IR 1.0ISO	1.00	0.58	1.04	0.60	6.35	11.00	3.05
PS 11IR 1.5ISO	1.50	0.87	0.94	0.80			
PS 11IR 2.0ISO	2.00	1.11	1.05	1.00			
PS 16IR 1.0ISO	1.00	0.58	1.42	0.65	9.525	16.00	3.40
PS 16IR 1.25ISO	1.25	0.69	1.38	0.80			
PS 16IR 1.5ISO	1.50	0.87	1.15	0.90			
PS 16IR 2.0ISO	2.00	1.15	1.27	1.30			
PS 16IR 2.5ISO	2.50	1.40	1.27	1.35			
PS 16IR 3.0ISO	3.00	1.73	1.22	1.45			



UNIFIED

EXTERNAL

ANSI B1.1:74 60° INCLUSIVE 2A/2B

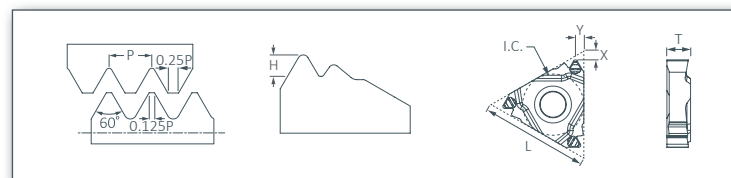
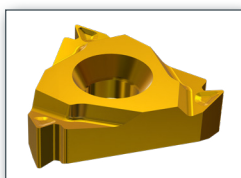


DESCRIPTION	TPI	H	X	Y	I.C.	L	T
PS 16ER 20UN	20	0.78	1.35	0.80	9.525	16.00	3.30
PS 16ER 18UN	18	0.85	1.15	0.90			
PS 16ER 16UN	16	0.97	1.15	1.05			
PS 16ER 14UN	14	1.11	0.93	1.20			
PS 16ER 12UN	12	1.30	1.25	1.40			

UNIFIED

INTERNAL

ANSI B1.1:74 60° INCLUSIVE 2A/2B



DESCRIPTION	TPI	H	X	Y	I.C.	L	T
PS 16IR 20UN	20	0.71	1.36	0.80	9.525	16.00	3.40
PS 16IR 16UN	16	0.74	1.28	0.90			
PS 16IR 12UN	12	1.22	1.43	1.40			



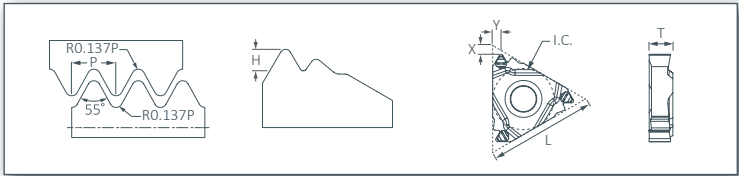
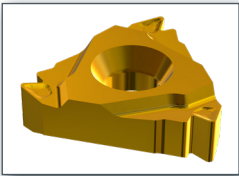
PTX PTC2

GENERAL

WHITWORTH

EXTERNAL

BS84/DIN259/ISO228-1 55° INCLUSIVE MEDIUM CLASS A

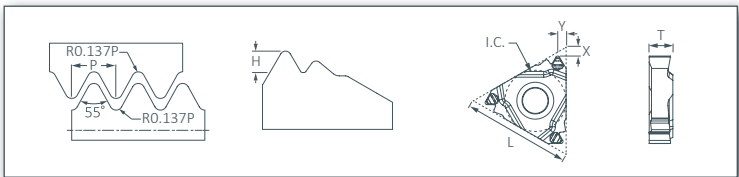
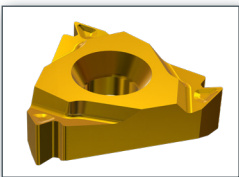


DESCRIPTION	TPI	H	X	Y	I.C.	L	T
PS 16ER 14W	14	1.16	1.00	1.20	9.525	16.00	3.30
PS 16ER 11W	11	1.48	1.48	1.50			

WHITWORTH

INTERNAL

BS84/DIN259/ISO228-1 55° INCLUSIVE MEDIUM CLASS A



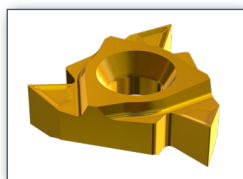
DESCRIPTION	TPI	H	X	Y	I.C.	L	T
PS 16IR 14W	14	1.16	1.24	1.20	9.525	16.00	3.40
PS 16IR 11W	11	1.48	1.33	1.40			



PARTIAL PROFILE

EXTERNAL

60° INCLUSIVE

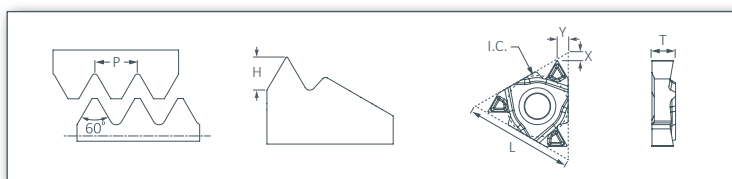
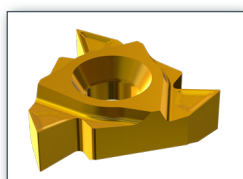


DESCRIPTION	PITCH	TPI	R	X	Y	I.C.	L	T
PS 16ER AG60	0.50 - 3.00	48 - 8	0.080	1.20	1.70	9.525	16.00	3.30
PS 16ER G60	1.75 - 3.00	14 - 8	0.270	1.25	1.70			

PARTIAL PROFILE

INTERNAL

60° INCLUSIVE

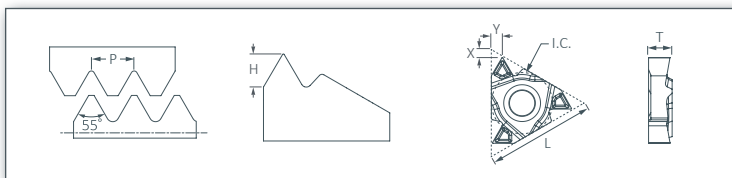
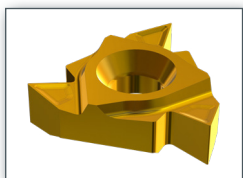


DESCRIPTION	PITCH	TPI	R	X	Y	I.C.	L	T
PS 11IR A60	0.50 - 1.50	48 - 16	0.050	0.76	0.90	9.525	16.00	3.40
PS 16IR AG60	0.50 - 3.00	48 - 8	0.050	1.14	1.60			
PS 16IR G60	1.75 - 3.00	14 - 8	0.160	1.14	1.50			

PARTIAL PROFILE

EXTERNAL

55° INCLUSIVE

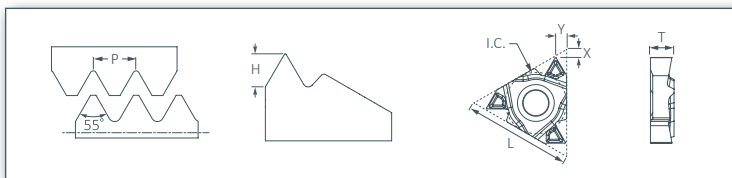
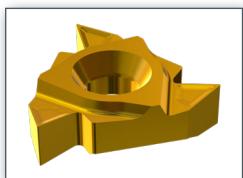


DESCRIPTION	PITCH	TPI	R	X	Y	I.C.	L	T
PS 16ER AG55	0.50 - 3.00	48 - 8	0.080	1.11	1.70	9.525	16.00	3.30

PARTIAL PROFILE

INTERNAL

55° INCLUSIVE



DESCRIPTION	PITCH	TPI	R	X	Y	I.C.	L	T
PS 16IR AG55	0.50 - 3.00	48 - 8	0.080	1.08	1.65	9.525	16.00	3.40

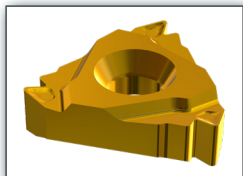


MISCELLANEOUS

NPT

EXTERNAL

USAS B2.1:1968 / ASME/ANSI B1.20.1 60° INCLUSIVE 1/16 TAPER

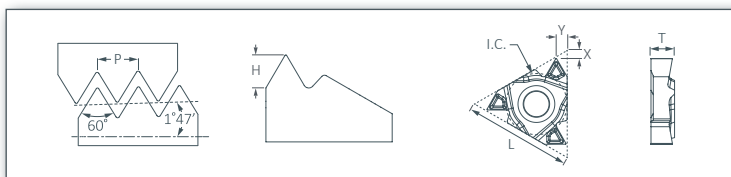
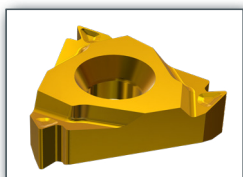


DESCRIPTION	TPI	H	X	Y	I.C.	L	T
PS 16ER 14NPT	14	1.33	0.94	1.20	9.525	16.00	3.30
PS 16ER 11.5NPT	11.5	1.64	1.12	1.50			

NPT

INTERNAL

USAS B2.1:1968 / ASME/ANSI B1.20.1 60° INCLUSIVE 1/16 TAPER

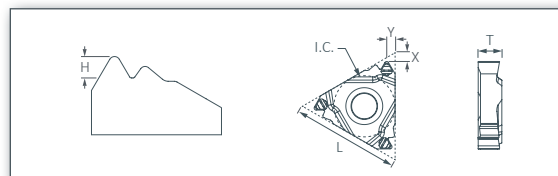
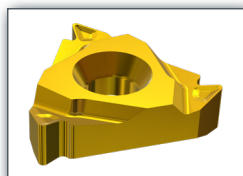


DESCRIPTION	TPI	H	X	Y	I.C.	L	T
PS 16IR 14NPT	14	1.33	1.14	1.20	9.525	16.00	3.40
PS 16IR 11.5NPT	11.5	1.64	1.22	1.40			

ROUND

INTERNAL

API SPEC 5-B 60° INCLUSIVE



DESCRIPTION	IPF	TPI	H	X	Y	I.C.	L	T
PS 16IR 10API RD	0.75	10	1.36	1.22	1.50	9.525	16.00	3.05

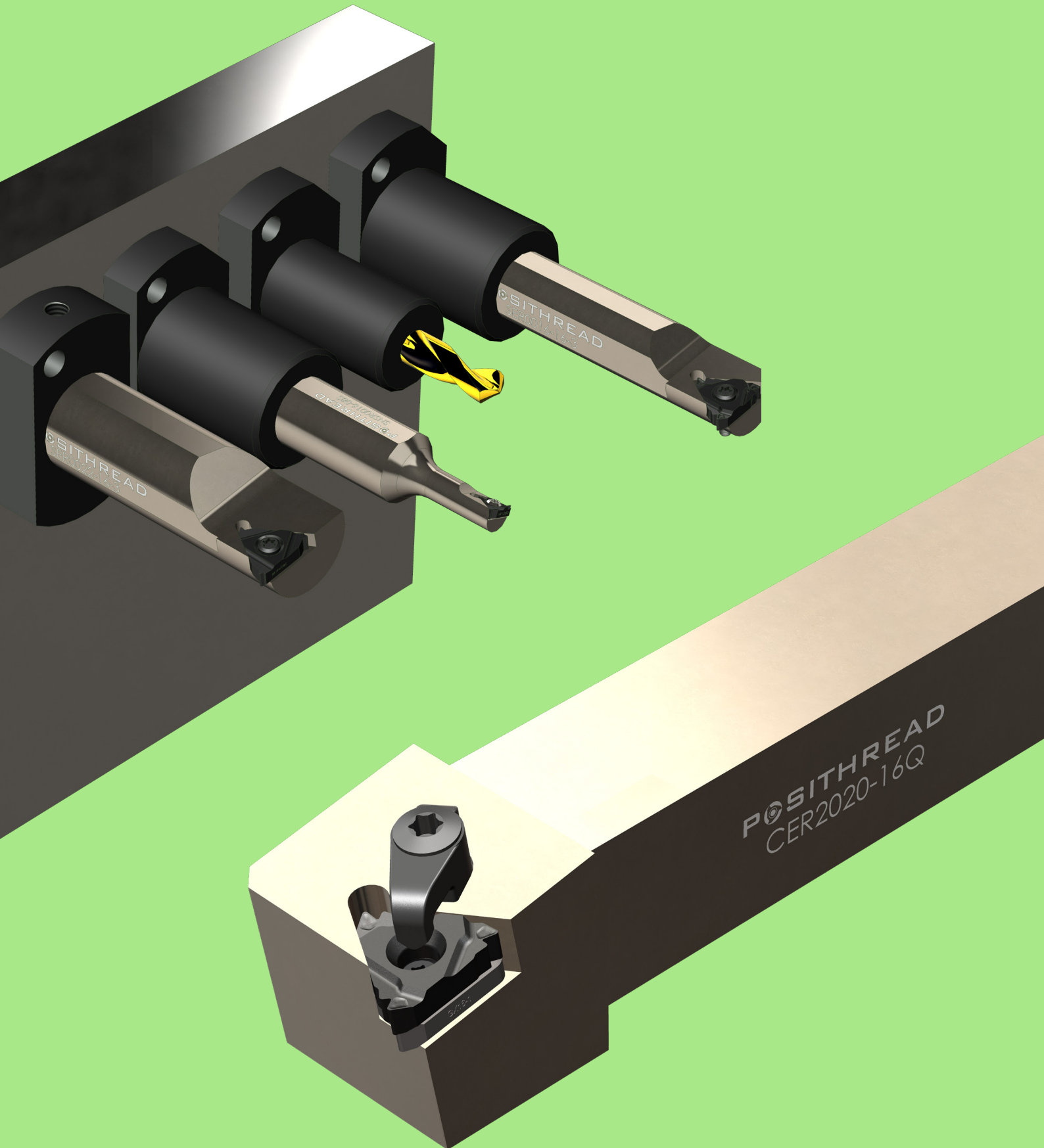


PTX

PTC2

POSIThread

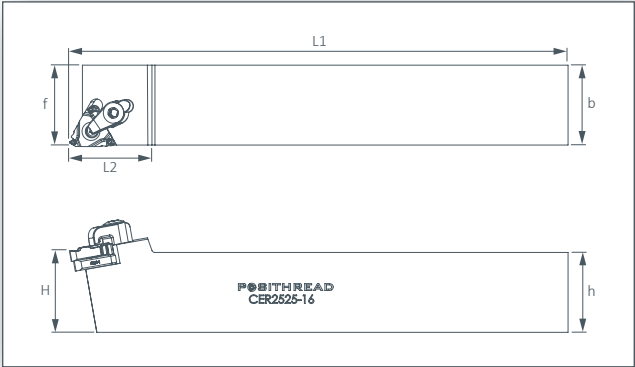
LAYDOWN TOOLING



CLAMP TYPE

STANDARD

PARALLEL SHANK 1° HELIX WITH STANDARD ANVIL



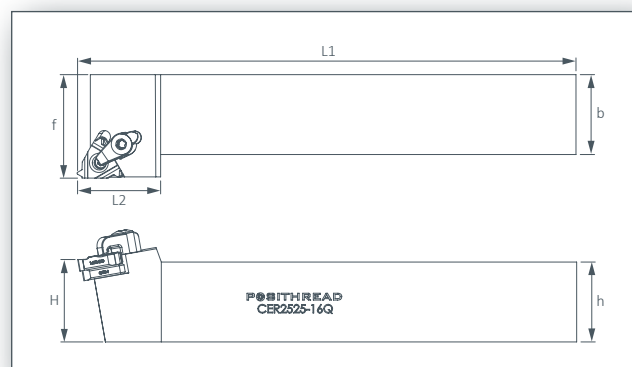
INSERT SIZE		DIMENSIONS							SPARES			
mm	INCH	TOOLHOLDER	H = h	b	L1	L2	f	ANVIL	ANVIL SCREW	CLAMP	TORQ KEY	
16	3/8"	CER 1616-16	16	16	100	20	16	GX16-1	AS16	CSP16	T10 & T15	
		CER 2020-16	20	20	125	25	20					
		CER 2525-16	25	25	150	25	25					
		CER 3232-16	32	32	170	25	32					
22	1/2"	CER 2525-22	25	25	150	28	25	NX22-1	AS22	CSP22	T15	
		CER 3232-22	32	32	170	28	32					
		CER 4040-22	40	40	200	28	40					
22U	1/2"	CER 2525-22U	25	25	150	32	25	UX22-1	AS22	CSP22	T15	
		CER 3232-22U	32	32	170	32	32					
		CER 4040-22U	40	40	200	32	40					

LEFT HAND HOLDERS AVAILABLE, USE DESIGNATION CEL
PLEASE BE ADVISED THAT TOOLING MAY NEED MODIFIED TO ACHIEVE DEPTH OF THREAD FOR LARGER THREAD PROFILES

CLAMP TYPE

STANDARD

CRANKED SHANK 1° HELIX WITH STANDARD ANVIL

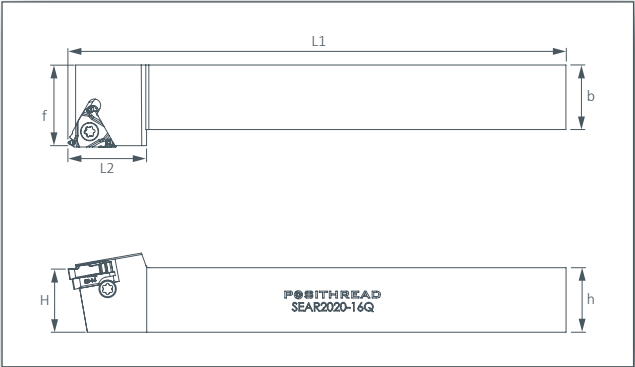


INSERT SIZE		DIMENSIONS						SPARES			
mm	INCH	TOOLHOLDER	H = h	b	L1	L2	f	ANVIL	ANVIL SCREW	CLAMP	TORQ KEY
16	3/8"	CER 1212-16Q	12	12	100	22	16	GX16-1	AS16	CSP16	T10 & T15
		CER 1616-16Q	16	16	100	22	20				
		CER 2020-16Q	20	20	125	22	25				
		CER 2525-16Q	25	25	150	22	32				
		CER 3232-16Q	32	32	170	22	40				
22	1/2"	CER 2525-22Q	25	25	150	28	32	NX22-1	AS22	CSP22	T15
		CER 3232-22Q	32	32	170	28	40				
		CER 4040-22Q	40	40	200	28	50				
27	5/8"	CER 2525-27Q	25	25	150	33	32	VX27-1	AS27	CSP27	T20-T25
		CER 3232-27Q	32	32	170	33	40				
		CER 4040-27Q	40	40	200	33	50				

LEFT HAND HOLDERS AVAILABLE, USE DESIGNATION CEL

PLEASE BE ADVISED THAT TOOLING MAY NEED MODIFIED TO ACHIEVE DEPTH OF THREAD FOR LARGER THREAD PROFILES

CRANKED SHANK 1.5° HELIX WITH STANDARD ANVIL



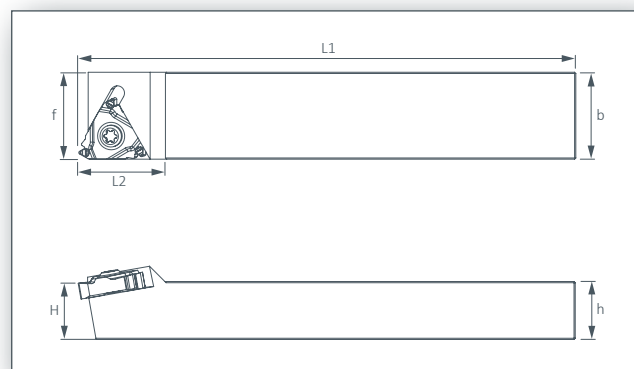
INSERT SIZE		DIMENSIONS							SPARES			
mm	INCH	TOOLHOLDER	H = h	b	L1	L2	f	ANVIL	ANVIL SCREW	LOCK SCREW	TORQ KEY	
16	3/8"	SEAR 2020-16Q	20	20	125	22	25	SE16	SY16	SA16	T10 & T20	
		SEAR 2020-16*	20	20	125	-	20					
		SEAR 2525-16Q	25	25	150	22	32					
		SEAR 2525-16*	25	25	150	-	25					
		SEAR 3232-16Q	32	32	170	22	40					
22	1/2"	SEAR 2525-22Q	25	25	150	30	32	SE22	SY22	SA22	T10 & T20	
		SEAR 3232-22Q	32	32	175	30	40					

* STRAIGHT SHANK HOLDER
LEFT HAND HOLDERS AVAILABLE, USE DESIGNATION SEAL
PLEASE BE ADVISED THAT TOOLING MAY NEED MODIFIED TO ACHIEVE DEPTH OF THREAD FOR LARGER THREAD PROFILES

PARALLEL SHANK

SLIDING HEAD

SCREW TYPE 3° HELIX IN HOLDER

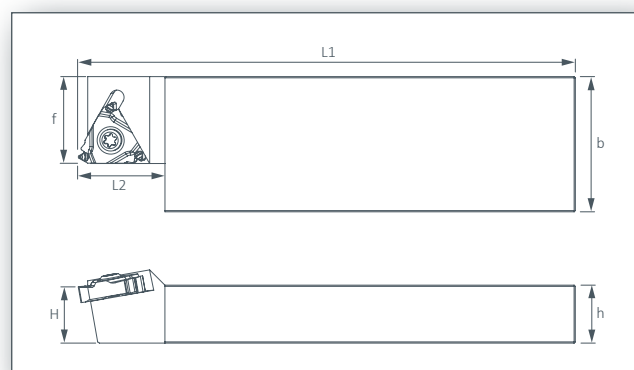


INSERT SIZE		DIMENSIONS						SPARES	
mm	INCH	TOOLHOLDER	H = h	b	L1	L2	f	SCREW	TORQ KEY
16	3/8"	SESR 1018-00-16-3	10	18	101	15	18	S16	T15
		SESR 1218-00-16-3	12	18	101	15	18		
		SESR 1618-00-16-3	26	18	101	15	18		

CRANKED SHANK

SLIDING HEAD

SCREW TYPE 3° HELIX IN HOLDER



INSERT SIZE		DIMENSIONS						SPARES	
mm	INCH	TOOLHOLDER	H = h	b	L1	L2	f	SCREW	TORQ KEY
16	3/8"	SESR 1028-10-16-3	10	28	101	15	10	S16	T15
		SESR 1038-20-16-3	10	38	101	15	20		
		SESR 1228-10-16-3	10	28	101	15	10		
		SESR 1238-20-16-3	12	38	101	15	20		
		SESR 1628-10-16-3	16	28	101	15	10		
		SESR 1638-20-16-3	16	38	101	15	20		

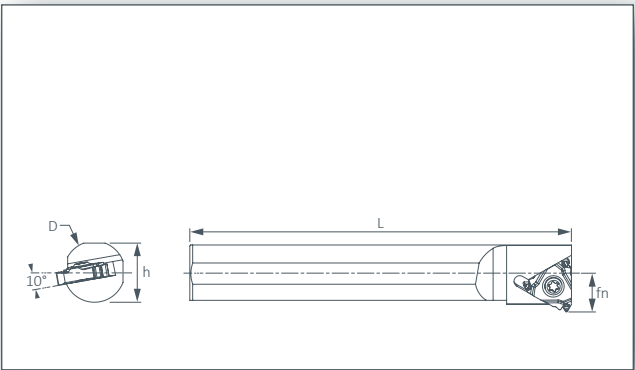
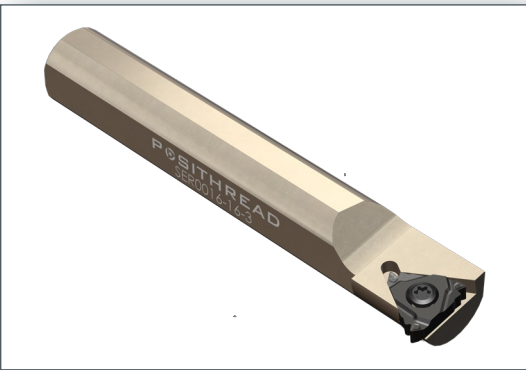
LEFT HAND HOLDERS AVAILABLE, USE DESIGNATION SESL

PLEASE BE ADVISED THAT TOOLING MAY NEED MODIFIED TO ACHIEVE DEPTH OF THREAD FOR LARGER THREAD PROFILES

EXTERNAL

ROUND SHANK SLIDING HEAD

SCREW TYPE 3° HELIX IN HOLDER 10° INCLINATION

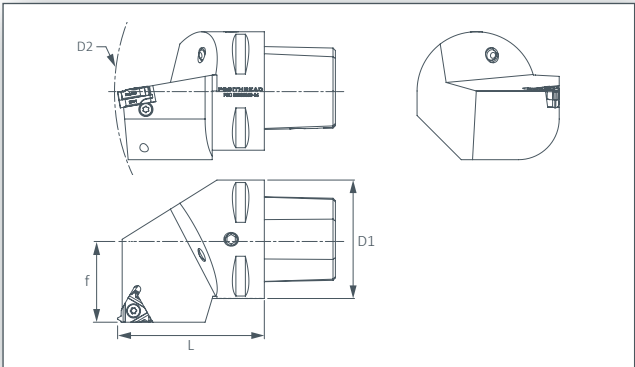
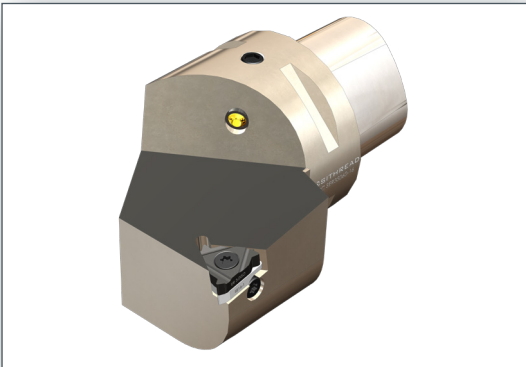


INSERT SIZE		DIMENSIONS					SPARES	
mm	INCH	TOOLHOLDER	D	L	H	fn	SCREW	TORQ KEY
16	3/8"	SER 0016-16-3	16	100	15	11.45	S16	T15
		SER 0022-16-3	22	100	19	14.45		
		SER 001905-16-3	19.05	100	17.05	12.98		
		SER 002540-16-3	25.4	100	23.4	16.15		

*STRAIGHT SHANK HOLDER
 LEFT HAND HOLDERS AVAILABLE, USE DESIGNATION SEL
 PLEASE BE ADVISED THAT TOOLING MAY NEED MODIFIED TO ACHIEVE DEPTH OF THREAD FOR LARGER THREAD PROFILES

PSC STANDARD

SCREW TYPE THROUGH COOLANT



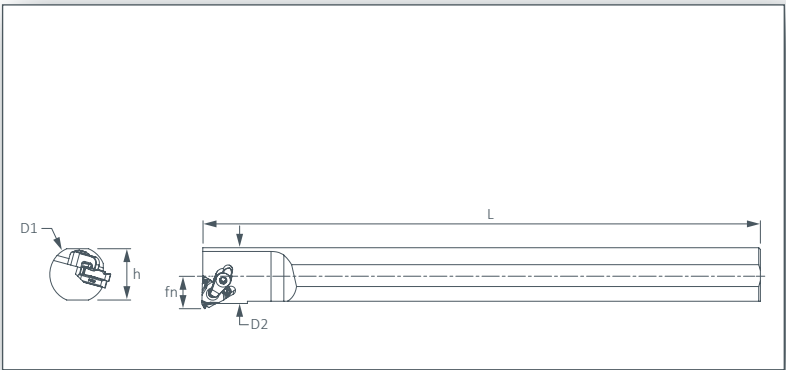
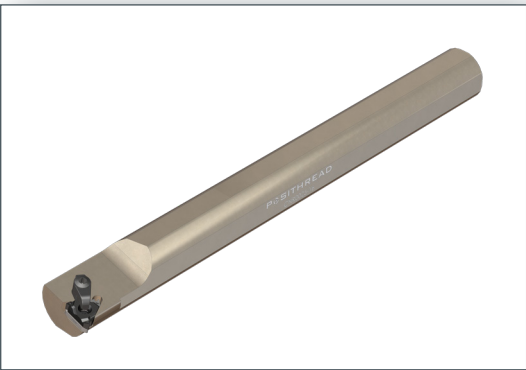
INSERT SIZE		80DIMENSIONS					SPARES			
mm	INCH	TOOLHOLDER	D1	D2	f	L	ANVIL	ANVIL SCREW	INSERT SCREW	TORQ KEY
16	3/8"	PSC 32 SER 22040-16	32	124	22	40	SE16	SY16	SA16	
		PSC 40 SER 27050-16	40	140	27	50				
		PSC 50 SER 35060-16	50	165	35	60				
		PSC 63 SER 45065-16	63	190	45	65				
22	1/2"	PSC 40 SER 27050-22	40	140	27	50	SE22	SY22	SA22	
		PSC 50 SER 35060-22	50	165	35	60				
		PSC 63 SER 45065-22	63	190	45	65				

LEFT HAND HOLDERS AVAILABLE, USE DESIGNATION SEL - EXAMPLE ORDER CODE PSC 63 SEL 45065-16
 PLEASE BE ADVISED THAT TOOLING MAY NEED MODIFIED TO ACHIEVE DEPTH OF THREAD FOR LARGER THREAD PROFILES

CRANKED SHANK

STANDARD

CLAMP TYPE 1° HELIX WITH STANDARD ANVIL



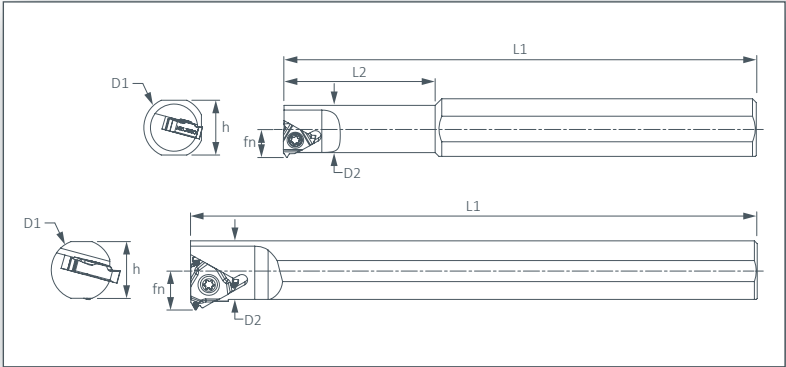
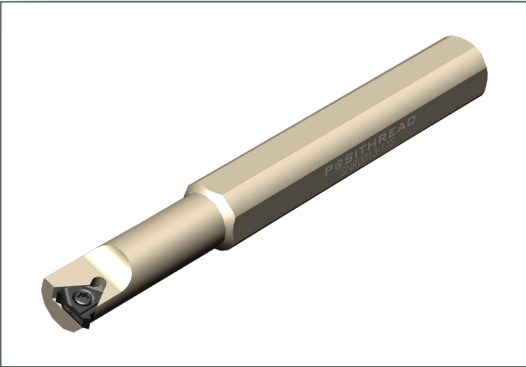
INSERT SIZE		DIMENSIONS							SPARES			
mm	INCH	TOOLHOLDER	D1	D2	L	h	f	MINIMUM BORE Ø	ANVIL	ANVIL SCREW	CLAMP	TORQ KEY
16	3/8"	CNR 0020-16	20	20.50	170	18	13.80	24	GX16-1	AS16	CSP16	T10 & T15
		CNR 0025-16	25	25.50	250	23	16.30	29				
		CNR 0032-16	32	32.50	250	29	19.80	36				
		CNR 0040-16	40	40.50	300	36	23.80	44				
		CNR 0050-16	50	50.50	350	46	28.80	54				
22	1/2"	CNR 0025-22	25	25.50	250	23	17.80	30	NX22-1	AS22	CSP22	T15
		CNR 0032-22	32	32.50	250	29	21.30	38				
		CNR 0040-22	40	40.50	300	36	25.30	46				
		CNR 0050-22	50	50.50	350	46	30.30	56				
		CNR 0063-22	63	63.50	400	59	36.80	69				
27	5/8"	CNR 0032-27	32	32.50	250	29	23.00	42	VX27-1	AS27	CSP27	T20 & T25
		CNR 0040-27	40	40.50	300	36	27.30	48				
		CNR 0050-27	50	50.50	350	46	32.20	58				
		CNR 0063-27	63	63.50	400	59	38.70	70				

LEFT HAND HOLDERS AVAILABLE, USE DESIGNATION CNL
PLEASE BE ADVISED THAT TOOLING MAY NEED MODIFIED TO ACHIEVE DEPTH OF THREAD FOR LARGER THREAD PROFILES

PARALLEL & STEP SHANK

STANDARD

SCREW TYPE 2° HELIX IN HOLDER 15°/20° INCLINATION



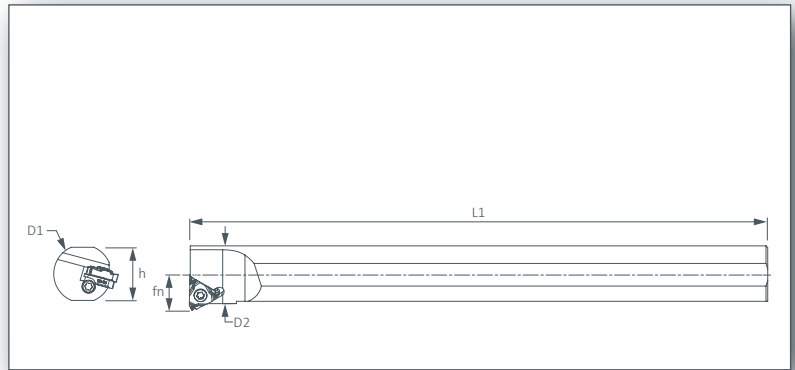
INSERT SIZE		DIMENSIONS								SPARES	
mm	INCH	TOOLHOLDER	D1	D2	L1	L2	h	fn	MINIMUM BORE Ø	SCREW	TORQ SCREW
6	5/32"	SNR 0006-06S	12	5.8	100	13	11	4.20	6.00	S8	T6
8	3/16"	SNR 0006-08S	16	6.3	125	17	17	5.10	7.80	S8	T6
		SNR 0008-08S	16	7.8	125	17	14	5.80	10.00		
11	1/4"	SNR 0010-11*	10	-	125	-	10	7.50	13.00	S11	T7
		SNR 0010-11S	16	10	125	30	14	7.50	12.00		
		SNR 0013-11S	16	13	125	35	14	8.00	15.00		
16	3/8"	SNR 0016-16*	16	-	150	-	14	10.30	19.00	S16	T15
		SNR 0020-16*	20	-	170	-	18	13.00	24.00		
22	1/2"	SNR 0020-22*	20	-	170	-	18	14.00	24.00	S22	T15

*STRAIGHT SHANK HOLDER
LEFT HAND HOLDERS AVAILABLE, USE DESIGNATION SNL
PLEASE BE ADVISED THAT TOOLING MAY NEED MODIFIED TO ACHIEVE DEPTH OF THREAD FOR LARGER THREAD PROFILES

PARALELL SHANK

STANDARD

SCREW TYPE 1.5° HELIX WITH STANDARD ANVIL



INSERT SIZE		TOOLHOLDER	DIMENSIONS						SPARES			
mm	INCH		D1	D2	L1	h	f	MINIMUM BORE Ø	ANVIL	ANVIL SCREW	CLAMP	TORQ KEY
16	3/8"	SNAR 0020-16	20	20	170	18	13.80	24	SN16	SA16	SY16	T10 & T20
		SNAR 0025-16	25	25	250	23	16.30	29				
		SNAR 0032-16	32	32	300	29	19.80	36				
22	1/2"	SNAR 0025-22	25	25	250	23	17.80	23	SN22	SA22	SY22	T10 & T20
		SNAR 0032-22	32	32	300	29	21.30	29				

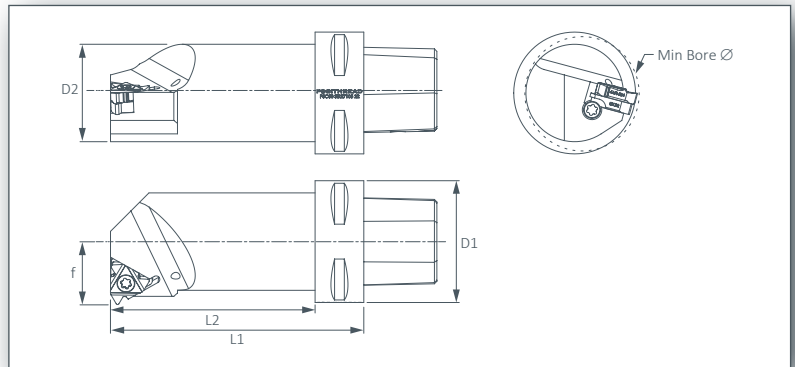
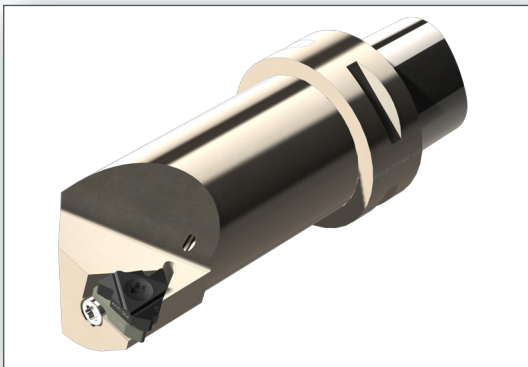
LEFT HAND HOLDERS AVAILABLE, USE DESIGNATION SNAL

PLEASE BE ADVISED THAT TOOLING MAY NEED MODIFIED TO ACHIEVE DEPTH OF THREAD FOR LARGER THREAD PROFILES

PSC

STANDARD

SCREW TYPE THROUGH COOLANT



INSERT SIZE		TOOLHOLDER	DIMENSIONS						SPARES			
mm	INCH		D1	D2	L1	L2	f	MINIMUM BORE Ø	ANVIL	ANVIL SCREW	INSERT SCREW	TORQ KEY
16	3/8"	PSC 32 SIR 12050-16	32.00	15.50	50.00	33.00	12.00	20.00	SN16	SY16	SA16	T10
		PSC 40 SIR 12060-16	40.00	15.50	60.00	37.00	12.00	20.00				
		PSC 40 SIR 22090-16	40.00	32.00	90.00	69.00	22.00	40.00				
		PSC 50 SIR 22090-16	50.00	24.50	90.00	68.00	22.00	40.00				
22	1/2"	PSC 40 SIR 27080-22	40.00	39.50	80.00	60.00	27.00	50.00	SN22	SY22	SA22	T20
		PSC 50 SIR 27105-22	50.00	40.00	105.00	84.00	27.00	50.00				
		PSC 63 SIR 27105-22	63.00	40.00	105.00	80.00	27.00	50.00				

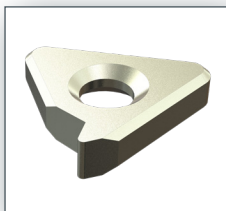
LEFT HAND HOLDERS AVAILABLE, USE DESIGNATION SEL - EXAMPLE ORDER CODE PSC 40 SIR 12060-16

PLEASE BE ADVISED THAT TOOLING MAY NEED MODIFIED TO ACHIEVE DEPTH OF THREAD FOR LARGER THREAD PROFILES

ANVILS

CLAMP TYPE HOLDERS

ER-EL/NR-NL 1° HELIX IN HOLDER



HELIX REQUIRED	HELIX $\leq 0^\circ$			HELIX $\leq 0^\circ 30'$	HELIX $0^\circ 30' - 2^\circ$		HELIX $\geq 3^\circ$	
APPLICATION	REVERSE THREADING			BUTTRESS THREADING	NORMAL THREADING		COARSE PITCH SMALL $\varnothing$ MULTI START THREADS	
ANGLE IN TOOLHOLDER	-3.0°	-2.0°	-1.0°	0°	+1.0°	+2.0°	+3.0°	+4.0°
16	GX16-97	GX16-98	GX16-99	GX16-0	GX16-1	GX16-2•	GX16-3	GX16-4
22	NX22-97	NX22-98	NX22-99	NX22-0	NX22-1	NX22-2•	NX22-3	NX22-4
	UX22-97*	UX22-98*	UX22-99	UX22-0	UX22-1	UX22-2•	UX22-3	UX22-4
27	VX27-97	VX27-98	VX27-99	VX27-0	VX27-1	VX27-2•	VX27-3	VX27-4
	UX27-97*	UX27-98*	UX27-99	UX27-0	UX27-1	UX27-2•	UX27-3	UX27-4

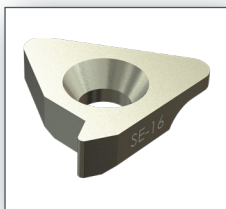
*SUITABLE FOR U-STYLE INSERTS & HOLDERS

•SUITABLE FOR GROOVING APPLICATIONS E.G. LG INSERTS

SPECIAL ANVILS AVAILABLE

SCREW TYPE HOLDERS

ER-NL/NR-EL 1.5° HELIX IN HOLDER WITH SIDE LOCK ANVIL SCEW

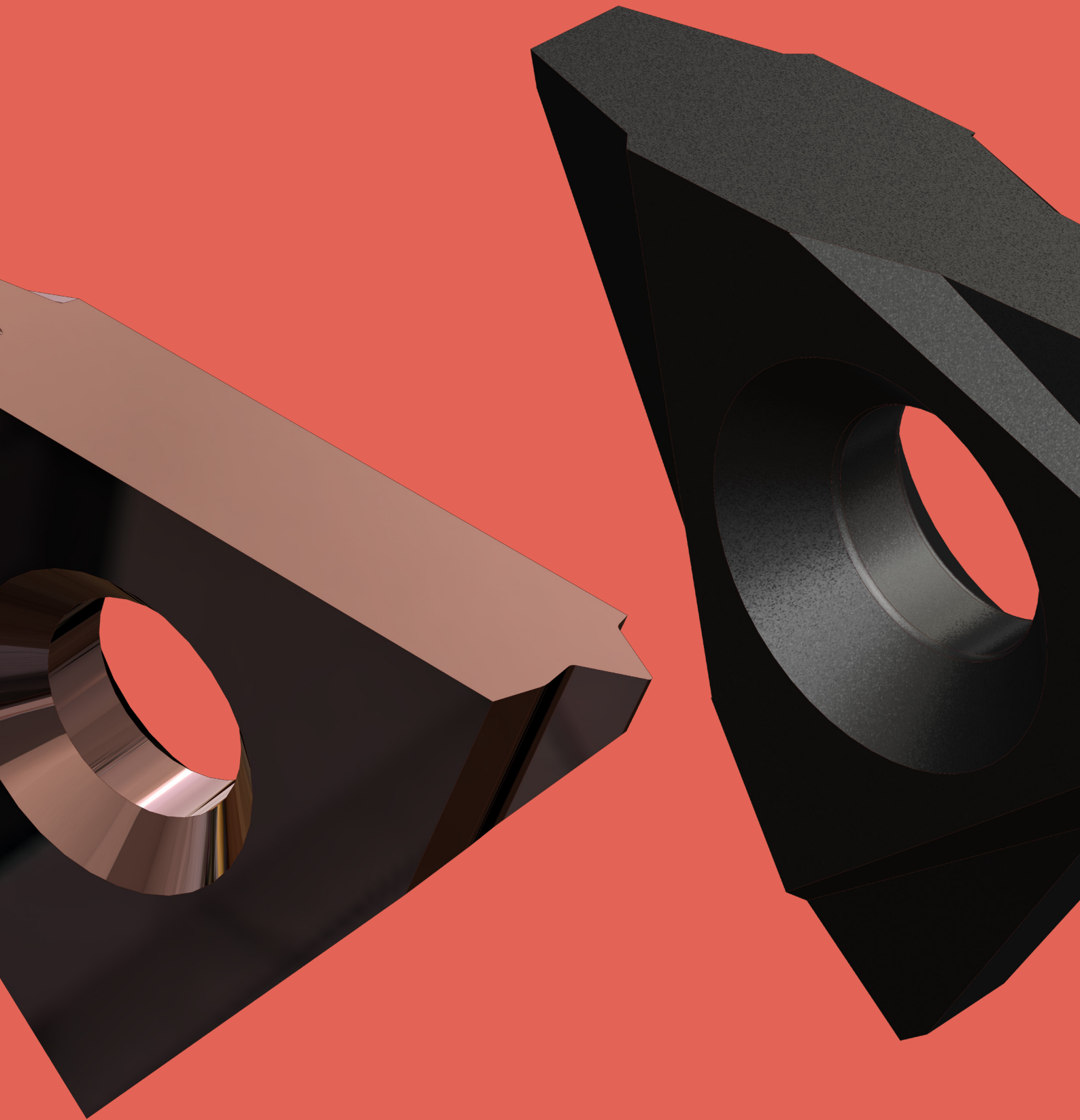


HELIX REQUIRED		HELIX $\leq 0^\circ$		HELIX 0°	HELIX $0^\circ - 1^\circ$	HELIX $0^\circ 30' - 2^\circ$		HELIX $\geq 3^\circ$	
APPLICATION		REVERSE THREADING		BUTTRESS THREADING	FINE PITCH LARGE $\varnothing$	NORMAL THREADING		COARSE PITCH SMALL $\varnothing$ MULTI START THREADS	
ANGLE IN TOOLHOLDER		-1.5°	-0.5°	0°	+0.5°	+1.5°	+2.5°	+3.5°	+4.5°
16	ER / NL	SE16-3N	SE16-2N	SE16-1.5N	SE16-1N	SE16•	SE16-1P	SE16-2P	SE16-3P
	NR / EL	SN16-3N	SN16-2N	SN16-1.5N	SN16-1N	SN16•	SN16-1P	SN16-2P	SN16-3P
22	ER / NL	SE22-3N	SE22-2N	SE22-1.5N	SE22-1N	SE22•	SE22-1P	SE22-2P	SE22-3P
	NR / EL	SN22-3N	SN22-2N	SN22-1.5N	SN22-1N	SN22•	SN22-1P	SN22-2P	SN22-3P

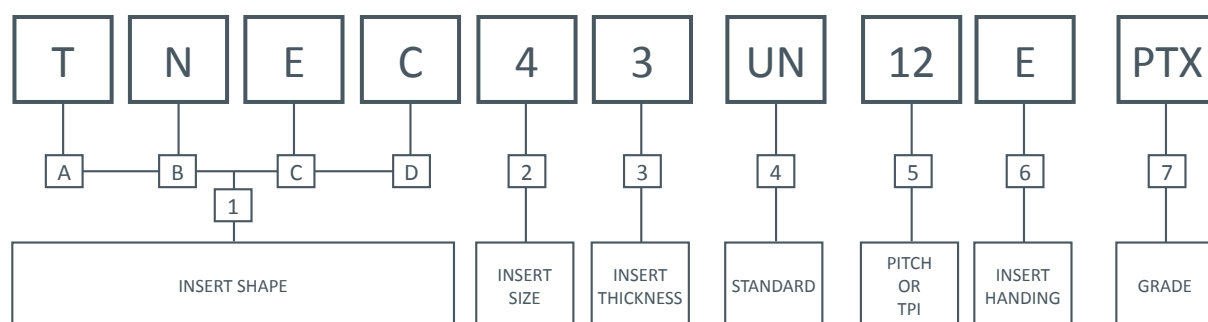
•SUITABLE FOR GROOVING APPLICATIONS E.G. LG INSERTS

SPECIAL ANVILS AVAILABLE

POSITHREAD
ON-EDGE
THREADING INSERTS



ON-EDGE INSERT IDENTIFICATION CODE



1 INSERT SHAPE		
CODE	DESIGNATION	
A	T	TRIANGULAR
	C	CUBOID
B	N	NEUTRAL
C	E / G	TOLERANCE GRADE
D	A	NO COUNTERSINK
	B	ONE COUNTERSINK
	C	COUNTERSINK TO BOTH SIDES
	X	SPECIAL INSERT

2 INSERT SIZE		
INSCRIBED CIRCLE (I.C.) OF SHAPE IN 1/16" OF AN INCH		
3	3/8"	9.525mm
4	1/2"	12.7mm
5	5/8"	15.875mm
6	3/4"	19.05mm

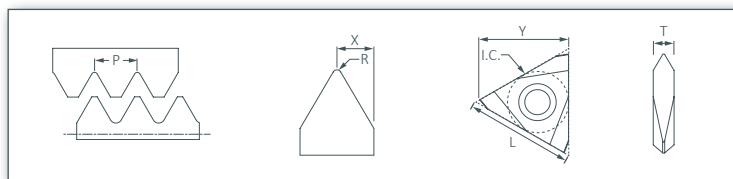
3 INSERT THICKNESS		
INSERT THICKNESS IN 1/16" OF AN INCH		
2	1/8"	3.175mm
3	3/16"	4.763mm
4	1/4"	6.35mm
5	5/16"	7.938mm
6	3/8"	9.525mm

4 STANDARD •	
NV55	55 PARTIAL PROFILE
NV60	60 PARTIAL PROFILE
WHIT	WHITWORTH
ISO	ISO METRIC
UN	AMERICAN UNIFIED
NPT	NATIONAL PIPE THREAD
BSPT	BRITISH STANDARD PIPE THREAD
NT	ACME
NTC	ACME BREAK EDGE CHAMFERS
NST	STUB ACME
NSTC	STUB ACME BREAK EDGE CHAMFERS
NGC	GROOVING
FT	TURNING

5 PITCH OR TPI		
PITCH	IN mm	
TPI	THREADS PER INCH	
6 INSERT HANDING		
E	EXTERNAL	
I	INTERNAL	
7 GRADE		
PTX		AVAILABLE FROM STOCK
DBC		AVAILABLE FROM STOCK

PARTIAL PROFILE

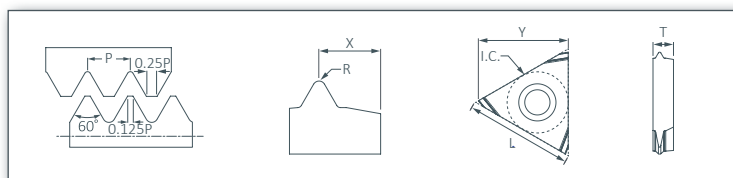
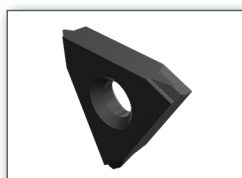
50° & 60° INCLUSIVE



DESCRIPTION	PITCH	TPI	R MAX	X	Y	I.C.	L	T
TNEC32 NV60	0.50 - 3.00	48 - 8	0.070	1.588	13.43	9.525	16.00	3.60
TNEC32 NV55	0.50 - 3.00	48 - 8	0.070	1.588	13.43			
TNEC43 NV60	0.50 - 4.50	48 - 8	0.070	2.381	18.64	12.70	22.00	4.763
TNEC43 NV55	0.50 - 4.50	48 - 8	0.070	2.381	18.64			

ISO

DIN13 60° INCLUSIVE



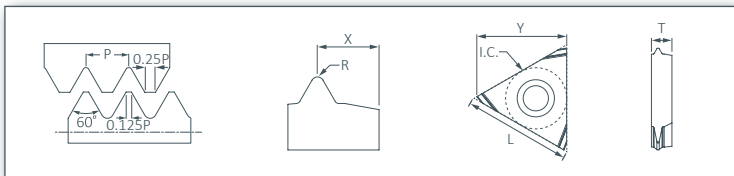
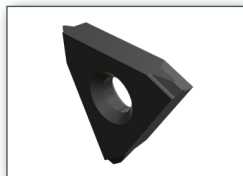
DESCRIPTION	PITCH	R MAX	X	Y	I.C.	L	T
TNEC32 ISO 0.5E	0.50	0.072	2.60	13.43	9.525	16.00	3.60
TNEC32 ISO 0.75E	0.75	0.108	1.59	13.43			
TNEC32 ISO 1.0E	1.00	0.144	2.39	13.43			
TNEC32 ISO 1.25E	1.25	0.180	2.27	13.43			
TNEC32 ISO 1.5E	1.50	0.216	2.15	13.43			
TNEC32 ISO 1.75E	1.75	0.252	2.03	13.43			
TNEC32 ISO 2.0E	2.00	0.288	1.91	13.43			
TNEC43 ISO 1.5E	1.50	0.216	3.70	18.64	12.70	22.00	4.763
TNEC43 ISO 1.75E	1.75	0.252	3.60	18.64			
TNEC43 ISO 2.0E	2.00	0.288	3.48	18.64			
TNEC43 ISO 2.5E	2.50	0.360	3.20	18.64			
TNEC43 ISO 3.0E	3.00	0.432	3.00	18.64			



GENERAL

UNIFIED

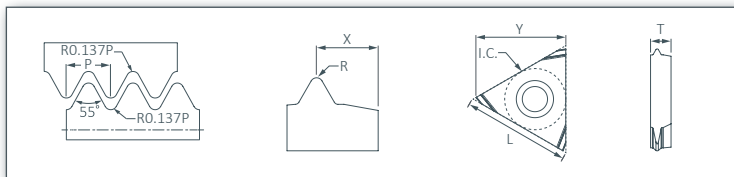
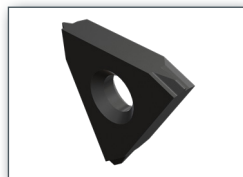
ASME/ANSI B1.1 - 60° INCLUSIVE



DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
TNEC32 UN 20E	20	0.183	2.27	13.43	9.525	16.00	3.60
TNEC32 UN 18E	18	0.203	2.21	13.43			
TNEC32 UN 16E	16	0.229	2.14	13.43			
TNEC32 UN 14E	14	0.261	2.03	13.43			
TNEC32 UN 12E	12	0.305	1.90	13.43			
TNEC43 UN 12E	12	0.305	3.49	18.64	12.70	22.00	4.763
TNEC43 UN 10E	10	0.366	3.30	18.64			
TNEC43 UN 8E	8	0.457	3.00	18.64			

WHITWORTH

DIN2999/BS84 55° INCLUSIVE

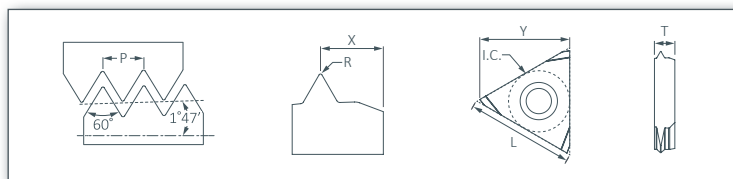
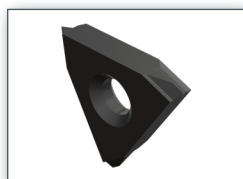


DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
TNEC32 WHIT 19E	19	0.184	2.20	13.43	9.525	16.00	3.60
TNEC32 WHIT 14E	14	0.249	1.90	13.43			
TNEC43 WHIT 11E	11	0.317	3.30	18.64	12.70	22.00	4.763
TNEC43 WHIT 10E	10	0.349	3.20	18.64			



NPT FULL FORM

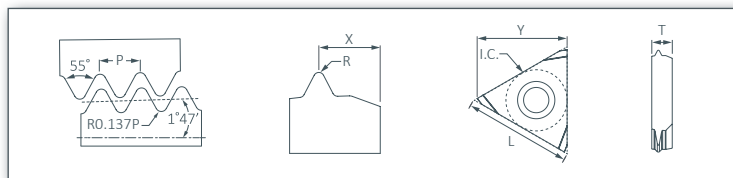
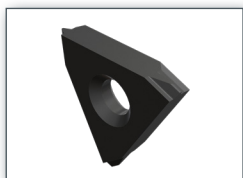
ASME/ANSI B1.20.1 60° INCLUSIVE 1/16 TAPER



DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
TNEC32 NPT 27E	27	0.060	2.40	13.43	9.525	16.00	3.60
TNEC32 NPT 18E	18	0.084	2.20	13.43			
TNEC32 NPT 14E	14	0.094	2.00	13.43			
TNEC43 NPT 14E	14	0.094	3.50	18.64	12.70	22.00	4.763
TNEC43 NPT 11.5E	11.5	0.107	3.30	18.64			

BSPT FULL FORM

BS21 55° INCLUSIVE 1/16 TAPER

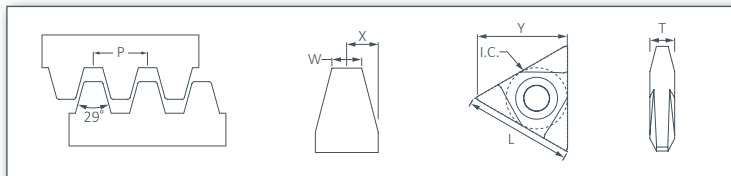
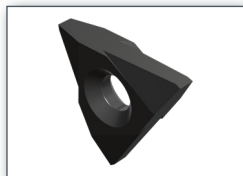


DESCRIPTION	TPI	R MAX	X	Y	I.C.	L	T
TNEC32 BSPT 19E	19	0.184	2.15	13.43	9.525	16.00	3.60
TNEC32 BSPT 14E	14	0.249	1.95	13.43			
TNEC43 BSPT 11E	11	0.317	3.30	18.64	12.70	22.00	4.763



ACME

ASME/ANSI B1.5 - 29° INCLUSIVE

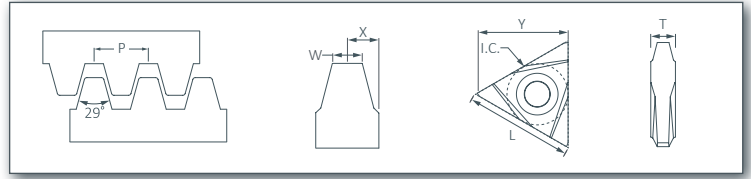
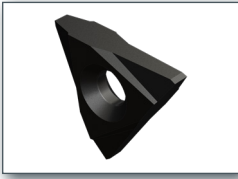


DESCRIPTION	TPI	W	X	Y	I.C.	L	T
TNEC32 NT 16P W0.0206	16	0.523	1.80	13.43	9.525	16.00	3.60
TNEC32 NT 14P W0.0239	14	0.607	1.80	13.43			
TNEC32 NT 12P W0.0283	12	0.719	1.80	13.43			
TNEC32 NT 10P 0.0319	10	0.810	1.80	13.43			
TNEC32 NT 8P W0.0411	8	1.044	1.80	13.43			
TNEC32 NT 6P W0.0566	6	1.438	1.80	13.43			
TNEC43 NT 16P W0.0206	16	0.523	2.381	18.64	12.70	22.00	4.763
TNEC43 NT 14P W0.0239	14	0.607	2.381	18.64			
TNEC43 NT 12P W0.0283	12	0.719	2.381	18.64			
TNEC43 NT 10P W0.0319	10	0.810	2.381	18.64			
TNEC43 NT 8P W0.0411	8	1.044	2.381	18.64			
TNEC43 NT 6P W0.0566	6	1.438	2.381	18.64			
TNEC43 NT 5P W0.0689	5	1.750	2.381	18.64	15.875	27.00	6.35
TNEC43 NT 4P W0.0875	4	2.222	2.381	18.64			
TNEC54 NT 5P W0.0689	5	1.750	3.175	23.39			
TNEC54 NT 4P W0.0875	4	2.222	3.175	23.39			
TNEC54 NT 3.5P W0.1007	3.5	2.558	3.175	23.39	19.05	33.00	9.525
TNEC54 NT 3P W0.1184	3	3.007	3.175	23.39			
TNEC66 NT 2P W0.1802	2	4.577	4.763	28.14			



ACME WITH 45° BREAK EDGE CHAMFERS

ASME/ANSI B1.5 - 29° INCLUSIVE



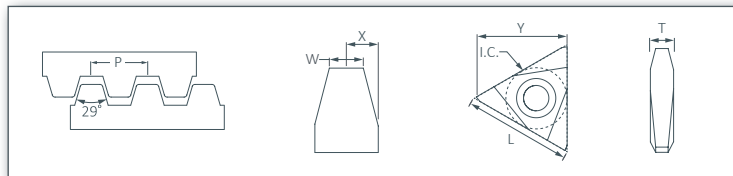
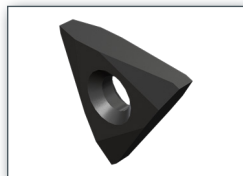
DESCRIPTION	TPI	W	X	Y	I.C.	L	T
TNEC32 NTC 16P W0.0206	16	0.523	1.80	13.43	9.525	16.00	3.60
TNEC32 NTC 14P W0.0239	14	0.607	1.80	13.43			
TNEC32 NTC 12P W0.0283	12	0.719	1.80	13.43			
TNEC32 NTC 10P W0.0319	10	0.810	1.80	13.43			
TNEC32 NTC 8P W0.0411	8	1.044	1.80	13.43			
TNEC32 NTC 6P W0.0566	6	1.438	1.80	13.43			
TNEC43 NTC 16P W0.0206	16	0.523	2.381	18.64	12.70	22.00	4.763
TNEC43 NTC 14P W0.0239	14	0.607	2.381	18.64			
TNEC43 NTC 12P W0.0283	12	0.719	2.381	18.64			
TNEC43 NTC 10P W0.0319	10	0.810	2.381	18.64			
TNEC43 NTC 8P W0.0411	8	1.044	2.381	18.64			
TNEC43 NTC 6P W0.0566	6	1.438	2.381	18.64			
TNEC43 NTC 5P W0.0689	5	1.750	2.381	18.64	15.875	27.00	6.35
TNEC43 NTC 4P W0.0875	4	2.222	2.381	18.64			
TNEC54 NTC 5P W0.0689	5	1.750	3.175	23.39			
TNEC54 NTC 4P W0.0875	4	2.222	3.175	23.39			
TNEC54 NTC 3.5P W0.1007	3.5	2.558	3.175	23.39	19.05	33.00	9.525
TNEC54 NTC 3P W0.1184	3	3.007	3.175	23.39			
TNEC66 NTC 2P W0.1802	2	4.577	4.763	28.14			



TRANSMISSION

STUB ACME

ASME/ANSI B1.8 - 29° INCLUSIVE



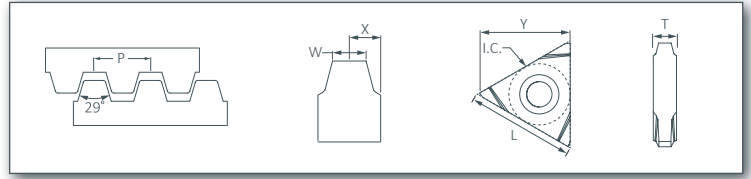
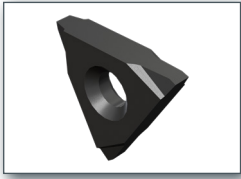
ON EDGE INSERTS

DESCRIPTION	TPI	W	X	Y	I.C.	L	T
TNEC32 NST 16P W0.0238	16	0.605	1.80	13.43	9.525	16.00	3.60
TNEC32 NST 14P W0.0276	14	0.701	1.80	13.43			
TNEC32 NST 12P W0.0326	12	0.828	1.80	13.43			
TNEC32 NST 10P W0.0370	10	0.940	1.80	13.43			
TNEC32 NST 8P W0.0476	8	1.209	1.80	13.43			
TNEC32 NST 6P W0.0652	6	1.656	1.80	13.43			
TNEC43 NST 16P W0.0238	16	0.605	2.381	18.64	12.70	22.00	4.763
TNEC43 NST 14P W0.0276	14	0.701	2.381	18.64			
TNEC43 NST 12P W0.0326	12	0.828	2.381	18.64			
TNEC43 NST 10P W0.0370	10	0.940	2.381	18.64			
TNEC43 NST 8P W0.0476	8	1.209	2.381	18.64			
TNEC43 NST 6P W0.0652	6	1.656	2.381	18.64			
TNEC43 NST 5P W0.0793	5	2.014	2.381	18.64	15.875	27.00	6.35
TNEC54 NST 5P W0.0793	5	2.014	3.175	23.39			
TNEC54 NST 4P W0.1004	4	2.550	3.175	23.39			
TNEC54 NST 3.5P W0.1155	3.5	2.934	3.175	23.39			
TNEC54 NST 3P W0.1356	3	3.444	3.175	23.39	19.05	33.00	9.525
TNEC66 NST 2P W0.2060	2	5.232	4.763	28.14			



STUB ACME WITH 45° BREAK EDGE CHAMFERS

ASME/ANSI B1.8 - 29° INCLUSIVE



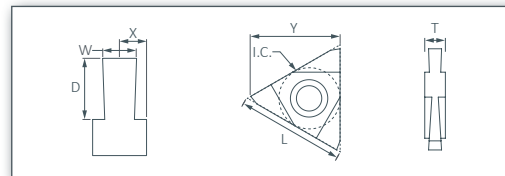
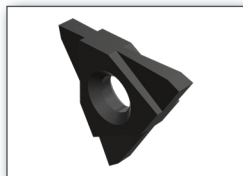
DESCRIPTION	TPI	W	X	Y	I.C.	L	T
TNEC32 NSTC 16P W0.0238	16	0.605	1.80	13.43	9.525	16.00	3.60
TNEC32 NSTC 14P W0.0276	14	0.701	1.80	13.43			
TNEC32 NSTC 12P W0.0326	12	0.828	1.80	13.43			
TNEC32 NSTC 10P W0.0370	10	0.940	1.80	13.43			
TNEC32 NSTC 8P W0.0476	8	1.209	1.80	13.43			
TNEC32 NSTC 6P W0.0652	6	1.656	1.80	13.43			
TNEC43 NSTC 16P W0.0238	16	0.605	2.381	18.64	12.70	22.00	4.763
TNEC43 NSTC 14P W0.0276	14	0.701	2.381	18.64			
TNEC43 NSTC 12P W0.0326	12	0.828	2.381	18.64			
TNEC43 NSTC 10P W0.0370	10	0.940	2.381	18.64			
TNEC43 NSTC 8P W0.0476	8	1.209	2.381	18.64			
TNEC43 NSTC 6P W0.0652	6	1.656	2.381	18.64			
TNEC43 NSTC 5P W0.0793	5	2.014	2.381	18.64	15.875	27.00	6.35
TNEC54 NSTC 5P W0.0793	5	2.014	3.175	23.39			
TNEC54 NSTC 4P W0.1004	4	2.550	3.175	23.39			
TNEC54 NSTC 3.5P W0.1155	3.5	2.934	3.175	23.39			
TNEC54 NSTC 3P W0.1356	3	3.444	3.175	23.39	19.05	33.00	9.525
TNEC66 NSTC 2P W0.2060	2	5.232	4.763	28.14			



GROOVING

SQUARE

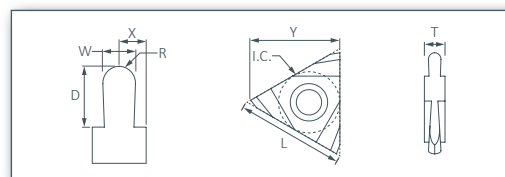
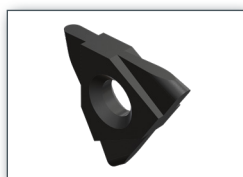
W0.50mm - W3.00mm



DESCRIPTION	W	D	R MAX	X	Y	I.C.	L	T
TNEC32 NGC W0.5	0.50	2.00	0.050	1.59	13.43	9.525	16.00	3.60
TNEC32 NGC W1.0	1.00	2.50	0.050	1.59	13.43			
TNEC32 NGC W1.5	1.50	3.60	0.050	1.59	13.43			
TNEC32 NGC W2.0	2.00	3.60	0.050	1.59	13.43			
TNEC32 NGC W2.5	2.50	3.60	0.050	1.59	13.43			
TNEC43 NGC W1.5	1.50	4.10	0.050	2.38	18.64	12.70	22.00	4.763
TNEC43 NGC W2.0	2.00	4.10	0.050	2.38	18.64			
TNEC43 NGC W2.5	2.50	4.10	0.050	2.38	18.64			
TNEC43 NGC W3.0	3.00	5.00	0.050	2.38	18.64			

RADIUS

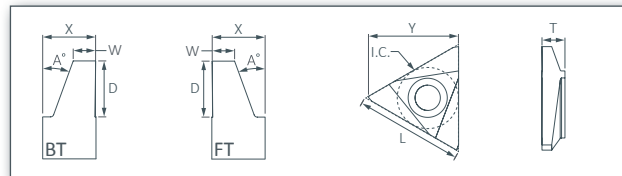
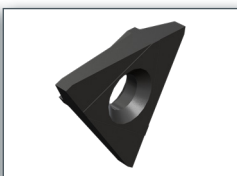
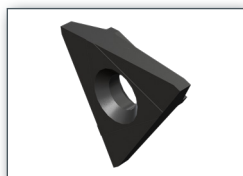
R1.00mm - R3.00mm



DESCRIPTION	R MAX	W	D MAX	X	Y	I.C.	L	T
TNEC32 NGC R1.0	0.50	1.00	2.50	1.59	13.43	9.525	16.00	3.60
TNEC32 NGC R1.5	0.75	1.50	3.50	1.59	13.43			
TNEC32 NGC R2.0	1.00	2.00	3.50	1.59	13.43			
TNEC43 NGC R2.5	1.25	2.50	5.00	2.38	18.64	12.70	22.00	4.763
TNEC43 NGC R3.0	1.50	3.00	5.00	2.38	18.64			

FT - BT

FRONT TURNING & BACK TURNING



DESCRIPTION	W	D MAX	ANGLE	X	Y	I.C.	L	T
TNEC43 FT 2.0	2.00	5.00	20°	4.76	18.64	12.70	22.00	4.763
TNEC43 BT 2.0	2.00	5.00	20°	4.76	18.64			



POSITHREAD

**ON-EDGE
TOOLING**

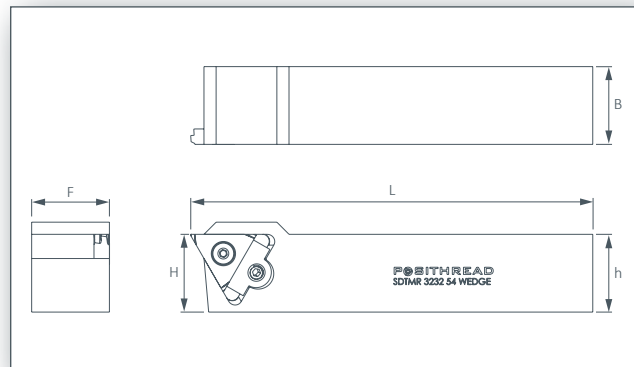


EXTERNAL

WEDGE TYPE

STANDARD

SDTM



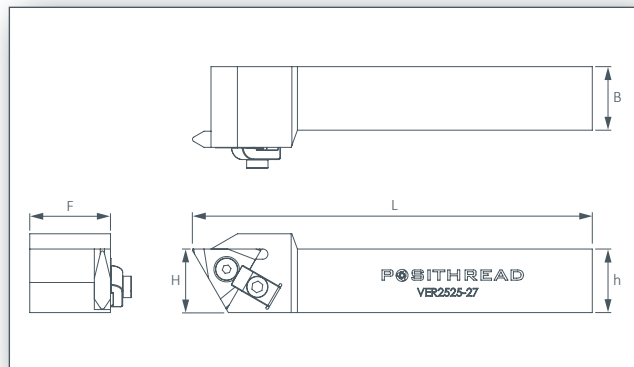
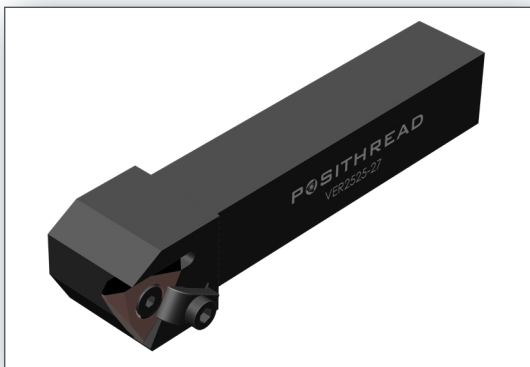
DIMENSIONS						SPARES		
INSERT SIZE	TOOLHOLDER	H = h	B	L	F	INSERT SCREW	WEDGE	WEDGE SCREW
TNEC54	SDTMR 3232-54 WEDGE	32.00	32.00	160.00	38.00	MSD-3	W4M MOD	LS-130
TNEC55	SDTMR 3232-55 WEDGE	32.00	32.00	160.00	38.00	MSD-3	W4M MOD	LS-130
TNEC56	SDTMR 3232-56 WEDGE	32.00	32.00	160.00	40.00	MSD-3	W4M MOD	LS-130
TNEC66	SDTMR 3232-66 WEDGE	32.00	32.00	160.00	40.00	MSD-4	W4M MOD	LS-130
TNEC68	SDTMR 3232-68 WEDGE	32.00	32.00	160.00	45.00	MSD-4	W4M MOD	LS-130
TNEC69	SDTMR 3232-69 WEDGE	32.00	32.00	160.00	50.00	MSD-4	W4M MOD	LS-130

LEFT HAND HOLDERS AVAILABLE, USE DESIGNATION SDTML

CLAMP

STANDARD

VER



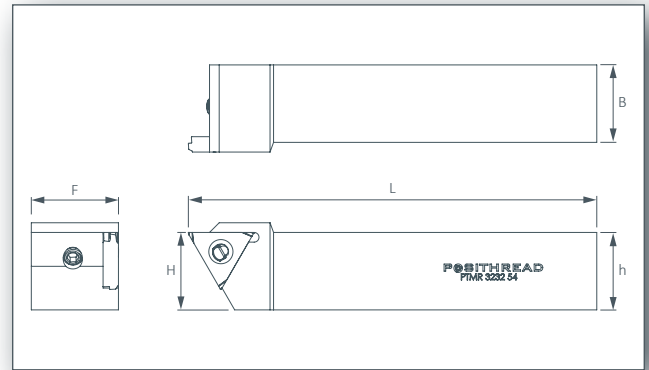
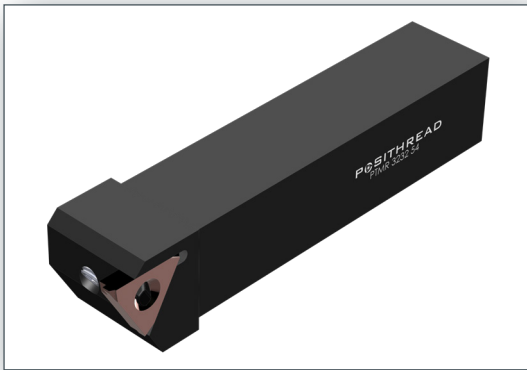
DIMENSIONS						SPARES		
INSERT SIZE	TOOLHOLDER	H = h	B	L	F	SCREW	CLAMP	CLAMP SCREW
TNEC43	VER 2525-22	25.00	25.00	150.00	32.00	VS22	VC10	VCS10
TNEC44	VER 3232-22	32.00	32.00	150.00	38.00			
TNEC54	VER 3232-27	32.00	32.00	175.00	38.00	VS27	VC10	VCS10
TNEC55								
TNEC66	VER 3232-33	32.00	32.00	175.00	38.00	VS33	VC10	VCS10

LEFT HAND HOLDERS AVAILABLE, USE DESIGNATION VEL

PIN

STANDARD

PTM



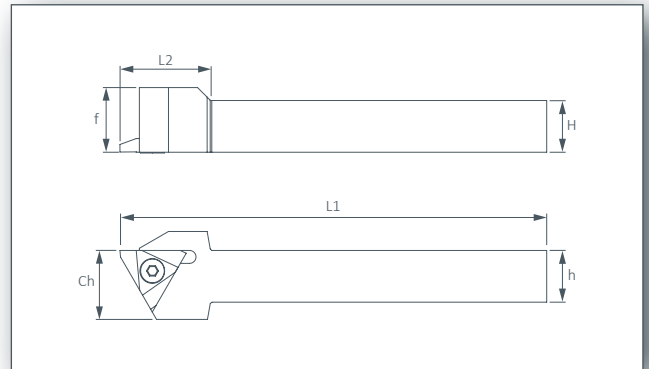
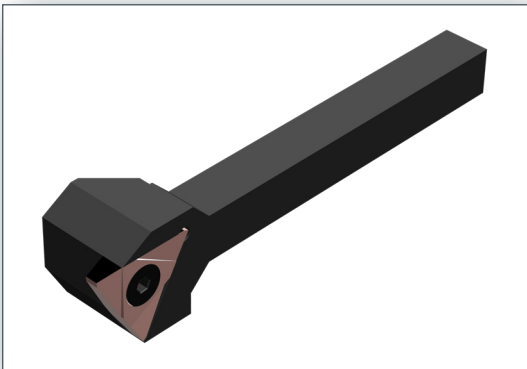
DIMENSIONS						SPARES		
INSERT SIZE	TOOLHOLDER	H = h	B	L	F	LOCK SCREW	POLYFLEX BALL	LOCK PIN
TNEC32	PTMR 2525-32	25.00	25.00	150.00	32.00	PT-626	3/16"	TG-32
TNEC43	PTMR 2525-43	25.00	25.00	140.00	32.00	PT-627	7/32"	TG-43
	PTMR 3232-43	32.00	32.00	160.00	38.00			
TNEC54 TNEC55	PTMR 2525-54	25.00	25.00	140.00	32.00	PT-628	9/32"	TG-54
	PTMR 3232-54	32.00	32.00	160.00	38.00			
	PTMR 4040-54	40.00	40.00	200.00	50.00			

LEFT HAND HOLDERS AVAILABLE, USE DESIGNATION PTML

SCREW

SLIDING HEAD

SESRV



DIMENSIONS							SPARES	
INSERT SIZE	TOOLHOLDER	H = h	Ch	L1	L2	f	SCREW	HEX KEY
TNEC32	SESRV 1010-00-32	10.00	10.00	101.00	20.00	16.00	VS16	2.00
	SESRV 1212-00-32	12.00	12.00	101.00	20.00	16.00		
TNEC43	SESRV 1212-00-43	12.00	12.00	101.00	20.00	20.00	VS22	2.50

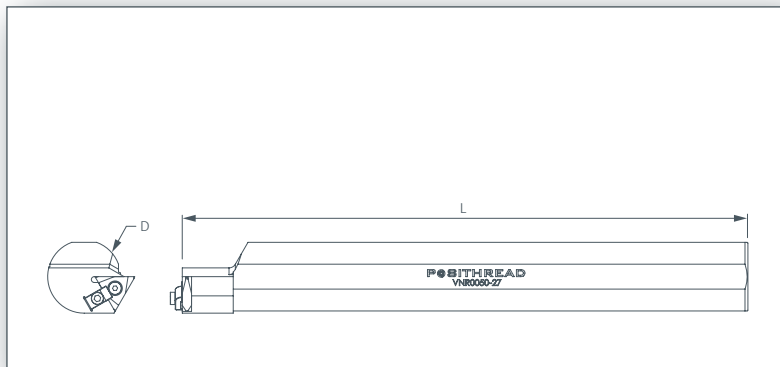
LEFT HAND HOLDERS AVAILABLE, USE DESIGNATION SDTML

INTERNAL

CLAMP

STANDARD

VNR



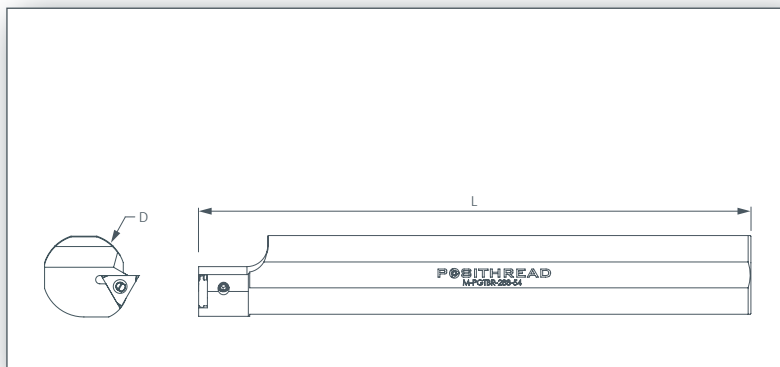
DIMENSIONS					SPARES		
INSERT SIZE	TOOLHOLDER	D	L	MIN BORE Ø	SCREW	CLAMP	CLAMP SCREW
TNEC43 TNEC44	VNR 0032-16	32.00	350.00	49.10	VS22		
	VNR 0040-16	40.00	400.00	52.20			
	VNR 0032-22	32.00	350.00	49.10			
	VNR 0040-22	40.00	400.00	52.20			
TNEC54 TNEC55	VNR 0050-22	50.00	450.00	64.40	VS27		
	VNR 0050-27	50.00	450.00	64.40			
	VNR 0063-27	63.00	400.00	72.80			
TNEC66	VNR 0063-33	63.00	400.00	78.40	VS33		

LEFT HAND HOLDERS AVAILABLE, USE DESIGNATION VNL

WEDGE TYPE

STANDARD

MPGTBR

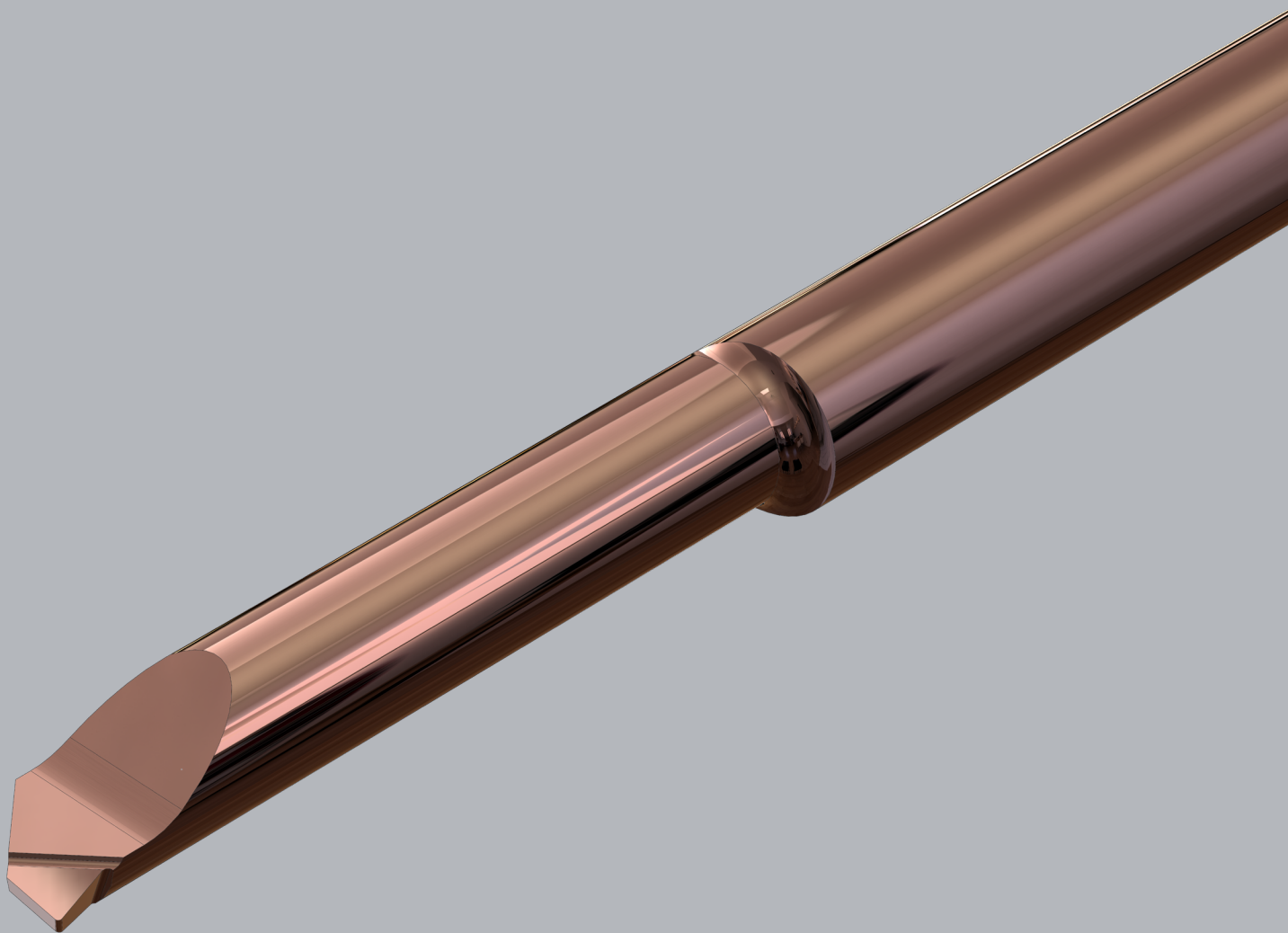


DIMENSIONS					SPARES		
INSERT SIZE	TOOLHOLDER	D	L	MINIMUM BORE Ø	LOCK SCREW	POLYFLEX BALL	LOCK PIN
TNEC43	MPGTBR 150-43	32.00	350.00	49.10	PT-627	7/32"	TG-43
	MPGTBR 173-43	40.00	350.00	52.20			
	MPGTBR 226-43	50.00	400.00	64.40			
TNEC54 TNEC55	MPGTBR 238-54	50.00	400.00	64.40	PT-628	9/32"	TG-54
	MPGTBR 288-54	60.00	400.00	72.80			

LEFT HAND HOLDERS AVAILABLE, USE DESIGNATION M-PGTBL

POSITHREAD
MINI SERIES

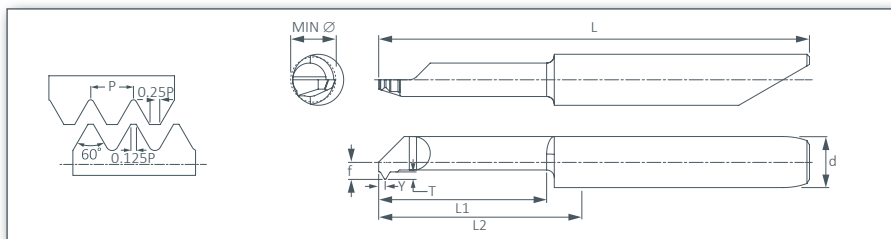
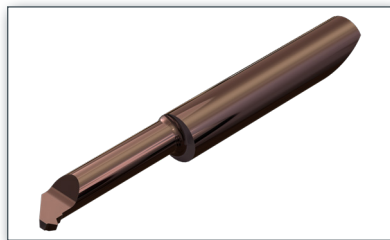
THREADING
GROOVING
BORING



MECHANICAL

ISO

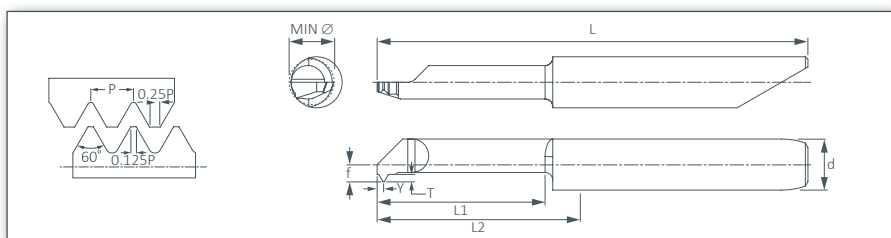
DIN13 60° INCLUSIVE



BAR SIZE d Ø	MINIMUM BORE Ø	DESCRIPTION	THREAD	PITCH	f	Y	L1	L2	L
4.00	3.40	CTR429 0.5ISO L16	M4 x 0.5	0.50	0.90	0.40	16.00	18.40	35.40
	4.40	CTR439 0.5ISO L16	M5 x 0.5	0.50	1.90	0.40			
	3.20	CTR429 0.7ISO L16	M4 x 0.7	0.70	0.90	0.60			
	4.00	CTR429 0.8ISO L16	M5 x 0.8	0.80	1.90	0.60			
	4.80	CTR439 1.0ISO L16	M6 x 1.0	1.00	1.70	0.70			
5.00	4.90	CTR542 0.5ISO L16	M5.5 x 0.5	0.50	1.73	0.40	16.00	18.35	41.20
	4.60	CTR542 0.75ISO L16	M5.5 x 0.75	0.75	1.70	0.60			
	5.80	CTR549 1.0ISO L16	M7 x 1.0	1.00	2.40	0.70			
6.00	5.40	CTR649 0.5ISO L16	M6 x 0.5	0.50	1.90	0.40	16.00	18.50	42.20
	5.60	CTR649 0.75ISO L16	M6.5 x 0.75	0.75	1.90	0.60			
	6.30	CTR659 1.0ISO L16	M7.5 x 1.0	1.00	2.90	0.70			
	6.50	CTR659 1.25ISO L16	M8 x 1.25	1.25	2.90	0.90			
	8.30	CTR659 1.5ISO L16	M1.0 x 1.5	1.50	2.90	1.00			

UNIFIED

ASME/ANSI B1.1 60° INCLUSIVE

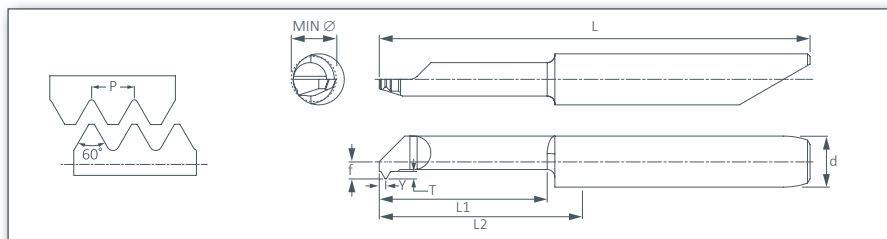
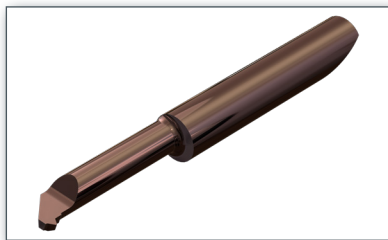


BAR SIZE d Ø	MINIMUM BORE Ø	DESCRIPTION	THREAD	TPI	f	Y	L1	L2	L
4.00	3.30	CTR429 32UN L16	No. 8 32UNC	32	0.92	0.60	16.00	18.40	35.40
	3.60	CTR429 28UN L16	No. 10 28UNS	28	0.92	0.65			
5.00	5.30	CTR549 27UN L16	¼" 27UNS	27	2.40	0.75	16.00	18.35	41.20
	5.10	CTR542 24UN L16	¼" 24UNS	24	1.70	0.75			
	4.60	CTR542 20UN L16	¼" 20UNC	20	1.70	0.90			
6.00	6.30	CTR659 18UN L16	⅜" 28UNC	18	2.90	1.00	16.00	18.50	42.20
	7.70	CTR659 16UN L16	⅜" 26UNC	16	2.90	1.00			



PARTIAL PROFILE

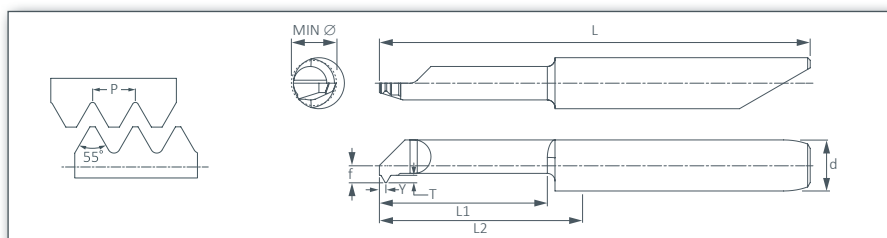
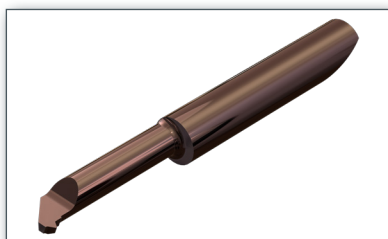
AF60/A60 60° INCLUSIVE



BAR SIZE d Ø	MINIMUM BORE Ø	DESCRIPTION	PITCH	TPI	f	Y	L1	L2	L
4.00	3.20	CTR429 AF60 L16	0.5 - 1.0	48 - 24	0.90	0.90	16.00	18.40	35.40
	4.20	CTR439 AF60 L16	0.5 - 1.0	48 - 24	1.90	0.90			
6.00	6.20	CTR659 A60 L16	0.5 - 1.5	48 - 16	2.90	0.90	16.00	18.50	42.20

PARTIAL PROFILE

AF55/A55 55° INCLUSIVE



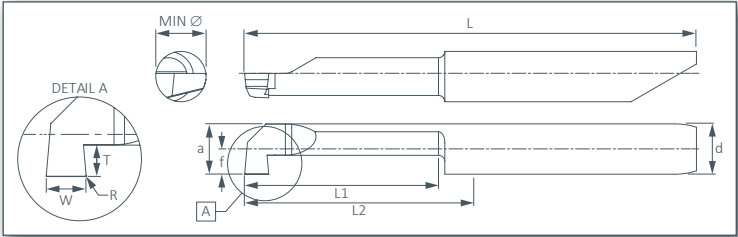
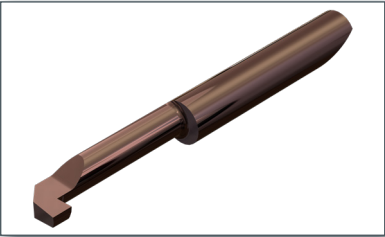
BAR SIZE d Ø	MINIMUM BORE Ø	DESCRIPTION	PITCH	TPI	f	Y	L1	L2	L
4.00	3.20	CTR429 AF55 L16	0.5 - 1.0	48 - 24	0.90	0.90	16.00	18.40	35.40
	4.20	CTR439 AF55 L16	0.5 - 1.0	48 - 24	1.90	0.90			
6.00	6.20	CTR659 A55 L16	0.5 - 1.5	48 - 16	2.90	0.90	16.00	18.50	42.20



GROOVING

SQUARE GROOVING

W0.50mm - 1.50mm

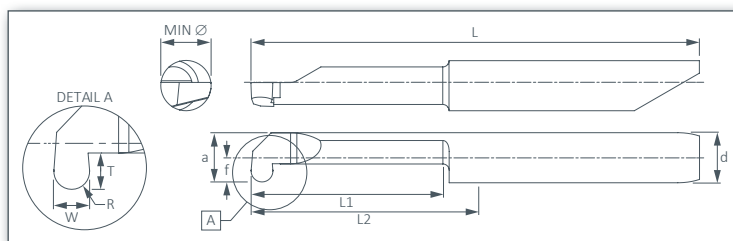


BAR SIZE d Ø	MINIMUM BORE Ø	DESCRIPTION	W	T	R	f	a	L1	L2	L
4.00	4.20	CGR439 W0.5 L10	0.50	0.90	0.10	1.90	3.90	10.00	11.50	28.50
		CGR439 W0.5 L15	0.50	0.90	0.10	1.90	3.90	15.00	18.40	35.20
		CGR439 W0.5 L20	0.50	0.90	0.10	1.90	3.90	20.00	22.80	39.80
5.00	5.20	CGR549 W0.5 L10	0.50	1.00	0.10	2.40	4.90	10.00	12.15	35.00
		CGR549 W0.5 L15	0.50	1.00	0.10	2.40	4.90	15.00	18.15	41.00
		CGR549 W0.5 L20	0.50	1.00	0.10	2.40	4.90	20.00	23.15	46.00
		CGR549 W1.0 L10	1.00	1.00	0.10	2.40	4.90	10.00	12.15	35.00
		CGR549 W1.0 L15	1.00	1.00	0.10	2.40	4.90	15.00	18.15	41.00
		CGR549 W1.0 L20	1.00	1.00	0.10	2.40	4.90	20.00	23.15	46.00
		CGR549 W1.5 L10	1.50	1.00	0.10	2.40	4.90	10.00	12.15	35.00
		CGR549 W1.5 L15	1.50	1.00	0.10	2.40	4.90	15.00	18.15	41.00
		CGR549 W1.5 L20	1.50	1.00	0.10	2.40	4.90	20.00	23.15	46.00
6.00	6.20	CGR659 W0.5 L10	0.50	1.80	0.10	2.90	5.90	10.00	12.30	36.00
		CGR659 W0.5 L15	0.50	1.80	0.10	2.90	5.90	15.00	18.30	42.00
		CGR659 W0.5 L20	0.50	1.80	0.10	2.90	5.90	20.00	23.30	47.00
		CGR659 W1.0 L10	1.00	1.80	0.10	2.90	5.90	10.00	12.30	36.00
		CGR659 W1.0 L15	1.00	1.80	0.10	2.90	5.90	15.00	18.30	42.00
		CGR659 W1.0 L20	1.00	1.80	0.10	2.90	5.90	20.00	23.30	47.00
		CGR659 W1.5 L10	1.50	1.80	0.10	2.90	5.90	10.00	12.30	36.00
		CGR659 W1.5 L15	1.50	1.80	0.10	2.90	5.90	15.00	18.30	42.00
		CGR659 W1.5 L20	1.50	1.80	0.10	2.90	5.90	20.00	23.30	47.00



ROUND GROOVING

R0.50mm - 1.00mm



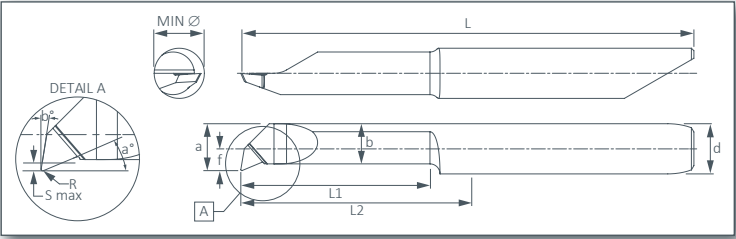
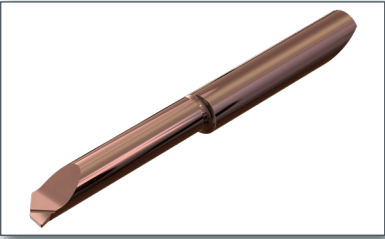
BAR SIZE d Ø	MINIMUM BORE Ø	DESCRIPTION	W	T	R	f	a	L1	L2	L
4.00	4.20	CRR439 R0.5 L15	1.00	0.80	0.50	1.90	3.90	15.00	18.40	35.20
5.00	5.20	CRR549 R0.5 L20	1.00	1.00	0.50	2.40	4.90	20.00	23.15	46.00
		CRR549 R0.75 L20	1.50	1.00	0.75	2.40	4.90			
		CRR549 R1.0 L20	2.00	1.00	1.00	2.40	4.90			
6.00	6.20	CRR659 R0.5 L20	1.00	1.80	0.50	2.90	5.90	20.00	28.30	28.30
		CRR659 R0.75 L20	1.50	1.80	0.75	2.90	5.90			
		CRR659 R1.0 L20	2.00	1.80	1.00	2.90	5.90			



BORING

INTERNAL BORING

MIN DIA 1.00mm - 6.20mm



BAR SIZE d Ø	MINIMUM BORE Ø	DESCRIPTION	R	f	S MAX	a	b	a°	b°	L1	L2	L
4.00	1.00	CBR4096 809R10 L06	0.10	0.48	0.15	0.96	0.81	17.00	8	6.00	8.80	25.75
	1.70	CBR4158 812R10 L06	0.10	0.77	0.20	1.58	1.18	16.00		6.00	11.50	28.50
	2.20	CBR4206 812R10 L09	0.10	1.04	0.20	2.06	1.76	17.70		9.00	11.50	28.50
	2.70	CBR4248 818R15 L15	0.15	1.23	0.20	2.48	2.06	17.50		15.00	18.20	35.20
	3.00	CBR4270 823R15 L20	0.15	1.36	0.20	2.70	2.36	17.50		20.00	22.80	39.80
	3.20	CBR4287 818R15 L16	0.15	1.44	0.20	2.87	2.50	17.50		16.00	18.20	35.20
	4.20	CBR4393 823R15 L21	0.15	1.93	0.30	3.93	3.13	19.00		21.00	22.80	39.80
5.00	5.20	CBR5494 818R20 L16	0.20	2.44	0.50	4.94	4.04	21.00	8	16.00	18.15	41.00
	5.20	CBR5494 832R20 L30	0.20	2.44	0.50	4.94	4.04	21.00		30.00	32.15	55.00
6.00	6.20	CBR6593 837R20 L35	0.20	2.93	0.50	5.93	4.73	22.00	8	35.00	37.30	61.00



DBC

MINI SERIES BORING

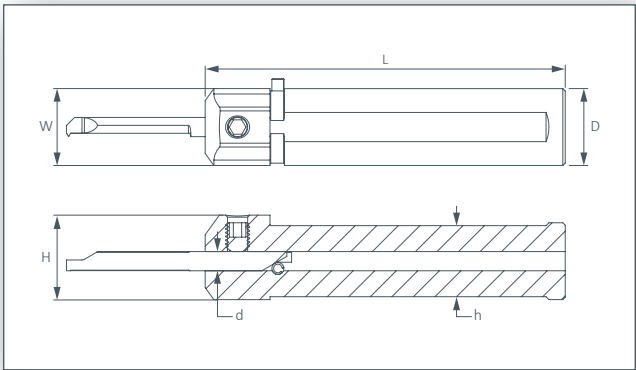
POSITHREAD

MINI SERIES

TOOLING



MHC



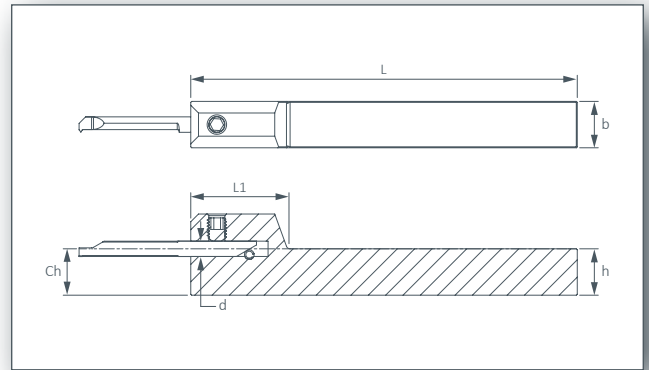
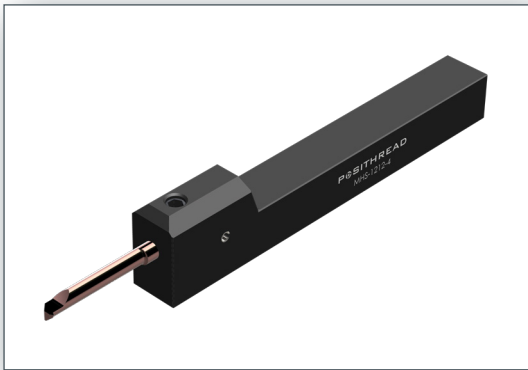
BAR SIZE		DIMENSIONS				SPARES	
d Ø	TOOLHOLDER	D=W	H	h	L	SCREW	TORQ KEY
4.00	MHC 10-4	10.00	14.00	8.80	65.00	SL7DT15	T15
	MHC 12-4	12.00	16.00	10.80	70.00		
	MHC 16-4	16.00	17.60	14.80	75.00		
	MHC 20-4	20.00	22.00	18.80	84.00		
5.00	MHC 10-5	10.00	14.00	8.80	65.00		
	MHC 12-5	12.00	16.00	10.80	70.00		
	MHC 16-5	16.00	18.60	14.80	75.00		
	MHC 20-5	20.00	22.00	18.80	84.00		
6.00	MHC 12-6	12.00	16.00	10.80	70.00		
	MHC 16-6	16.00	18.60	14.80	75.00		
	MHC 20-6	20.00	22.00	18.80	84.00		

MINI SERIES TOOLING

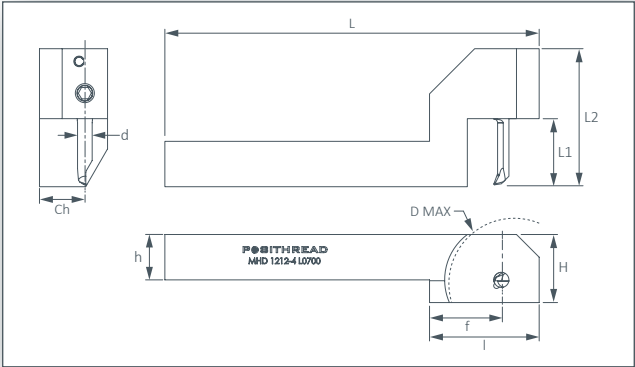
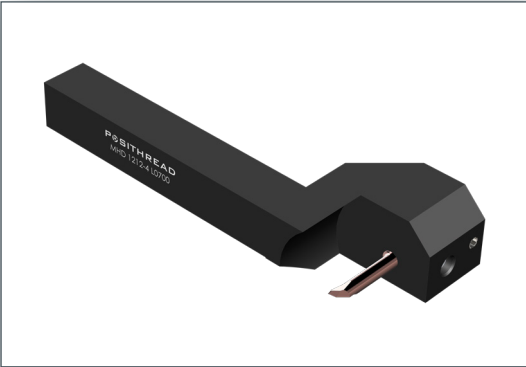
SQUARE SHANK

SLIDING HEAD

MHS



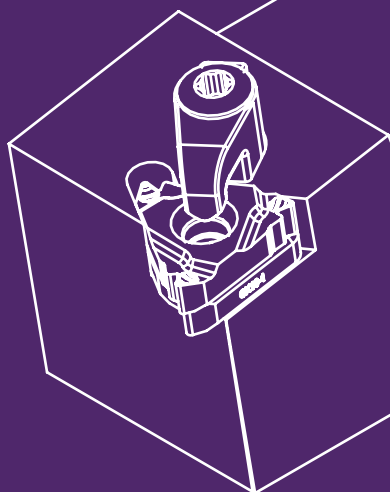
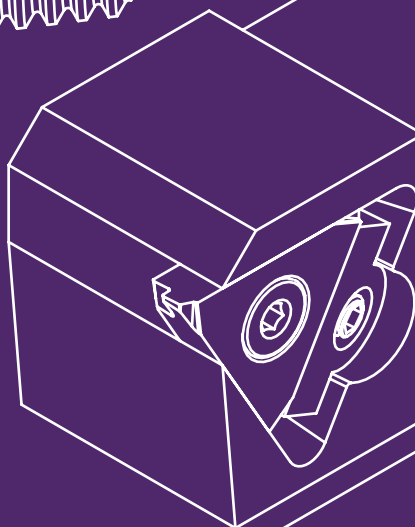
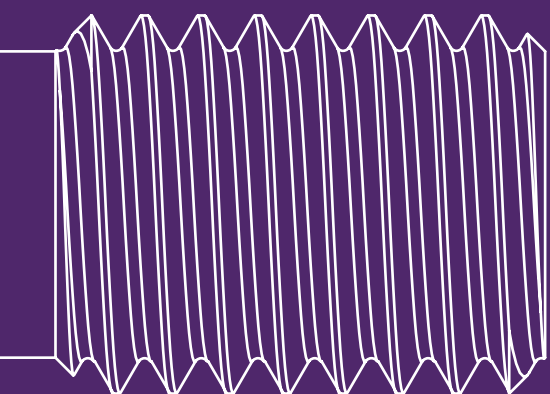
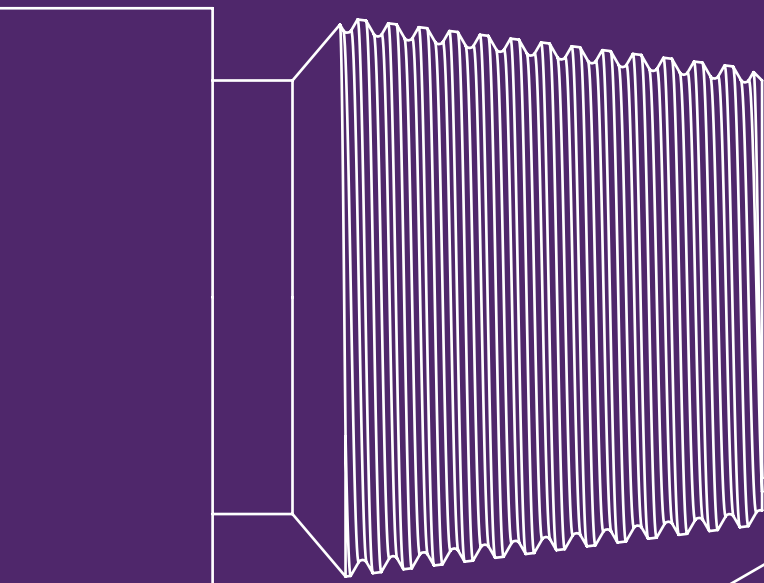
BAR SIZE		DIMENSIONS				SPARES	
Ø	TOOLHOLDER	Ch = h = b	H	L	L1	SCREW	TORQ KEY
4.00	MHS 1010-4	10.00	19.00	100.00	25.00	SL7DT15	T15
	MHS 1212-4	12.00	21.00	100.00	25.00		
5.00	MHS 1010-5	10.00	19.50	100.00	25.00		
	MHS 1212-5	12.00	21.50	100.00	27.00		
6.00	MHS 1212-6	12.00	22.00	100.00	27.00		



BAR SIZE		DIMENSIONS								SPARES	
Ø	TOOLHOLDER	Ch = h = b	H	L1	L2	L	I	f	D MAX	SCREW	TORQ KEY
4.00	MHD 1010-4 L0500	10.00	16.00	13.00	31.50	99.00	29.00	19.00	26.00	SL7DT15	T15
	MHD 1212-4 L0700	12.00	18.00	18.00	36.50						
5.00	MHD 1010-5 L0800	10.00	16.00	23.00	48.00						
	MHD 1212-5 L0800	12.00	18.00	23.00	48.00						
6.00	MHD 1010-6 L1000	10.00	16.00	28.00	53.00						
	MHD 1212-6 L1000	12.00	18.00	28.00	53.00						

POSIThread

TECHNICAL DATA



POSIThread
SDTMR 3232 54 WE

POSIThread
CER2525-16

THREADING TERMINOLOGY

HELIX ANGLE

Helix angle is used to describe the angle that the thread makes with a plane perpendicular to the thread axis.

$$\text{HELIX ANGLE} = \tan^{-1} \left(\frac{\text{LEAD}}{\pi \phi} \right)$$

SHALLOW HELIX ANGLE

A smaller pitch diameter ratio gives you a shallow helix

STEEP HELIX ANGLE

A larger pitch diameter ratio gives you a steep helix angle.

MULTI-START THREADS

Multi Start threads are used for a rapid movement in one turn of the component using a finer pitch thread. Used for quick release, quick make up, valves, gearing, camera lenses. This can create a high helix so caution must be taken when cutting multi-start threads, considering correct tooling and anvil.

MAJOR DIAMETER

PITCH DIAMETER

MINOR DIAMETER

EXTERNAL THREAD

INTERNAL THREAD

PITCH

The distance between two corresponding points on adjacent thread forms, measured parallel to the axis. This can be measured in mm or by TPI (threads per inch).

LEAD

The lead is the axial travel for a single revolution, used when describing multi-start threads.

CREST

ROOT

TAPER THREAD

STRAIGHT THREAD

1 START THREAD

2 START THREAD

3 START THREAD

$L = 3 \times P$

$L = 2 \times P$

$L = 1 \times P$

3 START THREAD

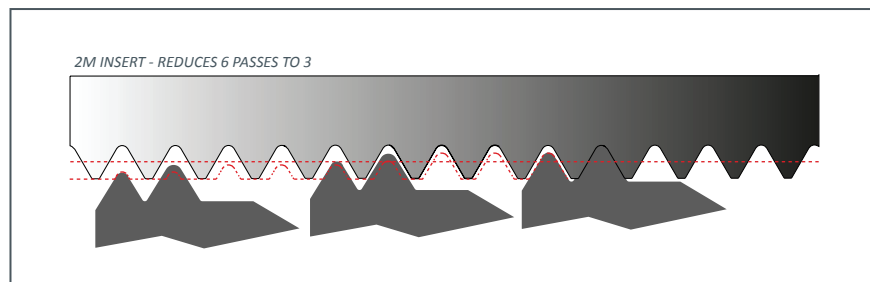
2 START THREAD

1 START THREAD

LEAD = L
PITCH = P

THREADING TERMINOLOGY

MULTI-TOOTH INSERTS

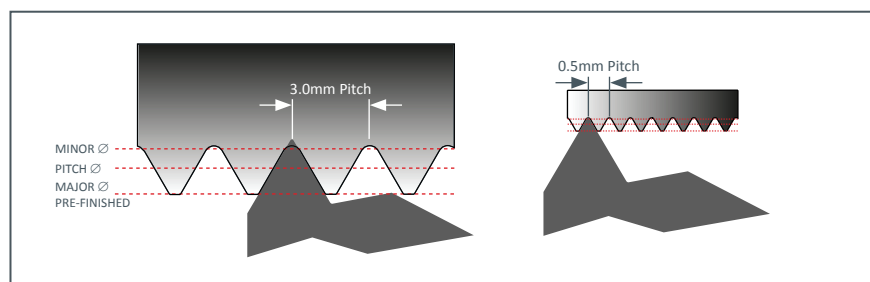


Multi tooth inserts can be used in applications where the thread runs into clearance. They have Roughing and Finishing Teeth.

Benefits of Multi-Tooth inserts include:

- Reduce cycle time.
- Increased tool life
- Helps to maximise productivity

PARTIAL PROFILE INSERTS



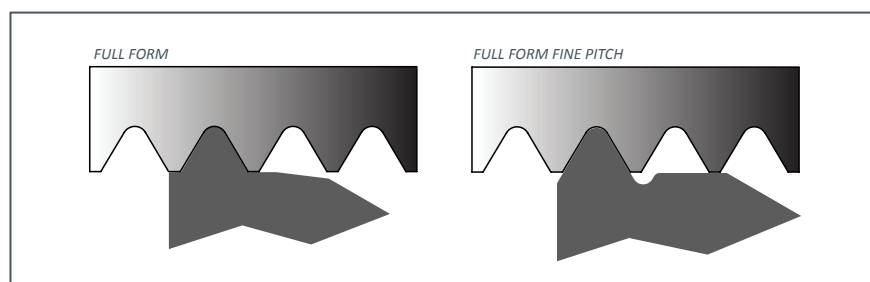
The Partial Profile Insert is designed to part finish a range of threads.

It has the Root radii of the smallest thread and The depth to cover the largest thread in the range.

If small batch runs or one offs of differing threads are required one Partial Profile Insert can cover a large range and save on stock.

An AG60 style can cover 29 threads from the ISO, UNC, UNF and UNEF standards.

FULL FORM INSERTS



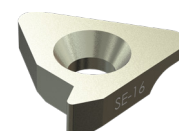
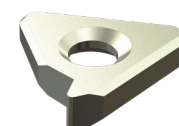
The Full Profile Insert is designed to finish a Pitch of a specified thread. It has all the dimensions to achieve the correct Major, Pitch and Minor Diameters.

It is used in large production runs and where more exacting thread requirements are needed.

ANVIL & HELIX DATA

Please see below chart for an indication of the anvil you may require according to the helix angle of your component thread.
For laydown inserts only.

TPI	PITCH	DIAMETER mm											
		5	10	15	20	25	30	35	40	45	50	55	
50	0.50	1.80	0.90	0.60	0.5	0.40	0.30	0.30	0.20	0.20	0.20	0.20	
24	1.00	3.60	1.80	1.20	0.90	0.70	0.60	0.50	0.50	0.40	0.40	0.30	
20	1.50	5.50	2.70	1.80	1.40	1.10	0.90	0.80	0.70	0.60	0.50	0.50	
13	2.00	7.30	3.60	2.40	1.80	1.50	1.20	1.00	0.90	0.80	0.70	0.70	
10	2.50	9.00	4.50	3.00	2.30	1.80	1.50	1.30	1.10	1.00	0.90	0.80	
8	3.00	10.80	5.50	3.60	2.70	2.20	1.80	1.60	1.40	1.20	1.10	1.00	
7	3.50	12.60	6.40	4.20	3.20	2.60	2.10	1.80	1.60	1.40	1.30	1.20	
	4.00	14.30	7.30	4.90	3.60	2.90	2.40	2.10	1.80	1.60	1.50	1.30	
6	4.50	16	8.20	5.50	4.10	3.30	2.70	2.30	2.10	1.80	1.60	1.50	
5	5.00	17.70	9.00	6.10	4.50	3.60	3.00	2.60	2.30	2.00	1.80	1.70	
4.5	5.50	19.30	9.90	6.70	5.00	4.00	3.30	2.90	2.50	2.20	2.00	1.80	
4	6.00	20.90	10.80	7.30	5.50	4.40	3.60	3.10	2.70	2.40	2.20	2.00	
	6.50	22.50	11.70	7.90	5.90	4.70	3.90	3.40	3.00	2.60	2.40	2.20	



-0 ANVIL

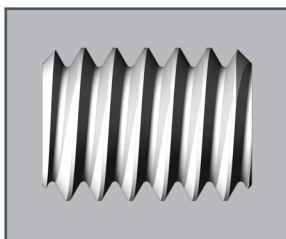
-1 ANVIL

-2 ANVIL

-3 ANVIL

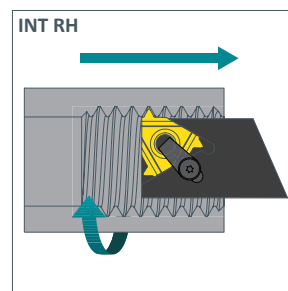
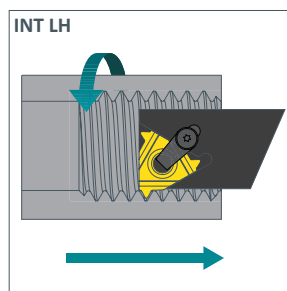
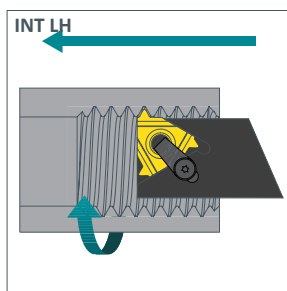
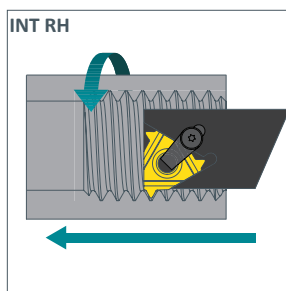
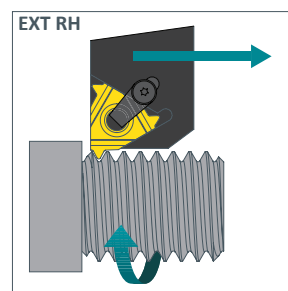
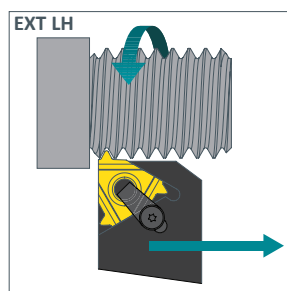
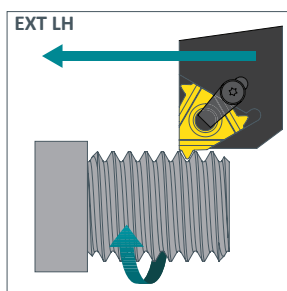
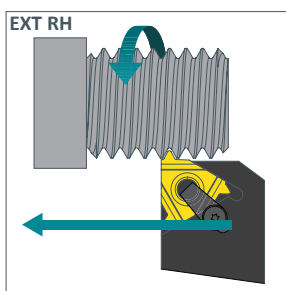
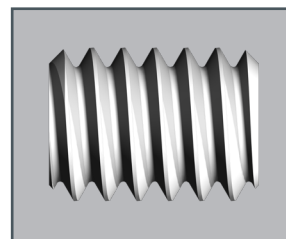
TECHNICAL DATA

TOOLING POSITIONS



LEFT HAND THREAD
A thread which when viewed axially, winds in a anti-clockwise and receding direction.

RIGHT HAND THREAD
A thread which when viewed axially, winds in a clockwise and receding direction. Threads are right hand as standard unless otherwise stated.



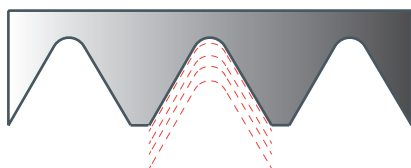
Right hand tooling cutting towards the chuck to produce a **right hand thread**.

Left hand tooling cutting towards the chuck to produce a **left hand thread**.

Right hand tooling and using a **negative anvil**, cutting away from the chuck to produce a **left hand thread**.

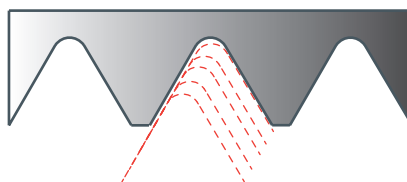
Left hand tooling and using a **negative anvil**, cutting away from the chuck to produce a **right hand thread**.

THREADING INFEEED METHODS



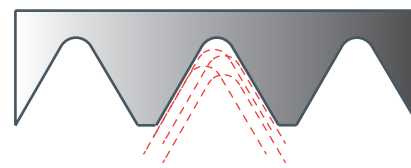
RADIAL

Equal wear on leading and trailing edges. Can be used to cut work hardening and short chipping materials.



FLANK

Reduced cutting pressure on larger pitches. Displaced in-feed angle helps improve surface finish and directs chips away from the cutting edge.



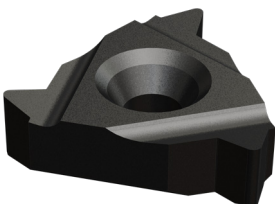
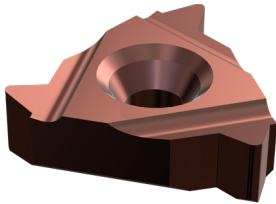
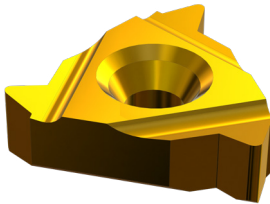
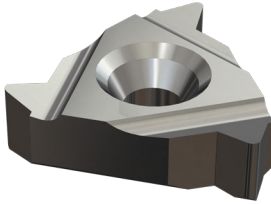
ALTERNATE FLANK

Reduced cutting pressure on larger pitches. Displaced in-feed angle helps improve surface finish and directs chips away from the cutting edge.

NUMBER OF PASSES VERSES PITCH/TPI

PITCH	0.5	0.75	1.00	1.25	1.50	1.75	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	8.00
TPI	48	32	24	20	16	14	12	10	8	7	6	5.5	5	4.5	4	3
PASSES	4	4	5	6	6	8	8	10	12	12	14	14	15	16	16	16
MIN - MAX	4-6	4-7	4-8	5-9	6-10	7-12	7-12	8-14	10-16	11-18	11-18	12-20	12-20	12-20	12-20	15-24

INSERT GRADES

PTX	AlTiN	DBC	TiSiN
 - AlTiN Coating - Very good all round grade - Increased tool life. - Heat resistance.		 - TiSiN coating. - Developed for hard materials, high chrome steels and exotic materials. - Heat resistance & oxidation resistance at cutting temperatures of over 1000°C	
PTC2	TiN	K20	
 - TiN coating. - Muti-purpose, suited to low and medium cutting speeds		 - Uncoated carbide insert. - Suited for non-ferrous aluminium. - Available on request	

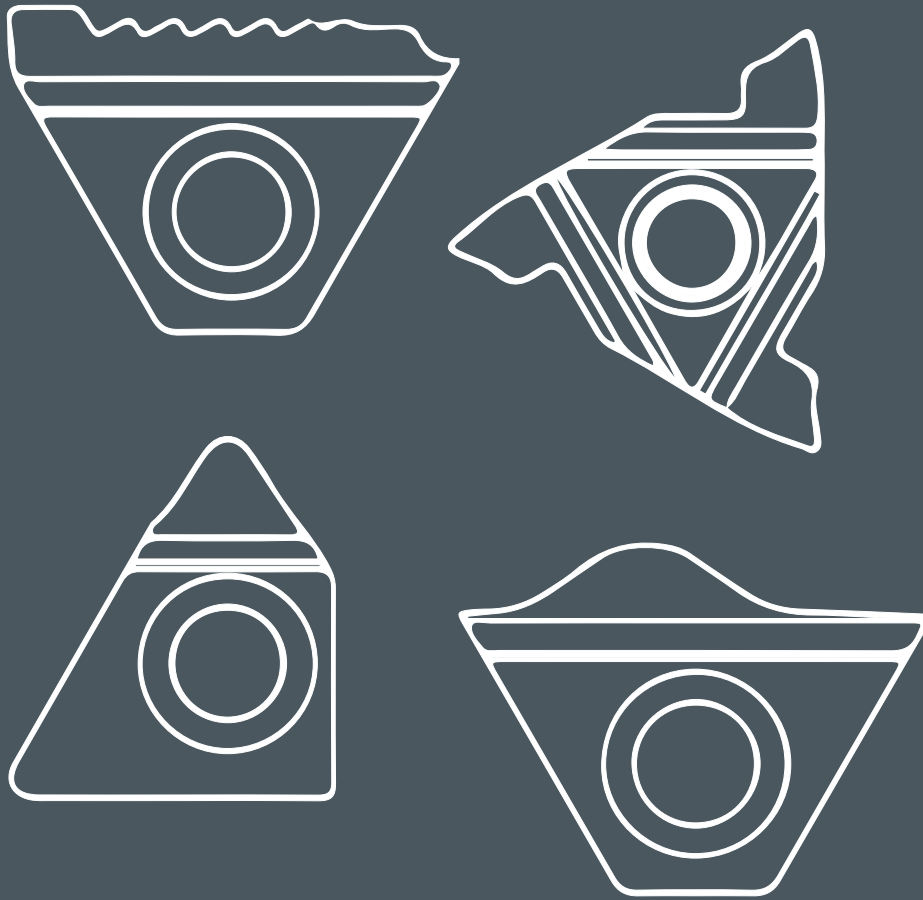
RECOMMENDED GRADES & CUTTING SPEEDS FOR MINI TOOLS

GRADES & CUTTING SPEEDS FOR MINI TOOLS		CUTTING SPEED (m/Min)		FEED (mm/Rev)
		POSIThread COATING GRADE		
		DBC		DBC
MATERIAL GROUP	MATERIAL			
P	LOW/MEDIUM CARBON STEEL	129 - 181		0.050
	HIGH CARBON STEEL	92 - 152		0.050
	ALLOY HEAT TREATED STEEL	86 - 130		0.050
M	STAINLESS STEEL 316-17-4PH	64 - 98		0.050
	STAINLESS 410	83 - 109		0.050
K	CAST IRON HB 180 - 250	80 - 130		0.040
N	NON FERROUS MATERIALS	123 - 217		0.040
S	INCONEL 718	17 - 24		0.030
	AEROSPACE TYPE MATERIALS	25 - 58		0.030

RECOMMENDED GRADES & CUTTING SPEEDS FOR THREADING INSERTS

RECOMMENDED GRADES & CUTTING SPEEDS FOR THREADING INSERTS				CUTTING SPEED (M/MIN) POSIThread COATING GRADE		
MATERIAL GROUP	MATERIAL		HARDNESS	PTX	DBC	PTC2
P	UNALLOYED STEEL	LOW CARBON (C = 0.1 - 0.25%)	125	155 - 175	150 - 170	122 - 140
		MEDIUM CARBON (C = 0.25 - 0.55%)	150	155 - 175	150 - 170	122 - 140
		HIGH CARBON (C = 0.55 - 0.85%)	170	125 - 150	120 - 140	100 - 120
	LOW ALLOY STEEL (ALLOYING ELEMENTS ≤5%)	NON HARDENED	180	155 - 175	150 - 165	120- 140
		HARDENED	275	110 - 140	105 - 135	90 - 110
		HARDENED	350	110 - 140	105 - 135	90 - 110
	HIGH ALLOY STEEL (ALLOYING ELEMENTS >5%)	ANNEALED	200	110 - 140	105 - 135	90 - 110
		HARDENED	325	75 - 115	70 - 110	60 - 90
	CAST STEEL	LOW ALLOY (ALLOYING ELEMENTS <5%)	200	110 - 140	105 - 135	88- 110
		HIGH ALLOY (ALLOYING ELEMENTS >5%)	225	95 - 125	90 - 120	75 - 100
M	STAINLESS STEEL FERRITIC	NON HARDENED	200	95 - 125	90 - 120	75 - 100
		HARDENED	330	95 - 125	90 - 120	75 - 100
	STAINLESS STEEL AUSTENITIC	AUSTENITIC	180	125 - 145	120 - 140	100 - 115
		SUPER AUSTENITIC	200	75 - 110	70 - 105	60 - 85
	STAINLESS STEEL CAST FERRITIC	NON HARDENED	200	125 - 144	120 - 135	100 - 115
		HARDENED	330	115 - 140	120 - 135	90 - 110
	STAINLESS STEEL CAST AUSTENITIC	AUSTENITIC	200	110 - 125	105 - 120	90 - 100
		HARDENED	330	90 - 110	85 - 105	75 - 100
K	MALLEABLE CAST IRON	FERRITIC (SHORT CHIPS)	130	90 - 110	85 - 105	75 - 90
		PEARLITIC (LONG CHIPS)	230	80 - 110	75 - 105	75 - 130
	GREY CAST IRON	LOW TENSILE STRENGTH	180	115 - 140	110 - 135	90 - 110
		HIGH TENSILE STRENGTH	260	95 - 125	90 - 120	75 - 100
	NODULAR SG IRON	FERRITIC	160	140 - 175	135 - 170	110 - 140
		PEARLITIC	260	125 - 150	120 - 145	100 - 120
N	ALUMINIUM ALLOYS WROUGHT	NON AGING	60	150 - 500	145 - 500	120 - 400
		AGED	100	125 - 250	120 - 240	100 - 200
	ALUMINIUM ALLOYS	CAST	75	250 - 300	240 - 290	200 - 250
		CAST AGED	90	250 - 300	240 - 290	200 - 250
		CAST Si 13-22%	130	95 - 200	90 - 190	75 - 160
	COPPER & COPPER ALLOYS	BRASS	90	110 - 256	105 - 250	90 - 205
		BRONZE & NON LEADED COPPER	100	110 - 256	105 - 250	90 - 205
S	HIGH TEMPERATURE ALLOYS	ANNEALED (IRON BASED)	200	45 - 60	45 - 60	45 - 60
		AGED (IRON BASED)	280	30 - 50	30 - 50	35 - 45
		ANNEALED (NICKLE OR COBALT BASED)	250	25 - 30	25 - 30	25 - 35
		AGED (NICKEL OR COBALT BASED)	350	20 - 30	20 - 30	25 - 35
	TITANIUM ALLOYS	PURE 99.5 Ti	400Rm	150 - 180	145 - 180	150 - 165
		a + β ALLOYS	1050Rm	60 - 90	60 - 90	50 - 70
H	EXTRA HARD STEEL	HARDENED & TEMPERED	45-50HRc	50 - 75	50 - 70	45 - 60
			51-55HRc	50 - 75	50 - 70	45 - 60

POSIThread SPECIAL SOLUTIONS



BESPOKE PROFILE?
NON-STANDARD THREAD?
EXTRA LARGE PITCH?

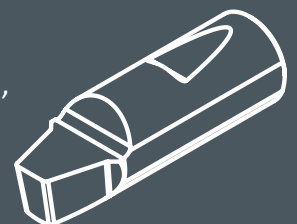
At Posithread we are able to design and manufacture bespoke inserts and tooling for special/non-standard threadforms and grooves. Provide us with an engineering drawing, sketch, sizes or even component and we will endeavour to design a solution.

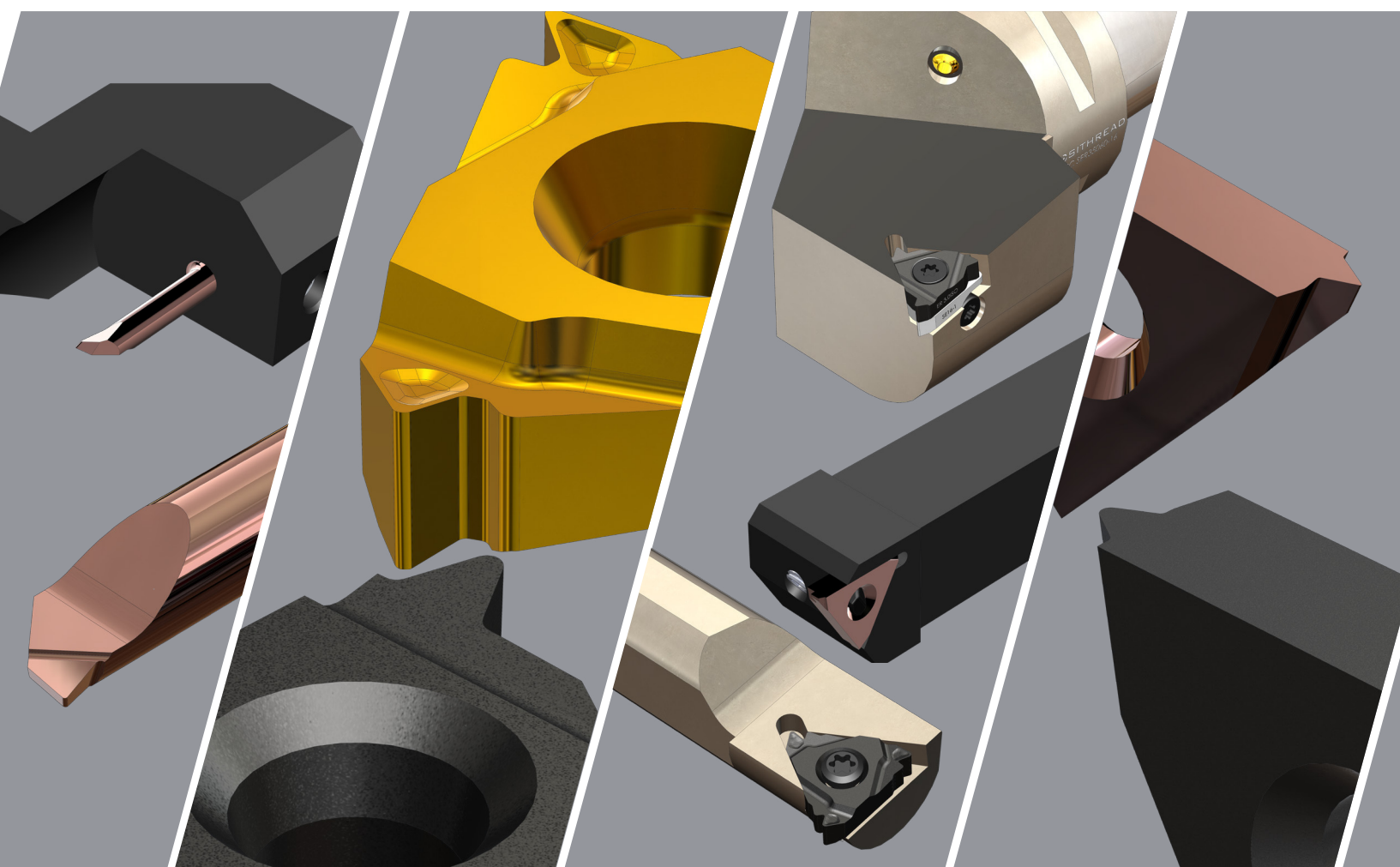
Our process is simple:

Enquire - Quote - Order - Design - Approve - Manufacture

As well as utilising our standard range of laydown, on-edge style, and mini-tool blanks, our **MAMMOTH** range of special inserts is suitable for your larger TPI/Pitch threads (2.5-1 TPI, 10-24mm Pitch).

We can also provide special threadmills.





POSITHREAD

POSITHREAD UK 4-5 BRIDGEWATER ROAD HERTBURN INDUSTRIAL ESTATE WASHINGTON TYNE & WEAR NE37 2SG ENGLAND
t: +44 (0)191 417 8178 f: +44 (0)191 415 3120 e: sales@posithread.co.uk w: www.posithread.eu