Threading

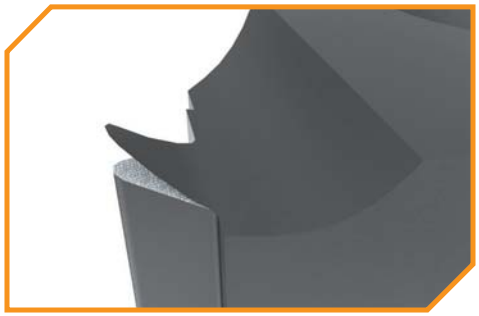
Stellram's comprehensive threading program is available in a wide range of thread forms. Partial and full profile inserts are offered for thread turning.

Stellram offers high performance grades suitable for all machining applications, in a wide range of materials, for maximum productivity.

Stellram offers both external toolholders and internal bars with through coolant. Internal holders to a minimum bore of 6,0mm. Anti vibration holders are also available for difficult applications.

Threading Grade Descriptions

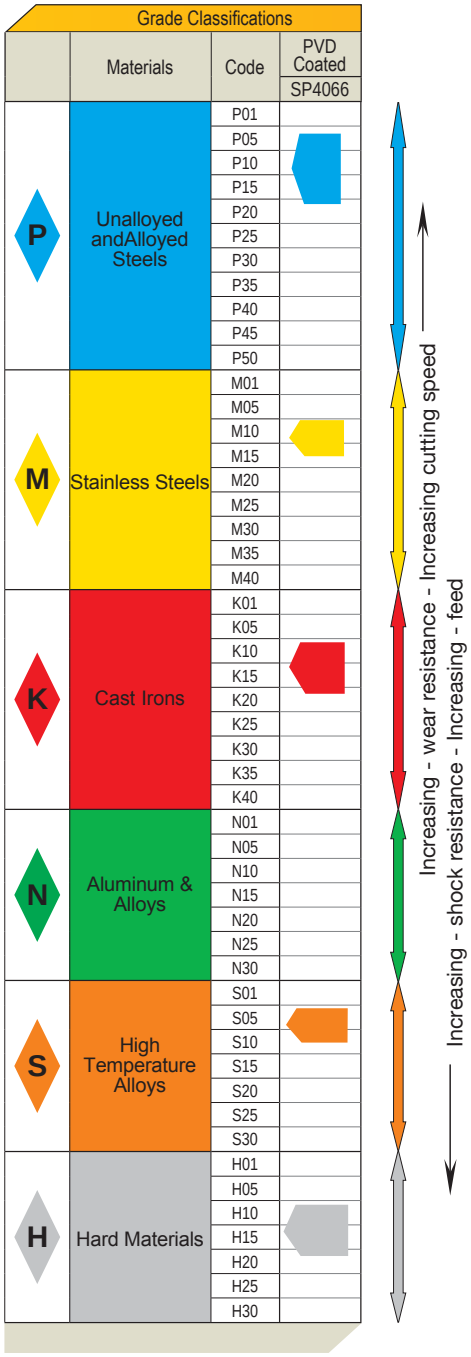
SP4066 has the perfect balance between wear resistance and toughness enabling multiple applications to be covered by one insert. This new grade also allows for longer tool life and is ideal for machining a variety of materials at elevated cutting speeds.



Cutting Speed v_c

ISO	Materials	Rm and Hardness	SP4066 m/min min. - max.
P	Unalloyed Steel	<600 N/mm² <180 HBN	230 - 485
		<950 N/mm² <280 HBN	150 - 315
	Alloyed Steel	700-950 N/mm² 200-280 HBN	135 - 290
		950-1200 N/mm² 280-355 HBN	115 -240
		1200-1400 N/mm² 355-415 HBN	75 - 165
M	Stainless Steel	Austenitic + Ferritic 300 series	155 - 330
		Martensitic 400 series	160 - 340
	PH Stainless	Refractory P.H.	80 - 175
K	Cast Iron	Grey GG-Ft	225 - 480
		Spheroidal-Ductile GGG-FGS	195 - 415
		Malleable GTS - MN/MP	130 - 280
S	High Temperature Alloys	Iron Based	35 - 70
		Cobalt Based	30 - 60
		Nickel Based	30 - 60
		Titanium Based	45 - 95

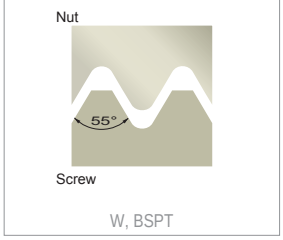
Optimum Grade Performance



Stellram® Cutting Tool Systems

Thread Form Index

Partial Profile 55°



W, BSPT

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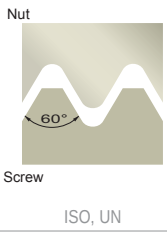
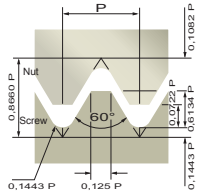
Partial Profile 60°



ISO, UN

PAGES **215** - **216**

ISO Metric



ISO

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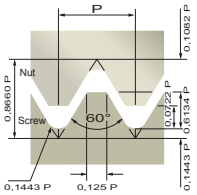
American Unified



UN

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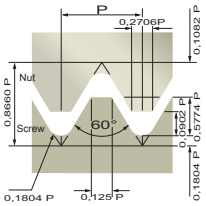
Unified J Form



UNJ

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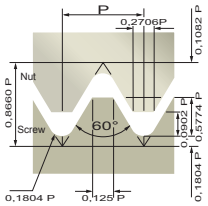
Metric J Form



MJ

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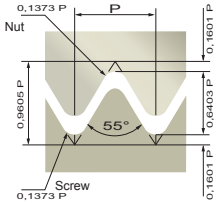
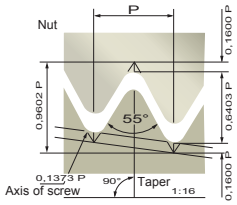
British Standard Whitworth



W

PAGES **227** - **228**

British Standard Pipe Taper Thread



BSPT

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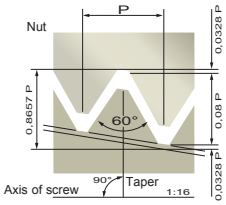
National Taper Pipe Thread



NPT

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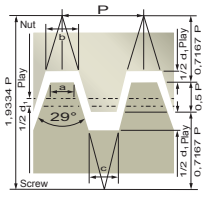
ACME



ACME

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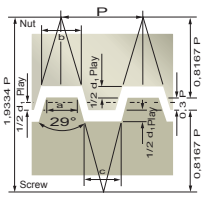
STUB ACME



STUBACME

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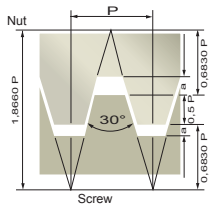
Trapezoidal (DIN 103)



TR

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Stellram®
Cutting Tool Systems

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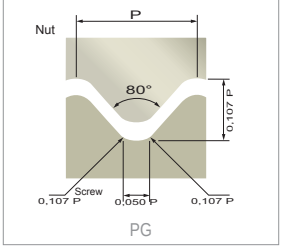
Panzer Gewinde (DIN 40431)



PG

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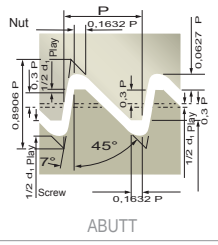
American Buttress 45/7°



ABUTT

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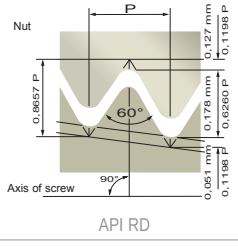
API Casing & Tubing Round



API RD

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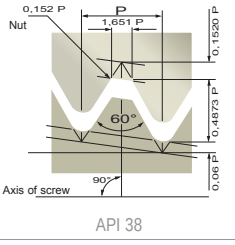
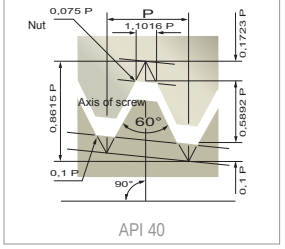
API V0.038



API 38

PAGES **238** - **239**

API V0.040



API 40

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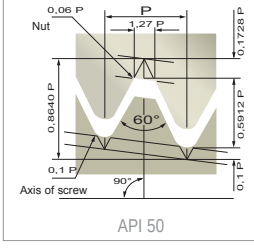
API V0.050



API 50

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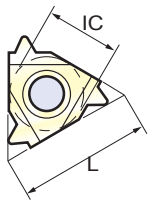
NOTE: Other thread forms available by quotation.

Stellram®
Cutting Tool Systems

Threading Insert Designation

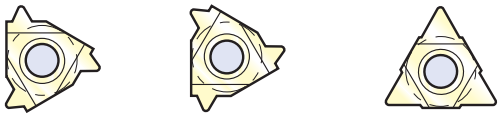
16	E	R	20
1	2	3	4

1 Size



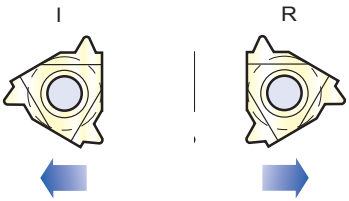
L mm	IC Inch
06	5/32
08	3/16
11	1/4
16	3/8
22	1/2
22U	1/2U
27	5/8
27U	5/8U

2 Utilisation



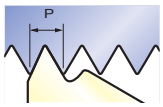
External Internal Neutral

3 Design



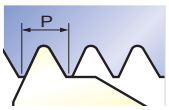
Left Hand Right Hand

4 Thread Pitch or TPI



Partial Profile 60° or 55°

	Thread Pitch mm			TPI		
A	0,5	-	1,5	48	-	16
G	1,75	-	3	14	-	8
AG	0,5	-	3	48	-	8
N	3,5	-	5	7	-	5
Q	5,5	-	6	4 1/2	-	4
U (22)	5,5	-	8	4 1/2	-	3 1/4
U (27)	6,5	-	9	2 3/4	-	4



Full Profile
0,35 to 8,0 mm (72-3 TPI)
Pitch sizes stated on all thread form part numbers

Stellram® Cutting Tool Systems

Threading Insert Designation

UN - **GRADE**

5 6 7

5 Thread Form

Partial Profile			Full Profile		
	60°	**60**		60°	**MJ**
	55°	**55**		60°	**NPT**
				60°	**NPTF**
Full Profile					
	45°/7°	**ABUTT**		60°	**PAC**
	29°	**ACME**		80°	**PG**
	60°	**API RD**		30°	**RD**
	60°	**API**		3°/30°	**SAGE**
	47,5°	**BA**		29°	**STACME**
	45°/7°	**BBUTT**		30°	**TR**
	55°	**BSPT**		60°	**UN**
	3°/10°	**BUTT**		60°	**UNJ**
	12°	**ELC**		3°/10°	**VAM**
	60°	**ISO**		55°	**W**

6 Other

Swarf control style

Multi-tooth style and number of teeth

7 Type of Grade

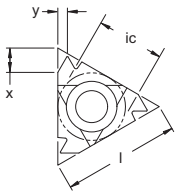
For grade descriptions, refer to page: **209**

Stellram® Cutting Tool Systems

55° Partial Profile

External Partial Profile 55° Form

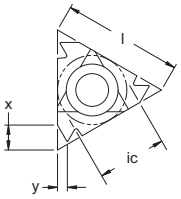
For British Standard Whitworth & British Standard Parallel Pipe



External Right Hand		**Partial Profile 55°**		Pitch Range	TPI Range	Nose Radius	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm	mm
033826	16	16ERA55	SP4066	0,5 - 1,5	48 - 16	0,07	0,80	0,90
033828	16	16ERAG55	SP4066	0,5 - 3,0	48 - 8	0,07	1,20	1,70
033830	16	16ERG55	SP4066	1,75 - 3,0	14 - 8	0,25	1,20	1,70

Internal Partial Profile 55° Form

For British Standard Whitworth & British Standard Parallel Pipe



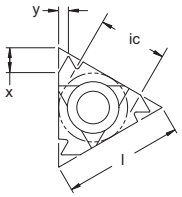
Internal Right Hand		**Partial Profile 55°**		Pitch Range	TPI Range	Nose Radius	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm	mm
033763	8	08IRA55	SP4066	0,5 - 1,5	48 - 16	0,07	0,60	0,70
032048	11	11IRA55	SP4066	0,5 - 1,5	48 - 16	0,07	0,80	0,90
033865	16	16IRAG55	SP4066	0,5 - 3,0	48 - 8	0,07	1,20	1,70
033867	16	16IRG55	SP4066	1,75 - 3,0	14 - 8	0,13	1,20	1,70

Stellram® Cutting Tool Systems

60° Partial Profile

External Partial Profile 60° Form

For Unified & ISO metric thread forms



External Right Hand		**Partial Profile 60°**		Pitch Range	TPI Range	Nose Radius	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm	mm
033827	16	16ERA60	SP4066	0,5 - 1,5	48 - 16	0,09	1,20	1,70
033829	16	16ERAG60	SP4066	0,5 - 3,0	48 - 8	0,10	1,20	1,70
033831	16	16ERG60	SP4066	1,75 - 3,0	14 - 8	0,15	1,20	1,70
033884	22	22ERN60	SP4066	3,5 - 5,0	7 - 5	0,48	1,70	2,50

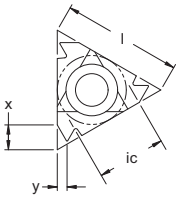
External Left Hand		**Partial Profile 60°**		Pitch Range	TPI Range	Nose Radius	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm	mm
033772	16	16ELAG60	SP4066	0,5 - 3,0	48 - 8	0,10	1,20	1,70

Stellram® Cutting Tool Systems

60° Partial Profile

Internal Partial Profile 60° Form

For Unified & ISO metric thread forms



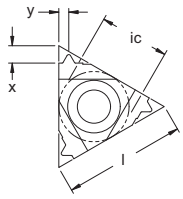
Internal Right Hand		**Partial Profile 60°**		Pitch Range	TPI Range	Nose Radius	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm	mm
033739	6	06IRA60	SP4066	0,5 - 1,25	48 - 20	0,70	0,60	0,80
033764	8	08IRA60	SP4066	0,5 - 1,5	48 - 16	0,09	0,60	0,70
032045	11	11IRA60	SP4066	0,5 - 1,5	48 - 16	0,15	0,80	0,90
033864	16	16IRA60	SP4066	0,5 - 1,5	48 - 16	0,10	1,20	1,70
033866	16	16IRAG60	SP4066	0,5 - 3,0	48 - 8	0,10	1,20	1,70
033868	16	16IRG60	SP4066	1,75 - 3,0	14 - 8	0,15	1,20	1,70
033899	22	22IRN60	SP4066	3,5 - 5,0	7 - 5	0,32	1,70	2,50

Internal Left Hand		**Partial Profile 60°**		Pitch Range	TPI Range	Nose Radius	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm	mm
033766	11	11ILA60	SP4066	0,5 - 1,5	48 - 16	0,15	0,80	0,90

Stellram® Cutting Tool Systems

External ISO Metric

Standard reference: ISO 262 (DIN 13)
Tolerance class: 6g / 6H

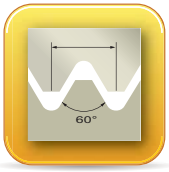


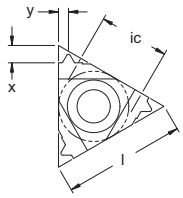
External Right Hand		ISO Metric		Pitch	TPI Range	Nose Radius	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm	mm
033773	16	16ER0.35ISO	SP4066	0,35	-	0,06	0,80	0,40
033775	16	16ER0.4ISO	SP4066	0,40	-	0,07	0,70	0,40
033774	16	16ER0.45ISO	SP4066	0,45	-	0,08	0,70	0,40
033776	16	16ER0.5ISO	SP4066	0,50	-	0,08	0,60	0,60
033777	16	16ER0.6ISO	SP4066	0,60	-	0,09	0,60	0,60
033779	16	16ER0.7ISO	SP4066	0,70	-	0,10	0,60	0,60
033778	16	16ER0.75ISO	SP4066	0,75	-	0,10	0,60	0,60
033780	16	16ER0.8ISO	SP4066	0,80	-	0,13	0,60	0,60
031999	16	16ER1.0ISO	SP4066	1,00	-	0,14	0,70	0,70
032000	16	16ER1.25ISO	SP4066	1,25	-	0,18	0,80	0,90
032001	16	16ER1.5ISO	SP4066	1,50	-	0,22	0,80	1,00
032002	16	16ER1.75ISO	SP4066	1,75	-	0,25	0,90	1,20
032003	16	16ER2.0ISO	SP4066	2,00	-	0,29	1,00	1,30
033799	16	16ER2.5ISO	SP4066	2,50	-	0,36	1,10	1,50
033813	16	16ER3.0ISO	SP4066	3,00	-	0,46	1,20	1,60
033814	16	16ER3.5ISO	SP4066	3,50	-	0,53	1,60	2,30

External ISO Metric

Standard reference: ISO 262 (DIN 13)

Tolerance class: 6g / 6H





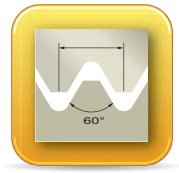
External Right Hand		ISO Metric		Pitch	TPI Range	Nose Radius	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm	mm
033870	22	22ER3.5ISO	SP4066	3,50	-	0,53	1,60	2,30
033871	22	22ER4.0ISO	SP4066	4,00	-	0,61	1,60	2,30
033872	22	22ER4.5ISO	SP4066	4,50	-	0,68	1,70	2,40
033877	22	22ER5.0ISO	SP4066	5,00	-	0,76	1,70	2,50
033880	22	22ER6.0ISO	SP4066	6,00	-	0,89	1,80	2,70

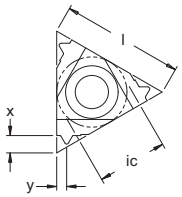
External Left Hand		ISO Metric		Pitch	TPI Range	Nose Radius	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm	mm
033767	16	16EL1.0ISO	SP4066	1,00	-	0,14	0,70	0,70
033768	16	16EL1.5ISO	SP4066	1,50	-	0,22	0,80	1,00
033770	16	16EL2.5ISO	SP4066	2,50	-	0,36	1,10	1,50

Internal ISO Metric

Standard reference: ISO 262 (DIN 13)

Tolerance class: 6g / 6H

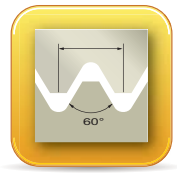


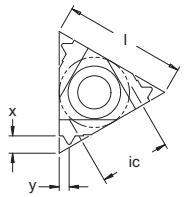


Internal Right Hand		ISO Metric		Pitch	TPI Range	Nose Radius	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm	mm
033735	6	06IR0.5ISO	SP4066	0,50	-	0,04	0,60	0,50
033736	6	06IR0.75ISO	SP4066	0,75	-	0,06	0,60	0,50
033737	6	06IR1.0ISO	SP4066	1,00	-	0,80	0,60	0,60
033738	6	06IR1.25ISO	SP4066	1,25	-	0,10	0,60	0,70
033741	8	08IR0.5ISO	SP4066	0,50	-	0,04	0,60	0,50
033742	8	08IR0.75ISO	SP4066	0,75	-	0,06	0,60	0,50
033743	8	08IR1.0ISO	SP4066	1,00	-	0,11	0,60	0,60
033744	8	08IR1.25ISO	SP4066	1,25	-	0,10	0,60	0,70
033745	8	08IR1.5ISO	SP4066	1,50	-	0,11	0,60	1,00
033746	8	08IR1.75ISO	SP4066	1,75	-	0,13	0,60	1,00
032067	11	11IR0.4ISO	SP4066	0,40	-	0,04	0,80	0,40
032064	11	11IR0.5ISO	SP4066	0,50	-	0,04	0,60	0,60
032057	11	11IR0.75ISO	SP4066	0,75	-	0,06	0,60	0,60
032042	11	11IR1.0ISO	SP4066	1,00	-	0,08	0,60	0,70
032043	11	11IR1.5ISO	SP4066	1,50	-	0,11	0,80	1,00
032062	11	11IR1.75ISO	SP4066	1,75	-	0,13	0,80	1,00
032051	11	11IR2.0ISO	SP4066	2,00	-	0,14	0,80	1,10
032059	11	11IR2.5ISO	SP4066	2,50	-	0,18	0,80	1,30

Internal ISO Metric

Standard reference: ISO 262 (DIN 13)
Tolerance class: 6g / 6H





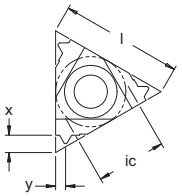
Internal Right Hand		ISO Metric		Pitch	TPI Range	Nose Radius	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm	mm
033833	16	16IR0.5ISO	SP4066	0,50	-	0,04	0,60	0,60
033834	16	16IR0.6ISO	SP4066	0,60	-	0,05	0,60	0,60
033836	16	16IR0.7ISO	SP4066	0,70	-	0,06	0,60	0,60
033835	16	16IR0.75ISO	SP4066	0,75	-	0,06	0,60	0,60
033837	16	16IR0.8ISO	SP4066	0,80	-	0,06	0,60	0,60
032004	16	16IR1.0ISO	SP4066	1,00	-	0,08	0,60	0,70
032005	16	16IR1.25ISO	SP4066	1,25	-	0,10	0,80	0,90
032006	16	16IR1.5ISO	SP4066	1,50	-	0,11	0,80	1,00
032007	16	16IR1.75ISO	SP4066	1,75	-	0,13	0,90	1,20
032008	16	16IR2.0ISO	SP4066	2,00	-	0,14	1,00	1,30
033849	16	16IR2.5ISO	SP4066	2,50	-	0,18	1,10	1,50
033856	16	16IR3.0ISO	SP4066	3,00	-	0,23	1,10	1,50
033857	16	16IR3.5ISO	SP4066	3,50	-	0,25	1,20	1,80

ISO Metric

Internal ISO Metric

Standard reference: ISO 262 (DIN 13)

Tolerance class: 6g / 6H



Internal Right Hand		ISO Metric		Pitch	TPI Range	Nose Radius	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm	mm
033885	22	22IR3.5ISO	SP4066	3,50	-	0,25	1,60	2,30
033886	22	22IR4.0ISO	SP4066	4,00	-	0,33	1,60	2,30
033887	22	22IR4.5ISO	SP4066	4,50	-	0,36	1,60	2,40
033892	22	22IR5.0ISO	SP4066	5,00	-	0,39	1,60	2,60

Internal Left Hand		ISO Metric		Pitch	TPI Range	Nose Radius	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm	mm
033740	8	08IL1.0ISO	SP4066	1,00	-	0,11	0,60	0,60
033832	16	16IL1.5ISO	SP4066	1,50	-	0,11	0,80	1,00

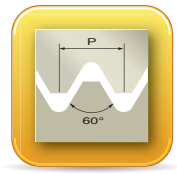
Stellram® Cutting Tool Systems

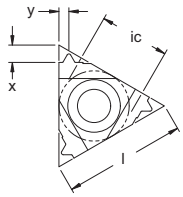
American Unified (UN)

External American Unified (UN)

Standard reference: ANSI B1.1:74

Tolerance class: 2A / 2B





External Right Hand		**American Unified (UN)**		Pitch	TPI Range	Nose Radius	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm	mm
031995	16	16ER8UN	SP4066	3,18	8	0,48	1,20	1,60
033824	16	16ER9UN	SP4066	2,82	9	0,38	1,20	1,70
033782	16	16ER10UN	SP4066	2,54	10	0,38	1,10	1,50
033784	16	16ER11UN	SP4066	2,31	11	0,33	1,10	1,50
031996	16	16ER12UN	SP4066	2,12	12	0,29	1,10	1,40
033787	16	16ER13UN	SP4066	1,95	13	0,28	1,00	1,30
033788	16	16ER14UN	SP4066	1,81	14	0,25	1,00	1,20
033793	16	16ER16UN	SP4066	1,59	16	0,22	0,90	1,10
033796	16	16ER18UN	SP4066	1,41	18	0,20	0,80	1,00
033802	16	16ER20UN	SP4066	1,27	20	0,18	0,80	0,90
033805	16	16ER24UN	SP4066	1,06	24	0,17	0,70	0,80
033809	16	16ER27UN	SP4066	0,94	27	0,15	0,70	0,80
033810	16	16ER28UN	SP4066	0,91	28	0,14	0,60	0,70
033815	16	16ER32UN	SP4066	0,79	32	0,13	0,60	0,60
034611	16	16ER36UN	SP4066	0,71	36	0,11	0,60	0,60
033819	16	16ER40UN	SP4066	0,64	40	0,09	0,60	0,60
033879	22	22ER5UN	SP4066	5,08	5	0,76	1,70	2,50
033882	22	22ER6UN	SP4066	4,23	6	0,64	1,60	2,30
033883	22	22ER7UN	SP4066	3,63	7	0,53	1,60	2,30

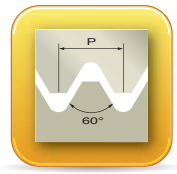
Stellram® Cutting Tool Systems

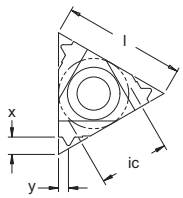
American Unified (UN)

Internal American Unified (UN)

Standard reference: ANSI B1.1:74

Tolerance class: 2A / 2B





Internal Right Hand		**American Unified (UN)**		Pitch	TPI Range	Nose Radius	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm	mm
033747	08	08IR14UN	SP4066	1,81	14	0,15	0,60	0,80
033748	08	08IR16UN	SP4066	1,59	16	0,11	0,60	0,70
033751	08	08IR18UN	SP4066	1,41	18	0,11	0,60	0,70
033754	08	08IR20UN	SP4066	1,27	20	0,11	0,60	0,70
033756	08	08IR24UN	SP4066	1,06	24	0,09	0,60	0,60
033761	08	08IR28UN	SP4066	0,91	28	0,09	0,60	0,60
032056	11	11IR32UN	SP4066	0,79	32	0,09	0,60	0,60
032068	11	11IR28UN	SP4066	0,91	28	0,09	0,60	0,70
032055	11	11IR27UN	SP4066	0,94	27	0,09	0,70	0,80
032060	11	11IR24UN	SP4066	1,06	24	0,09	0,70	0,80
032044	11	11IR20UN	SP4066	1,27	20	0,10	0,80	0,90
032049	11	11IR18UN	SP4066	1,41	18	0,11	0,80	1,00
032053	11	11IR16UN	SP4066	1,59	16	0,11	0,09	1,10
032058	11	11IR12UN	SP4066	2,12	12	0,18	0,90	1,10

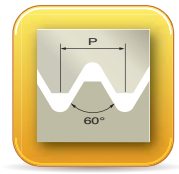
Stellram® Cutting Tool Systems

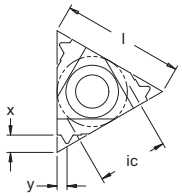
American Unified (UN)

Internal American Unified (UN)

Standard reference: ANSI B1.1:74

Tolerance class: 2A / 2B





External Right Hand		**Partial Profile 55°**		Pitch Range	TPI Range	Nose Radius	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm	mm
031997	16	16IR8UN	SP4066	3,18	8	0,24	1,10	1,50
033863	16	16IR9UN	SP4066	2,82	9	0,20	1,20	1,70
033839	16	16IR10UN	SP4066	2,54	10	0,20	1,10	1,50
033840	16	16IR11UN	SP4066	2,31	11	0,18	1,10	1,50
031998	16	16IR12UN	SP4066	2,12	12	0,18	1,10	1,40
033842	16	16IR13UN	SP4066	1,95	13	0,17	1,00	1,30
033843	16	16IR14UN	SP4066	1,81	14	0,15	0,90	1,10
033846	16	16IR16UN	SP4066	1,59	16	0,11	0,90	1,10
033848	16	16IR18UN	SP4066	1,41	18	0,11	0,80	1,00
033852	16	16IR20UN	SP4066	1,27	20	0,10	0,80	0,90
033853	16	16IR24UN	SP4066	1,06	24	0,09	0,70	0,80
033855	16	16IR28UN	SP4066	0,91	28	0,09	0,60	0,60
033858	16	16IR32UN	SP4066	0,79	32	0,06	0,60	0,60
033859	16	16IR36UN	SP4066	0,71	36	0,05	0,60	0,60
033860	16	16IR40UN	SP4066	0,64	40	0,05	0,60	0,60
033895	22	22IR5UN	SP4066	5,08	5	0,37	1,60	2,30
033897	22	22IR6UN	SP4066	4,23	6	0,33	1,60	2,30
033898	22	22IR7UN	SP4066	3,63	7	0,29	1,60	2,30

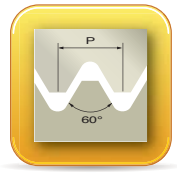
Stellram® Cutting Tool Systems

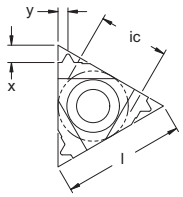
Unified J Form (UNJ)

External Unified J Form (UNJ)

Standard reference: MIL-S8879C

Tolerance class: 3A / 3B





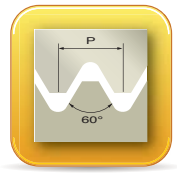
External Right Hand		**Unified J Form (UNJ)**		Pitch	TPI	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm
032345	16	16ER32UNJ	SP4066	0,79	32	0,60	0,60
032346	16	16ER28UNJ	SP4066	0,91	28	0,60	0,60
032347	16	16ER24UNJ	SP4066	1,06	24	0,70	0,80
032348	16	16ER20UNJ	SP4066	1,27	20	0,80	0,90
032349	16	16ER18UNJ	SP4066	1,41	18	0,80	1,00
032350	16	16ER16UNJ	SP4066	1,59	16	0,80	1,00
032351	16	16ER14UNJ	SP4066	1,81	14	1,00	1,20
032352	16	16ER12UNJ	SP4066	2,12	12	1,10	1,40

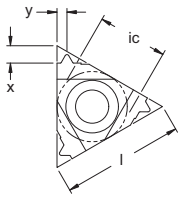
Metric J Form (MJ)

External Unified J Form (UNJ)

Standard reference: ISO 5855

Tolerance class: 4h/6h - 4H/5H





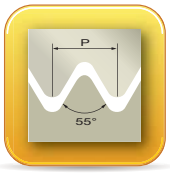
External Right Hand		**Metric J Form (MJ)**		Pitch	TPI	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm
032353	16	16ER0.8MJ	SP4066	0,80	-	0,60	0,70
032354	16	16ER1.0MJ	SP4066	1,00	-	0,60	0,70
032355	16	16ER1.25MJ	SP4066	1,25	-	0,70	0,90
032356	16	16ER1.5MJ	SP4066	1,50	-	0,80	1,00
032357	16	16ER2.0MJ	SP4066	2,00	-	1,00	1,30
032358	16	16ER2.5MJ	SP4066	2,50	-	1,10	1,50
032359	16	16ER3.0MJ	SP4066	3,00	-	1,20	1,60

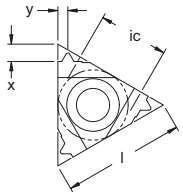
British Standard Whitworth (W)

External British Standard Whitworth (W)

Standard reference: ISO 228/1: 1982, B.S. 84:1956, DIN 259

Tolerance class: Medium Class A





External Right Hand		**British Standard Whitworth (W)**		Pitch	TPI	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm
033823	16	16ER8W	SP4066	3,18	8	1,20	1,50
033825	16	16ER9W	SP4066	2,82	9	1,20	1,70
033783	16	16ER10W	SP4066	2,54	10	1,10	1,50
031982	16	16ER11W	SP4066	2,31	11	1,10	1,50
033786	16	16ER12W	SP4066	2,12	12	1,10	1,40
031981	16	16ER14W	SP4066	1,81	14	1,00	1,20
033794	16	16ER16W	SP4066	1,59	16	0,90	1,10
033797	16	16ER18W	SP4066	1,41	18	0,80	1,00
031980	16	16ER19W	SP4066	1,34	19	0,80	1,00
033803	16	16ER20W	SP4066	1,27	20	0,80	0,90
033804	16	16ER22W	SP4066	1,15	22	0,80	0,90
033806	16	16ER24W	SP4066	1,06	24	0,70	0,80
033807	16	16ER26W	SP4066	0,98	26	0,70	0,80
031979	16	16ER28W	SP4066	0,91	28	0,60	0,70
033816	16	16ER32W	SP4066	0,79	32	0,60	0,60
033818	16	16ER36W	SP4066	0,71	36	0,60	0,60
033820	16	16ER40W	SP4066	0,64	40	0,60	0,60

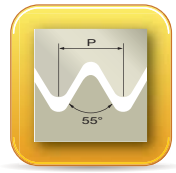
Stellram® Cutting Tool Systems

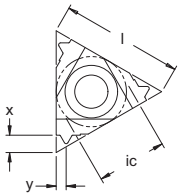
British Standard Whitworth (W)

Internal British Standard Whitworth (W)

Standard reference: ISO 228/1: 1982, B.S. 84:1956, DIN 259

Tolerance class: Medium Class A





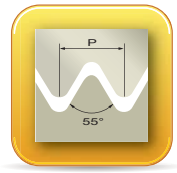
Internal Right Hand		**British Standard Whitworth (W)**		Pitch	TPI	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm
033749	08	08IR16W	SP4066	1,59	16	0,60	0,70
033752	08	08IR18W	SP4066	1,41	18	0,60	0,70
033753	08	08IR19W	SP4066	1,34	19	0,60	0,70
033755	08	08IR20W	SP4066	1,27	20	0,60	0,70
033757	08	08IR24W	SP4066	1,06	24	0,60	0,70
033759	08	08IR26W	SP4066	0,98	26	0,60	0,60
033762	08	08IR28W	SP4066	0,91	28	0,60	0,60
032069	11	11IR28W	SP4066	0,91	28	0,60	0,70
032063	11	11IR26W	SP4066	0,98	26	0,70	0,80
032046	11	11IR19W	SP4066	1,34	19	0,80	1,00
032047	11	11IR14W	SP4066	1,81	14	0,90	1,10
032066	11	11IR11W	SP4066	2,31	11	0,90	1,20
031983	16	16IR28W	SP4066	0,91	28	0,60	0,70
031984	16	16IR19W	SP4066	1,34	19	0,80	1,00
031985	16	16IR14W	SP4066	1,81	14	1,00	1,20
031986	16	16IR11W	SP4066	2,31	11	1,10	1,50

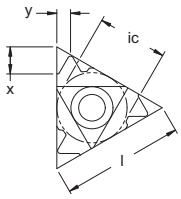
Stellram® Cutting Tool Systems

British Standard Pipe Taper Thread (BSPT)

External British Standard Pipe Taper Thread (BSPT)

Standard reference: B.S 21: 1985
Tolerance class: Standard BSPT

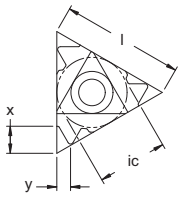




External Right Hand		British Standard Pipe **Taper Thread (BSPT)**		Pitch	TPI	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm
031987	16	16ER28BSPT	SP4066	0,91	28	0,70	0,80
031988	16	16ER19BSPT	SP4066	1,34	19	0,80	1,00
031989	16	16ER14BSPT	SP4066	1,81	14	0,90	1,20
031990	16	16ER11BSPT	SP4066	2,31	11	1,10	1,50

Internal British Standard Pipe Taper Thread (BSPT)

Standard reference: B.S 21: 1985
Tolerance class: Standard BSPT



Internal Right Hand		British Standard Pipe **Taper Thread (BSPT)**		Pitch	TPI	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm
032050	11	11IR19BSPT	SP4066	1,34	19	0,80	1,00
032061	11	11IR14BSPT	SP4066	1,81	14	0,80	1,00
031991	16	16IR28BSPT	SP4066	0,91	28	0,70	0,80
031992	16	16IR19BSPT	SP4066	1,34	19	0,80	1,00
031993	16	16IR14BSPT	SP4066	1,81	14	0,90	1,20
031994	16	16IR11BSPT	SP4066	2,31	11	1,10	1,50

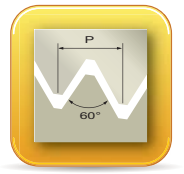
Stellram® Cutting Tool Systems

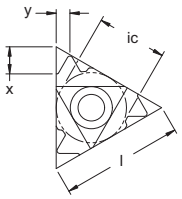
National Taper Thread (NPT)

External National Taper Thread (NPT)

Standard reference: USAS B2:1: 1968

Tolerance class: Standard NPT



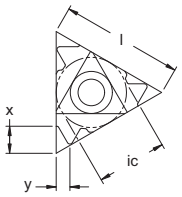


External Right Hand		**National Taper Thread (NPT)**		Pitch	TPI	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm
031971	16	16ER18NPT	SP4066	1,41	18	0,80	1,00
031972	16	16ER14NPT	SP4066	1,81	14	0,90	1,20
031973	16	16ER11.5NPT	SP4066	2,21	11,5	1,10	1,50
031974	16	16ER8NPT	SP4066	3,18	8	1,30	1,80

Internal National Taper Thread (NPT)

Standard reference: USAS B2:1: 1968

Tolerance class: Standard NPT



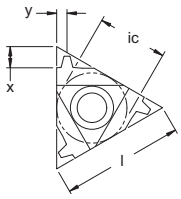
Internal Right Hand		**National Taper Thread (NPT)**		Pitch	TPI	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm
033760	08	08IR27NPT	SP4066	0,94	27	0,60	0,60
033750	08	08IR18NPT	SP4066	1,41	18	0,60	0,60
032054	11	11IR18NPT	SP4066	1,41	18	0,80	1,00
032052	11	11IR14NPT	SP4066	1,81	14	0,80	1,00
031975	16	16IR18NPT	SP4066	1,41	18	0,80	1,00
031976	16	16IR14NPT	SP4066	1,81	14	0,90	1,20
031977	16	16IR11.5NPT	SP4066	2,21	11,5	1,10	1,50
031978	16	16IR8NPT	SP4066	3,18	8	1,30	1,80

Stellram® Cutting Tool Systems

ACME

External ACME

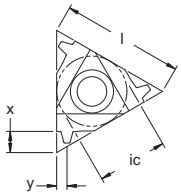
Standard reference: ANSI B 1.5: 1988
Tolerance class: 3G



External Right Hand		ACME		Pitch	TPI	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm
032011	16	16ER12ACME	SP4066	2,12	12	1,10	1,20
032010	16	16ER10ACME	SP4066	2,54	10	1,30	1,30
032009	16	16ER8ACME	SP4066	3,18	8	1,50	1,50
032022	22	22ER6ACME	SP4066	4,23	6	1,80	2,10
032021	22	22ER5ACME	SP4066	5,08	5	2,00	2,30
032029	27	27ER4ACME	SP4066	6,35	4	2,30	2,70

Internal ACME

Standard reference: ANSI B 1.5: 1988
Tolerance class: 3G



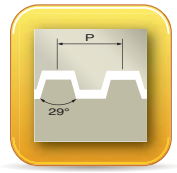
Internal Right Hand		ACME		Pitch	TPI	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm
032014	16	16IR12ACME	SP4066	2,12	12	1,10	1,20
032013	16	16IR10ACME	SP4066	2,54	10	1,30	1,30
032012	16	16IR8ACME	SP4066	3,18	8	1,50	1,50
032024	22	22IR6ACME	SP4066	4,23	6	1,80	2,10
032023	22	22IR5ACME	SP4066	5,08	5	2,00	2,30
032031	27	27IR4ACME	SP4066	6,35	4	2,30	2,70

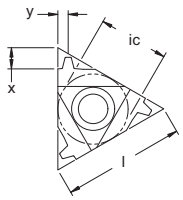
Stellram® Cutting Tool Systems

Stub ACME (STACME)

External Stub ACME (STACME)

Standard reference: ANSI B1.8:1988
Tolerance class: 2G

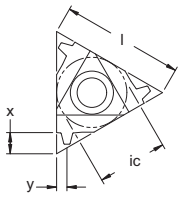




External Right Hand		**Stub ACME (STACME)**		Pitch	TPI	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm
032017	16	16ER12STACME	SP4066	2,12	12	1,20	1,20
032016	16	16ER10STACME	SP4066	2,54	10	1,30	1,30
032015	16	16ER8STACME	SP4066	3,18	8	1,50	1,50
033821	16	16ER6STACME	SP4066	4,23	6	1,50	1,80
032026	22	22ER6STACME	SP4066	4,23	6	1,80	1,80
032025	22	22ER5STACME	SP4066	5,08	5	2,00	2,30
032030	27	27ER4STACME	SP4066	6,35	4	2,30	2,40

Internal Stub ACME (STACME)

Standard reference: ANSI B1.8:1988
Tolerance class: 2G



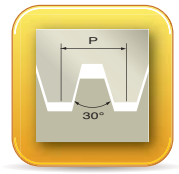
Internal Right Hand		ACME		Pitch	TPI	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm
032020	16	16IR12STACME	SP4066	2,12	12	1,20	1,20
032019	16	16IR10STACME	SP4066	2,54	10	1,30	1,30
032018	16	16IR8STACME	SP4066	3,18	8	1,50	1,50
033861	16	16IR6STACME	SP4066	4,23	6	1,50	1,80
032028	22	22IR6STACME	SP4066	4,23	6	1,80	1,80
032027	22	22IR5STACME	SP4066	5,08	5	2,00	2,30
032032	27	27IR4STACME	SP4066	6,35	4	2,30	2,40

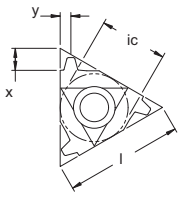
Stellram® Cutting Tool Systems

Trapezoidal (TR)

External Trapezoidal (TR)

Standard reference: DIN 103
Tolerance class: 7e/7H

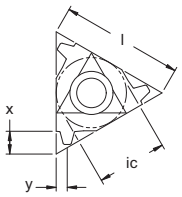




External Right Hand		Trapezoidal (TR)		Pitch	TPI	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm
033876	22	22ER4.0TR	SP4066	4,00	-	1,80	1,90
033878	22	22ER5.0TR	SP4066	5,00	-	2,00	2,40
033881	22	22ER6.0TR	SP4066	6,00	-	2,10	2,70

Internal Trapezoidal (TR)

Standard reference: DIN 103
Tolerance class: 7e/7H



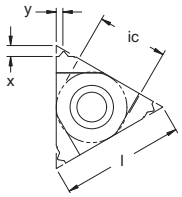
Internal Right Hand		Trapezoidal (TR)		Pitch	TPI	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm
033891	22	22IR4.0TR	SP4066	4,00	-	1,80	1,90
033894	22	22IR5.0TR	SP4066	5,00	-	2,00	2,40
033896	22	22IR6.0TR	SP4066	6,00	-	2,10	2,70

Stellram® Cutting Tool Systems

Panzer Gerwinde (PG) DIN40431

External Panzer Gerwinde (PG)

Standard reference: DIN 40430
Tolerance class: Standard

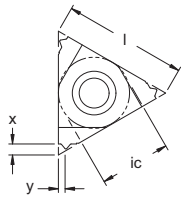


External Right Hand		**Panzer Gerwinde (PG) DIN40431**		Pitch	TPI	Nose Radius	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm	mm
033792	16	16ER16PG	SP4066	1,59	16	Pg 21-29-36-42-48	0,80	1,00
033795	16	16ER18PG	SP4066	1,41	18	Pg 9-11-13.5-16	0,80	0,90
033801	16	16ER20PG	SP4066	1,27	20	Pg 7	0,70	0,80

External Left Hand		**Panzer Gerwinde (PG) DIN40431**		Pitch	TPI	Nose Radius	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm	mm
033769	16	16EL16PG	SP4066	1,59	16	Pg 21-29-36-42-48	0,80	1,00

Internal Panzer Gerwinde (PG)

Standard reference: DIN 40430
Tolerance class: Standard



Internal Right Hand		**Panzer Gerwinde (PG) DIN40431**		Pitch	TPI	Nose Radius	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm	mm
032065	11	11IR18PG	SP4066	1,41	18	Pg 9-11-13.5-16	0,80	0,90
033845	16	16IR16PG	SP4066	1,59	16	Pg 21-29-36-42-48	0,80	1,00
033847	16	16IR18PG	SP4066	1,41	18	Pg 9-11-13.5-16	0,80	0,90
033851	16	16IR20PG	SP4066	1,27	20	Pg 7	0,70	0,80

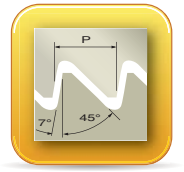
Stellram® Cutting Tool Systems

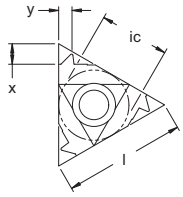
American Buttress

External American Buttress

Standard reference: ANSI B1.9 :1973

Tolerance class: Class 2





External Right Hand		American Buttress		Pitch	TPI	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm
034604	16	16ER10ABUTT	SP4066	2,54	10	1,50	2,30
033785	16	16ER12ABUTT	SP4066	2,12	12	1,40	2,00
033791	16	16ER16ABUTT	SP4066	1,59	16	1,00	1,50
033800	16	16ER20ABUTT	SP4066	1,27	20	1,00	1,30
034605	22	22ER8ABUTT	SP4066	3,18	8	2,10	3,30
034606	22	22ER12ABUTT	SP4066	2,12	12	1,60	2,10

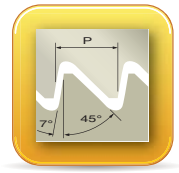
Stellram® Cutting Tool Systems

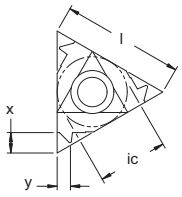
American Buttress

Internal American Buttress

Standard reference: ANSI B1.9 :1973

Tolerance class: Class 2



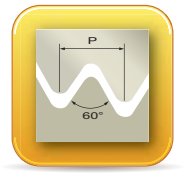


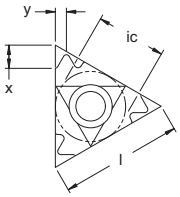
Internal Right Hand		American Buttress		Pitch	TPI	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm
034608	16	16IR10ABUTT	SP4066	2,54	10	1,50	2,30
033841	16	16IR12ABUTT	SP4066	2,12	12	1,40	2,00
033844	16	16IR16ABUTT	SP4066	1,59	16	1,00	1,30
033850	16	16IR20ABUTT	SP4066	1,27	20	1,00	1,30
034609	22	22IR8ABUTT	SP4066	3,18	8	2,10	3,30
034610	22	22IR12ABUTT	SP4066	2,12	12	1,60	2,10

API Round (APIRD)

External API Round (APIRD)

Standard reference: API Standard 5B :1979
Tolerance class: Standard API Round

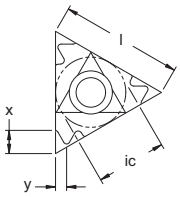




External Right Hand		**API Round (APIRD)**		Pitch	TPI	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm
033822	16	16ER8APIRD	SP4066	3,18	8	1,30	1,50
033781	16	16ER10APIRD	SP4066	2,54	10	1,20	1,40
032035	22	22ER8APIRD	SP4066	3,18	8	1,60	2,10

Internal API Round (APIRD)

Standard reference: API Standard 5B :1979
Tolerance class: Standard API Round



Internal Right Hand		**API Round (APIRD)**		Pitch	TPI	X	Y
EDP	L (mm)	Description	Grade	mm		mm	mm
033862	16	16IR8APIRD	SP4066	3,18	8	1,30	1,50
033838	16	16IR10APIRD	SP4066	2,54	10	1,20	1,40
032036	22	22IR8APIRD	SP4066	3,18	8	1,60	2,10

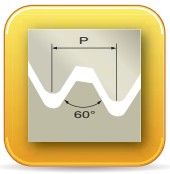
Stellram® Cutting Tool Systems

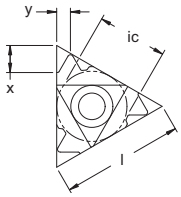
API (Oilfield)

External API (Oilfield)

Standard reference: API Specification 7: 1990

Tolerance class: Standard API





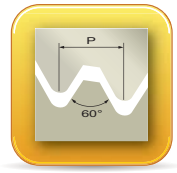
External Right Hand		**API (Oilfield)**		Pitch Range	TPI	Taper		X	Y
EDP	L (mm)	Description	Grade	mm		IPF	Angle	mm	mm
032039	22	22ER5API403	SP4066	5,08	5	3	7° - 1'	1,80	2,50
032034	22	22ER4API383	SP4066	6,35	4	3	7° - 1'	2,10	2,80
032033	22	22ER4API382	SP4066	6,35	4	2	4° - 43'	2,10	2,80
033874	22	22ER4API502	SP4066	6,35	4	2	4° - 43'	2,00	3,00
033875	22	22ER4API503	SP4066	6,35	4	3	7° - 1'	2,00	3,00
032037	27	27ER4API382	SP4066	6,35	4	2	4° - 43'	2,10	2,80
032038	27	27ER4API383	SP4066	6,35	4	3	7° - 1'	2,10	2,80
032040	27	27ER4API502	SP4066	6,35	4	2	4° - 43'	2,00	3,00
032041	27	27ER4API503	SP4066	6,35	4	3	7° - 1'	2,00	2,00

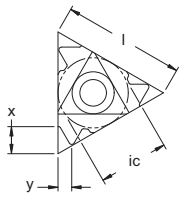
Stellram® Cutting Tool Systems

API (Oilfield)

Internal API (Oilfield)

Standard reference: API Specification 7: 1990
Tolerance class: Standard API





Internal Right Hand		**API (Oilfield)**		Pitch Range	TPI	Taper		X	Y
EDP	L (mm)	Description	Grade	mm		IPF	Angle	mm	mm
033132	22	22IR5API403	SP4066	5,08	5	3	7° - 1'	1,80	2,50
033133	22	22IR4API383	SP4066	6,35	4	3	7° - 1'	2,10	2,80
033134	22	22IR4API382	SP4066	6,35	4	2	4° - 43'	2,10	2,80
033888	22	22IR4API502	SP4066	6,35	4	2	4° - 43'	2,00	3,00
033889	22	22IR4API503	SP4066	6,35	4	3	7° - 1'	2,00	3,00
033135	27	27IR4API382	SP4066	6,35	4	2	4° - 43'	2,10	2,80
033136	27	27IR4API383	SP4066	6,35	4	3	7° - 1'	2,10	2,80
033137	27	27IR4API502	SP4066	6,35	4	2	4° - 43'	2,00	3,00
033138	27	27IR4API503	SP4066	6,35	4	3	7° - 1'	2,00	2,00

OILFIELD CONNECTORS			
Reference to Part Number	TPI	Taper IPF	Connector No. or size
API V 0.038R	4	2	NC23, NC28, NC31, NC35, NC38, NC40, NC44, NC46 NC50, 4 FH, 2 3/8" IF, 3 1/2" IF, 4 1/2" IF, 5 1/2" IF
API V 0.038R	4	3	NC56, NC61, NC70, NC77
API V 0.040	5	3	2 3/8" REG, 2 7/8" REG, 3 1/2" REG, 4 1/2" REG 3 1/2" FH, 4 1/2" FH
API V 0.050	4	3	5 1/2" REG, 7 5/8" REG, 8 5/8" REG
API V 0.050	4	2	6 5/8" REG, 5 1/2" FH, 6 5/8" FH
API V 0.055	6	1.5	NC10, NC12, NC13, NC16
API V 0.065	4	2	Superceded by API V 0.038R

Stellram® Cutting Tool Systems

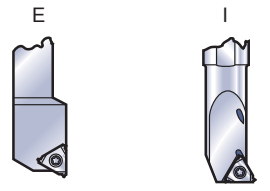
API Rotary Connections

API Rotary Connections					
API Connections	*TPI*	*TPF*	*API Code*	*Stellram Part Number*	*Catalog Page Number*
API Number					
NC10 - NC16	6.0	1.5	V-0.055	6API551.5	-
NC23 - NC50	4.0	2.0	V-0.038R	4API382	238 - 239
NC56 -NC77	4.0	3.0	V-0.038R	4API383	238 - 239
API Regular					
2 3/8 REG - 4 1/2 REG	5.0	3.0	V-0.040	5API403	238 - 239
5 1/2 REG - 7 5/8 REG, 8 5/8 REG	4.0	3.0	V-0.050	4API503	238 - 239
6 5/8 REG	4.0	2.0	V-0.050	4API502	238 - 239
Internal Flush					
2 3/8 IF - 6 5/8 IF	4.0	2.0	V-0.038R	4API382	238 - 239
Full Hole					
3 1/2 FH, 4 1/2 FH	5.0	3.0	V-0.040	5API403	238 - 239
4FH	4.0	2.0	V-0.038R	4API382	238 - 239
5 1/2 FH, 6 5/8 FH	4.0	2.0	V-0.050	4API502	238 - 239
Hughes External Flush					
2 3/8, 2 7/8	6.0	2.0	Drawing On Request		-
3 1/2, 4 1/2	4.0	2.0	V-0.038R	4API382	238 - 239
Hughes Xtra Hole					
2 7/8 -5	4.0	2.0	V-0.038R	4API382	238 - 239
Hughes Slim Hole					
2 3/8 - 4 1/2	4.0	2.0	V-0.038R	4API382	238 - 239
Hughes Double Streamline					
3 1/2 - 5 1/2	4.0	2.0	V-0.038R	4API382	238 - 239
Hughes H90					
3 1/2 - 6 5/8	3.5	2.0	Drawing On Request		-
7 - 8 5/8	3.5	3	Drawing On Request		-
Hughes Slimline H90					
2 3/8 - 3 1/2	3.0	1.25	Drawing On Request		-
PAC					
2 3/8 PAC - 2 7/8 PAC	4.0	1.5	-	4 PAC	-

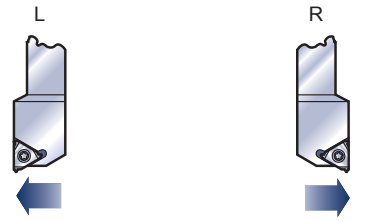
Threading Toolholder Designation

	1	2	3	4	5	6	7	8
External	E	R	-	20	20	K	16	-
Internal	I	R	N	16	18	M	16	-

1 Utilisation



2 Hand

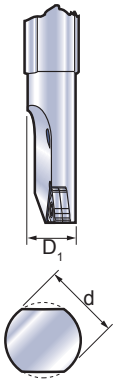


3 Option

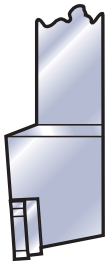
N = No Anvil

4 Shank Size or Tool Diameter

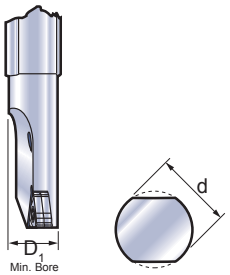
4. Internal Shank Diameter
e.g. 16 = d 16 mm



4 & 5. External Square Shank
e.g. 2020 = 20 x 20mm



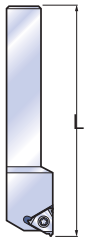
5 Minimum Bore Size (Internal)



Internal:
e.g. 18 =
D_1 Ø, 8mm

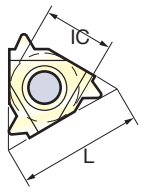
6 Tool Length

D	=	60	Q	=	180
F	=	80	R	=	200
H	=	100	S	=	250
K	=	125	T	=	300
L	=	140	U	=	350
M	=	150	V	=	400
P	=	170			

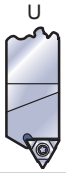


7 Insert Size

L mm	IC Inch
06	5/32
08	3/16
08U	3/16
11	1/4
16	3/8
22	1/2
22U	1/2U
27	5/8
27U	5/8U



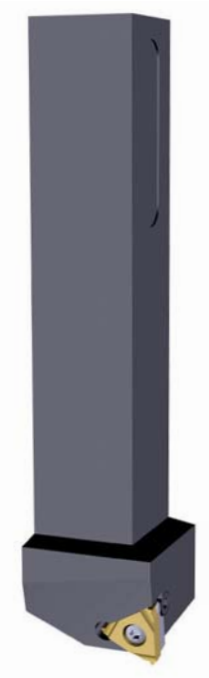
8 Option

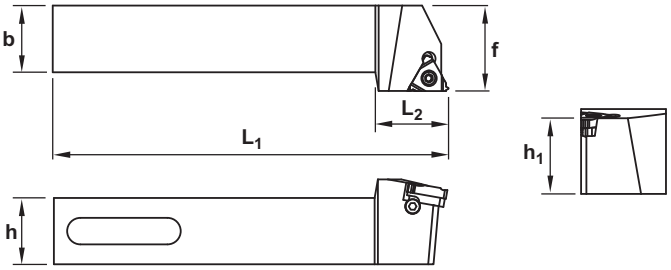


Neutral

Stellram®
Cutting Tool Systems

ER/EL 90°





LH & RH External Square Shank Tool Holder										
EDP	Item Description	Hand	Insert Sizes & Types	Dimensions (mm)					Anvil Type	
				h = h1	b	f	L1	L2	Anvil	Anvil Hand
021548	ERNM1010H11	RH	ER11	10	10	14	100	13	-	-
025179	ERN1010M16	RH	ER16	10	10	13	150	19	-	-
021361	EL1212F16	LH	EL16	12	12	16	80	22	YI3	
021363	EL1616H16	LH	EL16	16	16	20	100	22		
021365	EL2020K16	LH	EL16	20	20	25	125	27		
021367	EL2525M16	LH	EL16	25	25	32	150	27		
021369	EL3232Q16	LH	EL16	32	32	40	180	27		
021362	ER1212F16	RH	ER16	12	12	16	80	22	YE3	
021364	ER1616H16	RH	ER16	16	16	20	100	22		
021366	ER2020K16	RH	ER16	20	20	25	125	27		
021368	ER2525M16	RH	ER16	25	25	32	150	27		
021370	ER3232Q16	RH	ER16	32	32	40	180	27		
021371	EL2525M22	LH	EL22	25	25	32	150	30	YI4	
021373	EL3232Q22	LH	EL22	32	32	40	180	30		
021375	EL4040R22	LH	EL22	40	40	50	200	30		
021372	ER2525M22	RH	ER22	25	25	32	150	30	YE4	
021374	ER3232Q22	RH	ER22	32	32	40	180	30		
021376	ER4040R22	RH	ER22	40	40	50	200	30		
021381	EL3232Q27	LH	EL27	32	32	40	180	35	YI5	
021383	EL4040R27	LH	EL27	40	40	50	200	35		
021382	ER3232Q27	RH	ER27	32	32	40	180	35	YE5	
021384	ER4040R27	RH	ER27	40	40	50	200	35		

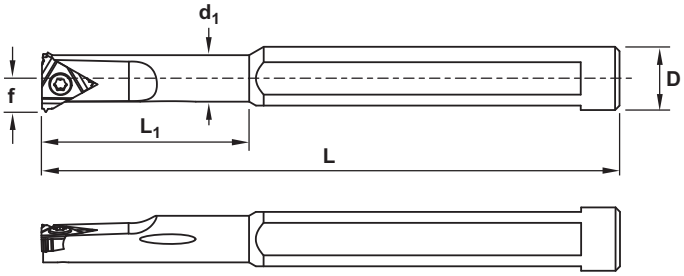
Right Hand Toolholders and Inserts, Specify R = RH | Left Hand Toolholders and Inserts, Specify L = LH

Stellram® Cutting Tool Systems




ER/EL 90° L/R Spare Parts								
Item Description	*Insert Screw EDP*		*Insert Key EDP*		*Anvil EDP*		*Anvil Screw EDP*	
ERNM1010H11	*015558*	SN2T	*015554*	T8F	-	-	-	-
ERN1010M16	*015560*	SA3T	*023379*	T10F	-	-	-	-
EL 1212F16								
EL 1616H16								
EL 2020K16	*015560*	SA3T	*023379*	T10F	*015389*	YI3	*015551*	SY3T
EL 2525M16								
EL 3232Q16								
ER 1212F16								
ER 1616H16								
ER 2020K16	*015560*	SA3T	*023379*	T10F	*015447*	YE3	*015551*	SY3T
ER 2525M16								
ER 3232Q16								
EL2525M22								
EL3232Q22	*015561*	SA4T	*015556*	T20F	*015483*	YI4	*015552*	SY4T
EL4040R22								
ER2525M22								
ER3232Q22	*015561*	SA4T	*015556*	T20F	*015463*	YE4	*015552*	SY4T
ER4040R22								
EL3232Q27	*015562*	SA5T	*015557*	T25F	*015523*	YI5	*015553*	SY5T
EL4040R27								
ER3232Q27	*015562*	SA5T	*015557*	T25F	*015503*	YE5	*015553*	SY5T
ER4040R27								

IR 90°



IR LH & RH Internal Boring Bars

EDP	Item Description	Hand	Insert Sizes & Types	Dimensions (mm)						
				Min Bore Thread Ø A	ØD	d_1	f	L	L_1	Through Coolant
021394	IRN1206H06	IR	06IR	6	12	5,80	4,20	100	13	
021396	IRN1608K08	IR	08IR	8	16	6,30	5,10	125	17	
021400	IRN1610K08	IR	08IR	10	16	7,80	6	125	17	
021402	IRN1013K11	IR	11IR	13	10	9,50	7,30	125	25	
023231	IRN2013M11	IR	11IR	13	20	10	7,30	150	25	
021406	IRN1616M11	IR	11IR	16	16	12,50	8,90	150	40	
021408	IRN1618M16	IR	16IR	18	16	12	9,40	150	40	
021410	IRN2021Q16	IR	16IR	21	20	15,80	12,40	180	40	
021412	IR2024Q16	IR	16IR	24	20	18,50	13	180	50	
021414	IR2529R16	IR	16IR	29	25	24	16	200	60	
021416	IR3236S16	IR	16IR	36	32	31,50	19,60	250	60	
021418	IR4044T16	IR	16IR	44	40	40	23,80	300	-	
021422	IRN2027Q22	IR	22IR	27	20	20	15,60	180	-	
021424	IR2532R22	IR	22IR	32	25	24,50	17,80	200	-	
021426	IR3239S22	IR	22IR	39	32	32	21,50	250	-	
021428	IR4047T22	IR	22IR	47	40	40	25,80	300	-	
021446	IR3240S27	IR	27IR	40	32	32	22,40	250	-	
021448	IR4048T27	IR	27IR	48	40	40	26,40	300	-	

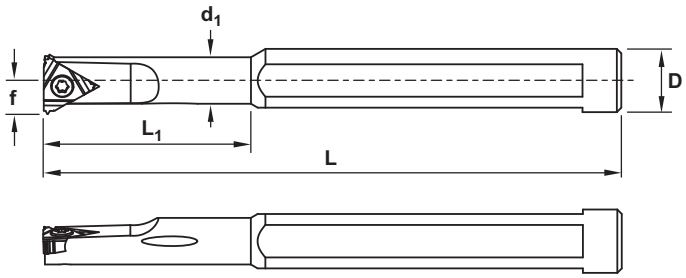
IL = Left Hand Tooling is available on request




IR 90° L/R Spare Parts

Item Description	*Insert Screw EDP*		*Insert Key EDP*		*Anvil EDP*		*Anvil Screw EDP*	
IR1206H06	*015563*	S6T	*018487*	T6	-	-	-	-
IRN1608K08	*015564*	S8T	*018487*	T6	-	-	-	-
IRN1610K08								
IRN1013K11	*015558*	SN2T	*015554*	T8F	-	-	-	-
IRN2013M11								
IRN1616M11								
IRN1618M16	*015560*	SA3T	*023379*	T10F	-	-	-	-
IRN2021Q16								
IR2024Q16	*015560*	SA3T	*023379*	T10F	*015389*	YI3	015551	SY3T
IR2529R16								
IR3236S16								
IR4044T16								
IRN2027Q22	*015561*	SA4T	*015556*	T20F	*015483*	YI4	015552	SY4T
IR2532R22								
IR3239S22								
IR4047T22								
IR3240S27	*015562*	SA5T	*015557*	T25F	*015523*	YI5	015553	SY5T
IR4048T27								

IR 90° CF Anti Vibration



IR LH & RH Internal Boring Bars

EDP	Item Description	Hand	Insert Sizes & Types	Dimensions (imm)						
				Min Bore Thread Ø A	ØD	d_1	f	L	L_1	Through Coolant
021540	IRN1206H06CF	IR	06IR	6	12	5.80	4.20	100	18	
021498	IRN1608H08CF	IR	08IR	8	16	6.30	5.10	100	23	
021502	IRN1610H08CF	IR	08IR	10	16	8.10	6	100	23	
021504	IRN1013H11CF	IR	11IR	13	10	9.50	7.30	100	33	
021506	IRN1616M11CF	IR	11IR	16	16	12.50	8.90	150	53	
021508	IRN1618M16CF	IR	16IR	18	16	12	9.40	150	53	
021510	IRN2021M16CF	IR	16IR	21	20	15.80	12.40	150	53	
021512	IR2024R16CF	IR	16IR	24	20	18.50	13	200	67	

IL = Left Hand Tooling is available on request | CF = Chatter Free

IR 90° CF Spare Parts

Item Description	*Insert Screw EDP*		*Insert Key EDP*		*Anvil EDP*		*Anvil Screw EDP*	
IRN1206H06CF	*015563*	S6T	*018487*	T6	-	-	-	-
IRN1608H08CF	*015564*	S8T	*018487*	T6	-	-	-	-
IRN1610H08CF								
IRN1013H11CF	*015558*	SN2T	*015554*	T8F	-	-	-	-
IRN1616M11CF								
IRN1618M16CF	*015560*	SA3T	*023379*	T10F	-	-	-	-
IRN2021M16CF								
IR2024R16CF	*015560*	SA3T	*023379*	T10F	*015389*	YI3	*015551*	SY3T

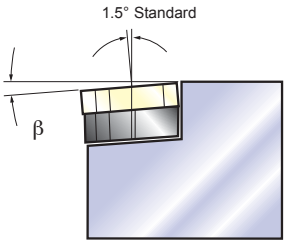
Stellram® Cutting Tool Systems

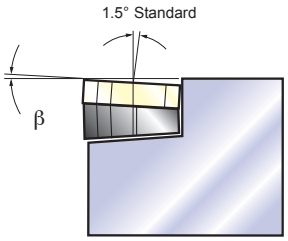
With the Stellram threading system, a wide range of thread helix angles can be obtained without changing or modifying toolholders. This is obtained by simply changing the carbide anvil.

Most toolholders are produced with 1.5° helix machined into the body. These tools are supplied with this angle as standard.

Interchangeable anvils allow helix variations between +4.5° and -1.5° with the insert cutting edge remaining constant.

Negative helix angles are used for producing right hand threads with left hand holders or left hand threads with right hand holders.





Negative Helix

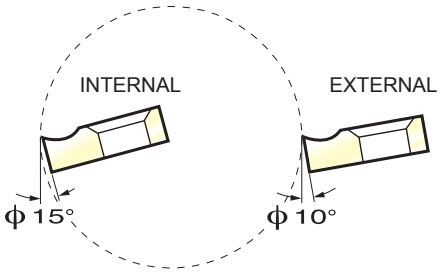
Insert size		Toolholder	ß Helix Angle							
			4.5°	3.5°	2.5°	1.5°	0.5°	0°	-0.5°	-1.5°
mm	Inch		Anvil Part Numbers							
16	3/8"	EX RH / IN LH	YE33P	YE32P	YE31P	YE3	YE31N	YE31.5N	YE32N	YE33N
		EX LH / IN RH	YI33P	YI32P	YI31P	YI3	YI31N	YI31.5N	YI32N	YI33N
22	1/2"	EX RH / IN LH	YE43P	YE42P	YE41P	YE4	YE41N	YE41.5N	YE42N	YE43N
		EX LH / IN RH	YI43P	YI42P	YI41P	YI4	YI41N	YI41.5N	YI42N	YI43N
22U	1/2"	EX RH / IN LH	YE4U3P	YE4U2P	YE4U1P	YE4U	YE4U1N	YE4U1.5N	YE4U2N	YE4U3N
		EX LH / IN RH	YI4U3P	YI4U2P	YI4U1P	YI4U	YI4U1N	YI4U1.5N	YI4U2N	YI4U3N
27	5/8"	EX RH / IN LH	YE53P	YE52P	YE51P	YE5	YE51N	YE51.5N	YE52N	YE53N
		EX LH / IN RH	YI53P	YI52P	YI51P	YI5	YI51N	YI51.5N	YI52N	YI53N
27U	5/8"	EX RH / IN LH	YE5U3P	YE5U2P	YE5U1P	YE5U	YE5U1N	YE5U1.5N	YE5U2N	YE5U3N
		EX LH / IN RH	YI5U3P	YI5U2P	YI5U1P	YI5U	YI5U1N	YI5U1.5N	YI5U2N	YI5U3N

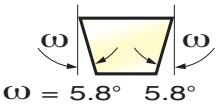
Note: Standard toolholders are supplied with 1.5° helix angle as standard.

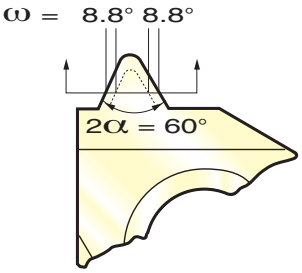
Calculation of thread helix angle for a given thread

$$\text{Helix angle - } \tan^{-1}\theta = \frac{\text{Lead of the Thread}}{\text{Pitch/Effective Diameter x } \varpi}$$

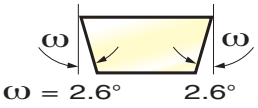
Flank Clearance Angle Selection

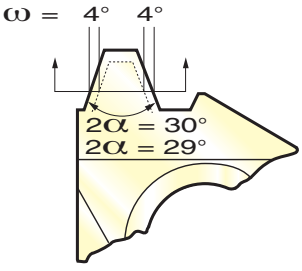




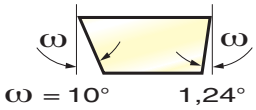


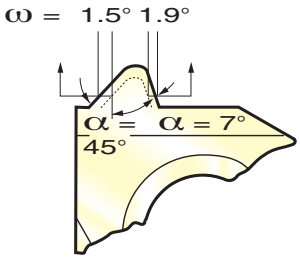
ISO
UN
PARTIAL 60˚
NPT



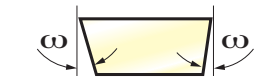


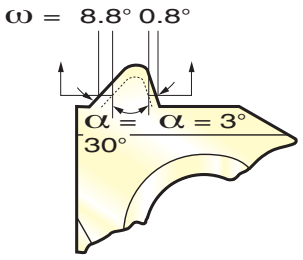
TRAPEZOIDAL
ACME
STUB ACME



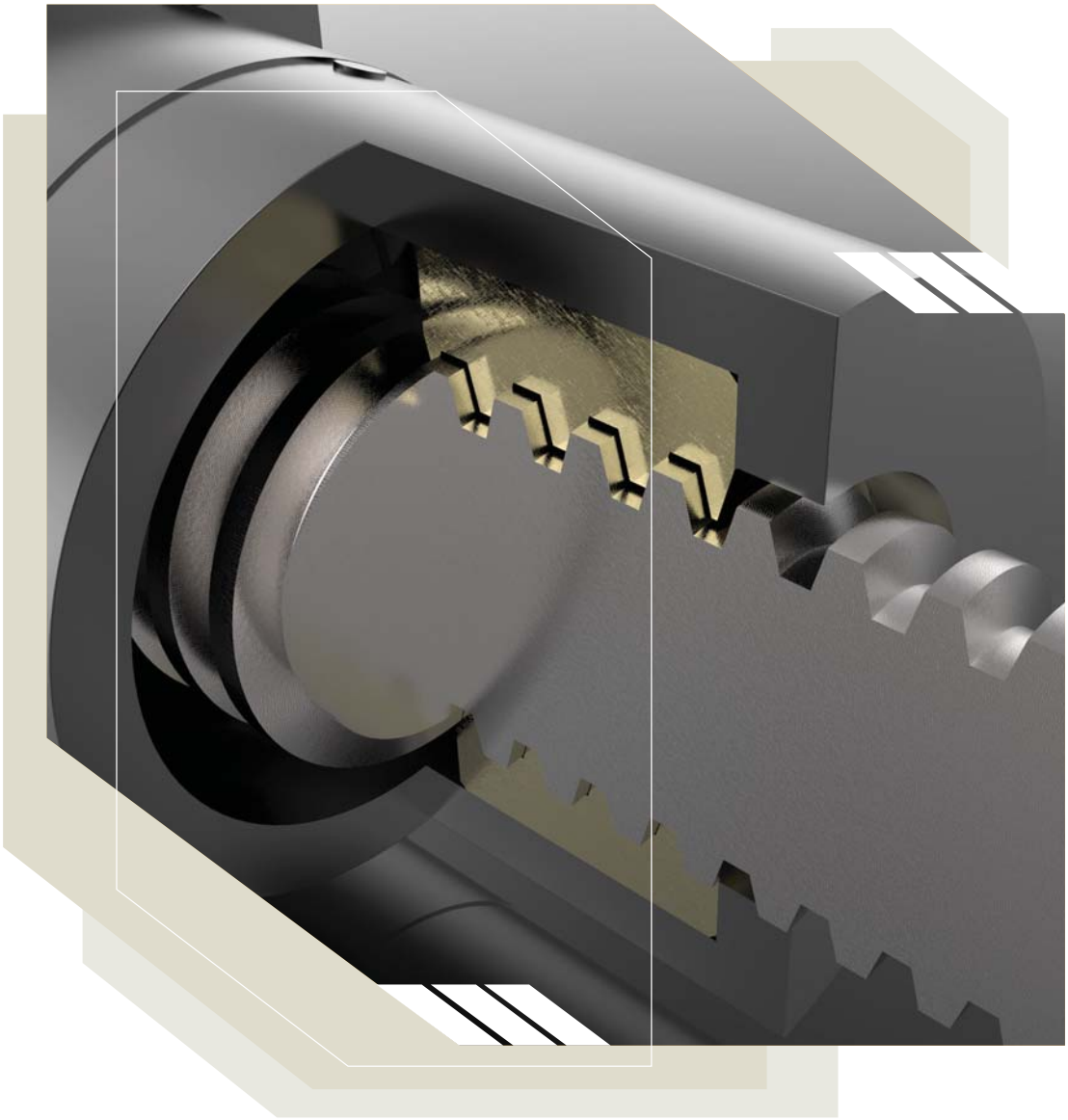


AMERICAN BUTTRESS

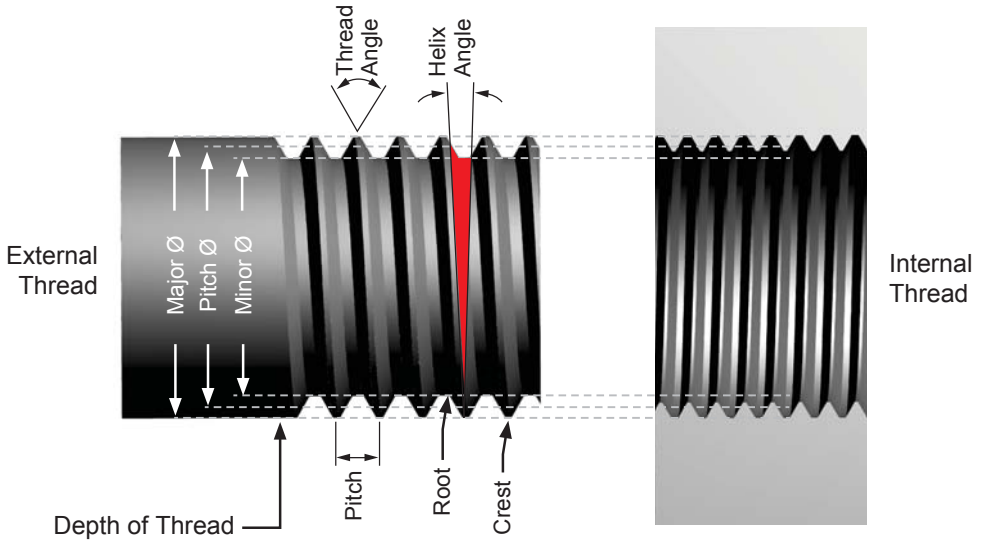




SAGE (DIN 513)



Depth of Thread



Depth of Thread
The distance between the Crest and Root.

Pitch
The distance between two thread form peaks, defined as TPI (thread per inch) in millimeters or as an inch decimal.

Pitch or Effective Diameter
Is where the theoretical cylinder diameter cuts the thread form, when the thread form width and groove depth are equal, applies to parallel/straight threads forms only.

Helix Angle: (Parallel/Straight Thread Forms)
Where the lead of the thread and the pitch diameter cylinder form a right angle triangle. The helix angle is the angle opposite the lead.

Major Diameter
The largest diameter of the thread form.

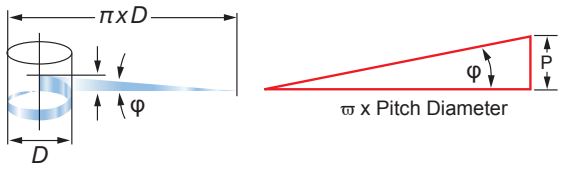
Minor or Root Diameter
The smallest diameter of the thread form.

Thread Angle
The included angle between the individual flanks.

Root
The inner most surface of the thread, connecting the flanks.

Crest
The outer most surface of the thread, connecting the flanks.

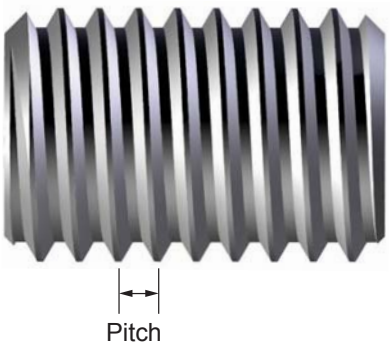
Helix Angle



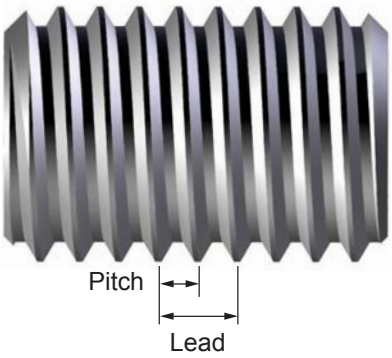
D = Pitch/Effected Diameter
P = Pitch or Lead
φ = Helix Angle

Stellram® Cutting Tool Systems

Pitch & Lead with Multi Start Thread



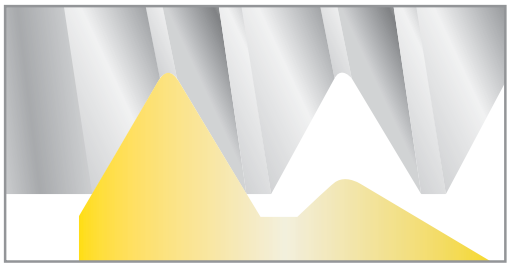
Pitch =
Axial distance from one thread point to the corresponding point on the next form



Lead =
Pitch x Number of starts
Or the distance travelled in one rotation of the work-piece

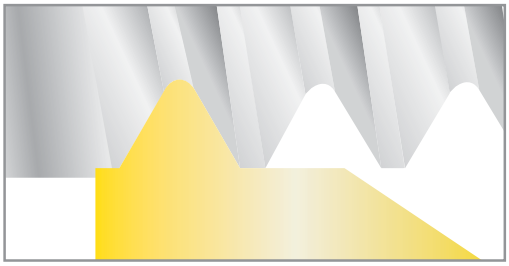
Example for two start thread

Threading Insert Profile Types

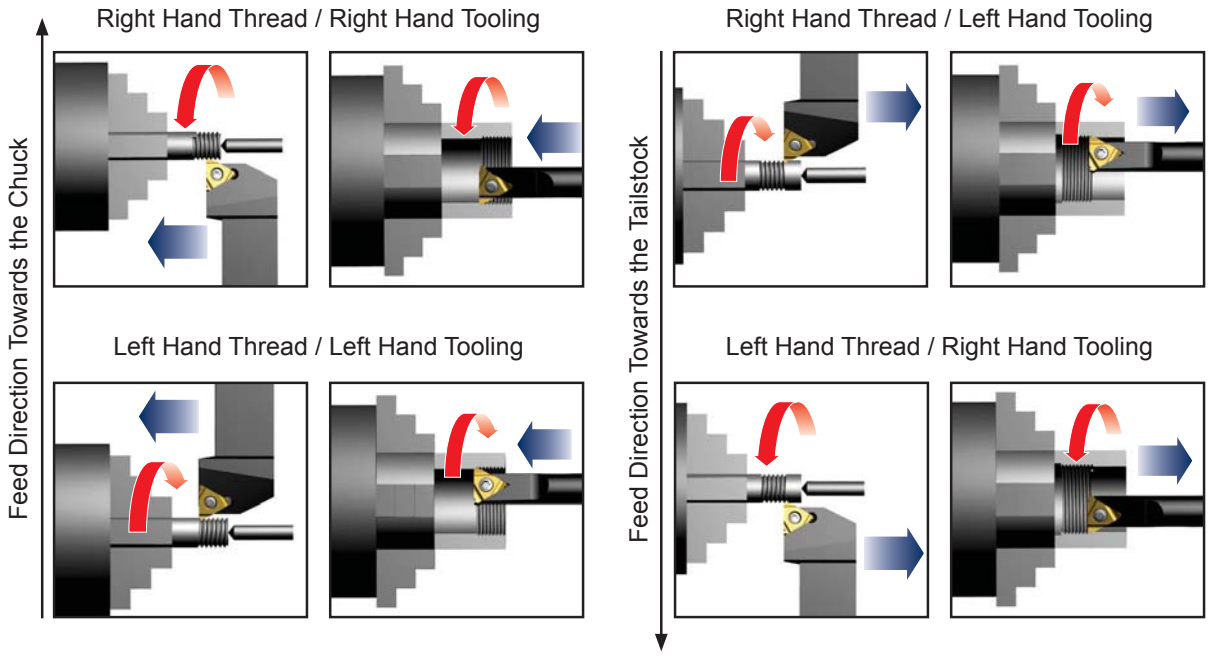


Partial Profile
The partial profile insert does not crest or top the outer diameter of the thread profile but, can be used on multi thread pitches with the same thread angle.

Full Profile
The full form insert controls the complete thread profile by cresting/topping the form. A different insert is required for each pitch.

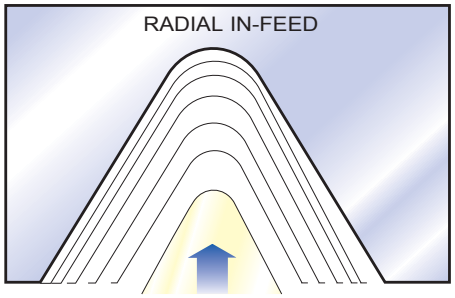


Direction of cut using LH & RH Tooling



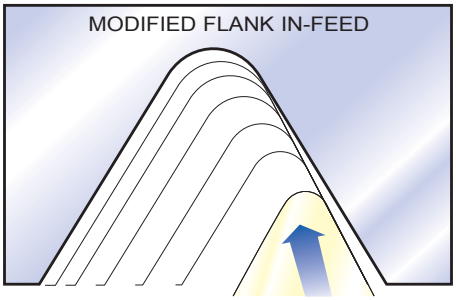
Stellram®
Cutting Tool Systems

Radial In-Feed



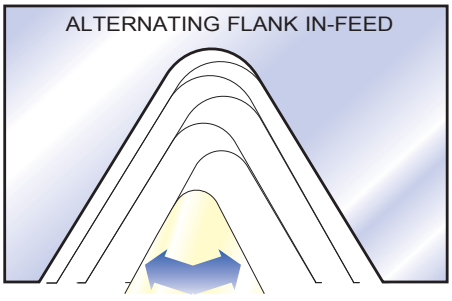
- Most commonly used method on manual lathes.
- Equal wear on leading and trailing edge.
- Good surface finish on trailing edge.
- Use on work hardening materials.
- Use on short chipping materials.
- For pitches of less than 1,5mm or 16 T.P.I.

Modified Flank In-Feed



- For threads greater than 1,5mm or 16 T.P.I.
- Reduced cutting pressure on larger pitches.
- Reduced chatter.
- Directs chip away from the cutting edge.
- Displaced in-feed angle improves surface finish.
- First choice for internal threading.

Alternating Flank In-Feed



- Recommended for large pitches, square ACME and trapezoidal forms.
- Recommended for long chipping materials.
- Method divides the work between both flanks.
- Results in equal wear.
- Less cutting pressure.
- Not available on all lathes.

Helix Angle Calculation (mm)

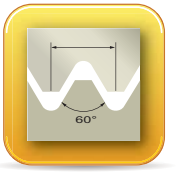
Outside Diameter mm	Pitch								
	1	1,25	1,5	1,75	2	3	4	5	6
	Helix Angles (Degrees and Minutes)								
5	3° - 38'	4° - 33'	5° - 27'	-	-	-	-	-	-
6	3° - 2'	3° - 48'	4° - 33'	5° - 18'	6° - 33'	-	-	-	-
8	2° - 17'	2° - 51'	3° - 25'	3° - 59'	4° - 33'	6° - 49'	-	-	-
10	1° - 49'	2° - 16'	2° - 44'	3° - 11'	3° - 39'	5° - 27'	-	-	-
12	1° - 31'	1° - 54'	2° - 17'	2° - 39'	3° - 2'	4° - 33'	-	-	-
14	1° - 18'	1° - 38'	1° - 57'	2° - 17'	2° - 36'	3° - 54'	-	-	-
16	1° - 8'	1° - 42'	1° - 42'	2° - 0'	2° - 17'	3° - 25'	-	-	-
18	1° - 1'	1° - 16'	1° - 31'	1° - 46'	2° - 2'	3° - 2'	4° - 3'	-	-
20	55´	1° - 8'	1° - 22'	1° - 36'	1° - 49'	2° - 44'	3° - 39'	-	-
25	44´	55´	1° - 6'	1° - 16'	1° - 28'	2° - 11'	2° - 55'	-	-
30	36´	46´	55´	1° - 4'	1° - 13'	1° - 49'	2° - 26'	3° - 2'	3° - 39'
35	31´	39´	47´	55´	1° - 3'	1° - 33'	2° - 5'	2° - 36'	3° - 8'
40	27´	34´	41´	48´	55´	-	1° - 49'	2° - 17'	2° - 44'
45	24´	30´	36´	43´	48´	1° - 13'	1° - 37'	2° - 2'	2° - 26'
50	-	-	-	38´	44´	1° - 6'	1° - 28'	1° - 49'	2° - 11'
60	-	-	-	-	36´	55´	1° - 13'	1° - 31'	1° - 49'
70	-	-	23´	-	31´	47´	1° - 3'	1° - 18'	1° - 34'
80	-	-	-	-	-	41´	55´	1° - 8'	1° - 22'
90	-	-	-	21´	24´	36´	48´	1° - 1'	1° - 13'
100	-	-	17´	19´	-	33´	-	55´	1° - 6'

Calculation of thread helix angle for a given Thread

$$\text{Helix angle - } \text{Tan}^{-1}\,\theta = \frac{\text{Lead of the Thread}}{\text{Pitch / Effective Diameter x } \varpi}$$

Threading

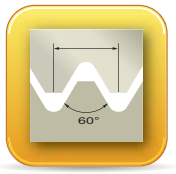
The table below provides recommendations for depths of cut for the different passes. These recommendations are intended as starting values for machining in steel and include stock 0,020mm - 0,075mm above crest. The suitable number of passes must be determined by optimom trials.



I.S.O Metric (ISO) 60°, External (mm)

Number of Passes	Pitch (mm)															
	0,5	0,75	0,8	1,0	1,25	1,5	1,75	2,0	2,5	3,0	3,5	4,0	4,5	5,0	5,5	6,0
	Radial in-feed per pass (mm)															
1	0,102	0,178	0,178	0,178	0,178	0,229	0,229	0,254	0,279	0,279	0,330	0,330	0,381	0,406	0,432	0,457
2	0,102	0,152	0,152	0,178	0,178	0,203	0,203	0,229	0,254	0,254	0,305	0,330	0,330	0,381	0,406	0,432
3	0,076	0,102	0,127	0,127	0,152	0,178	0,152	0,178	0,203	0,203	0,254	0,254	0,279	0,330	0,330	0,356
4	0,076	0,076	0,076	0,102	0,127	0,152	0,152	0,152	0,178	0,178	0,203	0,229	0,229	0,279	0,279	0,305
5	0,356	0,508	0,533	0,076	0,102	0,127	0,127	0,152	0,152	0,152	0,178	0,178	0,229	0,229	0,229	0,279
6				0,660	0,076	0,076	0,102	0,127	0,127	0,152	0,178	0,178	0,203	0,229	0,229	0,229
7					0,813	0,965	0,102	0,102	0,127	0,127	0,152	0,152	0,178	0,203	0,203	0,229
8							0,076	0,076	0,102	0,127	0,152	0,152	0,178	0,178	0,178	0,203
9							1,143	1,270	0,102	0,127	0,152	0,152	0,152	0,178	0,178	0,203
10									0,076	0,102	0,127	0,127	0,152	0,178	0,178	0,178
11									1,600	0,102	0,102	0,127	0,152	0,152	0,152	0,178
12										0,076	0,076	0,127	0,127	0,152	0,152	0,152
13										1,880	2,210	0,102	0,127	0,127	0,127	0,152
14												0,076	0,102	0,102	0,127	0,152
15												2,515	2,819	3,124	0,127	0,127
16															0,102	0,102
															3,429	3,734

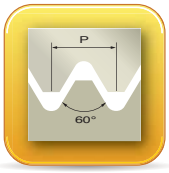
Last pass equals total depth of thread.



I.S.O Metric (ISO) 60°, Internal (mm)

Number of Passes	Pitch (mm)														
	0,5	0,75	1,0	1,25	1,5	1,75	2,0	2,5	3,0	3,5	4,0	4,5	5,0	5,5	6,0
	Radial in-feed per pass (mm)														
1	0,102	0,178	0,178	0,203	0,254	0,229	0,254	0,279	0,279	0,305	0,330	0,356	0,381	0,381	0,406
2	0,102	0,127	0,152	0,178	0,203	0,203	0,229	0,229	0,229	0,279	0,305	0,330	0,356	0,356	0,406
3	0,076	0,102	0,102	0,127	0,152	0,152	0,178	0,178	0,203	0,229	0,229	0,279	0,305	0,305	0,356
4	0,076	0,076	0,102	0,102	0,102	0,127	0,152	0,152	0,152	0,203	0,203	0,229	0,254	0,254	0,279
5	0,356	0,483	0,076	0,102	0,102	0,102	0,127	0,152	0,152	0,178	0,178	0,203	0,229	0,229	0,229
6			0,610	0,076	0,076	0,102	0,102	0,127	0,152	0,152	0,152	0,178	0,203	0,203	0,229
7				0,787	0,889	0,102	0,102	0,102	0,127	0,152	0,152	0,152	0,178	0,178	0,203
8						0,076	0,076	0,102	0,102	0,152	0,152	0,152	0,152	0,178	0,178
9						1,092	1,219	0,102	0,102	0,127	0,127	0,152	0,152	0,152	0,178
10								0,076	0,102	0,102	0,127	0,152	0,152	0,152	0,152
11								1,499	0,102	0,102	0,102	0,127	0,152	0,152	0,152
12									0,076	0,076	0,102	0,127	0,152	0,152	0,152
13									1,778	2,057	0,102	0,102	0,127	0,152	0,152
14											0,076	0,102	0,102	0,127	0,152
15											2,337	2,642	2,896	0,127	0,127
16														0,102	0,102
														3,200	3,454

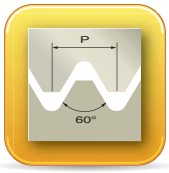
Last pass equals total depth of thread.



UNIFIED (UN) 60°, External (mm)

Number of Passes	T.P.I.																	
	32	28	24	20	18	16	14	13	12	11	10	9	8	7	6	5	4.5	4
	Radial in-feed per pass (mm)																	
1	0,178	0,178	0,178	0,203	0,229	0,229	0,229	0,254	0,279	0,279	0,279	0,279	0,305	0,356	0,356	0,432	0,406	0,483
2	0,152	0,152	0,178	0,178	0,203	0,203	0,229	0,229	0,229	0,254	0,229	0,229	0,254	0,330	0,330	0,406	0,381	0,432
3	0,127	0,127	0,152	0,152	0,152	0,152	0,178	0,178	0,203	0,203	0,203	0,203	0,229	0,254	0,254	0,330	0,330	0,356
4	0,076	0,102	0,127	0,127	0,152	0,152	0,152	0,152	0,152	0,178	0,178	0,178	0,178	0,229	0,229	0,279	0,279	0,330
5	0,533	0,076	0,076	0,102	0,127	0,127	0,127	0,152	0,152	0,152	0,152	0,152	0,178	0,178	0,203	0,229	0,254	0,305
6		0,635	0,711	0,076	0,076	0,102	0,102	0,127	0,152	0,152	0,152	0,152	0,152	0,178	0,178	0,229	0,229	0,254
7				0,838	0,940	0,076	0,102	0,102	0,127	0,127	0,152	0,152	0,152	0,152	0,178	0,203	0,203	0,229
8						1,041	0,076	0,076	0,076	0,102	0,127	0,127	0,152	0,152	0,152	0,178	0,203	0,229
9							1,194	1,270	1,372	0,076	0,102	0,127	0,127	0,152	0,152	0,178	0,178	0,229
10										1,499	0,076	0,102	0,127	0,127	0,152	0,178	0,178	0,203
11											1,651	0,076	0,102	0,102	0,152	0,178	0,152	0,178
12												1,778	0,076	0,076	0,127	0,152	0,152	0,178
13													2,032	2,286	0,102	0,127	0,152	0,152
14															0,102	0,102	0,152	0,152
15															2,667	3,200	0,152	0,127
16																	0,127	0,102
																	3,531	3,937

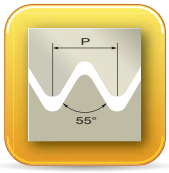
Last pass equals total depth of thread.



UNIFIED (UN) 60°, Internal (mm)

Number of Passes	T.P.I.																	
	32	28	24	20	18	16	14	13	12	11	10	9	8	7	6	5	4.5	4
	Radial in-feed per pass (mm)																	
1	0,178	0,178	0,178	0,203	0,229	0,229	0,229	0,254	0,279	0,279	0,279	0,279	0,305	0,330	0,356	0,406	0,406	0,457
2	0,152	0,152	0,152	0,178	0,178	0,178	0,203	0,229	0,229	0,229	0,229	0,229	0,279	0,305	0,330	0,356	0,406	0,432
3	0,102	0,102	0,152	0,127	0,152	0,152	0,152	0,152	0,178	0,178	0,152	0,178	0,203	0,229	0,229	0,305	0,330	0,356
4	0,076	0,102	0,102	0,102	0,127	0,127	0,152	0,152	0,152	0,152	0,152	0,152	0,178	0,203	0,203	0,254	0,254	0,305
5	0,508	0,076	0,076	0,102	0,102	0,102	0,102	0,127	0,127	0,152	0,152	0,152	0,152	0,178	0,178	0,229	0,229	0,254
6		0,610	0,660	0,076	0,076	0,102	0,102	0,102	0,102	0,127	0,127	0,152	0,152	0,152	0,152	0,203	0,203	0,229
7				0,787	0,864	0,076	0,102	0,102	0,102	0,102	0,102	0,127	0,127	0,152	0,152	0,178	0,178	0,229
8						0,940	0,076	0,076	0,076	0,102	0,102	0,102	0,102	0,152	0,152	0,178	0,178	0,178
9							1,118	1,194	1,245	0,076	0,102	0,102	0,102	0,127	0,152	0,152	0,178	0,178
10										1,397	0,076	0,102	0,102	0,127	0,127	0,152	0,152	0,178
11											1,499	0,076	0,102	0,102	0,127	0,152	0,152	0,178
12												1,651	0,076	0,076	0,102	0,152	0,152	0,152
13													1,880	2,134	0,102	0,127	0,152	0,152
14															0,102	0,102	0,127	0,152
15															2,464	2,946	0,127	0,127
16																	0,102	0,102
																	3,277	3,658

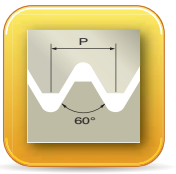
Last pass equals total depth of thread.



Whitworth (mm)

Number of Passes	T.P.I.																
	28	26	20	19	18	16	14	12	11	10	9	8	7	6	5	4.5	4
	Radial in-feed per pass (mm)																
1	0,203	0,203	0,203	0,229	0,229	0,203	0,254	0,279	0,279	0,305	0,279	0,305	0,356	0,356	0,381	0,406	0,457
2	0,178	0,152	0,203	0,203	0,203	0,203	0,229	0,254	0,254	0,254	0,229	0,279	0,305	0,305	0,381	0,406	0,432
3	0,127	0,152	0,152	0,152	0,178	0,152	0,178	0,203	0,203	0,203	0,229	0,229	0,279	0,279	0,356	0,356	0,356
4	0,102	0,102	0,127	0,127	0,152	0,152	0,152	0,178	0,178	0,178	0,203	0,203	0,229	0,254	0,305	0,305	0,330
5	0,076	0,076	0,102	0,127	0,127	0,127	0,127	0,152	0,152	0,152	0,178	0,178	0,203	0,203	0,279	0,279	0,330
6	0,635	0,686	0,076	0,076	0,102	0,127	0,127	0,152	0,152	0,127	0,152	0,152	0,203	0,203	0,254	0,254	0,279
7			0,864	0,914	0,076	0,102	0,102	0,127	0,127	0,127	0,152	0,152	0,178	0,203	0,229	0,229	0,279
8					1,067	0,076	0,076	0,076	0,127	0,127	0,127	0,152	0,152	0,178	0,203	0,229	0,254
9						1,143	1,245	1,422	0,076	0,127	0,127	0,127	0,152	0,152	0,203	0,203	0,254
10									1,549	0,076	0,127	0,127	0,152	0,152	0,203	0,178	0,229
11										1,676	0,076	0,127	0,127	0,152	0,178	0,178	0,203
12											1,880	0,076	0,076	0,152	0,152	0,152	0,203
13												2,108	2,413	0,127	0,127	0,152	0,178
14														0,102	0,102	0,152	0,152
15														2,819	3,353	0,147	0,127
16																0,102	0,102
																3,708	4,166

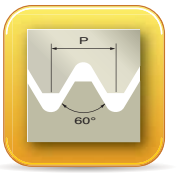
Last pass equals total depth of thread.



UNIFIED "J" for Aircraft (UNJ), External (mm)

Number of Passes	T.P.I.									
	32	28	24	20	18	16	14	12	10	8
	Radial in-feed per pass (mm)									
1	0,178	0,178	0,178	0,203	0,229	0,229	0,229	0,279	0,279	0,305
2	0,152	0,152	0,152	0,178	0,203	0,203	0,203	0,229	0,229	0,279
3	0,127	0,102	0,152	0,152	0,152	0,152	0,152	0,203	0,203	0,203
4	0,076	0,102	0,102	0,102	0,127	0,127	0,127	0,152	0,152	0,178
5	0,533	0,076	0,076	0,102	0,102	0,102	0,127	0,152	0,152	0,152
6		0,610	0,660	0,076	0,076	0,102	0,102	0,102	0,127	0,152
7				0,813	0,889	0,076	0,102	0,102	0,127	0,127
8						0,991	0,076	0,076	0,102	0,127
9							1,118	1,295	0,102	0,127
10									0,076	0,102
11									1,549	0,102
12										0,076
										1,930

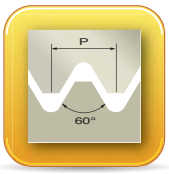
Last pass equals total depth of thread.



Metric "J" for Aircraft (MJ), External (mm)

Number of Passes	Ptich (mm)			
	1,0	1,5	1,75	2,0
	Radial in-feed per pass (mm)			
1			0,2286	0,254
2			0,2032	0,2286
3			0,1524	0,1778
4			0,1524	0,1524
5			0,127	0,127
6			0,0762	0,127
7			0,9398	0,1016
8				0,0762
				1,2446

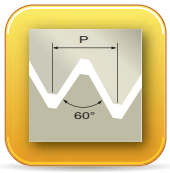
Last pass equals total depth of thread.



National Pipe Taper Dryseal (NPTF) External and Internal (mm)

Number of Passes	T.P.I.				
	27	18	14	11.5	8
	Radial in-feed per pass (mm)				
1	0,178	0,229	0,254	0,254	0,254
2	0,152	0,203	0,229	0,254	0,229
3	0,127	0,152	0,152	0,203	0,229
4	0,102	0,127	0,152	0,152	0,203
5	0,102	0,102	0,127	0,152	0,178
6	0,076	0,102	0,127	0,127	0,152
7	0,737	0,102	0,102	0,102	0,152
8		0,076	0,102	0,102	0,152
9		1,092	0,102	0,102	0,127
10			0,076	0,102	0,127
11			1,422	0,102	0,127
12				0,076	0,127
13				1,727	0,102
14					0,102
15					0,102
16					0,102
					2,464

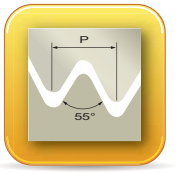
Last pass equals total depth of thread.



National Pipe Taper (NPT) External & Internal (mm)

Number of Passes	T.P.I.				
	27	18	14	11.5	8
	Radial in-feed per pass (mm)				
1	0,203	0,229	0,229	0,229	0,254
2	0,152	0,178	0,203	0,203	0,229
3	0,127	0,152	0,178	0,178	0,203
4	0,102	0,152	0,152	0,152	0,203
5	0,102	0,127	0,152	0,152	0,178
6	0,076	0,127	0,127	0,152	0,178
7	0,762	0,102	0,127	0,152	0,178
8		0,076	0,102	0,127	0,178
9		1,143	0,102	0,127	0,152
10			0,076	0,102	0,152
11			1,448	0,102	0,152
12				0,076	0,127
13				1,753	0,127
14					0,102
15					0,076
					2,489

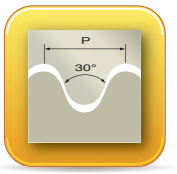
Last pass equals total depth of thread.



British Standard Pipe Taper (BSPT) External & Internal (mm)

Number of Passes	T.P.I.				
	27	18	14	11.5	8
	Radial in-feed per pass (mm)				
1	0,178	0,229	0,254	0,254	0,279
2	0,152	0,203	0,203	0,229	0,279
3	0,127	0,152	0,178	0,203	0,229
4	0,102	0,127	0,152	0,178	0,203
5	0,076	0,127	0,127	0,152	0,178
6	0,660	0,076	0,127	0,152	0,152
7		0,914	0,102	0,127	0,152
8			0,076	0,127	0,152
9			1,219	0,076	0,127
10				1,499	0,127
11					0,127
12					0,076
					2,083

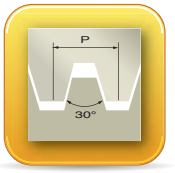
Last pass equals total depth of thread.



Round DIN 405, External & Internal (mm)

Number of Passes	T.P.I.			
	10	8	6	4
	Radial in-feed per pass (mm)			
1	0,229	0,229	0,279	0,356
2	0,229	0,229	0,254	0,330
3	0,203	0,203	0,229	0,305
4	0,203	0,203	0,229	0,279
5	0,152	0,178	0,203	0,279
6	0,127	0,152	0,203	0,254
7	0,102	0,152	0,178	0,254
8	0,076	0,127	0,152	0,229
9	1,321	0,102	0,152	0,203
10		0,076	0,127	0,178
11		1,651	0,102	0,152
12			0,076	0,127
13			2,184	0,127
14				0,102
				3,200

Last pass equals total depth of thread.



Trapezoidal DIN 103 (mm)

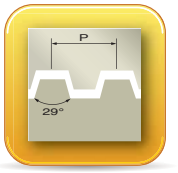
Number of Passes	Ptich (mm)							
	1,5	2	3	4	5	6	7	8
	Radial in-feed per pass (mm)							
1	0,229	0,254	0,279	0,279	0,305	0,356	0,356	0,381
2	0,203	0,229	0,229	0,229	0,305	0,330	0,330	0,330
3	0,152	0,178	0,203	0,229	0,254	0,305	0,305	0,330
4	0,127	0,152	0,152	0,203	0,229	0,279	0,279	0,330
5	0,102	0,127	0,152	0,178	0,203	0,254	0,254	0,279
6	0,076	0,127	0,127	0,178	0,203	0,254	0,254	0,279
7	0,889	0,102	0,127	0,152	0,203	0,203	0,254	0,254
8		0,076	0,102	0,152	0,203	0,203	0,229	0,254
9		1,245	0,102	0,152	0,178	0,203	0,203	0,229
10			0,102	0,152	0,152	0,203	0,203	0,229
11			0,102	0,127	0,152	0,178	0,203	0,229
12			0,076	0,127	0,127	0,152	0,203	0,203
13			1,753	0,102	0,127	0,152	0,178	0,203
14				2,261	0,102	0,152	0,178	0,178
15					2,743	0,152	0,178	0,178
16						0,127	0,127	0,178
17						3,505	3,734	0,152
18								0,152
19								0,127
								4,496

Last pass equals total depth of thread.

ACME (mm)

Number of Passes	T.P.I.								
	16	14	12	10	8	6	5	4	3
	Radial in-feed per pass (mm)								
1	0,229	0,229	0,254	0,254	0,279	0,330	0,356	0,356	0,381
2	0,203	0,203	0,203	0,229	0,254	0,279	0,330	0,330	0,356
3	0,178	0,178	0,178	0,203	0,203	0,229	0,254	0,305	0,330
4	0,152	0,152	0,152	0,178	0,178	0,203	0,229	0,279	0,279
5	0,127	0,127	0,127	0,152	0,152	0,178	0,229	0,254	0,279
6	0,076	0,102	0,127	0,127	0,127	0,178	0,203	0,254	0,279
7	0,965	0,076	0,102	0,127	0,127	0,152	0,203	0,203	0,279
8		1,067	0,102	0,102	0,127	0,152	0,203	0,203	0,254
9			1,245	0,102	0,127	0,152	0,178	0,203	0,229
10				0,102	0,102	0,152	0,152	0,178	0,229
11				1,575	0,102	0,152	0,152	0,178	0,229
12					0,102	0,127	0,152	0,152	0,203
13					1,880	0,102	0,127	0,152	0,203
14						2,515	0,102	0,152	0,178
15							2,845	0,152	0,178
16								0,127	0,178
17								3,480	0,178
18									0,152
19									0,127
									4,521

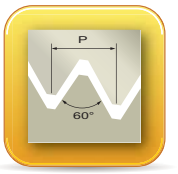
Last pass equals total depth of thread.



STUB-ACME (mm)

Number of Passes	T.P.I.								
	16	14	12	10	8	6	5	4	3
	Radial in-feed per pass (mm)								
1	0,203	0,229	0,229	0,229	0,254	0,279	0,279	0,305	0,356
2	0,152	0,178	0,178	0,203	0,203	0,203	0,254	0,279	0,279
3	0,127	0,152	0,152	0,178	0,203	0,203	0,203	0,254	0,279
4	0,102	0,127	0,127	0,152	0,178	0,178	0,203	0,203	0,229
5	0,102	0,102	0,102	0,152	0,152	0,152	0,178	0,203	0,203
6	0,686	0,787	0,102	0,127	0,152	0,152	0,152	0,178	0,203
7			0,889	0,102	0,127	0,152	0,152	0,152	0,203
8				1,143	0,102	0,127	0,152	0,152	0,203
9					1,372	0,102	0,127	0,127	0,178
10						1,549	0,102	0,127	0,152
11							1,803	0,102	0,127
12								0,102	0,127
13								2,184	0,127
14									0,102
15									0,102
									3,099

Last pass equals total depth of thread.



API Thread Forms (mm)

API Thread Forms	No. of passes/radial in-feed per pass (mm)															
	Total In-Feed	Passes														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
API Rd																
16ER10APIRD 16IR10APIRD	1,448	0,279	0,203	0,152	0,152	0,127	0,127	0,127	0,102	0,102	0,076	-	-	-	-	-
16ER8APIRD 16IR8APIRD	1,854	0,279	0,229	0,203	0,152	0,152	0,152	0,127	0,127	0,127	0,127	0,102	0,076	-	-	-
API-V-0.038R																
22ER4API382 22IR4API382	3,175	0,457	0,381	0,381	0,330	0,305	0,305	0,254	0,254	0,203	0,127	0,102	0,076	-	-	-
22ER4API383 22IR4API383	3,175	0,457	0,381	0,381	0,330	0,305	0,305	0,254	0,254	0,203	0,127	0,102	0,076	-	-	-
API-V-0.050																
27ER4API502 27IR4API502	3,861	0,457	0,381	0,356	0,330	0,305	0,305	0,279	0,254	0,254	0,229	0,203	0,203	0,127	0,102	0,076
27ER4API503 27IR4API503	3,835	0,457	0,381	0,356	0,330	0,305	0,279	0,279	0,254	0,254	0,229	0,203	0,203	0,127	0,102	0,076
API-V-0.040																
22ER5API403 22IR5API403	3,073	0,432	0,381	0,381	0,330	0,279	0,279	0,254	0,254	0,178	0,127	0,102	0,076	-	-	-

Multi-Tooth Inserts (mm)

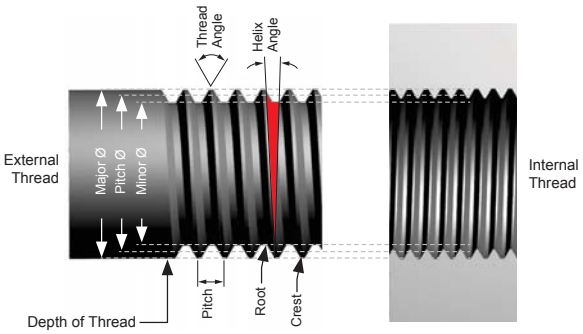
External	Metric 60° (I.S.O) Pitch (mm)					Unified 60° (UN) T.P.I					Whitworth (W) T.P.I			NPT T.P.I
	1,0	1,5	2,0	2,5	3,0	20	18	16	14	12	19	14	11	11.5
Number of Passes	Radial in-feed per pass (mm)					Radial in-feed per pass (mm)					Radial in-feed per pass (mm)			
1	0,356	0,356	0,483	0,457	0,559	0,432	0,483	0,381	0,432	0,533	0,483	0,483	0,457	0,508
2	0,330	0,330	0,483	0,432	0,533	0,381	0,432	0,356	0,406	0,483	0,432	0,432	0,432	0,019
3	0,686	0,279	0,330	0,406	0,483	0,813	0,914	0,279	0,330	0,356	0,914	0,330	0,381	0,432
4		0,965	1,295	0,279	0,330			1,016	1,168	1,372		1,245	0,279	0,254
				1,575	1,905								1,549	1,676

Internal	Metric 60° (I.S.O) Pitch (mm)					Unified 60° (UN) T.P.I					Whitworth (W) T.P.I			NPT T.P.I
	1,0	1,5	2,0	2,5	3,0	20	18	16	14	12	19	14	11	11.5
Number of Passes	Radial in-feed per pass (inch)					Radial in-feed per pass (inch)					Radial in-feed per pass (inch)			
1	0,330	0,330	0,457			0,356	0,483				0,356	0,483	0,457	0,508
2	0,305	0,305	0,432			0,330	0,432				0,305	0,432	0,432	0,483
3	0,635	0,254	0,330			0,254	0,330				0,254	0,330	0,381	0,432
4		0,889	1,219			0,940	1,245				0,914	1,245	0,279	0,254
													1,549	1,676

Last pass equals total depth of thread.

1 What's the Application

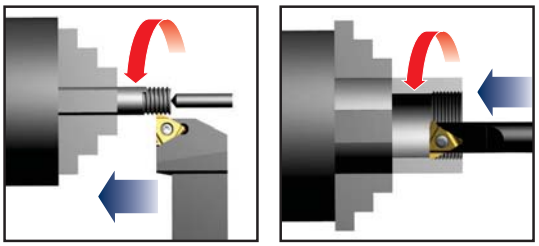
A) Internal or External
B) Type of thread form
C) Material being machined



2 Machine Set-Up

D) LH or RH thread form
E) Machine Set-Up

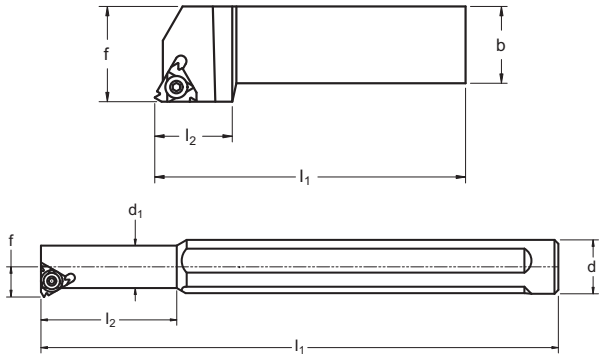
Right Hand Thread / Right Hand Tooling



See page 252

3 Select Tooling

F) External
G) Internal



See pages 242 – 246

4 Check Helix Angle

Note: The 1.5°

Calculation of thread helix angle for a given thread

$$\text{Helix angle - } \tan^{-1}\theta = \frac{\text{Lead of the Thread}}{\text{Pitch/Effective Diameter} \times \varpi}$$

Helix Angle Calculation (mm)

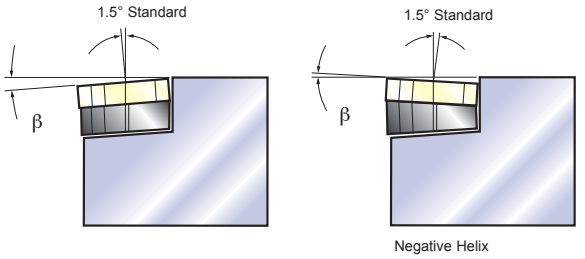
Outside Diameter mm	1	1,25	1,5	1,75
				Helix A
5	3° - 38'	4° - 33'	5° - 27'	-
6	3° - 2'	3° - 48'	4° - 33'	5° - 18'
8	2° - 17'	2° - 51'	3° - 25'	3° - 59'
10	1° - 49'	2° - 16'	2° - 44'	3° - 11'
12	1° - 31'	1° - 54'	2° - 17'	2° - 39'
14	1° - 18'	1° - 38'	1° - 57'	2° - 17'
16	1° - 8'	1° - 42'	1° - 42'	2° - 0'

See page 254

Stellram® Cutting Tool Systems

5 Select Anvil

Note: The 1.5° angle is Standard with all toolholders



Insert size			ß Helix An				
			4.5°	3.5°	2.5°	1.5°	
mm	Inch	Toolholder	Anvil Part Numbers				
16	3/8"	EX RH / IN LH EX LH / IN RH	YE33P YI33P	YE32P YI32P	YE31P YI31P	**YE3** **YI3**	Y
22	1/2"	EX RH / IN LH EX LH / IN RH	YE43P YI43P	YE42P YI42P	YE41P YI41P	**YE4** **YI4**	Y
22U	1/2"	EX RH / IN LH EX LH / IN RH	YE4U3P YI4U3P	YE4U2P YI4U2P	YE4U1P YI4U1P	**YE4U** **YI4U**	Y
27	5/8"	EX RH / IN LH EX LH / IN RH	YE53P YI53P	YE52P YI52P	YE51P YI51P	**YE5** **YI5**	Y
27U	5/8"	EX RH / IN LH EX LH / IN RH	YE5U3P YI5U3P	YE5U2P YI5U2P	YE5U1P YI5U1P	**YE5U** **YI5U**	Y

Note: Standard toolholders are supplied with 1.5° helix angle as standard.

See page 247

6 Select Cutting Speed

Speed vc (feet/min)

ISO	Materials	Rm
P	Unalloyed Steel	400-600 N/mm² 120-180 HBN
		600-950 N/mm² 180-200 HBN
	Alloyed Steel	700-950 N/mm² 200-280 HBN
		950-1200 N/mm² 280-355 HBN
		1200-1400 N/mm² 355-415 HBN
	Tool Steel	1200-1400 N/mm² 355-415 HBN
M	Stainless Steel	Austenitic + Ferritic 300 series
		Martensitic 400 series
	PH Stainless	Refractory P.H.

See page 209

7 Select number and depth of passes

I.S.O Metric (ISO) 60°, External (mm)

Number of Passes	0,5	0,75	0,8	1,0	1,25	1,5	1,75
	R						
1	0,102	0,178	0,178	0,178	0,178	0,229	0,229
2	0,102	0,152	0,152	0,178	0,178	0,203	0,203
3	0,076	0,102	0,127	0,127	0,152	0,178	0,152
4	0,076	0,076	0,076	0,102	0,127	0,152	0,152
5	0,356	0,508	0,533	0,076	0,102	0,127	0,127
6				0,660	0,076	0,076	0,102
7					0,813	0,965	0,102
8							0,076
9							1,143
10							
11							
12							
13							

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