

THREAD TURNING

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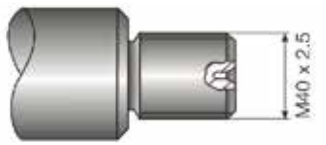
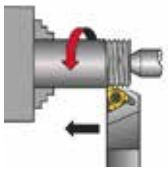
THREAD TURNING - STEP BY STEP EXAMPLE



Application:

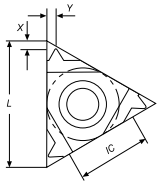
Thread: External Right Hand
ISO MetricM40x2,5
Material: 4140 (25HRc)

1 - Choose the Thread Working Method



Feed direction towards the chuck was choosen.
Therefore, an external right hand insert and an external right hand holder will be used.

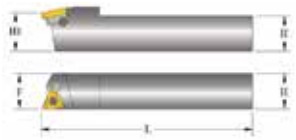
2 - Choose the Insert Size



Chosen insert: **16ER 2.50ISO**

Insert Size		Pitch	Reference	Anvil	Toolholder
IC	L mm	mm		RH	
9.525	16	2.50	16ER 2.50ISO	EA16	STCNL 2525 M16

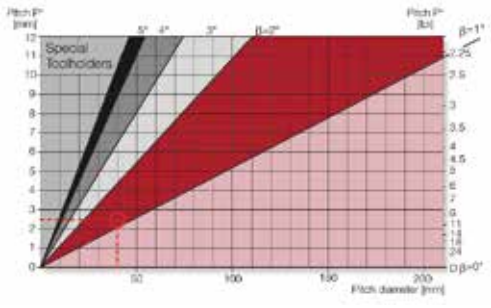
3 - Choose the Toolholder



Chosen toolholder: **SXANR 2525 M16**

Insert Size	Reference	Dimensions mm		
IC		H=H1=B	F	L
9.525	SXANR 2525 M16	25	25	150

4 - Find the Helix Angle



From the table, using a pitch of 2,5mm (10 tpi) and a workpiece diameter of 40mm (1,57"), we find the helix angle to be **1,5°**

5 - Choose the Correct Anvil

Anvil choosen: **EA16**

Resultant Helix Angle			3.5	2.5	1.5	0.5
Insert Size		Holder				
IC	L mm					
9,525	16	ER/IL	EA16+3.5	EA16+2.5	EA16	EA16+0.5

6 - Choose the Carbide Grade and Cutting Speed

Carbide grade choosen: **PH6920**
Cutting Speed: **140 m/min**

	Material:		Hardness Brinell HB	PH6920
P	Low alloy steel (alloying elements < 5%)	Non hardened	180	85-145
		Hardened	275	75-140
		Hardened	350	70-135

7 - Determine the Number of Passes

Number of passes; 10

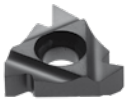
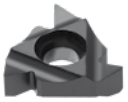
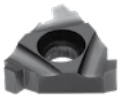
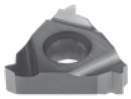
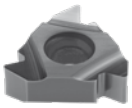
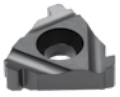
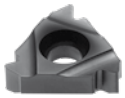
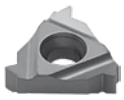
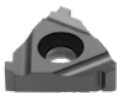
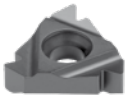
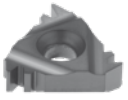
ISO External

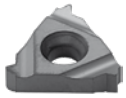
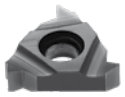
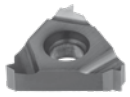
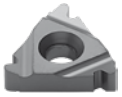
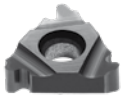
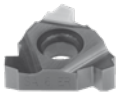
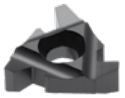
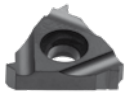
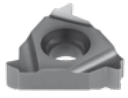
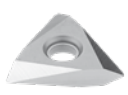
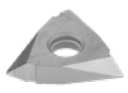
Pitch	mm	1.50	1.75	2.00	**2.50**	3.00	3.50	4.00
	tpi	16	14	12	10	8	7	6
No. of passes		6-10	7-12	7-12	**8-14**	9-16	10-18	11-18

Summary

	Thread Type	ISO M40x2,5 External Right Hand
1	Feed Direction:	Towards the chuck
2	Insert and Grade:	16ER 2,5ISO PH6920
3	Toolholder:	SXANR 2525 M16
4	Helix Angle:	1,5º
5	Anvil:	EA16
6	Cutting Speed:	140 m/min
7	Number of Passes;	14

THREAD TURNING INSERTS OVERVIEW

	Insert Image	Description	Page
Partial Profile		PARTIAL PROFILE 60°	721
		PARTIAL PROFILE 55°	722
Full Profile		AMERICAN BUTTRESS | ANSI B1.9-1973	757
		AMERICAN ACME | ANSI/ASME: 1.5-1988	748
		AMERICAN UN (UNC, UNF, UNEF) | ANSI B1.1-1982	729
		API | API SPEC 7:2001 (0.040 | 0.038R | 0.050)	759
		API | BUTTRESS CASING | API SPEC 5B:2008 | OIL THREADS	760
		API ROUND CASING & TUBING | API SPEC 5B:2008	761
		BSPT | B.S.21: 1985	739
		EXTREME LINE CASING | API SPEC 5B:2008 - OIL THREADS	762
		ISO METRIC ISO 965-1: 1999-11 | DIN 13: 2005-08	725
		METRIC BUTTRESS SAGENGEWINDE (DIN 513:1985) SAW THREAD	758

	Insert Image	Description	Page
Full Profile		MJ | ISO 5855-1:1989	756
		NPT | ANSI/ASME B 1.20.1-1983	740
		NPTF | ANSI B 1.20.3-1976	742
		PG | DIN 40430; 1971	763
		ROUND (DIN 20400) | DIN 20400:1990	745
		ROUND (DIN 405) | DIN 405:1997	744
		STUB ACME | ANSI/ASME: 1.8-1988	750
		TRAPEZ | DIN 103:1977 | ISO 2901:1993	746
		UNJ | MIL-S-8879A	752
		WITHWORTH FOR BSW, BSF, BSP, B.S.84: 1956, DIN 259, ISO 228-1:1994	734
Tangential Profile		TNMC	765
		TPMC	765

Partial Profile Example

16	ER	A	55	PH6920
1	2	3	4	5

1 - Insert Size						
L	06	08	11	16	22	27
I.C.	4.00	5.00	6.35	9.525	12.70	15.875

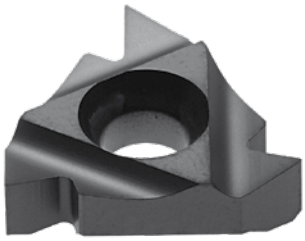
2 - Insert Hand Type	
ER	External Right Holder
EL	External Left Holder
IR	Internal Right Holder
IL	Internal Left Holder

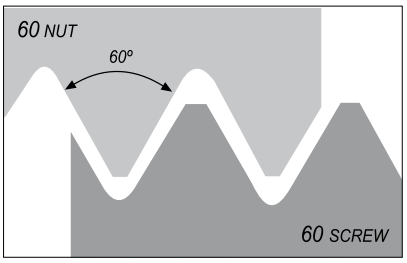
3 - Profile Type		
symbol	mm	tpi
A	0.5 - 1.5	48 - 16
G	1.75 - 3.0	14 - 8
AG	0.5 - 3.0	48 - 8
N	3.5 - 5.0	7 - 5
Q	5.5 - 6.0	4.5 - 4

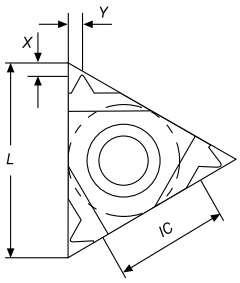
4 - Profile Angle	
55	55º
60	60º

5 - Grades
PH6920
PH8920

PARTIAL PROFILE 60°







External

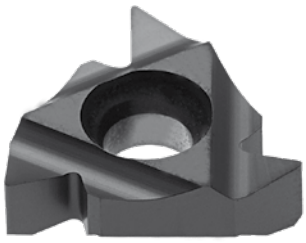
Geometry code (1)	Reference Referência Referencia	Pitch		Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		MM	TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1880592	11 ER A60	0.5-1.5	48-16	6.35	11	0.8	0.9	⚙	○
1880429	16 ER A60	0.5-1.5	48-16	9.525	16	0.8	0.9	⚙	○
1880431	16 ER G60	1.75-3.0	14-8	9.525	16	1.2	1.7	⚙	○
1880388	16 ER AG60	0.5-3.0	48-8	9.525	16	1.2	1.7	⚙	○
1880046	22 ER N60	3.5-5.0	7-5	12.70	22	1.7	2.5	⚙	○
1882486	27 ER Q60	5.5-6.0	4.5-4	15.875	27	2.1	3.1	○	○
1881851	11 EL A60	0.5-1.5	48-16	6.35	11	0.8	0.9	⚙	○
1880771	16 EL A60	0.5-1.5	48-16	9.525	16	0.8	0.9	⚙	○
1880773	16 EL G60	1.75-3.0	14-8	9.525	16	1.2	1.7	⚙	○
1880524	16 EL AG60	0.5-3.0	48-8	9.525	16	1.2	1.7	⚙	○
1880853	22 EL N60	3.5-5.0	7-5	12.70	22	1.7	2.5	⚙	○
1882155	27 EL Q60	5.5-6.0	4.5-4	15.875	27	2.1	3.1	○	○

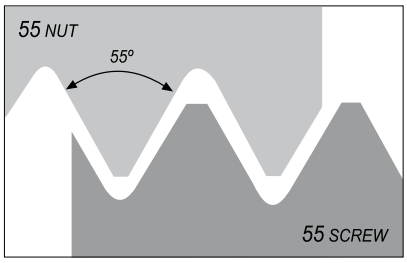
⚙ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta **Insert order code** = (1) Geometry Code + (2) Grade Code

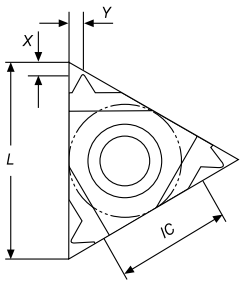
Internal

Geometry code (1)	Reference Referência Referencia	Pitch		Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		MM	TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881730	06 IR A60	0.5-1.25	48-20	4.00	06	0.6	0.6	○	○
1881773	08 IR A60	0.5-1.5	48-16	5.00	08	0.6	0.7	○	○
1880595	11 IR A60	0.5-1.5	48-16	6.35	11	0.8	0.9	⚙	○
1880045	16 IR A60	0.5-1.5	48-16	9.525	16	0.8	0.9	⚙	○
1880435	16 IR G60	1.75-3.0	14-8	9.525	16	1.2	1.7	⚙	○
1880437	16 IR AG60	0.5-3.0	48-8	9.525	16	1.2	1.7	⚙	○
1880769	22 IR N60	3.5-5.0	7-5	12.70	22	1.7	2.5	⚙	○
1882487	27 IR Q60	5.5-6.0	4.5-4	15.875	27	2.1	3.1	○	○
1881716	06 IL A60	0.5-1.25	48-20	4.00	06	0.6	0.6	○	○
1882199	08 IL A60	0.5-1.5	48-16	5.00	08	0.6	0.7	⚙	○
1880855	11 IL A60	0.5-1.5	48-16	6.35	11	0.8	0.9	⚙	○
1880772	16 IL A60	0.5-1.5	48-16	9.525	16	0.8	0.9	⚙	○
1880774	16 IL G60	1.75-3.0	14-8	9.525	16	1.2	1.7	⚙	○
1880775	16 IL AG60	0.5-3.0	48-8	9.525	16	1.2	1.7	⚙	○
1880854	22 IL N60	3.5-5.0	7-5	12.70	22	1.7	2.5	⚙	○
1882179	27 IL Q60	5.5-6.0	4.5-4	15.875	27	2.1	3.1	○	○

⚙ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta **Insert order code** = (1) Geometry Code + (2) Grade Code







External

Geometry code [1]	Reference Referência Referencia	Pitch		Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		MM	TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1880598	11 ER A55	0.5-1.5	48-16	6.35	11	0.8	0.9	◈	○
1880430	16 ER A55	0.5-1.5	48-16	9.525	16	0.8	0.9	◈	○
1880432	16 ER G55	1.75-3.0	14-8	9.525	16	1.2	1.7	◈	○
1880433	16 ER AG55	0.5-3.0	48-8	9.525	16	1.2	1.7	◈	○
1880770	22 ER N55	3.5-5.0	7-5	12.70	22	1.7	2.5	◈	○
1882167	27 ER Q55	5.5-6.0	4.5-4	15.875	27	2.0	2.9	○	○
1881850	11 EL A55	0.5-1.5	48-16	6.35	11	0.8	0.9	○	○
1880776	16 EL A55	0.5-1.5	48-16	9.525	16	0.8	0.9	○	○
1880778	16 EL G55	1.75-3.0	14-8	9.525	16	1.2	1.7	○	○
1880780	16 EL AG55	0.5-3.0	48-8	9.525	16	1.2	1.7	○	○
1880858	22 EL N55	3.5-5.0	7-5	12.70	22	1.7	2.5	○	○
1882154	27 EL Q55	5.5-6.0	4.5-4	15.875	27	2.0	2.9	○	○

◈ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

Internal

Geometry code [1]	Reference Referência Referencia	Pitch		Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		MM	TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881729	06 IR A55	0.5-1.25	48-20	4.00	06	0.5	0.6	○	○
1881772	08 IR A55	0.5-1.5	48-16	5.00	08	0.6	0.7	○	○
1880006	11 IR A55	0.5-1.5	48-16	6.35	11	0.8	0.9	◈	○
1880434	16 IR A55	0.5-1.5	48-16	9.525	16	0.8	0.9	◈	○
1880436	16 IR G55	1.75-3.0	14-8	9.525	16	1.2	1.7	◈	○
1880438	16 IR AG55	0.5-3.0	48-8	9.525	16	1.2	1.7	◈	○
1880047	22 IR N55	3.5-5.0	7-5	12.70	22	1.7	2.5	◈	○
1882189	27 IR Q55	5.5-6.0	4.5-4	15.875	27	2.0	2.9	○	○
1881715	06 IL A55	0.5-1.25	48-20	4.00	06	0.5	0.6	○	○
1881751	08 IL A55	0.5-1.5	48-16	5.00	08	0.6	0.7	○	○
1880856	11 IL A55	0.5-1.5	48-16	6.35	11	0.8	0.9	○	○
1880777	16 IL A55	0.5-1.5	48-16	9.525	16	0.8	0.9	○	○
1880779	16 IL G55	1.75-3.0	14-8	9.525	16	1.2	1.7	○	○
1880781	16 IL AG55	0.5-3.0	48-8	9.525	16	1.2	1.7	◈	○
1880857	22 IL N55	3.5-5.0	7-5	12.70	22	1.7	2.5	○	○
1882178	27 IL Q55	5.5-6.0	4.5-4	15.875	27	2.0	2.9	○	○

◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

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FULL PROFILE INSERTS CODE KEY

Chave do codificação de pastilhas | Llave de codificación de plaquitas

Full Profile Example

16	ER	1.50	ISO	PH6920
1	2	3	4	7

1 - Insert Size						
L	06	08	11	16	22	27
I.C.	4.00	5.00	6.35	9.525	12.70	15.875

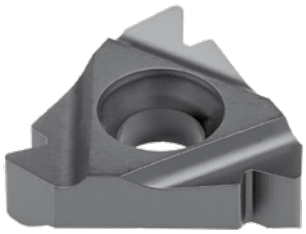
2 - Insert Hand Type	
ER	External Right Holder
EL	External Left Holder
IR	Internal Right Holder
IL	Internal Left Holder

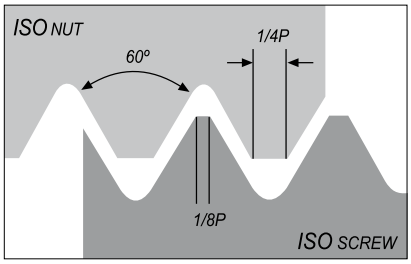
3 - Pitch	
mm	tpi
0.35 - 7.0	72 - 3

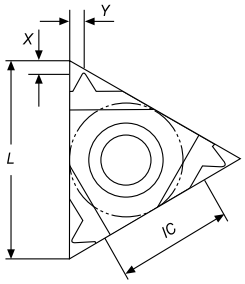
4 - Profile Type							
symbol	profile type	symbol	profile type	symbol	profile type	symbol	profile type
ISO	ISO METRIC	**NPTF**	NPTF	**STACME**	STUB ACME	**API**	API
UN	AMERICAN UN	**RD**	ROUND (DIN 405)	**UNJ**	UNJ	**BUT**	API BUTTRESS CASING
W	WITHWORTH	**RD20400**	ROUND (DIN 20400)	**MJ**	MJ	**API RD**	API ROUND CAS. & TUBING
BSPT	BSPT	**TR**	TRAPEZ	**ABUT**	AMERICAN BUTTRESS	**EL**	EXTREME LINE CASING
NPT	NPT	**ACME**	AMERICAN ACME	**SAGE**	METRIC BUT. SAGENGWINDE	**PG**	PG

5 - Grades
PH6920
PH8920

ISO METRIC ISO 965-1: 1999-11 | DIN 13: 2005-08







External

Geometry code [1]	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		MM	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881852	11 ER 0.35 ISO	0.35	6.35	11	0.8	0.4	○	○
1881853	11 ER 0.40 ISO	0.40	6.35	11	0.7	0.4	○	○
1881854	11 ER 0.45 ISO	0.45	6.35	11	0.7	0.4	○	○
1881855	11 ER 0.50 ISO	0.50	6.35	11	0.6	0.6	○	○
1881856	11 ER 0.60 ISO	0.60	6.35	11	0.6	0.6	○	○
1881857	11 ER 0.70 ISO	0.70	6.35	11	0.6	0.6	○	○
1881858	11 ER 0.75 ISO	0.75	6.35	11	0.6	0.6	◎	○
1881859	11 ER 0.80 ISO	0.80	6.35	11	0.6	0.6	○	○
1880602	11 ER 1.00 ISO	1.00	6.35	11	0.7	0.7	◎	○
1881861	11 ER 1.25 ISO	1.25	6.35	11	0.8	0.9	◎	○
1880603	11 ER 1.50 ISO	1.50	6.35	11	0.8	1.0	◎	○
1881864	11 ER 1.75 ISO	1.75	6.35	11	0.8	1.1	○	○
1881881	11 ER 2.00 ISO	2.00	6.35	11	0.8	1.1	○	○
1882030	16 ER 0.35 ISO	0.35	9.525	16	0.8	0.4	○	○
1882031	16 ER 0.40 ISO	0.40	9.525	16	0.7	0.4	○	○
1882032	16 ER 0.45 ISO	0.45	9.525	16	0.7	0.4	○	○
1880819	16 ER 0.50 ISO	0.50	9.525	16	0.6	0.6	○	○
1882033	16 ER 0.60 ISO	0.60	9.525	16	0.6	0.6	○	○
1882034	16 ER 0.70 ISO	0.70	9.525	16	0.6	0.6	○	○
1880447	16 ER 0.75 ISO	0.75	9.525	16	0.6	0.6	◎	○
1880804	16 ER 0.80 ISO	0.80	9.525	16	0.6	0.6	◎	○
1880479	16 ER 1.00 ISO	1.00	9.525	16	0.7	0.7	◎	○
1880007	16 ER 1.25 ISO	1.25	9.525	16	0.8	0.9	◎	○
1880262	16 ER 1.50 ISO	1.50	9.525	16	0.8	1.0	◎	○
1880732	16 ER 1.75 ISO	1.75	9.525	16	0.9	1.2	◎	○
1880018	16 ER 2.00 ISO	2.00	9.525	16	1.0	1.3	◎	○
1880020	16 ER 2.50 ISO	2.50	9.525	16	1.1	1.5	◎	○
1880022	16 ER 3.00 ISO	3.00	9.525	16	1.2	1.6	◎	○
1883740	16 ER 3.50 ISO	3.50	9.525	16	1.2	1.7	○	○
1880823	22 ER 3.50 ISO	3.50	12.70	22	1.6	2.3	◎	○
1880811	22 ER 4.00 ISO	4.00	12.70	22	1.6	2.3	◎	○
1880824	22 ER 4.50 ISO	4.50	12.70	22	1.7	2.4	◎	○
1880649	22 ER 5.00 ISO	5.00	12.70	22	1.7	2.5	◎	○
1883741	22 ER 5.50 ISO	5.50	12.70	22	1.7	2.6	○	○
1883742	22 ER 6.00 ISO	6.00	12.70	22	1.9	2.7	○	○
1882163	27 ER 5.50 ISO	5.50	15.875	27	1.6	2.3	○	○
1882164	27 ER 6.00 ISO	6.00	15.875	27	1.8	2.5	○	○

◎ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

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External

Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		MM	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881794	11 EL 0.35 ISO	0.35	6.35	11	0.8	0.4	○	○
1881795	11 EL 0.40 ISO	0.40	6.35	11	0.7	0.4	○	○
1881796	11 EL 0.45 ISO	0.45	6.35	11	0.7	0.4	○	○
1881797	11 EL 0.50 ISO	0.50	6.35	11	0.6	0.6	○	○
1881798	11 EL 0.60 ISO	0.60	6.35	11	0.6	0.6	○	○
1881799	11 EL 0.70 ISO	0.70	6.35	11	0.6	0.6	○	○
1881800	11 EL 0.75 ISO	0.75	6.35	11	0.6	0.6	○	○
1881801	11 EL 0.80 ISO	0.80	6.35	11	0.6	0.6	○	○
1881802	11 EL 1.00 ISO	1.00	6.35	11	0.7	0.7	○	○
1881803	11 EL 1.25 ISO	1.25	6.35	11	0.8	0.9	○	○
1881804	11 EL 1.50 ISO	1.50	6.35	11	0.8	1.0	○	○
1881806	11 EL 1.75 ISO	1.75	6.35	11	0.8	1.1	○	○
1880654	11 EL 2.00 ISO	2.00	6.35	11	0.8	1.1	○	○
1881977	16 EL 0.35 ISO	0.35	9.525	16	0.8	0.4	○	○
1881978	16 EL 0.40 ISO	0.40	9.525	16	0.7	0.4	○	○
1881979	16 EL 0.45 ISO	0.45	9.525	16	0.7	0.4	○	○
1881980	16 EL 0.50 ISO	0.50	9.525	16	0.6	0.6	○	○
1881981	16 EL 0.60 ISO	0.60	9.525	16	0.6	0.6	○	○
1881982	16 EL 0.70 ISO	0.70	9.525	16	0.6	0.6	○	○
1881983	16 EL 0.75 ISO	0.75	9.525	16	0.6	0.6	◎	○
1881984	16 EL 0.80 ISO	0.80	9.525	16	0.6	0.6	○	○
1880782	16 EL 1.00 ISO	1.00	9.525	16	0.7	0.7	◎	○
1880651	16 EL 1.25 ISO	1.25	9.525	16	0.8	0.9	◎	○
1880652	16 EL 1.50 ISO	1.50	9.525	16	0.8	1.0	○	○
1880653	16 EL 1.75 ISO	1.75	9.525	16	0.9	1.2	◎	○
1882519	16 EL 2.00 ISO	2.00	9.525	16	1.0	1.3	◎	○
1880788	16 EL 2.50 ISO	2.50	9.525	16	1.1	1.5	◎	○
1880488	16 EL 3.00 ISO	3.00	9.525	16	1.2	1.6	○	○
1883743	16 EL 3.50 ISO	3.50	9.525	16	1.2	1.7	○	○
1880844	22 EL 3.50 ISO	3.50	12.70	22	1.6	2.3	○	○
1880845	22 EL 4.00 ISO	4.00	12.70	22	1.6	2.3	○	○
1880846	22 EL 4.50 ISO	4.50	12.70	22	1.7	2.4	○	○
1880847	22 EL 5.00 ISO	5.00	12.70	22	1.7	2.5	○	○
1883744	22 EL 5.50 ISO	5.50	12.70	22	1.7	2.6	○	○
1883745	22 EL 6.00 ISO	6.00	12.70	22	1.9	2.7	○	○
1882150	27 EL 5.50 ISO	5.50	15.875	27	1.6	2.3	○	○
1882151	27 EL 6.00 ISO	6.00	15.875	27	1.8	2.5	○	○

◎ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

Internal

Geometry code [1]	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		MM	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881717	06 IR 0.50 ISO	0.50	4.00	06	0.9	0.5	○	○
1881718	06 IR 0.75 ISO	0.75	4.00	06	0.8	0.5	○	○
1881719	06 IR 1.00 ISO	1.00	4.00	06	0.7	0.6	○	○
1881720	06 IR 1.25 ISO	1.25	4.00	06	0.6	0.6	○	○
1881752	08 IR 0.35 ISO	0.35	5.00	08	0.7	0.4	○	○
1881753	08 IR 0.50 ISO	0.50	5.00	08	0.6	0.5	○	○
1881754	08 IR 0.75 ISO	0.75	5.00	08	0.6	0.5	○	○
1881755	08 IR 1.00 ISO	1.00	5.00	08	0.6	0.6	○	○
1881756	08 IR 1.25 ISO	1.25	5.00	08	0.6	0.7	○	○
1881757	08 IR 1.50 ISO	1.50	5.00	08	0.6	0.7	○	○
1881758	08 IR 1.75 ISO	1.75	5.00	08	0.6	0.8	○	○
1881937	11 IR 0.35 ISO	0.35	6.35	11	0.8	0.3	○	○
1881938	11 IR 0.40 ISO	0.40	6.35	11	0.8	0.4	○	○
1881939	11 IR 0.45 ISO	0.45	6.35	11	0.8	0.4	○	○
1880825	11 IR 0.50 ISO	0.50	6.35	11	0.6	0.6	○	○
1881940	11 IR 0.60 ISO	0.60	6.35	11	0.6	0.6	○	○
1881941	11 IR 0.70 ISO	0.70	6.35	11	0.6	0.6	○	○
1880762	11 IR 0.75 ISO	0.75	6.35	11	0.6	0.6	◎	○
1881942	11 IR 0.80 ISO	0.80	6.35	11	0.6	0.6	○	○
1880604	11 IR 1.00 ISO	1.00	6.35	11	0.8	0.7	◎	○
1880827	11 IR 1.25 ISO	1.25	6.35	11	0.8	0.8	◎	○
1880605	11 IR 1.50 ISO	1.50	6.35	11	0.8	1.0	◎	○
1880828	11 IR 1.75 ISO	1.75	6.35	11	0.8	1.1	◎	○
1880829	11 IR 2.00 ISO	2.00	6.35	11	0.8	0.9	◎	○
1883746	11 IR 2.50 ISO	2.50	6.35	11	0.8	1.2	○	○
1882108	16 IR 0.35 ISO	0.35	9.525	16	0.8	0.3	○	○
1882109	16 IR 0.40 ISO	0.40	9.525	16	0.8	0.4	○	○
1882110	16 IR 0.45 ISO	0.45	9.525	16	0.8	0.4	○	○
1880830	16 IR 0.50 ISO	0.50	9.525	16	0.6	0.6	◎	○
1882112	16 IR 0.60 ISO	0.60	9.525	16	0.6	0.6	○	○
1882113	16 IR 0.70 ISO	0.70	9.525	16	0.6	0.6	○	○
1880831	16 IR 0.75 ISO	0.75	9.525	16	0.6	0.6	◎	○
1880832	16 IR 0.80 ISO	0.80	9.525	16	0.6	0.6	○	○
1880025	16 IR 1.00 ISO	1.00	9.525	16	0.6	0.7	◎	○
1880026	16 IR 1.25 ISO	1.25	9.525	16	0.8	0.9	◎	○
1880619	16 IR 1.50 ISO	1.50	9.525	16	0.8	1.0	◎	○
1880733	16 IR 1.75 ISO	1.75	9.525	16	0.9	1.2	◎	○
1880039	16 IR 2.00 ISO	2.00	9.525	16	1.0	1.3	◎	○
1880041	16 IR 2.50 ISO	2.50	9.525	16	1.1	1.5	◎	○
1880042	16 IR 3.00 ISO	3.00	9.525	16	1.1	1.5	◎	○
1883747	16 IR 3.50 ISO	3.50	9.525	16	1.2	1.7	◎	○
1880834	22 IR 3.50 ISO	3.50	12.70	22	1.6	2.3	◎	○
1880818	22 IR 4.00 ISO	4.00	12.70	22	1.6	2.3	◎	○
1880835	22 IR 4.50 ISO	4.50	12.70	22	1.6	2.4	○	○
1880650	22 IR 5.00 ISO	5.00	12.70	22	1.6	2.3	◎	○
1883748	22 IR 5.50 ISO	5.50	12.70	22	1.6	2.3	○	○
1883749	22 IR 6.00 ISO	6.00	12.70	22	1.6	2.4	○	○
1882185	27 IR 5.50 ISO	5.50	15.875	27	1.6	2.3	◎	○
1882186	27 IR 6.00 ISO	6.00	15.875	27	1.8	2.5	○	○

◎ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

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Internal

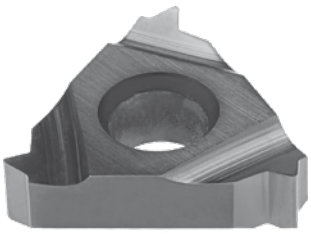
Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		MM	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881703	06 IL 0.50 ISO	0.50	4.00	06	0.9	0.5	○	○
1881704	06 IL 0.75 ISO	0.75	4.00	06	0.8	0.5	○	○
1881705	06 IL 1.00 ISO	1.00	4.00	06	0.7	0.6	○	○
1881706	06 IL 1.25 ISO	1.25	4.00	06	0.6	0.6	○	○
1881732	08 IL 0.50 ISO	0.50	5.00	08	0.6	0.5	○	○
1881733	08 IL 0.75 ISO	0.75	5.00	08	0.6	0.5	○	○
1881734	08 IL 1.00 ISO	1.00	5.00	08	0.6	0.6	○	○
1881735	08 IL 1.25 ISO	1.25	5.00	08	0.6	0.7	○	○
1881736	08 IL 1.50 ISO	1.50	5.00	08	0.6	0.7	○	○
1881737	08 IL 1.75 ISO	1.75	5.00	08	0.6	0.8	○	○
1881911	11 IL 0.35 ISO	0.35	6.35	11	0.8	0.3	○	○
1881912	11 IL 0.40 ISO	0.40	6.35	11	0.8	0.4	○	○
1881913	11 IL 0.45 ISO	0.45	6.35	11	0.8	0.4	○	○
1880837	11 IL 0.50 ISO	0.50	6.35	11	0.6	0.6	○	○
1881914	11 IL 0.60 ISO	0.60	6.35	11	0.6	0.6	○	○
1881915	11 IL 0.70 ISO	0.70	6.35	11	0.6	0.6	○	○
1880838	11 IL 0.75 ISO	0.75	6.35	11	0.6	0.6	○	○
1881916	11 IL 0.80 ISO	0.80	6.35	11	0.6	0.6	○	○
1880839	11 IL 1.00 ISO	1.00	6.35	11	0.8	0.7	○	○
1880840	11 IL 1.25 ISO	1.25	6.35	11	0.8	0.8	○	○
1880841	11 IL 1.50 ISO	1.50	6.35	11	0.8	1.0	○	○
1880842	11 IL 1.75 ISO	1.75	6.35	11	0.8	1.1	○	○
1880843	11 IL 2.00 ISO	2.00	6.35	11	0.8	0.9	◎	○
1883750	11 IL 2.50 ISO	2.50	6.35	11	0.8	1.2	○	○
1882058	16 IL 0.35 ISO	0.35	9.525	16	0.8	0.3	○	○
1882059	16 IL 0.40 ISO	0.40	9.525	16	0.8	0.4	○	○
1882060	16 IL 0.45 ISO	0.45	9.525	16	0.8	0.4	○	○
1882061	16 IL 0.50 ISO	0.50	9.525	16	0.6	0.6	○	○
1882062	16 IL 0.60 ISO	0.60	9.525	16	0.6	0.6	○	○
1882063	16 IL 0.70 ISO	0.70	9.525	16	0.6	0.6	○	○
1882064	16 IL 0.75 ISO	0.75	9.525	16	0.6	0.6	○	○
1882065	16 IL 0.80 ISO	0.80	9.525	16	0.6	0.6	○	○
1880783	16 IL 1.00 ISO	1.00	9.525	16	0.6	0.7	◎	○
1880784	16 IL 1.25 ISO	1.25	9.525	16	0.8	0.9	◎	○
1880785	16 IL 1.50 ISO	1.50	9.525	16	0.8	1.0	◎	○
1880786	16 IL 1.75 ISO	1.75	9.525	16	0.9	1.2	◎	○
1880787	16 IL 2.00 ISO	2.00	9.525	16	1.0	1.3	◎	○
1880789	16 IL 2.50 ISO	2.50	9.525	16	1.1	1.5	◎	○
1880790	16 IL 3.00 ISO	3.00	9.525	16	1.1	1.5	◎	○
1883751	16 IL 3.50 ISO	3.50	9.525	16	1.2	1.7	○	○
1880848	22 IL 3.50 ISO	3.50	12.70	22	1.6	2.3	○	○
1880849	22 IL 4.00 ISO	4.00	12.70	22	1.6	2.3	○	○
1880850	22 IL 4.50 ISO	4.50	12.70	22	1.6	2.4	○	○
1880851	22 IL 5.00 ISO	5.00	12.70	22	1.6	2.3	○	○
1883752	22 IL 5.50 ISO	5.50	12.70	22	1.6	2.3	○	○
1883753	22 IL 6.00 ISO	6.00	12.70	22	1.6	2.4	○	○
1882174	27 IL 5.50 ISO	5.50	15.875	27	1.6	2.3	○	○
1882175	27 IL 6.00 ISO	6.00	15.875	27	1.8	2.5	○	○

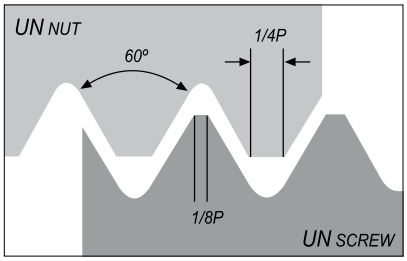
◎ Stock item | Produto de stock | Itens de stock

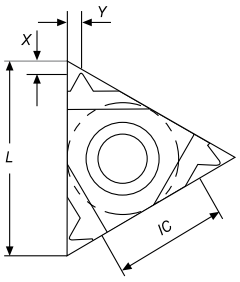
○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

AMERICAN UN (UNC, UNF, UNEF) | ANSI B1.1-1982







External

Geometry code [1]	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881907	11 ER 72 UN	72	6.35	11	0.8	0.4	○	○
1881906	11 ER 64 UN	64	6.35	11	0.8	0.4	○	○
1881903	11 ER 56 UN	56	6.35	11	0.7	0.4	○	○
1881901	11 ER 48 UN	48	6.35	11	0.6	0.6	○	○
1881900	11 ER 44 UN	44	6.35	11	0.6	0.6	○	○
1881898	11 ER 40 UN	40	6.35	11	0.6	0.6	○	○
1881896	11 ER 36 UN	36	6.35	11	0.6	0.6	○	○
1881894	11 ER 32 UN	32	6.35	11	0.6	0.6	○	○
1881892	11 ER 28 UN	28	6.35	11	0.6	0.7	○	○
1881890	11 ER 27 UN	27	6.35	11	0.7	0.8	○	○
1881885	11 ER 24 UN	24	6.35	11	0.7	0.8	○	○
1881882	11 ER 20 UN	20	6.35	11	0.8	0.9	○	○
1881877	11 ER 18 UN	18	6.35	11	0.8	1.0	○	○
1881873	11 ER 16 UN	16	6.35	11	0.9	1.1	○	○
1881869	11 ER 14 UN	14	6.35	11	0.9	1.1	○	○
1882055	16 ER 72 UN	72	9.525	16	0.8	0.3	○	○
1882054	16 ER 64 UN	64	9.525	16	0.8	0.4	○	○
1882051	16 ER 56 UN	56	9.525	16	0.7	0.4	○	○
1882049	16 ER 48 UN	48	9.525	16	0.6	0.6	○	○
1882048	16 ER 44 UN	44	9.525	16	0.6	0.6	○	○
1882046	16 ER 40 UN	40	9.525	16	0.6	0.6	○	○
1882044	16 ER 36 UN	36	9.525	16	0.6	0.6	○	○
1880870	16 ER 32 UN	32	9.525	16	0.6	0.6	○	○
1880869	16 ER 28 UN	28	9.525	16	0.6	0.7	○	○
1882041	16 ER 27 UN	27	9.525	16	0.7	0.8	○	○
1880868	16 ER 24 UN	24	9.525	16	0.7	0.8	◈	○
1880021	16 ER 20 UN	20	9.525	16	0.8	0.9	○	○
1880867	16 ER 18 UN	18	9.525	16	0.8	1.0	○	○
1880616	16 ER 16 UN	16	9.525	16	0.9	1.1	◈	○
1880014	16 ER 14 UN	14	9.525	16	1.0	1.2	◈	○
1880866	16 ER 13 UN	13	9.525	16	1.0	1.3	◈	○
1880865	16 ER 12 UN	12	9.525	16	1.1	1.4	○	○
1883754	16 ER 11.5 UN	11.5	9.525	16	1.1	1.5	○	○
1880864	16 ER 11 UN	11	9.525	16	1.1	1.5	○	○
1880863	16 ER 10 UN	10	9.525	16	1.1	1.5	◈	○
1880862	16 ER 9 UN	9	9.525	16	1.2	1.7	◈	○

◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

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External

Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1880024	16 ER 8 UN	8	9.525	16	1.2	1.6	○	○
1880861	22 ER 7 UN	7	12.70	22	1.6	2.3	○	○
1880860	22 ER 6 UN	6	12.70	22	1.6	2.3	◈	○
1880859	22 ER 5 UN	5	12.70	22	1.7	2.5	○	○
1882157	27 ER 4.5 UN	4.5	15.875	27	1.9	2.7	○	○
1882161	27 ER 4 UN	4	15.875	27	2.1	3.0	○	○
1881848	11 EL 72 UN	72	6.35	11	0.8	0.4	○	○
1881847	11 EL 64 UN	64	6.35	11	0.8	0.4	○	○
1882200	11 EL 56 UN	56	6.35	11	0.7	0.4	○	○
1881843	11 EL 48 UN	48	6.35	11	0.6	0.6	○	○
1881842	11 EL 44 UN	44	6.35	11	0.6	0.6	○	○
1881840	11 EL 40 UN	40	6.35	11	0.6	0.6	○	○
1881838	11 EL 36 UN	36	6.35	11	0.6	0.6	○	○
1881836	11 EL 32 UN	32	6.35	11	0.6	0.6	○	○
1881834	11 EL 28 UN	28	6.35	11	0.6	0.7	○	○
1881832	11 EL 27 UN	27	6.35	11	0.7	0.8	○	○
1881827	11 EL 24 UN	24	6.35	11	0.7	0.8	○	○
1881824	11 EL 20 UN	20	6.35	11	0.8	0.9	○	○
1881819	11 EL 18 UN	18	6.35	11	0.8	1.0	○	○
1881815	11 EL 16 UN	16	6.35	11	0.9	1.1	○	○
1881811	11 EL 14 UN	14	6.35	11	0.9	1.1	○	○
1882022	16 EL 72 UN	72	9.525	16	0.8	0.3	○	○
1882020	16 EL 64 UN	64	9.525	16	0.8	0.4	○	○
1882017	16 EL 56 UN	56	9.525	16	0.7	0.4	○	○
1882015	16 EL 48 UN	48	9.525	16	0.6	0.6	○	○
1882014	16 EL 44 UN	44	9.525	16	0.6	0.6	○	○
1882012	16 EL 40 UN	40	9.525	16	0.6	0.6	○	○
1882010	16 EL 36 UN	36	9.525	16	0.6	0.6	○	○
1880886	16 EL 32 UN	32	9.525	16	0.6	0.6	○	○
1880885	16 EL 28 UN	28	9.525	16	0.6	0.7	○	○
1882007	16 EL 27 UN	27	9.525	16	0.7	0.8	○	○
1880884	16 EL 24 UN	24	9.525	16	0.7	0.8	○	○
1880883	16 EL 20 UN	20	9.525	16	0.8	0.9	○	○
1880882	16 EL 18 UN	18	9.525	16	0.8	1.0	○	○
1880881	16 EL 16 UN	16	9.525	16	0.9	1.1	○	○
1880880	16 EL 14 UN	14	9.525	16	1.0	1.2	○	○
1880879	16 EL 13 UN	13	9.525	16	1.0	1.3	○	○
1880878	16 EL 12 UN	12	9.525	16	1.1	1.4	○	○
1883755	16 EL 11.5 UN	11.5	9.525	16	1.1	1.5	○	○
1880877	16 EL 11 UN	11	9.525	16	1.1	1.5	○	○
1880876	16 EL 10 UN	10	9.525	16	1.1	1.5	○	○
1880875	16 EL 9 UN	9	9.525	16	1.2	1.7	○	○
1880874	16 EL 8 UN	8	9.525	16	1.2	1.6	○	○
1880873	22 EL 7U N	7	12.70	22	1.6	2.3	○	○
1880872	22 EL 6 UN	6	12.70	22	1.6	2.3	○	○
1880871	22 EL 5 UN	5	12.70	22	1.7	2.5	○	○
1882144	27 EL 4.5 UN	4.5	15.875	27	1.9	2.7	○	○
1882148	27 EL 4 UN	4	15.875	27	2.1	3.0	○	○

◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

Internal

Geometry code [1]	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881726	06 IR 32 UN	32	4.00	06	0.8	0.5	○	○
1881725	06 IR 28 UN	28	4.00	06	0.8	0.6	○	○
1881722	06 IR 24 UN	24	4.00	06	0.7	0.6	○	○
1883756	06 IR 20 UN	20	4.00	06	0.6	0.6	○	○
1881721	06 IR 18 UN	18	4.00	06	0.6	0.7	○	○
1881769	08 IR 32 UN	32	5.00	08	0.6	0.5	○	○
1881768	08 IR 28 UN	28	5.00	08	0.6	0.6	○	○
1881765	08 IR 24 UN	24	5.00	08	0.6	0.6	○	○
1881764	08 IR 20 UN	20	5.00	08	0.6	0.7	◈	○
1881762	08 IR 18 UN	18	5.00	08	0.6	0.7	○	○
1881760	08 IR 16 UN	16	5.00	08	0.6	0.7	○	○
1881759	08 IR 14 UN	14	5.00	08	0.6	0.8	○	○
1881956	11 IR 72 UN	72	6.35	11	0.8	0.3	○	○
1881955	11 IR 64 UN	64	6.35	11	0.8	0.4	○	○
1881954	11 IR 56 UN	56	6.35	11	0.7	0.4	○	○
1881953	11 IR 48 UN	48	6.35	11	0.6	0.6	○	○
1881952	11 IR 44 UN	44	6.35	11	0.6	0.6	○	○
1881951	11 IR 40 UN	40	6.35	11	0.6	0.6	○	○
1881950	11 IR 36 UN	36	6.35	11	0.6	0.6	○	○
1880910	11 IR 32 UN	32	6.35	11	0.6	0.6	○	○
1880909	11 IR 28 UN	28	6.35	11	0.6	0.7	○	○
1881948	11 IR 27 UN	27	6.35	11	0.7	0.8	○	○
1880908	11 IR 24 UN	24	6.35	11	0,7	0.8	○	○
1880907	11 IR 20 UN	20	6.35	11	0.8	0.9	○	○
1880906	11 IR 18 UN	18	6.35	11	0.8	1.0	○	○
1880905	11 IR 16 UN	16	6.35	11	0.9	1.1	◈	○
1880904	11 IR 14 UN	14	6.35	11	0.9	1.1	◈	○
1880903	11 IR 13 UN	13	6.35	11	0.8	1.0	○	○
1880902	11 IR 12 UN	12	6.35	11	0.9	1.1	◈	○
1880901	11 IR 11 UN	11	6.35	11	0.8	1.1	○	○
1882126	16 IR 72 UN	72	9.525	16	0.8	0.3	○	○
1882124	16 IR 64 UN	64	9.525	16	0.8	0.4	○	○
1882123	16 IR 56 UN	56	9.525	16	0.7	0.4	○	○
1882122	16 IR 48 UN	48	9.525	16	0.6	0.6	○	○
1882121	16 IR 44 UN	44	9.525	16	0.6	0.6	○	○
1882120	16 IR 40 UN	40	9.525	16	0.6	0.6	○	○
1882118	16 IR 36 UN	36	9.525	16	0.6	0.6	○	○
1880900	16 IR 32 UN	32	9.525	16	0.6	0.6	○	○
1880899	16 IR 28 UN	28	9.525	16	0.6	0.7	○	○
1882117	16 IR 27 UN	27	9.525	16	0.7	0.8	○	○
1880898	16 IR 24 UN	24	9.525	16	0.7	0.8	○	○
1880618	16 IR 20 UN	20	9.525	16	0.8	0.9	◈	○
1880897	16 IR 18 UN	18	9.525	16	0.8	1.0	◈	○
1880037	16 IR 16 UN	16	9.525	16	0.9	1.1	○	○
1880034	16 IR 14 UN	14	9.525	16	1.0	1.2	○	○
1882116	16 IR 13 UN	13	9.525	16	1.0	1.3	○	○

◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

AMERICAN UN (UNC, UNF, UNEF) | ANSI B1.1-1982

Internal

Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1880894	16 IR 12 UN	12	9.525	16	1.1	1.4	◈	○
1883757	16 IR 11.5 UN	11.5	9.525	16	1.1	1.5	○	○
1880893	16 IR 11 UN	11	9.525	16	1.1	1.5	○	○
1880892	16 IR 10 UN	10	9.525	16	1.1	1.5	○	○
1880891	16 IR 9 UN	9	9.525	16	1.2	1.7	○	○
1880044	16 IR 8 UN	8	9.525	16	1.2	1.6	○	○
1880889	22 IR 7 UN	7	12.70	22	1.6	2.3	○	○
1880888	22 IR 6 UN	6	12.70	22	1.6	2.3	○	○
1880887	22 IR 5 UN	5	12.70	22	1.6	2.3	○	○
1882181	27 IR 4.5 UN	4.5	15.875	27	1.7	2.4	○	○
1882184	27 IR 4 UN	4	15.875	27	1.8	2.7	○	○
1881712	06 IL 32 UN	32	4.00	06	0.8	0.5	○	○
1881711	06 IL 28 UN	28	4.00	06	0.8	0.6	○	○
1881708	06 IL 24 UN	24	4.00	06	0.7	0.6	○	○
1883758	06 IL 20 UN	20	4.00	06	0.6	0.6	○	○
1881707	06 IL 18 UN	18	4.00	06	0.6	0.7	○	○
1881748	08 IL 32 UN	32	5.00	08	0.6	0.5	○	○
1881747	08 IL 28 UN	28	5.00	08	0.6	0.6	○	○
1881744	08 IL 24 UN	24	5.00	08	0.6	0.6	○	○
1881743	08 IL 20 UN	20	5.00	08	0.6	0.7	○	○
1881741	08 IL 18 UN	18	5.00	08	0.6	0.7	○	○
1881739	08 IL 16 UN	16	5.00	08	0.6	0.7	○	○
1881738	08 IL 14 UN	14	5.00	08	0.6	0.8	○	○
1881936	11 IL 72 UN	72	6.35	11	0.8	0.3	○	○
1881935	11 IL 64 UN	64	6.35	11	0.8	0.4	○	○
1881934	11 IL 56 UN	56	6.35	11	0.7	0.4	○	○
1881933	11 IL 48 UN	48	6.35	11	0.6	0.6	○	○
1881932	11 IL 44 UN	44	6.35	11	0.6	0.6	○	○
1881931	11 IL 40 UN	40	6.35	11	0.6	0.6	○	○
1881930	11 IL 36 UN	36	6.35	11	0.6	0.6	○	○
1880935	11 IL 32 UN	32	6.35	11	0.6	0.6	○	○
1880934	11 IL 28 UN	28	6.35	11	0.6	0.7	○	○
1881928	11 IL 27 UN	27	6.35	11	0.7	0.8	○	○
1880933	11 IL 24 UN	24	6.35	11	0,7	0.8	○	○
1880932	11 IL 20 UN	20	6.35	11	0.8	0.9	○	○
1880931	11 IL 18 UN	18	6.35	11	0.8	1.0	○	○
1880930	11 IL 16 UN	16	6.35	11	0.9	1.1	○	○
1880929	11 IL 14 UN	14	6.35	11	0.9	1.1	○	○
1880928	11 IL 13 UN	13	6.35	11	0.8	1.0	○	○
1880927	11 IL 12 UN	12	6.35	11	0.9	1.1	○	○
1880926	11 IL 11 UN	11	6.35	11	0.8	1.1	○	○
1882101	16 IL 72 UN	72	9.525	16	0.8	0.3	○	○
1882098	16 IL 64 UN	64	9.525	16	0.8	0.4	○	○
1882097	16 IL 56 UN	56	9.525	16	0.7	0.4	○	○
1882096	16 IL 48 UN	48	9.525	16	0.6	0.6	○	○
1882095	16 IL 44 UN	44	9.525	16	0.6	0.6	○	○

◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

Internal

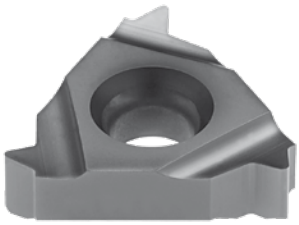
Geometry code [1]	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1882094	16 IL 40 UN	40	9.525	16	0.6	0.6	○	○
1882092	16 IL 36 UN	36	9.525	16	0.6	0.6	○	○
1880925	16 IL 32 UN	32	9.525	16	0.6	0.6	○	○
1880924	16 IL 28 UN	28	9.525	16	0.6	0.7	○	○
1882089	16 IL 27 UN	27	9.525	16	0.7	0.8	○	○
1880923	16 IL 24 UN	24	9.525	16	0.7	0.8	○	○
1880922	16 IL 20 UN	20	9.525	16	0.8	0.9	○	○
1880921	16 IL 18 UN	18	9.525	16	0.8	1.0	○	○
1880920	16 IL 16 UN	16	9.525	16	0.9	1.1	○	○
1880919	16 IL 14 UN	14	9.525	16	1.0	1.2	○	○
1882074	16 IL 13 UN	13	9.525	16	1.0	1.3	○	○
1880918	16 IL 12 UN	12	9.525	16	1.1	1.4	○	○
1883759	16 IL 11.5 UN	11.5	9.525	16	1.1	1.5	○	○
1880917	16 IL 11 UN	11	9.525	16	1.1	1.5	○	○
1880916	16 IL 10 UN	10	9.525	16	1.1	1.5	○	○
1880915	16 IL 9 UN	9	9.525	16	1.2	1.7	○	○
1880914	16 IL 8 UN	8	9.525	16	1.2	1.6	○	○
1880913	22 IL 7 UN	7	12.70	22	1.6	2.3	○	○
1880912	22 IL 6 UN	6	12.70	22	1.6	2.3	○	○
1880911	22 IL 5 UN	5	12.70	22	1.6	2.3	○	○
1882170	27 IL 4.5 UN	4.5	15.875	27	1.7	2.4	○	○
1882173	27 IL 4 UN	4	15.875	27	1.8	2.7	○	○

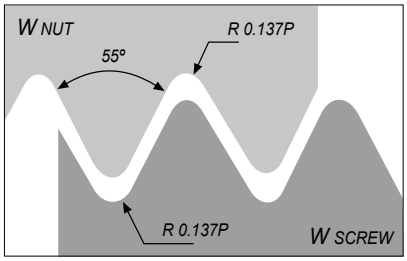
Stock item | Produto de stock | Itens de stock

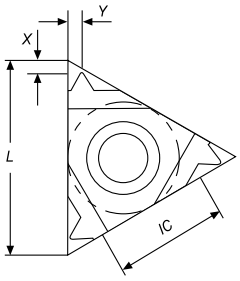
○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

WITHWORTH FOR BSW, BSF, BSP, B.S.84: 1956, DIN 259, ISO 228-1:1994







External

Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881908	11 ER 72 W	72	6.35	11	0.7	0.4	○	○
1881905	11 ER 60 W	60	6.35	11	0.7	0.4	○	○
1881904	11 ER 56 W	56	6.35	11	0.7	0.4	○	○
1881902	11 ER 48 W	48	6.35	11	0.6	0.6	○	○
1881899	11 ER 40 W	40	6.35	11	0.6	0.6	○	○
1881897	11 ER 36 W	36	6.35	11	0.6	0.6	○	○
1881895	11 ER 32 W	32	6.35	11	0.6	0.6	○	○
1881893	11ER 28 W	28	6.35	11	0.6	0.7	○	○
1881887	11 ER 26 W	26	6.35	11	0.7	0.7	○	○
1881886	11 ER 24 W	24	6.35	11	0.7	0.8	○	○
1881884	11 ER 22 W	22	6.35	11	0.8	0.9	○	○
1881883	11 ER 20 W	20	6.35	11	0.8	0.9	○	○
1881880	11 ER 19 W	19	6.35	11	0.8	1.0	○	○
1881878	11 ER 18 W	18	6.35	11	0.8	1.0	○	○
1881874	11 ER 16 W	16	6.35	11	0.9	1.1	○	○
1881870	11 ER 14 W	14	6.35	11	0.9	1.1	○	○
1882056	16 ER 72 W	72	9.525	16	0.7	0.4	○	○
1882053	16 ER 60 W	60	9.525	16	0.7	0.4	○	○
1882052	16 ER 56 W	56	9.525	16	0.7	0.4	○	○
1882050	16 ER 48 W	48	9.525	16	0.6	0.6	○	○
1882047	16 ER 40 W	40	9.525	16	0.6	0.6	○	○
1882045	16 ER 36 W	36	9.525	16	0.6	0.6	○	○
1882043	16 ER 32 W	32	9.525	16	0.6	0.6	○	○
1880940	16 ER 28 W	28	9.525	16	0.6	0.7	○	○
1882040	16 ER 26 W	26	9.525	16	0.7	0.7	○	○
1880939	16 ER 24 W	24	9.525	16	0.7	0.8	○	○
1882039	16 ER 22 W	22	9.525	16	0.8	0.9	○	○
1880938	16 ER 20 W	20	9.525	16	0.8	0.9	◈	○
1880017	16 ER 19 W	19	9.525	16	0.8	1.0	◈	○
1880937	16 ER 18 W	18	9.525	16	0.8	1.0	○	○
1880609	16 ER 16 W	16	9.525	16	0.9	1.1	◈	○
1880015	16 ER 14 W	14	9.525	16	1.0	1.2	◈	○
1880611	16 ER 12 W	12	9.525	16	1.1	1.4	◈	○
1880613	16 ER 11 W	11	9.525	16	1.1	1.5	◈	○
1880614	16 ER 10 W	10	9.525	16	1.1	1.5	◈	○
1880936	16 ER 9 W	9	9.525	16	1.2	1.7	○	○

◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

External

Geometry code [1]	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1880646	16 ER 8 W	8	9.525	16	1.2	1.5	◈	○
1880941	22 ER 7 W	7	12.70	22	1.6	2.3	◈	○
1880942	22 ER 6 W	6	12.70	22	1.6	2.3	○	○
1880943	22 ER 5 W	5	12.70	22	1.7	2.4	○	○
1882158	27 ER 4.5 W	4.5	15.875	27	1.8	2.6	○	○
1882162	27 ER 4 W	4	15.875	27	2.0	2.9	○	○
1881849	11 EL 72 W	72	6.35	11	0.7	0.4	○	○
1881846	11 EL 60 W	60	6.35	11	0.7	0.4	○	○
1881845	11 EL 56 W	56	6.35	11	0.7	0.4	○	○
1881844	11 EL 48 W	48	6.35	11	0.6	0.6	○	○
1881841	11 EL 40 W	40	6.35	11	0.6	0.6	○	○
1881839	11 EL 36 W	36	6.35	11	0.6	0.6	○	○
1881837	11 EL 32 W	32	6.35	11	0.6	0.6	○	○
1881835	11 EL 28 W	28	6.35	11	0.6	0.7	○	○
1881829	11 EL 26 W	26	6.35	11	0.7	0.7	○	○
1881828	11 EL 24 W	24	6.35	11	0.7	0.8	○	○
1881826	11 EL 22 W	22	6.35	11	0.8	0.9	○	○
1881825	11 EL 20 W	20	6.35	11	0.8	0.9	○	○
1881822	11 EL 19 W	19	6.35	11	0.8	1.0	○	○
1881820	11 EL 18 W	18	6.35	11	0.8	1.0	○	○
1881816	11 EL 16 W	16	6.35	11	0.9	1.1	○	○
1881812	11 EL 14 W	14	6.35	11	0.9	1.1	○	○
1882023	16 EL 72 W	72	9.525	16	0.7	0.4	○	○
1882019	16 EL 60 W	60	9.525	16	0.7	0.4	○	○
1882018	16 EL 56 W	56	9.525	16	0.7	0.4	○	○
1882016	16 EL 48 W	48	9.525	16	0.6	0.6	○	○
1882013	16 EL 40 W	40	9.525	16	0.6	0.6	○	○
1882011	16 EL 36 W	36	9.525	16	0.6	0.6	○	○
1882009	16 EL 32 W	32	9.525	16	0.6	0.6	○	○
1880955	16 EL 28 W	28	9.525	16	0.6	0.7	○	○
1882004	16 EL 26 W	26	9.525	16	0.6	0.7	○	○
1880954	16 EL 24 W	24	9.525	16	0.7	0.8	○	○
1882003	16 EL 22 W	22	9.525	16	0.8	0.9	○	○
1880953	16 EL 20 W	20	9.525	16	0.8	0.9	○	○
1880952	16 EL 19 W	19	9.525	16	0.8	1.0	○	○
1880951	16 EL 18 W	18	9.525	16	0.8	1.0	○	○
1880950	16 EL 16 W	16	9.525	16	0.9	1.1	○	○
1880949	16 EL 14 W	14	9.525	16	1.0	1.2	◈	○
1880948	16 EL 12 W	12	9.525	16	1.1	1.4	○	○
1880947	16 EL 11 W	11	9.525	16	1.1	1.5	○	○
1880946	16 EL 10 W	10	9.525	16	1.1	1.5	○	○
1880945	16 EL 9 W	9	9.525	16	1.2	1.7	○	○
1880944	16 EL 8 W	8	9.525	16	1.2	1.5	○	○
1880956	22 EL 7 W	7	12.70	22	1.6	2.3	○	○
1880957	22 EL 6 W	6	12.70	22	1.6	2.3	○	○
1880958	22 EL 5 W	5	12.70	22	1.7	2.4	○	○
1882145	27 EL 4.5 W	4.5	15.875	27	1.8	2.6	○	○
1882149	27 EL 4 W	4	15.875	27	2.0	2.9	○	○

◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

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WITHWORTH FOR BSW, BSF, BSP, B.S.84: 1956, DIN 259, ISO 228-1:1994

Internal

Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1882203	06 IR 26 W	26	4.00	06	0.7	0.6	○	○
1882207	06 IR 22 W	22	4.00	06	0.6	0.6	○	○
1883760	06 IR 20 W	20	4.00	06	0.6	0.7	○	○
1882211	06 IR 18 W	18	4.00	06	0.6	0.7	○	○
1882213	08 IR 28 W	28	5.00	08	0.6	0.6	○	○
1882217	08 IR 24 W	24	5.00	08	0.6	0.6	○	○
1882219	08 IR 20 W	20	5.00	08	0.6	0.7	○	○
1882221	08 IR 19 W	19	5.00	08	0.6	0.7	○	○
1882223	08 IR 18 W	18	5.00	08	0.6	0.7	○	○
1882225	08 IR 16 W	16	5.00	08	0.6	0.7	○	○
1882227	11 IR 72 W	72	6.35	11	0.7	0.4	○	○
1882229	11 IR 60 W	60	6.35	11	0.7	0.4	○	○
1882231	11 IR 56 W	56	6.35	11	0.7	0.4	○	○
1882233	11 IR 48 W	48	6.35	11	0.6	0.6	○	○
1882235	11 IR 40 W	40	6.35	11	0.6	0.6	○	○
1883761	11 IR 36 W	36	6.35	11	0.6	0.6	○	○
1882237	11 IR 32 W	32	6.35	11	0.6	0.6	○	○
1880972	11 IR 28 W	28	6.35	11	0.6	0.7	○	○
1882239	11 IR 26 W	26	6.35	11	0.7	0.7	○	○
1880971	11 IR 24 W	24	6.35	11	0.7	0.8	○	○
1883762	11 IR 22 W	22	6.35	11	0.8	0.9	○	○
1880970	11 IR 20 W	20	6.35	11	0.8	0.9	○	○
1880005	11 IR 19 W	19	6.35	11	0.8	1.0	○	○
1880968	11 IR 18 W	18	6.35	11	0.8	1.0	◈	○
1880967	11 IR 16 W	16	6.35	11	0.9	1.1	○	○
1880004	11 IR 14 W	14	6.35	11	0.9	1.1	◈	○
1883763	11 IR 12 W	12	6.35	11	1.0	1.1	○	○
1883764	11 IR 11 W	11	6.35	11	0.9	1.2	○	○
1882241	16 IR 72 W	72	9.525	16	0.7	0.4	○	○
1882498	16 IR 60 W	60	9.525	16	0.7	0.4	○	○
1882244	16 IR 56 W	56	9.525	16	0.7	0.4	○	○
1882246	16 IR 48 W	48	9.525	16	0.6	0.6	○	○
1882248	16 IR 40 W	40	9.525	16	0.6	0.6	○	○
1882250	16 IR 36 W	36	9.525	16	0.6	0.6	○	○
1882252	16 IR 32 W	32	9.525	16	0.6	0.6	○	○
1880965	16 IR 28 W	28	9.525	16	0.6	0.7	○	○
1882254	16 IR 26 W	26	9.525	16	0.6	0.7	○	○
1880964	16 IR 24 W	24	9.525	16	0.7	0.8	○	○
1882256	16 IR 22 W	22	9.525	16	0.8	0.9	○	○
1880963	16 IR 20 W	20	9.525	16	0.8	0.9	◈	○
1880608	16 IR 19 W	19	9.525	16	0.8	1.0	◈	○
1880962	16 IR 18 W	18	9.525	16	0.8	1.0	○	○
1880610	16 IR 16 W	16	9.525	16	0.9	1.1	○	○
1880035	16 IR 14 W	14	9.525	16	1.0	1.2	◈	○
1880612	16 IR 12 W	12	9.525	16	1.1	1.4	◈	○
1880031	16 IR 11 W	11	9.525	16	1.1	1.5	◈	○

◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

Internal

Geometry code [1]	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1880615	16 IR 10 W	10	9.525	16	1.1	1.5	○	○
1882258	16 IR 9 W	9	9.525	16	1.2	1.7	○	○
1880672	16 IR 8 W	8	9.525	16	1.2	1.5	◈	○
1880959	22 IR 7 W	7	12.70	22	1.6	2.3	○	○
1880960	22 IR 6 W	6	12.70	22	1.6	2.3	○	○
1880961	22 IR 5 W	5	12.70	22	1.7	2.4	○	○
1882259	27 IR 4.5 W	4.5	15.875	27	1.8	2.6	○	○
1882261	27 IR 4 W	4	15.875	27	2.0	2.9	○	○
1882204	06 IL 26 W	26	4.00	06	0.7	0.6	○	○
1882208	06 IL 22 W	22	4.00	06	0.6	0.6	○	○
1883765	06 IL 20 W	20	4.00	06	0.6	0.7	○	○
1882212	06 IL 18 W	18	4.00	06	0.6	0.7	○	○
1882214	08 IL 28 W	28	5.00	08	0.7	0.7	○	○
1882218	08 IL 24 W	24	5.00	08	0.7	0.7	○	○
1882220	08 IL 20 W	20	5.00	08	0.7	0.7	○	○
1882222	08 IL 19 W	19	5.00	08	0.7	0.7	○	○
1882224	08 IL 18 W	18	5.00	08	0.7	0.7	○	○
1882226	08 IL 16 W	16	5.00	08	0.7	0.7	○	○
1882228	11 IL 72 W	72	6.35	11	0.7	0.4	○	○
1882230	11 IL 60 W	60	6.35	11	0.7	0.4	○	○
1882232	11 IL 56 W	56	6.35	11	0.7	0.4	○	○
1882234	11 IL 48 W	48	6.35	11	0.6	0.6	○	○
1882236	11 IL 40 W	40	6.35	11	0.6	0.6	○	○
1883766	11 IL 36 W	36	6.35	11	0.6	0.6	○	○
1882238	11 IL 32 W	32	6.35	11	0.6	0.6	○	○
1880994	11 IL 28 W	28	6.35	11	0.6	0.7	○	○
1882240	11 IL 26 W	26	6.35	11	0.7	0.7	○	○
1880993	11 IL 24 W	24	6.35	11	0.7	0.8	○	○
1883767	11 IL 22 W	22	6.35	11	0.8	0.9	○	○
1880992	11 IL 20 W	20	6.35	11	0.8	0.9	○	○
1880991	11 IL 19 W	19	6.35	11	0.8	1.0	○	○
1880990	11 IL 18 W	18	6.35	11	0.8	1.0	○	○
1880989	11 IL 16 W	16	6.35	11	0.9	1.1	○	○
1880988	11 IL 14 W	14	6.35	11	0.9	1.1	○	○
1883768	11 IL 12 W	12	6.35	11	1.0	1.1	○	○
1883769	11 IL 11 W	11	6.35	11	0.9	1.2	○	○
1882242	16 IL 72 W	72	9.525	16	0.7	0.4	○	○
1882243	16 IL 60 W	60	9.525	16	0.7	0.4	○	○
1882245	16 IL 56 W	56	9.525	16	0.7	0.4	○	○
1882247	16 IL 48 W	48	9.525	16	0.6	0.6	○	○

◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

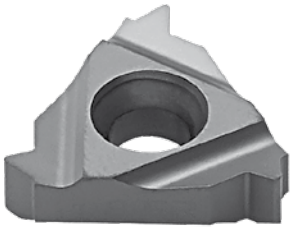
Internal

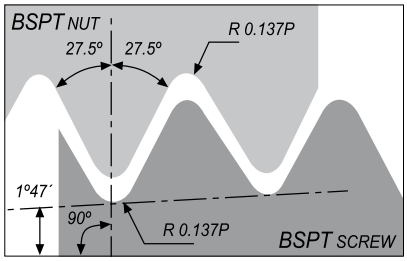
Geometry code [1]	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1882249	16 IL 40 W	40	9.525	16	0.6	0.6	○	○
1882251	16 IL 36 W	36	9.525	16	0.6	0.6	○	○
1882253	16 IL 32 W	32	9.525	16	0.6	0.6	○	○
1880987	16 IL 28 W	28	9.525	16	0.6	0.7	○	○
1882255	16 IL 26 W	26	9.525	16	0.6	0.7	○	○
1880986	16 IL 24 W	24	9.525	16	0.7	0.8	○	○
1882257	16 IL 22 W	22	9.525	16	0.8	0.9	○	○
1880985	16 IL 20 W	20	9.525	16	0.8	0.9	○	○
1880984	16 IL 19 W	19	9.525	16	0.8	1.0	○	○
1880983	16 IL 18 W	18	9.525	16	0.8	1.0	○	○
1880982	16 IL 16 W	16	9.525	16	0.9	1.1	○	○
1880981	16 IL 14 W	14	9.525	16	1.0	1.2	○	○
1880980	16 IL 12 W	12	9.525	16	1.1	1.4	○	○
1880979	16 IL 11 W	11	9.525	16	1.1	1.5	◈	○
1880978	16 IL 10 W	10	9.525	16	1.1	1.5	○	○
1880977	16 IL 9 W	9	9.525	16	1.2	1.7	○	○
1880976	16 IL 8 W	8	9.525	16	1.2	1.5	○	○
1880975	22 IL 7 W	7	12.70	22	1.6	2.3	○	○
1880974	22 IL 6 W	6	12.70	22	1.6	2.3	○	○
1880973	22 IL 5 W	5	12.70	22	1.7	2.4	○	○
1882260	27 IL 4.5 W	4.5	15.875	27	1.8	2.6	○	○
1882262	27 IL 4 W	4	15.875	27	2.0	2.9	○	○

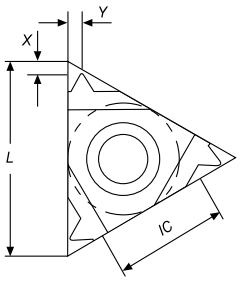
◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code







External

Geometry code [1]	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1880998	16 ER 28 BSPT	28	9.525	16	0.6	0.6	○	○
1880997	16 ER 19 BSPT	19	9.525	16	0.8	0.9	○	○
1880996	16 ER 14 BSPT	14	9.525	16	1.0	1.2	○	○
1880995	16 ER 11 BSPT	11	9.525	16	1.1	1.5	◈	○
1882008	16 EL 28 BSPT	28	9.525	16	0.6	0.6	○	○
1882001	16 EL 19 BSPT	19	9.525	16	0.8	0.9	○	○
1881993	16 EL 14 BSPT	14	9.525	16	1.0	1.2	○	○
1881989	16 EL 11 BSPT	11	9.525	16	1.1	1.5	○	○

◈ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta **Insert order code** = (1) Geometry Code + (2) Grade Code

Internal

Geometry code [1]	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881724	06 IR 28 BSPT	28	4.00	06	0.7	0.6	○	○
1881767	08 IR 28 BSPT	28	5.00	08	0.6	0.6	○	○
1881763	08 IR 19 BSPT	19	5.00	08	0.6	0.6	○	○
1881949	11 IR 28 BSPT	28	6.35	11	0.6	0.6	○	○
1881004	11 IR 19 BSPT	19	6.35	11	0.8	0.9	○	○
1881003	11 IR 14 BSPT	14	6.35	11	0.9	1.0	○	○
1883770	11 IR 11 BSPT	11	6.35	11	0.9	1.2	○	○
1881002	16 IR 28 BSPT	28	9.525	16	0.6	0.6	○	○
1881001	16 IR 19 BSPT	19	9.525	16	0.8	0.9	○	○
1881000	16 IR 14 BSPT	14	9.525	16	1.0	1.2	○	○
1880999	16 IR 11 BSPT	11	9.525	16	1.1	1.5	○	○
1881710	06 IL 28 BSPT	28	4.00	06	0.7	0.6	○	○
1881746	08 IL 28 BSPT	28	5.00	08	0.6	0.6	○	○
1881742	08 IL 19 BSPT	19	5.00	08	0.6	0.6	○	○
1881929	11 IL 28 BSPT	28	6.35	11	0.6	0.6	○	○
1881925	11 IL 19 BSPT	19	6.35	11	0.8	0.9	○	○
1881918	11 IL 14 BSPT	14	6.35	11	0.9	1.0	○	○
1883771	11 IL 11 BSPT	11	6.35	11	0.9	1.2	○	○
1882090	16 IL 28 BSPT	28	9.525	16	0.6	0.6	○	○
1882084	16 IL 19 BSPT	19	9.525	16	0.8	0.9	○	○
1882076	16 IL 14 BSPT	14	9.525	16	1.0	1.2	○	○
1882071	16 IL 11 BSPT	11	9.525	16	1.1	1.5	○	○

◈ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta **Insert order code** = (1) Geometry Code + (2) Grade Code

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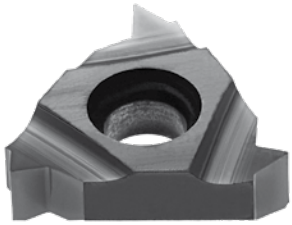
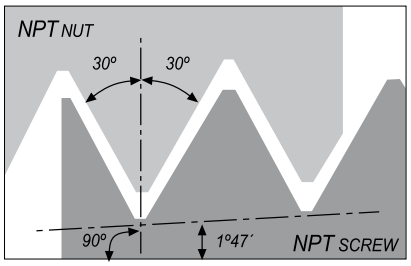
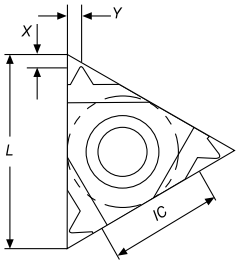
NPT | ANSI/ASME B 1.20.1-1983







External

Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881888	11 ER 27 NPT	27	6.35	11	0.7	0.8	○	○
1881875	11 ER 18 NPT	18	6.35	11	0.8	1.0	○	○
1881867	11 ER 14 NPT	14	6.35	11	0.8	1.0	○	○
1881017	16 ER 27 NPT	27	9.525	16	0.7	0.8	◈	○
1881016	16 ER 18 NPT	18	9.525	16	0.8	1.0	◈	○
1880013	16 ER 14 NPT	14	9.525	16	0.9	1.2	◈	○
1880009	16 ER 11.5 NPT	11.5	9.525	16	1.1	1.5	◈	○
1880023	16 ER 8 NPT	8	9.525	16	1.3	1.8	○	○
1881830	11 EL 27 NPT	27	6.35	11	0.7	0.8	○	○
1881817	11 EL 18 NPT	18	6.35	11	0.8	1.0	○	○
1881809	11 EL 14 NPT	14	6.35	11	0.8	1.0	○	○
1882005	16 EL 27 NPT	27	9.525	16	0.7	0.8	○	○
1881999	16 EL 18 NPT	18	9.525	16	0.8	1.0	○	○
1881994	16 EL 14 NPT	14	9.525	16	0.9	1.2	○	○
1881987	16 EL 11.5 NPT	11.5	9.525	16	1.1	1.5	○	○
1882025	16 EL 8 NPT	8	9.525	16	1.3	1.8	○	○

◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

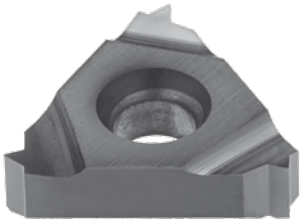
Internal

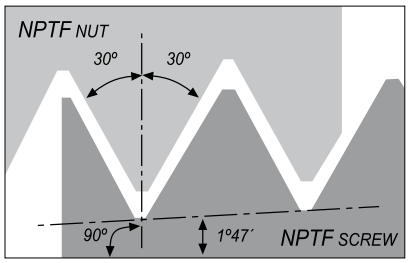
Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881723	06 IR 27 NPT	27	4.00	06	0.6	0.6	○	○
1881766	08 IR 27 NPT	27	5.00	08	0.6	0.6	○	○
1881761	08 IR 18 NPT	18	5.00	08	0.6	0.6	○	○
1881946	11 IR 27 NPT	27	6.35	11	0.7	0.8	○	○
1881020	11 IR 18 NPT	18	6.35	11	0.8	1.0	◈	○
1880003	11 IR 14 NPT	14	6.35	11	0.8	1.0	◈	○
1881019	16 IR 27 NPT	27	9.525	16	0.7	0.8	○	○
1881018	16 IR 18 NPT	18	9.525	16	0.8	1.0	◈	○
1880033	16 IR 14 NPT	14	9.525	16	0.9	1.2	◈	○
1880029	16 IR 11.5 NPT	11.5	9.525	16	1.1	1.5	○	○
1880043	16 IR 8 NPT	8	9.525	16	1.3	1.8	○	○
1881709	06 IL 27 NPT	27	4.00	06	0.6	0.6	○	○
1881745	08 IL 27 NPT	27	5.00	08	0.6	0.6	○	○
1881740	08 IL 18 NPT	18	5.00	08	0.6	0.6	○	○
1881926	11 IL 27 NPT	27	6.35	11	0.7	0.8	○	○
1881923	11 IL 18 NPT	18	6.35	11	0.8	1.0	○	○
1881919	11 IL 14 NPT	14	6.35	11	0.8	1.0	○	○
1882087	16 IL 27 NPT	27	9.525	16	0.7	0.8	○	○
1882082	16 IL 18 NPT	18	9.525	16	0.8	1.0	○	○
1882077	16 IL 14 NPT	14	9.525	16	0.9	1.2	○	○
1882069	16 IL 11.5 NPT	11.5	9.525	16	1.1	1.5	○	○
1882103	16 IL 8 NPT	8	9.525	16	1.3	1.8	○	○

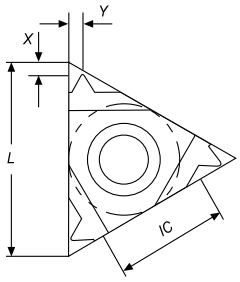
◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code







External

Geometry code [1]	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881889	11 ER 27 NPTF	27	6.35	11	0.7	0.7	○	○
1881876	11 ER 18 NPTF	18	6.35	11	0.8	1.0	○	○
1881868	11 ER 14 NPTF	14	6.35	11	0.8	1.0	○	○
1881030	16 ER 27 NPTF	27	9.525	16	0.7	0.7	◈	○
1881029	16 ER 18 NPTF	18	9.525	16	0.8	1.0	◈	○
1881028	16 ER 14 NPTF	14	9.525	16	0.9	1.2	○	○
1881027	16 ER 11.5 NPTF	11.5	9.525	16	1.1	1.5	○	○
1882057	16 ER 8 NPTF	8	9.525	16	1.3	1.8	○	○
1881831	11 EL 27 NPTF	27	6.35	11	0.7	0.7	○	○
1881818	11 EL 18 NPTF	18	6.35	11	0.8	1.0	○	○
1881810	11 EL 14 NPTF	14	6.35	11	0.8	1.0	○	○
1882006	16 EL 27 NPTF	27	9.525	16	0.7	0.8	○	○
1882000	16 EL 18 NPTF	18	9.525	16	0.8	1.0	○	○
1881995	16 EL 14 NPTF	14	9.525	16	0.9	1.2	○	○
1881988	16 EL 11.5 NPTF	11.5	9.525	16	1.1	1.5	○	○
1882026	16 EL 8 NPTF	8	9.525	16	1.3	1.8	○	○

◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

Internal

Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1883772	06 IR 27 NPTF	27	4.00	06	0.7	0.6	○	○
1883773	08 IR 18 NPTF	18	5.00	08	0.6	0.6	○	○
1883774	08 IR 14 NPTF	14	5.00	08	0.6	0.6	○	○
1881947	11 IR 27 NPTF	27	6.35	11	0.7	0.7	○	○
1881026	11 IR 18 NPTF	18	6.35	11	0.8	1.0	○	○
1881025	11 IR 14 NPTF	14	6.35	11	0.8	1.0	○	○
1881024	16 IR 27 NPTF	27	9.525	16	0.7	0.7	○	○
1881023	16 IR 18 NPTF	18	9.525	16	0.8	1.0	○	○
1881022	16 IR 14 NPTF	14	9.525	16	0.9	1.2	○	○
1881021	16 IR 11.5 NPTF	11.5	9.525	16	1.1	1.5	○	○
1882127	16 IR 8 NPTF	8	9.525	16	1.3	1.8	○	○
1883775	06 IL 27 NPTF	27	4.00	06	0.7	0.6	○	○
1883776	08 IL 18 NPTF	18	5.00	08	0.6	0.6	○	○
1883777	08 IL 14 NPTF	14	5.00	08	0.6	0.6	○	○
1881927	11 IL 27 NPTF	27	6.35	11	0.7	0.7	○	○
1881924	11 IL 18 NPTF	18	6.35	11	0.8	1.0	○	○
1881920	11 IL 14 NPTF	14	6.35	11	0.8	1.0	○	○
1882088	16 IL 27 NPTF	27	9.525	16	0.7	0.7	○	○
1882083	16 IL 18 NPTF	18	9.525	16	0.8	1.0	○	○
1882078	16 IL 14 NPTF	14	9.525	16	0.9	1.2	○	○
1882070	16 IL 11.5 NPTF	11.5	9.525	16	1.1	1.5	○	○
1882104	16 IL 8 NPTF	8	9.525	16	1.3	1.8	○	○

Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

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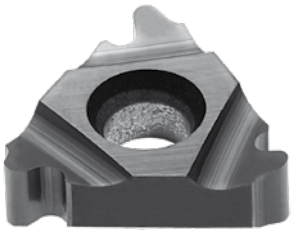
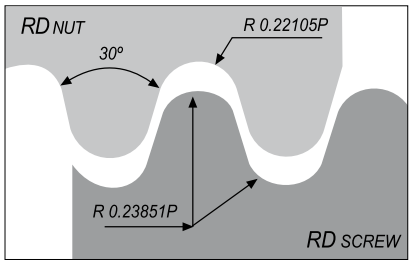
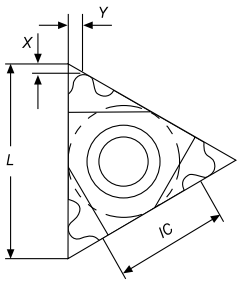
ROUND (DIN 405) | DIN 405:1997







External

Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881031	16 ER 10 RD	10	9.525	16	1.1	1.2	○	○
1881032	16 ER 8 RD	8	9.525	16	1.4	1.4	○	○
1881033	16 ER 6 RD	6	9.525	16	1.4	1.5	○	○
1881034	22 ER 6 RD	6	12.70	22	1.5	1.7	○	○
1881035	22 ER 4 RD	4	12.70	22	2.2	2.3	○	○
1882332	27 ER 4 RD	4	15.875	27	2.2	2.3	○	○
1882333	16 EL 10 RD	10	9.525	16	1.1	1.2	○	○
1882334	16 EL 8 RD	8	9.525	16	1.4	1.4	○	○
1882335	16 EL 6 RD	6	9.525	16	1.4	1.5	○	○
1882336	22 EL 6 RD	6	12.70	22	1.5	1.7	○	○
1882337	22 EL 4 RD	4	12.70	22	2.2	2.3	○	○
1882338	27 EL 4 RD	4	15.875	27	2.2	2.3	○	○

Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

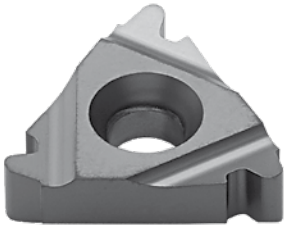
Internal

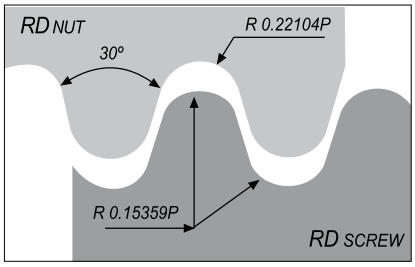
Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881039	16 IR 10 RD	10	9.525	16	1.1	1.2	◉	○
1881040	16 IR 8 RD	8	9.525	16	1.4	1.4	◉	○
1881041	16 IR 6 RD	6	9.525	16	1.4	1.5	○	○
1881042	22 IR 6 RD	6	12.70	22	1.5	1.7	○	○
1881043	22 IR 4 RD	4	12.70	22	2.2	2.3	○	○
1882339	27 IR 4 RD	4	15.875	27	2.2	2.3	○	○
1882340	16 IL 10 RD	10	9.525	16	1.1	1.2	○	○
1882341	16 IL 8 RD	8	9.525	16	1.4	1.4	○	○
1882342	16 IL 6 RD	6	9.525	16	1.4	1.5	○	○
1882343	22 IL 6 RD	6	12.70	22	1.5	1.7	○	○
1882344	22 IL 4 RD	4	12.70	22	2.2	2.3	○	○
1882345	27 IL 4 RD	4	15.875	27	2.2	2.3	○	○

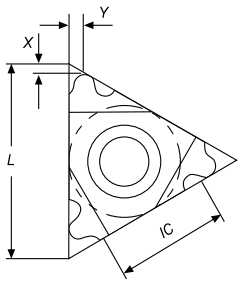
Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

ROUND (DIN 20400) | DIN 20400:1990







External

Geometry code [1]	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		MM	IC	L	X	Y	(68) PH6920	(D0) PH8920
1882347	22 ER 4.0 RD20400	4.0	12.70	22	1.4	1.4	◈	○
1882348	22 ER 5.0 RD20400	5.0	12.70	22	1.7	1.8	○	○
1882349	22 ER 6.0 RD20400	6.0	12.70	22	1.7	2.0	○	○
1882351	22 EL 4.0 RD20400	4.0	12.70	22	1.4	1.4	○	○
1882352	22 EL 5.0 RD20400	5.0	12.70	22	1.7	1.8	○	○
1882353	22 EL 6.0 RD20400	6.0	12.70	22	1.7	2.0	○	○

◈ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

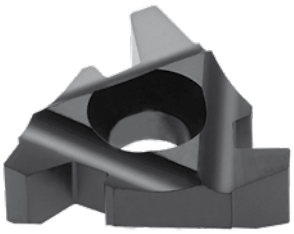
Insert order code = (1) Geometry Code + (2) Grade Code

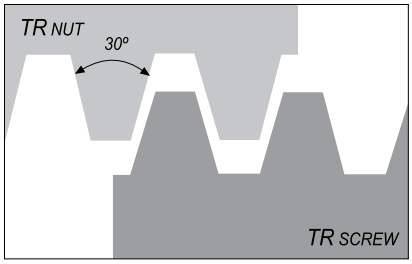
Internal

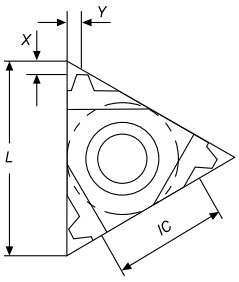
Geometry code [1]	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		MM	IC	L	X	Y	(68) PH6920	(D0) PH8920
1882355	22 IR 4.0 RD20400	4.0	12.70	22	1.4	1.4	○	○
1882356	22 IR 5.0 RD20400	5.0	12.70	22	1.7	1.8	○	○
1882357	22 IR 6.0 RD20400	6.0	12.70	22	1.7	2.0	○	○
1882359	22 IL 4.0 RD20400	4.0	12.70	22	1.4	1.4	○	○
1882360	22 IL 5.0 RD20400	5.0	12.70	22	1.7	1.8	○	○
1882361	22 IL 6.0 RD20400	6.0	12.70	22	1.7	2.0	○	○

◈ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code







External

Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		MM	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881044	16 ER 1.5 TR	1.5	9.525	16	1.0	1.1	○	○
1881045	16 ER 2.0 TR	2.0	9.525	16	1.0	1.3	◈	○
1881046	16 ER 3.0 TR	3.0	9.525	16	1.3	1.5	◈	○
1883778	16 ER 4.0 TR	4.0	9.525	16	1.3	1.5	○	○
1881047	22 ER 4.0 TR	4.0	12.70	22	1.8	1.9	◈	○
1881049	22 ER 5.0 TR	5.0	12.70	22	2.0	2.4	◈	○
1883779	22 ER 6.0 TR	6.0	12.70	22	2.0	2.4	○	○
1882165	27 ER 6.0 TR	6.0	15.875	27	2.3	2.7	○	○
1882166	27 ER 7.0 TR	7.0	15.875	27	2.2	2.6	○	○
1881050	16 EL 1.5 TR	1.5	9.525	16	1.0	1.1	○	○
1881051	16 EL 2.0 TR	2.0	9.525	16	1.1	1.3	○	○
1881052	16 EL 3.0 TR	3.0	9.525	16	1.3	1.5	○	○
1883780	16 EL 4.0 TR	4.0	9.525	16	1.3	1.5	○	○
1881053	22 EL 4.0 TR	4.0	12.70	22	1.8	1.9	○	○
1882130	22 EL 5.0 TR	5.0	12.70	22	2.0	2.4	○	○
1883781	22 EL 6.0 TR	6.0	12.70	22	2.0	2.4	○	○
1882152	27 EL 6.0 TR	6.0	15.875	27	2.3	2.7	○	○
1882153	27 EL 7.0 TR	7.0	15.875	27	2.2	2.6	○	○

◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

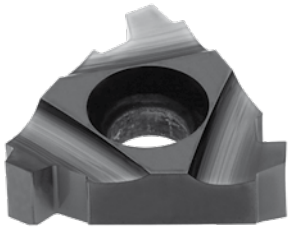
Internal

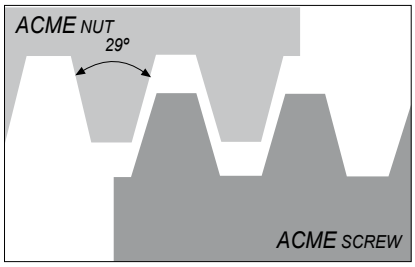
Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		MM	IC	L	X	Y	(68) PH6920	(D0) PH8920
1883782	08 IR 1.5 TR	1.5	5.00	08	0.6	0.6	○	○
1881055	16 IR 1.5 TR	1.5	9.525	16	1.0	1.1	○	○
1881056	16 IR 2.0 TR	2.0	9.525	16	1.0	1.3	○	○
1881057	16 IR 3.0 TR	3.0	9.525	16	1.3	1.5	◈	○
1882119	16 IR 4.0 TR	4.0	9.525	16	1.3	1.5	◈	○
1881058	22 IR 4.0 TR	4.0	12.70	22	1.8	1.9	○	○
1881059	22 IR 5.0 TR	5.0	12.70	22	2.0	2.4	◈	○
1881060	22 IR 6.0 TR	6.0	12.70	22	2.0	2.4	◈	○
1882187	27 IR 6.0 TR	6.0	15.875	27	2.3	2.7	○	○
1882188	27 IR 7.0 TR	7.0	15.875	27	2.2	2.6	○	○
1883783	08 IL 1.5 TR	1.5	5.00	08	0.6	0.6	○	○
1881062	16 IL 2.0 TR	2.0	9.525	16	1.0	1.3	○	○
1881063	16 IL 3.0 TR	3.0	9.525	16	1.3	1.5	○	○
1882093	16 IL 4.0 TR	4.0	9.525	16	1.3	1.5	○	○
1881064	22 IL 4.0 TR	4.0	12.70	22	1.8	1.9	○	○
1881065	22 IL 5.0 TR	5.0	12.70	22	2.0	2.4	○	○
1881066	22 IL 6.0 TR	6.0	12.70	22	2.0	2.4	○	○
1882176	27 IL 6.0 TR	6.0	15.875	27	2.3	2.7	○	○
1882177	27 IL 7.0 TR	7.0	15.875	27	2.2	2.6	○	○

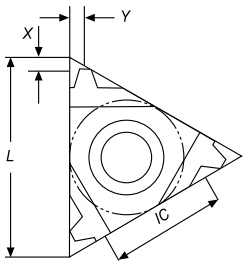
◈ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

AMERICAN ACME | ANSI/ASME: 1.5-1988







External

Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881871	11 ER 16 ACME	16	6.35	11	0.9	1.0	○	○
1881078	16 ER 16 ACME	16	9.525	16	0.9	1.0	◉	○
1881077	16 ER 14 ACME	14	9.525	16	1.0	1.2	○	○
1881076	16 ER 12 ACME	12	9.525	16	1.1	1.2	○	○
1881075	16 ER 10 ACME	10	9.525	16	1.3	1.3	◉	○
1881079	16 ER 8 ACME	8	9.525	16	1.5	1.5	◉	○
1883784	16 ER 6 ACME	6	9.525	16	1.7	1.8	○	○
1881080	22 ER 6 ACME	6	12.70	22	1.8	2.1	◉	○
1881081	22 ER 5 ACME	5	12.70	22	2.0	2.3	○	○
1883826	22 ER 4 ACME	4	12.70	22	2.1	2.2	○	○
1882159	27 ER 4 ACME	4	15.875	27	2.3	2.7	○	○
1881813	11 EL 16 ACME	16	6.35	11	0.9	1.0	○	○
1881997	16 EL 16 ACME	16	9.525	16	0.9	1.0	○	○
1881992	16 EL 14 ACME	14	9.525	16	1.0	1.2	○	○
1881990	16 EL 12 ACME	12	9.525	16	1.1	1.2	○	○
1881985	16 EL 10 ACME	10	9.525	16	1.3	1.3	○	○
1882024	16 EL 8 ACME	8	9.525	16	1.5	1.5	○	○
1883827	16 EL 6 ACME	6	9.525	16	1.7	1.8	○	○
1882133	22 EL 6 ACME	6	12.70	22	1.8	2.1	○	○
1882131	22 EL 5 ACME	5	12.70	22	2.0	2.3	○	○
1883785	22 EL 4 ACME	4	12.70	22	2.1	2.2	○	○
1882146	27 EL 4 ACME	4	15.875	27	2.3	2.7	○	○

◉ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

Internal

Geometry code [1]	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1883786	08 IR 16 ACME	16	5.00	08	0.6	0.6	○	○
1881944	11 IR 16 ACME	16	6.35	11	0.9	1.0	○	○
1881107	16 IR 16 ACME	16	9.525	0.9	1.0	1.1	◈	○
1881106	16 IR 14 ACME	14	9.525	1.0	1.2	1.2	○	○
1881105	16 IR 12 ACME	12	9.525	1.1	1.2	1.2	○	○
1881104	16 IR 10 ACME	10	9.525	1.3	1.3	1.4	○	○
1881103	16 IR 8 ACME	8	9.525	1.5	1.5	1.5	○	○
1881885	16 IR 6 ACME	6	9.525	1.7	1.8	1.5	○	○
1881083	22 IR 6 ACME	6	12.70	22	1.8	2.1	◈	○
1881082	22 IR 5 ACME	5	12.70	22	2.0	2.3	○	○
1881102	22 IR 4 ACME	4	12.70	22	2.1	2.2	◈	○
1882182	27 IR 4 ACME	4	15.875	27	2.3	2.7	○	○
1883787	08 IL 16 ACME	16	5.00	08	0.6	0.6	○	○
1881921	11 IL 16 ACME	16	6.35	11	0.9	1.0	○	○
1882080	16 IL 16 ACME	16	9.525	0.9	1.0	1.1	○	○
1882075	16 IL 14 ACME	14	9.525	1.0	1.2	1.2	○	○
1882072	16 IL 12 ACME	12	9.525	1.1	1.2	1.2	○	○
1882067	16 IL 10 ACME	10	9.525	1.3	1.3	1.4	○	○
1882102	16 IL 8 ACME	8	9.525	1.5	1.5	1.5	○	○
1882099	16 IL 6 ACME	6	9.525	1.7	1.8	1.5	○	○
1882140	22 IL 6 ACME	6	12.70	22	1.8	2.1	○	○
1882138	22 IL 5 ACME	5	12.70	22	2.0	2.3	○	○
1882136	22 IL 4 ACME	4	12.70	22	2.1	2.2	○	○
1882171	27 IL 4 ACME	4	15.875	27	2.3	2.7	○	○

◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

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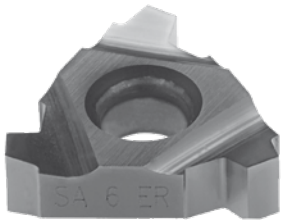
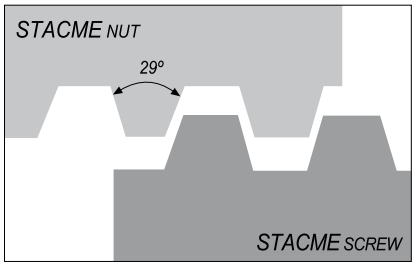
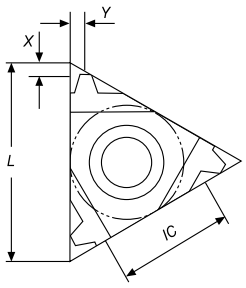
STUB ACME | ANSI/ASME: 1.8-1988







External

Geometry code [1]	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881872	11 ER 16 STACME	16	6.35	11	1.0	1.0	○	○
1881116	16 ER 16 STACME	16	9.525	16	1.0	1.0	○	○
1881117	16 ER 14 STACME	14	9.525	16	1.1	1.1	○	○
1881118	16 ER 12 STACME	12	9.525	16	1.2	1.2	○	○
1881119	16 ER 10 STACME	10	9.525	16	1.3	1.3	○	○
1881120	16 ER 8 STACME	8	9.525	16	1.5	1.5	○	○
1881121	16 ER 6 STACME	6	9.525	16	1.8	1.8	◈	○
1882135	22 ER 6 STACME	6	12.70	22	1.8	2.1	○	○
1881122	22 ER 5 STACME	5	12.70	22	2.0	2.3	○	○
1881123	22 ER 4 STACME	4	12.70	22	2.3	2.4	○	○
1882160	27 ER 4 STACME	4	15.875	27	2.3	2.4	◈	○
1882156	27 ER 3 STACME	3	15.875	27	2.8	2.9	○	○
1881814	11 EL 16 STACME	16	6.35	11	1.0	1.0	○	○
1881998	16 EL 16 STACME	16	9.525	16	1.0	1.0	○	○
1881996	16 EL 14 STACME	14	9.525	16	1.1	1.1	○	○
1881991	16 EL 12 STACME	12	9.525	16	1.2	1.2	○	○
1881986	16 EL 10 STACME	10	9.525	16	1.3	1.3	○	○
1882027	16 EL 8 STACME	8	9.525	16	1.5	1.5	○	○
1882021	16 EL 6 STACME	6	9.525	16	1.8	1.8	○	○
1882134	22 EL 6 STACME	6	12.70	22	1.8	2.1	○	○
1882132	22 EL 5 STACME	5	12.70	22	2.0	2.3	○	○
1881889	22 EL 4 STACME	4	12.70	22	2.3	2.4	○	○
1882147	27 EL 4 STACME	4	15.875	27	2.3	2.4	○	○
1882143	27 EL 3 STACME	3	15.875	27	2.8	2.9	○	○

◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

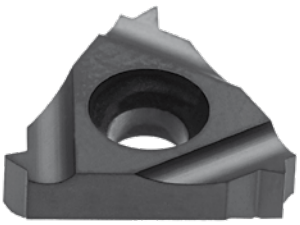
Internal

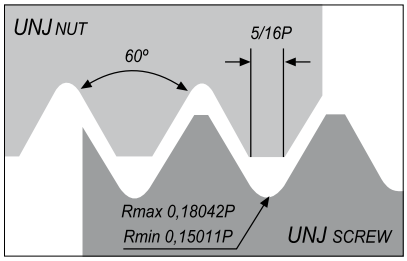
Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1883788	08 IR 16 STACME	16	5.00	08	0.6	0.6	○	○
1881108	16 IR 16 STACME	16	9.525	16	1.0	1.0	○	○
1881109	16 IR 14 STACME	14	9.525	16	1.1	1.1	○	○
1881110	16 IR 12 STACME	12	9.525	16	1.2	1.2	○	○
1881111	16 IR 10 STACME	10	9.525	16	1.3	1.3	○	○
1881112	16 IR 8 STACME	8	9.525	16	1.5	1.5	○	○
1881113	16 IR 6 STACME	6	9.525	16	1.8	1.8	○	○
1882142	22 IR 6 STACME	6	12.70	22	1.8	2.1	○	○
1881114	22 IR 5 STACME	5	12.70	22	2.0	2.3	○	○
1881115	22 IR 4 STACME	4	12.70	22	2.3	2.4	○	○
1882183	27 IR 4 STACME	4	15.875	27	2.3	2.4	◈	○
1882180	27 IR 3 STACME	3	15.875	27	2.8	2.9	○	○
1883789	08 IL 16 STACME	16	5.00	08	0.6	0.6	○	○
1882081	16 IL 16 STACME	16	9.525	16	1.0	1.0	○	○
1882079	16 IL 14 STACME	14	9.525	16	1.1	1.1	○	○
1882073	16 IL 12 STACME	12	9.525	16	1.2	1.2	○	○
1882068	16 IL 10 STACME	10	9.525	16	1.3	1.3	○	○
1882105	16 IL 8 STACME	8	9.525	16	1.5	1.5	○	○
1882100	16 IL 6 STACME	6	9.525	16	1.8	1.8	○	○
1882141	22 IL 6 STACME	6	12.70	22	1.8	2.1	○	○
1882139	22 IL 5 STACME	5	12.70	22	2.0	2.3	○	○
1882137	22 IL 4 STACME	4	12.70	22	2.3	2.4	○	○
1882172	27 IL 4 STACME	4	15.875	27	2.3	2.4	○	○
1882169	27 IL 3 STACME	3	15.875	27	2.8	2.9	○	○

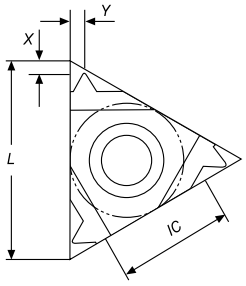
◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code







External

Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1883790	11 ER 48 UNJ	48	6.35	11	0.6	0.6	○	○
1883791	11 ER 44 UNJ	44	6.35	11	0.6	0.6	○	○
1883792	11 ER 40 UNJ	40	6.35	11	0.6	0.6	○	○
1883793	11 ER 36 UNJ	36	6.35	11	0.6	0.6	○	○
1882318	11 ER 32 UNJ	32	6.35	11	0.6	0.6	○	○
1882319	11 ER 28 UNJ	28	6.35	11	0.6	0.6	○	○
1882320	11 ER 24 UNJ	24	6.35	11	0.7	0.8	○	○
1882321	11 ER 20 UNJ	20	6.35	11	0.8	0.9	○	○
1882322	11 ER 18 UNJ	18	6.35	11	0.8	1.0	○	○
1882323	11 ER 16 UNJ	16	6.35	11	0.8	1.0	○	○
1882324	11 ER 14 UNJ	14	6.35	11	0.9	1.0	○	○
1883794	16 ER 48 UNJ	48	9.525	16	0.6	0.6	○	○
1883795	16 ER 44 UNJ	44	9.525	16	0.6	0.6	○	○
1883796	16 ER 40 UNJ	40	9.525	16	0.6	0.6	○	○
1883797	16 ER 36 UNJ	36	9.525	16	0.6	0.6	○	○
1881165	16 ER 32 UNJ	32	9.525	16	0.6	0.6	○	○
1881164	16 ER 28 UNJ	28	9.525	16	0.6	0.6	○	○
1881163	16 ER 24 UNJ	24	9.525	16	0.7	0.8	○	○
1881162	16 ER 20 UNJ	20	9.525	16	0.8	0.9	○	○
1881161	16 ER 18 UNJ	18	9.525	16	0.8	1.0	○	○
1881160	16 ER 16 UNJ	16	9.525	16	0.8	1.0	○	○
1881159	16 ER 14 UNJ	14	9.525	16	1.0	1.2	○	○
1881158	16 ER 13 UNJ	13	9.525	16	1.0	1.3	○	○
1881157	16 ER 12 UNJ	12	9.525	16	1.1	1.4	○	○
1881156	16 ER 11 UNJ	11	9.525	16	1.1	1.5	○	○
1881155	16 ER 10 UNJ	10	9.525	16	1.1	1.5	○	○
1881154	16 ER 9 UNJ	9	9.525	16	1.2	1.6	○	○
1881153	16 ER 8 UNJ	8	9.525	16	1.2	1.6	○	○
1883798	11 EL 48 UNJ	48	6.35	11	0.6	0.6	○	○
1883799	11 EL 44 UNJ	44	6.35	11	0.6	0.6	○	○
1883800	11 EL 40 UNJ	40	6.35	11	0.6	0.6	○	○
1883801	11 EL 36 UNJ	36	6.35	11	0.6	0.6	○	○
1882325	11 EL 32 UNJ	32	6.35	11	0.6	0.6	○	○
1882326	11 EL 28 UNJ	28	6.35	11	0.6	0.6	○	○
1882327	11 EL 24 UNJ	24	6.35	11	0.7	0.8	○	○
1882328	11 EL 20 UNJ	20	6.35	11	0.8	0.9	○	○

Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

External

Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1882329	11 EL 18 UNJ	18	6.35	11	0.8	1.0	○	○
1882330	11 EL 16 UNJ	16	6.35	11	0.8	1.0	○	○
1882331	11 EL 14 UNJ	14	6.35	11	0.9	1.0	○	○
1883802	16 ER 48 UNJ	48	9.525	16	0.6	0.6	○	○
1883803	16 ER 44 UNJ	44	9.525	16	0.6	0.6	○	○
1883804	16 ER 40 UNJ	40	9.525	16	0.6	0.6	○	○
1883805	16 ER 36 UNJ	36	9.525	16	0.6	0.6	○	○
1881179	16 EL 32 UNJ	32	9.525	16	0.6	0.6	○	○
1881178	16 EL 28 UNJ	28	9.525	16	0.6	0.6	○	○
1881177	16 EL 24 UNJ	24	9.525	16	0.7	0.8	○	○
1881176	16 EL 20 UNJ	20	9.525	16	0.8	0.9	○	○
1881175	16 EL 18 UNJ	18	9.525	16	0.8	1.0	○	○
1881174	16 EL 16 UNJ	16	9.525	16	0.8	1.0	○	○
1881173	16 EL 14 UNJ	14	9.525	16	1.0	1.2	○	○
1881172	16 EL 13 UNJ	13	9.525	16	1.0	1.3	○	○
1881170	16 EL 12 UNJ	12	9.525	16	1.1	1.4	○	○
1881169	16 EL 11 UNJ	11	9.525	16	1.1	1.5	○	○
1881168	16 EL 10 UNJ	10	9.525	16	1.1	1.5	○	○
1881167	16 EL 9 UNJ	9	9.525	16	1.2	1.6	○	○
1881166	16 EL 8 UNJ	8	9.525	16	1.2	1.6	○	○

Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

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Internal

Geometry code [1]	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1883806	11 IR 48 UNJ	48	6.35	11	0.6	0.6	○	○
1883807	11 IR 44 UNJ	44	6.35	11	0.6	0.6	○	○
1883808	11 IR 40 UNJ	40	6.35	11	0.6	0.6	○	○
1883809	11 IR 36 UNJ	36	6.35	11	0.6	0.6	○	○
1881198	11 IR 32 UNJ	32	6.35	11	0.6	0.6	○	○
1881197	11 IR 28 UNJ	28	6.35	11	0.6	0.6	○	○
1881196	11 IR 24 UNJ	24	6.35	11	0.7	0.8	○	○
1881195	11 IR 20 UNJ	20	6.35	11	0.8	0.9	○	○
1881194	11 IR 18 UNJ	18	6.35	11	0.8	1.0	○	○
1881193	11 IR 16 UNJ	16	6.35	11	0.8	1.0	○	○
1881192	11 IR 14 UNJ	14	6.35	11	0.9	1.0	○	○
1883810	16 IR 48 UNJ	48	9.525	16	0.6	0.6	○	○
1883811	16 IR 44 UNJ	44	9.525	16	0.6	0.6	○	○
1883812	16 IR 40 UNJ	40	9.525	16	0.6	0.6	○	○
1883813	16 IR 36 UNJ	36	9.525	16	0.6	0.6	○	○
1881191	16 IR 32 UNJ	32	9.525	16	0.6	0.6	○	○
1881190	16 IR 28 UNJ	28	9.525	16	0.6	0.6	○	○
1881189	16 IR 24 UNJ	24	9.525	16	0.7	0.8	○	○
1881188	16 IR 20 UNJ	20	9.525	16	0.8	0.9	○	○
1881187	16 IR 18 UNJ	18	9.525	16	0.8	1.0	○	○
1881186	16 IR 16 UNJ	16	9.525	16	0.8	1.0	○	○
1881185	16 IR 14 UNJ	14	9.525	16	1.0	1.2	○	○
1883814	16 IR 13 UNJ	13	9.525	16	1.0	1.3	○	○
1881184	16 IR 12 UNJ	12	9.525	16	1.1	1.4	◎	○
1881183	16 IR 11 UNJ	11	9.525	16	1.1	1.5	○	○
1881182	16 IR 10 UNJ	10	9.525	16	1.1	1.5	◎	○
1881181	16 IR 9 UNJ	9	9.525	16	1.2	1.6	○	○
1881180	16 IR 8 UNJ	8	9.525	16	1.2	1.6	○	○
1883815	11 IL 48 UNJ	48	6.35	11	0.6	0.6	○	○
1883816	11 IL 44 UNJ	44	6.35	11	0.6	0.6	○	○
1883817	11 IL 40 UNJ	40	6.35	11	0.6	0.6	○	○
1883818	11 IL 36 UNJ	36	6.35	11	0.6	0.6	○	○
1881217	11 IL 32 UNJ	32	6.35	11	0.6	0.6	○	○
1881216	11 IL 28 UNJ	28	6.35	11	0.6	0.6	○	○
1881215	11 IL 24 UNJ	24	6.35	11	0.7	0.8	○	○
1881214	11 IL 20 UNJ	20	6.35	11	0.8	0.9	○	○
1881213	11 IL 18 UNJ	18	6.35	11	0.8	1.0	○	○
1881188	11 IL 16 UNJ	16	6.35	11	0.8	1.0	○	○
1881211	11 IL 14 UNJ	14	6.35	11	0.9	1.0	○	○
1883819	16 IL 48 UNJ	48	9.525	16	0.6	0.6	◎	○
1883820	16 IL 44 UNJ	44	9.525	16	0.6	0.6	◎	○
1883821	16 IL 40 UNJ	40	9.525	16	0.6	0.6	○	○
1883822	16 IL 36 UNJ	36	9.525	16	0.6	0.6	○	○
1881210	16 IL 32 UNJ	32	9.525	16	0.6	0.6	◎	○
1881209	16 IL 28 UNJ	28	9.525	16	0.6	0.6	○	○
1881208	16 IL 24 UNJ	24	9.525	16	0.7	0.8	◎	○

◎ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

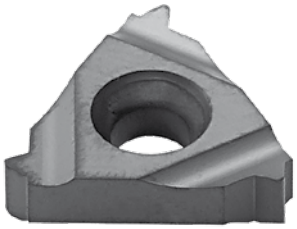
Internal

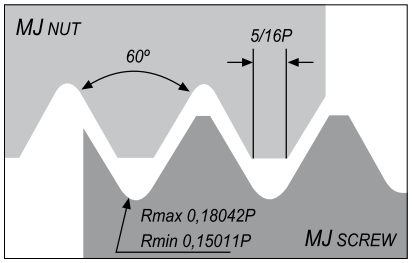
Geometry code [1]	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881207	16 IL 20 UNJ	20	9.525	16	0.8	0.9	○	○
1881206	16 IL 18 UNJ	18	9.525	16	0.8	1.0	○	○
1881205	16 IL 16 UNJ	16	9.525	16	0.8	1.0	○	○
1881204	16 IL 14 UNJ	14	9.525	16	1.0	1.2	○	○
1883823	16 IR 13 UNJ	13	9.525	16	1.0	1.3	○	○
1881203	16 IL 12 UNJ	12	9.525	16	1.1	1.4	○	○
1881202	16 IL 11 UNJ	11	9.525	16	1.1	1.5	○	○
1881201	16 IL 10 UNJ	10	9.525	16	1.1	1.5	○	○
1881200	16 IL 9 UNJ	9	9.525	16	1.2	1.6	○	○
1881199	16 IL 8 UNJ	8	9.525	16	1.2	1.6	○	○

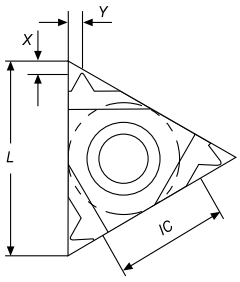
Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code







External

Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		MM	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881067	16 ER 1.0 MJ	1.0	9.525	16	0.7	0.8	○	○
1881068	16 ER 1.25 MJ	1.25	9.525	16	0.8	0.9	○	○
1881069	16 ER 1.5 MJ	1.5	9.525	16	0.8	1.0	○	○
1881070	16 ER 2.0 MJ	2.0	9.525	16	1.0	1.3	◈	○

◈ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

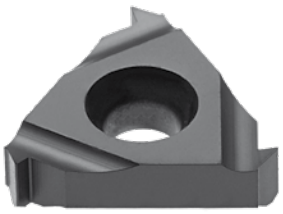
Internal

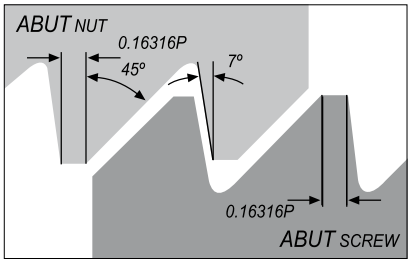
Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		MM	IC	L	X	Y	(68) PH6920	(D0) PH8920
1882370	11 IR 1.0 MJ	1.0	6.35	11	0.7	0.8	○	○
1882371	11 IR 1.25 MJ	1.25	6.35	11	0.8	0.9	○	○
1882372	11 IR 1.5 MJ	1.5	6.35	11	0.8	1.0	○	○
1883824	11 IR 2.0 MJ	2.0	6.35	11	0.9	1.0	○	○
1881071	16 IR 1.0 MJ	1.0	9.525	16	0.7	0.8	○	○
1881072	16 IR 1.25 MJ	1.25	9.525	16	0.8	0.9	○	○
1881073	16 IR 1.5 MJ	1.5	9.525	16	0.8	1.0	○	○
1881074	16 IR 2.0 MJ	2.0	9.525	16	1.0	1.3	○	○

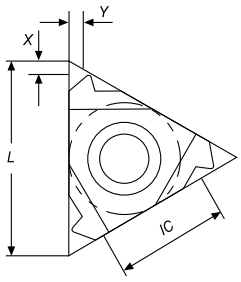
◈ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

AMERICAN BUTTRESS | ANSI B1.9-1973







External

Geometry code [1]	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1882298	11 ER 20 ABUT	20	6.35	11	1.0	1.3	○	○
1882299	11 ER 16 ABUT	16	6.35	11	1.0	1.5	○	○
1881007	16 ER 20 ABUT	20	9.525	16	1.0	1.3	○	○
1880754	16 ER 16 ABUT	16	9.525	16	1.0	1.5	○	○
1881006	16 ER 12 ABUT	12	9.525	16	1.4	2.0	○	○
1881005	16 ER 10 ABUT	10	9.525	16	1.5	2.3	○	○
1881008	22 ER 8 ABUT	8	12.70	22	2.1	3.3	○	○
1881009	22 ER 6 ABUT	6	12.70	22	2.1	3.4	○	○
1882300	11 EL 20 ABUT	20	6.35	11	1.0	1.4	○	○
1882301	11 EL 16 ABUT	16	6.35	11	1.1	1.6	○	○
1882302	16 EL 20 ABUT	20	9.525	16	1.0	1.3	○	○
1882303	16 EL 16 ABUT	16	9.525	16	1.0	1.5	○	○
1882304	16 EL 12 ABUT	12	9.525	16	1.4	2.0	○	○
1882305	16 EL 10 ABUT	10	9.525	16	1.5	2.3	○	○
1882306	22 EL 8 ABUT	8	12.70	22	2.1	3.3	○	○
1882307	22 EL 6 ABUT	6	12.70	22	2.1	3.4	○	○

Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

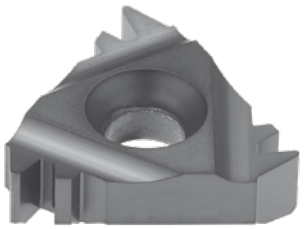
Internal

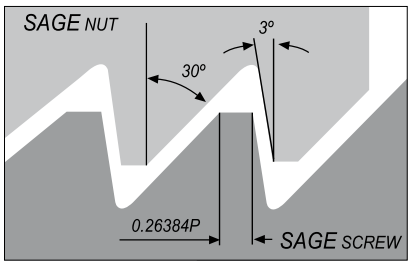
Geometry code [1]	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code [2]	
		TPI	IC	L	X	Y	(68) PH6920	(D0) PH8920
1882308	11 IR 20 ABUT	20	6.35	11	1.0	1.4	○	○
1882309	11 IR 16 ABUT	16	6.35	11	1.1	1.6	○	○
1881015	16 IR 20 ABUT	20	9.525	16	1.0	1.3	○	○
1881014	16 IR 16 ABUT	16	9.525	16	1.0	1.5	◉	○
1881013	16 IR 12 ABUT	12	9.525	16	1.4	2.0	○	○
1881012	16 IR 10 ABUT	10	9.525	16	1.5	2.3	○	○
1881011	22 IR 8 ABUT	8	12.70	22	2.1	3.3	○	○
1881010	22 IR 6 ABUT	6	12.70	22	2.1	3.4	○	○
1882310	11 IL 20 ABUT	20	6.35	11	1.0	1.4	○	○
1882311	11 IL 16 ABUT	16	6.35	11	1.1	1.6	○	○
1882312	16 IL 20 ABUT	20	9.525	16	1.0	1.3	○	○
1882313	16 IL 16 ABUT	16	9.525	16	1.0	1.5	○	○
1882314	16 IL 12 ABUT	12	9.525	16	1.4	2.0	○	○
1882315	16 IL 10 ABUT	10	9.525	16	1.5	2.3	○	○
1882316	22 IL 8 ABUT	8	12.70	22	2.1	3.3	○	○
1882317	22 IL 6 ABUT	6	12.70	22	2.1	3.4	○	○

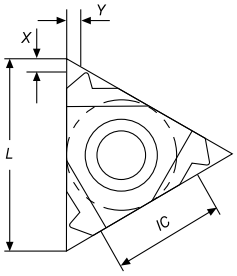
◉ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

METRIC BUTTRESS SAGENGEWINDE (DIN 513:1985) SAW THREAD







External

Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		MM	IC	L	X	Y	(68) PH6920	(D0) PH8920
1882384	16 ER 2.0 SAGE	2.0	9.525	16	1.1	1.6	○	○
1882385	22 ER 3.0 SAGE	3.0	12.70	22	1.5	2.4	○	○
1882386	22 ER 4.0 SAGE	4.0	12.70	22	1.9	3.1	◈	○
1882387	16 EL 2.0 SAGE	2.0	9.525	16	1.1	1.6	○	○
1882388	22 EL 3.0 SAGE	3.0	12.70	22	1.5	2.4	○	○
1882389	22 EL 4.0 SAGE	4.0	12.70	22	1.9	3.1	○	○

◈ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

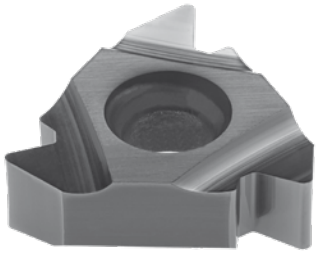
Internal

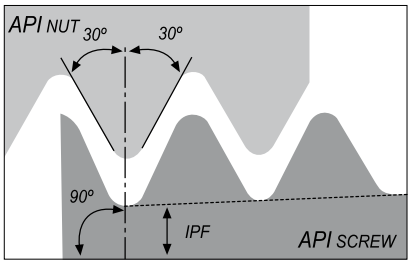
Geometry code (1)	Reference Referência Referencia	Pitch	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		MM	IC	L	X	Y	(68) PH6920	(D0) PH8920
1882390	16 IR 2.0 SAGE	2.0	9.525	16	1.2	1.7	○	○
1882391	22 IR 3.0 SAGE	3.0	12.70	22	1.9	2.9	○	○
1882392	22 IR 4.0 SAGE	4.0	12.70	22	2.3	3.5	○	○
1882393	16 IL 2.0 SAGE	2.0	9.525	16	1.2	1.7	○	○
1882394	22 IL 3.0 SAGE	3.0	12.70	22	1.9	2.9	○	○
1882395	22 IL 4.0 SAGE	4.0	12.70	22	2.3	3.5	○	○

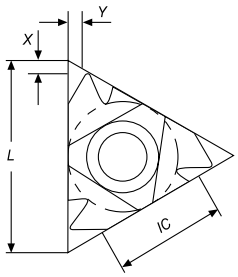
◈ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

API | API SPEC 7:2001 (0.040 | 0.038R | 0.050)







External

Geometry code (1)	Reference Referência Referencia	Pitch	Thread	Taper	Size	Dimensions | Dimensões Dimensiones (mm)				Stock - Grade Code (2)	
		TPI		IPF		IC	L	X	Y	(68) PH6920	(D0) PH8920
1881326	22 ER 5.00 API 403	5	V-0.040	3	2 3/8" - 4 1/2" REG	12.70	22	1.8	2.5	⛭	○
1881322	22 ER 4.00 API 382	4	V-0.038R	2	NC23-NC50	12.70	22	2.0	2.6	○	○
1881323	22 ER 4.00 API 383	4	V-0.038R	3	NC56-NC77	12.70	22	2.0	2.6	⛭	○
1881324	22 ER 4.00 API 502	4	V-0.050	2	6 5/8" REG	12.70	22	1.9	2.8	○	○
1882396	27 ER 5.00 API 403	5	V-0.040	3	2 3/8" - 4 1/2" REG	15.875	27	1.9	2.7	○	○
1882397	27 ER 4.00 API 382	4	V-0.038R	2	NC23-NC50	15.875	27	2.1	2.8	○	○
1882398	27 ER 4.00 API 383	4	V-0.038R	3	NC56-NC77	15.875	27	2.1	2.8	○	○
1882399	27 ER 4.00 API 502	4	V-0.050	2	6 5/8" REG	15.875	27	2.0	3.0	⛭	○
1882400	27 ER 4.00 API 503	4	V-0.050	3	5 1/2" , 7 5/8" , 8 5/8" REG	15.875	27	2.0	3.0	○	○

⛭ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

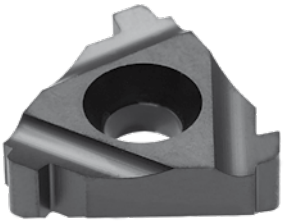
Internal

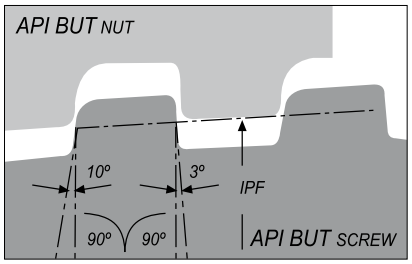
Geometry code (1)	Reference Referência Referencia	Pitch	Thread	Taper	Size	Dimensions | Dimensões Dimensiones (mm)				Stock - Grade Code (2)	
		TPI		IPF		IC	L	X	Y	(68) PH6920	(D0) PH8920
1881335	22 IR 5.00 API 403	5	V-0.040	3	2 3/8" - 4 1/2" REG	12.70	22	1.8	2.5	⛭	○
1881331	22 IR 4.00 API 382	4	V-0.038R	2	NC23-NC50	12.70	22	2.0	2.6	○	○
1881333	22 IR 4.00 API 502	4	V-0.050	2	6 5/8" REG	12.70	22	1.9	2.8	○	○
1882401	27 IR 5.00 API 403	5	V-0.040	3	2 3/8" - 4 1/2" REG	15.875	27	1.9	2.7	○	○
1882402	27 IR 4.00 API 382	4	V-0.038R	2	NC23-NC50	15.875	27	2.1	2.8	○	○
1882403	27 IR 4.00 API 383	4	V-0.038R	3	NC56-NC77	15.875	27	2.1	2.8	○	○
1882404	27 IR 4.00 API 502	4	V-0.050	2	6 5/8" REG	15.875	27	2.0	3.0	○	○
1882405	27 IR 4.00 API 503	4	V-0.050	3	5 1/2" , 7 5/8" , 8 5/8" REG	15.875	27	2.0	3.0	○	○

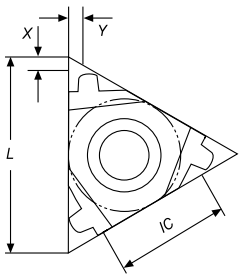
⛭ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

API | BUTTRESS CASING | API SPEC 5B:2008 | OIL THREADS







External

Geometry code (1)	Reference Referência Referencia	Pitch	Taper	Size	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		TPI	IPF		IC	L	X	Y	(68) PH6920	(D0) PH8920
1881327	22 ER 5 BUT 0.75	5	0.75	4 1/2" - 13 3/8"	12.70	22	2.2	2.4	◈	○
1881328	22 ER 5 BUT 1.00	5	1.00	16" - 20"	12.70	22	2.3	2.4	○	○

◈ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

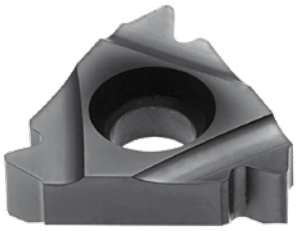
Internal

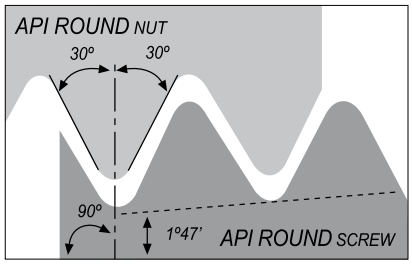
Geometry code (1)	Reference Referência Referencia	Pitch	Taper	Size	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		TPI	IPF		IC	L	X	Y	(68) PH6920	(D0) PH8920
1881336	22 IR 5 BUT 0.75	5	0.75	4 1/2" - 13 3/8"	12.70	22	2.2	2.4	◈	○
1881337	22 IR 5 BUT 1.00	5	1.00	16" - 20"	12.70	22	2.3	2.4	○	○

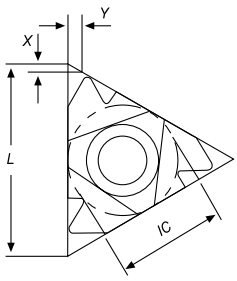
◈ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

API ROUND CASING & TUBING | API SPEC 5B:2008







External

Geometry code (1)	Reference Referência Referencia	Pitch	Taper	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		TPI	IPF	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881318	16 ER 10 API RD	10	0.75	9.525	16	1.5	1.4	○	○
1881320	16 ER 8 API RD	8	0.75	9.525	16	1.3	1.6	◎	○

◎ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

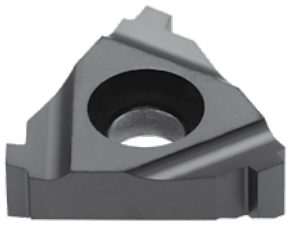
Insert order code = (1) Geometry Code + (2) Grade Code

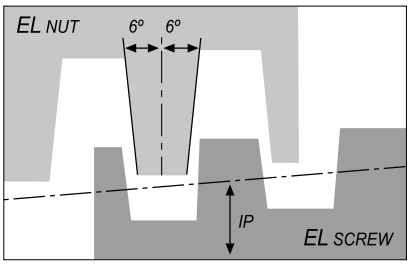
Internal

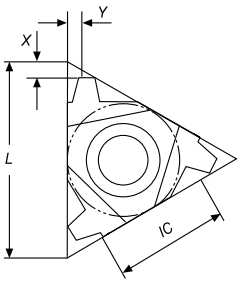
Geometry code (1)	Reference Referência Referencia	Pitch	Taper	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		TPI	IPF	IC	L	X	Y	(68) PH6920	(D0) PH8920
1881319	16 IR 10 API RD	10	0.75	9.525	16	1.5	1.4	○	○
1881321	16 IR 8 API RD	8	0.75	9.525	16	1.3	1.6	○	○

◎ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code







External

Geometry code (1)	Reference Referência Referencia	Pitch	Taper	Size	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		TPI	IPF		IC	L	X	Y	(68) PH6920	(D0) PH8920
1881329	22 ER 6 EL 1.5	6	1.5	5" - 7 5/8"	12.70	22	1.9	1.9	○	○
1881330	22 ER 5 EL 1.25	5	1.25	8 5/8" - 10 3/4"	12.70	22	2.4	2.3	○	○

Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

Internal

Geometry code (1)	Reference Referência Referencia	Pitch	Taper	Size	Dimensions | Dimensões | Dimensiones (mm)				Stock - Grade Code (2)	
		TPI	IPF		IC	L	X	Y	(68) PH6920	(D0) PH8920
1881339	22 IR 6 EL 1.5	6	1.5	5" - 7 5/8"	12.70	22	1.9	1.9	○	○
1881338	22 IR 5 EL 1.25	5	1.25	8 5/8" - 10 3/4"	12.70	22	2.4	2.3	○	○

Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

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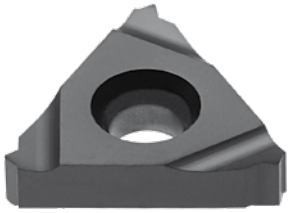
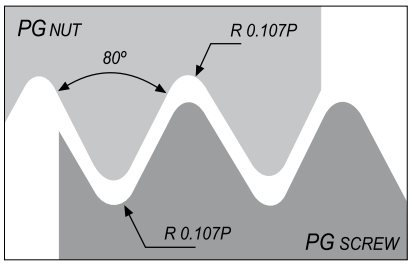
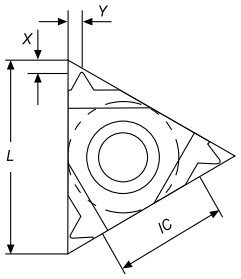
PG | DIN 40430; 1971







External

Geometry code [1]	Reference Referência Referencia	Pitch TPI	Size	Dimensions | Dimensões | Dimensiones (mm) IC	L	X	Y	Stock - Grade Code [2] (68) PH6920	(D0) PH8920
1882290	16 ER 20 PG	20	PG7	9.525	16	0.7	0.8	○	○
1882291	16 ER 18 PG	18	PG9, PG11, PG13.5, PG16	9.525	16	0.8	0.9	◈	○
1882292	16 ER 16 PG	16	PG21, PG29, PG36, PG42, PG48	9.525	16	0.8	1.0	○	○

◈ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

Internal

Geometry code [1]	Reference Referência Referencia	Pitch TPI	Size	Dimensions | Dimensões | Dimensiones (mm) IC	L	X	Y	Stock - Grade Code [2] (68) PH6920	(D0) PH8920
1883825	08 IR 20 PG	20	PG7	5.0	8	0.6	0.7	○	○
1882294	11 IR 18 PG	18	PG9, PG11, PG13.5, PG16	6.35	11	0.8	0.9	○	○
1882296	16 IR 18 PG	18	PG9, PG11, PG13.5, PG16	9.525	16	0.8	0.9	○	○
1882297	16 IR 16 PG	16	PG21, PG29, PG36, PG42, PG48	9.525	16	0.8	1.0	○	○

◈ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

TANGENTIAL PROFILE INSERTS CODE KEY

Chave do codificação de pastilhas | Llave de codificación de plaquitas

Tangential Profile Example

TNMC	16	03	55	PH6920
1	2	3	4	5

1 - Insert Type
TNMC
TPMC

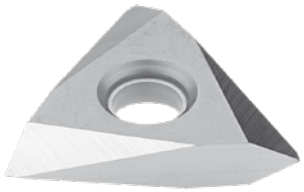
2 - Insert Size (L - mm)	
16	16.50
22	22.00

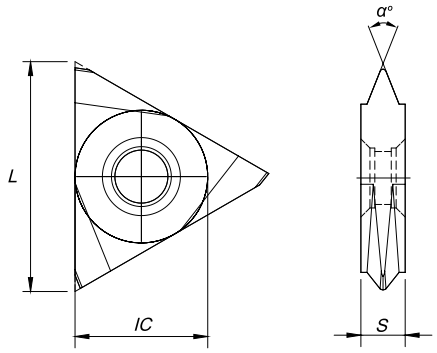
3 - Insert Size (S - mm)	
03	3.18
04	4.76

4 - Profile Angle	
55	55º
60	60º

5 - Grades
PH6920
PH8920

TNMC (TANGENTIAL INSERTS)



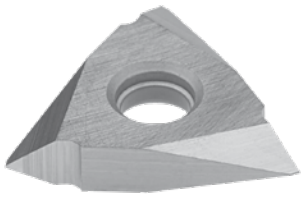


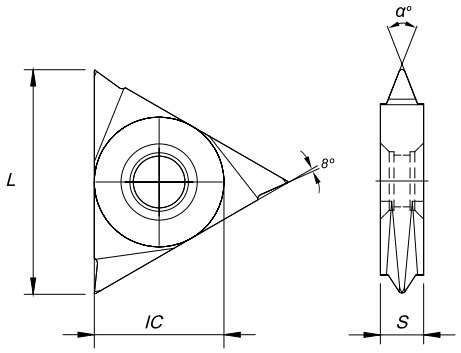
Geometry code (1)	Reference Referência Referencia	Dimensions | Dimensões | Dimensiones (mm)			α°	Stock - Grade Code (2)	
		IC	L	S		(68) PH6920	(D0) PH8920
1110401	TNMC 1603 55	9.525	16.50	3.18	55	○	○
1110402	TNMC 1603 60	9.525	16.50	3.18	60	○	○
1110530	TNMC 2204 55	12.70	22.00	4.76	55	○	○
1110404	TNMC 2204 60	12.70	22.00	4.76	60	○	○

Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

TPMC (TANGENTIAL INSERTS)





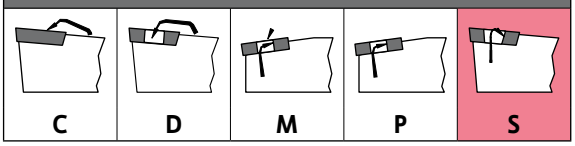
Geometry code (1)	Reference Referência Referencia	Dimensions | Dimensões | Dimensiones (mm)			α°	Stock - Grade Code (2)	
		IC	L	S		(68) PH6920	(D0) PH8920
1110481	TPMC 1603 55	9.525	16.50	3.18	55	○	○
1110480	TPMC 1603 60	9.525	16.50	3.18	60	○	○
1110541	TPMC 2204 55	12.70	22.00	4.76	55	○	○
1110542	TPMC 2204 60	12.70	22.00	4.76	60	○	○

Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

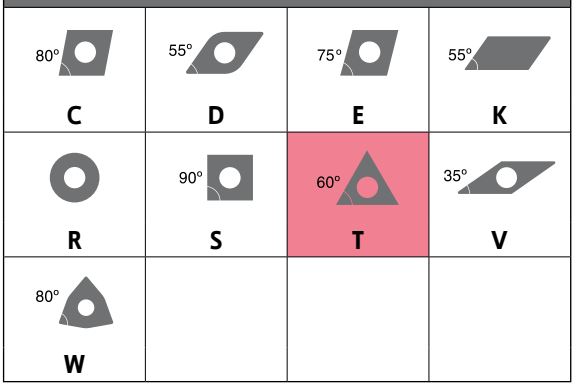
Insert order code = (1) Geometry Code + (2) Grade Code

S	T	C	N	R	25	25	M	16
1	2	3	4	5	6	7	8	9

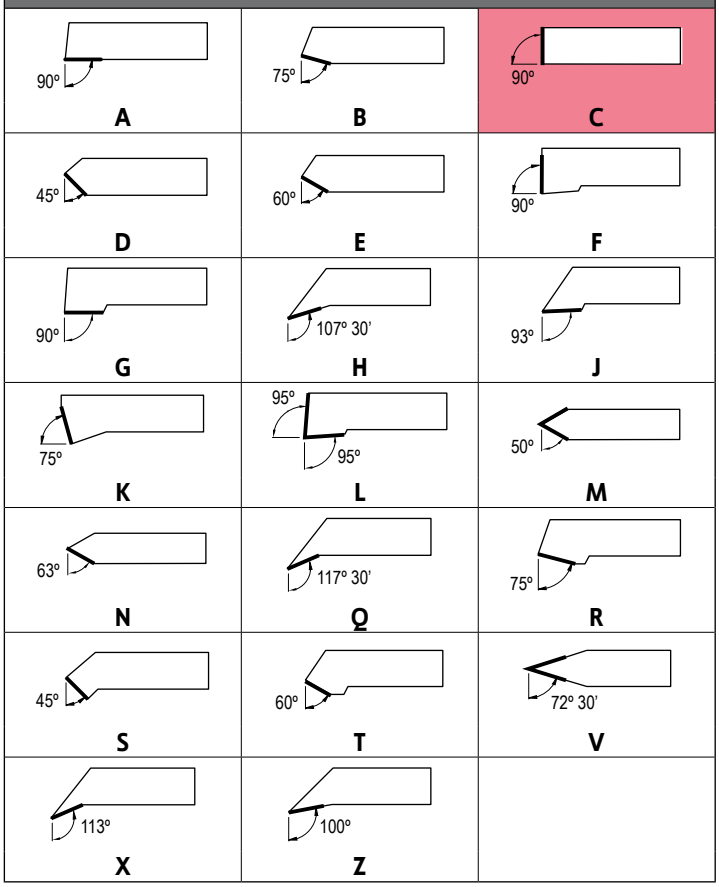
1 - Inserts Clamping System



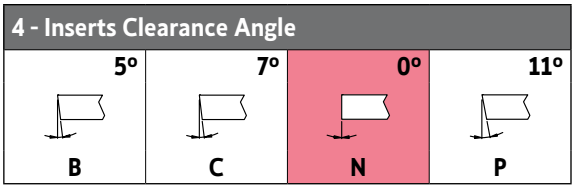
2 - Insert Shape



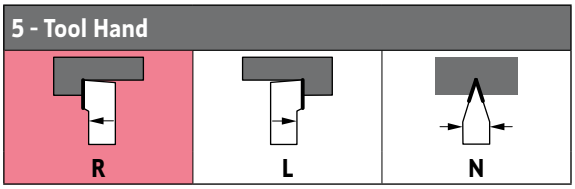
3 - Toolholder Leading Angle



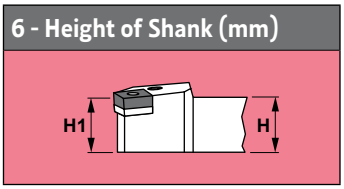
4 - Inserts Clearance Angle



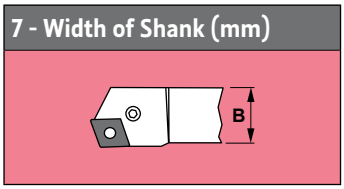
5 - Tool Hand



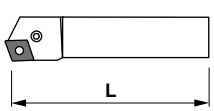
6 - Height of Shank (mm)



7 - Width of Shank (mm)

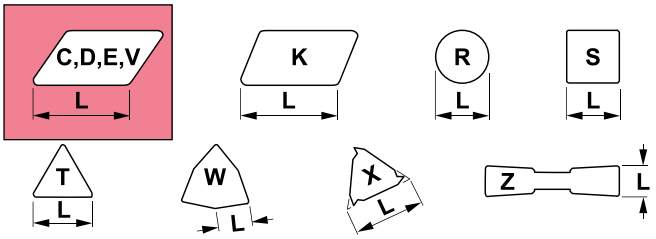


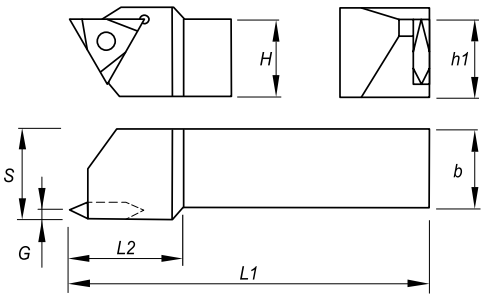
8 - Length of Holder (mm)

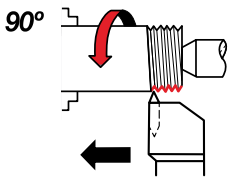


D	60	P	170
E	70	R	200
F	80	S	250
H	100	T	300
K	125	U	350
L	140	V	400
M	150	X	Special

9 - Length of Inserts Cutting Edge (mm)







External Left

Order Code Código	Reference Referência Referencia	Insert Geometry	Dimensions | Dimensões | Dimensiones (mm)						Screw	Hex Key	Stock
			H=h1	b	S	L1	L2	G			
212129800	STCNL 1212 F16	TNMC/TPMC 16..	12	12	16	80	23	1.59	P0351375	SS20	⊛
212129900	STCNL 1616 H16	TNMC/TPMC 16..	16	16	19	100	23	1.59	P0351375	SS20	⊛
212029900	STCNL 2020 K16	TNMC/TPMC 16..	20	20	22	125	23	1.59	P0351375	SS20	⊛
212130400	STCNL 2020 K22	TNMC/TPMC 22..	20	20	22	125	32	2.38	P0501975	SS25	⊛
212030100	STCNL 2525 M16	TNMC/TPMC 16..	25	25	32	150	23	1.59	P0351375	SS20	⊛
212030300	STCNL 2525 M22	TNMC/TPMC 22..	25	25	32	150	32	2.38	P0501975	SS25	⊛
212130600	STCNL 3225 P22	TNMC/TPMC 22..	32	25	32	170	32	2.38	P0501975	SS25	⊛
212130200	STCNL 3232 P16	TNMC/TPMC 16..	32	32	38	170	23	1.59	P0351375	SS20	⊛
212130800	STCNL 3232 P22	TNMC/TPMC 22..	32	32	38	170	32	2.38	P0501975	SS25	⊛

⊛ Stock item | Produto de stock | Itens de stock

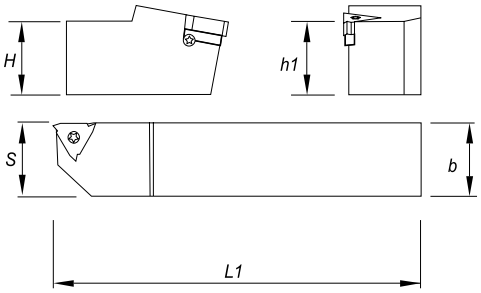
◯ Available under request | Disponível sobre consulta | Disponible bajo consulta

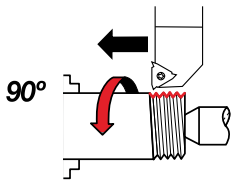
External Right

Order Code Código	Reference Referência Referencia	Insert Geometry	Dimensions | Dimensões | Dimensiones (mm)						Screw	Hex Key	Stock
			H=h1	b	S	L1	L2	G			
212103600	STCNR 1212 F16	TNMC/TPMC 16..	12	12	16	80	23	1.59	P0351375	SS20	⊛
212103700	STCNR 1616 H16	TNMC/TPMC 16..	16	16	19	100	23	1.59	P0351375	SS20	⊛
212029800	STCNR 2020 K16	TNMC/TPMC 16..	20	20	22	125	23	1.59	P0351375	SS20	⊛
212130300	STCNR 2020 K22	TNMC/TPMC 22..	20	20	22	125	32	2.38	P0501975	SS25	⊛
212030000	STCNR 2525 M16	TNMC/TPMC 16..	25	25	32	150	23	1.59	P0351375	SS20	⊛
212030200	STCNR 2525 M22	TNMC/TPMC 22..	25	25	32	150	32	2.38	P0501975	SS25	⊛
212130500	STCNR 3225 P22	TNMC/TPMC 22..	32	25	32	170	32	2.38	P0501975	SS25	⊛
212130100	STCNR 3232 P16	TNMC/TPMC 16..	32	32	38	170	23	1.59	P0351375	SS20	⊛
212130700	STCNR 3232 P22	TNMC/TPMC 22..	32	32	38	170	32	2.38	P0501975	SS25	⊛

⊛ Stock item | Produto de stock | Itens de stock

◯ Available under request | Disponível sobre consulta | Disponible bajo consulta





External Left

Order Code Código	Reference Referência Referencia	Insert Geometry	Dimensions | Dimensões | Dimensiones (mm)				Anvil	Anvil Screw	Insert Screw	Torx Key	Stock
			H=h1	b	S	L					
212244300	SXAN L 0808 H11	EL11	8	8	11	100	-	-	P0260700	XT08	○
212244400	SXAN L 1010 H11	EL11	10	10	11	100	-	-	P0260700	XT08	◎
212384500	SXAN L 1212 K11	EL11	12	12	12	125	-	-	P0260700	XT08	○
212384600	SXAN L 1212 F16	EL16	12	12	16	80	IA16	P5000790	P5401390	XT10	○
212123400	SXAN L 1616 H16	EL16	16	16	16	100	IA16	P5000790	P5401390	XT10	○
212123500	SXAN L 2020 K16	EL16	20	20	20	125	IA16	P5000790	P5401390	XT10	◎
212123800	SXAN L 2525 M16	EL16	25	25	25	150	IA16	P5000790	P5401390	XT10	◎
212124400	SXAN L 3232 P16	EL16	32	32	32	170	IA16	P5000790	P5401390	XT10	○
212123900	SXAN L 2525 M22	EL22	25	25	25	150	IA22	P8000990	P8001590	XT20	◎
212124200	SXAN L 3232 P22	EL22	32	32	32	170	IA22	P8000990	P8001590	XT20	◎
212384700	SXAN L 4040 R22	EL22	40	40	40	200	IA22	P8000990	P8001590	XT20	○
212244500	SXAN L 2525 M27	EL27	25	25	32	150	IA27	P0500990	P0502200	XT25	○
212244600	SXAN L 3232 P27	EL27	32	32	32	170	IA27	P0500990	P0502200	XT25	○
212384800	SXAN L 4040 R27	EL27	40	40	40	200	IA27	P0500990	P0502200	XT25	○

◎ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

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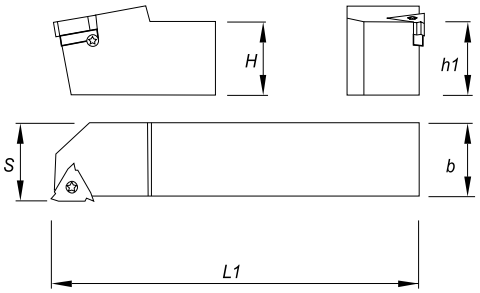
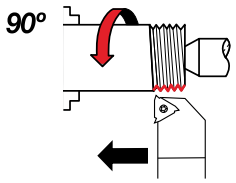
page E - 776





External Right

Order Code Código	Reference Referência Referencia	Insert Geometry	Dimensions | Dimensões | Dimensiones (mm)				Anvil	Anvil Screw	Insert Screw	Torx Key	Stock
			H=h1	b	S	L					
212244700	SXAN R 0808 H11	ER11	8	8	10	100	-	-	P0260700	XT08	○
212244800	SXAN R 1010 H11	ER11	10	10	10	100	-	-	P0260700	XT08	⊛
212384900	SXAN R 1212 K11	ER11	12	12	12	125	-	-	P0260700	XT08	○
212383800	SXAN R 1212 F16	ER16	12	12	16	80	EA16	P5000790	P5401390	XT10	⊛
212053800	SXAN R 1616 H16	ER16	16	16	16	100	EA16	P5000790	P5401390	XT10	⊛
212053100	SXAN R 2020 K16	ER16	20	20	20	125	EA16	P5000790	P5401390	XT10	⊛
212053200	SXAN R 2525 M16	ER16	25	25	25	150	EA16	P5000790	P5401390	XT10	⊛
212124300	SXAN R 3232 P16	ER16	32	32	32	170	EA16	P5000790	P5401390	XT10	⊛
212053000	SXAN R 2525 M22	ER22	25	25	25	150	EA22	P8000990	P8001590	XT20	⊛
212124100	SXAN R 3232 P22	ER22	32	32	32	170	EA22	P8000990	P8001590	XT20	⊛
212385100	SXAN R 4040 R22	ER22	40	40	40	200	EA22	P8000990	P8001590	XT20	○
212244900	SXAN R 2525 M27	ER27	25	25	32	150	EA27	P0500990	P0502200	XT25	○
212245000	SXAN R 3232 P27	ER27	32	32	32	170	EA27	P0500990	P0502200	XT25	○
212385200	SXAN R 4040 R27	ER27	40	40	40	200	EA27	P0500990	P0502200	XT25	○

⊛ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

INTERNAL TOOLHOLDERS CODE KEY

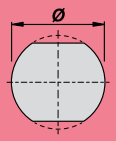
Chave de codificação para suporte internos | Llave de codificación para herramienta interior

S	32	U	S	T	G	N	R	16
1	2	3	4	5	6	7	8	9

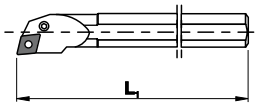
1 - Bar Type

S	Steel shank

2 - Bar Diameter (mm)

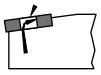


3 - Bar Length (mm)

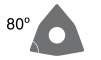


H	100	**T**	300
J	110	**U**	350
K	125	**V**	400
L	140	**W**	450
M	150	**Y**	500
Q	180	**X**	Special
R	200		
S	250		

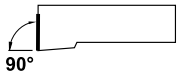
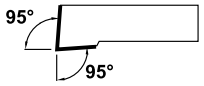
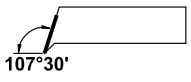
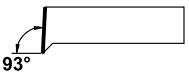
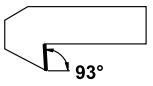
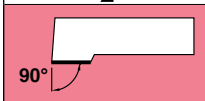
4 - Inserts Clamping System

C	M	P	S
			

5 - Insert Shape

 **C**	 **D**	 **E**	 **K**
 **S**	 **T**	 **V**	 **W**
 **X**			

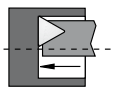
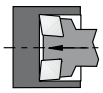
6 - Bar Leading Angle

 **F**	 **K**	 **L**
 **Q**	 **U**	 **U-BT**
 **G**		

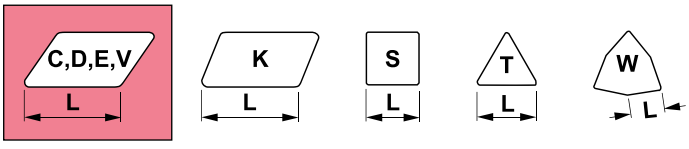
7 - Inserts Clearance Angle

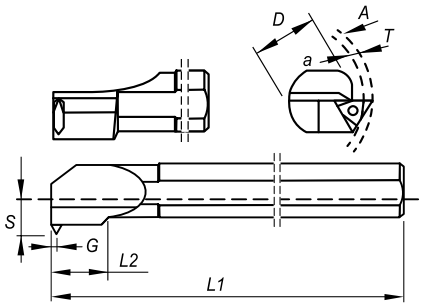
5º	7º	0º	11º
 **B**	 **C**	 **N**	 **P**

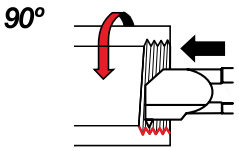
8 - Bar Hand

L	R	N
		

9 - Length of Inserts Cutting Edge (mm)







Internal Left

Order Code Código	Reference Referência Referencia	Insert	Dimensions | Dimensões | Dimensiones (mm)								Insert Screw	Hex Key	Stock
			D	L1	L2	S	A	a	T	G			
212121900	S32U STGN L 16	TNMC 1603..	32	350	19	21,0	50,4	45	2,7	1,59	P0351375	SS20	◈
212122200	S40V STGN L 16	TNMC 1603..	40	400	19	25,0	60,4	55	2,7	1,59	P0351375	SS20	◈
212122300	S32U STGN L 22	TNMC 2204..	32	350	28	21,0	50,4	45	4,1	2,38	P0501975	SS25	◈
212122600	S40V STGN L 22	TNMC 2204..	40	400	28	25,0	60,4	55	4,1	2,38	P0501975	SS25	◈
212122800	S50W STGN L 22	TNMC 2204..	50	450	28	36,5	78,2	70	4,1	2,38	P0501975	SS25	◈

◈ Stock item | Produto de stock | Itens de stock

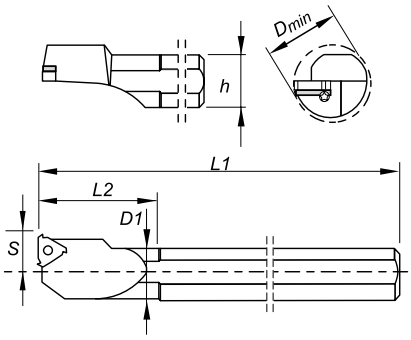
○ Available under request | Disponível sobre consulta | Disponible bajo consulta

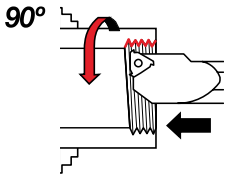
Internal Right

Order Code Código	Reference Referência Referencia	Insert	Dimensions | Dimensões | Dimensiones (mm)								Insert Screw	Hex Key	Stock
			D	L1	L2	S	A	a	T	G			
212053700	S32U STGN R 16	TNMC 1603..	32	350	19	21,0	50,4	45	2,7	1,59	P0351375	SS20	◈
212122100	S40V STGN R 16	TNMC 1603..	40	400	19	25,0	60,4	55	2,7	1,59	P0351375	SS20	◈
212122400	S32U STGN R 22	TNMC 2204..	32	350	28	21,0	50,4	45	4,1	2,38	P0501975	SS25	◈
212122500	S40V STGN R 22	TNMC 2204..	40	400	28	25,0	60,4	55	4,1	2,38	P0501975	SS25	◈
212122700	S50W STGN R 22	TNMC 2204..	50	450	28	36,5	78,2	70	4,1	2,38	P0501975	SS25	◈

◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta





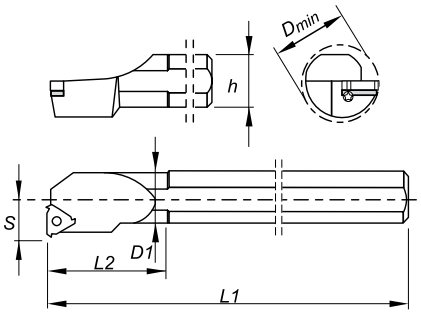
Internal Left

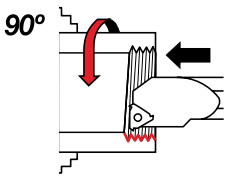
Order Code Código	Reference Referência Referencia	Insert Type	Dimensions | Dimensões | Dimensiones (mm)						Anvil	Anvil Screw	Insert Screw	Torx Key	Stock
			h	D1	Dmin	L1	L2	S					
212243500	S12H SXFN L 06	IL06	12	5,1	6	100	12	4,3	-	-	P0200400	XT06	⚙
212243600	S16K SXFN L 08	IL08	16	6,6	7,8	125	18	5,3	-	-	P0200600	XT06	⚙
212137600	S10H SXFN L 11	IL11	10	10	12	100	-	7,4	-	-	P0260700	XT08	⚙
212137800	S10K SXFN L 11	IL11	16	10	12	125	25	7,4	-	-	P0260700	XT08	○
212385300	S13L SXFN L 11	IL11	16	13	15	140	32	8,9	-	-	P0260700	XT08	○
212138000	S13M SXFN L 16	IL16	16	13	16	150	32	10,2	-	-	P5401391	XT10	○
212127400	S16P SXFN L 16	IL16	20	16	19	170	40	11,7	-	-	P5401391	XT10	⚙
212138200	S20P SXFN L 16	IL16	20	20	24	170	-	13,7	EA16	P5000790	P5401390	XT10	⚙
212125500	S25R SXFN L 16	IL16	25	25	29	200	-	16,2	EA16	P5000790	P5401390	XT10	⚙
212125700	S32S SXFN L 16	IL16	32	32	36	250	-	19,7	EA16	P5000790	P5401390	XT10	○
212125900	S40T SXFN L 16	IL16	40	40	44	300	-	23,7	EA16	P5000790	P5401390	XT10	○
212138300	S20P SXFN L 22	IL22	20	20	24	170	-	15,6		-	P8001591	XT20	⚙
212126300	S25R SXFN L 22	IL22	25	25	29	200	-	18,1	EA22	P8000990	P8001590	XT20	⚙
212126500	S32S SXFN L 22	IL22	32	32	38	250	-	21,6	EA22	P8000990	P8001590	XT20	⚙
212126700	S40T SXFN L 22	IL22	40	40	46	300	-	25,6	EA22	P8000990	P8001590	XT20	○
212243700	S32S SXFN L 27	IL27	32	32	40	250	-	22,6	EA27	P0500990	P0502200	XT25	⚙
212243800	S40T SXFN L 27	IL27	40	40	48	300	-	26,6	EA27	P0500990	P0502200	XT25	○

⚙ Stock item | Produto de stock
Itens de stock

○ Available under request | Disponível sobre consulta
Disponible bajo consulta

Note: All the toolholders SXFN are made with 1,5° helix angle. | Todos os ferros de torno são fornecidos com um ângulo de hélice de 1,5° | Todos los suportes se hacen con un ángulo de hélice de 1,5°.





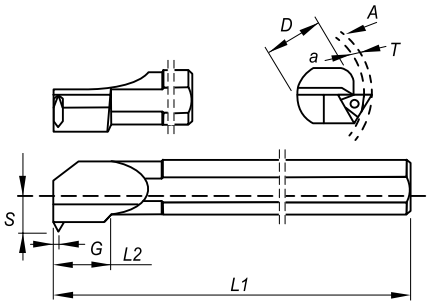
Internal Right

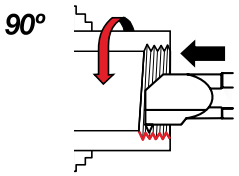
Order Code Código	Reference Referência Referencia	Insert Type	Dimensions | Dimensões | Dimensiones (mm)						Anvil	Anvil Screw	Insert Screw	Torx Key	Stock
			h	D1	Dmin	L1	L2	S					
212243900	S12H SXFN R 06	IR06	12	5	6,1	100	12	4,4	-	-	P0200400	XT06	◎
212244000	S16K SXFN R 08	IR08	16	6,5	8	125	17	5,4	-	-	P0200600	XT06	◎
212137700	S10H SXFN R 11	IR11	10	10	12,5	100	-	7,3	-	-	P0260700	XT08	◎
212137900	S10K SXFN R 11	IR11	16	10	12,5	125	25	7,3	-	-	P0260700	XT08	○
212385400	S10L SXFN R 11	IL11	16	13	15	140	32	8,9	-	-	P0260700	XT08	○
212138100	S13M SXFN R 16	IR16	16	13	16,5	150	32	10,4	-	-	P5401391	XT10	○
212127300	S16P SXFN R 16	IR16	20	16	19,5	170	40	11,6	-	-	P5401391	XT10	◎
212138400	S20P SXFN R 16	IR16	20	20	23,5	170	-	13,6	IA16	P5000790	P5401390	XT10	◎
212125400	S25R SXFN R 16	IR16	25	25	28,5	200	-	16,3	IA16	P5000790	P5401390	XT10	◎
212125600	S32S SXFN R 16	IR16	32	32	35,5	250	-	19,6	IA16	P5000790	P5401390	XT10	○
212125800	S40T SXFN R 16	IR16	40	40	43,5	300	-	23,6	IA16	P5000790	P5401390	XT10	○
212138500	S20P SXFN R 22	IR22	20	20	25	170	-	15,5		-	P8001591	XT20	◎
212126200	S25R SXFN R 22	IR22	25	25	30	200	-	18,3	IA22	P8000990	P8001590	XT20	◎
212126400	S32S SXFN R 22	IR22	32	32	37	250	-	21,7	IA22	P8000990	P8001590	XT20	◎
212126600	S40T SXFN R 22	IR22	40	40	45	300	-	25,7	IA22	P8000990	P8001590	XT20	○
212244100	S32S SXFN R 27	IR27	32	32	39	250	-	22,8	IA27	P0500990	P0502200	XT25	◎
212244200	S40T SXFN R 27	IR27	40	40	47	300	-	26,8	IA27	P0500990	P0502200	XT25	○

◎ Stock item | Produto de stock
Itens de stock

○ Available under request | Disponível sobre consulta
Disponible bajo consulta

Note: All the toolholders SXFN are made with 1,5º helix angle. | Todos os ferros de torno são fornecidos com um ângulo de hélice de 1,5º | Todos los suportes se hacen con un ángulo de hélice de 1,5º.





Internal Left

Order Code Código	Reference Referência Referencia	Insert	Dimensions | Dimensões | Dimensiones (mm)								Insert Screw	Hex Key	Stock
			D	L1	L2	S	A	a	T	G			
212030500	S25T STGP L 16	TPMC 1603..	25	300	19	17,5	50,4	45	2,7	1,59	P0351375	SS20	●
212030700	S32U STGP L 16	TPMC 1603..	32	350	19	20,5	50,4	45	2,7	1,59	P0351375	SS20	●
212030900	S40V STGP L 22	TPMC 2204..	40	400	28	25,0	78,2	70	4,1	2,38	P0501975	SS25	●
212123000	S50W STGP L 22	TPMC 2204..	50	450	28	36,5	78,2	70	4,1	2,38	P0501975	SS25	●

● Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

Internal Right

Order Code Código	Reference Referência Referencia	Insert	Dimensions | Dimensões | Dimensiones (mm)								Insert Screw	Hex Key	Stock
			D	L1	L2	S	A	a	T	G			
212030400	S25T STGP R 16	TPMC 1603..	25	300	19	17,5	50,4	45	2,7	1,59	P0351375	SS20	●
212030600	S32U STGP R 16	TPMC 1603..	32	350	19	20,5	50,4	45	2,7	1,59	P0351375	SS20	●
212030800	S40V STGP R 22	TPMC 2204..	40	400	28	25,0	78,2	70	4,1	2,38	P0501975	SS25	●
212122900	S50W STGP R 22	TPMC 2204..	50	450	28	36,5	78,2	70	4,1	2,38	P0501975	SS25	●

● Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

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Screws

Order Code Código	Reference Referência Referencia	Stock
290025900	P0200600	○
290044800	P0260700	◈
290027200	P0351375	◈
290027500	P0500990	○
290027800	P0501975	◈
290055000	P0502200	○
290045100	P5000790	◈
290044600	P5401390	◈
290044900	P5401391	◈
290045200	P8000990	◈
290044700	P8001590	◈
290045000	P8001591	◈

◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta



Keys

Order Code Código	Reference Referência Referencia	Stock
290011400	XT06	◈
290011700	XT08	◈
290013100	XT10	◈
290013200	XT20	◈
290017400	XT25	◈
290020300	SS20	○
290019800	SS25	○

◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta



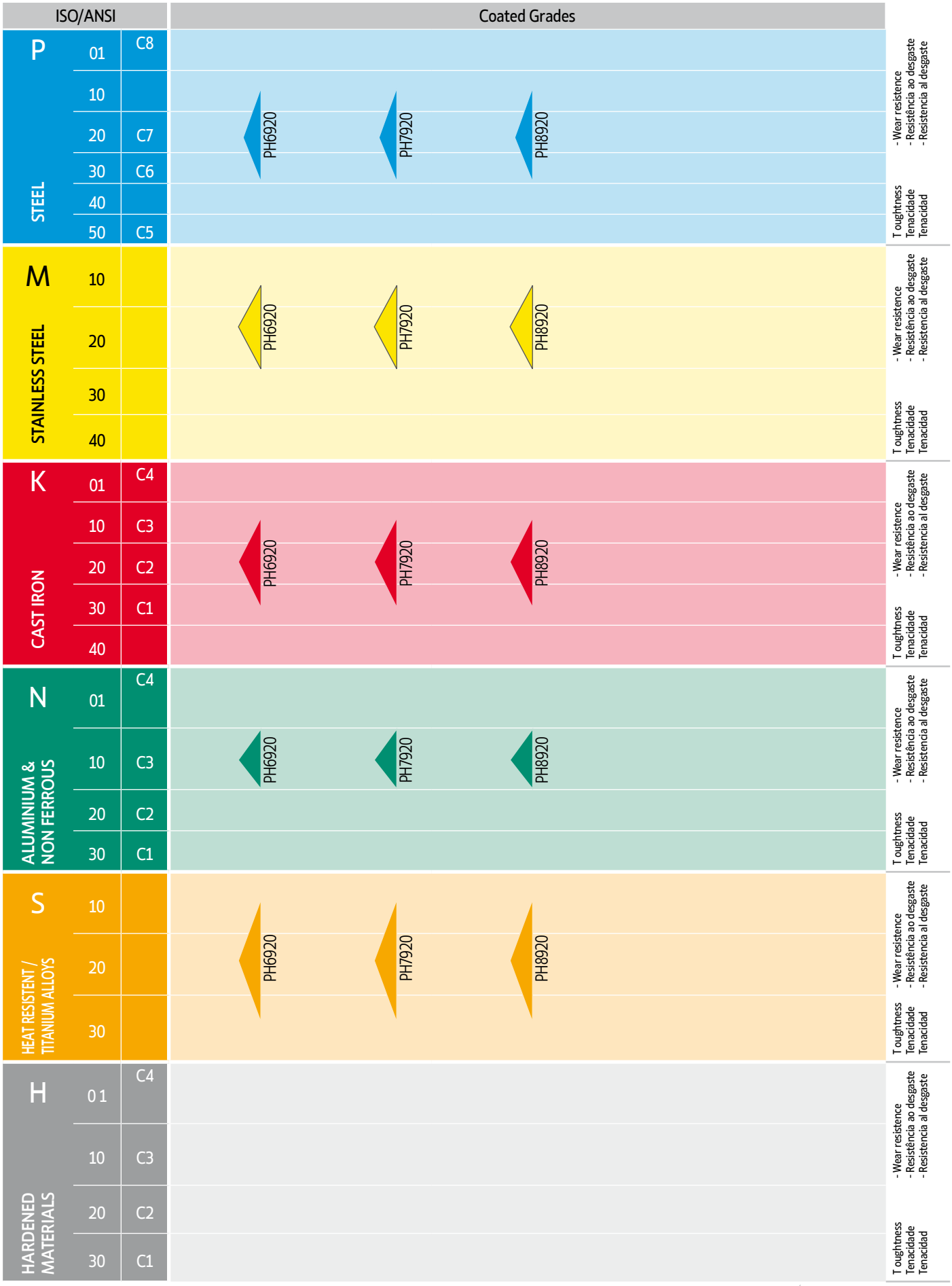
Shims

Order Code Código	Reference Referência Referencia	Stock
212134400	EA16	○
212134500	EA16 1,5N	○
212134600	EA16 1N	○
212134700	EA16 1P	○
212134800	EA16 2N	○
212134900	EA16 2P	○
212135000	EA16 3N	○
212135100	EA16 3P	○
212135200	EA22	○
212135300	EA22 1,5N	○
212135400	EA22 1N	○
212135500	EA22 1P	○
212135600	EA22 2N	○
212135700	EA22 2P	○
212135800	EA22 3N	○
212135900	EA22 3P	○
212136000	IA16	○
212136100	IA16 1,5N	○
212136200	IA16 1N	○
212136300	IA16 1P	○
212136400	IA16 2N	○
212136500	IA16 2P	○
212136600	IA16 3N	○
212136700	IA16 3P	○
212136800	IA22	○
212136900	IA22 1,5N	○
212137000	IA22 1N	○
212137100	IA22 1P	○
212137200	IA22 2N	○
212137300	IA22 2P	○
212137400	IA22 3N	○
212137500	IA22 3P	○

◈ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

THREADING GRADES | Graus de roscagem | Calidades para roscado



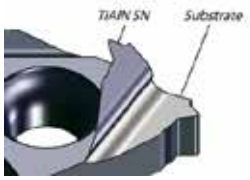
The position and the form of the grade symbols indicate the suitable field of application.

Centre of the field of application.

Recommended field of application

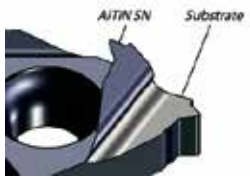
GRADES DESCRIPTION | Descrição de graus | Descripción de calidades

PH6920
(P10-P35)
(M10-M25)
(K10-K30)
(N05-N15)
(S10-S30)



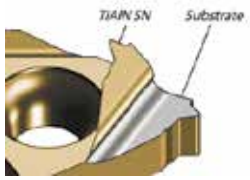
An advance PVD TiAlN coated grade over a tough wear-resistant submicron substrate for general purpose machining of steel, stainless steel, superalloys.

PH7920
(P10-P35)
(M10-M25)
(K10-K30)
(N05-N15)
(S10-S30)



An advance PVD AlTiN coated grade over a tough wear-resistant submicron substrate for general purpose machining of steel, stainless steel, superalloys.

PH8920
(P10-P35)
(M10-M25)
(K10-K30)
(N05-N15)
(S10-S30)



An advance PVD TiAlN+TiN coated grade over a tough wear-resistant submicron substrate for general purpose machining of steel, stainless steel, superalloys.

RECOMMENDED GRADES AND CUTTING SPEEDS (M/MIN)

Graus recomendados e velocidades de corte (m/min) | Calidades recomendadas y velocidades de corte (m/min)

ISO	Material	Hardness HB	Coated PH6920	Coated PH7920	Coated PH8920
			Cutting Speed m/min		
P	UNALLOYED STEEL	130	120-200	120-200	120-200
	LOW-ALLOYED STEEL	200	110-180	110-180	110-180
	HIGH-ALLOY STEEL	240	100-170	100-170	100-170
	STEEL CASTINGS	270	70-120	70-120	70-120
	HEAT TREATED STEEL	400	50-90	50-90	50-90
M	300 STAINLESS STEEL: (303,304,316)	200	70-140	70-140	70-140
	400 STAINLESS STEEL: (420,440)	240	80-120	80-120	80-120
	17-4 PH, 15-5 PH, 13-8MO PH	400	50-110	50-110	50-110
K	GREY CAST IRON	190	70-150	70-150	70-150
	NODULAR CAST IRON	180	100-140	100-140	100-140
	MALLEABLE CAST IRON	240	90-150	90-150	90-150
N	WROUGHT ALUMINIUM: (2024, 6061, 7075...)	80	100-400	100-400	100-400
	CAST ALUMINIUM:	90	150-400	150-400	150-400
	COPPER & COPPER: BRASS, BRONZE, COPPER SILICON	100	80-180	80-180	80-180
	NON METALIC: Rubber, Polypropylene, Thermoplastics (PVC), Thermoplastics Plastics (FIBERGLASS), Polyamides		200-500	200-500	200-500
S	TITANIUM:				
	PURE TITANIUM: 99,0Ti		100-150	100-150	100-150
	ALPHA ALLOYS: Ti5A12.5Sn		40-60	40-60	40-60
	BETA ALLOYS: Ti 13V11Cr3A1		30-50	30-50	30-50
	ALPHA - BETA ALLOYS: Ti 6A14V		30-50	30-50	30-50
	COBALT BASE ALLOYS: STELLITE		20-40	20-40	20-40
	NIKEL BASE ALLOYS: INCONEL, HASTELLOY, WASPALLOY, KOVAR		20-40	20-40	20-40
	HIGH TEMPERATURE ALLOYS: IRON BASED: INCOLOY		30-60	30-60	30-60
H	HARDENED STEEL	56 HRc	-	-	-
	HARDENED CAST IRON	50 HRc	-	-	-

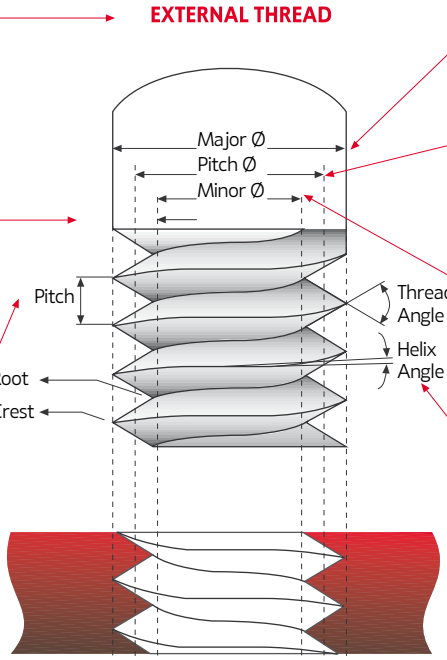
THREAD TERMINOLOGY | Terminologia da roscagem | Terminología del roscado

External Thread
A thread on the external surface of a cylinder screw or cone.

Depth of Thread
The distance between crest and root measured normal to the axis.

Pitch
The distance between corresponding points on adjacent thread forms measured parallel to the axis. This distance can be defined in millimeters or by the tpi (threads per inch), which is he reciprocal of the pitch

Nominal Diameter
The diameter from which the diameter limits are derived by the application of deviation allowances and tolerances.



Internal Thread
A thread on the internal surface of a cylinder or cone.

Major Diameter
The largest diameter of a screw thread.

Pitch Diameter
On a straight thread, the diameter of an imaginary cylinder, the surface of which cuts the thread forms where the width of the thread and groove are equal.

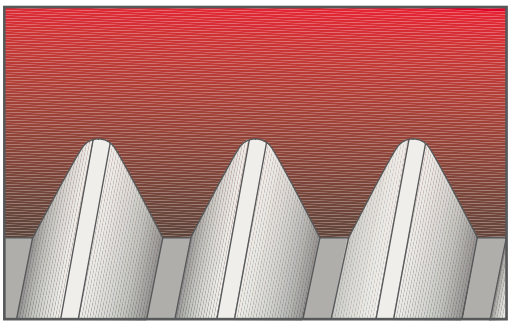
Minor Diameter
The smallest diameter of a screw thread.

Helix Angle
For a straight thread, where the lead of the thread and the pitch diameter circle circumference form a right angled triangle, the helix angle is the angle opposite the lead.

Straight Thread
A thread formed on a cylinder.

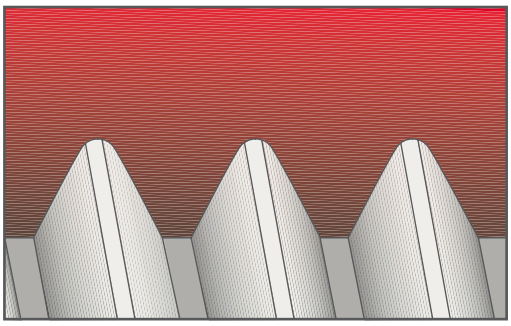
Taper Thread
A thread formed on a cone.

LEFT-HAND THREAD



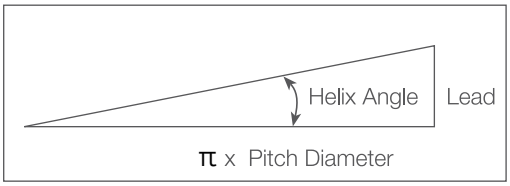
A thread which, when viewed axially, winds in a counter-clockwise and receding direction. All left-hand threads are designated LH.

RIGHT-HAND THREAD



A thread which, when viewed axially, winds in a clockwise and receding direction. Threads are always right hand unless otherwise specified.

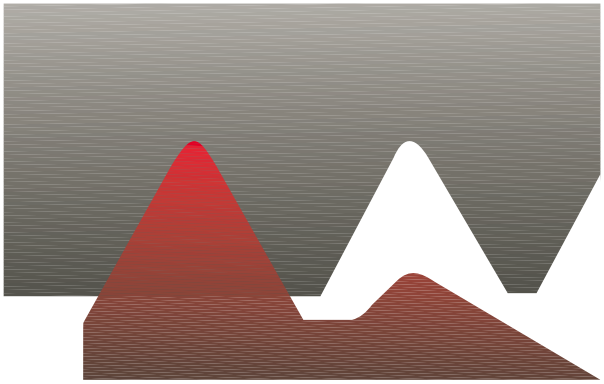
THE HELIX ANGLE



Lead
The distance a threaded part moves axially, with respect to a fixed mating part, in one complete revolution.
The lead is equal to the pitch multiplied by the number of thread starts.

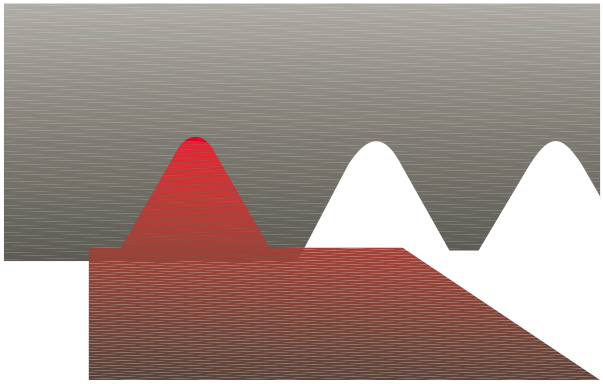
INSERT PROFILE STYLES | Estilos de perfis das pastilhas | Estilos de perfiles de las plaquitas

PARTIAL PROFILE



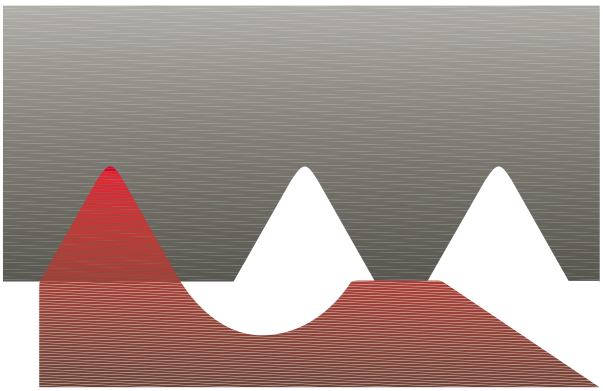
The V partial profile insert cuts without topping the outer diameter of the thread. The same insert can be used for a range of different thread pitches which have a common thread angle.

FULL PROFILE



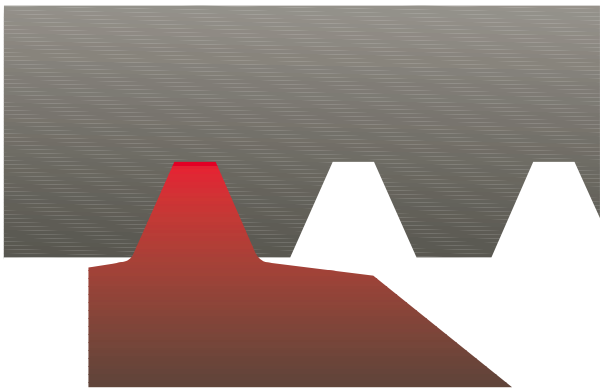
The full profile insert will form a complete thread profile including the crest. For every thread pitch and standard, a separate insert is required.

FULL PROFILE FOR FINE PITCHES



The full profile for Fine Pitches will form a complete thread.
The topping of the outer diameter is generated by second tooth.

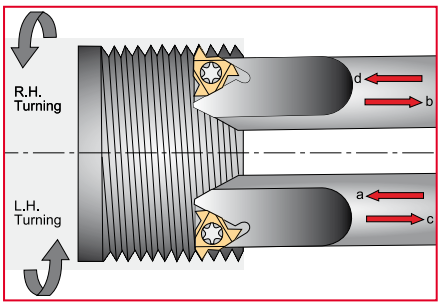
SEMI FULL

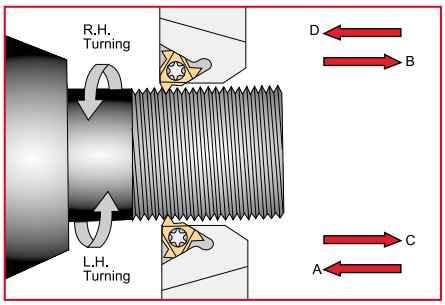


The Semi profile insert will form a complete thread including crest radius but without topping the outer diameter.
Mainly used for trapezoidal profiles.

THREADING TECHNICAL DATA

THREAD WORK METHODS | Métodos de trabalho de roscagem | Métodos de trabajo de roscado

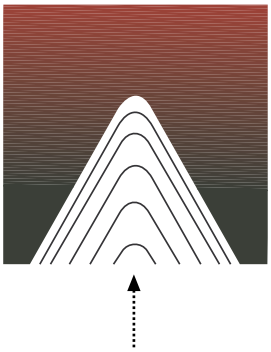




Thread	Inserts & Toolholders	Rotation	Feed Direction	Helix Method	Method
Right Hand external	EX RH	Anticlockwise	Towards chuck	Regular	A
	EX LH	Clockwise	From chuck	Reversed	B
Right Hand Internal	IN RH	Anticlockwise	Towards chuck	Regular	a
	IN LH	Clockwise	From chuck	Reversed	b
Left Hand External	EX LH	Clockwise	Towards chuck	Regular	D
	EX RH	Anticlockwise	From chuck	Reversed	C
Left Hand Internal	IN LH	Clockwise	Towards chuck	Regular	d
	IN RH	Anticlockwise	From chuck	Reversed	c

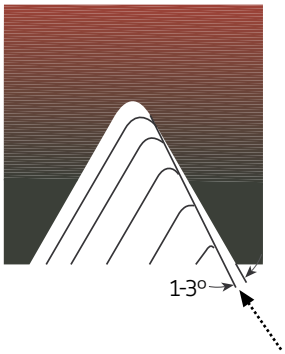
THREAD INFEED METHODS | Métodos de roscagem infeed | Métodos de roscado infeed

RADIAL INFEED



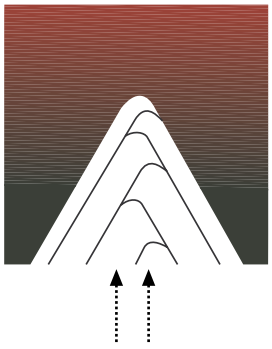
Radial infeed is the simplest and quickest method.
The feed is perpendicular to the turning axis, and both flanks of the insert perform the cutting operation.
Radial infeed is recommended in 3 cases:
• when the pitch is smaller than 16 tpi
• for material with short chips
• for work with hardened material

FLANK INFEED (modified)



Flank infeed is recommended in the following cases:
• when the thread pitch is greater than 16 tpi., using the radial method, the effective cutting edge length is too large, resulting in chatter.
• for TRAPEZ and ACME. The radial method result in three cutting edges, making chip flow very difficult.

ALTERNATE FLANK INFEED

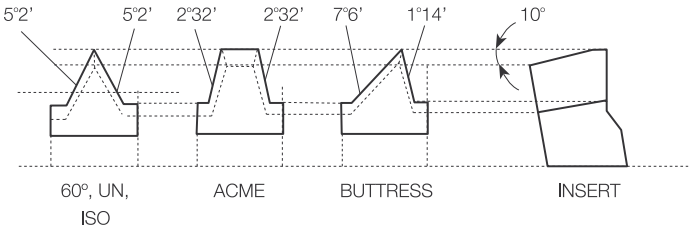


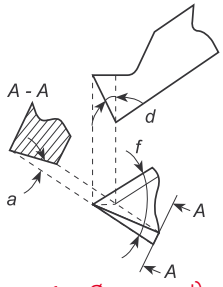
Use of the alternate flank method is recommended especially in large pitches and for materials with long cihps.
This method divides the load equally on both flanks, resulting in equal wear along the cutting edges. Alternate flank infeed requires more complicated programming, and is not available on all lathes.

CALCULATE THE HELIX ANGLE AND CHOOSE THE RIGHT ANVIL

Calcular o ângulo de hélice e escolher o colchão adequado | Calcular el ángulo de hélice y elegir el colchón adecuado

FLANK CLEARANCE ANGLE (a)





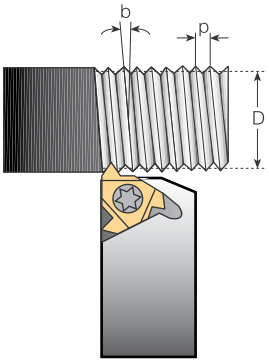
Palbit toolholders are designed to tilt the insert when seated in the toolholder (10° for external, 15° for internal tooling). This results in the differing flank clearance angles, based on the geometry of insert. To ensure that the side of the insert cutting edge will not rub on the workpiece, it is most important that the insert helix angle be correct - especially in profiles with small enclosed flank angles. This correction is provided by Palbit anvils.

$$a = \arctan(\tan Ø / 2 \times \tan d)$$

Where: a - flank clearance angle
d - Tilt angle
Ø - Enclosed flank angle

CALCULATING THE HELIX ANGLE (b)

FORMULA



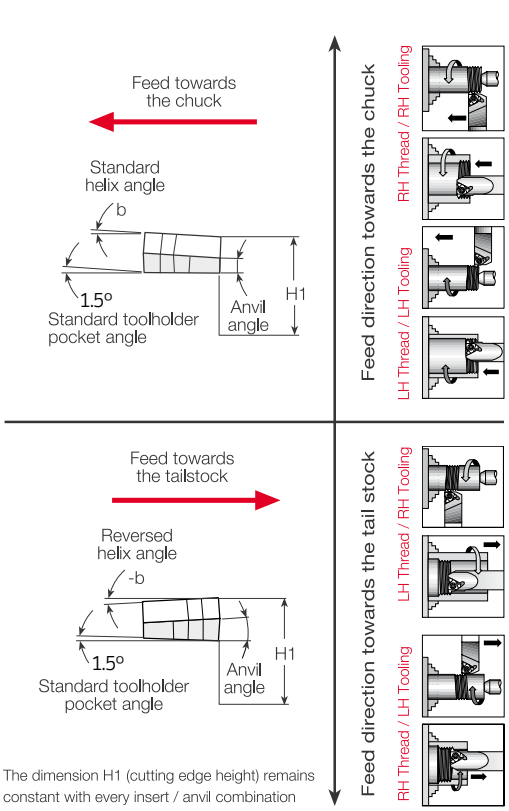
The helix angle is calculated by the following formula:

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

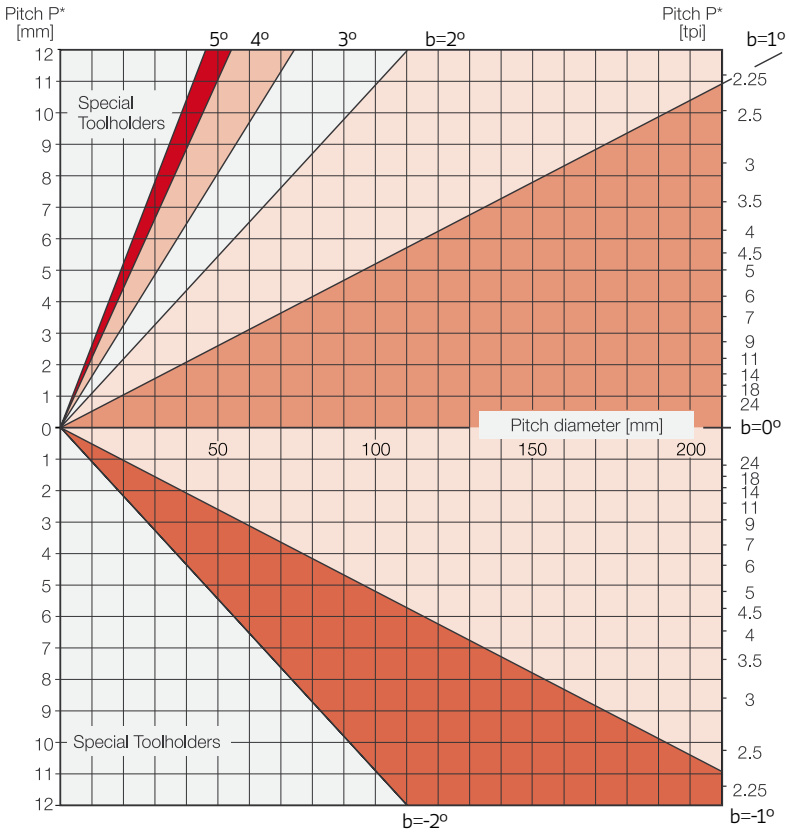
b - Helix angle (°)
P - Pitch (1/TPI)
N - No. of starts
D - Pitch diameter (mm)
Lead = P x N
TPI = Threads per inches

The helix angle can also be found using the diagram below

HELIX ANGLE DIAGRAM

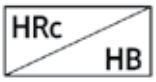
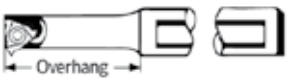


The dimension H1 (cutting edge height) remains constant with every insert / anvil combination



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

CUTTING CONDITIONS DEPENDS ON | | Condições de corte dependem de | Las condiciones de corte dependen de

Workpiece	Material Type	
	Material Dimension: Diameter and Length	
	Chipflow Character	
	Material Hardeness	
Thread Application	External or Internal	
	Profile Shape	
	Surface Finish	
Machine	Machine Stability	
	Max. RPM	
	Clamping System Stability	
Coolant	Coolant Type	
Holders	Holder Cross Section Area	
	Holder Overhang	
	Through Coolant Option	
	Shank Type: Carbide, Alloy, Carbide Implant	
Partial Profile	Grade	
	Profile Shape: Pitch and Depth	
	Nose Radius	
	Chipbreaker Style	

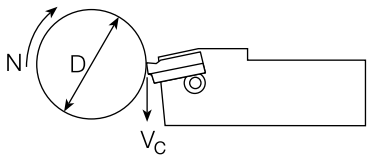
NUMBER OF CUTTING PASSES | Número de passos de corte | Número de pasos de corte

Pitch															
MM	0.50	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
No. of Passes	4 - 6	4 - 7	4 - 8	5 - 9	6 - 10	7 - 12	7 - 12	8 - 14	9 - 16	10 - 18	11 - 18	11 - 19	12 - 20	12 - 20	12 - 20	15 - 24

CALCULATE THE N (RPM) | Calcular o N (rpm) | Calcular el N (rpm)

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

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



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

ANVILS | Colchões | Colchones

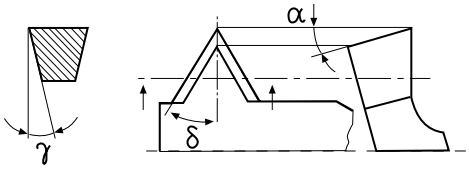
Insert Size		Holder Type	Resultant Helix Angle							
IC	L (mm)		4.5	3.5	2.5	1.5 standard	0.5	0	-0.5	-1.5
3,8"	16	ER/IL	EA16 3P	EA16 2P	EA16 1P	EA16	EA16 1N	EA16 1,5N	EA16 2N	EA16 3N
		EL/IR	IA16 3P	IA16 2P	IA16 1P	IA16	IA16 1N	IA16 1,5N	IA16 2N	IA16 3N
1/2"	22	ER/IL	EA22 3P	EA22 2P	EA22 1P	EA22	EA22 1N	EA22 1,5N	EA22 2N	EA22 3N
		EL/IR	IA22 3P	IA22 2P	IA22 1P	IA22	IA22 1N	IA22 1,5N	IA22 2N	IA22 3N
5/8"	27	ER/IL	EA27 3P	EA27 2P	EA27 1P	EA27	EA27 1N	EA27 1,5N	EA27 2N	EA27 3N
		EL/IR	IA27 3P	IA27 2P	IA27 1P	IA27	IA27 1N	IA27 1,5N	IA27 2N	IA27 3N

FLANK CLEARANCE ANGLE - γ

γ = tg -1[tgα x tgδ]

α = 10° for external

α = 15° for internal



THREADING TECHNICAL DATA - RECOMMENDED N° OF PASSES

ISO METRIC EXTERNAL THREAD

No. of Passes	Pitch (MM)															
	6	5.5	5	4.5	4	3.5	3	2.5	2	1.75	1.5	1.25	1	0.75	0.5	0.35
1	0.45	0.43	0.42	0.39	0.34	0.34	0.27	0.26	0.24	0.23	0.23	0.20	0.19	0.17	0.11	0.10
2	0.37	0.36	0.37	0.33	0.30	0.31	0.23	0.22	0.23	0.21	0.21	0.18	0.16	0.15	0.09	0.08
3	0.33	0.31	0.31	0.29	0.25	0.24	0.20	0.20	0.19	0.16	0.18	0.14	0.13	0.11	0.08	0.06
4	0.28	0.27	0.28	0.25	0.21	0.20	0.18	0.17	0.17	0.14	0.16	0.12	0.10	0.06	0.06	
5	0.26	0.25	0.25	0.23	0.19	0.19	0.17	0.16	0.15	0.12	0.11	0.10	0.06			
6	0.24	0.23	0.23	0.20	0.18	0.17	0.16	0.14	0.12	0.10	0.06	0.06				
7	0.23	0.22	0.21	0.19	0.16	0.16	0.15	0.13	0.10	0.08						
8	0.22	0.20	0.20	0.18	0.15	0.15	0.13	0.12	0.06	0.06						
9	0.20	0.19	0.19	0.16	0.15	0.14	0.12	0.10								
10	0.19	0.18	0.18	0.15	0.14	0.12	0.11	0.06								
11	0.18	0.17	0.16	0.14	0.13	0.10	0.09									
12	0.17	0.16	0.14	0.12	0.12	0.06	0.06									
13	0.16	0.15	0.10	0.10	0.10											
14	0.14	0.12	0.06	0.06	0.06											
15	0.13	0.10														
16	0.10	0.06														
17	0.06															
18																
Total	3.71	3.40	3.10	2.79	2.48	2.18	1.87	1.56	1.26	1.10	0.95	0.80	0.64	0.49	0.34	0.24

ISO METRIC INTERNAL THREAD

No. of Passes	Pitch (MM)															
	6	5.5	5	4.5	4	3.5	3	2.5	2	1.75	1.5	1.25	1	0.75	0.5	0.35
1	0.44	0.43	0.42	0.36	0.32	0.32	0.25	0.25	0.23	0.22	0.22	0.19	0.18	0.16	0.10	0.09
2	0.36	0.34	0.37	0.32	0.27	0.29	0.22	0.21	0.21	0.20	0.20	0.16	0.15	0.14	0.09	0.08
3	0.32	0.29	0.28	0.28	0.22	0.23	0.19	0.19	0.18	0.15	0.17	0.13	0.12	0.10	0.07	0.06
4	0.27	0.24	0.26	0.25	0.20	0.19	0.17	0.16	0.16	0.13	0.15	0.11	0.10	0.06	0.06	
5	0.25	0.23	0.24	0.22	0.19	0.18	0.16	0.15	0.14	0.11	0.10	0.10	0.06			
6	0.23	0.22	0.21	0.19	0.18	0.16	0.16	0.13	0.11	0.09	0.06	0.06				
7	0.22	0.21	0.20	0.18	0.16	0.15	0.14	0.12	0.09	0.08						
8	0.21	0.20	0.19	0.17	0.15	0.14	0.12	0.11	0.06	0.06						
9	0.19	0.18	0.18	0.15	0.14	0.13	0.11	0.09								
10	0.17	0.16	0.16	0.14	0.14	0.11	0.10	0.06								
11	0.16	0.16	0.14	0.12	0.12	0.09	0.08									
12	0.15	0.15	0.12	0.10	0.10	0.06	0.06									
13	0.14	0.14	0.09	0.09	0.09											
14	0.13	0.11	0.06	0.06	0.06											
15	0.11	0.09														
16	0.09	0.06														
17	0.06															
18																
Total	3.50	3.21	2.92	2.63	2.34	2.05	1.76	1.47	1.18	1.04	0.90	0.75	0.61	0.46	0.32	0.23

UN EXTERNAL THREAD

No. of Passes	Pitch TPI																		
	4	4.5	5	6	7	8	9	10	11	12	13	14	16	18	20	24	28	32	48
1	0.44	0.43	0.42	0.37	0.33	0.29	0.29	0.26	0.25	0.25	0.24	0.23	0.22	0.21	0.20	0.20	0.18	0.18	0.13
2	0.38	0.35	0.37	0.32	0.28	0.22	0.24	0.22	0.22	0.23	0.22	0.20	0.20	0.19	0.16	0.17	0.15	0.16	0.09
3	0.33	0.30	0.32	0.27	0.23	0.20	0.23	0.20	0.19	0.20	0.18	0.18	0.18	0.17	0.15	0.14	0.11	0.12	0.07
4	0.29	0.28	0.27	0.25	0.22	0.18	0.22	0.17	0.17	0.18	0.16	0.14	0.14	0.16	0.13	0.11	0.09	0.06	0.06
5	0.27	0.26	0.26	0.24	0.21	0.17	0.18	0.16	0.16	0.16	0.14	0.12	0.11	0.11	0.11	0.06	0.06		
6	0.26	0.23	0.24	0.18	0.19	0.16	0.16	0.15	0.15	0.14	0.13	0.11	0.09	0.06	0.06				
7	0.24	0.22	0.22	0.17	0.18	0.16	0.15	0.14	0.13	0.11	0.10	0.10	0.06						
8	0.23	0.21	0.20	0.16	0.15	0.15	0.12	0.12	0.12	0.06	0.06	0.06							
9	0.21	0.20	0.19	0.15	0.14	0.14	0.11	0.11	0.06										
10	0.20	0.19	0.18	0.13	0.14	0.14	0.06	0.06											
11	0.19	0.18	0.17	0.12	0.12	0.11													
12	0.18	0.17	0.14	0.10	0.06	0.06													
13	0.18	0.15	0.11	0.11															
14	0.17	0.14	0.06	0.06															
15	0.16	0.12																	
16	0.13	0.06																	
17	0.06																		
Total	3.92	3.49	3.15	2.63	2.25	1.98	1.76	1.59	1.45	1.33	1.23	1.14	1.00	0.90	0.81	0.68	0.59	0.52	0.35

UN INTERNAL THREAD

No. of Passes	Pitch TPI																		
	4	4.5	5	6	7	8	9	10	11	12	13	14	16	18	20	24	28	32	48
1	0.43	0.43	0.42	0.34	0.31	0.29	0.29	0.25	0.24	0.24	0.23	0.22	0.21	0.20	0.19	0.19	0.17	0.17	0.12
2	0.34	0.35	0.37	0.28	0.27	0.22	0.23	0.21	0.20	0.21	0.21	0.20	0.19	0.18	0.16	0.16	0.14	0.15	0.09
3	0.32	0.29	0.28	0.26	0.22	0.19	0.20	0.19	0.18	0.19	0.17	0.17	0.17	0.16	0.14	0.13	0.10	0.11	0.07
4	0.28	0.24	0.26	0.22	0.20	0.17	0.20	0.16	0.16	0.17	0.15	0.13	0.13	0.15	0.11	0.10	0.08	0.06	0.06
5	0.26	0.23	0.24	0.21	0.19	0.16	0.16	0.15	0.15	0.15	0.13	0.11	0.10	0.09	0.10	0.06	0.06		
6	0.25	0.22	0.21	0.18	0.18	0.16	0.15	0.13	0.14	0.13	0.12	0.10	0.09	0.06	0.06				
7	0.23	0.21	0.20	0.17	0.16	0.14	0.14	0.12	0.12	0.10	0.09	0.09	0.06						
8	0.21	0.20	0.19	0.16	0.15	0.14	0.13	0.12	0.10	0.06	0.06	0.06							
9	0.20	0.19	0.18	0.15	0.14	0.13	0.11	0.11	0.06										
10	0.19	0.18	0.16	0.13	0.14	0.12	0.06	0.06											
11	0.18	0.17	0.16	0.12	0.10	0.08													
12	0.17	0.16	0.13	0.10	0.06	0.06													
13	0.16	0.14	0.10	0.09															
14	0.16	0.12	0.06	0.06															
15	0.14	0.10																	
16	0.12	0.06																	
17	0.06																		
Total	3.70	3.29	2.96	2.47	2.12	1.86	1.67	1.50	1.35	1.25	1.16	1.08	0.95	0.84	0.76	0.64	0.55	0.49	0.34

THREADING TECHNICAL DATA - RECOMMENDED N° OF PASSES

W. EXTERNAL THREAD

No. of Passes	Pitch TPI																		
	4	4.5	5	6	7	8	9	10	11	12	14	16	18	19	20	24	28	32	48
1	0.45	0.44	0.43	0.38	0.34	0.30	0.28	0.27	0.26	0.26	0.24	0.22	0.24	0.22	0.21	0.20	0.18	0.19	0.16
2	0.40	0.36	0.38	0.33	0.29	0.24	0.25	0.23	0.23	0.23	0.21	0.18	0.21	0.19	0.19	0.18	0.15	0.16	0.14
3	0.35	0.31	0.33	0.28	0.24	0.21	0.22	0.21	0.20	0.21	0.17	0.15	0.16	0.17	0.15	0.16	0.12	0.13	0.06
4	0.31	0.29	0.28	0.27	0.23	0.19	0.21	0.18	0.18	0.19	0.15	0.13	0.15	0.14	0.13	0.11	0.10	0.06	
5	0.28	0.27	0.27	0.25	0.22	0.18	0.20	0.17	0.17	0.17	0.14	0.12	0.11	0.11	0.10	0.06	0.06		
6	0.27	0.24	0.25	0.19	0.20	0.17	0.17	0.16	0.16	0.15	0.12	0.10	0.06	0.06	0.06				
7	0.25	0.23	0.23	0.18	0.19	0.17	0.17	0.14	0.13	0.12	0.10	0.09							
8	0.24	0.22	0.21	0.17	0.16	0.16	0.15	0.13	0.12	0.06	0.06	0.06							
9	0.22	0.21	0.20	0.16	0.15	0.14	0.13	0.11	0.06										
10	0.21	0.20	0.19	0.14	0.15	0.13	0.06	0.06											
11	0.20	0.19	0.18	0.12	0.12	0.11													
12	0.19	0.18	0.15	0.10	0.06	0.06													
13	0.18	0.16	0.12	0.11															
14	0.18	0.15	0.06	0.06															
15	0.17	0.13																	
16	0.13	0.06																	
17	0.06																		
Total	4.09	3.64	3.28	2.74	2.35	2.06	1.84	1.66	1.51	1.39	1.19	1.05	0.93	0.89	0.84	0.71	0.61	0.54	0.36

W. INTERNAL THREAD

No. of Passes	Pitch TPI																		
	4	4.5	5	6	7	8	9	10	11	12	14	16	18	19	20	24	28	32	48
1	0.45	0.44	0.43	0.38	0.34	0.30	0.28	0.27	0.26	0.26	0.24	0.22	0.24	0.22	0.21	0.20	0.18	0.19	0.16
2	0.40	0.36	0.38	0.33	0.29	0.24	0.25	0.23	0.23	0.23	0.21	0.18	0.21	0.19	0.19	0.18	0.15	0.16	0.14
3	0.35	0.31	0.33	0.28	0.24	0.21	0.22	0.21	0.20	0.21	0.17	0.15	0.16	0.17	0.15	0.16	0.12	0.13	0.06
4	0.31	0.29	0.28	0.27	0.23	0.19	0.21	0.18	0.18	0.19	0.15	0.13	0.15	0.14	0.13	0.11	0.10	0.06	
5	0.28	0.27	0.27	0.25	0.22	0.18	0.20	0.17	0.17	0.17	0.14	0.12	0.11	0.11	0.10	0.06	0.06		
6	0.27	0.24	0.25	0.19	0.20	0.17	0.17	0.16	0.16	0.15	0.12	0.10	0.06	0.06	0.06				
7	0.25	0.23	0.23	0.18	0.19	0.17	0.17	0.14	0.13	0.12	0.10	0.09							
8	0.24	0.22	0.21	0.17	0.16	0.16	0.15	0.13	0.12	0.06	0.06	0.06							
9	0.22	0.21	0.20	0.16	0.15	0.14	0.13	0.11	0.06										
10	0.21	0.20	0.19	0.14	0.15	0.13	0.06	0.06											
11	0.20	0.19	0.18	0.12	0.12	0.11													
12	0.19	0.18	0.15	0.10	0.06	0.06													
13	0.18	0.16	0.12	0.11															
14	0.18	0.15	0.06	0.06															
15	0.17	0.13																	
16	0.13	0.06																	
17	0.06																		
Total	4.09	3.64	3.28	2.74	2.35	2.06	1.84	1.66	1.51	1.39	1.19	1.05	0.93	0.89	0.84	0.71	0.61	0.54	0.36

NPT EXTERNAL & INTERNAL

No. of Passes	Pitch TPI				
	4	11.5	14	18	27
1	0.32	0.23	0.22	0.18	0.14
2	0.25	0.19	0.18	0.15	0.11
3	0.21	0.17	0.15	0.13	0.11
4	0.17	0.16	0.14	0.13	0.10
5	0.16	0.15	0.13	0.12	0.09
6	0.16	0.13	0.12	0.11	0.08
7	0.15	0.12	0.10	0.09	0.06
8	0.15	0.10	0.10	0.08	
9	0.14	0.10	0.09	0.06	
10	0.13	0.10	0.08		
11	0.13	0.09	0.06		
12	0.12	0.08			
13	0.12	0.06			
14	0.10				
15	0.08				
16	0.06				
Total	2.45	1.68	1.37	1.05	0.69

NPTF EXTERNAL & INTERNAL

No. of Passes	Pitch TPI				
	8	11.5	14	18	27
1	0.31	0.22	0.21	0.17	0.14
2	0.24	0.17	0.17	0.14	0.10
3	0.20	0.16	0.14	0.13	0.09
4	0.16	0.16	0.14	0.12	0.09
5	0.16	0.14	0.14	0.11	0.08
6	0.15	0.13	0.12	0.10	0.08
7	0.15	0.12	0.10	0.09	0.06
8	0.14	0.11	0.10	0.08	
9	0.14	0.10	0.09	0.06	
10	0.13	0.10	0.08		
11	0.13	0.09	0.06		
12	0.12	0.08			
13	0.12	0.06			
14	0.10				
15	0.08				
16	0.06				
Total	2.39	1.64	1.35	1.00	0.64

TR EXTERNAL & INTERNAL

No. of Passes	Pitch (MM)						
	7.0	6.0	5.0	4.0	3.0	2.0	1.5
1	0.38	0.36	0.34	0.32	0.31	0.30	0.24
2	0.34	0.32	0.30	0.28	0.26	0.26	0.22
3	0.28	0.28	0.25	0.23	0.23	0.22	0.17
4	0.26	0.25	0.23	0.20	0.19	0.18	0.14
5	0.25	0.24	0.22	0.19	0.19	0.16	0.12
6	0.23	0.23	0.21	0.18	0.18	0.12	0.06
7	0.22	0.22	0.19	0.17	0.15	0.06	
8	0.21	0.20	0.18	0.16	0.12		
9	0.20	0.19	0.17	0.15	0.11		
10	0.19	0.17	0.16	0.14	0.06		
11	0.19	0.16	0.14	0.12			
12	0.18	0.15	0.13	0.10			
13	0.18	0.13	0.12	0.06			
14	0.16	0.13	0.10				
15	0.16	0.12	0.06				
16	0.15	0.12					
17	0.15	0.11					
18	0.14	0.11					
19	0.12	0.06					
20	0.06						
Total	4.05	3.55	2.80	2.30	1.80	1.30	0.95

THREADING TECHNICAL DATA - RECOMMENDED N° OF PASSES

ACME EXTERNAL & INTERNAL

No. of Passes	Pitch TPI							
	4	5	6	8	10	12	14	16
1	0.36	0.34	0.31	0.27	0.26	0.26	0.25	0.24
2	0.32	0.30	0.29	0.23	0.23	0.22	0.21	0.22
3	0.28	0.25	0.25	0.19	0.20	0.18	0.18	0.18
4	0.25	0.23	0.21	0.18	0.19	0.16	0.15	0.15
5	0.24	0.22	0.18	0.17	0.16	0.14	0.13	0.12
6	0.23	0.21	0.17	0.16	0.14	0.12	0.10	0.06
7	0.22	0.19	0.16	0.15	0.12	0.10	0.06	
8	0.20	0.19	0.15	0.14	0.11	0.06		
9	0.19	0.18	0.15	0.12	0.10			
10	0.17	0.17	0.14	0.12	0.06			
11	0.15	0.15	0.13	0.10				
12	0.14	0.13	0.12	0.06				
13	0.13	0.12	0.10					
14	0.12	0.10	0.06					
15	0.11	0.06						
16	0.11							
17	0.10							
18	0.10							
19	0.06							
Total	3.48	2.84	2.42	1.89	1.57	1.24	1.08	0.97

STUB ACME EXTERNAL & INTERNAL

No. of Passes	Pitch TPI							
	4	5	6	8	10	12	14	16
1	0.31	0.30	0.27	0.23	0.23	0.22	0.21	0.18
2	0.26	0.26	0.23	0.19	0.17	0.17	0.18	0.16
3	0.21	0.21	0.20	0.16	0.14	0.14	0.15	0.13
4	0.19	0.18	0.16	0.15	0.13	0.12	0.12	0.12
5	0.17	0.16	0.15	0.13	0.12	0.10	0.06	0.06
6	0.17	0.15	0.14	0.12	0.11	0.06		
7	0.16	0.15	0.13	0.11	0.10			
8	0.15	0.13	0.12	0.10	0.06			
9	0.15	0.12	0.10	0.06				
10	0.14	0.10	0.06					
11	0.13	0.06						
12	0.11							
13	0.06							
Total	2.21	1.82	1.56	1.25	1.06	0.81	0.72	0.65

UNJ EXTERNAL THREAD

No. of Passes	Pitch TPI												
	8	9	10	11	12	13	14	16	18	20	24	28	32
1	0.29	0.29	0.26	0.25	0.25	0.24	0.23	0.22	0.21	0.20	0.20	0.18	0.18
2	0.22	0.24	0.22	0.22	0.23	0.22	0.20	0.20	0.19	0.16	0.17	0.14	0.15
3	0.20	0.22	0.19	0.19	0.19	0.18	0.17	0.17	0.16	0.14	0.13	0.10	0.11
4	0.18	0.20	0.17	0.16	0.17	0.15	0.14	0.13	0.15	0.12	0.10	0.09	0.06
5	0.16	0.17	0.15	0.15	0.15	0.13	0.11	0.10	0.10	0.10	0.06	0.06	
6	0.16	0.16	0.14	0.14	0.13	0.12	0.10	0.09	0.06	0.06			
7	0.15	0.14	0.13	0.12	0.10	0.09	0.09	0.06					
8	0.14	0.12	0.11	0.11	0.06	0.06	0.06						
9	0.13	0.10	0.10	0.06									
10	0.12	0.06	0.06										
11	0.10												
12	0.06												
Total	1.91	1.70	1.53	1.40	1.28	1.19	1.10	0.97	0.87	0.78	0.66	0.57	0.50

UNJ INTERNAL THREAD

No. of Passes	Pitch TPI												
	8	9	10	11	12	13	14	16	18	20	24	28	32
1	0.29	0.29	0.26	0.25	0.25	0.24	0.23	0.22	0.21	0.20	0.20	0.18	0.18
2	0.22	0.24	0.22	0.22	0.23	0.22	0.20	0.20	0.19	0.16	0.17	0.14	0.15
3	0.20	0.22	0.19	0.19	0.19	0.18	0.17	0.17	0.16	0.14	0.13	0.10	0.11
4	0.18	0.20	0.17	0.16	0.17	0.15	0.14	0.13	0.15	0.12	0.10	0.09	0.06
5	0.16	0.17	0.15	0.15	0.15	0.13	0.11	0.10	0.10	0.10	0.06	0.06	
6	0.16	0.16	0.14	0.14	0.13	0.12	0.10	0.09	0.06	0.06			
7	0.15	0.14	0.13	0.12	0.10	0.09	0.09	0.06					
8	0.14	0.12	0.11	0.11	0.06	0.06	0.06						
9	0.13	0.10	0.10	0.06									
10	0.12	0.06	0.06										
11	0.10												
12	0.06												
Total	1.91	1.70	1.53	1.40	1.28	1.19	1.10	0.97	0.87	0.78	0.66	0.57	0.50

THREADING TECHNICAL DATA - RECOMMENDED N° OF PASSES

MJ INTERNAL THREAD

No. of Passes	Pitch (MM)					
	1.0	1.25	1.5	2.0	2.5	3.0
1	0.16	0.17	0.22	0.23	0.24	0.24
2	0.13	0.14	0.19	0.21	0.21	0.20
3	0.11	0.12	0.14	0.18	0.18	0.18
4	0.09	0.10	0.11	0.16	0.16	0.17
5	0.06	0.09	0.09	0.14	0.14	0.16
6		0.06	0.06	0.10	0.13	0.15
7				0.06	0.12	0.13
8					0.10	0.12
9					0.06	0.10
10						0.09
11						0.06
12						
Total	0.55	0.68	0.81	1.08	1.34	1.60

MJ EXTERNAL THREAD

No. of Passes	Pitch (MM)					
	1.0	1.25	1.5	2.0	2.5	3.0
1	0.18	0.18	0.22	0.23	0.25	0.26
2	0.15	0.16	0.20	0.22	0.21	0.22
3	0.13	0.14	0.18	0.18	0.19	0.19
4	0.10	0.12	0.15	0.16	0.16	0.17
5	0.06	0.10	0.11	0.14	0.15	0.16
6		0.06	0.06	0.12	0.14	0.15
7				0.10	0.13	0.14
8				0.06	0.12	0.13
9					0.10	0.12
10					0.06	0.11
11						0.09
12						0.06
Total	0.62	0.76	0.92	1.21	1.51	1.80

RD (DIN 20400) EXTERNAL & INTERNAL THREAD

No. of Passes	Pitch (MM)			
	6.0	5.0	4.0	3.0
1	0.35	0.32	0.25	0.24
2	0.33	0.28	0.24	0.23
3	0.32	0.27	0.23	0.21
4	0.31	0.26	0.22	0.20
5	0.30	0.25	0.21	0.19
6	0.29	0.24	0.20	0.18
7	0.26	0.22	0.19	0.14
8	0.23	0.20	0.18	0.11
9	0.22	0.19	0.16	0.10
10	0.19	0.16	0.14	0.09
11	0.17	0.15	0.12	0.06
12	0.15	0.13	0.10	
13	0.12	0.12	0.06	
14	0.10	0.06		
15	0.06			
Total	3.40	2.85	2.30	1.75

RD (DIN 405) EXTERNAL & INTERNAL THREAD

No. of Passes	Pitch TPI			
	4	6	8	10
1	0.35	0.25	0.24	0.23
2	0.32	0.24	0.22	0.21
3	0.31	0.22	0.20	0.19
4	0.30	0.21	0.19	0.18
5	0.29	0.20	0.18	0.16
6	0.28	0.19	0.16	0.14
7	0.25	0.18	0.14	0.11
8	0.22	0.16	0.11	0.09
9	0.21	0.15	0.10	0.06
10	0.18	0.13	0.09	
11	0.16	0.12	0.06	
12	0.13	0.11		
13	0.12	0.06		
14	0.10			
15	0.06			
Total	3.28	2.22	1.69	1.37

PG INTERNAL & EXTERNAL

No. of Passes	Pitch TPI		
	20	18	16
1	0.17	0.18	0.19
2	0.15	0.14	0.16
3	0.14	0.12	0.13
4	0.10	0.10	0.11
5	0.06	0.09	0.10
6		0.06	0.09
7			0.06
Total	0.62	0.69	0.78

AMERICAN BUTTRESS EXTERNAL & INTERNAL

No. of Passes	Pitch TPI					
	6	8	10	12	16	20
1	0.28	0.25	0.22	0.21	0.20	0.18
2	0.24	0.22	0.20	0.19	0.18	0.16
3	0.21	0.19	0.19	0.18	0.17	0.14
4	0.20	0.19	0.17	0.16	0.14	0.13
5	0.20	0.17	0.16	0.15	0.13	0.12
6	0.19	0.16	0.15	0.14	0.12	0.10
7	0.19	0.16	0.13	0.13	0.10	0.06
8	0.18	0.15	0.12	0.12	0.06	
9	0.17	0.14	0.12	0.11		
10	0.16	0.13	0.11	0.06		
11	0.15	0.12	0.10			
12	0.14	0.11	0.06			
13	0.14	0.10				
14	0.13	0.06				
15	0.12					
16	0.10					
17	0.06					
Total	2.86	2.15	1.73	1.45	1.10	0.89

THREADING TECHNICAL DATA - RECOMMENDED N° OF PASSES

SAGENGEWINDE (DIN 513) EXTERNAL

No. of Passes	Pitch (MM)		
	4.0	3.0	2.0
1	0.32	0.30	0.29
2	0.30	0.28	0.26
3	0.27	0.26	0.24
4	0.25	0.24	0.19
5	0.23	0.22	0.18
6	0.21	0.21	0.17
7	0.20	0.20	0.15
8	0.19	0.18	0.14
9	0.18	0.17	0.11
10	0.17	0.15	0.06
11	0.16	0.14	
12	0.15	0.13	
13	0.15	0.11	
14	0.15	0.06	
15	0.14		
16	0.14		
17	0.13		
18	0.12		
19	0.06		
Total	3.52	2.65	1.79

SAGENGEWINDE (DIN 513) INTERNAL

No. of Passes	Pitch (MM)		
	4.0	3.0	2.0
1	0.32	0.31	0.29
2	0.30	0.29	0.27
3	0.27	0.27	0.25
4	0.24	0.24	0.21
5	0.23	0.23	0.18
6	0.21	0.22	0.16
7	0.20	0.20	0.12
8	0.19	0.19	0.06
9	0.18	0.16	
10	0.17	0.13	
11	0.16	0.06	
12	0.15		
13	0.14		
14	0.13		
15	0.10		
16	0.06		
Total	3.05	2.30	1.54

API EXTERNAL & INTERNAL

No. of Passes	VO.038R 4 TPI		VO.050 4 TPI		VO.040 5 TPI	Buttress casing 5 TPI	
	2 IPF	3 IPF	2 IPF	3 IPF	3 IPF	0.75 IPF	1.0 IPF
1	0.45	0.45	0.44	0.44	0.41	0.24	0.24
2	0.38	0.38	0.39	0.39	0.36	0.22	0.22
3	0.33	0.33	0.34	0.34	0.32	0.18	0.18
4	0.30	0.30	0.31	0.31	0.28	0.14	0.14
5	0.28	0.28	0.28	0.28	0.26	0.12	0.12
6	0.24	0.24	0.26	0.26	0.24	0.12	0.12
7	0.22	0.22	0.24	0.24	0.22	0.12	0.12
8	0.20	0.20	0.23	0.23	0.20	0.10	0.10
9	0.18	0.18	0.21	0.21	0.18	0.10	0.10
10	0.14	0.14	0.19	0.19	0.14	0.10	0.10
11	0.13	0.13	0.18	0.18	0.13	0.10	0.10
12	0.12	0.12	0.16	0.16	0.12	0.06	0.06
13	0.11	0.10	0.14	0.14	0.11		
14	0.06	0.06	0.13	0.13	0.06		
15			0.12	0.12			
16			0.10	0.11			
17			0.06	0.06			
Total	3.14	3.13	3.79	3.78	3.03	1.60	1.60

API EXTERNAL & INTERNAL

No. of Passes	Extreme Line Casing 6 TPI 1.5 IPF		Extreme Line Casing 5 TPI 1.5 IPF		Round API 0.75 IPF 8 TPI		Round API 0.75 IPF 10 TPI	
	External	Internal	External	Internal	External	Internal	External	Internal
1	0.23	0.25	0.25	0.25	0.25	0.25	0.25	0.25
2	0.20	0.20	0.22	0.23	0.22	0.22	0.20	0.20
3	0.16	0.17	0.20	0.21	0.20	0.20	0.17	0.17
4	0.15	0.15	0.18	0.19	0.18	0.18	0.15	0.15
5	0.13	0.14	0.15	0.16	0.16	0.16	0.14	0.14
6	0.12	0.13	0.14	0.15	0.15	0.15	0.13	0.13
7	0.11	0.12	0.13	0.14	0.14	0.14	0.12	0.12
8	0.10	0.12	0.12	0.13	0.13	0.13	0.12	0.12
9	0.06	0.10	0.11	0.12	0.12	0.12	0.10	0.10
10		0.06	0.10	0.11	0.11	0.11	0.06	0.06
11			0.10	0.11	0.11	0.11		
12			0.06	0.10	0.06	0.06		
13				0.06				
Total	1.26	1.44	1.76	1.96	1.83	1.83	1.44	1.44

TAPER PIPE THREAD: NPT / ANSI/ASME B 1.20.1-1983 - INTERNAL THREAD

AMERICAN NATIONAL STANDARD TAPER PIPE THREADS

Thread Size				Recommended Tools	
	Pitch TPI	Pitch MM	Profile Depth	Insert	Toolholder
NPT 1/16	27	0.941	0.69	06IR 27NPT	S12H SXFNR 06
NPT 1/8	27	0.941	0.69	08IR 27NPT	S16K SXFNR 08
NPT 1/4	18	1,411	1.05	08IR 18NPT	S16K SXFNR 08
NPT 3/8	18	1,411	1.05	11IR 18NPT	S10K SXFNR 11
NPT 1/2	14	1,814	1.37	16IR 14NPT	S13M SXFNR 16
NPT 3/4	14	1,814	1.37	16IR 14NPT	S16P SXFNR 16
NPT 1	11.5	2,209	1.68	16IR 11.5NPT	S20P SXFNR 16
NPT 1 1/4	11.5	2,209	1.68	16IR 11.5NPT	S25R SXFNR 16
NPT 1 1/2	11.5	2,209	1.68	16IR 11.5NPT	S32S SXFNR 16
NPT 2	11.5	2,209	1.68	16IR 11.5NPT	S32S SXFNR 16
NPT 2 1/2	8	3,175	2.45	16IR 8NPT	S40T SXFNR 16
NPT 3	8	3,175	2.45	16IR 8NPT	S40T SXFNR 16
NPT 3 1/2	8	3,175	2.45	16IR 8NPT	S40T SXFNR 16
NPT 4	8	3,175	2.45	16IR 8NPT	S40T SXFNR 16
NPT 5	8	3,175	2.45	16IR 8NPT	S40T SXFNR 16

TAPER PIPE THREAD: NPTF / ANSI B 1.20.3-1976 - INTERNAL THREAD

AMERICAN NATIONAL STANDARD DRYSEAL PIPE THREADS

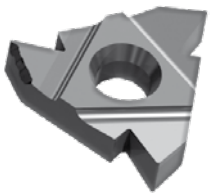
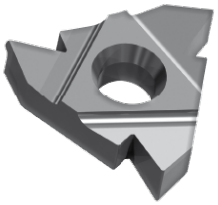
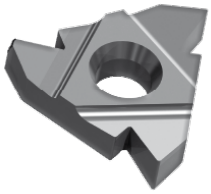
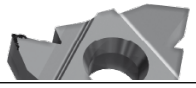
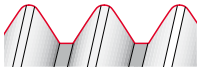
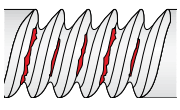
Thread Size				Recommended Tools	
	Pitch TPI	Pitch MM	Profile Depth	Insert	Toolholder
NPTF 1/16	27	0.941	0.64	06IR 27NPTF	S12H SXFNR 06
NPTF 1/8	27	0.941	0.64	08IR 27NPTF	S16K SXFNR 08
NPTF 1/4	18	1,411	1.00	08IR 18NPTF	S16K SXFNR 08
NPTF 3/8	18	1,411	1.00	11IR 18NPTF	S10K SXFNR 11
NPTF 1/2	14	1,814	1.35	16IR 14NPTF	S13M SXFNR 16
NPTF 3/4	14	1,814	1.35	16IR 14NPTF	S16P SXFNR 16
NPTF 1	11.5	2,209	1.64	16IR 11.5NPTF	S20P SXFNR 16
NPTF 1 1/4	11.5	2,209	1.64	16IR 11.5NPTF	S25R SXFNR 16
NPTF 1 1/2	11.5	2,209	1.64	16IR 11.5NPTF	S32S SXFNR 16
NPTF 2	11.5	2,209	1.64	16IR 11.5NPTF	S32S SXFNR 16
NPTF 2 1/2	8	3,175	2.39	16IR 08NPTF	S40T SXFNR 16
NPTF 3	8	3,175	2.39	16IR 08NPTF	S40T SXFNR 16

PARALLEL PIPE THREAD / BSP (G) - INTERNAL THREAD

Thread Size					Recommended Tools	
	Pitch TPI	Pitch MM	Profile Depth	Bore Diameter	Insert	Toolholder
G1/16	28	0.907	0.581	6,561	06IR 28W	S12H SXFNR 06
G1/8	28	0.907	0.581	8,556	08IR 28W	S16K SXFNR 08
G1/4	19	1,337	0.856	11,445	08IR 19W	S16K SXFNR 08
G3/8	19	1,337	0.856	14,950	11IR 19W	S10K SXFNR 11
G1/2	14	1,814	1,162	18,631	16IR 14W	S13M SXFNR 16
G5/8	14	1,814	1,162	20,587	16IR 14W	S16P SXFNR 16
G3/4	14	1,814	1,162	24,117	16IR 14W	S16P SXFNR 16
G7/8	11	1,814	1,162	27,877	16IR 14W	S20P SXFNR 16
G1	11	2,309	1,479	30,291	16IR 11W	S20P SXFNR 16
G1 1/8	11	2,309	1,479	34,939	16IR 11W	S25R SXFNR 16
G1 1/4	11	2,309	1,479	38,952	16IR 11W	S25R SXFNR 16
G1 1/2	11	2,309	1,479	44,845	16IR 11W	S32S SXFNR 16
G1 3/4	11	2,309	1,479	50,788	16IR 11W	S32S SXFNR 16
G2	11	2,309	1,479	56,656	16IR 11W	S32S SXFNR 16

TAPER PIPE THREAD / B SPT (RC) - INTERNAL THREAD

Thread Size					Recommended Tools	
	Pitch TPI	Pitch MM	Profile Depth	Bore Diameter	Insert	Toolholder
Rc 1/16	28	0.907	0.581	6,561	06IR 28BSPT	S12H SXFNR 06
Rc 1/8	28	0.907	0.581	8,556	08IR 28BSPT	S16K SXFNR 08
Rc 1/4	19	1,337	0.856	11,445	08IR 19BSPT	S16K SXFNR 08
Rc 3/8	19	1,337	0.856	14,950	11IR 19BSPT	S10K SXFNR 11
Rc 1/2	14	1,814	1,162	18,631	16IR 14BSPT	S13M SXFNR 16
Rc 5/8	14	1,814	1,162	20,587	16IR 14BSPT	S16P SXFNR 16
Rc 3/4	14	1,814	1,162	24,117	16IR 14BSPT	S16P SXFNR 16
Rc 7/8	14	1,814	1,162	27,877	16IR 14BSPT	S20P SXFNR 16
Rc 1	11	2,309	1,479	30,291	16IR 11BSPT	S20P SXFNR 16
Rc 1 1/8	11	2,309	1,479	34,939	16IR 11BSPT	S25R SXFNR 16
Rc 1 1/4	11	2,309	1,479	38,952	16IR 11BSPT	S25R SXFNR 16
Rc 1 1/2	11	2,309	1,479	44,845	16IR 11BSPT	S32S SXFNR 16
Rc 1 3/4	11	2,309	1,479	50,788	16IR 11BSPT	S32S SXFNR 16
Rc 2	11	2,309	1,479	56,656	16IR 11BSPT	S32S SXFNR 16

Problem | Problema	Possible Cause | Causa Possível | Causa Possible	Solution | Solução | Solucíon
Increased flank wear Desgaste da aresta Desgaste del flanco 	• Cutting speed too high • Velocidade de corte alta • Alta velocidad de corte	• Reduce cutting speed / Use coated insert • Reduza a velocidade de corte / Use uma pastilha revestida • Reducir la velocidad de corte / Utilice un inserto recubierto
	• Depth of cut too low/ too many passes • Profundidade de corte demasiado baixa / demasiados passos • Profundidad de corte demasiado baja / demasiados pasos	• Increase the depth of cut per pass • Aumente a profundidade de corte por passo • Aumento de la profundidad de corte por paso
	• Unsuitable carbide grade • Grau desajustado • Grado desajustado	• Use a coated carbide grade • Use um grau revestido • Utilice un grado recubierto
	• Insufficient cooling • Refrigeração insuficiente • Insuficiente refrigeración	• Increase coolant flow rate • Aumente o fluxo de refrigeração • Aumentar el flujo de refrigeración
Uneven cutting edge wear Deformação da aresta de corte Deformación del flanco de corte 	• Incorrect helix angle • Ângulo da helice incorrecto • Ángulo de hélice incorrecta	• Choose the correct anvil • Escolha o ângulo correcto • Elija el ángulo correcto
	• Wrong infeed method • Método de avanço incorrecto • Método incorrecto de avance	• Use the Alternating Flank Infeed method • Use um método alternativo de avanço • Utilizar un método alternativo de avance
Extreme plastic deformation Deformação plástica extrema Deformación plástica extrema 	• Depth of cut too large • Profundidade de corte demasiado larga • Profundidad de corte demasiado grande	• Decrease depth of cut / Increase number of passes • Diminua a profundidade de corte / Aumente o número de passos • Reducir la profundidad de corte / Aumentar el número de pasos
	• Insufficient cooling • Refrigeração insuficiente • Insuficiente refrigeración	• Increase coolant flow rate • Aumente o fluxo de refrigeração • Aumentar el flujo de refrigeración
	• Cutting speed too high • Velocidade de corte alta • Alta velocidad de corte	• Reduce cutting speed • Reduza a velocidade de corte • Reducir la velocidad de corte
	• Unsuitable carbide grade • Grau não aconselhável • Grado no es aconsejable	• Use a tougher carbide • Use um grau mais macio • Usar un grado más suave
	• Nose radius too small • Raio demasiado pequeno • Radio demasiado pequeño	• Use an insert with a larger radius, if possible • Use uma pastilha com um raio mais largo, se possível • Utilice un inserto con un radio más amplio, si es posible
Cutting edge breakage Quebra da aresta de cortex Rotura del flanco de corte 	• Depth of cut too large • Profundidade de corte demasiado larga • Profundidad de corte demasiado grande	• Decrease depth of cut / Increase number of passes • Diminua a profundidade de corte / Aumente o numero de passos • Reducir la profundidad de corte / Aumentar el número de pasos
	• Extreme plastic deformation • Deformação plástica extrema • Deformacíon plastica extrema	• Use a tougher carbide • Use um grau mais macio • Usar un grado más suave
	• Insufficient cooling • Refrigeração insuficiente • Insuficiente refrigeración	• Increase flow rate and/ or correct flow direction • Aumento o fluxo ou melhore o direcionamento da refrigeração • Aumentar o mejorar la dirección del flujo de la refrigeración
	• Unsuitable carbide grade • Grau não aconselhável • Grado no es aconsejable	• Use a tougher carbide • Use um grau mais macio • Usar un grado más suave
	• Instability • Instabilidade • Inestabilidad	• Check stability of the system • Verifique a estabilidade do sistema • Compruebe la estabilidad del sistema
Built-up edge Aresta postiça Filos recrecidos 	• Incorrect cutting speed • Velocidade de corte incorrecta • Velocidad de corte incorrecta	• Change the cutting speed • Altere a velocidade de corte • Cambiar la velocidad de corte
	• Unsuitable carbide grade • Grau não aconselhável • Grado no es aconsejable	• Use a coated carbide • Utilize um grau revestido • Utilice un grado recubierto
Thread profile is too shallow Perfil da rosca muito irregular Perfil de la rosca muy irregular 	• The tool is not at the workpiece axis height • A pastilha não está a maquinar a crista da rosca • El inserto no está mecanizando	• Change tool height • Altere o posicionamento em altura da ferramenta • Cambiar la posición en la altura de la herramienta
	• Insert is not machining the thread crest • A ferramenta não está posicionada correctamente • La herramienta no está colocada correctamente a cresta de la rosca	• Measure the workpiece diameter • Medir o diâmetro correcto da peça de trabalho • Medir el diámetro de la pieza de trabajo
	• Worn insert • Pastilha gasta • Inserto pasado	• Change the cutting edge sooner • Mudar antecipadamente a aresta de corte • Cambiar el flanco de corte en antecipo
Thread profile is too shallow Má qualidade superfície Acabado de superficie malo 	• Cutting speed too low • Velocidade de corte baixa • Velocidad de corte baja	• Increase cutting speed • Aumente a velocidade de corte • Aumentar la velocidad de corte
	• Wrong anvil • Colchão errado • Colchón cambiado	• Choose correct anvil • Escolha um colchão mais apropriado • Elija un colchón más apropiado
	• Flank infeed method is not appropriate • Posição de avanço inapropriada • Posición de avance inadecuada	• Use the alternate flank or radial infeed method • Use um método de flanqueamento ou radial alternativo • Utilice un método flanqueamento o radial alternativo

WORKPIECE MATERIALS - PALBIT SELECTION MATERIALS, PSM

Material da peça - seleção de materiais Palbit, PSM | Material de la pieza - selección materiales Palbit, PSM

Steel, Ferritic and Martensitic Stainless Steel

ISO	PSM	Material Example	Description	R_m(N/mm²)	kcX (N/mm²)	m_c
P	1	Ck50	Structural steels; ordinary carbon steels with low to medium carbon content(<0,5%C); soft carbon steel; free cutting steel.	<500	1500	0.25
	2	42CrMnNiMo 4	Normal tool steels; harder steels for toughening; Martensitic stainless steels; Carbon steels with high carbon content (>0,5%C); Ferritic and martensitic stainless steels.	550<900	1900	0.24
	3	X40CrMoV51	Normal tool steels; Harder steels for toughening; Martensitic stainless steels; Difficult tool steels; High-alloy steels with high hardness; Martensitic stainless steels.	900<1200	2000	0.24

Easy-cutting, Austenitic and Duplex Stainless Steel

ISO	PSM	Material Example	Description	R_m(N/mm²)	kcX (N/mm²)	m_c
M	4	X8CrNiS189	Easy-cutting stainless steels; Free-cutting stainless steels; Calcium-treated stainless steels.		1750	0.22
	5	X2CrNiMo17122	Moderately to difficult stainless steels: Austenitic and duplex.		2050	0.20
	6	X2CrNiMoN2253	Very difficult stainless steels: Austenitic and duplex.		2150	0.20

Cast Iron

ISO	PSM	Material Example	Description	R_m(N/mm²)	kcX (N/mm²)	m_c
K	7	GJL-150	Medium / hard cast iron; Grey cast iron.		1150	0.22
	8	GJL-250	Low-alloy cast iron; Malleable cast iron; Nodular cast iron.		1225	0.25
	9	GJL-350	Difficult high-alloy cast iron; Difficult malleable cast iron; Nodular cast iron		1470	0.30

Aluminium and Non-Ferrouses

ISO	PSM	Material Example	Description	R_m(N/mm²)	kcX (N/mm²)	m_c
N	10	AW7075 AlSi12 CuZn37	Aluminium alloys: Low Si Aluminium alloys: High Si Copper alloys			

Heat Resistent Super Alloys

ISO	PSM	Material Example	Description	R_m(N/mm²)	kcX (N/mm²)	m_c
S	11	Inconel 718	Ni-based super-alloys Titanium alloys		3300 1450	0.24 0.23

Please note that the R_m value is only for selection of the material group and when the material has been heat treatment or other methods that increase the strength of the material.