Roscado
Taraudage
Threading

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Machos de máquina / Tarauds machine / Machine taps (M-MF)

Entrada recta (Agujeros Ciegos y pasantes) / Entrée droite (trous borgnes et débouchants) / Straight flute (through and blind holes)

Entrada Corregida (Agujeros pasantes) / Entrée corrigée (Trous débouchants) / Spiral point (through holes)

P Aceros Aciers Steels · M Aceros Inox Aciers Inox Stainless Steels · K Fundicion Fonte Cast Iron · N Metales no ferrosos Métal non Ferraux Non Ferrous metals · S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys · H Materiales Duros Materiels Durs Hard materials

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	2109	HSSE	DIN 376			M DIN 13	Form. B "Gun"		Tol. 6H +0,1	3XD	D	P N	148
	2168	HSSE	DIN 371			M DIN 13	Form. B "Gun"		Tol. 6G	3XD	R	P N	149
	2169	HSSE	DIN 376			M DIN 13	Form. B "Gun"		Tol. 6G		3XD	D	P N	149
NEW	2250	HSSE	DIN 371	VAP		M DIN 13	Form. B "Gun"		Tol. 6H	3XD	R	MF	P M N	150
NEW	2251	HSSE	DIN 376/374	VAP		M-MF DIN 13	Form. B "Gun"		Tol. 6H	3XD	D	MF	P M N	150
NEW	2116	HSSE	DIN 371	TIN+		M DIN 13	Form. B "Gun"		Tol. 6H	3XD	R	MF	P M K N	151
NEW	2115	HSSE	DIN 376	TIN+		M-MF DIN 13	Form. B "Gun"		Tol. 6H	3XD	D	MF	P M K N	151
	2126	HSSE-PM	DIN 371	TICN+		M DIN 13	Form. B "Gun"		Tol. 6H	3XD	R	MF	P K	152
	2125	HSSE-PM	DIN 376/374	TICN+		M-MF DIN 13	Form. B "Gun"		Tol. 6H	3XD	D	MF	P K	152
	2176	HSSE-PM	DIN 371	TICN+		M DIN 13	Form. B "Gun"		Tol. 6HX	3XD	R	MF	P K	153
	2175	HSSE-PM	DIN 376	TICN+		M DIN 13	Form. B "Gun"		Tol. 6HX	3XD	D	MF	P K	153
	2122	HSSE	DIN 371	VAP		M DIN 13	Form. B "Gun"		Tol. 6H	3XD	R	MF	P M	154
	2121	HSSE	DIN 376/374	VAP		M-MF DIN 13	Form. B "Gun"		Tol. 6H	3XD	D	MF	P M	154
	2133	HSSE	DIN 371			M DIN 13	B-AZ		Tol. 6H	3XD	R		N	155
	2132	HSSE	DIN 376			M DIN 13	B-AZ		Tol. 6H	3XD	D		N	155
	2254	HSSE-PM	DIN 371 MULTI	HL		M DIN 13	Form. B "Gun"		Tol. 6HX	3XD	R	MF	P M K N S	156
	2255	HSSE-PM	DIN 371 MULTI	HL		M DIN 13	Form. B "Gun"		Tol. 6HX	3XD	D	MF	P M K N S	156
	2258	HSSE-PM	DIN 371 SYNCHRO	HL		M DIN 13	Form. B "Gun"		Tol. 6HX	CNC	3XD	R	MF	P M K N S	157
	2259	HSSE-PM	DIN 371 SYNCHRO	HL		M DIN 13	Form. B "Gun"		Tol. 6HX	CNC	3XD	D	MF	P M K N S	157

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M Aceros Inox / Aciers Inox / Stainless Steels

K Fundicion / Fonte / Cast Iron

N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals

S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys

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Forma Helicoidal (Agujeros ciegos) / Forme helicoïdale (Trous borgnes)/ Spiral fluted (Blind holes)

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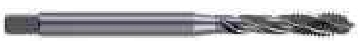
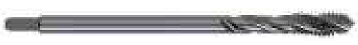
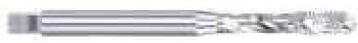
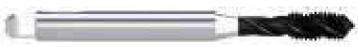
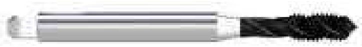
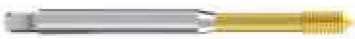
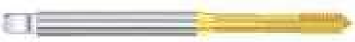
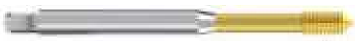
							Pág.
2120	HSSE	DIN 371	VAP		M DIN 13 · Form. C · Tol. 6H · 35° · 3XD · R · MF	P · M	169
2119	HSSE	DIN 376/374	VAP		M-MF · Form. C · Tol. 6H · 35° · 3XD · D · MF	P · M	169
2182	HSSE	DIN 371			M DIN 13 · Form. C · Tol. 6H · 45° · 3XD · R	N	170
2181	HSSE	DIN 376			M DIN 13 · Form. C · Tol. 6H · 45° · 3XD · D	N	170
2256	HSSE-PM	DIN 371 MULTI	HL		M DIN 13 · Form. C · Tol. 6HX · 45° · 3XD · R · MF	P · M · K · N · S	171
2257	HSSE-PM	DIN 376 MULTI	HL		M DIN 13 · Form. C · Tol. 6HX · 45° · 3XD · D · MF	P · M · K · N · S	171
2260	HSSE-PM	DIN 371 SYNCHRO	HL		M DIN 13 · CNC · Form. C · Tol. 6HX · 45° · 3XD · R · MF	P · M · K · N · S	172
2261	HSSE-PM	DIN 376 SYNCHRO	HL		M DIN 13 · CNC · Form. C · Tol. 6HX · 45° · 3XD · D · MF	P · M · K · N · S	172

Laminación / Tarauds à refouler / Forming taps

2188	HSSE-PM	DIN 371	TIN		M DIN 13 · Form. C · Tol. 6HX · A>12% · 1,5XD · R · MF	P · M · N	173
2187	HSSE-PM	DIN 376	TIN		M DIN 13 · Form. C · Tol. 6HX · A>12% · 1,5XD · D · MF	P · M · N	173
2214	HSSE-PM	DIN 371	TIN		M DIN 13 · Form. C · Tol. 6HX · A>12% · 3XD · R · MF	P · M · N	174
2213	HSSE-PM	DIN 376	TIN		M-MF DIN 13 · Form. C · Tol. 6HX · A>12% · 3XD · D · MF	P · M · N	174
2216	HSSE-PM	DIN 371	TIN		M DIN 13 · Form. C · Tol. 6GX · A>12% · 1,5XD · R · MF	P · M · N	175
2215	HSSE-PM	DIN 376	TIN		M DIN 13 · Form. C · Tol. 6GX · A>12% · 1,5XD · D · MF	P · M · N	175
2218	HSSE-PM	DIN 371	TIN		M DIN 13 · Form. C · Tol. 6GX · A>12% · 3XD · R · MF	P · M · N	176
2217	HSSE-PM	DIN 376	TIN		M DIN 13 · Form. C · Tol. 6GX · A>12% · 3XD · D · MF	P · M · N	176

Otros / Autres / Others

2199	HSSE	DIN 357			M DIN 13 · 16-18h · Tol. 6H · R	P	177

P	Aceros Aciers Steels	M	Aceros Inox Aciers Inox Stainless Steels	K	Fundicion Fonte Cast Iron	N	Metales no ferrosos Métal non Ferraux Non Ferrous metals	S	Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys	H	Materiales Duros Materiels Durs Hard materials

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Machos de máquina / Tarauds machine / Machine taps (BSW-BSF)

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Machos de máquina / Tarauds machine / Machine taps (TR-VG)

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Machos de mano / Tarauds à main / Hands taps

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Machos Perfil Completo / Taraud Profil Complet / Non Serial Form Taps

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M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
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H Materiales Duros / Materiels Durs / Hard materials

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Hepyc CUTTING TOOL EXPERTS

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Cojinetes / Filieres / Dies

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Calibres / Calibres / Gauges

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Accesorios / Accessoires / Accessories

¿Por qué conformarse con menos?

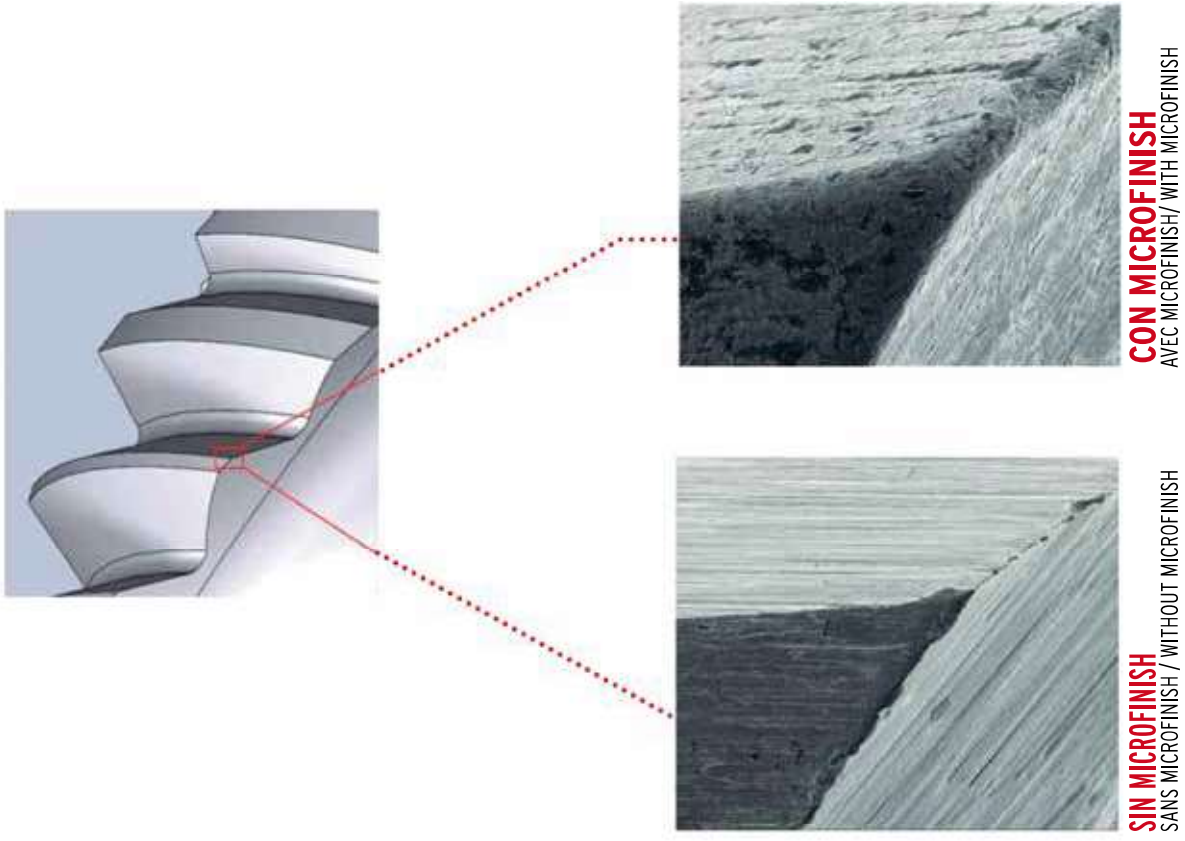
• La tecnología MICROFINISH consiste en que una vez el macho de roscar es rectificado, se limpia de rebabas y se redondean las aristas de corte.
• Se logra un mayor control y estabilidad del desgaste de la herramienta.
• Ello se traduce en un notable incremento de su rendimiento.
• Y en la mejora de los acabados de la rosca.

Pourquoi se satisfaire de peu?

• La technologie MICROFINISH agit après le surfaçage du taraud, qui est nettoyé des bavures et dont les arêtes de coupe sont arrondies.
• L'usure de l'outil est alors mieux contrôlée et plus stable.
• Cela se traduit par une augmentation significative de son rendement.
• Et une amélioration des finitions du filetage.

Why settle for less?

• With MICROFINISH technology once the thread of the tap is rectified, it is cleaned from burrs and the cutting edges are rounded.
• Greater control and stability of wear on the tool is achieved.
• This translates into a notable increase in performance.
• And improves the finishes of the thread.



CON MICROFINISH
AVEC MICROFINISH/ WITH MICROFINISH

SIN MICROFINISH
SANS MICROFINISH / WITHOUT MICROFINISH

1. UNA ROSCA CON CALIDAD SUPERFICIAL SUPERIOR

Las roscas obtenidas tienen una calidad superficial superior, gracias a dos efectos:

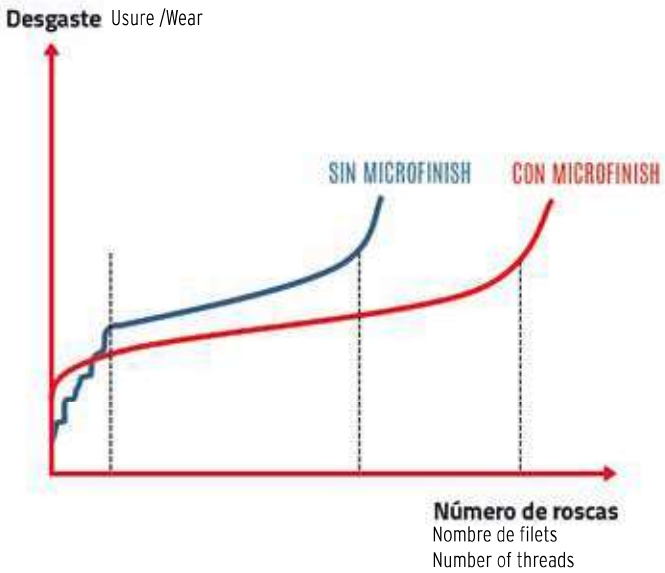
• La geometría redondeada de forma constante a lo largo de todo el filo de corte del macho, permite un corte continuo y homogéneo de la rosca de la pieza.

• La menor rugosidad superficial de la rosca del macho reduce la fricción durante el roscado para obtener a su vez, una rosca con mejor calidad superficial.

2. MAYOR VIDA ÚTIL DE LA HERRAMIENTA

• Gracias a su nuevo acabado redondeado y a que el filo de corte se va desgastando de manera más controlada y constante, se evita el salto de partículas de cualquier forma y tamaño.

• Ello impide que se produzcan roturas prematuras con el uso.



1. UN FILET D'UNE QUALITÉ DE SURFACE SUPÉRIEURE

Les filets obtenus présentent une qualité de surface supérieure, grâce à deux effets :

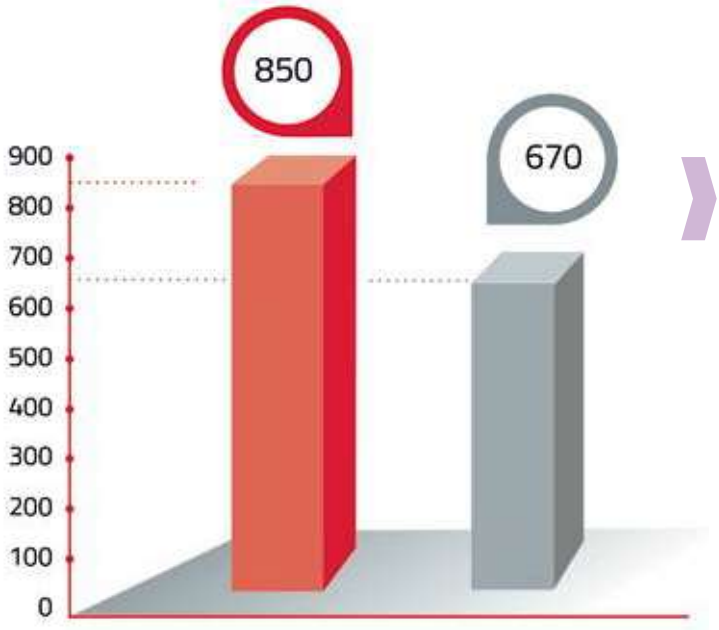
• La géométrie arrondie de manière constante tout au long du fil de coupe du taraud apporte une coupe continue et homogène sur le filetage de la pièce.

• La plus faible rugosité de surface du taraud réduit la friction lors du taraudage, permettant ainsi d'obtenir un filet de meilleure qualité de surface.

2. UNE DURÉE DE VIE UTILE DE L'OUTIL PROLONGÉE

• Grâce à sa nouvelle finition arrondie et grâce à un fil de coupe qui s'use de manière mieux contrôlée et plus homogène, le décrochement de particules de toute forme et dimension est évité.

• Cela évite les ruptures prématurées à l'usage.



Rosca/Filet/Thread: M6 6H
Material/Matériau/Material: F114 (C45)
Profundidad/Profondeur/Depth: 12mm
Velocidad/Vitesse/Speed: 10 m/min

1. A THREAD WITH HIGHER SERVICE QUALITY

The threads obtained have a higher service quality, thanks to two effects:

• The constant rounded geometry over the entire cutting edge of the tap enables continuous and even cutting of the part's thread.

• The lower surface roughness of the thread on the tap reduces friction during threading, which obtains a thread with a higher surface quality.

2. LONGER SERVICE LIFE OF THE TOOL

• Thanks to its new rounded finish and that the cutting-edge is worn in a controlled and constant manner, the release of particles of any shape and size is avoided.

• This avoids premature breakage with use.

FORMULARIO MACHOS ESPECIALES
FICHE TECHNIQUE TARAUDS SPECIAUX / TECHNICAL ENQUIRY FOR SPECIAL TAPS

Fecha / Date: .....

Empresa / Entreprise / Company: ..... Contacto / Contact: .....

Dirección / Adresse / Adress: ..... Población / Ville / Town: .....

Tel / Fax: ..... E-mail: .....

.....

TRABAJO A REALIZAR / TRAVAIL DEMANDE / REQUESTED WORK

Material / Matière / Material ..... Norma / Norme / Norm: .....

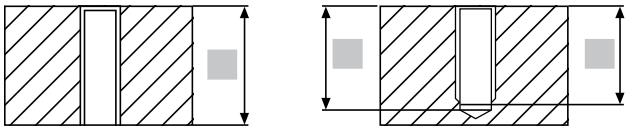
Dureza / Dureté / Hardness ..... HB ..... HRc Resistencia / Résistance / Resistance ..... N/mm^2

Tipo viruta: ☐ Corta ☐ Larga ☐ Polvo
Type copeau Courte Longue Poussière
Shaving Short Long Powder

Máquina / Machine ..... Refrigerante / Réfrigérant / Coolant .....

Posición / Position: ☐ Horizontal ☐ Vertical ☐ V. Corte / V. Coupe / Cutting Speed ☐ V. avance / Avance / Feed

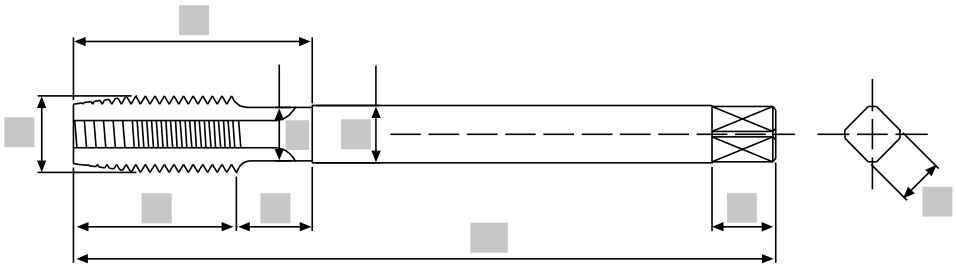
Agujero / Trou / Hole:



HERRAMIENTA / OUTIL / TOOL

Descripción / Description ..... Tolerancia / Tolérance / Tolerance .....

Cantidad / Quantité / Quantity ..... Número ranuras / Rainures / Grooves .....



Mango: ☐ Cilíndrico ☐ Weldon ☐ Cónico ☐ Rebajado
Queue: Cylindrique Weldon Conique Réduite
Shank: Straight Weldon Taper Reduced

Entrada: ☐ A ☐ B ☐ C ☐ D ☐ E ☐ Otra
Entrée: A B C D E Autres
Entry: A B C D E Others

Material / Matière / Material: ☐ HSS ☐ HSSE ☐ HM ☐ HSS-HM

Superficie / Surface: ☐ Brillante / Brillant / Brilliant ☐ Recubrimiento / Revêtement / Coating

COMENTARIOS / COMMENTAIRES/ COMMENTS: .....

.....

.....

.....

Servicio de Herramienta Especial - Service Outils Spéciaux - Special Tools Service
Tel. (+34) 93 387 32 99 - Fax.(+ 34) 93 383 33 08 - especiales@hepycrf.com

FORMULARIO COJINETES ESPECIALES
FICHE TECHNIQUE FILIERES SPECIAUX / TECHNICAL ENQUIRY FOR SPECIAL DIES

Fecha / Date: .....

Empresa / Entreprise / Company: ..... Contacto / Contact: .....

Dirección / Adresse / Adress: ..... Población / Ville / Town: .....

Tel / Fax: ..... E-mail: .....

.....

TRABAJO A REALIZAR / TRAVAIL DEMANDE / REQUESTED WORK

Material / Matière / Material ..... Norma / Norme / Norm: .....

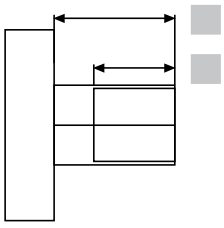
Dureza / Dureté / Hardness ..... HB ..... HRc Resistencia / Résistance / Resistance ..... N/mm^2

Tipo viruta: ☐ Corta ☐ Larga ☐ Polvo
Type copeau Courte Longue Poussière
Shaving Short Long Powder

Máquina / Machine ..... Refrigerante / Réfrigérant / Coolant .....

Posición / Position: ☐ Horizontal ☐ Vertical ☐ V. Corte V. Coupe Cutting Speed ☐ V. avance Avance Feed

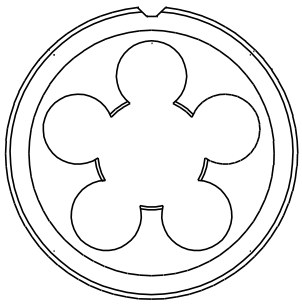
Eje / Axe / Axis:

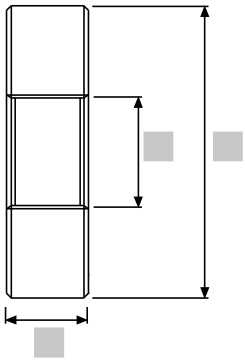


HERRAMIENTA / OUTIL / TOOL

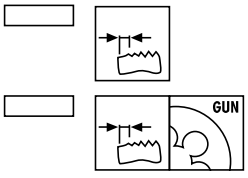
Descripción / Description ..... Tolerancia / Tolérance / Tolerance .....

Cantidad / Quantité / Quantity ..... Número ranuras / Rainures / Grooves .....





Entrada / Entrée / Entry



Material / Matière / Material: ☐ HSS ☐ HSSE ☐ HM ☐ HSS-HM

Superficie / Surface: ☐ Brillante Brillant Brilliant ☐ Recubrimiento Revêtement Coating

COMENTARIOS / COMMENTAIRES/ COMMENTS: .....

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.....

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Servicio de Herramienta Especial - Service Outils Spéciaux - Special Tools Service
Tel. (+34) 93 387 32 99 - Fax.(+ 34) 93 383 33 08 - especiales@hepycrf.com

TABLA DE APLICACIONES
GUIDE D'APPLICATION / APPLICATION GUIDE

$$r.p.m.= \frac{Vc \times 1.000}{\pi x Ø}$$

Ref./ Réf. / Ref.		2102	2101	2102/5	2101/5	2114	2113	2190	2191	2180	2179	2274	2275	2148	2147	2147/5	2154	2153	2153/5	2189
Rosca/ Filetage/Thread		M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	UNC	UNC	UNC	UNF	UNF	UNF	UN
DIN		371	376-374	371	376-374	371	376-374	371	376-374	371	376-374	371	376	371	376-374	376-374	374	374	374	374
Form.		C(2-3)	C(2-3)	C(2-3)	C(2-3)	A(6-8)	A(6-8)	E(1,5-2)	E(1,2-2)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)
Ejec./Exéc./Exec.				LH	LH											LH			LH	
Tol.		6H	6H	6H	6H	6H	6H	6H	6H	6HX	6HX	6HX	6HX	6H	6H	6H	6H	6H	6H	6H
Mat.		HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HM	HM	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE
Rec./Rev./Coat.										TICN+	TICN+	TICN	TICN							
Prof./ Depth		1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD
Gama/Gamme/Range		1-10	3-63	3-10	5-30	2-10	3-52	3-10	6-16	3-10	8-20	3-10	12-16	N.4-5/16	1/4-1"1/2	1/4-1"	N.4-5/16	1/4-1"1/2	1/4-1"	1"1/8-2"
Pag.		136	137	139	139	140	140	141	141	142	142	143	143	183	183	184	191	191	192	199
Mat.		Vc (m/min)																		
P.1	<600	○ 15-25	○ 15-25	○ 15-25	○ 15-25	○ 15-25	○ 15-25							○ 15-25	○ 15-25	○ 15-25	○ 15-25	○ 15-25	○ 15-25	○ 15-25
P.2	<800	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20							● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20
P.3	<1000	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15							○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15
P.4	<1200																			
P.5	<1400																			
M.1	<950																			
M.2																				
M.3	<1200																			
M.4																				
K.1	<500									● 15-30	● 15-30									
K.2																				
K.3	<800									● 10-20	● 10-20									
K.4.1		○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15							○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15
K.4.2	<1400																			
N.1.1	Al																			
N.1.2																				
N.1.3																				
N.2.1	Cu																			
N.2.2								● 25-35	● 25-35	○ 35-50	○ 35-50									
N.2.3		○ 10-20	○ 10-20	○ 10-20	○ 10-20	○ 10-20	○ 10-20							○ 10-20	○ 10-20	○ 10-20	○ 10-20	○ 10-20	○ 10-20	○ 10-20
N.2.4																				
N.3.1	Mg/Zn																			
N.4.1	Plastic																			
N.4.2																				
N.4.3																				
S.1.1	Ni																			
S.1.2																				
S.2.1	Ti																			
S.2.2																				
S.2.3																				
H.1	50 HRC											● 3-6	● 3-6							
H.2	55 HRC											● 2-5	● 2-5							
H.3	60 HRC											● 1-4	● 1-4							

● Optima / Optimun ○ Alternativo / Alternative

P	Aceros Aciers Steels	M	Aceros Inox Aciers Inox Stainless Steels	K	Fundicion Fonte Cast Iron	N	Metales no ferrosos Métal non Ferraux Non Ferrous metals	S	Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys	H	Materiales Duros Materiels Durs Hard materials

2160	2136	2135	2136/5	2135/5	2141	2142	2144	2144/5	2192	2206	2159	2164	2212	2212/5	2163	2242	2199	2134	1504
UNEF	BSW	BSW	BSW	BSW	BSF	BSF	G	G	G	G	GT	NPT	TR	TR	PG	VG	M	M	M-MF
374	371	376	371	376	371	374	5156	5156	5156	5156	5156	374			40433	371	357		
C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	E(1,2-2)	E(1,2-2)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	A(6-8)	A(6-8)	D(3,5-5)
			LH	LH				LH						LH					
6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H
HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSS
1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD	1,5xD
1/4-1"	3/32-3/8	1/8-2"1/2	1/8-3/16	1/4-1"	3/16-3/8	7/16-1"	1/8-2"	1/8-1"	1/8-1"	1/8-1"	1/8-1"	1/16-2"	10-32	10-32	7-48	5-8	3-24	3-24	3-10
199	200	200	201	201	204	204	205	205	206	206	210	210	211	211	212	212	177	177	178
Vc (m/min)																			
o 15-25	o 15-25	o 15-25	o 15-25	o 15-25	o 15-25	o 15-25	o 15-25	o 15-25			o 10-15	o 10-15	o 3-8	o 3-8	o 15-25	o 15-25	o 15-25	o 15-25	o 10-20
● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20			● 7-14	● 7-14	● 2-6	● 2-6	● 10-20	● 10-20	● 10-20	● 10-20	● 5-15
o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15			o 7-10	o 7-10	o 1-5	o 1-5	o 10-15	o 10-15			
o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15			o 7-10	o 7-10			o 10-15	o 10-15	o 10-15	o 10-15	o 5-15
									● 25-35	● 25-35									
o 10-20	o 10-20	o 10-20	o 10-20	o 10-20	o 10-20	o 10-20	o 10-20	o 10-20			o 7-15	o 7-15	● 2-6	● 2-6	o 10-20	o 10-20	o 10-20	o 10-20	

● Optima / Optimun ○ Alternativo / Alternative

P	Aceros Aciers Steels	M	Aceros Inox Aciers Inox Stainless Steels	K	Fundicion Fonte Cast Iron	N	Metales no ferrosos Métal non Ferraux Non Ferrous metals	S	Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys	H	Materiales Duros Materiels Durs Hard materials

TABLA DE APLICACIONES
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Hepyc CUTTING TOOL EXPERTS

$$r.p.m.= \frac{Vc \times 1.000}{\pi x Ø}$$

Ref./ Réf. / Ref.		2104	2103	2104/5	2103/5	2111	2272	2110	2109	2168	2169	2250	2251	2116	2115	2126	2125	2176	2175	2122	2121	2133	2132
Rosca/ Filetage/Thread		M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF
DIN		371	374 376	371	374 376	371-EL	376-EL	371	374 376	371	374 376	371	374 376	371	374 376	371	374 376	371	374 376	371	374 376	371	374 376
Form.		B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)-AZ	B(3,5-5)-AZ
Ejec./Exéc./Exec.				LH	LH																		
Tol.		6H	6H	6H	6H	6H	6H	6H+01	6H+0,1	6G	6G	6H	6H	6H	6H	6H	6H	6HX	6HX	6H	6H	6H	6H
Mat.		HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE-PM	HSSE-PM	HSSE-PM	HSSE-PM	HSSE	HSSE	HSSE	HSSE
Rec./Rev./Coat.												VAP	VAP	TIN+	TIN+	TICN+	TICN+	TICN+	TICN+	VAP	VAP		
Prof./ Depth		3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	2xD	2xD	3xD	3xD	3xD	3xD
Gama/Gamme/Range		2-10	3-52	3-10	20-24	3-12	8-16	3-10	8-16	3-10	8-20	2-10	3-24	2-10	3-24	3-10	8-24	3-10	8-20	3-10	8-24	3-10	4-16
Pag.		144	144	146	146	147	147	148	148	149	149	150	150	151	151	152	152	153	153	154	154	155	155
Mat.		Vc (m/min)																					
P.1	<600	o 15-25	o 15-25	o 15-25	o 15-25	o 15-25	o 15-25	o 15-25	o 15-25	o 15-25	o 15-25	● 15-25	● 15-25	● 20-30	● 20-30					● 15-25	● 15-25		
P.2	<800	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 15-25					o 10-20	o 10-20		
P.3	<1000	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	● 12-18	● 12-18	● 10-15	● 10-15						
P.4	<1200													● 8-12	● 8-12	● 6-10	● 6-10	o 6-10	o 6-10				
P.5	<1400															o 4-6	o 4-6	● 4-6	● 4-6				
M.1	<950	o 7-10	o 7-10	o 7-10	o 7-10	o 7-10	o 7-10	o 7-10	o 7-10	o 7-10	o 7-10	● 7-10	● 7-10	● 9-12	● 9-12					● 7-10	● 7-10		
M.2	<950	o 5-8	o 5-8	o 5-8	o 5-8	o 5-8	o 5-8	o 5-8	o 5-8	o 5-8	o 5-8	● 5-8	● 5-8	● 6-10	● 6-10					● 5-8	● 5-8		
M.3	<1200											o 5-8	o 5-8	o 6-10	o 6-10	● 6-12	● 6-12						
M.4	<1200																	o 4-6	o 4-6				
K.1	<500													● 10-15	● 10-15								
K.2	<500													● 10-15	● 10-15								
K.3	<800													● 15-20	● 15-20								
K.4.1	<800	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	● 15-20	● 15-20								
K.4.2	<1400															● 10-20	● 10-20	● 10-20	● 10-20				
N.1.1	Al													● 15-25	● 15-25							● 10-20	● 10-20
N.1.2	Al	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	● 15-25	● 15-25							o 10-15	o 10-15
N.1.3	Al													● 15-25	● 15-25								
N.2.1	Cu													● 15-25	● 15-25							o 6-8	o 6-8
N.2.2	Cu															o 4-6	o 4-6	o 4-6	o 4-6				
N.2.3	Cu	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 15-25								
N.2.4	Cu																						
N.3.1	Mg/Zn																					o 10-20	o 10-20
N.4.1	Plastic	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 10-15	o 12-18	o 12-18							o 10-15	o 10-15
N.4.2	Plastic															o 10-15	o 10-15	o 10-15	o 10-15				
N.4.3	Plastic																						
S.1.1	Ni																						
S.1.2	Ni																						
S.2.1	Ti																			o 10-15	o 10-15		
S.2.2	Ti															o 6-8	o 6-8	o 6-8	o 6-8				
S.2.3	Ti															o 4-6	o 4-6	o 4-6	o 4-6				
H.1	50 HRC																						
H.2	55 HRC																						
H.3	60 HRC																						

● Optima / Optimun ○ Alternativo / Alternative

P	Aceros Aciers Steels	M	Aceros Inox Aciers Inox Stainless Steels	K	Fundicion Fonte Cast Iron	N	Metales no ferrosos Métal non Ferraux Non Ferrous metals	S	Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys	H	Materiales Duros Materiels Durs Hard materials

TABLA DE APLICACIONES
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2254	2255	2258	2259	2150	2149	2262	2263	2234	2235	2156	2155	2276	2277	2280	2281	2138	2137	2145	2284	2286	2248	2266	2268	2270
M-MF	M-MF	M-MF	M-MF	UNC	UNC	UNC	UNC	UNC	UNC	UNF	UNF	UNF	UNF	UNF	UNF	BSW	BSW	G	G	G	M-MF	M-MF	M-MF	M-MF
371	374 376	371	374 376	371	376	371	376	371	376	371	374	371	374	371	374	371	376	5156	5156	5156	ISO 529	JIS B4430	JIS B4430	JIS B4430
B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)	B(3,5-5)
6HX	6HX	6HX	6HX	2B	2B	2B	2B	2B	2B	2B	2B	2B	2B	2B	2B	Med	Med	Med	Med	Med	6H	6H	6H	6H
HSSE-PM	HSSE-PM	HSSE-PM	HSSE-PM	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSS	HSSE	HSSE	HSSE
HL	HL	HL	HL			VAP	VAP	TIN+	TIN+			VAP	VAP	TIN+	TIN+				VAP	TIN+			VAP	TIN
3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD
3-10	12-16	3-10	12-16	N.4-3/8	1/4- 1"1/4	N.4-3/8	7/16-1"	N.4-3/8	7/16-1"	N.4-3/8	1/4-1"	N.4-3/8	7/16-1"	N.4-3/8	7/16-1"	1/8-3/8	1/4-1"	1/8- 1"1/2	1/8-1"	1/8-1"	3-30	3-20	3-20	3-20
156	156	157	157	185	185	186	186	187	187	193	193	194	194	195	195	202	202	207	207	208	183	180	180	182
Vc (m/min)																								
● 20-40	● 20-40	● 20-50	● 20-50	○ 15-25	○ 15-25	● 15-25	● 15-25	● 20-30	● 20-30	○ 15-25	○ 15-25	● 15-25	● 15-25	● 20-30	● 20-30	○ 15-25	○ 15-25	○ 15-25	● 15-25	● 20-30	○ 10-20	○ 15-25	○ 15-25	○ 20-30
● 20-40	● 20-40	● 20-50	● 20-50	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 15-25	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 15-25	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 5-15	● 10-20	● 10-20	● 15-25
● 15-30	● 15-30	● 15-40	● 15-40	○ 10-15	○ 10-15	○ 10-15	○ 10-15	● 12-18	● 12-18	○ 10-15	○ 10-15	○ 10-15	○ 10-15	● 12-18	● 12-18	○ 10-15	○ 10-15	○ 10-15	○ 10-15	● 12-18		○ 10-15	○ 10-15	○ 12-18
● 10-20	● 10-20	● 10-20	● 10-20					○ 8-12	○ 8-12					○ 8-12	○ 8-12					○ 8-12				
● 5-10	● 5-10	● 5-10	● 5-10																					
● 5-15	● 5-15	● 5-15	● 5-15	○ 7-10	○ 7-10	● 7-10	● 7-10	● 9-12	● 9-12	○ 7-10	○ 7-10	● 7-10	● 7-10	● 9-12	● 9-12	○ 7-10	○ 7-10	○ 7-10	● 7-10	● 9-12		○ 7-10	○ 7-10	○ 9-12
● 5-15	● 5-15	● 5-15	● 5-15	○ 5-8	○ 5-8	● 5-8	● 5-8	● 6-10	● 6-10	○ 5-8	○ 5-8	● 5-8	● 5-8	● 6-10	● 6-10	○ 5-8	○ 5-8	○ 5-8	● 5-8	● 6-10		○ 5-8	○ 5-8	○ 6-10
● 5-10	● 5-10	● 5-10	● 5-10			○ 5-8	○ 5-8	○ 6-10	○ 6-10			○ 5-8	○ 5-8	○ 6-10	○ 6-10				○ 5-8	○ 6-10				
● 5-10	● 5-10	● 5-10	● 5-10																					
● 10-30	● 10-30	● 10-40	● 10-40					● 10-15	● 10-15					● 10-15	● 10-15					● 10-15				
● 10-30	● 10-30	● 10-40	● 10-40					● 10-15	● 10-15					● 10-15	● 10-15					● 10-15				
● 10-20	● 10-20	● 10-20	● 10-20					● 15-20	● 15-20					● 15-20	● 15-20					● 15-20				
● 10-30	● 10-30	● 10-40	● 10-40	○ 10-15	○ 10-15	○ 10-15	○ 10-15	● 15-20	● 15-20	○ 10-15	○ 10-15	○ 10-15	○ 10-15	● 15-20	● 15-20	○ 10-15	○ 10-15	○ 10-15	○ 10-15	● 15-20	○ 5-15	○ 10-15	○ 10-15	○ 15-20
● 5-15	● 5-15	● 5-15	● 5-15																					
● 10-30	● 10-30	● 10-40	● 10-40					● 15-25	● 15-25					● 15-25	● 15-25					● 15-25				
● 10-30	● 10-30	● 10-40	● 10-40	○ 10-15	○ 10-15	○ 10-15	○ 10-15	● 15-25	● 15-25	○ 10-15	○ 10-15	○ 10-15	○ 10-15	● 15-25	● 15-25	○ 10-15	○ 10-15	○ 10-15	○ 10-15	● 15-25	○ 10-15	○ 10-15	○ 10-15	○ 15-20
● 10-30	● 10-30	● 10-40	● 10-40					● 15-25	● 15-25					● 15-25	● 15-25					● 15-25				
● 10-30	● 10-30	● 10-40	● 10-40					● 15-25	● 15-25					● 15-25	● 15-25					● 15-25				
● 10-30	● 10-30	● 10-40	● 10-40																					
● 10-30	● 10-30	● 10-40	● 10-40	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 15-25	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 15-25	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 5-15	● 10-20	● 10-20	● 15-25
● 10-30	● 10-30	● 10-40	● 10-40																					
● 5-15	● 5-15	● 5-15	● 5-15																					
● 10-30	● 10-30	● 10-40	● 10-40	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 12-18	○ 12-18	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 12-18	○ 12-18	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 12-18	○ 10-15	○ 10-15	○ 10-15	○ 12-18
● 10-30	● 10-30	● 10-40	● 10-40																					
● 2-8	● 2-8	● 2-8	● 2-8																					
● 10-15	● 10-15	● 10-15	● 10-15																					
● 2-8	● 2-8	● 2-8	● 2-8																					

● Optima / Optimun ○ Alternativo / Alternative

P	Aceros Aciers Steels	M	Aceros Inox Aciers Inox Stainless Steels	K	Fundicion Fonte Cast Iron	N	Metales no ferrosos Métal non Ferraux Non Ferrous metals	S	Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys	H	Materiales Duros Materiels Durs Hard materials

TABLA DE APLICACIONES
GUIDE D'APPLICATION / APPLICATION GUIDE

Hepyc CUTTING TOOL EXPERTS

$$r.p.m.= \frac{Vc \times 1.000}{\pi x Ø}$$

Ref./ Réf. / Ref.		2106	2105	2106/5	2105/5	2112	2273	2166	2165	2170	2208	2108	2107	2252	2253	2118	2117	2124	2123	2178	2177	2120	2119	2182	2181
Rosca/ Filetage/Thread		M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF
DIN		371	374 376	371	374 376	371-EL	376-EL	371	374 376	371	374 376	371	374 376	371	374 376	371	374 376	371	374 376	371	374 376	371	374 376	371	374 376
Form.		C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)
Ejec./Exéc./Exec.		R35°	R35°	L35°-LH	L35°-LH	R35°	R35°	R35°	R35°	R35°	R35°	R15°	R15°	R35°	R35°	R35°	R35°	R35°	R35°	R15°	R15°	R35°	R35°	R45°	R45°
Tol.		6H	6H	6H	6H	6H	6H	6H+01	6H+0,1	6G	6G	6H	6H	6H	6H	6H	6H	6H	6H	6HX	6HX	6H	6H	6H	6H
Mat.		HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE-PM	HSSE-PM	HSSE-PM	HSSE-PM	HSSE	HSSE	HSSE	HSSE
Rec./Rev./Coat.														VAP	VAP	TIN+	TIN+	TICN+	TICN+	TICN+	TICN+	VAP	VAP		
Prof./ Depth		2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	1,5xD	1,5xD	2,5xD	2,5xD	2,5xD	2,5xD
Gama/Gamme/Range		M2-M10	M3-M52	M3-M10	M10-M24	M3-M12	M8-M16	M3-M10	M8-M16	M3-M10	M8-M20	M2-M10	M4-M36	M2-M10	M3-M24	M2-M10	M3-M24	M3-M10	M8-M24	M3-M10	M8-M20	M3-M10	M8-M24	M3-M10	M6-M16
Pag.		158	158	160	160	161	161	162	162	163	163	164	164	165	165	166	166	167	167	168	168	169	169	170	170
Mat.		Vc (m/min)																							
P.1	<600	○ 15-25	○ 15-25	○ 15-25	○ 15-25	○ 15-25	○ 15-25	○ 15-25	○ 15-25	○ 15-25	○ 15-25	○ 15-25	○ 15-25	● 15-25	● 15-25	● 20-30	● 20-30					● 15-25	● 15-25		
P.2	<800	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 15-25					○ 10-20	○ 10-20		
P.3	<1000	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	● 12-18	● 12-18	● 10-15	● 10-15						
P.4	<1200															● 8-12	● 8-12	● 6-10	● 6-10	○ 6-10	○ 6-10				
P.5	<1400																	○ 4-6	○ 4-6	● 4-6	● 4-6				
M.1	<950	○ 7-10	○ 7-10	○ 7-10	○ 7-10	○ 7-10	○ 7-10	○ 7-10	○ 7-10	○ 7-10	○ 7-10	○ 7-10	○ 7-10	● 7-10	● 7-10	● 9-12	● 9-12					● 7-10	● 7-10		
M.2		○ 5-8	○ 5-8	○ 5-8	○ 5-8	○ 5-8	○ 5-8	○ 5-8	○ 5-8	○ 5-8	○ 5-8	○ 5-8	○ 5-8	● 5-8	● 5-8	● 6-10	● 6-10					● 5-8	● 5-8		
M.3	<1200													○ 5-8	○ 5-8	○ 6-10	○ 6-10	● 6-12	● 6-12						
M.4																				○ 4-6	○ 4-6				
K.1	<500																								
K.2																									
K.3	<800															● 15-20	● 15-20								
K.4.1		○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	● 15-20	● 15-20								
K.4.2	<1400																	● 10-20	● 10-20	● 10-20	● 10-20				
N.1.1	Al																							● 10-20	● 10-20
N.1.2		○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15											○ 10-15	○ 10-15
N.1.3																									
N.2.1	Cu															● 15-25	● 15-25							○ 6-8	○ 6-8
N.2.2																									
N.2.3		● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 15-25								
N.2.4																									
N.3.1	Mg/Zn																							○ 10-20	○ 10-20
N.4.1	Plastic	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 12-18	○ 12-18							○ 10-15	○ 10-15
N.4.2																		○ 10-15	○ 10-15	○ 10-15	○ 10-15				
N.4.3																									
S.1.1	Ni																								
S.1.2																									
S.2.1	Ti																					○ 10-15	○ 10-15		
S.2.2																		○ 6-8	○ 6-8	○ 6-8	○ 6-8				
S.2.3																		○ 4-6	○ 4-6	○ 4-6	○ 4-6				
H.1	50 HRC																								
H.2	55 HRC																								
H.3	60 HRC																								

● Optima / Optimun ○ Alternativo / Alternative

P	Aceros Aciers Steels	M	Aceros Inox Aciers Inox Stainless Steels	K	Fundicion Fonte Cast Iron	N	Metales no ferrosos Métal non Ferraux Non Ferrous metals
S	Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys	H	Materiales Duros Materiels Durs Hard materials				

2256	2257	2260	2261	2152	2151	2264	2265	2236	2237	2158	2157	2278	2279	2282	2283	2140	2139	2146	2285	2287	2806	2249	2267	2269	2271
M-MF	M-MF	M-MF	M-MF	UNC	UNC	UNC	UNC	UNC	UNC	UNF	UNF	UNF	UNF	UNF	UNF	BSW	BSW	G	G	G	M-MF	M-MF	M-MF	M-MF	M-MF
371	374 376	371	374 376	371	376	371	376	371	376	371	374	371	374	371	374	371	376	5156	5156	5156		ISO 529	JIS B4430	JIS B4430	JIS B4430
C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	D(3,5-5)	C(2-3)	C(2-3)	C(2-3)	C(2-3)
R45°	R45°	R45°	R45°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R35°	R25°	R35°	R35°	R35°	R35°
6HX	6HX	6HX	6HX	2B	2B	2B	2B	2B	2B	2B	2B	2B	2B	2B	2B	Med	Med	Med	Med	Med	6H	6H	6H	6H	6H
HSSE-PM	HSSE-PM	HSSE-PM	HSSE-PM	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSS	HSSE	HSSE	HSSE
HL	HL	HL	HL			VAP	VAP	TIN+	TIN+			VAP	VAP	TIN+	TIN+				VAP	TIN+				VAP	TIN
2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	2,5xD	1,5xD	2,5xD	2,5xD	2,5xD	2,5xD
M3-M10	M12-M16	M3-M10	M12-M16	N.4-3/8	1/4-1"1/4	N.4-3/8	7/16-1"	N.4-3/8	7/16-1"	N.4-3/8	1/4-1"	N.4-3/8	7/16-1"	N.4-3/8	7/16-1"	1/8-3/8	3/16-1"	1/8-1"1/2	1/8-1"	1/8-1"					
171	171	172	172	188	188	189	189	190	190	196	196	197	197	198	198	203	203	208	209	209	178	179	180	181	182
Vc (m/min)																									
● 20-40	● 20-40	● 20-50	● 20-50	○ 15-25	○ 15-25	● 15-25	● 15-25	● 20-30	● 20-30	○ 15-25	○ 15-25	● 15-25	● 15-25	● 20-30	● 20-30	○ 15-25	○ 15-25	○ 15-25	● 15-25	● 20-30	○ 15-25	○ 10-20	○ 15-25	○ 15-25	○ 20-30
● 20-40	● 20-40	● 20-50	● 20-50	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 15-25	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 15-25	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 10-20	● 5-15	● 10-20	● 10-20	● 15-25
● 15-30	● 15-30	● 15-40	● 15-40	○ 10-15	○ 10-15	○ 10-15	○ 10-15	● 12-18	● 12-18	○ 10-15	○ 10-15	○ 10-15	○ 10-15	● 12-18	● 12-18	○ 10-15	○ 10-15	○ 10-15	○ 10-15	● 12-18			○ 10-15	○ 10-15	○ 12-18
● 10-20	● 10-20	● 10-20	● 10-20					● 8-12	● 8-12					● 8-12	● 8-12					● 8-12					
● 5-10	● 5-10	● 5-10	● 5-10																						
● 5-15	● 5-15	● 5-15	● 5-15	○ 7-10	○ 7-10	● 7-10	● 7-10	● 9-12	● 9-12	○ 7-10	○ 7-10	● 7-10	● 7-10	● 9-12	● 9-12	○ 7-10	○ 7-10	○ 7-10	● 7-10	● 9-12			○ 7-10	○ 7-10	○ 9-12
● 5-15	● 5-15	● 5-15	● 5-15	○ 5-8	○ 5-8	● 5-8	● 5-8	● 6-10	● 6-10	○ 5-8	○ 5-8	● 5-8	● 5-8	● 6-10	● 6-10	○ 5-8	○ 5-8	○ 5-8	● 5-8	● 6-10			○ 5-8	○ 5-8	○ 6-10
● 5-10	● 5-10	● 5-10	● 5-10			○ 5-8	○ 5-8	○ 6-10	○ 6-10			○ 5-8	○ 5-8	○ 6-10	○ 6-10				○ 5-8	○ 6-10					
● 5-10	● 5-10	● 5-10	● 5-10																						
● 10-30	● 10-30	● 10-40	● 10-40																						
● 10-30	● 10-30	● 10-40	● 10-40																						
● 10-20	● 10-20	● 10-20	● 10-20					● 15-20	● 15-20					● 15-20	● 15-20					● 15-20					
● 10-30	● 10-30	● 10-40	● 10-40	○ 10-15	○ 10-15	○ 10-15	○ 10-15	● 15-20	● 15-20	○ 10-15	○ 10-15	○ 10-15	○ 10-15	● 15-20	● 15-20	○ 10-15	○ 10-15	○ 10-15	○ 10-15	● 15-20	10-15	5-15	10-15	10-15	15-20
● 5-15	● 5-15	● 5-15	● 5-15																						
● 10-30	● 10-30	● 10-40	● 10-40																						
● 10-30	● 10-30	● 10-40	● 10-40	○ 10-15	○ 10-15					○ 10-15	○ 10-15					○ 10-15	○ 10-15	○ 10-15			○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 15-20
● 10-30	● 10-30	● 10-40	● 10-40																						
● 10-30	● 10-30	● 10-40	● 10-40					● 15-25	● 15-25					● 15-25	● 15-25					● 15-25					
● 10-30	● 10-30	● 10-40	● 10-40																						
● 10-30	● 10-30	● 10-40	● 10-40	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 15-25	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 15-25	● 10-20	● 10-20	● 10-20	● 10-20	● 15-25	● 10-20	● 5-15	● 10-20	● 10-20	● 15-25
● 10-30	● 10-30	● 10-40	● 10-40																						
● 5-15	● 5-15	● 5-15	● 5-15																						
● 10-30	● 10-30	● 10-40	● 10-40	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 12-18	○ 12-18	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 12-18	○ 12-18	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 12-18	○ 10-15	○ 10-15	○ 10-15	○ 10-15	○ 12-18
● 10-30	● 10-30	● 10-40	● 10-40																						
● 2-8	● 2-8	● 2-8	● 2-8																						
● 10-15	● 10-15	● 10-15	● 10-15																						
● 2-8	● 2-8	● 2-8	● 2-8																						

● Optima / Optimun ○ Alternativo / Alternative

P	Aceros Aciers Steels	M	Aceros Inox Aciers Inox Stainless Steels	K	Fundicion Fonte Cast Iron	N	Metales no ferrosos Métal non Ferraux Non Ferrous metals	S	Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys	H	Materiales Duros Materiels Durs Hard materials
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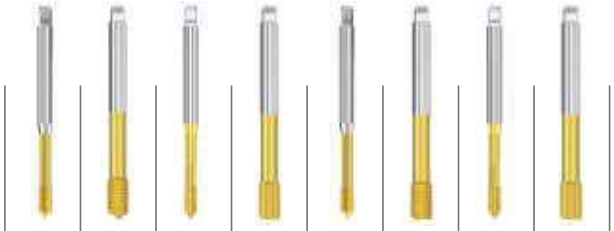
TABLA DE APLICACIONES
GUIDE D'APPLICATION / APPLICATION GUIDE

$$r.p.m.= \frac{Vc \times 1.000}{\pi \times Ø}$$



Ref./ Réf. / Ref.		2188	2187	2214	2213	2216	2215	2218	2217
Rosca/ Filetage/Thread		M	M	M	M	M	M	M	M
DIN		371	374 376	371	374 376	371	374 376	371	374 376
Form.		C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)	C(2-3)
Ejec./Exéc./Exec.		A>12%	A>12%	A>12%	A>12%	A>12%	A>12%	A>12%	A>12%
Tol.		6HX	6HX	6HX	6HX	6GX	6GX	6GX	6GX
Mat.		HSSE-PM	HSSE-PM	HSSE-PM	HSSE-PM	HSSE-PM	HSSE-PM	HSSE-PM	HSSE-PM
Rec./Rev./Coat.		TIN	TIN	TIN	TIN	TIN	TIN	TIN	TIN
Prof./ Depth		1,5xD	1,5xD	3xD	3xD	1,5xD	1,5xD	3xD	3xD
Gama/Gamme/Range		M3-M10	M12-M16	M3-M10	M8-M16	M3-M10	M12	M3-M10	M12
Pag.		173	173	174	174	175	175	176	176
Mat.		Vc (m/min)							
P.1	<600	● 25-45	● 25-45	● 25-45	● 25-45	● 25-45	● 25-45	● 25-45	● 25-45
P.2	<800	● 15-40	● 15-40	● 15-40	● 15-40	● 15-40	● 15-40	● 15-40	● 15-40
P.3	<1000	● 15-25	● 15-25	● 15-25	● 15-25	● 15-25	● 15-25	● 15-25	● 15-25
P.4	<1200								
P.5	<1400								
M.1	<950	● 10-25	● 10-25	● 10-25	● 10-25	● 10-25	● 10-25	● 10-25	● 10-25
M.2		● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20	● 10-20
M.3	<1200								
M.4									
K.1	<500								
K.2									
K.3	<800								
K.4.1									
K.4.2	<1400								
N.1.1	Al	● 20-40	● 20-40	● 20-40	● 20-40	● 20-40	● 20-40	● 20-40	● 20-40
N.1.2		● 15-30	● 15-30	● 15-30	● 15-30	● 15-30	● 15-30	● 15-30	● 15-30
N.1.3									
N.2.1	Cu	● 15-30	● 15-30	● 15-30	● 15-30	● 15-30	● 15-30	● 15-30	● 15-30
N.2.2									
N.2.3		● 15-30	● 15-30	● 15-30	● 15-30	● 15-30	● 15-30	● 15-30	● 15-30
N.2.4									
N.3.1	Mg/Zn	● 20-40	● 20-40	● 20-40	● 20-40	● 20-40	● 20-40	● 20-40	● 20-40
N.4.1	Plastic								
N.4.2									
N.4.3									
S.1.1	Ni								
S.1.2									
S.2.1	Ti	○ 10-20	○ 10-20	○ 10-20	○ 10-20	○ 10-20	○ 10-20	○ 10-20	○ 10-20
S.2.2									
S.2.3									
H.1	50 HRC								
H.2	55 HRC								
H.3	60 HRC								

● Optima / Optimun ○ Alternativo / Alternative

P Aceros / Aciers / Steels

M Aceros Inox / Aciers Inox / Stainless Steels

K Fundicion / Fonte / Cast Iron

N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals

S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys

H Materiales Duros / Materiels Durs / Hard materials

TABLA DE APLICACIONES
GUIDE D'APPLICATION / APPLICATION GUIDE

r.p.m.= $\frac{Vc \times 1.000}{\pi x Ø}$

Ref./ Réf. / Ref.		2301	2301/5	2302	2314	2303	2324	2304	2304/5	2305	2306	2306/5	2316	2317
Rosca/ Filetage/Thread		M-MF	M	M	M	M	M	BSW	BSW	BSF	G	G	G	G
DIN		352-2181	352	352	352	352	352	352	352	2181	5157	5157	5157	5157
Form.													E(1,5-2)	E(1,5-2)
Ejec./Exéc./Exec.			LH						LH			LH		
Tol.		6H	6H	6H	6HX	6HX	6HX	Med	Med	Med	Med	Med	Med	+0,1
Mat.		HSS	HSS	HSS	HSSE	HSSE	HSSE-PM	HSS	HSS	HSS	HSS	HSS	HSS	HSS
Rec./Rev./Coat.				TiN		VAP	TICN							
Prof./ Depth														
Gama/Gamme/Range		M1-M64	M3-M30	M3-M20	M3-M16	M3-M20	M4-M16	3/32-3"	1/8-1"	3/16-1"1/2	1/8-3"	1/8-1"	1/8-1"	1/8-1"
Pag.		213	215	217	216	216	217	218	219	219	220	220	221	221
Mat.		Vc (m/min)												
P.1	<600	●	●	●	○	○		●	●	●	●	●		
P.2	<800	●	●	●	●	●	○	●	●	●	●	●		
P.3	<1000			○	●	●	●							
P.4	<1200				○	○	●							
P.5	<1400						●							
M.1	<950				○	●								
M.2					○	●								
M.3	<1200						○							
M.4							○							
K.1	<500													
K.2														
K.3	<800													
K.4.1														
K.4.2	<1400						○							
N.1.1	Al													
N.1.2		○	○	○				○	○	○	○	○		
N.1.3		●	●	●				●	●	●	●	●		
N.2.1	Cu													
N.2.2													●	●
N.2.3		●	●	●	○	○	○	●	●	●	●	●		
N.2.4														
N.3.1	Mg/Zn													
N.4.1	Plastic													
N.4.2														
N.4.3														
S.1.1	Ni													
S.1.2														
S.2.1	Ti					●								
S.2.2														
S.2.3														
H.1	50 HRC													
H.2	55 HRC													
H.3	60 HRC													

● Optima / Optimun ○ Alternativo / Alternative

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2307	2307/5	2308	2308/5	2315	2309	2310	2312	2313	2321	2322	2323	2701	2702	2703	2704
UNC	UNC	UNF	UNF	UN	Rc	UNEF	Pg	NPT	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF	M-MF
352	352	2181	2181	2181	5157	2181	40432	2181	352-2181	352-2181	352-2181	ISO 529	ISO 529	ISO 529	ISO 529
									No Prog	No Prog	No Prog	D(3-5)	D(3-5)	D(3-5)	D(3-5)
	LH		LH												
2B	2B	2B	2B	2B		2B			6H	6H	6H	4H	4H	4H	4H
HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS
N.4-2"	1/4-1"	N.4-1"1/2	1/4-1"	1"1/8-2"	1/8-1"	1/4-1"	7-48	1/16-2"	M2-M42	N.4-2"	N.4-1"1/2	M2-M24	N.2-1"	N.4-1"	
222	223	223	224	224	225	225	226	226	227	228	228	242	243	243	244
Vc (m/min)															
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

● Optima / Optimun ○ Alternativo / Alternative

P	Aceros Aciers Steels	M	Aceros Inox Aciers Inox Stainless Steels	K	Fundicion Fonte Cast Iron	N	Metales no ferrosos Métal non Ferraux Non Ferrous metals	S	Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys	H	Materiales Duros Materiels Durs Hard materials

TABLA DE APLICACIONES
GUIDE D'APPLICATION / APPLICATION GUIDE

r.p.m.= $\frac{Vc \times 1.000}{\pi x Ø}$











Ref./ Réf. / Ref.		2501	2501/5	2514	2512	2502	2502/5	2503	2504	2504/5	2522	2521
Rosca/ Filetage/Thread		M-MF	M	M	M	BSW	BSW	BSF	G	G	G	G
DIN		22568	22568	22568	22568	22568	22568	22568	24231	24231	24231	24231
Form.												
Ejec./Exéc./Exec.			LH				LH			LH		
Tol.		6g	6g	6g	6g	Med	Med	Med	Med	Med	Med	-0,1
Mat.		HSS	HSS	HSSE	HSSE	HSS	HSS	HSS	HSS	HSS	HSS	HSS
Rec./Rev./Coat.				NIT	VAP							
Prof./ Depth												
Gama/Gamme/Range		M1-M64	M3-M30	M3-M16	M3-M20	3/32-2"	1/8-1"	3/16-1"	1/8-2"	1/8-1"	1/8-1"	1/8-1"
Pag.		229	231	232	232	233	233	234	234	235	236	236
Mat.		Vc (m/min)										
P.1	<600	●	●	○	○	●	●	●	●	●		
P.2	<800	●	●	●	●	●	●	●	●	●		
P.3	<1000			●	●							
P.4	<1200			○	○							
P.5	<1400											
M.1	<950			○	●							
M.2				○	●							
M.3	<1200											
M.4												
K.1	<500											
K.2												
K.3	<800											
K.4.1												
K.4.2	<1400						○					
N.1.1	Al											
N.1.2		○	○			○	○	○	○	○		
N.1.3		●	●			●	●	●	●	●		
N.2.1	Cu											
N.2.2											●	●
N.2.3		●	●	○	○	●	●	●	●	●		
N.2.4												
N.3.1	Mg/Zn											
N.4.1	Plastic											
N.4.2												
N.4.3												
S.1.1	Ni											
S.1.2												
S.2.1	Ti											
S.2.2					●							
S.2.3												
H.1	50 HRC											
H.2	55 HRC											
H.3	60 HRC											

● Optima / Optimun ○ Alternativo / Alternative

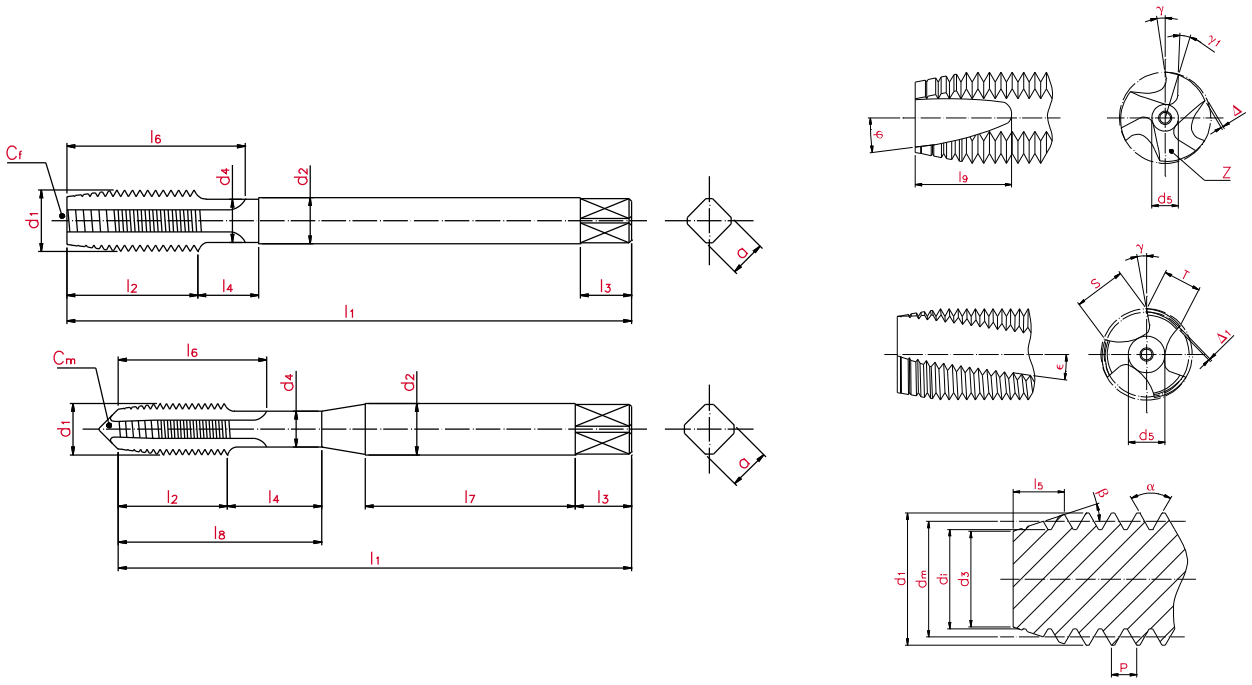
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

								
2505	2505/5	2506	2506/5	2520	2507	2508	2510	2509
UNC	UNC	UNF	UNF	UN	R	UNEF	Pg	NPT
22568	22568	22568	22568	22568	24231	22568	40434	24230
	LH		LH					
2A	2A	2A	2A	2A		2A		
HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS
N.4-2"	1/4-1"	N.4-1"1/2	1/4-1"	1"1/8-2"	1/8-1"	1/4-1"	7-48	1/16-2"
237	237	238	238	240	239	239	240	241
●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●
○	○	○	○	○	○	○	○	○
●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●

● Optima / Optimun ○ Alternativo / Alternative

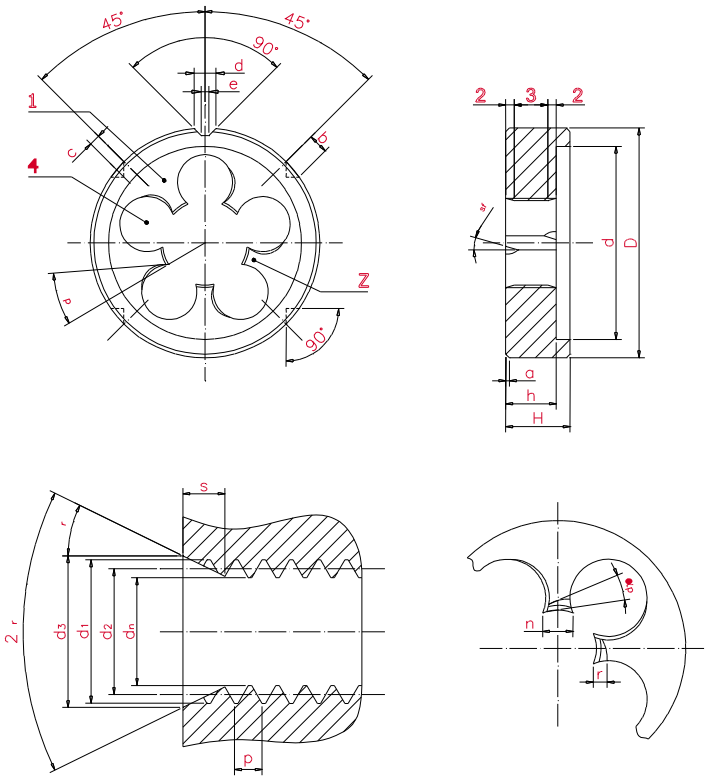
P	Aceros Aciers Steels	M	Aceros Inox Aciers Inox Stainless Steels	K	Fundicion Fonte Cast Iron	N	Metales no ferrosos Métal non Ferraux Non Ferrous metals	S	Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys	H	Materiales Duros Materiels Durs Hard materials

TERMINOLOGÍA
TERMINOLOGIE / TERMINOLOGY



l1	**Longitud total** / Longueur totale / Total length
l2	**Longitud de rosca** / Longueur de filetage / Thread length
l7	**Longitud de mango** / Longueur de queue / Shank length
l3	**Longitud de cuadro** / Longueur du carré / Square length
l4	**Longitud de sangrado** / Longueur d'indentation / Neck length
l5	**Longitud de entrada** / Longueur d'entrée / Chamfer length
l6	**Longitud de ranura** / Longueur de rainure / Flute Length
l8	**Longitud útil de corte** / Longueur utile de coupe / Useful length of cut
l9	**Longitud de la entrada en hélice** / Longueur de l'entrée en hélice / Spiral point length
d1	**Diámetro exterior** / Diamètre extérieur / External diameter
d2	**Diámetro de mango** / Diamètre de queue / Shank diameter
d3	**Diámetro de entrada** / Diamètre d'entrée / Chamfer diameter
d4	**Diámetro de sangrado** / Diamètre d'indentation / Neck diameter
d5	**Diámetro del alma** / Diamètre de l'âme / Core diameter
dm	**Diámetro medio** / Diamètre moyen / Pitch diameter
di	**Diámetro interno** / Diamètre interne / Internal diameter
a	**Cuadradillo** / Carré / Square
Cm	**Punto macho** / Pointe mâle / Male point
Cf	**Punto hembra** / Pointe femelle / Female point
P	**Paso de la rosca** / Pas de filetage / Pitch of thread
S	**Ancho de la ranura** / Largeur de la rainure / Flute width
T	**Ancho del diente** / Largeur de la dent / Width of land
Z	**Número de ranuras** / Nombre de rainures / Number of flutes
α	**Ángulo de flancos** / Angle de flancs / Angle of thread
β	**Ángulo de la entrada** / Angle de l'entrée / Chamfer angle
γ	**Ángulo de corte** / Angle de coupe / Rake angle
γ1	**Ángulo de corte de la entrada corregida** / Angle de coupe de l'entrée corrigée / Spiral point rake angle
φ	**Ángulo de la entrada corregida** / Angle de l'entrée corrigée / Spiral point angle
ε	**Ángulo de la ranura** / Angle de la rainure / Flute angle
Δ	**Ángulo de destalonado de la entrada** / Angle de détalonnage de l'entrée / Chamfer relief angle
Δ1	**Ángulo de destalonado de flancos** / Angle de détalonnage des flancs / Flank relief angle

TERMINOLOGÍA
TERMINOLOGIE / TERMINOLOGY



1	**Cuerpo del cojinete** / Corps de la filière / Die body
2	**Parte cortante - Entrada cónica** / Partie coupante - Entrée conique / Cutting part - Conical entry
3	**Hilos enteros** / Fils entiers / Entire threads
4	**Alojamiento para viruta** / Logement pour copeau / Void for shavings
d1	**Diámetro nominal de rosca** / Diamètre nominal de filetage / Nominal diameter of thread
d2	**Diámetro de flancos** / Diamètre de flancs / Flank Diameter
dn	**Diámetro de núcleo** / Diamètre du noyau / Nucleus diameter
d3	**Diámetro de la entrada cónica** / Diamètre de l'entrée conique / Diameter of conical chamfer
P	**Paso de la rosca** / Pas de filetage / Thread pitch
D	**Diámetro exterior del cojinete** / Diamètre extérieur de la filière / Exterior diameter of die
d	**Diámetro de la parte rebajada** / Diamètre de la partie chanfreinée / Diameter of the reduced part
H	**Diámetro de sangrado** / Diamètre d'indentation / Bled diameter
h	**Ancho del cojinete** / Largeur de la filière / Die width
Z	**Ancho útil del cojinete** / Largeur utile de la filière / Useful width of the die
n	**Número de dientes** / Nombre de dents / Number of teeth
r	**Ancho del diente** / Largeur de la dent / Tooth width
s	**Destalonado de la entrada cónica** / Détalonnage de l'entrée conique / Conical chamfer relief
a	**Longitud de la entrada cónica** / Longueur de l'entrée conique / Conical chamfer length
b	**Chaflán** / Chanfrein / Bevel
c	**Diámetro del agujero de fijación** / Diamètre du trou de fixation / Mounting hole diameter
d	**Desplazamiento del agujero de fijación** / Déplacement du trou de fixation / Mounting hole displacement
e	**Ancho de preranura** / Largeur de pré-rainure / Pre-groove width
γp	**Ángulo de la ranura** / Angle de la rainure / Groove angle
χr	**Ángulo de desprendimiento (de corte)** / Angle de dégagement (de coupe) / Rake angle (of cut)
2χr	**Ángulo de la entrada cónica** / Angle de l'entrée conique / Conical chamfer angle
αp	**Ángulo de destalonado de la entrada cónica** / Angle de détalonnage de l'entrée conique / Conical chamfer relief angle
γsf	**Ángulo de la entrada en hélice (rompevirutas)** / Longueur de l'entrée en hélice (brise-copeaux) / Blade chamfer angle (chip cap)

TABLAS DE ROSCAS Y PASOS
GRILLES DES FILETAGES ET DES PAS / TABLE OF THREADS AND PITCHES

> **Roscas más usuales en pulgadas.**
> **Filetages les plus courants en pouces.**
> **Most common threads in inches.**

Ø	W 55º	BSF 55º	GAS 55º	BSB BRASS 55º	UNC 60º	UNF 60º	UNEF NEF 60º	NPS NPT API 60º	UN 60º						UNS 60º					
Nº 0	-	-	-	-	-	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nº 1	-	-	-	-	64	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nº 2	-	-	-	-	56	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nº 3	-	-	-	-	48	56	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nº 4	-	-	-	-	40	48	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nº 5	-	-	-	-	40	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nº 6	-	-	-	-	32	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nº 8	-	-	-	-	32	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nº 10	-	-	-	-	24	32	-	-	-	-	-	-	-	-	28	36	40	48	56	-
Nº 12	-	-	-	-	24	28	32	-	-	-	-	-	-	-	36	40	48	56	-	-
1/16	60	-	-	-	-	-	-	27	-	-	-	-	-	-	-	-	-	-	-	-
3/32	48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/8	40	-	28	-	-	-	-	27	-	-	-	-	-	-	-	-	-	-	-	-
5/32	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/16	24	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/32	24	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/4	20	26	19	26	20	28	32	18	-	-	-	-	-	-	24	27	26	40	48	56
9/32	20	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/16	18	22	-	26	18	24	32	-	20	28	-	-	-	-	27	36	40	48	-	-
3/8	16	20	19	26	16	24	32	18	20	28	-	-	-	-	18	27	36	40	-	-
7/16	14	18	-	26	14	20	28	-	16	32	-	-	-	-	18	24	27	-	-	-
1/2	12	16	14	26	13	20	28	14	16	32	-	-	-	-	12	14	18	24	27	-
9/16	12	16	-	26	12	18	24	-	16	20	28	32	-	-	14	27	-	-	-	-
5/8	11	14	14	26	11	18	24	14	12	16	20	28	32	-	14	27	-	-	-	-
11/16	11	14	-	-	-	-	24	-	12	16	20	28	32	-	-	-	-	-	-	-
3/4	10	12	14	26	10	16	20	14	12	28	32	-	-	-	14	18	24	27	-	-
13/16	10	12	-	-	-	-	20	-	12	16	28	32	-	-	-	-	-	-	-	-
7/8	9	11	14	26	9	14	20	-	12	16	28	32	-	-	10	18	24	27	-	-
15/16	-	-	-	-	-	-	20	-	16	28	32	-	-	-	-	-	-	-	-	-
1"	8	10	11	26	8	12	20	11,5	16	28	16	-	28	-	10	14	18	24	27	-
1"1/16	-	-	-	-	-	-	18	-	8	16	20	28	-	-	-	-	-	-	-	-
1"1/8	7	9	11	26	7	12	18	-	8	16	20	28	-	-	10	14	24	-	-	-
1"3/16	-	-	-	-	-	-	18	-	8	16	20	28	-	-	-	-	-	-	-	-
1"1/4	7	9	11	26	7	12	18	11,5	8	16	20	28	-	-	10	14	24	-	-	-
1"5/16	-	-	-	-	-	-	18	-	8	16	20	28	-	-	-	-	-	-	-	-
1"3/8	6	8	11	26	6	12	18	-	6	8	12	16	20	28	10	14	24	-	-	-
1"7/16	-	-	-	-	-	-	18	-	8	16	20	28	-	-	-	-	-	-	-	-
1"1/2	6	8	11	26	6	12	18	11,5	6	8	16	20	-	-	10	14	24	-	-	-
1"9/16	-	-	-	-	-	-	18	-	6	8	12	16	20	-	-	-	-	-	-	-
1"5/8	5	8	11	26	-	-	18	-	6	8	12	16	20	-	10	14	24	-	-	-
1"11/16	-	-	-	-	-	-	18	-	6	8	12	16	20	-	-	-	-	-	-	-
1"3/4	5	7	11	26	5	-	-	-	6	8	12	16	20	-	10	14	24	-	-	-
1"13/16	-	-	-	-	-	-	-	-	6	8	12	16	20	-	-	-	-	-	-	-
1"7/8	4,5	-	-	26	-	-	-	-	6	8	12	16	20	-	10	14	24	-	-	-
1"15/16	-	-	-	-	-	-	-	-	6	8	12	16	20	-	-	-	-	-	-	-
2"	4,5	7	11	26	4,5	-	-	11,5	6	8	12	16	20	-	10	14	24	-	-	-

TABLAS DE ROSCAS Y PASOS
GRILLES DES FILETAGES ET DES PAS / TABLE OF THREADS AND PITCHES

> Equivalencias en mm de los diámetros de las siguientes roscas.
Équivalences en mm des diamètres des filetages suivants.
Equivalents in mm of the diameters of the following threads.

BSW/BSF			UNC/UNF			BSP (GAS)			NSP/NPT			PG		
3/32	=	2,381mm	5/8	=	15,875 mm	G1/8	=	9,728 mm	G1"3/8	=	44,323 mm	1/8	=	10,287 mm	PG7	=	12,50 mm
1/8	=	3,175 mm	3/4	=	19,050 mm	G1/4	=	13,157 mm	G1"1/2	=	47,803 mm	1/4	=	13,716 mm	PG9	=	15,20 mm
5/32	=	3,969 mm	7/8	=	22,225 mm	G3/8	=	16,662 mm	G1"5/8	=	51,988 mm	3/8	=	17,145 mm	PG11	=	18,60 mm
3/16	=	4,762 mm	1"	=	25,400 mm	G1/2	=	20,955 mm	G1"3/4	=	53,746 mm	1/2	=	21,336 mm	PG13,5	=	20,40 mm
7/32	=	5,556 mm	1"1/8	=	28,575 mm	G5/8	=	22,911 mm	G2"	=	59,614 mm	3/4	=	26,670 mm	PG16	=	22,50 mm
1/4	=	6,350 mm	1"1/4	=	31,750 mm	G3/4	=	26,441 mm	G2"1/4	=	65,710 mm	1"	=	33,401 mm	PG21	=	28,30 mm
9/32	=	7,144 mm	1"3/8	=	34,925 mm	G7/8	=	30,201 mm	G2"3/8	=	69,390 mm	1"1/4	=	42,164 mm	PG29	=	37,00 mm
5/16	=	7,938 mm	1"1/2	=	38,100 mm	G1"	=	33,249 mm	G2"1/2	=	75,184 mm	1"1/2	=	48,260 mm	PG36	=	47,00 mm
3/8	=	9,525 mm	1"5/8	=	41,275 mm	G1"1/8	=	37,897 mm	G2"3/4	=	81,534 mm	2"	=	60,325 mm	PG42	=	54,00 mm
7/16	=	11,112 mm	1"3/4	=	44,450 mm	G1"1/4	=	41,910 mm	G3"	=	87,844 mm	2"1/2	=	73,025 mm	PG48	=	59,30 mm
1/2	=	12,700 mm	1"7/8	=	47,625 mm							3"	=	88,900 mm			
9/16	=	14,288 mm	2"	=	50,800 mm												

> Equivalencia del paso en hilos por pulgada a mm.
Équivalence du pas en fils par pouce en mm.
Equivalents of pitch in threads per inch to mm.

PASO h/1" PAS h/1" PITCH h/1"	**EQUIV. mm** ÉQUIV. mm EQUIV. mm	**PASO h/1"** PAS h/1" PITCH h/1"	**EQUIV. mm** ÉQUIV. mm EQUIV. mm	**PASO h/1"** PAS h/1" PITCH h/1"	**EQUIV. mm** ÉQUIV. mm EQUIV. mm	**PASO h/1"** PAS h/1" PITCH h/1"	**EQUIV. mm** ÉQUIV. mm EQUIV. mm	**PASO h/1"** PAS h/1" PITCH h/1"	**EQUIV. mm** ÉQUIV. mm EQUIV. mm
80	0,317	44	0,577	26	0,976	16	1,587	9	2,822
72	0,352	40	0,636	24	1,058	14	1,814	8	3,174
64	0,396	36	0,705	22	1,154	13	1,953	7	3,628
60	0,423	32	0,793	20	1,270	12	2,116	6	4,233
56	0,453	28	0,907	19	1,336	11,5	2,208	5	5,080
48	0,523	27	0,940	18	1,411	11	2,309	4,5	5,644

> Equivalencia de las roscas PG a MF.
Équivalence du pas PG à MF.
Equivalents of threads PG to MF.

PG	MF	PG	MF
7 x 20 h.	12 x 1,50	21 x 16 h.	32 x 1,50
9 x 18 h.	16 x 1,50	29 x 16 h.	40 x 1,50
11 x 18 h.	20 x 1,50	36 x 16 h.	50 x 1,50
13,5 x 18 h.	20 x 1,50	48 x 16 h.	63 x 1,50
16 x 18 h.	25 x 1,50		

DIÁMETROS PREVIOS AL ROSCADO
DIAMÈTRES PRÉALABLES AU FILETAGE / DIAMETERS BEFORE THREAD

M	d1 x p (mm)	Ø a
M	1 x 0,25	0,75
M	1,1 x 0,25	0,85
M	1,2 x 0,25	0,95
M	1,4 x 0,3	1,10
M	1,6 x 0,35	1,25
M	1,7 x 0,35	1,30
M	1,8 x 0,35	1,45
M	2 x 0,4	1,60
M	2,2 x 0,45	1,75
M	2,3 x 0,4	1,90
M	2,5 x 0,45	2,05
M	2,6 x 0,45	2,10
M	3 x 0,5	2,50
M	3,5 x 0,6	2,90
M	4 x 0,7	3,30
M	4,5 x 0,75	3,70
M	5 x 0,8	4,20
M	6 x 1	5,00
M	7 x 1	6,00
M	8 x 1,25	6,80
M	9 x 1,25	7,80
M	10 x 1,5	8,50
M	11 x 1,5	9,50
M	12 x 1,75	10,20
M	14 x 2	12,00
M	16 x 2	14,00
M	18 x 2,5	15,50
M	20 x 2,5	17,50
M	22 x 2,5	19,50
M	24 x 3	21,00
M	27 x 3	24,00
M	30 x 3,5	26,50
M	33 x 3,5	29,50
M	36 x 4	32,00
M	39 x 4	35,00
M	42 x 4,5	37,50
M	45 x 4,5	40,50
M	48 x 5	43,00
M	52 x 5	47,00
M	56 x 5,5	50,50
M	60 x 5,5	54,50
M	64 x 6	58,00
M	68 x 6	62,00

M	d1 x p (mm)	Ø a
M	3 x 0,6	2,40
M	3,5 x 0,75	2,75
M	4 x 0,75	3,25
M	4 x 0,8	3,20
M	5 x 0,9	4,10
M	5 x 1	4,00
M	5,5 x 0,9	4,60
M	6 x 1,25	4,75
M	8 x 1,5	6,50
M	13 x 1,75	11,25
M	15 x 2	13,00

MF	d1 x p (mm)	Ø a
M	1 x 0,2	0,80
M	1,1 x 0,2	0,90
M	1,2 x 0,2	1,00
M	1,4 x 0,2	1,20
M	1,6 x 0,2	1,40
M	1,7 x 0,2	1,50
M	1,8 x 0,2	1,60
M	2 x 0,25	1,75
M	2,2 x 0,25	1,95
M	2,3 x 0,25	2,05
M	2,5 x 0,35	2,15
M	2,6 x 0,35	2,25
M	3 x 0,35	2,65
M	3,5 x 0,35	3,15
M	4 x 0,35	3,65
M	4 x 0,5	3,50
M	4,5 x 0,5	4,00
M	5 x 0,5	4,50
M	5,5 x 0,5	5,00
M	6 x 0,5	5,50
M	6 x 0,75	5,20
M	7 x 0,5	6,50
M	7 x 0,75	6,20
M	8 x 0,5	7,50
M	8 x 0,75	7,20
M	8 x 1	7,00
M	9 x 0,75	8,20
M	9 x 1	8,00
M	10 x 0,5	9,50
M	10 x 0,75	9,20
M	10 x 1	9,00
M	10 x 1,25	8,80
M	11 x 0,75	10,20
M	11 x 1	10,00
M	11 x 1,25	9,75
M	12 x 0,75	11,25
M	12 x 1	11,00
M	12 x 1,25	10,80
M	12 x 1,5	10,50
M	13 x 0,75	12,25
M	13 x 1	12,00
M	13 x 1,25	11,75
M	13 x 1,5	11,50
M	14 x 0,75	13,25
M	14 x 1	13,00
M	14 x 1,25	12,80
M	14 x 1,5	12,50
M	15 x 1	14,00
M	15 x 1,25	13,75
M	15 x 1,5	13,50
M	16 x 1	15,00
M	16 x 1,25	14,75
M	16 x 1,5	14,50
M	17 x 1	16,00
M	17 x 1,25	15,75
M	17 x 1,5	15,50
M	18 x 1	17,00
M	18 x 1,25	16,75
M	18 x 1,5	16,50

MF	d1 x p (mm)	Ø a
M	18 x 2	16,00
M	19 x 1	18,00
M	19 x 1,25	17,75
M	19 x 1,5	17,50
M	20 x 1	19,00
M	20 x 1,25	18,75
M	20 x 1,5	18,50
M	20 x 2	18,00
M	21 x 1	20,00
M	21 x 1,25	19,75
M	21 x 1,5	19,50
M	22 x 1	21,00
M	22 x 1,25	20,75
M	22 x 1,5	20,50
M	22 x 2	20,00
M	23 x 1	22,00
M	23 x 1,5	21,50
M	24 x 1	23,00
M	24 x 1,25	22,75
M	24 x 1,5	22,50
M	24 x 2	22,00
M	25 x 1	24,00
M	25 x 1,25	23,75
M	25 x 1,5	23,50
M	25 x 2	23,00
M	26 x 1	25,00
M	26 x 1,5	24,50
M	26 x 2	24,00
M	27 x 1	26,00
M	27 x 1,5	25,50
M	27 x 2	25,00
M	28 x 1	27,00
M	28 x 1,5	26,50
M	28 x 2	26,00
M	30 x 1	29,00
M	30 x 1,5	28,50
M	30 x 2	28,00
M	30 x 3	27,00
M	32 x 1	31,00
M	32 x 1,5	30,50
M	32 x 2	30,00
M	33 x 1	32,00
M	33 x 1,5	31,50
M	33 x 2	31,00
M	33 x 3	30,00
M	34 x 1,5	32,50
M	34 x 2	32,00
M	35 x 1,5	33,50
M	36 x 1,5	34,50
M	36 x 2	34,00
M	36 x 3	33,00
M	38 x 1,5	36,50
M	38 x 2	36,00
M	39 x 1,5	37,50
M	39 x 2	37,00
M	39 x 3	36,00
M	40 x 1,5	38,50
M	40 x 2	38,00
M	40 x 3	37,00

MF	d1 x p (mm)	Ø a
M	42 x 1,5	40,50
M	42 x 2	40,00
M	42 x 3	39,00
M	44 x 1,5	42,50
M	45 x 1,5	43,50
M	45 x 2	43,00
M	45 x 3	42,00
M	45 x 4	41,00
M	48 x 1,5	46,50
M	48 x 2	46,00
M	48 x 3	45,00
M	48 x 4	44,00
M	50 x 1,5	48,50
M	50 x 2	48,00
M	50 x 3	47,00
M	52 x 1,5	50,50
M	52 x 2	50,00
M	52 x 3	49,00
M	52 x 4	48,00
M	56 x 1,5	54,50
M	56 x 2	54,00
M	56 x 3	53,00
M	56 x 4	52,00
M	60 x 1,5	58,50
M	60 x 2	58,00
M	60 x 3	57,00
M	60 x 4	56,00
M	63 x 1,5	61,50

BSW	d1 (") - p (tpi)	Ø a
W	1/16 - 60	1,15
W	3/32 - 48	1,80
W	1/8 - 40	2,50
W	5/32 - 32	3,10
W	3/16 - 24	3,60
W	7/32 - 24	4,40
W	1/4 - 20	5,10
W	9/32 - 20	5,90
W	5/16 - 18	6,50
W	3/8 - 16	7,90
W	7/16 - 14	9,30
W	1/2 - 12	10,50
W	9/16 - 12	12,00
W	5/8 - 11	13,50
W	11/16 - 11	15,00
W	3/4 - 10	16,50
W	13/16 - 10	18,00
W	7/8 - 9	19,25
W	1" - 8	22,00
W	1"1/8 - 7	24,75
W	1"1/4 - 7	27,75
W	1"3/8 - 6	30,50
W	1"1/2 - 6	33,50
W	1"5/8 - 5	35,50
W	1"3/4 - 5	39,00
W	1"7/8 - 4,5	41,50

DIÁMETROS PREVIOS AL ROSCADO
DIAMÈTRES PRÉALABLES AU FILETAGE / DIAMETERS BEFORE THREAD

BSW

d1 (") - p (tpi)				⌀a
W	2"	-	4,5	44,50
W	2"1/4	-	4	50,00
W	2"1/2	-	4	56,50
W	2"3/4	-	3,5	62,00
W	3"	-	3,5	68,50

UNC

d1 (") - p (tpi)				⌀a
UNC	1"3/4	-	5	39,50
UNC	2"	-	4,5	45,00
UNC	2"1/4	-	4,5	51,50
UNC	2"1/2	-	4	57,25
UNC	2"3/4	-	4	63,50
UNC	3"	-	4	70,00

UNEF

d1 (") - p (tpi)				⌀a
UNEF	1"7/16	-	18	35,10
UNEF	1"1/2	-	18	36,70
UNEF	1"9/16	-	18	38,30
UNEF	1"5/8	-	18	39,90

BSF

d1 (") - p (tpi)				⌀a
BSF	3/16	-	32	4,00
BSF	7/32	-	28	4,50
BSF	1/4	-	26	5,20
BSF	9/32	-	26	6,00
BSF	5/16	-	22	6,60
BSF	3/8	-	20	8,10
BSF	7/16	-	18	9,50
BSF	1/2	-	16	11,00
BSF	9/16	-	16	12,50
BSF	5/8	-	14	14,00
BSF	11/16	-	14	15,60
BSF	3/4	-	12	16,50
BSF	13/16	-	12	18,25
BSF	7/8	-	11	19,50
BSF	1"	-	10	22,50
BSF	1"1/8	-	9	25,50
BSF	1"1/4	-	9	28,75
BSF	1"3/8	-	8	31,50
BSF	1"1/2	-	8	34,50
BSF	1"5/8	-	8	37,50
BSF	1"3/4	-	7	40,50
BSF	2"	-	7	46,50

UNF

d1 (") - p (tpi)				⌀a
UNF	N.0	-	80	1,30
UNF	N.1	-	72	1,60
UNF	N.2	-	64	1,90
UNF	N.3	-	56	2,10
UNF	N.4	-	48	2,40
UNF	N.5	-	44	2,70
UNF	N.6	-	40	3,00
UNF	N.8	-	36	3,50
UNF	N.10	-	32	4,10
UNF	N.12	-	28	4,70
UNF	1/4	-	28	5,50
UNF	5/16	-	24	6,90
UNF	3/8	-	24	8,50
UNF	7/16	-	20	9,90
UNF	1/2	-	20	11,50
UNF	9/16	-	18	12,90
UNF	5/8	-	18	14,50
UNF	3/4	-	16	17,50
UNF	7/8	-	14	20,40
UNF	1"	-	12	23,25
UNF	1"1/8	-	12	26,50
UNF	1"1/4	-	12	29,50
UNF	1"3/8	-	12	32,75
UNF	1"1/2	-	12	36,00

G (BSP)

d1 (") - p (tpi)				⌀a
G1/16		-	28	6,80
G1/8		-	28	8,80
G1/4		-	19	11,80
G3/8		-	19	15,25
G1/2		-	14	19,00
G5/8		-	14	21,00
G3/4		-	14	24,50
G7/8		-	14	28,25
G1"		-	11	30,75
G1"1/8		-	11	35,30
G1"1/4		-	11	39,25
G1"3/8		-	11	41,90
G1"1/2		-	11	45,25
G1"3/4		-	11	51,30
G2"		-	11	57,00
G2"1/4		-	11	63,10
G2"1/2		-	11	72,60
G2"3/4		-	11	79,10
G3"		-	11	85,50
G3"1/4		-	11	91,50
G3"1/2		-	11	97,70
G3"3/4		-	11	104,00
G4"		-	11	110,50

UNC

d1 (") - p (tpi)				⌀a
UNC	N.1	-	64	1,50
UNC	N.2	-	56	1,80
UNC	N.3	-	48	2,10
UNC	N.4	-	40	2,30
UNC	N.5	-	40	2,60
UNC	N.6	-	32	2,85
UNC	N.8	-	32	3,50
UNC	N.10	-	24	3,90
UNC	N.12	-	24	4,50
UNC	1/4	-	20	5,20
UNC	5/16	-	18	6,60
UNC	3/8	-	16	8,00
UNC	7/16	-	14	9,40
UNC	1/2	-	13	10,75
UNC	9/16	-	12	12,20
UNC	5/8	-	11	13,50
UNC	3/4	-	10	16,50
UNC	7/8	-	9	19,50
UNC	1"	-	8	22,25
UNC	1"1/8	-	7	25,00
UNC	1"1/4	-	7	28,25
UNC	1"3/8	-	6	30,75
UNC	1"1/2	-	6	34,00

UNEF

d1 (") - p (tpi)				⌀a
UNEF	N.12	-	32	4,70
UNEF	1/4	-	32	5,55
UNEF	5/16	-	32	7,15
UNEF	3/8	-	32	8,70
UNEF	7/16	-	28	10,20
UNEF	1/2	-	28	11,80
UNEF	9/16	-	24	13,20
UNEF	5/8	-	24	14,80
UNEF	11/16	-	24	16,40
UNEF	3/4	-	20	17,80
UNEF	13/16	-	20	19,40
UNEF	7/8	-	20	20,95
UNEF	15/16	-	20	22,50
UNEF	1"	-	20	24,10
UNEF	1"1/16	-	18	25,60
UNEF	1"1/8	-	18	27,15
UNEF	1"3/16	-	18	28,75
UNEF	1"1/4	-	18	30,35
UNEF	1"5/16	-	18	31,90
UNEF	1"3/8	-	18	33,60

BA

d1 (") - p (tpi)				
BA 7	2,5	-	0,48	2,00
BA 8	2,2	-	0,43	1,80
BA 9	1,9	-	0,39	1,50
BA 10	1,7	-	0,35	1,30
BA 11	1,5	-	0,31	1,20
BA 12	1,3	-	0,28	1,00
BA 13	1,2	-	0,25	0,95
BA 14	1	-	0,23	0,75

PG

d1 (") - p (tpi)				
Pg 7	12,5	-	20	11,40
Pg 9	15,2	-	18	14,00
Pg 11	18,6	-	18	17,25
Pg 13,5	20,4	-	18	19,00
Pg 16	22,5	-	18	21,25
Pg 21	28,3	-	16	26,75
Pg 29	37,0	-	16	35,50
Pg 36	47,0	-	16	45,50
Pg 42	54,0	-	16	52,50
Pg 48	59,3	-	16	58,00

DIÁMETROS PREVIOS AL ROSCADO
DIAMÈTRES PRÉALABLES AU FILETAGE / DIAMETERS BEFORE THREAD

BA

d1 (") - p (tpi)	⌀a
Rp1/16 - 28	6,60
Rp1/8 - 28	8,60
Rp1/4 - 19	11,50
Rp3/8 - 19	15,00
Rp1/2 - 14	18,50
Rp3/4 - 14	24,00
Rp1" - 11	30,25
Rp1"1/4 - 11	39,00
Rp1"1/2 - 11	45,00
Rp2" - 11	56,50
Rp2"1/2 - 11	72,25
Rp3" - 11	85,00

NPSM

d1 (") - p (tpi)	⌀a
NPSM 1/8 - 27	9,10
NPSM 1/4 - 18	12,00
NPSM 3/8 - 18	15,50
NPSM 1/2 - 14	19,00
NPSM 3/4 - 14	24,50
NPSM 1" - 11,5	30,50
NPSM 1"1/4 - 11,5	39,25
NPSM 1"1/2 - 11,5	45,50
NPSM 2" - 11,5	57,50
NPSM 2"1/2 - 8	69,00
NPSM 3" - 8	85,00

M (Laminación Laminage/Lamination)

d1 - p (mm)	○a ± 0,02
M 3 x 0,5	2,76
M 4 x 0,7	3,67
M 5 x 0,8	4,62
M 6 x 1	5,52
M 8 x 1,25	7,40
M 10 x 1,5	9,28
M 12 x 1,75	11,16
M 14 x 2	13,04
M 16 x 2	15,03

Rp

d1 (") - p (tpi)	⌀a
BA 0 6 - 1	5,10
BA 1 5,3 - 0,9	4,50
BA 2 4,7 - 0,81	4,00
BA 3 4,1 - 0,73	3,40
BA 4 3,6 - 0,66	3,00
BA 5 3,2 - 0,59	2,60
BA 6 2,8 - 0,53	2,30

NPT

d1 (") - p (tpi)	L min	⌀a	⌀b	⌀c
NPT 1/16 - 27	12,00	6,20	6,00	6,39
NPT 1/8 - 27	12,00	8,50	8,30	8,74
NPT 1/4 - 18	17,50	11,00	10,70	11,36
NPT 3/8 - 18	17,60	14,50	14,20	14,80
NPT 1/2 - 14	22,80	17,80	17,40	18,32
NPT 3/4 - 14	23,00	23,00	22,50	23,67
NPT 1" - 11,5	27,40	29,00	28,50	29,69
NPT 1"1/4 - 11,5	28,00	37,50	37,00	38,45
NPT 1"1/2 - 11,5	28,40	44,00	43,50	44,52
NPT 2" - 11,5	28,00	56,00	55,50	56,56
NPT 2"1/2 - 8	40,80	66,50	66,00	67,62
NPT 3" - 8	43,00	82,50	82,00	83,53

NPTF

d1 (") - p (tpi)	L min	⌀a	⌀b	⌀c
NPTF 1/16 - 27	12,00	6,20	6,00	6,41
NPTF 1/8 - 27	12,00	8,50	8,30	8,76
NPTF 1/4 - 18	17,50	11,00	10,70	11,40
NPTF 3/8 - 18	17,60	14,50	14,20	14,84
NPTF 1/2 - 14	22,80	17,80	17,40	18,33
NPTF 3/4 - 14	23,00	23,00	22,50	23,68
NPTF 1" - 11,5	27,40	29,00	28,50	29,72
NPTF 1"1/4 - 11,5	28,00	37,50	37,00	38,48
NPTF 1"1/2 - 11,5	28,40	44,00	43,50	44,55
NPTF 2" - 11,5	28,00	56,00	55,50	56,59
NPTF 2"1/2 - 8	40,80	66,50	66,00	67,67
NPTF 3" - 8	43,00	82,50	82,00	83,58

RC

d1 (") - p (tpi)	L min	⌀a	⌀b	⌀c
Rc 1/16 - 28	10,10	6,30	6,00	6,50
Rc 1/8 - 28	10,10	8,30	8,00	8,50
Rc 1/4 - 19	15,00	11,00	10,70	11,35
Rc 3/8 - 19	15,40	14,50	14,15	14,85
Rc 1/2 - 14	20,50	18,10	17,60	18,50
Rc 3/4 - 14	21,80	23,50	23,00	24,00
Rc 1" - 11	26,00	29,60	29,00	30,20
Rc 1"1/4 - 11	28,30	38,10	37,50	38,80
Rc 1"1/2 - 11	28,30	44,00	43,35	44,70
Rc 2" - 11	32,70	55,60	54,90	56,50

RC

d1 (") - p (tpi)	⌀a
UN 1"1/8 - 8	25,40
UN 1"1/4 - 8	28,50
UN 1"3/8 - 8	31,75
UN 1"1/2 - 8	35,00
UN 1"5/8 - 8	38,10
UN 1"3/4 - 8	41,25
UN 2" - 8	47,63
UN 2"1/4 - 8	54,00
UN 2"1/2 - 8	60,35
UN 2"3/4 - 8	66,70
UN 3" - 8	73,05

EJES PREVIOS AL ROSCADO
AXES PRÉALABLES AU FILETAGE / SHAFTS BEFORE THREAD

M

d1 x p (mm)	⌀a
M 1 x 0,25	0,97
M 1,1 x 0,25	1,07
M 1,2 x 0,25	1,17
M 1,4 x 0,3	1,36
M 1,6 x 0,35	1,54
M 1,7 x 0,35	1,64
M 1,8 x 0,35	1,74
M 2 x 0,4	1,93
M 2,2 x 0,45	2,13
M 2,3 x 0,4	2,23
M 2,5 x 0,45	2,43
M 2,6 x 0,45	2,53
M 3 x 0,5	2,92
M 3,5 x 0,6	3,41
M 4 x 0,7	3,91
M 4,5 x 0,75	4,41
M 5 x 0,8	4,90
M 6 x 1	5,88
M 7 x 1	6,88
M 8 x 1,25	7,87
M 9 x 1,25	8,87
M 10 x 1,5	9,85
M 11 x 1,5	10,85
M 12 x 1,75	11,83
M 14 x 2	13,82
M 16 x 2	15,82
M 18 x 2,5	17,79
M 20 x 2,5	19,79
M 22 x 2,5	21,79
M 24 x 3	23,77
M 27 x 3	26,77
M 30 x 3,5	29,73
M 33 x 3,5	32,73
M 36 x 4	35,70
M 39 x 4	38,70
M 42 x 4,5	41,69
M 45 x 4,5	44,69
M 48 x 5	47,66
M 52 x 5	51,66
M 56 x 5,5	55,65
M 60 x 5,5	59,65
M 64 x 6	63,62
M 68 x 6	67,62

M

d1 x p (mm)	⌀a
M 3 x 0,6	2,40
M 3,5 x 0,75	2,75
M 4 x 0,75	3,25
M 4 x 0,8	3,20
M 5 x 0,9	4,10
M 5 x 1	4,00
M 5,5 x 0,9	4,60
M 6 x 1,25	4,75
M 8 x 1,5	6,50
M 13 x 1,75	11,25
M 15 x 2	13,00

MF

d1 x p (mm)	⌀a
M 2 x 0,25	1,97
M 2,2 x 0,25	2,17
M 2,3 x 0,25	2,27
M 2,5 x 0,35	2,44
M 2,6 x 0,35	2,54
M 3 x 0,35	2,94
M 3,5 x 0,35	3,44
M 4 x 0,35	3,94
M 4 x 0,5	3,93
M 4,5 x 0,5	4,42
M 5 x 0,5	4,93
M 5,5 x 0,5	5,42
M 6 x 0,5	5,93
M 6 x 0,75	5,90
M 7 x 0,5	6,92
M 7 x 0,75	6,90
M 8 x 0,5	7,93
M 8 x 0,75	7,90
M 8 x 1	7,88
M 9 x 0,75	8,90
M 9 x 1	8,88
M 10 x 0,5	9,93
M 10 x 0,75	9,90
M 10 x 1	9,88
M 10 x 1,25	9,86
M 11 x 0,75	10,90
M 11 x 1	10,88
M 11 x 1,25	10,87
M 12 x 0,75	11,90
M 12 x 1	11,88
M 12 x 1,25	11,86
M 12 x 1,5	11,85
M 13 x 0,75	12,90
M 13 x 1	12,88
M 13 x 1,25	12,87
M 13 x 1,5	12,85
M 14 x 0,75	13,90
M 14 x 1	13,88
M 14 x 1,25	13,86
M 14 x 1,5	13,85
M 15 x 1	14,88
M 15 x 1,25	14,87
M 15 x 1,5	14,85
M 16 x 1	15,88
M 16 x 1,25	15,87
M 16 x 1,5	15,85
M 17 x 1,25	16,87
M 17 x 1,5	16,85
M 18 x 1	17,88
M 18 x 1,25	17,85
M 18 x 1,5	17,85
M 18 x 2	17,82
M 19 x 1	18,88
M 19 x 1,25	18,87
M 19 x 1,5	18,85
M 20 x 1	19,88
M 20 x 1,25	19,87
M 20 x 1,5	19,85
M 20 x 2	19,82

MF

d1 x p (mm)	⌀a
M 21 x 1	20,88
M 21 x 1,25	20,87
M 21 x 1,5	20,85
M 22 x 1	21,88
M 22 x 1,25	21,87
M 22 x 1,5	21,85
M 22 x 2	21,82
M 23 x 1	22,88
M 23 x 1,5	22,85
M 24 x 1	23,88
M 24 x 1,25	23,87
M 24 x 1,5	23,85
M 24 x 2	23,82
M 25 x 1	24,88
M 25 x 1,25	24,87
M 25 x 1,5	24,85
M 25 x 2	24,82
M 26 x 1	25,88
M 26 x 1,5	25,85
M 26 x 2	25,82
M 27 x 1	26,88
M 27 x 1,5	26,85
M 27 x 2	26,82
M 28 x 1	27,88
M 28 x 1,5	27,85
M 28 x 2	27,82
M 30 x 1	29,88
M 30 x 1,5	29,85
M 30 x 2	29,82
M 30 x 3	29,76
M 32 x 1	31,88
M 32 x 1,5	31,85
M 32 x 2	31,82
M 33 x 1	32,88
M 33 x 1,5	32,85
M 33 x 2	32,82
M 33 x 3	32,76
M 34 x 1,5	33,85
M 34 x 2	33,82
M 35 x 1,5	34,85
M 36 x 1,5	35,85
M 36 x 2	35,82
M 36 x 3	35,76
M 38 x 1,5	37,85
M 38 x 2	37,82
M 39 x 1,5	38,85
M 39 x 2	38,82
M 39 x 3	38,76
M 40 x 1,5	39,85
M 40 x 2	39,82
M 40 x 3	39,76
M 42 x 1,5	41,85
M 42 x 2	41,82
M 42 x 3	41,76
M 44 x 1,5	43,75
M 45 x 1,5	44,85
M 45 x 2	44,82
M 45 x 3	44,76
M 45 x 4	44,70

MF

d1 x p (mm)	⌀a
M 48 x 1,5	47,85
M 48 x 2	47,82
M 48 x 3	47,76
M 48 x 4	47,70
M 50 x 1,5	49,85
M 50 x 2	49,82
M 50 x 3	49,76
M 52 x 1,5	51,85
M 52 x 2	51,82
M 52 x 3	51,76
M 52 x 4	51,70
M 56 x 1,5	55,85
M 56 x 2	55,82
M 56 x 3	55,76
M 56 x 4	55,70
M 60 x 1,5	59,75
M 60 x 2	59,82
M 60 x 3	59,76
M 60 x 4	59,70
M 63 x 1,5	62,85

BSW

d1 (") - p (tpi)	⌀a
W 1/16 - 60	1,49
W 3/32 - 48	2,28
W 1/8 - 40	3,06
W 5/32 - 32	3,85
W 3/16 - 24	4,63
W 7/32 - 24	5,42
W 1/4 - 20	6,18
W 5/16 - 18	7,78
W 3/8 - 16	9,35
W 7/16 - 14	10,90
W 1/2 - 12	12,47
W 9/16 - 12	13,92
W 5/8 - 11	15,66
W 11/16 - 11	17,20
W 3/4 - 10	18,80
W 7/8 - 9	21,92
W 1" - 8	25,11
W 1"1/8 - 7	28,28
W 1"1/4 - 7	31,45
W 1"3/8 - 6	34,57
W 1"1/2 - 6	37,76
W 1"5/8 - 5	40,91
W 1"3/4 - 5	44,05
W 1"7/8 - 4,5	47,27
W 2" - 4,5	50,38
W 2"1/4 - 4	56,90
W 2"1/2 - 4	63,20
W 2"3/4 - 3,5	69,60
W 3" - 3,5	76,20

EJES PREVIOS AL ROSCADO
AXES PRÉALABLES AU FILETAGE / SHAFTS BEFORE THREAD

UNC

d1 (") - p (tpi)	Øa
UNC N.1- 64	1,79
UNC N.2- 56	2,12
UNC N.3- 48	2,44
UNC N.4- 40	2,76
UNC N.5- 40	3,09
UNC N.6- 32	3,41
UNC N.8- 32	4,07
UNC N.10- 24	4,71
UNC N.12- 24	5,37
UNC 1/4- 20	6,22
UNC 5/16- 18	7,8
UNC 3/8- 16	9,37
UNC 7/16- 14	10,95
UNC 1/2- 13	12,52
UNC 9/16- 12	14,10
UNC 5/8- 11	15,68
UNC 3/4- 10	18,84
UNC 7/8- 9	22,00
UNC 1"- 8	25,16
UNC 1"1/8- 7	28,31
UNC 1"1/4- 7	31,49
UNC 1"3/8- 6	34,63
UNC 1"1/2- 6	37,81
UNC 1"3/4- 5	44,12
UNC 2"- 4,5	50,45
UNC 2"1/4- 4,5	56,80
UNC 2"1/2- 4	63,10
UNC 2"3/4- 4	69,45
UNC 3"- 4	75,80

UNF

d1 (") - p (tpi)	Øa
UNF N.0- 80	1,47
UNF N.1- 72	1,79
UNF N.2- 64	2,12
UNF N.3- 56	2,44
UNF N.4- 48	2,77
UNF N.5- 44	3,10
UNF N.6- 40	3,42
UNF N.8- 36	4,08
UNF N.10- 32	4,73
UNF N.12- 28	5,38
UNF 1/4- 28	6,24
UNF 5/16- 24	7,82
UNF 3/8- 24	9,41
UNF 7/16- 20	10,98
UNF 1/2- 20	12,56
UNF 9/16- 18	14,14
UNF 5/8- 18	15,73
UNF 3/4- 16	18,89
UNF 7/8- 14	22,05
UNF 1"- 12	25,21
UNF 1"1/8- 12	28,38
UNF 1"1/4- 12	31,56
UNF 1"3/8- 12	34,73
UNF 1"1/2- 12	37,91

UNEF

d1 (") - p (tpi)	Øa
UNEF N.12- 32	5,39
UNEF 1/4- 32	6,25
UNEF 5/16- 32	7,84
UNEF 3/8- 32	9,42
UNEF 7/16- 28	11,00
UNEF 1/2- 28	12,59
UNEF 9/16- 24	14,18
UNEF 5/8- 24	15,75
UNEF 3/4- 20	18,91
UNEF 7/8- 20	22,09
UNEF 1"- 20	25,26
UNEF 1"1/8- 18	28,40
UNEF 1"1/4- 18	31,59
UNEF 1"3/8- 18	34,76
UNEF 1"1/2- 18	37,94

G (BSP)

d1 (") - p (tpi)	Øa
G 1/16- 28	7,61
G 1/8- 28	9,62
G 1/4- 19	13,03
G 3/8- 19	16,53
G 1/2- 14	20,81
G 5/8- 14	22,77
G 3/4- 14	26,30
G 7/8- 14	30,06
G 1"- 11	33,07
G 1"1/8- 11	37,71
G 1"1/4- 11	41,73
G 1"3/8- 11	44,14
G 1"1/2- 11	47,62
G 1"3/4- 11	53,56
G 2"- 11	59,43
G 2"1/4- 11	65,49
G 2"1/2- 11	74,94
G 2"3/4- 11	81,27
G 3"- 11	87,57
G 3"1/4- 11	93,68
G 3"1/2- 11	100,01
G 3"3/4- 11	106,35
G 4"- 11	112,68

BA

d1 (") - p (tpi)	Øa
BA 0 6-1	5,93
BA 1 5,3- 0,9	5,23
BA 2 4,7- 0,81	4,64
BA 3 4,1- 0,73	4,04
BA 4 3,6- 0,66	3,55
BA 5 3,2- 0,59	3,15
BA 6 2,8- 0,53	2,76
BA 7 2,5- 0,48	2,46
BA 8 2,2- 0,43	2,16

PG

d1 (") - p (tpi)	Øa
Pg 7 12,5- 20	12,40
Pg 9 15,2- 18	15,10
Pg 11 18,6- 18	18,50
Pg 13,5 20,4- 18	20,30
Pg 16 22,5- 18	22,40
Pg 21 28,3- 16	28,15
Pg 29 37,0- 16	36,85
Pg 36 47,0- 16	46,85
Pg 42 54,0- 16	53,85
Pg 48 59,3- 16	59,15

NPSM

d1 (") - p (tpi)	Øa
NPSM 1/8- 27	4,99
NPSM 1/4- 18	13,24
NPSM 3/8- 18	16,70
NPSM 1/2- 14	20,77
NPSM 3/4- 14	26,13
NPSM 1"- 11,5	32,68
NPSM 1"1/4- 11,5	41,45
NPSM 1"1/2- 11,5	47,52
NPSM 2" - 11,5	59,56

NPT

d1 (") - p (tpi)	L min	Øa
NPT 1/16- 27	8,40	7,58
NPT 1/8- 27	8,50	9,93
NPT 1/4- 18	12,70	13,18
NPT 3/8- 18	12,90	16,60
NPT 1/2- 14	16,80	20,63
NPT 3/4- 14	17,10	25,95
NPT 1"- 11,5	21,30	32,51
NPT 1"1/4- 11,5	21,90	41,23
NPT 1"1/2- 11,5	22,30	47,30
NPT 2" - 11,5	23,10	59,31

NPTF

d1 (") - p (tpi)	L min	Øa
NPTF 1/16- 27	8,40	7,58
NPTF 1/8- 27	8,50	9,93
NPTF 1/4- 18	12,70	13,18
NPTF 3/8- 18	12,90	16,60
NPTF 1/2- 14	16,80	20,63
NPTF 3/4- 14	17,10	25,95
NPTF 1"- 11,5	21,30	32,51
NPTF 1"1/4- 11,5	21,90	41,23
NPTF 1"1/2- 11,5	22,30	47,30
NPTF 2" - 11,5	23,10	59,31

R

d1 (") - p (tpi)	L min	Øa
R 1/8- 28	8,20	9,48
R 1/4- 19	12,10	12,78
R 3/8- 19	12,50	16,26
R 1/2- 14	16,40	20,44
R 3/4- 14	17,70	25,85
R 1"- 11	20,90	32,60
R 1"1/4- 11	23,20	41,12
R 1"1/2- 11	23,20	47,01
R 2" - 11	27,50	58,62

BSF

d1 (") - p (tpi)	Øa
BSF 3/16 - 32	4,67
BSF 7/32 - 28	5,47
BSF 1/4 - 26	6,25
BSF 5/16 - 22	7,82
BSF 3/8 - 20	9,39
BSF 7/16 - 18	10,97
BSF 1/2 - 16	12,54
BSF 9/16 - 16	14,12
BSF 5/8 - 14	15,71
BSF 11/16 - 14	17,30
BSF 3/4 - 12	18,85
BSF 7/8 - 11	22,02
BSF 1" - 10	25,17
BSF 1"1/8 - 9	24,40
BSF 1"1/4 - 9	31,60
BSF 1"3/8 - 8	34,70
BSF 1"1/2 - 8	37,90
BSF 1"5/8 - 8	41,10
BSF 1"3/4 - 7	44,20
BSF 2" - 7	50,60

TABLA DE CONVERSIÓN DE PULGADAS A MILÍMETROS

Calculado: 1 pulgada = 25,4 mm. (exactos), ver DIN 4890 (edición 2/75)

Milímetros

Parte de pulgadas	0	1	2	3	4	5	6	7	9	10	11	12
0	0	25,400 0	50,800 0	76,200 0	101,600 0	127,000 0	152,400 0	177,800 0	228,600 0	254,000 0	279,400 0	203,200 0
1/64	0,015 625	0,396 9	25,796 9	51,196 9	76,596 9	101,996 9	127,396 9	152,796 9	178,196 9	228,996 9	254,396 9	279,796 9	203,596 9
1/32	0,031 25	0,793 8	26,193 8	51,593 8	76,993 8	102,393 8	127,793 8	153,193 8	178,593 8	229,393 8	254,793 8	280,193 8	203,393 8
3/64	0,046 875	1,190 6	26,590 6	51,990 6	77,390 6	102,790 6	128,190 6	153,590 6	178,990 6	229,790 6	255,190 6	280,590 6	204,390 6
1/16	0,062 5	1,587 5	26,987 5	52,387 5	77,787 5	103,187 5	128,587 5	153,987 5	179,387 5	260,187 5	255,587 5	280,987 5	204,787 5
5/64	0,078 125	1,984 4	27,384 4	52,784 4	78,181 4	103,584 4	128,984 4	154,384 4	179,784 4	230,584 4	255,984 4	281,384 4	205,180 4
3/32	0,093 75	2,381 2	27,781 2	53,181 2	78,581 2	103,981 2	129,381 2	154,781 2	180,181 2	230,981 2	256,381 2	281,781 2	205,581 2
7/64	0,109 375	2,778 1	28,178 1	53,578 1	78,978 1	104,378 1	129,778 1	155,178 1	180,578 1	231,378 1	256,778 1	282,178 1	205,578 1
1/8	0,125	3,175 0	28,575 0	53,975 0	79,375 2	104,775 0	130,175 0	155,575 0	150,975 0	231,775 0	257,175 0	282,575 0	206,375 0
9/64	0,140 625	3,571 9	28,971 9	54,361 9	79,771 9	105,171 9	130,571 9	155,971 9	181,371 9	232,171 9	257,571 9	282,971 9	206,771 9
5/32	0,156 25	3,968 8	29,368 8	54,768 8	80,186 8	105,568 8	130,968 8	156,368 8	181,768 8	232,568 8	257,968 8	283,368 8	207,168 8
11/64	0,171 875	4,365 6	29,765 6	55,165 6	80,565 6	105,965 6	131,365 6	156,765 6	182,165 6	232,965 6	258,365 6	283,765 6	207,565 6
3/16	0,187 5	4,762 5	30,162 5	55,562 5	80,962 5	106,362 5	131,762 5	157,162 5	182,562 5	233,362 5	258,762 5	284,162 5	207,962 5
13/64	0,203 125	5,159 4	30,559 4	55,959 4	81,359 4	106,759 4	132,159 4	157,559 4	182,959 4	233,759 4	259,159 4	284,559 4	208,359 4
7/32	0,218 75	5,556 2	30,956 2	56,356 2	81,756 2	107,156 2	132,556 2	157,956 2	183,353 2	234,156 2	259,556 2	284,956 2	208,756 2
15/64	0,234 375	5,953 1	31,353 1	56,753 1	82,153 1	107,553 1	132,953 1	158,353 1	183,753 1	234,553 1	259,953 1	285,353 1	209,153 1
1/4	0,25	6,350 0	31,750 0	56,150 0	82,550 0	107,950 0	133,350 0	158,750 0	184,150 0	234,950 0	260,350 0	285,750 0	209,550 0
17/64	0,265 625	6,746 9	32,146 9	57,546 9	82,946 9	108,346 9	133,746 9	159,146 9	184,546 9	235,346 9	260,746 9	286,146 9	209,946 9
9/32	0,281 25	7,143 8	32,543 8	57,943 8	83,343 8	108,743 8	134,143 8	159,543 8	184,943 8	235,743 8	261,143 8	286,543 8	210,343 6
19/64	0,296 875	7,540 6	32,940 6	58,340 6	83,740 6	109,140 6	134,540 6	159,940 6	185,340 6	236,140 6	261,540 6	286,940 6	210,740 6
5/16	0,312 5	7,937 5	33,337 5	58,737 5	84,137 5	109,537 5	134,937 5	160,337 5	185,737 5	236,537 5	261,937 5	287,337 5	211,137 5
21/64	0,328 125	8,334 4	33,734 4	59,134 4	84,534 4	109,934 4	135,334 4	160,734 4	186,134 4	236,934 4	262,334 4	287,734 4	211,534 4
11/32	0,343 75	8,731 2	34,131 2	59,531 2	84,931 2	110,331 2	135,731 2	161,131 2	186,531 2	237,331 2	262,731 2	288,131 2	211,931 2
23/64	0,359 375	9,128 1	34,528 1	59,928 1	85,328 1	110,728 1	136,128 1	161,528 1	186,928 1	237,728 1	263,128 1	288,528 1	212,328 1
3/8	0,375	9,525 0	34,925 0	60,325 0	85,725 0	111,125 0	136,525 0	161,925 0	187,625 0	238,125 0	263,525 0	288,925 0	212,725 0
25/64	0,390 625	9,921 9	35,321 9	60,721 9	86,121 9	111,521 9	136,921 9	162,321 9	187,721 9	238,521 9	263,921 9	289,321 9	213,121 9
13/32	0,406 25	10,318 8	35,718 8	61,118 8	86,518 8	111,918 8	137,318 8	162,718 8	188,118 8	238,918 8	264,318 8	289,718 8	213,518 8
27/64	0,421 875	10,715 6	36,115 6	61,515 6	86,915 6	112,315 6	137,715 6	163,115 6	188,515 6	239,315 6	264,715 6	290,115 6	213,915 6
7/16	0,437 5	11,112 5	36,512 5	61,912 5	87,312 5	112,712 5	138,112 5	163,512 5	188,912 5	239,712 5	265,112 5	290,512 5	214,312 5
29/64	0,453 125	11,509 4	36,909 4	62,309 4	87,709 4	113,109 4	138,509 4	163,909 4	189,309 4	240,109 4	265,509 4	290,909 4	214,709 4
15/32	0,468 75	11,906 2	37,306 2	62,706 2	88,106 2	113,506 2	138,906 2	164,306 2	189,706 2	240,506 2	265,906 2	291,306 2	215,106 2
31/64	0,484 375	12,303 1	37,703 1	63,103 1	88,503 1	113,903 1	139,303 1	164,703 1	190,103 1	240,903 1	266,303 1	291,703 1	215,503 1
1/2	0,5	12,700 0	38,100 0	63,500 0	88,900 0	114,300 0	139,700 0	165,100 0	190,500 0	241,300 0	266,700 0	292,100 0	215,900 0
33/64	0,515 625	13,096 9	38,496 9	63,896 9	89,296 9	114,696 9	140,096 9	165,496 9	190,896 9	241,696 9	267,096 9	292,496 9	216,296 9
17/32	0,531 25	13,493 8	38,893 8	64,293 8	89,693 8	115,093 8	140,493 8	165,893 8	191,293 8	242,093 8	267,493 8	292,893 8	216,693 8
35/64	0,546 875	13,890 6	39,290 6	64,690 6	90,090 6	115,490 6	140,890 6	166,290 6	191,690 6	242,490 6	267,890 6	293,290 6	217,090 6
9/16	0,562 5	14,287 5	39,687 5	65,087 5	90,487 5	115,887 5	141,287 5	166,687 5	192,087 5	242,887 5	268,287 5	293,687 5	217,487 5
37/64	0,578 125	14,684 4	40,084 4	65,484 4	90,884 4	116,284 4	141,684 4	167,084 4	192,484 4	243,284 4	268,684 4	294,084 4	217,884 4
19/32	0,593 75	15,081 2	40,481 2	65,8812	91,281 2	116,681 2	142,081 2	167,481 2	192,881 2	243,681 2	269,081 2	294,481 2	218,281 2
39/64	0,609 375	15,478 1	40,878 1	66,278 1	91,678 1	117,078 1	142,478 1	167,878 1	193,278 1	244,078 1	269,478 1	294,878 1	218,678 1
5/8	0,625	15,875 0	41,275 0	66,675 0	92,075 0	117,475 0	142,875 0	168,275 0	193,675 0	244,475 0	269,875 0	295,275 0	219,075 0
41/64	0,640 625	16,271 9	41,761 9	67,071 9	92,471 9	117,871 9	143,271 9	168,671 9	194,071 9	244,871 9	270,271 9	295,671 9	219,471 9
21/32	0,656 25	16,668 9	42,068 8	67,468 8	92,868 8	118,268 8	143,668 8	169,068 8	194,468 8	245,268 8	270,668 8	296,068 8	219,868 8
43/64	0,671 875	15,065 6	42,465 6	67,865 6	93,265 6	118,665 6	144,065 6	169,465 6	194,865 6	245,665 6	271,065 6	296,465 6	220,265 6
11/16	0,687 5	17,462 5	42,862 5	68,262 5	93,662 5	119,062 5	144,462 5	169,862 5	195,262 5	246,062 5	271,462 5	296,862 5	220,662 5
45/64	0,703 125	15,859 4	43,259 4	68,659 4	94,059 4	119,459 4	144,859 4	170,259 4	195,659 4	246,459 4	271,859 4	297,259 4	221,059 4
23/32	0,718 75	18,256 2	43,656 2	69,056 2	94,456 2	119,856 2	145,256 2	170,652 2	196,056 2	246,856 2	272,256 2	297,656 2	221,456 2
47/64	0,734 375	18,653 1	44,053 1	69,4531	94,853 1	120,253 1	145,653 1	171,053 1	196,453 1	247,253 1	272,653 1	298,053 1	221,853 1
3/4	0,75	19,050 0	44,450 0	69,850 0	95,250 0	120,650 0	146,050 0	171,450 0	196,850 0	247,650 0	273,050 0	298,450 0	222,250 0
49/64	0,765 625	19,446 9	44,846 9	70,246 9	95,646 9	121,046 9	146,446 9	171,846 9	197,246 9	248,046 9	273,466 9	298,846 9	222,646 9
25/32	0,781 25	19,843 8	45,243 8	70,643 8	96,043 8	121,443 8	146,843 8	172,243 8	197,643 8	248,443 8	273,843 8	299,243 8	223,043 8
51/64	0,796 875	20,240 6	45,640 6	71,040 6	96,440 6	121,840 6	147,240 6	172,640 6	198,040 6	248,340 6	274,240 6	299,640 6	223,440 6
13/16	0,812 5	20,637 5	46,037 5	71,437 5	96,837 5	122,237 5	147,637 5	173,077 5	198,437 5	249,237 5	274,637 5	300,037 5	223,837 5
53/64	0,828 125	21,034 4	46,434 4	71,834 4	97,234 4	122,634 4	148,034 4	173,434 4	198,834 4	249,634 4	275,034 4	300,434 4	224,234 4
0/32	0,843 75	21,431 2	46,831 2	72,231 2	97,631 2	123,031 2	148,431 2	173,831 2	199,231 2	250,031 2	275,431 2	300,831 2	224,631 2
55/64	0,859 375	21,828 1	47,228 1	72,628 1	98,028 1	123,428 1	148,828 1	174,228 1	199,628 1	250,428 1	275,828 1	301,228 1	225,028 1
7/8	0,875	22,225 0	47,625 0	73,025 0	98,425 0	123,825 0	149,225 0	174,625 2	200,025 0	250,825 0	276,225 0	301,625 0	225,425 0
57/64	0,890 625	22,621 9	48,021 9	73,421 9	98,821 9	124,221 9	149,621 9	175,021 9	200,421 9	251,221 9	276,621 9	302,021 9	225,821 9
29/32	0,906 25	23,018 8	48,418 8	73,818 8	99,218 8	124,618 8	150,018 8	175,418 8	200,818 8	251,618 8	277,018 8	302,418 8	226,218 8
59/64	0,921 875	23,415 6	48,815 6	74,215 6	99,615 6	125,015 6	150,415 6	175,815 6	201,215 6	252,015 6	277,415 6	302,815 6	226,615 6
15/16	0,937 5	23,812 5	49,212 5	74,612 5	100,012 5	125,412 5	150,812 5	176,212 5	201,612 5	252,412 5	277,812 5	303,212 5	227,012 5
61/64	0,953 125	24,209 4	49,609 4	75,009 4	100,409 4	125,809 4	151,209 4	176,609 4	202,009 4	252,809 4	278,209 4	303,609 4	227,409 4
31/32	0,968 75	24,606 2	50,006 2	75,406 2	100,806 2	126,206 2	151,606 2	177,006 2	202,406 2	253,206 2	278,606 2	304,006 2	227,806 2
63/64	0,984 375	25,003 1	50,403 1	75,803 1	101,203 1	126,603 1	152,003 1	177,403 1	202,803 1	253,603 1	279,003 1	304,403 1	228,203 1

12" = 304,800 0

Ejemplo: 2"1/8 = 53,975

Milímetros

Parte de pulgadas	0	1	2	3	4	5	6	7	9	10	11	12
0	0	25,400 0		76,200 0	101,600 0	127,000 0	152,400 0	177,800 0	203,200 0	228,600 0	254,000 0	279,400 0
1/64	0,015 625	0,396 9	25,796 9		76,596 9	101,996 9	127,396 9	152,796 9	178,196 9	203,596 9	228,996 9	254,396 9	279,796 9
1/32	0,031 25	0,793 8	26,193 8		76,993 8	102,393 8	127,793 8	153,193 8	178,593 8	203,393 8	229,393 8	254,7938	280,193 8
3/64	0,046 875	1,190 6	26,590 6		77,390 6	102,790 6	128,190 6	153,590 6	178,990 6	204,390 6	229,790 6	255,190 6	280,590 6
1/16	0,062 5	1,587 5	26,987 5		77,787 5	103,187 5	128,587 5	153,987 5	179,387 5	204,787 5	230,187 5	255,587 5	280,987 5
5/64	0,078 125	1,984 4	27,384 4		78,181 4	103,584 4	128,984 4	154,384 4	179,784 4	205,184 4	230,584 4	255,984 4	281,384 4
3/32	0,093 75	2,381 2	27,781 2		78,581 2	103,981 2	129,381 2	154,781 2	180,181 2	205,581 2	230,981 2	256,381 2	281,781 2
7/64	0,109 375	2,778 1	28,178 1		78,978 1	104,378 1	129,778 1	155,178 1	180,578 1	205,978 1	231,378 1	256,778 1	282,178 1
1/8				53,975 0	79,375 0	104,775 0	130,175 0	155,575 0	180,975 0	206,375 0	231,775 0	257,175 0	282,575 0
9/64	0,140 625	3,571 9	28,971 9	54,371 9	79,771 9	105,171 9	130,571 9	155,971 9	181,371 9	206,371 9	232,171 9	257,571 9	282,971 9
5/32	0,156 25	3,968 8	29,368 8	54,768 8	80,168 8	105,568 8	130,968 8	156,368 8	181,768 8	207,168 8	232,568 8	257,968 8	283,368 8
11/64	0,171 875	4,365 6	29,765 6	55,165 6	80,565 6	105,965 6	131,365 6	156,765 6	182,165 6	207,165 6	232,965 6	258,365 6	283,765 6

TABLA DE DATOS TÉCNICOS PARA LA INSTALACIÓN DE INSERTOS ROSCADOS
INFORMATION TECHNIQUE POUR L' INSTALLATION DE FILETS RAPPORTES
TECHNICAL DATA SHEET FOR THE INSTALLATION OF WIRE THREAD INSERTS

			Taladro						Rosca								Inserto						
Rosca	D	p	Diam. (Dt)	Longitud mínima (Lt) mm					"Diam.ext. (Dr ext) min."	"Diam.int (Dr int) min."	"Diam.int. (Dr int) max."	Longitud mínima (Lr) mm					"Diam.ext. (d1) min."	"Diam.ext. (d1) max."	Longitud (W) nº de hilos (min-max)				
			mm	1xd	1,5xd	2xd	2,5xd	3xd	mm	mm	mm	1xd	1,5xd	2xd	2,5xd	3xd	mm	mm	1xd	1,5xd	2xd	2,5xd	3xd
M	2	0,40	2,10	3,80	4,80	5,80	6,80	7,80	2,52	2,09	2,18	2,00	3,00	4,00	5,00	6,00	2,60	2,80	3,0 - 3,3	5,2 - 5,7	7,4 - 8,1	9,6 - 10,5	11,8 - 13,0
M	2,5	0,45	2,60	4,52	5,77	7,02	8,27	9,52	3,08	2,60	2,70	2,50	3,75	5,00	6,25	7,50	3,20	3,70	3,1 - 3,8	5,2 - 6,5	7,4 - 9,2	9,5 - 11,9	11,7 - 14,6
M	3	0,50	3,20	5,25	6,75	8,25	9,75	11,25	3,65	3,11	3,22	3,00	4,50	6,00	7,50	9,00	3,80	4,35	3,4 - 4,3	5,8 - 7,2	8,2 - 10,1	10,5 - 12,8	12,9 - 16,0
M	3,5	0,60	3,70	6,20	7,95	9,70	11,45	13,20	4,28	3,63	3,76	3,50	5,25	7,00	8,75	10,50	4,55	4,75	3,4 - 4,3	5,8 - 7,2	8,2 - 10,1	10,5 - 12,8	12,9 - 16,0
M	4	0,70	4,20	7,15	9,15	11,15	13,15	15,15	4,91	4,15	4,29	4,00	6,00	8,00	10,00	12,00	5,05	5,60	3,4 - 4,0	5,7 - 6,8	8,1 - 9,6	10,5 - 12,3	12,8 - 15,1
M	5	0,80	5,20	8,60	11,10	13,60	16,10	18,60	6,04	5,17	5,33	5,00	7,50	10,00	12,50	15,00	6,25	6,80	3,9 - 4,5	6,5 - 7,6	9,2 - 10,6	11,8 - 13,7	14,4 - 16,7
M	6	1,00	6,30	10,50	13,50	16,50	19,50	22,50	7,30	6,22	6,41	6,00	9,00	12,00	15,00	18,00	7,40	7,95	3,8 - 4,3	6,4 - 7,2	9,1 - 10,1	11,7 - 13,1	14,3 - 16,0
M	7	1,00	7,30	11,50	15,00	18,50	22,00	25,50	8,30	7,22	7,41	7,00	10,50	14,00	17,50	21,00	8,65	9,20	4,6 - 5,3	7,7 - 8,7	10,7 - 12,1	13,7 - 15,6	16,7 - 19,0
M	8	1,25	8,30	13,62	17,62	21,62	25,62	29,62	9,62	8,27	8,48	8,00	12,00	16,00	20,00	24,00	9,80	10,35	4,2 - 4,8	7,1 - 7,8	9,9 - 10,9	12,8 - 14,1	15,6 - 17,2
M	8	1,00	8,30	12,50	16,50	20,50	24,50	28,50	9,30	8,22	8,41	8,00	12,00	16,00	20,00	24,00	9,70	10,25	5,6 - 6,1	9,1 - 10,1	12,5 - 13,8	16,0 - 17,7	19,5 - 21,5
M	9	1,25	9,30	14,62	19,12	23,62	28,13	32,62	10,62	9,27	9,48	9,00	13,50	18,00	22,50	27,00	10,85	11,10	5,1 - 5,5	8,4 - 9,0	11,7 - 12,5	15,0 - 16,1	18,3 - 19,6
M	10	1,50	10,40	16,75	21,75	26,75	31,75	36,75	11,95	10,32	10,56	10,00	15,00	20,00	25,00	30,00	11,95	12,50	4,6 - 5,3	7,7 - 8,2	10,8 - 11,5	13,8 - 14,7	16,9 - 18,0
M	10	1,25	10,30	15,62	20,62	25,62	30,62	35,62	11,62	10,27	10,48	10,00	15,00	20,00	25,00	30,00	12,10	12,65	5,6 - 6,1	9,2 - 10,0	12,7 - 13,8	16,3 - 17,7	19,8 - 21,5
M	10	1,00	10,30	14,50	19,50	24,50	29,50	34,50	11,30	10,22	10,41	10,00	15,00	20,00	25,00	30,00	12,10	12,50	7,3 - 8,1	11,7 - 12,9	16,1 - 17,8	20,5 - 22,6	24,9 - 27,5
M	11	1,50	11,40	17,75	23,25	28,75	34,25	39,75	12,95	11,33	11,56	11,00	16,50	22,00	27,50	33,00	13,10	13,50	5,2 - 5,6	8,6 - 9,2	12,0 - 12,8	15,4 - 16,4	18,7 - 20,0
M	12	1,75	12,40	19,87	25,87	31,87	37,87	43,87	14,27	12,38	12,64	12,00	18,00	24,00	30,00	36,00	14,30	15,00	4,8 - 5,2	7,9 - 8,5	11,1 - 11,9	14,2 - 15,2	17,3 - 18,6
M	12	1,50	12,40	18,75	24,75	30,75	36,75	42,75	14,10	12,32	12,56	12,00	18,00	24,00	30,00	36,00	14,25	14,95	5,6 - 6,1	9,2 - 10,0	12,7 - 13,8	16,2 - 17,7	19,8 - 21,5
M	12	1,25	12,30	17,62	23,62	29,62	35,62	41,62	13,62	12,27	12,48	12,00	18,00	24,00	30,00	36,00	14,30	15,00	7,0 - 7,9	11,2 - 12,5	15,5 - 17,2	19,7 - 21,8	23,9 - 26,5
M	12	1,00	12,30	16,50	22,50	28,50	34,50	40,50	13,30	12,22	12,41	12,00	18,00	24,00	30,00	36,00	14,40	14,80	9,3 - 10,3	14,7 - 16,1	20,0 - 21,9	25,4 - 27,8	30,8 - 33,6
M	14	2,00	14,50	23,00	30,00	37,00	44,00	51,00	16,60	14,43	14,73	14,00	21,00	28,00	35,00	42,00	16,65	17,35	5,0 - 5,5	8,2 - 8,9	11,4 - 12,3	14,6 - 15,8	17,9 - 19,2
M	14	1,50	14,50	20,75	27,75	34,75	41,75	48,75	15,95	14,35	14,56	14,00	21,00	28,00	35,00	42,00	15,96	16,64	6,9 - 7,7	11,1 - 12,2	15,3 - 16,7	19,4 - 21,2	23,6 - 25,7
M	14	1,25	14,40	19,62	26,62	33,62	40,62	47,62	15,62	14,27	14,48	14,00	21,00	28,00	35,00	42,00	15,74	16,00	8,6 - 9,5	13,6 - 14,9	18,6 - 20,4	23,6 - 25,8	28,6 - 31,2
M	14	1,00	14,40	18,50	25,50	32,50	39,50	46,50	15,30	14,22	14,41	14,00	21,00	28,00	35,00	42,00	15,35	15,65	11,1 - 12,2	17,4 - 18,9	23,7 - 25,7	30,0 - 32,5	36,2 - 39,3
M	16	2,00	16,50	25,00	33,00	41,00	49,00	57,00	18,60	16,43	16,73	16,00	24,00	32,00	40,00	48,00	18,90	19,60	5,9 - 6,5	9,5 - 10,2	13,2 - 14,2	16,9 - 18,1	20,5 - 22,0
M	16	1,50	16,50	22,75	30,75	38,75	46,75	54,75	17,95	16,32	16,56	16,00	24,00	32,00	40,00	48,00	18,10	18,40	8,0 - 8,9	12,8 - 13,9	17,5 - 19,2	22,3 - 24,3	27,0 - 29,4
M	18	2,50	18,50	29,25	38,25	47,25	56,25	65,25	21,25	18,54	18,90	18,00	27,00	36,00	45,00	54,00	21,30	22,00	5,1 - 5,7	8,5 - 9,2	11,8 - 12,7	15,2 - 16,3	18,5 - 19,8
M	18	2,00	18,50	27,00	36,00	45,00	54,00	63,00	20,60	18,43	18,73	18,00	27,00	36,00	45,00	54,00	20,80	21,45	6,6 - 7,3	10,8 - 11,7	15,0 - 16,0	19,1 - 20,4	23,1 - 24,7
M	18	1,50	18,50	24,75	33,75	42,75	51,75	60,75	19,95	18,32	18,56	18,00	27,00	36,00	45,00	54,00	20,15	20,80	9,2 - 10,3	14,5 - 16,1	20,0 - 21,9	25,4 - 27,8	30,6 - 33,6
M	20	2,50	20,50	31,25	41,25	51,25	61,25	71,25	23,25	20,54	20,90	20,00	30,00	40,00	50,00	60,00	23,55	24,40	5,8 - 6,5	9,5 - 10,4	13,2 - 14,4	16,8 - 18,3	20,5 - 22,2
M	20	2,00	20,50	29,00	39,00	49,00	59,00	69,00	22,60	20,43	20,73	20,00	30,00	40,00	50,00	60,00	22,80	23,45	7,5 - 8,3	12,0 - 13,1	16,5 - 18,0	21,2 - 22,8	25,7 - 27,7
M	20	1,50	20,50	26,75	36,75	46,75	56,75	66,75	21,95	20,32	20,56	20,00	30,00	40,00	50,00	60,00	22,20	22,80	10,4 - 11,6	16,3 - 18,1	22,3 - 24,6	28,2 - 31,1	34,2 - 37,6
M	22	2,50	22,50	33,25	44,25	55,25	66,25	77,25	25,25	22,54	22,90	22,00	33,00	44,00	55,00	66,00	25,90	26,90	6,4 - 7,3	10,4 - 11,6	14,4 - 16,0	18,4 - 20,3	22,4 - 24,7
M	22	2,00	22,50	31,00	42,00	53,00	64,00	75,00	24,60	22,43	22,73	22,00	33,00	44,00	55,00	66,00	24,85	26,80	8,4 - 9,3	13,3 - 14,6	18,3 - 20,0	23,3 - 25,3	28,3 - 30,6
M	22	1,50	22,50	28,75	39,75	50,75	61,75	72,75	23,95	22,32	22,56	22,00	33,00	44,00	55,00	66,00	24,20	26,80	11,5 - 12,9	18,0 - 20,1	24,3 - 27,2	31,0 - 34,4	37,5 - 41,5
M	24	3,00	24,75	37,50	49,50	61,50	73,50	85,50	27,90	24,65	25,05	24,00	36,00	48,00	60,00	72,00	27,43	29,00	5,8 - 6,5	9,6 - 10,4	13,3 - 14,4	17,0 - 18,3	20,8 - 22,2
M	24	2,00	24,50	33,00	45,00	57,00	69,00	81,00	26,60	24,43	24,73	24,00	36,00	48,00	60,00	72,00	28,60	29,10	9,1 - 10,3	14,5 - 16,1	19,8 - 21,9	25,2 - 27,8	30,5 - 33,6
M	24	1,50	24,50	30,75	42,75	54,75	66,75	78,75	26,02	24,33	24,56	24,00	36,00	48,00	60,00	72,00	26,20	26,80	12,9 - 14,2	20,1 - 22,0	27,3 - 29,9	34,5 - 37,7	41,7 - 45,5
UNC	N.2	56	2,30	4,22	5,31	6,40	7,50	8,58	2,84	2,28	2,44	2,18	3,27	4,36	5,46	6,55	2,79	3,02	2,7 - 3,2	4,7 - 5,5	6,8 - 7,9	8,9 - 10,2	11,0 - 12,6
UNC	N.4	40	3,00	5,69	7,11	8,53	9,95	11,38	3,67	3,00	3,15	2,84	4,26	5,68	7,11	8,53	3,65	4,03	2,3 - 3,2	4,2 - 5,1	6,1 - 7,2	8,0 - 9,3	9,8 - 11,5
UNC	N.5	40	3,40	6,02	7,62	9,19	10,79	12,37	4,00	3,33	3,48	3,17	4,74	6,35	7,92	9,52	4,01	4,04	2,8 - 3,4	4,9 - 5,8	7,1 - 8,2	9,2 - 10,6	11,4 - 13,1
UNC	N.6	32	3,70	7,09	8,84	10,60	12,34	14,10	4,54	3,68	3,89	3,50	5,25	7,00	8,76	10,50	4,52	4,90	2,3 - 2,9	4,2 - 4,9	6,1 - 7,1	8,1 - 9,2	10,0 - 11,3
UNC	N.8	32	4,50	7,75	9,83	11,91	14,00	16,07	5,11	4,34	4,52	4,16	6,24	8,33	10,41	12,50	5,20	5,58	3,1 - 3,6	5,4 - 6,2	7,7 - 8,7	10,0 - 11,3	12,3 - 13,8
UNC	N.10	24	5,20	9,57	11,99	14,40	16,81	19,22	6,20	5,06	5,28	4,82	7,24	9,65	12,06	14,47	6,19	6,58	2,5 - 2,9	4,5 - 5,1	6,6 - 7,3	8,6 - 9,5	10,6 - 11,7
UNC	N.12	24	5,80	10,26	13,00	15,74	18,46	21,23	6,86	5,72	5,92	5,48	8,22	10,97	13,70	16,45	6,85	7,23	3,1 - 3,6	5,5 - 6,1	7,8 - 8,4	10,2 - 11,1	12,5 - 13,6
UNC	1/4	20	6,70	12,06	15,24	18,41	21,59	24,76	8,00	6,62	6,86	6,35	9,52	12,70	15,87	19,05	7,87	8,38	3,0 - 3,3	5,2 - 5,7	7,5 - 8,1	9,8 - 10,5	12,0 - 13,0
UNC	5/16	18	8,30	14,27	18,26	22,22	26,18	30,15	9,77	8,24	8,49	7,92	11,91	15,87	19,84	23,79	9,65	10,16	3,6 - 4,1	6,2 - 6,8	8,8 - 9,6	11,4 - 12,3	14,0 - 15,1
UNC	3/8	16	9,90	16,66	21,43	26,18	30,96	35,71	11,59	9,89	10,12	9,52	14,27	19,05	23,80	28,57	11,48	11,99	4,0 - 4,5	6,7 - 7,3	9,5 - 10,2	12,3 - 13,2	15,1 - 16,1
UNC	7/16	14	11,60	19,27	24,84	30,38	35,94	41,50	13,47	11,51	11,78	11,10	16,66	22,22	27,80	33,32	13,36	14,00	4,0 - 4,6	6,9 - 7,5	9,7 - 10,5	12,5 - 13,5	15,4 - 16,4
UNC	1/2	13	13,00	21,49	27,83	34,18	40,54	46,89	15,23	13,12	13,40	12,70	19,05	25,40	31,75	38,10	15,16	15,80	4,4 - 4,9	7,4 - 8,1	10,5 - 11,2	13,5 - 14,4	16,5 - 17,6
UNC	9/16	12	14,75	23,80	30,96	38,10	45,23	52,37	17,04	14,75	15,03	14,27	21,43	28,57	35,70	42,84	17,75	17,63	4,7 - 5,1	7,8 - 8,5	11,0 - 11,8	14,1 - 15,1	17,3 - 18,4
UNC	5/8	11	16,50	26,26	34,21	42,14	50,09	58,01	18,87	16,38	16,68	15,87	23,80	31,75	39,67	47,62	18,84	19,48	4,8 - 5,3	8,0 - 8,6	11,2 - 12,0	14,4 - 15,3	17,6 - 18,7
UNC	3/4	10	19,75	30,48	40,00	49,53	59,05	68,58	22,35	19,60	19,91	19,05	28,57	38,10	47,62	57,15	22,37	23,01	5,4 - 6,0	8,9 - 9,6	12,5 - 13,2	16,0 - 16,9	19,5 - 20,6
UNC	7/8	9	23,00	34,92	46,02	54,33	68,24	79,37	25,89	22,84	23,18	22,22	33,32	44,45	55,55	66,67	25,95	26,72	5,8 - 6,3	9,5 - 10,1	13,2 - 14,0	16,9 - 17,9	20,6 - 21,8
UNC	1	8	26,00	39,70	52,37	65,07	77,77	90,47	29,52	26,09	26,47	25,40	38,10	50,80	63,50	76,20	29,61	30,38	5,9 - 6,4	9,7 - 10,3	13,5 - 14,3	17,2 - 18,2	21,0 - 22,1
UNC	1"1/8	7	29,50	44,91	59,18	73,48	87,75	102,05	33,29	29,36	29,74	28,57	42,85	57,15	71,50	85,72	33,40	34,42	5,8 - 6,3	9,5 - 10,2	13,2 - 14,1	16,9 - 18,0	20,6 - 21,9
UNC	1"1/4	7	33,00	48,08	63,95	79,83	95,70	111,58	36,46	32,54	32,92	31,75	47,62	63,50	79,37	95,25	36,65	37,67	6,6 - 7,2	10,8 - 11,5	14,9 - 15,9	19,1 - 20,2	23,2 - 24,5
UNC	1"3/8	6	36,00	53,97	71,42	88,90	106,34	123,82	40,42	35,84	36,35	34,92	52,37	69,85	87,30	104,77	40,59	41,73	6,1 - 6,6	10,0 - 10,7	13,9 - 14,7	17,7 - 18,8	21,6 - 22,8
UNC	1"1/2	6	39,00	57,15	76,20	95,25	114,30	133,35	43,60	39,02	39,53	38,10	57,15	76,20	95,25	114,30	43,86	45,00	6,8 - 7,4	11,0 - 11,8	15,3 - 16,2	19,5 - 20,7	23,8 - 25,1
UNF	N.4	48	3,00	5,23	6,65	8,07	9,50	10,92	3,53	2,97	3,12	2,84	4,26	5,69	7,11	8,53	3,73	4,11	3,1 - 3,8	5,3 - 6,5	7,5 - 9,1	9,7 - 11,7	12,0 - 14,3
UNF	N.6	40	3,70	6,35	9,85	11,60	12,20	13,36	4,33	3,66	3,81	3,50	5,26	7,00	8,76	10,51	4,39	4,90	3,1 - 3,8	5,4 - 6,4	7,7 - 9,1	10,0 - 11,7	12,3 - 14,3
UNF	N.8	36	4,40	7,34	9,42	11,50	13,58	15,67	5,08	4,32	4,47	4,16	6,25	8,33	10,41	12,50	5,18	5,69	3,5 - 4,2	6,0 - 7,0	8,5 - 9,8	11,0 - 12,6	13,5 - 15,4
UNF	N.10	32	5,10	8,40	10,82	13,23	15,65	18,06	5,86	5,00	5,18	4,82	7,24	9,65	12,06	14,48	5,99	6,50	3,7 - 4,4	6,3 - 7,3	8,9 - 10,2	11,5 - 13,1	14,3 - 16,0
UNF	1/4	28	6,60	10,44	13,61	16,79	19,96	23,14	7,53	6,55	6,72	6,35	9,52	12,70	15,87	19,05	7,77	8,28	4,6 - 5,3	7,6 - 8,6	10,7 - 12,0	13,7 - 15,3	16,8 - 18,7
UNF	5/16	24	8,20	12,70	16,66	20,62	24,61	28,57	9,31	8,17	8,35	7,92	11,91	15,87	19,84	23,80	9,65	10,16	5,0 - 5,7	8,4 - 9,3	11,6 - 12,9	14,9 - 16,5	18,2 - 20,1
UNF	3/8	24	9,80	14,27	19,05	23,80	28,57	33,32	10,90	9,75	9,93	9,52	14,27	19,05	23,80	28,57	11,38	11,89	6,4 - 7,2	10,4 - 11,5	14,4 - 15,9	18,4 - 20,2	22,4 - 24,6
UNF	7/16	20	11,50	16,81	22,38	27,94	33,50	39,04	12,76	11,39	11,59	11,10	16,66	22,22	27,79	33,32	13,31	13,94	6,2 - 7,0	10,1 - 11,2	13,9 - 15,4	17,8 - 19,6	21,6 - 23,8
UNF	1/2	20	13,00	18,41	24,76	31,11	37,46	43,81	14,35	12,97	13,16	12,70	19,10	25,40	31,75	38,10	15,03	15,67	7,3 - 8,2	11,8 - 13,0	16,2 - 17,9	20,7 - 22,7	25,1 - 27,6
UNF	9/16	18	14,50	20,62	27,79	34,92	42,06	49,20	16,12	14,59	14,79	14,27	21,43	28,57	35,71	42,85	16,91	17,55	7,5 - 8,4	12,1 - 13,4	16,7 - 18,3	21,2 - 23,2	25,8 - 28,2
UNF	5/8	18	16,25	22,22	30,15	38,10	46,02	53,98	17,70	16,18	16,38	15,87	23,80	31,75	39,67	47,62	18,62	19,25	8,6 - 9,5	13,7 - 15,0	18,8 - 20,6	23,9 - 26,1	29,0 - 31,6
UNF	3/4	16	19,50	26,18	35,71	45,23	54,76	64,28	21,11	19,39	19,60	19,05	28,57	38,10	47,62	57,15	22,25	22,88	9,2 - 10,2	14,6 - 16,0	20,0 - 21,6	25,4 - 27,2	30,8 - 33,5
UNF	7/8	14	22,50	30,38	41,50	52,60	63,72	74,83	24,58	22,62	22,84	22,22	33,32	44,45	55,55	66,67	25,93	26,70	9,5 - 10,4	15,0 - 16,4	20,5 - 22,3	26,1 - 28,3	31,5 - 34,3
UNF	1	12	26,00	34,92	47,62	60,32	73,02	85,72	28,15	25,86	26,11	25,40	38,10	50,80	63,50	76,20	29,69	30,45	9,3 - 10,2	14,7 - 16,1	20,2 - 21,9	25,6 - 27,8	31,00 - 33,6
UNF	1"1/8	12	29,00	38,10	52,37	66,67	80,95	95,25	31,33	29,03	29,29	28,57	42,85	57,15	71,42	85,72	33,12	33,88	10,7 - 11,6	16,8 - 18,3	22,9 - 24,9	29,1 - 31,5	35,2 - 38,1
UNF	1"1/4	12	32,50	41,27	57,15	73,02	88,90	104,77	34,50	32,21	32,46	31,75	47,62	63,50	79,37	95,25	36,55	37,31	12,1 - 13,2	18,9 - 20,5	25,7 - 27,9	32,6 - 35,2	39,4 - 42,6
UNF	1"3/8	12	35,50	44,45	61,90	79,37	96,82	114,30	37,68	35,38	35,63	34,80	52,37	69,85	87,30	104,77	40,00	40,90	13,4 - 14,7	20,9 - 22,8	28,4 - 30,9	35,9 - 38,9	43,4 - 46,9
UNF	1"1/2	12	38,50	47,62	66,67	85,72	104,77	123,82	40,85	38,56	38,81	38,10	57,15	76,20	95,25	114,30	43,43	44,32	14,8 - 16,00	23,0 - 25,0	31,2 - 33,8	39,4 - 42,7	47,6 - 51,5
BSW	1/8	40	3,40	6,10	7,59	9,19	10,79	12,37	3,93	3,28	3,43	3,17	4,75	6,35	7,92	9,52	3,98	4,37	2,9 - 3,6	5,0 - 5,9	7,2 - 8,5	9,3 - 10,9	11,5 - 13,5
BSW	3/16	24	5,00	9,52	11,89	14,27	16,66	19,05	6,01	4,98	5,13	4,75	7,14	9,52	11,90	14,27	6,09	6,47	2,5 - 3,0	4,5 - 5,2	6,5 - 7,5	8,6 - 9,8	10,6 - 11,9
BSW	1/4	20	6,70	12,06	15,24	18,41	21,59	24,76	7,84	6,63	6,78	6,35	9,52	12,70	15,87	19,05	7,97	8,38	3,0 - 3,5	5,3 - 6,0	7,6 - 8,6	9,8 - 11,1	12,1 - 13,6
BSW	5/16	18	8,30	15,20	19,20	23,20	27,10	30,14	9,59	8,33	8,48	7,92	11,91	15,87	19,84	23,80	9,78	10,16	3,7 - 4,2	6,3 - 7,0	8,9 - 9,9	11,5 - 12,7	14,1 15,6
BSW	3/8	16	9,90	16,66	21,44	26,18	30,96	35,71	11,39	9,91	10,11	9,52	14,27	19,05	23,80	28,57	11,60	11,99	4,0 - 4,6	6,8 - 7,5	9,6 - 10,6	12,4 - 13,6	15,2 - 16,6
BSW	7/16	14	11,60	19,28	24,84	30,38	35,94	41,50	13,24	11,51	11,76	11,10	16,70	22,20	27,76	33,30	13,51	14,02	4,1 - 4,7	7,0 - 7,7	9,8 - 10,8	12,7 - 13,9	15,5 - 17,00
BSW	1/2	12	13,00	22,22	28,57	34,92	41,27	47,62	15,17	13,08	13,34	12,70	19,05	25,40	31,75	38,10	15,49	16,00	4,0 - 4,6	6,9 - 7,5	9,7 - 10,6	12,5 - 13,7	15,3 - 16,7
BSW	9/16	12	14,75	23,80	30,96	38,10	45,23	52,37	16,76	14,68	14,94	14,27	21,43	28,57	35,71	42,85	17,14	17,65	4,8 - 5,3	7,9 - 8,7	11,1 - 12,1	14,3 - 15,5	17,5 - 18,9
BSW	5/8	11	16,50	26,26	34,21	42,13	50,08	56,74	18,57	16,59	16,84	15,87	23,80	31,75	39,37	47,62	18,97	19,48	4,9 - 5,5	8,1 - 8,8	11,4 - 12,3	14,6 - 15,8	17,8 - 19,3
BSW	3/4	10	19,75	30,48	40,00	49,53	59,05	68,58	22,02	19,84	20,09	19,05	28,57	38,10	47,62	57,15	22,50	23,00	5,5 - 6,1	9,1 - 9,8	12,6 - 13,6	16,2 - 17,4	19,7 - 21,2
BSW	7/8	9	23,00	34,92	46,02	57,15	68,25	79,37	25,52	23,01	23,27	22,22	33,32	44,45	55,55	66,67	26,08	26,72	5,9 - 6,5	9,6 - 10,3	13,3 - 14,4	17,0 - 18,3	20,8 - 22,3
BSW	1"	8	26,00	39,70	52,37	65,07	77,77	90,47	29,10	26,19	26,52	25,40	38,10	50,80	63,50	76,20	29,77	30,40	6,0 - 6,6	9,8 - 10,5	13,6 - 14,6	17,4 - 18,7	21,1 - 22,7
G	1/8	28	9,90	7,29	8,86	10,46	12,03	13,64	10,82	9,91	10,16	3,17	4,75	6,35	7,92	9,53	11,53	12,03	1,6 - 2,0	3,1 - 3,7	4,6 - 5,4	6,3 - 7,1	
G	1/4	19	13,50	12,39	15,57	18,74	21,92	25,10	14,74	13,46	13,72	6,35	9,52	12,70	15,87	19,05	15,72	16,23	2,7 - 3,2	4,8 - 5,6	7,0 - 7,9	9,1 - 10,2	
G	3/8	19	17,00	15,57	20,32	25,09	29,84	34,62	18,25	17,02	17,27	9,52	14,27	19,05	23,80	28,57	19,50	20,01	4,9 - 5,7	8,1 - 9,1	11,3 - 12,7	14,5 - 16,2	
G	1/2	14	21,50	20,82	27,17	33,52	39,87	46,22	23,09	21,34	21,59	12,70	19,05	25,40	31,75	38,10	24,69	25,20	4,8 - 5,5	8,0 - 9,0	11,1 - 12,4	14,3 - 15,9	

2102 HSSE DIN 371

M-MF DIN 13 | Form. C | Tol. 6H | 1,5XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	⊠ mm	d mm
M1,0	**0,25**	*51,15*	**40**	**6**	**2,10**	**2,5**
M1,1	**0,25**	*51,15*	**40**	**6**	**2,10**	**2,5**
M1,2	**0,25**	*36,59*	**40**	**6**	**2,10**	**2,5**
M1,4	**0,30**	*36,59*	**40**	**7**	**2,10**	**2,5**
M1,6	**0,35**	*35,94*	**40**	**8**	**2,10**	**2,5**
M1,7	**0,35**	*32,84*	**40**	**8**	**2,10**	**2,5**
M1,8	**0,35**	*33,75*	**40**	**8**	**2,10**	**2,5**
M2,0	**0,40**	*15,70*	**45**	**10**	**2,10**	**2,8**
M2,2	**0,45**	*16,23*	**45**	**10**	**2,10**	**2,8**
M2,3	**0,40**	*16,23*	**45**	**10**	**2,10**	**2,8**
M2,5	**0,45**	*15,70*	**50**	**9**	**2,10**	**2,8**
M2,6	**0,45**	*15,70*	**50**	**9**	**2,10**	**2,8**
M3,0	0,35	*23,85*	56	11	2,70	3,5
M3,0	**0,50**	*10,78*	**56**	**11**	**2,70**	**3,5**
*M3,0	0,60	*18,07*	56	11	2,70	3,5

Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,5	**0,60**	*14,25*	**56**	**12**	**3,00**	**4,0**
*M3,5	0,75	*20,60*	56	11	3,00	4,0
M4,0	0,50	*22,51*	63	13	3,40	4,5
M4,0	**0,70**	*11,03*	**63**	**13**	**3,40**	**4,5**
M4,5	**0,75**	*19,65*	**70**	**14**	**4,90**	**6,0**
M5,0	0,50	*23,14*	70	14	4,90	6,0
*M5,0	0,75	*23,63*	70	16	4,90	6,0
M5,0	**0,80**	*11,06*	**70**	**16**	**4,90**	**6,0**
M6,0	0,75	*19,85*	80	14	4,90	6,0
M6,0	**1,00**	*12,56*	**80**	**19**	**4,90**	**6,0**
M7,0	**1,00**	*15,19*	**80**	**18**	**5,50**	**7,0**
M8,0	0,75	*23,20*	80	18	6,20	8,0
M8,0	**1,25**	*14,12*	**90**	**22**	**6,20**	**8,0**
M9,0	**1,25**	*22,94*	**90**	**22**	**7,00**	**9,0**
M10,0	**1,50**	*15,83*	**100**	**24**	**8,00**	**10,0**

***(Hasta fin de existencias / Jusqu'à épuisement des stocks / While supplies last)**

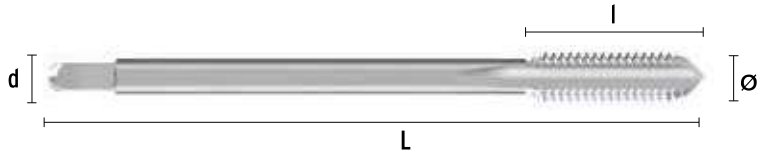
P Aceros Aciers Steels | M Aceros Inox Aciers Inox Stainless Steels | K Fundicion Fonte Cast Iron | N Metales no ferrosos Métal non Ferraux Non Ferrous metals | S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys | H Materiales Duros Materiels Durs Hard materials

2101 HSSE DIN 376/374

M-MF DIN 13 | Form. C | Tol. 6H | 1,5XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	**0,50**	*10,58*	**56**	**11**	**2,00**	**2,2**
*M3,5	0,60	*14,25*	56	13	2,10	2,8
M4,0	**0,70**	*11,03*	**63**	**13**	**2,10**	**2,8**
M5,0	**0,80**	*11,06*	**70**	**16**	**2,70**	**3,5**
*M6,0	0,50	*27,77*	80	18	3,40	4,5
*M6,0	0,75	*18,27*	80	14	3,40	4,5
M6,0	**1,00**	*12,56*	**80**	**19**	**3,40**	**4,5**
*M7,0	0,50	*31,61*	80	19	4,30	5,5
*M7,0	0,75	*24,38*	80	14	4,30	5,5
*M7,0	1,00	*15,19*	80	19	4,30	5,5
*M8,0	0,50	*30,44*	80	19	4,90	6,0
*M8,0	0,75	*22,24*	80	19	4,90	6,0
M8,0	1,00	*18,01*	90	20	4,90	6,0
M8,0	**1,25**	*14,12*	**90**	**22**	**4,90**	**6,0**
*M9,0	0,75	*32,99*	90	22	5,50	7,0
M9,0	1,00	*27,47*	90	20	5,50	7,0
*M9,0	1,25	*22,94*	90	20	5,50	7,0
*M10,0	0,50	*87,43*	90	18	5,50	7,0
M10,0	0,75	*35,57*	90	18	5,50	7,0
M10,0	1,00	*20,00*	90	20	5,50	7,0
M10,0	1,25	*22,88*	100	20	5,50	7,0
M10,0	**1,50**	*15,83*	**100**	**24**	**5,50**	**7,0**
M11,0	1,00	*35,13*	90	20	6,20	8,0
*M11,0	1,25	*35,13*	90	22	6,20	8,0
M11,0	1,50	*28,88*	100	24	6,20	8,0
*M12,0	0,75	*54,88*	100	22	7,00	9,0
M12,0	1,00	*27,32*	100	20	7,00	9,0
M12,0	1,25	*27,63*	100	20	7,00	9,0
M12,0	1,50	*24,71*	100	22	7,00	9,0
M12,0	**1,75**	*20,39*	**110**	**29**	**7,00**	**9,0**
*M13,0	0,75	*93,91*	100	22	9,00	11,0
*M13,0	1,00	*50,74*	100	22	9,00	11,0
*M13,0	1,25	*50,74*	100	22	9,00	11,0
*M13,0	1,50	*50,74*	100	22	9,00	11,0
*M13,0	1,75	*50,74*	110	27	9,00	11,0
*M14,0	0,75	*93,91*	100	22	9,00	11,0
M14,0	1,00	*43,92*	100	20	9,00	11,0
M14,0	1,25	*36,11*	100	20	9,00	11,0
M14,0	1,50	*28,48*	100	20	9,00	11,0
M14,0	**2,00**	*28,25*	**110**	**30**	**9,00**	**11,0**

Ø	P	€	L mm	l mm	⊠ mm	d mm
M15,0	1,00	*56,56*	100	20	9,00	12,0
*M15,0	1,25	*61,78*	100	22	9,00	12,0
*M15,0	1,50	*50,22*	100	22	9,00	12,0
*M15,0	2,00	*61,45*	110	30	9,00	12,0
M16,0	1,00	*53,30*	100	20	9,00	12,0
*M16,0	1,25	*58,14*	100	22	9,00	12,0
M16,0	1,50	*32,52*	100	22	9,00	12,0
M16,0	**2,00**	*33,21*	**110**	**30**	**9,00**	**12,0**
*M17,0	1,00	*106,02*	100	20	9,00	12,0
*M17,0	1,25	*106,02*	100	22	9,00	12,0
*M17,0	1,50	*106,02*	100	22	9,00	12,0
M18,0	1,00	*59,68*	110	24	11,00	14,0
*M18,0	1,25	*75,44*	110	25	11,00	14,0
M18,0	1,50	*46,61*	110	25	11,00	14,0
M18,0	2,00	*67,04*	125	34	11,00	14,0
M18,0	**2,50**	*47,87*	**125**	**34**	**11,00**	**14,0**
*M19,0	1,00	*139,29*	110	25	11,00	14,0
*M19,0	1,25	*139,21*	110	25	11,00	14,0
*M19,0	1,50	*139,28*	110	25	11,00	14,0
M20,0	1,00	*78,79*	125	24	12,00	16,0
M20,0	1,25	*139,29*	125	25	12,00	16,0
M20,0	1,50	*52,78*	125	25	12,00	16,0
M20,0	2,00	*69,16*	140	27	12,00	16,0
M20,0	**2,50**	*50,87*	**140**	**34**	**12,00**	**16,0**
*M21,0	1,00	*202,22*	125	25	12,00	16,0
*M21,0	1,25	*202,22*	125	25	12,00	16,0
*M21,0	1,50	*148,45*	125	25	12,00	16,0
M22,0	1,00	*88,34*	125	24	14,50	18,0
*M22,0	1,25	*139,29*	125	25	14,50	18,0
M22,0	1,50	*63,53*	125	24	14,50	18,0
M22,0	2,00	*88,34*	140	27	14,50	18,0
M22,0	**2,50**	*64,49*	**140**	**34**	**14,50**	**18,0**
*M23,0	1,00	*202,13*	125	25	14,50	18,0
*M23,0	1,50	*96,31*	125	25	14,50	18,0
M24,0	1,00	*202,22*	140	27	14,50	18,0
*M24,0	1,25	*78,12*	140	28	14,50	18,0
M24,0	1,50	*98,76*	140	27	14,50	18,0
M24,0	2,00	*77,24*	140	27	14,50	18,0
M24,0	**3,00**	*261,59*	**160**	**38**	**14,50**	**18,0**
M25,0	1,00	*121,57*	140	28	14,50	18,0

(**continúa Ref.2101** / suite Réf.2101 / Ref.2101 cont'd)

Ø	P	€	L mm	l mm	⊠ mm	d mm
M25,0	1,50	*261,59*	140	27	14,50	18,0
*M25,0	2,00	*261,59*	140	28	14,50	18,0
*M26,0	1,00	*27,32*	140	28	14,50	18,0
*M26,0	1,0	*105,36*	140	27	14,50	18,0
*M26,0	2,00	*261,59*	140	28	14,50	18,0
*M27,0	1,00	*132,32*	140	27	16,00	20,0
M27,0	1,50	*115,06*	140	27	16,00	20,0
M27,0	2,00	*137,70*	140	27	16,00	20,0
M27,0	**3,00**	*96,40*	**160**	**38**	**16,00**	**20,0**
*M28,0	1,00	*261,59*	140	28	16,00	20,0
M28,0	1,50	*115,06*	140	27	16,00	20,0
M28,0	2,00	*261,59*	140	27	16,00	20,0
*M30,0	1,00	*147,18*	150	27	18,00	22,0
M30,0	1,50	*119,93*	150	27	18,00	22,0
M30,0	2,00	*148,45*	150	27	18,00	22,0
*M30,0	3,00	*163,23*	180	45	18,00	22,0
M30,0	**3,50**	*123,54*	**180**	**40**	**18,00**	**22,0**
*M32,0	1,00	*321,09*	150	28	18,00	22,0
M32,0	1,50	*151,71*	150	27	18,00	22,0
*M32,0	2,00	*321,23*	150	27	18,00	22,0
*M33,0	1,00	*321,23*	160	30	20,00	25,0
M33,0	1,50	*166,26*	160	30	20,00	25,0
M33,0	2,00	*280,18*	160	30	20,00	25,0
*M33,0	3,00	*308,06*	180	50	20,00	25,0
M33,0	**3,50**	*148,45*	**180**	**45**	**20,00**	**25,0**
*M34,0	1,50	*195,37*	170	30	22,00	28,0
*M34,0	2,00	*352,58*	170	30	22,00	28,0
M35,0	1,50	*194,85*	170	30	22,00	28,0
M36,0	1,50	*190,03*	170	30	22,00	28,0
M36,0	2,00	*256,67*	170	30	22,00	28,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M36,0	3,00	*294,45*	200	50	22,00	28,0
M36,0	**4,00**	*189,74*	**200**	**50**	**22,00**	**28,0**
M38,0	1,50	*202,59*	170	30	22,00	28,0
*M38,0	2,00	*415,25*	170	30	22,00	28,0
M39,0	1,50	*307,02*	170	30	24,00	32,0
M39,0	2,00	*307,02*	170	30	24,00	32,0
M39,0	3,00	*415,72*	200	50	24,00	32,0
M39,0	**4,00**	*242,25*	**200**	**55**	**24,00**	**32,0**
M40,0	1,50	*265,01*	170	30	24,00	32,0
M40,0	2,00	*307,84*	170	30	24,00	32,0
*M40,0	3,00	*307,84*	200	60	24,00	32,0
M42,0	1,50	*268,99*	170	30	24,00	32,0
M42,0	2,00	*352,14*	170	30	24,00	32,0
M42,0	3,00	*352,14*	200	50	24,00	32,0
M42,0	**4,50**	*311,41*	**200**	**60**	**24,00**	**32,0**
M45,0	1,50	*333,03*	180	30	29,00	36,0
M45,0	2,00	*422,80*	180	30	29,00	36,0
M45,0	3,00	*422,80*	200	50	29,00	36,0
M45,0	**4,50**	*340,28*	**220**	**60**	**29,00**	**36,0**
M48,0	1,50	*340,28*	190	30	29,00	36,0
M48,0	2,00	*512,42*	190	30	29,00	36,0
M48,0	3,00	*512,39*	225	50	29,00	36,0
M48,0	**5,00**	*418,40*	**250**	**65**	**29,00**	**36,0**
M50,0	1,50	*397,93*	190	30	29,00	36,0
M52,0	1,50	*402,83*	190	32	32,00	40,0
M52,0	2,00	*615,47*	190	32	32,00	40,0
*M52,0	3,00	*631,93*	225	50	32,00	40,0
M52,0	**5,00**	*428,52*	**250**	**65**	**32,00**	**40,0**
***M63,0**	**1,50**	*923,24*	**275**	**40**	**32,00**	**40,0**

***(Hasta fin de existencias / Jusqu'à épuisement des stocks / While supplies last)**

2102/5 HSSE DIN 371

M DIN 13 | Form. C | Tol. 6H | LH | 1,5XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*21,57*	56	10	2,70	3,5
M4,0	0,70	*22,02*	63	12	3,40	4,5
M5,0	0,80	*22,12*	70	14	4,90	6,0

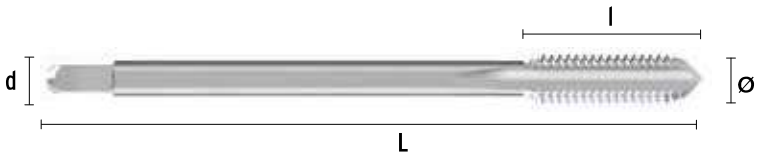
ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*25,10*	80	18	4,90	6,0
M8,0	1,25	*28,26*	90	20	6,20	8,0
M10,0	1,50	*31,65*	100	20	8,00	10,0

2101/5 HSSE DIN 376/374

M-MF DIN 13 | Form. C | Tol. 6H | LH | 1,5XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



ø	P	€	L mm	l mm	⊠ mm	d mm
*M5,0	0,80	*22,12*	70	14	2,70	3,5
*M6,0	1,00	*25,10*	80	18	3,40	4,5
*M7,0	1,00	*30,39*	80	18	4,30	5,5
*M8,0	1,00	*36,02*	90	20	4,90	6,0
*M8,0	1,25	*28,26*	90	20	4,90	6,0
*M9,0	1,25	*45,90*	90	20	5,50	7,0
*M10,0	1,00	*39,96*	90	20	5,50	7,0
*M10,0	1,25	*31,65*	90	20	5,50	7,0
*M10,0	1,50	*31,65*	100	20	5,50	7,0
*M12,0	1,25	*55,23*	100	20	7,00	9,0
*M12,0	1,50	*49,40*	100	20	7,00	9,0
M12,0	1,75	*40,80*	110	24	7,00	9,0
*M14,0	1,50	*56,95*	100	20	9,00	11,0

ø	P	€	L mm	l mm	⊠ mm	d mm
M14,0	2,00	*56,49*	110	25	9,00	11,0
*M16,0	1,50	*65,02*	100	20	9,00	12,0
M16,0	2,00	*66,40*	110	32	9,00	12,0
*M18,0	1,50	*93,22*	110	24	11,00	14,0
M18,0	2,50	*100,36*	125	32	11,00	14,0
*M20,0	1,50	*105,56*	125	24	12,00	16,0
M20,0	2,50	*106,59*	140	32	12,00	16,0
*M22,0	1,50	*127,07*	125	24	14,50	18,0
M22,0	2,50	*129,01*	140	32	14,50	18,0
*M24,0	1,50	*156,26*	140	27	14,50	18,0
M24,0	3,00	*154,49*	160	38	14,50	18,0
*M27,0	3,00	*192,78*	160	38	16,00	20,0
*M30,0	3,50	*247,05*	180	40	18,00	22,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

P Aceros Aciers Steels | M Aceros Inox Aciers Inox Stainless Steels | K Fundicion Fonte Cast Iron | N Metales no ferrosos Métal non Ferraux Non Ferrous metals | S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys | H Materiales Duros Materiels Durs Hard materials

2114 HSSE DIN 371

M-MF DIN 13 | Form. A | Tol. 6H | 1,5XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	☒ mm	d mm
*M2,0	0,40	*16,65*	45	8	2,10	2,8
*M2,2	0,45	*18,03*	45	9	2,10	2,8
*M2,3	0,40	*17,17*	45	9	2,10	2,8
*M2,5	0,45	*16,65*	50	9	2,10	2,8
*M2,6	0,45	*16,65*	50	9	2,10	2,8
M3,0	0,50	*11,87*	56	11	2,70	3,5
*M3,5	0,60	*15,12*	56	12	3,00	4,0
M4,0	0,70	*12,11*	63	13	3,40	4,5

Ø	P	€	L mm	l mm	☒ mm	d mm
M4,5	0,75	*20,82*	70	14	4,90	6,0
M5,0	0,80	*12,17*	70	16	4,90	6,0
M6,0	1,00	*13,81*	80	19	4,90	6,0
M7,0	1,00	*15,79*	80	16	5,50	7,0
M8,0	1,25	*15,53*	90	19	6,20	8,0
*M9,0	1,25	*24,33*	90	19	7,00	9,0
M10,0	1,50	*17,39*	100	22	8,00	10,0

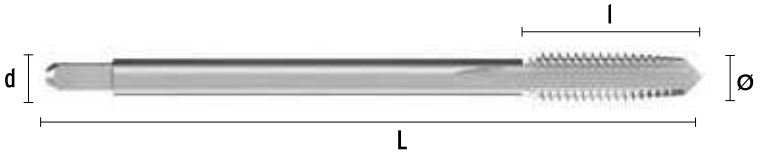
*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

2113 HSSE DIN 376/374

M-MF DIN 13 | Form. A | Tol. 6H | 1,5XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	☒ mm	d mm
*M3,0	0,50	*11,87*	56	11	2,00	2,2
*M3,5	0,60	*15,12*	56	13	2,10	2,8
M4,0	0,70	*12,11*	63	13	2,10	2,8
M5,0	0,80	*12,17*	70	16	2,70	3,5
M6,0	1,00	*13,81*	80	19	3,40	4,5
*M7,0	1,00	*15,79*	80	19	4,30	5,5
M8,0	1,25	*15,53*	90	22	4,90	6,0
*M9,0	1,25	*24,33*	90	22	5,50	7,0
M10,0	1,50	*17,39*	100	24	5,50	7,0
*M11,0	1,50	*30,64*	100	24	6,20	8,0
M12,0	1,75	*22,45*	110	29	7,00	9,0
*M13,0	1,75	*53,77*	110	29	9,00	11,0
M14,0	2,00	*29,36*	110	30	9,00	11,0
*M15,0	2,00	*65,11*	110	30	9,00	12,0

Ø	P	€	L mm	l mm	☒ mm	d mm
M16,0	2,00	*34,49*	110	32	9,00	12,0
M18,0	2,50	*53,17*	125	34	11,00	14,0
M20,0	2,50	*56,48*	140	34	12,00	16,0
M22,0	2,50	*68,33*	140	34	14,50	18,0
M24,0	3,00	*81,85*	160	38	14,50	18,0
*M27,0	3,00	*102,13*	160	38	16,00	20,0
*M30,0	3,50	*130,89*	180	45	18,00	22,0
*M33,0	3,50	*157,29*	180	50	20,00	25,0
*M36,0	4,00	*201,05*	200	56	22,00	28,0
*M39,0	4,00	*256,66*	200	60	24,00	32,0
*M42,0	4,50	*329,96*	200	60	24,00	32,0
*M45,0	4,50	*360,53*	220	65	29,00	36,0
*M48,0	5,00	*443,32*	250	70	29,00	36,0
*M52,0	5,00	*454,01*	250	70	32,00	40,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2190 HSSE DIN 371

M DIN 13 | Form. E | Tol. 6H | 1,5XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
										● 25-35							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*12,05*	56	11	2,70	3,5
M4,0	0,70	*12,31*	63	13	3,40	4,5
M5,0	0,80	*12,35*	70	16	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*14,05*	80	19	4,90	6,0
M8,0	1,25	*18,02*	90	22	6,20	8,0
M10,0	1,50	*23,25*	100	24	8,00	10,0

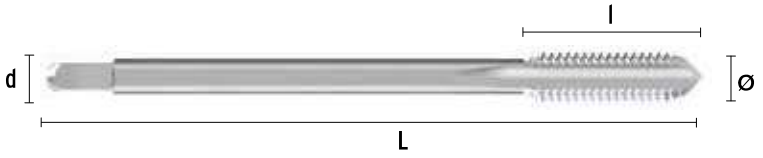
2191 HSSE DIN 376

M DIN 13 | Form. E | Tol. 6H | 1,5XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
										● 25-35							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH



Ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*14,05*	80	19	3,40	4,5
M8,0	1,25	*18,02*	90	22	4,90	6,0
M10,0	1,50	*23,25*	100	24	5,50	7,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M12,0	1,75	*30,96*	110	29	7,00	9,0
M14,0	2,00	*36,41*	110	30	9,00	11,0
M16,0	2,00	*43,68*	110	32	9,00	12,0

2180 HSSE-PM DIN 371

M DIN 13 | Form. C | Tol. 6HX | 1,5XD | R | TICN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
						● 15-30	● 10-20			○ 35-50							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*21,65*	56	10	2,70	3,5
M4,0	0,70	*22,10*	63	12	3,40	4,5
M5,0	0,80	*22,10*	70	14	4,90	6,0

ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*23,43*	80	18	4,90	6,0
M8,0	1,25	*27,92*	90	20	6,20	8,0
M10,0	1,50	*33,78*	100	20	8,00	10,0

2179 HSSE-PM DIN 376

M DIN 13 | Form. C | Tol. 6HX | 1,5XD | D | TICN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
						● 15-30	● 10-20			○ 35-50							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

ø	P	€	L mm	l mm	⊠ mm	d mm
M8,0	1,25	*27,92*	90	20	4,90	6,0
M10,0	1,50	*33,78*	100	20	5,50	7,0
M12,0	1,75	*42,54*	110	24	7,00	9,0
M14,0	2,00	*54,22*	110	25	9,00	11,0

ø	P	€	L mm	l mm	⊠ mm	d mm
M16,0	2,00	*62,53*	110	32	9,00	12,0
M18,0	2,50	*104,96*	125	32	11,00	14,0
M20,0	2,50	*118,60*	140	32	12,00	16,0

P Aceros Aciers Steels | M Aceros Inox Aciers Inox Stainless Steels | K Fundicion Fonte Cast Iron | N Metales no ferrosos Métal non Ferraux Non Ferrous metals | S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys | H Materiales Duros Materiels Durs Hard materials

2274 HM DIN 371

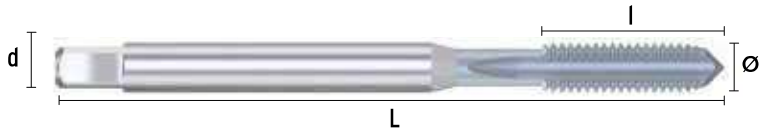
M DIN 13 | Form. D | Tol. 6HX | 1,5XD | R | TICN

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
															● 3-6	● 2-5	● 1-4

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW



ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*90,08*	56	10	2,70	3,5
M4,0	0,70	*92,96*	63	12	3,40	4,5
M5,0	0,80	*95,74*	70	14	4,90	6,0

ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*106,98*	80	18	4,90	6,0
M8,0	1,25	*129,50*	90	20	6,20	8,0
M10,0	1,50	*224,70*	100	20	8,00	10,0

2275 HM DIN 376

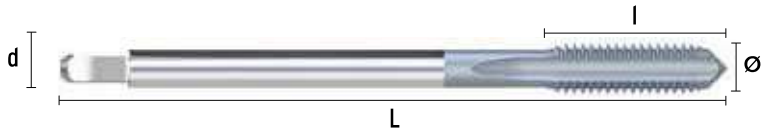
M DIN 13 | Form. D | Tol. 6HX | 1,5XD | D | TICN

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
															● 3-6	● 2-5	● 1-4

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW



ø	P	€	L mm	l mm	⊠ mm	d mm
M12,0	1,75	*382,19*	110	24	7,00	9,0
M14,0	2,00	*382,19*	110	25	9,00	11,0

ø	P	€	L mm	l mm	⊠ mm	d mm
M16,0	2,00	*464,75*	110	32	9,00	12,0

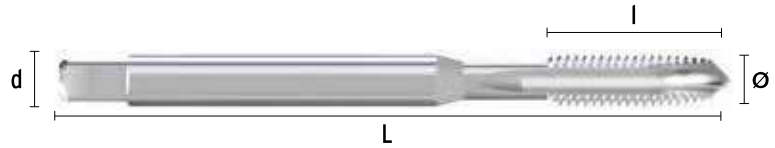
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2104 HSSE DIN 371

M-MF DIN 13 | Form. B "Gun" | Tol. 6H | 3XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	☐ mm	d mm
M2,0	**0,40**	*17,16*	**45**	**10**	**2,10**	**2,8**
M2,2	**0,45**	*17,16*	**45**	**10**	**2,10**	**2,8**
M2,3	**0,45**	*17,16*	**45**	**10**	**2,10**	**2,8**
M2,5	**0,45**	*17,07*	**50**	**9**	**2,10**	**2,8**
M2,6	**0,45**	*17,07*	**50**	**9**	**2,10**	**2,8**
M3,0	0,35	*17,07*	56	10	2,70	3,5
M3,0	**0,50**	*12,16*	**56**	**11**	**2,70**	**3,5**
*M3,0	0,60	*20,18*	56	10	2,70	3,5
M3,5	0,35	*20,18*	56	10	3,00	4,0
M3,5	**0,60**	*15,57*	**56**	**12**	**3,00**	**4,0**
M4,0	0,50	*24,77*	63	12	3,00	4,0
M4,0	**0,70**	*12,43*	**63**	**13**	**3,40**	**4,5**

Ø	P	€	L mm	l mm	☐ mm	d mm
*M4,0	0,75	*17,76*	63	13	3,40	4,5
M4,5	**0,75**	*21,80*	**70**	**14**	**4,90**	**6,0**
M5,0	0,50	*25,46*	70	14	4,90	6,0
M5,0	**0,80**	*12,45*	**70**	**16**	**4,90**	**6,0**
M6,0	0,75	*23,65*	80	14	4,90	6,0
M6,0	**1,00**	*13,66*	**80**	**19**	**4,90**	**6,0**
M7,0	**1,00**	*17,87*	**80**	**18**	**5,50**	**7,0**
M8,0	0,75	*25,80*	80	18	6,20	8,0
M8,0	**1,25**	*15,07*	**90**	**22**	**6,20**	**8,0**
M9,0	**1,25**	*23,39*	**90**	**18**	**7,00**	**9,0**
M10,0	**1,50**	*18,49*	**100**	**24**	**8,00**	**10,0**

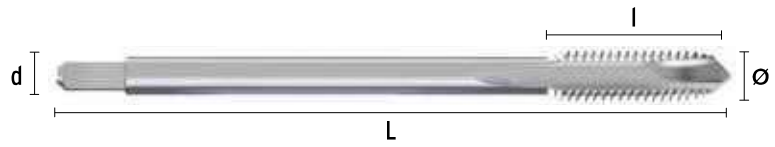
***(Hasta fin de existencias / Jusqu'à épuisement des stocks / While supplies last)**

2103 HSSE DIN 376/374

M-MF DIN 13 | Form. B "Gun" | Tol. 6H | 3XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	☐ mm	d mm
M3,0	**0,50**	*12,16*	**56**	**11**	**2,70**	**3,5**
***M3,5**	**0,60**	*15,58*	**56**	**13**	**3,00**	**4,0**
M4,0	**0,70**	*12,43*	**63**	**13**	**2,10**	**2,8**
***M4,5**	**0,75**	*21,80*	**70**	**16**	**2,70**	**3,5**
M5,0	**0,80**	*12,45*	**70**	**16**	**2,70**	**3,5**
*M6,0	0,75	*20,70*	80	18	3,40	4,5
M6,0	**1,00**	*13,66*	**80**	**19**	**3,40**	**4,5**
*M7,0	0,75	*27,02*	80	18	4,30	5,5
***M7,0**	**1,00**	*17,87*	**80**	**18**	**4,30**	**5,5**
*M8,0	0,75	*25,56*	90	20	4,30	5,5
M8,0	1,00	*19,80*	90	20	4,90	6,0
M8,0	**1,25**	*15,07*	**90**	**22**	**4,90**	**6,0**
M9,0	1,00	*30,21*	90	20	5,50	7,0
*M9,0	1,25	*23,39*	90	20	5,50	7,0
M10,0	0,75	*36,31*	90	18	5,50	7,0

Ø	P	€	L mm	l mm	☐ mm	d mm
M10,0	1,00	*22,06*	90	20	5,50	7,0
M10,0	1,25	*26,28*	100	20	5,50	7,0
M10,0	**1,50**	*18,49*	**100**	**24**	**5,50**	**7,0**
M11,0	1,00	*38,67*	90	20	6,20	8,0
*M11,0	1,25	*38,67*	100	22	6,20	8,0
M11,0	**1,50**	*31,76*	**100**	**22**	**6,20**	**8,0**
M12,0	1,00	*30,06*	100	20	7,00	9,0
M12,0	1,25	*30,39*	100	20	7,00	9,0
M12,0	1,50	*27,14*	100	20	7,00	9,0
M12,0	**1,75**	*23,60*	**110**	**29**	**7,00**	**9,0**
*M13,0	1,00	*55,81*	100	22	9,00	11,0
*M13,0	1,25	*55,77*	100	22	9,00	11,0
*M13,0	1,50	*55,77*	100	22	9,00	11,0
***M13,0**	**1,75**	*55,81*	**110**	**27**	**9,00**	**11,0**
M14,0	1,00	*48,31*	100	20	9,00	11,0

P Aceros Aciers Steels | M Aceros Inox Aciers Inox Stainless Steels | K Fundicion Fonte Cast Iron | N Metales no ferrosos Métal non Ferraux Non Ferrous metals | S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys | H Materiales Duros Materiels Durs Hard materials

MACHOS DE MÁQUINA
TARAUDS MACHINE / MACHINE TAPS

Ø	P	€	L mm	l mm	☐ mm	d mm
M14,0	1,25	*39,42*	100	20	9,00	11,0
M14,0	1,50	*31,35*	100	20	9,00	11,0
M14,0	**2,00**	*31,08*	**110**	**30**	**9,00**	**11,0**
M15,0	1,00	*62,08*	100	20	9,00	12,0
*M15,0	1,25	*67,98*	100	22	9,00	12,0
*M15,0	1,50	*55,22*	100	22	9,00	12,0
***M15,0**	**2,00**	*67,60*	**110**	**30**	**9,00**	**12,0**
M16,0	1,00	*58,61*	100	20	9,00	12,0
*M16,0	1,25	*64,97*	100	22	9,00	12,0
M16,0	1,50	*39,07*	100	22	9,00	12,0
M16,0	**2,00**	*38,18*	**110**	**30**	**9,00**	**12,0**
M18,0	1,00	*65,61*	110	24	11,00	14,0
M18,0	1,50	*51,27*	110	24	11,00	14,0
M18,0	2,00	*73,77*	125	27	11,00	14,0
M18,0	**2,50**	*51,88*	**125**	**34**	**11,00**	**14,0**
M20,0	1,00	*86,69*	125	24	12,00	16,0
M20,0	1,50	*58,03*	125	25	12,00	16,0
M20,0	2,00	*76,06*	140	27	12,00	16,0
M20,0	**2,50**	*55,97*	**140**	**34**	**12,00**	**16,0**
M22,0	1,00	*97,17*	125	25	14,50	18,0
M22,0	1,50	*69,87*	125	25	14,50	18,0
M22,0	2,00	*97,17*	140	27	14,50	18,0
M22,0	2,50	*70,94*	140	34	14,50	18,0
M24,0	1,00	*121,05*	140	28	14,50	18,0
M24,0	1,50	*85,89*	140	27	14,50	18,0
M24,0	2,00	*108,63*	140	27	14,50	18,0
M24,0	**3,00**	*84,48*	**160**	**38**	**14,50**	**18,0**
M25,0	1,50	*133,47*	140	27	14,50	18,0
*M25,0	2,00	*287,75*	140	28	14,50	18,0
M26,0	1,50	*110,47*	140	27	14,50	18,0
*M26,0	2,00	*287,75*	140	28	14,50	18,0
M27,0	1,50	*126,27*	140	27	16,00	20,0
M27,0	2,00	*150,57*	140	27	16,00	20,0
M27,0	**3,00**	*105,68*	**160**	**38**	**16,00**	**20,0**
M28,0	1,50	*126,27*	140	27	16,00	20,0
M28,0	2,00	*287,75*	140	27	16,00	20,0
*M30,0	1,00	*179,62*	150	28	18,00	22,0

Ø	P	€	L mm	l mm	☐ mm	d mm
M30,0	1,50	*131,95*	150	27	18,00	22,0
M30,0	2,00	*163,29*	150	27	18,00	22,0
M30,0	**3,50**	*135,80*	**180**	**40**	**18,00**	**22,0**
M32,0	1,50	*166,80*	150	27	18,00	22,0
*M32,0	2,00	*353,37*	150	28	18,00	22,0
M33,0	1,50	*180,51*	160	30	20,00	25,0
M33,0	2,00	*308,15*	160	30	20,00	25,0
M33,0	**3,50**	*170,82*	**180**	**45**	**20,00**	**25,0**
*M34,0	1,50	*209,03*	170	30	22,00	28,0
M35,0	1,50	*220,87*	170	30	22,00	28,0
M36,0	1,50	*209,03*	170	30	22,00	28,0
M36,0	2,00	*282,33*	170	30	22,00	28,0
M36,0	3,00	*323,89*	200	50	22,00	28,0
M36,0	**4,00**	*208,70*	**200**	**50**	**22,00**	**28,0**
M38,0	1,50	*228,23*	170	30	22,00	28,0
M38,0	2,00	*456,80*	170	30	22,00	28,0
M39,0	1,50	*407,43*	170	30	24,00	32,0
M39,0	2,00	*412,14*	170	30	24,00	32,0
M39,0	3,00	*549,48*	170	30	24,00	32,0
M39,0	**4,00**	*266,49*	**200**	**55**	**24,00**	**32,0**
M40,0	1,50	*291,55*	170	30	24,00	32,0
M40,0	2,00	*310,50*	170	30	24,00	32,0
*M40,0	3,00	*360,09*	200	60	24,00	32,0
M42,0	1,50	*296,37*	170	30	24,00	32,0
M42,0	2,00	*442,34*	170	30	24,00	32,0
M42,0	3,00	*442,34*	170	30	24,00	32,0
M42,0	**4,50**	*342,60*	**200**	**60**	**24,00**	**32,0**
M45,0	1,50	*362,90*	180	30	29,00	36,0
M45,0	2,00	*442,34*	180	30	29,00	36,0
M45,0	3,00	*411,75*	200	50	29,00	36,0
M45,0	**4,50**	*374,26*	**220**	**60**	**29,00**	**36,0**
M48,0	1,50	*490,50*	190	30	29,00	36,0
M48,0	2,00	*494,45*	190	30	29,00	36,0
M48,0	3,00	*470,93*	225	50	29,00	36,0
M48,0	**5,00**	*460,22*	**250**	**65**	**29,00**	**36,0**
M50,0	1,50	*442,31*	190	30	29,00	36,0
M52,0	**5,00**	*471,12*	**250**	**65**	**32,00**	**40,0**

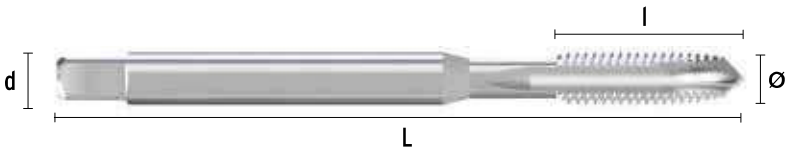
*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

2104/5 HSS DIN 371

M-MF DIN 13 | Form. B "Gun" | LH | Tol. 6H | 3XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*23,50*	56	11	2,70	3,5
M4,0	0,70	*23,76*	63	13	3,40	4,5
M5,0	0,80	*25,05*	70	16	4,90	6,0

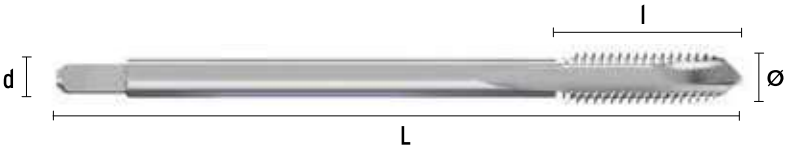
ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*25,05*	80	19	4,90	6,0
M8,0	1,25	*29,26*	90	22	6,20	8,0
M10,0	1,50	*37,48*	100	24	8,00	10,0

2103/5 HSS DIN 376/374

M-MF DIN 13 | Form. "Gun" B | LH | Tol. 6H | 3XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



ø	P	€	L mm	l mm	⊠ mm	d mm
M12,0	1,75	*52,95*	110	29	7,00	9,0
M16,0	2,00	*77,48*	110	30	9,00	12,0

ø	P	€	L mm	l mm	⊠ mm	d mm
M20,0	2,50	*112,73*	140	34	12,00	16,0
M24,0	3,00	*148,80*	160	38	14,50	18,0

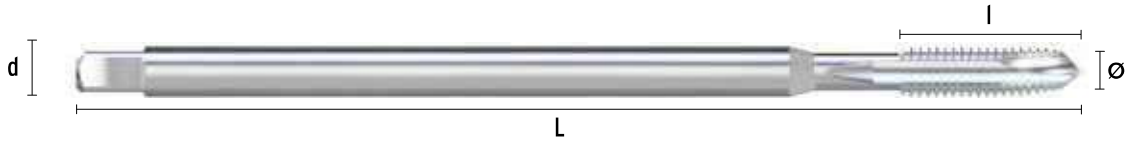
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2111 HSSE DIN 371

M | DIN 13 | Form. B "Gun" | Tol. 6H | 3XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*27,97*	100	10	2,70	3,5
M4,0	0,70	*27,97*	125	12	3,40	4,5
M5,0	0,80	*31,59*	140	14	4,90	6,0
M6,0	1,00	*31,59*	160	18	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
*M8,0	1,25	*41,71*	150	22	6,20	8,0
*M10,0	1,50	*50,62*	150	24	8,00	10,0
*M12,0	1,75	*56,89*	150	29	9,00	12,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

2272 HSS DIN 376

M | DIN 13 | Form. B "Gun" | Tol. 6H | 3XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

NEW

Ø	P	€	L mm	l mm	⊠ mm	d mm
M8,0	1,25	*49,73*	180	20	4,90	6,0
M10,0	1,50	*61,03*	200	20	5,50	7,0

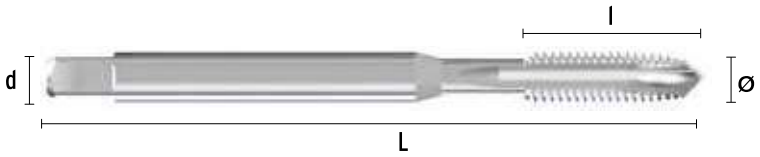
Ø	P	€	L mm	l mm	⊠ mm	d mm
M12,0	1,75	*78,35*	220	24	7,00	9,0
M16,0	2,00	*114,73*	220	32	9,00	12,0

2110 HSSE DIN 371

M DIN 13 | Form. B "Gun" | Tol. 6H +0,1 | 3XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	☒ mm	d mm
M3,0	0,50	*19,33*	56	11	2,70	3,5
M4,0	0,70	*19,74*	63	13	3,40	4,5
M5,0	0,80	*19,79*	70	14	4,90	6,0

Ø	P	€	L mm	l mm	☒ mm	d mm
M6,0	1,00	*22,49*	80	16	4,90	6,0
M8,0	1,25	*25,32*	90	18	6,20	8,0
M10,0	1,50	*31,88*	100	22	8,00	10,0

2109 HSSE DIN 376

M DIN 13 | Form. B "Gun" | Tol. 6H +0,1 | 3XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	☒ mm	d mm
M8,0	1,25	*25,32*	90	20	4,90	6,0
M10,0	1,50	*31,88*	100	22	5,50	7,0
M12,0	1,75	*40,71*	110	27	7,00	9,0

Ø	P	€	L mm	l mm	☒ mm	d mm
M14,0	2,00	*51,10*	110	30	9,00	11,0
M16,0	2,00	*61,83*	110	30	9,00	12,0

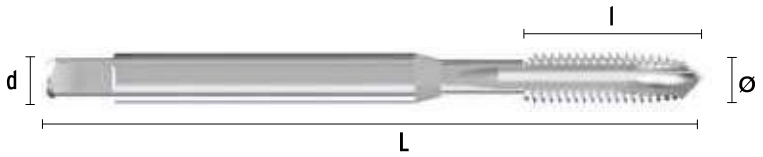
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2168 HSSE DIN 371

M DIN 13 | Form. B "Gun" | Tol. 6G | 3XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*19,11*	56	10	2,70	3,5
M4,0	0,70	*19,11*	63	12	3,40	4,5
M5,0	0,80	*19,11*	70	14	4,90	6,0

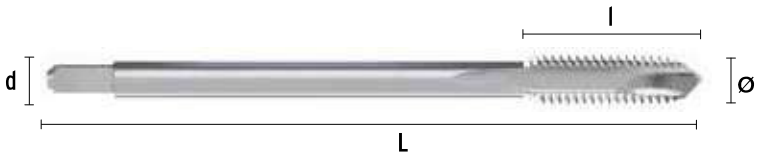
Ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*19,27*	80	18	4,90	6,0
M8,0	1,25	*23,12*	90	20	6,20	8,0
M10,0	1,50	*27,17*	100	20	8,00	10,0

2169 HSSE DIN 376

M DIN 13 | Form. B "Gun" | Tol. 6G | 3XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
M8,0	1,25	*23,12*	90	20	4,90	6,0
M10,0	1,50	*27,17*	100	20	5,50	7,0
M12,0	1,75	*33,96*	110	24	7,00	9,0
M14,0	2,00	*42,59*	110	25	9,00	11,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M16,0	2,00	*51,52*	110	32	9,00	12,0
M18,0	2,50	*70,77*	125	32	11,00	14,0
M20,0	2,50	*73,98*	140	32	12,00	16,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2250 HSSE DIN 371

M DIN13 | Form. B "Gun" | Tol. 6H | 3XD | R | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			● 5-10	○ 5-8		○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW

Ø	P	€	L mm	l mm	⊠ mm	d mm
M2,0	**0,40**	*25,70*	**45**	**10**	**2,10**	**2,8**
M2,5	**0,45**	*25,70*	**50**	**9**	**2,10**	**2,8**
M3,0	**0,50**	*13,41*	**56**	**11**	**2,70**	**3,5**
M3,5	**0,60**	*17,74*	**56**	**12**	**3,00**	**4,0**
M4,0	**0,70**	*13,60*	**63**	**13**	**3,40**	**4,5**

Ø	P	€	L mm	l mm	⊠ mm	d mm
M5,0	**0,80**	*14,33*	**70**	**16**	**4,90**	**6,0**
M6,0	**1,00**	*14,33*	**80**	**19**	**4,90**	**6,0**
M8,0	**1,25**	*16,72*	**90**	**22**	**6,20**	**8,0**
M10,0	**1,50**	*21,39*	**100**	**24**	**8,00**	**10,0**

2251 HSSE DIN 376/374

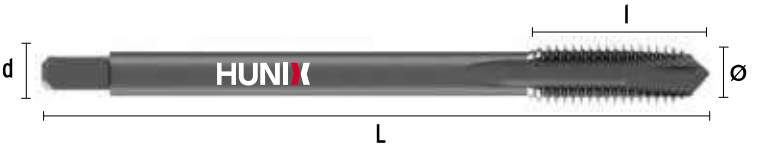
M-MF DIN13 | Form. B "Gun" | Tol. 6H | 3XD | D | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			● 5-10	○ 5-8		○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW



Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	**0,50**	*16,13*	**56**	**11**	**2,70**	**3,5**
M4,0	**0,70**	*17,21*	**63**	**13**	**2,10**	**2,8**
M5,0	**0,80**	*18,19*	**70**	**16**	**2,70**	**3,5**
M6,0	**1,00**	*18,19*	**80**	**19**	**3,40**	**4,5**
M8,0	1,00	*27,48*	90	20	4,90	6,0
M8,0	**1,25**	*21,17*	**90**	**22**	**4,90**	**6,0**
M10,0	1,00	*30,99*	90	20	5,50	7,0
M10,0	1,25	*36,20*	100	20	5,50	7,0
M10,0	**1,50**	*23,55*	**100**	**24**	**5,50**	**7,0**
M12,0	1,00	*40,08*	100	20	7,00	9,0
M12,0	1,25	*43,39*	100	20	7,00	9,0
M12,0	1,50	*40,08*	100	20	7,00	9,0
M12,0	**1,75**	*30,34*	**110**	**29**	**7,00**	**9,0**
M14,0	1,00	*54,71*	100	20	9,00	11,0
M14,0	1,25	*50,18*	100	20	9,00	11,0
M14,0	1,50	*54,71*	100	20	9,00	11,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M14,0	**2,00**	*45,54*	**110**	**30**	**9,00**	**11,0**
M16,0	1,00	*63,43*	100	20	9,00	12,0
M16,0	1,50	*56,17*	100	22	9,00	12,0
M16,0	**2,00**	*48,78*	**110**	**30**	**9,00**	**12,0**
M18,0	1,00	*87,16*	110	24	11,00	14,0
M18,0	1,50	*66,99*	110	24	11,00	14,0
M18,0	**2,50**	*66,99*	**125**	**34**	**11,00**	**14,0**
M20,0	1,00	*85,18*	125	24	12,00	16,0
M20,0	1,50	*78,06*	125	25	12,00	16,0
M20,0	**2,50**	*70,95*	**140**	**34**	**12,00**	**16,0**
M22,0	1,00	*121,30*	125	25	14,50	18,0
M22,0	1,50	*101,14*	125	25	14,50	18,0
M22,0	**2,50**	*101,14*	**140**	**34**	**14,50**	**18,0**
M24,0	1,50	*103,04*	140	27	14,50	18,0
M24,0	2,00	*112,41*	140	27	14,50	18,0
M24,0	**3,00**	*93,67*	**160**	**38**	**14,50**	**18,0**

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2116 HSSE DIN 371

M DIN 13 | Form. B "Gun" | Tol. 6H | 3XD | R | TIN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 15-30	● 12-18	○ 8-12		● 6-12	○ 6-10	● 10-15	● 15-20		● 15-25	● 15-25		○ 12-18					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW

Ø	P	€	L mm	l mm	⊠ mm	d mm
M2,0	0,40	26,63	45	10	2,10	2,8
M2,5	0,45	26,63	50	9	2,10	2,8
M3,0	0,50	18,67	56	11	2,70	3,5
M3,5	0,60	21,98	56	12	3,00	4,0
M4,0	0,70	18,83	63	13	3,40	4,5

Ø	P	€	L mm	l mm	⊠ mm	d mm
M5,0	0,80	20,59	70	16	4,90	6,0
M6,0	1,00	21,34	80	19	4,90	6,0
M8,0	1,25	25,55	90	22	6,20	8,0
M10,0	1,50	33,60	100	24	8,00	10,0

2115 HSSE DIN 376/374

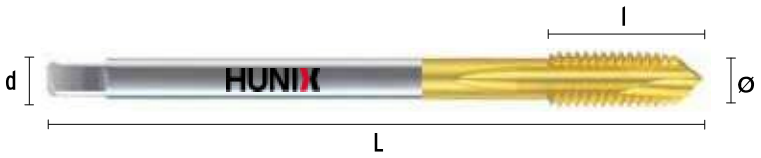
M-MF DIN13 | Form. B "Gun" | Tol. 6H | 3XD | D | TIN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 15-30	● 12-18	○ 8-12		● 6-12	○ 6-10	● 10-15	● 15-20		● 15-25	● 15-25		○ 12-18					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW



Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	20,60	56	11	2,70	3,5
M4,0	0,70	22,19	63	13	2,10	2,8
M5,0	0,80	24,06	70	16	2,70	3,5
M6,0	1,00	24,86	80	19	3,40	4,5
M8,0	1,00	38,24	90	20	4,90	6,0
M8,0	1,25	29,71	90	22	4,90	6,0
M10,0	1,00	45,07	90	20	5,50	7,0
M10,0	1,25	49,23	100	20	5,50	7,0
M10,0	1,50	37,60	100	24	5,50	7,0
M12,0	1,00	56,06	100	20	7,00	9,0
M12,0	1,25	62,09	100	20	7,00	9,0
M12,0	1,50	53,77	100	20	7,00	9,0
M12,0	1,75	46,62	110	29	7,00	9,0
M14,0	1,00	73,93	100	20	9,00	11,0
M14,0	1,25	68,91	100	20	9,00	11,0
M14,0	1,50	71,26	100	20	9,00	11,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M14,0	2,00	61,50	110	30	9,00	11,0
M16,0	1,00	85,72	100	20	9,00	12,0
M16,0	1,50	74,57	100	22	9,00	12,0
M16,0	2,00	66,62	110	30	9,00	12,0
M18,0	1,00	106,10	110	24	11,00	14,0
M18,0	1,50	94,68	110	24	11,00	14,0
M18,0	2,50	90,46	125	34	11,00	14,0
M20,0	1,00	100,66	125	24	12,00	16,0
M20,0	1,50	106,62	125	25	12,00	16,0
M20,0	2,50	99,05	140	34	12,00	16,0
M22,0	1,00	136,61	125	25	14,50	18,0
M22,0	1,50	133,40	125	25	14,50	18,0
M22,0	2,50	133,45	140	34	14,50	18,0
M24,0	1,50	145,19	140	27	14,50	18,0
M24,0	2,00	159,32	140	27	14,50	18,0
M24,0	3,00	136,55	160	38	14,50	18,0

2126 HSSE-PM DIN 371

M | DIN 13 | Form. B "Gun" | Tol. 6H | 3XD | R | TICN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
	● 10-15	● 6-10	○ 4-6		● 6-12			● 10-20		○ 4-6		○ 10-15		○ 4-8			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

Ø	P	€	L mm	l mm	☒ mm	d mm
M3,0	0,50	*21,31*	56	10	2,70	3,5
M4,0	0,70	*21,62*	63	12	3,40	4,5
M5,0	0,80	*23,36*	70	14	4,90	6,0

Ø	P	€	L mm	l mm	☒ mm	d mm
M6,0	1,00	*24,09*	80	18	4,90	6,0
M8,0	1,25	*28,91*	90	20	6,20	8,0
M10,0	1,50	*37,91*	100	20	8,00	10,0

2125 HSSE-PM DIN 376/374

M-MF DIN13 | Form. B "Gun" | Tol. 6H | 3XD | D | TICN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
	● 10-15	● 6-10	○ 4-6		● 6-12			● 10-20		○ 4-6		○ 10-15		○ 4-8			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

Ø	P	€	L mm	l mm	☒ mm	d mm
M8,0	1,00	*44,89*	90	20	4,90	6,0
M8,0	1,25	*33,18*	90	20	4,90	6,0
M10,0	1,00	*47,21*	90	20	5,50	7,0
M10,0	1,25	*63,30*	100	20	5,50	7,0
M10,0	1,50	*41,74*	100	20	5,50	7,0
M12,0	1,00	*60,98*	100	20	7,00	9,0
M12,0	1,25	*65,14*	100	20	7,00	9,0
M12,0	1,50	*60,98*	110	20	7,00	9,0
M12,0	1,75	*52,73*	110	24	7,00	9,0
M14,0	1,25	*76,73*	100	20	9,00	11,0

Ø	P	€	L mm	l mm	☒ mm	d mm
M14,0	1,50	*81,10*	100	20	9,00	11,0
M14,0	2,00	*69,75*	110	25	9,00	11,0
M16,0	1,50	*84,65*	100	20	9,00	12,0
M16,0	2,00	*75,62*	110	32	9,00	12,0
M18,0	1,50	*102,84*	110	24	11,00	14,0
M18,0	2,50	*102,79*	125	32	11,00	14,0
M20,0	1,50	*123,42*	125	24	12,00	16,0
M20,0	2,50	*112,19*	140	32	12,00	16,0
M22,0	2,50	*151,86*	140	32	14,50	18,0
M24,0	3,00	*154,09*	160	38	14,50	18,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2176 HSSE-PM DIN 371

M DIN 13 | Form. B "Gun" | Tol. 6HX | 3XD | R | TICN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
		○ 6-10	● 4-6		○ 4-6			● 10-20		○ 4-6		○ 10-15		○ 4-8			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*27,07*	56	10	2,70	3,5
M4,0	0,70	*27,50*	63	12	3,40	4,5
M5,0	0,80	*29,56*	70	14	4,90	6,0

ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*31,47*	80	18	4,90	6,0
M8,0	1,25	*36,71*	90	20	6,20	8,0
M10,0	1,50	*45,85*	100	20	8,00	10,0

2175 HSSE-PM DIN 376

M DIN 13 | Form. B "Gun" | Tol. 6HX | 3XD | D | TICN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
		○ 6-10	● 4-6		○ 4-6			● 10-20		○ 4-6		○ 10-15		○ 4-8			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

ø	P	€	L mm	l mm	⊠ mm	d mm
M8,0	1,25	*45,85*	90	20	4,90	6,0
M10,0	1,50	*59,93*	100	20	5,50	7,0
M12,0	1,75	*68,74*	110	24	7,00	9,0
M14,0	2,00	*95,69*	110	25	9,00	11,0

ø	P	€	L mm	l mm	⊠ mm	d mm
M16,0	2,00	*101,10*	110	32	9,00	12,0
M18,0	2,50	*147,86*	125	32	11,00	14,0
M20,0	2,50	*145,98*	140	32	12,00	16,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2122 HSSE DIN 371

M DIN 13 | Form. B "Gun" | Tol. 6H | 3XD | R | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25				● 5-10										○ 10-15			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

Ø	P	€	L mm	l mm	☒ mm	d mm
M3,0	0,50	*18,37*	56	10	2,70	3,5
M4,0	0,70	*18,37*	63	12	3,40	4,5
M5,0	0,80	*18,37*	70	14	4,90	6,0

Ø	P	€	L mm	l mm	☒ mm	d mm
M6,0	1,00	*20,18*	80	18	4,90	6,0
M8,0	1,25	*22,97*	90	20	6,20	8,0
M10,0	1,50	*26,96*	100	20	8,00	10,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock
*Para mismo rendimiento / Pour le même rendement / For the same performance **Ref. 2250**
*Para mayor rendimiento / Pour plus rendement / For higher performance **Ref. 2116**

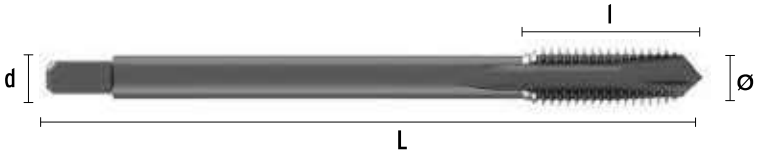
2121 HSSE DIN 376/374

M-MF DIN13 | Form. B "Gun" | Tol. 6H | 3XD | D | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25				● 5-10										○ 10-15			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH



Ø	P	€	L mm	l mm	☒ mm	d mm
M8,0	1,00	*27,81*	90	20	4,90	6,0
M8,0	1,25	*22,97*	90	20	4,90	6,0
M10,0	1,00	*30,59*	90	20	5,50	7,0
M10,0	1,25	*34,89*	100	20	5,50	7,0
M10,0	1,50	*26,96*	100	20	5,50	7,0
M12,0	1,00	*41,73*	100	20	7,00	9,0
M12,0	1,25	*42,05*	100	20	7,00	9,0
M12,0	1,50	*42,39*	110	20	7,00	9,0
M12,0	1,75	*35,14*	110	24	7,00	9,0
M14,0	1,25	*56,76*	100	20	9,00	11,0

Ø	P	€	L mm	l mm	☒ mm	d mm
M14,0	1,50	*45,04*	100	20	9,00	11,0
M14,0	2,00	*44,76*	110	25	9,00	11,0
M16,0	1,50	*53,59*	100	20	9,00	12,0
M16,0	2,00	*52,67*	110	32	9,00	12,0
M18,0	1,50	*73,83*	110	24	11,00	14,0
M18,0	2,50	*74,72*	125	32	11,00	14,0
M20,0	1,50	*111,09*	125	24	12,00	16,0
M20,0	2,50	*80,59*	140	32	12,00	16,0
M22,0	2,50	*87,03*	140	32	14,50	18,0
M24,0	3,00	*94,00*	160	38	14,50	18,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock
*Para mismo rendimiento / Pour le même rendement / For the same performance **Ref. 2251**
*Para mayor rendimiento / Pour plus rendement / For higher performance **Ref. 2115**

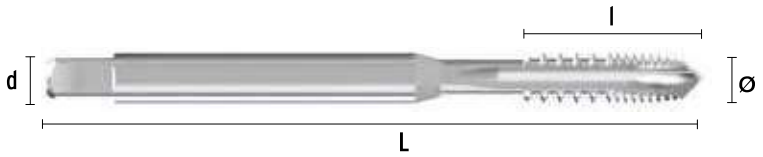
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2133 HSSE DIN 371

M DIN 13 | B-AZ | Tol. 6H | 3XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
									● 10-20	○ 6-8	○ 10-20	○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*19,99*	56	11	2,70	3,5
M4,0	0,70	*19,99*	63	13	3,40	4,5
M5,0	0,80	*19,99*	70	16	4,90	6,0

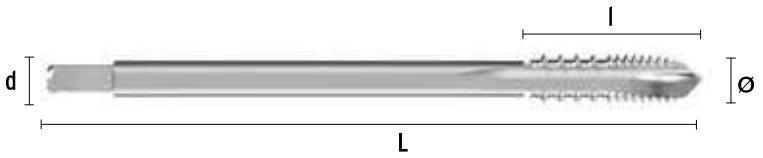
Ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*21,05*	80	19	4,90	6,0
M8,0	1,25	*25,18*	90	22	6,20	8,0
M10,0	1,50	*29,66*	100	24	8,00	10,0

2132 HSSE DIN 376

M DIN 13 | B-AZ | Tol. 6H | 3XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
									● 10-20	○ 6-8	○ 10-20	○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
M4,0	0,70	*19,99*	63	13	2,10	2,8
M5,0	0,80	*19,99*	70	16	2,70	3,5
M6,0	1,00	*21,05*	80	19	3,40	4,5
M8,0	1,25	*25,18*	90	22	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M10,0	1,50	*29,66*	100	24	5,50	7,0
M12,0	1,75	*37,43*	110	29	7,00	9,0
M14,0	2,00	*46,61*	110	30	9,00	11,0
M16,0	2,00	*61,80*	110	32	9,00	12,0

2254 HSSE-PM DIN 371 MULTI

M DIN 13 | Form. B "Gun" | Tol. 6HX | 3XD | R | HL

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 20-40	● 15-30	● 10-20	● 5-10	● 5-15	● 5-10	● 10-30	● 10-30	● 5-15	● 10-30	● 10-30	● 5-15	● 10-30	● 2-8	● 2-15			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

Ø	P	€	L mm	l mm	☒ mm	d mm
M3,0	0,50	*26,30*	56	5	2,70	3,5
M4,0	0,70	*29,18*	63	7	3,40	4,5
M5,0	0,80	*30,48*	70	8	4,90	6,0

Ø	P	€	L mm	l mm	☒ mm	d mm
M6,0	1,00	*31,78*	80	10	4,90	6,0
M8,0	1,25	*38,40*	90	13	6,20	8,0
M10,0	1,50	*50,54*	100	15	8,00	10,0

2255 HSSE-PM DIN 376 MULTI

M DIN 13 | Form. B "Gun" | Tol. 6HX | 3XD | D | HL

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 20-40	● 15-30	● 10-20	● 5-10	● 5-15	● 5-10	● 10-30	● 10-30	● 5-15	● 10-30	● 10-30	● 5-15	● 10-30	● 2-8	● 2-15			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

Ø	P	€	L mm	l mm	☒ mm	d mm
M12,0	1,75	*75,22*	110	18	7,00	9,0
M14,0	2,00	*101,66*	110	20	9,00	11,0

Ø	P	€	L mm	l mm	☒ mm	d mm
M16,0	2,00	*106,99*	110	20	9,00	12,0

P Aceros Aciers Steels | M Aceros Inox Aciers Inox Stainless Steels | K Fundicion Fonte Cast Iron | N Metales no ferrosos Métal non Ferraux Non Ferrous metals | S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys | H Materiales Duros Materiels Durs Hard materials

2258 HSSE-PM DIN 371 SYNCHRO

M DIN 13 | Form. B "Gun" | Tol. 6HX | CNC | 3XD | R | HL

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 20-50	● 15-40	● 10-20	● 5-10	● 5-15	● 5-10	● 10-30	● 10-30	● 5-15	● 10-30	● 10-30	● 5-15	● 10-30	● 2-8	● 2-15			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*26,30*	56	5	2,70	3,5
M4,0	0,70	*29,18*	63	7	3,40	4,5
M5,0	0,80	*30,48*	70	8	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*31,78*	80	10	4,90	6,0
M8,0	1,25	*38,40*	90	13	6,20	8,0
M10,0	1,50	*50,54*	100	15	8,00	10,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

2259 HSSE-PM DIN 376 SYNCHRO

M DIN 13 | Form. B "Gun" | Tol. 6HX | CNC | 3XD | D | HL

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 20-50	● 15-40	● 10-20	● 5-10	● 5-15	● 5-10	● 10-30	● 10-30	● 5-15	● 10-30	● 10-30	● 5-15	● 10-30	● 2-8	● 2-15			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

Ø	P	€	L mm	l mm	⊠ mm	d mm
M12,0	1,75	*75,22*	110	18	7,00	9,0
M14,0	2,00	*101,66*	110	20	9,00	11,00

Ø	P	€	L mm	l mm	⊠ mm	d mm
M16,0	2,00	*106,99*	110	20	9,00	12,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2106 HSSE DIN 371

M-MF DIN 13 | Form. C | Tol. 6H | 35° | 3XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	⊠ mm	d mm
M2,0	**0,40**	*33,74*	**45**	**5**	**2,10**	**2,8**
M2,2	**0,45**	*33,74*	**45**	**10**	**2,10**	**2,8**
M2,3	**0,40**	*33,74*	**45**	**10**	**2,10**	**2,8**
M2,5	**0,45**	*33,74*	**50**	**5**	**2,10**	**2,8**
M2,6	**0,45**	*33,74*	**50**	**5**	**2,10**	**2,8**
M3,0	0,35	*33,74*	56	5	2,70	3,5
M3,0	**0,50**	*14,99*	**56**	**6**	**2,70**	**3,5**
M3,5	0,35	*33,74*	56	5	3,00	4,0
M3,5	**0,60**	*18,50*	**56**	**6**	**3,00**	**4,0**
M4,0	0,50	*24,78*	63	7	3,40	4,5
M4,0	**0,70**	*14,99*	**63**	**7**	**3,40**	**4,5**

Ø	P	€	L mm	l mm	⊠ mm	d mm
M4,5	**0,75**	*25,54*	**70**	**7**	**4,90**	**6,0**
M5,0	0,50	*34,75*	70	8	4,90	6,0
M5,0	**0,80**	*14,49*	**70**	**8**	**4,90**	**6,0**
M6,0	0,75	*24,40*	80	10	4,90	6,0
M6,0	**1,00**	*15,89*	**80**	**10**	**4,90**	**6,0**
M7,0	**1,00**	*19,45*	**80**	**10**	**5,50**	**7,0**
M8,0	0,75	*28,21*	80	10	6,20	8,0
M8,0	**1,25**	*18,94*	**90**	**14**	**6,20**	**8,0**
M9,0	**1,25**	*32,89*	**90**	**13**	**7,00**	**9,0**
M10,0	**1,50**	*22,03*	**100**	**16**	**8,00**	**10,0**

2105 HSSE DIN 376/374

M-MF DIN13 | Form. C | Tol. 6H | 35° | 3XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	**0,50**	*14,99*	**56**	**5**	**2,00**	**2,2**
M4,0	**0,70**	*14,99*	**63**	**7**	**2,10**	**2,8**
M5,0	**0,80**	*14,49*	**70**	**8**	**2,70**	**3,5**
M6,0	**1,00**	*15,89*	**80**	**10**	**3,40**	**4,5**
***M7,0**	**1,00**	*19,45*	**80**	**10**	**4,30**	**5,5**
M8,0	1,00	*23,44*	90	10	4,90	6,0
M8,0	**1,25**	*18,94*	**90**	**14**	**4,90**	**6,0**
M9,0	1,00	*30,20*	90	10	5,50	7,0
***M9,0**	**1,25**	*28,77*	**90**	**13**	**5,50**	**7,0**
M10,0	0,75	*42,65*	90	10	5,50	7,0
M10,0	1,00	*27,67*	90	10	5,50	7,0
M10,0	1,25	*30,08*	100	15	5,50	7,0
M10,0	**1,50**	*22,03*	**100**	**16**	**5,50**	**7,0**
M11,0	1,00	*88,10*	90	10	6,20	8,0
*M11,0	1,25	*78,58*	100	15	6,20	8,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M11,0	**1,50**	*64,19*	**100**	**15**	**6,20**	**8,0**
M12,0	1,00	*35,58*	100	10	7,00	9,0
M12,0	1,25	*34,03*	100	15	7,00	9,0
M12,0	1,50	*32,77*	100	15	7,00	9,0
M12,0	**1,75**	*29,42*	**110**	**18**	**7,00**	**9,0**
M14,0	1,00	*57,46*	100	10	9,00	11,0
M14,0	1,25	*49,07*	100	15	9,00	11,0
M14,0	1,50	*36,95*	100	15	9,00	11,0
M14,0	**2,00**	*37,77*	**110**	**20**	**9,00**	**11,0**
M15,0	1,00	*75,25*	100	10	9,00	12,0
*M15,0	1,50	*55,21*	100	20	9,00	12,0
M16,0	1,00	*120,33*	100	10	9,00	12,0
*M16,0	1,25	*99,87*	100	20	9,00	12,0
M16,0	1,50	*48,22*	100	15	9,00	12,0
M16,0	**2,00**	*45,61*	**110**	**20**	**9,00**	**12,0**

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

Ø	P	€	L mm	l mm	☐ mm	d mm
M18,0	1,00	*95,80*	110	13	11,00	14,0
M18,0	1,50	*61,04*	110	20	11,00	14,0
M18,0	2,00	*115,03*	125	20	11,00	14,0
M18,0	**2,50**	*61,33*	**125**	**25**	**11,00**	**14,0**
M20,0	1,00	*93,65*	125	13	12,00	16,0
M20,0	1,50	*69,75*	125	20	12,00	16,0
M20,0	2,00	*109,30*	140	20	12,00	16,0
M20,0	**2,50**	*65,34*	**140**	**25**	**12,00**	**16,0**
M22,0	1,00	*92,25*	125	13	14,50	18,0
M22,0	1,50	*75,27*	125	17	14,50	18,0
M22,0	2,00	*103,50*	140	20	14,50	18,0
M22,0	**2,50**	*80,58*	**140**	**27**	**14,50**	**18,0**
M24,0	1,00	*123,70*	140	13	14,50	18,0
M24,0	1,50	*102,28*	140	20	14,50	18,0
M24,0	2,00	*123,70*	140	20	14,50	18,0
M24,0	**3,00**	*98,37*	**160**	**30**	**14,50**	**18,0**
M25,0	1,50	*164,90*	140	20	14,50	18,0
M26,0	1,50	*110,44*	140	20	14,50	18,0
M27,0	1,50	*126,22*	140	20	16,00	20,0
M27,0	2,00	*165,60*	140	20	16,00	20,0
M27,0	**3,00**	*120,49*	**160**	**30**	**16,00**	**20,0**
M28,0	1,50	*126,22*	140	20	16,00	20,0
M28,0	2,00	*206,90*	140	20	16,00	20,0
M30,0	1,50	*157,27*	150	22	18,00	22,0
M30,0	2,00	*332,26*	150	22	18,00	22,0
M30,0	**3,50**	*154,38*	**180**	**35**	**18,00**	**22,0**
M32,0	1,50	*194,08*	150	22	18,00	22,0
M33,0	1,50	*238,00*	160	22	20,00	25,0

Ø	P	€	L mm	l mm	☐ mm	d mm
M33,0	2,00	*261,70*	160	24	20,00	25,0
M33,0	**3,50**	*185,49*	**180**	**35**	**20,00**	**25,0**
M35,0	1,50	*265,50*	170	22	22,00	28,0
M36,0	1,50	*323,55*	170	22	22,00	28,0
M36,0	2,00	*420,50*	170	24	22,00	28,0
M36,0	3,00	*328,00*	200	30	22,00	28,0
M36,0	**4,00**	*250,31*	**200**	**40**	**22,00**	**28,0**
M38,00	1,50	*388,10*	170	24	22,00	28,0
M39,00	1,50	*312,75*	170	25	24,00	32,0
M39,00	2,00	*312,75*	170	25	24,00	32,0
M39,00	3,00	*511,70*	200	30	24,00	32,0
M39,00	**4,00**	*528,75*	**200**	**40**	**24,00**	**32,0**
M40,00	1,50	*426,85*	170	25	24,00	32,0
M40,00	2,00	*346,50*	170	25	24,00	32,0
M42,00	1,50	*459,00*	170	25	24,00	32,0
M42,00	2,00	*387,00*	170	25	24,00	32,0
M42,00	3,00	*387,00*	200	30	24,00	32,0
M42,00	**4,50**	*386,20*	**200**	**45**	**24,00**	**32,0**
M45,00	1,50	*452,25*	180	27	29,00	36,0
M45,00	2,00	*452,25*	180	27	29,00	36,0
M45,00	3,00	*540,00*	200	30	29,00	36,0
M45,00	**4,50**	*708,75*	**220**	**45**	**29,00**	**36,0**
M48,00	1,50	*540,00*	190	27	29,00	36,0
M48,00	2,00	*540,00*	190	27	29,00	36,0
M48,00	3,00	*540,00*	225	33	29,00	36,0
M48,00	**5,00**	*776,25*	**250**	**50**	**29,00**	**36,0**
M50,00	1,50	*630,00*	190	27	29,00	36,0
M52,00	**5,00**	*922,50*	**250**	**50**	**32,00**	**40,0**

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

2106/5 HSS DIN 371

M DIN 13 | Form. C | Tol. 6H | 35° | LH | 3XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	☒ mm	d mm
M3,0	0,50	*25,05*	56	6	2,70	3,5
M4,0	0,70	*25,36*	63	7	3,40	4,5
M5,0	0,80	*26,77*	70	8	4,90	6,0

Ø	P	€	L mm	l mm	☒ mm	d mm
M6,0	1,00	*26,77*	80	10	4,90	6,0
M8,0	1,25	*31,23*	90	14	6,20	8,0
M10,0	1,50	*39,95*	100	16	8,00	10,0

2105/5 HSS DIN 376/374

M DIN13 | Form. C | Tol. 6H | 35° | LH | 3XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	☒ mm	d mm
M12,0	1,75	*58,82*	110	18	7,00	9,0
M16,0	2,00	*86,03*	110	20	9,00	12,0

Ø	P	€	L mm	l mm	☒ mm	d mm
M20,0	2,50	*125,04*	140	25	12,00	16,0
M24,0	1,50	*165,18*	140	20	14,50	18,0

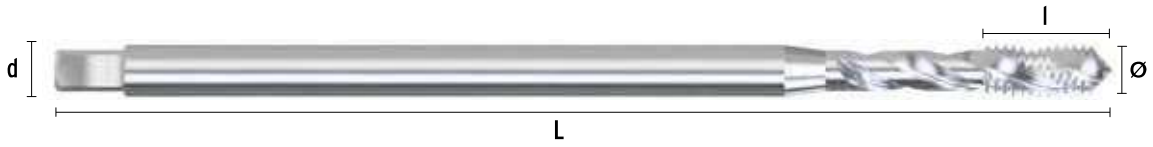
P Aceros Aciers Steels | M Aceros Inox Aciers Inox Stainless Steels | K Fundicion Fonte Cast Iron | N Metales no ferrosos Métal non Ferraux Non Ferrous metals | S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys | H Materiales Duros Materiels Durs Hard materials

2112 HSSE DIN 371

M DIN 13 | Form. C | Tol. 6H | 35° | 3XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*33,04*	100	5	2,70	3,5
M4,0	0,70	*33,04*	125	7	3,40	4,5
M5,0	0,80	*38,10*	140	8	4,90	6,0
M6,0	1,00	*38,10*	160	10	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
*M8,0	1,25	*48,24*	150	14	6,20	8,0
*M10,0	1,50	*58,35*	150	16	8,00	10,0
*M12,0	1,75	*60,72*	150	18	9,00	12,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

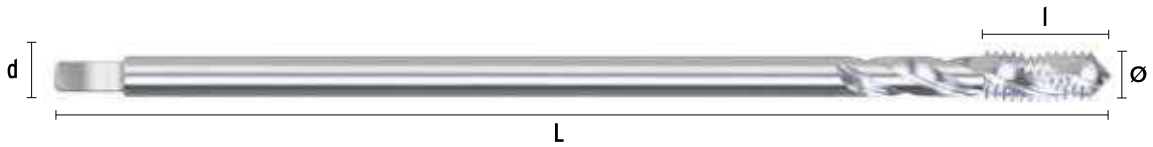
2273 HSSE DIN 376

M DIN 13 | Form. C | Tol. 6H | 35° | 3XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

NEW



Ø	P	€	L mm	l mm	⊠ mm	d mm
M8,0	1,25	*54,80*	180	20	4,90	6,0
M10,0	1,50	*67,09*	200	20	5,50	7,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M12,0	1,75	*86,27*	220	24	7,00	9,0
M16,0	2,00	*126,22*	220	32	9,00	12,0

2166 HSSE DIN 371

M DIN 13 | Form. C | Tol. 6H +0,1 | 35° | 3XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	☒ mm	d mm
M3,0	0,50	*24,21*	56	5	2,70	3,5
M4,0	0,70	*24,21*	63	7	3,40	4,5
M5,0	0,80	*23,37*	70	8	4,90	6,0

Ø	P	€	L mm	l mm	☒ mm	d mm
M6,0	1,00	*25,63*	80	10	4,90	6,0
M8,0	1,25	*30,59*	90	13	4,90	6,0
M10,0	1,50	*36,27*	110	15	8,00	10,0

2165 HSSE DIN 376

M DIN 13 | Form. C | Tol. 6H +0,1 | 35° | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	☒ mm	d mm
M8,0	1,25	*30,59*	90	15	4,90	6,0
M10,0	1,50	*36,27*	100	17	5,50	7,0
M12,0	1,75	*40,71*	110	18	7,00	9,0

Ø	P	€	L mm	l mm	☒ mm	d mm
M14,0	2,00	*58,28*	110	20	9,00	11,0
M16,0	2,00	*70,36*	110	20	9,00	12,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2170 HSSE DIN 371

M DIN 13 | Form. C | Tol. 6G | 35° | 3XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*21,05*	56	5	2,70	3,5
M4,0	0,70	*21,05*	63	7	3,40	4,5
M5,0	0,80	*20,30*	70	8	4,90	6,0

ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*22,27*	80	10	4,90	6,0
M8,0	1,25	*26,59*	90	13	6,20	8,0
M10,0	1,50	*31,51*	110	15	8,00	10,0

2208 HSSE DIN 376

M DIN 13 | Form. C | Tol. 6G | 35° | 3XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

ø	P	€	L mm	l mm	⊠ mm	d mm
M8,0	1,25	*26,59*	90	15	4,90	6,0
M10,0	1,50	*31,51*	100	17	5,50	7,0
M12,0	1,75	*42,05*	110	18	7,00	9,0
M14,0	2,00	*48,57*	110	20	9,00	11,0

ø	P	€	L mm	l mm	⊠ mm	d mm
M16,0	2,00	*58,65*	110	20	9,00	12,0
M18,0	2,50	*79,91*	125	25	11,00	14,0
M20,0	2,50	*84,06*	140	25	12,00	16,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2108 HSSE DIN 371

M DIN 13 | Form. C | Tol. 6H | 15° | 3XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	☒ mm	d mm
*M2,0	0,40	*18,96*	45	8	2,10	2,8
M3,0	0,50	*15,91*	56	11	2,70	3,5
M4,0	0,70	*15,27*	63	13	3,40	4,5
M5,0	0,80	*14,72*	70	16	4,90	6,0

Ø	P	€	L mm	l mm	☒ mm	d mm
M6,0	1,00	*16,14*	80	19	4,90	6,0
M7,0	1,00	*19,57*	80	19	5,50	7,0
M8,0	1,25	*19,28*	90	22	6,20	8,0
M10,0	1,50	*22,84*	100	24	8,00	10,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

2107 HSSE DIN 376/374

M DIN 13 | Form. C | Tol. 6H | 15° | 3XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	☒ mm	d mm
M4,0	0,70	*15,13*	63	13	2,10	2,8
M5,0	0,80	*14,62*	70	16	2,70	3,5
M6,0	1,00	*16,14*	80	19	3,40	4,5
M7,0	1,00	*19,57*	80	19	4,30	5,5
M8,0	1,25	*19,28*	90	22	4,90	6,0
M10,0	1,50	*22,84*	100	24	5,50	7,0
M12,0	1,75	*30,50*	110	29	7,00	9,0
M14,0	2,00	*36,27*	110	30	9,00	11,0

Ø	P	€	L mm	l mm	☒ mm	d mm
M16,0	2,00	*43,82*	110	32	9,00	12,0
M18,0	2,50	*58,95*	125	34	11,00	14,0
M20,0	2,50	*62,80*	140	34	12,00	16,0
M22,0	2,50	*77,45*	140	34	14,50	18,0
M24,0	3,00	*94,10*	160	38	14,50	18,0
*M27,0	3,00	*115,83*	160	38	16,00	20,0
*M30,0	3,50	*148,40*	180	45	18,00	22,0
*M36,0	4,00	*239,30*	200	56	22,00	28,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2252 HSSE DIN 371

M DIN 13 | Form. C | Tol. 6H | 35° | 3XD | R | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			● 5-10	○ 5-8		○ 10-15			● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW

Ø	P	€	L mm	l mm	⊠ mm	d mm
M2,0	**0,40**	*29,21*	**45**	**5**	**2,10**	**2,8**
M2,5	**0,45**	*29,21*	**50**	**5**	**2,10**	**2,8**
M3,0	**0,50**	*16,21*	**56**	**6**	**2,70**	**3,5**
M3,5	**0,60**	*19,44*	**56**	**6**	**3,00**	**4,0**
M4,0	**0,70**	*16,48*	**63**	**7**	**3,40**	**4,5**

Ø	P	€	L mm	l mm	⊠ mm	d mm
M5,0	**0,80**	*17,41*	**70**	**8**	**4,90**	**6,0**
M6,0	**1,00**	*17,41*	**80**	**10**	**4,90**	**6,0**
M8,0	**1,25**	*20,24*	**90**	**14**	**6,20**	**8,0**
M10,0	**1,50**	*25,90*	**100**	**16**	**8,00**	**10,0**

2253 HSSE DIN 376/374

M-MF DIN13 | Form. C | Tol. 6H | 35° | 3XD | D | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			● 5-10	○ 5-8		○ 10-15			● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW

Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	**0,50**	*18,59*	**56**	**5**	**2,00**	**2,2**
M4,0	**0,70**	*18,99*	**63**	**7**	**2,10**	**2,8**
M5,0	**0,80**	*19,97*	**70**	**8**	**2,70**	**3,5**
M6,0	**1,00**	*19,97*	**80**	**10**	**3,40**	**4,5**
M8,0	1,00	*30,26*	90	10	4,90	6,0
M8,0	**1,25**	*23,27*	**90**	**14**	**4,90**	**6,0**
M10,0	1,00	*34,22*	90	10	5,50	7,0
M10,0	1,25	*39,88*	100	15	5,50	7,0
M10,0	**1,50**	*28,53*	**100**	**16**	**5,50**	**7,0**
M12,0	1,00	*44,04*	100	10	7,00	9,0
M12,0	1,25	*47,80*	100	15	7,00	9,0
M12,0	1,50	*44,04*	100	15	7,00	9,0
M12,0	**1,75**	*36,73*	**110**	**18**	**7,00**	**9,0**
M14,0	1,00	*60,13*	100	10	9,00	11,0
M14,0	1,25	*55,19*	100	15	9,00	11,0
M14,0	1,50	*60,13*	100	15	9,00	11,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M14,0	**2,00**	*50,18*	**110**	**20**	**9,00**	**11,0**
M16,0	1,00	*69,70*	100	10	9,00	12,0
M16,0	1,50	*61,70*	100	15	9,00	12,0
M16,0	**2,00**	*53,66*	**110**	**20**	**9,00**	**12,0**
M18,0	1,00	*95,80*	110	13	11,00	14,0
M18,0	1,50	*73,70*	110	20	11,00	14,0
M18,0	**2,50**	*73,70*	**125**	**25**	**11,00**	**14,0**
M20,0	1,00	*93,67*	125	13	12,00	16,0
M20,0	1,50	*85,83*	125	20	12,00	16,0
M20,0	**2,50**	*78,06*	**140**	**25**	**12,00**	**16,0**
M22,0	1,00	*157,00*	125	13	14,50	18,0
M22,0	1,50	*111,21*	125	17	14,50	18,0
M22,0	**2,50**	*111,21*	**140**	**27**	**14,50**	**18,0**
M24,0	1,50	*113,39*	140	20	14,50	18,0
M24,0	2,00	*123,68*	140	20	14,50	18,0
M24,0	**3,00**	*103,04*	**160**	**30**	**14,50**	**18,0**

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2118 HSSE DIN 371

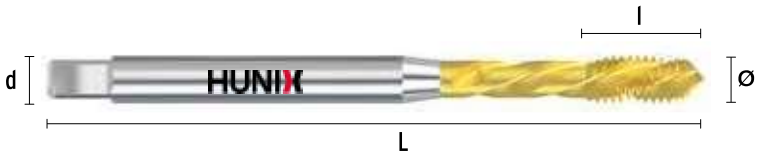
M DIN 13 | Form. C | Tol. 6H | 35° | 3XD | R | TIN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	● 12-18	○ 8-12		● 6-12	○ 6-10		● 15-20			● 15-25		○ 12-18					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW



ø	P	€	L mm	l mm	☒ mm	d mm
M2,0	**0,40**	*31,41*	**45**	**5**	**2,10**	**2,8**
M2,5	**0,45**	*31,41*	**50**	**5**	**2,10**	**2,8**
M3,0	**0,50**	*19,52*	**56**	**6**	**2,70**	**3,5**
M3,5	**0,60**	*24,80*	**56**	**6**	**3,00**	**4,0**
M4,0	**0,70**	*19,68*	**63**	**7**	**3,40**	**4,5**

ø	P	€	L mm	l mm	☒ mm	d mm
M5,0	**0,80**	*21,44*	**70**	**8**	**4,90**	**6,0**
M6,0	**1,00**	*22,19*	**80**	**10**	**4,90**	**6,0**
M8,0	**1,25**	*26,67*	**90**	**14**	**6,20**	**8,0**
M10,0	**1,50**	*35,04*	**100**	**16**	**8,00**	**10,0**

2117 HSSE DIN 376/374

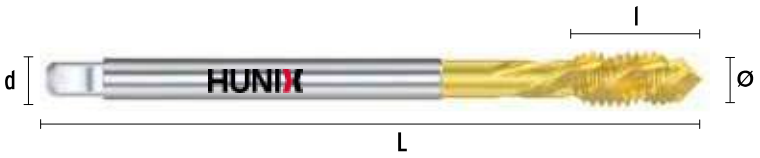
M-MF DIN 13 | Form. C | Tol. 6H | 35° | 3XD | D | TIN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	● 12-18	○ 8-12		● 6-12	○ 6-10		● 15-20			● 15-25		○ 12-18					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW



ø	P	€	L mm	l mm	☒ mm	d mm
M3,0	**0,50**	*21,03*	**56**	**5**	**2,00**	**2,2**
M4,0	**0,70**	*24,11*	**63**	**7**	**2,10**	**2,8**
M5,0	**0,80**	*26,08*	**70**	**8**	**2,70**	**3,5**
M6,0	**1,00**	*26,88*	**80**	**10**	**3,40**	**4,5**
M8,0	1,00	*41,50*	90	10	4,90	6,0
M8,0	**1,25**	*32,11*	**90**	**14**	**4,90**	**6,0**
M10,0	1,00	*48,65*	90	10	5,50	7,0
M10,0	1,25	*53,23*	100	15	5,50	7,0
M10,0	**1,50**	*40,54*	**100**	**16**	**5,50**	**7,0**
M12,0	1,00	*60,49*	100	10	7,00	9,0
M12,0	1,25	*67,31*	100	15	7,00	9,0
M12,0	1,50	*57,98*	100	15	7,00	9,0
M12,0	**1,75**	*50,14*	**110**	**18**	**7,00**	**9,0**
M14,0	1,00	*80,17*	100	10	9,00	11,0
M14,0	1,25	*74,51*	100	15	9,00	11,0
M14,0	1,50	*77,07*	100	15	9,00	11,0

ø	P	€	L mm	l mm	☒ mm	d mm
M14,0	**2,00**	*66,30*	**110**	**20**	**9,00**	**11,0**
M16,0	1,00	*92,76*	100	10	9,00	12,0
M16,0	1,50	*80,49*	100	15	9,00	12,0
M16,0	**2,00**	*71,85*	**110**	**20**	**9,00**	**12,0**
M18,0	1,00	*110,61*	110	13	11,00	14,0
M18,0	1,50	*101,88*	110	20	11,00	14,0
M18,0	**2,50**	*97,61*	**125**	**25**	**11,00**	**14,0**
M20,0	1,00	*108,61*	125	13	12,00	16,0
M20,0	1,50	*114,95*	125	20	12,00	16,0
M20,0	**2,50**	*106,62*	**140**	**25**	**12,00**	**16,0**
M22,0	1,00	*148,01*	125	13	14,50	18,0
M22,0	1,50	*144,17*	125	17	14,50	18,0
M22,0	**2,50**	*144,12*	**140**	**27**	**14,50**	**18,0**
M24,0	1,50	*156,12*	140	20	14,50	18,0
M24,0	2,00	*181,30*	140	20	14,50	18,0
M24,0	**3,00**	*146,52*	**160**	**30**	**14,50**	**18,0**

P Aceros Aciers Steels | M Aceros Inox Aciers Inox Stainless Steels | K Fundicion Fonte Cast Iron | N Metales no ferrosos Métal non Ferraux Non Ferrous metals | S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys | H Materiales Duros Materiels Durs Hard materials

2124 HSSE-PM DIN 371

M DIN 13 | Form. C | Tol. 6H | 35° | 3XD | R | TICN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
	● 10-15	● 6-10	○ 4-6		● 6-12			● 10-20				○ 10-15		○ 4-8			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*23,12*	56	5	2,70	3,5
M4,0	0,70	*23,48*	63	7	3,40	4,5
M5,0	0,80	*25,31*	70	8	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*26,11*	80	10	4,90	6,0
M8,0	1,25	*33,61*	90	13	6,20	8,0
M10,0	1,50	*40,75*	100	15	8,00	10,0

2123 HSSE-PM DIN 376/374

M-MF DIN 13 | Form. C | Tol. 6H | 35° | 3XD | D | TICN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
	● 10-15	● 6-10	○ 4-6		● 6-12			● 10-20				○ 10-15		○ 4-8			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

Ø	P	€	L mm	l mm	⊠ mm	d mm
M8,0	1,00	*44,37*	90	10	4,90	6,0
M8,0	1,25	*34,87*	90	15	4,90	6,0
M10,0	1,00	*51,09*	90	10	5,50	7,0
M10,0	1,25	*58,75*	100	15	5,50	7,0
M10,0	1,50	*44,84*	100	17	5,50	7,0
M12,0	1,00	*76,14*	100	10	7,00	9,0
M12,0	1,25	*68,03*	100	15	7,00	9,0
M12,0	1,50	*65,99*	100	15	7,00	9,0
M12,0	1,75	*56,89*	110	18	7,00	9,0
M14,0	1,25	*164,57*	100	15	9,00	11,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M14,0	1,50	*87,80*	100	15	9,00	11,0
M14,0	2,00	*75,48*	110	20	9,00	11,0
M16,0	1,50	*91,65*	100	15	9,00	12,0
M16,0	2,00	*81,71*	110	20	9,00	12,0
M18,0	1,50	*111,06*	110	17	11,00	14,0
M18,0	2,50	*111,79*	125	25	11,00	14,0
M20,0	1,50	*130,59*	125	17	12,00	16,0
M20,0	2,50	*120,98*	140	25	12,00	16,0
M22,0	2,50	*164,38*	140	25	14,50	18,0
M24,0	3,00	*178,41*	160	30	14,50	18,0

2178 HSSE-PM DIN 371

M DIN 13 | Form. C | Tol. 6HX | 15° | 3XD | R | TICN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
		○ 6-10	● 4-6		○ 4-6			● 10-20				○ 10-15		○ 4-8			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*35,04*	56	10	2,70	3,5
M4,0	0,70	*25,85*	63	12	3,40	4,5
M5,0	0,80	*27,50*	70	14	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*29,42*	80	18	4,90	6,0
M8,0	1,25	*33,61*	90	20	6,20	8,0
M10,0	1,50	*44,04*	100	20	8,00	10,0

2177 HSSE-PM DIN 376

M DIN 13 | Form. C | Tol. 6HX | 15° | 3XD | D | TICN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
		○ 6-10	● 4-6		○ 4-6			● 10-20				○ 10-15		○ 4-8			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

Ø	P	€	L mm	l mm	⊠ mm	d mm
M8,0	1,25	*50,10*	90	20	4,90	6,0
M10,0	1,50	*51,63*	100	20	5,50	7,0
M12,0	1,75	*61,38*	110	24	7,00	9,0
M14,0	2,00	*85,19*	110	25	9,00	11,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M16,0	2,00	*88,29*	110	32	9,00	12,0
M18,0	2,50	*146,76*	125	32	11,00	14,0
M20,0	0,25	*136,02*	140	32	12,00	16,0

P Aceros Aciers Steels | M Aceros Inox Aciers Inox Stainless Steels | K Fundicion Fonte Cast Iron | N Metales no ferrosos Métal non Ferraux Non Ferrous metals | S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys | H Materiales Duros Materiels Durs Hard materials

2120 HSSE DIN 371

M DIN 13 | Form. C | Tol. 6H | 35° | 3XD | R | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25				● 5-10										○ 10-15			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*20,18*	56	5	2,70	3,5
M4,0	0,70	*20,18*	63	7	3,40	4,5
M5,0	0,80	*20,18*	70	8	4,90	6,0

ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*21,55*	80	10	4,90	6,0
M8,0	1,25	*25,31*	90	13	6,20	8,0
M10,0	1,50	*30,88*	100	15	8,00	10,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock
*Para mismo rendimiento / Pour le même rendement / For the same performance **Ref. 2252**
*Para mayor rendimiento / Pour plus rendement / For higher performance **Ref. 2118**

2119 HSSE DIN 376/374

M-MF DIN 13 | Form. C | Tol. 6H | 35° | 3XD | D | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25				● 5-10										○ 10-15			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

ø	P	€	L mm	l mm	⊠ mm	d mm
M8,0	1,00	*29,89*	90	10	4,90	6,0
M8,0	1,25	*25,31*	90	15	4,90	6,0
M10,0	1,00	*36,63*	90	10	5,50	7,0
M10,0	1,25	*39,09*	100	15	5,50	7,0
M10,0	1,50	*30,88*	100	17	5,50	7,0
M12,0	1,00	*48,03*	100	10	7,00	9,0
M12,0	1,25	*46,46*	100	15	7,00	9,0
M12,0	1,50	*48,14*	110	15	7,00	9,0
M12,0	1,75	*41,76*	110	18	7,00	9,0
M14,0	1,25	*67,43*	100	15	9,00	11,0

ø	P	€	L mm	l mm	⊠ mm	d mm
M14,0	1,50	*51,08*	100	15	9,00	11,0
M14,0	2,00	*51,92*	110	20	9,00	11,0
M16,0	1,50	*65,40*	100	15	9,00	12,0
M16,0	2,00	*62,74*	110	20	9,00	12,0
M18,0	1,50	*83,75*	110	17	11,00	14,0
M18,0	2,50	*84,33*	125	25	11,00	14,0
M20,0	1,50	*94,35*	125	17	12,00	16,0
M20,0	2,50	*89,86*	140	25	12,00	16,0
M22,0	2,50	*95,75*	140	25	14,50	18,0
M24,0	3,00	*101,51*	160	30	14,50	18,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock
*Para mismo rendimiento / Pour le même rendement / For the same performance **Ref. 2253**
*Para mayor rendimiento / Pour plus rendement / For higher performance **Ref. 2117**

2182 HSSE DIN 371

M DIN 13 | Form. C | Tol. 6H | 45° | 3XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
									● 10-20	○ 6-8	○ 10-20	○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*18,09*	56	6	2,70	3,5
M4,0	0,70	*18,09*	63	7	3,40	4,5
M5,0	0,80	*18,46*	70	8	4,90	6,0

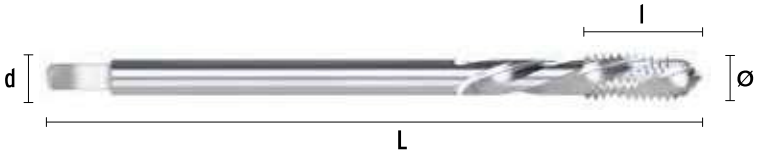
Ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*20,02*	80	10	4,90	6,0
M8,0	1,25	*23,90*	90	14	6,20	8,0
M10,0	1,50	*28,24*	100	16	8,00	10,0

2181 HSSE DIN 376

M DIN 13 | Form. C | Tol. 6H | 45° | 3XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
									● 10-20	○ 6-8	○ 10-20	○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*20,02*	80	18	3,40	4,5
M8,0	1,25	*23,90*	90	20	4,90	6,0
M10,0	1,50	*28,24*	100	22	5,50	7,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M12,0	1,75	*33,58*	110	18	7,00	9,0
M14,0	2,00	*49,08*	110	20	9,00	11,0
M16,0	2,00	*66,19*	110	22	9,00	12,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

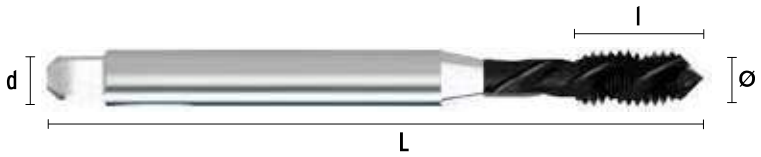
2256 HSSE-PM DIN 371 MULTI

M DIN 13 | Form. C | Tol. 6HX | 45° | 3XD | R | HL

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 20-40	● 15-30	● 10-20	● 5-10	● 5-15	● 5-15	● 10-30	● 10-30	● 5-15	● 10-30	● 10-30	● 5-15	● 10-30	● 2-8	● 2-15			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH



Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*31,08*	56	5	2,70	3,5
M4,0	0,70	*32,71*	63	7	3,40	4,5
M5,0	0,80	*35,52*	70	8	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*36,82*	80	10	4,90	6,0
M8,0	1,25	*44,21*	90	13	6,20	8,0
M10,0	1,50	*58,18*	100	15	8,00	10,0

2257 HSSE-PM DIN 376 MULTI

M DIN 13 | Form. C | Tol. 6HX | 45° | 3XD | D | HL

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 20-40	● 15-30	● 10-20	● 5-10	● 5-15	● 5-15	● 10-30	● 10-30	● 5-15	● 10-30	● 10-30	● 5-15	● 10-30	● 2-8	● 2-15			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

Ø	P	€	L mm	l mm	⊠ mm	d mm
M12,0	1,75	*86,95*	110	18	7,00	9,0
M14,0	2,00	*114,46*	110	20	9,00	11,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M16,0	2,00	*124,1*	110	20	9,00	12,0

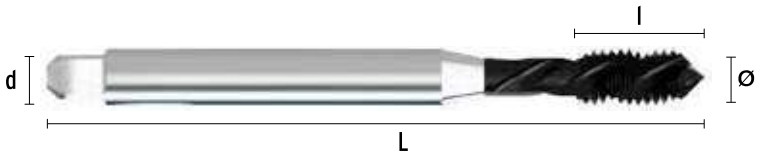
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2260 HSSE-PM DIN 371 SYNCHRO

M DIN 13 | Form. C | Tol. 6HX | 45° | CNC | 3XD | R | HL

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
20-50	15-40	10-20	5-10	5-15	5-10	10-40	10-40	5-15	10-40	10-40	5-15	10-40	2-8	2-15			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	☒ mm	d mm
M3,0	0,50	*31,08*	56	5	2,70	3,5
M4,0	0,70	*32,71*	63	7	3,40	4,5
M5,0	0,80	*35,52*	70	8	4,90	6,0

Ø	P	€	L mm	l mm	☒ mm	d mm
M6,0	1,00	*36,82*	80	10	4,90	6,0
M8,0	1,25	*44,21*	90	13	6,20	8,0
M10,0	1,50	*58,18*	100	15	8,00	10,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

2261 HSSE-PM DIN 376 SYNCHRO

M DIN 13 | Form. C | Tol. 6HX | 45° | CNC | 3XD | D | HL

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
20-50	15-40	10-20	5-10	5-15	5-10	10-40	10-40	5-15	10-40	10-40	5-15	10-40	2-8	2-15			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	☒ mm	d mm
M12,0	1,75	*86,95*	110	18	7,00	9,0
M14,0	2,00	*114,46*	110	20	9,00	11,0

Ø	P	€	L mm	l mm	☒ mm	d mm
M16,0	2,00	*124,10*	110	20	9,00	12,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

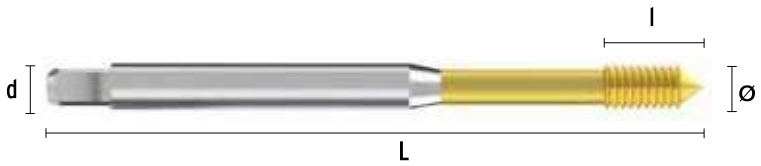
2188 HSSE-PM DIN 371

A>12% | M DIN 13 | Form. C | Tol. 6HX | 1,5XD | R | TIN

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 15-45	● 15-25			● 10-25					● 15-40	● 15-30	● 20-40			○ 10-20			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternativo

MICRO FINISH



Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*30,17*	56	10	2,70	3,5
M4,0	0,70	*30,17*	63	7	3,40	4,5
M5,0	0,80	*31,73*	70	8	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*33,82*	80	10	4,90	6,0
M8,0	1,25	*40,40*	90	13	6,20	8,0
M10,0	1,50	*49,26*	100	15	8,00	10,0

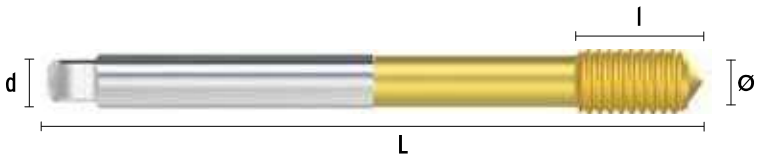
2187 HSSE-PM DIN 376

A>12% | M DIN 13 | Form. C | Tol. 6HX | 1,5XD | D | TIN

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 15-45	● 15-25			● 10-25					● 15-40	● 15-30	● 20-40			○ 10-20			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternativo

MICRO FINISH



Ø	P	€	L mm	l mm	⊠ mm	d mm
M12,0	1,75	*63,70*	110	18	7,00	9,0
M14,0	2,00	*85,90*	110	20	9,00	11,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M16,0	2,00	*103,09*	110	20	9,00	12,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

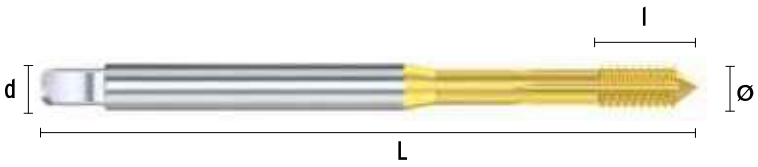
2214 HSSE-PM DIN 371

A>12% | M DIN 13 | Form. C | Tol. 6HX | 3XD | R | TIN

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 15-45	● 15-25			● 10-25					● 15-40	● 15-30	● 20-40			○ 10-20			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH



Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*30,17*	56	10	2,70	3,5
M4,0	0,70	*30,17*	63	7	3,40	4,5
M5,0	0,80	*31,73*	70	8	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*33,82*	80	10	4,90	6,0
M8,0	1,25	*40,40*	90	13	6,20	8,0
M10,0	1,50	*49,26*	100	15	8,00	10,0

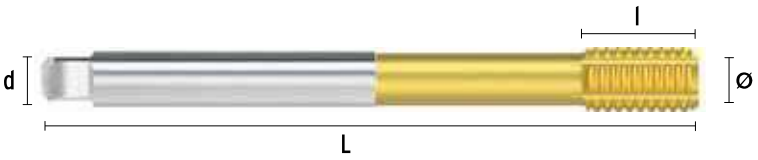
2213 HSSE-PM DIN 376/374

A>12% | M-MF DIN13 | Form. C | Tol. 6HX | 3XD | D | TIN

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 15-45	● 15-25			● 10-25					● 15-40	● 15-30	● 20-40			○ 10-20			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH



Ø	P	€	L mm	l mm	⊠ mm	d mm
M8,0	1,00	*66,20*	90	13	4,90	6,0
M8,0	1,25	*57,10*	90	13	4,90	6,0
M10,0	1,00	*54,25*	90	13	5,50	7,0
M10,0	1,25	*84,60*	100	15	5,50	7,0
M10,0	1,50	*67,40*	100	15	5,50	7,0
M12,0	1,00	*83,75*	100	10	7,00	9,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M12,0	1,25	*87,55*	100	15	7,00	9,0
M12,0	1,50	*85,15*	100	15	7,00	9,0
M12,0	1,75	*65,15*	110	18	7,00	9,0
M14,0	2,00	*85,90*	110	20	9,00	11,0
M16,0	1,50	*133,00*	100	15	9,00	12,0
M16,0	2,00	*103,10*	110	20	9,00	12,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2216 HSSE-PM DIN 371

A>12% | M DIN 13 | Form. C | Tol. 6GX | 1,5XD | R | TIN

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 15-45	● 15-25			● 10-25					● 15-40	● 15-30	● 20-40			○ 10-20			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*25,90*	56	10	2,70	3,5
M4,0	0,70	*26,80*	63	7	3,40	4,5
M5,0	0,80	*27,50*	70	8	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*28,60*	80	10	4,90	6,0
M8,0	1,25	*38,90*	90	13	6,20	8,0
M10,0	1,50	*48,80*	100	15	8,00	10,0

2215 HSSE-PM DIN 376

A>12% | M DIN 13 | Form. C | Tol. 6GX | 1,5XD | D | TIN

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 15-45	● 15-25			● 10-25					● 15-40	● 15-30	● 20-40			○ 10-20			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

Ø	P	€	L mm	l mm	⊠ mm	d mm
M12,0	1,75	*73,60*	110	18	7,00	9,0

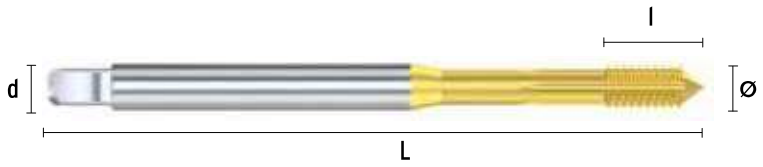
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2218 HSSE-PM DIN 371 A>12% | M DIN 13 | Form. C | Tol. 6GX | 3XD | R | TIN

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 15-45	● 15-25			● 10-25					● 15-40	● 15-30	● 20-40			○ 10-20			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH



ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*25,45*	56	10	2,70	3,5
M4,0	0,70	*31,55*	63	7	3,40	4,5
M5,0	0,80	*33,40*	70	8	4,90	6,0

ø	P	€	L mm	l mm	⊠ mm	d mm
M6,0	1,00	*26,75*	80	10	4,90	6,0
M8,0	1,25	*43,45*	90	13	6,20	8,0
M10,0	1,50	*52,35*	100	15	8,00	10,0

2217 HSSE-PM DIN 376 A>12% | M DIN 13 | Form. C | Tol. 6GX | 3XD | D | TIN

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 15-45	● 15-25			● 10-25					● 15-40	● 15-30	● 20-40			○ 10-20			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

ø	P	€	L mm	l mm	⊠ mm	d mm
M12,0	1,75	*52,35*	110	18	7,00	9,0

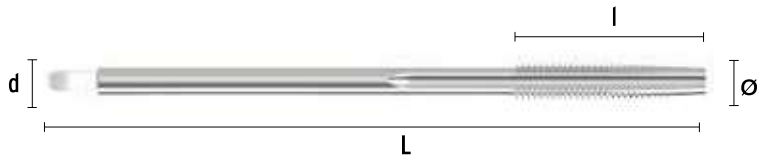
P Aceros Aciers Steels
M Aceros Inox Aciers Inox Stainless Steels
K Fundicion Fonte Cast Iron
N Metales no ferrosos Métal non Ferraux Non Ferrous metals
S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys
H Materiales Duros Materiels Durs Hard materials

2199 HSSE DIN 357

M DIN 13 | Tol. 6H | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25							○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*26,47*	70	22		2,2
M4,0	0,70	*26,47*	90	25	2,10	2,8
M5,0	0,80	*27,23*	100	28	2,70	3,5
M6,0	1,00	*25,24*	110	32	3,40	4,5
M8,0	1,25	*29,49*	125	40	4,90	6,0
M10,0	1,50	*45,37*	140	45	5,50	7,0
M12,0	1,75	*54,43*	180	50	7,00	9,0

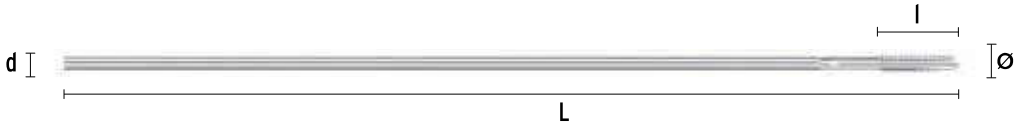
Ø	P	€	L mm	l mm	⊠ mm	d mm
M14,0	2,00	*60,47*	200	56	9,00	11,0
M16,0	2,00	*74,10*	200	63	9,00	12,0
M18,0	2,50	*90,72*	220	63	11,00	14,0
M20,0	2,50	*105,07*	250	70	12,00	16,0
M22,0	2,50	*134,55*	280	80	14,50	18,0
M24,0	3,00	*158,73*	280	80	14,50	18,0

2134 HSSE

M DIN 13 | 16-18 tpi | Tol. 6H | D | NIT

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25							○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	d mm
M3,0	0,50	*72,56*	280	12	2,7
M4,0	0,70	*71,54*	280	17	2,1
M5,0	0,80	*71,54*	280	20	2,7
M6,0	1,00	*71,54*	280	25	3,4
M8,0	1,25	*75,88*	280	31	4,9
M10,0	1,50	*87,96*	280	37	5,5
M12,0	1,75	*137,16*	420	43	7,0

Ø	P	€	L mm	l mm	d mm
M14,0	2,00	*132,48*	420	50	9,0
M16,0	2,00	*186,31*	420	50	9,0
M18,0	2,50	*230,09*	530	62	14,2
M20,0	2,50	*304,28*	530	63	12,0
M22,0	2,50	*351,47*	530	62	18,0
M24,0	3,00	*492,28*	530	75	19,2

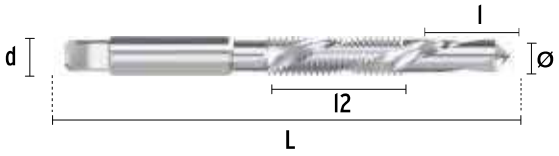
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2806 HSSE DIN 13

M DIN 13 | Tol. 6H

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25							○ 10-15		○ 10-15	● 10-20		○ 10-15		○			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*35,88*	56	16	2,40	3,0
M4,0	0,70	*35,88*	63	18	3,00	4,0
M5,0	0,80	*35,88*	71	20	3,80	5,0
M6,0	1,00	*39,65*	80	22	4,90	6,0

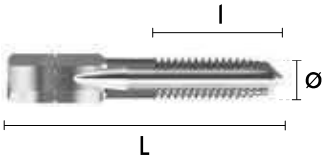
Ø	P	€	L mm	l mm	⊠ mm	d mm
M8,0	1,25	*44,79*	95	26	6,20	8,0
M10,0	1,50	*49,29*	106	30	8,00	10,0
M12,0	1,75	*58,17*	115	32	9,00	12,0

1504 HSS Hex.

M DIN 13 | Tol. 6H | 1/4"

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 15-45																	

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm
M3,0	0,50	*7,33*	33	11	1/4"
M4,0	0,70	*7,33*	35	12	1/4"
M5,0	0,80	*7,33*	36	15	1/4"

Ø	P	€	L mm	l mm	⊠ mm
M6,0	1,00	*7,33*	39	18	1/4"
M8,0	1,25	*10,15*	40	19	1/4"
M10,0	1,50	*11,62*	41	21	1/4"

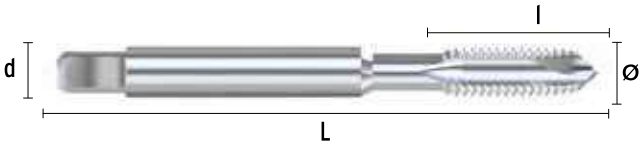
P Aceros Aciers Steels
M Aceros Inox Aciers Inox Stainless Steels
K Fundicion Fonte Cast Iron
N Metales no ferrosos Métal non Ferraux Non Ferrous metals
S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys
H Materiales Duros Materiels Durs Hard materials

2248 HSS ISO 529

M DIN 13 | Form. B "Gun" | Tol. 6H | 3XD

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 5-20							○ 5-15		○ 10-15	● 5-15		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternativo



Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*5,95*	48	11	2,50	3,2
M4,0	0,70	*6,04*	53	13	3,15	4,0
M5,0	0,80	*7,66*	58	16	4,00	5,0
M6,0	1,00	*8,01*	66	19	5,00	6,3
M8,0	1,25	*8,27*	72	22	6,30	8,0
M10,0	1,50	*10,11*	80	24	8,00	10,0
M12,0	1,75	*15,31*	89	29	7,10	10,2
M14,0	2,00	*16,06*	95	30	9,00	11,2

Ø	P	€	L mm	l mm	⊠ mm	d mm
M16,0	2,00	*18,77*	102	32	10,00	12,5
M18,0	2,50	*23,45*	110	37	11,20	14,0
M20,0	2,50	*26,21*	112	37	11,20	14,0
M22,0	2,50	*29,71*	118	38	12,50	16,0
M24,0	3,00	*37,54*	130	45	14,00	18,0
M27,0	3,00	*50,40*	135	45	16,00	20,0
M30,0	3,50	*93,54*	138	48	16,00	20,0

2249 HSS ISO 529

M DIN 13 | Form. C | 35° | Tol. 6H | 3XD

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 5-20							○ 5-15		○ 10-15	● 5-15		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternativo

Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*7,44*	48	11	2,50	3,2
M4,0	0,70	*7,70*	53	13	3,15	4,0
M5,0	0,80	*9,54*	58	16	4,00	5,0
M6,0	1,00	*9,89*	66	19	5,00	6,3
M8,0	1,25	*10,54*	72	22	6,30	8,0
M10,0	1,50	*12,64*	80	24	8,00	10,0
M12,0	1,75	*19,12*	89	29	7,10	10,2
M14,0	2,00	*21,57*	95	30	9,00	11,2

Ø	P	€	L mm	l mm	⊠ mm	d mm
M16,0	2,00	*23,45*	102	32	10,00	12,5
M18,0	2,50	*29,44*	112	37	11,20	14,0
M20,0	2,50	*32,99*	112	37	11,20	14,0
M22,0	2,50	*37,06*	118	38	12,50	16,0
M24,0	3,00	*46,81*	130	45	14,00	18,0
M27,0	3,00	*62,91*	135	45	16,00	20,0
M30,0	3,50	*105,70*	138	48	16,00	20,0

2266 HSSE JIS

M DIN13 | Form. B "Gun" | HH1 HH4 | 3XD

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	☒ mm	d mm
M3,0	0,50	*12,16*	46	11	3,20	4,0
M4,0	0,70	*12,43*	52	13	4,00	5,0
M5,0	0,80	*12,45*	60	16	4,50	5,5
M6,0	1,00	*13,66*	62	19	4,50	6,0
M8,0	1,25	*15,07*	70	22	5,00	6,2
M10,0	1,50	*18,49*	75	24	5,50	7,0

Ø	P	€	L mm	l mm	☒ mm	d mm
M12,0	1,75	*23,60*	82	29	6,50	8,5
M14,0	2,00	*31,08*	88	30	8,00	10,5
M16,0	2,00	*38,18*	95	32	10,00	12,5
M18,0	2,50	*51,88*	100	37	11,00	14,0
M20,0	2,50	*55,97*	105	37	12,00	15,0

2267 HSSE JIS

M DIN13 | Form. C | HH1 HH4 | 35° | 3XD

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	☒ mm	d mm
M3,0	0,50	*14,99*	46	6	3,20	4,0
M4,0	0,70	*14,99*	52	9	4,00	5,0
M5,0	0,80	*14,49*	60	10	4,50	5,5
M6,0	1,00	*15,89*	62	12	4,50	6,0
M8,0	1,25	*18,94*	70	15	5,00	6,2
M10,0	1,50	*22,03*	75	18	5,50	7,0

Ø	P	€	L mm	l mm	☒ mm	d mm
M12,0	1,75	*29,42*	82	21	6,50	8,5
M14,0	2,00	*37,77*	88	24	8,00	10,5
M16,0	2,00	*45,61*	95	24	10,00	12,5
M18,0	2,50	*61,33*	100	30	11,00	14,0
M20,0	2,50	*65,34*	105	30	12,00	15,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2268 HSSE JIS

M DIN13 | Form. B "Gun" | HH1 HH4 | 3XD | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*13,61*	46	11	3,20	4,0
M4,0	0,70	*13,93*	52	13	4,00	5,0
M5,0	0,80	*13,94*	60	16	4,50	5,5
M6,0	1,00	*15,30*	62	19	4,50	6,0
M8,0	1,25	*16,87*	70	22	5,00	6,2
M10,0	1,50	*20,72*	75	24	5,50	7,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M12,0	1,75	*26,44*	82	29	6,50	8,5
M14,0	2,00	*34,81*	88	30	8,00	10,5
M16,0	2,00	*42,76*	95	32	10,00	12,5
M18,0	2,50	*58,11*	100	37	11,00	14,0
M20,0	2,50	*62,69*	105	37	12,00	15,0

2269 HSSE JIS

M DIN13 | Form. C | HH1 HH4 | 35° | 3XD | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*16,81*	46	6	3,20	4,0
M4,0	0,70	*16,81*	52	9	4,00	5,0
M5,0	0,80	*16,23*	60	10	4,50	5,5
M6,0	1,00	*17,79*	62	12	4,50	6,0
M8,0	1,25	*21,22*	70	15	5,00	6,2
M10,0	1,50	*24,69*	75	18	5,50	7,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M12,0	1,75	*32,95*	82	21	6,50	8,5
M14,0	2,00	*42,30*	88	24	8,00	10,5
M16,0	2,00	*51,08*	95	24	10,00	12,5
M18,0	2,50	*68,69*	100	30	11,00	14,0
M20,0	2,50	*73,19*	105	30	12,00	15,0

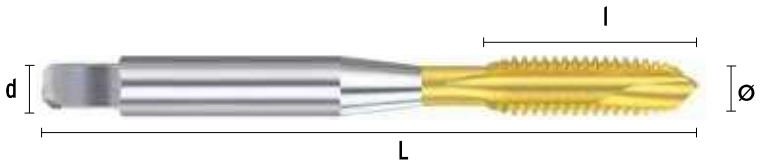
2270 HSSE JIS

M DIN13 | Form. B "Gun" | HH1 HH4 | 3XD | TIN

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 12-18			○ 5-10			○ 15-20		○ 15-20	● 15-25		○ 12-18					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH



Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*17,02*	46	11	3,20	4,0
M4,0	0,70	*18,19*	52	13	4,00	5,0
M5,0	0,80	*18,20*	60	16	4,50	5,5
M6,0	1,00	*19,41*	62	19	4,50	6,0
M8,0	1,25	*22,47*	70	22	5,00	6,2
M10,0	1,50	*29,47*	75	24	5,50	7,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M12,0	1,75	*35,69*	82	29	6,50	8,5
M14,0	2,00	*44,79*	88	30	8,00	10,5
M16,0	2,00	*53,26*	95	32	10,00	12,5
M18,0	2,50	*66,96*	100	37	11,00	14,0
M20,0	2,50	*71,04*	105	37	12,00	15,0

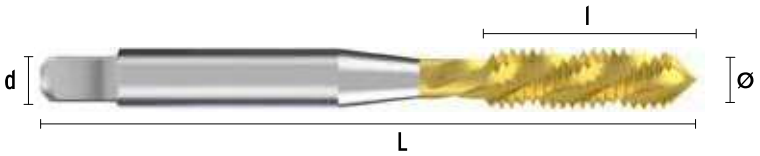
2271 HSSE JIS

M DIN13 | Form. C | HH1 HH4 | 35° | 3XD | TIN

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 12-18			○ 5-10			○ 15-20		○ 15-20	● 15-25		○ 12-18					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH



Ø	P	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	*20,11*	46	6	3,20	4,0
M4,0	0,70	*21,03*	52	9	4,00	5,0
M5,0	0,80	*20,53*	60	10	4,50	5,5
M6,0	1,00	*21,91*	62	12	4,50	6,0
M8,0	1,25	*26,70*	70	15	5,00	6,2
M10,0	1,50	*33,53*	75	18	5,50	7,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
M12,0	1,75	*42,09*	82	21	6,50	8,5
M14,0	2,00	*52,14*	88	24	8,00	10,5
M16,0	2,00	*61,41*	95	24	10,00	12,5
M18,0	2,50	*77,13*	100	30	11,00	14,0
M20,0	2,50	*81,14*	105	30	12,00	15,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2148 HSSE DIN 371

UNC ANSI/ASME B1.1 | Form. C | Tol. 2B | 1,5XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº4	40,00	*23,96*	56	11	2,70	3,5
Nº5	40,00	*23,96*	56	11	2,70	3,5
Nº6	32,00	*22,81*	56	12	3,00	4,0
Nº8	32,00	*22,81*	63	13	3,40	4,5

Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº10	24,00	*23,96*	70	14	4,90	6,0
Nº12	24,00	*25,14*	80	16	4,90	6,0
1/4	20,00	*21,27*	80	16	5,50	7,0
5/16	18,00	*22,62*	90	20	6,20	8,0

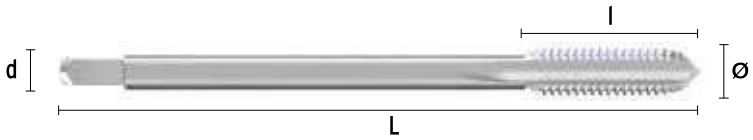
*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

2147 HSSE DIN 376

UNC ANSI/ASME B1.1 | Form. C | Tol. 2B | 1,5XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
1/4	20,00	*21,27*	80	18	3,40	4,5
5/16	18,00	*24,07*	90	20	4,90	6,0
3/8	16,00	*27,46*	100	22	5,50	7,0
7/16	14,00	*37,75*	100	22	6,20	8,0
1/2	13,00	*41,42*	110	27	7,00	9,0
9/16	12,00	*56,41*	110	30	9,00	11,0
5/8	11,00	*54,79*	110	30	9,00	12,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
3/4	10,00	*72,41*	125	35	11,00	14,0
7/8	9,00	*95,39*	140	36	14,50	18,0
1	8,00	*125,28*	160	38	16,00	20,0
1"1/8	7,00	*158,18*	180	45	18,00	22,0
1"1/4	7,00	*193,95*	180	45	18,00	22,0
1"1/2	6,00	*327,03*	200	55	24,00	32,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

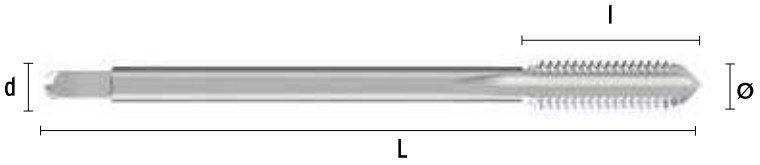
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2147/5 HSSE DIN 376

UNC ANSI/ASME B1.1 | Form. C | LH | Tol. 2B | 1,5XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	☐ mm	d mm
1/4	20,00	*42,53*	80	18	3,40	4,5
5/16	18,00	*48,13*	90	20	4,90	6,0
3/8	16,00	*54,94*	100	22	5,50	7,0
7/16	14,00	*75,51*	100	22	6,20	8,0
1/2	13,00	*82,83*	110	27	7,00	9,0

Ø	P	€	L mm	l mm	☐ mm	d mm
9/16	12,00	*112,82*	110	30	9,00	11,0
5/8	11,00	*109,58*	110	30	9,00	12,0
3/4	10,00	*144,82*	125	35	11,00	14,0
7/8	9,00	*190,81*	140	36	14,50	18,0
1"	8,00	*250,53*	160	38	16,00	20,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

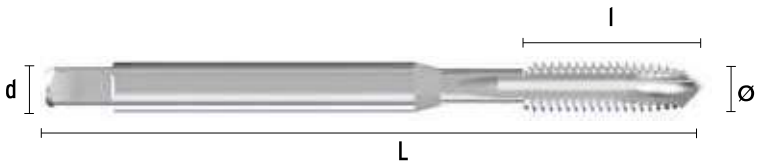
P Aceros Aciers Steels | M Aceros Inox Aciers Inox Stainless Steels | K Fundicion Fonte Cast Iron | N Metales no ferrosos Métal non Ferraux Non Ferrous metals | S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys | H Materiales Duros Materiels Durs Hard materials

2150 HSSE DIN 371

UNC ANSI/ASME B1.1 | Form. B "Gun" | Tol. 2B | 3XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº4	40,00	*22,15*	56	10	2,70	3,5
Nº5	40,00	*20,64*	56	10	2,70	3,5
Nº6	32,00	*20,64*	56	12	3,00	4,0
Nº8	32,00	*20,64*	63	12	3,40	4,5
Nº10	24,00	*20,89*	70	14	4,90	6,0

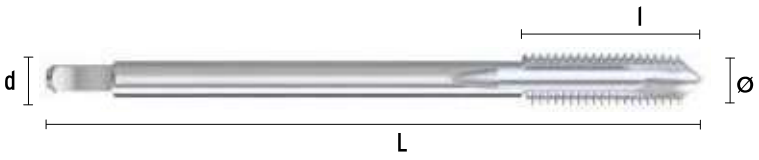
Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº12	24,00	*22,10*	80	18	4,90	6,0
1/4	20,00	*22,10*	80	18	5,50	7,0
5/16	18,00	*23,87*	90	20	6,20	8,0
3/8	16,00	*28,21*	100	20	8,00	10,0

2149 HSSE DIN 376

UNC ANSI/ASME B1.1 | Form. B "Gun" | Tol. 2B | 3XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
*1/4	20,00	*22,10*	80	18	3,40	4,5
*5/16	18,00	*23,87*	90	20	4,90	6,0
*3/8	16,00	*28,21*	100	20	5,50	7,0
7/16	14,00	*40,10*	100	22	6,20	8,0
1/2	13,00	*40,10*	110	24	7,00	9,0
9/16	12,00	*54,70*	110	25	9,00	11,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
5/8	11,00	*53,65*	110	32	9,00	12,0
3/4	10,00	*78,05*	125	32	11,00	14,0
7/8	9,00	*111,20*	140	32	14,50	18,0
1"	8,00	*103,05*	160	38	16,00	20,0
1"1/8	7,00	*171,55*	180	40	18,00	22,0
1"1/4	7,00	*176,40*	180	40	18,00	22,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

P Aceros Aciers Steels | M Aceros Inox Aciers Inox Stainless Steels | K Fundicion Fonte Cast Iron | N Metales no ferrosos Métal non Ferraux Non Ferrous metals | S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys | H Materiales Duros Materiels Durs Hard materials

2262 HSSE DIN 371

UNC ANSI/ASME B1.1 | Form. B "Gun" | Tol. 2B | R | 3XD | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			● 5-10	○ 5-8		○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW

Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº4	40,00	*24,36*	56	10	2,70	3,5
Nº5	40,00	*22,71*	56	10	2,70	3,5
Nº6	32,00	*22,71*	56	12	3,00	4,0
Nº8	32,00	*22,71*	63	12	3,40	4,5
Nº10	24,00	*22,98*	70	14	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº12	24,00	*24,31*	80	18	4,90	6,0
1/4	20,00	*24,31*	80	18	5,50	7,0
5/16	18,00	*26,26*	90	20	6,20	8,0
3/8	16,00	*31,03*	100	20	8,00	10,0

2263 HSSE DIN 376

UNC ANSI/ASME B1.1 | Form. B "Gun" | Tol. 2B | D | 3XD | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			● 5-10	○ 5-8		○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW

Ø	P	€	L mm	l mm	⊠ mm	d mm
7/16	14,00	*44,09*	100	22	6,20	8,0
1/2	13,00	*44,09*	110	24	7,00	9,0
9/16	12,00	*60,19*	110	25	9,00	11,0
5/8	11,00	*59,03*	110	32	9,00	12,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
3/4	10,00	*85,87*	125	32	11,00	14,0
7/8	9,00	*122,33*	140	32	14,50	18,0
1"	8,00	*113,34*	160	38	16,00	20,0

P Aceros Aciers Steels | M Aceros Inox Aciers Inox Stainless Steels | K Fundicion Fonte Cast Iron | N Metales no ferrosos Métal non Ferraux Non Ferrous metals | S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys | H Materiales Duros Materiels Durs Hard materials

2234 HSSE DIN 371

UNC ANSI/ASME B1.1 | Form. B "Gun" | Tol. 2B | R | 3XD | TIN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 15-30	● 12-18	○ 8-12		● 6-12	○ 6-10	● 10-15	● 15-20		● 15-25	● 15-25		○ 12-18					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW

Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº4	40,00	*33,28*	56	10	2,70	3,5
Nº5	40,00	*30,02*	56	10	2,70	3,5
Nº6	32,00	*30,02*	56	12	3,00	4,0
Nº8	32,00	*30,02*	63	12	3,40	4,5
Nº10	24,00	*32,26*	70	14	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº12	24,00	*33,73*	80	18	4,90	6,0
1/4	20,00	*33,73*	80	18	5,50	7,0
5/16	18,00	*37,83*	90	20	6,20	8,0
3/8	16,00	*46,47*	100	20	8,00	10,0

2235 HSSE DIN 376

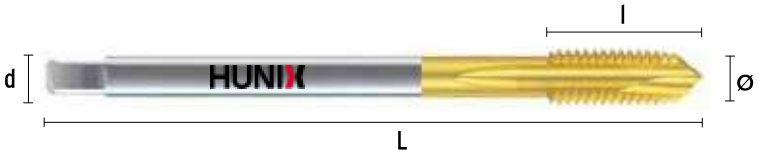
UNC ANSI/ASME B1.1 | Form. B "Gun" | Tol. 2B | D | 3XD | TIN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 15-30	● 12-18	○ 8-12		● 6-12	○ 6-10	● 10-15	● 15-20		● 15-25	● 15-25		○ 12-18					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW



Ø	P	€	L mm	l mm	⊠ mm	d mm
7/16	14,00	*64,97*	100	22	6,20	8,0
1/2	13,00	*66,95*	110	24	7,00	9,0
9/16	12,00	*91,40*	110	25	9,00	11,0
5/8	11,00	*86,66*	110	32	9,00	12,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
3/4	10,00	*127,89*	125	32	11,00	14,0
7/8	9,00	*191,64*	140	32	14,50	18,0
1"	8,00	*176,85*	160	38	16,00	20,0

P Aceros Aciers Steels | M Aceros Inox Aciers Inox Stainless Steels | K Fundicion Fonte Cast Iron | N Metales no ferrosos Métal non Ferraux Non Ferrous metals | S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys | H Materiales Duros Materiels Durs Hard materials

2152 HSSE DIN 371

UNC ANSI/ASME B1.1 | Form. C | Tol. 2B | 35° | 3XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº4	40,00	*24,40*	56	5	2,70	3,5
Nº5	40,00	*22,65*	56	7	2,70	3,5
Nº6	32,00	*22,65*	56	6	3,00	4,0
Nº8	32,00	*22,65*	63	7	3,40	4,5
Nº10	24,00	*23,05*	70	8	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº12	24,00	*24,35*	80	10	4,90	6,0
1/4	20,00	*24,35*	80	13	5,50	7,0
5/16	18,00	*26,30*	90	13	6,20	8,0
3/8	16,00	*31,05*	100	15	8,00	10,0

2151 HSSE DIN 376

UNC ANSI/ASME B1.1 | Form. C | Tol. 2B | 35° | 3XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	⊠ mm	d mm
*1/4	20,00	*24,35*	80	13	3,40	4,5
*5/16	18,00	*26,30*	90	13	4,90	6,0
*3/8	16,00	*31,05*	100	16	5,50	7,0
7/16	14,00	*44,05*	100	15	6,20	8,0
1/2	13,00	*44,05*	110	18	7,00	9,0
9/16	12,00	*60,15*	110	20	9,00	11,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
5/8	11,00	*59,05*	110	22	9,00	12,0
3/4	10,00	*85,85*	125	25	11,00	14,0
7/8	9,00	*122,30*	140	30	14,50	18,0
1"	8,00	*113,40*	160	30	16,00	20,0
1"1/8	7,00	*188,71*	180	40	18,00	22,0
1"1/4	7,00	*194,04*	180	40	18,00	22,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2264 HSSE DIN 371

UNC ANSI/ASME B1.1 | Form. C | Tol. 2B | 35° | R | 3XD | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			● 5-10	○ 5-8		○ 10-15			● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW

Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº4	40,00	*26,84*	56	5	2,70	3,5
Nº5	40,00	*24,94*	56	7	2,70	3,5
Nº6	32,00	*24,94*	56	6	3,00	4,0
Nº8	32,00	*24,94*	63	7	3,40	4,5
Nº10	24,00	*25,38*	70	8	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº12	24,00	*26,76*	80	10	4,90	6,0
1/4	20,00	*26,76*	80	13	5,50	7,0
5/16	18,00	*28,94*	90	13	6,20	8,0
3/8	16,00	*34,14*	100	15	8,00	10,0

2265 HSSE DIN 376

UNC ANSI/ASME | Form. C | Tol. 2B | 35° | D | 3XD | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			● 5-10	○ 5-8		○ 10-15			● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW

Ø	P	€	L mm	l mm	⊠ mm	d mm
7/16	14,00	*48,45*	100	15	6,20	8,0
1/2	13,00	*48,45*	110	18	7,00	9,0
9/16	12,00	*66,14*	110	20	9,00	11,0
5/8	11,00	*64,98*	110	22	9,00	12,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
3/4	10,00	*94,41*	125	25	11,00	14,0
7/8	9,00	*134,54*	140	30	14,50	18,0
1"	8,00	*124,72*	160	30	16,00	20,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2236 HSSE DIN 371

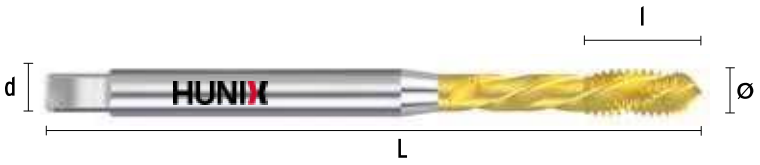
UNC ANSI/ASME B1.1 | Form. C | Tol. 2B | 35° | R | 3XD | TIN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	● 12-18	○ 8-12		● 6-12	○ 6-10		● 15-20			● 15-25		○ 12-18					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW



Ø	P	€	L mm	l mm	⊠ mm	d mm
N°4	40,00	*33,28*	56	5	2,70	3,5
N°5	40,00	*33,28*	56	7	2,70	3,5
N°6	32,00	*32,64*	56	6	3,00	4,0
N°8	32,00	*32,64*	63	7	3,40	4,5
N°10	24,00	*34,95*	70	8	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
N°12	24,00	*36,61*	80	10	4,90	6,0
1/4	20,00	*36,61*	80	13	5,50	7,0
5/16	18,00	*40,84*	90	13	6,20	8,0
3/8	16,00	*50,12*	100	15	8,00	10,0

2237 HSSE DIN 376

UNC ANSI/ASME B1.1 | Form. C | Tol. 2B | 35° | D | 3XD | TIN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	● 12-18	○ 8-12		● 6-12	○ 6-10		● 15-20			● 15-25		○ 12-18					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW

Ø	P	€	L mm	l mm	⊠ mm	d mm
7/16	14,00	*70,09*	100	15	6,20	8,0
1/2	13,00	*72,14*	110	18	7,00	9,0
9/16	12,00	*98,76*	110	20	9,00	11,0
5/8	11,00	*93,45*	110	22	9,00	12,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
3/4	10,00	*137,93*	125	25	11,00	14,0
7/8	9,00	*206,61*	140	30	14,50	18,0
1"	8,00	*190,04*	160	30	16,00	20,0

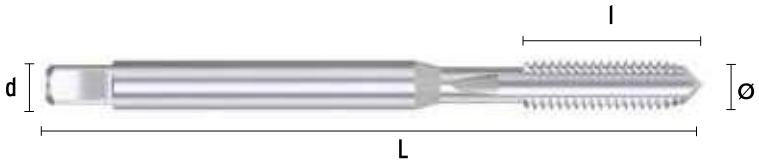
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2154 HSSE DIN 371

UNF ANSI/ASME B1.1 | Form. C | Tol. 2B | 1,5XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº4	48,00	*26,25*	56	11	2,70	3,5
Nº5	44,00	*26,25*	56	11	2,70	3,5
Nº6	40,00	*25,16*	56	12	3,00	4,0
Nº8	36,00	*25,16*	63	13	3,40	4,5

Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº10	32,00	*25,16*	70	14	4,90	6,0
Nº12	28,00	*26,25*	80	16	4,90	6,0
1/4	28,00	*20,20*	80	16	5,50	7,0
5/16	24,00	*23,22*	90	20	6,20	8,0

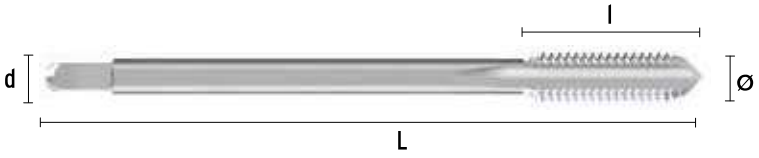
*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

2153 HSSE DIN 374

UNF ANSI/ASME B1.1 | Form. C | Tol. 2B | 1,5XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
1/4	28,00	*20,20*	80	18	3,40	4,5
5/16	24,00	*23,22*	90	20	4,90	6,0
3/8	24,00	*26,80*	100	20	5,50	7,0
7/16	20,00	*34,34*	100	22	6,20	8,0
1/2	20,00	*36,55*	100	22	7,00	9,0
9/16	18,00	*44,88*	100	22	9,00	11,0
5/8	18,00	*50,54*	100	22	9,00	12,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
3/4	16,00	*64,66*	110	25	11,00	14,0
7/8	14,00	*81,34*	125	25	14,50	18,0
1"	12,00	*106,62*	140	28	16,00	20,0
1"1/8	12,00	*160,13*	150	28	18,00	22,0
1"1/4	12,00	*202,38*	150	28	18,00	22,0
1"1/2	12,00	*339,61*	170	30	22,00	28,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

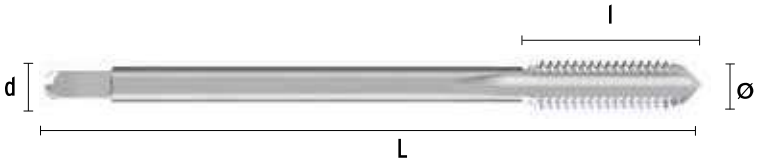
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2153/5 HSSE DIN 374

UNF ANSI/ASME B1.1 | Form. C | LH | Tol. 2B | 1,5XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	☒ mm	d mm
1/4	28,00	*40,37*	80	18	3,40	4,5
5/16	24,00	*46,42*	90	20	4,90	6,0
3/8	24,00	*53,59*	100	20	5,50	7,0
7/16	20,00	*68,65*	100	22	6,20	8,0
1/2	20,00	*73,08*	100	22	7,00	9,0

Ø	P	€	L mm	l mm	☒ mm	d mm
9/16	18,00	*89,74*	100	22	9,00	11,0
5/8	18,00	*101,07*	100	22	9,00	12,0
3/4	16,00	*129,32*	110	25	11,00	14,0
7/8	14,00	*162,69*	125	25	14,50	18,0
1"	12,00	*213,26*	140	28	16,00	20,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

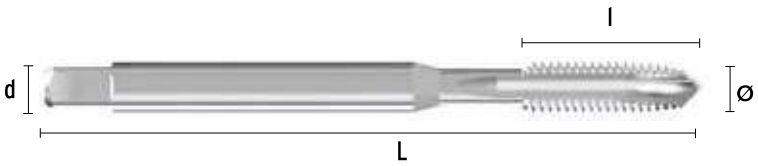
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2156 HSSE DIN 371

UNF ANSI/ASME B1.1 | Form. B "Gun" | Tol. 2B | 3XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº4	48,00	*23,35*	56	11	2,70	3,5
Nº5	44,00	*23,35*	56	11	2,70	3,5
Nº6	40,00	*23,52*	56	12	3,00	4,0
Nº8	36,00	*23,72*	63	12	3,40	4,5
Nº10	32,00	*24,13*	70	14	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº12	28,00	*25,33*	80	18	4,90	6,0
1/4	20,00	*26,51*	80	18	5,50	7,0
5/16	24,00	*27,48*	90	20	6,20	8,0
3/8	24,00	*32,57*	100	20	8,00	10,0

2155 HSSE DIN 376

UNF ANSI/ASME B1.1 | Form. B "Gun" | Tol. 2B | 3XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	⊠ mm	d mm
*1/4	28,00	*26,51*	80	19	3,40	4,5
*5/16	24,00	*27,48*	90	22	4,90	6,0
*3/8	24,00	*32,57*	90	20	5,50	7,0
7/16	20,00	*46,07*	100	20	6,20	8,0
1/2	20,00	*46,07*	100	20	7,00	9,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
9/16	18,00	*62,83*	100	20	9,00	11,0
5/8	18,00	*61,70*	100	20	9,00	12,0
3/4	16,00	*89,79*	110	24	11,00	14,0
7/8	14,00	*127,89*	125	24	14,50	18,0
1"	12,00	*118,60*	140	27	14,50	18,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

P Aceros Aciers Steels | M Aceros Inox Aciers Inox Stainless Steels | K Fundicion Fonte Cast Iron | N Metales no ferrosos Métal non Ferraux Non Ferrous metals | S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys | H Materiales Duros Materiels Durs Hard materials

2276 HSSE DIN 371

UNF ANSI/ASME B1.1 | Form. B "Gun" | Tol. 2B | 3XD | R | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			● 5-10	○ 5-8		○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW

Ø	P	€	L mm	l mm	⊠ mm	d mm
N°4	48,00	*25,69*	56	11	2,70	3,5
N°5	44,00	*25,68*	56	11	2,70	3,5
N°6	40,00	*25,88*	56	12	3,00	4,0
N°8	36,00	*26,10*	63	12	3,40	4,5
N°10	32,00	*26,54*	70	14	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
N°12	28,00	*27,86*	80	18	4,90	6,0
1/4	20,00	*29,16*	80	18	5,50	7,0
5/16	24,00	*30,23*	90	20	6,20	8,0
3/8	24,00	*35,82*	100	20	8,00	10,0

2277 HSSE DIN 374

UNF ANSI/ASME B1.1 | Form. B "Gun" | Tol. 2B | 3XD | D | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			● 5-10	○ 5-8		○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW

Ø	P	€	L mm	l mm	⊠ mm	d mm
7/16	20,00	*50,68*	100	20	6,20	8,0
1/2	20,00	*50,68*	100	20	7,00	9,0
9/16	18,00	*69,11*	100	20	9,00	11,0
5/8	18,00	*67,87*	100	20	9,00	12,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
3/4	16,00	*98,77*	110	24	11,00	14,0
7/8	14,00	*140,68*	125	24	14,50	18,0
1"	12,00	*130,46*	140	27	14,50	18,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2280 HSSE DIN 371

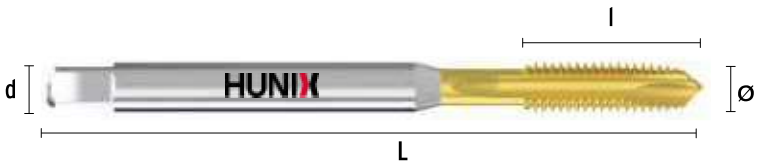
UNF ANSI/ASME B1.1 | Form. B "Gun" | Tol. 2B | 3XD | R | TIN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 15-30	● 12-18	○ 8-12		● 6-12	○ 6-10	● 10-15	● 15-20		● 15-25	● 15-25		○ 12-18					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW



Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº4	48,00	*37,93*	56	11	2,70	3,5
Nº5	44,00	*34,22*	56	11	2,70	3,5
Nº6	40,00	*34,22*	56	12	3,00	4,0
Nº8	36,00	*34,22*	63	12	3,40	4,5
Nº10	32,00	*36,48*	70	14	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº12	28,00	*38,15*	80	18	4,90	6,0
1/4	20,00	*38,15*	80	18	5,50	7,0
5/16	24,00	*43,20*	90	20	6,20	8,0
3/8	24,00	*53,77*	100	20	8,00	10,0

2281 HSSE DIN 374

UNF ANSI/ASME B1.1 | Form. B "Gun" | Tol. 2B | 3XD | D | TIN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 15-30	● 12-18	○ 8-12		● 6-12	○ 6-10	● 10-15	● 15-20		● 15-25	● 15-25		○ 12-18					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW

Ø	P	€	L mm	l mm	⊠ mm	d mm
7/16	20,00	*73,35*	100	20	6,20	8,0
1/2	20,00	*77,06*	100	20	7,00	9,0
9/16	18,00	*105,10*	100	20	9,00	11,0
5/8	18,00	*99,59*	100	20	9,00	12,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
3/4	16,00	*147,22*	110	24	11,00	14,0
7/8	14,00	*216,21*	125	24	14,50	18,0
1"	12,00	*203,03*	140	27	14,50	18,0

P Aceros Aciers Steels
M Aceros Inox Aciers Inox Stainless Steels
K Fundicion Fonte Cast Iron
N Metales no ferrosos Métal non Ferraux Non Ferrous metals
S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys
H Materiales Duros Materiels Durs Hard materials

2158 HSSE DIN 371

UNF ANSI/ASME B1.1 | Form. C | Tol. 2B | 35° | 3XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº4	48,00	*25,70*	56	5	2,70	3,5
Nº5	44,00	*25,70*	56	5	2,70	3,5
Nº6	40,00	*26,03*	56	6	3,00	4,0
Nº8	36,00	*26,18*	63	7	3,40	4,5
Nº10	32,00	*26,51*	70	8	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº12	28,00	*27,88*	80	10	4,90	6,0
1/4	28,00	*29,21*	80	10	5,50	7,0
5/16	24,00	*30,26*	90	13	6,20	8,0
3/8	24,00	*35,87*	100	15	8,00	10,0

2157 HSSE DIN 374

UNF ANSI/ASME B1.1 | Form. C | Tol. 2B | 35° | 3XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	⊠ mm	d mm
*1/4	28,00	*29,21*	80	13	3,40	4,5
*5/16	24,00	*30,26*	90	13	4,90	6,0
*3/8	24,00	*35,87*	100	16	5,50	7,0
7/16	20,00	*50,71*	100	15	6,20	8,0
1/2	20,00	*50,71*	100	15	7,00	9,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
9/16	18,00	*69,29*	100	15	9,00	11,0
5/8	18,00	*67,92*	100	15	9,00	12,0
3/4	16,00	*98,76*	110	17	11,00	14,0
7/8	14,00	*140,74*	125	17	14,50	18,0
1"	12,00	*130,40*	140	20	14,50	18,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

P Aceros Aciers Steels | M Aceros Inox Aciers Inox Stainless Steels | K Fundicion Fonte Cast Iron | N Metales no ferrosos Métal non Ferraux Non Ferrous metals | S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys | H Materiales Duros Materiels Durs Hard materials

2278 HSSE DIN 371

UNF ANSI/ASME B1.1 | Form. C | Tol. 2B | 35° | 3XD | R | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			● 5-10	○ 5-8		○ 10-15			● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

Ø	P	€	L mm	l mm	⊠ mm	d mm
N°4	48,00	*28,27*	56	5	2,70	3,5
N°5	44,00	*28,27*	56	5	2,70	3,5
N°6	40,00	*28,63*	56	6	3,00	4,0
N°8	36,00	*28,80*	63	7	3,40	4,5
N°10	32,00	*29,16*	70	8	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
N°12	28,00	*30,67*	80	10	4,90	6,0
1/4	28,00	*32,13*	80	10	5,50	7,0
5/16	24,00	*33,29*	90	13	6,20	8,0
3/8	24,00	*39,46*	100	15	8,00	10,0

2279 HSSE DIN 374

UNF ANSI/ASME B1.1 | Form. C | Tol. 2B | 35° | 3XD | D | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			● 5-10	○ 5-8		○ 10-15			● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

Ø	P	€	L mm	l mm	⊠ mm	d mm
7/16	20,00	*55,78*	100	20	6,20	8,0
1/2	20,00	*55,78*	100	20	7,00	9,0
9/16	18,00	*76,22*	100	20	9,00	11,0
5/8	18,00	*74,71*	100	20	9,00	12,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
3/4	16,00	*108,63*	110	24	11,00	14,0
7/8	14,00	*154,82*	125	24	14,50	18,0
1"	12,00	*143,44*	140	27	14,50	18,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2282 HSSE DIN 371

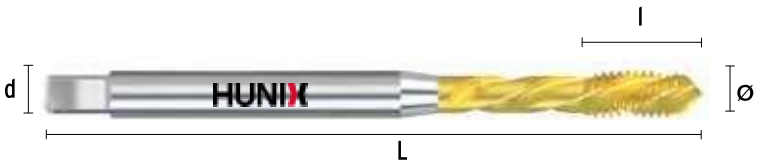
UNF ANSI/ASME B1.1 | Form. C | Tol. 2B | 35° | 3XD | R | TIN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	● 12-18	○ 8-12		● 6-12	○ 6-10		● 15-20			● 15-25		○ 12-18					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW



Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº4	48,00	*41,83*	56	5	2,70	3,5
Nº5	44,00	*37,60*	56	5	2,70	3,5
Nº6	40,00	*37,60*	56	6	3,00	4,0
Nº8	36,00	*37,60*	63	7	3,40	4,5
Nº10	32,00	*39,56*	70	8	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº12	28,00	*41,35*	80	10	4,90	6,0
1/4	28,00	*41,35*	80	10	5,50	7,0
5/16	24,00	*46,72*	90	13	6,20	8,0
3/8	24,00	*57,61*	100	15	8,00	10,0

2283 HSSE DIN 374

UNF ANSI/ASME B1.1 | Form. C | Tol. 2B | 35° | 3XD | D | TIN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	● 12-18	○ 8-12		● 6-12	○ 6-10		● 15-20			● 15-25		○ 12-18					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW

Ø	P	€	L mm	l mm	⊠ mm	d mm
7/16	20,00	*79,18*	100	15	6,20	8,0
1/2	20,00	*82,95*	100	15	7,00	9,0
9/16	18,00	*113,61*	100	15	9,00	11,0
5/8	18,00	*106,44*	100	15	9,00	12,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
3/4	16,00	*158,61*	110	17	11,00	14,0
7/8	14,00	*233,37*	125	17	14,50	18,0
1"	12,00	*217,56*	140	20	14,50	18,0

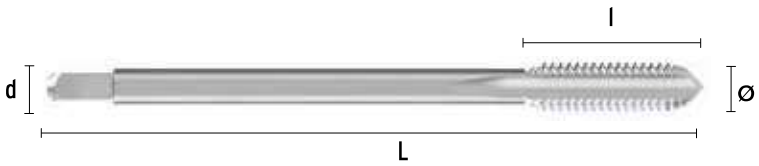
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2189 HSSE DIN 374

UN ANSI/ASME B1.1 | Form. C | Tol. 2B | 1,5XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
1"1/8	8,00	*418,52*	180	45	18,00	22,0
1"1/4	8,00	*539,96*	180	45	18,00	22,0
1"3/8	8,00	*449,79*	200	56	22,00	28,0
1"1/2	8,00	*514,98*	200	60	24,00	32,0

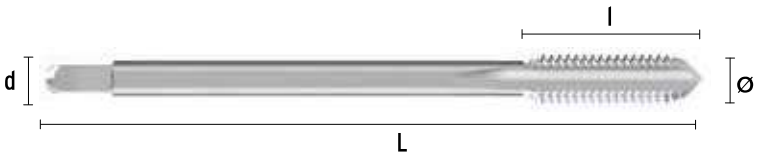
Ø	P	€	L mm	l mm	⊠ mm	d mm
1"5/8	8,00	*524,25*	200	60	24,00	32,0
1"3/4	8,00	*657,22*	200	50	29,00	36,0
2"	8,00	*1.068,29*	225	50	32,00	40,0

2160 HSSE DIN 374

UNEF ANSI/ASME B1.1 | Form. C | Tol. 2B | 1,5XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
1/4	32,00	*86,12*	80	18	3,40	4,5
5/16	32,00	*100,31*	90	20	4,90	6,0
3/8	32,00	*114,98*	90	20	5,50	7,0
7/16	28,00	*146,35*	90	22	6,20	8,0
1/2	28,00	*156,60*	100	22	7,00	9,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
9/16	24,00	*188,10*	100	22	9,00	11,0
5/8	24,00	*218,74*	100	22	9,00	12,0
3/4	20,00	*289,87*	110	25	11,00	14,0
1"	20,00	*474,97*	140	28	14,50	18,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

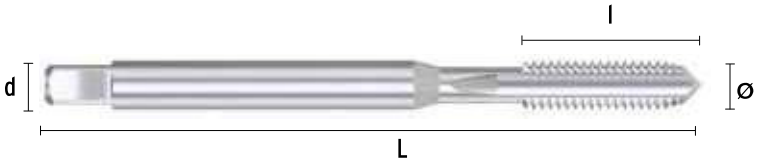
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2136 HSSE DIN 371

BSW BS 84 | Form. C | 1,5XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	☐ mm	d mm
3/32	48,00	*20,24*	50	10	2,10	2,8
1/8	40,00	*16,91*	56	11	2,70	3,5
5/32	32,00	*16,91*	63	13	3,40	4,5
3/16	24,00	*16,91*	70	16	4,90	6,0

Ø	P	€	L mm	l mm	☐ mm	d mm
7/32	24,00	*25,70*	80	16	4,90	6,0
1/4	20,00	*18,43*	80	18	5,50	7,0
5/16	18,00	*22,62*	90	20	6,20	8,0
3/8	16,00	*24,99*	100	22	8,00	10,0

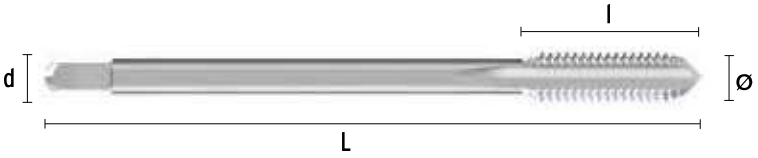
*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

2135 HSSE DIN 376

BSW BS 84 | Form. C | 1,5XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	☐ mm	d mm
1/8	40,00	*16,91*	56	11	2,10	2,8
5/32	32,00	*16,91*	63	13	2,10	2,8
3/16	24,00	*16,91*	70	16	2,70	3,5
7/32	24,00	*25,70*	80	18	3,40	4,5
1/4	20,00	*18,43*	80	18	3,40	4,5
5/16	18,00	*22,62*	90	20	4,90	6,0
3/8	16,00	*24,99*	100	20	5,50	7,0
7/16	14,00	*32,97*	100	22	6,20	8,0
1/2	12,00	*31,62*	110	22	7,00	9,0
9/16	12,00	*45,35*	110	30	9,00	11,0
5/8	11,00	*42,89*	110	28	9,00	12,0
3/4	10,00	*57,40*	125	32	11,00	14,0

Ø	P	€	L mm	l mm	☐ mm	d mm
7/8	9,00	*77,74*	140	36	14,50	18,0
1"	8,00	*97,77*	160	38	14,50	18,0
1"1/8	7,00	*129,70*	180	45	18,00	22,0
1"1/4	7,00	*188,24*	180	45	18,00	22,0
1"3/8	6,00	*309,48*	200	55	22,00	28,0
1"1/2	6,00	*335,95*	200	55	24,00	32,0
1"5/8	5,00	*490,19*	220	60	24,00	32,0
1"3/4	5,00	*528,83*	220	62	29,00	36,0
1"7/8	4,50	*586,28*	250	70	29,00	36,0
2"	4,50	*756,85*	250	70	32,00	40,0
2"1/4	4,00	*824,86*	280	78	35,00	45,0
2"1/2	4,00	*952,83*	315	90	39,00	50,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2136/5 HSSE DIN 371

BSW BS 84 | Form. C | LH | 1,5XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	⊠ mm	d mm
1/8	40,00	*33,83*	56	11	2,70	3,5
5/32	32,00	*33,83*	63	13	3,40	4,5
3/16	24,00	*33,83*	70	14	4,90	6,0

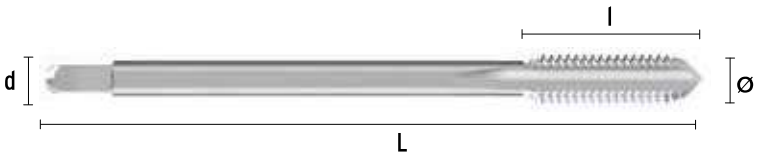
*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

2135/5 HSSE DIN 376

BSW BS 84 | Form. C | LH | 1,5XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
1/4	20,00	*36,86*	80	18	3,40	4,5
5/16	18,00	*45,24*	90	20	4,90	6,0
3/8	16,00	*49,98*	100	22	5,50	7,0
7/16	14,00	*65,93*	100	22	6,20	8,0
1/2	12,00	*63,22*	110	27	7,00	9,0
9/16	12,00	*90,69*	110	30	9,00	11,0
5/8	11,00	*85,81*	110	30	9,00	12,0
3/4	10,00	*114,79*	125	35	11,00	14,0
7/8	9,00	*155,48*	140	36	14,50	18,0
1"	8,00	*195,53*	160	38	14,50	18,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

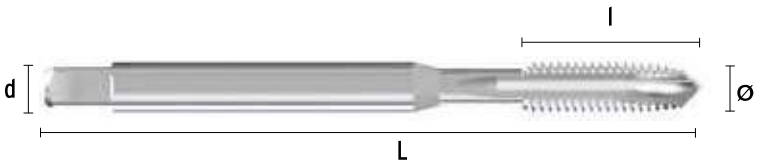
P Aceros Aciers Steels | M Aceros Inox Aciers Inox Stainless Steels | K Fundicion Fonte Cast Iron | N Metales no ferrosos Métal non Ferraux Non Ferrous metals | S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys | H Materiales Duros Materiels Durs Hard materials

2138 HSSE DIN 371

BSW BS 84 | Form. B "Gun" | 3XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	☒ mm	d mm
1/8	40,00	*18,68*	56	11	2,70	3,5
*5/32	32,00	*18,68*	63	13	3,40	4,5
3/16	24,00	*18,68*	70	15	4,90	6,0

Ø	P	€	L mm	l mm	☒ mm	d mm
1/4	20,00	*21,22*	80	18	5,50	7,0
5/16	18,00	*28,68*	90	20	6,20	8,0
3/8	16,00	*27,46*	100	20	8,00	10,0

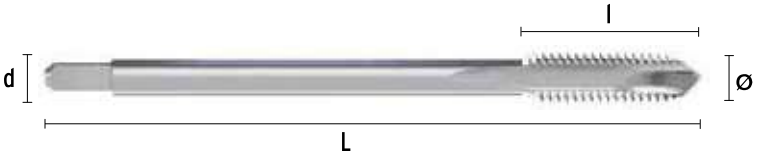
*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

2137 HSSE DIN 376

BSW BS 84 | Form. B "Gun" | 3XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	☒ mm	d mm
*1/4	20,00	*21,22*	80	17	3,40	4,5
*5/16	18,00	*24,84*	90	20	4,90	6,0
*3/8	16,00	*27,46*	100	22	5,50	7,0
7/16	14,00	*34,67*	100	22	6,20	8,0
1/2	12,00	*36,30*	110	27	7,00	9,0

Ø	P	€	L mm	l mm	☒ mm	d mm
9/16	12,00	*49,86*	110	30	9,00	11,0
5/8	11,00	*47,12*	110	30	9,00	12,0
3/4	10,00	*63,20*	125	35	11,00	14,0
7/8	9,00	*85,48*	140	36	14,50	18,0
1"	8,00	*107,48*	160	38	14,50	18,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

P Aceros Aciers Steels | M Aceros Inox Aciers Inox Stainless Steels | K Fundicion Fonte Cast Iron | N Metales no ferrosos Métal non Ferraux Non Ferrous metals | S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys | H Materiales Duros Materiels Durs Hard materials

2140 HSSE DIN 371

BSW BS 84 | Form. C | 35° | 3XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	⊠ mm	d mm
1/8	40,00	*21,22*	56	7	2,70	3,5
*5/32	32,00	*21,22*	63	7	3,40	4,5
3/16	24,00	*21,22*	70	10	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
1/4	20,00	*28,75*	80	13	5,50	7,0
5/16	18,00	*35,26*	90	14	6,20	8,0
3/8	16,00	*37,22*	100	20	8,00	10,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

2139 HSSE DIN 376

BSW BS 84 | Form. C | 35° | 3XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	⊠ mm	d mm
*3/16	24,00	*21,22*	70	14	2,70	3,5
*1/4	20,00	*28,75*	80	16	3,40	4,5
*5/16	18,00	*33,71*	90	18	4,90	6,0
3/8	16,00	*37,22*	100	20	5,50	7,0
7/16	14,00	*42,27*	100	15	6,20	8,0
1/2	12,00	*40,52*	110	18	7,00	9,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
9/16	12,00	*58,08*	110	22	9,00	11,0
5/8	11,00	*54,95*	110	22	9,00	12,0
3/4	10,00	*73,57*	125	25	11,00	14,0
7/8	9,00	*99,58*	140	30	14,50	18,0
1"	8,00	*125,01*	160	30	16,00	20,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2141 HSSE DIN 371

BSF BS 84 | Form. C | 1,5XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	☒ mm	d mm
3/16	32,00	*72,58*	70	14	4,90	6,0
1/4	26,00	*30,90*	80	18	3,40	4,5
5/16	22,00	*36,71*	90	20	4,90	6,0
3/8	20,00	*38,56*	100	22	5,50	7,0

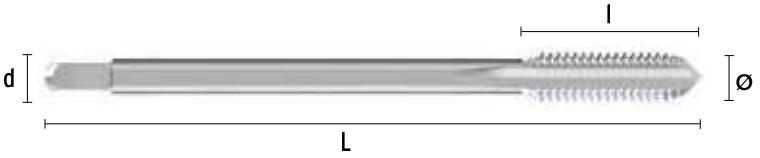
*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

2142 HSSE DIN 374

BSF BS 84 | Form. C | 1,5XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	☒ mm	d mm
7/16	18,00	*52,04*	100	20	6,20	8,0
1/2	16,00	*58,87*	110	22	7,00	9,0
9/16	16,00	*62,31*	110	23	9,00	11,0
5/8	14,00	*83,04*	110	28	9,00	12,0
3/4	12,00	*98,29*	125	32	11,00	14,0
7/8	11,00	*136,66*	140	34	14,50	18,0
1"	10,00	*163,18*	140	28	16,00	20,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

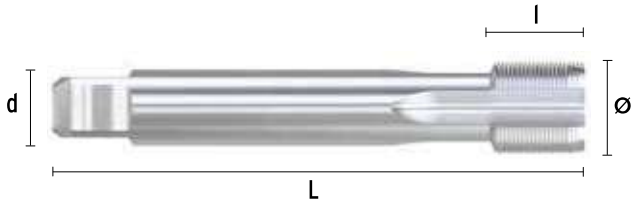
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2144 HSSE DIN 5156

G ISO 228 | Form. C | 1,5XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
1/8	28,00	*28,57*	90	20	5,50	7,0
1/4	19,00	*40,73*	100	22	9,00	11,0
3/8	19,00	*48,74*	100	22	9,00	12,0
1/2	14,00	*61,59*	125	25	12,00	16,0
5/8	14,00	*76,77*	125	25	14,50	18,0
3/4	14,00	*96,43*	140	28	16,00	20,0
7/8	14,00	*129,63*	150	30	18,00	22,0

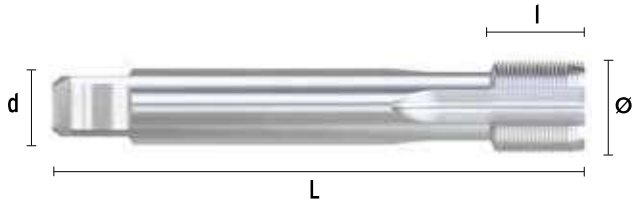
Ø	P	€	L mm	l mm	⊠ mm	d mm
1"	11,00	*149,63*	160	32	20,00	25,0
1"1/8	11,00	*227,41*	170	34	22,00	28,0
1"1/4	11,00	*266,81*	170	34	24,00	32,0
1"3/8	11,00	*333,71*	180	32	29,00	36,0
1"1/2	11,00	*423,49*	190	36	29,00	36,0
1"3/4	11,00	*503,33*	190	36	32,00	40,0
2"	11,00	*641,39*	220	40	35,00	45,0

2144/5 HSSE DIN 5156

G ISO 228 | Form. C | LH | 1,5XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
1/8	28,00	*57,15*	90	20	5,50	7,0
1/4	19,00	*81,47*	100	22	9,00	11,0
3/8	19,00	*97,45*	100	22	9,00	12,0
1/2	14,00	*123,17*	125	25	12,00	16,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
5/8	14,00	*153,55*	125	25	14,50	18,0
3/4	14,00	*192,86*	140	28	16,00	20,0
1"	11,00	*299,26*	160	32	20,00	25,0

P Aceros Aciers Steels
M Aceros Inox Aciers Inox Stainless Steels
K Fundicion Fonte Cast Iron
N Metales no ferrosos Métal non Ferraux Non Ferrous metals
S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys
H Materiales Duros Materiels Durs Hard materials

2192 HSSE DIN 5156

G ISO 228 | Form. E | 1,5XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
										● 25-35							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

ø	P	€	L mm	l mm	☐ mm	d mm
1/8	28,00	*34,65*	90	20	5,50	7,0
1/4	19,00	*53,21*	100	22	9,00	11,0
3/8	19,00	*73,48*	100	22	9,00	12,0
1/2	14,00	*99,15*	125	25	12,00	16,0

ø	P	€	L mm	l mm	☐ mm	d mm
5/8	14,00	*103,59*	125	25	14,50	18,0
3/4	14,00	*145,51*	140	28	16,00	20,0
7/8	14,00	*177,85*	150	28	18,00	22,0
1"	11,00	*221,96*	160	30	20,00	25,0

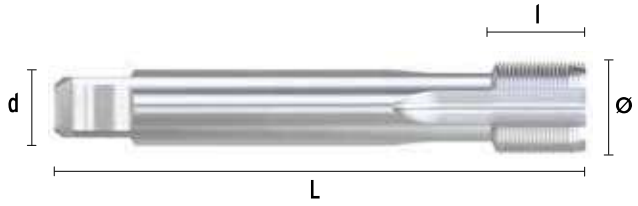
*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

2206 HSSE DIN 5156

+0,1 | G ISO 228 | Form. E | 1,5XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
										● 25-35							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



ø	P	€	L mm	l mm	☐ mm	d mm
1/8	28,00	*42,24*	90	20	5,50	7,0
1/4	19,00	*62,94*	100	22	9,00	11,0
3/8	19,00	*88,18*	100	22	9,00	12,0
1/2	14,00	*120,38*	125	25	12,00	16,0

ø	P	€	L mm	l mm	☐ mm	d mm
5/8	14,00	*125,90*	125	25	14,50	18,0
3/4	14,00	*174,62*	140	28	16,00	20,0
7/8	14,00	*206,30*	150	28	18,00	22,0
1"	11,00	*257,46*	160	30	20,00	25,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

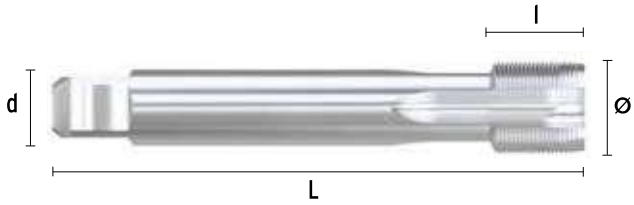
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2145 HSSE DIN 5156

G ISO 228 | Form. B "Gun" | 3XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
1/8	28,00	*33,02*	90	20	5,50	7,0
1/4	19,00	*59,27*	100	22	9,00	11,0
3/8	19,00	*58,47*	100	22	9,00	12,0
1/2	14,00	*78,06*	125	25	12,00	16,0
5/8	14,00	*121,30*	125	25	14,50	18,0
3/4	14,00	*137,99*	140	28	16,00	20,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
7/8	14,00	*176,34*	150	30	18,00	22,0
1"	11,00	*259,62*	160	32	20,00	25,0
1"1/8	11,00	*388,03*	170	30	22,00	28,0
1"1/4	11,00	*386,20*	170	30	24,00	32,0
1"3/8	11,00	*395,40*	190	32	29,00	36,0
1"1/2	11,00	*411,13*	190	32	29,00	36,0

2284 HSSE DIN 5156

G ISO 228 | Form. B "Gun" | 3XD | D | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			● 5-10	○ 5-10		○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW

Ø	P	€	L mm	l mm	⊠ mm	d mm
1/8	28,00	*36,32*	90	20	5,50	7,0
1/4	19,00	*65,20*	100	22	9,00	11,0
3/8	19,00	*64,32*	100	22	9,00	12,0
1/2	14,00	*85,87*	125	25	12,00	16,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
5/8	14,00	*133,43*	125	25	14,50	18,0
3/4	14,00	*151,79*	140	28	16,00	20,0
7/8	14,00	*193,98*	150	30	18,00	22,0
1"	11,00	*285,58*	160	32	20,00	25,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2286 HSSE DIN 5156

G ISO 228 | Form. B "Gun" | 3XD | D | TIN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 15-30	● 12-18	○ 8-12		● 6-12	○ 6-10	● 10-15	● 15-20		● 15-25	● 15-25		○ 12-18					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW

ø	P	€	L mm	l mm	⊠ mm	d mm
1/8	28,00	*55,88*	90	20	5,50	7,0
1/4	19,00	*91,34*	100	22	9,00	11,0
3/8	19,00	*102,79*	100	22	9,00	12,0
1/2	14,00	*130,57*	125	25	12,00	16,0

ø	P	€	L mm	l mm	⊠ mm	d mm
5/8	14,00	*197,46*	125	25	14,50	18,0
3/4	14,00	*221,53*	140	28	16,00	20,0
7/8	14,00	*291,04*	150	30	18,00	22,0
1"	11,00	*397,16*	160	32	20,00	25,0

2146 HSSE DIN 5156

G ISO 228 | Form. C | 35° | 3XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			○ 5-10			○ 10-15		○ 10-15	● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

ø	P	€	L mm	l mm	⊠ mm	d mm
1/8	28,00	*36,20*	90	10	5,50	7,0
1/4	19,00	*65,21*	100	14	9,00	11,0
3/8	19,00	*64,41*	100	15	9,00	12,0
1/2	14,00	*85,83*	125	17	12,00	16,0
5/8	14,00	*133,43*	125	20	14,50	18,0
3/4	14,00	*151,77*	140	20	16,00	20,0

ø	P	€	L mm	l mm	⊠ mm	d mm
7/8	14,00	*194,08*	150	22	18,00	22,0
1"	11,00	*285,52*	160	24	20,00	25,0
1" 1/8	11,00	*426,84*	170	24	22,00	28,0
1"1/4	11,00	*424,82*	170	25	24,00	32,0
1" 3/8	11,00	*434,94*	190	32	29,00	36,0
1" 1/2	11,00	*452,24*	190	32	29,00	36,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2285 HSSE DIN 5156

G ISO 228 | Form. C | 35° | 3XD | D | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15			● 5-10	○ 5-8		○ 10-15			● 10-20		○ 10-15					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW

ø	P	€	L mm	l mm	⊠ mm	d mm
1/8	28,00	*39,82*	90	10	5,50	7,0
1/4	19,00	*71,73*	100	14	9,00	11,0
3/8	19,00	*70,85*	100	15	9,00	12,0
1/2	14,00	*94,41*	125	17	12,00	16,0

ø	P	€	L mm	l mm	⊠ mm	d mm
5/8	14,00	*146,77*	125	20	14,50	18,0
3/4	14,00	*166,94*	140	20	16,00	20,0
7/8	14,00	*213,49*	150	22	18,00	22,0
1"	11,00	*314,07*	160	24	20,00	25,0

2287 HSSE DIN 5156

G ISO 228 | Form. C | 35° | 3XD | D | TIN+

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	● 12-18	○ 8-12		● 6-12	○ 6-10		● 15-20			● 15-25		○ 12-18					

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

MICRO FINISH

NEW

ø	P	€	L mm	l mm	⊠ mm	d mm
1/8	28,00	*60,17*	90	10	5,50	7,0
1/4	19,00	*98,95*	100	14	9,00	11,0
3/8	19,00	*113,10*	100	15	9,00	12,0
1/2	14,00	*140,62*	125	17	12,00	16,0

ø	P	€	L mm	l mm	⊠ mm	d mm
5/8	14,00	*213,01*	125	20	14,50	18,0
3/4	14,00	*236,38*	140	20	16,00	20,0
7/8	14,00	*313,50*	150	22	18,00	22,0
1"	11,00	*430,25*	160	24	20,00	25,0

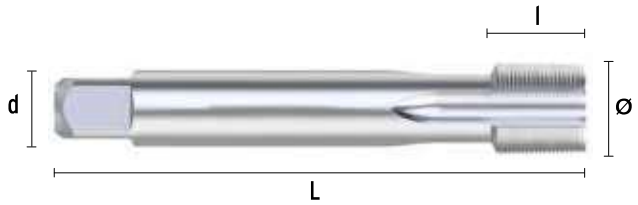
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2159 HSSE DIN 5156

Rc DIN 2999 | Form. C | 1,5XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 7-15	○ 7-10						○ 7-10			○ 7-15							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



ø	P	€	L mm	l mm	⊠ mm	d mm
1/8	28,00	*48,14*	90	18	5,50	7,0
1/4	19,00	*69,70*	100	22	9,00	11,0
3/8	19,00	*96,12*	100	22	9,00	12,0
1/2	14,00	*133,97*	125	25	12,00	16,0

ø	P	€	L mm	l mm	⊠ mm	d mm
3/4	14,00	*207,66*	140	28	16,00	20,0
*7/8	14,00	*358,52*	150	28	18,00	22,0
1"	11,00	*298,53*	160	33	20,00	25,0

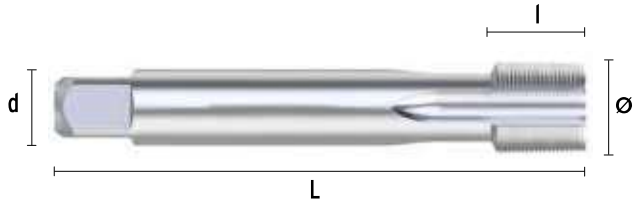
*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

2164 HSSE DIN 374

NPT ANSI/ASME B1.20.1 | Form. C | Tol. 6H | 1,5XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 7-15	○ 7-10						○ 7-10			○ 7-15							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



ø	P	€	L mm	l mm	⊠ mm	d mm
1/16	27,00	*60,35*	90	12	4,90	6,0
1/8	27,00	*47,52*	90	15	5,50	7,0
1/4	18,00	*65,27*	100	20	9,00	11,0
3/8	18,00	*84,33*	110	22	11,00	14,0
1/2	14,00	*112,41*	140	27	14,50	18,0

ø	P	€	L mm	l mm	⊠ mm	d mm
3/4	14,00	*174,44*	140	28	16,00	20,0
1"	11,50	*373,60*	160	35	20,00	25,0
*1"1/4	11,50	*385,73*	190	35	24,00	32,0
*1"1/2	11,50	*651,21*	200	35	29,00	36,0
*2"	11,50	*896,65*	220	35	35,00	45,0

*Hasta fin de existencias / Jusqu'à epuisement des stocks / Until end of stock

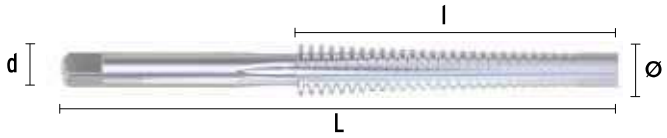
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2212 HSSE

Tr DIN 103 | Tol. 7H

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 2-8	○ 1-5									● 2-6							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
10	2,00	*374,46*	110	63	5,50	7,0
10	3,00	*374,46*	125	75	5,50	7,0
12	3,00	*438,03*	165	111	6,20	8,0
14	3,00	*449,06*	140	85	8,00	10,0
14	4,00	*484,93*	170	112	8,00	10,0
16	4,00	*484,93*	180	116	9,00	11,0
18	4,00	*519,75*	190	120	9,00	12,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
20	4,00	*565,87*	200	124	11,00	14,0
22	5,00	*565,87*	235	155	12,00	16,0
24	5,00	*612,16*	245	160	14,50	18,0
26	5,00	*635,31*	255	165	16,00	20,0
28	5,00	*693,00*	265	170	18,00	22,0
30	6,00	*750,87*	290	185	18,00	22,0
32	6,00	*737,87*	300	191	20,00	25,0

2212/5 HSSE

Tr DIN 103 | Tol. 7H | LH

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 2-8	○ 1-5									● 2-6							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	⊠ mm	d mm
10	2,00	*468,03*	110	63	5,50	7,0
10	3,00	*468,03*	125	75	5,50	7,0
12	3,00	*547,52*	165	111	6,20	8,0
14	3,00	*561,32*	140	85	8,00	10,0
14	4,00	*606,20*	170	112	8,00	10,0
16	4,00	*606,20*	180	116	9,00	11,0
18	4,00	*649,64*	190	120	9,00	12,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
20	4,00	*707,33*	200	124	11,00	14,0
22	5,00	*707,33*	235	155	12,00	16,0
24	5,00	*765,21*	245	160	14,50	18,0
26	5,00	*794,15*	255	165	16,00	20,0
28	5,00	*866,16*	265	170	18,00	22,0
30	6,00	*938,63*	290	185	18,00	22,0
32	6,00	*922,34*	300	191	20,00	25,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2163 HSSE DIN 40433

PG DIN 40430 | Form. C | 1,5XD | D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Pg	Ø	P	€	L mm	l mm	⊠ mm	d mm
7,0	12,5	20,00	*44,28*	100	22	7,00	9,0
9,0	15,2	18,00	*61,27*	100	22	9,00	11,0
11,0	18,6	18,00	*79,74*	110	25	11,00	14,0
13,5	20,4	18,00	*89,49*	125	25	12,00	16,0
16,0	22,5	18,00	*105,35*	125	25	14,50	18,0

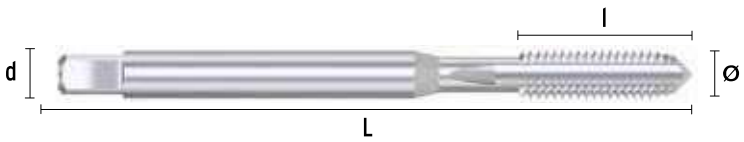
Pg	Ø	P	€	L mm	l mm	⊠ mm	d mm
21,0	28,3	16,00	*167,25*	150	28	18,00	22,0
29,0	37,0	16,00	*282,75*	170	30	22,00	28,0
36,0	47,0	16,00	*496,09*	190	32	29,00	36,0
42,0	54,0	16,00	*807,70*	190	32	32,00	40,0
48,0	59,3	16,00	*984,70*	220	40	35,00	45,0

2242 HSSE DIN 371

Vg DIN 7756 | Form. C | 1,5XD | R

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
● 10-25	○ 10-15						○ 10-15			○ 10-20							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	L mm	l mm	⊠ mm	d mm
5,0	36,00	*92,43*	70	12	4,90	6,0
5,2	24,00	*92,43*	80	17	4,90	6,0

Ø	P	€	L mm	l mm	⊠ mm	d mm
6,0	32,00	*105,23*	80	14	5,50	7,0
8,0	32,00	*117,08*	80	16	6,20	8,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2301 HSS DIN 352/2181

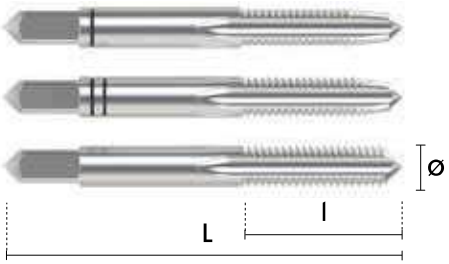
M-MF
DIN 13

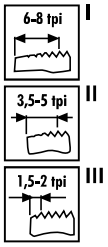
Tol.
6H

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Macho 3º
Taraud 3º
Tap 3º
PVP = €/3 < M (€/3) MF (€/2)





Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
M1,0	**0,25**	**3**	*76,43*	**32**	**5,5**	**2,10**	**2,5**
M1,1	**0,25**	**3**	*76,43*	**32**	**5,5**	**2,10**	**2,5**
M1,2	**0,25**	**3**	*76,43*	**32**	**5,5**	**2,10**	**2,5**
M1,4	**0,30**	**3**	*76,43*	**32**	**7**	**2,10**	**2,5**
M1,6	**0,35**	**3**	*69,74*	**32**	**8**	**2,10**	**2,5**
M1,7	**0,35**	**3**	*44,04*	**32**	**8**	**2,10**	**2,5**
M1,8	**0,35**	**3**	*65,47*	**32**	**8**	**2,10**	**2,5**
M2,0	**0,40**	**3**	*34,73*	**36**	**8**	**2,10**	**2,8**
M2,2	**0,45**	**3**	*37,41*	**36**	**9**	**2,10**	**2,8**
M2,3	**0,45**	**3**	*37,45*	**36**	**9**	**2,10**	**2,8**
M2,5	**0,45**	**3**	*35,92*	**40**	**9**	**2,10**	**2,8**
M2,6	**0,45**	**3**	*33,05*	**40**	**9**	**2,10**	**2,8**
M3,0	**0,50**	**3**	*19,02*	**40**	**11**	**2,70**	**3,5**
M3,0	0,60	2	*36,47*	40	11	2,70	3,5
M3,5	0,60	2	*26,32*	45	12	3,00	4,0
M3,5	0,75	2	*44,05*	45	14	3,40	4,5
M4,0	0,50	2	*37,09*	45	13	3,40	4,5
M4,0	**0,70**	**3**	*17,51*	**45**	**14**	**3,40**	**4,5**
M4,5	0,75	2	*33,94*	50	16	4,90	6,0
M5,0	0,50	2	*39,44*	50	12	4,90	6,0
M5,0	0,75	2	*36,75*	50	12	4,90	6,0
M5,0	**0,80**	**3**	*19,03*	**50**	**16**	**4,90**	**6,0**
M5,0	1,00	3	*21,13*	50	14	4,90	6,0
M5,5	0,90	2	*128,58*	50	18	4,90	6,0
M6,0	0,50	2	*39,40*	56	14	4,90	6,0
M6,0	0,75	2	*22,19*	56	14	4,90	6,0
M6,0	0,90	2	*128,47*	56	19	4,90	6,0
M6,0	**1,00**	**3**	*19,03*	**56**	**19**	**4,90**	**6,0**
M7,0	0,75	2	*28,01*	56	14	4,90	6,0
M7,0	**1,00**	**3**	*26,26*	**56**	**19**	**4,90**	**6,0**
M8,0	0,50	2	*42,06*	56	18	4,90	6,0
M8,0	0,75	2	*32,77*	56	18	4,90	6,0
M8,0	1,00	2	*21,79*	63	22	4,90	6,0
M8,0	**1,25**	**3**	*22,91*	**63**	**22**	**4,90**	**6,0**
M9,0	1,00	2	*28,16*	63	22	5,50	7,0
M9,0	**1,25**	**3**	*40,65*	**63**	**22**	**5,50**	**7,0**
M10,0	0,50	2	*106,86*	63	18	5,50	7,0
M10,0	0,75	2	*46,97*	63	20	5,50	7,0
M10,0	1,00	2	*23,63*	63	20	5,50	7,0
M10,0	1,25	2	*24,06*	70	24	5,50	7,0
M10,0	**1,50**	**3**	*28,93*	**70**	**24**	**5,50**	**7,0**
M11,0	0,75	2	*116,98*	63	20	6,20	8,0
M11,0	1,00	2	*41,76*	63	20	6,20	8,0
M11,0	1,25	2	*41,76*	70	22	6,20	8,0
M11,0	**1,50**	**3**	*56,06*	**70**	**24**	**6,20**	**8,0**

Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
M12,0	0,75	2	*66,84*	70	22	7,00	9,0
M12,0	1,00	2	*41,25*	70	22	7,00	9,0
M12,0	1,25	2	*41,42*	70	22	7,00	9,0
M12,0	1,50	2	*35,24*	70	22	7,00	9,0
M12,0	1,75	3	*37,61*	75	28	7,00	9,0
M13,0	0,75	2	*116,98*	70	20	9,00	11,0
M13,0	1,00	2	*67,63*	70	22	9,00	11,0
M13,0	1,25	2	*67,63*	70	22	9,00	11,0
M13,0	1,50	2	*67,63*	70	22	9,00	11,0
M13,0	**1,75**	**3**	*85,19*	**75**	**30**	**9,00**	**11,0**
M14,0	0,75	2	*117,09*	70	22	9,00	11,0
M14,0	1,00	2	*61,72*	70	22	9,00	11,0
M14,0	1,25	2	*50,63*	70	22	9,00	11,0
M14,0	1,50	2	*39,33*	70	22	9,00	11,0
M14,0	**2,00**	**3**	*49,49*	**80**	**30**	**9,00**	**11,0**
M15,0	1,00	2	*91,23*	70	22	9,00	12,0
M15,0	1,25	2	*96,01*	70	22	9,00	12,0
M15,0	1,50	2	*93,40*	70	22	9,00	12,0
M15,0	**2,00**	**3**	*97,60*	**80**	**32**	**9,00**	**12,0**
M16,0	1,00	2	*86,37*	70	22	9,00	12,0
M16,0	1,25	2	*90,92*	70	22	9,00	12,0
M16,0	1,50	2	*49,04*	70	22	9,00	12,0
M16,0	**2,00**	**3**	*69,68*	**80**	**32**	**9,00**	**12,0**
M17,0	1,00	2	*139,18*	70	22	9,00	12,0
M17,0	1,25	2	*139,18*	70	22	9,00	12,0
M17,0	1,50	2	*139,18*	70	22	9,00	12,0
M18,0	1,00	2	*96,00*	80	22	11,00	14,0
M18,0	1,25	2	*137,19*	80	22	11,00	14,0
M18,0	1,50	2	*65,02*	80	22	11,00	14,0
M18,0	2,00	2	*103,45*	80	22	11,00	14,0
M18,0	**2,50**	**3**	*93,14*	**95**	**34**	**11,00**	**14,0**
M19,0	1,00	2	*202,02*	80	22	11,00	14,0
M19,0	1,25	2	*201,84*	80	22	11,00	14,0
M19,0	1,50	2	*202,02*	80	22	11,00	14,0
M20,0	1,00	2	*127,85*	80	22	12,00	16,0
M20,0	1,25	2	*202,02*	80	22	12,00	16,0
M20,0	1,50	2	*81,13*	80	22	12,00	16,0
M20,0	2,00	2	*107,22*	80	22	12,00	16,0
M20,0	**2,50**	**3**	*104,67*	**95**	**34**	**12,00**	**16,0**
M21,0	1,00	2	*261,07*	80	22	12,00	16,0
M21,0	1,25	2	*261,07*	80	22	12,00	16,0
M21,0	1,50	2	*206,44*	80	22	12,00	16,0
M22,0	1,00	2	*142,62*	80	22	14,50	18,0
M22,0	1,25	2	*202,02*	80	22	14,50	18,0
M22,0	1,50	2	*88,70*	80	22	14,50	18,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

Ø	P	Nº	€	L mm	l mm	☒ mm	d mm
M22,0	2,00	2	*142,63*	80	22	14,50	18,0
M22,0	**2,50**	**3**	*128,32*	**100**	**34**	**14,50**	**18,0**
M23,0	1,00	2	*260,82*	80	22	14,50	18,0
M23,0	1,50	2	*260,82*	80	22	14,50	18,0
M24,0	1,00	2	*159,46*	90	22	14,50	18,0
M24,0	1,25	2	*261,07*	90	22	14,50	18,0
M24,0	1,50	2	*113,23*	90	22	14,50	18,0
M24,0	2,00	2	*159,46*	90	22	14,50	18,0
M24,0	**3,00**	**3**	*161,64*	**110**	**38**	**14,50**	**18,0**
M25,0	1,00	2	*228,43*	90	22	14,50	18,0
M25,0	1,25	2	*371,92*	90	22	14,50	18,0
M25,0	1,50	2	*197,51*	90	22	14,50	18,0
M25,0	2,00	2	*382,56*	90	22	14,50	18,0
M26,0	1,00	2	*372,29*	90	22	14,50	18,0
M26,0	1,50	2	*180,40*	90	22	14,50	18,0
M26,0	2,00	2	*372,29*	90	22	14,50	18,0
M27,0	1,00	2	*224,18*	90	22	16,00	20,0
M27,0	1,50	2	*199,89*	90	22	16,00	20,0
M27,0	2,00	2	*221,04*	90	22	16,00	20,0
M27,0	**3,00**	**3**	*208,17*	**110**	**38**	**16,00**	**20,0**
M28,0	1,00	2	*372,27*	90	22	16,00	20,0
M28,0	1,50	2	*200,42*	90	22	16,00	20,0
M28,0	2,00	2	*372,27*	90	22	16,00	20,0
M30,0	1,00	2	*230,99*	90	22	18,00	22,0
M30,0	1,50	2	*207,90*	90	22	18,00	22,0
M30,0	2,00	2	*239,68*	90	22	18,00	22,0
M30,0	**3,50**	**3**	*264,30*	**125**	**45**	**18,00**	**22,0**
M32,0	1,00	2	*483,69*	90	22	18,00	22,0
M32,0	1,50	2	*255,98*	90	22	18,00	22,0
M32,0	2,00	2	*484,12*	90	22	18,00	22,0
M33,0	1,00	2	*484,12*	100	25	20,00	25,0
M33,0	1,50	2	*282,03*	100	25	20,00	25,0
M33,0	2,00	2	*335,32*	100	25	20,00	25,0
M33,0	**3,50**	**3**	*335,32*	**125**	**50**	**20,00**	**25,0**
M34,0	1,50	2	*305,18*	100	25	22,00	28,0

Ø	P	Nº	€	L mm	l mm	☒ mm	d mm
M35,0	1,50	2	*391,92*	100	25	22,00	28,0
M36,0	1,50	2	*326,92*	100	25	22,00	28,0
M36,0	2,00	2	*418,35*	125	40	22,00	28,0
M36,0	3,00	2	*570,71*	125	40	22,00	28,0
M36,0	**4,00**	**3**	*431,83*	**150**	**56**	**22,00**	**28,0**
M38,0	1,50	2	*367,74*	100	25	22,00	28,0
M38,0	2,00	2	*660,32*	125	40	22,00	28,0
M39,0	1,50	2	*493,21*	110	25	24,00	32,0
M39,0	2,00	2	*493,21*	125	40	24,00	32,0
M39,0	3,00	2	*479,93*	125	40	24,00	32,0
M39,0	**4,00**	**3**	*479,84*	**150**	**60**	**24,00**	**32,0**
M40,0	1,50	2	*431,90*	110	25	24,00	32,0
M40,0	2,00	2	*501,67*	125	40	24,00	32,0
M40,0	3,00	2	*497,01*	125	40	24,00	32,0
M42,0	1,50	2	*477,73*	110	25	24,00	32,0
M42,0	2,00	2	*573,95*	125	40	24,00	32,0
M42,0	3,00	2	*573,95*	125	40	24,00	32,0
M42,0	**4,50**	**3**	*601,22*	**150**	**60**	**24,00**	**32,0**
M45,0	1,50	2	*537,82*	110	25	29,00	36,0
M45,0	2,00	2	*683,31*	125	40	29,00	36,0
M45,0	3,00	2	*683,31*	125	40	29,00	36,0
M45,0	**4,50**	**3**	*697,37*	**160**	**65**	**29,00**	**36,0**
M48,0	1,50	2	*606,06*	140	40	29,00	36,0
M48,0	2,00	2	*899,02*	140	40	29,00	36,0
M48,0	3,00	2	*827,25*	140	40	29,00	36,0
M48,0	**5,00**	**3**	*837,54*	**180**	**70**	**29,00**	**36,0**
M50,0	1,50	2	*662,78*	140	40	29,00	36,0
M52,0	1,50	2	*703,10*	140	40	32,00	40,0
M52,0	2,00	2	*1.011,52*	140	40	32,00	40,0
M52,0	3,00	2	*939,13*	140	40	32,00	40,0
M52,0	**5,00**	**3**	*1.092,95*	**180**	**70**	**32,00**	**40,0**
M56,0	**5,50**	**3**	*1.578,62*	**200**	**70**	**35,00**	**45,0**
M60,0	**5,50**	**3**	*1.978,29*	**200**	**75**	**35,00**	**45,0**
M63,0	1,50	2	*1.572,41*	160	40	39,00	50,0
M64,0	**6,00**	**3**	*2.470,47*	**220**	**80**	**39,00**	**50,0**

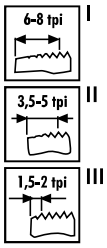
2301/5 HSS DIN 352 Izquierda / A gauche / Left hand

M-MF DIN 13 | Tol. 6H | LH

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Macho 3°
Taraud 3°
Tap 3°
} PVP = €/3



Ø	P	Nº	€	L mm	l mm	☒ mm	d mm
M3,0	**0,50**	**3**	*38,02*	**40**	**11**	**2,70**	**3,5**
M4,0	**0,70**	**3**	*35,02*	**45**	**13**	**3,40**	**4,5**
M5,0	**0,80**	**3**	*38,06*	**50**	**16**	**4,90**	**6,0**
M6,0	**1,00**	**3**	*38,06*	**56**	**19**	**4,90**	**6,0**
M7,0	**1,00**	**3**	*52,53*	**56**	**19**	**4,90**	**6,0**
M8,0	1,00	2	*43,58*	63	22	4,90	6,0
M8,0	**1,25**	**3**	*45,83*	**63**	**22**	**4,90**	**6,0**
M9,0	**1,25**	**3**	*81,30*	**63**	**22**	**5,50**	**7,0**
M10,0	1,00	2	*47,24*	63	20	5,50	7,0
M10,0	1,25	2	*48,12*	70	24	5,50	7,0
M10,0	**1,50**	**3**	*57,87*	**70**	**24**	**5,50**	**7,0**
M12,0	1,25	2	*82,87*	70	22	7,00	9,0
M12,0	1,50	2	*70,48*	70	22	7,00	9,0
M12,0	**1,75**	**3**	*75,22*	**75**	**29**	**7,00**	**9,0**

Ø	P	Nº	€	L mm	l mm	☒ mm	d mm
M14,0	1,25	2	*101,26*	70	22	9,00	11,0
M14,0	1,50	2	*78,68*	70	22	9,00	11,0
M14,0	**2,00**	**3**	*98,96*	**80**	**30**	**9,00**	**11,0**
M16,0	1,50	2	*98,07*	70	22	9,00	12,0
M16,0	**2,00**	**3**	*139,35*	**80**	**32**	**9,00**	**12,0**
M18,0	**2,50**	**3**	*186,29*	**95**	**34**	**11,00**	**14,0**
M20,0	1,50	2	*162,28*	80	22	12,00	16,0
M20,0	**2,50**	**3**	*209,33*	**95**	**34**	**12,00**	**16,0**
M22,0	1,50	2	*177,41*	80	22	14,50	18,0
M22,0	**2,50**	**3**	*256,65*	**100**	**34**	**14,50**	**18,0**
M24,0	1,50	2	*226,43*	90	22	14,50	18,0
M24,0	**3,00**	**3**	*323,28*	**110**	**38**	**14,50**	**18,0**
M27,0	**3,00**	**3**	*416,35*	**110**	**38**	**16,00**	**20,0**
M30,0	**3,50**	**3**	*528,58*	**125**	**45**	**18,00**	**22,0**

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

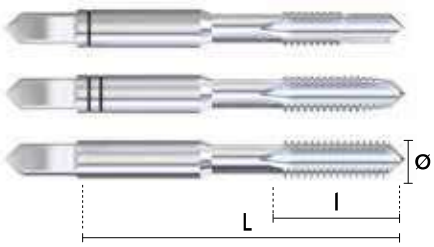
2314 HSSE DIN 352

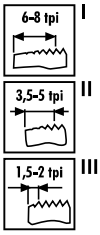
M DIN 13 | Tol. 6HX

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●	●	○		○						○							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Macho 3°
Taraud 3° } PVP = €/3
Tap 3°





Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	3	*27,87*	40	11	2,70	3,5
M4,0	0,70	3	*27,81*	45	13	3,40	4,5
M5,0	0,80	3	*29,13*	50	16	4,90	6,0
M6,0	1,00	3	*29,23*	56	19	4,90	6,0
M8,0	1,25	3	*33,57*	63	22	4,90	6,0

Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
M10,0	1,50	3	*43,23*	70	24	5,50	7,0
M12,0	1,75	3	*61,44*	75	29	7,00	9,0
M14,0	2,00	3	*81,35*	80	30	9,00	11,0
M16,0	2,00	3	*89,73*	80	32	9,00	12,0

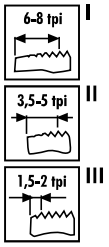
2303 HSSE DIN 352

M DIN 13 | Tol. 6HX | VAP

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●	●	○		●										●			

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Macho 3°
Taraud 3° } PVP = €/3
Tap 3°



Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
M3,0	0,50	3	*28,42*	40	11	2,70	3,5
M4,0	0,70	3	*28,42*	45	13	3,40	4,5
M5,0	0,80	3	*29,57*	50	16	4,90	6,0
M6,0	1,00	3	*29,57*	56	19	4,90	6,0
M8,0	1,25	3	*34,32*	63	22	4,90	6,0
M10,0	1,50	3	*44,17*	70	24	5,50	7,0

Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
M12,0	1,75	3	*63,21*	75	29	7,00	9,0
M14,0	2,00	3	*70,02*	80	30	9,00	11,0
M16,0	2,00	3	*95,92*	80	32	9,00	12,0
M18,0	2,50	3	*131,05*	95	40	11,00	14,0
M20,0	2,50	3	*145,48*	95	40	12,00	16,0

P Aceros Aciers Steels
M Aceros Inox Aciers Inox Stainless Steels
K Fundicion Fonte Cast Iron
N Metales no ferrosos Métal non Ferraux Non Ferrous metals
S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys
H Materiales Duros Materiels Durs Hard materials

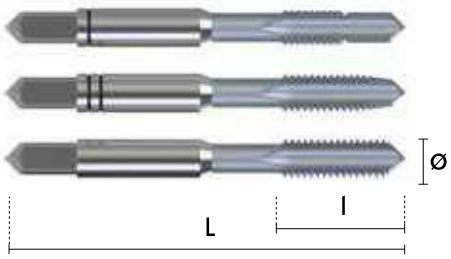
2324 HSSE-PM DIN 352

M DIN 13 | Tol. 6HX | TICN

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
○	●	●	●		○			○		○							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Macho 3° / Taraud 3° / Tap 3° } PVP = €/3



Ø	P	Nº	€	L mm	l mm	☐ mm	d mm
M4,0	0,70	3	*101,19*	45	13	2,70	3,5
M5,0	0,80	3	*102,45*	50	16	4,90	6,0
M6,0	1,00	3	*102,45*	56	19	4,90	6,0
M8,0	1,25	3	*115,48*	63	22	4,90	6,0

Ø	P	Nº	€	L mm	l mm	☐ mm	d mm
M10,0	1,50	3	*142,75*	70	24	5,50	7,0
M12,0	1,75	3	*173,52*	75	29	7,00	9,0
M14,0	2,00	3	*255,12*	80	30	9,00	11,0
M16,0	2,00	3	*255,12*	80	32	9,00	12,0

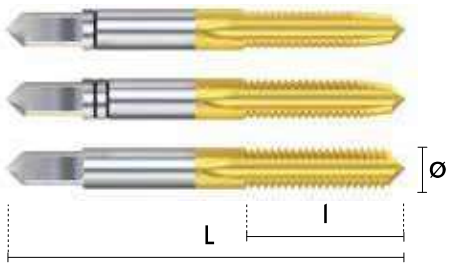
2302 HSS DIN 352

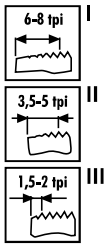
M DIN 13 | Tol. 6H | TIN

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●	○								●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Macho 3° / Taraud 3° / Tap 3° } PVP = €/3





Ø	P	Nº	€	L mm	l mm	☐ mm	d mm
M3,0	0,50	3	*42,54*	40	11	2,70	3,5
M4,0	0,70	3	*43,61*	45	13	3,40	4,5
M5,0	0,80	3	*44,58*	50	16	4,90	6,0
M6,0	1,00	3	*44,67*	56	19	4,90	6,0
M8,0	1,25	3	*53,68*	63	22	4,90	6,0

Ø	P	Nº	€	L mm	l mm	☐ mm	d mm
M10,0	1,50	3	*63,74*	70	24	5,50	7,0
M12,0	1,75	3	*97,98*	75	28	7,00	9,0
M14,0	2,00	3	*116,62*	80	30	9,00	11,0
M16,0	2,00	3	*145,61*	80	32	9,00	12,0
M20,0	2,50	3	*157,90*	95	34	12,00	16,0

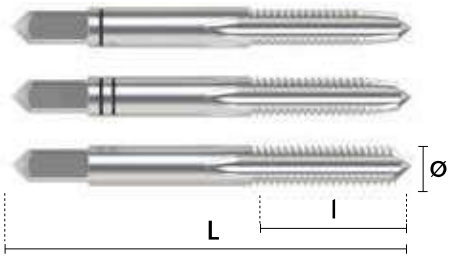
2304 HSS DIN 352

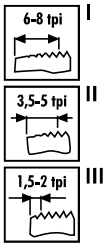
BSW
BS 84

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Macho 3º
Taraud 3º
Tap 3º
} PVP = €/3





Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
3/32	48,00	3	*35,33*	36	10	2,10	2,8
1/8	40,00	3	*24,37*	40	12	2,70	3,5
5/32	32,00	3	*24,61*	45	14	3,40	4,5
3/16	24,00	3	*24,37*	50	18	4,90	6,0
7/32	24,00	3	*43,35*	50	18	4,90	6,0
1/4	20,00	3	*27,46*	50	19	4,90	6,0
5/16	18,00	3	*33,51*	56	22	4,90	6,0
3/8	16,00	3	*36,83*	70	24	5,50	7,0
7/16	14,00	3	*48,97*	70	24	6,20	8,0
1/2	12,00	3	*53,05*	75	29	7,00	9,0
9/16	12,00	3	*72,16*	80	30	9,00	11,0
5/8	11,00	3	*82,94*	80	32	9,00	12,0
3/4	10,00	3	*118,09*	95	40	11,00	14,0
7/8	9,00	3	*172,77*	100	40	14,50	18,0

Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
1"	8,00	3	*210,99*	110	50	14,50	18,0
1"1/8	7,00	3	*314,39*	132	56	18,00	22,0
1"1/4	7,00	3	*380,31*	132	56	18,00	22,0
1"3/8	6,00	3	*472,98*	150	63	22,00	28,0
1"1/2	6,00	3	*569,42*	150	63	24,00	32,0
1"5/8	5,00	3	*854,22*	160	70	24,00	32,0
1"3/4	5,00	3	*1.051,33*	160	70	29,00	36,0
1"7/8	4,50	3	*1.357,89*	190	80	29,00	36,0
2"	4,50	3	*1.425,52*	190	80	32,00	40,0
2"1/4	4,00	3	*1.884,36*	220	80	35,00	45,0
2"1/2	4,00	3	*2.292,34*	220	80	39,00	50,0
2"3/4	3,50	3	*3.273,19*	240	80	39,00	50,0
3"	3,50	3	*3.786,72*	240	80	39,00	50,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2304/5 HSS DIN 352 Izquierda / A gauche / Left hand

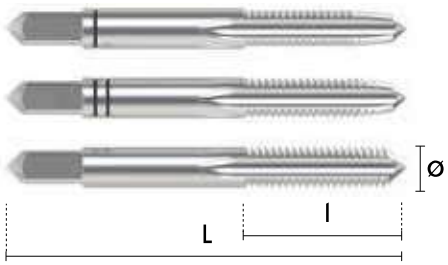
BSW
BS 84

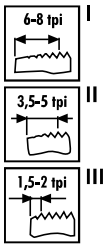
LH

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Macho 3º
Taraud 3º
Tap 3º
PVP = €/3





Ø	P	Nº	€	L mm	l mm	☐ mm	d mm
1/8	40,00	3	*48,75*	40	12	2,70	3,5
5/32	32,00	3	*49,23*	45	14	3,40	4,5
3/16	24,00	3	*48,75*	50	18	4,90	6,0
1/4	20,00	3	*54,89*	50	19	4,90	6,0
5/16	18,00	3	*67,01*	56	22	4,90	6,0
3/8	16,00	3	*73,65*	70	24	5,50	7,0
7/16	14,00	3	*97,94*	70	24	6,20	8,0

Ø	P	Nº	€	L mm	l mm	☐ mm	d mm
1/2	12,00	3	*106,08*	75	29	7,00	9,0
9/16	12,00	3	*144,32*	80	30	9,00	11,0
5/8	11,00	3	*165,90*	80	32	9,00	12,0
3/4	10,00	3	*236,18*	95	40	11,00	14,0
7/8	9,00	3	*345,51*	100	40	14,50	18,0
1"	8,00	3	*421,98*	110	50	14,50	18,0

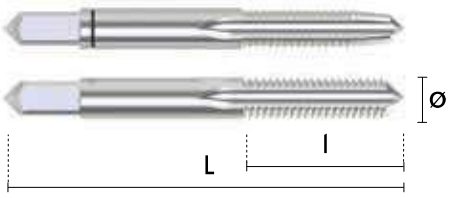
2305 HSS DIN 2181

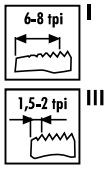
BSF
BS 84

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Macho 3º
Taraud 3º
Tap 3º
PVP = €/2





Ø	P	Nº	€	L mm	l mm	☐ mm	d mm
3/16	32,00	2	*93,37*	50	14	4,90	6,0
1/4	26,00	2	*38,48*	50	18	4,90	6,0
5/16	22,00	2	*44,90*	56	22	4,90	6,0
3/8	20,00	2	*51,94*	63	22	5,50	7,0
7/16	18,00	2	*62,33*	63	22	6,20	8,0
1/2	16,00	2	*70,47*	75	24	7,00	9,0
9/16	16,00	2	*84,51*	80	28	9,00	11,0

Ø	P	Nº	€	L mm	l mm	☐ mm	d mm
5/8	14,00	2	*110,33*	80	28	9,00	12,0
3/4	12,00	2	*169,06*	95	32	11,00	14,0
7/8	11,00	2	*201,76*	100	36	14,50	18,0
1"	10,00	2	*283,21*	110	40	14,50	18,0
1",1/8	9,00	2	*584,39*	110	22	18,00	22,0
1",1/4	9,00	2	*667,23*	110	22	18,00	22,0
1",1/2	9,00	2	*1.016,85*	125	40	24,00	32,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

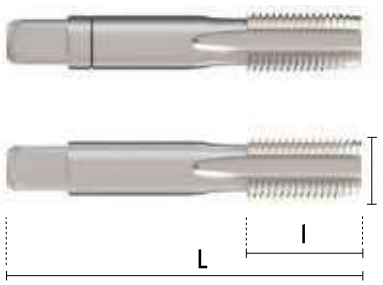
2306 HSS DIN 5157

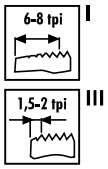
G ISO 228

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Macho 3º
Taraud 3º
Tap 3º
} PVP = €/2





Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
1/8	28,00	2	*31,16*	63	20	5,50	7,0
1/4	19,00	2	*43,89*	70	22	9,00	11,0
3/8	19,00	2	*55,27*	70	22	9,00	12,0
1/2	16,00	2	*77,30*	75	24	7,00	9,0
5/8	14,00	2	*102,10*	80	22	14,50	18,0
3/4	14,00	2	*120,70*	90	22	16,00	20,0
7/8	14,00	2	*166,03*	90	22	18,00	22,0
1"	11,00	2	*192,14*	100	25	20,00	25,0
1"1/8	11,00	2	*285,44*	125	40	22,00	28,0

Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
1"1/4	11,00	2	*311,00*	125	40	24,00	32,0
1"3/8	11,00	2	*422,47*	140	40	29,00	36,0
1"1/2	11,00	2	*470,09*	140	40	29,00	36,0
1"3/4	11,00	2	*781,52*	140	40	32,00	40,0
2"	11,00	2	*866,36*	160	40	35,00	45,0
2"1/4	11,00	2	*1.473,99*	160	40	39,00	50,0
2"1/2	11,00	2	*2.215,59*	160	40	39,00	50,0
2"3/4	11,00	2	*2.686,41*	160	40	39,00	50,0
3"	11,00	2	*2.795,80*	160	40	39,00	50,0

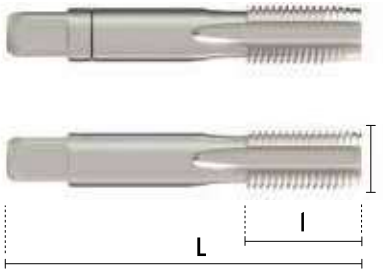
2306/5 HSS DIN 5157 Izquierda / A gauche / Left hand

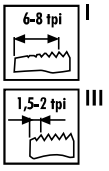
G ISO 228 LH

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Macho 3º
Taraud 3º
Tap 3º
} PVP = €/2





Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
1/8	28,00	2	*62,34*	63	20	5,50	7,0
1/4	19,00	2	*87,77*	70	22	9,00	11,0
3/8	19,00	2	*110,52*	70	22	9,00	12,0
1/2	14,00	2	*154,59*	80	22	12,00	16,0

Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
5/8	14,00	2	*204,19*	80	22	14,50	18,0
3/4	14,00	2	*241,40*	90	22	16,00	20,0
1"	11,00	2	*384,31*	100	25	20,00	25,0

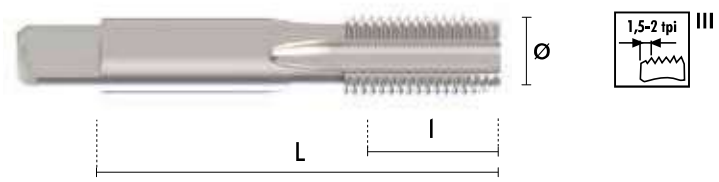
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2316 HSSE DIN 5157

G ISO 228

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
										●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	Nº	€	L mm	l mm	☒ mm	d mm
1/8	28,00	1	*18,43*	63	20	5,50	7,0
1/4	19,00	1	*30,01*	70	22	9,00	11,0
3/8	19,00	1	*32,82*	70	22	9,00	11,0
1/2	14,00	1	*52,51*	80	22	12,00	16,0

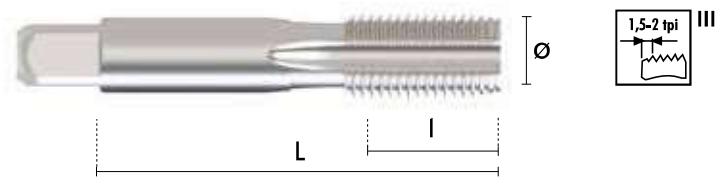
Ø	P	Nº	€	L mm	l mm	☒ mm	d mm
5/8	14,00	1	*70,19*	80	22	14,50	18,0
3/4	14,00	1	*82,10*	90	22	16,00	20,0
7/8	14,00	1	*118,68*	90	22	18,00	22,0
1"	11,00	1	*136,05*	100	25	20,00	25,0

2317 HSSE DIN 5157

G ISO 228 +0,1

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
										●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	Nº	€	L mm	l mm	☒ mm	d mm
1/8	28,00	1	*20,24*	63	20	5,50	7,0
1/4	19,00	1	*33,03*	70	22	9,00	11,0
3/8	19,00	1	*36,24*	70	22	9,00	11,0
1/2	14,00	1	*60,01*	80	22	12,00	16,0

Ø	P	Nº	€	L mm	l mm	☒ mm	d mm
5/8	14,00	1	*77,20*	80	22	14,50	18,0
3/4	14,00	1	*90,28*	90	22	16,00	20,0
7/8	14,00	1	*130,55*	90	22	18,00	22,0
1"	11,00	1	*149,65*	100	25	20,00	25,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

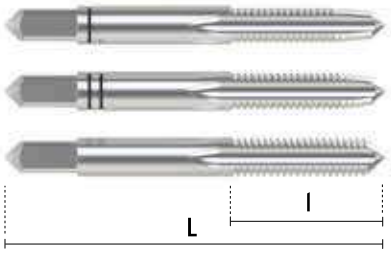
2307 HSS DIN 352

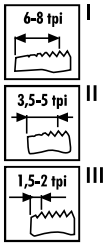
UNC ANSI/ASME B1.1 | Tol. 2B

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Macho 3º
Taraud 3º
Tap 3º
} PVP = €/3





Ø	P	Nº	€	L mm	l mm	☐ mm	d mm
Nº4	40,00	3	*48,11*	40	12	2,70	3,5
Nº5	40,00	3	*46,00*	40	12	2,70	3,5
Nº6	32,00	3	*46,00*	45	14	3,00	4,0
Nº18	32,00	3	*46,00*	45	14	3,40	4,5
Nº10	24,00	3	*46,00*	50	16	4,90	6,0
Nº12	24,00	3	*46,00*	50	18	4,90	6,0
1/4	20,00	3	*37,23*	50	19	4,90	6,0
5/16	18,00	3	*42,53*	56	22	4,90	6,0
3/8	16,00	3	*48,08*	70	24	5,50	7,0
7/16	14,00	3	*62,58*	70	24	6,20	8,0
1/2	13,00	3	*72,03*	75	29	7,00	9,0

Ø	P	Nº	€	L mm	l mm	☐ mm	d mm
9/16	12,00	3	*85,04*	80	30	9,00	11,0
5/8	11,00	3	*117,31*	80	32	9,00	12,0
3/4	10,00	3	*159,71*	95	40	11,00	14,0
7/8	9,00	3	*196,71*	100	40	14,50	18,0
1"	8,00	3	*265,66*	110	50	14,50	18,0
1"1/8	7,00	3	*405,54*	132	56	18,00	22,0
1"1/4	7,00	3	*510,47*	132	56	18,00	22,0
1"3/8	6,00	3	*647,57*	150	63	22,00	28,0
1"1/2	6,00	3	*795,10*	150	63	24,00	32,0
1"3/4	5,00	3	*990,53*	160	70	29,00	36,0
2"	4,50	3	*1.138,71*	190	80	32,00	40,0

P Aceros Aciers Steels
M Aceros Inox Aciers Inox Stainless Steels
K Fundicion Fonte Cast Iron
N Metales no ferrosos Métal non Ferraux Non Ferrous metals
S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys
H Materiales Duros Materiels Durs Hard materials

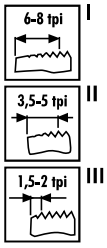
2307/5 HSS DIN 352 Izquierda / A gauche / Left hand

UNC ANSI/ASME B1.1 | Tol. 2B | LH

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Macho 3º
Taraud 3º
Tap 3º
} PVP = €/3



Ø	P	Nº	€	L mm	l mm	☐ mm	d mm
1/4	20,00	3	*74,46*	50	19	4,90	6,0
5/16	18,00	3	*85,04*	56	22	4,90	6,0
3/8	16,00	3	*96,16*	70	24	5,50	7,0
7/16	14,00	3	*125,19*	70	24	6,20	8,0
1/2	13,00	3	*144,06*	75	29	7,00	9,0

Ø	P	Nº	€	L mm	l mm	☐ mm	d mm
9/16	12,00	3	*170,08*	80	30	9,00	11,0
5/8	11,00	3	*234,59*	80	32	9,00	12,0
3/4	10,00	3	*319,42*	95	40	11,00	14,0
7/8	9,00	3	*393,39*	100	40	14,50	18,0
1"	8,00	3	*531,32*	110	50	14,50	18,0

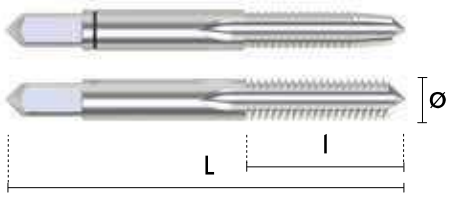
2308 HSS DIN 2181

UNF ANSI/ASME B1.1 | Tol. 2B

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Macho 3º
Taraud 3º
Tap 3º
} PVP = €/2



Ø	P	Nº	€	L mm	l mm	☐ mm	d mm
Nº4	48,00	2	*36,54*	36	11	2,70	3,5
Nº5	44,00	2	*36,54*	36	11	2,70	3,5
Nº6	40,00	2	*34,91*	40	12	3,40	4,5
Nº8	36,00	2	*34,91*	40	12	3,40	4,5
Nº10	32,00	2	*34,91*	45	14	4,90	6,0
Nº12	28,00	2	*36,54*	50	14	4,90	6,0
1/4	28,00	2	*25,17*	50	18	4,90	6,0
5/16	24,00	2	*26,93*	56	22	4,90	6,0
3/8	24,00	2	*31,14*	63	22	5,50	7,0
7/16	20,00	2	*41,35*	63	22	6,20	8,0

Ø	P	Nº	€	L mm	l mm	☐ mm	d mm
1/2	20,00	2	*42,28*	75	24	7,00	9,0
9/16	18,00	2	*55,07*	80	28	9,00	11,0
5/8	18,00	2	*71,13*	80	28	9,00	12,0
3/4	16,00	2	*95,56*	95	32	11,00	14,0
7/8	14,00	2	*122,80*	100	36	14,50	18,0
1"	12,00	2	*162,81*	110	40	14,50	18,0
1"1/8	12,00	2	*253,53*	110	50	18,00	22,0
1"1/4	12,00	2	*319,80*	132	56	18,00	22,0
1"3/8	12,00	2	*406,14*	132	56	22,00	28,0
1"1/2	12,00	2	*497,29*	150	63	24,00	32,0

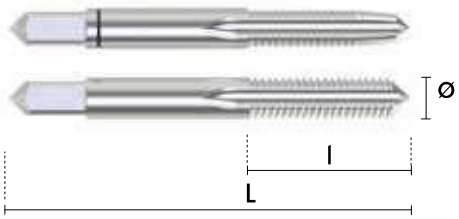
2308/5 HSS DIN 2181 Izquierda / A gauche / Left hand

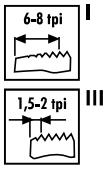
UNF ANSI/ASME B1.1 | Tol. 2B | LH

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Macho 3° / Taraud 3° / Tap 3° } PVP = €/2





Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
1/4	28,00	2	*50,32*	50	18	4,90	6,0
5/16	24,00	2	*53,88*	56	22	4,90	6,0
3/8	24,00	2	*62,28*	63	22	5,50	7,0
7/16	20,00	2	*82,68*	63	22	6,20	8,0
1/2	20,00	2	*84,54*	75	24	7,00	9,0

Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
9/16	18,00	2	*110,12*	80	28	9,00	11,0
5/8	18,00	2	*142,22*	80	28	9,00	12,0
3/4	16,00	2	*191,13*	95	32	11,00	14,0
7/8	14,00	2	*245,62*	100	36	14,50	18,0
1"	12,00	2	*325,62*	110	40	14,50	18,0

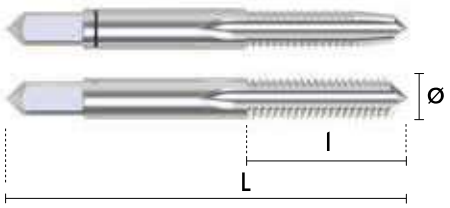
2315 HSS DIN 2184

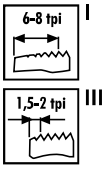
UN ANSI/ASME B1.1 | Tol. 2B

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Macho 3° / Taraud 3° / Tap 3° } PVP = €/2





Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
1"1/8	8,00	2	*224,55*	125	40	18,00	22,0
1"1/4	8,00	2	*289,70*	125	40	18,00	22,0
1"3/8	8,00	2	*328,61*	125	40	22,00	28,0
1"1/2	8,00	2	*431,47*	125	40	24,00	32,0

Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
1"5/8	8,00	2	*504,70*	125	40	24,00	32,0
1"3/4	8,00	2	*614,82*	125	40	29,00	36,0
2"	8,00	2	*658,76*	140	40	32,00	40,0

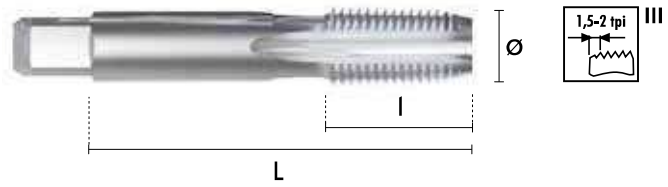
P Aceros Aciers Steels | M Aceros Inox Aciers Inox Stainless Steels | K Fundicion Fonte Cast Iron | N Metales no ferrosos Métal non Ferraux Non Ferrous metals | S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys | H Materiales Duros Materiels Durs Hard materials

2309 HSS DIN 5157

Rc
DIN 2999

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
1/8	28,00	1	*32,84*	59	15	6,30	8,0
1/4	19,00	1	*46,32*	67	19	8,00	10,0
3/8	19,00	1	*64,32*	75	21	10,00	12,5
1/2	14,00	1	*90,03*	87	26	12,50	16,0

Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
5/8	14,00	1	*164,76*	80	36	14,50	18,0
3/4	14,00	1	*152,80*	85	28	16,00	20,0
7/8	14,00	1	*274,60*	100	36	18,00	22,0
1"	11,00	1	*232,61*	109	33	20,00	25,0

2310 HSS DIN 2181

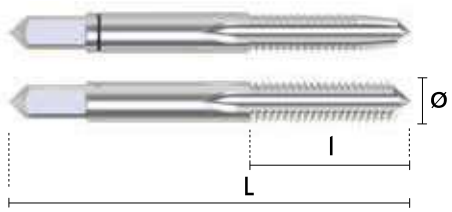
UNEF
ANSI/ASME B1.1

Tol. 2B

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Macho 3º
Taraud 3º } **PVP = €/2**
Tap 3º



Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
1/4	32,00	2	*103,48*	56	14	4,90	6,0
5/16	32,00	2	*115,62*	56	18	4,90	6,0
3/8	32,00	2	*132,29*	63	20	5,50	7,0
7/16	28,00	2	*168,39*	63	20	6,20	8,0
1/2	28,00	2	*190,27*	70	22	7,00	9,0

Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
9/16	24,00	2	*222,58*	70	22	9,00	11,0
5/8	24,00	2	*309,80*	70	22	9,00	12,0
3/4	20,00	2	*458,78*	80	22	11,00	14,0
1"	20,00	2	*656,43*	90	22	14,50	18,0

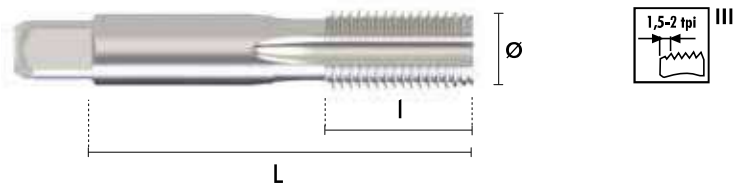
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2312 HSS DIN 40432

PG
DIN 40430

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



PG	Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
7,0	12,5	20,00	1	*34,55*	70	22	7,00	9,0
9,0	15,2	18,00	1	*43,92*	70	22	9,00	12,0
11,0	18,6	18,00	1	*60,98*	80	22	11,00	14,0
13,5	20,4	18,00	1	*66,89*	80	22	12,00	16,0
16,0	22,5	18,00	1	*80,30*	80	22	14,50	18,0

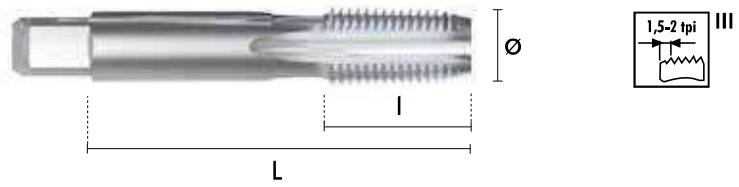
PG	Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
21,0	28,3	16,00	1	*118,11*	90	22	18,00	22,0
29,0	37,0	16,00	1	*234,49*	100	25	22,00	28,0
36,0	47,0	16,00	1	*391,70*	140	40	29,00	36,0
42,0	54,0	16,00	1	*465,18*	140	40	32,00	40,0
48,0	59,3	16,00	1	*586,65*	160	40	35,00	45,0

2313 HSS

NPT
ANSI/ASME B1.20.1

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
1/16	27,00	1	*28,50*	65	19	5,50	7,0
1/8	27,00	1	*28,50*	65	19	5,50	7,0
1/4	18,00	1	*39,97*	70	25	9,00	11,0
3/8	18,00	1	*55,15*	75	26	9,00	12,0
1/2	14,00	1	*77,13*	80	31	12,00	16,0

Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
3/4	14,00	1	*117,93*	100	33	16,00	20,0
1"	11,50	1	*131,31*	110	38	20,00	25,0
1"1/4	11,50	1	*215,30*	125	41	24,00	32,0
1"1/2	11,50	1	*327,16*	140	42	29,00	36,0
2"	11,50	1	*510,73*	160	44	29,00	36,0

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

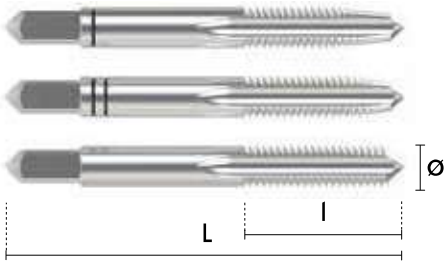
2321 HSS DIN 352

M-MF DIN 13 | Tol. 6H

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Macho 3° / Taraud 3° / Tap 3° } PVP = €/3



Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
M2,0	**0,40**	**3**	*34,73*	**36**	**8**	**2,10**	**2,8**
M2,5	**0,45**	**3**	*35,92*	**40**	**9**	**2,10**	**2,8**
M3,0	**0,50**	**3**	*19,02*	**40**	**11**	**2,70**	**3,5**
M4,0	**0,70**	**3**	*17,51*	**45**	**13**	**3,40**	**4,5**
M5,0	**0,80**	**3**	*19,03*	**50**	**16**	**4,90**	**6,0**
M6,0	**1,00**	**3**	*19,03*	**56**	**19**	**4,90**	**6,0**
M7,0	**1,00**	**3**	*26,26*	**56**	**19**	**4,90**	**6,0**
M8,0	1,00	2	*21,79*	63	22	4,90	6,0
M8,0	**1,25**	**3**	*22,91*	**63**	**22**	**4,90**	**6,0**
M9,0	1,00	2	*28,16*	63	22	5,50	7,0
M9,0	**1,25**	**3**	*40,65*	**63**	**22**	**5,50**	**7,0**
M10,0	1,00	2	*23,63*	63	20	5,50	7,0
M10,0	1,25	2	*24,06*	70	24	5,50	7,0
M10,0	**1,50**	**3**	*28,93*	**70**	**24**	**5,50**	**7,0**
M11,0	1,00	2	*41,76*	63	20	6,20	8,0
M11,0	1,25	2	*41,76*	70	24	6,20	8,0
M11,0	**1,50**	**3**	*56,06*	**70**	**24**	**6,20**	**8,0**
M12,0	1,00	2	*41,25*	70	22	7,00	9,0
M12,0	1,25	2	*41,42*	70	22	7,00	9,0
M12,0	1,50	2	*35,24*	70	22	7,00	9,0
M12,0	**1,75**	**3**	*37,61*	**75**	**28**	**7,00**	**9,0**
M14,0	1,00	2	*61,72*	70	22	9,00	11,0
M14,0	1,25	2	*50,63*	70	22	9,00	11,0
M14,0	1,50	2	*39,33*	70	22	9,00	11,0
M14,0	**2,00**	**3**	*49,49*	**80**	**30**	**9,00**	**11,0**

Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
M16,0	1,00	2	*86,37*	70	22	9,00	12,0
M16,0	1,25	2	*90,92*	70	22	9,00	12,0
M16,0	1,50	2	*49,04*	70	22	9,00	12,0
M16,0	**2,00**	**3**	*69,68*	**80**	**32**	**9,00**	**12,0**
M18,0	1,50	2	*65,02*	80	22	11,00	14,0
M18,0	2,00	2	*103,45*	80	22	11,00	14,0
M18,0	**2,50**	**3**	*93,14*	**95**	**34**	**11,00**	**14,0**
M20,0	1,50	2	*81,13*	80	22	12,00	16,0
M20,0	2,00	2	*107,22*	80	22	12,00	16,0
M20,0	**2,50**	**3**	*104,67*	**95**	**34**	**12,00**	**16,0**
M22,0	1,50	2	*88,70*	80	22	14,50	18,0
M22,0	2,00	2	*142,63*	80	22	14,50	18,0
M22,0	**2,50**	**3**	*128,32*	**100**	**34**	**14,50**	**18,0**
M24,0	1,50	2	*113,23*	90	22	14,50	18,0
M24,0	**2,00**	**3**	*159,46*	**90**	**22**	**14,50**	**18,0**
M24,0	3,00	2	*161,64*	110	38	14,50	18,0
M26,0	1,50	2	*180,40*	90	22	14,50	18,0
M26,0	2,00	2	*372,29*	90	22	14,50	18,0
M27,0	**3,00**	**3**	*208,17*	**110**	**38**	**16,00**	**20,0**
M28,0	1,50	2	*200,42*	90	22	16,00	20,0
M30,0	**3,50**	**3**	*264,30*	**125**	**45**	**18,00**	**22,0**
M33,0	**3,50**	**3**	*335,32*	**125**	**50**	**20,00**	**25,0**
M36,0	**4,00**	**3**	*431,83*	**150**	**56**	**22,00**	**28,0**
M39,0	**4,00**	**3**	*479,84*	**150**	**60**	**24,00**	**32,0**
M42,0	**4,50**	**3**	*601,22*	**150**	**60**	**24,00**	**32,0**

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

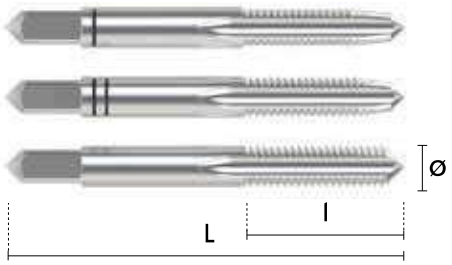
2322 HSS DIN 352

UNC ANSI/ASME B1.1 — Tol. 2B

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Macho 3° / Taraud 3° / Tap 3° } PVP = €/3



Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
Nº4	40,00	3	*48,11*	40	12	2,70	3,5
Nº5	40,00	3	*46,00*	40	12	2,70	3,5
Nº6	32,00	3	*46,00*	45	14	3,00	4,0
Nº18	32,00	3	*46,00*	45	14	3,40	4,5
Nº10	24,00	3	*46,00*	50	16	4,90	6,0
Nº12	24,00	3	*46,00*	50	18	4,90	6,0
1/4	20,00	3	*37,23*	50	19	4,90	6,0
5/16	18,00	3	*42,53*	56	22	4,90	6,0
3/8	16,00	3	*48,08*	70	24	5,50	7,0
7/16	14,00	3	*62,58*	70	24	6,20	8,0
1/2	13,00	3	*72,03*	75	29	7,00	9,0

Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
9/16	12,00	3	*85,04*	80	30	9,00	11,0
5/8	11,00	3	*117,31*	80	32	9,00	12,0
3/4	10,00	3	*159,71*	95	40	11,00	14,0
7/8	9,00	3	*196,71*	100	40	14,50	18,0
1"	8,00	3	*265,66*	110	50	14,50	18,0
1"1/8	7,00	3	*405,54*	132	56	18,00	22,0
1"1/4	7,00	3	*510,47*	132	56	18,00	22,0
1"3/8	6,00	3	*647,57*	150	63	22,00	28,0
1"1/2	6,00	3	*795,10*	150	63	24,00	32,0
1"3/4	5,00	3	*990,53*	160	70	29,00	36,0
2"	4,50	3	*1.138,71*	190	80	32,00	40,0

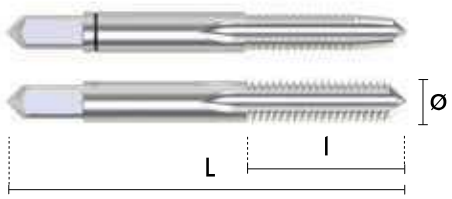
2323 HSS DIN 352 Perfil completo / Profil complet / Non serial form

UNF ANSI/ASME B1.1 — Tol. 2B

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Macho 3° / Taraud 3° / Tap 3° } PVP = €/2



Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
Nº4	48,00	2	*36,54*	36	11	2,70	3,5
Nº5	44,00	2	*36,54*	36	11	2,70	3,5
Nº6	40,00	2	*34,91*	40	12	3,40	4,5
Nº8	36,00	2	*34,91*	40	12	3,40	4,5
Nº10	32,00	2	*34,91*	45	14	4,90	6,0
Nº12	28,00	2	*36,54*	50	14	4,90	6,0
1/4	28,00	2	*25,17*	50	18	4,90	6,0
5/16	24,00	2	*26,93*	56	22	4,90	6,0
3/8	24,00	2	*31,14*	63	22	5,50	7,0
7/16	20,00	2	*41,35*	63	22	6,20	8,0

Ø	P	Nº	€	L mm	l mm	⊠ mm	d mm
1/2	20,00	2	*42,28*	75	24	7,00	9,0
9/16	18,00	2	*55,07*	80	28	9,00	11,0
5/8	18,00	2	*71,13*	80	28	9,00	12,0
3/4	16,00	2	*95,56*	95	32	11,00	14,0
7/8	14,00	2	*122,80*	100	36	14,50	18,0
1"	12,00	2	*162,81*	110	40	14,50	18,0
1"1/8	12,00	2	*253,53*	110	50	18,00	22,0
1"1/4	12,00	2	*319,80*	132	56	18,00	22,0
1"3/8	12,00	2	*406,14*	132	56	22,00	28,0
1"1/2	12,00	2	*497,29*	150	63	24,00	32,0

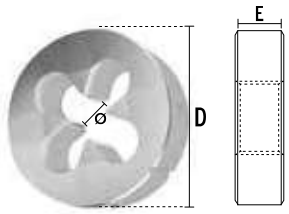
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

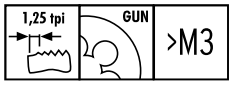
2501 HSS DIN EN 22568

M-MF DIN 13 | Tol. 6g

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative





PVP = € + 10%

	Ø	P	€	D mm	E mm	
**	**M1,0**	**0,25**	*50,91*	**16**	**5**	**1**
**	**M1,1**	**0,25**	*84,06*	**16**	**5**	**1**
**	**M1,2**	**0,25**	*78,87*	**16**	**5**	**1**
**	**M1,4**	**0,30**	*72,26*	**16**	**5**	**1**
	M1,6	**0,35**	*68,28*	**16**	**5**	**1**
	M1,7	**0,35**	*68,28*	**16**	**5**	**1**
	M1,8	**0,35**	*68,28*	**16**	**5**	**1**
	M2,0	**0,40**	*28,90*	**16**	**5**	**1**
	M2,2	**0,45**	*67,64*	**16**	**5**	**1**
	M2,3	**0,40**	*28,90*	**16**	**5**	**1**
	M2,5	**0,05**	*28,90*	**16**	**5**	**1**
	M2,6	**0,45**	*28,90*	**16**	**5**	**1**
	M3,0	**0,50**	*24,85*	**20**	**5**	**1**
	M3,0	0,60	*32,27*	25	5	1
	M3,5	0,60	*25,65*	20	5	1
	M3,5	0,75	*83,25*	20	5	1
	M4,0	0,50	*30,69*	20	5	1
	M4,0	**0,70**	*24,85*	**20**	**5**	**1**
	M4,5	**0,75**	*33,51*	**20**	**7**	**1**
	M5,0	0,05	*33,85*	20	5	1
	M5,0	0,75	*35,94*	25	7	1
	M5,0	**0,80**	*24,85*	**20**	**7**	**1**
	M5,5	0,90	*83,25*	20	7	1
	M6,0	0,50	*32,94*	20	7	1
	M6,0	0,75	*30,42*	20	7	1
	M6,0	**1,00**	*24,85*	**20**	**7**	**1**
	M7,0	0,75	*32,09*	25	9	1
	M7,0	**1,00**	*27,09*	**25**	**9**	**1**
	M8,0	0,50	*39,55*	25	9	1
	M8,0	0,75	*32,09*	25	9	1
	M8,0	1,00	*32,09*	25	9	1
	M8,0	**1,25**	*25,96*	**25**	**9**	**1**
	M9,0	1,00	*35,77*	25	9	1
	M9,0	**1,25**	*38,21*	**25**	**9**	**1**
	M10,0	0,50	*67,46*	30	11	1
	M10,0	0,75	*49,97*	30	11	1
	M10,0	1,00	*34,02*	30	11	1
	M10,0	1,25	*42,61*	30	11	1
	M10,0	**1,50**	*37,05*	**30**	**11**	**1**
	M11,0	0,75	*92,38*	30	11	1
	M11,0	1,00	*49,70*	30	11	1
	M11,0	1,25	*53,26*	30	11	1
	M11,0	**1,50**	*49,68*	**30**	**11**	**1**
	M12,0	0,75	*57,74*	38	10	1
	M12,0	1,00	*49,68*	38	10	1
	M12,0	1,25	*49,68*	38	10	1

Ø	P	€	D mm	E mm	
M12,0	1,50	*44,37*	38	10	1
M12,0	**1,75**	*40,73*	**38**	**14**	**1**
M13,0	0,75	*92,38*	38	10	1
M13,0	1,00	*58,40*	38	10	1
M13,0	1,50	*60,91*	38	10	1
M13,0	**1,75**	*60,91*	**38**	**14**	**1**
M14,0	0,75	*90,75*	38	10	1
M14,0	1,00	*54,51*	38	10	1
M14,0	1,25	*54,16*	38	10	1
M14,0	1,50	*46,39*	38	10	1
M14,0	**2,00**	*40,73*	**38**	**14**	**1**
M15,0	1,00	*66,20*	38	10	1
M15,0	1,50	*66,20*	38	10	1
M15,0	**2,00**	*81,63*	**38**	**14**	**1**
M16,0	1,00	*68,91*	45	14	1
M16,0	1,25	*62,65*	45	14	1
M16,0	1,50	*51,64*	45	14	1
M16,0	**2,00**	*54,72*	**45**	**18**	**1**
M17,0	1,00	*98,52*	45	14	1
M17,0	1,25	*98,52*	45	14	1
M17,0	1,50	*98,52*	45	14	1
M18,0	1,00	*72,05*	45	14	1
M18,0	1,25	*81,90*	45	14	1
M18,0	1,50	*63,72*	45	14	1
M18,0	2,00	*72,05*	45	14	1
M18,0	**2,50**	*54,72*	**45**	**18**	**1**
M19,0	1,00	*159,69*	45	14	1
M19,0	1,25	*159,69*	45	14	1
M19,0	1,50	*162,55*	45	14	1
M20,0	1,00	*71,75*	45	14	1
M20,0	1,25	*159,69*	45	14	1
M20,0	1,50	*65,76*	45	14	1
M20,0	2,00	*72,27*	45	14	1
M20,0	**2,50**	*54,72*	**45**	**18**	**1**
M21,0	1,00	*185,23*	45	16	1
M21,0	1,25	*185,23*	45	14	1
M21,0	1,50	*152,67*	45	14	1
M22,0	1,00	*97,98*	55	16	1
M22,0	1,25	*159,69*	55	16	1
M22,0	1,50	*84,29*	55	16	1
M22,0	2,00	*93,78*	55	16	1
M22,0	**2,50**	*80,50*	**55**	**22**	**1**
M23,0	1,50	*185,23*	55	16	1
M24,0	1,00	*93,78*	55	16	1
M24,0	1,25	*159,69*	55	16	1

**Tol. 6h

(**continúa Ref.2501** / suite Réf.2501 / Ref.2501 cont'd)

P Aceros Aciers Steels | M Aceros Inox Aciers Inox Stainless Steels | K Fundicion Fonte Cast Iron | N Metales no ferrosos Métal non Ferraux Non Ferrous metals | S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys | H Materiales Duros Materiels Durs Hard materials

(**continúa Ref.2501** / suite Réf.2501 / Ref.2501 cont'd)

Ø	P	€	D mm	E mm	
M24,0	**3,00**	*80,50*	**55**	**22**	**1**
M25,0	1,00	*145,03*	55	16	1
M25,0	1,50	*122,45*	55	16	1
M26,0	1,00	*210,38*	55	16	1
M26,0	1,50	*115,91*	55	16	1
M26,0	2,00	*210,38*	55	16	1
M27,0	1,00	*129,47*	65	18	1
M27,0	1,50	*127,47*	65	18	1
M27,0	2,00	*138,63*	65	18	1
M27,0	**3,00**	*115,91*	**65**	**25**	**1**
M28,0	1,00	*210,38*	65	18	1
M28,0	1,50	*127,47*	65	18	1
M28,0	2,00	*210,38*	65	18	1
M30,0	1,00	*142,35*	65	18	1
M30,0	1,50	*127,44*	65	18	1
M30,0	2,00	*142,35*	65	18	1
M30,0	**3,50**	*119,58*	**65**	**25**	**1**
M32,0	1,00	*214,13*	65	18	1
M32,0	1,50	*134,68*	65	18	1
M32,0	2,00	*210,38*	65	18	1
M33,0	1,50	*127,47*	65	18	1
M33,0	2,00	*138,81*	65	18	1
M33,0	**3,50**	*119,58*	**65**	**25**	**1**
M34,0	1,50	*132,98*	65	18	1
M34,0	2,00	*298,33*	65	18	1
M35,0	1,50	*137,95*	65	18	1
M35,0	2,00	*298,33*	65	18	1
M36,0	1,50	*130,57*	65	18	1
M36,0	2,00	*138,81*	65	18	1
M36,0	3,00	*151,07*	65	25	1
M36,0	**4,00**	*123,98*	**65**	**25**	**1**

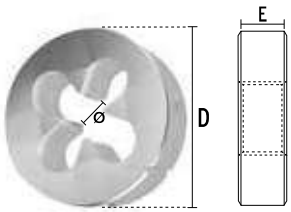
Ø	P	€	D mm	E mm	
M38,0	1,50	*197,49*	75	20	1
M38,0	2,00	*378,05*	75	20	1
M39,0	1,50	*198,45*	75	20	1
M39,0	2,00	*209,55*	75	20	1
M39,0	3,00	*238,13*	75	30	1
M39,0	**4,00**	*186,10*	**75**	**30**	**1**
M40,0	1,50	*206,04*	75	20	1
M40,0	2,00	*209,55*	75	20	1
M40,0	3,00	*228,55*	75	30	1
M42,0	1,50	*270,85*	75	20	1
M42,0	2,00	*302,77*	75	20	1
M42,0	3,00	*315,88*	75	30	1
M42,0	**4,50**	*186,10*	**75**	**30**	**1**
M45,0	1,50	*270,85*	90	22	1
M45,0	2,00	*302,77*	90	22	1
M45,0	3,00	*315,88*	90	36	1
M45,0	**4,50**	*284,62*	**90**	**36**	**1**
M48,0	1,50	*272,56*	90	22	1
M48,0	2,00	*278,63*	90	22	1
M48,0	3,00	*302,77*	90	36	1
M48,0	**5,00**	*284,96*	**90**	**36**	**1**
M50,0	1,50	*270,85*	90	22	1
M52,0	1,50	*270,85*	90	22	1
M52,0	2,00	*314,78*	90	22	1
M52,0	3,00	*343,53*	90	36	1
M52,0	**5,00**	*284,96*	**90**	**36**	**1**
M56,0	**5,50**	*508,74*	**105**	**36**	**1**
M60,0	**5,50**	*508,74*	**105**	**36**	**1**
M63,0	1,50	*960,19*	105	22	1
M64,0	**6,00**	*608,31*	**120**	**36**	**1**

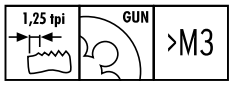
2501/5 HSS DIN EN 22568 Izquierda / A gauche / Left hand

M-MF DIN 13 | Tol. 6g | LH

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative





PVP = € + 10%

Ø	P	€	D mm	E mm	
M3,0	0,50	*49,70*	20	5	1
M4,0	0,70	*49,70*	20	5	1
M5,0	0,80	*49,70*	20	7	1
M6,0	1,00	*49,70*	25	7	1
M7,0	1,00	*54,18*	25	9	1
M8,0	1,00	*64,14*	25	9	1
M8,0	1,25	*51,91*	25	9	1
M10,0	1,00	*68,06*	30	11	1
M10,0	1,25	*85,23*	30	11	1
M10,0	1,50	*74,11*	30	11	1
M12,0	1,25	*99,36*	38	10	1
M12,0	1,50	*74,11*	38	10	1
M12,0	1,75	*81,45*	38	14	1
M14,0	1,50	*92,81*	38	10	1

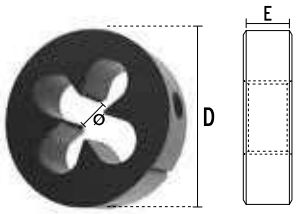
Ø	P	€	D mm	E mm	
M14,0	2,00	*81,44*	38	14	1
M16,0	1,50	*103,29*	45	14	1
M16,0	2,00	*109,44*	45	18	1
M18,0	1,50	*127,44*	45	14	1
M18,0	2,50	*109,44*	45	18	1
M20,0	1,50	*131,51*	45	14	1
M20,0	2,50	*109,44*	45	18	1
M22,0	1,50	*168,60*	55	16	1
M22,0	2,50	*161,00*	55	22	1
M24,0	1,50	*168,60*	55	16	1
M24,0	3,00	*161,00*	55	22	1
M27,0	3,00	*231,80*	65	25	1
M30,0	3,50	*239,16*	65	25	1

2514 HSSE DIN EN 22568

M DIN 13 | Tol. 6g | NIT | 2 tpi | GUN

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●	●	○		○						○							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	D mm	E mm	
M3,0	0,50	*39,83*	20	5	1
M4,0	0,70	*39,83*	20	5	1
M5,0	0,80	*39,83*	20	7	1
M6,0	1,00	*39,83*	20	7	1
M8,0	1,25	*41,61*	25	9	1

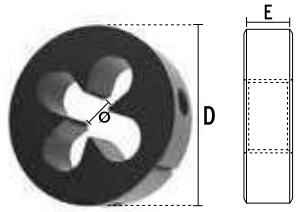
Ø	P	€	D mm	E mm	
M10,0	1,50	*59,36*	30	11	1
M12,0	1,75	*65,26*	38	14	1
M14,0	2,00	*67,87*	38	14	1
M16,0	2,00	*91,14*	45	18	1

2512 HSSE DIN EN 22568

M DIN 13 | Tol. 6g | VAP | 2 tpi | GUN

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●	●	○		●									○				

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	D mm	E mm	
M3,0	0,50	*33,82*	20	5	1
M4,0	0,70	*33,82*	20	5	1
M5,0	0,80	*33,82*	20	7	1
M6,0	1,00	*33,82*	20	7	1
M8,0	1,25	*35,33*	25	9	1
M10,0	1,50	*50,45*	30	11	1

Ø	P	€	D mm	E mm	
M12,0	1,75	*55,46*	38	14	1
M14,0	2,00	*56,57*	38	14	1
M16,0	2,00	*75,95*	45	18	1
M18,0	2,50	*75,95*	45	18	1
M20,0	2,50	*75,95*	45	18	1

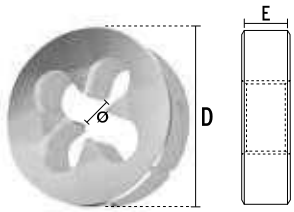
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

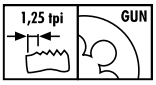
2502 HSS DIN EN 22568

BSW
BS 84

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative





PVP = € + 10%

Ø	P	€	D mm	E mm	
3/32	48,00	*34,23*			1
1/8	40,00	*27,75*	20	5	1
5/32	32,00	*27,75*	20	7	1
3/16	24,00	*27,75*	20	7	1
7/32	24,00	*27,75*	20	7	1
1/4	20,00	*27,75*	20	7	1
5/16	18,00	*28,94*	25	9	1
3/8	16,00	*41,92*	30	11	1
7/16	14,00	*41,92*	30	11	1
1/2	12,00	*41,92*	38	14	1
9/16	12,00	*50,22*	38	14	1
5/8	11,00	*60,99*	45	18	1

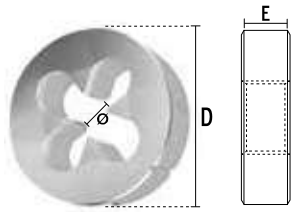
Ø	P	€	D mm	E mm	
3/4	10,00	*60,98*	45	18	1
7/8	9,00	*89,69*	55	22	1
1"	8,00	*89,69*	55	22	1
1"1/8	7,00	*141,20*	65	25	1
1"1/4	7,00	*141,20*	65	25	1
1"3/8	6,00	*143,81*	65	25	1
1"1/2	6,00	*218,58*	75	30	1
1"5/8	5,00	*290,54*	75	30	1
1"3/4	5,00	*365,63*	90	36	1
1"7/8	4,50	*400,05*	90	36	1
2"	4,50	*380,84*	90	36	1

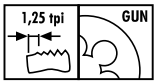
2502/5 HSS DIN EN 22568 Izquierda / A gauche / Left hand

BSW
BS 84
LH

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ti	Ni	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative





PVP = € + 10%

Ø	P	€	D mm	E mm	
1/8	40,00	*55,50*	20	5	1
5/32	32,00	*55,50*	20	5	1
3/16	24,00	*55,50*	20	7	1
1/4	20,00	*55,50*	20	7	1
5/16	18,00	*57,89*	25	9	1
3/8	16,00	*83,84*	30	11	1

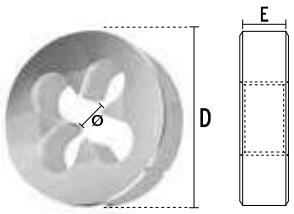
Ø	P	€	D mm	E mm	
7/16	14,00	*83,84*	38	11	1
1/2	12,00	*83,84*	38	14	1
9/16	12,00	*100,44*	38	14	1
5/8	11,00	*122,00*	45	18	1
7/8	9,00	*179,40*	55	22	1
1"	8,00	*179,40*	55	22	1

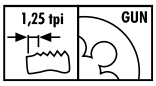
2503 HSS DIN EN 22568

BSF
BS 84

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative





PVP = € + 10%

Ø	P	€	D mm	E mm	
3/16	32,00	*125,59*	20	7	1
1/4	26,00	*43,73*	20	7	1
5/16	22,00	*43,60*	25	9	1
3/8	20,00	*76,46*	30	11	1
7/16	18,00	*76,46*	30	11	1
1/2	16,00	*76,46*	38	10	1

Ø	P	€	D mm	E mm	
9/16	16,00	*85,26*	38	10	1
5/8	14,00	*107,73*	45	14	1
3/4	12,00	*107,73*	45	14	1
7/8	11,00	*159,29*	55	22	1
1"	10,00	*159,29*	55	22	1

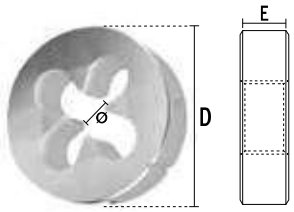
***(Hasta fin de existencias / Jusqu'à épuisement des stocks / While supplies last)**

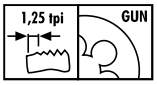
2504 HSS DIN EN 24231

G
ISO 228

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative





PVP = € + 10%

Ø	P	€	D mm	E mm	
1/8	28,00	*44,66*	30	11	1
1/4	19,00	*44,66*	38	10	1
3/8	19,00	*57,74*	45	14	1
1/2	14,00	*57,74*	45	14	1
5/8	14,00	*80,06*	55	16	1
3/4	14,00	*119,67*	55	16	1
7/8	14,00	*125,27*	65	18	1

Ø	P	€	D mm	E mm	
1"	11,00	*125,27*	65	18	1
1"1/8	11,00	*178,56*	75	20	1
1"1/4	11,00	*175,74*	75	20	1
1"3/8	11,00	*277,02*	90	22	1
1"1/2	11,00	*269,21*	90	22	1
1"3/4	11,00	*277,02*	105	22	1
2"	11,00	*333,40*	105	22	1

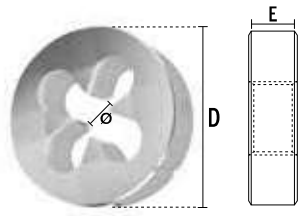
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

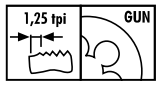
2504/5 HSS DIN EN 24231 Izquierda / A gauche / Left hand

G ISO 228 — LH

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative





PVP = € + 10%

Ø	P	€	D mm	E mm	
1/8	28,00	*89,29*	30	11	1
1/4	19,00	*89,29*	38	10	1
3/8	19,00	*115,47*	45	14	1
1/2	14,00	*115,47*	45	14	1

Ø	P	€	D mm	E mm	
5/8	14,00	*160,15*	55	16	1
3/4	14,00	*239,36*	55	16	1
7/8	14,00	*250,55*	65	18	1
1"	11,00	*250,55*	65	18	1

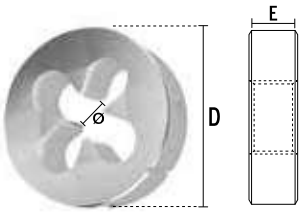
P Aceros Aciers Steels
M Aceros Inox Aciers Inox Stainless Steels
K Fundicion Fonte Cast Iron
N Metales no ferrosos Métal non Ferraux Non Ferrous metals
S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys
H Materiales Duros Materiels Durs Hard materials

2522 HSS DIN EN 24231

1,5 tpi | GUN | G ISO 228

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
										●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	D mm	E mm	
1/8	28,00	*53,09*	30	11	1
1/4	19,00	*53,09*	38	10	1
3/8	19,00	*68,70*	45	14	1
1/2	14,00	*68,70*	45	14	1

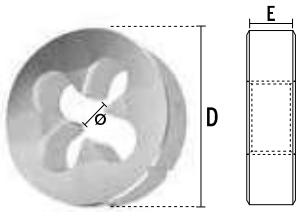
Ø	P	€	D mm	E mm	
5/8	14,00	*108,49*	55	16	1
3/4	14,00	*142,28*	55	16	1
7/8	14,00	*148,95*	65	18	1
1"	11,00	*148,95*	65	18	1

2521 HSS DIN EN 24231

2 tpi | GUN | - 0,1 | G ISO 228

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
										●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø	P	€	D mm	E mm	
1/8	28,00	*58,39*	30	11	1
1/4	19,00	*58,39*	38	10	1
3/8	19,00	*75,56*	45	14	1
1/2	14,00	*75,56*	45	14	1

Ø	P	€	D mm	E mm	
5/8	14,00	*150,74*	55	16	1
3/4	14,00	*156,51*	55	16	1
7/8	14,00	*190,27*	65	18	1
1"	11,00	*190,27*	65	18	1

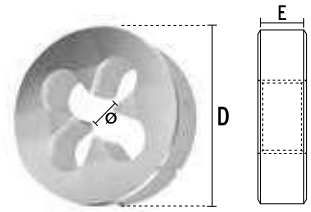
P Aceros Aciers Steels | M Aceros Inox Aciers Inox Stainless Steels | K Fundicion Fonte Cast Iron | N Metales no ferrosos Métal non Ferraux Non Ferrous metals | S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys | H Materiales Duros Materiels Durs Hard materials

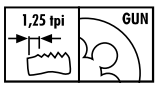
2505 HSS DIN EN 22568

UNC ANSI/ASME B1.1 | Tol. 2A

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative





PVP = € + 10%

Ø	P	€	D mm	E mm	
N°4	40,00	*35,67*	20	5	1
N°5	40,00	*35,67*	20	5	1
N°6	32,00	*35,67*	20	5	1
N°8	32,00	*35,67*	20	7	1
N°10	24,00	*35,67*	20	7	1
N°12	24,00	*35,67*	20	7	1
1/4	20,00	*32,83*	20	7	1
5/16	18,00	*32,09*	25	9	1
3/8	16,00	*47,25*	30	11	1
7/16	14,00	*47,25*	30	11	1
1/2	13,00	*48,63*	38	14	1

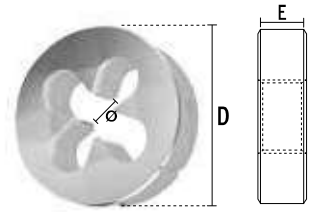
Ø	P	€	D mm	E mm	
9/16	12,00	*50,88*	38	14	1
5/8	11,00	*66,77*	45	18	1
3/4	10,00	*66,77*	45	18	1
7/8	9,00	*87,34*	55	22	1
1"	8,00	*87,34*	55	22	1
1"1/8	7,00	*129,72*	65	25	1
1"1/4	7,00	*129,72*	65	25	1
1"3/8	6,00	*129,72*	65	25	1
1"1/2	6,00	*202,27*	75	30	1
1"3/4	5,00	*433,43*	90	36	1
2"	4,50	*439,28*	90	36	1

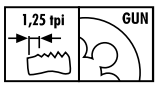
2505/5 HSS DIN EN 22568 Izquierda / A gauche / Left hand

UNC ANSI/ASME B1.1 | Tol. 2A | LH

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative





PVP = € + 10%

Ø	P	€	D mm	E mm	
1/4	20,00	*65,67*	20	7	1
5/16	18,00	*64,14*	25	9	1
3/8	16,00	*94,51*	30	11	1
7/16	14,00	*94,51*	30	11	1
1/2	13,00	*97,24*	38	14	1

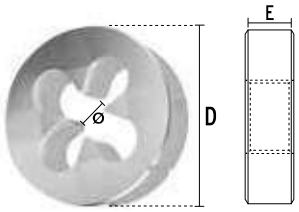
Ø	P	€	D mm	E mm	
9/16	12,00	*101,79*	38	14	1
5/8	11,00	*133,54*	45	18	1
3/4	10,00	*133,54*	45	18	1
7/8	9,00	*174,71*	55	22	1
1"	7,00	*174,71*	55	22	1

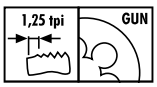
2506 HSS DIN EN 22568

UNF ANSI/ASME B1.1 | Tol. 2A

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative





PVP = € + 10%

Ø	P	€	D mm	E mm	
Nº4	48,00	*35,98*	16	5	1
Nº5	44,00	*35,98*	20	5	1
Nº6	40,00	*35,98*	20	5	1
Nº8	36,00	*35,98*	20	7	1
Nº10	32,00	*35,98*	20	7	1
Nº12	28,00	*35,28*	20	7	1
1/4	28,00	*28,50*	20	7	1
5/16	24,00	*33,88*	25	9	1
3/8	24,00	*47,55*	30	11	1
7/16	20,00	*43,72*	30	11	1

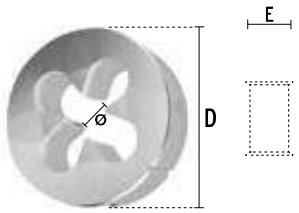
Ø	P	€	D mm	E mm	
1/2	20,00	*49,92*	38	10	1
9/16	18,00	*53,76*	38	10	1
5/8	18,00	*68,71*	45	14	1
3/4	16,00	*68,71*	45	14	1
7/8	14,00	*92,28*	55	16	1
1"	12,00	*92,28*	55	16	1
1"1/8	12,00	*142,12*	65	18	1
1"1/4	12,00	*142,12*	65	18	1
1"3/8	12,00	*212,56*	65	18	1
1"1/2	12,00	*212,56*	75	20	1

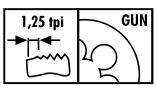
2506/5 HSS DIN EN 22568 Izquierda / A gauche / Left hand

UNF ANSI/ASME B1.1 | Tol. 2A | LH

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative





PVP = € + 10%

Ø	P	€	D mm	E mm	
1/4	28,00	*57,02*	20	7	1
5/16	24,00	*67,77*	25	9	1
3/8	24,00	*95,09*	30	11	1
7/16	20,00	*87,44*	30	11	1
1/2	20,00	*99,83*	38	10	1

Ø	P	€	D mm	E mm	
9/16	18,00	*107,52*	38	10	1
5/8	18,00	*137,41*	45	14	1
3/4	16,00	*137,41*	45	14	1
7/8	14,00	*184,55*	55	16	1
1"	12,00	*184,55*	55	16	1

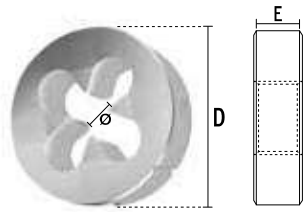
P Aceros Aciers Steels
M Aceros Inox Aciers Inox Stainless Steels
K Fundicion Fonte Cast Iron
N Metales no ferrosos Métal non Ferraux Non Ferrous metals
S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys
H Materiales Duros Materiels Durs Hard materials

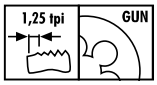
2507 HSS DIN EN 24230

R
DIN 2999

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative





PVP = € + 10%

Ø	P	€	D mm	E mm	
1/8	28,00	*105,08*	30	11	1
1/4	19,00	*105,08*	38	14	1
3/8	19,00	*136,87*	45	18	1

Ø	P	€	D mm	E mm	
1/2	14,00	*136,87*	55	22	1
3/4	14,00	*258,42*	55	22	1
1"	11,00	*275,34*	65	25	1

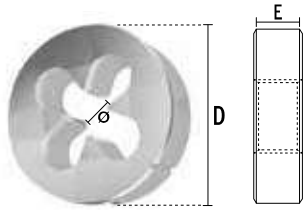
2508 HSS DIN EN 22568

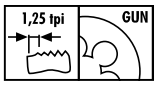
UNEF
ANSI/ASME B1.1

Tol.
2A

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative





PVP = € + 10%

Ø	P	€	D mm	E mm	
1/4	32,00	*107,42*	20	7	1
5/16	32,00	*107,42*	25	9	1
3/8	32,00	*166,78*	30	11	1
7/16	28,00	*166,78*	30	11	1
1/2	28,00	*166,78*	38	10	1

Ø	P	€	D mm	E mm	
9/16	24,00	*166,78*	38	12	1
5/8	24,00	*267,32*	45	14	1
3/4	20,00	*267,32*	45	14	1
1"	20,00	*326,72*	55	16	1

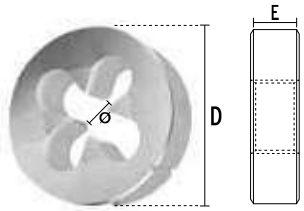
P Aceros Aciers Steels
M Aceros Inox Aciers Inox Stainless Steels
K Fundicion Fonte Cast Iron
N Metales no ferrosos Métal non Ferraux Non Ferrous metals
S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys
H Materiales Duros Materiels Durs Hard materials

2520 HSS DIN EN 22568

UN ANSI/ASME B1.1 | Tol. 2A

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



PVP = € + 10%

Ø	P	€	D mm	E mm	
1"1/8	8,00	*355,45*	65	25	1
1"1/4	8,00	*355,45*	65	25	1
1"3/8	8,00	*381,31*	65	25	1
1"1/2	8,00	*403,57*	75	30	1

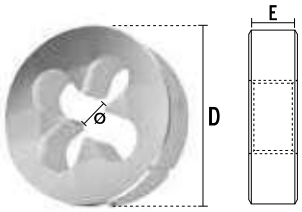
Ø	P	€	D mm	E mm	
1"5/8	8,00	*508,97*	75	30	1
1"3/4	8,00	*619,10*	90	36	1
2"	8,00	*619,10*	90	36	1

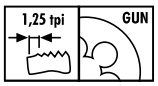
2510 HSS DIN 40434

PG DIN 40430

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative





PVP = € + 10%

Pg	Ø	P	€	D mm	E mm	
7,0	12,5	20,00	*63,80*	38	10	1
9,0	15,2	18,00	*63,80*	45	14	1
11,0	18,6	18,00	*79,91*	45	14	1
13,5	20,4	18,00	*79,91*	45	14	1
16,0	22,5	18,00	*103,03*	55	16	1

Pg	Ø	P	€	D mm	E mm	
21,0	28,3	16,00	*146,44*	65	18	1
29,0	37,0	16,00	*146,44*	65	18	1
36,0	47,0	16,00	*375,32*	90	22	1
42,0	54,0	16,00	*375,32*	105	22	1
48,0	59,3	16,00	*497,75*	105	22	1

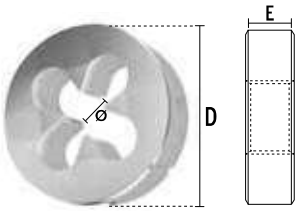
P Aceros Aciers Steels
M Aceros Inox Aciers Inox Stainless Steels
K Fundicion Fonte Cast Iron
N Metales no ferrosos Métal non Ferraux Non Ferrous metals
S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys
H Materiales Duros Materiels Durs Hard materials

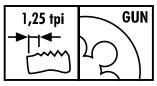
2509 HSS DIN EN 24230

NPT
ANSI/ASME B1.20.1

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative





PVP = € + 10%

Ø	P	€	D mm	E mm	
1/16	27,00	*81,22*	25	9	1
1/8	27,00	*67,01*	30	11	1
1/4	14,00	*67,01*	38	14	1
3/8	18,00	*87,51*	45	18	1
1/2	14,00	*87,51*	45	18	1

Ø	P	€	D mm	E mm	
3/4	14,00	*160,04*	55	22	1
1"	11,50	*192,43*	65	25	1
1"1/4	11,50	*239,12*	75	25	1
1"1/2	11,50	*333,57*	90	25	1
2"	11,50	*464,43*	105	25	1

2701 HSS ISO 529

Tol. 4H | **EG-M (STI)** | **Form. D**

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

ø	P	€	L mm	l mm	⊠ mm	d mm
M2,0	0,40	*13,13*	44,5	9,5	2,24	2,80
M2,2	0,45	*13,13*	44,5	9,5	2,24	2,80
M2,5	0,45	*13,13*	48	11	2,50	3,15
M3,0	0,50	*8,52*	53	13	3,15	4,00
M3,5	0,60	*8,52*	53	13	3,55	4,50
M4,0	0,70	*10,34*	58	16	4,00	5,00
M5,0	0,80	*10,68*	66	19	5,00	6,30
M6,0	1,00	*10,68*	72	22	6,30	8,00
M7,0	1,00	*17,19*	72	22	7,10	9,00
M8,0	1,00	*17,19*	80	24	8,00	10,00
M8,0	1,25	*14,76*	80	24	8,00	10,00
M9,0	1,25	*21,36*	85	25	6,30	8,00
M10,0	1,00	*20,84*	85	25	6,30	8,00
M10,0	1,25	*20,84*	85	25	6,30	8,00
M10,0	1,50	*19,19*	89	29	7,10	9,00
M11,0	1,50	*24,49*	89	29	7,10	9,00
M12,0	1,00	*29,79*	95	30	9,00	11,20
M12,0	1,25	*29,79*	95	30	9,00	11,20
M12,0	1,50	*29,79*	95	30	9,00	11,20
M12,0	1,75	*21,11*	95	30	9,00	11,20

ø	P	€	L mm	l mm	⊠ mm	d mm
M14,0	1,25	*34,90*	102	32	10,00	12,50
M14,0	1,50	*34,90*	102	32	10,00	12,50
M14,0	1,75	*34,90*	102	32	10,00	12,50
M14,0	2,00	*29,25*	102	32	10,00	12,50
M15,0	1,50	*36,70*	102	32	10,00	12,50
M15,0	2,00	*36,70*	112	37	11,20	14,00
M16,0	1,50	*36,70*	104	29	11,20	14,00
M16,0	2,00	*36,70*	112	37	11,20	14,00
M18,0	1,50	*36,70*	104	29	11,20	14,00
M18,0	2,00	*45,89*	104	29	11,20	14,00
M18,0	2,50	*45,89*	118	38	12,50	16,00
M20,0	1,50	*50,90*	113	33	12,50	16,00
M20,0	2,00	*50,90*	113	33	12,50	16,00
M20,0	2,50	*50,90*	118	38	12,50	16,00
M22,0	1,50	*57,51*	120	35	14,00	18,00
M22,0	2,00	*57,51*	120	35	14,00	18,00
M22,0	2,50	*57,51*	130	45	14,00	18,00
M24,0	1,50	*72,48*	120	35	14,00	18,00
M24,0	2,00	*72,48*	127	37	16,00	20,00
M24,0	3,00	*72,48*	138	48	16,00	20,00

P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

2702 HSS ISO 529

Tol. 3B | EG-UNC (STI) | Form. D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº2	56,00	*21,54*	48	9,5	2,50	3,15
Nº4	40,00	*21,54*	53	13	3,15	4,00
Nº6	32,00	*21,54*	58	16	4,00	5,00
Nº8	32,00	*21,54*	62	17	4,50	5,60
Nº10	24,00	*14,41*	66	19	5,00	6,30
Nº12	24,00	*14,41*	66	19	5,60	7,10
1/4	20,00	*14,41*	72	22	6,30	8,00
5/16	18,00	*15,20*	80	24	8,00	10,00
3/8	16,00	*16,41*	85	25	6,30	8,00

Ø	P	€	L mm	l mm	⊠ mm	d mm
7/16	14,00	*23,18*	95	30	9,00	11,20
1/2	13,00	*24,93*	102	32	10,00	12,50
9/16	12,00	*38,72*	112	37	11,20	14,00
5/8	11,00	*46,46*	112	37	11,20	14,00
11/16	11,00	*61,81*	112	37	11,20	14,00
3/4	10,00	*61,81*	118	38	12,50	16,00
7/8	9,00	*71,54*	130	45	14,00	18,00
1"	8,00	*71,54*	138	48	16,00	20,00

2703 HSS ISO 529

Tol. 3BH | EG-UNF (STI) | Form. D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	⊠ mm	d mm
Nº4	48,00	*21,54*	53	13	3,15	4,00
Nº6	40,00	*21,54*	53	13	3,55	4,50
Nº8	36,00	*21,54*	62	17	4,50	5,60
Nº10	32,00	*14,41*	66	19	5,00	6,30
1/4	28,00	*14,41*	69	19	6,30	8,00
5/16	24,00	*15,20*	76	20	8,00	10,00
3/8	24,00	*16,41*	82	22	6,30	8,00
7/16	20,00	*23,18*	84	24	7,10	9,00

Ø	P	€	L mm	l mm	⊠ mm	d mm
1/2	20,00	*24,93*	90	25	9,00	11,20
9/16	18,00	*38,72*	104	29	10,00	12,50
5/8	18,00	*46,46*	104	29	11,20	14,00
3/4	16,00	*61,81*	104	29	11,20	14,00
7/8	14,00	*71,54*	120	35	14,00	18,00
1"	14,00	*71,54*	127	37	16,00	20,00
1"	12,00	*71,54*	127	37	16,00	20,00

2704 HSS ISO 529

EG-W (STI) | Form. D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

Ø	P	€	L mm	l mm	⊠ mm	d mm
1/8	40,00	*14,41*	53	13	3,15	4,00
3/16	24,00	*14,41*	66	19	5,00	6,30
1/4	20,00	*14,41*	72	22	6,30	8,00
5/16	18,00	*15,20*	80	24	8,00	10,00
3/8	16,00	*16,41*	85	25	6,30	8,00
7/16	14,00	*23,18*	95	30	9,00	11,20
1/2	12,00	*24,93*	102	32	10,00	12,50

Ø	P	€	L mm	l mm	⊠ mm	d mm
9/16	12,00	*38,72*	102	32	10,00	12,50
5/8	11,00	*46,46*	112	37	11,20	14,00
11/16	11,00	*61,81*	112	37	11,20	14,00
3/4	10,00	*61,81*	118	38	12,50	16,00
7/8	9,00	*71,54*	130	45	14,00	18,00
1"	8,00	*71,54*	138	48	16,00	20,00

2715 HSS ISO 529

EG-G (STI) | Form. D

P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
●									●	●							

Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative

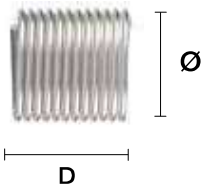
Ø	P	€	L mm	l mm	⊠ mm	d mm
1/8	28,00	*16,75*	59	15	6,30	8,00
1/4	19,00	*19,01*	67	19	9,00	11,20

Ø	P	€	L mm	l mm	⊠ mm	d mm
3/8	19,00	*25,02*	75	21	11,20	14,00
1/2	14,00	*40,53*	87	26	12,50	16,00

P Aceros Aciers Steels | M Aceros Inox Aciers Inox Stainless Steels | K Fundicion Fonte Cast Iron | N Metales no ferrosos Métal non Ferraux Non Ferrous metals | S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys | H Materiales Duros Materiels Durs Hard materials

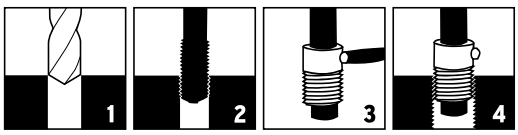
2705 DIN 8140

M DIN 8140 | Tol. 6H



Ø	P	Dmm. 1,0 Ø €	1,5 Ø €	2,0 Ø €	2,5 Ø* €	3,0 Ø* €	
M2,0	0,40	*0,38*	*0,40*	*0,41*	*0,43*	*0,48*	10
M2,2	0,45	*0,36*	*0,38*	*0,40*	*0,41*	*0,36*	10
M2,5	0,45	*0,30*	*0,34*	*0,36*	*0,38*	*0,41*	10
M3,0	0,50	*0,27*	*0,28*	*0,30*	*0,38*	*0,41*	10
M3,5	0,60	*0,36*	*0,38*	*0,40*	*0,41*	*0,45*	10
M4,0	0,70	*0,27*	*0,28*	*0,30*	*0,36*	*0,40*	10
M5,0	0,80	*0,27*	*0,28*	*0,30*	*0,36*	*0,40*	10
M6,0	1,00	*0,27*	*0,28*	*0,30*	*0,36*	*0,40*	10
M7,0	1,00	*0,30*	*0,34*	*0,36*	*0,43*	*0,48*	10
M8,0	1,00	*0,34*	*0,38*	*0,45*	*0,63*	*0,74*	5
M8,0	1,25	*0,30*	*0,38*	*0,43*	*0,54*	*0,65*	5
M9,0	1,25	*0,47*	*0,54*	*0,66*	*0,83*	*0,96*	5
M10,0	1,00	*0,36*	*0,43*	*0,57*	*0,80*	*0,96*	5
M10,0	1,25	*0,36*	*0,43*	*0,57*	*0,80*	*0,96*	5
M10,0	1,50	*0,36*	*0,43*	*0,57*	*0,70*	*0,85*	10
M11,0	1,50	*0,48*	*0,76*	*1,02*	*1,39*	*1,72*	10
M12,0	1,00	*0,43*	*0,68*	*0,91*	*1,39*	*1,72*	10
M12,0	1,25	*0,43*	*0,68*	*0,91*	*1,39*	*1,72*	10
M12,0	1,50	*0,43*	*0,68*	*0,91*	*1,39*	*1,72*	10
M12,0	1,75	*0,43*	*0,68*	*0,91*	*1,23*	*1,53*	10
M14,0	1,00	*1,06*	*1,34*	*1,72*	*2,13*	*2,45*	10
M14,0	1,25	*1,06*	*1,34*	*1,72*	*2,13*	*2,45*	10
M14,0	1,50	*1,06*	*1,34*	*1,72*	*2,13*	*2,45*	10
M14,0	2,00	*0,75*	*0,95*	*1,21*	*2,13*	*2,45*	5
M16,0	1,50	*1,42*	*1,76*	*2,18*	*2,64*	*3,10*	5
M16,0	2,00	*1,00*	*1,24*	*1,53*	*2,64*	*3,13*	5
M18,0	1,50	*1,93*	*2,52*	*3,07*	*3,64*	*4,18*	5
M18,0	2,00	*1,93*	*2,52*	*3,09*	*3,64*	*4,16*	5
M18,0	2,50	*1,54*	*2,04*	*2,46*	*3,64*	*4,16*	5
M20,0	1,50	*2,33*	*3,05*	*3,70*	*4,78*	*5,49*	5
M20,0	2,00	*2,33*	*3,05*	*3,70*	*4,78*	*5,49*	5
M20,0	2,50	*1,87*	*2,44*	*2,96*	*4,78*	*5,49*	5
M22,0	1,50	*3,22*	*4,03*	*4,99*	*6,47*	*7,53*	5
M22,0	2,00	*3,22*	*4,03*	*4,99*	*6,47*	*7,53*	5
M22,0	2,50	*2,58*	*3,22*	*3,99*	*6,47*	*7,53*	5
M24,0	1,50	*4,03*	*5,28*	*6,42*			5
M24,0	2,00	*4,03*	*5,28*	*6,42*			5
M24,0	3,00	*4,03*	*5,28*	*6,42*			5

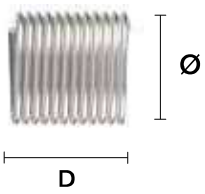
*** Bajo pedido**
Sur commande
To-order



MODO DE EMPLEO / MODE D´EMPLOI / HOW TO USE
1- Taladrado previo / Perçage préalable / Previous drilling
2- Roscado previo / Taraudage préalable / Previous threading
3- Instalación del inserto en la herramienta / Pose de l'insert dans l'outil / Placement of the insert in the tool
4- Introducción del inserto en la rosca / Introduction de l'insert dans le filet / Introduction of the insert in the coil

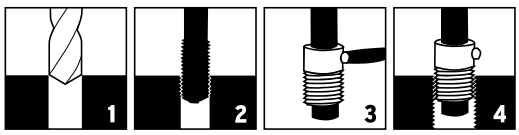
2706 DIN 8140

UNC ANSI/ASME B18.29.1 | Tol. 2B



Ø	P	Dmm. 1,0 Ø €	1,5 Ø €	2,0 Ø €	2,5 Ø* €	3,0 Ø* €	
N° 2	56,00	*0,63*	*0,54*	*0,76*	*0,83*	*0,90*	10
N° 4	40,00	*0,48*	*0,43*	*0,54*	*0,65*	*0,70*	10
N° 5	40,00	*0,53*	*0,48*	*0,61*	*0,70*	*0,79*	10
N° 6	32,00	*0,48*	*0,43*	*0,54*	*0,65*	*0,70*	10
N° 8	32,00	*0,48*	*0,43*	*0,54*	*0,66*	*0,76*	10
N° 10	24,00	*0,48*	*0,53*	*0,54*	*0,66*	*0,76*	10
N° 12	24,00	*0,54*	*0,57*	*0,66*	*0,65*	*0,70*	10
1/4	20,00	*0,48*	*0,43*	*0,54*	*0,68*	*0,68*	10
5/16	18,00	*0,54*	*0,53*	*0,65*	*1,06*	*1,13*	10
3/8	16,00	*0,63*	*0,63*	*1,00*	*1,37*	*1,64*	5
7/16	14,00	*0,71*	*0,71*	*1,17*	*1,64*	*1,95*	5
1/2	13,00	*0,79*	*0,97*	*1,60*	*2,36*	*2,93*	5
9/16	12,00	*1,48*	*1,66*	*2,78*	*3,42*	*3,97*	5
5/8	11,00	*2,02*	*2,15*	*3,53*	*4,23*	*5,03*	5
3/4	10,00	*2,72*	*3,10*	*4,97*	*5,85*	*6,73*	10
7/8	9,00	*4,33*	*4,13*	*6,68*	*7,91*	*9,21*	10
1"	8,00	*5,43*	*5,37*	*8,61*	*11,26*	*12,94*	10

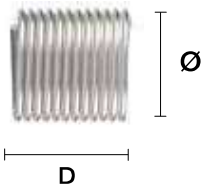
*** Bajo pedido**
Sur commande
To-order



MODO DE EMPLEO / MODE D´EMPLOI / HOW TO USE
1- Taladrado previo / Perçage préalable / Previous drilling
2- Roscado previo / Taraudage préalable / Previous threading
3- Instalación del inserto en la herramienta / Pose de l'insert dans l'outil / Placement of the insert in the tool
4- Introducción del inserto en la rosca / Introduction de l'insert dans le filet / Introduction of the insert in the coil

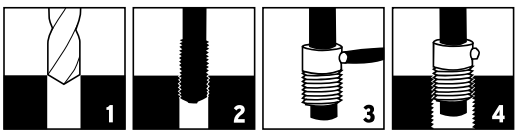
2707 DIN 8140

UNF ANSI/ASME B18.29.1 | Tol. 2B



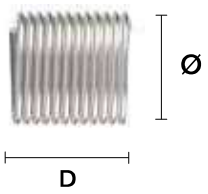
Ø	P	Dmm. 1,0 Ø €	1,5 Ø €	2,0 Ø €	2,5 Ø* €	3,0 Ø* €	
4	48,00	*0,48*	*0,43*	*0,54*	*0,65*	*0,70*	10
6	40,00	*0,48*	*0,43*	*0,54*	*0,65*	*0,70*	10
8	36,00	*0,54*	*0,43*	*0,61*	*0,66*	*0,76*	10
10	32,00	*0,48*	*0,43*	*0,54*	*0,68*	*0,76*	10
1/4	28,00	*0,48*	*0,43*	*0,54*	*0,66*	*0,76*	10
5/16	24,00	*0,54*	*0,54*	*0,79*	*1,06*	*1,25*	10
3/8	24,00	*0,63*	*0,63*	*1,00*	*1,37*	*1,64*	10
7/16	20,00	*0,71*	*0,71*	*1,17*	*1,62*	*1,95*	10
1/2	20,00	*0,76*	*0,97*	*1,60*	*2,36*	*2,93*	10
9/16	18,00	*1,56*	*1,66*	*2,78*	*3,42*	*3,97*	5
5/8	18,00	*2,10*	*2,15*	*3,53*	*4,23*	*5,03*	5
3/4	16,00	*2,85*	*3,10*	*4,97*	*5,85*	*6,73*	5
7/8	14,00	*4,33*	*4,13*	*6,68*	*7,91*	*9,21*	5
1"	12,00	*5,43*	*5,37*	*8,61*	*11,26*	*12,94*	5
1"1/8	12,00	*9,08*	*9,03*	*13,69*			10
1"1/4	12,00	*10,04*	*15,59*				10
1"3/8	12,00	*11,91*	*11,21*				10
1"1/2	12,00	*12,56*	*13,57*				

*** Bajo pedido**
Sur commande
To-order



MODO DE EMPLEO / MODE D´EMPLOI / HOW TO USE
1- Taladrado previo / Perçage préalable / Previous drilling
2- Roscado previo / Taraudage préalable / Previous threading
3- Instalación del inserto en la herramienta / Pose de l'insert dans l'outil / Placement of the insert in the tool
4- Introducción del inserto en la rosca / Introduction de l'insert dans le filet / Introduction of the insert in the coil

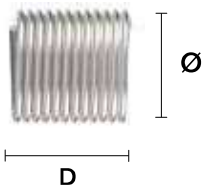
2708 DIN 8140 — BSW BS 84 — Tol. 2B



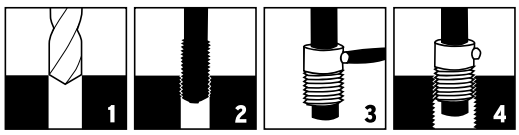
Ø	P	Dmm. 1,0 Ø €	1,5 Ø €	2,0 Ø €	2,5 Ø* €	3,0 Ø* €	
1/8	48,00	*0,61*	*0,48*	*0,66*	*0,70*	*0,79*	10
3/16	24,00	*0,54*	*0,43*	*0,61*	*0,70*	*0,79*	10
1/4	20,00	*0,54*	*0,43*	*0,61*	*0,74*	*0,85*	10
5/16	18,00	*0,61*	*0,54*	*0,86*	*1,17*	*1,37*	10
3/8	16,00	*0,68*	*0,63*	*1,10*	*1,48*	*1,80*	10
7/16	14,00	*0,79*	*0,71*	*1,29*	*1,80*	*2,15*	10
1/2	12,00	*0,76*	*1,17*	*1,60*	*2,58*	*3,21*	10
9/16	12,00	*1,72*	*1,85*	*2,78*	*3,75*	*4,35*	10
5/8	11,00	*2,30*	*2,15*	*3,53*	*4,65*	*5,49*	10
3/4	10,00	*3,15*	*3,10*	*4,18*	*5,41*	*7,39*	5
7/8	9,00	*3,93*	*3,30*	*6,08*	*7,88*	*9,19*	5
1"	8,00	*4,94*	*4,31*	*7,84*	*10,23*	*11,76*	5

*** Bajo pedido**
Sur commande
To-order

2716 DIN 8140 — G ISO 229 — Tol. 2B



Ø	P	Dmm. 1,0 Ø €	1,5 Ø €	2,0 Ø €	
1/8	28,00	*0,57*	*0,82*	*0,90*	10
1/4	19,00	*0,77*	*1,11*	*1,25*	10
3/8	19,00	*0,69*	*1,26*	*1,43*	10
1/2	14,00	*1,19*	*1,82*	*1,91*	10



MODO DE EMPLEO / MODE D´EMPLOI / HOW TO USE
1- Taladrado previo / Perçage préalable / Previous drilling
2- Roscado previo / Taraudage préalable / Previous threading
3- Instalación del inserto en la herramienta / Pose de l'insert dans l'outil / Placement of the insert in the tool
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2709 Insertador / Appareil de pose manuel / Insert Tool

nº	Ø x P mm	UNC/UNF/BSW/BSF/BSP		€
2	M 2,00 x 0,40 M 2,20 x 0,45	UNC Nº 2	1	*24,75*
3	M 2,50 x 0,45		1	*24,75*
4	M 3,00 x 0,50	UNC Nº 5, UNC/UNF Nº 4, BSW 18	1	*18,68*
5	M 3,50 x 0,60	UNC/UNF Nº 6	1	*18,68*
6	M 4,00 x 0,70	UNC, UNF Nº 8	1	*18,68*
7		BSW 3/16, UNC Nº 10	1	*18,68*
8	M 5,00 x 0,80	UNF Nº 10, UNC Nº 12, BSF 3/16	1	*18,68*
9	M 6,00 x 1,00	UNC, UNF 1/4, BSW, BSF 1/4	1	*18,68*
10	M 7,00 x 1,00		1	*18,68*
11	M 8,00 x 1,00 M 8,00 x 1,25	UNF, BSF 5/16 UNC, BSW 5/16	1	*18,68*
12	M 9,00 x 1,00 M 9,00 x 1,25		1	*18,68*
13	M 10,00 x 1,00 M 10,00 x 1,25 M 10,00 x 1,50	UNF, BSF 3/8 UNC, BSW 3/8 G 1/18	1	*18,68*
14	M 11,00 x 1,25 M 11,00 x 1,50	UNC, UNF 7/16, BSW, BSF 7/16	1	*19,92*
15	M 12,00 x 1,00 M 12,00 x 1,25 M 12,00 x 1,50 M 12,00 x 1,75	UNC, UNF 1/2, BSW, BSF 1/2	1	*22,35*
16	M 14,00 x 1,50 M 14,00 x 2,00	UNC, UNF 9/16, BSW, BSF 9/16 G 1/4, G 3/8	1	*24,87*
17	M 14,00 x 1,00 M 14,00 x 1,25		1	*24,87*
18	M 16,00 x 1,50 M 16,00 x 2,00	UNC, UNF 5/8, BSW, BSF 5/8	1	*24,87*
20	M 18,00 x 1,50 M 18,00 x 2,00 M 18,00 x 2,50	UNC 3/4, BSW, BSF 3/4	1	*31,04*
21	M 20,00 x 1,50 M 20,00 x 2,00 M 20,00 x 2,50	UNF 3/4	1	*31,04*
22	M 22,00 x 1,50 M 22,00 x 2,00 M 22,00 x 2,50	UNC, UNF 7/8, BSW, BSF 7/8 G 1/2	1	*31,04*
23	M 24,00 x 1,50 M 24,00 x 2,00 M 24,00 x 3,00	UNC, UNF 1", BSW, BSF 1"	1	*49,76*

2710 Rompe Arrastre / Rupteur / Tang break tool

nº	Ø x P mm	UNC/UNF/BSW/BSF/BSP		€
2	M 2,00 x 0,40 M 2,20 x 0,45	UNC Nº 2	1	*5,91*
3	M 2,50 x 0,45		1	*5,91*
4	M 3,00 x 0,50	UNC, UNF Nº 4	1	*5,91*
5	M 3,50 x 0,60	UNC, UNF Nº 6	1	*5,91*
6	M 4,00 x 0,70	UNC Nº 10, UNC/UNF Nº 8, BSF 3/16	1	*5,91*
8	M 5,00 x 0,80		1	*7,42*
9	M 6,00 x 1,00	UNC/UNF 1/4, BSW/BSF 1/4	1	*7,42*
11	M 7,00 x 1,00 M 8,00 x 1,00 M 8,00 x 1,25	UNC/UNF 5/16, BSW/BSF 5/16	1	*9,68*
12	M 9,00 x 1,00 M 9,00 x 1,25	BSF 3/8	1	*9,68*
13	M 10,00 x 1,00 M 10,00 x 1,25 M 10,00 x 1,50	UNF 3/8 UNC, BSW 3/8 G 1/8	1	*9,68*
14	M 11,00 x 1,25 M 11,00 x 1,50	UNC/UNF 7/16, BSW/BSF 7/16	1	*9,68*
15	M 12,00 x 1,00 M 12,00 x 1,25 M 12,00 x 1,50 M 12,00 x 1,75	UNC/UNF 1/2, BSW/BSF 1/2 G 1/4	1	*9,68*

2711 Kits / Kits

EG-M (STI)

Ø	P				1,5D	€
M2,0	0,40	2,10	No. 2	No. 2	10	*60,82*
M2,5	0,45	2,60	No. 3	No. 3	10	*60,26*
M3,0	0,50	3,20	No. 4	No. 4	10	*49,35*
M3,5	0,60	3,70	No. 5	No. 5	10	*50,14*
M4,0	0,70	4,20	No. 6	No. 6	10	*51,29*
M5,0	0,80	5,20	No. 8	No. 8	10	*54,20*
M6,0	1,00	6,30	No. 9	No. 9	10	*54,24*
M7,0	1,00	7,30	No. 10	No. 11	10	*64,16*
M8,0	1,00	8,30	No. 11	No. 11	10	*63,09*
M8,0	1,25	8,30	No. 11	No. 11	10	*65,52*
M9,0	1,25	9,30	No. 12		10	*62,69*
M10,0	1,00	10,40	No. 13		10	*62,31*
M10,0	1,25	10,30	No. 13		10	*62,31*
M10,0	1,50	10,30	No. 13		10	*60,66*
M11,0	1,50	11,40	No. 14		5	*68,25*
M12,0	1,00	12,40	No. 15		5	*77,05*
M12,0	1,25	12,40	No. 15		5	*77,05*
M12,0	1,50	12,30	No. 15		5	*68,37*
M12,0	1,75	12,30	No. 15		5	*78,68*
M14,0	1,00		No. 16		5	*67,60*
M14,0	1,25		No. 16		5	*78,68*
M14,0	1,50		No. 17		5	*78,68*
M14,0	2,00		No. 17		5	*67,60*
M16,0	1,50		No. 18		5	*82,51*
M16,0	2,00		No. 18		5	*82,51*
M18,0	1,50		No. 20		5	*101,79*
M18,0	2,00		No. 20		5	*101,79*
M18,0	2,50		No. 20		5	*101,79*
M20,0	1,50		No. 21		5	*109,33*
M20,0	2,00		No. 21		5	*109,33*
M20,0	2,50		No. 21		5	*109,33*
M22,0	1,50		No. 22		5	*120,92*
M22,0	2,00		No. 22		5	*120,92*
M22,0	2,50		No. 22		5	*120,92*
M24,0	1,50		No. 23		5	*160,74*
M24,0	2,00		No. 23		5	*160,74*
M24,0	3,00		No. 23		5	*160,74*

2712 Kits / Kits

EG-UNC (STI)

Ø	P				1,5D	€
N°2	56,00	2,10	No. 2	No. 2	10	*70,79*
N°4	40,00	2,60	No. 3	No. 3	10	*63,58*
N°6	32,00	3,20	No. 4	No. 4	10	*63,74*
N°8	32,00	3,70	No. 5	No. 5	10	*63,96*
N°10	24,00	4,20	No. 6	No. 6	10	*58,37*
N°12	24,00	5,20	No. 8	No. 8	10	*60,36*
1/4	20,00	6,30	No. 9	No. 9	10	*59,72*
5/16	18,00	7,30	No. 10	No. 11	10	*65,08*
3/8	16,00	8,30	No. 11	No. 11	10	*59,12*
7/16	14,00	8,30	No. 11	No. 11	10	*67,17*
1/2	13,00	9,30	No. 12		10	*72,84*
9/16	12,00	10,40	No. 13		10	*84,05*
5/8	11,00	10,30	No. 13		10	*94,22*
3/4	10,00	10,30	No. 13		10	*120,55*
7/8	9,00	11,40	No. 14		5	*135,36*
1"	8,00	12,40	No. 15		5	*160,30*

2713 Kits / Kits

EG-UNF (STI)

Ø	P				1,5D	€
N°4	48,00	2,10	No. 2	No. 2	10	*65,71*
N°6	40,00	2,60	No. 3	No. 3	10	*66,17*
N°8	36,00	3,20	No. 4	No. 4	10	*66,39*
N°10	32,00	3,70	No. 5	No. 5	10	*61,15*
1/4	28,00	4,20	No. 6	No. 6	10	*62,15*
5/16	24,00	5,20	No. 8	No. 8	10	*67,70*
3/8	24,00	6,30	No. 9	No. 9	10	*61,55*
7/16	20,00	7,30	No. 10	No. 11	10	*77,57*
1/2	20,00	8,30	No. 11	No. 11	10	*84,99*
9/16	18,00	8,30	No. 11	No. 11	10	*96,21*
5/8	18,00	9,30	No. 12		10	*106,37*
3/4	16,00	10,40	No. 13		10	*157,01*
7/8	14,00	10,30	No. 13		10	*171,81*
1"	12,00	10,30	No. 13		10	*196,77*

2714 Kits / Kits — EG-W (STI)

Ø	P				1,5D	€
1/8	40,00	2,10	No. 2	No. 2	10	*59,54*
3/16	24,00	2,60	No. 3	No. 3	10	*62,15*
1/4	20,00	3,20	No. 4	No. 4	10	*62,15*
5/16	18,00	3,70	No. 5	No. 5	10	*67,70*
3/8	16,00	4,20	No. 6	No. 6	10	*61,55*
7/16	14,00	5,20	No. 8	No. 8	10	*77,57*
1/2	12,00	6,30	No. 9	No. 9	10	*85,97*
9/16	12,00	7,30	No. 10	No. 11	10	*97,19*
5/8	11,00	8,30	No. 11	No. 11	10	*106,37*
3/4	10,00	8,30	No. 11	No. 11	10	*157,01*
7/8	9,00	9,30	No. 12		10	*167,71*
1"	8,00	10,40	No. 13		10	*191,40*

2717 Kits / Kits — EG-G (STI)

Ø	P				1,5D	€
1/8	28,00	2,10	No. 2	No. 2	10	*98,41*
1/4	19,00	2,60	No. 3	No. 3	10	*103,91*
3/8	19,00	3,20	No. 4	No. 4	10	*119,42*
1/2	14,00	3,70	No. 5	No. 5	10	*156,99*

7167 Multi-kits / Multi-kits

EG-M (STI)

Ø	P				1,5 D
M5,0	0,80	2,10	No. 2	No. 2	10
M6,0	1,00	2,60	No. 3	No. 3	10
M8,0	1,25	3,20	No. 4	No. 4	10
M10,0	1,50	3,70	No. 5	No. 5	10
M12,0	1,75	4,20	No. 6	No. 6	10

€	*383,21*

2901/1 DIN ISO 1502

PASA NO PASA | CTPNP | M-MF DIN 13 | Tol. 6H

Ø	P	€	
M1,0	0,25	*305,45*	1
M1,1	0,25	*305,45*	1
M1,2	0,25	*291,82*	1
M1,4	0,30	*291,82*	1
M1,6	0,35	*245,45*	1
M1,8	0,35	*215,45*	1
M2,0	0,40	*139,09*	1
M2,2	0,45	*199,29*	1
M2,5	0,45	*122,73*	1
M3,0	0,50	*114,55*	1
M4,0	0,50	*226,36*	1
M4,0	0,70	*109,09*	1
M4,5	0,75	*120,58*	1
M5,0	0,50	*220,91*	1
M5,0	0,80	*106,36*	1
M6,0	0,50	*220,91*	1
M6,0	0,75	*150,00*	1
M6,0	1,00	*100,91*	1
M7,0	1,00	*100,91*	1
M8,0	0,50	*220,91*	1
M8,0	0,75	*160,91*	1
M8,0	1,00	*144,55*	1
M8,0	1,25	*106,36*	1
M9,0	1,25	*109,09*	1
M10,0	0,50	*237,27*	1
M10,0	0,75	*163,64*	1
M10,0	1,00	*150,00*	1
M10,0	1,25	*177,27*	1
M10,0	1,50	*111,82*	1
M12,0	0,50	*253,64*	1

Ø	P	€	
M12,0	0,75	*171,82*	1
M12,0	1,00	*163,64*	1
M12,0	1,25	*171,82*	1
M12,0	1,50	*174,55*	1
M12,0	1,75	*117,27*	1
M14,0	1,00	*171,82*	1
M14,0	1,25	*185,45*	1
M14,0	1,50	*160,91*	1
M14,0	2,00	*125,45*	1
M16,0	1,00	*185,45*	1
M16,0	1,50	*166,36*	1
M16,0	2,00	*133,64*	1
M18,0	1,00	*188,18*	1
M18,0	1,50	*174,55*	1
M18,0	2,50	*144,55*	1
M20,0	1,00	*201,82*	1
M20,0	1,50	*185,45*	1
M20,0	2,00	*185,45*	1
M20,0	2,50	*155,45*	1
M22,0	1,00	*223,64*	1
M22,0	1,50	*207,27*	1
M22,0	2,50	*160,91*	1
M24,0	1,00	*240,00*	1
M24,0	1,50	*218,18*	1
M24,0	2,00	*218,18*	1
M24,0	3,00	*180,00*	1
M25,0	1,00	*245,45*	1
M25,0	1,50	*223,64*	1
M25,0	2,00	*223,64*	1
M27,0	1,00	*259,09*	1

Ø	P	€	
M27,0	1,50	*237,27*	1
M27,0	2,00	*237,27*	1
M27,0	3,00	*196,36*	1
M30,0	1,00	*291,82*	1
M30,0	1,50	*261,82*	1
M30,0	2,00	*261,82*	1
M30,0	3,00	*300,00*	1
M30,0	3,50	*215,45*	1
M32,0	1,00	*291,82*	1
M32,0	1,50	*267,27*	1
M32,0	2,00	*267,27*	1
M33,0	1,00	*294,55*	1
M33,0	1,50	*272,73*	1
M33,0	2,00	*272,73*	1
M33,0	3,00	*308,18*	1
M33,0	3,50	*237,27*	1
M36,0	1,00	*316,36*	1
M36,0	1,50	*291,82*	1
M36,0	2,00	*291,82*	1
M36,0	3,00	*291,82*	1
M36,0	4,00	*256,36*	1
M39,0	1,50	*316,36*	1
M39,0	2,00	*316,36*	1
M39,0	3,00	*370,91*	1
M39,0	4,00	*278,18*	1
M40,0	1,50	*335,45*	1
M40,0	2,00	*335,45*	1
M40,0	3,00	*376,36*	1

2901/4 DIN ISO 1502

PASA | CTP | M-MF DIN 13 | Tol. 6H

Ø	P	€	
M42,0	1,50	*196,36*	1
M42,0	2,00	*196,36*	1
M42,0	3,00	*226,36*	1
M42,0	4,50	*188,18*	1
M45,0	1,50	*204,55*	1
M45,0	2,00	*207,27*	1
M45,0	3,00	*237,27*	1

Ø	P	€	
M45,0	4,50	*201,82*	1
M48,0	1,50	*212,73*	1
M48,0	2,00	*218,18*	1
M48,0	3,00	*248,18*	1
M48,0	5,00	*218,18*	1
M50,0	1,50	*223,64*	1
M50,0	2,00	*226,36*	1

Ø	P	€	
M50,0	3,00	*259,09*	1
M52,0	1,50	*229,09*	1
M52,0	2,00	*237,27*	1
M52,0	3,00	*272,73*	1
M52,0	5,00	*229,09*	1

2901/5 DIN ISO 1502

NO PASA | CTNP | M-MF DIN 13 | Tol. 6H

Ø	P	€	
M42,0	1,50	*196,36*	1
M42,0	2,00	*196,36*	1
M42,0	3,00	*226,36*	1
M42,0	4,50	*188,18*	1
M45,0	1,50	*204,55*	1
M45,0	2,00	*207,27*	1
M45,0	3,00	*237,27*	1

Ø	P	€	
M45,0	4,50	*201,82*	1
M48,0	1,50	*212,73*	1
M48,0	2,00	*218,18*	1
M48,0	3,00	*248,18*	1
M48,0	5,00	*218,18*	1
M50,0	1,50	*223,64*	1
M50,0	2,00	*226,36*	1

Ø	P	€	
M50,0	3,00	*259,09*	1
M52,0	1,50	*229,09*	1
M52,0	2,00	*237,27*	1
M52,0	3,00	*272,73*	1
M52,0	5,00	*229,09*	1

2901/2 DIN ISO 1502

PASA | CAP | M-MF DIN 13 | Tol. 6g

Ø	P	€	
M2,0	0,40	*155,45*	1
M2,2	0,45	*182,73*	1
M2,5	0,45	*120,00*	1
M3,0	0,50	*117,27*	1
M4,0	0,50	*242,73*	1
M4,0	0,70	*109,09*	1
M4,5	0,75	*109,09*	1
M5,0	0,50	*242,73*	1
M5,0	0,80	*109,09*	1
M6,0	0,50	*242,73*	1
M6,0	0,75	*150,00*	1
M6,0	1,00	*109,09*	1
M7,0	1,00	*139,09*	1
M8,0	0,50	*234,55*	1
M8,0	0,75	*169,09*	1
M8,0	1,00	*130,91*	1
M8,0	1,25	*109,09*	1
M9,0	1,25	*150,00*	1
M10,0	0,50	*270,00*	1
M10,0	0,75	*188,18*	1
M10,0	1,00	*144,55*	1
M10,0	1,25	*177,27*	1
M10,0	1,50	*122,73*	1
M12,0	0,50	*308,18*	1
M12,0	0,75	*223,64*	1
M12,0	1,00	*163,64*	1
M12,0	1,25	*199,09*	1
M12,0	1,50	*155,45*	1
M12,0	1,75	*141,82*	1
M14,0	1,00	*174,55*	1
M14,0	1,25	*250,91*	1
M14,0	1,50	*160,91*	1
M14,0	2,00	*155,45*	1
M16,0	1,00	*188,18*	1

Ø	P	€	
M16,0	1,50	*174,55*	1
M16,0	2,00	*169,09*	1
M18,0	1,00	*201,82*	1
M18,0	1,50	*188,18*	1
M18,0	2,50	*193,64*	1
M20,0	1,00	*215,45*	1
M20,0	1,50	*201,82*	1
M20,0	2,00	*215,45*	1
M20,0	2,50	*215,45*	1
M22,0	1,00	*264,55*	1
M22,0	1,50	*215,45*	1
M22,0	2,50	*231,82*	1
M24,0	1,00	*250,91*	1
M24,0	1,50	*234,55*	1
M24,0	2,00	*242,73*	1
M24,0	3,00	*245,45*	1
M25,0	1,00	*294,55*	1
M25,0	1,50	*240,00*	1
M25,0	2,00	*242,73*	1
M27,0	1,00	*316,36*	1
M27,0	1,50	*250,91*	1
M27,0	2,00	*264,55*	1
M27,0	3,00	*272,73*	1
M30,0	1,00	*300,00*	1
M30,0	1,50	*270,00*	1
M30,0	2,00	*270,00*	1
M30,0	3,00	*302,73*	1
M30,0	3,50	*300,00*	1
M32,0	1,00	*321,82*	1
M32,0	1,50	*289,09*	1
M32,0	2,00	*289,09*	1
M33,0	1,00	*330,00*	1
M33,0	1,50	*294,55*	1
M33,0	2,00	*300,00*	1

Ø	P	€	
M33,0	3,00	*319,09*	1
M33,0	3,50	*324,55*	1
M36,0	1,00	*354,55*	1
M36,0	1,50	*313,64*	1
M36,0	2,00	*330,00*	1
M36,0	3,00	*368,18*	1
M36,0	4,00	*349,09*	1
M39,0	1,50	*346,36*	1
M39,0	2,00	*360,00*	1
M39,0	3,00	*373,64*	1
M39,0	4,00	*379,09*	1
M40,0	1,50	*346,36*	1
M40,0	2,00	*368,18*	1
M40,0	3,00	*384,55*	1
M42,0	1,50	*360,00*	1
M42,0	2,00	*300,00*	1
M42,0	3,00	*395,45*	1
M42,0	4,50	*411,82*	1
M45,0	1,50	*379,09*	1
M45,0	2,00	*308,18*	1
M45,0	3,00	*400,91*	1
M45,0	4,50	*436,36*	1
M48,0	1,50	*400,91*	1
M48,0	2,00	*313,64*	1
M48,0	3,00	*414,55*	1
M48,0	5,00	*460,91*	1
M50,0	1,50	*414,55*	1
M50,0	2,00	*327,27*	1
M50,0	3,00	*425,45*	1
M52,0	1,50	*436,36*	1
M52,0	2,00	*335,45*	1
M52,0	3,00	*463,64*	1
M52,0	5,00	*496,36*	1

2901/3 DIN ISO 1502

NO PASA | CANP | M-MF DIN 13 | Tol. 6g | CERTIFIED CALIBRATION

Ø	P	€	
M2,0	0,40	155,45	1
M2,2	0,45	182,73	1
M2,5	0,45	120,00	1
M3,0	0,50	117,27	1
M4,0	0,50	242,73	1
M4,0	0,70	109,09	1
M4,5	0,75	109,09	1
M5,0	0,50	242,73	1
M5,0	0,80	109,09	1
M6,0	0,50	242,73	1
M6,0	0,75	150,00	1
M6,0	1,00	109,09	1
M7,0	1,00	139,09	1
M8,0	0,50	234,55	1
M8,0	0,75	169,09	1
M8,0	1,00	130,91	1
M8,0	1,25	109,09	1
M9,0	1,25	150,00	1
M10,0	0,50	270,00	1
M10,0	0,75	188,18	1
M10,0	1,00	144,55	1
M10,0	1,25	177,27	1
M10,0	1,50	122,73	1
M12,0	0,50	308,18	1
M12,0	0,75	223,64	1
M12,0	1,00	163,64	1
M12,0	1,25	199,09	1
M12,0	1,50	155,45	1
M12,0	1,75	141,82	1
M14,0	1,00	174,55	1
M14,0	1,25	250,91	1
M14,0	1,50	160,91	1
M14,0	2,00	155,45	1
M16,0	1,00	188,18	1

Ø	P	€	
M16,0	1,50	174,55	1
M16,0	2,00	169,09	1
M18,0	1,00	201,82	1
M18,0	1,50	188,18	1
M18,0	2,50	193,64	1
M20,0	1,00	215,45	1
M20,0	1,50	201,82	1
M20,0	2,00	215,45	1
M20,0	2,50	215,45	1
M22,0	1,00	264,55	1
M22,0	1,50	215,45	1
M22,0	2,50	231,82	1
M24,0	1,00	250,91	1
M24,0	1,50	234,55	1
M24,0	2,00	242,73	1
M24,0	3,00	245,45	1
M25,0	1,00	294,55	1
M25,0	1,50	240,00	1
M25,0	2,00	242,73	1
M27,0	1,00	316,36	1
M27,0	1,50	250,91	1
M27,0	2,00	264,55	1
M27,0	3,00	272,73	1
M30,0	1,00	300,00	1
M30,0	1,50	270,00	1
M30,0	2,00	270,00	1
M30,0	3,00	302,73	1
M30,0	3,50	300,00	1
M32,0	1,00	321,82	1
M32,0	1,50	289,09	1
M32,0	2,00	289,09	1
M33,0	1,00	330,00	1
M33,0	1,50	294,55	1
M33,0	2,00	300,00	1

Ø	P	€	
M33,0	3,00	319,09	1
M33,0	3,50	324,55	1
M36,0	1,00	354,55	1
M36,0	1,50	313,64	1
M36,0	2,00	330,00	1
M36,0	3,00	349,09	1
M36,0	4,00	349,09	1
M39,0	1,50	346,36	1
M39,0	2,00	360,00	1
M39,0	3,00	373,64	1
M39,0	4,00	379,09	1
M40,0	1,50	346,36	1
M40,0	2,00	368,18	1
M40,0	3,00	384,55	1
M42,0	1,50	360,00	1
M42,0	2,00	300,00	1
M42,0	3,00	395,45	1
M42,0	4,50	411,82	1
M45,0	1,50	379,09	1
M45,0	2,00	308,18	1
M45,0	3,00	400,91	1
M45,0	4,50	436,36	1
M48,0	1,50	400,91	1
M48,0	2,00	313,64	1
M48,0	3,00	414,55	1
M48,0	5,00	460,91	1
M50,0	1,50	414,55	1
M50,0	2,00	327,27	1
M50,0	3,00	425,45	1
M52,0	1,50	436,36	1
M52,0	2,00	335,45	1
M52,0	3,00	463,64	1
M52,0	5,00	496,36	1

2902/1 ISO 228-2

PASA NO PASA | CTPNP | G ISO 228

Ø	P	€	
1/8	28,00	*160,91*	1
1/4	19,00	*171,82*	1
3/8	19,00	*199,09*	1

Ø	P	€	
1/2	14,00	*226,36*	1
5/8	14,00	*240,00*	1
3/4	14,00	*261,82*	1

Ø	P	€	
7/8	14,00	*291,82*	1
1"	11,00	*308,18*	1
1"1/8	7,00	*349,09*	1

2902/4 ISO 228-2

PASA | CTP | G ISO 228

Ø	P	€	
1"1/4	11,00	*215,45*	1
1"1/2	11,00	*250,91*	1

Ø	P	€	
1"3/4	11,00	*283,64*	1
2"	11,00	*310,91*	1

Ø	P	€	
2"1/4	11,00	*338,18*	1
2"1/2	11,00	*390,00*	1

2902/5 ISO 228-2

NO PASA | CTNP | G ISO 228

Ø	P	€	
1"1/4	11,00	*215,45*	1
1"1/2	11,00	*250,91*	1

Ø	P	€	
1"3/4	11,00	*283,64*	1
2"	11,00	*310,91*	1

Ø	P	€	
2"1/4	11,00	*338,18*	1
2"1/2	11,00	*390,00*	1

2902/2 DIN ISO 228-2

PASA | CAP | Tol. A | G ISO 228

Ø	P	€	
1/8	28,00	*177,27*	1
1/4	19,00	*207,27*	1
3/8	19,00	*248,18*	1
1/2	14,00	*240,00*	1
5/8	14,00	*259,09*	1

Ø	P	€	
3/4	14,00	*275,45*	1
7/8	14,00	*310,91*	1
1"	11,00	*340,91*	1
1"1/8	11,00	*387,27*	1
1"1/4	11,00	*422,73*	1

Ø	P	€	
1"1/2	11,00	*474,55*	1
1"3/4	11,00	*523,64*	1
2"	11,00	*578,18*	1
2"1/4	11,00	*624,55*	1
2"1/2	11,00	*709,09*	1

2902/3 DIN ISO 228-2

NO PASA | CANP | Tol. A | G ISO 228

Ø	P	€	
1/8	28,00	*177,27*	1
1/4	19,00	*207,27*	1
3/8	19,00	*248,18*	1
1/2	14,00	*240,00*	1
5/8	14,00	*259,09*	1

Ø	P	€	
3/4	14,00	*275,45*	1
7/8	14,00	*310,91*	1
1"	11,00	*340,91*	1
1"1/8	11,00	*387,27*	1
1"1/4	11,00	*422,73*	1

Ø	P	€	
1"1/2	11,00	*474,55*	1
1"3/4	11,00	*523,64*	1
2"	11,00	*578,18*	1
2"1/4	11,00	*624,55*	1
2"1/2	11,00	*709,09*	1

2903/1 BS 919

PASA NO PASA | CTPNP | BSW BS 84

Ø	P	€	
1/8	40,00	*240,00*	1
1/4	20,00	*210,00*	1
3/8	16,00	*220,91*	1
1/2	12,00	*240,00*	1
5/8	11,00	*270,00*	1
3/4	10,00	*310,91*	1
7/8	9,00	*346,36*	1
1	8,00	*398,18*	1

2903/2 BS 919

PASA | CAP | BSW BS 84

Ø	P	€	
1/8	40,00	*199,09*	1
1/4	20,00	*169,09*	1
3/8	16,00	*190,91*	1
1/2	12,00	*212,73*	1
5/8	11,00	*248,18*	1
3/4	10,00	*289,09*	1
7/8	9,00	*330,00*	1
1	8,00	*368,18*	1

2903/3 BS 919

NO PASA | CANP | BSW BS 84

Ø	P	€	
1/8	40,00	*199,09*	1
1/4	20,00	*169,09*	1
3/8	16,00	*190,91*	1
1/2	12,00	*212,73*	1
5/8	11,00	*248,18*	1
3/4	10,00	*289,09*	1
7/8	9,00	*330,00*	1
1	8,00	*368,18*	1

2904/1 ANSI / ASME B1.2

PASA NO PASA | CTPNP | UNC ANSI/ASME B1.1 | Tol. 2B

Ø	P	€	
N°4	40,00	*245,45*	1
N°5	40,00	*259,09*	1
N°6	32,00	*155,45*	1
N°8	32,00	*150,00*	1
N°10	24,00	*147,27*	1
N°12	24,00	*141,82*	1
1/4	20,00	*141,82*	1

Ø	P	€	
5/16	18,00	*147,27*	1
3/8	16,00	*147,27*	1
7/16	14,00	*155,45*	1
1/2	13,00	*166,36*	1
9/16	12,00	*171,82*	1
5/8	11,00	*185,45*	1
3/4	10,00	*207,27*	1

Ø	P	€	
7/8	9,00	*234,55*	1
1	8,00	*261,82*	1
1,1/8	7,00	*289,09*	1
1,1/4	7,00	*313,64*	1
1"3/8	6,00	*338,18*	1
1"1/2	6,00	*373,64*	1

2904/2 ANSI / ASME B1.2

PASA | CAP | UNC ANSI/ASME B1.1 | Tol. 2A

Ø	P	€	
N°4	40,00	*226,36*	1
N°5	40,00	*169,09*	1
N°6	32,00	*166,36*	1
N°8	32,00	*155,45*	1
N°10	24,00	*150,00*	1
N°12	24,00	*144,55*	1
1/4	20,00	*144,55*	1

Ø	P	€	
5/16	18,00	*155,45*	1
3/8	16,00	*166,36*	1
7/16	14,00	*177,27*	1
1/2	13,00	*199,09*	1
9/16	12,00	*220,91*	1
5/8	11,00	*240,00*	1
3/4	10,00	*272,73*	1

Ø	P	€	
7/8	9,00	*316,36*	1
1	8,00	*354,55*	1
1,1/8	7,00	*392,73*	1
1,1/4	7,00	*450,00*	1
1"3/8	6,00	*496,36*	1
1"1/2	6,00	*529,09*	1

2904/3 ANSI / ASME B1.2

NO PASA | CANP | UNC ANSI/ASME B1.1 | Tol. 2A

Ø	P	€	
N°4	40,00	*226,36*	1
N°5	40,00	*169,09*	1
N°6	32,00	*166,36*	1
N°8	32,00	*155,45*	1
N°10	24,00	*150,00*	1
N°12	24,00	*144,55*	1
1/4	20,00	*144,55*	1

Ø	P	€	
5/16	18,00	*155,45*	1
3/8	16,00	*166,36*	1
7/16	14,00	*177,27*	1
1/2	13,00	*199,09*	1
9/16	12,00	*220,91*	1
5/8	11,00	*240,00*	1
3/4	10,00	*272,73*	1

Ø	P	€	
7/8	9,00	*316,36*	1
1	8,00	*354,55*	1
1,1/8	7,00	*392,73*	1
1,1/4	7,00	*450,00*	1
1"3/8	7,00	*496,36*	1
1"1/2	7,00	*529,09*	1

2905/1 ANSI / ASME B1.2

PASA NO PASA | CTPNP | UNF ANSI/ASME B1.1 | Tol. 2B

Ø	P	€	
N°4	48,00	*245,45*	1
N°5	44,00	*160,91*	1
N°6	40,00	*155,45*	1
N°8	36,00	*150,00*	1
N°10	32,00	*147,27*	1
N°12	28,00	*165,79*	1
1/4	28,00	*141,82*	1

Ø	P	€	
3/8	24,00	*147,27*	1
5/16	24,00	*147,27*	1
1/2	20,00	*166,36*	1
7/16	20,00	*155,45*	1
5/8	18,00	*177,27*	1
9/16	18,00	*171,82*	1
3/4	16,00	*196,36*	1

Ø	P	€	
7/8	14,00	*215,45*	1
1"	12,00	*240,00*	1
1"1/8	12,00	*261,82*	1
1"1/4	12,00	*275,45*	1
1"3/8	8,00	*300,00*	1
1"1/2	12,00	*330,00*	1

2905/2 ANSI / ASME B1.2

PASA | CAP | UNF ANSI/ASME B1.1 | Tol. 2A

Ø	P	€	
N°4	48,00	*223,64*	1
N°5	44,00	*169,09*	1
N°6	40,00	*166,36*	1
N°8	36,00	*155,45*	1
N°10	32,00	*150,00*	1
N°12	28,00	*150,00*	1
1/4	28,00	*144,55*	1

Ø	P	€	
3/8	24,00	*166,36*	1
5/16	24,00	*155,45*	1
1/2	20,00	*199,09*	1
7/16	20,00	*177,27*	1
5/8	18,00	*240,00*	1
9/16	18,00	*220,91*	1
3/4	16,00	*272,73*	1

Ø	P	€	
7/8	14,00	*316,36*	1
1"	12,00	*354,55*	1
1"1/8	12,00	*414,55*	1
1"1/4	12,00	*450,00*	1
1"3/8	8,00	*496,36*	1
1"1/2	12,00	*529,09*	1

2905/3 ANSI / ASME B1.2

NO PASA | CANP | UNF ANSI/ASME B1.1 | Tol. 2A

Ø	P	€	
N°4	48,00	*223,64*	1
N°5	44,00	*169,09*	1
N°6	40,00	*166,36*	1
N°8	36,00	*155,45*	1
N°10	32,00	*150,00*	1
N°12	28,00	*150,00*	1
1/4	28,00	*144,55*	1

Ø	P	€	
3/8	24,00	*166,36*	1
5/16	24,00	*155,45*	1
1/2	20,00	*199,09*	1
7/16	20,00	*177,27*	1
5/8	18,00	*240,00*	1
9/16	18,00	*220,91*	1
3/4	16,00	*272,73*	1

Ø	P	€	
7/8	14,00	*316,36*	1
1"	12,00	*354,55*	1
1"1/8	12,00	*414,55*	1
1"1/4	12,00	*450,00*	1
1"3/8	8,00	*496,36*	1
1"1/2	12,00	*529,09*	1

2906/1 ANSI / ASME B1.20.1

PASA NO PASA | CTPNP | NPT ANSI/ASME B1.1

Ø	P	€	
1/16	27,00	*313,64*	1
1/8	27,00	*343,64*	1
1/4	18,00	*362,73*	1
3/8	18,00	*390,00*	1
1/2	14,00	*422,73*	1

Ø	P	€	
3/4	14,00	*471,82*	1
1	11,50	*542,73*	1
1"1/4	11,50	*646,36*	1
1"1/2	11,50	*722,73*	1
2"	11,50	*938,57*	1

2906/2 ANSI / ASME B1.20.1

PASA NO PASA | CAPNP | NPT ANSI/ASME B1.1

Ø	P	€	
1/16	27,00	*544,17*	1
1/8	27,00	*572,73*	1
1/4	18,00	*600,00*	1
3/8	18,00	*570,00*	1
1/2	14,00	*616,36*	1

Ø	P	€	
3/4	14,00	*673,64*	1
1	11,50	*758,18*	1
1"1/4	11,50	*886,36*	1
1"1/2	11,50	*979,09*	1
2"	11,50	*1.189,09*	1

2907/1 DIN 7162

PASA NO PASA | H7 | CTLPNP

Ø	€	
1	73,64	1
2	81,82	1
3	81,82	1
4	73,64	1
5	73,64	1
6	73,64	1
7	68,18	1
8	68,18	1
9	68,18	1
10	68,18	1
11	79,09	1
12	79,09	1
13	79,09	1
14	79,09	1
15	84,55	1
16	84,55	1
17	84,55	1
18	84,55	1

Ø	€	
19	95,45	1
20	95,45	1
21	95,45	1
22	95,45	1
23	100,91	1
24	100,91	1
25	100,91	1
26	100,91	1
27	100,91	1
28	111,82	1
30	111,82	1
32	111,82	1
33	125,45	1
34	125,45	1
35	125,45	1
36	125,45	1
37	125,45	1
38	125,45	1

Ø	€	
40	133,64	1
42	133,64	1
44	150,00	1
45	150,00	1
46	150,00	1
47	150,00	1
48	150,00	1
50	185,45	1
52	185,45	1
55	185,45	1
58	226,36	1
60	226,36	1
62	226,36	1
65	242,73	1
68	242,73	1
70	242,73	1

2907/4 DIN 7162

PASA | H7 | CTLP

Ø	€	
72	160,91	1
75	160,91	1
78	177,27	1
80	177,27	1

2907/5 DIN 7162

NO PASA | H7 | CTLNP

Ø	€	
72	*160,91*	1
75	*160,91*	1
78	*177,27*	1
80	*177,27*	1

2907/2 DIN 2250-C

CAL

Ø	€	
4	*250,91*	1
5	*250,91*	1
6	*201,82*	1
7	*201,82*	1
8	*201,82*	1
9	*201,82*	1
10	*201,82*	1
11	*207,27*	1
12	*207,27*	1
13	*207,27*	1
14	*207,27*	1
15	*226,36*	1
16	*226,36*	1
17	*226,36*	1
18	*226,36*	1
19	*234,55*	1
20	*234,55*	1
21	*234,55*	1
22	*234,55*	1

Ø	€	
23	*248,18*	1
24	*248,18*	1
25	*248,18*	1
26	*248,18*	1
27	*248,18*	1
28	*261,82*	1
30	*261,82*	1
32	*261,82*	1
33	*283,64*	1
34	*283,64*	1
35	*283,64*	1
36	*283,64*	1
37	*283,64*	1
38	*283,64*	1
40	*308,18*	1
42	*308,18*	1
44	*321,82*	1
45	*321,82*	1
46	*321,82*	1

Ø	€	
47	*321,82*	1
48	*321,82*	1
50	*340,91*	1
52	*340,91*	1
55	*340,91*	1
58	*360,00*	1
60	*360,00*	1
62	*360,00*	1
65	*379,09*	1
68	*379,09*	1
70	*379,09*	1
72	*403,64*	1
75	*403,64*	1
78	*441,82*	1
80	*441,82*	1
82	*441,82*	1
85	*488,18*	1
90	*488,18*	1

2801 Giramachos / Tourne-à-gauche / Tap turners

Ø	Nº	€	mm	
M1 - M12	1	17,78	2,00 - 6,30	1
M4 - M12	2	23,76	3,00 - 9,00	1
M5 - M20	3	33,81	4,90 - 12,00	1
M10 - M27	4	53,94	5,50- 16,00	1

Ø	Nº	€	mm	
M13 - M32	5	113,38	7,00 - 20,00	1
M18 - M42	6	113,38	11,00 - 24,00	1
M25 - M52	7	196,58	16,00 - 32,00	1
M45 - M60	8	284,10	25,00- 36,00	1

2802 Volvedor / Porte-filières / Tap wrench

Ø Ext.	H mm	€	
16,00	5,00	*9,86*	1
20,00	5,00	*10,08*	1
20,00	7,00	*10,10*	1
20,60	6,35	*10,08*	1
25,00	9,00	*11,99*	1
25,40	9,50	*11,99*	1
30,00	11,00	*13,51*	1
38,00	14,00	*17,81*	1
38,10	12,70	*17,81*	1
45,00	14,00	*22,13*	1
45,00	18,00	*22,13*	1

Ø Ext.	H mm	€	
50,80	15,90	*28,97*	1
55,00	16,00	*28,97*	1
55,00	22,00	*28,97*	1
65,00	18,00	*44,50*	1
65,00	25,00	*44,50*	1
75,00	20,00	*71,18*	1
75,00	30,00	*71,17*	1
90,00	22,00	*90,15*	1
90,00	36,00	*90,16*	1
105,00	22,00	*96,26*	1
105,00	36,00	*96,27*	1

2803 Giramacho T / Tourne-à-gauche en T / Tap turner in T

M DIN	M ISO	€	L mm	gr	mm	
M3 - 10	M3 - 6	*20,58*	85	180	2,60 - 5,50	1
M5 - 12	M6 - 12	*26,85*	110	300	4,60 - 8,00	1
M13 - 20	M14 - 20	*104,10*	117	400	9,00 - 12,50	1

2804 Giramacho T / Tourne-à-gauche en T / Tap turner in T

M DIN	M ISO	€	L mm	gr	⊠ mm	▣
M3-10	M3-6	*32,95*	250	250	2,60 - 5,50	1
M5-12	M6-12	*39,27*	300	440	4,60 - 8,00	1

2805 Extractor / Extracteur

M	Z	€	▣
M3	3	*33,30*	1
M4	3	*33,30*	1
M5	3	*33,30*	1
M6	3	*34,14*	1
M8	4,3	*35,98*	1

M	Z	€	▣
M10	4,3	*37,33*	1
M12	4,3	*40,20*	1
M14	4,3	*55,37*	1
M16	4,3	*60,38*	1

2808 Alargador / Adaptateur / Extension piece

⊠ mm	€	L mm	▣
2,10	*6,45*	60	1
2,40	*6,45*	60	1
2,70	*6,45*	80	1
3,00	*6,45*	90	1
3,40	*10,10*	95	1
3,80	*10,58*	95	1
4,30	*11,28*	110	1
4,90	*11,77*	110	1
5,50	*12,33*	115	1
6,20	*15,90*	120	1
7,00	*16,57*	125	1

⊠ mm	€	L mm	▣
8,00	*18,78*	130	1
9,00	*22,21*	130	1
10,00	*26,83*	130	1
11,00	*31,09*	150	1
12,00	*33,51*	155	1
13,00	*46,29*	155	1
14,50	*53,16*	175	1
16,00	*56,22*	180	1
18,00	*64,09*	200	1
20,00	*85,42*	220	1

2834 Extractor / Extracteur

M	ø mm	€	L mm	mm	
M3 - 6	1,80 - 7,00	*2,23*	50	2,70	1
M6 - 8	3,20 - 10,00	*2,23*	57	3,80	1
M8 - 11	4,50 - 13,00	*2,64*	64	4,90	1
M11 - 14	6,50 - 16,00	*3,26*	71	7,00	1
M14 - 18	8,50 - 21,00	*4,22*	79	9,00	1
M18 - 24	12,00	*6,79*	85	12,00	1
M24 - 33	15,30	*10,43*	92	14,50	1
M33 - 45	20,00	*15,25*	100	18,00	1

JUEGOS / JEUX / SETS

M	Pcs.	€	
M3 - 18	5	*16,76*	1
M3 - 24	6	*23,66*	1
M3 - 45	8	*49,57*	1

2846 Aceite de corte uso general / Huile de coupe usage général / Cutting oil for general uses

Envase /Emballage/ Packaging	Litr.	€	
Aerosol /Pulvérisateur/ Spray	400 ml	*19,04*	1
Granel /Vrac/ Bulk	1 l.	*25,76*	1
Granel /Vrac/ Bulk	5 l.	*93,48*	1

2821 Macho Nº3 / Taraud / Tap

M
DIN 13

HSS

HSSCO

HSSCO INOX

	Machos Tarauds / Taps	Brocas Forets / Drill-bits	Giramachos nº Tourne-à-gauche nº Tap turner nº	€
HSS	M3-4-5-6-8-10-12	2,50-3,30-4,20-5,00-6,80-8,50-10,20	1,50	*90,24*
HSSCO	M3-4-5-6-8-10-12	2,50-3,30-4,20-5,00-6,80-8,50-10,20	1,50	*154,36*
HSSCO INOX	M3-4-5-6-8-10-12	2,50-3,30-4,20-5,00-6,80-8,50-10,20	1,50	*156,15*

2822/2840 Juegos de machos / Jeux de taraud / Tap set

M
DIN 13

>2822

>2840

Ref.	Machos Tarauds / Taps	Brocas Forets / Drill-bits	€
2822	M3-4-5-6-8-10-12	-	*137,20*
2840	M3-4-5-6-8-10-12	2,50-3,30-4,20-5,00-6,80-8,50-10,20	*200,28*

2824 M3-12

Form. B "Gun"	M 3-4-5-6-8-10-12	7

>HSS E >HSSE-PM >HSSE VAP >HSSE TIN

REF.	€
HSS E	134,80
HSSE-PM	209,93
HSSE VAP	124,12
HSSE TIN	185,20

2825 M3-12

35°	M 3-4-5-6-8-10-12	7

>HSS E >HSSE-PM >HSSE VAP >HSSE TIN

REF.	€
HSS E	139,50
HSSE-PM	229,27
HSSE VAP	150,38
HSSE TIN	194,68

2850 M3-12

Form B	M 3-4-5-6-8-10-12	Ø 2,5-3,3-4,2-5-6, 8-8,5-10,2	14

>HSSE + HSSCO >HSSEVAP + HSSCO

REF.	€
HSSE+HSSCO	166,99
HSSEVAP(INOX)+HSSCO	202,38

2851 M3-12

35°	M 3-4-5-6-8-10-12	Ø 2,5-3,3-4,2-5-6, 8-8,5-10,2	14

>HSSE + HSSCO >HSSEVAP + HSSCO

REF.	€
HSSE+HSSCO	171,70
HSSEVAP(INOX)+HSSCO	221,33

2809/2810 M3-12 — M DIN 13

›2809

›2810

Ref.	**Machos y cojinetes** Tarauds et filières Taps and bearing	**Brocas** Forets/Drill-bits	**Volvedores** Porte-filières Tap wrench	**Giramachos nº** Tourne-à-gauche nº Tap turner nº	**Carraca nº** Cliquet nº Ratchet nº	€
2809	M3-4-5-6-8-10-12	2,50-3,30-4,20-5,00-6,80-8,50-10,20	20x5-20x7-25x9-30x11-38x40	1-2	-	*338,85*
2810	M3-4-5-6-8-10-12	-	25x9	1-1/2	1	*231,54*

2811/2812 M3-20 / M5-20 — M DIN 13

›2811/2812

Ref.	**Machos y cojinetes** Tarauds et filières Taps and bearing	**Volvedores** Porte-filières Tap wrench	**Giramachos nº** Tourne-à-gauche nº Tap turner nº	**Carraca nº** Cliquet nº Ratchet nº	€
2811	M3-4-5-6-8-10-12-14-16-18-20	20x5-20x7-25x9-30x11-38x14-45x18	1 - 3	1 - 2	*677,67*
2812	M5-6-8-10-12-14-16-18-20	20x7-25x9-30x11-38x14-45x18	1 - 3	1 - 2	*643,80*

2813/2814 M3-24 / M5-30 — M DIN 13

›2813/2814

Ref.	**Machos y cojinetes** Tarauds et filières Taps and bearing	**Volvedores** Porte-filières Tap wrench	**Giramachos nº** Tourne-à-gauche nº Tap turner nº	€
2813	M3-4-5-6-8-10-12-14-16-18-20-22-24	20x5-20x7-25x9-30x11-38x14-45x18-55x22	1 - 4	*1058,85*
2814	M5-6-8-10-12-14-16-18-20-22-24-27-30	20x7-25x9-30x11-38x14-45x18-55x22-65x25	3 - 5	*1796,93*

2841/2842 MF3-12 / MF6-20 — MF DIN 13

›2841

›2842

Ref.	**Machos y cojinetes** Tarauds et filières Taps and bearing	**Volvedores** Porte-filières Tap wrench	**Giramachos nº** Tourne-à-gauche nº Tap turner nº	**Carraca nº** Cliquet nº Ratchet nº	€
2841	M3x0,35-4x0,50-5x0,50-6x0,75-8x0,75 8x1,00-10x1,00-12x1,50	20x5-25x9-30x11-38x10	1 - 2	1	*695,32*
2842	M6x0,75-8x0,75-8x1,00-10x1,00-12x1,00-12x1,50 14x1,25-14x1,50-16x1,50-18x1,50-20x1,50	20x7-25x9-30x11-38x10-45x14	1 - 3	1	*1166,52*

2815/2816/2817 W1/8-1/2, W1/4-1/2, W1/4-1"

BSW
BS 84

>2815

>2816

>2817

Ref.	**Machos y cojinetes** Tarauds et filières Taps and bearing	**Volvedores** Porte-filières Tap wrench	**Giramachos nº** Tourne-à-gauche nº Tap turner nº	**Carraca nº** Cliquet nº Ratchet nº	€
2815	W1/8-3/16-1/4-5/16-3/8-7/16-1/2	20x5-20x7-25x9-30x11-38x14	1 - 2	1	*555,68*
2816	W1/4-5/16-3/8-7/16-1/2	20x7-25x9-30x11-38x14	1 - 2	1	*470,98*
2817	W1/4-5/16-3/8-7/16-1/2-5/8-3/4-7/8-1"	20x7-25x9-30x11-38x14-45x18-55x22	1 - 4	-	*1298,87*

2843/2818 UNC1/4", UNF1/4-1"

UNC
ANSI/ASME B1.1

UNF
ANSI/ASME B1.1

>2843/2818

Ref.	**Machos y cojinetes** Tarauds et filières Taps and bearing	**Volvedores** Porte-filières Tap wrench	**Giramachos nº** Tourne-à-gauche nº Tap turner nº	€
2843	UNC1/4-5/16-3/8-7/16-1/2-5/8-3/4-7/8-1"	20x7-25x9-30x11-38x14-45x18-55x22	1 - 4	*1870,87*
2818	UNF1/4-5/16-3/8-7/16-1/2-5/8-3/4-7/8-1"	20x7-25x9-30x11-38x10-45x14-55x16	1 - 4	*1185,90*

2819/2820 BSP1/8-1", BSP1/4-1"1/2

G
ISO 228

>2819

>2820

Ref.	**Machos y cojinetes** Tarauds et filières Taps and bearing	**Volvedores** Porte-filières Tap wrench	**Giramachos nº** Tourne-à-gauche nº Tap turner nº	€
2819	BSP1/8-1/4-3/8-1/2-3 4-1"	30x11-38x10-45x14-65x18-55x18	1 - 3 - 5	*914,84*
2820	BSP1/4-3/8-1/2-3/4-1"-1"1/4-1"1/2	38x10-45x14-65x18-75x20-90x22	2 - 4 - 7	*2134,65*