

Taladrado
Perçage
Drilling

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Brocas Metal Duro / Forets Carbure / Hard Metal Drill-bits

1175	HM-MD	DIN 6537 S	TIALN		3XD	P M K S	24
1176	HM-MD	DIN 6537 S	TIALN		3XD	P M K S H	25
1177	HM-MD	DIN 6537 L	TIALN		5XD	P M K S H	26
1178	HM-MD	DIN 6537 EL	TIALN		8XD	P M K S H	27
NEW 1184	HM-MD		TIALN		12XD	P M K S	27
1182	HM-MD		TIN		1XD	H	28
1120	HM-MD	DIN 6539			2XD	P M K N S	29
1109	HM-MD	DIN 338N			4XD	P M K N S	30

Brocas con mango cilíndrico cortas / Forets à queue cylindrique courtes / Short straight shank drill-bits (DIN 338)

1101	HSS	DIN338N				P K N	31
1101/1	HSS	DIN338N				P K N	33
1104	HSS	DIN338N				P K N	33
1104/9	HSS	ANSI				P K N	34
1501	HSS					P K N	34
1158	HSS	DIN338NSP				P K N	35
1158/9	HSS	DIN338NSP				P K N	36
1108	HSS	DIN338NSP	TIN			P K N	37
1103	HSS	DIN338H				N	38
1105	HSSCO	DIN 338N				P K N	39

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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Brocas con mango cilíndrico cortas / Forets à queue cylindrique courtes / Short straight shank drill-bits (DIN 338)

1105/9	HSSCO	DIN 338N				P K N 40
1161	HSSCO	DIN338N	TIALN			P K N 41
1107	HSSCO	DIN338N				P K N 41
1107/9	HSSCO	ANSI				P K N 42
NEW 1187	HSSCO	DIN338W				P M N S 43
1106	HSSCO	DIN338W				M N S 44
1162	HSSCO	DIN338W	TIALN			M N S 45
1159	HSSCO	DIN338S				P N 46
1160	HSSCO	DIN338S	TIALN			P N 47
1110	WIDIA	DIN338N				P K N 48

Brocas con mango cilíndrico largas / Forets à queue cylindrique longues / Long straight shank drill-bits (DIN 340)

1112	HSS	DIN 340 N				P K N 49
1113	HSSCO	DIN 340 N				P K N 50
1114	HSSCO	DIN 340 S				P N 51
1164	HSSCO	DIN 340 S	TIALN			P N 52

Brocas con mango cilíndrico extra largas / Forets à queue cylindrique extra longues / Extra-long straight shank drill-bits (DIN 1869)

1115	HSS	DIN 1869 N				P K N 53
1165	HSSCO	DIN 1869 S				P N 54

P Aceros / Aciers / Steels
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Brocas con mango cilíndrico extra cortas / Forets à queue cylindrique extra-courtes / Extra-short straight shank drill-bits (DIN 1897)

1116	HSS	DIN 1897 N				P K N 55
1117	HSS	DIN 1897 N				P K N 56
1118	HSSCO	DIN 1897 N				P K N 56
1166	HSSCO	DIN 1897 S				P N 57
1167	HSSCO	DIN 1897 S	TIALN			P N 58

Brocas con mango cónico / Forets à queue conique / Taper straight shank drill-bits

1121	HSS	DIN 345 N				P K N 59
1121/9	HSS	DIN 345 N				P K N 61
1123	WIDIA	DIN 345 N				P K 62
1122	HSSCO	DIN 345 N				P K N 63
1181	HSSCO					P S H 64
1125	HSS	DIN 341 N				P K N 65
1126	HSS	DIN 1870 N				P K N 66
1139	HSS	DIN 343				P K N 67

Brocas bidiametrales / Forets biétagés / Two-diameter drill-bits

1127	HSS	DIN 8376				P K N 68
1128	HSS	DIN 8374				P K N 68
1129	HSS	DIN 8377				P K N 69
1130	HSS	DIN 8375				P K N 69

P Aceros / Aciers / Steels
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Brocas bidiametrales / Forets biétagés / Two-diameter drill-bits

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	1153	HSS	DIN 8379			P K N	70
NEW	1191	HSSCO				P M K N S	71
NEW	1192	HSSCO				P M K N S	71

Brocas de centrar / Forets à centrer / Centre drill-bits

	1132	HSS	DIN 333 A			P K N	72
NEW	1188	HSS	DIN 333 A	TIN		P K N	72
NEW	1193	HM-MD	DIN 333 A			P M K N S H	73
	1133	HSS	DIN 333 A			P K N	73
	1135	HSS	DIN 333 R			P K N	74
	1137	HSS	DIN 333 B			P K N	74
	1138	HSSCO				P M K N S	75
	1155	HSSCO				P M K N S	75
NEW	1189	HSSCO		TIN		P M K N S	76
NEW	1190	HSSCO		TIN		P M K N S	76
	1179	HM-MD				P M K N S	77
	1180	HM-MD				P M K N S	77
NEW	1185	HM-MD		TIALN		P M K N S	78
NEW	1186	HM-MD		TIALN		P M K N S	78

P Aceros / Aciers / Steels

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NEW	1194	HSSCO	DIN 1897N	TIALN			P	79

Brocas fresa / Forets fraiseur / Mill drills

	5114	HSS					P N	80
	5115	HSS		TIN			P N	80

Accesorios / Accessoires / Accessories

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FORMULARIO BROCAS ESPECIALES
FICHE TECHNIQUE FORETS SPECIAUX / TECHNICAL ENQUIRY FOR SPECIAL DRILL BITS

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

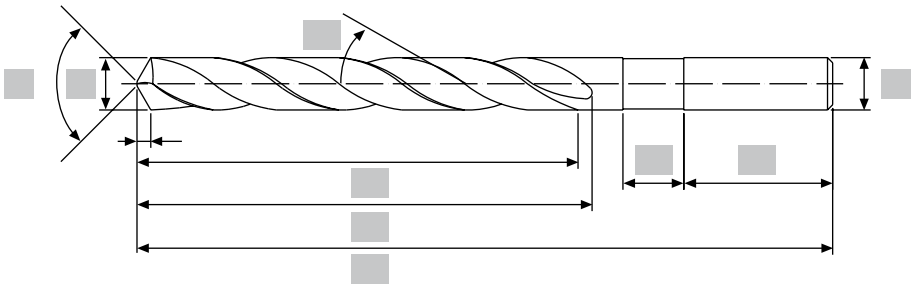
Tipo viruta: ☐ Corta ☐ Larga ☐ Polvo
Type copeau Courte Longue Poussière
Shaving Short Long Powder

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

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

HERRAMIENTA / OUTIL / TOOL

Descripción / Description ..... Cantidad / Quantité / Quantity .....



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

Afilado: ☐ Convencional ☐ Corrección de labios ☐ Split Point ☐ Puntos soldadura ☐ Placa carburo
Affûtage: Normal Correction de lèvres Affûtage en croix Points de soudure plaquette carbure
Sharpened: Convencional Lip correction Split Point Welding points Carbide sheet

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

Superficie / Surface: ☐ Brillante / Brillant / Brilliant ☐ Negra / Noire / Black ☐ 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

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.	1175	1176	1177	1178	1184	1182	1120	1109
Prof./ Prof./Depth	3xd	3xd	5xd	8xd	12xd	1Xd	2xd	4xd
Punta/Poin/Point	140°	140°	140°	140°	140°	120°	118°	118°
Refrig./Réfrig./Cooling	No	Si	Si	Si	Si	No	No	No
Mat.	HM	HM	HM	HM	HM	HM	HM	HM
Rec./Rev./Coat.	TIALN	TIALN	TIALN	TIALN	TIALN	TIN		
DIN	6537	6537	6537	6537	-	-	6539	338
Gama/Gamme/Range	3-20	3-20	3-20	3-16	3-16	M3-M12	2-13	2-10,20
Pag.	24	25	26	27	27	28	29	30

Mat.		Avance/Feed (mm/rpm) Ø2	Ø5	Ø10	Ø15	Ø20	Vc (m/min)							
P.1	<600	0,10-0,14	0,20-0,28	0,30-0,45	0,38-0,55	0,48-0,68	o 80-110	o 90-120	o 90-120	o 90-120	o 70-90		● 40-70	● 40-70
P.2	<800	0,08-0,12	0,16-0,24	0,25-0,38	0,32-0,48	0,40-0,60	● 40-80	● 50-90	● 50-90	● 50-90	● 40-80		● 30-60	● 30-60
P.3	<1000	0,06-0,10	0,12-0,20	0,20-0,32	0,25-0,40	0,30-0,50	● 35-75	● 40-85	● 40-85	● 40-85	● 35-55		● 25-50	● 25-50
P.4	<1200	0,04-0,08	0,08-0,16	0,12-0,26	0,15-0,32	0,18-0,40	● 30-50	● 35-55	● 35-55	● 35-55	● 30-50		● 20-40	● 20-40
P.5	<1400	0,03-0,06	0,06-0,12	0,08-0,20	0,10-0,25	0,12-0,30	● 25-40	● 30-45	● 30-45	● 30-45	● 25-40		o 15-25	o 15-25
M.1	<950	0,04-0,08	0,08-0,16	0,12-0,26	0,15-0,32	0,18-0,40	● 35-75	● 40-85	● 40-85	● 40-85	● 35-55		o 20-25	o 20-25
M.2		0,04-0,08	0,08-0,16	0,12-0,26	0,15-0,32	0,18-0,40	● 35-75	● 40-85	● 40-85	● 40-85	● 35-55		o 20-25	o 20-25
M.3	<1200	0,03-0,06	0,06-0,12	0,08-0,20	0,10-0,25	0,12-0,30		o 35-55	o 35-55	o 35-55				
M.4		0,03-0,06	0,06-0,12	0,08-0,20	0,10-0,25	0,12-0,30		o 30-45	o 30-45	o 30-45				
K.1	<500	0,08-0,12	0,16-0,24	0,25-0,38	0,32-0,48	0,40-0,60	● 100-130	● 120-150	● 120-150	● 120-150	● 90-120		● 50-70	● 50-70
K.2		0,08-0,12	0,16-0,24	0,25-0,38	0,32-0,48	0,40-0,60	o 60-80	o 70-90	o 70-90	o 70-90	o 60-80			
K.3	<800	0,06-0,10	0,12-0,20	0,20-0,32	0,25-0,40	0,30-0,50	● 80-110	● 90-120	● 90-120	● 90-120	● 70-90		● 40-50	● 40-50
K.4.1		0,06-0,10	0,12-0,20	0,20-0,32	0,25-0,40	0,30-0,50	o 70-90	o 80-110	o 80-110	o 80-110	o 60-80			
K.4.2	<1400	0,03-0,06	0,06-0,12	0,08-0,20	0,10-0,25	0,12-0,30	● 40-60	● 50-70	● 50-70	● 50-70	● 30-50			
N.1.1	Al	0,08-0,12	0,16-0,24	0,25-0,38	0,32-0,48	0,40-0,60							● 100-140	● 100-140
N.1.2		0,08-0,12	0,16-0,24	0,25-0,38	0,32-0,48	0,40-0,60							● 70-100	● 70-100
N.1.3		0,08-0,12	0,16-0,24	0,25-0,38	0,32-0,48	0,40-0,60							● 60-80	● 60-80
N.2.1	Cu	0,06-0,10	0,12-0,20	0,20-0,32	0,25-0,40	0,30-0,50							● 40-70	● 40-70
N.2.2		0,06-0,10	0,12-0,20	0,20-0,32	0,25-0,40	0,30-0,50							● 40-70	● 40-70
N.2.3		0,06-0,10	0,12-0,20	0,20-0,32	0,25-0,40	0,30-0,50							● 30-60	● 30-60
N.2.4		0,04-0,08	0,08-0,16	0,12-0,26	0,15-0,32	0,18-0,40							● 25-50	● 25-50
N.3.1	Mg/Zn	0,06-0,10	0,12-0,20	0,20-0,32	0,25-0,40	0,30-0,50							● 30-60	● 30-60
N.4.1	Plastic	0,06-0,10	0,12-0,20	0,20-0,32	0,25-0,40	0,30-0,50							● 40-70	● 40-70
N.4.2														
N.4.3														
S.1.1	Ni	0,03-0-05	0,05-0,08	0,08-0,12	0,12-0,16	0,16-0,20	o 20-25	● 25-30	● 25-30	● 25-30	● 20-25		o 10-15	o 10-15
S.1.2		0,03-0-05	0,05-0,08	0,08-0,12	0,12-0,16	0,16-0,20		o 20-25	o 20-25	o 20-25	o 15-20			
S.2.1	Ti	0,04-0,08	0,08-0,16	0,12-0,26	0,15-0,32	0,18-0,40	● 35-75	● 40-85	● 40-85	● 40-85			o 15-25	o 15-25
S.2.2		0,03-0-05	0,05-0,08	0,08-0,12	0,12-0,16	0,16-0,20	o 25-35	● 30-40	● 30-40	● 30-40			o 10-15	o 10-15
S.2.3		0,03-0-05	0,05-0,08	0,08-0,12	0,12-0,16	0,16-0,20	o 20-25	● 25-30	● 25-30	● 25-30				
H.1	50 HRC	0,03-0,06	0,06-0,12	0,08-0,20	0,10-0,25	0,12-0,30	o 25-35	● 30-40	● 30-40	● 30-40		● 25-30		
H.2	55 HRC	0,01-0,04	0,04-0,08	0,06-0,10	0,08-0,12	0,10-0,18	o 15-25	● 20-35	● 20-35	● 20-35		● 15-25		
H.3	60 HRC	0,01-0,04	0,04-0,08	0,06-0,10	0,08-0,12	0,10-0,18		o 15-25	o 15-25	o 15-25		● 10-15		

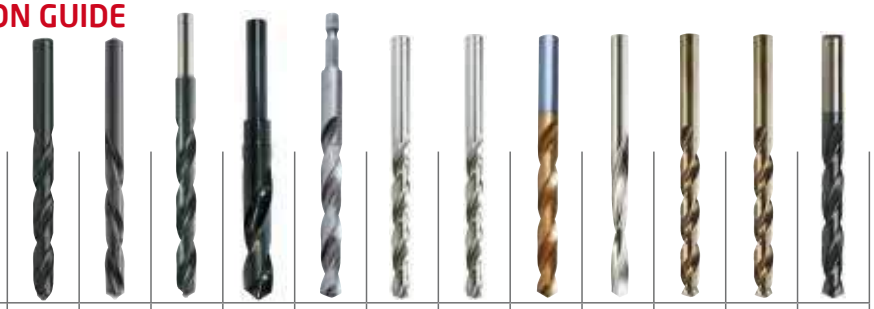
● Optima / Optimun ○ Alternativo / Alternative

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 Superalliages Titanium and Superalloys	H	Materiales Duros Materiels Durs Hard materials

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



	1101	1101/1	1104	1104/9	1501	1158	1158/9	1108	1103	1105	1105/9	1161
Ref./ Réf. / Ref.	1101	1101/1	1104	1104/9	1501	1158	1158/9	1108	1103	1105	1105/9	1161
DIN	338	338	338	ANSI	338	338	338	338	338	338	338	338
Punta/Poin/Point	118°	118°	118°	118°	118°	118°	118°	118°	118°	135°	135°	135°
Ejec./Exéc./Exec.	N	N	N	N	N	NSP	NSP	NSP	N	NSP	NSP	NSP
Hel./Hél./Spiral	30°	30°-LH	30°	30°	30°	30°	30°	30°	18°	30°	30°	30°
Mat.	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSSCO	HSSCO	HSSCO
Rec./Rev./Coat.								TIN				TIALN
Prof./ Prof./Depth	5xD	5xD	3xD	3xD	5xD	5xD	5xD	5xD	5xD	5xD	5xD	5xD
Gama/Gamme/Range	0,20-20	2-12	10-30	17/32-1"1/8	3-10	1-20	1/16-1/2	1-13	1-13	0,50-20	1/16-1/2	2-13
Pag.	31	33	33	34	34	35	36	37	38	39	40	41

Mat.		Avance/Feed (mm/rpm) Ø2	Ø5	Ø10	Ø15	Ø20	Vc (m/min) 1101	1101/1	1104	1104/9	1501	1158	1158/9	1108	1103	1105	1105/9	1161
P.1	<600	0,04-0,06	0,08-0,12	0,20-0,30	0,30-0,40	0,35-0,46	● 25-35	● 25-35	● 25-35	● 25-35	● 25-35	● 25-35	● 25-35	● 35-45		o 25-35	o 25-35	o 35-50
P.2	<800	0,02-0,06	0,08-0,12	0,12-0,30	0,18-0,40	0,22-0,46	● 15-30	● 15-30	● 15-30	● 15-30	● 15-30	● 15-30	● 15-30	● 20-40		● 15-30	● 15-30	● 25-45
P.3	<1000	0,02-0,03	0,05-0,07	0,12-0,18	0,18-0,24	0,22-0,28								● 15-30		● 12-20	● 12-20	● 18-30
P.4	<1200	0,01-0,04	0,04-0,09	0,09-0,18	0,12-0,28	0,14-0,33										● 6-16	● 6-16	● 10-25
P.5	<1400	0,01-0,04	0,04-0,09	0,09-0,18	0,12-0,28	0,14-0,33												
M.1	<950	0,02-0,04	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33										o 10-14	o 10-14	o 15-20
M.2		0,01-0,03	0,05-0,07	0,14-0,18	0,20-0,24	0,22-0,28										o 8-12	o 8-12	o 12-18
M.3	<1200																	
M.4																		
K.1	<500	0,04-0,06	0,08-0,12	0,20-0,30	0,30-0,40	0,35-0,46	● 25-30	● 25-30	● 25-30	● 25-30	● 25-30	● 25-30	● 25-30	● 35-40		● 25-30	● 25-30	● 38-45
K.2																		
K.3	<800	0,04-0,06	0,08-0,12	0,20-0,30	0,30-0,40	0,35-0,46												
K.4.1		0,04-0,06	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33	● 12-16	● 12-16	● 12-16	● 12-16	● 12-16	● 12-16	● 12-16	● 15-20		● 12-16	● 12-16	● 18-25
K.4.2	<1400	0,02-0,04	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33												
N.1.1	Al	0,03-0,05	0,08-0,12	0,18-0,24	0,25-0,32	0,30-0,37								o 75-90				
N.1.2		0,02-0,04	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33	o 50-60	o 50-60	o 50-60	o 50-60	o 50-60	o 50-60	o 50-60	o 65-75		o 50-60	o 50-60	o 70-80
N.1.3		0,02-0,04	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33												
N.2.1	Cu	0,03-0,05	0,08-0,10	0,18-0,24	0,25-0,32	0,30-0,37									● 40-60			
N.2.2		0,03-0,05	0,08-0,10	0,18-0,24	0,25-0,32	0,30-0,37									o 25-60			
N.2.3		0,02-0,04	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33	● 30-60	● 30-60	● 30-60	● 30-60	● 30-60	● 30-60	● 30-60	● 40-70		● 30-60	● 30-60	● 45-80
N.2.4																		
N.3.1	Mg/Zn	0,02-0,04	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33												
N.4.1	Plastic	0,03-0,04	0,06-0,07	0,12-0,13	0,16-0,17	0,25-0,26	o 20-25	o 20-25	o 20-25	o 30-35		o 20-25	o 20-25	o 20-25		o 20-25	o 20-25	o 30-35
N.4.2		0,03-0,04	0,06-0,07	0,12-0,13	0,16-0,17	0,25-0,26												
N.4.3																		
S.1.1	Ni	0,01-0,03	0,03-0,05	0,06-0,10	0,10-0,14	0,16-0,20												
S.1.2		0,01-0,03	0,03-0,05	0,06-0,10	0,10-0,14	0,16-0,20												
S.2.1	Ti	0,01-0,03	0,04-0,06	0,08-0,10	0,10-0,14	0,16-0,20												
S.2.2		0,01-0,03	0,03-0,05	0,06-0,10	0,10-0,14	0,16-0,20												
S.2.3		0,01-0,03	0,03-0,05	0,06-0,10	0,10-0,14	0,16-0,20												
H.1	50 HRC	0,02-0,03	0,05-0,07	0,09-0,13	0,14-0,18	0,18-0,22												
H.2	55 HRC																	
H.3	60 HRC																	

● Optima / Optimun ○ Alternativo / Alternative

P Aceros / Aciers / Steels

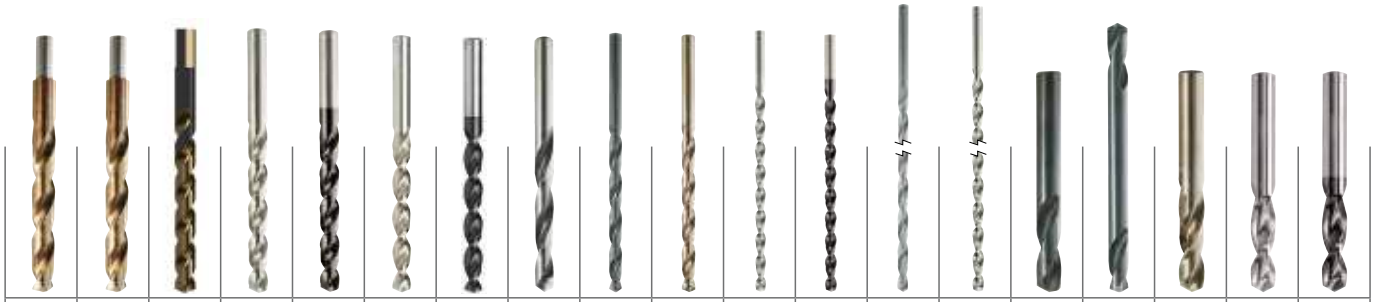
M Aceros Inox / Aciers Inox / Stainless Steels

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



1107	1107/9	1187	1106	1162	1159	1160	1110	1112	1113	1114	1164	1115	1165	1116	1117	1118	1166	1167
338	ANSI	338	338	338	338	338	338	340	340	340	340	1869	1869	1897		1897	1897	1897
135°	135°	135°	135°	135°	135°	135°	118°	118°	135°	135°	135°	118°	135°	118°	118°	135°	135°	135°
NSP	NSP	W	W	W	TS	TS	N	N	NSP	TS	TS	N	TS	N	N	NSP	TS	TS
30°	30°	35°	35°	35°	30°	30°	30°	30°	30°	30°	30°	30°	30°	30°	30°	30°	30°	30°
HSSCO	HSSCO	HSSCO	HSSCO	HSSCO	HSSCO	HSSCO	HSS WIDIA	HSS	HSSCO	HSSCO	HSSCO	HSS	HSSCO	HSS	HSS	HSSCO	HSSCO	HSSCO
				TIALN		TIALN					TIALN							TIALN
5xD	3xD	5xD	5xD	5xD	5xD	5xD	5xD	10xD	10xD	10xD	10xD	15-30xD	15-30xD	3xD	3xD	3xD	3xD	3xD
10-20	17/32-13/16	1-13	1-13	1-13	2-13	2-13	1,50-20	1-20	2-13	2-13	2-13	2-13	2-12	1-20	2-8	2-13	2-16	2-16
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	56	57	58
Vc (m/min)																		
o 25-35	o 25-35	● 35-40						● 25-35	o 25-35			● 25-35		● 25-35	● 25-35	o 25-35		
● 15-30	● 15-30	● 30-35			● 15-30	● 25-45	● 25-45	● 15-30	● 15-30	● 15-30	● 25-45	● 15-30	● 15-30	● 15-30	● 15-30	● 15-30	● 15-30	● 25-45
● 12-20	● 12-20				● 12-20	● 18-30	● 18-30		● 12-20	● 12-20	● 18-30		● 12-20			● 12-20	● 12-20	● 18-30
● 6-16	● 6-16				● 6-16	● 10-25	● 10-25		● 6-16	● 6-16	● 10-25					● 6-16	● 6-16	● 10-25
							o 6-9											
o 10-14	o 10-14	● 10-14	● 10-14	● 15-20	o 10-14	o 15-20			o 10-14	o 10-14	o 15-20		o 10-14			o 10-14	o 10-14	o 15-20
o 8-12	o 8-12	● 8-12	● 8-12	● 12-18	o 8-12	o 12-18			o 8-12	o 8-12	o 12-18		o 8-12			o 8-12	o 8-12	o 12-18
● 25-30	● 25-30							● 25-30	● 25-30			● 25-30		● 25-30	● 25-30	● 25-30		
							● 30-40											
● 12-16	● 12-16							● 12-16	● 12-16			● 12-16		● 12-16	● 12-16	● 12-16		
							● 15-20											
		o 60-80	o 60-80	o 85-100	o 60-80	o 85-100				o 60-80	o 85-100		o 60-80				o 60-80	o 85-100
o 50-60	o 50-60	o 50-60	o 50-60	o 75-90	o 50-60	o 75-90		o 50-60	o 50-60	o 50-60	o 75-90	o 50-60	o 50-60	o 50-60	o 50-60	o 50-60	o 50-60	o 75-90
		30-40	30-40	45-60	● 30-40	● 45-60				● 30-40	● 45-60		● 30-40				● 30-40	● 45-60
● 30-60	● 30-60	o 50-70	o 50-70					● 30-60	● 30-60			● 30-60		● 30-60	● 30-60	● 30-60		
		o 50-70	o 50-70	o 75-95	● 50-70	● 70-90				● 50-70	● 70-90		● 50-70				● 50-70	● 70-90
o 20-25	o 20-25						o 30-35	o 20-25	o 20-25			o 20-25		o 20-25	o 20-25	o 20-25		
		● 8-10	● 8-10	● 12-15														

● 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.	1121	1121/9	1122	1123	1181	1125	1126	1139
DIN	345	345	345	345		341	1870	343
Punta/Poin/Point	118°	118°	135°	118°	128°	118°	118°	120°
Ejec./Exéc./Exec.	N	N	NSP	N	N	N	N	N
Hel./Hél./Spiral	30°	30°	30°	30°	15°	30°	30°	30°
Mat.	HSS	HSS	HSSCO	HSS WIDIA	HSSCO	HSS	HSS	HSS
Rec./Rev./Coat.								
Prof./ Prof./Depth	5xD	5xD	5xD	5xD	3xD	8xD	10-15xD	5xD
Gama/Gamme/Range	5-80	1/2-2"	10-40	10-30	10-50	5-40	8-50	10-40
Pag.	59	61	62	63	64	65	66	67

Mat.		Avance/Feed (mm/rpm) Ø2	Ø5	Ø10	Ø15	Ø20	Vc (m/min)							
P.1	<600	0,04-0,06	0,08-0,12	0,20-0,30	0,30-0,40	0,35-0,46	● 25-35	● 25-35	● 25-35			● 25-35	● 25-35	● 25-35
P.2	<800	0,02-0,06	0,08-0,12	0,12-0,30	0,18-0,40	0,22-0,46	● 15-30	● 15-30	● 15-30	● 25-45		● 15-30	● 15-30	● 15-30
P.3	<1000	0,02-0,03	0,05-0,07	0,12-0,18	0,18-0,24	0,22-0,28			o 12-20	o 18-30				
P.4	<1200	0,01-0,04	0,04-0,09	0,09-0,18	0,12-0,28	0,14-0,33			o 6-16	o 10-25	o 8-10			
P.5	<1400	0,01-0,04	0,04-0,09	0,09-0,18	0,12-0,28	0,14-0,33				o 6-9	o 6-8			
M.1	<950	0,02-0,04	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33			o 8-12					o 8-12
M.2		0,01-0,03	0,05-0,07	0,14-0,18	0,20-0,24	0,22-0,28			o 10-14					o 10-14
M.3	<1200													
M.4														
K.1	<500	0,04-0,06	0,08-0,12	0,20-0,30	0,30-0,40	0,35-0,46	● 25-30	● 25-30	● 25-30			● 25-30	● 25-30	● 25-30
K.2														
K.3	<800	0,04-0,06	0,08-0,12	0,20-0,30	0,30-0,40	0,35-0,46				o 30-40				
K.4.1		0,04-0,06	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33	● 12-16	● 12-16	● 12-16			● 12-16	● 12-16	● 12-16
K.4.2	<1400	0,02-0,04	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33				o 15-20				
N.1.1	Al	0,03-0,05	0,08-0,12	0,18-0,24	0,25-0,32	0,30-0,37								
N.1.2		0,02-0,04	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33	o 50-60	o 50-60	o 50-60			o 50-60	o 50-60	o 50-60
N.1.3		0,02-0,04	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33								
N.2.1	Cu	0,03-0,05	0,08-0,10	0,18-0,24	0,25-0,32	0,30-0,37								
N.2.2		0,03-0,05	0,08-0,10	0,18-0,24	0,25-0,32	0,30-0,37								
N.2.3		0,02-0,04	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33	● 30-60	● 30-60	● 30-60			● 30-60	● 30-60	● 30-60
N.2.4														
N.3.1	Mg/Zn	0,02-0,04	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33								
N.4.1	Plastic	0,03-0,04	0,06-0,07	0,12-0,13	0,16-0,17	0,25-0,26	o 20-25	o 20-25	o 20-25	o 30-35		o 20-25	o 20-25	o 20-25
N.4.2		0,03-0,04	0,06-0,07	0,12-0,13	0,16-0,17	0,25-0,26			o 15-20					
N.4.3														
S.1.1	Ni	0,01-0,03	0,03-0,05	0,06-0,10	0,10-0,14	0,16-0,20					o 5-7			
S.1.2		0,01-0,03	0,03-0,05	0,06-0,10	0,10-0,14	0,16-0,20					o 4-6			
S.2.1	Ti	0,01-0,03	0,04-0,06	0,08-0,10	0,10-0,14	0,16-0,20								
S.2.2		0,01-0,03	0,03-0,05	0,06-0,10	0,10-0,14	0,16-0,20								
S.2.3		0,01-0,03	0,03-0,05	0,06-0,10	0,10-0,14	0,16-0,20								
H.1	50 HRC	0,02-0,03	0,05-0,07	0,09-0,13	0,14-0,18	0,18-0,22					o 4-6			
H.2	55 HRC													
H.3	60 HRC													

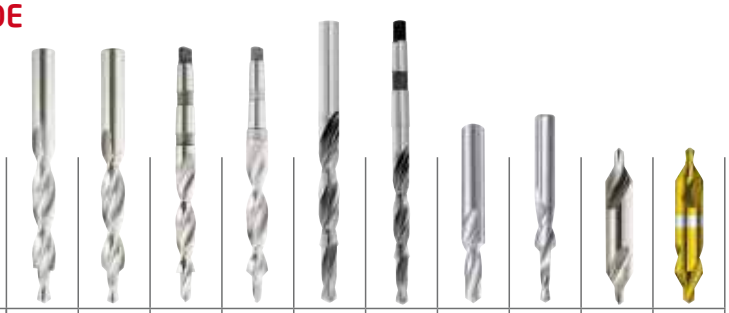
● Optima / Optimun ○ Alternativo / Alternative

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.	1127	1128	1129	1130	1152	1153	1191	1192	1132	1188
DIN	8376	8374	8377	8375	8378	8379			333	333
Punta/Poin/Point	180°	90°	180°	90°	90°	90°	90°	90°	60°	60°
Ejec./Exéc./Exec.									A	A
Hel./Hél./Spiral										
Mat.	HSS	HSS	HSS	HSS	HSS	HSS	HSSCo	HSSCo	HSS	HSS
Rec./Rev./Coat.										TiN
Prof./ Prof./Depth										
Gama/Gamme/Range	M3-M10	M3-M10	M8-M20	M5-M10	M3-M12	M8-M20	M3-M12	M4-M10	1-12,5	1-12
Pag.	68	68	69	69	70	70	71	71	72	72

Mat.		Avance/Feed (mm/rpm) HSS/HSSCo - HM=x2 Ø2	Ø5	Ø10	Ø15	Ø20	Vc (m/min)									
P.1	<600	0,04-0,06	0,08-0,12	0,20-0,30	0,30-0,40	0,35-0,46	● 20-25	● 20-25	● 20-25	● 20-25	● 20-25	● 20-25	● 20-25	● 20-25	● 20-25	● 35-40
P.2	<800	0,02-0,06	0,08-0,12	0,12-0,30	0,18-0,40	0,22-0,46	● 15-20	● 15-20	● 15-20	● 15-20	● 15-20	● 15-20	● 20-25	● 20-25	● 20-25	● 30-35
P.3	<1000	0,02-0,03	0,05-0,07	0,12-0,18	0,18-0,24	0,22-0,28	● 8-10	● 8-10	● 8-10	● 8-10	● 8-10	● 8-10	● 12-18	● 12-18	● 8-12	● 12-16
P.4	<1200	0,01-0,04	0,04-0,09	0,09-0,18	0,12-0,28	0,14-0,33							○ 4-8	○ 4-8		
P.5	<1400	0,01-0,04	0,04-0,09	0,09-0,18	0,12-0,28	0,14-0,33										
M.1	<950	0,02-0,04	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33							● 4-10	● 4-10		
M.2		0,01-0,03	0,05-0,07	0,14-0,18	0,20-0,24	0,22-0,28							● 4-10	● 4-10		
M.3	<1200	0,03-0,04	0,04-0,06	0,08-0,10	0,12-0,14	0,16-0,18										
M.4		0,02-0,03	0,03-0,05	0,06-0,08	0,10-0,12	0,14-0,16										
K.1	<500	0,04-0,06	0,08-0,12	0,20-0,30	0,30-0,40	0,35-0,46	● 30-35	● 30-35	● 30-35	● 30-35	● 30-35	● 30-35	● 20-25	● 20-25	● 20-25	● 30-35
K.2							● 30-35	● 30-35	● 30-35	● 30-35	● 30-35	● 30-35			● 20-25	● 30-35
K.3	<800	0,04-0,06	0,08-0,12	0,20-0,30	0,30-0,40	0,35-0,46	● 25-30	● 25-30	● 25-30	● 25-30	● 25-30	● 25-30	○ 10-15	○ 10-15	● 15-20	● 20-30
K.4.1		0,04-0,06	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33	● 25-30	● 25-30	● 25-30	● 25-30	● 25-30	● 25-30	○ 10-15	○ 10-15	● 15-20	● 20-30
K.4.2	<1400	0,02-0,04	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33	○ 14-18	○ 14-18	○ 14-18	○ 14-18	○ 14-18	○ 14-18				
N.1.1	Al	0,03-0,05	0,08-0,12	0,18-0,24	0,25-0,32	0,30-0,37							● 50-80	● 50-80		
N.1.2		0,02-0,04	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33							● 30-50	● 30-50		
N.1.3		0,02-0,04	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33	● 20-25	● 20-25	● 20-25	● 20-25	● 20-25	● 20-25	● 15-30	● 15-30	● 15-20	● 20-30
N.2.1	Cu	0,03-0,05	0,08-0,10	0,18-0,24	0,25-0,32	0,30-0,37							● 25-35	● 25-35		
N.2.2		0,03-0,05	0,08-0,10	0,18-0,24	0,25-0,32	0,30-0,37	● 30-35	● 30-35	● 30-35	● 30-35	● 30-35	● 30-35	● 40-60	● 40-60	● 25-30	● 35-40
N.2.3		0,02-0,04	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33	● 30-35	● 30-35	● 30-35	● 30-35	● 30-35	● 30-35	● 30-50	● 30-50		
N.2.4																
N.3.1	Mg/Zn	0,02-0,04	0,05-0,09	0,18-0,21	0,20-0,28	0,25-0,33							● 60-90	● 60-90		
N.4.1	Plastic	0,03-0,04	0,06-0,07	0,12-0,13	0,16-0,17	0,25-0,26	○ 15-20	○ 15-20	○ 15-20	○ 15-20	○ 15-20	○ 20-25	● 35-70	● 35-70	○ 10-15	○ 10-15
N.4.2		0,03-0,04	0,06-0,07	0,12-0,13	0,16-0,17	0,25-0,26							● 12-24	● 12-24		
N.4.3																
S.1.1	Ni	0,01-0,03	0,03-0,05	0,06-0,10	0,10-0,14	0,16-0,20							○ 4-6	○ 4-6		
S.1.2		0,01-0,03	0,03-0,05	0,06-0,10	0,10-0,14	0,16-0,20							○ 2-5	○ 2-5		
S.2.1	Ti	0,01-0,03	0,04-0,06	0,08-0,10	0,10-0,14	0,16-0,20							● 6-10	● 6-10		
S.2.2		0,01-0,03	0,03-0,05	0,06-0,10	0,10-0,14	0,16-0,20							○ 4-6	○ 4-6		
S.2.3		0,01-0,03	0,03-0,05	0,06-0,10	0,10-0,14	0,16-0,20							○ 2-5	○ 2-5		
H.1	50 HRC	0,02-0,03	0,05-0,07	0,09-0,13	0,14-0,18	0,18-0,22										
H.2	55 HRC															
H.3	60 HRC															

● Optima / Optimun ○ Alternativo / Alternative

P Aceros / Aciers / Steels

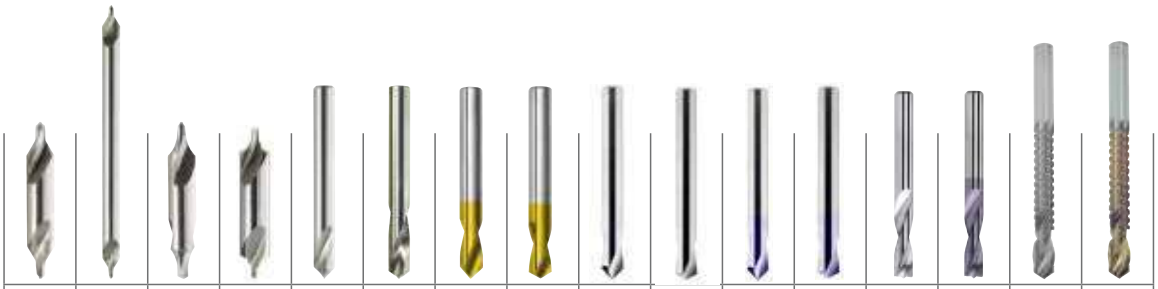
M Aceros Inox / Aciers Inox / Stainless Steels

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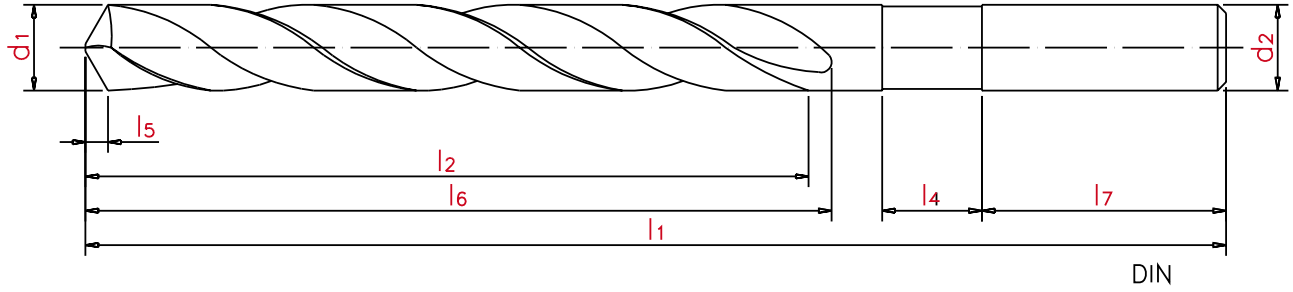
H Materiales Duros / Materiels Durs / Hard materials



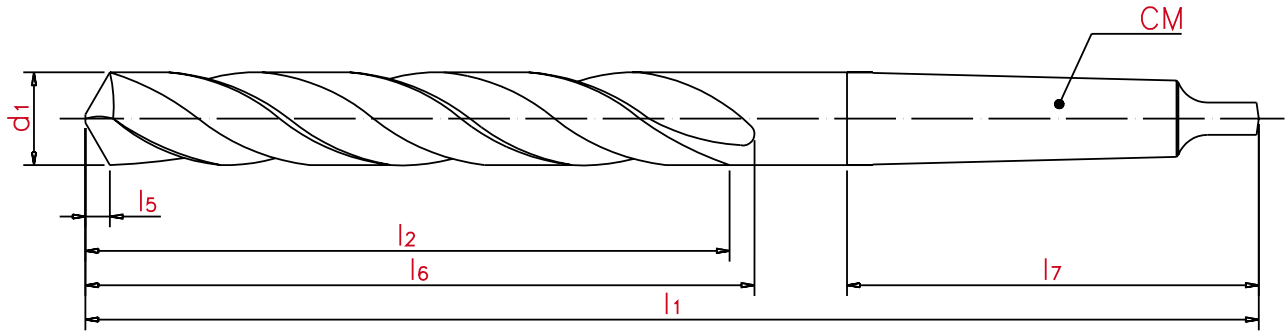
1193	1133	1135	1137	1138	1155	1189	1190	1179	1180	1185	1186	1119	1194	5114	5115
333	333	333	333	CNC	CNC	CNC	CNC	CNC	CNC	CNC	CNC	1897	1897		
60°	60°	Radial	60°	90°	120°	90°	120°	90°	120°	90°	120°	118°	118°	118°	118°
A	A	R	B												
												30°	30°		
HM	HSS	HSS	HSS	HSSCo	HSSCo	HSSCo	HSSCo	HM	HM	HM	HM	HSSCo	HSSCo	HSS	HSS
						TiN	TiN			TiAlN	TiAlN		TiAlN		TiN
1-6,30	1-5	1-12,5	1-6,30	3-20	3-20	3-20	3-20	6-12	6-12	6-12	6-12	6-10	6-10	6-8	6-8
73	73	74	74	75	75	76	76	77	77	78	78	79	79	80	80
Vc (m/min)															
o 55-60	● 20-30	● 20-30	● 20-30	● 20-30	● 20-30	● 35-40	● 35-40	● 60-80	● 60-80	● 80-100	● 80-100	o 25-30	o 35-40	● 20-25	● 25-35
o 45-60	● 20-25	● 20-25	● 20-25	● 20-25	● 20-25	● 30-35	● 30-35	● 55-70	● 55-70	● 70-90	● 70-90	o 20-25	o 30-35	● 10-15	● 15-20
● 40-55	● 8-12	● 8-12	● 8-12	● 8-12	● 8-12	● 12-16	● 12-16	● 40-55	● 40-55	● 55-75	● 55-75	● 12-18	● 16-20		
● 25-30				● 6-10	● 6-10	● 10-14	● 10-14	● 35-45	● 35-45	● 50-60	● 50-60	● 6-10	● 8-14		
● 20-25															
● 40-55				● 8-12	● 8-12	● 12-16	● 12-16	● 20-30	● 20-30	● 25-35	● 25-35				
● 40-55				● 6-10	● 6-10	● 10-14	● 10-14	● 15-20	● 15-20	● 20-25	● 20-25				
● 25-30															
● 25-30															
● 40-55	● 20-25	● 20-25	● 20-25	● 20-25	● 20-25	● 30-35	● 30-35	● 60-80	● 60-80	● 80-100	● 80-100				
● 40-55	● 20-25	● 20-25	● 20-25	● 20-25	● 20-25	● 30-35	● 30-35	● 60-80	● 60-80	● 80-100	● 80-100				
● 35-45	● 15-20	● 15-20	● 15-20	● 15-20	● 15-20	● 20-25	● 20-25	● 40-60	● 40-60	● 55-80	● 55-80				
● 35-45	● 15-20	● 15-20	● 15-20	● 15-20	● 15-20	● 20-25	● 20-25	● 40-60	● 40-60	● 55-80	● 55-80				
● 20-25															
● 110-130								● 120-160	● 120-160	● 160-200	● 160-200				
● 100-110								● 100-130	● 100-130	● 140-180	● 140-180				
● 80-100	● 15-20	● 15-20	● 15-20	● 15-20	● 15-20	● 20-25	● 20-25	● 70-90	● 70-90	● 100-120	● 100-120			● 15-20	● 20-25
o 40-55								o 60-80	o 60-80	o 80-100	o 80-100				
● 55-65	● 25-30	● 25-30	● 25-30	● 25-30	● 25-30	● 35-40	● 35-40	● 100-120	● 100-120	● 140-160	● 140-160				
● 45-55								● 80-100	● 80-100	● 110-140	● 110-140				
o 25-30															
● 100-110															
● 150-200	o 10-15	o 10-15	o 10-15	● 25-30	● 25-30	● 35-40	● 35-40	o 50-70	o 50-70	o 50-70	o 50-70			● 25-30	● 35-40
● 70-100															
● 20-30								o 10-20	o 10-20	o 15-20	o 15-20				
								o 8-12	o 8-12	o 12-16	o 12-16				
● 25-30				● 10-12	● 10-12	● 12-16	● 12-16	● 20-30	● 20-30	● 25-35	● 25-35				
o 25-25															
o 15-20															
● 15-20															
● 10-15															
o 4-6															

● Optima / Optimun ○ Alternativo / Alternative

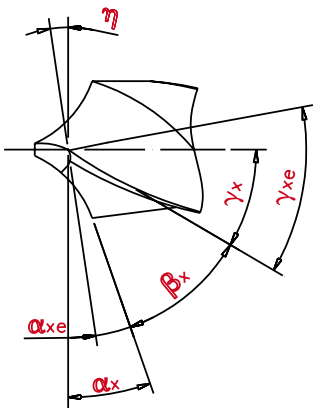
P	Aceros Aciers Steels	M	Aceros Inox Aciers Inox Stainless Steels	K	Fundicion Fonte Cast Iron	N	Metales no ferrosos Métal non Ferraux Non Ferrous metals	S	Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys	H	Materiales Duros Materiels Durs Hard materials

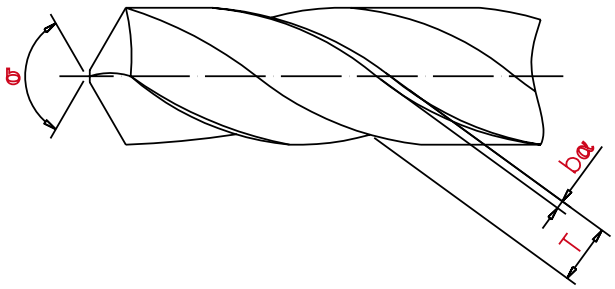

d1
d2
l5
l2
l6
l4
l7
l1

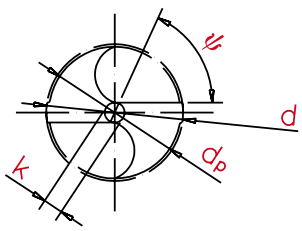
DIN

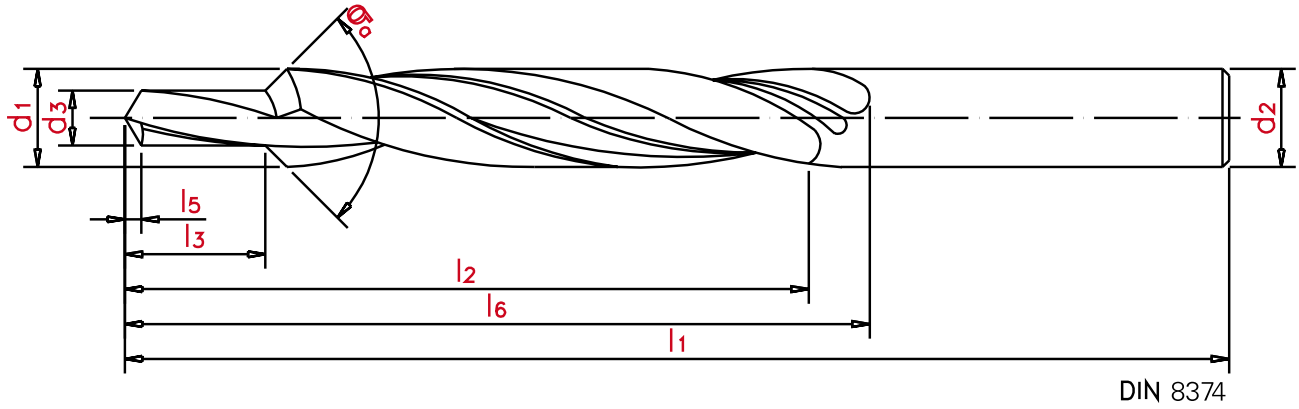

CM
d1
l5
l2
l6
l7
l1

DIN 345

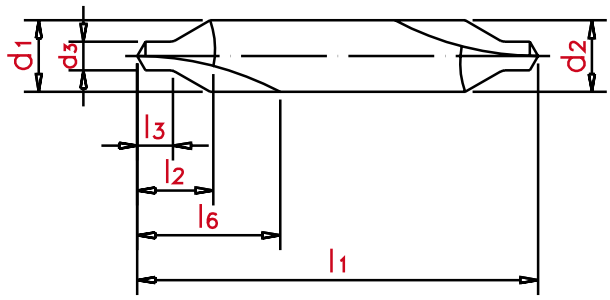

η
γx
γxe
βx
αxe
αx


b
bα
T


ψ
d
dp
K



DIN 8374



DIN 333–A

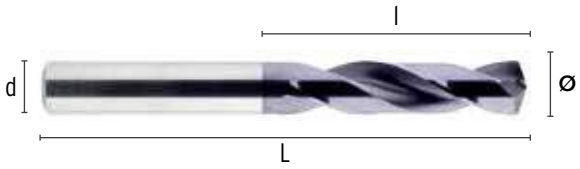
l1	**Longitud total** / Longueur totale / Total length
l2	**Longitud de corte** / Longueur de coupe / Length of cut
l3	**Longitud de corte del diámetro menor** / Longueur de coupe du plus petit diamètre / Length of cut of the smaller diametre
l7	**Longitud del mango-del cono** / Longueur de la queue du cône / Length of cone shank
l5	**Longitud de punta** / Longueur de pointe / Length of tip
l6	**Longitud de ranura** / Longueur de rainure / Length of groove
l4	**Diámetro de broca** / Diamètre de foret / Drill-bit diametre
d1	**Longitud de sangrado** / Longueur d'indentation / Bled length
d3	**Diámetro inicial** / Diamètre initial / Initial diametre
d2	**Diámetro de mango** / Diamètre de queue / Shank diametre
CM	**Tamaño del cono morse** / Taille du cône morse / Morse taper size
dp	**Diámetro posterior** / Diamètre postérieur / Rear diametre
bα	**Ancho de fase** / Largeur de phase / Phase width
T	**Ancho de alma** / Largeur d'âme / Core width
k	**Espesor del núcleo** / Épaisseur du noyau / Thickness of nucleus
σ	**Ángulo de la punta** / Angle de la pointe / Tip angle
σa	**Ángulo de avellanado** / Angle de chanfreinage / Countersink angle
ψ	**Ángulo de corte transversal** / Angle de coupe transversale / Transversal cut angle
γxe	**Ángulo de corte lateral efectivo** / Angle de coupe latérale effectif / Effective lateral cut angle
γx	**Ángulo de corte lateral** / Angle de coupe latérale / Lateral cut angle
αxe	**Ángulo de incidencia lateral efectivo** / Angle d'incidence latérale effectif / Effective lateral angle of incidence
αx	**Ángulo de incidencia lateral** / Angle d'incidence latérale / Lateral angle of incidence
βx	**Ángulo ortogonal de la herramienta** / Angle orthogonal de l'outil / Orthogonal angle of the tool
η	**Ángulo del sentido efectivo del corte** / Angle du sens effectif de la coupe / Effective direction of cut angle

1175 HM-MD DIN 6537 S

3XD | 140° | 30° | DIN 6535 HA | TIALN

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
●	●	●	●	●		●	●	●					○	●	○	○	
40-110	35-75	30-50	25-40	35-75		60-100	70-110	40-60					20-25	20-75	25-35	15-25	

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



ø mm	d mm	€	L mm	l mm	
3,00	6,00	*34,00*	62,00	20,00	1
3,10	6,00	*34,00*	62,00	20,00	1
3,20	6,00	*34,00*	62,00	20,00	1
3,30	6,00	*34,00*	62,00	20,00	1
3,40	6,00	*34,00*	62,00	20,00	1
3,50	6,00	*34,00*	62,00	20,00	1
3,60	6,00	*34,00*	62,00	20,00	1
3,70	6,00	*34,00*	62,00	20,00	1
3,80	6,00	*34,00*	66,00	24,00	1
3,90	6,00	*34,00*	66,00	24,00	1
4,00	6,00	*34,00*	66,00	24,00	1
4,10	6,00	*34,00*	66,00	24,00	1
4,20	6,00	*34,00*	66,00	24,00	1
4,30	6,00	*34,00*	66,00	24,00	1
4,40	6,00	*34,00*	66,00	24,00	1
4,50	6,00	*34,00*	66,00	24,00	1
4,60	6,00	*34,00*	66,00	24,00	1
4,70	6,00	*34,00*	66,00	24,00	1
4,80	6,00	*34,00*	66,00	28,00	1
4,90	6,00	*34,00*	66,00	28,00	1
5,00	6,00	*34,00*	66,00	28,00	1
5,10	6,00	*34,00*	66,00	28,00	1
5,20	6,00	*34,00*	66,00	28,00	1
5,30	6,00	*34,00*	66,00	28,00	1
5,40	6,00	*34,00*	66,00	28,00	1
5,50	6,00	*34,00*	66,00	28,00	1
5,60	6,00	*34,00*	66,00	28,00	1
5,70	6,00	*34,00*	66,00	28,00	1
5,80	6,00	*34,00*	66,00	28,00	1
5,90	6,00	*34,00*	66,00	28,00	1
6,00	6,00	*34,00*	66,00	28,00	1
6,10	8,00	*46,13*	79,00	34,00	1
6,20	8,00	*46,13*	79,00	34,00	1
6,30	8,00	*46,13*	79,00	34,00	1
6,40	8,00	*46,13*	79,00	34,00	1
6,50	8,00	*46,13*	79,00	34,00	1
6,60	8,00	*46,13*	79,00	34,00	1
6,70	8,00	*46,13*	79,00	34,00	1
6,80	8,00	*46,13*	79,00	34,00	1
6,90	8,00	*46,13*	79,00	34,00	1
7,00	8,00	*46,13*	79,00	34,00	1
7,10	8,00	*46,13*	79,00	41,00	1
7,20	8,00	*46,13*	79,00	41,00	1
7,30	8,00	*46,13*	79,00	41,00	1
7,40	8,00	*46,13*	79,00	41,00	1
7,50	8,00	*46,13*	79,00	41,00	1
7,60	8,00	*46,13*	79,00	41,00	1
7,70	8,00	*46,13*	79,00	41,00	1
7,80	8,00	*46,13*	79,00	41,00	1
7,90	8,00	*46,13*	79,00	41,00	1
8,00	8,00	*46,13*	79,00	41,00	1
8,10	10,00	*61,44*	89,00	47,00	1
8,20	10,00	*61,44*	89,00	47,00	1
8,30	10,00	*61,44*	89,00	47,00	1
8,40	10,00	*61,44*	89,00	47,00	1
8,50	10,00	*61,44*	89,00	47,00	1
8,60	10,00	*61,44*	89,00	47,00	1
8,70	10,00	*61,44*	89,00	47,00	1
8,80	10,00	*61,44*	89,00	47,00	1
8,90	10,00	*61,44*	89,00	47,00	1
9,00	10,00	*61,44*	89,00	47,00	1
9,10	10,00	*61,44*	89,00	47,00	1
9,20	10,00	*61,44*	89,00	47,00	1
9,30	10,00	*61,44*	89,00	47,00	1
9,40	10,00	*61,44*	89,00	47,00	1
9,50	10,00	*61,44*	89,00	47,00	1
9,60	10,00	*61,44*	89,00	47,00	1
9,70	10,00	*61,44*	89,00	47,00	1
9,80	10,00	*61,44*	89,00	47,00	1
9,90	10,00	*61,44*	89,00	47,00	1
10,00	10,00	*61,44*	89,00	47,00	1
10,10	12,00	*92,69*	102,00	55,00	1
10,20	12,00	*92,69*	102,00	55,00	1
10,30	12,00	*92,69*	102,00	55,00	1
10,40	12,00	*92,69*	102,00	55,00	1
10,50	12,00	*92,69*	102,00	55,00	1
10,60	12,00	*92,69*	102,00	55,00	1
10,70	12,00	*92,69*	102,00	55,00	1
10,80	12,00	*92,69*	102,00	55,00	1
10,90	12,00	*92,69*	102,00	55,00	1
11,00	12,00	*92,69*	102,00	55,00	1
11,50	12,00	*92,69*	102,00	55,00	1
11,80	12,00	*92,69*	102,00	55,00	1
12,00	12,00	*92,69*	102,00	55,00	1
12,50	14,00	*122,81*	107,00	60,00	1
12,80	14,00	*122,81*	107,00	60,00	1
13,00	14,00	*122,81*	107,00	60,00	1
13,50	14,00	*122,81*	107,00	60,00	1
13,80	14,00	*122,81*	107,00	60,00	1
14,00	14,00	*122,81*	107,00	60,00	1
14,50	16,00	*155,19*	115,00	65,00	1
14,80	16,00	*155,19*	115,00	65,00	1
15,00	16,00	*155,19*	115,00	65,00	1
15,80	16,00	*155,19*	115,00	65,00	1
16,00	16,00	*155,19*	115,00	65,00	1
16,50	18,00	*212,63*	123,00	73,00	1
17,00	18,00	*212,63*	123,00	73,00	1
17,50	18,00	*212,63*	123,00	73,00	1
18,00	18,00	*212,63*	123,00	73,00	1
18,50	20,00	*270,06*	131,00	79,00	1
19,00	20,00	*270,06*	131,00	79,00	1
19,50	20,00	*270,06*	131,00	79,00	1
20,00	20,00	*270,06*	131,00	79,00	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

1176 HM-MD DIN 6537 S

3XD | 140° | 30° | DIN 6535 HA | TIALN

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
●	●	●	●	●	○	●	●	●					●	●	●	●	○
50-120	40-85	35-55	30-45	40-85	30-55	70-150	80-120	50-70					25-30	25-40	30-40	20-35	15-25

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



ø mm	d mm	€	L mm	l mm	
3,00	6,00	*54,25*	62,00	20,00	1
3,10	6,00	*54,25*	62,00	20,00	1
3,20	6,00	*54,25*	62,00	20,00	1
3,30	6,00	*54,25*	62,00	20,00	1
3,40	6,00	*54,25*	62,00	20,00	1
3,50	6,00	*54,25*	62,00	20,00	1
3,60	6,00	*54,25*	62,00	20,00	1
3,70	6,00	*54,25*	62,00	20,00	1
3,80	6,00	*54,25*	66,00	24,00	1
3,90	6,00	*54,25*	66,00	24,00	1
4,00	6,00	*58,63*	66,00	24,00	1
4,10	6,00	*58,63*	66,00	24,00	1
4,20	6,00	*58,63*	66,00	24,00	1
4,30	6,00	*58,63*	66,00	24,00	1
4,40	6,00	*58,63*	66,00	24,00	1
4,50	6,00	*58,63*	66,00	24,00	1
4,60	6,00	*58,63*	66,00	24,00	1
4,70	6,00	*58,63*	66,00	24,00	1
4,80	6,00	*58,63*	66,00	28,00	1
4,90	6,00	*58,63*	66,00	28,00	1
5,00	6,00	*58,63*	66,00	28,00	1
5,10	6,00	*58,63*	66,00	28,00	1
5,20	6,00	*58,63*	66,00	28,00	1
5,30	6,00	*58,63*	66,00	28,00	1
5,40	6,00	*58,63*	66,00	28,00	1
5,50	6,00	*58,63*	66,00	28,00	1
5,60	6,00	*58,63*	66,00	28,00	1
5,70	6,00	*58,63*	66,00	28,00	1
5,80	6,00	*58,63*	66,00	28,00	1
5,90	6,00	*58,63*	66,00	28,00	1
6,00	6,00	*58,63*	66,00	28,00	1
6,10	8,00	*70,50*	79,00	34,00	1
6,20	8,00	*70,50*	79,00	34,00	1
6,30	8,00	*70,50*	79,00	34,00	1
6,40	8,00	*70,50*	79,00	34,00	1
6,50	8,00	*70,50*	79,00	34,00	1
6,60	8,00	*70,50*	79,00	34,00	1
6,70	8,00	*70,50*	79,00	34,00	1
6,80	8,00	*70,50*	79,00	34,00	1
6,90	8,00	*70,50*	79,00	34,00	1
7,00	8,00	*70,50*	79,00	34,00	1
7,10	8,00	*70,50*	79,00	41,00	1
7,20	8,00	*70,50*	79,00	41,00	1
7,30	8,00	*70,50*	79,00	41,00	1
7,40	8,00	*70,50*	79,00	41,00	1
7,50	8,00	*70,50*	79,00	41,00	1
7,60	8,00	*70,50*	79,00	41,00	1
7,70	8,00	*70,50*	79,00	41,00	1
7,80	8,00	*70,50*	79,00	41,00	1
7,90	8,00	*70,50*	79,00	41,00	1

ø mm	d mm	€	L mm	l mm	
8,00	8,00	*70,50*	79,00	41,00	1
8,10	10,00	*88,44*	89,00	47,00	1
8,20	10,00	*88,44*	89,00	47,00	1
8,30	10,00	*88,44*	89,00	47,00	1
8,40	10,00	*88,44*	89,00	47,00	1
8,50	10,00	*88,44*	89,00	47,00	1
8,60	10,00	*88,44*	89,00	47,00	1
8,70	10,00	*88,44*	89,00	47,00	1
8,80	10,00	*88,44*	89,00	47,00	1
8,90	10,00	*88,44*	89,00	47,00	1
9,00	10,00	*88,44*	89,00	47,00	1
9,10	10,00	*88,44*	89,00	47,00	1
9,20	10,00	*88,44*	89,00	47,00	1
9,30	10,00	*88,44*	89,00	47,00	1
9,40	10,00	*88,44*	89,00	47,00	1
9,50	10,00	*88,44*	89,00	47,00	1
9,60	10,00	*88,44*	89,00	47,00	1
9,70	10,00	*88,44*	89,00	47,00	1
9,80	10,00	*88,44*	89,00	47,00	1
9,90	10,00	*88,44*	89,00	47,00	1
10,00	10,00	*88,44*	89,00	47,00	1
10,10	12,00	*125,00*	102,00	55,00	1
10,20	12,00	*125,00*	102,00	55,00	1
10,30	12,00	*125,00*	102,00	55,00	1
10,40	12,00	*125,00*	102,00	55,00	1
10,50	12,00	*125,00*	102,00	55,00	1
10,60	12,00	*125,00*	102,00	55,00	1
10,70	12,00	*125,00*	102,00	55,00	1
10,80	12,00	*125,00*	102,00	55,00	1
10,90	12,00	*125,00*	102,00	55,00	1
11,00	12,00	*125,00*	102,00	55,00	1
11,50	12,00	*125,00*	102,00	55,00	1
11,80	12,00	*125,00*	102,00	55,00	1
12,00	12,00	*125,00*	102,00	55,00	1
12,50	14,00	*158,56*	107,00	60,00	1
12,80	14,00	*158,56*	107,00	60,00	1
13,00	14,00	*158,56*	107,00	60,00	1
13,50	14,00	*158,56*	107,00	60,00	1
14,00	14,00	*158,56*	107,00	60,00	1
14,50	16,00	*197,19*	115,00	65,00	1
15,00	16,00	*197,19*	115,00	65,00	1
16,00	16,00	*197,19*	115,00	65,00	1
16,50	18,00	*314,56*	123,00	73,00	1
17,00	18,00	*314,56*	123,00	73,00	1
17,50	18,00	*314,56*	123,00	73,00	1
18,00	18,00	*314,56*	123,00	73,00	1
18,50	20,00	*341,56*	131,00	79,00	1
19,00	20,00	*341,56*	131,00	79,00	1
19,50	20,00	*341,56*	131,00	79,00	1
20,00	20,00	*341,56*	131,00	79,00	1

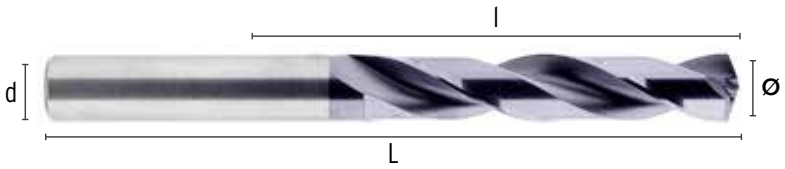
P Aceros Aciers Steels
M Aceros Inox Aciers Inox Stainless Steels
K Fundicion Fonte Cast Iron
N Metales no ferrosos Métal non Ferraux Non Ferrous metals
S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys
H Materiales Duros Materiels Durs Hard materials

1177 HM-MD DIN 6537 L

5XD | 140° | 30° | DIN 6535 HA | TIALN

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
●	●	●	●	●	○	●	●	●					●	●	●	●	○
50-120	40-85	35-55	30-45	40-85	30-55	70-150	80-120	50-70					25-30	25-40	30-40	20-35	15-25

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



ø mm	d mm	€	L mm	l mm	
3,00	6,00	*62,44*	66,00	28,00	1
3,10	6,00	*62,44*	66,00	28,00	1
3,20	6,00	*62,44*	66,00	28,00	1
3,30	6,00	*62,44*	66,00	28,00	1
3,40	6,00	*62,44*	66,00	28,00	1
3,50	6,00	*62,44*	66,00	28,00	1
3,60	6,00	*62,44*	66,00	28,00	1
3,70	6,00	*62,44*	66,00	28,00	1
3,80	6,00	*62,44*	74,00	36,00	1
3,90	6,00	*62,44*	74,00	36,00	1
4,00	6,00	*66,38*	74,00	36,00	1
4,10	6,00	*66,38*	74,00	36,00	1
4,20	6,00	*66,38*	74,00	36,00	1
4,30	6,00	*66,38*	74,00	36,00	1
4,40	6,00	*66,38*	74,00	36,00	1
4,50	6,00	*66,38*	74,00	36,00	1
4,60	6,00	*66,38*	74,00	36,00	1
4,70	6,00	*66,38*	74,00	36,00	1
4,80	6,00	*66,38*	82,00	44,00	1
4,90	6,00	*66,38*	82,00	44,00	1
5,00	6,00	*66,38*	82,00	44,00	1
5,10	6,00	*66,38*	82,00	44,00	1
5,20	6,00	*66,38*	82,00	44,00	1
5,30	6,00	*66,38*	82,00	44,00	1
5,40	6,00	*66,38*	82,00	44,00	1
5,50	6,00	*66,38*	82,00	44,00	1
5,60	6,00	*66,38*	82,00	44,00	1
5,70	6,00	*66,38*	82,00	44,00	1
5,80	6,00	*66,38*	82,00	44,00	1
5,90	6,00	*66,38*	82,00	44,00	1
6,00	6,00	*66,38*	82,00	44,00	1
6,10	8,00	*74,19*	91,00	53,00	1
6,20	8,00	*74,19*	91,00	53,00	1
6,30	8,00	*74,19*	91,00	53,00	1
6,40	8,00	*74,19*	91,00	53,00	1
6,50	8,00	*74,19*	91,00	53,00	1
6,60	8,00	*74,19*	91,00	53,00	1
6,70	8,00	*74,19*	91,00	53,00	1
6,80	8,00	*74,19*	91,00	53,00	1
6,90	8,00	*74,19*	91,00	53,00	1
7,00	8,00	*74,19*	91,00	53,00	1
7,10	8,00	*74,19*	91,00	53,00	1
7,20	8,00	*74,19*	91,00	53,00	1
7,30	8,00	*74,19*	91,00	53,00	1
7,40	8,00	*74,19*	91,00	53,00	1
7,50	8,00	*74,19*	91,00	53,00	1
7,60	8,00	*74,19*	91,00	53,00	1
7,70	8,00	*74,19*	91,00	53,00	1
7,80	8,00	*74,19*	91,00	53,00	1
7,90	8,00	*74,19*	91,00	53,00	1
8,00	8,00	*74,19*	91,00	53,00	1
8,10	10,00	*93,06*	103,00	61,00	1

ø mm	d mm	€	L mm	l mm	
8,20	10,00	*93,06*	103,00	61,00	1
8,30	10,00	*93,06*	103,00	61,00	1
8,40	10,00	*93,06*	103,00	61,00	1
8,50	10,00	*93,06*	103,00	61,00	1
8,60	10,00	*93,06*	103,00	61,00	1
8,70	10,00	*93,06*	103,00	61,00	1
8,80	10,00	*93,06*	103,00	61,00	1
8,90	10,00	*93,06*	103,00	61,00	1
9,00	10,00	*93,06*	103,00	61,00	1
9,10	10,00	*93,06*	103,00	61,00	1
9,20	10,00	*93,06*	103,00	61,00	1
9,30	10,00	*93,06*	103,00	61,00	1
9,40	10,00	*93,06*	103,00	61,00	1
9,50	10,00	*93,06*	103,00	61,00	1
9,60	10,00	*93,06*	103,00	61,00	1
9,70	10,00	*93,06*	103,00	61,00	1
9,80	10,00	*93,06*	103,00	61,00	1
9,90	10,00	*93,06*	103,00	61,00	1
10,00	10,00	*93,06*	103,00	61,00	1
10,10	12,00	*131,81*	118,00	71,00	1
10,20	12,00	*131,81*	118,00	71,00	1
10,30	12,00	*131,81*	118,00	71,00	1
10,40	12,00	*131,81*	118,00	71,00	1
10,50	12,00	*131,81*	118,00	71,00	1
10,60	12,00	*131,81*	118,00	71,00	1
10,70	12,00	*131,81*	118,00	71,00	1
10,80	12,00	*131,81*	118,00	71,00	1
10,90	12,00	*131,81*	118,00	71,00	1
11,00	12,00	*131,81*	118,00	71,00	1
11,50	12,00	*131,81*	118,00	71,00	1
11,80	12,00	*131,81*	118,00	71,00	1
12,00	12,00	*131,81*	118,00	71,00	1
12,50	14,00	*176,13*	124,00	77,00	1
12,80	14,00	*176,13*	124,00	77,00	1
13,00	14,00	*176,13*	124,00	77,00	1
13,50	14,00	*176,13*	124,00	77,00	1
13,80	14,00	*176,13*	124,00	77,00	1
14,00	14,00	*176,13*	124,00	77,00	1
14,50	16,00	*219,06*	133,00	83,00	1
14,80	16,00	*219,06*	133,00	83,00	1
15,00	16,00	*219,06*	133,00	83,00	1
15,80	16,00	*219,06*	133,00	83,00	1
16,00	16,00	*219,06*	133,00	83,00	1
16,50	18,00	*349,31*	143,00	93,00	1
17,00	18,00	*349,31*	143,00	93,00	1
17,50	18,00	*349,31*	143,00	93,00	1
18,00	18,00	*349,31*	143,00	93,00	1
18,50	20,00	*379,88*	153,00	101,00	1
19,00	20,00	*379,88*	153,00	101,00	1
19,50	20,00	*379,88*	153,00	101,00	1
20,00	20,00	*379,88*	153,00	101,00	1

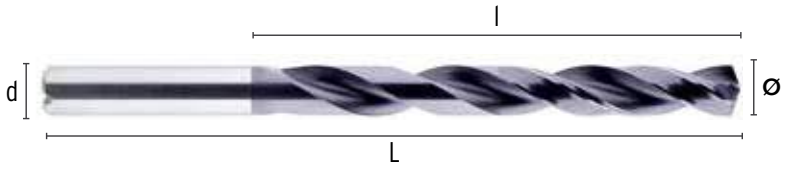
P Aceros Aciers Steels
M Aceros Inox Aciers Inox Stainless Steels
K Fundicion Fonte Cast Iron
N Metales no ferrosos Métal non Ferraux Non Ferrous metals
S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys
H Materiales Duros Materiels Durs Hard materials

1178 HM-MD DIN 6537 EL

8XD | 140° | 30° | DIN 6535 HA | TIALN

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
●	●	●	●	●	○	●	●	●					●	●	●	●	○
50-120	40-85	35-55	30-45	40-85	30-55	70-150	80-120	50-70					25-30	25-40	30-40	20-35	15-25

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



ø mm	d mm	€	L mm	l mm	
3,00	6	*148,38*	70	30	1
3,30	6	*148,38*	70	30	1
3,50	6	*148,38*	70	30	1
3,70	6	*148,38*	70	30	1
4,00	6	*148,38*	75	37	1
4,20	6	*148,38*	75	37	1
4,50	6	*148,38*	75	37	1
4,70	6	*148,38*	75	37	1
5,00	6	*148,38*	90	50	1
5,50	6	*148,38*	90	50	1
6,00	6	*148,38*	90	50	1
6,50	8	*172,44*	106	66	1
6,80	8	*172,44*	106	66	1
7,00	8	*172,44*	106	66	1

ø mm	d mm	€	L mm	l mm	
7,50	8	*172,44*	106	66	1
8,00	8	*172,44*	106	66	1
8,50	10	*207,75*	131	87	1
9,00	10	*207,75*	131	87	1
9,50	10	*207,75*	131	87	1
10,00	10	*207,75*	131	87	1
10,20	12	*283,75*	155	106	1
10,50	12	*283,75*	155	106	1
11,00	12	*283,75*	155	106	1
12,00	12	*283,75*	155	106	1
13,00	14	*403,94*	182	133	1
14,00	14	*403,94*	182	133	1
15,00	16	*503,50*	204	152	1
16,00	16	*503,50*	204	152	1

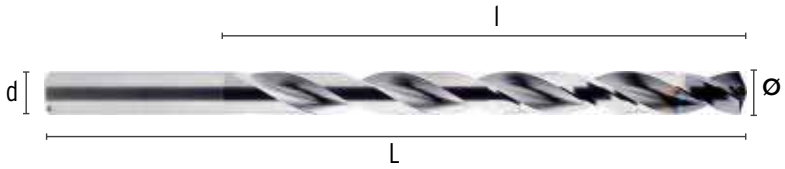
1184 HM-MD

12XD | 140° | 30° | DIN 6535 HA | TIALN

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
●	●	●	●	●		●	●	●					●				
40-90	35-55	30-50	25-40	35-55		60-120	60-90	30-50					15-25				

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

NEW



ø mm	d mm	€	L mm	l mm	
3,00	6	*199,31*	90	50	1
3,30	6	*199,31*	90	50	1
3,50	6	*199,31*	90	50	1
3,70	6	*199,31*	90	50	1
4,00	6	*199,31*	102	64	1
4,20	6	*199,31*	102	64	1
4,50	6	*199,31*	102	64	1
4,70	6	*199,31*	102	64	1
5,00	6	*199,31*	116	78	1
5,50	6	*199,31*	116	78	1
6,00	6	*199,31*	116	78	1
6,50	8	*245,69*	146	108	1
6,80	8	*245,69*	146	108	1
7,00	8	*245,69*	146	108	1

ø mm	d mm	€	L mm	l mm	
7,50	8	*245,69*	146	108	1
8,00	8	*245,69*	146	108	1
8,50	10	*309,75*	162	120	1
9,00	10	*309,75*	162	120	1
9,50	10	*309,75*	162	120	1
10,00	10	*309,75*	162	120	1
10,20	12	*411,00*	204	156	1
10,50	12	*411,00*	204	156	1
11,00	12	*411,00*	204	156	1
12,00	12	*411,00*	204	156	1
13,00	14	*509,19*	230	182	1
14,00	14	*509,19*	230	182	1
15,00	16	*720,56*	260	208	1
16,00	16	*720,56*	260	208	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

1182 HM-MD

1XD | 120° | 0° | 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
															● 25-30	● 15-25	● 10-15

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



Sacar Machos rotos / Enlever Taraud cassés / ***Remove Broken Taps***

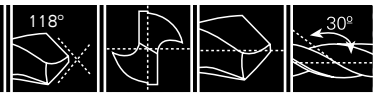
ø mm	M	€	L mm	l mm	d mm
2,5	M3	*82,38*	38	10	3
3,3	M4	*113,31*	46	14	4
4,2	M5	*127,53*	50	19	5
5	M6	*141,62*	50	23	6

ø mm	M	€	L mm	l mm	d mm
6,8	M8	*155,84*	60	23	8
8,5	M10	*198,28*	80	25	10
10,2	M12	*295,36*	80	35	12

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

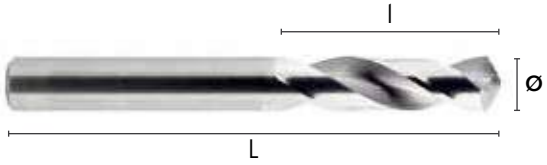
1120 HM-MD DIN 6539 N

2XD



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
●	●	●	●	●		●	●		●	●	●	●	○	○			
30-70	25-50	20-40	15-25	20-25		50-70	40-50		60-140	25-70	30-60	40-70	10-15	10-25			

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



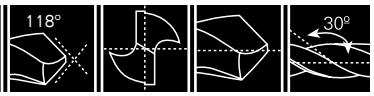
Ø mm	€	L mm	l mm	
2,00	*6,88*	38	12	1
2,10	*7,50*	38	12	1
2,20	*7,50*	40	13	1
2,30	*7,50*	40	13	1
2,40	*7,50*	43	14	1
2,50	*7,50*	43	14	1
2,60	*7,50*	43	14	1
2,70	*10,07*	46	16	1
2,80	*10,26*	46	16	1
2,90	*10,26*	46	16	1
3,00	*10,07*	46	16	1
3,10	*10,26*	49	18	1
3,20	*10,26*	49	18	1
3,30	*10,26*	49	18	1
3,40	*11,46*	52	20	1
3,50	*11,46*	52	20	1
3,60	*12,65*	52	20	1
3,70	*12,65*	52	20	1
3,80	*13,18*	52	20	1
3,90	*13,18*	55	22	1
4,00	*13,18*	55	22	1
4,10	*14,36*	55	22	1
4,20	*14,36*	55	22	1
4,30	*15,08*	58	24	1
4,40	*15,08*	58	24	1
4,50	*15,08*	58	24	1
4,60	*15,08*	58	24	1
4,70	*16,03*	58	24	1
4,80	*16,03*	62	26	1
4,90	*16,03*	62	26	1
5,00	*16,03*	62	26	1
5,10	*21,28*	62	26	1
5,20	*21,28*	62	26	1
5,30	*23,25*	62	26	1
5,40	*23,25*	66	28	1
5,50	*21,28*	66	28	1
5,60	*24,58*	66	28	1
5,70	*24,58*	66	28	1
5,80	*22,33*	66	28	1
5,90	*24,58*	66	28	1
6,00	*22,33*	66	28	1
6,10	*27,45*	70	31	1
6,20	*27,45*	70	31	1
6,30	*27,45*	70	31	1

Ø mm	€	L mm	l mm	
6,40	*27,45*	70	31	1
6,50	*27,45*	70	31	1
6,60	*33,22*	70	31	1
6,70	*33,22*	70	31	1
6,80	*33,22*	74	34	1
6,90	*33,22*	74	34	1
7,00	*32,08*	74	34	1
7,10	*39,04*	74	34	1
7,20	*39,04*	74	34	1
7,30	*39,04*	74	34	1
7,40	*39,04*	74	34	1
7,50	*39,04*	74	34	1
7,60	*47,83*	79	37	1
7,70	*47,83*	79	37	1
7,80	*47,83*	79	37	1
7,90	*47,83*	79	37	1
8,00	*43,48*	79	37	1
8,10	*54,98*	79	37	1
8,20	*54,98*	79	37	1
8,30	*54,98*	79	37	1
8,40	*54,98*	79	37	1
8,50	*54,98*	79	37	1
8,60	*58,37*	84	40	1
8,70	*58,37*	84	40	1
8,80	*58,37*	84	40	1
8,90	*58,37*	84	40	1
9,00	*56,23*	84	40	1
9,10	*56,23*	84	40	1
9,20	*57,90*	84	40	1
9,30	*57,90*	84	40	1
9,40	*57,90*	84	40	1
9,50	*61,90*	84	40	1
9,60	*61,90*	89	43	1
9,70	*61,90*	89	43	1
9,80	*61,90*	89	43	1
9,90	*61,90*	89	43	1
10,00	*78,08*	89	43	1
10,20	*79,61*	89	43	1
10,50	*94,07*	89	43	1
11,00	*100,65*	95	47	1
11,50	*107,25*	95	47	1
12,00	*107,25*	102	51	1
13,00	*160,70*	102	51	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

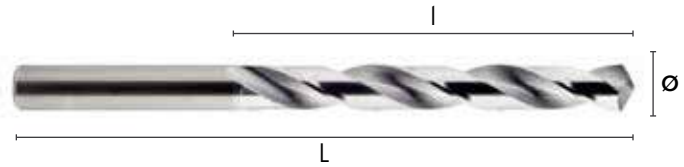
1109 HM-MD DIN 338 N

4XD



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
● 30-70	● 25-50	● 20-40	● 15-25	● 20-25		● 50-70	● 40-50		● 60-140	● 25-70	● 30-60	● 40-70	○ 10-15	○ 10-25			

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

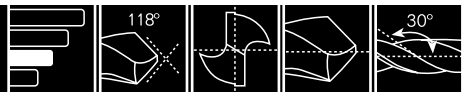


Ø mm	€	L mm	l mm	
2,00	*9,26*	49	24	1
2,10	*10,93*	49	24	1
2,20	*11,50*	53	27	1
2,30	*11,50*	53	27	1
2,40	*11,50*	57	30	1
2,50	*11,50*	57	30	1
2,60	*13,65*	57	30	1
2,70	*14,03*	61	33	1
2,80	*14,03*	61	33	1
2,90	*14,03*	61	33	1
3,00	*14,03*	61	33	1
3,10	*14,32*	65	36	1
3,20	*14,89*	65	36	1
3,30	*14,98*	65	36	1
3,40	*16,71*	70	39	1
3,50	*16,13*	70	39	1
3,60	*17,33*	70	39	1
3,70	*17,33*	70	39	1
3,80	*17,51*	75	43	1
3,90	*18,19*	75	43	1
4,00	*18,38*	75	43	1
4,10	*23,10*	75	43	1
4,20	*23,10*	75	43	1
4,30	*23,10*	80	47	1
4,40	*23,10*	80	47	1
4,50	*23,05*	80	47	1

Ø mm	€	L mm	l mm	
4,60	*27,11*	80	47	1
4,70	*27,11*	80	47	1
4,80	*27,11*	86	52	1
4,90	*27,11*	86	52	1
5,00	*27,11*	86	52	1
5,10	*33,26*	86	52	1
5,20	*33,26*	86	52	1
5,30	*33,26*	86	52	1
5,40	*33,26*	93	57	1
5,50	*33,26*	93	57	1
5,60	*35,75*	93	57	1
5,70	*35,75*	93	57	1
5,80	*35,75*	93	57	1
5,90	*35,75*	93	57	1
6,00	*35,75*	93	57	1
6,10	*45,00*	101	63	1
6,20	*45,00*	101	63	1
6,30	*45,00*	101	63	1
6,40	*45,00*	101	63	1
6,50	*45,00*	101	63	1
6,80	*55,99*	109	69	1
7,00	*55,99*	109	69	1
8,00	*77,23*	117	75	1
8,50	*88,63*	117	75	1
10,00	*143,27*	113	87	1
10,20	*143,27*	113	87	1

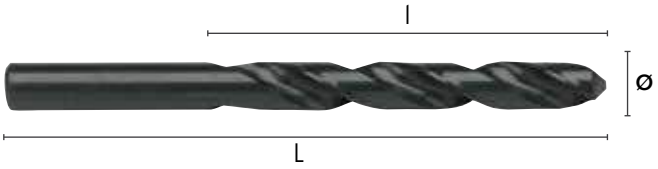
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

1101 HSS DIN 338 N



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
● 15-35						● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

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



Ø mm	€	L mm	l mm	
0,20	*2,54*	19	2,50	10
0,25	*2,54*	19	3	10
0,30	*2,54*	19	3	10
0,35	*2,54*	19	3	10
0,40	*2,54*	20	5	10
0,45	*2,54*	22	6	10
0,50	*1,88*	22	6	10
0,55	*1,91*	24	7	10
0,60	*1,91*	24	7	10
0,65	*1,91*	26	8	10
0,70	*1,91*	28	9	10
0,75	*1,80*	28	9	10
0,80	*1,80*	30	10	10
0,85	*1,80*	30	10	10
0,90	*1,80*	32	11	10
0,95	*1,80*	32	11	10
1,00	*1,08*	34	12	10
1,05	*1,35*	34	12	10
1,10	*1,23*	36	14	10
1,15	*1,23*	36	14	10
1,20	*1,23*	38	16	10
1,25	*1,00*	38	16	10
1,30	*1,12*	38	16	10
1,35	*1,23*	40	18	10
1,40	*1,12*	40	18	10
1,45	*1,17*	40	18	10
1,50	*0,91*	40	18	10
1,55	*1,17*	43	20	10
1,60	*1,08*	43	20	10
1,65	*1,17*	43	20	10
1,70	*1,08*	43	20	10
1,75	*1,00*	46	22	10
1,80	*1,08*	46	22	10
1,85	*1,08*	46	22	10
1,90	*1,08*	46	22	10
1,95	*1,17*	49	24	10
2,00	*0,89*	49	24	10
2,05	*1,17*	49	24	10
2,10	*1,08*	49	24	10
2,15	*1,17*	53	27	10
2,20	*1,08*	53	27	10
2,25	*0,98*	53	27	10
2,30	*1,08*	53	27	10
2,35	*1,08*	53	27	10
2,40	*1,08*	57	30	10
2,45	*1,17*	57	30	10
2,50	*0,89*	57	30	10
2,55	*1,23*	57	30	10
2,60	*1,12*	57	30	10
2,65	*1,12*	57	30	10

Ø mm	€	L mm	l mm	
2,70	*1,12*	61	33	10
2,75	*1,00*	61	33	10
2,80	*1,12*	61	33	10
2,85	*1,23*	61	33	10
2,90	*1,12*	61	33	10
2,95	*1,23*	61	33	10
3,00	*0,78*	61	33	10
3,05	*1,30*	65	36	10
3,10	*1,11*	65	36	10
3,15	*1,30*	65	36	10
3,20	*1,11*	65	36	10
3,25	*0,98*	65	36	10
3,30	*1,18*	65	36	10
3,35	*1,30*	70	39	10
3,40	*1,18*	70	39	10
3,45	*1,30*	70	39	10
3,50	*0,98*	70	39	10
3,55	*1,45*	70	39	10
3,60	*1,30*	70	39	10
3,65	*1,45*	70	39	10
3,70	*1,30*	70	39	10
3,75	*1,19*	70	39	10
3,80	*1,30*	75	43	10
3,90	*1,30*	75	43	10
3,95	*1,44*	75	43	10
4,00	*1,01*	75	43	10
4,05	*1,55*	75	43	10
4,10	*1,41*	75	43	10
4,15	*1,55*	75	43	10
4,20	*1,41*	75	43	10
4,25	*1,30*	75	43	10
4,30	*1,54*	80	47	10
4,40	*1,54*	80	47	10
4,50	*1,30*	80	47	10
4,55	*1,91*	80	47	10
4,60	*1,74*	80	47	10
4,65	*1,91*	80	47	10
4,70	*1,74*	80	47	10
4,75	*1,60*	80	47	10
4,80	*1,74*	86	52	10
4,90	*1,74*	86	52	10
5,00	*1,28*	86	52	10
5,10	*1,93*	86	52	10
5,20	*2,13*	86	52	10
5,25	*1,63*	86	52	10
5,30	*1,93*	86	52	10
5,40	*1,93*	93	57	10
5,50	*1,63*	93	57	10
5,60	*2,23*	93	57	10
5,70	*2,23*	93	57	10

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

BROCAS CON MANGO CILÍNDRICO
FORETS À QUEUE CYLINDRIQUE / STRAIGHT SHANK DRILL-BITS

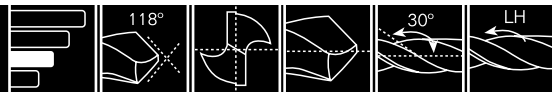
(continúa Ref.11010 / suite Réf.11010 / Ref.11010 cont'd)

Ø mm	€	L mm	l mm	
5,75	2,03	93	57	10
5,80	2,23	93	57	10
5,85	2,44	93	57	10
5,90	2,23	93	57	10
6,00	1,72	93	57	10
6,10	2,61	101	63	10
6,20	2,61	101	63	10
6,25	2,40	101	63	10
6,30	2,61	101	63	10
6,35	2,88	101	63	10
6,40	2,61	101	63	10
6,50	2,21	101	63	10
6,60	3,02	101	63	10
6,70	3,02	101	63	10
6,75	2,77	109	69	10
6,80	3,02	109	69	10
6,90	3,02	109	69	10
6,95	3,34	109	69	10
7,00	2,54	109	69	10
7,10	3,43	109	69	10
7,20	3,43	109	69	10
7,25	3,16	109	69	10
7,30	3,43	109	69	10
7,35	3,76	109	69	10
7,40	3,43	109	69	10
7,50	2,86	109	69	10
7,60	3,75	117	75	10
7,65	4,13	117	75	10
7,70	3,75	117	75	10
7,75	3,44	117	75	10
7,80	3,75	117	75	10
7,90	3,75	117	75	10
7,95	4,13	117	75	10
8,00	2,99	117	75	10
8,10	4,47	117	75	10
8,15	4,92	117	75	10
8,20	4,47	117	75	10
8,25	4,12	117	75	10
8,30	4,47	117	75	10
8,40	4,47	117	75	10
8,45	4,92	117	75	10
8,50	3,75	117	75	10
8,60	4,89	125	81	10
8,65	5,38	125	81	10
8,70	4,89	125	81	10
8,75	4,47	125	81	10
8,80	4,89	125	81	10
8,90	5,38	125	81	10
8,95	5,38	125	81	10
9,00	4,11	125	81	10
9,05	5,82	125	81	10
9,10	5,49	125	81	10
9,20	5,49	125	81	10
9,25	5,49	125	81	10
9,30	5,49	125	81	10
9,35	6,07	125	81	10
9,40	5,49	125	81	10
9,45	6,07	125	81	10
9,50	4,61	125	81	10
9,60	6,15	133	87	10
9,70	6,15	133	87	10
9,75	5,63	133	87	10
9,80	6,15	133	87	10
9,90	6,15	133	87	10
10,00	4,69	133	87	5

Ø mm	€	L mm	l mm	
10,10	6,92	133	87	5
10,20	6,92	133	87	5
10,25	6,37	133	87	5
10,30	6,92	133	87	5
10,40	6,92	133	87	5
10,50	5,79	133	87	5
10,60	7,73	133	87	5
10,70	7,73	142	94	5
10,75	7,09	142	94	5
10,80	7,73	142	94	5
10,90	7,73	142	94	5
11,00	6,43	142	94	5
11,10	8,59	142	94	5
11,20	8,59	142	94	5
11,25	7,89	142	94	5
11,30	8,59	142	94	5
11,40	8,59	142	94	5
11,50	7,13	142	94	5
11,60	9,04	142	94	5
11,70	9,04	142	94	5
11,75	8,30	142	94	5
11,80	9,04	142	94	5
11,90	9,04	151	101	5
12,00	7,56	151	101	5
12,10	10,19	151	101	5
12,20	10,19	151	101	5
12,25	9,32	151	101	5
12,30	10,19	151	101	5
12,40	10,19	151	101	5
12,50	8,46	151	101	5
12,60	11,12	151	101	5
12,70	11,12	151	101	5
12,75	10,19	151	101	5
12,80	11,12	151	101	5
12,90	11,12	151	101	5
13,00	9,30	151	101	5
13,25	12,97	160	108	4
13,50	11,80	160	108	4
13,75	14,04	160	108	4
14,00	12,76	160	108	4
14,25	16,00	169	114	4
14,50	14,55	169	114	4
14,75	18,30	169	114	4
15,00	16,63	169	114	4
15,25	22,06	178	120	1
15,50	20,07	178	120	1
15,75	22,06	178	120	1
16,00	20,07	178	120	1
16,25	28,53	184	125	1
16,50	25,91	184	125	1
16,75	28,53	184	125	1
17,00	25,91	184	125	1
17,25	31,74	191	130	1
17,50	28,86	191	130	1
17,75	31,74	191	130	1
18,00	28,86	191	130	1
18,25	35,42	198	135	1
18,50	32,20	198	135	1
18,75	35,42	198	135	1
19,00	32,20	198	135	1
19,25	42,46	205	140	1
19,50	38,61	205	140	1
19,75	42,45	205	140	1
20,00	38,61	205	140	1

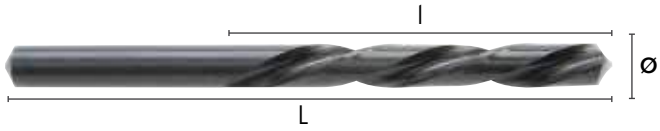
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

1101/1 HSS DIN 338 N Izquierda / A gauche / Left hand



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
● 15-35						● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

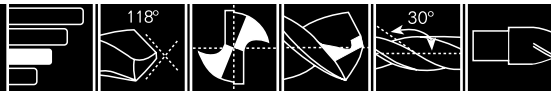
Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø mm	€	L mm	l mm	
2,00	*4,31*	49	24	10
2,25	*4,76*	53	27	10
2,50	*4,31*	57	30	10
2,75	*4,92*	61	33	10
3,00	*3,84*	61	33	10
3,25	*4,80*	65	36	10
3,50	*4,80*	70	39	10
3,75	*5,92*	70	39	10
4,00	*4,95*	75	43	10
4,50	*6,30*	80	47	10
5,00	*6,26*	86	52	10
5,25	*7,97*	86	52	10
5,50	*7,97*	93	57	10

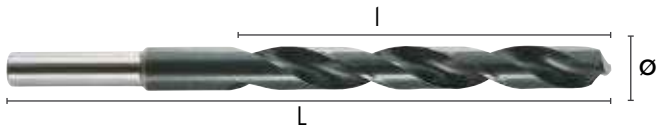
Ø mm	€	L mm	l mm	
6,00	*8,45*	93	57	10
6,50	*10,73*	101	63	10
7,00	*12,41*	109	69	10
7,50	*14,12*	109	69	10
8,00	*14,65*	117	75	10
8,50	*18,45*	117	75	10
9,00	*20,06*	125	81	10
9,50	*22,51*	125	81	10
10,00	*23,01*	133	87	5
10,50	*28,91*	133	87	5
11,00	*32,16*	142	94	5
11,50	*35,65*	142	94	5
12,00	*37,08*	151	101	5

1104 HSS DIN 338 N MR



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
● 15-35						● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

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



Ø mm	d mm	€	L mm	l mm	
10,00	8	*7,99*	133	87	1
10,50	8	*9,18*	133	87	1
11,00	8	*9,18*	142	94	1
11,50	8	*10,26*	142	94	1
12,00	8	*10,26*	151	101	1
12,50	8	*11,32*	151	101	1
13,00	10	*12,48*	151	101	1
13,25	10	*15,91*	160	108	1
13,50	10	*15,91*	160	108	1
13,75	10	*17,29*	160	108	1
14,00	10	*15,91*	160	108	1
14,25	10	*19,94*	169	114	1
14,40	10	*19,65*	169	114	1
14,50	10	*19,58*	169	114	1
14,75	10	*28,07*	169	114	1
15,00	10	*19,58*	169	114	1
15,25	10	*25,95*	178	120	1
15,50	10	*23,18*	178	120	1

Ø mm	d mm	€	L mm	l mm	
15,75	10	*25,49*	178	120	1
16,00	12	*23,18*	178	120	1
16,25	12	*33,00*	184	125	1
16,40	12	*29,88*	184	125	1
16,50	12	*29,06*	184	125	1
16,75	12	*32,00*	184	125	1
17,00	12	*29,06*	184	125	1
17,25	12	*35,60*	191	130	1
17,50	12	*32,15*	191	130	1
17,75	12	*35,35*	191	130	1
18,00	12	*32,15*	191	130	1
18,25	12	*39,44*	198	135	1
18,50	12	*36,10*	198	135	1
18,60	12	*39,14*	198	135	1
18,75	12	*39,68*	198	135	1
19,00	12	*36,10*	198	135	1
19,25	12	*47,59*	205	140	1
19,50	12	*42,58*	205	140	1

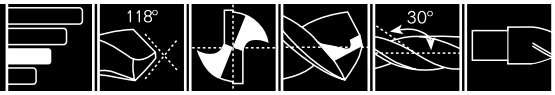
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

BROCAS CON MANGO CILÍNDRICO
FORETS À QUEUE CYLINDRIQUE / STRAIGHT SHANK DRILL-BITS

Ø mm	d mm	€	L mm	l mm	
19,75	12	*46,80*	205	149	1
20,00	13	*42,58*	205	140	1
20,50	13	*49,56*	212	145	1
20,60	13	*40,80*	212	145	1
21,00	13	*49,56*	212	145	1
21,50	13	*53,99*	219	150	1
22,00	13	*53,99*	219	150	1
22,50	13	*57,09*	226	155	1
22,60	13	*51,64*	226	155	1
23,00	13	*57,09*	226	155	1
23,50	13	*63,56*	226	155	1
24,00	13	*63,56*	233	160	1

Ø mm	d mm	€	L mm	l mm	
24,50	13	*64,45*	233	160	1
25,00	13	*64,45*	233	160	1
25,50	13	*83,69*	240	165	1
26,00	13	*83,69*	240	165	1
26,50	13	*90,35*	240	165	1
27,00	13	*90,35*	247	170	1
27,50	13	*91,71*	247	170	1
28,00	13	*91,71*	247	170	1
28,50	13	*113,99*	254	175	1
29,00	13	*113,99*	254	175	1
29,50	13	*118,94*	254	175	1
30,00	13	*118,94*	254	175	1

1104/9 HSS ANSI



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
● 15-35						● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

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



Ø mm	d mm	€	L mm	l mm	
17/32"	1/2"	*15,91*	152	76	1
9/16"	1/2"	*15,91*	152	76	1
19/32"	1/2"	*19,58*	152	76	1
5/8"	1/2"	*23,18*	152	76	1
21/32"	1/2"	*29,06*	152	76	1
11/16"	1/2"	*32,15*	152	76	1
23/32"	1/2"	*32,15*	152	76	1
3/4"	1/2"	*36,10*	152	76	1
25/32"	1/2"	*42,58*	152	76	1

Ø mm	d mm	€	L mm	l mm	
13/16"	1/2"	*40,80*	152	76	1
27/32"	1/2"	*49,56*	152	76	1
7/8"	1/2"	*54,00*	152	76	1
29/32"	1/2"	*57,09*	152	76	1
15/16"	1/2"	*63,56*	152	76	1
31/32"	1/2"	*64,45*	152	76	1
1"	1/2"	*64,45*	152	76	1
1-1/16"	1/2"	*90,35*	152	76	1
1-1/8"	1/2"	*113,99*	152	76	1

1501 HSS Hex.



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
● 15-35						● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

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

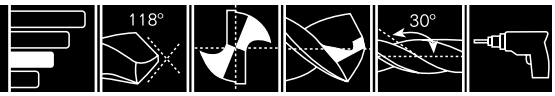


Ø mm	L mm	l mm	€	
3,00	61	33	*3,51*	1
4,00	75	43	*3,86*	1
5,00	86	52	*4,03*	1
6,00	93	57	*4,34*	1

Ø mm	L mm	l mm	€	
7,00	109	69	*4,47*	1
8,00	117	75	*4,72*	1
9,00	125	81	*4,78*	1
10,00	133	87	*6,02*	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

1158 HSS DIN 338 NSP



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
● 15-35						● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

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



Ø mm	€	L mm	l mm	
1,00	*1,18*	34	12	10
1,10	*1,47*	36	14	10
1,20	*1,47*	38	16	10
1,30	*1,30*	38	16	10
1,40	*1,30*	40	18	10
1,50	*1,02*	40	18	10
1,60	*1,25*	43	20	10
1,70	*1,25*	43	20	10
1,80	*1,11*	46	22	10
1,90	*1,11*	46	22	10
2,00	*0,97*	49	24	10
2,10	*1,08*	49	24	10
2,20	*1,08*	53	27	10
2,25	*1,08*	53	27	10
2,30	*1,29*	53	27	10
2,40	*1,29*	57	30	10
2,50	*0,97*	57	30	10
2,60	*1,30*	57	30	10
2,70	*1,30*	61	33	10
2,75	*1,11*	61	33	10
2,80	*1,30*	61	33	10
2,90	*1,30*	61	33	10
3,00	*0,88*	61	33	10
3,10	*1,11*	65	36	10
3,20	*1,11*	65	36	10
3,25	*1,08*	65	36	10
3,30	*1,11*	65	36	10
3,40	*1,42*	70	39	10
3,50	*1,08*	70	39	10
3,60	*1,48*	70	39	10
3,70	*1,48*	70	39	10
3,75	*1,32*	70	39	10
3,80	*1,56*	75	43	10
3,90	*1,56*	75	43	10
4,00	*1,11*	75	43	10
4,10	*1,37*	75	43	10
4,20	*1,37*	75	43	10
4,25	*1,41*	75	43	10
4,30	*1,84*	80	47	10
4,40	*1,84*	80	47	10
4,50	*1,41*	80	47	10
4,60	*1,88*	80	47	10
4,70	*1,88*	80	47	10
4,75	*1,76*	80	47	10
4,80	*2,04*	86	52	10
4,90	*2,01*	86	52	10
5,00	*1,41*	86	52	10
5,10	*2,05*	86	52	10
5,20	*2,05*	86	52	10
5,25	*1,79*	86	52	10

Ø mm	€	L mm	l mm	
5,30	*2,58*	86	52	10
5,40	*2,58*	93	57	10
5,50	*1,79*	93	57	10
5,60	*2,71*	93	57	10
5,70	*2,71*	93	57	10
5,75	*2,25*	93	57	10
5,80	*2,58*	93	57	10
5,90	*2,58*	93	57	10
6,00	*1,91*	93	57	10
6,10	*2,96*	101	63	10
6,20	*2,96*	101	63	10
6,25	*2,67*	101	63	10
6,30	*3,13*	101	63	10
6,40	*3,18*	101	63	10
6,50	*2,42*	101	63	10
6,60	*3,91*	101	63	10
6,70	*3,91*	101	63	10
6,75	*3,06*	109	69	10
6,80	*2,95*	109	69	10
6,90	*4,32*	109	69	10
7,00	*2,80*	109	69	10
7,10	*4,59*	109	69	10
7,20	*4,59*	109	69	10
7,25	*3,50*	109	69	10
7,30	*4,59*	109	69	10
7,40	*4,59*	109	69	10
7,50	*3,18*	109	69	10
7,60	*5,39*	117	75	10
7,70	*5,39*	117	75	10
7,75	*3,82*	117	75	10
7,80	*5,46*	117	75	10
7,90	*5,46*	117	75	10
8,00	*3,29*	117	75	10
8,10	*5,54*	117	75	10
8,20	*5,54*	117	75	10
8,25	*4,55*	117	75	10
8,30	*5,81*	117	75	10
8,40	*5,81*	117	75	10
8,50	*4,16*	117	75	10
8,60	*7,30*	125	81	10
8,70	*7,30*	125	81	10
8,75	*4,95*	125	81	10
8,80	*7,34*	125	81	10
8,90	*7,34*	125	81	10
9,00	*4,54*	125	81	10
9,10	*7,36*	125	81	10
9,20	*7,36*	125	81	10
9,25	*6,08*	125	81	10
9,30	*6,86*	125	81	10
9,40	*6,86*	125	81	10

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

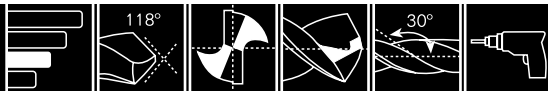
BROCAS CON MANGO CILÍNDRICO
FORETS À QUEUE CYLINDRIQUE / STRAIGHT SHANK DRILL-BITS

(continúa Ref.1158 / suite Réf.1158 / Ref.1158 cont'd)

Ø mm	€	L mm	l mm	
9,50	*5,08*	125	81	10
9,60	*8,78*	133	87	10
9,70	*8,78*	133	87	10
9,75	*6,22*	133	87	10
9,80	*8,65*	133	87	10
9,90	*8,65*	133	87	10
10,00	*5,17*	133	87	5
10,50	*6,39*	133	87	5
11,00	*7,11*	142	94	5
11,50	*7,89*	142	94	5
12,00	*8,35*	151	101	5
12,50	*9,36*	151	101	5
13,00	*10,24*	151	101	5
13,50	*12,96*	151	101	4

Ø mm	€	L mm	l mm	
14,00	*14,04*	169	108	4
14,50	*16,00*	169	114	4
15,00	*18,28*	169	114	4
15,50	*22,05*	178	120	1
16,00	*22,05*	178	120	1
16,50	*28,48*	184	125	1
17,00	*28,48*	184	125	1
17,50	*31,73*	191	130	1
18,00	*31,73*	191	130	1
18,50	*35,41*	198	125	1
19,00	*35,41*	198	125	1
19,50	*42,43*	205	140	1
20,00	*42,43*	205	140	1

1158/9 HSS DIN 338 NSP



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
● 15-35						● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

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

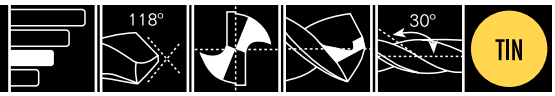


Ø mm	€	L mm	l mm	
1/16"	*1,02*	43	20	10
5/64"	*0,97*	49	24	10
3/32"	*0,97*	57	30	10
7/64"	*1,11*	61	33	10
1/8"	*0,88*	65	36	10
9/64"	*1,08*	70	39	10
5/32"	*1,11*	75	43	10
11/64"	*1,41*	80	47	10
3/16"	*1,41*	86	52	10
13/64"	*1,41*	86	52	10
7/32"	*1,79*	93	57	10
15/64"	*1,91*	93	57	10
1/4"	*2,42*	101	63	10
17/64"	*2,80*	109	69	10
9/32"	*2,80*	109	69	10

Ø mm	€	L mm	l mm	
19/64"	*3,18*	117	75	10
5/16"	*3,29*	117	75	10
21/64"	*4,16*	117	75	10
11/32"	*4,54*	125	81	10
23/64"	*4,54*	125	81	10
3/8"	*5,08*	133	87	10
25/64"	*5,17*	133	87	10
13/32"	*6,39*	133	87	5
27/64"	*6,71*	142	94	5
7/16"	*7,11*	142	94	5
29/64"	*7,89*	142	94	5
15/32"	*8,35*	151	101	5
31/64"	*9,36*	151	101	5
1/2"	*10,24*	151	101	5

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

1108 HSS DIN 338 NSP



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
● 20-45	● 15-30					● 35-40	● 15-20		○ 65-90	● 40-70	○ 65-90	○ 25-35					

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



Ø mm	€	L mm	l mm	
1,00	*2,40*	34	12	10
1,10	*2,14*	36	14	10
1,20	*2,14*	38	16	10
1,30	*2,14*	38	16	10
1,40	*2,14*	40	18	10
1,50	*1,86*	40	18	10
1,60	*2,14*	43	20	10
1,70	*2,14*	43	20	10
1,80	*2,14*	46	22	10
1,90	*2,14*	46	22	10
2,00	*1,86*	49	24	10
2,10	*2,14*	49	24	10
2,20	*2,14*	53	27	10
2,25	*2,14*	53	27	10
2,30	*2,14*	53	27	10
2,40	*2,14*	57	30	10
2,50	*1,86*	57	30	10
2,60	*2,14*	57	30	10
2,70	*2,14*	61	33	10
2,75	*1,86*	61	33	10
2,80	*2,14*	61	33	10
2,90	*2,14*	61	33	10
3,00	*2,03*	61	33	10
3,10	*2,39*	65	36	10
3,20	*2,39*	65	36	10
3,25	*2,07*	65	36	10
3,30	*2,39*	65	36	10
3,40	*2,39*	70	39	10
3,50	*2,25*	70	39	10
3,60	*2,64*	70	39	10
3,70	*2,64*	70	39	10
3,75	*2,33*	70	39	10
3,80	*2,64*	75	43	10
3,90	*2,64*	75	43	10
4,00	*2,54*	75	43	10
4,10	*3,18*	75	43	10
4,20	*3,18*	75	43	10
4,25	*2,77*	75	43	10
4,30	*2,77*	80	47	10
4,40	*2,77*	80	47	10
4,50	*2,77*	80	47	10
4,60	*2,77*	80	47	10
4,70	*2,77*	80	47	10
4,75	*2,99*	80	47	10
4,80	*2,99*	86	52	10
4,90	*3,00*	86	52	10
5,00	*2,86*	86	52	10
5,10	*3,43*	86	52	10
5,20	*3,43*	86	52	10
5,25	*3,43*	86	52	10

Ø mm	€	L mm	l mm	
5,30	*3,43*	86	52	10
5,40	*3,43*	93	57	10
5,50	*3,43*	93	57	10
5,60	*3,79*	93	57	10
5,70	*3,79*	93	57	10
5,75	*3,79*	93	57	10
5,80	*3,79*	93	57	10
5,90	*3,79*	93	57	10
6,00	*3,79*	93	57	10
6,10	*4,66*	101	63	10
6,20	*4,66*	101	63	10
6,25	*4,66*	101	63	10
6,30	*4,66*	101	63	10
6,40	*4,66*	101	63	10
6,50	*4,66*	101	63	10
6,60	*5,39*	101	63	10
6,70	*5,39*	101	63	10
6,75	*5,41*	109	69	10
6,80	*6,23*	109	69	10
6,90	*6,23*	109	69	10
7,00	*6,23*	109	69	10
7,10	*6,23*	109	69	10
7,20	*6,23*	109	69	10
7,25	*6,75*	109	69	10
7,30	*6,75*	109	69	10
7,40	*6,75*	109	69	10
7,50	*6,75*	109	69	10
7,60	*7,05*	117	75	10
7,70	*7,05*	117	75	10
7,75	*7,05*	117	75	10
7,80	*7,11*	117	75	10
7,90	*7,11*	117	75	10
8,00	*7,11*	117	75	10
8,10	*8,22*	117	75	10
8,20	*8,22*	117	75	10
8,25	*8,22*	117	75	10
8,30	*8,22*	117	75	10
8,40	*8,22*	117	75	10
8,50	*8,22*	117	75	10
8,60	*8,96*	125	81	10
8,70	*8,96*	125	81	10
8,75	*8,97*	125	81	10
8,80	*8,96*	125	81	10
8,90	*8,96*	125	81	10
9,00	*8,97*	125	81	10
9,10	*10,12*	125	81	10
9,20	*10,12*	125	81	10
9,25	*10,11*	125	81	10
9,30	*10,12*	125	81	10
9,40	*10,12*	125	81	10

(continúa Ref.1108 / suite Réf.1108 / Ref.1108 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

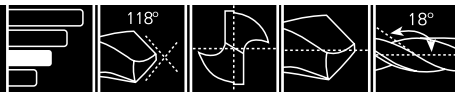
BROCAS CON MANGO CILÍNDRICO
FORETS À QUEUE CYLINDRIQUE / STRAIGHT SHANK DRILL-BITS

(continúa Ref.1108 / suite Réf.1108 / Ref.1108 cont'd)

Ø mm	€	L mm	l mm	
9,50	*10,11*	125	81	10
9,60	*11,26*	133	87	10
9,75	*11,26*	133	87	10
9,80	*11,26*	133	87	10
9,90	*11,26*	133	87	10
10,00	*11,26*	133	87	5

Ø mm	€	L mm	l mm	
10,50	*13,01*	133	87	5
11,00	*14,55*	142	94	5
11,50	*16,15*	142	94	5
12,00	*18,55*	151	101	5
12,50	*19,60*	151	101	5
13,00	*21,40*	151	101	5

1103 HSS DIN 338 H



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
										● 25-60							

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

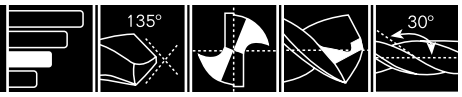


Ø mm	€	L mm	l mm	
1,00	*3,83*	34	12	1
1,25	*4,32*	38	16	1
1,50	*3,75*	40	18	1
1,75	*4,21*	46	22	1
2,00	*3,43*	49	24	1
2,25	*4,02*	53	27	1
2,50	*3,50*	57	30	1
2,75	*4,70*	61	33	1
3,00	*3,83*	61	33	1
3,25	*4,70*	65	36	1
3,50	*4,13*	70	39	1
3,75	*6,09*	70	39	1
4,00	*4,43*	75	43	1
4,25	*6,63*	75	43	1
4,50	*5,46*	80	47	1
4,75	*7,48*	80	47	1
5,00	*5,94*	86	52	1
5,25	*8,95*	86	52	1
5,50	*7,19*	93	57	1
5,75	*10,94*	93	57	1
6,00	*7,79*	93	57	1
6,25	*10,94*	101	63	1

Ø mm	€	L mm	l mm	
6,50	*8,68*	101	63	1
6,75	*13,18*	109	69	1
7,00	*9,17*	109	69	1
7,25	*17,40*	109	69	1
7,50	*10,78*	109	69	1
7,75	*20,13*	117	75	1
8,00	*11,49*	117	75	1
8,25	*21,50*	117	75	1
8,50	*13,31*	117	75	1
8,75	*22,51*	125	81	1
9,00	*13,98*	125	81	1
9,25	*29,01*	125	81	1
9,50	*16,36*	125	81	1
9,75	*32,10*	133	87	1
10,00	*17,09*	133	87	1
10,50	*20,48*	133	87	1
11,00	*22,87*	142	94	1
11,50	*27,65*	142	94	1
12,00	*29,81*	151	101	1
12,50	*33,79*	151	101	1
13,00	*36,17*	151	101	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

1105 HSSCO DIN 338 N



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
● 15-35	● 12-20	● 6-16		○ 8-14		● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

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



Ø mm	€	L mm	l mm	
0,50	*2,80*	22	6	10
0,60	*2,27*	24	7	10
0,70	*2,21*	28	9	10
0,75	*2,21*	28	9	10
0,80	*2,00*	30	10	10
0,90	*2,00*	32	11	10
1,00	*1,75*	34	12	10
1,10	*1,52*	36	14	10
1,20	*1,69*	38	16	10
1,25	*2,00*	38	16	10
1,30	*1,60*	38	16	10
1,40	*1,51*	40	18	10
1,50	*1,60*	40	18	10
1,60	*1,67*	43	20	10
1,70	*1,54*	43	20	10
1,75	*2,25*	46	22	10
1,80	*1,54*	46	22	10
1,90	*1,59*	46	22	10
2,00	*1,64*	49	24	10
2,10	*1,79*	49	24	10
2,20	*1,79*	53	27	10
2,25	*2,59*	53	27	10
2,30	*1,79*	53	27	10
2,40	*1,80*	57	30	10
2,50	*1,75*	57	30	10
2,60	*1,88*	57	30	10
2,70	*1,88*	61	33	10
2,75	*1,93*	61	33	10
2,80	*1,90*	61	33	10
2,90	*1,93*	61	33	10
3,00	*1,46*	61	33	10
3,10	*1,93*	65	36	10
3,20	*1,93*	65	36	10
3,25	*1,95*	65	36	10
3,30	*2,04*	65	36	10
3,40	*2,07*	70	39	10
3,50	*1,93*	70	39	10
3,60	*2,12*	70	39	10
3,70	*2,14*	70	39	10
3,75	*2,32*	70	39	10
3,80	*2,16*	75	43	10
3,90	*2,22*	75	43	10
4,00	*1,90*	75	43	10
4,10	*2,25*	75	43	10
4,20	*2,27*	75	43	10
4,25	*2,22*	75	43	10
4,30	*2,42*	80	47	10
4,40	*2,48*	80	47	10
4,50	*2,32*	80	47	10
4,60	*2,54*	80	47	10
4,70	*2,59*	80	47	10
4,75	*2,58*	80	47	10

Ø mm	€	L mm	l mm	
4,80	*2,67*	86	52	10
4,90	*2,69*	86	52	10
5,00	*2,22*	86	52	10
5,10	*2,72*	86	52	10
5,20	*2,73*	86	52	10
5,25	*2,78*	86	52	10
5,30	*2,78*	86	52	10
5,40	*3,21*	93	57	10
5,50	*3,51*	93	57	10
5,60	*3,51*	93	57	10
5,70	*3,51*	93	57	10
5,75	*3,51*	93	57	10
5,80	*3,51*	93	57	10
5,90	*3,51*	93	57	10
6,00	*3,00*	93	57	10
6,10	*3,90*	101	63	10
6,20	*3,93*	101	63	10
6,25	*3,93*	101	63	10
6,30	*3,93*	101	63	10
6,40	*4,23*	101	63	10
6,50	*3,90*	101	63	10
6,60	*4,23*	101	63	10
6,70	*4,23*	101	63	10
6,75	*4,55*	109	69	10
6,80	*4,55*	109	69	10
6,90	*4,55*	109	69	10
7,00	*4,11*	109	69	10
7,10	*5,55*	109	69	10
7,20	*5,55*	109	69	10
7,25	*5,55*	109	69	10
7,30	*5,55*	109	69	10
7,40	*5,55*	109	69	10
7,50	*4,37*	109	69	10
7,60	*6,73*	117	75	10
7,70	*6,73*	117	75	10
7,75	*6,73*	117	75	10
7,80	*6,73*	117	75	10
7,90	*6,73*	117	75	10
8,00	*5,46*	117	75	10
8,10	*6,73*	117	75	10
8,20	*6,73*	117	75	10
8,25	*6,45*	117	75	10
8,30	*6,73*	117	75	10
8,40	*6,73*	117	75	10
8,50	*5,36*	117	75	10
8,60	*7,89*	125	81	10
8,70	*7,89*	125	81	10
8,75	*8,20*	125	81	10
8,80	*8,20*	125	81	10
8,90	*8,20*	125	81	10
9,00	*6,78*	125	81	10
9,10	*8,78*	125	81	10

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

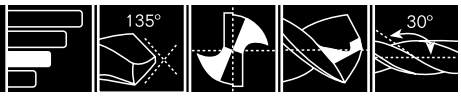
BROCAS CON MANGO CILÍNDRICO
FORETS À QUEUE CYLINDRIQUE / STRAIGHT SHANK DRILL-BITS

(continúa Ref.1105 / suite Réf.1105 / Ref.1105 cont'd)

Ø mm	€	L mm	l mm	
9,20	8,78	125	81	10
9,25	9,05	125	81	10
9,30	9,67	125	81	10
9,40	9,67	125	81	10
9,50	8,56	125	81	10
9,60	10,83	133	87	10
9,70	11,09	133	87	10
9,75	10,68	133	87	10
9,80	11,10	133	87	10
9,90	11,10	133	87	10
10,00	8,56	133	87	5
10,10	14,04	133	87	5
10,20	14,04	133	87	5
10,25	14,04	133	87	5
10,30	14,04	133	87	5
10,40	14,04	133	87	5
10,50	11,41	133	87	5
10,60	16,33	133	87	5
10,70	16,33	142	94	5
10,75	16,33	142	94	5
10,80	16,33	142	94	5
10,90	16,33	142	94	5
11,00	12,56	142	94	5
11,10	19,14	142	94	5
11,20	19,14	142	94	5
11,25	19,14	142	94	5
11,30	19,14	142	94	5
11,40	19,14	142	94	5
11,50	16,10	142	94	5
11,60	20,58	142	94	5
11,70	20,58	142	94	5

Ø mm	€	L mm	l mm	
11,75	20,58	142	94	5
11,80	20,58	142	94	5
11,90	20,58	151	101	5
12,00	15,77	151	101	5
12,10	24,57	151	101	5
12,20	24,57	151	101	5
12,25	24,57	151	101	5
12,30	24,57	151	101	5
12,40	24,57	151	101	5
12,50	21,63	151	101	5
12,60	25,65	151	101	5
12,70	25,65	151	101	5
12,75	25,65	151	101	5
12,80	25,65	151	101	5
12,90	25,65	151	101	5
13,00	21,92	151	101	5
13,50	24,17	160	108	4
14,00	23,89	160	108	4
14,50	33,85	169	114	4
15,00	34,41	169	114	4
15,50	39,76	178	120	1
16,00	41,25	178	120	1
16,50	47,19	184	125	1
17,00	47,19	184	125	1
17,50	52,23	191	130	1
18,00	56,93	191	130	1
18,50	62,84	198	125	1
19,00	62,84	198	125	1
19,50	69,69	205	140	1
20,00	80,52	205	140	1

1105/9 HSSCO DIN 338 N



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
● 15-35	● 12-20	● 6-16		○ 8-14		● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

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

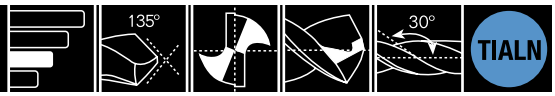


Ø mm	€	L mm	l mm	
1/16"	1,59	43	20	10
5/64"	1,64	49	24	10
3/32"	1,75	57	30	10
7/64"	1,93	61	33	10
1/8"	1,46	65	36	10
9/64"	1,93	70	39	10
5/32"	1,90	75	43	10
11/64"	2,32	80	47	10
3/16"	2,32	86	52	10
13/64"	2,22	86	52	10
7/32"	3,51	93	57	10
15/64"	3,00	93	57	10
1/4"	3,90	101	63	10
17/64"	4,55	109	69	10
9/32"	4,11	109	69	10

Ø mm	€	L mm	l mm	
19/64"	4,37	117	75	10
5/16"	5,46	117	75	10
21/64"	5,36	117	75	10
11/32"	8,20	125	81	10
23/64"	6,78	125	81	10
3/8"	8,56	133	87	10
25/64"	8,56	133	87	10
13/32"	11,41	133	87	5
27/64"	16,33	142	94	5
7/16"	12,56	142	94	5
29/64"	16,10	142	94	5
15/32"	15,77	151	101	5
31/64"	21,63	151	101	5
1/2"	21,92	151	101	5

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

1161 HSSCO DIN 338 N



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
● 25-50	● 18-30	● 10-25		○ 12-20		● 38-45	● 18-25		○ 70-80	● 45-80		○ 30-35					

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



Ø mm	€	L mm	l mm	
2,00	*3,48*	49	24	1
2,50	*3,48*	57	30	1
3,00	*3,44*	61	33	1
3,10	*4,33*	65	36	1
3,25	*4,33*	65	36	1
3,30	*4,33*	65	36	1
3,40	*4,51*	70	39	1
3,50	*4,32*	70	39	1
4,00	*4,46*	75	43	1
4,10	*4,69*	75	43	1
4,20	*4,69*	75	43	1
4,25	*4,69*	75	43	1
4,30	*4,73*	80	47	1
4,50	*4,75*	80	47	1
5,00	*4,83*	86	52	1
5,10	*5,19*	86	52	1
5,25	*5,24*	86	52	1

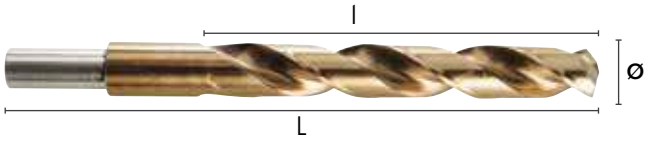
Ø mm	€	L mm	l mm	
5,50	*5,47*	93	57	1
6,00	*5,68*	93	57	1
6,50	*10,45*	101	63	1
7,00	*11,07*	109	69	1
7,50	*11,34*	109	69	1
8,00	*12,09*	117	75	1
8,50	*13,47*	117	75	1
9,00	*14,94*	125	81	1
9,50	*15,19*	125	81	1
10,00	*15,94*	133	87	1
10,50	*27,46*	133	87	1
11,00	*28,61*	142	94	1
11,50	*30,37*	142	94	1
12,00	*31,39*	151	101	1
12,50	*38,81*	151	101	1
13,00	*39,45*	151	101	1

1107 HSSCO DIN 338 MR



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
● 15-35	● 12-20	● 6-16		○ 8-14		● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

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

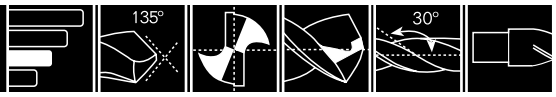


Ø mm	d mm	€	L mm	l mm	
10,00	8	*10,17*	133	87	1
10,50	8	*13,61*	133	87	1
11,00	8	*14,67*	142	94	1
11,50	8	*18,01*	142	94	1
12,00	8	*19,09*	151	101	1
12,50	8	*23,17*	151	101	1
13,00	10	*23,49*	151	101	1
13,50	10	*25,59*	160	108	1
14,00	10	*25,33*	160	108	1
14,50	10	*34,69*	169	114	1
15,00	10	*35,18*	169	114	1

Ø mm	d mm	€	L mm	l mm	
15,50	10	*40,19*	178	120	1
16,00	12	*41,62*	178	120	1
16,50	12	*47,18*	184	125	1
17,00	12	*47,18*	184	125	1
17,50	12	*51,91*	191	130	1
18,00	12	*56,31*	191	130	1
18,50	12	*61,90*	191	130	1
19,00	12	*61,90*	191	130	1
19,50	12	*68,31*	191	130	1
20,00	12	*78,47*	191	130	1

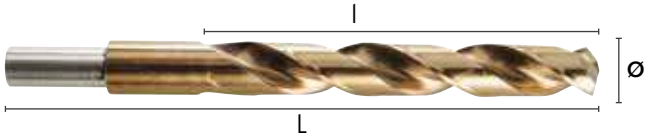
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

1107/9 HSSCO ANSI



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
● 15-35	● 12-20	● 6-16		○ 8-14		● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

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



Ø mm	d mm	€	L mm	l mm	
17/32"	1/2"	*25,59*	152	76	1
9/16"	1/2"	*25,33*	152	76	1
19/32"	1/2"	*35,18*	152	76	1
5/8"	1/2"	*41,62*	152	76	1
21/32"	1/2"	*47,18*	152	76	1

Ø mm	d mm	€	L mm	l mm	
11/16"	1/2"	*51,91*	152	76	1
23/32"	1/2"	*56,41*	152	76	1
3/4"	1/2"	*61,90*	152	76	1
25/32"	1/2"	*68,31*	152	76	1
13/16"	1/2"	*78,47*	152	76	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

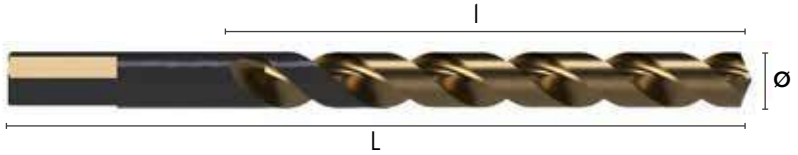
1187 HSSCO DIN 338W



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
● 30-40				● 8-14					○ 30-80	○ 50-70	○ 50-70			● 8-10			

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

NEW

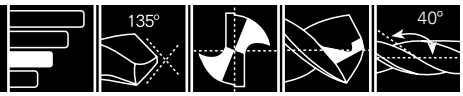


Ø mm	€	L mm	l mm	
1,00	*2,89*	34	12	10
1,25	*3,45*	38	16	10
1,50	*2,75*	40	18	10
1.75	*3,45*	46	22	10
2,00	*2,75*	49	24	10
2,25	*3,05*	53	27	10
2,50	*2,51*	57	30	10
2,75	*3,05*	61	33	10
3,00	*2,45*	61	33	10
3,20	*3,01*	65	36	10
3,25	*3,01*	65	36	10
3,30	*3,01*	65	36	10
3,50	*2,96*	70	39	10
3,75	*3,57*	70	39	10
4,00	*3,22*	75	43	10
4,20	*3,57*	75	43	10
4,25	*3,57*	75	43	10
4,50	*3,57*	80	47	10
4,75	*3,99*	80	47	10
5,00	*3,83*	86	52	10
5,20	*4,75*	86	52	10
5,25	*4,48*	86	52	10

Ø mm	€	L mm	l mm	
5,50	*4,85*	93	57	10
5,75	*5,42*	93	57	10
6,00	*5,16*	93	57	10
6,25	*5,93*	101	63	10
6,50	*6,04*	101	63	10
6,75	*7,07*	109	69	10
6,80	*7,05*	109	69	10
7,00	*6,58*	109	69	10
7,50	*7,00*	109	69	10
8,00	*8,19*	117	75	10
8,50	*8,55*	117	75	10
8,75	*13,13*	125	81	10
9,00	*10,89*	125	81	10
9,50	*11,26*	125	81	10
10,00	*12,43*	133	87	5
10,20	*16,76*	133	87	5
10,50	*16,76*	133	87	5
11,00	*18,51*	142	94	5
11,50	*21,29*	142	94	5
12,00	*22,83*	151	101	5
12,50	*25,41*	151	101	5
13,00	*25,79*	151	101	5

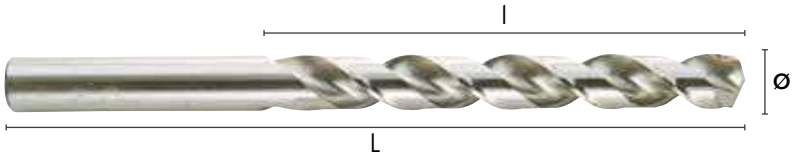
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

1106 HSSCO DIN 338 W



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
				● 8-14					○ 30-80	○ 50-70	○ 50-70			● 8-10			

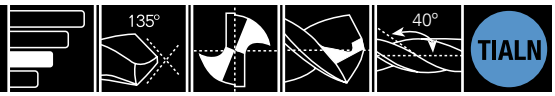
Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø mm	€	L mm	l mm	
1,00	*2,95*	34	12	10
1,25	*3,49*	38	16	10
1,50	*2,81*	40	18	10
2,00	*2,81*	49	24	10
2,25	*3,40*	53	27	10
2,50	*2,80*	57	30	10
2,75	*4,35*	61	33	10
3,00	*3,11*	61	33	10
3,10	*3,38*	65	36	10
3,20	*3,38*	65	36	10
3,25	*3,44*	65	36	10
3,30	*4,31*	65	36	10
3,50	*3,38*	70	39	10
3,75	*3,99*	70	39	10
4,00	*3,83*	75	43	10
4,10	*4,78*	75	43	10
4,20	*4,78*	75	43	10
4,25	*4,44*	75	43	10
4,50	*4,44*	80	47	10
4,75	*4,41*	80	47	10
5,00	*4,67*	86	52	10
5,10	*5,94*	86	52	10
5,20	*5,31*	86	52	10

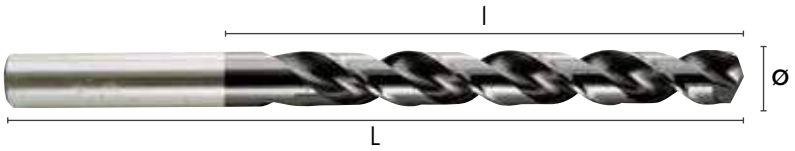
Ø mm	€	L mm	l mm	
5,25	*5,81*	86	52	10
5,50	*5,68*	93	57	10
5,75	*6,43*	93	57	10
6,00	*6,31*	93	57	10
6,25	*6,63*	101	63	10
6,50	*7,51*	101	63	10
6,75	*7,91*	109	69	10
7,00	*8,73*	109	69	10
7,25	*10,08*	109	69	10
7,50	*9,94*	109	69	10
8,00	*10,78*	117	75	10
8,25	*11,64*	117	75	10
8,50	*12,99*	117	75	10
9,00	*14,09*	125	81	10
9,50	*15,95*	125	81	10
10,00	*17,54*	133	87	5
10,25	*24,44*	133	87	5
10,50	*20,76*	133	87	5
11,00	*22,14*	142	94	5
11,50	*25,97*	142	94	5
12,00	*25,97*	151	101	5
12,50	*32,57*	151	101	5
13,00	*32,57*	151	101	5

1162 HSSCO DIN 338 W



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
				● 12-20					○ 45-100		○ 75-95			● 12-15			

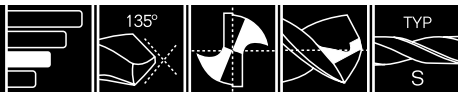
Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø mm	€	L mm	l mm	
1,00	*5,61*	34	12	1
1,25	*6,65*	38	16	1
1,50	*5,34*	40	18	1
2,00	*5,34*	49	24	1
2,25	*6,47*	53	27	1
2,50	*5,32*	57	30	1
2,75	*8,28*	61	33	1
3,00	*5,93*	61	33	1
3,10	*6,44*	65	36	1
3,20	*6,44*	65	36	1
3,25	*6,55*	65	36	1
3,30	*8,17*	65	36	1
3,50	*6,45*	70	39	1
3,75	*7,61*	70	39	1
4,00	*7,30*	75	43	1
4,10	*9,07*	75	43	1
4,20	*9,07*	75	43	1
4,25	*8,47*	75	43	1
4,50	*8,47*	80	47	1
4,75	*8,39*	80	47	1
5,00	*8,89*	86	52	1
5,10	*11,31*	86	52	1
5,20	*10,11*	86	52	1

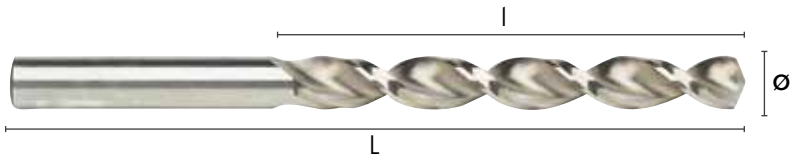
Ø mm	€	L mm	l mm	
5,25	*11,07*	86	52	1
5,50	*10,83*	93	57	1
5,75	*12,24*	93	57	1
6,00	*12,02*	93	57	1
6,25	*12,60*	101	63	1
6,50	*14,32*	101	63	1
6,75	*15,04*	109	69	1
7,00	*16,61*	109	69	1
7,25	*19,19*	109	69	1
7,50	*18,94*	109	69	1
8,00	*20,55*	117	75	1
8,25	*22,18*	117	75	1
8,50	*24,75*	117	75	1
9,00	*26,84*	125	81	1
9,50	*30,38*	125	81	1
10,00	*33,38*	133	87	1
10,25	*46,54*	133	87	1
10,50	*39,53*	133	87	1
11,00	*42,18*	142	94	1
11,50	*49,46*	142	94	1
12,00	*49,46*	151	101	1
12,50	*62,01*	151	101	1
13,00	*62,01*	151	101	1

1159 HSSCO DIN 338 S



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	● 12-20	● 6-16		○ 8-14					● 30-80		● 50-70						

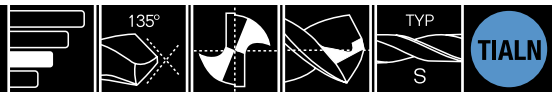
Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø mm	€	L mm	l mm	
2,00	*3,76*	49	24	10
2,10	*3,61*	49	24	10
2,20	*3,61*	53	27	10
2,30	*3,61*	53	27	10
2,40	*3,61*	57	30	10
2,50	*3,76*	57	30	10
2,60	*3,89*	57	30	10
2,70	*3,89*	61	33	10
2,80	*4,11*	61	33	10
2,90	*4,11*	61	33	10
3,00	*4,11*	61	33	10
3,10	*4,19*	65	36	10
3,20	*4,19*	65	36	10
3,30	*4,19*	65	36	10
3,40	*4,19*	70	39	10
3,50	*4,68*	70	39	10
3,60	*4,58*	70	39	10
3,70	*4,58*	70	39	10
3,80	*5,29*	75	43	10
3,90	*5,29*	75	43	10
4,00	*5,12*	75	43	10
4,10	*5,29*	75	43	10
4,20	*5,29*	75	43	10
4,30	*5,41*	80	47	10
4,40	*5,41*	80	47	10
4,50	*5,46*	80	47	10
4,60	*5,83*	80	47	10
4,70	*5,83*	80	47	10
4,80	*6,01*	86	52	10
4,90	*6,01*	86	52	10
5,00	*5,78*	86	52	10
5,10	*6,53*	86	52	10
5,20	*6,83*	86	52	10
5,30	*6,83*	86	52	10
5,40	*6,83*	93	57	10
5,50	*7,74*	93	57	10
5,60	*8,17*	93	57	10
5,70	*9,10*	93	57	10
5,80	*8,17*	93	57	10
5,90	*8,17*	93	57	10

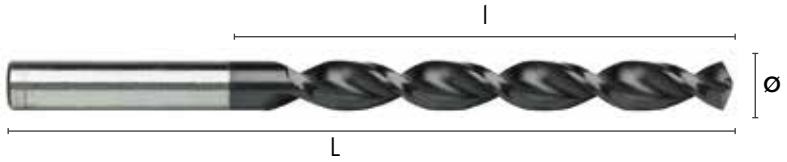
Ø mm	€	L mm	l mm	
6,00	*8,15*	93	57	10
6,10	*9,05*	101	63	10
6,20	*9,05*	101	63	10
6,30	*9,10*	101	63	10
6,40	*9,10*	101	63	10
6,50	*9,10*	101	63	10
6,60	*10,42*	101	63	10
6,70	*10,42*	101	63	10
6,80	*10,42*	109	69	10
6,90	*10,42*	109	69	10
7,00	*10,42*	109	69	10
7,10	*12,63*	109	69	10
7,20	*12,63*	109	69	10
7,30	*12,63*	109	69	10
7,40	*12,63*	109	69	10
7,50	*11,29*	109	69	10
7,60	*17,24*	117	75	10
7,70	*17,24*	117	75	10
7,80	*17,24*	117	75	10
7,90	*17,24*	117	75	10
8,00	*13,31*	117	75	10
8,10	*17,24*	117	75	10
8,20	*15,09*	117	75	10
8,30	*16,21*	117	75	10
8,40	*16,21*	117	75	10
8,50	*14,66*	117	75	10
8,60	*18,59*	125	81	10
8,70	*18,59*	125	81	10
8,80	*18,59*	125	81	10
8,90	*18,59*	125	81	10
9,00	*17,24*	125	81	10
9,50	*18,57*	125	81	10
9,80	*23,30*	133	87	10
10,00	*21,18*	133	87	5
10,50	*26,06*	133	87	5
11,00	*32,26*	142	94	5
11,50	*39,13*	142	94	5
12,00	*40,37*	151	101	5
12,50	*44,05*	151	101	5
13,00	*44,05*	151	101	5

1160 HSSCO DIN 338 S



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
●	●	●		○					●		●						
25-45	18-30	10-25		12-20					45-100		70-90						

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



Ø mm	€	L mm	l mm	
2,00	5,27	49	24	1
2,10	5,07	49	24	1
2,20	5,07	53	27	1
2,30	5,07	53	27	1
2,40	5,07	57	30	1
2,50	5,27	57	30	1
2,60	5,43	57	30	1
2,70	5,43	61	33	1
2,80	5,75	61	33	1
2,90	5,75	61	33	1
3,00	5,75	61	33	1
3,10	5,88	65	36	1
3,20	5,88	65	36	1
3,30	5,88	65	36	1
3,40	5,88	70	39	1
3,50	6,54	70	39	1
3,60	6,42	70	39	1
3,70	6,42	70	39	1
3,80	7,41	75	43	1
3,90	7,41	75	43	1
4,00	7,16	75	43	1
4,10	7,41	75	43	1
4,20	7,41	75	43	1
4,30	7,57	80	47	1
4,40	7,66	80	47	1
4,50	7,66	80	47	1
4,60	8,16	80	47	1
4,70	8,16	80	47	1
4,80	8,42	86	52	1
4,90	8,42	86	52	1
5,00	8,08	86	52	1
5,10	9,14	86	52	1
5,20	9,58	86	52	1
5,30	9,58	86	52	1
5,40	9,58	93	57	1
5,50	10,84	93	57	1
5,60	11,46	93	57	1
5,70	12,73	93	57	1
5,80	11,46	93	57	1
5,90	11,46	93	57	1

Ø mm	€	L mm	l mm	
6,00	11,41	93	57	1
6,10	12,66	101	63	1
6,20	12,66	101	63	1
6,30	12,73	101	63	1
6,40	12,73	101	63	1
6,50	12,73	101	63	1
6,60	14,59	101	63	1
6,70	14,59	101	63	1
6,80	14,59	109	69	1
6,90	14,59	109	69	1
7,00	14,30	109	69	1
7,10	17,68	109	69	1
7,20	17,68	109	69	1
7,30	17,68	109	69	1
7,40	17,68	109	69	1
7,50	15,80	109	69	1
7,60	24,15	117	75	1
7,70	24,15	117	75	1
7,80	24,15	117	75	1
7,90	24,15	117	75	1
8,00	18,64	117	75	1
8,10	24,15	117	75	1
8,20	21,12	117	75	1
8,30	24,15	117	75	1
8,40	24,15	117	75	1
8,50	20,51	117	75	1
8,60	26,04	125	81	1
8,70	26,04	125	81	1
8,80	26,04	125	81	1
8,90	26,04	125	81	1
9,00	24,15	125	81	1
9,50	26,00	125	81	1
9,80	32,63	133	87	1
10,00	29,64	133	87	1
10,50	36,49	133	87	1
11,00	45,15	142	94	1
11,50	54,79	142	94	1
12,00	56,50	151	101	1
12,50	58,55	151	101	1
13,00	61,68	151	101	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

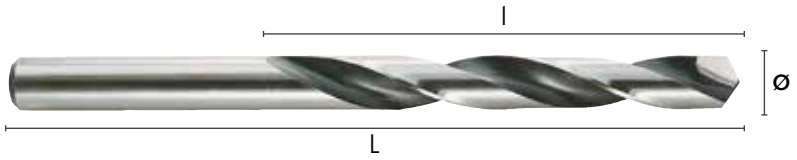
Hepyc CUTTING TOOL EXPERTS

1110 HSS DIN 338 N - WIDIA



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
● 25-45	● 18-30	● 10-25	○ 6-9				● 30-40	● 15-20				○ 30-35					

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

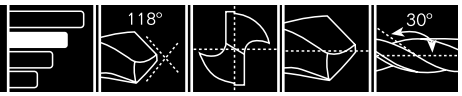


Ø mm	€	L mm	l mm	
1,50	*27,05*	40	18	1
2,00	*20,55*	49	24	1
2,50	*20,55*	57	30	1
3,00	*20,55*	61	33	1
3,50	*20,55*	70	39	1
4,00	*20,55*	75	43	1
4,50	*21,01*	80	47	1
5,00	*21,01*	86	52	1
5,50	*22,22*	93	57	1
6,00	*23,30*	93	57	1
6,50	*27,65*	101	63	1
7,00	*27,65*	109	69	1
7,50	*28,75*	109	69	1
8,00	*28,75*	117	75	1
8,50	*31,46*	117	75	1

Ø mm	€	L mm	l mm	
9,00	*31,46*	125	81	1
9,50	*34,39*	125	81	1
10,00	*34,39*	133	87	1
10,50	*44,32*	133	87	1
11,00	*44,32*	142	97	1
12,00	*51,00*	151	101	1
13,00	*60,93*	151	101	1
14,00	*71,00*	160	108	1
15,00	*80,86*	169	114	1
16,00	*93,10*	178	120	1
17,00	*101,93*	184	125	1
18,00	*109,75*	191	130	1
19,00	*136,30*	198	135	1
20,00	*155,16*	205	140	1

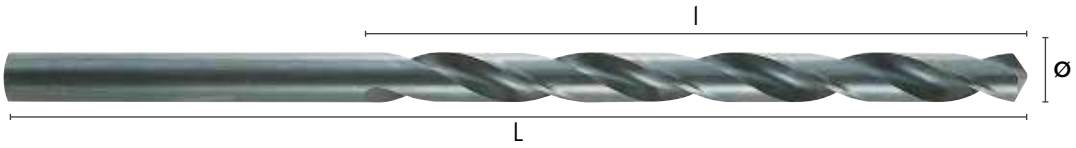
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

1112 HSS DIN 340 N



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
● 15-35						● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

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



Ø mm	€	L mm	l mm	
1,00	*3,23*	56	33	10
1,10	*3,91*	60	37	10
1,20	*3,91*	65	41	10
1,25	*3,55*	65	41	10
1,30	*3,91*	65	41	10
1,40	*3,91*	70	45	10
1,50	*3,23*	70	45	10
1,60	*3,32*	76	50	10
1,70	*3,03*	76	50	10
1,75	*3,03*	80	53	10
1,80	*3,32*	80	53	10
1,90	*3,32*	80	53	10
2,00	*2,77*	85	56	10
2,10	*3,32*	85	56	10
2,20	*3,32*	85	56	10
2,25	*3,03*	90	59	10
2,30	*3,32*	90	59	10
2,40	*3,32*	95	62	10
2,50	*2,77*	95	62	10
2,60	*3,32*	100	66	10
2,70	*3,32*	100	66	10
2,75	*3,03*	100	66	10
2,80	*3,32*	100	66	10
2,90	*3,32*	100	66	10
3,00	*2,51*	100	66	10
3,10	*3,96*	106	69	10
3,20	*3,96*	106	69	10
3,25	*3,60*	106	69	10
3,30	*3,96*	106	69	10
3,40	*3,96*	112	73	10
3,50	*3,27*	112	73	10
3,60	*3,96*	112	73	10
3,70	*3,96*	112	73	10
3,75	*3,60*	112	73	10
3,80	*3,96*	119	78	10
3,90	*3,96*	119	78	10
4,00	*3,06*	119	78	10
4,10	*5,06*	119	78	10
4,20	*5,06*	119	78	10
4,25	*4,61*	119	78	10
4,30	*5,06*	126	82	10
4,40	*5,06*	126	82	10
4,50	*4,26*	126	82	10
4,60	*5,06*	126	82	10
4,70	*5,06*	126	82	10
4,75	*4,61*	126	82	10
4,80	*5,06*	132	87	10
4,90	*5,06*	132	87	10
5,00	*3,94*	132	87	10
5,10	*6,03*	132	87	10
5,20	*6,03*	132	87	10

Ø mm	€	L mm	l mm	
5,25	*5,48*	132	87	10
5,30	*6,03*	132	87	10
5,40	*6,03*	139	91	10
5,50	*4,95*	139	91	10
5,60	*6,03*	139	91	10
5,70	*6,03*	139	91	10
5,75	*5,48*	139	91	10
5,80	*6,03*	139	91	10
5,90	*6,03*	139	91	10
6,00	*4,85*	139	91	10
6,10	*7,65*	148	97	10
6,20	*7,65*	148	97	10
6,25	*6,95*	148	97	10
6,30	*7,65*	148	97	10
6,40	*8,34*	148	97	10
6,50	*6,33*	148	97	10
6,60	*7,65*	148	97	10
6,70	*7,65*	148	97	10
6,75	*6,95*	156	102	10
6,80	*8,84*	156	102	10
6,90	*8,84*	156	102	10
7,00	*6,33*	156	102	10
7,10	*9,35*	156	102	10
7,20	*9,35*	156	102	10
7,25	*8,52*	156	102	10
7,30	*9,35*	156	102	10
7,40	*9,35*	156	102	10
7,50	*7,73*	156	102	10
7,60	*9,35*	165	109	10
7,70	*9,35*	165	109	10
7,75	*8,52*	165	109	10
7,80	*9,35*	165	109	10
7,90	*9,35*	165	109	10
8,00	*7,73*	165	109	10
8,10	*11,53*	165	109	10
8,20	*11,53*	165	109	10
8,25	*10,48*	165	109	10
8,30	*11,53*	165	109	10
8,40	*11,53*	165	109	10
8,50	*9,51*	165	109	10
8,75	*10,48*	175	115	10
8,80	*11,53*	175	115	10
8,90	*12,02*	175	115	10
9,00	*9,51*	175	115	10
9,25	*12,18*	175	115	10
9,30	*13,43*	175	115	10
9,40	*13,43*	175	115	10
9,50	*11,11*	175	115	10
9,70	*13,43*	184	121	10
9,75	*12,18*	184	121	10
9,90	*13,43*	184	121	10

(continúa Ref.1112 / suite Réf.1112 / Ref.1112 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

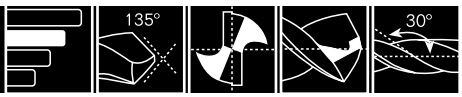
BROCAS CON MANGO CILÍNDRICO
FORETS À QUEUE CYLINDRIQUE / STRAIGHT SHANK DRILL-BITS

(continúa Ref.1112 / suite Réf.1112 / Ref.1112 cont'd)

Ø mm	€	L mm	l mm	
10,00	*11,11*	184	121	5
10,25	*16,66*	184	121	5
10,30	*23,71*	184	121	5
10,40	*18,34*	184	121	5
10,50	*15,17*	184	121	5
10,75	*16,66*	195	128	5
11,00	*15,17*	195	128	5
11,10	*21,74*	195	128	5
11,20	*21,74*	195	128	5
11,25	*19,77*	195	128	5
11,50	*17,98*	195	128	5
11,75	*19,77*	195	128	5
12,00	*17,98*	205	134	5
12,25	*23,78*	205	134	5
12,50	*21,61*	205	134	5
12,75	*23,78*	205	134	5
13,00	*21,61*	205	134	5

Ø mm	€	L mm	l mm	
13,25	*29,70*	214	140	1
13,50	*27,00*	214	140	1
13,75	*29,70*	214	140	1
14,00	*27,00*	214	140	1
14,50	*30,08*	220	144	1
15,00	*30,08*	220	144	1
15,50	*32,87*	227	149	1
16,00	*32,87*	227	149	1
16,50	*45,11*	235	154	1
17,00	*45,11*	235	154	1
17,50	*49,77*	241	158	1
18,00	*49,77*	241	158	1
18,50	*56,68*	247	162	1
19,00	*56,68*	247	162	1
19,50	*61,26*	254	166	1
20,00	*61,26*	254	166	1

1113 HSSCO DIN 340 N



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
● 15-35	● 12-20	● 6-16		○ 8-14		● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

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

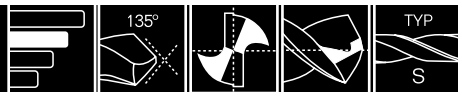


Ø mm	€	L mm	l mm	
2,00	*6,58*	85	56	10
2,50	*6,58*	95	62	10
3,00	*6,58*	100	66	10
3,25	*11,47*	106	69	10
3,50	*7,81*	112	73	10
3,75	*7,81*	112	73	10
4,00	*7,81*	119	78	10
4,25	*9,07*	119	78	10
4,50	*10,01*	126	82	10
4,75	*12,43*	126	82	10
5,00	*10,01*	132	87	10
5,25	*21,81*	132	87	10
5,50	*10,96*	139	91	10
5,75	*14,82*	139	91	10
6,00	*10,96*	139	91	10

Ø mm	€	L mm	l mm	
6,50	*13,91*	148	97	10
7,00	*15,12*	156	102	10
7,50	*18,51*	156	102	10
8,00	*17,00*	165	109	10
8,50	*21,01*	165	109	10
9,00	*21,01*	175	115	10
9,50	*24,45*	175	115	10
10,00	*32,95*	184	121	5
10,50	*41,48*	184	121	5
11,00	*43,05*	195	128	5
11,50	*55,83*	195	128	5
12,00	*46,25*	205	134	5
12,50	*59,01*	205	134	5
13,00	*59,01*	204	134	5

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

1114 HSSCO DIN 340 S



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	● 12-20	● 6-16		○ 8-14					● 30-80		● 50-70						

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



Ø mm	€	L mm	l mm	
2,00	*9,10*	85	56	1
2,10	*8,45*	85	56	1
2,30	*8,78*	90	59	1
2,50	*9,10*	95	62	1
2,70	*9,26*	100	66	1
3,00	*9,44*	100	66	1
3,10	*10,84*	106	69	1
3,20	*10,84*	106	69	1
3,30	*10,84*	106	69	1
3,50	*10,50*	112	73	1
3,60	*11,45*	112	73	1
3,70	*11,72*	112	73	1
4,00	*10,42*	119	78	1
4,10	*13,47*	119	78	1
4,20	*13,47*	119	78	1
4,30	*15,14*	126	82	1
4,50	*12,06*	126	82	1
4,70	*14,98*	126	82	1
4,80	*15,67*	132	87	1
5,00	*12,97*	132	87	1
5,10	*16,29*	132	87	1
5,20	*16,26*	132	87	1
5,50	*15,03*	139	91	1

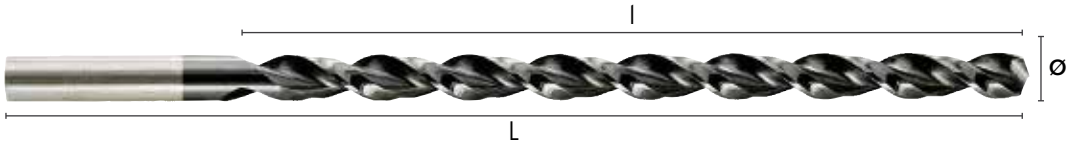
Ø mm	€	L mm	l mm	
5,60	*19,28*	139	91	1
5,80	*19,75*	139	91	1
6,00	*15,99*	139	91	1
6,20	*24,44*	148	97	1
6,50	*19,83*	148	97	1
6,80	*31,10*	156	102	1
7,00	*24,49*	156	102	1
7,20	*30,66*	156	102	1
7,50	*28,16*	156	102	1
8,00	*28,16*	165	109	1
8,20	*33,33*	165	109	1
8,50	*32,79*	165	109	1
8,80	*35,55*	175	115	1
9,00	*34,18*	175	115	1
9,50	*44,75*	175	115	1
9,80	*61,32*	184	121	1
10,00	*45,73*	184	121	1
10,50	*71,12*	184	121	1
11,00	*53,54*	195	128	1
11,50	*99,39*	195	128	1
12,00	*73,85*	195	128	1
13,00	*92,01*	195	128	1

1164 HSSCO DIN 340 S

TIALN

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
● 25-45	● 18-30	● 10-25		○ 12-20					● 45-100		● 70-90						

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

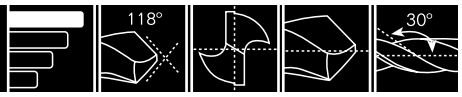


Ø mm	€	L mm	l mm	
2,00	*11,74*	85	56	1
2,10	*10,89*	85	56	1
2,30	*11,31*	90	59	1
2,50	*11,74*	95	62	1
2,70	*11,93*	100	66	1
3,00	*12,14*	100	66	1
3,10	*13,96*	106	69	1
3,20	*13,96*	106	69	1
3,30	*13,96*	106	69	1
3,50	*13,53*	112	73	1
3,60	*14,74*	112	73	1
3,70	*15,09*	112	73	1
4,00	*13,41*	119	78	1
4,10	*17,37*	119	78	1
4,20	*17,37*	119	78	1
4,30	*19,50*	126	82	1
4,50	*15,54*	126	82	1
4,70	*19,30*	126	82	1
4,80	*20,19*	132	87	1
5,00	*16,69*	132	87	1
5,10	*20,97*	132	87	1
5,20	*20,94*	132	87	1
5,50	*19,35*	139	91	1

Ø mm	€	L mm	l mm	
5,60	*24,86*	139	91	1
5,80	*25,43*	139	91	1
6,00	*20,60*	139	91	1
6,20	*31,48*	148	97	1
6,50	*25,54*	148	97	1
6,80	*40,07*	156	102	1
7,00	*31,53*	156	102	1
7,20	*39,49*	156	102	1
7,50	*36,27*	156	102	1
8,00	*36,27*	165	109	1
8,20	*42,93*	165	109	1
8,50	*42,22*	165	109	1
8,80	*45,80*	175	115	1
9,00	*44,01*	175	115	1
9,50	*57,65*	175	115	1
9,80	*78,98*	184	121	1
10,00	*58,90*	184	121	1
10,50	*91,60*	184	121	1
11,00	*68,96*	195	128	1
11,50	*128,03*	195	128	1
12,00	*95,12*	195	128	1
13,00	*118,51*	195	128	1

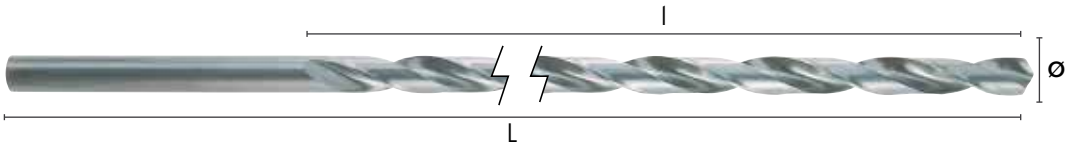
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

1115 HSS DIN 1869 N



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
● 15-35						● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

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

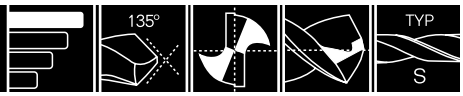


Ø mm	€	L mm	l mm	
2,00	*12,02*	125	85	1
2,50	*12,56*	140	95	1
3,00	*12,98*	150	100	1
3,00	*13,88*	190	130	1
3,50	*14,65*	165	115	1
3,50	*16,88*	210	145	1
3,50	*24,17*	265	180	1
4,00	*14,65*	175	120	1
4,00	*17,29*	220	150	1
4,00	*24,63*	280	190	1
4,50	*16,23*	185	125	1
4,50	*20,29*	235	160	1
4,50	*29,02*	295	200	1
5,00	*17,17*	195	135	1
5,00	*21,80*	245	170	1
5,00	*26,82*	315	210	1
5,50	*20,34*	205	140	1
5,50	*29,02*	260	180	1
5,50	*33,53*	330	235	1
6,00	*20,34*	205	140	1
6,00	*29,02*	260	180	1
6,00	*33,53*	330	225	1
6,50	*24,17*	215	150	1
6,50	*31,23*	275	190	1
6,50	*38,92*	350	235	1
7,00	*25,62*	225	155	1
7,00	*35,67*	290	210	1
7,00	*48,20*	370	250	1
7,50	*28,85*	225	155	1
7,50	*38,42*	290	200	1
7,50	*56,00*	370	250	1
8,00	*31,88*	240	165	1

Ø mm	€	L mm	l mm	
8,00	*44,13*	305	210	1
8,00	*57,47*	390	265	1
8,50	*43,37*	240	165	1
8,50	*59,10*	305	210	1
8,50	*81,28*	390	265	1
9,00	*41,36*	250	175	1
9,00	*54,61*	320	220	1
9,00	*80,17*	410	280	1
9,50	*48,69*	250	175	1
9,50	*66,93*	320	220	1
9,50	*90,16*	410	280	1
10,00	*48,06*	265	185	1
10,00	*62,86*	340	235	1
10,00	*87,35*	430	295	1
10,50	*91,59*	265	145	1
10,50	*99,26*	340	250	1
10,50	*105,57*	430	295	1
11,00	*60,85*	280	195	1
11,00	*89,12*	365	250	1
11,00	*104,34*	455	310	1
11,50	*85,29*	280	195	1
11,50	*114,50*	365	250	1
11,50	*118,30*	455	310	1
12,00	*80,35*	295	205	1
12,00	*100,55*	375	260	1
12,00	*122,83*	480	315	1
12,50	*99,26*	295	205	1
12,50	*111,15*	375	260	1
12,50	*134,93*	480	315	1
13,00	*99,26*	295	205	1
13,00	*114,52*	375	260	1
13,00	*136,21*	480	315	1

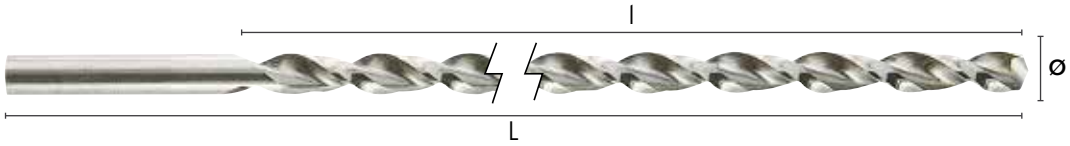
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

1165 HSSCO DIN 1869 S



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	● 12-20			○ 8-14					● 30-80		● 50-70						

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

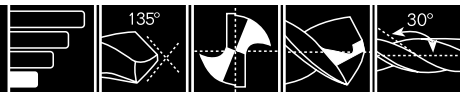


Ø mm	€	L mm	l mm	
2,00	*18,07*	125	85	1
2,50	*19,71*	140	95	1
3,00	*19,71*	150	100	1
3,00	*23,01*	190	130	1
3,00	*36,15*	240	160	1
3,50	*21,36*	165	115	1
3,50	*24,64*	210	145	1
3,50	*32,87*	265	180	1
4,00	*23,01*	175	120	1
4,00	*27,94*	220	150	1
4,00	*32,87*	180	190	1
4,50	*24,64*	185	125	1
4,50	*31,23*	235	160	1
4,50	*36,15*	295	200	1
5,00	*26,29*	195	135	1
5,00	*32,87*	245	170	1
5,00	*39,44*	315	210	1
5,50	*29,58*	205	140	1
5,50	*37,78*	260	180	1
5,50	*44,37*	330	225	1
6,00	*27,94*	205	140	1
6,00	*34,51*	260	180	1
6,00	*42,74*	330	225	1
6,50	*31,23*	215	150	1
6,50	*39,44*	275	190	1
6,50	*52,57*	350	235	1
7,00	*36,15*	225	155	1
7,00	*42,74*	290	200	1
7,00	*57,52*	370	250	1
7,50	*39,44*	225	155	1

Ø mm	€	L mm	l mm	
7,50	*47,65*	290	200	1
7,50	*62,44*	370	250	1
8,00	*44,37*	240	165	1
8,00	*52,57*	305	210	1
8,00	*75,60*	390	265	1
8,50	*46,01*	240	165	1
8,50	*55,86*	305	210	1
8,50	*78,88*	390	265	1
9,00	*54,22*	250	175	1
9,00	*65,73*	320	220	1
9,00	*92,03*	410	280	1
9,50	*55,86*	250	175	1
9,50	*65,73*	320	220	1
9,50	*96,96*	410	280	1
10,00	*62,44*	265	185	1
10,00	*87,09*	340	235	1
10,00	*106,80*	430	295	1
10,50	*65,73*	265	185	1
10,50	*92,03*	340	235	1
10,50	*110,10*	430	295	1
11,00	*72,29*	280	195	1
11,00	*100,23*	365	250	1
11,00	*123,24*	455	310	1
11,50	*82,16*	280	195	1
11,50	*113,38*	365	250	1
11,50	*138,03*	455	310	1
12,00	*90,37*	275	205	1
12,00	*123,24*	375	260	1
12,00	*152,82*	480	330	1

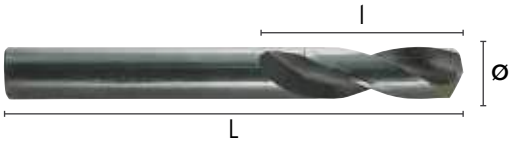
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

1116 HSS DIN 1897 N



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
● 15-35						● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

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

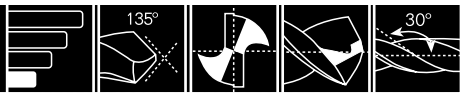


Ø mm	€	L mm	l mm	
1,00	*1,23*	26	6	10
1,10	*2,72*	28	7	10
1,20	*3,14*	30	8	10
1,25	*1,11*	30	8	10
1,30	*3,61*	30	8	10
1,40	*4,14*	32	9	10
1,50	*1,08*	32	9	10
1,60	*2,46*	34	10	10
1,70	*2,85*	34	10	10
1,75	*1,08*	36	11	10
1,80	*2,85*	36	11	10
1,90	*2,85*	36	11	10
2,00	*1,08*	38	12	10
2,10	*1,32*	38	12	10
2,20	*1,32*	40	13	10
2,25	*1,08*	40	13	10
2,30	*1,32*	40	13	10
2,40	*1,32*	43	14	10
2,50	*1,08*	43	14	10
2,60	*1,79*	43	14	10
2,70	*1,23*	46	16	10
2,75	*1,12*	46	16	10
2,80	*1,35*	46	16	10
2,90	*1,35*	46	16	10
3,00	*1,12*	46	16	10
3,10	*1,46*	49	18	10
3,20	*1,46*	49	18	10
3,25	*1,22*	49	18	10
3,30	*1,39*	49	18	10
3,40	*1,46*	52	20	10
3,50	*1,22*	52	20	10
3,60	*1,62*	52	20	10
3,70	*1,62*	52	20	10
3,75	*1,31*	52	20	10
3,80	*1,62*	55	22	10
3,90	*1,62*	55	22	10
4,00	*1,31*	55	22	10
4,10	*1,90*	55	22	10
4,20	*1,90*	55	22	10
4,25	*1,59*	55	22	10
4,30	*1,90*	58	24	10
4,40	*1,90*	58	24	10
4,50	*1,59*	58	24	10
4,60	*2,16*	58	24	10
4,70	*2,16*	58	24	10
4,75	*1,77*	58	24	10
4,80	*2,16*	62	26	10
4,90	*2,16*	62	26	10
5,00	*1,77*	62	26	10

Ø mm	€	L mm	l mm	
5,10	*2,38*	62	26	10
5,20	*2,38*	62	26	10
5,25	*1,95*	62	26	10
5,30	*2,39*	62	26	10
5,40	*2,39*	66	28	10
5,50	*1,95*	66	28	10
5,60	*2,58*	66	28	10
5,70	*3,87*	66	28	10
5,75	*2,24*	66	28	10
5,80	*2,58*	66	28	10
5,90	*2,72*	66	28	10
6,00	*2,24*	66	28	10
6,10	*3,22*	70	31	10
6,20	*3,22*	70	31	10
6,25	*2,67*	70	31	10
6,30	*3,22*	70	31	10
6,40	*3,22*	70	31	10
6,50	*2,67*	70	31	10
6,60	*3,74*	70	31	10
6,70	*3,74*	70	31	10
6,75	*3,08*	74	34	10
6,80	*3,74*	74	34	10
6,90	*3,74*	74	34	10
7,00	*3,08*	74	34	10
7,25	*3,49*	74	34	10
7,50	*3,49*	74	34	10
7,75	*3,83*	79	37	10
8,00	*3,83*	79	37	10
8,25	*4,58*	79	37	10
8,50	*4,58*	79	37	10
8,75	*5,06*	84	40	10
9,00	*5,00*	84	40	10
9,25	*5,32*	84	40	10
9,50	*5,59*	84	40	10
9,75	*6,25*	89	43	10
10,00	*6,25*	89	43	5
10,50	*7,02*	89	43	5
11,00	*7,84*	95	47	5
11,50	*8,72*	95	47	5
12,00	*9,19*	102	51	5
13,00	*11,31*	102	51	5
14,00	*15,57*	107	54	4
15,00	*20,28*	111	56	4
16,00	*24,44*	115	58	1
17,00	*28,73*	119	60	1
18,00	*32,00*	123	62	1
19,00	*35,67*	127	64	1
20,00	*42,77*	131	66	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

1117 HSS DIN 1897 N



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
● 15-35						● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

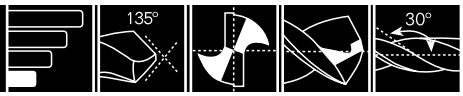
Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø mm	€	L mm	l mm	
2,00	*2,35*	38	9	10
2,25	*2,35*	40	9	10
2,50	*2,35*	43	10	10
2,75	*2,35*	46	10	10
3,00	*2,04*	46	10	10
3,25	*2,04*	49	10	10
3,30	*2,04*	49	10	10
3,50	*2,27*	52	13	10
3,75	*2,60*	52	13	10
4,00	*2,34*	55	13	10
4,10	*2,52*	55	13	10
4,20	*2,52*	55	13	10

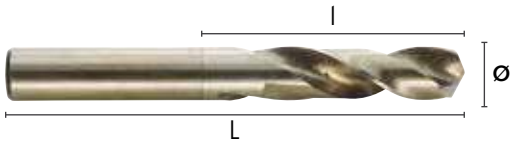
Ø mm	€	L mm	l mm	
4,25	*2,52*	55	13	10
4,50	*2,60*	58	13	10
4,75	*4,21*	58	13	10
4,80	*2,87*	58	13	10
5,00	*2,98*	62	13	10
5,25	*4,21*	62	13	10
5,50	*3,59*	66	16	10
5,75	*4,97*	66	16	10
6,00	*4,02*	66	16	10
7,00	*5,31*	74	19	10
8,00	*6,51*	79	19	10

1118 HSSCO DIN 1897 N



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
● 15-35	● 12-20	● 6-16		○ 8-14		● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

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

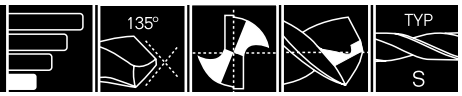


Ø mm	€	L mm	l mm	
2,00	*1,42*	38	12	10
2,20	*2,48*	40	13	10
2,25	*1,94*	40	13	10
2,50	*2,03*	43	14	10
2,70	*3,42*	46	16	10
2,75	*2,14*	46	16	10
3,00	*2,14*	46	16	10
3,20	*2,71*	49	18	10
3,25	*2,10*	49	18	10
3,30	*2,80*	49	18	10
3,50	*2,27*	52	20	10
3,75	*2,38*	52	20	10
4,00	*2,50*	55	22	10
4,10	*4,56*	55	22	10
4,20	*3,45*	55	22	10
4,25	*2,71*	55	22	10
4,50	*2,88*	58	24	10
4,75	*2,98*	58	24	10
4,90	*3,61*	62	26	10
5,00	*3,22*	62	26	10
5,10	*4,03*	62	26	10

Ø mm	€	L mm	l mm	
5,20	*3,92*	62	26	10
5,25	*3,07*	62	26	10
5,50	*3,36*	66	28	10
5,75	*3,48*	66	28	10
6,00	*3,62*	66	28	10
6,50	*4,14*	70	31	10
6,75	*7,07*	74	34	10
7,00	*4,64*	74	34	10
7,50	*5,89*	74	34	10
8,00	*6,54*	79	37	10
8,25	*8,33*	79	37	10
8,50	*7,07*	79	37	10
9,00	*7,84*	84	40	10
9,50	*8,46*	84	40	10
10,00	*9,39*	89	43	5
10,50	*14,12*	89	43	5
11,00	*13,04*	95	47	5
11,50	*14,63*	95	47	5
12,00	*17,96*	102	51	5
12,50	*18,84*	102	51	5
13,00	*24,62*	102	51	5

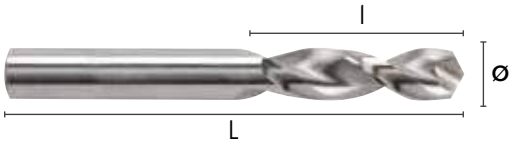
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

1166 HSSCO DIN 1897 S



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	● 12-20	● 6-16							● 30-80		● 50-70						

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



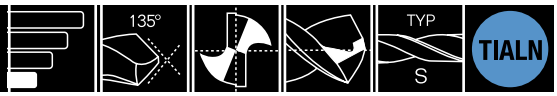
Ø mm	€	L mm	l mm	
2,00	*4,15*	38	12	10
2,50	*3,74*	43	14	10
2,80	*3,76*	46	16	10
3,00	*3,60*	46	16	10
3,10	*4,00*	49	18	10
3,20	*4,00*	49	18	10
3,30	*4,00*	49	18	10
3,40	*4,00*	52	20	10
3,50	*4,00*	52	20	10
3,60	*4,87*	52	20	10
3,70	*4,87*	52	20	10
3,80	*5,07*	55	22	10
3,90	*4,87*	55	22	10
4,00	*4,43*	55	22	10
4,10	*5,27*	55	22	10
4,20	*5,27*	55	22	10
4,30	*6,07*	58	24	10
4,40	*6,07*	58	24	10
4,50	*5,27*	58	24	10
4,60	*6,31*	58	24	10
4,70	*6,33*	58	24	10
4,80	*6,33*	62	26	10
4,90	*6,31*	62	26	10
5,00	*5,87*	62	26	10
5,10	*7,18*	62	26	10
5,20	*7,18*	62	26	10
5,30	*7,18*	62	26	10
5,40	*7,17*	66	28	10
5,50	*6,55*	66	28	10
5,60	*7,56*	66	28	10

Ø mm	€	L mm	l mm	
5,70	*7,87*	66	28	10
5,80	*7,56*	66	28	10
5,90	*7,56*	66	28	10
6,00	*7,46*	66	28	10
6,10	*9,59*	66	28	10
6,20	*9,56*	70	31	10
6,50	*8,92*	70	31	10
6,80	*12,43*	70	31	10
7,00	*10,22*	74	34	10
7,20	*12,96*	74	34	10
7,50	*13,19*	74	34	10
7,80	*13,19*	74	34	10
8,00	*12,85*	79	37	10
8,20	*11,35*	79	37	10
8,50	*15,24*	79	37	10
8,80	*22,30*	79	37	10
9,00	*16,62*	84	40	10
9,20	*18,73*	84	40	10
9,50	*18,73*	84	40	10
9,80	*20,81*	84	40	10
10,00	*20,81*	89	43	10
10,50	*22,63*	89	43	5
11,00	*25,94*	89	43	5
11,50	*28,81*	95	47	5
12,00	*30,36*	95	47	5
13,00	*37,40*	102	51	5
14,00	*48,20*	102	51	5
15,00	*53,37*	107	54	4
16,00	*61,97*	111	56	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

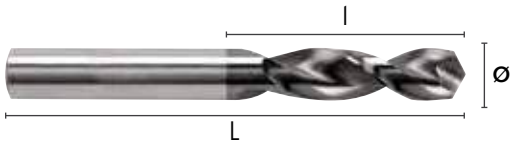
BROCAS CON MANGO CILÍNDRICO
FORETS À QUEUE CYLINDRIQUE / STRAIGHT SHANK DRILL-BITS

1167 HSSCO DIN 1897 S



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
● 25-45	● 18-30	● 10-25		○ 12-20					● 45-100		● 70-90						

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

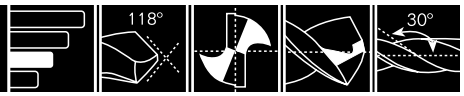


Ø mm	€	L mm	l mm	
2,00	*5,82*	38	12	1
2,50	*5,26*	43	14	1
2,80	*5,26*	46	16	1
3,00	*5,04*	46	16	1
3,10	*5,60*	49	18	1
3,20	*5,60*	49	18	1
3,30	*5,60*	49	18	1
3,40	*5,60*	52	20	1
3,50	*5,60*	52	20	1
3,60	*6,83*	52	20	1
3,70	*6,83*	52	20	1
3,80	*7,10*	55	22	1
3,90	*6,83*	55	22	1
4,00	*6,22*	55	22	1
4,10	*7,36*	55	22	1
4,20	*7,36*	55	22	1
4,30	*8,50*	58	24	1
4,40	*8,50*	58	24	1
4,50	*7,36*	58	24	1
4,60	*8,86*	58	24	1
4,70	*8,87*	58	24	1
4,80	*8,87*	62	26	1
4,90	*8,86*	62	26	1
5,00	*8,24*	62	26	1
5,10	*10,03*	62	26	1
5,20	*10,03*	62	26	1
5,30	*10,03*	62	26	1
5,40	*10,03*	66	28	1
5,50	*9,17*	66	28	1
5,60	*10,59*	66	28	1

Ø mm	€	L mm	l mm	
5,70	*11,01*	66	28	1
5,80	*10,59*	66	28	1
5,90	*10,59*	66	28	1
6,00	*10,44*	66	28	1
6,10	*13,41*	70	31	1
6,20	*13,40*	70	31	1
6,50	*12,46*	70	31	1
6,80	*17,40*	74	34	1
7,00	*14,32*	74	34	1
7,20	*18,16*	74	34	1
7,50	*18,47*	74	34	1
7,80	*18,48*	79	37	1
8,00	*17,99*	79	37	1
8,20	*15,90*	79	37	1
8,50	*21,33*	79	37	1
8,80	*31,21*	84	40	1
9,00	*23,27*	84	40	1
9,20	*26,22*	84	40	1
9,50	*26,22*	84	40	1
9,80	*29,13*	89	43	1
10,00	*29,13*	89	43	1
10,50	*31,68*	89	43	1
11,00	*36,32*	95	47	1
11,50	*40,33*	95	47	1
12,00	*42,53*	102	51	1
13,00	*52,36*	102	51	1
14,00	*67,47*	107	54	1
15,00	*74,70*	111	56	1
16,00	*86,77*	115	58	1

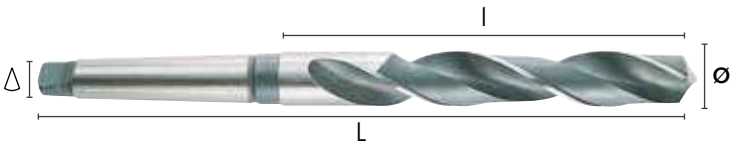
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

1121 HSS DIN 345 N



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
● 15-35						● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

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



Δ	Ø mm	€	L mm	l mm	
1	5,00	*18,12*	133	52	1
1	5,25	*20,87*	133	52	1
1	5,50	*18,12*	138	57	1
1	5,75	*20,87*	138	57	1
1	6,00	*18,12*	138	57	1
1	6,25	*23,77*	144	63	1
1	6,50	*20,64*	144	63	1
1	6,75	*23,77*	150	69	1
1	7,00	*20,64*	150	69	1
1	7,25	*25,52*	150	69	1
1	7,50	*22,20*	150	69	1
1	7,75	*25,52*	156	75	1
1	8,00	*22,20*	156	75	1
1	8,25	*29,95*	156	75	1
1	8,50	*20,03*	156	75	1
1	8,75	*29,95*	162	81	1
1	9,00	*20,03*	162	81	1
1	9,25	*30,94*	162	81	1
1	9,50	*19,78*	162	81	1
1	9,75	*30,94*	168	87	1
1	10,00	*19,78*	168	87	1
1	10,25	*31,58*	168	87	1
1	10,50	*21,12*	168	87	1
1	10,75	*31,58*	175	94	1
1	11,00	*21,12*	175	94	1
1	11,25	*33,26*	175	94	1
1	11,50	*22,26*	175	94	1
1	11,75	*33,26*	175	94	1
1	12,00	*22,26*	182	101	1
1	12,25	*37,05*	182	101	1
1	12,50	*24,77*	182	101	1
1	12,75	*37,05*	182	101	1
1	13,00	*24,77*	182	101	1
1	13,25	*40,73*	189	108	1
1	13,50	*27,24*	189	108	1
1	13,75	*40,73*	189	108	1
1	14,00	*27,24*	189	108	1
2	14,25	*44,07*	212	114	1
2	14,50	*29,49*	212	114	1
2	14,75	*44,07*	212	114	1
2	15,00	*29,49*	212	114	1
2	15,25	*45,66*	218	120	1
2	15,50	*30,51*	218	120	1
2	15,75	*45,66*	218	120	1
2	16,00	*30,51*	218	120	1
2	16,25	*51,61*	223	125	1
2	16,50	*34,52*	223	125	1
2	16,75	*51,61*	223	125	1
2	17,00	*34,52*	223	125	1
2	17,25	*57,14*	228	130	1
2	17,50	*38,20*	228	130	1

Δ	Ø mm	€	L mm	l mm	
2	17,75	*57,14*	228	130	1
2	18,00	*38,20*	228	130	1
2	18,25	*62,87*	233	135	1
2	18,50	*42,05*	233	135	1
2	18,75	*62,87*	233	135	1
2	19,00	*42,05*	233	135	1
2	19,25	*68,45*	238	140	1
2	19,50	*45,76*	238	140	1
2	19,75	*68,45*	238	140	1
2	20,00	*45,76*	238	140	1
2	20,25	*70,94*	243	145	1
2	20,50	*49,46*	243	145	1
2	20,75	*70,94*	243	145	1
2	21,00	*49,46*	243	145	1
2	21,25	*78,24*	248	150	1
2	21,50	*54,60*	248	150	1
2	21,75	*78,24*	248	150	1
2	22,00	*54,60*	248	150	1
2	22,25	*86,64*	248	150	1
2	22,50	*59,73*	253	155	1
2	22,75	*85,64*	253	155	1
2	23,00	*59,73*	253	155	1
3	23,25	*94,45*	276	155	1
3	23,50	*65,92*	276	155	1
3	23,75	*94,45*	281	160	1
3	24,00	*65,92*	281	160	1
3	24,25	*103,03*	281	160	1
3	24,50	*71,86*	281	160	1
3	24,75	*103,03*	281	160	1
3	25,00	*71,86*	281	160	1
3	25,25	*112,09*	286	165	1
3	25,50	*78,20*	286	165	1
3	25,75	*112,09*	286	165	1
3	26,00	*78,20*	286	165	1
3	26,25	*121,39*	286	165	1
3	26,50	*84,68*	286	165	1
3	26,75	*121,39*	291	170	1
3	27,00	*86,94*	291	170	1
3	27,25	*129,92*	291	170	1
3	27,50	*90,67*	291	170	1
3	27,75	*129,92*	291	170	1
3	28,00	*90,67*	291	170	1
3	28,25	*139,35*	296	175	1
3	28,50	*97,21*	296	175	1
3	28,75	*139,35*	296	175	1
3	29,00	*97,21*	296	175	1
3	29,25	*153,22*	296	175	1
3	29,50	*106,73*	296	175	1
3	29,75	*153,22*	296	175	1
3	30,00	*106,89*	296	175	1
3	30,25	*170,49*	301	180	1

(continúa Ref.1121 / suite Réf.1121 / Ref.1121 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

BROCAS CON MANGO CÓNICO
FORETS À QUEUE CONIQUE / TAPER SHANK DRILL-BITS

(continúa Ref.1121 / suite Réf.1121 / Ref.1121 cont'd)

△	Ø mm	€	L mm	l mm	
3	30,50	*148,26*	301	180	1
3	30,75	*170,49*	301	180	1
3	31,00	*118,97*	301	180	1
3	31,25	*180,57*	301	180	1
3	31,50	*148,34*	301	180	1
3	31,75	*180,57*	306	185	1
4	32,00	*125,97*	334	185	1
4	32,50	*179,30*	334	185	1
4	33,00	*143,86*	334	185	1
4	33,50	*194,96*	334	185	1
4	34,00	*156,47*	339	190	1
4	34,50	*213,08*	339	190	1
4	35,00	*171,00*	339	190	1
4	35,50	*228,65*	339	190	1
4	36,00	*183,41*	344	195	1
4	36,50	*241,02*	344	195	1
4	37,00	*193,37*	344	195	1
4	37,50	*253,52*	344	195	1
4	38,00	*203,44*	349	200	1
4	38,50	*270,33*	349	200	1
4	39,00	*216,93*	349	200	1
4	39,50	*285,48*	349	200	1
4	40,00	*229,06*	349	200	1
4	40,50	*300,14*	354	205	1
4	41,00	*240,83*	354	205	1
4	41,50	*318,53*	354	205	1
4	42,00	*255,55*	354	205	1
4	42,50	*334,05*	354	205	1
4	43,00	*268,04*	359	210	1
4	43,50	*349,77*	359	210	1
4	44,00	*280,61*	359	210	1
4	44,50	*365,17*	359	210	1
4	45,00	*291,43*	359	210	1
4	45,50	*380,61*	364	215	1
4	46,00	*305,36*	364	215	1
4	46,50	*396,10*	364	215	1
4	47,00	*317,84*	364	215	1
4	47,50	*409,42*	364	215	1
4	48,00	*328,50*	369	220	1
4	48,50	*425,13*	369	220	1
4	49,00	*341,11*	369	220	1
4	49,50	*440,61*	369	220	1

△	Ø mm	€	L mm	l mm	
4	50,00	*344,06*	369	220	1
5	51,00	*447,16*	412	225	1
5	52,00	*474,66*	412	225	1
5	53,00	*514,19*	412	225	1
5	54,00	*528,16*	417	230	1
5	55,00	*529,34*	417	230	1
5	56,00	*623,74*	417	230	1
5	57,00	*665,87*	422	235	1
5	58,00	*665,87*	422	235	1
5	59,00	*681,05*	422	235	1
5	60,00	*655,19*	422	235	1
5	61,00	*729,87*	427	240	1
5	62,00	*746,89*	427	240	1
5	63,00	*802,44*	427	240	1
5	64,00	*836,14*	432	245	1
5	65,00	*799,89*	432	245	1
5	66,00	*911,49*	432	245	1
5	67,00	*938,47*	432	245	1
5	68,00	*967,40*	437	250	1
5	69,00	*992,52*	437	250	1
5	70,00	*1.023,37*	437	250	1
5	71,00	*970,28*	437	250	1
5	72,00	*1.120,29*	442	255	1
5	73,00	*1.143,46*	442	255	1
5	74,00	*1.173,40*	442	255	1
5	75,00	*1.207,72*	442	255	1
5	76,00	*1.137,63*	447	260	1
6	77,00	*1.339,58*	514	260	1
6	78,00	*1.437,56*	514	260	1
6	79,00	*1.465,62*	514	260	1
6	80,00	*1.495,14*	514	260	1

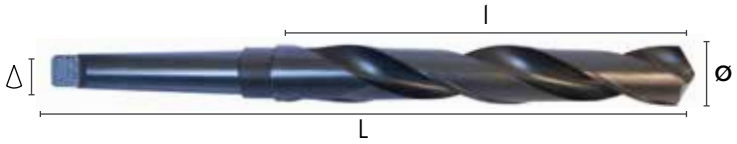
P Aceros Aciers Steels
M Aceros Inox Aciers Inox Stainless Steels
K Fundicion Fonte Cast Iron
N Metales no ferrosos Métal non Ferraux Non Ferrous metals
S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys
H Materiales Duros Materiels Durs Hard materials

1121/9 HSS DIN 345 N



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
● 15-35						● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

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



Ø mm	€	L mm	l mm	
1/2"	*24,77*	182	101	1
33/64"	*24,77*	182	101	1
17/32"	*27,24*	189	108	1
35/64"	*27,24*	189	108	1
9/16"	*29,49*	212	114	1
37/64"	*44,07*	212	114	1
19/32"	*29,49*	218	120	1
39/64"	*30,51*	218	120	1
5/8"	*30,51*	218	120	1
41/64"	*51,61*	223	125	1
21/32"	*34,52*	223	125	1
43/64"	*34,52*	223	125	1
11/16"	*38,20*	228	130	1
45/64"	*38,20*	228	130	1
23/32"	*62,87*	233	135	1
47/64"	*42,05*	233	135	1
3/4"	*42,05*	238	140	1
49/64"	*45,76*	238	140	1
25/32"	*68,45*	238	140	1
51/64"	*45,76*	243	145	1
13/16"	*49,46*	243	145	1
53/64"	*49,46*	243	145	1
27/32"	*54,60*	248	150	1
55/64"	*78,24*	248	150	1
7/8"	*54,60*	248	150	1
57/64"	*59,73*	253	155	1

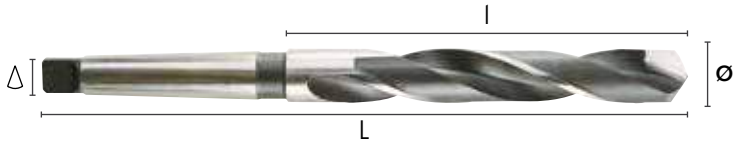
Ø mm	€	L mm	l mm	
29/32"	*59,73*	253	155	1
59/64"	*65,92*	276	155	1
15/16"	*129,92*	281	160	1
61/64"	*65,92*	281	160	1
31/32"	*54,60*	281	160	1
63/64"	*71,86*	286	160	1
1"	*79,40*	290	170	1
1-1/16"	*86,94*	291	170	1
1-1/8"	*97,21*	296	175	1
1-5/32"	*97,21*	296	175	1
1-3/16"	*106,89*	301	180	1
1-7/32"	*118,97*	301	180	1
1-1/4"	*180,57*	306	185	1
1-9/32"	*179,30*	334	185	1
1-5/16"	*143,86*	334	185	1
1-11/32"	*156,47*	339	190	1
1-3/8"	*171,00*	339	190	1
1-13/32"	*183,41*	344	195	1
1-7/16"	*241,02*	344	195	1
1-1/2"	*203,44*	349	200	1
1-9/16"	*229,06*	349	200	1
1-5/8"	*240,83*	354	205	1
1-11/16"	*268,04*	359	210	1
1-3/4"	*280,61*	359	210	1
2"	*344,06*	374	225	1

1123 HSS DIN 345 N - WIDIA



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
● 25-45	● 18-30	● 10-25	○ 6-9				● 30-40	● 15-20				○ 30-35					

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

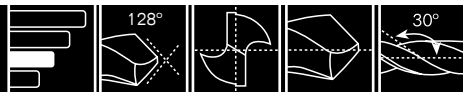


Δ	Ø mm	€	L mm	l mm	
1	10,00	*80,28*	168	87	1
1	11,00	*86,84*	175	94	1
1	12,00	*91,11*	182	101	1
1	13,00	*103,55*	182	101	1
1	14,00	*112,57*	189	108	1
1	14,50	*127,18*	212	114	1
2	15,00	*127,18*	212	114	1
2	15,50	*135,85*	218	120	1
2	16,00	*135,85*	218	120	1
2	16,50	*144,10*	223	125	1
2	17,00	*144,10*	223	125	1
2	17,50	*155,51*	228	130	1
2	18,00	*155,51*	228	130	1
2	18,50	*182,03*	233	135	1
2	19,00	*182,03*	233	135	1

Δ	Ø mm	€	L mm	l mm	
2	19,50	*204,58*	238	140	1
2	20,00	*204,04*	238	140	1
2	20,50	*207,56*	243	145	1
2	21,00	*207,56*	243	145	1
2	21,50	*226,58*	248	150	1
2	22,00	*226,58*	248	150	1
2	22,50	*246,35*	253	155	1
2	23,00	*246,35*	253	155	1
3	24,00	*270,73*	281	160	1
3	25,00	*277,19*	281	160	1
3	26,00	*311,61*	286	165	1
3	27,00	*332,27*	291	170	1
3	28,00	*367,95*	291	170	1
3	29,00	*391,69*	296	175	1
3	30,00	*416,76*	296	175	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

1122 HSSCO DIN 345 N



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
● 15-35	● 12-20	● 6-16		○ 8-14		● 25-30	● 12-16		○ 50-60	● 30-60		● 15-25					

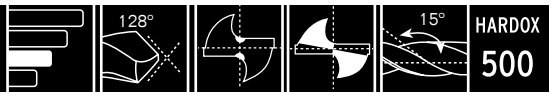
Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Δ	Ø mm	€	L mm	l mm	
1	10,00	*66,73*	168	87	1
1	10,50	*69,54*	168	87	1
1	11,00	*66,68*	175	94	1
1	11,50	*69,54*	175	94	1
1	12,00	*71,32*	182	101	1
1	12,50	*75,47*	182	101	1
1	13,00	*73,24*	182	101	1
1	13,50	*95,72*	189	108	1
1	14,00	*93,89*	189	108	1
2	14,50	*104,20*	212	114	1
2	15,00	*95,72*	212	114	1
2	15,50	*106,05*	218	120	1
2	16,00	*102,33*	218	120	1
2	16,50	*106,98*	223	125	1
2	17,00	*106,05*	223	125	1
2	17,50	*112,68*	228	130	1
2	18,00	*110,79*	228	130	1
2	18,50	*121,09*	233	135	1
2	19,00	*118,30*	233	135	1
2	19,50	*136,16*	238	140	1
2	20,00	*132,36*	238	140	1
2	20,50	*152,09*	243	145	1
2	21,00	*153,95*	243	145	1
2	21,50	*173,73*	248	150	1
2	22,00	*156,68*	248	150	1
2	22,50	*193,39*	253	155	1

Δ	Ø mm	€	L mm	l mm	
2	23,00	*182,22*	253	155	1
3	23,50	*193,39*	276	155	1
3	24,00	*195,26*	281	160	1
3	24,50	*208,45*	281	160	1
3	25,00	*206,25*	281	160	1
3	25,50	*255,45*	286	165	1
3	26,00	*242,07*	286	165	1
3	26,50	*268,50*	286	165	1
3	27,00	*268,50*	291	170	1
3	27,50	*321,07*	291	170	1
3	28,00	*297,05*	291	170	1
3	28,50	*328,61*	296	175	1
3	29,00	*303,66*	296	175	1
3	29,50	*336,14*	296	175	1
3	30,00	*310,10*	296	175	1
3	31,00	*310,09*	301	180	1
4	32,00	*355,34*	334	185	1
4	33,00	*405,85*	334	185	1
4	34,00	*482,25*	339	190	1
4	35,00	*482,25*	339	190	1
4	36,00	*517,45*	344	195	1
4	37,00	*534,81*	344	195	1
4	38,00	*595,70*	349	200	1
4	39,00	*611,84*	349	200	1
4	40,00	*646,16*	349	200	1

1181 HSSCO (8%)



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
		● 8-10	● 6-8										● 4-7		● 4-6		

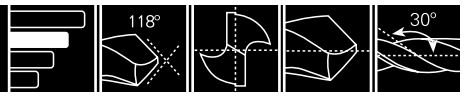
Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Δ	Ø mm	€	L mm	l mm	
2	10	*55,94*	190	90	1
2	11	*55,94*	190	90	1
2	12	*61,27*	190	90	1
2	13	*61,27*	190	90	1
2	14	*65,23*	190	90	1
2	15	*66,51*	190	90	1
2	16	*79,13*	190	90	1
2	17	*84,36*	190	90	1
2	18	*85,63*	190	90	1
3	19	*97,29*	225	105	1
3	20	*103,44*	225	105	1
3	21	*112,64*	225	105	1
3	22	*129,50*	225	105	1

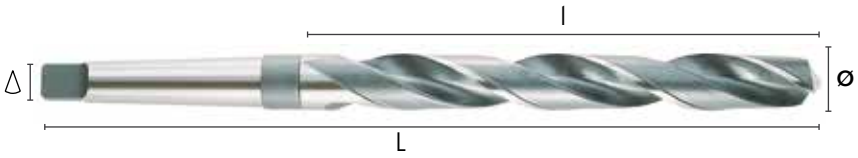
Δ	Ø mm	€	L mm	l mm	
3	24	*139,50*	225	105	1
3	25	*165,31*	225	105	1
3	26	*195,89*	225	105	1
4	27	*210,66*	265	120	1
4	28	*218,75*	265	120	1
4	30	*243,32*	265	120	1
4	32	*283,19*	265	120	1
4	35	*353,83*	265	120	1
4	36	*372,14*	265	120	1
4	40	*467,84*	265	120	1
4	45	*636,27*	265	120	1
5	50	*747,47*	340	150	1

1125 HSS DIN 341 N



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
● 15-35						● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

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



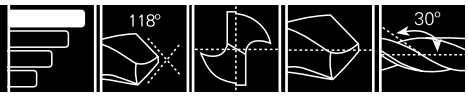
Δ	Ø mm	€	L mm	l mm	
1	*5,00	*25,25*	155	74	1
1	*5,50	*34,14*	161	80	1
1	*6,00	*26,94*	161	80	1
1	*6,50	*28,40*	167	86	1
1	*7,00	*30,02*	174	93	1
1	*7,50	*31,33*	174	93	1
1	8,00	*31,62*	181	100	1
1	8,50	*31,62*	181	100	1
1	9,00	*34,62*	188	107	1
1	9,50	*38,61*	188	107	1
1	10,00	*37,49*	197	116	1
1	10,50	*37,71*	197	116	1
1	11,00	*36,83*	206	125	1
1	11,50	*36,83*	206	125	1
1	12,00	*39,21*	215	134	1
1	12,50	*40,73*	215	134	1
1	13,00	*40,73*	215	134	1
1	13,50	*42,59*	223	142	1
1	14,00	*46,25*	223	142	1
1	14,50	*58,20*	245	147	1
2	15,00	*58,20*	245	147	1
2	15,50	*59,52*	251	153	1
2	16,00	*60,49*	251	153	1
2	16,50	*63,92*	257	159	1
2	17,00	*64,26*	257	159	1
2	17,50	*62,72*	263	165	1
2	18,00	*69,70*	263	165	1
2	18,50	*71,61*	269	171	1
2	19,00	*73,88*	269	171	1
2	19,50	*77,56*	275	177	1
2	20,00	*78,51*	275	177	1

Δ	Ø mm	€	L mm	l mm	
2	20,50	*90,00*	282	184	1
2	21,00	*87,24*	282	184	1
2	21,50	*106,20*	289	191	1
2	22,00	*101,36*	289	191	1
2	22,50	*110,47*	296	198	1
2	23,00	*105,29*	296	198	1
3	23,50	*131,00*	319	198	1
3	24,00	*129,02*	327	206	1
3	24,50	*137,01*	327	206	1
3	25,00	*131,31*	327	206	1
3	25,50	*155,70*	335	214	1
3	26,00	*146,94*	335	214	1
3	26,50	*160,60*	335	214	1
3	27,00	*156,36*	343	222	1
3	27,50	*189,18*	343	222	1
3	28,00	*171,77*	343	222	1
3	28,50	*224,72*	351	230	1
3	29,00	*183,47*	351	230	1
3	29,50	*224,72*	351	230	1
3	30,00	*206,76*	351	230	1
3	31,00	*237,05*	360	239	1
4	32,00	*245,77*	397	248	1
4	33,00	*274,94*	397	248	1
4	34,00	*320,09*	406	257	1
4	35,00	*316,93*	406	257	1
4	36,00	*367,11*	416	267	1
4	37,00	*381,42*	416	267	1
4	38,00	*408,53*	426	277	1
4	39,00	*414,89*	426	277	1
4	40,00	*448,72*	426	277	1

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

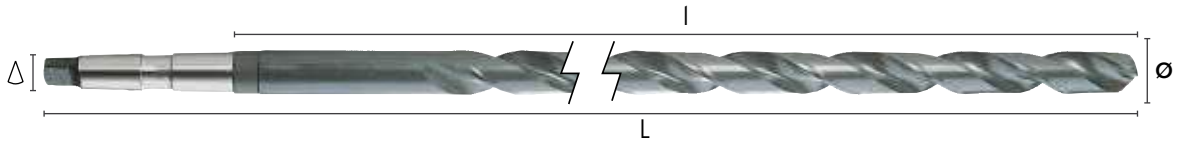
P Aceros Aciers Steels
M Aceros Inox Aciers Inox Stainless Steels
K Fundicion Fonte Cast Iron
N Metales no ferrosos Métal non Ferraux Non Ferrous metals
S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys
H Materiales Duros Materiels Durs Hard materials

1126 HSS DIN 1870 N



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
● 15-35						● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

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



Δ	Ø mm	€	L mm	l mm	
1	8,00	*79,35*	265	165	1
1	8,00	*98,91*	330	210	1
1	8,50	*87,10*	265	165	1
1	8,50	*101,08*	330	210	1
1	9,00	*89,68*	275	175	1
1	9,00	*114,03*	345	220	1
1	9,50	*96,00*	275	175	1
1	9,50	*115,22*	345	220	1
1	10,00	*98,63*	285	185	1
1	10,00	*121,61*	360	235	1
1	10,50	*104,73*	285	185	1
1	10,50	*125,36*	360	235	1
1	11,00	*109,32*	300	195	1
1	11,00	*149,49*	375	250	1
1	11,50	*119,71*	300	195	1
1	11,50	*149,49*	375	250	1
1	12,00	*122,50*	310	205	1
1	12,00	*152,65*	395	260	1
1	12,50	*130,38*	310	205	1
1	12,50	*170,39*	395	260	1
1	13,00	*130,38*	310	205	1
1	13,00	*170,39*	395	260	1
1	13,50	*142,76*	325	220	1
1	13,50	*174,98*	410	275	1
1	14,00	*142,76*	325	220	1
1	14,00	*174,98*	410	275	1
2	14,50	*156,37*	340	220	1
2	14,50	*190,58*	425	275	1
2	15,00	*156,37*	340	220	1
2	15,00	*190,58*	425	275	1
2	15,50	*175,30*	355	230	1
2	15,50	*210,22*	445	295	1
2	16,00	*175,30*	355	230	1
2	16,00	*210,22*	445	295	1
2	16,50	*188,91*	355	230	1
2	16,50	*227,14*	445	295	1
2	17,00	*188,91*	355	230	1
2	17,00	*227,14*	445	295	1
2	17,50	*207,86*	370	245	1
2	17,50	*250,12*	465	310	1
2	18,00	*207,86*	370	245	1
2	18,00	*250,12*	465	310	1
2	18,50	*225,34*	370	245	1
2	18,50	*270,28*	465	310	1
2	19,00	*225,34*	370	245	1
2	19,00	*270,28*	465	310	1
2	19,50	*240,65*	385	260	1
2	19,50	*292,51*	490	325	1

Δ	Ø mm	€	L mm	l mm	
2	20,00	*240,65*	385	260	1
2	20,00	*292,51*	490	325	1
2	20,50	*272,56*	385	260	1
2	20,50	*327,30*	490	325	1
2	21,00	*272,56*	385	260	1
2	21,00	*327,30*	490	325	1
2	21,50	*290,65*	405	270	1
2	21,50	*351,28*	515	345	1
2	22,00	*290,65*	405	270	1
2	22,00	*351,28*	515	345	1
2	22,50	*331,25*	405	270	1
2	22,50	*396,51*	515	345	1
2	23,00	*331,25*	405	270	1
2	23,00	*396,51*	515	345	1
3	23,50	*363,95*	425	270	1
3	23,50	*441,29*	535	345	1
3	24,00	*363,95*	440	290	1
3	24,00	*441,29*	555	365	1
3	24,50	*377,18*	440	290	1
3	24,50	*465,09*	555	365	1
3	25,00	*377,18*	440	290	1
3	25,00	*465,09*	555	365	1
3	25,50	*389,85*	440	290	1
3	25,50	*513,75*	555	365	1
3	26,00	*389,85*	440	290	1
3	26,00	*513,75*	555	365	1
3	26,50	*399,22*	440	290	1
3	26,50	*530,09*	555	365	1
3	27,00	*399,22*	460	305	1
3	27,00	*530,09*	580	385	1
3	27,50	*425,90*	460	305	1
3	27,50	*573,46*	580	385	1
3	28,00	*425,90*	460	305	1
3	28,00	*573,46*	580	385	1
3	28,50	*441,29*	460	305	1
3	28,50	*632,74*	580	385	1
3	29,00	*441,29*	460	305	1
3	29,00	*632,74*	580	385	1
3	29,50	*456,89*	460	305	1
3	29,50	*637,95*	580	385	1
3	30,00	*456,89*	460	305	1
3	30,00	*637,95*	580	385	1
3	31,00	*512,15*	480	320	1
3	31,00	*680,17*	610	410	1
4	32,00	*535,50*	505	320	1
4	32,00	*713,62*	635	410	1
4	33,00	*583,51*	505	320	1
4	33,00	*790,04*	635	410	1

(continúa Ref.1126 / suite Réf.1126 / Ref.1126 cont'd)

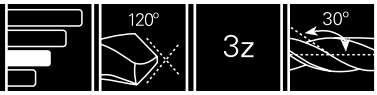
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

(continúa Ref.1126 / suite Réf.1126 / Ref.1126 cont'd)

△	Ø mm	€	L mm	l mm	
4	34,00	*632,71*	530	340	1
4	34,00	*820,45*	665	430	1
4	35,00	*651,67*	530	340	1
4	35,00	*890,82*	665	430	1
4	36,00	*703,07*	530	340	1
4	36,00	*935,43*	665	430	1
4	37,00	*720,81*	530	340	1
4	37,00	*1.039,38*	665	430	1
4	38,00	*786,32*	555	360	1
4	38,00	*1.100,63*	695	460	1
4	39,00	*819,51*	555	360	1
4	39,00	*1.153,14*	695	460	1

△	Ø mm	€	L mm	l mm	
4	40,00	*863,91*	555	360	1
4	40,00	*1.099,93*	695	460	1
4	41,00	*1.250,21*	695	460	1
4	42,00	*1.334,84*	695	460	1
4	43,00	*1.362,03*	735	490	1
4	44,00	*1.409,90*	735	490	1
4	45,00	*1.475,57*	735	490	1
4	46,00	*1.541,53*	735	490	1
4	47,00	*1.617,20*	735	490	1
4	48,00	*1.711,25*	765	510	1
4	49,00	*1.776,41*	765	510	1
4	50,00	*1.822,81*	765	510	1

1139 HSS DIN 343



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
● 15-35				○ 8-14		● 25-30	● 12-16		○ 50-60	● 30-60		○ 20-25					

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



△	Ø mm	d mm	€	L mm	l mm	
1	10,00	7,00	*71,77*	168	87	1
1	11,00	7,70	*74,33*	175	94	1
1	12,00	8,40	*76,92*	182	101	1
1	13,00	9,10	*80,39*	182	101	1
1	14,00	9,80	*85,07*	189	108	1
2	15,00	10,50	*91,49*	212	114	1
2	16,00	11,20	*97,40*	218	120	1
2	17,00	11,90	*106,51*	223	125	1
2	18,00	12,60	*115,42*	228	130	1
2	19,00	13,30	*137,83*	233	135	1
2	20,00	14,00	*139,24*	238	140	1
2	21,00	15,00	*149,48*	243	145	1
2	22,00	15,50	*163,57*	248	150	1

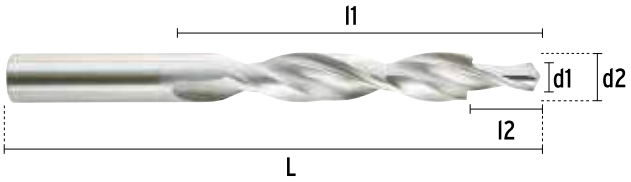
△	Ø mm	d mm	€	L mm	l mm	
2	23,00	16,00	*175,25*	253	155	1
3	24,00	17,00	*188,60*	281	160	1
3	25,00	17,50	*201,94*	281	160	1
3	26,00	18,00	*222,97*	286	165	1
3	27,00	19,00	*240,28*	291	170	1
3	28,00	19,50	*260,48*	291	170	1
3	30,00	21,00	*302,16*	296	175	1
4	32,00	22,00	*340,64*	334	185	1
4	34,00	24,00	*377,69*	339	190	1
4	35,00	25,00	*409,69*	339	190	1
4	36,00	25,50	*417,29*	344	195	1
4	38,00	26,50	*476,51*	349	200	1
4	40,00	28,00	*524,20*	349	210	1

1127 HSS DIN 8376

180°

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
● 15-25	● 8-10					● 30-35	● 25-30	○ 14-18	● 20-25	● 30-35		○ 15-20					

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



M	d1 mm	d2 mm	€	L mm	l1 mm	l2 mm	
M-3	3,40	6,00	*62,69*	93	57	9	1
M-4	4,50	8,00	*65,73*	117	75	11	1
M-5	5,50	10,00	*78,14*	133	87	13	1

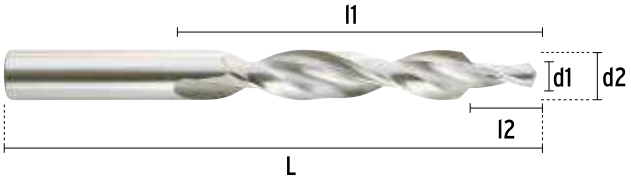
M	d1 mm	d2 mm	€	L mm	l1 mm	l2 mm	
M-6	6,60	11,00	*88,29*	142	94	15	1
M-8	9,00	15,00	*108,48*	169	114	19	1
M-10	11,00	18,00	*215,60*	191	130	23	1

1128 HSS DIN 8374

90°

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
● 15-25	● 8-10					● 30-35	● 25-30	○ 14-18	● 20-25	● 30-35		○ 15-20					

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



M	d1 mm	d2 mm	€	L mm	l1 mm	l2 mm	
M-3	3,20	6,00	*73,15*	93	57	9	1
M-4	4,30	8,00	*76,70*	117	75	11	1
M-5	5,30	10,00	*91,18*	133	87	13	1

M	d1 mm	d2 mm	€	L mm	l1 mm	l2 mm	
M-6	6,40	11,50	*104,13*	142	94	15	1
M-8	8,40	15,00	*142,45*	169	114	19	1
M-10	10,50	19,00	*219,99*	198	130	23	1

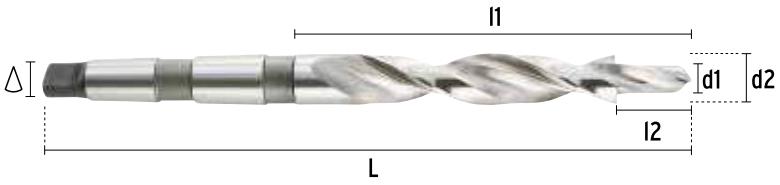
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

1129 HSS DIN 8377

180°

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
● 15-25	● 8-10					● 30-35	● 25-30	○ 14-18	● 20-25	● 30-35		○ 15-20					

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



	M	d1 mm	d2 mm	€	L mm	l1 mm	l2 mm	
2	M-8	9,00	15,00	*162,26*	212	114	19	1
2	M-10	11,00	18,00	*182,89*	228	130	23	1
2	M-12	14,00	20,00	*204,60*	238	140	27	1
3	M-14	16,00	24,00	*290,15*	281	160	31	1

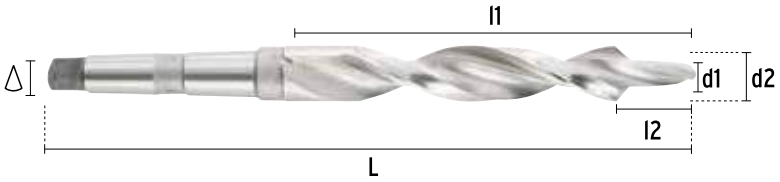
	M	d1 mm	d2 mm	€	L mm	l1 mm	l2 mm	
3	M-16	18,00	*26,00*	*413,71*	286	165	35	1
3	M-18	20,00	*30,00*	*462,63*	296	175	39	1
4	M-20	22,00	*33,00*	*521,76*	334	185	43	1

1130 HSS DIN 8375

90°

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
● 15-25	● 8-10					● 30-35	● 25-30	○ 14-18	● 20-25	● 30-35		○ 15-20					

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



	M	d1 mm	d2 mm	€	L mm	l1 mm	l2 mm	
1	M-5	5,50	11,00	*156,93*	175	94	13	1
1	M-6	6,60	13,00	*160,13*	182	101	15	1

	M	d1 mm	d2 mm	€	L mm	l1 mm	l2 mm	
2	M-8	9,00	17,20	*190,82*	228	130	19	1
2	M-10	11,00	21,50	*225,92*	248	150	23	1

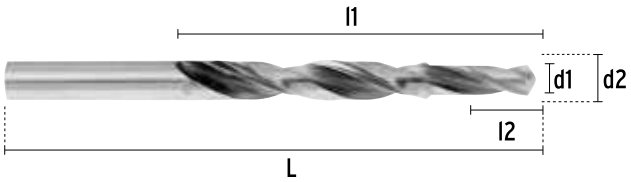
P Aceros Aciers Steels
M Aceros Inox Aciers Inox Stainless Steels
K Fundicion Fonte Cast Iron
N Metales no ferrosos Métal non Ferraux Non Ferrous metals
S Titanio y Superaleaciones Titanium et Supealliages Titanium and Superalloys
H Materiales Duros Materiels Durs Hard materials

1152 HSS DIN 8378



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
● 15-25	● 8-10					● 30-35	● 25-30	○ 14-18	● 20-25	● 30-35		○ 15-20					

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



M	d1 mm	d2 mm	€	L mm	l1 mm	l2 mm	
M-3	2,50	3,40	*56,19*	70	39	8,80	1
M-4	3,30	4,50	*60,44*	80	47	11,40	1
M-5	4,20	5,50	*65,10*	93	57	13,60	1
M-6	5,00	6,60	*74,06*	101	63	16,50	1

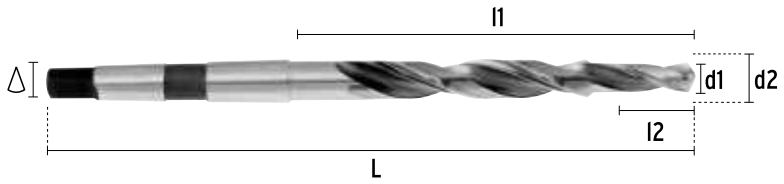
M	d1 mm	d2 mm	€	L mm	l1 mm	l2 mm	
M-8	6,80	9,00	*88,23*	125	81	21,00	1
M-10	8,50	11,00	*102,93*	142	94	25,50	1
M-12	10,20	13,50	*128,16*	160	108	30,00	1

1153 HSS DIN 8379



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
● 15-25	● 8-10					● 30-35	● 25-30	○ 14-18	● 20-25	● 30-35		○ 15-20					

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



	M	d1 mm	d2 mm	€	L mm	l1 mm	l2 mm	
1	M-8	6,80	9,00	*143,82*	162	81	21,00	1
1	M-10	8,50	11,00	*156,71*	175	94	25,50	1
1	M-12	10,20	13,50	*185,12*	189	108	30,00	1
2	M-14	12,00	15,50	*197,53*	218	120	34,50	1

	M	d1 mm	d2 mm	€	L mm	l1 mm	l2 mm	
2	M-16	14,00	17,50	*213,18*	228	130	38,50	1
2	M-18	15,50	20,00	*238,40*	238	140	43,50	1
2	M-20	17,50	22,00	*288,29*	248	150	47,50	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

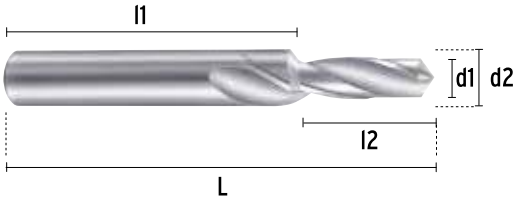
1191 HSSCO



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
●	●	○		●		●	○		●	●	●	●	○	●			
20-30	12-18	4-8		4-10		20-25	10-15		15-80	25-60	60-90	12-70	2-6	2-10			

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

NEW



M	d1 mm	d2 mm	€	L mm	l1 mm	l2 mm	
M-3	2,50	3,40	*37,45*	52	20	8	1
M-4	3,30	4,50	*39,62*	58	24	11	1
M-5	4,20	5,50	*41,37*	66	28	13	1
M-6	5,00	6,60	*45,28*	70	31	16	1

M	d1 mm	d2 mm	€	L mm	l1 mm	l2 mm	
M-8	6,80	9,00	*60,95*	84	40	20	1
M-10	8,50	11,00	*81,85*	95	47	24	1
M-12	10,20	14,00	*111,47*	107	54	29	1

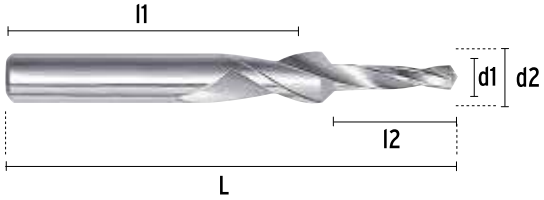
1192 HSSCO



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
●	●	○		●		●	○		●	●	●	●	○	●			
20-30	12-18	4-8		4-10		20-25	10-15		15-80	25-60	60-90	12-70	2-6	2-10			

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

NEW

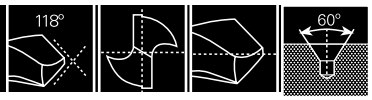


M	d1 mm	d2 mm	€	L mm	l2 mm	
M-4	4,30	8,60	*99,27*	110	30	1
M-4	5,30	10,40	*104,50*	110	30	1
M-6	6,40	12,40	*111,47*	110	30	1

M	d1 mm	d2 mm	€	L mm	l2 mm	
M-8	8,40	16,40	*148,03*	110	30	1
M-10	10,50	20,40	*179,38*	110	30	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

1132 HSS DIN 333 A



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
● 20-30	● 8-12					● 20-25	○ 15-20		● 15-20	● 25-30		○ 10-15					

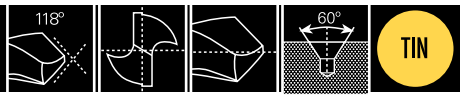
Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



d1 mm	d2 mm	€	L mm	l mm	
1,00	*3,15*	*6,07*	31,50	1,60	1
1,25	*3,15*	*6,07*	33,50	1,90	1
1,25	*4,00*	*6,70*	35,50	1,90	1
1,60	*4,00*	*6,07*	37,50	2,40	1
1,60	*5,00*	*7,14*	40,00	2,40	1
2,00	*5,00*	*6,54*	42,00	2,90	1
2,00	*6,30*	*7,59*	45,00	2,90	1
2,50	*6,30*	*7,26*	47,00	3,60	1
2,50	*8,00*	*8,49*	50,00	3,60	1
3,15	*8,00*	*8,00*	52,00	4,40	1

d1 mm	d2 mm	€	L mm	l mm	
3,15	10,00	*9,40*	56,00	4,40	1
4,00	10,00	*10,91*	59,00	5,60	1
4,00	12,50	*12,88*	63,00	5,60	1
5,00	12,50	*18,28*	66,00	6,90	1
5,00	16,00	*31,12*	71,00	6,90	1
6,30	*16,00*	*26,11*	74,00	8,60	1
6,30	*20,00*	*40,17*	80,00	8,60	1
10,00	*25,00*	*78,73*	100,00	31,50	1
12,50	*31,50*	*187,87*	125,00	33,50	1

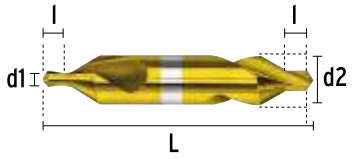
1188 HSS DIN 333 A



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
● 30-40	● 12-16					● 30-35	○ 20-30		● 20-30	● 35-40		○ 10-15					

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

NEW

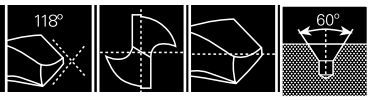


d1 mm	d2 mm	€	L mm	l mm	
1,00	3,15	*11,57*	31,50	1,60	1
1,25	3,15	*11,57*	33,50	1,90	1
1,60	4,00	*12,10*	37,50	2,40	1
2,00	5,00	*13,25*	42,00	2,90	1
2,50	6,30	*14,42*	47,00	3,60	1
3,15	8,00	*15,10*	52,00	4,40	1

d1 mm	d2 mm	€	L mm	l mm	
4,00	10,00	*21,00*	59,00	5,60	1
5,00	12,50	*26,88*	66,00	6,90	1
6,30	16,00	*28,73*	74,00	8,60	1
10,00	25,00	*86,76*	100,00	31,50	1
12,00	31,50	*206,66*	125,00	33,50	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

1193 HM-MD DIN 333 A



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
○ 45-65	● 40-55	● 25-30	● 20-25	● 40-55	● 25-30	● 40-55	● 35-45	● 20-25	● 80-130	● 25-65	● 100-110	● 70-200	● 20-30	● 15-30	● 15-20	● 10-15	○ 4-6

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

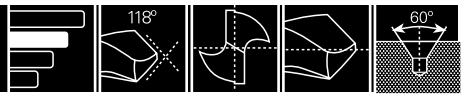
NEW



d1 mm	d2 mm	€	L mm	l mm	
1,00	3,15	*56,38*	31,50	1,60	1
1,25	3,15	*56,38*	33,50	1,90	1
1,60	4,00	*58,00*	37,50	2,40	1
2,00	5,00	*72,49*	42,00	2,90	1
2,50	6,30	*86,19*	47,00	3,60	1

d1 mm	d2 mm	€	L mm	l mm	
3,15	8,00	*104,71*	52,00	4,40	1
4,00	10,00	*139,35*	59,00	5,60	1
5,00	12,50	*235,21*	66,00	6,90	1
6,30	16,00	*372,14*	74,00	8,60	1

1133 HSS DIN 333 A



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
● 20-30	● 8-12					● 20-25	○ 15-20		● 15-20	● 25-30		○ 10-15					

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

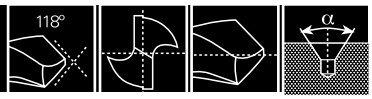


d1 mm	d2 mm	€	L mm	l mm	
1,00	4,00	*18,92*	60,00	1,30	1
1,50	5,00	*19,26*	60,00	2,00	1
2,00	6,00	*20,08*	80,00	2,50	1
2,50	8,00	*24,39*	80,00	3,10	1
3,00	8,00	*24,39*	80,00	3,90	1
1,00	4,00	*47,22*	120,00	1,30	1
1,50	5,00	*44,88*	120,00	2,00	1

d1 mm	d2 mm	€	L mm	l mm	
2,00	6,00	*44,88*	120,00	2,50	1
2,50	8,00	*51,96*	120,00	3,10	1
3,00	8,00	*51,96*	120,00	3,90	1
3,00	10,00	*59,01*	120,00	3,90	1
4,00	10,00	*59,01*	120,00	5,00	1
4,00	12,00	*70,42*	120,00	5,00	1
5,00	14,00	*84,58*	120,00	6,30	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

1135 HSS DIN 333 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
● 20-30	● 8-12					● 20-25	○ 15-20		● 15-20	● 25-30		○ 10-15					

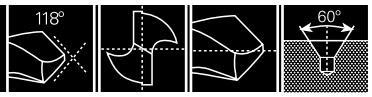
Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



d1 mm	d2 mm	€	L mm	l mm	
1,00	3,15	*6,67*	31,50	3,00	1
1,25	3,15	*6,67*	33,50	3,35	1
1,25	4,00	*6,67*	35,50	3,75	1
1,60	4,00	*6,67*	35,50	4,25	1
1,60	5,00	*7,22*	40,00	4,75	1
2,00	5,00	*7,22*	40,00	5,30	1
2,00	6,30	*8,02*	45,00	6,00	1
2,50	6,30	*8,00*	45,00	6,70	1
2,50	8,00	*8,83*	50,00	7,50	1
3,15	8,00	*8,83*	50,00	8,50	1

d1 mm	d2 mm	€	L mm	l mm	
3,15	10,00	*11,50*	56,00	9,50	1
4,00	10,00	*11,50*	56,00	10,60	1
4,00	12,50	*19,20*	63,00	11,80	1
5,00	12,50	*19,23*	63,00	13,20	1
5,00	16,00	*27,32*	71,00	15,00	1
6,30	16,00	*27,51*	71,00	17,00	1
6,30	20,00	*49,01*	80,00	19,00	1
8,00	20,00	*51,53*	80,00	21,20	1
10,00	25,00	*82,81*	100,00	31,50	1
12,50	31,50	*197,58*	125,00	33,50	1

1137 HSS DIN 333 B



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
● 20-30	● 8-12					● 20-25	● 15-20		● 15-20	● 25-30		○ 10-15					

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



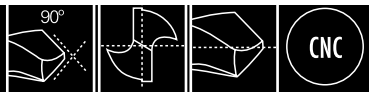
d1 mm	d2 mm	€	L mm	l mm	
1,00	4,00	11,01	35,50	1,60	1
1,25	5,00	11,01	40,00	1,90	1
1,60	6,30	11,01	45,00	2,40	1
2,00	8,00	11,01	50,00	2,90	1
2,50	10,00	12,64	56,00	3,60	1

d1 mm	d2 mm	€	L mm	l mm	
3,15	11,20	*14,49*	60,00	4,40	1
4,00	14,00	*22,27*	67,00	5,60	1
5,00	18,00	*31,05*	75,00	6,90	1
6,30	20,00	*45,32*	80,00	8,60	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

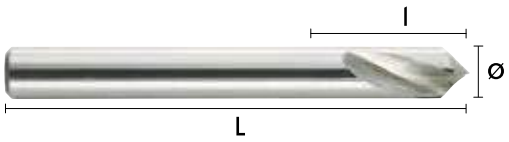
BROCAS BIDIAMETRALES Y DE CENTRAR
FORETS BIÉTAGÉS ET À CENTRER / TWO-DIAMETER AND CENTRE DRILL-BITS

1138 HSSCO



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
● 20-30	● 8-12	● 6-10		● 6-12		● 20-25	● 15-20		● 15-20	● 25-30		● 25-30		● 10-12			

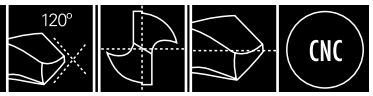
Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø mm	€	L mm	l mm	
3,00	*22,31*	50,00	10,00	1
4,00	*22,31*	52,00	12,00	1
5,00	*25,15*	60,00	15,00	1
6,00	*25,15*	66,00	20,00	1
8,00	*28,42*	79,00	25,00	1

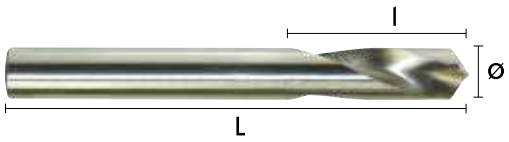
Ø mm	€	L mm	l mm	
10,00	*28,42*	89,00	25,00	1
12,00	*39,30*	102,00	30,00	1
16,00	*54,20*	115,00	35,00	1
20,00	*106,64*	131,00	40,00	1

1155 HSSCO



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
● 20-30	● 8-12	● 6-10		● 6-12		● 20-25	● 15-20		● 15-20	● 25-30		● 25-30		● 10-12			

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

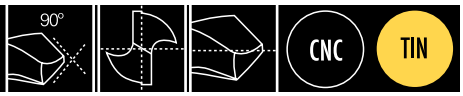


Ø mm	€	L mm	l mm	
3,00	*22,31*	46	12	1
4,00	*22,31*	55	12	1
5,00	*25,15*	62	14	1
6,00	*25,15*	66	16	1
8,00	*28,42*	79	21	1

Ø mm	€	L mm	l mm	
10,00	*28,42*	89	25	1
12,00	*39,30*	102	30	1
16,00	*54,20*	115	38	1
20,00	*106,64*	131	45	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

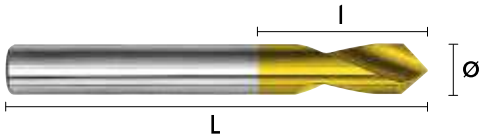
1189 HSSCO



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
● 20-30	● 12-16	● 10-14		● 6-12		● 30-35	● 20-25		● 20-25	● 35-40		● 35-40		● 12-16			

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

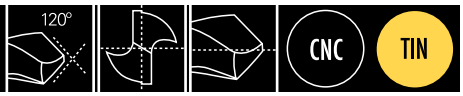
NEW



Ø mm	€	L mm	l mm	
3,00	*29,00*	50	10	1
4,00	*29,00*	52	12	1
5,00	*32,70*	60	15	1
6,00	*32,70*	66	20	1
8,00	*36,95*	79	25	1

Ø mm	€	L mm	l mm	
10,00	*36,95*	89	25	1
12,00	*51,09*	102	30	1
16,00	*70,46*	115	35	1
20,00	*138,63*	131	40	1

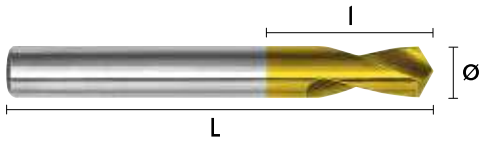
1190 HSSCO



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
● 20-30	● 12-16	● 10-14		● 6-12		● 30-35	● 20-25		● 20-25	● 35-40		● 35-40		● 12-16			

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

NEW



Ø mm	€	L mm	l mm	
3,00	*29,00*	46	12	1
4,00	*29,00*	55	12	1
5,00	*32,70*	62	14	1
6,00	*32,70*	66	16	1
8,00	*36,95*	79	21	1

Ø mm	€	L mm	l mm	
10,00	*36,95*	89	25	1
12,00	*51,09*	102	30	1
16,00	*70,46*	115	38	1
20,00	*138,63*	131	45	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

1179 HM-MD 1XD



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
● 55-80	● 40-55	● 35-45		● 15-30		● 60-80	● 40-60		● 70-160	● 60-120		○ 50-70	○ 8-20	● 20-30			

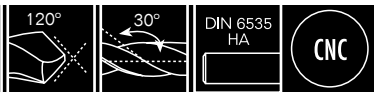
Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



ø mm	d mm	€	L mm	l mm	
6,00	6	*24,63*	65	15	1
8,00	8	*42,42*	80	20	1

ø mm	d mm	€	L mm	l mm	
10,00	10	*61,17*	90	25	1
12,00	12	*85,83*	100	30	1

1180 HM-MD 1XD



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
● 55-80	● 40-55	● 35-45		● 15-30		● 60-80	● 40-60		● 70-160	● 60-120		○ 50-70	○ 8-20	● 20-30			

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



ø mm	d mm	€	L mm	l mm	
6,00	6	*24,63*	65	15	1
8,00	8	*42,42*	80	20	1

ø mm	d mm	€	L mm	l mm	
10,00	10	*61,17*	90	25	1
12,00	12	*85,83*	100	30	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

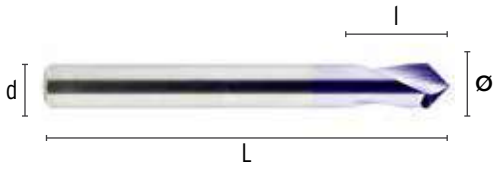
1185 HM-MD

1XD | 90° | 30° | DIN 6535 HA | CNC | TIALN

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
● 70-100	● 55-75	● 50-60		● 20-35		● 80-100	● 55-80		● 100-200	● 80-160		○ 50-70	○ 12-20	● 25-35			

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

NEW



ø mm	d mm	€	L mm	l mm	
6,00	6	*32,02*	65	15	1
8,00	8	*55,15*	80	20	1

ø mm	d mm	€	L mm	l mm	
10,00	10	*79,52*	90	25	1
12,00	12	*111,58*	100	30	1

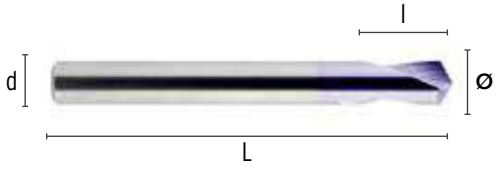
1186 HM-MD

1XD | 120° | 30° | DIN 6535 HA | CNC | TIALN

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
● 70-100	● 55-75	● 50-60		● 20-35		● 80-100	● 55-80		● 100-200	● 80-160		○ 50-70	○ 12-20	● 25-35			

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

NEW

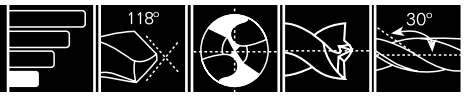


ø mm	d mm	€	L mm	l mm	
6,00	6	*32,02*	65	15	1
8,00	8	*55,15*	80	20	1

ø mm	d mm	€	L mm	l mm	
10,00	10	*79,52*	90	25	1
12,00	12	*111,58*	100	30	1

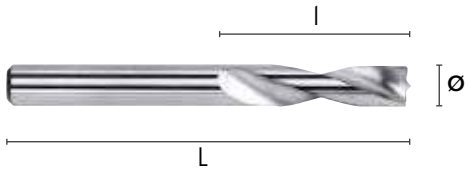
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

1119 HSSCO DIN 1897 N Soldadura / Soudure / Welding



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
○ 20-30	● 12-18	● 6-10															

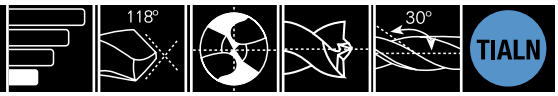
Vc (m/min). ● Optima / Optimun ○ Alternativo / Alternative



Ø mm	€	L mm	l mm	
6,00	*12,85*	66	28	1
7,00	*14,16*	74	34	1

Ø mm	€	L mm	l mm	
8,00	*15,52*	79	37	1
10,00	*17,56*	89	43	1

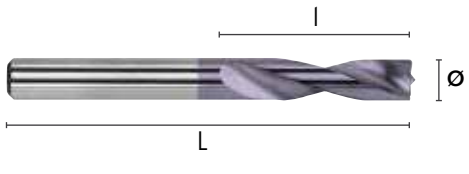
1194 HSSCO DIN 1897N Soldadura / Soudure / Welding



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
○ 30-40	● 16-20	● 8-14															

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

NEW

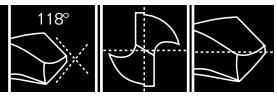


Ø mm	€	L mm	l mm	
6,00	*22,49*	66	28	1
7,00	*24,79*	74	34	1

Ø mm	€	L mm	l mm	
8,00	*27,16*	79	37	1
10,00	*30,72*	89	43	1

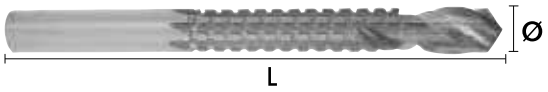
P Aceros / Aciers / Steels
M Aceros Inox / Aciers Inox / Stainless Steels
K Fundicion / Fonte / Cast Iron
N Metales no ferrosos / Métal non Ferraux / Non Ferrous metals
S Titanio y Superaleaciones / Titanium et Supealliages / Titanium and Superalloys
H Materiales Duros / Materiels Durs / Hard materials

5114 HSS



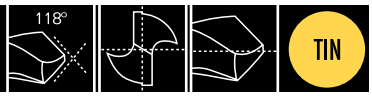
P				M		K			N				S		H		
<800	<1.000	<1.200	<1.400	<950	<1.200	<500	<800	<1.400	Al	Cu	Mg/Zn	Plastic	Ni	Ti	50 HRC	55 HRC	60 HRC
● 10-25									● 15-20	● 25-30		● 25-30					

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



Ø mm	€	L mm	Z	
6,00	*16,70*	90	5	1
8,00	*22,84*	90	7	1

5115 HSS



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
● 15-35									● 20-25	● 35-40		● 35-40					

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



Ø mm	€	L mm	Z	
6,00	*30,32*	90	5	1
8,00	*39,65*	90	7	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

6110 **Espiga /** Queue à tenon / Bit shank



	DIN 228	€	L mm	gr	
1	B-12	*9,89*	89	65	1
1	B-16	*9,89*	99	80	1
1	B-18	*9,89*	107	110	1
>2	B-12	*11,98*	106	140	1
2	B-16	*11,98*	112	160	1
2	B-18	*11,98*	119	185	1

	DIN 228	€	L mm	gr	
>3	B-16	*14,62*	134	305	1
3	B-18	*14,62*	140	330	1
>4	B-16	*20,94*	156	120	1
4	B-18	*22,58*	165	640	1
>5	B-16	*89,16*	221	1.570	1
5	B-18	*89,16*	221	1.590	1

6111 **Casquillo DIN 2185 /** Douille de réduction / Drill sleeve



	€	L mm	gr	
2 x 1	*24,11*	92	90	1
3 x 1	*29,77*	99	200	1
3 x 2	*29,77*	112	180	1
4 x 1	*41,64*	124	510	1
4 x 2	*39,14*	124	420	1
4 x 3	*39,14*	140	370	1
5 x 1	*69,06*	180	1.550	1

	€	L mm	gr	
5 x 2	*65,45*	156	1.200	1
5 x 3	*65,45*	156	1.150	1
5 x 4	*76,39*	171	1.023	1
6 x 3	*127,12*	230	3.800	1
6 x 4	*144,23*	230	3.390	1
6 x 5	*144,23*	230	2.700	1

6114 **Contrapunto /** Contrepointe / Fixed centre



	HSS €	HM €	
1	*14,94*	-	1
2	*19,90*	-	1
3	*30,91*	*74,68*	1

	HSS €	HM €	
4	*48,31*	*91,06*	1
5	*68,23*	*178,02*	1
6	*263,10*	-	1

6112 Alargadera / Adaptateur / Extension piece



Ext.	Int.	€	L mm	
1	1	*30,39*	145	1
1	2	*47,06*	160	1
2	1	*30,39*	160	1
2	2	*44,17*	175	1
2	3	*63,97*	196	1
3	1	*44,17*	175	1
3	2	*45,61*	194	1
3	3	*66,89*	215	1
3	4	*107,89*	240	1
4	1	*63,97*	200	1

Ext.	Int.	€	L mm	
4	2	*62,52*	215	1
4	3	*65,43*	240	1
4	4	*107,89*	265	1
4	5	*181,08*	300	1
5	1	*123,33*	232	1
5	2	*114,67*	247	1
5	3	*121,09*	268	1
5	4	*136,88*	300	1
5	5	*226,46*	335	1

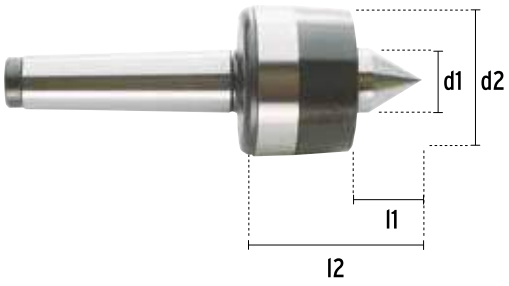
6113 Expulsor / Éjecteur / Ejector



	€	gr	
1 - 2	*12,88*	50	1
2 - 3	*15,24*	80	1
3 - 4	*20,10*	160	1

	€	gr	
4 - 5	*27,31*	350	1
5 - 6	*44,39*	690	1

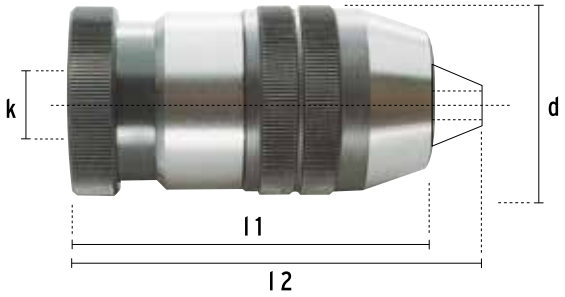
6115 Punto giratorio / Pointe tournante / Revolving lathe centre



	d1 mm	d2 mm	l1 mm	l2 mm	Kg	€	
1	12	32	18	42	180	*143,25*	1
2	16	40	23	46	400	*159,79*	1
3	24	45	27	53	600	*214,81*	1
4	24	59	36	65	1200	*254,58*	1
5	38	79	41	77	1500	*367,94*	1

6101 HP1

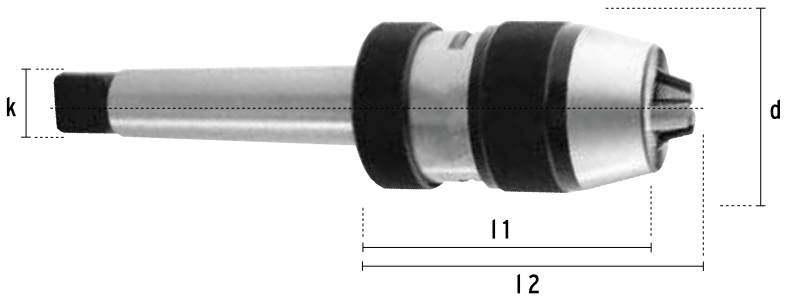
- **Componentes totalmente templados y rectificados.**
  Composants entièrement trempés et rectifiés.
  Fully tempered and rectified components.
- **Uso en taladros de precisión estacionarios, fresadoras.**
  Pour perçages de précision stationnaires, fraiseuses.
  For use with stationary precision drills, milling machines.
- **Excentricidad máxima 0,04 mm.**
  Excentricité maximum de 0,04 mm.
  Maximum eccentricity 0.04 mm.



Ø mm	d mm	k	Int.	€	l1 mm	l2 mm		Husillo Arbre Spindle €	Juego de garras Jeux de griffes Set of claws €
0,00 - 10,00	41	B16	1/2" - 20H	*171,74*	81	89	1	*29,38*	*39,85*
1,00 - 13,00	46	B16	1/2" - 20H	*188,56*	88	89	1	*31,55*	*42,76*
3,00 - 16,00	55	B16,B18	-	*213,00*	95	107	1	*31,55*	*44,19*

6120 HP1-CM

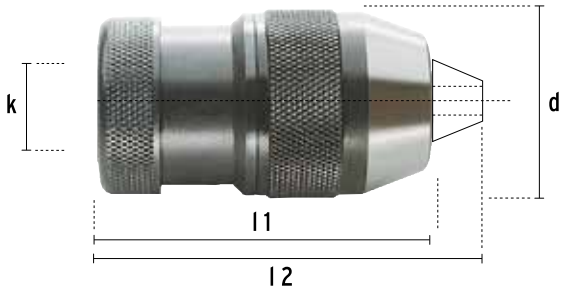
- **Portabrocas automático alta precisión con espiga integrada (Cono Morse)**
  Mandrin automatique de haute précision avec queue à tenon integrée (Cone Morse)
  High precision automatic drill chuck with bit shank (Taper Shank)



Ø mm	d mm	k	€	l1 mm	l2 mm		Husillo Arbre Spindle €	Juego de garras Jeux de griffes Set of claws €
0,00 - 10,00	43	CM2	*372,20*	73	82	1	*29,38*	*39,85*
1,00 - 13,00	48	CM2, CM3, CM4	*404,10*	80	92	1	*31,55*	*42,76*
3,00 - 16,00	54	CM2, CM3, CM4	*482,75*	85	96	1	*31,55*	*44,19*

6102 HP2

> **Componentes parcialmente templados y rectificados.**
Composants partiellement trempés et rectifiés.
Partially tempered and rectified components.
> **Uso industrial para taladros fijos y portátiles.**
Usage industriel pour perceuses fixes et portables.
For industrial use with fixed and portable drills.
> **Excentricidad máxima 0,20 mm.**
Excentricité maximum de 0,20 mm.
Maximum eccentricity 0.20 mm.



Ø mm	d mm	△	k Int.	€	l1 mm	l2 mm	▣	**Husillo** Arbre Spindle €	**Juego de garras** Jeux de griffes Set of claws €
0,00 - 10,00	39	B12	1/2" - 20H 3/8" - 24H	*94,06*	73	80	1	*19,85*	*39,66*
2,00 - 13,00	46	B16	1/2" - 20H 3/8" - 24H	*118,22*	87	95	1	*22,90*	*42,86*
3,00 - 16,00	51	B16,B18	5/8" - 16H 1/2" - 20H	*157,04*	102	115	1	*22,90*	*42,86*
5,00 - 20,00	56	B18	-	*207,03*	95	110	1	*28,04*	*50,41*

6103 HP3

> **Uso industrial para taladros fijos y portátiles.**
Usage industriel pour perceuses fixes et portables.
For industrial use with fixed and portable drills.
> **Excentricidad no garantizada.**
Excentricité non garantie.
Maximum not guaranteed.



Ø mm	d mm	△	k Int.	€	l1 mm	l2 mm	▣
1,00 - 10,00	35	B12*	1/2" - 20H, 3/8" - 24H*	*63,27*	65	72	1
1,50 - 13,00	40	B16	1/2" - 20H	*72,60*	83	91	1
3,00 - 16,00	53	B16,B18	1/2" - 20H, 5/8" - 24H*	*95,89*	96	109	1

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

6122 **Afilador de Brocas** / Affûteuses forets / Twist Drill Sharpener

- **Para Brocas HSS, HSSE, HSS+TIN, HM**
  Pour Forets HSS, HSSE. HSS+TIN, HM
  For Drill-bits HSS. HSSE, HS+TIN, HM
- **Para ángulo normal afilado en cruz**
  Pour angle normal et affûtage en croix
  For normal angle and Splint point
- **Ángulo de punta de 118º**
  Angle de la point e 118º
  Point angle of 118º

Ø mm	€	
3 a 13	*159,34*	1



6123 **Porta** / Mandrins / Chuck

€	
9,65	1



6124 **Muela** / Meule / Wheel

€	
20,48	1



1171 Ø 1 a 10 X 0,5 mm

Ø mm	X mm		DIN
1 a 10	0,50	19	338

>HSS (1101)



>SPEED PLUS (1158)



>HSS CO (1105)



>HSS CO INOX (1106)



>HSS TIN (1108)



REF.	€
HSS	*46,83*
SPEED PLUS	*51,35*
HSS CO	*77,16*
HSS CO INOX	*158,38*
HSS TIN	*95,71*
VACIO/VIDE/EMPTY	*12,40*

1172 Ø 1 a 13 X 0,5 mm

Ø mm	X mm		DIN
1 a 13	0,50	25	338

>HSS (1101)



>SPEED PLUS (1158)



>HSS CO (1105)



>HSS CO INOX (1106)



>HSS TIN (1108)



REF.	€
HSS	*91,62*
SPEED PLUS	*100,80*
HSS CO	*176,68*
HSS CO INOX	*318,43*
HSS TIN	*199,10*
VACIO/VIDE/EMPTY	*16,54*

1143 Ø 1 a 10 X 0,25 mm

Ø mm	X mm		DIN
1 a 10	0,25	37	338

>HSS (1101)



>HSS CO (1105)



REF.	€
HSS	*128,75*
HSS CO	*190,05*
VACIO/VIDE/EMPTY	*41,91*

1144 Ø 6 a 10 X 0,10 mm

Ø mm	X mm		DIN
6 a 10	0,10	41	338

>HSS (1101)



>HSS CO (1105)



REF.	€
HSS	*241,98*
HSS CO	*346,46*
VACIO/VIDE/EMPTY	*72,53*

1145 Ø 1 a 13 X 0,25 mm

Ø mm	X mm		DIN
1 a 13	0,25	49	338

>HSS (1101)



>HSS CO (1105)



REF.	€
HSS	*224,07*
HSS CO	*415,61*
VACIO/VIDE/EMPTY	*43,52*

1146 Ø 1 a 6 X 0,10 mm

Ø mm	X mm		DIN
1 a 6	0,10	51	338

>HSS (1101)



>HSS CO (1105)



REF.	€
HSS	*98,36*
HSS CO	*139,66*
VACIO/VIDE/EMPTY	*29,01*

1173 1/16" a 3/8" x 1/64"

21 | DIN 338

>HSS
(1158/9)



>HSS CO
(1105/9)



REF.	€
SPEED PLUS	*74,95*
HSS CO	*103,12*

1174 1/16" a 1/2" x 1/64"

29 | DIN 338

>SPEED PLUS
(1158/9)



>HSS CO
(1105/9)



REF.	€
SPEED PLUS	*136,17*
HSS CO	*227,39*

1150 Ø 1 a 10 X 0,5 mm

Ø mm	X mm	DIN
1 a 10	0,50	338

>HSS (1101) >HSS NSP (1158) >HSS CO (1105) >HSS TIN (1108)



REF.	€
HSS	*542,13*
HSS NSP	*581,77*
HSS CO	*473,88*
HSS TIN	*604,95*
VACIO/VIDE/EMPTY	*72,53*

Ø mm	HSS	HSS NSP	HSS CO	HSS TIN
1,00	20	20	10	10
1,50	10	10	5	5
2,00	20	20	10	10
2,50	10	10	5	5
3,00	20	20	10	10
3,50	10	10	5	5
4,00	20	20	10	10
4,50	10	10	5	5
5,00	20	20	10	10
5,50	10	10	5	5

Ø mm	HSS	HSS NSP	HSS CO	HSS TIN
6,00	20	20	10	10
6,50	10	10	5	5
7,00	10	10	5	5
7,50	10	10	5	5
8,00	10	10	5	5
8,50	10	10	5	5
9,00	10	10	5	5
9,50	10	10	5	5
10,00	10	10	5	5
TOTAL	250	250	125	125

1183 Ø 1 a 13 X 0,5 mm

Ø mm	X mm	DIN
1 a 10	0,50	338

>HSS (1101) >HSS NSP (1158) >HSS CO (1105) >HSS TIN (1108)



REF.	€
HSS	*838,02*
HSS NSP	*900,99*
HSS CO	*1.043,37*
HSS TIN	*1.193,83*
VACIO/VIDE/EMPTY	*145,07*

Ø mm	HSS	HSS NSP	HSS CO	HSS TIN
1,00	20	20	10	10
1,50	10	10	5	5
2,00	20	20	10	10
2,50	10	10	5	5
3,00	20	20	10	10
3,50	10	10	5	5
4,00	20	20	10	10
4,50	10	10	5	5
5,00	20	20	10	10
5,50	10	10	5	5
6,00	20	20	10	10
6,50	10	10	5	5
7,00	10	10	5	5

Ø mm	HSS	HSS NSP	HSS CO	HSS TIN
7,50	10	10	5	5
8,00	10	10	5	5
8,50	10	10	5	5
9,00	10	10	5	5
9,50	10	10	5	5
10,00	10	10	5	5
10,50	5	5	5	5
11,00	5	5	5	5
11,50	5	5	5	5
12,00	5	5	5	5
12,50	5	5	5	5
13,00	5	5	5	5
TOTAL	280	280	155	155

8201 Ø 1 a 13 mm

>HSS DIN 338 N
(1101)



>HSS DIN 338 NSP
(1158)



>HSSCO DIN 338 N
(1105)



>HSSCO DIN 338 W
(1106)



>HSSTIN DIN 338 N
(1108)



Ø mm	HSS DIN 338 N	HSS DIN 338 NSP	HSSCO DIN 338 N	HSSCO DIN 338 W	HSSTIN DIN 338 N
1,00	20	20	20	-	20
1,50	20	20	10	-	10
2,00	50	50	20	-	20
2,25	20	20	20	-	10
2,50	40	40	20	-	10
3,00	50	50	20	-	20
3,25	30	30	20	10	10
3,50	40	40	20	10	20
4,00	50	50	30	10	30
4,25	30	30	20	10	10
4,50	40	40	20	10	10
5,00	50	50	30	10	30
5,25	20	20	10	10	10
5,50	30	30	20	10	20
6,00	50	50	30	10	20

Ø mm	HSS DIN 338 N	HSS DIN 338 NSP	HSSCO DIN 338 N	HSSCO DIN 338 W	HSSTIN DIN 338 N
6,50	20	20	10	10	10
7,00	20	20	10	10	10
7,50	10	10	10	10	10
8,00	40	40	20	10	10
8,50	20	20	10	10	10
9,00	20	20	10	10	10
9,50	10	10	10	10	10
10,00	20	20	10	10	10
10,50	5	5	5	5	5
11,00	5	5	5	5	5
11,50	5	5	5	5	5
12,00	10	10	5	5	5
12,50	5	5	5	5	5
13,00	5	5	5	5	5
TOTAL	735	735	430	200	360
€	*1.432,31*	*1.565,60*	*1.702,26*	*2.226,32*	*1.795,55*

8201/9 1/16" a 1/2" x 1/64"

>HSS DIN 338 NSP
(1158/9)



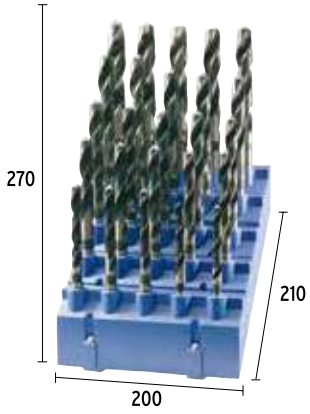
>HSSCO DIN 338 N
(1105/9)



Ø mm	HSS DIN 338 NSP	HSSCO DIN 338 N
1/16"	20	20
5/64"	20	10
3/32"	50	20
7/64"	20	20
1/8"	40	20
9/64"	50	20
5/32"	30	20
11/64"	40	20
3/16"	50	30
13/64"	30	20
7/32"	40	20
15/64"	50	30
1/4"	20	10
17/64"	30	20
9/32"	50	30

Ø mm	HSS DIN 338 NSP	HSSCO DIN 338 N
19/64"	20	10
5/16"	20	10
21/64"	10	10
11/32"	40	20
23/64"	20	10
3/8"	20	10
25/64"	10	10
13/32"	20	10
27/64"	5	5
7/16"	5	5
29/64"	5	5
15/32"	10	5
31/64"	5	5
1/2"	5	5
TOTAL	735	430
€	*1.855,61*	*1.991,75*

8203 Ø 14 a 30 mm (Ref. 1121)



Ø mm	
14,00	1
14,50	1
15,00	1
15,50	1
16,00	1
16,50	1
17,00	1
17,50	1
18,00	1

Ø mm	
18,50	1
19,00	1
19,50	1
20,00	1
20,50	1
21,00	1
21,50	1
22,00	1
22,50	1

Ø mm	
23,00	1
24,00	1
25,00	1
26,00	1
27,00	1
28,00	1
30,00	1
TOTAL	25
€	*1296,38*

8207 Ø 1 a 16 mm

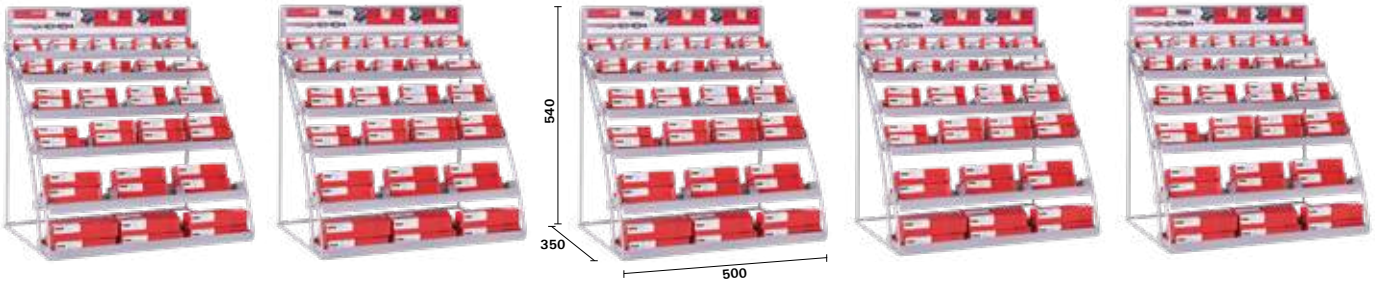
›HSS DIN 338 N (1101)

›HSS DIN 338 NSP (1158)

›HSSCO DIN 338 N (1105)

›HSSCO DIN 338 W (1187)

›HSSTIN DIN 338 N (1108)



Ø mm	HSS DIN 338 N	HSS DIN 338 NSP	HSSCO DIN 338 N	HSSCO DIN 338 W	HSSTIN DIN 338 N
1,00	40	40	40	40	40
1,50	20	20	20	20	20
2,00	40	40	40	40	40
2,25	40	40	40	40	40
2,50	40	40	40	40	40
3,00	60	60	60	60	60
3,25	40	40	40	40	40
3,50	40	40	40	40	40
4,00	60	60	60	60	60
4,25	40	40	40	40	40
4,50	40	40	40	40	40
5,00	60	60	60	60	60
5,50	40	40	40	40	40
6,00	60	60	60	60	60

Ø mm	HSS DIN 338 N	HSS DIN 338 NSP	HSSCO DIN 338 N	HSSCO DIN 338 W	HSSTIN DIN 338 N
6,50	20	20	20	20	20
7,00	20	20	20	20	20
7,50	20	20	20	20	20
8,00	30	30	30	30	30
8,50	20	20	20	20	20
9,00	20	20	20	20	20
10,00	20	20	20	20	20
11,00	10	10	10	10	10
12,00	10	10	10	10	10
13,00	5	5	5	5	5
TOTAL	795	795	795	795	795
€	*1.396,74*	*1.526,75*	*2.551,23*	*3.918,85*	*3.145,28*