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YOUR DAILY KNOW-HOW EXPERT

2026



- FAST MOVERS
- L'ESSENTIEL
- LOS PRINCIPALES

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■ Bij uitstek geschikt - Très approprié - Muy adecuado - Ideal geeignet - Very adequate

□ Beperkt geschikt - Approprié - Adecuado - Eingeschränkt geeignet - Adequate

ISO ■	ISO □	NL	FR	ES	DE	EN
P 11 ≤600 N/mm²	P 11 ≤600 N/mm²	**Ongelegeerd en gelegeerd staal ≤600 N/mm²** 1.0037 (St37), 1.0038 (S235JR G2), 1.00402 (C22), 1.1178 (C30E)	**Aciers non-alliés ou faiblement alliés ≤600 N/mm²** 1.0037 (A37), 1.0038 (E 24-2 Ne), 1.00402 (1C20), 1.1178 (1C30)	**Acero no aleado ≤600 N/mm²** 1.0037 (S235JR), 1.0038 (S235JR G2), 1.0402 (F.112), 1.1178 (C30E)	**Unlegierter und legierter Stahl ≤600 N/mm²** 1.0037 (St37), 1.0038 (S235JR G2), 1.00402 (C22), 1.1178 (C30E)	**Unalloyed and low-alloyed steel ≤600 N/mm²** 1.0037 (St37), 1.0038 (S235JR G2), 1.00402 (C22), 1.1178 (C30E)
P 12 ≤850 N/mm²	P 12 ≤850 N/mm²	**Ongelegeerd en gelegeerd staal 600 - 850 N/mm²** 1.0050 (St50-2), 1.0070 (St70-2), 1.0301 (C10), 1.0503 (C45), 1.1121 (Ck10), 1.1191 (C45E), 1.0718 (11SMnPb30), 1.0736 (11SMn37)	**Aciers non-alliés ou faiblement alliés 600 - 850 N/mm²** 1.0050 (A50-2), 1.0070 (A70-2), 1.0301 (1C10), 1.0503 (1C45), 1.1121 (XC10), 1.1191 (2C45), 1.0718 (S250PB), 1.0736 (S300Pb)	**Acero no aleado 600 - 850 N/mm²** 1.0050 (Fe490-2), 1.0070 (Fe690-2), 1.0301 (F.1151), 1.0503 (F.114), 1.1121 (F.1510-C10K), 1.1191 (C45K), 1.0718 (F.2112-11SMnPb28), 1.0736 (F.2113-11SMn37)	**Unlegierter und legierter Stahl 600 - 850 N/mm²** 1.0050 (St50-2), 1.0070 (St70-2), 1.0301 (C10), 1.0503 (C45), 1.1121 (Ck10), 1.1191 (C45E), 1.0718 (11SMnPb30), 1.0736 (11SMn37)	**Unalloyed and low-alloyed steel 600 - 850 N/mm²** 1.0050 (St50-2), 1.0070 (St70-2), 1.0301 (C10), 1.0503 (C45), 1.1121 (Ck10), 1.1191 (C45E), 1.0718 (11SMnPb30), 1.0736 (11SMn37)
P 13 ≤1000 N/mm²	P 13 ≤1000 N/mm²	**Gelegeerd staal 850 - 1000 N/mm²** 1.0727 (46S20), 1.0728 (60S20), 1.0757 (46SPb20), 1.2080 (X210Cr12), 1.2083 (X42Cr13), 1.2767 (X45NiCrMo4), 1.5131 (50MnSi4), 1.7003 (38Cr2), 1.7030 (28Cr4), 1.7043 (38Cr4)	**Aciers alliés 850 - 1000 N/mm²** 1.0727 (45MF4), 1.0728 (60S20), 1.0757 (46SPb20), 1.2080 (Z200C12), 1.2083 (Z40C14), 1.2767 (Y35NCD16), 1.5131 (50MnSi4), 1.7003 (38Cr2), 1.7030 (28Cr4), 1.7043 (38Cr4)	**Acero aleado 850 - 1000 N/mm²** 1.0727 (46S20), 1.0728 (60S20), 1.0757 (46SPb20), 1.2080 (F.5212-X210Cr12), 1.2083 (X42Cr13), 1.2767 (X45NiCrMo4), 1.5131 (50MnSi4), 1.7003 (38Cr2), 1.7030 (28Cr4), 1.7043 (38Cr4)	**Legierter Stahl 850 - 1000 N/mm²** 1.0727 (46S20), 1.0728 (60S20), 1.0757 (46SPb20), 1.2080 (X210Cr12), 1.2083 (X42Cr13), 1.2767 (X45NiCrMo4), 1.5131 (50MnSi4), 1.7003 (38Cr2), 1.7030 (28Cr4), 1.7043 (38Cr4)	**Alloyed steel 850 - 1000 N/mm²** 1.0727 (46S20), 1.0728 (60S20), 1.0757 (46SPb20), 1.2080 (X210Cr12), 1.2083 (X42Cr13), 1.2767 (X45NiCrMo4), 1.5131 (50MnSi4), 1.7003 (38Cr2), 1.7030 (28Cr4), 1.7043 (38Cr4)
P 14 ≤1400 N/mm²	P 14 ≤1400 N/mm²	**Gelegeerd staal 1000 - 1400 N/mm²** 1.5710 (36NiCr6), 1.7035 (41Cr40), 1.7225 (42CrMo4), 1.8519 (31CrMoV9), 1.8550 (34CrAlNi7), 1.5752 (15NiCr13), 1.7131 (16MnCr5), 1.7264 (20CrMo5)	**Aciers alliés 1000 - 1400 N/mm²** 1.5710 (36NiCr6), 1.7035 (41Cr40), 1.7225 (42CrMo4), 1.8519 (31CrMoV9), 1.8550 (34CrAlNi7), 1.5752 (15NiCr13), 1.7131 (16MnCr5), 1.7264 (20CrMo5)	**Acero aleado 1000 - 1400 N/mm²** 1.5710 (36NiCr6), 1.7035 (41Cr40), 1.7225 (42CrMo4), 1.8519 (31CrMoV9), 1.8550 (34CrAlNi7), 1.5752 (15NiCr13), 1.7131 (16MnCr5), 1.7264 (20CrMo5)	**Legierter Stahl 1000 - 1400 N/mm²** 1.5710 (36NiCr6), 1.7035 (41Cr40), 1.7225 (42CrMo4), 1.8519 (31CrMoV9), 1.8550 (34CrAlNi7), 1.5752 (15NiCr13), 1.7131 (16MnCr5), 1.7264 (20CrMo5)	**Alloyed steel 1000 - 1400 N/mm²** 1.5710 (36NiCr6), 1.7035 (41Cr40), 1.7225 (42CrMo4), 1.8519 (31CrMoV9), 1.8550 (34CrAlNi7), 1.5752 (15NiCr13), 1.7131 (16MnCr5), 1.7264 (20CrMo5)
H 15 HRC	H 15 HRC	**Gehard en inzetgehard staal 50 - 60 HRC** 1.2344 (X40CrMoV5), 1.2767 (X45NiCrMo4), 1.2379 (X155CrVMo12-1), 1.2080 (X210Cr12), 1.3343 (S6-5-2)	**Aciers trempés et Aciers de cémentation alliés 50 - 60 HRC** 1.2344 (Z 40 CDV 5), 1.2767 (X45NiCrMo4), 1.2379 (D2), 1.2080 (Z200C12), 1.3343 (Z85WDCV)	**Acero templado 50 - 60 HRC** 1.2344 (X40CrMoV5), 1.2767 (X45NiCrMo4), 1.2379 (X155CrVMo12-1), 1.2080 (X210Cr12), 1.3343 (S6-5-2)	**Gehärteter und einsatzgehärteter Stahl, 50–60 HRC** 1.2344 (X40CrMoV5), 1.2767 (X45NiCrMo4), 1.2379 (X155CrVMo12-1), 1.2080 (X210Cr12), 1.3343 (S6-5-2)	**Hardened and case hardenend steel 50 - 60 HRC** 1.2344 (X40CrMoV5), 1.2767 (X45NiCrMo4), 1.2379 (X155CrVMo12-1), 1.2080 (X210Cr12), 1.3343 (S6-5-2)
M 21 INOX ≤850N/mm²	M 21 INOX ≤850N/mm²	**Roestvaststaal, INOX ≤850 N/mm²** 1.4005 (X12CrS13), 1.4104 (X14CrMoS17), 1.4105 (X6CrMoS17), 1.4301 (XCrNi18-10)(304), 1.4305 (X8CrNiS18-9)(303)	**Aciers Inoxydables ≤850 N/mm²** 1.4005 (Z11CF13), 1.4104 (Z13CF17), 1.4105 (Z8CF17), 1.4301 (XCrNi18-10)(304), 1.4305 (X8CrNiS18-9)(303)	**Acero inoxidable ≤850 N/mm²** 1.4006 (F.3401-X10Cr13), 1.4104 (F.3117-X10Crs17), 1.4301 (F.3504-X5CrNi18-10)(304), 1.4305 (F.3508-X10CrNiS18-09)(303)	**Rostfreier Stahl, INOX ≤850 N/mm²** 1.4005 (X12CrS13), 1.4104 (X14CrMoS17), 1.4105 (X6CrMoS17), 1.4301 (XCrNi18-10)(304), 1.4305 (X8CrNiS18-9)(303)	**Stainless steel, INOX ≤850 N/mm²** 1.4005 (X12CrS13), 1.4104 (X14CrMoS17), 1.4105 (X6CrMoS17), 1.4301 (XCrNi18-10)(304), 1.4305 (X8CrNiS18-9)(303)
M 22 INOX >850N/mm²	M 22 INOX >850N/mm²	**Roestvaststaal, INOX >850 N/mm²** 1.4438 (X2CrNiMo18-15-4)(317), 1.4404 (X2CrNiMo17-12-2)(316L), 1.4571 (X6CrNiMoTi17-12-2)(316Ti)	**Aciers Inoxydables >850 N/mm²** 1.4438 (X2CrNiMo18-15-4)(317), 1.4404 (X2CrNiMo17-12-2)(316L), 1.4571 (X6CrNiMoTi17-12-2)(316Ti)	**Acero inoxidable >850 N/mm²** 1.4438 (X2CrNiMo18-15-4)(317), 1.4404 (X2CrNiMo17-12-2)(316L), 1.4571 (F.3535-X6CrNiMoTi17-12-2)(316Ti)	**Rostfreier Stahl, INOX >850 N/mm²** 1.4438 (X2CrNiMo18-15-4)(317), 1.4404 (X2CrNiMo17-12-2)(316L), 1.4571 (X6CrNiMoTi17-12-2)(316Ti)	**Stainless steel, INOX >850 N/mm²** 1.4438 (X2CrNiMo18-15-4)(317), 1.4404 (X2CrNiMo17-12-2)(316L), 1.4571 (X6CrNiMoTi17-12-2)(316Ti)
K 31 GG	K 31 GG	**Grijs gietijzer GG <260 HB30** 0.6015 (GG 15), 0.6025 (GG 25), 0.6040 (GG 40)	**Fontes <260 HB30** 0.6015 (GG 15), 0.6025 (GG 25), 0.6040 (GG 40)	**Fundición gris con grafito laminado** GG <260 HB30 0.6015 (FG15), 0.6025 (FG25), 0.6040 (FG40)	**Grauguss GG <260 HB30** 0.6015 (GG 15), 0.6025 (GG 25), 0.6040 (GG 40)	**Grey cast iron GG <260 HB30** 0.6015 (GG 15), 0.6025 (GG 25), 0.6040 (GG 40)
K 32 GGG GTS-GTW	K 32 GGG GTS-GTW	**Smeedbaar en Nodulair gietijzer <260 HB30** 0.8145 (GTS-45), 0.8170 (GTS-70-02), 0.7040 (GGG 40), 0.7070 (GGG 70)	**Fontes à graphites et malléables <260 HB30** 0.8145 (GTS-45), 0.8170 (GTS-70-02), 0.7040 (GGG 40), 0.7070 (GGG 70)	**Fundición gris con grafito esferoidal <260 HB30** 0.8145 (GTS-45), 0.8170 (GTS-70-02), 0.7040 (GGG 40), 0.7070 (GGG 70)	**Formbar und dehnbares Gusseisen <260 HB30** 0.8145 (GTS-45), 0.8170 (GTS-70-02), 0.7040 (GGG 40), 0.7070 (GGG 70)	**Nodular and malleable cast iron <260 HB30** 0.8145 (GTS-45), 0.8170 (GTS-70-02), 0.7040 (GGG 40), 0.7070 (GGG 70)
N 41 Alu	N 41 Alu	**Aluminium en Aluminiumlegeringen** 3.0255 (Al99,5), 3.2315 (AlMgSi1), 3.3515 (AlMg1)	**Aluminium et Alliages d'Aluminium** 3.0255 (A590050C), 3.2315 (AlMgSi1), 3.3515 (AlMg1)	**Aluminio y aleaciones de Aluminio** 3.0255 (Al99,5), 3.2315 (AlMgSi1), 3.3515 (AlMg1)	**Aluminium und Aluminiumlegierungen** 3.0255 (Al99,5), 3.2315 (AlMgSi1), 3.3515 (AlMg1)	**Aluminium and Aluminium alloys** 3.0255 (Al99,5), 3.2315 (AlMgSi1), 3.3515 (AlMg1)
N 42 Alu Si>10%	N 42 Alu Si>10%	**Gietaluminium Si 10 - 24%** 3.2131 (G-AlSi5Cu1), 3.2153 (G-AlSi7Cu3), (3.2573 G-AlSi9),, 3.2581 (G-AlSi12), 3.2583 (G-AlSi12Cu)	**Alliages d'Aluminium Si 10 - 24%** 3.2131 (G-AlSi5Cu1), 3.2153 (G-AlSi7Cu3), (3.2573 G-AlSi9), 3.2581 (G-AlSi12), 3.2583 (G-AlSi12Cu)	**Fundición de Aluminio aleada Si 10 - 24%** 3.2131 (G-AlSi5Cu1), 3.2153 (G-AlSi7Cu3), (3.2573 G-AlSi9), 3.2581 (L-2520,2I), 3.2583 (L2530)	**Druckguss Si 10 - 24%** 3.2131 (G-AlSi5Cu1), 3.2153 (G-AlSi7Cu3), (3.2573 G-AlSi9), 3.2581 (G-AlSi12), 3.2583 (G-AlSi12Cu)	**Cast Aluminium Si 10 - 24%** 3.2131 (G-AlSi5Cu1), 3.2153 (G-AlSi7Cu3), (3.2573 G-AlSi9),, 3.2581 (G-AlSi12), 3.2583 (G-AlSi12Cu)
N 43 Mg	N 43 Mg	**Magnesiumlegeringen** 3.5200 (MgMn2), 3.5812 (G-MgAl8Zn1), 3.5612 (G-MgAl6Zn1)	**Alliages de Magnésium** 3.5200 (MgMn2), 3.5812 (AZ81hp), 3.5612 (AZ61)	**Aleaciones de Magnesio** 3.5200 (MgMn2), 3.5812 (AZ81hp), 3.5612 (AZ61)	**Magnesiumlegierungen** 3.5200 (MgMn2), 3.5812 (G-MgAl8Zn1), 3.5612 (G-MgAl6Zn1)	**Magnesium alloys** 3.5200 (MgMn2), 3.5812 (G-MgAl8Zn1), 3.5612 (G-MgAl6Zn1)
N 51 Cu	N 51 Cu	**Koper en Koperlegeringen** 2.0070 (SE-Cu), 2.1020 (CuSn6), 2.1096 (G-CuSn5ZnPb), 2.0380 (CuZn39Pb2), 2.0401 (CuZn39Pb3), 2.0250 (CuZn20), 2.0280 (CuZn33), 2.0332 (CuZn37Pb0,5)	**Cuivres et Alliages de cuivres** 2.0070 (SE-Cu), 2.1020 (CuSn6), 2.1096 (G-CuSn5ZnPb), 2.0380 (CuZn40), 2.0401 (Cu-Zn39Pb3), 2.0250 (CuZn20), 2.0280 (CuZn33), 2.0332 (CuZn37Pb0,5)	**Cobre y aleaciones de cobre** 2.0070 (SE-Cu), 2.1020 (CuSn6), 2.1096 (G-CuSn5ZnPb), 2.0380 (CuZn39Pb2), 2.0401 (CuZn39Pb3), 2.0250 (CuZn20), 2.0280 (CuZn33), 2.0332 (CuZn37Pb0,5)	**Kupfer und Kupferlegierungen** 2.0070 (SE-Cu), 2.1020 (CuSn6), 2.1096 (G-CuSn5ZnPb), 2.0380 (CuZn39Pb2), 2.0401 (CuZn39Pb3), 2.0250 (CuZn20), 2.0280 (CuZn33), 2.0332 (CuZn37Pb0,5)	**Copper and copper alloys** 2.0070 (SE-Cu), 2.1020 (CuSn6), 2.1096 (G-CuSn5ZnPb), 2.0380 (CuZn39Pb2), 2.0401 (CuZn39Pb3), 2.0250 (CuZn20), 2.0280 (CuZn33), 2.0332 (CuZn37Pb0,5)
N 52 CuAlFe	N 52 CuAlFe	**Koper- en Aluminiumlegering** 2.0916 (CuAl5), 2.0960 (CuAl9Mn), 2.1050 (CuSn10), 2.0980 (CuAl11Ni), 2.1247 (CuBe2) AMPCO® 8, AMPCO® 8 15, AMPCO® 18	**Cuivre et Alliages d'Aluminium** 2.0916 (CuAl5), 2.0960 (CuAl9Mn), 2.1050 (CuSn10), 2.0980 (CuAl11Ni), 2.1247 (CuBe1.9) AMPCO® 8, AMPCO® 8 15, AMPCO® 18	**Cobre y aleaciones de Aluminio** 2.0916 (CuAl5), 2.0960 (CuAl9Mn), 2.1050 (CuSn10), 2.0980 (CuAl11Ni), 2.1247 (CuBe2) AMPCO® 8, AMPCO® 8 15, AMPCO® 18	**Kupfer- und Aluminiumlegierungen** 2.0916 (CuAl5), 2.0960 (CuAl9Mn), 2.1050 (CuSn10), 2.0980 (CuAl11Ni), 2.1247 (Cu-Be2) AMPCO® 8, AMPCO® 8 15, AMPCO® 18	**Copper and Aluminium alloys** 2.0916 (CuAl5), 2.0960 (CuAl9Mn), 2.1050 (CuSn10), 2.0980 (CuAl11Ni), 2.1247 (CuBe2) AMPCO® 8, AMPCO® 8 15, AMPCO® 18
N 61 PVC	N 61 PVC	**Duroplastic en Thermoplastic** PMMA, PVC, PE, PP, PTFE	**Duroplastiques et Thermoplastiques** PMMA, PVC, PE, PP, PTFE	**Duroplásticos en Termoplásticos** PMMA, PVC, PE, PP, PTFE	**Duroplaste und Thermoplaste** PMMA, PVC, PE, PP, PTFE	**Duroplastics en Thermoplastics** PMMA, PVC, PE, PP, PTFE
N 62 GFK/CFK	N 62 GFK/CFK	**Versterkte kunststoffen** GFK, CFK	**Plastiques réenforcés** GFK, CFK	**Plásticos reforzados** GFK, CFK	**Verstärkte Kunststoffe** GFK, CFK	**Reinforced plastics** GFK, CFK
S 71 Ni/Co	S 71 Ni/Co	**Nikkel- en Cobaltlegeringen** Hastelloy, Inconel, Nimonic, Jetalloy	**Alliages de Nickel et de Cobalt** Hastelloy, Inconel, Nimonic, Jetalloy	**Aleaciones de Níquel y Cobalto** Hastelloy, Inconel, Nimonic, Jetalloy	**Nickel und Kobaltlegierungen** Hastelloy, Inconel, Nimonic, Jetalloy	**Nikkel and Cobalt alloys** Hastelloy, Inconel, Nimonic, Jetalloy
S 72 Ti	S 72 Ti	**Titaniumlegeringen** 3.7024 (Ti99,5), 3.7114 (TiAl5Sn2,5), 3.7124 (TiCu2), 3.7154 (TiAl6Zr5), 3.7165 (TiAl6V4), 3.7184 (TiAl4Mo4Sn2,5)	**Alliages de Titane** 3.7024 (T35), 3.7114 (TiAl5Sn2,5), 3.7124 (T-U2), 3.7154 (TiAl6Zr5), 3.7165 (TiAl6V4), 3.7184 (TiAl4Mo4Sn2,5)	**Titanio aleado** 3.7024 (Ti99,5), 3.7114 (TiAl5Sn2,5), 3.7124 (TiCu2), 3.7154 (TiAl6Zr5), 3.7165 (TiAl6V4), 3.7184 (TiAl4Mo4Sn2,5)	**Titanlegierungen** 3.7024 (Ti99,5), 3.7114 (TiAl5Sn2,5), 3.7124 (TiCu2), 3.7154 (TiAl6Zr5), 3.7165 (TiAl6V4), 3.7184 (TiAl4Mo4Sn2,5)	**Titanium alloys** 3.7024 (Ti99,5), 3.7114 (TiAl5Sn2,5), 3.7124 (TiCu2), 3.7154 (TiAl6Zr5), 3.7165 (TiAl6V4), 3.7184 (TiAl4Mo4Sn2,5)

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24/7 KNOWLEDGE PLATFORM

- **More than 30,000 machining tools easy to find**
- **Orders placed before 19.00h are shipped the same day**



NL

- 24/7 kennisplatform gemaakt voor metaalbewerkers door metaalbewerkers
- Meer dan 30.000 verspanenden producten eenvoudig vindbaar
- Bestellen voor 19.00 uur is vandaag verstuurd

DE

- 24/7 Wissensplattform von Metallarbeitern für Metallarbeiter
- Mehr als 30.000 Metallbearbeitungsprodukte leicht auffindbar
- Bestellung vor 19.00 Uhr wird noch gleicher Tag verschickt

FR

- Plateforme de connaissances 24/7 conçue pour des spécialistes par des spécialistes
- Plus de 30.000 outils coupants faciles à trouver
- Les commandes passées avant 19h00 sont expédiées le jour même

ES

- Una plataforma de conocimiento 24/7 hecha por metalúrgicos para metalúrgicos
- Más de 30.000 herramientas de mecanizado fáciles de encontrar
- Los pedidos realizados antes de las 19.00h se envían hoy mismo

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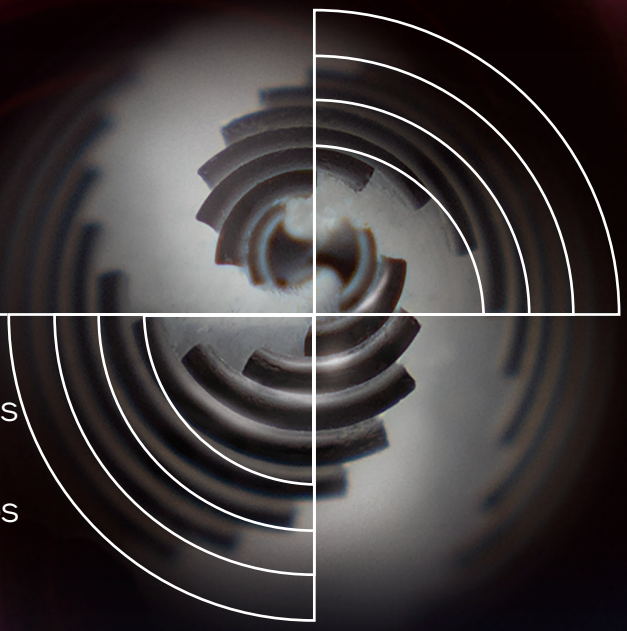
MULTI DIAMETER STEP DRILL

Perfectly round holes



NL | Perfect ronde gaten
FR | Perçage de trous circulaires précis
DE | Perfekt runde Löcher
ES | Agujeros perfectamente redondos

ERGO-STEP

ERGONOMIC & EFFICIENT

NL | Ergonomisch & efficiënt
FR | Ergonomique & Efficace
DE | Ergonomisch & Effizient
ES | Ergonómico & Eficiente

NEW



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International Tools

SMART METAL TOOLS FOR YOU

STEP-POINT DRILLS

"CUTS LIKE A KNIFE THROUGH BUTTER"

NL | "Boort als een mes door de boter"
FR | "Comme un couteau dans du beurre"
DE | "Bohrt wie ein Messer durch Butter"
ES | "Penetra como un cuchillo en la mantequilla"



PROFESSIONAL EFFORTLESS DRILLING BY HAND

NL | Professioneel licht boren uit de hand
FR | Perçage facile & rapide
DE | Professionelles Lichtbohren aus der Hand
ES | Taladro, professional, controlado y fácil

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ICONEN ICONES ICONOS PIKTOGRAMME ICONS

	NL	FR	ES	DE	EN
HSS	HSS	HSS	HSS	HSS	HSS
HSS-E	HSS-E (5% Cobalt)	HSS-E (5% Cobalt)	HSS-E (5% Cobalto)	HSS-E (5% Cobalt)	HSS-E (5% Cobalt)
HM-TIP	Hardmetaal Tip	Plaquette carbure brasée	Plaquitas de metal duro soldadas	mit HM-Schneiden	Carbide Tipped
TiN	TiN gecoat	Revêtement TiN	Recubrimiento TiN	TiN Beschichtung	TiN coated
TiAlN	TiAlN gecoat	Revêtement TiAlN	Recubrimiento TiAlN	TiAlN Beschichtung	TiN coated
OX.	Stoomontlaten	Vaporisé	Vaporizado	Dampfangelassen	Steam tempered
DIN 338	DIN norm	Norme DIN	Norma DIN	DIN Norm	DIN norm
NORM	Fabriek standaard	Standard usine	Estándar de la fábrica	Werksnorm	Factory standard
NFE 66051-A	NFE norm	Norme NFE	Norma NFE	NFE Norm	NFE norm
N	Type N, standaard spiraaluitvoering	Type N, hélice standard	Tipo N, Versión helicoidal estándar	Type N, standard Spiralwinkel	Type N, standard spiral
>N	Spiraalhoek sterker dan standaard	Hélice plus rapide que standard	Ángulo de hélice más rápido que estándar	Spiralwinkel starker wie Standard	Helix quicker than standard
TS	Type TS, Tiefloch-spiraal	Type TS, goujure large	Tipo TS, Hélice para perforación profunda	Type TS, Tiefloch Spiral	Type TS, deep hole helix
	Cilindrische schacht	Queue cylindrique	Mango cilíndrico	Zylinderschaft	Straight shank

	NL	FR	ES	DE	EN
Ø13	Afgedraaide schacht	Queue réduite	Mango rebajado	Abgedrehtem Zylinderschaft	Reduced shank
DIN 228-B	Morse Konus Opname	Cône morse	Mango cónico	Morsekegel	Morse Taper shank
	Standaard boorpunt	Affûtage standard	Afilado normal	Standard Bohrerspitze	Standard drill point
	Kruisaanslijping	Affûtage en croix	Afilado en Cruz	Kreuzanschliff	Splitpoint
	S-aanslijping	Affûtage en S	Afilado en S	S-Anschliff	S point
	Met verdunde punt	Ame amincie	Con alma delgada	Ausgedünde Spitze	With thinned point
	HM-Snijkanten	A plaquettes carbure brasées	Punta Metal Duro	HM-Schneiden	Carbide Tipped
118°	Tophoek	Angle au sommet	Ángulo de la punta	Spitzenwinkel	Top angle
60°	Uitvoering centreergat	Angle de lamage	Versión ángulo avellanado	Ausführung Zentrierloch	Centre hole
INOX	T.b.v. roestvaststaal	Pour Inox	Para acero inoxidable	Für Rostfreier Stahl	For stainless steel
ECO PRO	ECO PRO, industrie kwaliteit	ECO PRO, qualité industrielle	ECO PRO, calidad de la industria	ECO PRO, Industriequalität	ECO PRO, industry quality
ECO	ECO, basis kwaliteit	ECO, qualité standard	ECO, calidad básica	ECO, grundlegende Qualität	ECO, basic quality



ICONEN ICONES ICONOS PIKTOGRAMME ICONS

	NL	FR	ES	DE	EN
HSS	HSS	HSS	HSS	HSS	HSS
HSS-E	HSS-E (5% Cobalt)	HSS-E (5% Cobalt)	HSS-E (5% Cobalto)	HSS-E (5% Cobalt)	HSS-E (5% Cobalt)
HSS-E PM	PowderMetal HSS-E (5% Cobalt)	Acier rapide fritté de haute qualité	Acero rápido pulvimetalúrgico	Pulvermetall HSS-E (5% Cobalt)	PowderMetal HSS-E (5% Cobalt)
M	Metrisch	Metrique	Métrica	Metrisch	Metric
MF	Metrisch Fijn	Métrique pas fin	Métrica Fina	Metrisch Fein	Metric Fine
BSP G	British Standard Pipe (Gasdraad)	Filetage BSP(Gaz)	Rosca BSP (Gas)	British Standard Pipe (Gasgewinde)	British Standard Pipe (Gas thread)
EG	EG (Phan-Coil)	EG (Phan-Coil)	EG (Phan-Coil)	EG (Phan-Coil)	EG (Phan-Coil)
Phan-Coil	Schroefdraad-reparatie	Réparation de filetage	Reparar de rosca	Gewindereparatur	Thread repair
60°	Tophoek schroefdraad	Angle au sommet	Ángulo de punta de la rosca	Flankenwinkel	Point angle
TiN	TiN gecoat	Revêtement TiN	Recubrimiento TiN	TiN Beschichtung	TiN coated
OX.	Stoomontlaten	Vaporisé	Vaporizado	Dampfangelassen	Steam tempered
DIN 371	DIN norm	Norme DIN	Norma DIN	DIN Norm	DIN norm
NFE 66103	NFE norm	Norme NFE	Norma NFE	NFE Norm	NFE norm
ISO 529	ISO norm	Norme ISO	Norma ISO	ISO Norm	ISO norm
NORM	Fabriek standaard	Standard usine	Estándar de la fábrica	Werksnorm	Factory standard

	NL	FR	ES	DE	EN
2,5xD	Max. draadlengte	Profondeur max. de taraudage	Profundidad máx. de roscar	Max. Gewindelänge	Max. thread length
	Set a 3 stuks	Jeu de 3 pièces	Juego de 3 piezas	Satz von 3 Stück	Set of 3
	Voor handgebruik	Pour usage à la main	Para uso manual	für Handgebrauch	For hand use
38°	Spiraalhoek	Angle d'hélice	Angulo de hélice	Spiralwinkel	Spiral angles
Form B	Met schilaansnijding	Coupe GUN	Con entrada corregida (GUN)	Schälanschnitt	GUN nosed
2,5	Aantal gangen aansnijding	Nombre de filets	Número de hilos	Anzahl Gangen Anschnitt	Number of lead chamfers
75°	Draad teruglopend na de 5e gang	Tronqués après le 5ème filet	Roasca rebajada a partir de 5° hilo	Rücklaufend nach dem 5. Gang	Back tapered after the 5th chamfer
	Schilaansnijding snijplaten	Entrée GUN	Entrada corregida (GUN)	Schälanschnitt Schneideisen	Chamfer form for dies
	Doorlopende gaten	Trou débouchant	Agujero pasante	Durchgangslöcher	Through holes
	Blinde gaten	Trou borgne	Agujero ciego	Sacklöcher	Blind holes
2B	Tolerantie 2B	Tolérance 2B	Tolerancia 2B	Toleranz 2B	Tolerance 2B
INOX	T.b.v. roestvaststaal	Pour Inox	Para acero inoxidable	Für Rostfreier Stahl	For stainless steel
UNI	Universeel	Universel	Universal	Universal High Performance	Universal
ECO PRO	ECO PRO, industrie kwaliteit	ECO PRO, qualité industrielle	ECO PRO, calidad de la industria	ECO PRO, Industriequalität	ECO PRO, industry quality
ECO	ECO, basis kwaliteit	ECO, qualité standard	ECO, calidad básica	ECO, grundlegende Qualität	ECO, basic quality

ICONEN ICONES ICONOS PIKTOGRAMME ICONS

	NL	FR	ES	DE	EN
HSS	HSS	HSS	HSS	HSS	HSS
HSS-E	HSS-E (5% Cobalt)	HSS-E (5% Cobalt)	HSS-E (5% Cobalto)	HSS-E (5% Cobalt)	HSS-E (5% Cobalt)
VHM SC	Volhardmetaal	Carbure monobloc	Metal duro integral	Hartmetall	Solid Carbide
OX.	Stoomontlaten	Vaporisé	Vaporizado	Dampfangelassen	Steam tempered
NIT.	Genitreerd	Nitruré	Nitrurado	Nitriert	Nitrated
TiAIN	TiAIN gecoat	Revêtement TiAIN	Recubrimiento TiAIN	TiAIN Beschichtung	TiN coated
DIN 335-C	DIN norm	Norme DIN	Norma DIN	DIN Norm	DIN norm
	Verzinkfrees met schuin gat	Fraise à chanfreiner à trou	Avellanador con agujero	Kegelsenker mit schräger Bohrung	Countersink with through holes
3	Verzinkfrees 3 snijkanten, frezende bewerking	Fraise à chanfreiner à 3 dents, pour fraisage	Avellanador con 3 dientes, para fresar	Kegelsenker mit 3 Schneiden, für fräsen	Countersink with single flute
3	Verzinkfrees 3 snijkanten, borende bewerking	Fraise à chanfreiner à 3 dents, pour perçage	Avellanador con 3 dientes, para taladar	Kegelsenker mit 3 Schneiden, für Bohren	Countersink with 3 flutes, for milling applications

	NL	FR	ES	DE	EN
VARI	Variabele tandsteek	A pas variable	Paso variable	Variabler Verzahnung	Variable pitch
90°	Verzinkhoek	Angle de chanfreinage	Ángulo de avellanar	Senkwinkel	Countersinking angle
	Cilindrische schacht	Queue cylindrique	Mango cilíndrico	Zylinderschaft	Straight shank
DIN 228-B	Morse Konus Opname	Cône morse	Mango cónico	Morsekegel	Morse Taper shank
¼"	Bitopname (1/4")	Queue hexagonale 1/4" (6,35 mm)	Mango hexagonal 1/4" (6,35 mm)	Bitaufname (1/4")	Hexagonal shank 1/4"
	Voor handgebruik	Pour usage à la main	Para uso manual	für Handgebrauch	For hand use
	Parabolisch geslepen spaankamer	Goujure droite	Labios rectos	Parabolisch geschliffen Spanraum	Parabolic cut chip chamber
	Recht geslepen spaankamer	Goujure parabolique	Labios parabólicos	Gerade gesliefen Spanraum	Straight chiproom
ECO PRO	ECO PRO, industrie kwaliteit	ECO PRO, qualité industrielle	ECO PRO, calidad de la industria	ECO PRO, Industriequalität	ECO PRO, industry quality
ECO	ECO, basis kwaliteit	ECO, qualité standard	ECO, calidad básica	ECO, grundlegende Qualität	ECO, basic quality

1-ALU	3-FINE	4-DIAMOND	6-UNI	8-STEEL	9-INOX
N	P M K S H	P M S	P M K S H	P K	M

ICONEN ICONES ICONOS PIKTOGRAMME ICONS

	NL	FR	ES	DE	
HSS	HSS	HSS	HSS	HSS	HSS
HSS-E	HSS-E (5% Cobalt)	HSS-E (5% Cobalt)	HSS-E (5% Cobalto)	HSS-E (5% Cobalt)	HSS-E (5% Cobalt)
DIN 212-B	DIN norm	Norme DIN	Norma DIN	DIN Norm	DIN norm
h8	Cilindrische schacht h8	Queue cylindrique h8	Mango cilíndrico h8	Zylinderschaft h8	Straight shank h8

	NL	FR	ES	DE	EN
DIN 228-B	Morse Konus Opname	Cône morse	Mango cónico	Morsekegel	Morse Taper shank
x0,01	Oplopend met 0,01 mm	Croissant par 0,01 mm	Creciente por 0,01 mm	Ansteigend mit 0,01 mm	Increasing with 0.01 mm
H7	Passing	Tolérance	Tolerancia	Passung	Tolerance
≤ø3 -0,000 +0,003	Tolerantie diameter	Tolérance diamètre	Tolerancia diámetro	Toleranz Durchmesser	Tolerance diameter

ICONEN ICONES ICONOS PIKTOGRAMME ICONS

	NL	FR	ES	DE	EN
HSS	HSS	HSS	HSS	HSS	HSS
HSS-E 8%	HSS-E (8% Cobalt)	HSS-E (8% Cobalt)	HSS-E (8% Cobalt)	HSS-E (8% Cobalt)	HSS-E (8% Cobalt)
HM-TIP	Hardmetaal Tip	Plaquette carbure brasée	Plaquitas de metal duro soldadas	mit HM-Schneiden	Carbide Tipped
BiM HSS	HSS Bi-Metaal	Bi-métal HSS	HSS Bimetálica	HSS Bi-Metall	HSS Bi-Metall
OX.	Stoomontlaten	Vaporisé	Vaporizado	Dampfangelassen	Steam tempered
NIT.	Genitreerd	Nitruré	Nitrurado	Nitriert	Nitrated
TiN	TiN gecoat	Revêtement TiN	Recubrimiento TiN	TiN Beschichtung	TiN coated
INOX	T.b.v. roestvaststaal	Pour Inox	Para acero inoxidable	Für Rostfreier Stahl	For stainless steel
UNI	Voor verschillende materiaaldiktes	Pour pouvoir scier différentes épaisseurs de matériau	Para poder serrar material con diferentes espesores	Zur Bearbeitung unterschiedlicher Materialdicken	For multiple material thicknesses
0,5-25 mm	Materiaaldikte	Épaisseur du matériau	Espesor de material	Materialstärke	Material thickness
BW	Om en om afgeschuinde tand	Denture angulaire moyenne alternée	Forma de diente gruessa alternativa	Gebogene Zahn, jeder zweite abgeschrägt	Alternately tapered (BW)
C	Met voor- en nasnijder	Denture rectifiée et affutée	Con dientes rectificadas y afiladas	Mit Vor- und Nachschneider	With pre-cutter and post-cutter
Ø19 WELDON	Standaard kernboor opname Weldon 19 mm	Cône fraise à carotter standard, Weldon 19 mm	Sujeción estándar fresa hueca, Weldon 19 mm	Standard Kern-bohrer-aufnahme Weldon 19 mm	Standard core drill shank
Ø19 QUICK	Snelwisselop-name Quick 19 mm	Changement rapide d'outil 19 mm	Sujeción de cambio rápido 19 mm	Schnellwechsel Kernbohrer-auf-nahme 19 mm	Rota-Quick® shank 19 mm
Ø18 FEIN QUICKIN	Fein Quickin kernboor opname 18 mm	Cône fraise à carotter Fein Quickin 18 mm	Sujeción Fein Quickin fresa hueca 18 mm	Fein Quickin Kernbohrer-aufnahme 18 mm	Fein QuickIN shank 18 mm
	Kokerprofiel dunwandig	Profilés fins	Material de perfiles delgado	Schlauchmaterial dünn	Thin tube profile
	Kokerprofiel dikwandig	Profilés épais	Material de perfiles grande	Schlauchmaterial dick	Thick tube profile
GG	Buis gietijzer	Tube fonte	Tubo fundición	Gussrohre	Cast iron pipe
	Gesloten profiel	Profil fermé	Perfil cerrado	Geschlossene Profile	Closed profile
	Contoursnedes	Pour contours	Corte perfiles	Kurvenschnitt	Curve cut

	NL	FR	ES	DE	EN
	Hardhout	Bois dur	Madera dura	Hartholz	Also suitable for hardwood
	Hogesnelheid-snedes	Coupe ultra-rapide	Corte rápido	Sehr schneller Schnitt	High-speed cut
	Keukenblad	Plan de travail	Encimera	Küchenarbeits-platten	Kitchen worktop
	Laminaat	Parquet	Laminado	Laminat	Laminate
	Gelamineerde platen	Contreplaqué filmé	Chapa laminada	Beschichtete Platten	Laminated board
	Gelijmd hout	Contreplaqué	Tableros contra-chapada	Multiplex / Tischlerplatten	Multiplex / glued wood
Cu Ni Ms Zn Al	Non ferro / aluminium	Non ferreux / aluminium	Metal no férreo / Aluminio	Buntmetall / Aluminium	Non-ferrous metals/ Aluminium
	Renovatie / Raamkozijnen	Renovation bâtiment / Châssis fenêtre	Renovación/ Marcos	Altbausanierung / Fensterrahmen	Old-building renovation / window frames
	Open profielen	Profil ouvert	Perfil abierto	Offene Profile	Open profile
	Pallets	Palette / Bois de palette	Pallet	Palettenbau	Pallet-construction
	Kunststof	Plastique	Plástico	Kunststoff	Plastics
	Multiplex	Contreplaqué	Madera contrachapada	Sperrholz	Multiplex
	Versterkt kunststof	Plastique reforce	Plásrico fortalece	Faserverstärkte Kunststoffe	Reinforced plastics
	Sandwich panelen	Contreplaquet	Material tupo Sandwich	Sandwich-Material	Sandwich material
	Dun plaatmateriaal	Matériaux plat fins	Material de chapas fino	Stahlbleche	Sheet steel
SOFT	Zacht hout / bouwhout	Bois de construction	Madera de construcción	Weich- / Konstruktionsholz	Softwood / contruction wood
	Stalen buizen	Tube en acier	Tubos en acero	Stahlrohre	Steel pipe
	Rechte snedes	Coupe droite	Corte recto	Gerader Schnitt	Straight cut
	Schone snedes	Coupe sans éclats sur la surface	Corte muy liso	Sehr sauberer Schnitt	Straight cut

ICONEN ICONES ICONOS PIKTOGRAMME ICONS

	NL	FR	ES	DE	EN
DIN 225	DIN norm	Norme DIN	Norma DIN	DIN Norm	DIN norm
TYPE A	Standaard uitvoering	Version standard	Versión estándar	Standard Ausführung	Standard version
	Klopvaste uitvoering	Tenue aux percussions	Resistente a percusiones	Schlagfester Ausführung	Hammer drilling
F7	Tolerantie boringsdiameter	Tolérance d'alésage	Tolerancia de escariado	Toleranz Borungs-durchmesser	Tolerances

	NL	FR	ES	DE	EN
n6	Tolerantie buitenmaat	Tolérance du diamètre externe	Tolerancia diámetro externo	Toleranz Aussen-durchmesser	Thick tube profile
C T	Druk- en trekcom-pensatie	Compensation de pression et de traction	Compensación de presión y de tracción	Ausgleich für Druck und Zug	Push and pull compensation
AUTO REVERSAL	Omkeerinrichting	Avec dispositif d'inversion	Con dispositivo de inversión	Mit Umkehrvor-richtung	With pendular system

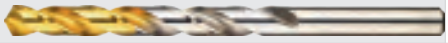
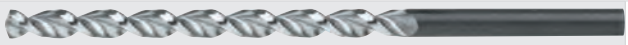
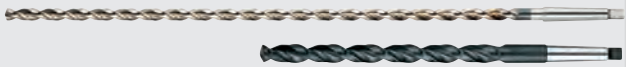
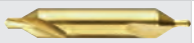
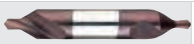
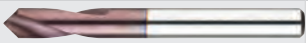
NL Index
FR Index
ES índice
DE Übersicht
EN Index

P K Bij uitstek geschikt
H N Très approprié
M S Muy adecuado
Ideal geeignet
Very adequate

P K Beperkt geschikt
H N Approprié
M S Adecuado
Eingeschränkt geeignet
Adequate

P= pagina
P= page
P= página
P= Seite

› 11.110	International Tools	DIN 1897	HSS	ECO		P	M	K	N		P. 12
› 11.120	International Tools	HSS	ECO	C6,3 1/4"		P		K	N		P. 12
› 11.130	Phantom	DIN 1897	HSS			P	M	K	N		P. 12
› 11.142	International Tools	HSS	NORM	ECO PRO		P	M	K	N	NEW	P. 13
› 11.145	Phantom	HSS	NORM			P	M	K	N		P. 13
› 11.150	International Tools	DIN 1897	HSS-E	ECO PRO		P	M	K	N		P. 14
› 11.160	Phantom	DIN 1897	HSS-E			P	M	K	N		P. 14
› 11.161	Phantom	DIN 1897	HSS-E			P	M	K	N		P. 15
› 11.400	International Tools	DIN 338	HSS	ECO		P		K			P. 15
› 11.403	Phantom	Ø13	HSS			P	M	K	N		P. 16
› 11.413	International Tools	Ø13	HSS	ECO		P		K			P. 16
› 11.414	International Tools	Ø13	HSS	ECO		P		K			P. 17
› 11.415	International Tools	Ø13	HSS-E	ECO PRO		P	M	K	N		P. 17
› 11.416	International Tools	DIN 338	HSS	ECO		P		K	N		P. 17
› 11.420	International Tools	DIN 338	HSS	ECO PRO		P		K	N		P. 18
› 11.423	International Tools	DIN 338	HSS	ECO		P		K	N		P. 19
› 11.426	International Tools	DIN 338	HSS	ECO		P		K	N		P. 19
› 11.430	International Tools	DIN 338	HSS	ECO PRO		P		K	N		P. 20
› 11.431	International Tools	DIN 338	HSS	ECO PRO		P	M	K	N		P. 21
› 11.434	International Tools	HSS				P	M	K	N		P. 22
› 11.438	International Tools	HSS-E	ECO PRO			P	M	K	N	NEW	P. 22
› 11.440	Phantom	HSS				P	M	K	N		P. 22
› 11.441	Phantom	HSS				P	M	K	N		P. 23
› 11.443	Phantom	HSS				P	M	K	N		P. 23
› 11.445	Phantom	HSS-E				P	M	K	N		P. 24
› 11.446	Phantom	HSS-E				P	M	K	N		P. 24
› 11.447	Phantom	HSS-E				P	M	K	N		P. 25
› 11.450	Phantom	DIN 338	HSS			P	M	K	N		P. 25
› 11.451	Phantom	DIN 338	HSS			P	M	K	N		P. 26
› 11.461	Phantom	DIN 338	HSS			P	M	K	N		P. 27
› 11.488	International Tools	DIN 338	HSS-E	ECO		P	M	K	N	NEW	P. 28
› 11.490	International Tools	DIN 338	HSS-E	ECO PRO		P	M	K	N		P. 29
› 11.500	Phantom	DIN 338	HSS-E			P	M	K	N		P. 29

› 11.506	Phantom	DIN 338	HSS-E		P	M	K	N					P. 30
› 11.600	Phantom	DIN 338	HM-TIP		P	M	K	N	S	H			P. 31
› 11.760	Phantom	DIN 338	HSS-E	INOX	P	M			S				P. 31
› 11.813	International Tools	DIN 340	HSS	ECO PRO	P		K	N					P. 32
› 11.815	Phantom	DIN 340	HSS		P	M	K	N					P. 33
› 11.820	Phantom	DIN 340	HSS-E	INOX	P	M			S				P. 33
› 11.860	Phantom	DIN 340	HSS	TS	P		K	N					P. 34
› 11.890	Phantom	HSS	NORM		P	M	K	N					P. 34
› 11.900	Phantom	DIN 1869	HSS		P		K	N					P. 35
› 11.920	Phantom	DIN 1869	HSS	TS	P	M	K	N					P. 35
› 11.940	Phantom	DIN 1869	HSS-E	TS	P	M	K	N					P. 36
› 12.400	International Tools	DIN 228-B	DIN 345	HSS	P		K						P. 36
› 12.430	International Tools	DIN 228-B	DIN 345	HSS	P		K	N					NEW P. 37
› 12.440	Phantom	DIN 228-B	DIN 345	HSS	P	M	K	N					P. 37
› 12.500	Phantom	DIN 228-B	DIN 345	HSS-E	P	M	K	N					P. 38
› 12.900	Phantom	DIN 1870	DIN 228-B	HSS	P	M	K	N					P. 39
› 12.910	Phantom	DIN 228-B	HSS	NORM	P	M	K	N					P. 39
› 13.740	Phantom	Z=2	HM										P. 40
› 13.744	Phantom	Z=4	HM										P. 40
› 15.095	International Tools	60°	DIN 333-A	HSS	P		K	N					P. 41
› 15.096	International Tools	60°	DIN 333-A	HSS	P		K	N					P. 41
› 15.100	Phantom	60°	DIN 333-A	HSS	P		K	N					P. 41
› 15.120	Phantom	60°	DIN 333-A	HSS-E	P	M	K	N					P. 42
› 15.124	Phantom	60°	DIN 333-A	HSS-E	P	M	K	N					P. 42
› 15.600	Phantom	90°	HSS-E	ISO 10898	P	M	K	N					P. 43
› 15.604	Phantom	90°	HSS-E	ISO 10898	P	M	K	N					P. 43
› 19.120	International Tools	DIN 338	HSS	ECO	P		K	N					P. 43
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› 19.127	International Tools	DIN 338	HSS	ECO	P		K	N					P. 44
› 19.130	International Tools	DIN 338	HSS	ECO	P		K	N					P. 44
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› 19.135	International Tools	HSS			P	M	K	N			P. 45
› 19.136	International Tools	DIN 338	HSS	ECO PRO	P	M	K	N			P. 45
› 19.137	Phantom	HSS			P	M	K	N			P. 46
› 19.138	Phantom	HSS			P	M	K	N			P. 46
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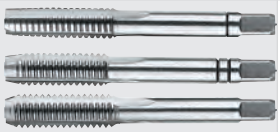
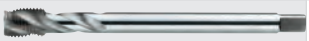
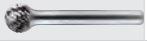
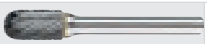
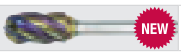
› 19.140	Phantom	HSS-E			P	M	K	N			P. 47
› 19.141	Phantom	HSS-E			P	M	K	N			P. 47
› 19.142	Phantom	HSS-E			P	M	K	N			P. 47
› 19.144	International Tools	DIN 338	HSS	ECO	P		K				P. 48
› 19.145	Phantom	DIN 338	HSS		P	M	K	N			P. 48
› 19.146	Phantom	DIN 338	HSS		P	M	K	N			P. 48
› 19.147	Phantom	DIN 338	HSS		P	M	K	N			P. 49
› 19.148	International Tools	DIN 338	HSS-E	ECO	P	M	K	N		 NEW	P. 49
› 19.149	International Tools	DIN 338	HSS-E	ECO PRO	P	M	K	N			P. 49
› 19.150	Phantom	DIN 338	HSS-E		P	M	K	N			P. 50
› 19.152	Phantom	DIN 338	HSS-E		P	M	K	N			P. 50
› 19.176	Phantom	DIN 338	HSS-E	INOX	P	M			S		P. 50
› 19.195	International Tools	HSS-E	ECO PRO		P	M	K	N		 NEW	P. 51
› 19.374	Phantom	Z=2	HM	SDS plus							P. 51
› 19.376	Phantom	Z=4	HM	SDS plus							P. 51

› 21.140	International Tools	DIN 352	M	ECO	P	M	K	N				P. 52
› 21.145	Phantom	DIN 352	M		P	M	K	N				P. 52
› 21.250	Phantom	DIN 2181	MF		P	M	K	N				P. 53
› 21.405	Phantom	BSP G	DIN 5157		P	M	K	N				P. 53
› 22.100	International Tools	M	C6,3 1/4"		P		K	N				P. 54
› 22.190	International Tools	DIN 352		M	P		K	N				P. 54
› 22.191	International Tools	DIN 371		M	P		K	N				P. 54
› 22.192	International Tools	DIN 376		M	P		K	N				P. 55
› 22.195	International Tools	DIN 371		M	P		K	N				P. 55
› 22.196	International Tools	DIN 376		M	P		K	N				P. 55
› 22.197	International Tools	DIN 371		M	P	M	K	N				P. 56
› 22.198	International Tools	DIN 376		M	P	M	K	N				P. 56
› 22.200	Phantom	DIN 371		M	P	M	K	N	S			P. 56
› 22.201	Phantom	DIN 376		M	P	M	K	N	S			P. 57
› 22.205	Phantom		ISO 529	M	P		K	N				P. 57
› 22.350	Phantom		M	NORM	P	M	K	N	S			P. 58
› 22.351	Phantom		M	NORM	P	M	K	N	S			P. 58
› 22.595	International Tools	DIN 371		M	P	M						P. 58
› 22.596	International Tools	DIN 376		M	P	M						P. 59
› 22.600	Phantom	DIN 371		M	P	M						P. 59
› 22.601	Phantom	DIN 376		M	P	M						P. 59
› 23.291	International Tools		DIN 371	M	P		K	N				P. 60
› 23.292	International Tools		DIN 376	M	P		K	N				P. 60
› 23.295	International Tools		DIN 371	M	P		K	N				P. 60
› 23.296	International Tools		DIN 376	M	P		K	N				P. 61
› 23.300	Phantom		DIN 371	M	P	M	K	N	S			P. 61
› 23.301	Phantom		DIN 376	M	P	M	K	N	S			P. 61
› 23.450	Phantom		DIN 371	M	P	M			S			P. 62
› 23.451	Phantom		DIN 376	M	P	M			S			P. 62
› 23.615	International Tools	DIN 374		MF	P		K	N				P. 62
› 23.620	Phantom	DIN 374		MF	P	M	K	N	S			P. 63

› 23.835	International Tools		DIN 374	MF	P		K	N					P. 63
› 23.840	Phantom		DIN 374	MF	P	M	K	N	S				P. 64
› 25.095	International Tools	BSP G	DIN 5156		P		K	N					P. 64
› 25.097	Phantom	BSP G	DIN 5156		P	M	K	N	S				P. 65
› 25.100	Phantom	BSP G	DIN 5156		P		K	N					P. 65
› 27.100	International Tools		DIN EN 22568	M	P		K	N					P. 65
› 27.120	Phantom		DIN EN 22568	M	P	M		N					P. 66
› 27.200	International Tools		DIN EN 22568	MF	P		K	N					P. 66
› 27.220	Phantom		DIN EN 22568	MF	P	M		N					P. 67
› 27.500	International Tools	BSP G	DIN EN 24231		P		K	N					P. 67
› 27.520	Phantom	BSP G		DIN EN 24231	P	M		N					P. 68
› 27.700	International Tools		DIN 382	M	P		K	N					P. 68
› 27.750	International Tools		DIN 382	MF	P		K	N					P. 68
› 27.900	International Tools	BSP G	DIN 382		P		K	N					P. 69
› 28.870	Phantom	M	Phan-Coil										P. 69
› 28.880	Phantom	M	Phan-Coil										P. 70
› 29.100	International Tools												P. 70
› 29.110	International Tools												P. 70
› 29.120	International Tools												P. 71
› 29.130	International Tools												P. 71
› 29.170	International Tools												P. 71
› 29.180	International Tools												P. 72

› 29.185	International Tools						P. 72
› 29.190	International Tools						P. 72
› 29.195	International Tools						P. 73
› 29.250	Phantom						P. 73
› 29.260	Phantom						P. 74
› 29.300	International Tools						P. 74
› 41.410	International Tools	Ø3	Ø6	A			P. 75
› 41.420	International Tools	Ø3	Ø6	B			P. 75
› 41.430	International Tools	Ø3	Ø6	C			P. 75
› 41.440	International Tools	Ø3	Ø6	D			P. 75
› 41.450	International Tools	Ø3	Ø6	E			P. 76
› 41.460	International Tools	Ø3	Ø6	F			P. 76
› 41.470	International Tools	Ø3	Ø6	G			P. 76
› 41.480	International Tools	Ø3	Ø6	H			P. 76
› 41.486	International Tools	Ø3	Ø6	L			P. 77
› 41.488	International Tools	Ø3	Ø6	M			P. 77
› 41.510	Phantom	Ø6		A			P. 77
› 41.511	Phantom	TiAlN	Ø6	A			P. 77
› 41.513	Phantom	Ø3		A			P. 78
› 41.520	Phantom	Ø6		B			P. 78
› 41.521	Phantom	TiAlN	Ø6	B			P. 78
› 41.523	Phantom	Ø3		B			P. 79
› 41.524	Phantom	HP2 UNI	Ø6	B		 NEW	P. 79
› 41.526	Phantom	Ø6		B	HP2 ALU	 NEW	P. 79
› 41.530	Phantom	Ø6		C			P. 79
› 41.531	Phantom	TiAlN	Ø6	C			P. 80
› 41.533	Phantom	Ø3		C			P. 80
› 41.534	Phantom	HP2 UNI	Ø6	C		 NEW	P. 80
› 41.536	Phantom	Ø6		C	HP2 ALU	 NEW	P. 81
› 41.540	Phantom	Ø6		D			P. 81
› 41.543	Phantom	Ø3		D			P. 81

› 41.544	Phantom	HP2 UNI	Ø6	D													NEW	P. 81	
› 41.546	Phantom	Ø6	D	HP2 ALU													NEW	P. 82	
› 41.550	Phantom	Ø6	E															P. 82	
› 41.553	Phantom	Ø3	E															P. 82	
› 41.560	Phantom	Ø6	F															P. 82	
› 41.561	Phantom	TiAlN	Ø6	F														P. 83	
› 41.563	Phantom	Ø3	F															P. 83	
› 41.564	Phantom	HP2 UNI	Ø6	F													NEW	P. 83	
› 41.566	Phantom	Ø6	F	HP2 ALU													NEW	P. 83	
› 41.570	Phantom	Ø6	G															P. 84	
› 41.573	Phantom	Ø3	G															P. 84	
› 41.574	Phantom	HP2 UNI	Ø6	G													NEW	P. 84	
› 41.576	Phantom	Ø6	G	HP2 ALU													NEW	P. 85	
› 41.580	Phantom	Ø6	H															P. 85	
› 41.583	Phantom	Ø3	H															P. 85	
› 41.620	Phantom	Ø6	L															P. 85	
› 41.623	Phantom	Ø3	L															P. 86	
› 41.626	Phantom	Ø6	L	HP2 ALU													NEW	P. 86	
› 41.630	Phantom	Ø6	M															P. 86	
› 41.633	Phantom	Ø3	M															P. 87	
› 41.690	Phantom	Ø6															NEW	P. 87	
› 42.500	Phantom	HSS-E		90°	P		K	N										P. 87	
› 42.533	International Tools	HSS		90°	P		K	N										P. 88	
› 42.535	International Tools	HSS		90°	P		K	N										P. 88	
› 42.536	International Tools	HSS		90°	P	M	K	N										P. 88	
› 42.543	International Tools	HSS		90°	P		K	N										P. 89	
› 42.547	Phantom	HSS-E		90°	P	M	K	N										P. 89	
› 42.548	Phantom	HSS-E		90°	P	M	K	N	S									P. 89	
› 42.558	Phantom	HSS-E		90°	P	M	K	N	S									P. 90	
› 42.582	Phantom	HSS-E 8%		90°	P	M	K	N	S	H								P. 90	
› 44.090	International Tools	HSS			P	M	K	N									NEW	P. 90	
› 44.105	Phantom	HSS	TiN		P	M	K	N									NEW	P. 91	
› 44.106	Phantom	HSS	TiAlN		P	M	K	N									NEW	P. 91	
› 44.113	International Tools	HSS			P	M	K	N									NEW	P. 91	
› 44.115	Phantom	HSS	TiN		P	M	K	N									NEW	P. 92	

› 44.116	Phantom	HSS	TiAlN		P	M	K	N			NEW	P. 92
› 44.125	Phantom	HSS	TiN	E6,3 1/4"	P	M	K	N			NEW	P. 92
› 44.126	Phantom	HSS	TiAlN	E6,3 1/4"	P	M	K	N			NEW	P. 93
› 44.135	Phantom	HSS	TiN		P	M	K	N			NEW	P. 93
› 44.136	Phantom	HSS	TiAlN		P	M	K	N			NEW	P. 94
› 44.200	Phantom	HSS			P			N				P. 94
› 46.100	SHAVIV											P. 95
› 46.120	SHAVIV	B										P. 95
› 46.300	SHAVIV	E										P. 96
› 49.140	International Tools	VHM SC	Ø6									P. 97
› 49.150	Phantom	VHM SC	Ø6									P. 97
› 49.164	Phantom	VHM SC	HP2 UNI	Ø6							NEW	P. 97
› 49.240	International Tools	HSS	3	90°	P		K	N				P. 98
› 49.242	International Tools	HSS	3	90°	P		K	N				P. 98
› 49.244	International Tools	HSS	3	90°	P	M	K	N				P. 98
› 49.248	International Tools	HSS	3	90°	P		K	N				P. 99
› 49.263	Phantom	HSS-E	3	90°	P	M	K	N				P. 99
› 49.264	Phantom	HSS-E	3	90°	P	M	K	N	S			P. 99
› 49.266	Phantom	HSS-E	3	90°	P	M	K	N	S			P. 100
› 49.400	International Tools	HSS			P	M	K	N			NEW	P. 100
› 49.405	International Tools	HSS			P	M	K	N			NEW	P. 100
› 49.415	Phantom	HSS	TiN		P	M	K	N			NEW	P. 101
› 49.416	Phantom	HSS	TiAlN		P	M	K	N			NEW	P. 101
› 49.417	Phantom	HSS	TiN		P	M	K	N			NEW	P. 101

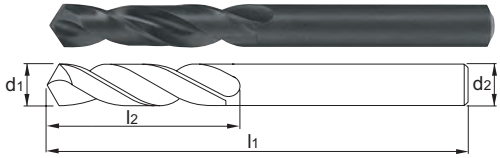
› 49.418	Phantom	HSS	TiAlN		P	M	K	N				NEW	P. 102
› 51.110	Phantom	DIN 206-B	H7	HSS	P		K	N					P. 103
› 51.320	Phantom	H7	HSS-E	DIN 212 B/D	P	M	K	N	S				P. 103
› 51.350	Phantom	HSS-E	x0,01	DIN 212 B/D	P	M	K	N	S				P. 104
› 51.520	Phantom	DIN 208-B	H7	HSS-E	P	M	K	N	S				P. 104
› 61.090	International Tools	BiM 8% Co	ECO PRO		P	M	K	N					P. 106
› 61.105	Phantom	BiM 8% Co			P	M	K	N					P. 106
› 61.110	Phantom	BiM 8% Co			P	M	K	N					P. 107
› 61.135	International Tools	ECO PRO											P. 107
› 61.137	International Tools	ECO PRO											P. 107
› 61.140	Phantom												P. 108
› 61.142	Phantom												P. 108
› 61.145	International Tools	ECO PRO											P. 108
› 61.148	International Tools	ECO PRO											P. 108
› 61.150	Phantom												P. 109
› 61.170	Phantom												P. 109
› 61.180	Phantom												P. 109
› 61.630	Phantom	HM-TIP	0,5-5 mm		P	M	K	N					P. 109
› 61.670	Phantom	HM-TIP	0,5-12 mm		P	M	K	N					P. 110
› 61.680	Phantom	HM-TIP	0,5-12 mm		P	M	K	N					P. 110
› 62.100	Phantom	0,5-30 mm	HSS-EX		P		K	N					P. 111
› 62.122	Phantom	0,5-30 mm	NIT.	HSS-EX	P	M	K	N					P. 112
› 62.150	Phantom	0,5-55 mm	HSS-EX		P		K	N					P. 112
› 62.162	Phantom	0,5-55 mm	NIT.	HSS-EX	P	M	K	N					P. 113
› 62.170	Phantom	HSS-EX	0,5-80 mm		P		K	N					P. 113
› 62.180	Phantom	0,5-110 mm	HSS-EX		P		K	N					P. 114
› 62.200	Phantom	HM-TIP	0,5-40 mm		P	M	K	N		H			P. 114
› 62.220	Phantom	HM-TIP	0,5-55 mm		P	M	K	N		H		NEW	P. 115
› 62.230	Phantom	HM-TIP	0,5-80 mm		P	M	K	N		H		NEW	P. 115
› 62.240	Phantom	HM-TIP	0,5-110 mm		P	M	K	N		H		NEW	P. 116
› 62.295	Phantom	HSS	3	90°	P	M	K	N				NEW	P. 116
› 62.300	Phantom												P. 116
› 62.310	Phantom	DIN 228-B	Ø19 WELDON	Ø32 WELDON									P. 117
› 62.320	Phantom	DIN 228-B	Ø19 WELDON	Ø32 WELDON									P. 117
› 62.322	Phantom	DIN 228-B	Ø19 WELDON										P. 117

› 62.330	Phantom	Ø19 WELDON		P. 118
› 62.340	Phantom	Ø18 FEIN QUICKIN, Ø19 WELDON, Ø32 WELDON		P. 118
› 62.350	Phantom			P. 118
› 63.210	Phantom	+GF+ HSS BW	P M K N	P. 119
› 63.400	Phantom	HSS OX. C+BW	P K N	P. 119
› 63.401	Phantom	HSS TiN C+BW	P K N	P. 120
› 63.420	Phantom	HSS-E OX. C+BW	P M K N	P. 120
› 63.424	Phantom	HSS-E TiAlN C+BW	P M K N	P. 121
› 64.500	Phantom			P. 122
› 64.600	Phantom			P. 123
› 66.450	Phantom	BiM 8% Co VARI λ α0°	P M K N S	P. 124
› 66.460	Phantom	BiM 8% Co VARI λ α10°	P M K N	P. 124
› 66.580	Phantom	BiM 10% Co VARI λ α15°	P M S	P. 125
› 66.700	Phantom	BiM 8% Co VARI λ α5°	P M K N S	P. 125
› 69.090	International Tools	BiM 8% Co	P M K N	P. 126
› 69.092	International Tools	BiM 8% Co	P M K N	P. 126
› 69.111	Phantom	BiM 8% Co	P M K N	P. 126
› 69.112	Phantom	BiM 8% Co	P M K N	P. 127
› 69.114	Phantom	BiM 8% Co	P M K N	P. 127
› 69.116	Phantom	BiM 8% Co	P M K N	P. 128
› 69.210	Phantom	0,5-30 mm HSS-EX	P K N	P. 128
› 69.220	Phantom	HM-TIP 0,5-40 mm	P M K N H	P. 129 NEW
› 81.181	Phantom			P. 130
› 81.200	Phantom	TYPE A		P. 130
› 81.300	Phantom	DIN 228-B 0,04 TYPE XP		P. 130 NEW
› 81.700	International Tools	C T AUTO REVERSAL		P. 131
› 81.710	International Tools			P. 131
› 81.900		DIN 1814		P. 131
› 81.905		DIN 1814		P. 132

› 81.910												P. 132
› 81.930												P. 132
› 84.100	International Tools	DIN 228-B	DIN 2185									P. 133
› 84.110	International Tools	DIN 228-B	DIN 2187									P. 133
› 84.170	International Tools	DIN 228-B	DIN 238	B								P. 133
› 88.152	International Tools											P. 134
› 90.105	Phantom	UNI			P	M	K	N	S			P. 135
› 90.110	Phantom	UNI			P	M	K	N	S			P. 135
› 90.120	Phantom	ALU						N				P. 135
› 90.130	Phantom	INOX			P	M	K	N	S			P. 136
› 90.140	Phantom	UNI			P	M	K	N	S			P. 136
› 90.145	Phantom	UNI			P	M	K	N	S			P. 136
› 90.150	Phantom	INOX			P	M	K	N	S			P. 136
› 90.170	Phantom	UNI			P	M	K	N	S			P. 137
› 90.180	Phantom	UNI			P	M	K	N	S			P. 137
› 90.190	Phantom	ALU			P	M	K	N	S		 NEW	P. 137
› 90.210	Phantom	UNI			P	M	K	N	S			P. 138
› 90.310	Phantom										 NEW	P. 138

› 11.110 International Tools

NL **ECO HSS Spiraalboor**
FR **Foret HSS ECO**
ES **Broca HSS ECO**
DE **ECO HSS Spiralbohrer**
EN **ECO HSS Twist drill**



118° | DIN 1897 | HSS | N | ≥3 | ECO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 F | 22-30 F | 15-20 E | 8-12 D | 15-20 E | 25-30 E | 45-50 G | 25-40 D | 22-28 D

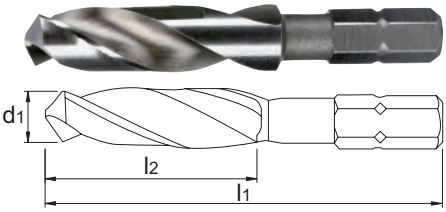
Ref.	d1	d2	l1	l2	€
11.110.0100	1	1	26	6	0,62
11.110.0150	1.5	1.5	32	9	0,62
11.110.0200	2	2	38	12	0,50
11.110.0250	2.5	2.5	43	14	0,58
11.110.0300	3	3	46	16	0,99
11.110.0320	3.2	3.2	49	18	1,19
11.110.0330	3.3	3.3	49	18	1,19
11.110.0350	3.5	3.5	52	20	1,19
11.110.0400	4	4	55	22	1,23
11.110.0410	4.1	4.1	55	22	1,45
11.110.0420	4.2	4.2	55	22	1,45

Ref.	d1	d2	l1	l2	€
11.110.0450	4.5	4.5	58	24	1,45
11.110.0490	4.9	4.9	62	26	1,50
11.110.0500	5	5	62	26	1,50
11.110.0510	5.1	5.1	62	26	1,84
11.110.0520	5.2	5.2	62	26	1,84
11.110.0550	5.5	5.5	66	28	1,84
11.110.0580	5.8	5.8	66	28	2,11
11.110.0600	6	6	66	28	2,24
11.110.0650	6.5	6.5	70	31	2,38
11.110.0700	7	7	74	34	2,86
11.110.0750	7.5	7.5	74	34	3,35

Ref.	d1	d2	l1	l2	€
11.110.0800	8	8	79	37	3,82
11.110.0850	8.5	8.5	79	37	4,23
11.110.0900	9	9	84	40	5,11
11.110.0950	9.5	9.5	84	40	5,33
11.110.1000	10	10	89	43	6,07
11.110.1050	10.5	10.5	89	43	6,90
11.110.1100	11	11	95	47	7,89
11.110.1150	11.5	11.5	95	47	8,29
11.110.1200	12	12	102	51	9,21
11.110.1250	12.5	12.5	102	51	9,95
11.110.1300	13	13	102	51	10,40

› 11.120 International Tools

NL **ECO HSS Spiraalboor 1/4" (6,35 mm)-zeskant bitopname**
FR **Foret HSS ECO avec queue hexagonale 1/4" (6,35 mm)**
ES **Broca HSS ECO con sujeción 1/4" (6,35 mm) bit**
DE **ECO HSS Spiralbohrer 1/4" (6,35 mm) Hexa-Bitaufnahme**
EN **ECO HSS Twist drill 1/4" (6,35 mm) hexagonal shank**



118° | HSS | N | ECO | DIN 3126 | C6,3 1/4" | DIN ISO 1173

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 F | 22-30 F | 15-20 E | 15-20 E | 25-30 E | 45-50 E | 35-40 G | 25-40 D | 22-28 D

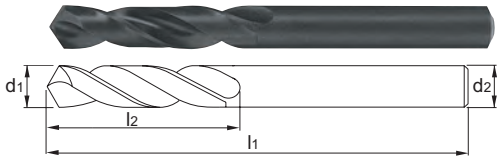
Ref.	d1	l1	l2	€
11.120.0200	2	34	12	4,44
11.120.0250	2.5	36	14	4,44
11.120.0300	3	38	16	4,44
11.120.0330	3.3	40	18	4,44
11.120.0350	3.5	40	18	4,44
11.120.0400	4	44	20	4,59
11.120.0420	4.2	45	20	4,59

Ref.	d1	l1	l2	€
11.120.0450	4.5	46	24	4,68
11.120.0500	5	50	26	4,68
11.120.0550	5.5	50	26	4,68
11.120.0600	6	50	26	4,68
11.120.0650	6.5	50	30	4,68
11.120.0680	6.8	50	30	4,68
11.120.0700	7	50	30	4,68

Ref.	d1	l1	l2	€
11.120.0750	7.5	51	32	4,68
11.120.0800	8	51	32	5,25
11.120.0850	8.5	53	33	5,25
11.120.0900	9	53	33	5,35
11.120.0950	9.5	54	38	5,35
11.120.1000	10	54	38	5,35
11.120.1020	10.2	54	38	5,35

› 11.130 Phantom

NL **HSS Spiraalboor**
FR **Foret HSS**
ES **Broca HSS**
DE **HSS Spiralbohrer**
EN **HSS Twist drill**



118° | DIN 1897 | HSS | N | ≥1,6 | OX. ≥ 2mm

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 F | 22-30 F | 15-20 E | 8-12 D | 15-20 E | 25-30 E | 45-50 G | 25-40 D | 22-28 D

Ref.	d1	d2	l1	l2	€
11.130.0100	1	1	26	6	2,35
11.130.0110	1.1	1.1	28	7	2,76
11.130.0120	1.2	1.2	30	8	2,76
11.130.0130	1.3	1.3	30	8	2,76
11.130.0140	1.4	1.4	32	9	2,76
11.130.0150	1.5	1.5	32	9	2,39
11.130.0160	1.6	1.6	34	10	2,76
11.130.0170	1.7	1.7	34	10	2,76
11.130.0180	1.8	1.8	36	11	2,76
11.130.0190	1.9	1.9	36	11	2,76

Ref.	d1	d2	l1	l2	€
11.130.0200	2	2	38	12	2,07
11.130.0210	2.1	2.1	38	12	1,78
11.130.0220	2.2	2.2	40	13	1,71
11.130.0230	2.3	2.3	40	13	1,71
11.130.0240	2.4	2.4	43	14	1,71
11.130.0250	2.5	2.5	43	14	1,55
11.130.0260	2.6	2.6	43	14	1,93
11.130.0270	2.7	2.7	46	16	1,93
11.130.0280	2.8	2.8	46	16	1,93
11.130.0290	2.9	2.9	46	16	1,93

Ref.	d1	d2	l1	l2	€
11.130.0300	3	3	46	16	1,94
11.130.0310	3.1	3.1	49	18	1,94
11.130.0320	3.2	3.2	49	18	1,94
11.130.0330	3.3	3.3	49	18	2,07
11.130.0340	3.4	3.4	52	20	2,07
11.130.0350	3.5	3.5	52	20	2,07
11.130.0360	3.6	3.6	52	20	2,07
11.130.0370	3.7	3.7	52	20	2,07
11.130.0380	3.8	3.8	55	22	2,38
11.130.0390	3.9	3.9	55	22	2,38

› 11.130 Phantom

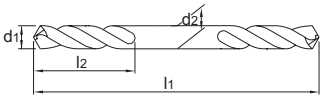
Ref.	d1	d2	l1	l2	€
11.130.0400	4	4	55	22	2,38
11.130.0410	4.1	4.1	55	22	2,56
11.130.0420	4.2	4.2	55	22	2,56
11.130.0430	4.3	4.3	58	24	2,67
11.130.0440	4.4	4.4	58	24	2,67
11.130.0450	4.5	4.5	58	24	2,81
11.130.0460	4.6	4.6	58	24	2,84
11.130.0470	4.7	4.7	58	24	2,84
11.130.0480	4.8	4.8	62	26	2,84
11.130.0490	4.9	4.9	62	26	2,84
11.130.0500	5	5	62	26	2,84
11.130.0510	5.1	5.1	62	26	2,84
11.130.0520	5.2	5.2	62	26	2,84
11.130.0530	5.3	5.3	62	26	3,23
11.130.0540	5.4	5.4	66	28	3,23
11.130.0550	5.5	5.5	66	28	3,23
11.130.0560	5.6	5.6	66	28	3,23
11.130.0570	5.7	5.7	66	28	3,23
11.130.0580	5.8	5.8	66	28	3,23
11.130.0590	5.9	5.9	66	28	3,23

Ref.	d1	d2	l1	l2	€
11.130.0600	6	6	66	28	3,69
11.130.0610	6.1	6.1	70	31	3,69
11.130.0620	6.2	6.2	70	31	3,69
11.130.0630	6.3	6.3	70	31	3,76
11.130.0640	6.4	6.4	70	31	3,76
11.130.0650	6.5	6.5	70	31	3,91
11.130.0660	6.6	6.6	70	31	3,91
11.130.0670	6.7	6.7	70	31	3,99
11.130.0680	6.8	6.8	74	34	4,27
11.130.0690	6.9	6.9	74	34	4,27
11.130.0700	7	7	74	34	4,40
11.130.0750	7.5	7.5	74	34	5,65
11.130.0780	7.8	7.8	79	37	5,90
11.130.0800	8	8	79	37	6,14
11.130.0850	8.5	8.5	79	37	7,10
11.130.0880	8.8	8.8	84	40	7,22
11.130.0900	9	9	84	40	7,10
11.130.0950	9.5	9.5	84	40	7,95
11.130.0980	9.8	9.8	89	43	8,40
11.130.1000	10	10	89	43	8,86

Ref.	d1	d2	l1	l2	€
11.130.1050	10.5	10.5	89	43	11,59
11.130.1100	11	11	95	47	12,44
11.130.1150	11.5	11.5	95	47	15,55
11.130.1200	12	12	102	51	18,69
11.130.1250	12.5	12.5	102	51	20,01
11.130.1300	13	13	102	51	21,64
11.130.1350	13.5	13.5	107	54	23,95
11.130.1400	14	14	107	54	25,60
11.130.1450	14.5	14.5	111	56	27,90
11.130.1500	15	15	111	56	29,95
11.130.1550	15.5	15.5	115	58	33,25
11.130.1600	16	16	115	58	33,90
11.130.1650	16.5	16.5	119	60	37,35
11.130.1700	17	17	119	60	39,45
11.130.1750	17.5	17.5	123	62	44,30
11.130.1800	18	18	123	62	45,65
11.130.1850	18.5	18.5	127	64	50,55
11.130.1900	19	19	127	64	51,85
11.130.1950	19.5	19.5	131	66	54,90
11.130.2000	20	20	131	66	61,10

› 11.142 International Tools





NL ECO PRO HSS Spiraalboor dubbelzijdig
FR Foret HSS ECO PRO double-pointe
ES Broca HSS ECO PRO de doble punta
DE ECO PRO HSS Spiralbohrer Doppelseitig
EN ECO PRO HSS Twist drill double ended





NIEUW NOUVEAU NUEVO NEU

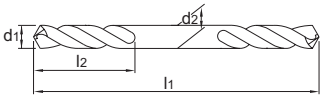
Ref.	d1	d2	l1	l2	€
11.142.0250	2.5	2.5	43	9.5	1,11
11.142.0300	3	3	46	10.6	1,42
11.142.0320	3.2	3.2	49	11.2	1,58
11.142.0330	3.3	3.3	49	11.2	1,58

Ref.	d1	d2	l1	l2	€
11.142.0400	4	4	55	14	1,79
11.142.0410	4.1	4.1	55	14	1,95
11.142.0420	4.2	4.2	55	14	1,95
11.142.0450	4.5	4.5	58	15.5	2,11

Ref.	d1	d2	l1	l2	€
11.142.0500	5	5	62	17	2,48
11.142.0600	6	6	66	19	2,85

› 11.145 Phantom





NL HSS Spiraalboor dubbelzijdig
FR Foret HSS double-pointe
ES Broca HSS de doble punta
DE HSS Spiralbohrer Doppelseitig
EN HSS Twist drill double ended



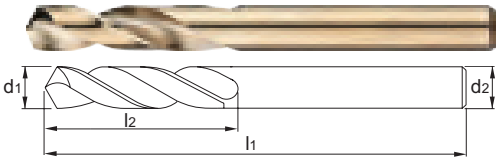


Ref.	d1	d2	l1	l2	€
11.145.0200	2	2	38	7.5	3,31
11.145.0210	2.1	2.1	38	7.5	4,14
11.145.0250	2.5	2.5	43	9.5	2,61
11.145.0300	3	3	46	10.6	2,62
11.145.0320	3.2	3.2	49	11.2	2,64
11.145.0330	3.3	3.3	49	11.2	2,64

Ref.	d1	d2	l1	l2	€
11.145.0350	3.5	3.5	52	12.5	2,70
11.145.0400	4	4	55	14	2,87
11.145.0410	4.1	4.1	55	14	2,95
11.145.0420	4.2	4.2	55	14	2,95
11.145.0450	4.5	4.5	58	15.5	3,39
11.145.0480	4.8	4.8	62	17	5,61

Ref.	d1	d2	l1	l2	€
11.145.0490	4.9	4.9	62	16	3,81
11.145.0500	5	5	62	17	3,66
11.145.0510	5.1	5.1	62	17	4,31
11.145.0520	5.2	5.2	62	17	4,42
11.145.0550	5.5	5.5	66	19	4,62
11.145.0600	6	6	66	19	4,94

› 11.150 International Tools



NL **ECO PRO HSS-E Spiraalboor**
FR **Foret HSS-E ECO PRO**
ES **Broca HSS-E ECO PRO**
DE **ECO PRO HSS-E Spiralbohrer**
EN **ECO PRO HSS-E Twist drill**

135° | DIN 1897 | HSS-E | N | ≥3 | ECO PRO

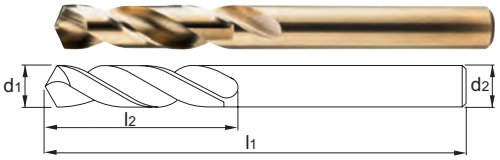
P 11	P 12	P 13	P 14	M 21	M 22	K 31	K 32	N 51	N 52
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Cu	CuAlFe
28-35 E	30-36 E	20-27 E	12-20 D	14-18 D	10-15 C	30-35 F	24-30 F	30-40 E	8-15 C

Ref.	d1	d2	l1	l2	€
11.150.0100	1	1	26	6	1,87
11.150.0150	1.5	1.5	32	9	1,87
11.150.0200	2	2	38	12	1,67
11.150.0220	2.2	2.2	40	13	1,35
11.150.0250	2.5	2.5	43	14	1,35
11.150.0300	3	3	46	16	1,48
11.150.0310	3.1	3.1	49	18	1,53
11.150.0320	3.2	3.2	49	18	1,53
11.150.0330	3.3	3.3	49	18	1,67
11.150.0340	3.4	3.4	52	20	1,67
11.150.0350	3.5	3.5	52	20	1,67
11.150.0370	3.7	3.7	52	20	1,75
11.150.0380	3.8	3.8	55	22	1,86

Ref.	d1	d2	l1	l2	€
11.150.0400	4	4	55	22	1,86
11.150.0410	4.1	4.1	55	22	2,00
11.150.0420	4.2	4.2	55	22	2,00
11.150.0450	4.5	4.5	58	24	2,27
11.150.0470	4.7	4.7	58	24	2,57
11.150.0480	4.8	4.8	62	26	2,57
11.150.0490	4.9	4.9	62	26	2,57
11.150.0500	5	5	62	26	2,57
11.150.0520	5.2	5.2	62	26	2,84
11.150.0550	5.5	5.5	66	28	2,84
11.150.0600	6	6	66	28	3,11
11.150.0650	6.5	6.5	70	31	3,59
11.150.0680	6.8	6.8	74	34	4,16

Ref.	d1	d2	l1	l2	€
11.150.0700	7	7	74	34	4,16
11.150.0750	7.5	7.5	74	34	5,16
11.150.0800	8	8	79	37	5,87
11.150.0850	8.5	8.5	79	37	6,68
11.150.0900	9	9	84	40	7,45
11.150.0950	9.5	9.5	84	40	7,81
11.150.1000	10	10	89	43	8,47
11.150.1050	10.5	10.5	89	43	10,46
11.150.1100	11	11	95	47	12,19
11.150.1150	11.5	11.5	95	47	13,11
11.150.1200	12	12	102	51	16,51
11.150.1250	12.5	12.5	102	51	17,25
11.150.1300	13	13	102	51	18,67

› 11.160 Phantom



NL **HSS-E Spiraalboor**
FR **Foret HSS-E**
ES **Broca HSS-E**
DE **HSS-E Spiralbohrer**
EN **HSS-E Twist drill**

135° | DIN 1897 | HSS-E | N | ≥2

P 11	P 12	P 13	P 14	M 21	M 22	K 31	K 32	N 51	N 52
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Cu	CuAlFe
28-35 E	30-36 E	20-27 E	12-20 D	14-18 D	10-15 C	30-35 F	24-30 F	30-40 E	8-15 C

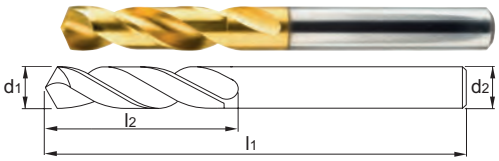
Ref.	d1	d2	l1	l2	€
11.160.0100	1	1	26	6	1,80
11.160.0120	1.2	1.2	30	8	2,06
11.160.0150	1.5	1.5	32	9	2,06
11.160.0160	1.6	1.6	34	10	2,06
11.160.0200	2	2	38	12	2,06
11.160.0210	2.1	2.1	38	12	2,06
11.160.0220	2.2	2.2	40	13	1,99
11.160.0230	2.3	2.3	40	13	1,99
11.160.0240	2.4	2.4	43	14	1,99
11.160.0250	2.5	2.5	43	14	1,99
11.160.0260	2.6	2.6	43	14	2,36
11.160.0270	2.7	2.7	46	16	2,36
11.160.0280	2.8	2.8	46	16	2,36
11.160.0290	2.9	2.9	46	16	2,36
11.160.0300	3	3	46	16	2,36
11.160.0310	3.1	3.1	49	18	2,68
11.160.0320	3.2	3.2	49	18	2,68
11.160.0330	3.3	3.3	49	18	2,68
11.160.0340	3.4	3.4	52	20	2,68
11.160.0350	3.5	3.5	52	20	2,74
11.160.0360	3.6	3.6	52	20	2,86
11.160.0370	3.7	3.7	52	20	2,86

Ref.	d1	d2	l1	l2	€
11.160.0380	3.8	3.8	55	22	3,30
11.160.0390	3.9	3.9	55	22	3,30
11.160.0400	4	4	55	22	3,30
11.160.0410	4.1	4.1	55	22	3,67
11.160.0420	4.2	4.2	55	22	3,48
11.160.0430	4.3	4.3	58	24	3,67
11.160.0440	4.4	4.4	58	24	3,67
11.160.0450	4.5	4.5	58	24	3,67
11.160.0460	4.6	4.6	58	24	3,73
11.160.0470	4.7	4.7	58	24	3,73
11.160.0480	4.8	4.8	62	26	3,73
11.160.0490	4.9	4.9	62	26	3,73
11.160.0500	5	5	62	26	3,54
11.160.0510	5.1	5.1	62	26	3,73
11.160.0520	5.2	5.2	62	26	3,73
11.160.0530	5.3	5.3	62	26	4,61
11.160.0540	5.4	5.4	66	28	4,61
11.160.0550	5.5	5.5	66	28	4,48
11.160.0560	5.6	5.6	66	28	4,73
11.160.0570	5.7	5.7	66	28	4,73
11.160.0580	5.8	5.8	66	28	4,79
11.160.0590	5.9	5.9	66	28	4,73

Ref.	d1	d2	l1	l2	€
11.160.0600	6	6	66	28	4,79
11.160.0610	6.1	6.1	70	31	5,23
11.160.0620	6.2	6.2	70	31	5,35
11.160.0640	6.4	6.4	70	31	5,48
11.160.0650	6.5	6.5	70	31	5,54
11.160.0670	6.7	6.7	70	31	5,79
11.160.0680	6.8	6.8	74	34	6,29
11.160.0700	7	7	74	34	6,72
11.160.0750	7.5	7.5	74	34	7,47
11.160.0800	8	8	79	37	8,52
11.160.0850	8.5	8.5	79	37	10,95
11.160.0900	9	9	84	40	11,64
11.160.0950	9.5	9.5	84	40	13,20
11.160.1000	10	10	89	43	13,50
11.160.1020	10.2	10.2	89	43	14,25
11.160.1050	10.5	10.5	89	43	15,07
11.160.1100	11	11	95	47	15,13
11.160.1150	11.5	11.5	95	47	18,61
11.160.1200	12	12	102	51	17,80
11.160.1250	12.5	12.5	102	51	20,73
11.160.1300	13	13	102	51	20,85

› 11.161 Phantom

NL **HSS-E Spiraalboor TiN**
FR **Foret HSS-E TiN**
ES **Broca HSS-E TiN**
DE **HSS-E Spiralbohrer TiN**
EN **HSS-E Twist drill TiN**



135° | DIN 1897 | HSS-E | TiN | N | ≥2

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | P 14 ≤1400 N/mm² | M 21 INOX ≤850N/mm² | M 22 INOX >850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 51 Cu | N 52 CuAlFe

32-40 E | 35-40 E | 25-32 E | 12-20 D | 15-20 D | 10-15 C | 30-35 F | 24-30 F | 30-40 E | 8-15 C

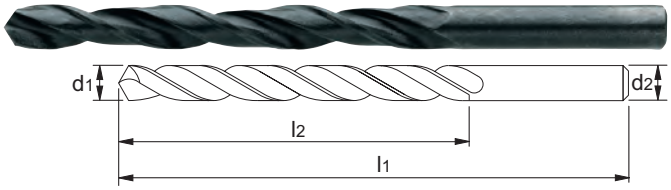
Ref.	d1	d2	l1	l2	€
11.161.0100	1	1	26	6	4,73
11.161.0110	1.1	1.1	28	7	4,92
11.161.0120	1.2	1.2	30	8	4,92
11.161.0130	1.3	1.3	30	8	4,92
11.161.0140	1.4	1.4	32	9	4,92
11.161.0150	1.5	1.5	32	9	4,92
11.161.0160	1.6	1.6	34	10	4,92
11.161.0170	1.7	1.7	34	10	4,92
11.161.0180	1.8	1.8	36	11	4,92
11.161.0190	1.9	1.9	36	11	4,92
11.161.0200	2	2	38	12	4,92
11.161.0210	2.1	2.1	38	12	4,92
11.161.0220	2.2	2.2	40	13	4,79
11.161.0230	2.3	2.3	40	13	4,79
11.161.0240	2.4	2.4	43	14	4,79
11.161.0250	2.5	2.5	43	14	4,79
11.161.0260	2.6	2.6	43	14	5,23
11.161.0270	2.7	2.7	46	16	5,23
11.161.0280	2.8	2.8	46	16	5,23
11.161.0290	2.9	2.9	46	16	5,23
11.161.0300	3	3	46	16	5,23
11.161.0310	3.1	3.1	49	18	5,48

Ref.	d1	d2	l1	l2	€
11.161.0320	3.2	3.2	49	18	5,48
11.161.0330	3.3	3.3	49	18	5,48
11.161.0340	3.4	3.4	52	20	5,48
11.161.0350	3.5	3.5	52	20	5,54
11.161.0360	3.6	3.6	52	20	5,73
11.161.0370	3.7	3.7	52	20	5,73
11.161.0380	3.8	3.8	55	22	6,10
11.161.0390	3.9	3.9	55	22	6,10
11.161.0400	4	4	55	22	6,10
11.161.0410	4.1	4.1	55	22	6,59
11.161.0420	4.2	4.2	55	22	6,41
11.161.0430	4.3	4.3	58	24	7,04
11.161.0440	4.4	4.4	58	24	7,04
11.161.0450	4.5	4.5	58	24	7,04
11.161.0460	4.6	4.6	58	24	7,10
11.161.0470	4.7	4.7	58	24	7,10
11.161.0480	4.8	4.8	62	26	7,10
11.161.0490	4.9	4.9	62	26	7,10
11.161.0500	5	5	62	26	6,72
11.161.0510	5.1	5.1	62	26	7,10
11.161.0520	5.2	5.2	62	26	7,10
11.161.0530	5.3	5.3	62	26	8,03

Ref.	d1	d2	l1	l2	€
11.161.0550	5.5	5.5	66	28	7,84
11.161.0570	5.7	5.7	66	28	8,09
11.161.0580	5.8	5.8	66	28	8,16
11.161.0600	6	6	66	28	8,16
11.161.0620	6.2	6.2	70	31	8,59
11.161.0650	6.5	6.5	70	31	8,78
11.161.0680	6.8	6.8	74	34	9,46
11.161.0700	7	7	74	34	10,77
11.161.0750	7.5	7.5	74	34	11,57
11.161.0800	8	8	79	37	13,13
11.161.0850	8.5	8.5	79	37	15,37
11.161.0900	9	9	84	40	16,93
11.161.0950	9.5	9.5	84	40	18,29
11.161.1000	10	10	89	43	19,11
11.161.1050	10.5	10.5	89	43	20,60
11.161.1100	11	11	95	47	21,60
11.161.1150	11.5	11.5	95	47	25,15
11.161.1200	12	12	102	51	25,20
11.161.1250	12.5	12.5	102	51	28,15
11.161.1300	13	13	102	51	28,95

› 11.400 International Tools

NL **ECO HSS Spiraalboor gewalst**
FR **Foret HSS ECO laminé**
ES **Broca HSS ECO laminada**
DE **ECO HSS Spiralbohrer Gewalzt**
EN **ECO HSS Twist drill roll-forged**



118° | DIN 338 | HSS | N | ECO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | K 31 GG | K 32 GGG GTS-GTW

20-25 E | 20-25 E | 15-20 D | 15-20 E | 25-30 E

Ref.	d1	d2	l1	l2	€
11.400.0100	1	1	34	12	0,19
11.400.0110	1.1	1.1	36	14	0,19
11.400.0120	1.2	1.2	38	16	0,19
11.400.0130	1.3	1.3	38	16	0,19
11.400.0140	1.4	1.4	40	18	0,19
11.400.0150	1.5	1.5	40	18	0,19
11.400.0160	1.6	1.6	43	20	0,26
11.400.0170	1.7	1.7	43	20	0,26
11.400.0180	1.8	1.8	46	22	0,26
11.400.0190	1.9	1.9	46	22	0,26
11.400.0200	2	2	49	24	0,26
11.400.0210	2.1	2.1	49	24	0,33
11.400.0220	2.2	2.2	53	27	0,33
11.400.0230	2.3	2.3	53	27	0,35
11.400.0240	2.4	2.4	57	30	0,35
11.400.0250	2.5	2.5	57	30	0,30
11.400.0260	2.6	2.6	57	30	0,42
11.400.0270	2.7	2.7	61	33	0,42
11.400.0280	2.8	2.8	61	33	0,42
11.400.0290	2.9	2.9	61	33	0,42
11.400.0300	3	3	61	33	0,38
11.400.0310	3.1	3.1	65	36	0,42
11.400.0320	3.2	3.2	65	36	0,42
11.400.0330	3.3	3.3	65	36	0,42
11.400.0340	3.4	3.4	70	39	0,42
11.400.0350	3.5	3.5	70	39	0,39
11.400.0360	3.6	3.6	70	39	0,42

Ref.	d1	d2	l1	l2	€
11.400.0370	3.7	3.7	70	39	0,42
11.400.0380	3.8	3.8	75	43	0,42
11.400.0390	3.9	3.9	75	43	0,42
11.400.0400	4	4	75	43	0,42
11.400.0410	4.1	4.1	75	43	0,57
11.400.0420	4.2	4.2	75	43	0,57
11.400.0430	4.3	4.3	80	47	0,57
11.400.0440	4.4	4.4	80	47	0,57
11.400.0450	4.5	4.5	80	47	0,54
11.400.0460	4.6	4.6	80	47	0,69
11.400.0470	4.7	4.7	80	47	0,69
11.400.0480	4.8	4.8	86	52	0,69
11.400.0490	4.9	4.9	86	52	0,69
11.400.0500	5	5	86	52	0,66
11.400.0510	5.1	5.1	86	52	0,90
11.400.0520	5.2	5.2	86	52	0,90
11.400.0530	5.3	5.3	86	52	0,90
11.400.0540	5.4	5.4	93	57	0,90
11.400.0550	5.5	5.5	93	57	0,88
11.400.0560	5.6	5.6	93	57	0,99
11.400.0570	5.7	5.7	93	57	0,99
11.400.0580	5.8	5.8	93	57	0,99
11.400.0590	5.9	5.9	93	57	0,99
11.400.0600	6	6	93	57	0,91
11.400.0610	6.1	6.1	101	63	1,11
11.400.0620	6.2	6.2	101	63	1,11
11.400.0630	6.3	6.3	101	63	1,11

Ref.	d1	d2	l1	l2	€
11.400.0640	6.4	6.4	101	63	1,11
11.400.0650	6.5	6.5	101	63	1,06
11.400.0660	6.6	6.6	101	63	1,35
11.400.0670	6.7	6.7	101	63	1,35
11.400.0680	6.8	6.8	109	69	1,35
11.400.0690	6.9	6.9	109	69	1,35
11.400.0700	7	7	109	69	1,31
11.400.0710	7.1	7.1	109	69	1,57
11.400.0720	7.2	7.2	109	69	1,57
11.400.0730	7.3	7.3	109	69	1,57
11.400.0740	7.4	7.4	109	69	1,57
11.400.0750	7.5	7.5	109	69	1,54
11.400.0760	7.6	7.6	117	75	1,88
11.400.0770	7.7	7.7	117	75	1,88
11.400.0780	7.8	7.8	117	75	1,88
11.400.0790	7.9	7.9	117	75	1,88
11.400.0800	8	8	117	75	1,80
11.400.0810	8.1	8.1	117	75	2,14
11.400.0820	8.2	8.2	117	75	2,14
11.400.0830	8.3	8.3	117	75	2,14
11.400.0840	8.4	8.4	117	75	2,14
11.400.0850	8.5	8.5	117	75	2,00
11.400.0860	8.6	8.6	125	81	2,65
11.400.0870	8.7	8.7	125	81	2,53
11.400.0880	8.8	8.8	125	81	2,53
11.400.0890	8.9	8.9	125	81	2,53
11.400.0900	9	9	125	81	2,39

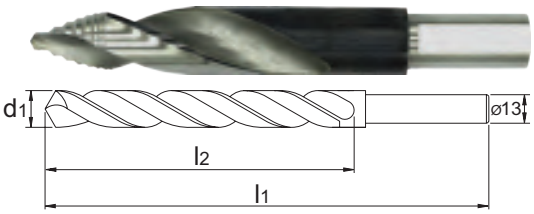
› 11.400 International Tools

Ref.	d1	d2	l1	l2	€
11.400.0910	9.1	9.1	125	81	2,70
11.400.0920	9.2	9.2	125	81	2,70
11.400.0930	9.3	9.3	125	81	2,70
11.400.0940	9.4	9.4	125	81	2,70
11.400.0950	9.5	9.5	125	81	2,68
11.400.0960	9.6	9.6	133	87	3,03
11.400.0970	9.7	9.7	133	87	3,03
11.400.0980	9.8	9.8	133	87	3,03
11.400.0990	9.9	9.9	133	87	3,03
11.400.1000	10	10	133	87	2,96
11.400.1010	10.1	10.1	133	87	3,24
11.400.1020	10.2	10.2	133	87	3,24
11.400.1030	10.3	10.3	133	87	3,24
11.400.1040	10.4	10.4	133	87	3,24
11.400.1050	10.5	10.5	133	87	3,24
11.400.1060	10.6	10.6	133	87	3,80
11.400.1070	10.7	10.7	142	94	3,80
11.400.1080	10.8	10.8	142	94	3,80

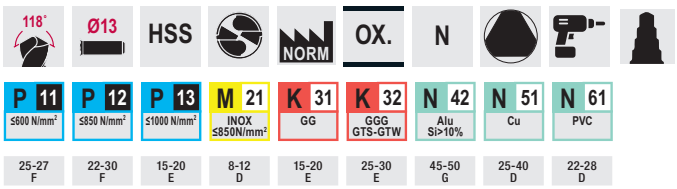
Ref.	d1	d2	l1	l2	€
11.400.1090	10.9	10.9	142	94	3,80
11.400.1100	11	11	142	94	3,80
11.400.1110	11.1	11.1	142	94	4,06
11.400.1120	11.2	11.2	142	94	4,06
11.400.1130	11.3	11.3	142	94	4,06
11.400.1140	11.4	11.4	142	94	4,06
11.400.1150	11.5	11.5	142	94	4,00
11.400.1160	11.6	11.6	142	94	4,72
11.400.1170	11.7	11.7	142	94	4,72
11.400.1180	11.8	11.8	142	94	4,72
11.400.1190	11.9	11.9	151	101	4,72
11.400.1200	12	12	151	101	4,65
11.400.1210	12.1	12.1	151	101	4,98
11.400.1220	12.2	12.2	151	101	4,98
11.400.1230	12.3	12.3	151	101	4,98
11.400.1240	12.4	12.4	151	101	4,98
11.400.1250	12.5	12.5	151	101	5,10
11.400.1260	12.6	12.6	151	101	5,42

Ref.	d1	d2	l1	l2	€
11.400.1270	12.7	12.7	151	101	5,42
11.400.1280	12.8	12.8	151	101	5,42
11.400.1290	12.9	12.9	151	101	5,42
11.400.1300	13	13	151	101	5,34
11.400.1350	13.5	13.5	160	108	7,17
11.400.1400	14	14	160	108	7,43
11.400.1450	14.5	14.5	169	114	8,71
11.400.1500	15	15	169	114	9,04
11.400.1550	15.5	15.5	178	120	10,40
11.400.1600	16	16	178	120	10,76
11.400.1650	16.5	16.5	184	125	12,40
11.400.1700	17	17	184	125	12,40
11.400.1750	17.5	17.5	191	130	14,20
11.400.1800	18	18	191	130	14,71
11.400.1850	18.5	18.5	198	135	15,88
11.400.1900	19	19	198	135	15,88
11.400.1950	19.5	19.5	205	140	18,57
11.400.2000	20	20	205	140	18,57

› 11.403 Phantom



NL HSS Spiraalboor Step-point, met drievlaks schacht 13 mm
FR Foret à pointe étagée HSS Step-point, à 3 méplats, queue 13 mm
ES Broca HSS Step-point, con 3 chaflanes 13 mm
DE HSS Spiralbohrer Step-point, 3-Flächen-Schaft 13 mm
EN HSS Stub Drill Step-point, with 3 flat surfaces 13 mm

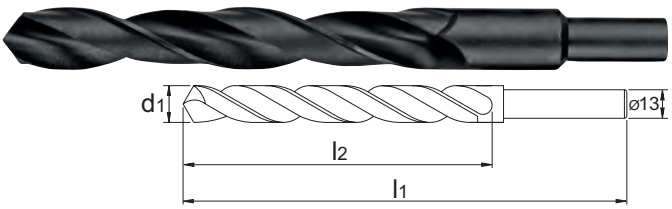


Ref.	d1	l1	l2	€
11.403.1350	13.5	107	61	34,15
11.403.1400	14	107	61	36,25
11.403.1450	14.5	111	65	37,20
11.403.1500	15	111	65	40,10
11.403.1550	15.5	115	69	41,15

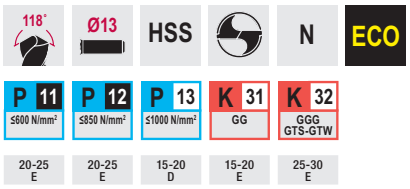
Ref.	d1	l1	l2	€
11.403.1600	16	115	69	45,15
11.403.1650	16.5	119	73	75,15
11.403.1700	17	119	73	75,75
11.403.1750	17.5	123	77	80,00
11.403.1800	18	123	77	80,00

Ref.	d1	l1	l2	€
11.403.1850	18.5	127	81	80,95
11.403.1900	19	127	81	85,90
11.403.1950	19.5	131	85	88,00
11.403.2000	20	131	85	91,25

› 11.413 International Tools



NL ECO HSS Spiraalboor gewalst, schacht 13 mm
FR Foret HSS ECO laminé, queue 13 mm
ES Broca HSS ECO laminada, mango 13 mm
DE ECO HSS Spiralbohrer Gewalzt, Schaft 13 mm
EN ECO HSS Twist drill roll-forged, shank 13 mm



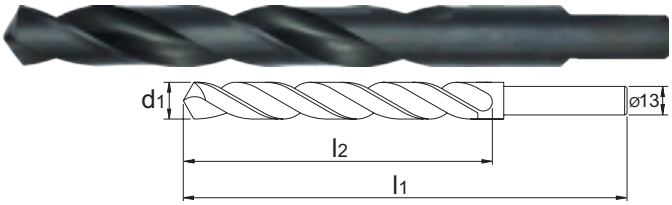
Ref.	d1	l1	l2	€
11.413.1350	13.5	160	108	13,15
11.413.1400	14	160	108	13,15
11.413.1450	14.5	169	114	15,45
11.413.1500	15	169	114	14,91
11.413.1550	15.5	178	120	16,63
11.413.1600	16	178	120	17,23
11.413.1650	16.5	184	125	20,60

Ref.	d1	l1	l2	€
11.413.1700	17	184	125	20,60
11.413.1750	17.5	191	130	22,91
11.413.1800	18	191	130	22,91
11.413.1850	18.5	198	135	26,85
11.413.1900	19	198	135	23,37
11.413.1950	19.5	205	140	29,65
11.413.2000	20	205	140	29,65

Ref.	d1	l1	l2	€
11.413.2100	21	208	145	40,60
11.413.2200	22	208	150	42,75
11.413.2300	23	213	155	43,35
11.413.2400	24	222	160	54,85
11.413.2500	25	222	160	65,40

› 11.414 International Tools

NL **ECO HSS Spiraalboor schacht 13 mm**
FR **Foret HSS ECO queue 13 mm**
ES **Broca HSS ECO mango 13 mm**
DE **ECO HSS Spiralbohrer Schaft 13 mm**
EN **ECO HSS Twist drill shank 13 mm**



118° | Ø13 | HSS | N | ECO | ≤25

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	K 31 GG	K 32 GGG GTS-GTW
20-25 E	20-25 E	15-20 D	15-20 E	25-30 E

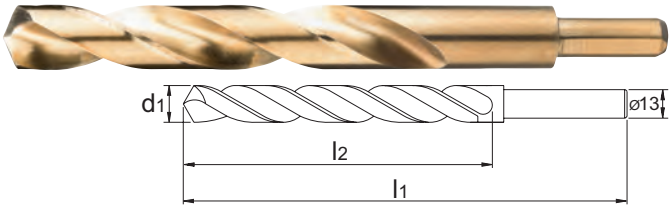
Ref.	d1	l1	l2	€
11.414.1350	13.5	160	108	13,15
11.414.1400	14	160	108	13,15
11.414.1450	14.5	169	114	15,45
11.414.1500	15	169	114	14,91
11.414.1550	15.5	178	120	16,63
11.414.1600	16	178	120	17,23
11.414.1650	16.5	184	125	20,60
11.414.1700	17	184	125	20,60

Ref.	d1	l1	l2	€
11.414.1750	17.5	191	130	22,91
11.414.1800	18	191	130	22,91
11.414.1850	18.5	198	135	26,85
11.414.1900	19	198	135	23,37
11.414.1950	19.5	205	140	29,65
11.414.2000	20	205	140	29,65
11.414.2100	21	208	145	40,60
11.414.2200	22	208	150	42,75

Ref.	d1	l1	l2	€
11.414.2300	23	213	155	43,35
11.414.2400	24	222	160	54,85
11.414.2500	25	222	160	65,40
11.414.2600	26	235	165	69,85
11.414.2700	27	235	170	70,90
11.414.2800	28	235	170	72,55
11.414.2900	29	240	175	78,35
11.414.3000	30	240	175	85,75

› 11.415 International Tools

NL **ECO PRO HSS-E Spiraalboor met drievlaks schacht 13 mm**
FR **Foret HSS-E ECO PRO à 3 méplats, queue 13 mm**
ES **Broca HSS-E ECO PRO con 3 chaflanes 13 mm**
DE **ECO PRO HSS-E Spiralbohrer 3-Flächen-Schaft 13 mm**
EN **ECO PRO HSS-E Twist drill with 3 flat surfaces 13 mm**



135° | Ø13 | HSS-E | N | ECO PRO

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	M 21 INOX ≤850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 51 Cu	N 52 CuAlFe
28-35 E	30-36 E	20-27 E	14-18 D	30-35 F	24-30 F	30-40 E	8-15 C

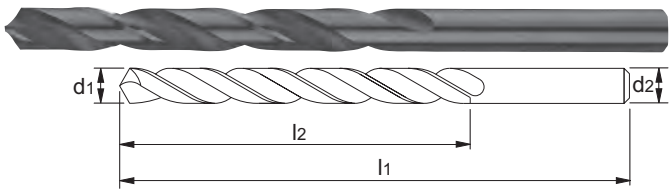
Ref.	d1	l1	l2	€
11.415.1350	13.5	160	108	28,10
11.415.1400	14	160	108	30,90
11.415.1450	14.5	169	114	34,25
11.415.1500	15	169	114	36,55
11.415.1550	15.5	178	120	38,90
11.415.1600	16	178	120	42,25
11.415.1650	16.5	184	125	46,65

Ref.	d1	l1	l2	€
11.415.1700	17	184	125	49,30
11.415.1750	17.5	191	130	53,65
11.415.1800	18	191	130	58,15
11.415.1850	18.5	198	135	62,10
11.415.1900	19	198	135	65,65
11.415.1950	19.5	205	140	70,10
11.415.2000	20	205	140	72,75

Ref.	d1	l1	l2	€
11.415.2100	21	208	145	79,60
11.415.2200	22	208	150	84,50
11.415.2300	23	213	155	91,80
11.415.2400	24	222	160	109,05
11.415.2500	25	222	160	120,95

› 11.416 International Tools

NL **ECO HSS Spiraalboor**
FR **Foret HSS ECO**
ES **Broca HSS ECO**
DE **ECO HSS Spiralbohrer**
EN **ECO HSS Twist drill**



118° | DIN 338 | HSS | N | ECO

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 41 Alu	N 42 Alu Si>10%	N 51 Cu	N 61 PVC
25-27 F	22-30 F	15-20 E	15-20 E	25-30 E	45-50 E	35-40 G	25-40 D	22-28 D

Ref.	d1	d2	l1	l2	€
11.416.0100	1	1	34	12	0,26
11.416.0110	1.1	1.1	36	14	0,27
11.416.0120	1.2	1.2	38	16	0,27
11.416.0130	1.3	1.3	38	16	0,27
11.416.0140	1.4	1.4	40	18	0,27
11.416.0150	1.5	1.5	40	18	0,27
11.416.0160	1.6	1.6	43	20	0,33
11.416.0170	1.7	1.7	43	20	0,33
11.416.0180	1.8	1.8	46	22	0,33
11.416.0190	1.9	1.9	46	22	0,33
11.416.0200	2	2	49	24	0,34
11.416.0210	2.1	2.1	49	24	0,43
11.416.0220	2.2	2.2	53	27	0,43

Ref.	d1	d2	l1	l2	€
11.416.0230	2.3	2.3	53	27	0,43
11.416.0240	2.4	2.4	57	30	0,43
11.416.0250	2.5	2.5	57	30	0,38
11.416.0260	2.6	2.6	57	30	0,61
11.416.0270	2.7	2.7	61	33	0,61
11.416.0280	2.8	2.8	61	33	0,61
11.416.0290	2.9	2.9	61	33	0,61
11.416.0300	3	3	61	33	0,58
11.416.0310	3.1	3.1	65	36	0,72
11.416.0320	3.2	3.2	65	36	0,71
11.416.0330	3.3	3.3	65	36	0,71
11.416.0340	3.4	3.4	70	39	0,71
11.416.0350	3.5	3.5	70	39	0,71

Ref.	d1	d2	l1	l2	€
11.416.0360	3.6	3.6	70	39	0,79
11.416.0370	3.7	3.7	70	39	0,79
11.416.0380	3.8	3.8	75	43	0,79
11.416.0390	3.9	3.9	75	43	0,79
11.416.0400	4	4	75	43	0,79
11.416.0410	4.1	4.1	75	43	0,84
11.416.0420	4.2	4.2	75	43	0,84
11.416.0430	4.3	4.3	80	47	0,90
11.416.0440	4.4	4.4	80	47	0,90
11.416.0450	4.5	4.5	80	47	0,89
11.416.0460	4.6	4.6	80	47	0,99
11.416.0470	4.7	4.7	80	47	0,99
11.416.0480	4.8	4.8	86	52	0,98

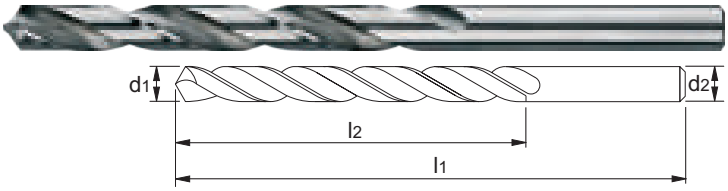
› 11.416 International Tools

Ref.	d1	d2	l1	l2	€
11.416.0490	4.9	4.9	86	52	0,99
11.416.0500	5	5	86	52	0,98
11.416.0490	4.9	4.9	86	52	0,99
11.416.0500	5	5	86	52	0,98
11.416.0490	4.9	4.9	86	52	0,99
11.416.0500	5	5	86	52	0,98
11.416.0510	5.1	5.1	86	52	1,15
11.416.0520	5.2	5.2	86	52	1,14
11.416.0530	5.3	5.3	86	52	1,15
11.416.0540	5.4	5.4	93	57	1,15
11.416.0550	5.5	5.5	93	57	1,14
11.416.0560	5.6	5.6	93	57	1,24
11.416.0570	5.7	5.7	93	57	1,24
11.416.0580	5.8	5.8	93	57	1,24
11.416.0590	5.9	5.9	93	57	1,24
11.416.0600	6	6	93	57	1,23
11.416.0610	6.1	6.1	101	63	1,43
11.416.0620	6.2	6.2	101	63	1,43
11.416.0630	6.3	6.3	101	63	1,43
11.416.0640	6.4	6.4	101	63	1,45
11.416.0650	6.5	6.5	101	63	1,43
11.416.0660	6.6	6.6	101	63	2,38
11.416.0670	6.7	6.7	101	63	1,69
11.416.0680	6.8	6.8	109	69	1,68
11.416.0690	6.9	6.9	109	69	2,38
11.416.0700	7	7	109	69	1,68
11.416.0710	7.1	7.1	109	69	1,98
11.416.0720	7.2	7.2	109	69	1,98
11.416.0730	7.3	7.3	109	69	1,98

Ref.	d1	d2	l1	l2	€
11.416.0740	7.4	7.4	109	69	2,88
11.416.0750	7.5	7.5	109	69	1,96
11.416.0760	7.6	7.6	117	75	3,47
11.416.0770	7.7	7.7	117	75	3,47
11.416.0780	7.8	7.8	117	75	2,24
11.416.0790	7.9	7.9	117	75	2,24
11.416.0800	8	8	117	75	2,22
11.416.0810	8.1	8.1	117	75	3,78
11.416.0820	8.2	8.2	117	75	2,46
11.416.0830	8.3	8.3	117	75	2,48
11.416.0840	8.4	8.4	117	75	2,48
11.416.0850	8.5	8.5	117	75	2,46
11.416.0860	8.6	8.6	125	81	4,37
11.416.0870	8.7	8.7	125	81	2,98
11.416.0880	8.8	8.8	125	81	4,37
11.416.0890	8.9	8.9	125	81	2,98
11.416.0900	9	9	125	81	2,95
11.416.0910	9.1	9.1	125	81	4,86
11.416.0920	9.2	9.2	125	81	4,86
11.416.0930	9.3	9.3	125	81	4,86
11.416.0940	9.4	9.4	125	81	4,86
11.416.0950	9.5	9.5	125	81	3,14
11.416.0960	9.6	9.6	133	87	5,56
11.416.0970	9.7	9.7	133	87	5,56
11.416.0980	9.8	9.8	133	87	5,56
11.416.0990	9.9	9.9	133	87	5,56
11.416.1000	10	10	133	87	3,44
11.416.1010	10.1	10.1	133	87	5,96
11.416.1020	10.2	10.2	133	87	3,94

Ref.	d1	d2	l1	l2	€
11.416.1030	10.3	10.3	133	87	5,96
11.416.1040	10.4	10.4	133	87	5,96
11.416.1050	10.5	10.5	133	87	3,94
11.416.1060	10.6	10.6	133	87	7,94
11.416.1070	10.7	10.7	142	94	7,94
11.416.1080	10.8	10.8	142	94	7,94
11.416.1090	10.9	10.9	142	94	7,94
11.416.1100	11	11	142	94	4,43
11.416.1110	11.1	11.1	142	94	7,94
11.416.1120	11.2	11.2	142	94	7,94
11.416.1130	11.3	11.3	142	94	7,94
11.416.1140	11.4	11.4	142	94	7,94
11.416.1150	11.5	11.5	142	94	4,62
11.416.1160	11.6	11.6	142	94	8,74
11.416.1170	11.7	11.7	142	94	8,74
11.416.1180	11.8	11.8	142	94	8,74
11.416.1190	11.9	11.9	151	101	8,74
11.416.1200	12	12	151	101	5,21
11.416.1210	12.1	12.1	151	101	9,43
11.416.1220	12.2	12.2	151	101	9,43
11.416.1230	12.3	12.3	151	101	9,43
11.416.1240	12.4	12.4	151	101	9,43
11.416.1250	12.5	12.5	151	101	5,71
11.416.1260	12.6	12.6	151	101	9,83
11.416.1270	12.7	12.7	151	101	9,83
11.416.1280	12.8	12.8	151	101	9,83
11.416.1290	12.9	12.9	151	101	9,83
11.416.1300	13	13	151	101	5,90

› 11.420 International Tools



NL ECO PRO HSS Spiraalboor
FR Foret HSS ECO PRO
ES Broca HSS ECO PRO
DE ECO PRO HSS Spiralbohrer
EN ECO PRO HSS Twist drill

118° | DIN 338 | HSS | N | ECO PRO

P 11	P 12	P 13	K 31	K 32	N 41	N 42	N 51	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu	PVC
25-27 F	22-30 F	15-20 E	15-20 E	25-30 E	45-50 E	35-40 G	25-40 D	22-28 D

Ref.	d1	d2	l1	l2	€
11.420.0100	1	1	34	12	0,51
11.420.0110	1.1	1.1	36	14	0,51
11.420.0120	1.2	1.2	38	16	0,51
11.420.0130	1.3	1.3	38	16	0,51
11.420.0140	1.4	1.4	40	18	0,51
11.420.0150	1.5	1.5	40	18	0,51
11.420.0160	1.6	1.6	43	20	0,57
11.420.0170	1.7	1.7	43	20	0,57
11.420.0180	1.8	1.8	46	22	0,57
11.420.0190	1.9	1.9	46	22	0,57
11.420.0200	2	2	49	24	0,56
11.420.0210	2.1	2.1	49	24	0,65
11.420.0220	2.2	2.2	53	27	0,65
11.420.0230	2.3	2.3	53	27	0,65
11.420.0240	2.4	2.4	57	30	0,65
11.420.0250	2.5	2.5	57	30	0,65
11.420.0260	2.6	2.6	57	30	0,90
11.420.0270	2.7	2.7	61	33	0,90
11.420.0280	2.8	2.8	61	33	0,90
11.420.0290	2.9	2.9	61	33	0,90
11.420.0300	3	3	61	33	0,83
11.420.0310	3.1	3.1	65	36	0,91
11.420.0320	3.2	3.2	65	36	0,91
11.420.0330	3.3	3.3	65	36	0,91
11.420.0340	3.4	3.4	70	39	0,91
11.420.0350	3.5	3.5	70	39	0,91
11.420.0360	3.6	3.6	70	39	1,02
11.420.0370	3.7	3.7	70	39	1,02
11.420.0380	3.8	3.8	75	43	1,02
11.420.0390	3.9	3.9	75	43	1,02
11.420.0400	4	4	75	43	1,02
11.420.0410	4.1	4.1	75	43	1,06
11.420.0420	4.2	4.2	75	43	1,06
11.420.0430	4.3	4.3	80	47	1,19
11.420.0440	4.4	4.4	80	47	1,19

Ref.	d1	d2	l1	l2	€
11.420.0450	4.5	4.5	80	47	1,19
11.420.0460	4.6	4.6	80	47	1,33
11.420.0470	4.7	4.7	80	47	1,33
11.420.0480	4.8	4.8	86	52	1,33
11.420.0490	4.9	4.9	86	52	1,33
11.420.0500	5	5	86	52	1,33
11.420.0510	5.1	5.1	86	52	1,78
11.420.0520	5.2	5.2	86	52	1,78
11.420.0530	5.3	5.3	86	52	1,78
11.420.0540	5.4	5.4	93	57	1,78
11.420.0550	5.5	5.5	93	57	1,78
11.420.0560	5.6	5.6	93	57	2,05
11.420.0570	5.7	5.7	93	57	2,05
11.420.0580	5.8	5.8	93	57	2,05
11.420.0590	5.9	5.9	93	57	2,05
11.420.0600	6	6	93	57	2,05
11.420.0610	6.1	6.1	101	63	2,49
11.420.0620	6.2	6.2	101	63	2,49
11.420.0630	6.3	6.3	101	63	2,49
11.420.0640	6.4	6.4	101	63	2,51
11.420.0650	6.5	6.5	101	63	2,51
11.420.0660	6.6	6.6	101	63	2,95
11.420.0670	6.7	6.7	101	63	2,95
11.420.0680	6.8	6.8	109	69	2,95
11.420.0690	6.9	6.9	109	69	2,95
11.420.0700	7	7	109	69	2,95
11.420.0710	7.1	7.1	109	69	3,32
11.420.0720	7.2	7.2	109	69	3,32
11.420.0730	7.3	7.3	109	69	3,32
11.420.0740	7.4	7.4	109	69	3,32
11.420.0750	7.5	7.5	109	69	3,32
11.420.0760	7.6	7.6	117	75	3,94
11.420.0770	7.7	7.7	117	75	3,94
11.420.0780	7.8	7.8	117	75	3,94
11.420.0790	7.9	7.9	117	75	3,94

Ref.	d1	d2	l1	l2	€
11.420.0800	8	8	117	75	3,94
11.420.0810	8.1	8.1	117	75	4,30
11.420.0820	8.2	8.2	117	75	4,30
11.420.0830	8.3	8.3	117	75	4,30
11.420.0840	8.4	8.4	117	75	4,30
11.420.0850	8.5	8.5	117	75	4,30
11.420.0860	8.6	8.6	125	81	5,08
11.420.0870	8.7	8.7	125	81	5,08
11.420.0880	8.8	8.8	125	81	5,08
11.420.0890	8.9	8.9	125	81	5,08
11.420.0900	9	9	125	81	5,08
11.420.0910	9.1	9.1	125	81	5,59
11.420.0920	9.2	9.2	125	81	5,59
11.420.0930	9.3	9.3	125	81	5,59
11.420.0940	9.4	9.4	125	81	5,59
11.420.0950	9.5	9.5	125	81	5,59
11.420.0960	9.6	9.6	133	87	6,37
11.420.0970	9.7	9.7	133	87	6,37
11.420.0980	9.8	9.8	133	87	6,37
11.420.0990	9.9	9.9	133	87	6,37
11.420.1000	10	10	133	87	6,37
11.420.1010	10.1	10.1	133	87	7,10
11.420.1020	10.2	10.2	133	87	7,10
11.420.1030	10.3	10.3	133	87	7,10
11.420.1040	10.4	10.4	133	87	7,10
11.420.1050	10.5	10.5	133	87	7,10
11.420.1060	10.6	10.6	133	87	8,46
11.420.1070	10.7	10.7	142	94	8,46
11.420.1080	10.8	10.8	142	94	8,46
11.420.1090	10.9	10.9	142	94	8,46
11.420.1100	11	11	142	94	8,46
11.420.1110	11.1	11.1	142	94	8,96
11.420.1120	11.2	11.2	142	94	9,07
11.420.1130	11.3	11.3	142	94	9,07
11.420.1140	11.4	11.4	142	94	9,07

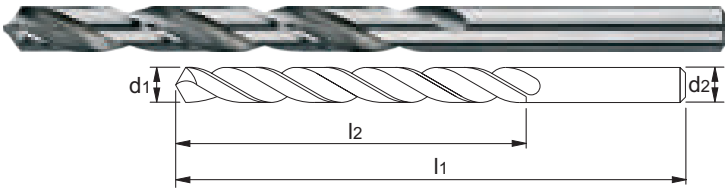
› 11.420 International Tools

Ref.	d1	d2	l1	l2	€
11.420.1150	11.5	11.5	142	94	9,07
11.420.1160	11.6	11.6	142	94	10,40
11.420.1170	11.7	11.7	142	94	10,40
11.420.1180	11.8	11.8	142	94	10,40
11.420.1190	11.9	11.9	151	101	10,40
11.420.1200	12	12	151	101	10,40

Ref.	d1	d2	l1	l2	€
11.420.1210	12.1	12.1	151	101	11,31
11.420.1220	12.2	12.2	151	101	11,31
11.420.1230	12.3	12.3	151	101	11,31
11.420.1240	12.4	12.4	151	101	11,31
11.420.1250	12.5	12.5	151	101	11,31
11.420.1260	12.6	12.6	151	101	12,30

Ref.	d1	d2	l1	l2	€
11.420.1270	12.7	12.7	151	101	12,30
11.420.1280	12.8	12.8	151	101	12,30
11.420.1290	12.9	12.9	151	101	12,30
11.420.1300	13	13	151	101	12,30

› 11.423 International Tools



NL ECO HSS Spiraalboor Kruisaanslijping, blank
FR Foret HSS ECO Affûtage en croix, finition polie
ES Broca HSS ECO Afilado en cruz, blanca
DE ECO HSS Spiralbohrer Kreuzanschliff, blank
EN ECO HSS Twist drill Split point, bright finish

118° | DIN 338 | HSS | N | ≥3 | ECO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

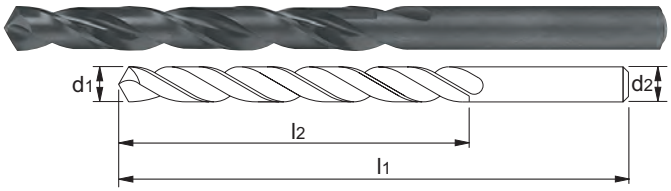
25-27 F | 22-30 F | 15-20 E | 15-20 E | 25-30 E | 35-40 G | 25-40 D | 22-28 D

Ref.	d1	d2	l1	l2	€
11.423.0100	1	1	34	12	0,35
11.423.0150	1.5	1.5	40	18	0,35
11.423.0200	2	2	49	24	0,40
11.423.0250	2.5	2.5	57	30	0,48
11.423.0300	3	3	61	33	0,68
11.423.0310	3.1	3.1	65	36	0,79
11.423.0320	3.2	3.2	65	36	0,79
11.423.0330	3.3	3.3	65	36	0,79
11.423.0350	3.5	3.5	70	39	0,79
11.423.0380	3.8	3.8	75	43	0,87
11.423.0400	4	4	75	43	0,87
11.423.0410	4.1	4.1	75	43	0,89
11.423.0420	4.2	4.2	75	43	0,89
11.423.0450	4.5	4.5	80	47	0,94

Ref.	d1	d2	l1	l2	€
11.423.0480	4.8	4.8	86	52	1,04
11.423.0490	4.9	4.9	86	52	1,05
11.423.0500	5	5	86	52	1,04
11.423.0510	5.1	5.1	86	52	1,20
11.423.0520	5.2	5.2	86	52	1,20
11.423.0550	5.5	5.5	93	57	1,20
11.423.0570	5.7	5.7	93	57	1,31
11.423.0580	5.8	5.8	93	57	1,30
11.423.0600	6	6	93	57	1,30
11.423.0620	6.2	6.2	101	63	1,50
11.423.0650	6.5	6.5	101	63	1,51
11.423.0680	6.8	6.8	109	69	1,77
11.423.0700	7	7	109	69	1,77
11.423.0750	7.5	7.5	109	69	2,08

Ref.	d1	d2	l1	l2	€
11.423.0800	8	8	117	75	2,41
11.423.0850	8.5	8.5	117	75	2,69
11.423.0900	9	9	125	81	3,22
11.423.0950	9.5	9.5	125	81	3,43
11.423.1000	10	10	133	87	3,76
11.423.1020	10.2	10.2	133	87	4,42
11.423.1050	10.5	10.5	133	87	4,42
11.423.1100	11	11	142	94	4,97
11.423.1150	11.5	11.5	142	94	5,39
11.423.1200	12	12	151	101	6,07
11.423.1250	12.5	12.5	151	101	6,64
11.423.1300	13	13	151	101	7,04

› 11.426 International Tools



NL ECO HSS Spiraalboor Kruisaanslijping
FR Foret HSS ECO Affûtage en croix
ES Broca HSS ECO Afilado en cruz
DE ECO HSS Spiralbohrer Kreuzanschliff
EN ECO HSS Twist drill Split point

118° | DIN 338 | HSS | N | ≥3 | ECO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 F | 22-30 F | 15-20 E | 15-20 E | 25-30 E | 35-40 G | 25-40 D | 22-28 D

Ref.	d1	d2	l1	l2	€
11.426.0100	1	1	34	12	0,31
11.426.0110	1.1	1.1	36	14	0,31
11.426.0120	1.2	1.2	38	16	0,31
11.426.0130	1.3	1.3	38	16	0,31
11.426.0140	1.4	1.4	40	18	0,31
11.426.0150	1.5	1.5	40	18	0,31
11.426.0160	1.6	1.6	43	20	0,35
11.426.0170	1.7	1.7	43	20	0,35
11.426.0180	1.8	1.8	46	22	0,35
11.426.0190	1.9	1.9	46	22	0,35
11.426.0200	2	2	49	24	0,38
11.426.0210	2.1	2.1	49	24	0,46
11.426.0220	2.2	2.2	53	27	0,46
11.426.0230	2.3	2.3	53	27	0,46
11.426.0240	2.4	2.4	57	30	0,46
11.426.0250	2.5	2.5	57	30	0,46
11.426.0260	2.6	2.6	57	30	0,69
11.426.0270	2.7	2.7	61	33	0,69
11.426.0280	2.8	2.8	61	33	0,69
11.426.0290	2.9	2.9	61	33	0,69
11.426.0300	3	3	61	33	0,69
11.426.0310	3.1	3.1	65	36	0,79
11.426.0320	3.2	3.2	65	36	0,79

Ref.	d1	d2	l1	l2	€
11.426.0330	3.3	3.3	65	36	0,79
11.426.0340	3.4	3.4	70	39	0,79
11.426.0350	3.5	3.5	70	39	0,79
11.426.0360	3.6	3.6	70	39	0,89
11.426.0370	3.7	3.7	70	39	0,89
11.426.0380	3.8	3.8	75	43	0,88
11.426.0390	3.9	3.9	75	43	0,89
11.426.0400	4	4	75	43	0,88
11.426.0410	4.1	4.1	75	43	0,94
11.426.0420	4.2	4.2	75	43	0,94
11.426.0430	4.3	4.3	80	47	0,99
11.426.0440	4.4	4.4	80	47	0,99
11.426.0450	4.5	4.5	80	47	0,99
11.426.0460	4.6	4.6	80	47	1,11
11.426.0470	4.7	4.7	80	47	1,11
11.426.0480	4.8	4.8	86	52	1,10
11.426.0490	4.9	4.9	86	52	1,11
11.426.0500	5	5	86	52	1,10
11.426.0510	5.1	5.1	86	52	1,27
11.426.0520	5.2	5.2	86	52	1,27
11.426.0530	5.3	5.3	86	52	1,27
11.426.0540	5.4	5.4	93	57	1,27
11.426.0550	5.5	5.5	93	57	1,27

Ref.	d1	d2	l1	l2	€
11.426.0560	5.6	5.6	93	57	1,37
11.426.0570	5.7	5.7	93	57	1,38
11.426.0580	5.8	5.8	93	57	1,37
11.426.0590	5.9	5.9	93	57	1,37
11.426.0600	6	6	93	57	1,37
11.426.0610	6.1	6.1	101	63	1,58
11.426.0620	6.2	6.2	101	63	1,58
11.426.0630	6.3	6.3	101	63	1,58
11.426.0640	6.4	6.4	101	63	1,60
11.426.0650	6.5	6.5	101	63	1,59
11.426.0660	6.6	6.6	101	63	2,65
11.426.0670	6.7	6.7	101	63	1,87
11.426.0680	6.8	6.8	109	69	1,87
11.426.0690	6.9	6.9	109	69	2,65
11.426.0700	7	7	109	69	1,87
11.426.0710	7.1	7.1	109	69	2,19
11.426.0720	7.2	7.2	109	69	2,19
11.426.0730	7.3	7.3	109	69	2,19
11.426.0740	7.4	7.4	109	69	3,20
11.426.0750	7.5	7.5	109	69	2,19
11.426.0760	7.6	7.6	117	75	3,86
11.426.0770	7.7	7.7	117	75	3,86
11.426.0780	7.8	7.8	117	75	2,47

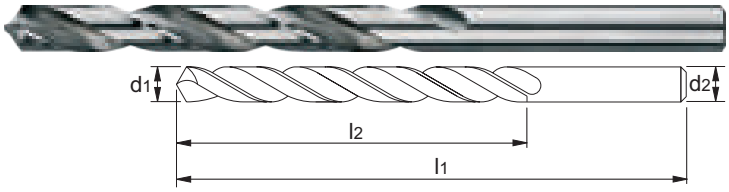
› 11.426 International Tools

Ref.	d1	d2	l1	l2	€
11.426.0790	7.9	7.9	117	75	2,48
11.426.0800	8	8	117	75	2,47
11.426.0810	8.1	8.1	117	75	4,19
11.426.0820	8.2	8.2	117	75	2,75
11.426.0830	8.3	8.3	117	75	2,76
11.426.0840	8.4	8.4	117	75	2,76
11.426.0850	8.5	8.5	117	75	2,75
11.426.0860	8.6	8.6	125	81	4,85
11.426.0870	8.7	8.7	125	81	3,31
11.426.0880	8.8	8.8	125	81	4,85
11.426.0890	8.9	8.9	125	81	3,30
11.426.0900	9	9	125	81	3,30
11.426.0910	9.1	9.1	125	81	5,41
11.426.0920	9.2	9.2	125	81	5,39
11.426.0930	9.3	9.3	125	81	5,41
11.426.0940	9.4	9.4	125	81	5,41
11.426.0950	9.5	9.5	125	81	3,51

Ref.	d1	d2	l1	l2	€
11.426.0960	9.6	9.6	133	87	6,18
11.426.0970	9.7	9.7	133	87	6,18
11.426.0980	9.8	9.8	133	87	6,18
11.426.0990	9.9	9.9	133	87	6,18
11.426.1000	10	10	133	87	3,85
11.426.1010	10.1	10.1	133	87	6,63
11.426.1020	10.2	10.2	133	87	4,40
11.426.1040	10.4	10.4	133	87	6,63
11.426.1050	10.5	10.5	133	87	4,40
11.426.1060	10.6	10.6	133	87	8,83
11.426.1070	10.7	10.7	142	94	8,83
11.426.1080	10.8	10.8	142	94	8,83
11.426.1090	10.9	10.9	142	94	8,83
11.426.1100	11	11	142	94	4,95
11.426.1110	11.1	11.1	142	94	8,14
11.426.1120	11.2	11.2	142	94	8,83
11.426.1130	11.3	11.3	142	94	8,14

Ref.	d1	d2	l1	l2	€
11.426.1150	11.5	11.5	142	94	5,17
11.426.1160	11.6	11.6	142	94	9,00
11.426.1170	11.7	11.7	142	94	9,40
11.426.1180	11.8	11.8	142	94	9,71
11.426.1190	11.9	11.9	151	101	9,00
11.426.1200	12	12	151	101	5,82
11.426.1210	12.1	12.1	151	101	10,49
11.426.1220	12.2	12.2	151	101	10,49
11.426.1230	12.3	12.3	151	101	10,49
11.426.1240	12.4	12.4	151	101	10,49
11.426.1250	12.5	12.5	151	101	6,37
11.426.1260	12.6	12.6	151	101	10,85
11.426.1270	12.7	12.7	151	101	10,85
11.426.1280	12.8	12.8	151	101	10,93
11.426.1300	13	13	151	101	6,75

› 11.430 International Tools



NL ECO PRO HSS Spiraalboor Kruisaanslijping
FR Foret HSS ECO PRO Affûtage en croix
ES Broca HSS ECO PRO Afilado en cruz
DE ECO PRO HSS Spiralbohrer Kreuzanschliff
EN ECO PRO HSS Twist drill Split point

118° | DIN 338 | HSS | N | ≥3 | ECO PRO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 F | 22-30 F | 15-20 E | 15-20 E | 25-30 E | 35-40 G | 25-40 D | 22-28 D

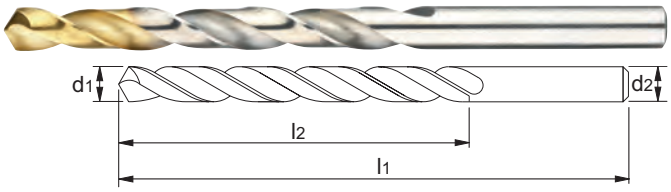
Ref.	d1	d2	l1	l2	€
11.430.0100	1	1	34	12	0,52
11.430.0110	1.1	1.1	36	14	0,52
11.430.0120	1.2	1.2	38	16	0,52
11.430.0130	1.3	1.3	38	16	0,52
11.430.0140	1.4	1.4	40	18	0,52
11.430.0150	1.5	1.5	40	18	0,52
11.430.0160	1.6	1.6	43	20	0,58
11.430.0170	1.7	1.7	43	20	0,58
11.430.0180	1.8	1.8	46	22	0,58
11.430.0190	1.9	1.9	46	22	0,58
11.430.0200	2	2	49	24	0,64
11.430.0210	2.1	2.1	49	24	0,69
11.430.0220	2.2	2.2	53	27	0,69
11.430.0230	2.3	2.3	53	27	0,69
11.430.0240	2.4	2.4	57	30	0,68
11.430.0250	2.5	2.5	57	30	0,68
11.430.0260	2.6	2.6	57	30	0,94
11.430.0270	2.7	2.7	61	33	0,93
11.430.0280	2.8	2.8	61	33	0,93
11.430.0290	2.9	2.9	61	33	0,94
11.430.0300	3	3	61	33	0,88
11.430.0310	3.1	3.1	65	36	1,28
11.430.0320	3.2	3.2	65	36	1,28
11.430.0330	3.3	3.3	65	36	1,28
11.430.0340	3.4	3.4	70	39	1,28
11.430.0350	3.5	3.5	70	39	1,24
11.430.0360	3.6	3.6	70	39	1,45
11.430.0370	3.7	3.7	70	39	1,45
11.430.0380	3.8	3.8	75	43	1,45
11.430.0390	3.9	3.9	75	43	1,45
11.430.0400	4	4	75	43	1,41
11.430.0410	4.1	4.1	75	43	1,57
11.430.0420	4.2	4.2	75	43	1,57
11.430.0430	4.3	4.3	80	47	1,71
11.430.0440	4.4	4.4	80	47	1,71
11.430.0450	4.5	4.5	80	47	1,71
11.430.0460	4.6	4.6	80	47	1,84
11.430.0470	4.7	4.7	80	47	1,84
11.430.0480	4.8	4.8	86	52	1,84
11.430.0490	4.9	4.9	86	52	1,84
11.430.0500	5	5	86	52	1,84

Ref.	d1	d2	l1	l2	€
11.430.0510	5.1	5.1	86	52	2,30
11.430.0520	5.2	5.2	86	52	2,30
11.430.0530	5.3	5.3	86	52	2,30
11.430.0540	5.4	5.4	93	57	2,30
11.430.0550	5.5	5.5	93	57	2,30
11.430.0560	5.6	5.6	93	57	2,57
11.430.0570	5.7	5.7	93	57	2,57
11.430.0580	5.8	5.8	93	57	2,57
11.430.0590	5.9	5.9	93	57	2,57
11.430.0600	6	6	93	57	2,57
11.430.0610	6.1	6.1	101	63	3,00
11.430.0620	6.2	6.2	101	63	3,00
11.430.0630	6.3	6.3	101	63	3,00
11.430.0640	6.4	6.4	101	63	3,03
11.430.0650	6.5	6.5	101	63	3,03
11.430.0660	6.6	6.6	101	63	3,47
11.430.0670	6.7	6.7	101	63	3,47
11.430.0680	6.8	6.8	109	69	3,47
11.430.0690	6.9	6.9	109	69	3,47
11.430.0700	7	7	109	69	3,47
11.430.0710	7.1	7.1	109	69	3,83
11.430.0720	7.2	7.2	109	69	3,83
11.430.0730	7.3	7.3	109	69	3,83
11.430.0740	7.4	7.4	109	69	3,83
11.430.0750	7.5	7.5	109	69	3,73
11.430.0760	7.6	7.6	117	75	4,45
11.430.0770	7.7	7.7	117	75	4,45
11.430.0780	7.8	7.8	117	75	4,45
11.430.0790	7.9	7.9	117	75	4,45
11.430.0800	8	8	117	75	4,45
11.430.0810	8.1	8.1	117	75	4,82
11.430.0820	8.2	8.2	117	75	4,82
11.430.0830	8.3	8.3	117	75	4,82
11.430.0840	8.4	8.4	117	75	4,82
11.430.0850	8.5	8.5	117	75	4,82
11.430.0860	8.6	8.6	125	81	5,59
11.430.0870	8.7	8.7	125	81	5,59
11.430.0880	8.8	8.8	125	81	5,59
11.430.0890	8.9	8.9	125	81	5,59
11.430.0900	9	9	125	81	5,59
11.430.0910	9.1	9.1	125	81	6,11

Ref.	d1	d2	l1	l2	€
11.430.0920	9.2	9.2	125	81	6,11
11.430.0930	9.3	9.3	125	81	6,11
11.430.0940	9.4	9.4	125	81	6,11
11.430.0950	9.5	9.5	125	81	6,11
11.430.0960	9.6	9.6	133	87	6,89
11.430.0970	9.7	9.7	133	87	6,89
11.430.0980	9.8	9.8	133	87	6,89
11.430.0990	9.9	9.9	133	87	6,89
11.430.1000	10	10	133	87	6,89
11.430.1010	10.1	10.1	133	87	7,26
11.430.1020	10.2	10.2	133	87	7,26
11.430.1030	10.3	10.3	133	87	7,26
11.430.1040	10.4	10.4	133	87	7,26
11.430.1050	10.5	10.5	133	87	7,26
11.430.1060	10.6	10.6	133	87	8,55
11.430.1070	10.7	10.7	142	94	8,55
11.430.1080	10.8	10.8	142	94	8,55
11.430.1090	10.9	10.9	142	94	8,55
11.430.1100	11	11	142	94	8,55
11.430.1120	11.2	11.2	142	94	9,13
11.430.1150	11.5	11.5	142	94	9,13
11.430.1180	11.8	11.8	142	94	10,15
11.430.1200	12	12	151	101	10,20
11.430.1220	12.2	12.2	151	101	10,74
11.430.1250	12.5	12.5	151	101	10,74
11.430.1280	12.8	12.8	151	101	11,64
11.430.1300	13	13	151	101	11,64
11.430.1350	13.5	13.5	160	108	20,89
11.430.1400	14	14	160	108	22,88
11.430.1450	14.5	14.5	169	114	27,85
11.430.1500	15	15	169	114	29,85
11.430.1550	15.5	15.5	178	120	32,85
11.430.1600	16	16	178	120	34,10
11.430.1650	16.5	16.5	184	125	36,05
11.430.1700	17	17	184	125	38,00
11.430.1750	17.5	17.5	191	130	40,90
11.430.1800	18	18	191	130	47,25
11.430.1850	18.5	18.5	198	135	49,25
11.430.1900	19	19	198	135	51,25
11.430.1950	19.5	19.5	205	140	54,25
11.430.2000	20	20	205	140	56,25

› 11.431 International Tools

NL ECO PRO HSS Spiraalboor TiN-tip
FR Foret HSS ECO PRO avec revêtement TiN sur la partie utile
ES Broca HSS ECO PRO con punta TiN
DE ECO PRO HSS Spiralbohrer TiN-Tip
EN ECO PRO HSS Twist drill TiN coated tip



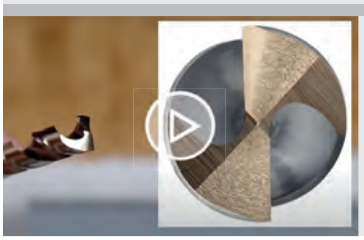
118° | DIN 338 | HSS | TiN | N | ≥3 | ECO PRO

P 11	P 12	P 13	M 21	K 31	K 32	N 41	N 42	N 51	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	INOX ≤850N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu	PVC
27-30 F	25-28 F	17-22 E	10-14 D	20-33 E	20-28 E	50-80 E	45-70 G	40-65 D	25-36 D

Ref.	d1	d2	l1	l2	€
11.431.0100	1	1	34	12	0,59
11.431.0110	1.1	1.1	36	14	0,63
11.431.0120	1.2	1.2	38	16	0,65
11.431.0130	1.3	1.3	38	16	0,68
11.431.0140	1.4	1.4	40	18	0,69
11.431.0150	1.5	1.5	40	18	0,71
11.431.0160	1.6	1.6	43	20	0,81
11.431.0170	1.7	1.7	43	20	0,83
11.431.0180	1.8	1.8	46	22	0,85
11.431.0190	1.9	1.9	46	22	0,87
11.431.0200	2	2	49	24	0,89
11.431.0210	2.1	2.1	49	24	1,01
11.431.0220	2.2	2.2	53	27	1,14
11.431.0230	2.3	2.3	53	27	1,19
11.431.0240	2.4	2.4	57	30	1,21
11.431.0250	2.5	2.5	57	30	1,23
11.431.0260	2.6	2.6	57	30	1,50
11.431.0270	2.7	2.7	61	33	1,52
11.431.0280	2.8	2.8	61	33	1,54
11.431.0290	2.9	2.9	61	33	1,56
11.431.0300	3	3	61	33	1,59
11.431.0310	3.1	3.1	65	36	1,92
11.431.0320	3.2	3.2	65	36	1,94
11.431.0330	3.3	3.3	65	36	1,96
11.431.0340	3.4	3.4	70	39	2,13
11.431.0350	3.5	3.5	70	39	2,00
11.431.0360	3.6	3.6	70	39	2,23
11.431.0370	3.7	3.7	70	39	2,25
11.431.0380	3.8	3.8	75	43	2,27
11.431.0390	3.9	3.9	75	43	2,44
11.431.0400	4	4	75	43	2,31
11.431.0410	4.1	4.1	75	43	2,47
11.431.0420	4.2	4.2	75	43	2,49
11.431.0430	4.3	4.3	80	47	2,56
11.431.0440	4.4	4.4	80	47	2,58
11.431.0450	4.5	4.5	80	47	2,61
11.431.0460	4.6	4.6	80	47	3,08

Ref.	d1	d2	l1	l2	€
11.431.0470	4.7	4.7	80	47	3,10
11.431.0480	4.8	4.8	86	52	2,99
11.431.0490	4.9	4.9	86	52	3,01
11.431.0500	5	5	86	52	3,03
11.431.0510	5.1	5.1	86	52	3,26
11.431.0520	5.2	5.2	86	52	3,28
11.431.0530	5.3	5.3	86	52	3,29
11.431.0540	5.4	5.4	93	57	3,54
11.431.0550	5.5	5.5	93	57	3,33
11.431.0560	5.6	5.6	93	57	3,62
11.431.0570	5.7	5.7	93	57	3,64
11.431.0580	5.8	5.8	93	57	3,66
11.431.0590	5.9	5.9	93	57	3,89
11.431.0600	6	6	93	57	3,69
11.431.0610	6.1	6.1	101	63	4,15
11.431.0620	6.2	6.2	101	63	4,38
11.431.0630	6.3	6.3	101	63	4,19
11.431.0640	6.4	6.4	101	63	4,38
11.431.0650	6.5	6.5	101	63	4,29
11.431.0660	6.6	6.6	101	63	4,74
11.431.0670	6.7	6.7	101	63	5,05
11.431.0680	6.8	6.8	109	69	4,77
11.431.0690	6.9	6.9	109	69	4,78
11.431.0700	7	7	109	69	4,80
11.431.0710	7.1	7.1	109	69	5,49
11.431.0720	7.2	7.2	109	69	5,21
11.431.0730	7.3	7.3	109	69	5,52
11.431.0740	7.4	7.4	109	69	5,54
11.431.0750	7.5	7.5	109	69	5,12
11.431.0760	7.6	7.6	117	75	5,92
11.431.0770	7.7	7.7	117	75	5,94
11.431.0780	7.8	7.8	117	75	6,33
11.431.0790	7.9	7.9	117	75	6,35
11.431.0800	8	8	117	75	5,98
11.431.0810	8.1	8.1	117	75	6,67
11.431.0820	8.2	8.2	117	75	6,41
11.431.0830	8.3	8.3	117	75	6,71

Ref.	d1	d2	l1	l2	€
11.431.0840	8.4	8.4	117	75	6,73
11.431.0850	8.5	8.5	117	75	6,47
11.431.0860	8.6	8.6	125	81	7,63
11.431.0870	8.7	8.7	125	81	7,65
11.431.0880	8.8	8.8	125	81	7,66
11.431.0890	8.9	8.9	125	81	7,68
11.431.0900	9	9	125	81	7,33
11.431.0910	9.1	9.1	125	81	8,31
11.431.0920	9.2	9.2	125	81	8,33
11.431.0930	9.3	9.3	125	81	8,35
11.431.0940	9.4	9.4	125	81	7,92
11.431.0950	9.5	9.5	125	81	7,94
11.431.0960	9.6	9.6	133	87	9,22
11.431.0970	9.7	9.7	133	87	9,24
11.431.0980	9.8	9.8	133	87	9,26
11.431.0990	9.9	9.9	133	87	9,27
11.431.1000	10	10	133	87	8,78
11.431.1010	10.1	10.1	133	87	9,79
11.431.1020	10.2	10.2	133	87	9,32
11.431.1030	10.3	10.3	133	87	9,82
11.431.1040	10.4	10.4	133	87	9,84
11.431.1050	10.5	10.5	133	87	9,37
11.431.1060	10.6	10.6	133	87	10,77
11.431.1070	10.7	10.7	142	94	11,35
11.431.1080	10.8	10.8	142	94	11,37
11.431.1090	10.9	10.9	142	94	11,38
11.431.1100	11	11	142	94	10,83
11.431.1120	11.2	11.2	142	94	11,53
11.431.1150	11.5	11.5	142	94	11,57
11.431.1180	11.8	11.8	142	94	14,50
11.431.1200	12	12	151	101	14,11
11.431.1220	12.2	12.2	151	101	15,24
11.431.1250	12.5	12.5	151	101	16,26
11.431.1280	12.8	12.8	151	101	17,90
11.431.1300	13	13	151	101	17,39



NL Standaardpunt vs splitpoint
FR Affûtage standard versus un affûtage en croix
ES Afilado normal o Afilado en cruz
DE Kegelmantelanschliff gegen Kreuzanschliff
EN Traditional vs splitpoint drill bit

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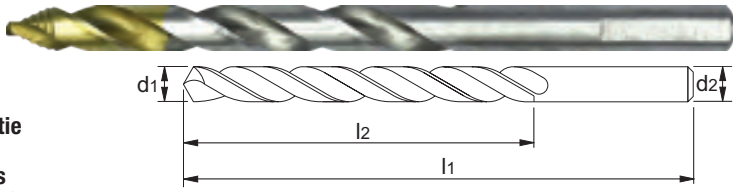
› 11.434 International Tools



NL **ECO PRO HSS Spiraalboor Step-point, TiN-tip, met drievlaks schacht**
FR **Foret HSS ECO PRO Step-point, avec revêtement TiN sur la partie utile, queue à trois méplats**
ES **Broca HSS ECO PRO Step-point, con punta TiN, con 3 chaflanes**
DE **ECO PRO HSS Spiralbohrer Step-point, TiN-Tip, 3-Flächen-Schaft**
EN **ECO PRO HSS Twist drill Step-point, TiN coated tip, with 3 flat surfaces**

118° | DIN 338 | HSS | TiN | N | ≥3 | ECO PRO | ≥3 | ≥3

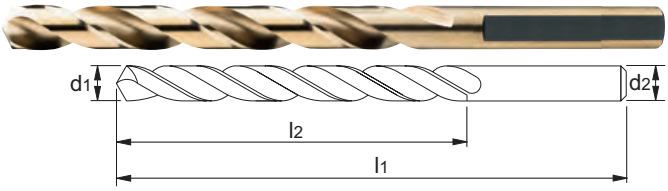
P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	M 21 INOX ≤850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 42 Alu Si>10%	N 51 Cu	N 61 PVC
25-27 F	22-30 F	15-20 E	8-12 D	15-20 E	25-30 E	45-50 G	25-40 D	22-28 D

Ref.	d1	d2	l1	l2	€
11.434.0100	1	1	34	12	0,59
11.434.0150	1.5	1.5	40	18	0,71
11.434.0200	2	2	49	24	0,89
11.434.0250	2.5	2.5	57	30	1,23
11.434.0300	3	3	61	33	1,59
11.434.0320	3.2	3.2	65	36	1,94
11.434.0330	3.3	3.3	65	36	1,96
11.434.0350	3.5	3.5	70	39	2,00
11.434.0400	4	4	75	43	2,31
11.434.0420	4.2	4.2	75	43	2,49
11.434.0450	4.5	4.5	80	47	2,61

Ref.	d1	d2	l1	l2	€
11.434.0480	4.8	4.8	86	52	2,99
11.434.0500	5	5	86	52	3,03
11.434.0510	5.1	5.1	86	52	3,26
11.434.0520	5.2	5.2	86	52	3,28
11.434.0550	5.5	5.5	93	57	3,33
11.434.0600	6	6	93	57	3,69
11.434.0650	6.5	6.5	101	63	4,29
11.434.0680	6.8	6.8	109	69	4,77
11.434.0700	7	7	109	69	4,80
11.434.0750	7.5	7.5	109	69	5,12
11.434.0800	8	8	117	75	5,98

Ref.	d1	d2	l1	l2	€
11.434.0850	8.5	8.5	117	75	6,47
11.434.0900	9	9	125	81	7,33
11.434.0950	9.5	9.5	125	81	7,94
11.434.1000	10	10	133	87	8,78
11.434.1020	10.2	10.2	133	87	9,32
11.434.1050	10.5	10.5	133	87	9,37
11.434.1100	11	11	142	94	10,83
11.434.1150	11.5	11.5	142	94	11,57
11.434.1200	12	12	151	101	14,11
11.434.1250	12.5	12.5	151	101	16,26
11.434.1300	13	13	151	101	17,39

› 11.438 International Tools



NL **ECO PRO HSS-E Spiraalboor met drievlaks schacht**
FR **Foret HSS-E ECO PRO queue à trois méplats**
ES **Broca HSS-E ECO PRO con 3 chaflanes**
DE **ECO PRO HSS-E Spiralbohrer 3-Flächen-Schaft**
EN **ECO PRO HSS-E Twist drill with 3 flat surfaces**

135° | DIN 338 | HSS-E | N | ECO PRO

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	M 21 INOX ≤850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 51 Cu	N 52 CuAlFe
28-35 E	30-36 E	20-27 E	14-18 D	30-35 F	24-30 F	30-40 E	8-15 C

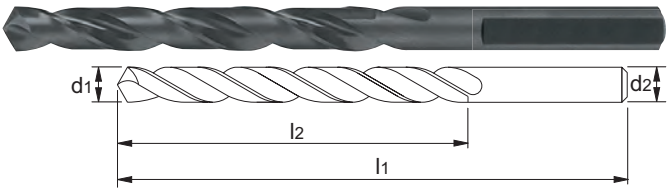
NIEUW | NOUVEAU | NUEVO | NEU

Ref.	d1	d2	l1	l2	€
11.438.0400	4	4	75	43	1,87
11.438.0420	4.2	4.2	75	43	2,34
11.438.0450	4.5	4.5	80	47	2,13
11.438.0500	5	5	86	52	2,61
11.438.0550	5.5	5.5	93	57	3,22
11.438.0600	6	6	93	57	3,48
11.438.0650	6.5	6.5	101	63	4,27
11.438.0680	6.8	6.8	109	69	5,61

Ref.	d1	d2	l1	l2	€
11.438.0700	7	7	109	69	4,98
11.438.0750	7.5	7.5	109	69	5,62
11.438.0800	8	8	117	75	6,96
11.438.0850	8.5	8.5	117	75	7,83
11.438.0900	9	9	125	81	8,78
11.438.0950	9.5	9.5	125	81	9,84
11.438.1000	10	10	133	87	11,47
11.438.1020	10.2	10.2	133	87	12,19

Ref.	d1	d2	l1	l2	€
11.438.1050	10.5	10.5	133	87	12,19
11.438.1100	11	11	142	94	14,08
11.438.1150	11.5	11.5	142	94	15,19
11.438.1200	12	12	151	101	17,64
11.438.1250	12.5	12.5	151	101	18,53
11.438.1300	13	13	151	101	20,00

› 11.440 Phantom



NL **HSS Spiraalboor met drievlaks schacht**
FR **Foret HSS queue à trois méplats**
ES **Broca HSS con 3 chaflanes**
DE **HSS Spiralbohrer 3-Flächen-Schaft**
EN **HSS Twist drill with 3 flat surfaces**

118° | DIN 338 | HSS | OX. | N

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	M 21 INOX ≤850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 42 Alu Si>10%	N 51 Cu	N 61 PVC
25-27 F	22-30 F	15-20 E	8-12 D	15-20 E	25-30 E	45-50 G	25-40 D	22-28 D

Ref.	d1	d2	l1	l2	€
11.440.0400	4	4	75	43	2,48
11.440.0420	4.2	4.2	75	43	2,91
11.440.0450	4.5	4.5	80	47	2,77
11.440.0500	5	5	86	52	3,20
11.440.0550	5.5	5.5	93	57	3,56
11.440.0600	6	6	93	57	3,96

Ref.	d1	d2	l1	l2	€
11.440.0650	6.5	6.5	101	63	4,60
11.440.0680	6.8	6.8	109	69	6,07
11.440.0700	7	7	109	69	5,21
11.440.0750	7.5	7.5	109	69	5,75
11.440.0800	8	8	117	75	6,96
11.440.0850	8.5	8.5	117	75	7,90

Ref.	d1	d2	l1	l2	€
11.440.0900	9	9	125	81	9,13
11.440.0950	9.5	9.5	125	81	10,05
11.440.1000	10	10	133	87	11,02
11.440.1020	10.2	10.2	133	87	13,84
11.440.1050	10.5	10.5	133	87	12,00
11.440.1100	11	11	142	94	12,28

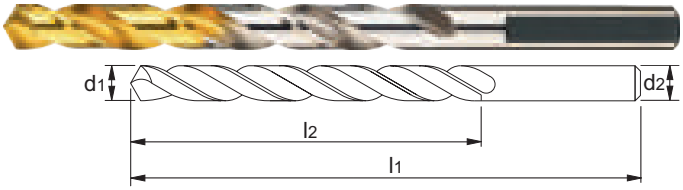
› 11.440 Phantom

Ref.	d1	d2	l1	l2	€
11.440.1150	11.5	11.5	142	94	13,36
11.440.1200	12	12	151	101	15,96

Ref.	d1	d2	l1	l2	€
11.440.1250	12.5	12.5	151	101	17,28
11.440.1300	13	13	151	101	17,85

Ref.	d1	d2	l1	l2	€

› 11.441 Phantom



NL HSS Spiraalboor TiN-tip, met drievlaks schacht, (handgebruik)
FR Foret HSS avec revêtement TiN sur la partie utile, queue à trois méplats, (usage à la main)
ES Broca HSS con punta TiN, con 3 chaflanes, (uso manual)
DE HSS Spiralbohrer TiN-Tip, 3-Flächen-Schaft, (handgebrauch)
EN HSS Twist drill TiN coated tip, with 3 flat surfaces, (handuse)

118° | DIN 338 | HSS | >N | TiN

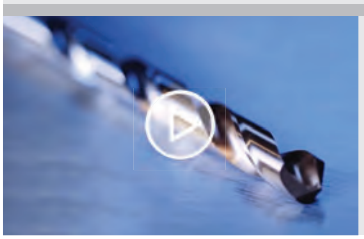
P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

27-30 F | 25-28 F | 17-22 E | 10-14 D | 20-33 E | 20-28 E | 50-80 E | 45-70 G | 40-65 D | 25-36 D

Ref.	d1	d2	l1	l2	€
11.441.0400	4	4	75	43	3,07
11.441.0410	4.1	4.1	75	43	3,46
11.441.0420	4.2	4.2	75	43	3,46
11.441.0430	4.3	4.3	80	47	3,48
11.441.0450	4.5	4.5	80	47	3,46
11.441.0470	4.7	4.7	80	47	3,88
11.441.0480	4.8	4.8	86	52	3,88
11.441.0490	4.9	4.9	86	52	3,88
11.441.0500	5	5	86	52	4,14
11.441.0510	5.1	5.1	86	52	4,21
11.441.0520	5.2	5.2	86	52	4,21
11.441.0530	5.3	5.3	86	52	4,91

Ref.	d1	d2	l1	l2	€
11.441.0550	5.5	5.5	93	57	4,96
11.441.0570	5.7	5.7	93	57	5,02
11.441.0580	5.8	5.8	93	57	5,02
11.441.0600	6	6	93	57	5,74
11.441.0610	6.1	6.1	101	63	5,72
11.441.0620	6.2	6.2	101	63	5,72
11.441.0630	6.3	6.3	101	63	5,76
11.441.0650	6.5	6.5	101	63	5,86
11.441.0670	6.7	6.7	101	63	6,06
11.441.0680	6.8	6.8	109	69	6,42
11.441.0700	7	7	109	69	7,03
11.441.0750	7.5	7.5	109	69	7,46

Ref.	d1	d2	l1	l2	€
11.441.0800	8	8	117	75	8,91
11.441.0850	8.5	8.5	117	75	10,87
11.441.0900	9	9	125	81	11,86
11.441.0950	9.5	9.5	125	81	13,18
11.441.1000	10	10	133	87	13,79
11.441.1020	10.2	10.2	133	87	14,79
11.441.1050	10.5	10.5	133	87	14,96
11.441.1100	11	11	142	94	15,60
11.441.1150	11.5	11.5	142	94	18,95
11.441.1200	12	12	151	101	19,23
11.441.1250	12.5	12.5	151	101	22,70
11.441.1300	13	13	151	101	23,49



NL De boor bij uitstek voor handgebruik
FR Le foret idéalement adapté pour l'utilisation manuelle
ES La broca por excelencia para uso manual
DE Der Spitzenbohrer für den Handgebrauch
EN The drill of choice for manual use

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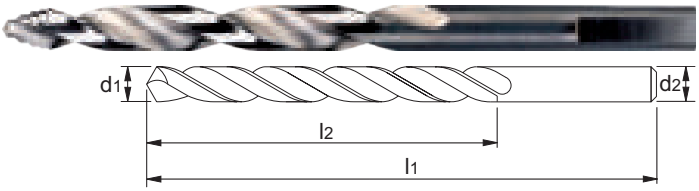
› 11.443 Phantom



NL HSS Spiraalboor Step-point, met drievlaks schacht
FR Foret à pointe étagée HSS Step-point, queue à trois méplats
ES Broca HSS Step-point, con 3 chaflanes
DE HSS Spiralbohrer Step-point, 3-Flächen-Schaft
EN HSS Stub Drill Step-point, with 3 flat surfaces

118° | DIN 338 | HSS | OX. | N | ≥4 | ≥2,5

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

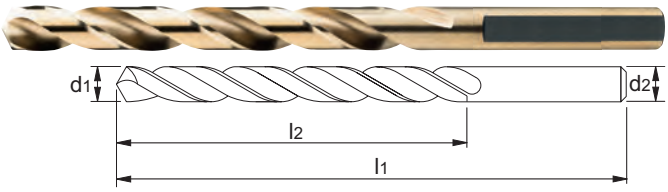
25-27 F | 22-30 F | 15-20 E | 8-12 D | 15-20 E | 25-30 E | 45-50 G | 25-40 D | 22-28 D

Ref.	d1	d2	l1	l2	€
11.443.0100	1	1	34	12	3,04
11.443.0150	1.5	1.5	40	18	3,25
11.443.0200	2	2	49	24	3,48
11.443.0250	2.5	2.5	57	30	4,24
11.443.0300	3	3	61	33	4,78
11.443.0320	3.2	3.2	65	36	4,68
11.443.0330	3.3	3.3	65	36	4,78
11.443.0350	3.5	3.5	70	39	4,96
11.443.0400	4	4	75	43	5,31
11.443.0410	4.1	4.1	75	43	5,64
11.443.0420	4.2	4.2	75	43	5,64
11.443.0450	4.5	4.5	80	47	5,84

Ref.	d1	d2	l1	l2	€
11.443.0490	4.9	4.9	86	52	6,03
11.443.0500	5	5	86	52	6,99
11.443.0510	5.1	5.1	86	52	7,53
11.443.0520	5.2	5.2	86	52	7,86
11.443.0550	5.5	5.5	93	57	7,86
11.443.0600	6	6	93	57	8,94
11.443.0650	6.5	6.5	101	63	9,65
11.443.0680	6.8	6.8	109	69	10,19
11.443.0700	7	7	109	69	10,28
11.443.0750	7.5	7.5	109	69	11,58
11.443.0800	8	8	117	75	13,17
11.443.0850	8.5	8.5	117	75	13,63

Ref.	d1	d2	l1	l2	€
11.443.0900	9	9	125	81	15,31
11.443.0950	9.5	9.5	125	81	15,93
11.443.1000	10	10	133	87	18,77
11.443.1020	10.2	10.2	133	87	20,18
11.443.1050	10.5	10.5	133	87	20,63
11.443.1100	11	11	142	94	23,90
11.443.1150	11.5	11.5	142	94	24,62
11.443.1200	12	12	151	101	27,95
11.443.1250	12.5	12.5	151	101	31,75
11.443.1300	13	13	151	101	32,70

› 11.445 Phantom



NL **HSS-E Spiraalboor met drievlaks schacht**
FR **Foret HSS-E queue à trois méplats**
ES **Broca HSS-E con 3 chaflanes**
DE **HSS-E Spiralbohrer 3-Flächen-Schaft**
EN **HSS-E Twist drill with 3 flat surfaces**

135° | DIN 338 | HSS-E | N

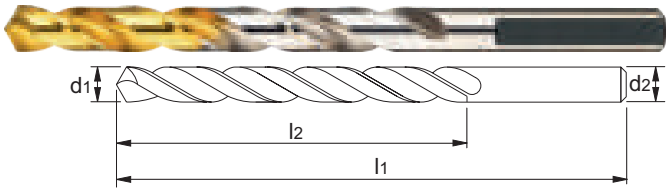
P 11	P 12	P 13	P 14	M 21	M 22	K 31	K 32	N 51	N 52
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Cu	CuAlFe
28-35 E	30-36 E	20-27 E	12-20 D	14-18 D	10-15 C	30-35 F	24-30 F	30-40 E	8-15 C

Ref.	d1	d2	l1	l2	€
11.445.0400	4	4	75	43	3,54
11.445.0420	4.2	4.2	75	43	4,63
11.445.0450	4.5	4.5	80	47	3,88
11.445.0500	5	5	86	52	4,39
11.445.0550	5.5	5.5	93	57	5,16
11.445.0600	6	6	93	57	5,83
11.445.0650	6.5	6.5	101	63	7,03
11.445.0680	6.8	6.8	109	69	9,98

Ref.	d1	d2	l1	l2	€
11.445.0700	7	7	109	69	8,10
11.445.0750	7.5	7.5	109	69	9,23
11.445.0800	8	8	117	75	10,16
11.445.0850	8.5	8.5	117	75	12,19
11.445.0900	9	9	125	81	13,29
11.445.0950	9.5	9.5	125	81	14,72
11.445.1000	10	10	133	87	17,11
11.445.1020	10.2	10.2	133	87	21,32

Ref.	d1	d2	l1	l2	€
11.445.1050	10.5	10.5	133	87	19,23
11.445.1100	11	11	142	94	20,42
11.445.1150	11.5	11.5	142	94	23,87
11.445.1200	12	12	151	101	23,98
11.445.1250	12.5	12.5	151	101	26,60
11.445.1300	13	13	151	101	26,45

› 11.446 Phantom



NL **HSS-E Spiraalboor TiN-tip, met drievlaks schacht, (handgebruik)**
FR **Foret HSS-E avec revêtement TiN sur la partie utile, queue à trois méplats, (usage à la main)**
ES **Broca HSS-E con punta TiN, con 3 chaflanes, (uso manual)**
DE **HSS-E Spiralbohrer TiN-Tip, 3-Flächen-Schaft, (handgebrauch)**
EN **HSS-E Twist drill TiN coated tip, with 3 flat surfaces, (handuse)**

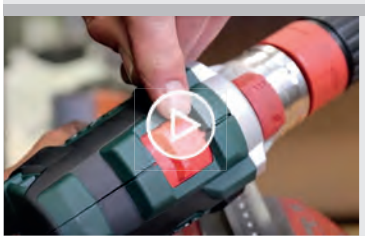
118° | DIN 338 | HSS-E | >N | TiN

P 11	P 12	P 13	P 14	M 21	M 22	K 31	K 32	N 51	N 52
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Cu	CuAlFe
32-40 E	35-40 E	25-32 E	12-20 D	15-20 D	10-15 C	30-35 F	24-30 F	30-40 E	8-15 C

Ref.	d1	d2	l1	l2	€
11.446.0400	4	4	75	43	3,94
11.446.0410	4.1	4.1	75	43	4,71
11.446.0420	4.2	4.2	75	43	4,24
11.446.0430	4.3	4.3	80	47	5,94
11.446.0450	4.5	4.5	80	47	4,24
11.446.0470	4.7	4.7	80	47	7,86
11.446.0480	4.8	4.8	86	52	6,18
11.446.0490	4.9	4.9	86	52	6,18
11.446.0500	5	5	86	52	4,79
11.446.0510	5.1	5.1	86	52	8,28
11.446.0520	5.2	5.2	86	52	8,28
11.446.0530	5.3	5.3	86	52	8,28

Ref.	d1	d2	l1	l2	€
11.446.0550	5.5	5.5	93	57	5,63
11.446.0570	5.7	5.7	93	57	8,51
11.446.0580	5.8	5.8	93	57	8,51
11.446.0600	6	6	93	57	6,52
11.446.0610	6.1	6.1	101	63	10,86
11.446.0620	6.2	6.2	101	63	10,86
11.446.0630	6.3	6.3	101	63	10,86
11.446.0650	6.5	6.5	101	63	7,78
11.446.0670	6.7	6.7	101	63	12,68
11.446.0680	6.8	6.8	109	69	8,90
11.446.0700	7	7	109	69	8,90
11.446.0750	7.5	7.5	109	69	10,17

Ref.	d1	d2	l1	l2	€
11.446.0800	8	8	117	75	11,12
11.446.0850	8.5	8.5	117	75	13,39
11.446.0900	9	9	125	81	14,61
11.446.0950	9.5	9.5	125	81	16,22
11.446.1000	10	10	133	87	18,69
11.446.1020	10.2	10.2	133	87	20,82
11.446.1050	10.5	10.5	133	87	20,82
11.446.1100	11	11	142	94	21,50
11.446.1150	11.5	11.5	142	94	25,20
11.446.1200	12	12	151	101	25,90
11.446.1250	12.5	12.5	151	101	28,60
11.446.1300	13	13	151	101	29,30



NL Effect toerental boor op RVS
FR Effet de la vitesse de rotation d'un foret sur le perçage d'inox
ES Efecto de las revoluciones de la broca en inox
DE Effekt Drehzahl Spiralbohrer auf Rostfreien Stahl
EN Effect off revolutions drillbit on stainless steel

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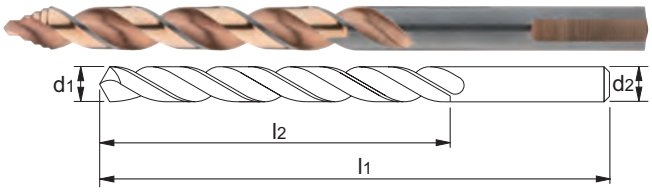
› 11.447 Phantom



NL **HSS-E Spiraalboor Step-point, met drievlaks schacht**
FR **Foret HSS-E Step-point, queue à trois méplats**
ES **Broca HSS-E Step-point, con 3 chaflanes**
DE **HSS-E Spiralbohrer Step-point, 3-Flächen-Schaft**
EN **HSS-E Twist drill Step-point, with 3 flat surfaces**

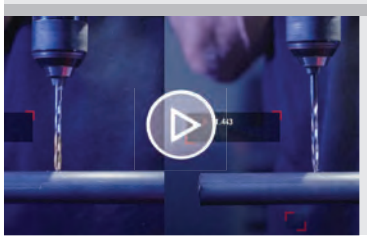
118° | DIN 338 | HSS-E | >N | OX. | ≥4 | ≥2,5

P 11	P 12	P 13	P 14	M 21	M 22	K 31	K 32	N 51	N 52
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Cu	CuAlFe
28-35 E	30-36 E	20-27 E	12-20 D	14-18 D	10-15 C	30-35 F	24-30 F	30-40 E	8-15 C

Ref.	d1	d2	l1	l2	€
11.447.0100	1	1	34	12	3,63
11.447.0150	1.5	1.5	40	18	3,86
11.447.0200	2	2	49	24	4,18
11.447.0250	2.5	2.5	57	30	5,10
11.447.0300	3	3	61	33	5,73
11.447.0320	3.2	3.2	65	36	5,62
11.447.0330	3.3	3.3	65	36	5,73
11.447.0350	3.5	3.5	70	39	5,97
11.447.0400	4	4	75	43	6,38
11.447.0410	4.1	4.1	75	43	6,78
11.447.0420	4.2	4.2	75	43	6,78
11.447.0450	4.5	4.5	80	47	7,01

Ref.	d1	d2	l1	l2	€
11.447.0490	4.9	4.9	86	52	7,24
11.447.0500	5	5	86	52	8,39
11.447.0510	5.1	5.1	86	52	9,04
11.447.0520	5.2	5.2	86	52	9,44
11.447.0550	5.5	5.5	93	57	9,44
11.447.0600	6	6	93	57	10,71
11.447.0650	6.5	6.5	101	63	11,58
11.447.0680	6.8	6.8	109	69	12,23
11.447.0700	7	7	109	69	12,33
11.447.0750	7.5	7.5	109	69	13,89
11.447.0800	8	8	117	75	15,80
11.447.0850	8.5	8.5	117	75	16,35

Ref.	d1	d2	l1	l2	€
11.447.0900	9	9	125	81	18,37
11.447.0950	9.5	9.5	125	81	19,12
11.447.1000	10	10	133	87	22,52
11.447.1020	10.2	10.2	133	87	24,22
11.447.1050	10.5	10.5	133	87	24,75
11.447.1100	11	11	142	94	28,65
11.447.1150	11.5	11.5	142	94	29,60
11.447.1200	12	12	151	101	33,50
11.447.1250	12.5	12.5	151	101	38,15
11.447.1300	13	13	151	101	39,25



NL Step-point spiraalboor in actie
FR Regardez le foret à pointe étagée Step-point en action
ES Broca escalonada en acción
DE Spiralbohrer mit Stufenspitze in Aktion
EN Step-Point Stub Drill in Action

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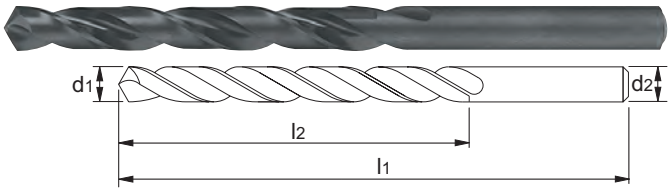
› 11.450 Phantom



NL **HSS Spiraalboor**
FR **Foret HSS**
ES **Broca HSS**
DE **HSS Spiralbohrer**
EN **HSS Twist drill**

118° | DIN 338 | HSS | N | ≥1 | OX. ≥ 2mm

P 11	P 12	P 13	M 21	K 31	K 32	N 42	N 51	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	INOX ≤850N/mm²	GG	GGG GTS-GTW	Alu Si>10%	Cu	PVC
25-27 F	22-30 F	15-20 E	8-12 D	15-20 E	25-30 E	45-50 G	25-40 D	22-28 D

Ref.	d1	d2	l1	l2	€
11.450.0020	0.2	0.2	19	2.5	6,02
11.450.0025	0.25	0.25	19	3	5,92
11.450.0030	0.3	0.3	19	3	5,05
11.450.0035	0.35	0.35	19	4	5,59
11.450.0040	0.4	0.4	20	5	5,25
11.450.0045	0.45	0.45	20	5	5,28
11.450.0050	0.5	0.5	22	6	4,64
11.450.0055	0.55	0.55	24	7	4,61
11.450.0060	0.6	0.6	24	7	4,16
11.450.0065	0.65	0.65	26	8	4,25
11.450.0070	0.7	0.7	28	9	3,24
11.450.0075	0.75	0.75	28	9	3,24
11.450.0080	0.8	0.8	30	10	3,24
11.450.0085	0.85	0.85	30	10	3,24
11.450.0090	0.9	0.9	32	11	3,24
11.450.0095	0.95	0.95	32	11	3,24
11.450.0100	1	1	34	12	1,89
11.450.0105	1.05	1.05	34	12	2,88
11.450.0110	1.1	1.1	36	14	2,14
11.450.0115	1.15	1.15	36	14	2,45
11.450.0120	1.2	1.2	38	16	2,14
11.450.0125	1.25	1.25	38	16	2,30
11.450.0130	1.3	1.3	38	16	2,19
11.450.0135	1.35	1.35	40	18	2,77
11.450.0140	1.4	1.4	40	18	2,19
11.450.0145	1.45	1.45	40	18	2,45

Ref.	d1	d2	l1	l2	€
11.450.0150	1.5	1.5	40	18	2,10
11.450.0155	1.55	1.55	43	20	2,25
11.450.0160	1.6	1.6	43	20	2,04
11.450.0165	1.65	1.65	43	20	2,25
11.450.0170	1.7	1.7	43	20	2,10
11.450.0175	1.75	1.75	46	22	2,32
11.450.0180	1.8	1.8	46	22	2,23
11.450.0185	1.85	1.85	46	22	3,07
11.450.0190	1.9	1.9	46	22	2,23
11.450.0195	1.95	1.95	49	24	2,32
11.450.0200	2	2	49	24	1,90
11.450.0205	2.05	2.05	49	24	2,07
11.450.0210	2.1	2.1	49	24	1,95
11.450.0215	2.15	2.15	53	27	2,07
11.450.0220	2.2	2.2	53	27	1,89
11.450.0225	2.25	2.25	53	27	2,04
11.450.0230	2.3	2.3	53	27	1,89
11.450.0235	2.35	2.35	53	27	2,04
11.450.0240	2.4	2.4	57	30	1,89
11.450.0245	2.45	2.45	57	30	2,04
11.450.0250	2.5	2.5	57	30	1,57
11.450.0255	2.55	2.55	57	30	2,38
11.450.0260	2.6	2.6	57	30	2,17
11.450.0265	2.65	2.65	57	30	2,38
11.450.0270	2.7	2.7	61	33	2,17
11.450.0275	2.75	2.75	61	33	2,38

Ref.	d1	d2	l1	l2	€
11.450.0280	2.8	2.8	61	33	2,17
11.450.0285	2.85	2.85	61	33	2,38
11.450.0290	2.9	2.9	61	33	2,17
11.450.0295	2.95	2.95	61	33	2,38
11.450.0300	3	3	61	33	2,11
11.450.0305	3.05	3.05	65	36	2,38
11.450.0310	3.1	3.1	65	36	2,28
11.450.0315	3.15	3.15	65	36	2,38
11.450.0320	3.2	3.2	65	36	2,28
11.450.0325	3.25	3.25	65	36	2,38
11.450.0330	3.3	3.3	65	36	2,28
11.450.0335	3.35	3.35	65	36	2,38
11.450.0340	3.4	3.4	70	39	2,28
11.450.0345	3.45	3.45	70	39	2,38
11.450.0350	3.5	3.5	70	39	2,11
11.450.0355	3.55	3.55	70	39	2,43
11.450.0360	3.6	3.6	70	39	2,38
11.450.0365	3.65	3.65	70	39	2,43
11.450.0370	3.7	3.7	70	39	2,38
11.450.0375	3.75	3.75	70	39	2,68
11.450.0380	3.8	3.8	75	43	2,42
11.450.0385	3.85	3.85	75	43	2,84
11.450.0390	3.9	3.9	75	43	2,42
11.450.0395	3.95	3.95	75	43	2,84
11.450.0400	4	4	75	43	2,22
11.450.0405	4.05	4.05	75	43	2,99

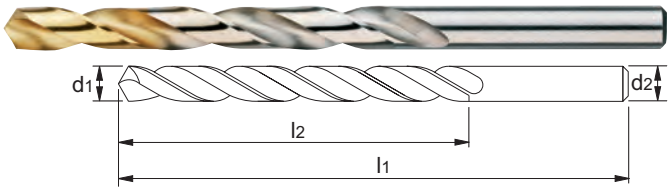
› 11.450 Phantom

Ref.	d1	d2	l1	l2	€
11.450.0410	4.1	4.1	75	43	2,60
11.450.0415	4.15	4.15	75	43	2,99
11.450.0420	4.2	4.2	75	43	2,60
11.450.0425	4.25	4.25	75	43	2,99
11.450.0430	4.3	4.3	80	47	2,60
11.450.0435	4.35	4.35	80	47	2,99
11.450.0440	4.4	4.4	80	47	2,60
11.450.0445	4.45	4.45	80	47	2,99
11.450.0450	4.5	4.5	80	47	2,48
11.450.0455	4.55	4.55	80	47	3,34
11.450.0460	4.6	4.6	80	47	3,09
11.450.0465	4.65	4.65	80	47	3,34
11.450.0470	4.7	4.7	80	47	3,09
11.450.0475	4.75	4.75	80	47	3,34
11.450.0480	4.8	4.8	86	52	3,09
11.450.0485	4.85	4.85	86	52	3,34
11.450.0490	4.9	4.9	86	52	3,09
11.450.0495	4.95	4.95	86	52	3,34
11.450.0500	5	5	86	52	2,88
11.450.0510	5.1	5.1	86	52	3,37
11.450.0520	5.2	5.2	86	52	3,37
11.450.0525	5.25	5.25	86	52	3,56
11.450.0530	5.3	5.3	86	52	3,57
11.450.0540	5.4	5.4	93	57	3,57
11.450.0550	5.5	5.5	93	57	3,19
11.450.0555	5.55	5.55	93	57	3,76
11.450.0560	5.6	5.6	93	57	3,76
11.450.0570	5.7	5.7	93	57	3,76
11.450.0575	5.75	5.75	93	57	4,78
11.450.0580	5.8	5.8	93	57	3,76
11.450.0590	5.9	5.9	93	57	3,76
11.450.0600	6	6	93	57	3,53
11.450.0610	6.1	6.1	101	63	4,45
11.450.0620	6.2	6.2	101	63	4,45
11.450.0625	6.25	6.25	101	63	5,06
11.450.0630	6.3	6.3	101	63	4,45
11.450.0635	6.35	6.35	101	63	5,06
11.450.0640	6.4	6.4	101	63	4,45
11.450.0650	6.5	6.5	101	63	4,11
11.450.0660	6.6	6.6	101	63	5,35
11.450.0670	6.7	6.7	101	63	5,35
11.450.0675	6.75	6.75	109	69	5,42
11.450.0680	6.8	6.8	109	69	5,42
11.450.0690	6.9	6.9	109	69	5,42
11.450.0700	7	7	109	69	4,67
11.450.0710	7.1	7.1	109	69	5,78
11.450.0720	7.2	7.2	109	69	5,78
11.450.0725	7.25	7.25	109	69	6,32
11.450.0730	7.3	7.3	109	69	5,78
11.450.0740	7.4	7.4	109	69	6,01

Ref.	d1	d2	l1	l2	€
11.450.0750	7.5	7.5	109	69	5,16
11.450.0760	7.6	7.6	117	75	6,63
11.450.0770	7.7	7.7	117	75	6,71
11.450.0775	7.75	7.75	117	75	6,71
11.450.0780	7.8	7.8	117	75	6,71
11.450.0790	7.9	7.9	117	75	6,71
11.450.0800	8	8	117	75	6,25
11.450.0810	8.1	8.1	117	75	7,42
11.450.0820	8.2	8.2	117	75	7,42
11.450.0825	8.25	8.25	117	75	7,75
11.450.0830	8.3	8.3	117	75	7,57
11.450.0840	8.4	8.4	117	75	7,57
11.450.0850	8.5	8.5	117	75	6,97
11.450.0860	8.6	8.6	125	81	8,97
11.450.0870	8.7	8.7	125	81	8,97
11.450.0875	8.75	8.75	125	81	9,81
11.450.0880	8.8	8.8	125	81	8,97
11.450.0890	8.9	8.9	125	81	8,97
11.450.0900	9	9	125	81	8,14
11.450.0910	9.1	9.1	125	81	9,89
11.450.0920	9.2	9.2	125	81	9,89
11.450.0925	9.25	9.25	125	81	10,44
11.450.0930	9.3	9.3	125	81	9,89
11.450.0940	9.4	9.4	125	81	9,89
11.450.0950	9.5	9.5	125	81	8,96
11.450.0960	9.6	9.6	133	87	10,91
11.450.0970	9.7	9.7	133	87	10,91
11.450.0975	9.75	9.75	133	87	10,85
11.450.0980	9.8	9.8	133	87	10,91
11.450.0990	9.9	9.9	133	87	10,91
11.450.1000	10	10	133	87	9,87
11.450.1010	10.1	10.1	133	87	12,41
11.450.1020	10.2	10.2	133	87	12,41
11.450.1025	10.25	10.25	133	87	12,86
11.450.1030	10.3	10.3	133	87	12,86
11.450.1040	10.4	10.4	133	87	12,86
11.450.1050	10.5	10.5	133	87	10,74
11.450.1060	10.6	10.6	133	87	14,24
11.450.1070	10.7	10.7	142	94	14,24
11.450.1075	10.75	10.75	142	94	14,24
11.450.1080	10.8	10.8	142	94	14,24
11.450.1090	10.9	10.9	142	94	14,24
11.450.1100	11	11	142	94	11,01
11.450.1110	11.1	11.1	142	94	16,12
11.450.1120	11.2	11.2	142	94	16,12
11.450.1125	11.25	11.25	142	94	16,12
11.450.1130	11.3	11.3	142	94	16,12
11.450.1140	11.4	11.4	142	94	16,12
11.450.1150	11.5	11.5	142	94	11,82
11.450.1160	11.6	11.6	142	94	16,55

Ref.	d1	d2	l1	l2	€
11.450.1170	11.7	11.7	142	94	16,55
11.450.1175	11.75	11.75	142	94	16,55
11.450.1180	11.8	11.8	142	94	16,55
11.450.1190	11.9	11.9	151	101	16,55
11.450.1200	12	12	151	101	14,38
11.450.1210	12.1	12.1	151	101	17,63
11.450.1220	12.2	12.2	151	101	17,63
11.450.1225	12.25	12.25	151	101	17,63
11.450.1230	12.3	12.3	151	101	17,63
11.450.1240	12.4	12.4	151	101	18,31
11.450.1250	12.5	12.5	151	101	15,40
11.450.1260	12.6	12.6	151	101	18,98
11.450.1270	12.7	12.7	151	101	18,98
11.450.1275	12.75	12.75	151	101	18,98
11.450.1280	12.8	12.8	151	101	18,98
11.450.1290	12.9	12.9	151	101	18,98
11.450.1300	13	13	151	101	15,95
11.450.1310	13.1	13.1	151	101	28,15
11.450.1320	13.2	13.2	151	101	28,15
11.450.1325	13.25	13.25	160	108	28,15
11.450.1330	13.3	13.3	160	108	28,15
11.450.1340	13.4	13.4	160	108	28,15
11.450.1350	13.5	13.5	160	108	24,69
11.450.1360	13.6	13.6	160	108	28,15
11.450.1370	13.7	13.7	160	108	28,15
11.450.1375	13.75	13.75	160	108	28,15
11.450.1380	13.8	13.8	160	108	28,15
11.450.1390	13.9	13.9	160	108	28,15
11.450.1400	14	14	160	108	25,20
11.450.1425	14.25	14.25	169	114	43,45
11.450.1450	14.5	14.5	169	114	38,50
11.450.1475	14.75	14.75	169	114	43,45
11.450.1500	15	15	169	114	38,55
11.450.1510	15.1	15.1	178	120	45,65
11.450.1525	15.25	15.25	178	120	46,40
11.450.1550	15.5	15.5	178	120	41,95
11.450.1575	15.75	15.75	178	120	47,95
11.450.1580	15.8	15.8	178	120	47,95
11.450.1600	16	16	178	120	43,00
11.450.1650	16.5	16.5	184	125	48,55
11.450.1690	16.9	16.9	184	125	48,85
11.450.1700	17	17	184	125	49,20
11.450.1750	17.5	17.5	191	130	52,80
11.450.1800	18	18	191	130	60,20
11.450.1850	18.5	18.5	198	135	63,95
11.450.1890	18.9	18.9	198	135	65,00
11.450.1900	19	19	198	135	66,05
11.450.1950	19.5	19.5	205	140	69,50
11.450.2000	20	20	205	140	71,80

› 11.451 Phantom



NL HSS Spiraalboor TiN-tip
FR Foret HSS avec revêtement TiN sur la partie utile
ES Broca HSS con punta TiN
DE HSS Spiralbohrer TiN-Tip
EN HSS Twist drill TiN coated tip

118° | DIN 338 | HSS | TiN | N | ≥1,6

P 11	P 12	P 13	M 21	K 31	K 32	N 41	N 42	N 51	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	INOX ≤850N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu	PVC
27-30 F	25-28 F	17-22 E	10-14 D	20-33 E	20-28 E	50-80 E	45-70 G	40-65 D	25-36 D

Ref.	d1	d2	l1	l2	€
11.451.0100	1	1	34	12	1,97
11.451.0110	1.1	1.1	36	14	2,27
11.451.0120	1.2	1.2	38	16	2,27
11.451.0130	1.3	1.3	38	16	2,27
11.451.0140	1.4	1.4	40	18	2,27
11.451.0150	1.5	1.5	40	18	2,27
11.451.0160	1.6	1.6	43	20	2,35
11.451.0170	1.7	1.7	43	20	2,35
11.451.0180	1.8	1.8	46	22	2,35
11.451.0190	1.9	1.9	46	22	2,35
11.451.0200	2	2	49	24	2,35
11.451.0210	2.1	2.1	49	24	2,35
11.451.0220	2.2	2.2	53	27	2,27
11.451.0230	2.3	2.3	53	27	2,27

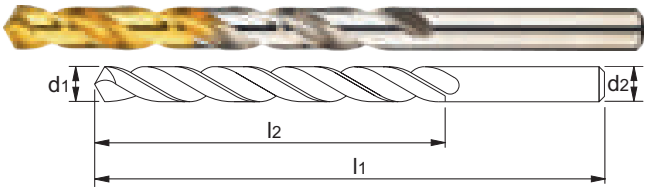
Ref.	d1	d2	l1	l2	€
11.451.0240	2.4	2.4	57	30	2,27
11.451.0250	2.5	2.5	57	30	2,27
11.451.0260	2.6	2.6	57	30	2,35
11.451.0270	2.7	2.7	61	33	2,35
11.451.0280	2.8	2.8	61	33	2,35
11.451.0290	2.9	2.9	61	33	2,35
11.451.0300	3	3	61	33	2,35
11.451.0310	3.1	3.1	65	36	2,55
11.451.0320	3.2	3.2	65	36	2,55
11.451.0330	3.3	3.3	65	36	2,55
11.451.0340	3.4	3.4	70	39	2,55
11.451.0350	3.5	3.5	70	39	2,55
11.451.0360	3.6	3.6	70	39	2,77
11.451.0370	3.7	3.7	70	39	2,77

Ref.	d1	d2	l1	l2	€
11.451.0380	3.8	3.8	75	43	2,77
11.451.0390	3.9	3.9	75	43	2,77
11.451.0400	4	4	75	43	2,83
11.451.0410	4.1	4.1	75	43	3,20
11.451.0420	4.2	4.2	75	43	3,20
11.451.0430	4.3	4.3	80	47	3,20
11.451.0440	4.4	4.4	80	47	3,20
11.451.0450	4.5	4.5	80	47	3,20
11.451.0460	4.6	4.6	80	47	3,63
11.451.0470	4.7	4.7	80	47	3,63
11.451.0480	4.8	4.8	86	52	3,63
11.451.0490	4.9	4.9	86	52	3,63
11.451.0500	5	5	86	52	3,83
11.451.0510	5.1	5.1	86	52	3,90

› 11.451 Phantom

Ref.	d1	d2	l1	l2	€
11.451.0520	5.2	5.2	86	52	3,90
11.451.0530	5.3	5.3	86	52	4,62
11.451.0540	5.4	5.4	93	57	4,62
11.451.0550	5.5	5.5	93	57	4,62
11.451.0560	5.6	5.6	93	57	4,62
11.451.0570	5.7	5.7	93	57	4,62
11.451.0580	5.8	5.8	93	57	4,62
11.451.0590	5.9	5.9	93	57	4,62
11.451.0600	6	6	93	57	5,32
11.451.0610	6.1	6.1	101	63	5,32
11.451.0620	6.2	6.2	101	63	5,32
11.451.0630	6.3	6.3	101	63	5,32
11.451.0640	6.4	6.4	101	63	5,32
11.451.0650	6.5	6.5	101	63	5,39
11.451.0660	6.6	6.6	101	63	5,48
11.451.0670	6.7	6.7	101	63	5,57
11.451.0680	6.8	6.8	109	69	5,96
11.451.0690	6.9	6.9	109	69	5,96
11.451.0700	7	7	109	69	6,54
11.451.0710	7.1	7.1	109	69	6,88
11.451.0720	7.2	7.2	109	69	6,88
11.451.0730	7.3	7.3	109	69	6,88
11.451.0740	7.4	7.4	109	69	6,88
11.451.0750	7.5	7.5	109	69	6,88
11.451.0760	7.6	7.6	117	75	6,88
11.451.0770	7.7	7.7	117	75	7,45
11.451.0780	7.8	7.8	117	75	7,45
11.451.0790	7.9	7.9	117	75	7,45
11.451.0800	8	8	117	75	8,24
11.451.0810	8.1	8.1	117	75	9,23
11.451.0820	8.2	8.2	117	75	9,23
11.451.0830	8.3	8.3	117	75	9,93
11.451.0840	8.4	8.4	117	75	9,93
11.451.0850	8.5	8.5	117	75	9,93
11.451.0860	8.6	8.6	125	81	10,92
11.451.0870	8.7	8.7	125	81	10,92
11.451.0880	8.8	8.8	125	81	10,92
11.451.0890	8.9	8.9	125	81	10,92
11.451.0900	9	9	125	81	10,92
11.451.0910	9.1	9.1	125	81	11,43
11.451.0920	9.2	9.2	125	81	11,43
11.451.0930	9.3	9.3	125	81	12,14
11.451.0940	9.4	9.4	125	81	12,14
11.451.0950	9.5	9.5	125	81	12,14
11.451.0960	9.6	9.6	133	87	12,42
11.451.0970	9.7	9.7	133	87	12,42
11.451.0980	9.8	9.8	133	87	12,58
11.451.0990	9.9	9.9	133	87	12,58
11.451.1000	10	10	133	87	12,70
11.451.1010	10.1	10.1	133	87	13,38
11.451.1020	10.2	10.2	133	87	13,62
11.451.1030	10.3	10.3	133	87	13,78
11.451.1040	10.4	10.4	133	87	13,78
11.451.1050	10.5	10.5	133	87	13,78
11.451.1060	10.6	10.6	133	87	15,56
11.451.1070	10.7	10.7	142	94	15,56
11.451.1080	10.8	10.8	142	94	15,56
11.451.1090	10.9	10.9	142	94	15,56
11.451.1100	11	11	142	94	14,41
11.451.1110	11.1	11.1	142	94	17,47
11.451.1120	11.2	11.2	142	94	17,47
11.451.1130	11.3	11.3	142	94	17,47
11.451.1140	11.4	11.4	142	94	17,47
11.451.1150	11.5	11.5	142	94	17,47
11.451.1160	11.6	11.6	142	94	18,03
11.451.1170	11.7	11.7	142	94	18,03
11.451.1180	11.8	11.8	142	94	18,03
11.451.1190	11.9	11.9	151	101	18,03
11.451.1200	12	12	151	101	17,76
11.451.1210	12.1	12.1	151	101	19,72
11.451.1220	12.2	12.2	151	101	19,72
11.451.1230	12.3	12.3	151	101	19,72
11.451.1240	12.4	12.4	151	101	19,87
11.451.1250	12.5	12.5	151	101	20,94
11.451.1260	12.6	12.6	151	101	22,20
11.451.1270	12.7	12.7	151	101	22,20
11.451.1280	12.8	12.8	151	101	22,20
11.451.1290	12.9	12.9	151	101	22,20
11.451.1300	13	13	151	101	21,72

› 11.461 Phantom



NL HSS Spiraalboor TiN-tip, (handgebruik)
FR Foret HSS avec revêtement TiN sur la partie utile, (usage à la main)
ES Broca HSS con punta TiN, (uso manual)
DE HSS Spiralbohrer TiN-Tip, (handgebrauch)
EN HSS Twist drill TiN coated tip, (handuse)







Ref.	d1	d2	l1	l2	€
11.461.0100	1	1	34	12	2,10
11.461.0110	1.1	1.1	36	14	2,42
11.461.0120	1.2	1.2	38	16	2,42
11.461.0130	1.3	1.3	38	16	2,42
11.461.0140	1.4	1.4	40	18	2,42
11.461.0150	1.5	1.5	40	18	2,42
11.461.0160	1.6	1.6	43	20	2,51
11.461.0170	1.7	1.7	43	20	2,51
11.461.0180	1.8	1.8	46	22	2,51
11.461.0190	1.9	1.9	46	22	2,51
11.461.0200	2	2	49	24	2,51
11.461.0210	2.1	2.1	49	24	2,51
11.461.0220	2.2	2.2	53	27	2,51
11.461.0230	2.3	2.3	53	27	2,51
11.461.0240	2.4	2.4	57	30	2,51
11.461.0250	2.5	2.5	57	30	2,51
11.461.0260	2.6	2.6	57	30	2,51
11.461.0270	2.7	2.7	61	33	2,51
11.461.0280	2.8	2.8	61	33	2,51
11.461.0290	2.9	2.9	61	33	2,51
11.461.0300	3	3	61	33	2,35
11.461.0310	3.1	3.1	65	36	2,55
11.461.0320	3.2	3.2	65	36	2,55
11.461.0330	3.3	3.3	65	36	2,55
11.461.0340	3.4	3.4	70	39	2,55
11.461.0350	3.5	3.5	70	39	2,55
11.461.0360	3.6	3.6	70	39	2,77
11.461.0370	3.7	3.7	70	39	2,77
11.461.0380	3.8	3.8	75	43	2,77
11.461.0390	3.9	3.9	75	43	2,77
11.461.0400	4	4	75	43	2,82
11.461.0410	4.1	4.1	75	43	3,19
11.461.0420	4.2	4.2	75	43	3,19
11.461.0430	4.3	4.3	80	47	3,19
11.461.0440	4.4	4.4	80	47	3,19
11.461.0450	4.5	4.5	80	47	3,19
11.461.0460	4.6	4.6	80	47	3,59
11.461.0470	4.7	4.7	80	47	3,59
11.461.0480	4.8	4.8	86	52	3,59
11.461.0490	4.9	4.9	86	52	3,59
11.461.0500	5	5	86	52	3,83
11.461.0510	5.1	5.1	86	52	3,86
11.461.0520	5.2	5.2	86	52	3,86
11.461.0530	5.3	5.3	86	52	4,57
11.461.0540	5.4	5.4	93	57	4,57
11.461.0550	5.5	5.5	93	57	4,57
11.461.0560	5.6	5.6	93	57	4,62
11.461.0570	5.7	5.7	93	57	4,62
11.461.0580	5.8	5.8	93	57	4,62
11.461.0590	5.9	5.9	93	57	4,62
11.461.0600	6	6	93	57	5,32
11.461.0610	6.1	6.1	101	63	5,28
11.461.0620	6.2	6.2	101	63	5,28
11.461.0630	6.3	6.3	101	63	5,32
11.461.0640	6.4	6.4	101	63	5,32
11.461.0650	6.5	6.5	101	63	5,39
11.461.0660	6.6	6.6	101	63	5,48
11.461.0670	6.7	6.7	101	63	5,57
11.461.0680	6.8	6.8	109	69	5,93
11.461.0690	6.9	6.9	109	69	5,93
11.461.0700	7	7	109	69	6,54
11.461.0710	7.1	7.1	109	69	6,83
11.461.0720	7.2	7.2	109	69	6,83
11.461.0730	7.3	7.3	109	69	6,83
11.461.0740	7.4	7.4	109	69	6,88
11.461.0750	7.5	7.5	109	69	6,88
11.461.0760	7.6	7.6	117	75	6,88
11.461.0770	7.7	7.7	117	75	7,41
11.461.0780	7.8	7.8	117	75	7,41
11.461.0790	7.9	7.9	117	75	7,41
11.461.0800	8	8	117	75	8,24
11.461.0810	8.1	8.1	117	75	9,17
11.461.0820	8.2	8.2	117	75	9,17
11.461.0830	8.3	8.3	117	75	9,93
11.461.0840	8.4	8.4	117	75	9,93
11.461.0850	8.5	8.5	117	75	9,93
11.461.0860	8.6	8.6	125	81	10,92
11.461.0870	8.7	8.7	125	81	10,92
11.461.0880	8.8	8.8	125	81	10,92
11.461.0890	8.9	8.9	125	81	10,92
11.461.0900	9	9	125	81	10,92
11.461.0910	9.1	9.1	125	81	11,43
11.461.0920	9.2	9.2	125	81	11,43
11.461.0930	9.3	9.3	125	81	12,14
11.461.0940	9.4	9.4	125	81	12,14
11.461.0950	9.5	9.5	125	81	12,14
11.461.0960	9.6	9.6	133	87	12,32
11.461.0970	9.7	9.7	133	87	12,32
11.461.0980	9.8	9.8	133	87	12,58
11.461.0990	9.9	9.9	133	87	12,58
11.461.1000	10	10	133	87	12,70
11.461.1010	10.1	10.1	133	87	13,38
11.461.1020	10.2	10.2	133	87	13,62
11.461.1030	10.3	10.3	133	87	13,78
11.461.1040	10.4	10.4	133	87	13,78
11.461.1050	10.5	10.5	133	87	13,78
11.461.1060	10.6	10.6	133	87	15,56
11.461.1070	10.7	10.7	142	94	15,56
11.461.1080	10.8	10.8	142	94	15,56
11.461.1090	10.9	10.9	142	94	15,56
11.461.1100	11	11	142	94	14,41
11.461.1110	11.1	11.1	142	94	17,47
11.461.1120	11.2	11.2	142	94	17,47
11.461.1130	11.3	11.3	142	94	17,47
11.461.1140	11.4	11.4	142	94	17,47
11.461.1150	11.5	11.5	142	94	17,47
11.461.1160	11.6	11.6	142	94	18,03
11.461.1170	11.7	11.7	142	94	18,03
11.461.1180	11.8	11.8	142	94	18,03
11.461.1190	11.9	11.9	151	101	18,03
11.461.1200	12	12	151	101	17,76

› 11.461 Phantom

Ref.	d1	d2	l1	l2	€
11.461.1210	12.1	12.1	151	101	19,72
11.461.1220	12.2	12.2	151	101	19,72
11.461.1230	12.3	12.3	151	101	19,72
11.461.1240	12.4	12.4	151	101	19,87
11.461.1250	12.5	12.5	151	101	20,94
11.461.1260	12.6	12.6	151	101	22,20

Ref.	d1	d2	l1	l2	€
11.461.1270	12.7	12.7	151	101	22,20
11.461.1280	12.8	12.8	151	101	22,20
11.461.1290	12.9	12.9	151	101	22,20
11.461.1300	13	13	151	101	21,72
11.461.1350	13.5	13.5	160	108	34,20
11.461.1400	14	14	160	108	34,20

Ref.	d1	d2	l1	l2	€
11.461.1450	14.5	14.5	169	114	40,35
11.461.1500	15	15	169	114	40,35
11.461.1550	15.5	15.5	178	120	46,80
11.461.1600	16	16	178	120	46,80



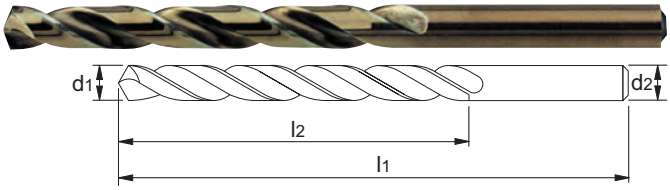
NL Productvergelijker op phantom.eu
FR Comparateur de produits sur Phantom.eu
ES Comparador de productos en phantom.eu
DE Produktvergleich auf phantom.eu
EN Product comparator on phantom.eu

Watch me

www.phantom.eu

› 11.488 International Tools

NL ECO HSS-E Spiraalboor
FR Foret HSS-E ECO
ES Broca HSS-E ECO
DE ECO HSS-E Spiralbohrer
EN ECO HSS-E Twist drill



135° | DIN 338 | HSS-E | N | ≥3 | ECO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 51 Cu | N 52 CuAlFe

28-35 E | 30-36 E | 20-27 E | 14-18 D | 30-35 F | 24-30 F | 30-40 E | 8-15 C

NIEUW NOUVEAU NUEVO NEU

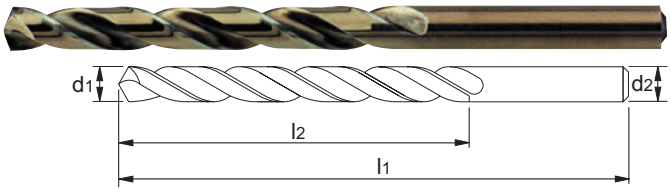
Ref.	d1	d2	l1	l2	€
11.488.0100	1	1	34	12	0,42
11.488.0110	1.1	1.1	36	14	0,46
11.488.0120	1.2	1.2	38	16	0,46
11.488.0130	1.3	1.3	38	16	0,46
11.488.0140	1.4	1.4	40	18	0,46
11.488.0150	1.5	1.5	40	18	0,46
11.488.0160	1.6	1.6	43	20	0,49
11.488.0170	1.7	1.7	43	20	0,49
11.488.0180	1.8	1.8	46	22	0,49
11.488.0190	1.9	1.9	46	22	0,49
11.488.0200	2	2	49	24	0,52
11.488.0210	2.1	2.1	49	24	0,55
11.488.0220	2.2	2.2	53	27	0,55
11.488.0230	2.3	2.3	53	27	0,55
11.488.0240	2.4	2.4	57	30	0,55
11.488.0250	2.5	2.5	57	30	0,62
11.488.0260	2.6	2.6	57	30	0,72
11.488.0270	2.7	2.7	61	33	0,72
11.488.0280	2.8	2.8	61	33	0,72
11.488.0290	2.9	2.9	61	33	0,72
11.488.0300	3	3	61	33	0,75
11.488.0310	3.1	3.1	65	36	0,88
11.488.0320	3.2	3.2	65	36	0,88
11.488.0330	3.3	3.3	65	36	0,94
11.488.0340	3.4	3.4	70	39	0,94
11.488.0350	3.5	3.5	70	39	0,98
11.488.0360	3.6	3.6	70	39	1,17
11.488.0370	3.7	3.7	70	39	1,17
11.488.0380	3.8	3.8	75	43	1,17
11.488.0390	3.9	3.9	75	43	1,17
11.488.0400	4	4	75	43	1,02
11.488.0410	4.1	4.1	75	43	1,30
11.488.0420	4.2	4.2	75	43	1,30

Ref.	d1	d2	l1	l2	€
11.488.0430	4.3	4.3	80	47	1,30
11.488.0440	4.4	4.4	80	47	1,30
11.488.0450	4.5	4.5	80	47	1,16
11.488.0460	4.6	4.6	80	47	1,63
11.488.0470	4.7	4.7	80	47	1,63
11.488.0480	4.8	4.8	86	52	1,63
11.488.0490	4.9	4.9	86	52	1,63
11.488.0500	5	5	86	52	1,42
11.488.0510	5.1	5.1	86	52	2,01
11.488.0520	5.2	5.2	86	52	2,01
11.488.0530	5.3	5.3	86	52	2,01
11.488.0540	5.4	5.4	93	57	2,01
11.488.0550	5.5	5.5	93	57	1,77
11.488.0560	5.6	5.6	93	57	2,27
11.488.0570	5.7	5.7	93	57	2,27
11.488.0580	5.8	5.8	93	57	1,92
11.488.0590	5.9	5.9	93	57	2,27
11.488.0600	6	6	93	57	1,92
11.488.0610	6.1	6.1	101	63	2,77
11.488.0620	6.2	6.2	101	63	2,77
11.488.0630	6.3	6.3	101	63	2,77
11.488.0640	6.4	6.4	101	63	2,77
11.488.0650	6.5	6.5	101	63	2,39
11.488.0660	6.6	6.6	101	63	3,57
11.488.0670	6.7	6.7	101	63	3,74
11.488.0680	6.8	6.8	109	69	3,20
11.488.0690	6.9	6.9	109	69	3,74
11.488.0700	7	7	109	69	2,81
11.488.0710	7.1	7.1	109	69	4,27
11.488.0720	7.2	7.2	109	69	3,98
11.488.0730	7.3	7.3	109	69	4,04
11.488.0740	7.4	7.4	109	69	4,04
11.488.0750	7.5	7.5	109	69	3,19

Ref.	d1	d2	l1	l2	€
11.488.0760	7.6	7.6	117	75	5,09
11.488.0770	7.7	7.7	117	75	5,32
11.488.0780	7.8	7.8	117	75	4,46
11.488.0790	7.9	7.9	117	75	4,46
11.488.0800	8	8	117	75	3,98
11.488.0810	8.1	8.1	117	75	5,68
11.488.0820	8.2	8.2	117	75	5,73
11.488.0830	8.3	8.3	117	75	5,73
11.488.0840	8.4	8.4	117	75	5,68
11.488.0850	8.5	8.5	117	75	4,50
11.488.0860	8.6	8.6	125	81	6,79
11.488.0870	8.7	8.7	125	81	6,44
11.488.0880	8.8	8.8	125	81	6,44
11.488.0890	8.9	8.9	125	81	6,44
11.488.0900	9	9	125	81	5,05
11.488.0910	9.1	9.1	125	81	7,20
11.488.0920	9.2	9.2	125	81	7,20
11.488.0930	9.3	9.3	125	81	7,61
11.488.0940	9.4	9.4	125	81	7,20
11.488.0950	9.5	9.5	125	81	5,67
11.488.0960	9.6	9.6	133	87	8,89
11.488.0970	9.7	9.7	133	87	8,42
11.488.0980	9.8	9.8	133	87	7,99
11.488.0990	9.9	9.9	133	87	7,99
11.488.1000	10	10	133	87	6,64
11.488.1020	10.2	10.2	133	87	7,05
11.488.1050	10.5	10.5	133	87	7,05
11.488.1100	11	11	142	94	8,19
11.488.1150	11.5	11.5	142	94	8,84
11.488.1200	12	12	151	101	10,32
11.488.1250	12.5	12.5	151	101	10,80
11.488.1300	13	13	151	101	11,67

› 11.490 International Tools

NL **ECO PRO HSS-E Spiraalboor**
FR **Foret HSS-E ECO PRO**
ES **Broca HSS-E ECO PRO**
DE **ECO PRO HSS-E Spiralbohrer**
EN **ECO PRO HSS-E Twist drill**



135° | DIN 338 | HSS-E | N | ≥3 | ECO PRO

P 11	P 12	P 13	M 21	K 31	K 32	N 51	N 52
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	INOX ≤850N/mm²	GG	GGG GTS-GTW	Cu	CuAlFe
28-35 E	30-36 E	20-27 E	14-18 D	30-35 F	24-30 F	30-40 E	8-15 C

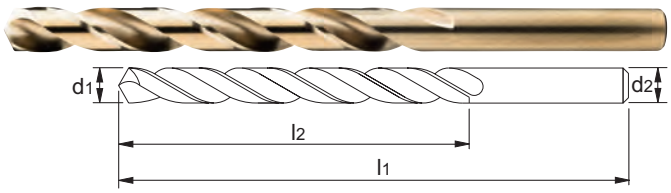
Ref.	d1	d2	l1	l2	€
11.490.0100	1	1	34	12	0,78
11.490.0110	1.1	1.1	36	14	0,84
11.490.0120	1.2	1.2	38	16	0,84
11.490.0130	1.3	1.3	38	16	0,84
11.490.0140	1.4	1.4	40	18	0,84
11.490.0150	1.5	1.5	40	18	0,84
11.490.0160	1.6	1.6	43	20	0,90
11.490.0170	1.7	1.7	43	20	0,90
11.490.0180	1.8	1.8	46	22	0,90
11.490.0190	1.9	1.9	46	22	0,90
11.490.0200	2	2	49	24	0,88
11.490.0210	2.1	2.1	49	24	0,94
11.490.0220	2.2	2.2	53	27	0,94
11.490.0230	2.3	2.3	53	27	0,94
11.490.0240	2.4	2.4	57	30	0,94
11.490.0250	2.5	2.5	57	30	1,05
11.490.0260	2.6	2.6	57	30	1,21
11.490.0270	2.7	2.7	61	33	1,21
11.490.0280	2.8	2.8	61	33	1,21
11.490.0290	2.9	2.9	61	33	1,21
11.490.0300	3	3	61	33	1,21
11.490.0310	3.1	3.1	65	36	1,42
11.490.0320	3.2	3.2	65	36	1,42
11.490.0330	3.3	3.3	65	36	1,52
11.490.0340	3.4	3.4	70	39	1,52
11.490.0350	3.5	3.5	70	39	1,58
11.490.0360	3.6	3.6	70	39	1,89
11.490.0370	3.7	3.7	70	39	1,89
11.490.0380	3.8	3.8	75	43	1,89
11.490.0390	3.9	3.9	75	43	1,89
11.490.0400	4	4	75	43	1,65
11.490.0410	4.1	4.1	75	43	2,00
11.490.0420	4.2	4.2	75	43	1,94

Ref.	d1	d2	l1	l2	€
11.490.0430	4.3	4.3	80	47	2,00
11.490.0440	4.4	4.4	80	47	2,00
11.490.0450	4.5	4.5	80	47	1,73
11.490.0460	4.6	4.6	80	47	2,50
11.490.0470	4.7	4.7	80	47	2,50
11.490.0480	4.8	4.8	86	52	2,50
11.490.0490	4.9	4.9	86	52	2,50
11.490.0500	5	5	86	52	2,12
11.490.0510	5.1	5.1	86	52	3,09
11.490.0520	5.2	5.2	86	52	3,00
11.490.0530	5.3	5.3	86	52	3,09
11.490.0540	5.4	5.4	93	57	3,09
11.490.0550	5.5	5.5	93	57	2,65
11.490.0560	5.6	5.6	93	57	3,49
11.490.0570	5.7	5.7	93	57	3,49
11.490.0580	5.8	5.8	93	57	2,95
11.490.0590	5.9	5.9	93	57	3,49
11.490.0600	6	6	93	57	2,86
11.490.0610	6.1	6.1	101	63	4,26
11.490.0620	6.2	6.2	101	63	4,26
11.490.0630	6.3	6.3	101	63	4,26
11.490.0640	6.4	6.4	101	63	4,26
11.490.0650	6.5	6.5	101	63	3,57
11.490.0660	6.6	6.6	101	63	5,49
11.490.0670	6.7	6.7	101	63	5,76
11.490.0680	6.8	6.8	109	69	4,92
11.490.0690	6.9	6.9	109	69	5,76
11.490.0700	7	7	109	69	4,10
11.490.0710	7.1	7.1	109	69	6,57
11.490.0720	7.2	7.2	109	69	6,12
11.490.0730	7.3	7.3	109	69	6,21
11.490.0740	7.4	7.4	109	69	6,21
11.490.0750	7.5	7.5	109	69	4,66

Ref.	d1	d2	l1	l2	€
11.490.0760	7.6	7.6	117	75	7,83
11.490.0770	7.7	7.7	117	75	8,19
11.490.0780	7.8	7.8	117	75	6,86
11.490.0790	7.9	7.9	117	75	6,86
11.490.0800	8	8	117	75	5,52
11.490.0810	8.1	8.1	117	75	8,74
11.490.0820	8.2	8.2	117	75	8,82
11.490.0830	8.3	8.3	117	75	8,82
11.490.0840	8.4	8.4	117	75	8,74
11.490.0850	8.5	8.5	117	75	6,23
11.490.0860	8.6	8.6	125	81	10,44
11.490.0870	8.7	8.7	125	81	9,90
11.490.0880	8.8	8.8	125	81	9,90
11.490.0890	8.9	8.9	125	81	9,90
11.490.0900	9	9	125	81	6,99
11.490.0910	9.1	9.1	125	81	11,07
11.490.0920	9.2	9.2	125	81	11,07
11.490.0930	9.3	9.3	125	81	11,70
11.490.0940	9.4	9.4	125	81	11,07
11.490.0950	9.5	9.5	125	81	8,73
11.490.0960	9.6	9.6	133	87	13,68
11.490.0970	9.7	9.7	133	87	12,96
11.490.0980	9.8	9.8	133	87	12,29
11.490.0990	9.9	9.9	133	87	12,29
11.490.1000	10	10	133	87	9,20
11.490.1020	10.2	10.2	133	87	10,85
11.490.1050	10.5	10.5	133	87	9,77
11.490.1100	11	11	142	94	11,34
11.490.1150	11.5	11.5	142	94	13,60
11.490.1200	12	12	151	101	16,66
11.490.1250	12.5	12.5	151	101	16,61
11.490.1300	13	13	151	101	18,86

› 11.500 Phantom

NL **HSS-E Spiraalboor**
FR **Foret HSS-E**
ES **Broca HSS-E**
DE **HSS-E Spiralbohrer**
EN **HSS-E Twist drill**



135° | DIN 338 | HSS-E | N | ≥2

P 11	P 12	P 13	P 14	M 21	M 22	K 31	K 32	N 51	N 52
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Cu	CuAlFe
28-35 E	30-36 E	20-27 E	12-20 D	14-18 D	10-15 C	30-35 F	24-30 F	30-40 E	8-15 C

Ref.	d1	d2	l1	l2	€
11.500.0020	0.2	0.2	19	2.5	4,18
11.500.0025	0.25	0.25	19	3	4,12
11.500.0030	0.3	0.3	19	3	3,78
11.500.0040	0.4	0.4	20	5	3,29
11.500.0045	0.45	0.45	20	5	3,24
11.500.0050	0.5	0.5	22	6	3,11
11.500.0060	0.6	0.6	24	7	2,98
11.500.0065	0.65	0.65	26	8	2,98
11.500.0070	0.7	0.7	28	9	2,98
11.500.0075	0.75	0.75	28	9	2,98
11.500.0080	0.8	0.8	30	10	2,85
11.500.0090	0.9	0.9	32	11	2,70
11.500.0095	0.95	0.95	32	11	2,70
11.500.0100	1	1	34	12	2,70
11.500.0110	1.1	1.1	36	14	3,22
11.500.0120	1.2	1.2	38	16	3,22

Ref.	d1	d2	l1	l2	€
11.500.0125	1.25	1.25	38	16	3,22
11.500.0130	1.3	1.3	38	16	3,22
11.500.0140	1.4	1.4	40	18	3,22
11.500.0150	1.5	1.5	40	18	2,70
11.500.0160	1.6	1.6	43	20	3,34
11.500.0170	1.7	1.7	43	20	3,34
11.500.0175	1.75	1.75	46	22	3,34
11.500.0180	1.8	1.8	46	22	3,34
11.500.0190	1.9	1.9	46	22	3,34
11.500.0200	2	2	49	24	2,50
11.500.0205	2.05	2.05	49	24	4,49
11.500.0210	2.1	2.1	49	24	4,49
11.500.0220	2.2	2.2	53	27	4,49
11.500.0225	2.25	2.25	53	27	4,49
11.500.0230	2.3	2.3	53	27	4,49
11.500.0240	2.4	2.4	57	30	4,49

Ref.	d1	d2	l1	l2	€
11.500.0250	2.5	2.5	57	30	2,55
11.500.0260	2.6	2.6	57	30	5,10
11.500.0270	2.7	2.7	61	33	5,10
11.500.0275	2.75	2.75	61	33	5,10
11.500.0280	2.8	2.8	61	33	3,93
11.500.0290	2.9	2.9	61	33	3,93
11.500.0300	3	3	61	33	2,76
11.500.0310	3.1	3.1	65	36	3,26
11.500.0320	3.2	3.2	65	36	3,26
11.500.0325	3.25	3.25	65	36	3,29
11.500.0330	3.3	3.3	65	36	3,26
11.500.0340	3.4	3.4	70	39	4,71
11.500.0350	3.5	3.5	70	39	3,22
11.500.0360	3.6	3.6	70	39	3,93
11.500.0370	3.7	3.7	70	39	3,93
11.500.0375	3.75	3.75	70	39	3,98

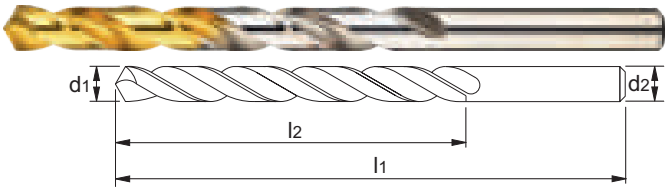
› 11.500 Phantom

Ref.	d1	d2	l1	l2	€
11.500.0380	3.8	3.8	75	43	4,29
11.500.0390	3.9	3.9	75	43	4,29
11.500.0400	4	4	75	43	3,38
11.500.0410	4.1	4.1	75	43	4,38
11.500.0420	4.2	4.2	75	43	4,38
11.500.0425	4.25	4.25	75	43	4,38
11.500.0430	4.3	4.3	80	47	5,19
11.500.0440	4.4	4.4	80	47	5,19
11.500.0450	4.5	4.5	80	47	3,68
11.500.0460	4.6	4.6	80	47	6,20
11.500.0465	4.65	4.65	80	47	6,31
11.500.0470	4.7	4.7	80	47	6,20
11.500.0475	4.75	4.75	80	47	6,20
11.500.0480	4.8	4.8	86	52	4,92
11.500.0490	4.9	4.9	86	52	4,92
11.500.0500	5	5	86	52	4,12
11.500.0510	5.1	5.1	86	52	6,19
11.500.0520	5.2	5.2	86	52	6,19
11.500.0525	5.25	5.25	86	52	6,19
11.500.0530	5.3	5.3	86	52	6,19
11.500.0540	5.4	5.4	93	57	6,19
11.500.0550	5.5	5.5	93	57	4,89
11.500.0555	5.55	5.55	93	57	6,75
11.500.0560	5.6	5.6	93	57	6,75
11.500.0570	5.7	5.7	93	57	6,75
11.500.0575	5.75	5.75	93	57	6,75
11.500.0580	5.8	5.8	93	57	6,75
11.500.0590	5.9	5.9	93	57	6,75
11.500.0600	6	6	93	57	5,47
11.500.0610	6.1	6.1	101	63	8,74
11.500.0620	6.2	6.2	101	63	8,74
11.500.0625	6.25	6.25	101	63	8,90
11.500.0630	6.3	6.3	101	63	8,90
11.500.0635	6.35	6.35	101	63	8,90
11.500.0640	6.4	6.4	101	63	8,90
11.500.0650	6.5	6.5	101	63	6,64
11.500.0660	6.6	6.6	101	63	10,63
11.500.0670	6.7	6.7	101	63	10,63
11.500.0675	6.75	6.75	109	69	10,63
11.500.0680	6.8	6.8	109	69	9,47
11.500.0690	6.9	6.9	109	69	10,63
11.500.0700	7	7	109	69	7,68
11.500.0710	7.1	7.1	109	69	16,32

Ref.	d1	d2	l1	l2	€
11.500.0720	7.2	7.2	109	69	16,32
11.500.0725	7.25	7.25	109	69	15,33
11.500.0730	7.3	7.3	109	69	15,33
11.500.0740	7.4	7.4	109	69	15,33
11.500.0750	7.5	7.5	109	69	8,78
11.500.0760	7.6	7.6	117	75	16,97
11.500.0770	7.7	7.7	117	75	16,97
11.500.0775	7.75	7.75	117	75	12,37
11.500.0780	7.8	7.8	117	75	12,37
11.500.0790	7.9	7.9	117	75	12,37
11.500.0800	8	8	117	75	9,57
11.500.0810	8.1	8.1	117	75	16,32
11.500.0820	8.2	8.2	117	75	16,32
11.500.0825	8.25	8.25	117	75	15,87
11.500.0830	8.3	8.3	117	75	15,87
11.500.0840	8.4	8.4	117	75	15,87
11.500.0850	8.5	8.5	117	75	11,58
11.500.0860	8.6	8.6	125	81	20,32
11.500.0870	8.7	8.7	125	81	20,32
11.500.0875	8.75	8.75	125	81	20,32
11.500.0880	8.8	8.8	125	81	20,32
11.500.0890	8.9	8.9	125	81	20,32
11.500.0900	9	9	125	81	12,73
11.500.0910	9.1	9.1	125	81	23,21
11.500.0920	9.2	9.2	125	81	23,21
11.500.0925	9.25	9.25	125	81	23,21
11.500.0930	9.3	9.3	125	81	23,21
11.500.0940	9.4	9.4	125	81	23,21
11.500.0950	9.5	9.5	125	81	14,04
11.500.0960	9.6	9.6	133	87	26,85
11.500.0970	9.7	9.7	133	87	26,85
11.500.0975	9.75	9.75	133	87	20,11
11.500.0980	9.8	9.8	133	87	20,11
11.500.0990	9.9	9.9	133	87	20,11
11.500.1000	10	10	133	87	16,19
11.500.1010	10.1	10.1	133	87	20,11
11.500.1020	10.2	10.2	133	87	20,11
11.500.1025	10.25	10.25	133	87	20,39
11.500.1030	10.3	10.3	133	87	20,11
11.500.1040	10.4	10.4	133	87	20,11
11.500.1050	10.5	10.5	133	87	18,27
11.500.1060	10.6	10.6	133	87	20,30
11.500.1070	10.7	10.7	142	94	20,30

Ref.	d1	d2	l1	l2	€
11.500.1080	10.8	10.8	142	94	18,27
11.500.1100	11	11	142	94	19,45
11.500.1110	11.1	11.1	142	94	22,63
11.500.1120	11.2	11.2	142	94	22,63
11.500.1130	11.3	11.3	142	94	22,96
11.500.1140	11.4	11.4	142	94	22,96
11.500.1150	11.5	11.5	142	94	22,63
11.500.1160	11.6	11.6	142	94	23,61
11.500.1170	11.7	11.7	142	94	23,61
11.500.1175	11.75	11.75	142	94	21,81
11.500.1180	11.8	11.8	142	94	21,81
11.500.1190	11.9	11.9	151	101	23,61
11.500.1200	12	12	151	101	22,75
11.500.1210	12.1	12.1	151	101	25,95
11.500.1220	12.2	12.2	151	101	24,46
11.500.1230	12.3	12.3	151	101	25,95
11.500.1240	12.4	12.4	151	101	25,95
11.500.1250	12.5	12.5	151	101	25,10
11.500.1260	12.6	12.6	151	101	26,50
11.500.1270	12.7	12.7	151	101	26,50
11.500.1280	12.8	12.8	151	101	26,50
11.500.1290	12.9	12.9	151	101	26,50
11.500.1300	13	13	151	101	24,96
11.500.1310	13.1	13.1	151	101	42,25
11.500.1350	13.5	13.5	160	108	42,25
11.500.1400	14	14	160	108	43,90
11.500.1450	14.5	14.5	169	114	50,95
11.500.1500	15	15	169	114	55,25
11.500.1510	15.1	15.1	178	120	59,40
11.500.1550	15.5	15.5	178	120	59,40
11.500.1600	16	16	178	120	59,40
11.500.1650	16.5	16.5	184	125	64,50
11.500.1690	16.9	16.9	184	125	63,30
11.500.1700	17	17	184	125	63,30
11.500.1750	17.5	17.5	191	130	67,15
11.500.1800	18	18	191	130	71,70
11.500.1850	18.5	18.5	198	135	85,05
11.500.1890	18.9	18.9	198	135	83,35
11.500.1900	19	19	198	135	83,35
11.500.1950	19.5	19.5	205	140	90,70
11.500.2000	20	20	205	140	98,65

› 11.506 Phantom



NL HSS-E Spiraalboor TiN-tip, (handgebruik)
FR Foret HSS-E avec revêtement TiN sur la partie utile, (usage à la main)
ES Broca HSS-E con punta TiN, (uso manual)
DE HSS-E Spiralbohrer TiN-Tip, (handgebrauch)
EN HSS-E Twist drill TiN coated tip, (handuse)



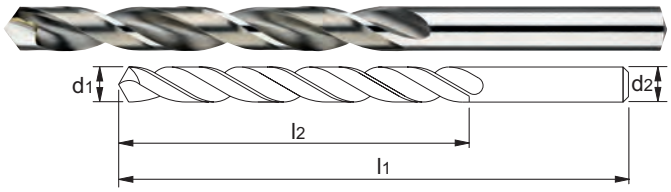
Ref.	d1	d2	l1	l2	€
11.506.0100	1	1	34	12	2,98
11.506.0120	1.2	1.2	38	16	3,73
11.506.0150	1.5	1.5	40	18	2,98
11.506.0160	1.6	1.6	43	20	3,82
11.506.0200	2	2	49	24	2,70
11.506.0210	2.1	2.1	49	24	4,59
11.506.0220	2.2	2.2	53	27	4,59
11.506.0230	2.3	2.3	53	27	4,59
11.506.0240	2.4	2.4	57	30	4,59
11.506.0250	2.5	2.5	57	30	2,85
11.506.0260	2.6	2.6	57	30	5,53
11.506.0270	2.7	2.7	61	33	5,53
11.506.0280	2.8	2.8	61	33	4,26
11.506.0290	2.9	2.9	61	33	4,26
11.506.0300	3	3	61	33	3,11
11.506.0310	3.1	3.1	65	36	3,51
11.506.0320	3.2	3.2	65	36	3,53
11.506.0330	3.3	3.3	65	36	3,53
11.506.0340	3.4	3.4	70	39	5,29
11.506.0350	3.5	3.5	70	39	3,56

Ref.	d1	d2	l1	l2	€
11.506.0360	3.6	3.6	70	39	4,29
11.506.0370	3.7	3.7	70	39	4,29
11.506.0380	3.8	3.8	75	43	4,29
11.506.0390	3.9	3.9	75	43	4,29
11.506.0400	4	4	75	43	3,67
11.506.0410	4.1	4.1	75	43	4,42
11.506.0420	4.2	4.2	75	43	3,95
11.506.0430	4.3	4.3	80	47	5,54
11.506.0450	4.5	4.5	80	47	3,95
11.506.0470	4.7	4.7	80	47	7,33
11.506.0480	4.8	4.8	86	52	5,78
11.506.0490	4.9	4.9	86	52	5,78
11.506.0500	5	5	86	52	4,49
11.506.0510	5.1	5.1	86	52	7,70
11.506.0520	5.2	5.2	86	52	7,70
11.506.0530	5.3	5.3	86	52	7,70
11.506.0550	5.5	5.5	93	57	5,21
11.506.0570	5.7	5.7	93	57	7,97
11.506.0580	5.8	5.8	93	57	7,97
11.506.0600	6	6	93	57	6,12

Ref.	d1	d2	l1	l2	€
11.506.0610	6.1	6.1	101	63	10,09
11.506.0620	6.2	6.2	101	63	10,09
11.506.0630	6.3	6.3	101	63	10,09
11.506.0650	6.5	6.5	101	63	7,29
11.506.0670	6.7	6.7	101	63	11,83
11.506.0680	6.8	6.8	109	69	8,38
11.506.0700	7	7	109	69	8,41
11.506.0750	7.5	7.5	109	69	9,60
11.506.0800	8	8	117	75	10,46
11.506.0850	8.5	8.5	117	75	12,48
11.506.0900	9	9	125	81	13,72
11.506.0950	9.5	9.5	125	81	15,20
11.506.1000	10	10	133	87	17,57
11.506.1020	10.2	10.2	133	87	19,60
11.506.1050	10.5	10.5	133	87	19,60
11.506.1100	11	11	142	94	20,26
11.506.1150	11.5	11.5	142	94	23,65
11.506.1200	12	12	151	101	24,32
11.506.1250	12.5	12.5	151	101	26,75
11.506.1300	13	13	151	101	27,45

› 11.600 Phantom

NL **HM-tip Spiraalboor**
FR **Foret à plaquette carbure**
ES **Broca con punta MD**
DE **Hartmetallbestückt Spiralbohrer**
EN **Carbide Tipped Twist drill**



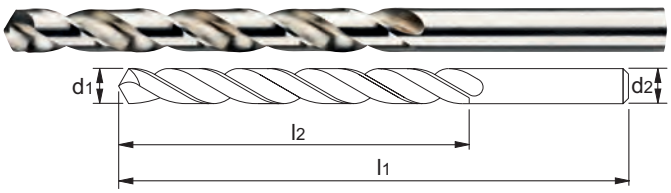
DIN 338 | HM-TIP | N | 120°

P 11	P 12	P 13	P 14	H 15	M 21	M 22	K 31	K 32	N 42	N 52	N 62	S 71	S 72
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	HRC	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Alu Si>10%	CuAlFe	GFK/CFK	Ni/Co	Ti
75-85 *	60-70 *	55-65 *	30-40 *	10-20 *	20-35 *	18-30 *	70-85 *	60-75 *	120-150 *	35-40 *	70-130 *	25-30 *	30-35 *

Ref.	d1	d2	l1	l2	€
11.600.0200	2	2	49	24	22,45
11.600.0210	2.1	2.1	49	24	22,45
11.600.0220	2.2	2.2	53	27	22,45
11.600.0230	2.3	2.3	53	27	22,45
11.600.0240	2.4	2.4	57	30	22,45
11.600.0250	2.5	2.5	57	30	22,45
11.600.0260	2.6	2.6	57	30	22,45
11.600.0270	2.7	2.7	61	33	22,45
11.600.0280	2.8	2.8	61	33	22,45
11.600.0290	2.9	2.9	61	33	22,45
11.600.0300	3	3	61	33	20,72
11.600.0310	3.1	3.1	65	36	22,45
11.600.0320	3.2	3.2	65	36	22,45
11.600.0330	3.3	3.3	65	36	22,45
11.600.0340	3.4	3.4	70	39	22,45
11.600.0350	3.5	3.5	70	39	21,11
11.600.0360	3.6	3.6	70	39	22,45
11.600.0370	3.7	3.7	70	39	22,45
11.600.0380	3.8	3.8	75	43	22,45
11.600.0390	3.9	3.9	75	43	22,45
11.600.0400	4	4	75	43	20,21
11.600.0410	4.1	4.1	75	43	22,45
11.600.0420	4.2	4.2	75	43	22,45
11.600.0430	4.3	4.3	80	47	22,45
11.600.0440	4.4	4.4	80	47	22,45
11.600.0450	4.5	4.5	80	47	20,72
11.600.0460	4.6	4.6	80	47	22,45
11.600.0470	4.7	4.7	80	47	22,45
11.600.0480	4.8	4.8	86	52	22,45
11.600.0490	4.9	4.9	86	52	22,45
11.600.0500	5	5	86	52	20,21
11.600.0510	5.1	5.1	86	52	24,30
11.600.0520	5.2	5.2	86	52	24,30
11.600.0530	5.3	5.3	86	52	24,30
11.600.0540	5.4	5.4	93	57	24,30
11.600.0550	5.5	5.5	93	57	21,60
11.600.0560	5.6	5.6	93	57	24,74
11.600.0570	5.7	5.7	93	57	24,74
11.600.0580	5.8	5.8	93	57	24,74
11.600.0590	5.9	5.9	93	57	24,74
11.600.0600	6	6	93	57	22,85
11.600.0610	6.1	6.1	101	63	25,30
11.600.0620	6.2	6.2	101	63	25,30
11.600.0630	6.3	6.3	101	63	25,30
11.600.0635	6.35	6.35	101	63	20,81
11.600.0640	6.4	6.4	101	63	25,05
11.600.0650	6.5	6.5	101	63	23,18
11.600.0660	6.6	6.6	101	63	27,70
11.600.0670	6.7	6.7	101	63	27,70
11.600.0680	6.8	6.8	109	69	27,70
11.600.0690	6.9	6.9	109	69	27,70
11.600.0700	7	7	109	69	25,90
11.600.0710	7.1	7.1	109	69	29,10
11.600.0720	7.2	7.2	109	69	29,10
11.600.0730	7.3	7.3	109	69	29,10
11.600.0740	7.4	7.4	109	69	29,10
11.600.0750	7.5	7.5	109	69	27,25
11.600.0760	7.6	7.6	117	75	30,85
11.600.0770	7.7	7.7	117	75	30,85
11.600.0780	7.8	7.8	117	75	30,85
11.600.0790	7.9	7.9	117	75	30,85
11.600.0800	8	8	117	75	29,10
11.600.0810	8.1	8.1	117	75	31,85
11.600.0820	8.2	8.2	117	75	31,85
11.600.0830	8.3	8.3	117	75	31,85
11.600.0840	8.4	8.4	117	75	31,85
11.600.0850	8.5	8.5	117	75	30,50
11.600.0860	8.6	8.6	125	81	35,05
11.600.0870	8.7	8.7	125	81	35,05
11.600.0880	8.8	8.8	125	81	35,05
11.600.0890	8.9	8.9	125	81	35,05
11.600.0900	9	9	125	81	33,60
11.600.0910	9.1	9.1	125	81	38,65
11.600.0920	9.2	9.2	125	81	38,65
11.600.0930	9.3	9.3	125	81	38,65
11.600.0940	9.4	9.4	125	81	38,65
11.600.0950	9.5	9.5	125	81	37,75
11.600.0960	9.6	9.6	133	87	41,30
11.600.0970	9.7	9.7	133	87	41,30
11.600.0980	9.8	9.8	133	87	41,30
11.600.0990	9.9	9.9	133	87	41,30
11.600.1000	10	10	133	87	39,15
11.600.1020	10.2	10.2	133	87	45,85
11.600.1050	10.5	10.5	133	87	44,20
11.600.1100	11	11	142	94	46,90
11.600.1150	11.5	11.5	142	94	50,05
11.600.1200	12	12	151	101	54,10
11.600.1250	12.5	12.5	151	101	57,90
11.600.1300	13	13	151	101	63,15
11.600.1350	13.5	13.5	160	108	68,85
11.600.1400	14	14	160	108	70,55
11.600.1450	14.5	14.5	169	114	78,25
11.600.1500	15	15	169	114	87,05
11.600.1550	15.5	15.5	178	120	97,00
11.600.1600	16	16	178	120	101,10

› 11.760 Phantom

NL **HSS-E Spiraalboor roestvaststaal**
FR **Foret HSS-E Inox**
ES **Broca HSS-E acero inoxidable**
DE **HSS-E Spiralbohrer rostfreien Stahl**
EN **HSS-E Twist drill stainless steel**



130° | DIN 338 | HSS-E | INOX | >N

P 14	M 21	M 22	S 71	S 72
≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	Ni/Co	Ti
12-16 E	14-18 D	12-16 C	6-8 A	6-10 B

Ref.	d1	d2	l1	l2	€
11.760.0100	1	1	34	12	4,75
11.760.0110	1.1	1.1	36	14	3,82
11.760.0120	1.2	1.2	38	16	3,82
11.760.0130	1.3	1.3	38	16	3,82
11.760.0140	1.4	1.4	40	18	3,82
11.760.0150	1.5	1.5	40	18	3,82
11.760.0160	1.6	1.6	43	20	3,82
11.760.0170	1.7	1.7	43	20	3,82
11.760.0180	1.8	1.8	46	22	3,89
11.760.0190	1.9	1.9	46	22	4,20
11.760.0200	2	2	49	24	3,49
11.760.0210	2.1	2.1	49	24	3,68
11.760.0220	2.2	2.2	53	27	3,82
11.760.0230	2.3	2.3	53	27	3,82
11.760.0240	2.4	2.4	57	30	4,05
11.760.0250	2.5	2.5	57	30	3,82
11.760.0260	2.6	2.6	57	30	4,08
11.760.0270	2.7	2.7	61	33	4,20
11.760.0280	2.8	2.8	61	33	3,99
11.760.0290	2.9	2.9	61	33	4,08
11.760.0300	3	3	61	33	3,82
11.760.0310	3.1	3.1	65	36	4,31
11.760.0320	3.2	3.2	65	36	4,11
11.760.0330	3.3	3.3	65	36	4,11
11.760.0340	3.4	3.4	70	39	4,31
11.760.0350	3.5	3.5	70	39	4,05
11.760.0360	3.6	3.6	70	39	4,35
11.760.0370	3.7	3.7	70	39	4,49
11.760.0380	3.8	3.8	75	43	4,50
11.760.0390	3.9	3.9	75	43	4,76
11.760.0400	4	4	75	43	4,46
11.760.0410	4.1	4.1	75	43	4,75
11.760.0420	4.2	4.2	75	43	4,75
11.760.0430	4.3	4.3	80	47	5,18
11.760.0440	4.4	4.4	80	47	5,32
11.760.0450	4.5	4.5	80	47	4,94
11.760.0460	4.6	4.6	80	47	5,70
11.760.0470	4.7	4.7	80	47	5,44
11.760.0480	4.8	4.8	86	52	5,64
11.760.0490	4.9	4.9	86	52	5,70
11.760.0500	5	5	86	52	5,13
11.760.0510	5.1	5.1	86	52	5,79
11.760.0520	5.2	5.2	86	52	5,99
11.760.0530	5.3	5.3	86	52	6,12
11.760.0540	5.4	5.4	93	57	6,97
11.760.0550	5.5	5.5	93	57	6,92
11.760.0560	5.6	5.6	93	57	7,26
11.760.0570	5.7	5.7	93	57	7,26
11.760.0580	5.8	5.8	93	57	7,26
11.760.0590	5.9	5.9	93	57	7,26
11.760.0600	6	6	93	57	6,92

› 11.760 Phantom

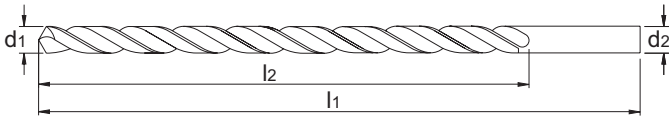
Ref.	d1	d2	l1	l2	€
11.760.0610	6.1	6.1	101	63	8,27
11.760.0620	6.2	6.2	101	63	8,27
11.760.0630	6.3	6.3	101	63	8,27
11.760.0640	6.4	6.4	101	63	8,55
11.760.0650	6.5	6.5	101	63	8,27
11.760.0660	6.6	6.6	101	63	8,47
11.760.0670	6.7	6.7	101	63	8,60
11.760.0680	6.8	6.8	109	69	9,22
11.760.0690	6.9	6.9	109	69	9,92
11.760.0700	7	7	109	69	9,37
11.760.0710	7.1	7.1	109	69	10,23
11.760.0720	7.2	7.2	109	69	11,27
11.760.0730	7.3	7.3	109	69	11,27
11.760.0740	7.4	7.4	109	69	10,77
11.760.0750	7.5	7.5	109	69	9,89
11.760.0760	7.6	7.6	117	75	12,34
11.760.0770	7.7	7.7	117	75	12,59
11.760.0780	7.8	7.8	117	75	11,39
11.760.0790	7.9	7.9	117	75	12,54
11.760.0800	8	8	117	75	10,55
11.760.0810	8.1	8.1	117	75	13,17
11.760.0820	8.2	8.2	117	75	12,52

Ref.	d1	d2	l1	l2	€
11.760.0830	8.3	8.3	117	75	13,13
11.760.0840	8.4	8.4	117	75	13,24
11.760.0850	8.5	8.5	117	75	12,29
11.760.0860	8.6	8.6	125	81	15,66
11.760.0870	8.7	8.7	125	81	15,66
11.760.0880	8.8	8.8	125	81	15,66
11.760.0890	8.9	8.9	125	81	16,39
11.760.0900	9	9	125	81	15,66
11.760.0910	9.1	9.1	125	81	16,39
11.760.0920	9.2	9.2	125	81	16,39
11.760.0930	9.3	9.3	125	81	16,39
11.760.0940	9.4	9.4	125	81	17,29
11.760.0950	9.5	9.5	125	81	16,53
11.760.0960	9.6	9.6	133	87	18,25
11.760.0970	9.7	9.7	133	87	18,65
11.760.0980	9.8	9.8	133	87	19,57
11.760.0990	9.9	9.9	133	87	19,96
11.760.1000	10	10	133	87	17,76
11.760.1020	10.2	10.2	133	87	20,10
11.760.1040	10.4	10.4	133	87	23,48
11.760.1050	10.5	10.5	133	87	20,76
11.760.1070	10.7	10.7	142	94	32,25

Ref.	d1	d2	l1	l2	€
11.760.1100	11	11	142	94	25,15
11.760.1120	11.2	11.2	142	94	28,65
11.760.1150	11.5	11.5	142	94	27,95
11.760.1200	12	12	151	101	31,35
11.760.1210	12.1	12.1	151	101	40,95
11.760.1230	12.3	12.3	151	101	40,95
11.760.1250	12.5	12.5	151	101	34,50
11.760.1300	13	13	151	101	38,60
11.760.1350	13.5	13.5	160	108	44,45
11.760.1400	14	14	160	108	48,50
11.760.1450	14.5	14.5	169	114	51,35
11.760.1500	15	15	169	114	56,90
11.760.1550	15.5	15.5	178	120	58,70
11.760.1600	16	16	178	120	66,10
11.760.1650	16.5	16.5	184	125	103,90
11.760.1700	17	17	184	125	101,90
11.760.1750	17.5	17.5	191	130	107,70
11.760.1800	18	18	191	130	97,00
11.760.1900	19	19	198	135	137,30
11.760.2000	20	20	205	140	170,60

› 11.813 International Tools





NL ECO PRO HSS Spiraalboor
FR Foret HSS ECO PRO
ES Broca HSS ECO PRO
DE ECO PRO HSS Spiralbohrer
EN ECO PRO HSS Twist drill





25-27 F	22-30 F	15-20 E	15-20 E	25-30 E	45-50 G	25-40 D	22-28 D

Ref.	d1	d2	l1	l2	€
11.813.0100	1	1	56	33	1,29
11.813.0110	1.1	1.1	60	37	1,29
11.813.0120	1.2	1.2	65	41	1,29
11.813.0130	1.3	1.3	65	41	1,29
11.813.0140	1.4	1.4	70	45	1,29
11.813.0150	1.5	1.5	70	45	1,33
11.813.0160	1.6	1.6	76	50	1,33
11.813.0170	1.7	1.7	76	50	1,33
11.813.0180	1.8	1.8	80	53	1,33
11.813.0190	1.9	1.9	80	53	1,33
11.813.0200	2	2	85	56	1,93
11.813.0210	2.1	2.1	85	56	2,03
11.813.0220	2.2	2.2	90	59	2,03
11.813.0230	2.3	2.3	90	59	2,03
11.813.0240	2.4	2.4	95	62	2,03
11.813.0250	2.5	2.5	95	62	2,03
11.813.0260	2.6	2.6	95	62	2,03
11.813.0270	2.7	2.7	100	66	2,03
11.813.0280	2.8	2.8	100	66	2,03
11.813.0290	2.9	2.9	100	66	2,03
11.813.0300	3	3	100	66	2,03
11.813.0310	3.1	3.1	106	69	2,70
11.813.0320	3.2	3.2	106	69	2,70

Ref.	d1	d2	l1	l2	€
11.813.0330	3.3	3.3	106	69	2,70
11.813.0340	3.4	3.4	112	73	2,70
11.813.0350	3.5	3.5	112	73	2,29
11.813.0360	3.6	3.6	112	73	2,86
11.813.0370	3.7	3.7	112	73	2,86
11.813.0380	3.8	3.8	119	78	2,86
11.813.0390	3.9	3.9	119	78	2,86
11.813.0400	4	4	119	78	2,44
11.813.0410	4.1	4.1	119	78	2,86
11.813.0420	4.2	4.2	119	78	2,86
11.813.0430	4.3	4.3	126	82	2,86
11.813.0440	4.4	4.4	126	82	2,86
11.813.0450	4.5	4.5	126	82	2,65
11.813.0460	4.6	4.6	126	82	3,31
11.813.0470	4.7	4.7	126	82	3,31
11.813.0480	4.8	4.8	132	87	3,31
11.813.0490	4.9	4.9	132	87	3,31
11.813.0500	5	5	132	87	3,31
11.813.0510	5.1	5.1	132	87	4,03
11.813.0520	5.2	5.2	132	87	4,03
11.813.0530	5.3	5.3	132	87	4,03
11.813.0540	5.4	5.4	139	91	4,03
11.813.0550	5.5	5.5	139	91	4,03

Ref.	d1	d2	l1	l2	€
11.813.0560	5.6	5.6	139	91	4,40
11.813.0570	5.7	5.7	139	91	4,40
11.813.0580	5.8	5.8	139	91	4,40
11.813.0590	5.9	5.9	139	91	4,40
11.813.0600	6	6	139	91	4,40
11.813.0650	6.5	6.5	148	97	5,13
11.813.0680	6.8	6.8	156	102	5,87
11.813.0700	7	7	156	102	5,87
11.813.0750	7.5	7.5	156	102	7,34
11.813.0800	8	8	165	109	8,80
11.813.0850	8.5	8.5	165	109	10,27
11.813.0900	9	9	175	115	11,71
11.813.0950	9.5	9.5	175	115	12,46
11.813.1000	10	10	184	121	14,27
11.813.1020	10.2	10.2	184	121	16,11
11.813.1050	10.5	10.5	184	121	16,11
11.813.1100	11	11	195	128	18,30
11.813.1150	11.5	11.5	195	128	19,77
11.813.1200	12	12	205	134	21,23
11.813.1250	12.5	12.5	205	134	23,44
11.813.1300	13	13	205	134	24,91



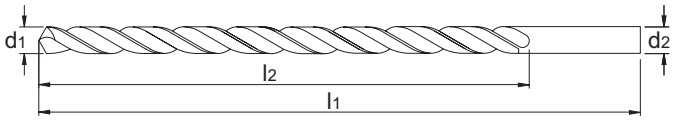
NL Maak favorietenlijsten naar keuze (b.v. medewerker en/of machine)
FR Créez les listes de favoris de votre choix (ex. : employés et/ou machine)
ES Cree las listas de favoritos que desee (por ejemplo, por empleado y/o por máquina)
DE Erstellen Sie Favoritenlisten Ihrer Wahl (z.B. Mitarbeiter und/oder Maschine)
EN Create favourite lists of your choice (e.g. per employee and/or per machine)

Watch me

www.phantom.eu

› 11.815 Phantom





NL HSS Spiraalboor
FR Foret HSS
ES Broca HSS
DE HSS Spiralbohrer
EN HSS Twist drill

118° | DIN 340 | HSS | N | OX. ≥ 2,4mm

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 F | 22-30 F | 15-20 E | 8-12 D | 15-20 E | 25-30 E | 45-50 G | 25-40 D | 22-28 D

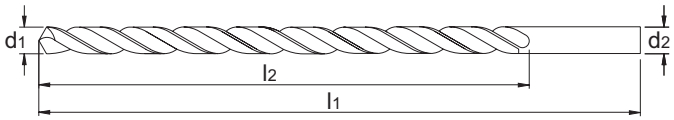
Ref.	d1	d2	l1	l2	€
11.815.0100	1	1	56	33	3,47
11.815.0110	1.1	1.1	60	37	6,01
11.815.0120	1.2	1.2	65	41	5,74
11.815.0130	1.3	1.3	65	41	5,29
11.815.0140	1.4	1.4	70	45	4,88
11.815.0150	1.5	1.5	70	45	4,56
11.815.0160	1.6	1.6	76	50	4,85
11.815.0170	1.7	1.7	76	50	4,85
11.815.0180	1.8	1.8	80	53	4,85
11.815.0190	1.9	1.9	80	53	4,85
11.815.0200	2	2	85	56	3,77
11.815.0210	2.1	2.1	85	56	4,29
11.815.0220	2.2	2.2	90	59	3,66
11.815.0230	2.3	2.3	90	59	3,91
11.815.0240	2.4	2.4	95	62	3,66
11.815.0250	2.5	2.5	95	62	2,91
11.815.0260	2.6	2.6	95	62	3,70
11.815.0270	2.7	2.7	100	66	4,18
11.815.0280	2.8	2.8	100	66	3,77
11.815.0290	2.9	2.9	100	66	4,41
11.815.0300	3	3	100	66	3,49
11.815.0310	3.1	3.1	106	69	4,06
11.815.0320	3.2	3.2	106	69	3,68
11.815.0330	3.3	3.3	106	69	3,94

Ref.	d1	d2	l1	l2	€
11.815.0340	3.4	3.4	112	73	4,45
11.815.0350	3.5	3.5	112	73	3,94
11.815.0360	3.6	3.6	112	73	4,36
11.815.0370	3.7	3.7	112	73	4,41
11.815.0380	3.8	3.8	119	78	4,31
11.815.0390	3.9	3.9	119	78	4,55
11.815.0400	4	4	119	78	4,18
11.815.0410	4.1	4.1	119	78	4,67
11.815.0420	4.2	4.2	119	78	4,18
11.815.0430	4.3	4.3	126	82	4,88
11.815.0440	4.4	4.4	126	82	5,09
11.815.0450	4.5	4.5	126	82	4,67
11.815.0460	4.6	4.6	126	82	5,29
11.815.0470	4.7	4.7	126	82	5,38
11.815.0480	4.8	4.8	132	87	5,38
11.815.0490	4.9	4.9	132	87	5,38
11.815.0500	5	5	132	87	4,81
11.815.0510	5.1	5.1	132	87	5,55
11.815.0520	5.2	5.2	132	87	5,38
11.815.0530	5.3	5.3	132	87	5,63
11.815.0540	5.4	5.4	139	91	6,91
11.815.0550	5.5	5.5	139	91	5,38
11.815.0560	5.6	5.6	139	91	6,71
11.815.0570	5.7	5.7	139	91	6,64

Ref.	d1	d2	l1	l2	€
11.815.0580	5.8	5.8	139	91	6,29
11.815.0590	5.9	5.9	139	91	7,18
11.815.0600	6	6	139	91	5,96
11.815.0620	6.2	6.2	148	97	10,29
11.815.0650	6.5	6.5	148	97	7,72
11.815.0680	6.8	6.8	156	102	9,64
11.815.0700	7	7	156	102	8,49
11.815.0750	7.5	7.5	156	102	10,10
11.815.0780	7.8	7.8	165	109	11,54
11.815.0800	8	8	165	109	10,39
11.815.0850	8.5	8.5	165	109	11,94
11.815.0880	8.8	8.8	175	115	15,68
11.815.0900	9	9	175	115	13,60
11.815.0950	9.5	9.5	175	115	15,42
11.815.0980	9.8	9.8	184	121	18,56
11.815.1000	10	10	184	121	15,00
11.815.1020	10.2	10.2	184	121	28,25
11.815.1050	10.5	10.5	184	121	20,06
11.815.1100	11	11	195	128	19,64
11.815.1150	11.5	11.5	195	128	23,58
11.815.1200	12	12	205	134	24,90
11.815.1250	12.5	12.5	205	134	26,70
11.815.1300	13	13	205	134	26,40

› 11.820 Phantom





NL HSS-E Spiraalboor roestvaststaal
FR Foret HSS-E Inox
ES Broca HSS-E acero inoxidable
DE HSS-E Spiralbohrer rostfreien Stahl
EN HSS-E Twist drill stainless steel

130° | DIN 340 | HSS-E | INOX | >N

P 14 ≤1400 N/mm² | M 21 INOX ≤850N/mm² | M 22 INOX >850N/mm² | S 71 Ni/Co | S 72 Ti

12-16 E | 14-18 D | 12-16 C | 6-8 A | 6-10 B

Ref.	d1	d2	l1	l2	€
11.820.0100	1	1	56	33	7,64
11.820.0150	1.5	1.5	70	45	7,50
11.820.0200	2	2	85	56	6,31
11.820.0250	2.5	2.5	95	62	6,42
11.820.0300	3	3	100	66	6,74
11.820.0310	3.1	3.1	106	69	7,71
11.820.0320	3.2	3.2	106	69	7,14
11.820.0350	3.5	3.5	112	73	7,67
11.820.0400	4	4	119	78	8,23
11.820.0410	4.1	4.1	119	78	9,24
11.820.0420	4.2	4.2	119	78	8,45
11.820.0450	4.5	4.5	126	82	9,54

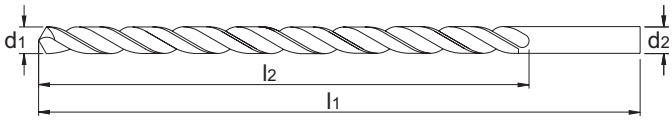
Ref.	d1	d2	l1	l2	€
11.820.0500	5	5	132	87	9,78
11.820.0510	5.1	5.1	132	87	13,27
11.820.0520	5.2	5.2	132	87	10,79
11.820.0550	5.5	5.5	139	91	12,03
11.820.0600	6	6	139	91	12,58
11.820.0650	6.5	6.5	148	97	13,86
11.820.0670	6.7	6.7	148	97	19,97
11.820.0680	6.8	6.8	156	102	19,70
11.820.0700	7	7	156	102	15,73
11.820.0750	7.5	7.5	156	102	18,34
11.820.0800	8	8	165	109	18,34
11.820.0850	8.5	8.5	165	109	20,52

Ref.	d1	d2	l1	l2	€
11.820.0900	9	9	175	115	22,76
11.820.0950	9.5	9.5	175	115	27,10
11.820.1000	10	10	184	121	26,65
11.820.1050	10.5	10.5	184	121	35,75
11.820.1100	11	11	195	128	37,15
11.820.1110	11.1	11.1	195	128	75,00
11.820.1150	11.5	11.5	195	128	44,40
11.820.1200	12	12	205	134	46,30
11.820.1250	12.5	12.5	205	134	60,95
11.820.1300	13	13	205	134	52,45

› 11.860 Phantom



NL **HSS Spiraalboor type TS**
FR **Foret HSS type TS**
ES **Broca HSS tipo TS**
DE **HSS Spiralbohrer Typ TS**
EN **HSS Twist drill type TS**



130° | DIN 340 | HSS | TS | ≥3 | <3

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 52 CuAlFe | N 61 PVC

22-24 E | 14-22 E | 20-25 E | 18-22 E | 40-45 F | 30-36 E | 18-21 E

Ref.	d1	d2	l1	l2	€
11.860.0100	1	1	56	33	7,79
11.860.0150	1.5	1.5	70	45	5,78
11.860.0200	2	2	85	56	5,75
11.860.0210	2.1	2.1	85	56	5,82
11.860.0220	2.2	2.2	90	59	6,40
11.860.0230	2.3	2.3	90	59	6,40
11.860.0240	2.4	2.4	95	62	6,90
11.860.0250	2.5	2.5	95	62	5,92
11.860.0260	2.6	2.6	95	62	6,83
11.860.0270	2.7	2.7	100	66	7,03
11.860.0280	2.8	2.8	100	66	6,98
11.860.0290	2.9	2.9	100	66	7,30
11.860.0300	3	3	100	66	6,33
11.860.0310	3.1	3.1	106	69	7,80
11.860.0320	3.2	3.2	106	69	6,79
11.860.0330	3.3	3.3	106	69	7,26
11.860.0340	3.4	3.4	112	73	8,32
11.860.0350	3.5	3.5	112	73	7,03
11.860.0360	3.6	3.6	112	73	8,74
11.860.0370	3.7	3.7	112	73	8,49
11.860.0380	3.8	3.8	119	78	8,50
11.860.0390	3.9	3.9	119	78	8,50
11.860.0400	4	4	119	78	7,91
11.860.0410	4.1	4.1	119	78	8,74
11.860.0420	4.2	4.2	119	78	8,35
11.860.0430	4.3	4.3	126	82	9,59

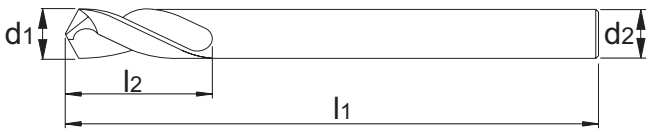
Ref.	d1	d2	l1	l2	€
11.860.0440	4.4	4.4	126	82	9,70
11.860.0450	4.5	4.5	126	82	8,99
11.860.0460	4.6	4.6	126	82	9,97
11.860.0470	4.7	4.7	126	82	9,91
11.860.0480	4.8	4.8	132	87	9,82
11.860.0490	4.9	4.9	132	87	10,71
11.860.0500	5	5	132	87	9,21
11.860.0510	5.1	5.1	132	87	10,63
11.860.0520	5.2	5.2	132	87	10,95
11.860.0530	5.3	5.3	132	87	11,11
11.860.0540	5.4	5.4	139	91	11,64
11.860.0550	5.5	5.5	139	91	11,25
11.860.0560	5.6	5.6	139	91	13,00
11.860.0570	5.7	5.7	139	91	13,40
11.860.0580	5.8	5.8	139	91	13,42
11.860.0590	5.9	5.9	139	91	14,26
11.860.0600	6	6	139	91	11,75
11.860.0610	6.1	6.1	148	97	14,90
11.860.0620	6.2	6.2	148	97	15,05
11.860.0630	6.3	6.3	148	97	15,21
11.860.0640	6.4	6.4	148	97	15,86
11.860.0650	6.5	6.5	148	97	12,60
11.860.0660	6.6	6.6	148	97	15,33
11.860.0670	6.7	6.7	148	97	16,69
11.860.0680	6.8	6.8	156	102	15,66
11.860.0690	6.9	6.9	156	102	15,55

Ref.	d1	d2	l1	l2	€
11.860.0700	7	7	156	102	14,65
11.860.0710	7.1	7.1	156	102	23,93
11.860.0720	7.2	7.2	156	102	24,74
11.860.0730	7.3	7.3	156	102	25,15
11.860.0740	7.4	7.4	156	102	25,45
11.860.0750	7.5	7.5	156	102	17,69
11.860.0760	7.6	7.6	165	109	22,52
11.860.0770	7.7	7.7	165	109	26,45
11.860.0780	7.8	7.8	165	109	23,81
11.860.0790	7.9	7.9	165	109	24,23
11.860.0800	8	8	165	109	16,95
11.860.0850	8.5	8.5	165	109	20,96
11.860.0870	8.7	8.7	175	115	38,00
11.860.0900	9	9	175	115	20,84
11.860.0950	9.5	9.5	175	115	26,45
11.860.1000	10	10	184	121	25,15
11.860.1020	10.2	10.2	184	121	31,80
11.860.1050	10.5	10.5	184	121	31,95
11.860.1100	11	11	195	128	35,75
11.860.1150	11.5	11.5	195	128	43,00
11.860.1200	12	12	205	134	44,55
11.860.1250	12.5	12.5	205	134	47,45
11.860.1300	13	13	205	134	48,50
11.860.1400	14	14	214	140	57,00
11.860.1500	15	15	220	144	347,00
11.860.1600	16	16	227	149	217,85

› 11.890 Phantom



NL **HSS Dakdekkersboor**
FR **Foret pour couvreurs HSS**
ES **Broca para tejados HSS**
DE **HSS Blechschälbohrer**
EN **HSS Roofer Drill**



135° | HSS | NORM | N

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 F | 22-30 F | 15-20 E | 8-12 D | 15-20 E | 25-30 E | 45-50 G | 25-40 D | 22-28 D

Ref.	d1	d2	l1	l2	€
11.890.4910	4.9	4.9	100	30	3,51
11.890.5007	5	5	70	30	2,78
11.890.5010	5	5	100	30	3,32
11.890.5015	5	5	150	30	5,21
11.890.5021	5	5	210	30	7,30
11.890.5110	5.1	5.1	100	30	4,14
11.890.5115	5.1	5.1	150	30	6,21

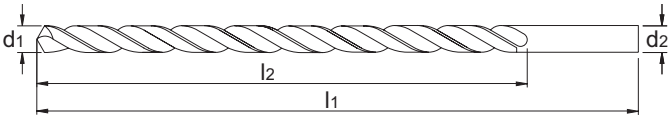
Ref.	d1	d2	l1	l2	€
11.890.5121	5.1	5.1	210	30	8,68
11.890.5310	5.3	5.3	100	30	3,82
11.890.5315	5.3	5.3	150	30	6,21
11.890.5321	5.3	5.3	210	30	8,68
11.890.5510	5.5	5.5	100	30	4,10
11.890.5515	5.5	5.5	150	30	6,21
11.890.5710	5.7	5.7	100	30	4,50

Ref.	d1	d2	l1	l2	€
11.890.5715	5.7	5.7	150	30	7,20
11.890.5721	5.7	5.7	210	30	10,09
11.890.5810	5.8	5.8	100	30	4,81
11.890.5815	5.8	5.8	150	30	7,20
11.890.5821	5.8	5.8	210	30	10,09

› 11.900 Phantom



NL HSS Spiraalboor
FR Foret HSS
ES Broca HSS
DE HSS Spiralbohrer
EN HSS Twist drill



118° | DIN 1869 | HSS | N | OX. ≥ 2,5mm

P 11	P 12	P 13	K 31	K 32	N 42	N 43	N 51
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	GG	GGG GTS-GTW	Alu Si>10%	Mg	Cu
20-25 D	15-25 D	8-20 C	18-22 E	14-20 E	35-40 F	50-55 E	20-28 D

Ref.	d1	d2	l1	l2	€
11.900.0201	2	2	125	85	10,66
11.900.0251	2.5	2.5	140	95	9,77
11.900.0301	3	3	150	100	11,01
11.900.0303	3	3	190	130	14,76
11.900.0351	3.5	3.5	165	115	11,15
11.900.0353	3.5	3.5	210	145	16,10
11.900.0401	4	4	175	120	12,19
11.900.0403	4	4	220	150	16,51
11.900.0451	4.5	4.5	185	125	13,57
11.900.0453	4.5	4.5	235	160	19,33
11.900.0481	4.8	4.8	195	135	50,55
11.900.0501	5	5	195	135	14,12
11.900.0503	5	5	245	170	19,13

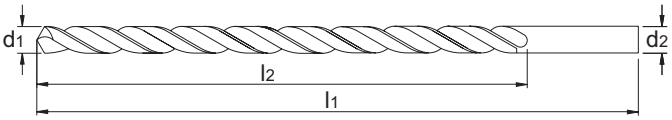
Ref.	d1	d2	l1	l2	€
11.900.0551	5.5	5.5	205	140	16,36
11.900.0553	5.5	5.5	260	180	24,94
11.900.0581	5.8	5.8	205	140	48,25
11.900.0601	6	6	205	140	17,00
11.900.0603	6	6	260	180	25,15
11.900.0651	6.5	6.5	215	150	18,85
11.900.0653	6.5	6.5	275	190	27,80
11.900.0701	7	7	225	155	21,11
11.900.0703	7	7	290	200	30,05
11.900.0751	7.5	7.5	225	155	25,45
11.900.0753	7.5	7.5	290	200	35,35
11.900.0801	8	8	240	165	27,90
11.900.0803	8	8	305	210	36,05

Ref.	d1	d2	l1	l2	€
11.900.0851	8.5	8.5	240	165	34,90
11.900.0853	8.5	8.5	305	210	48,80
11.900.0901	9	9	250	175	38,90
11.900.0903	9	9	320	220	50,10
11.900.0951	9.5	9.5	250	175	44,55
11.900.0953	9.5	9.5	320	220	59,05
11.900.1001	10	10	265	185	42,15
11.900.1003	10	10	340	235	57,75
11.900.1101	11	11	280	195	72,35
11.900.1103	11	11	365	250	85,05
11.900.1201	12	12	295	205	81,45
11.900.1203	12	12	375	260	94,40

› 11.920 Phantom



NL HSS Spiraalboor type TS
FR Foret HSS type TS
ES Broca HSS tipo TS
DE HSS Spiralbohrer Typ TS
EN HSS Twist drill type TS



130° | DIN 1869 | HSS | TS

P 11	P 12	P 13	M 21	K 31	K 32	N 42	N 43	N 51	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	INOX ≤850N/mm²	GG	GGG GTS-GTW	Alu Si>10%	Mg	Cu	PVC
20-25 D	16-25 D	16-22 C	6-10 C	18-22 E	14-20 E	35-40 F	50-55 E	20-28 D	18-30 E

Ref.	d1	d2	l1	l2	€
11.920.0201	2	2	125	85	16,06
11.920.0251	2.5	2.5	140	95	15,27
11.920.0301	3	3	150	100	15,98
11.920.0303	3	3	190	130	24,74
11.920.0305	3	3	240	160	34,60
11.920.0351	3.5	3.5	165	115	17,38
11.920.0353	3.5	3.5	210	145	22,37
11.920.0355	3.5	3.5	265	180	33,40
11.920.0401	4	4	175	120	17,71
11.920.0403	4	4	220	150	22,37
11.920.0405	4	4	280	190	32,25
11.920.0407	4	4	400	300	159,85
11.920.0451	4.5	4.5	185	125	18,29
11.920.0453	4.5	4.5	235	160	25,50
11.920.0455	4.5	4.5	295	200	39,15
11.920.0501	5	5	195	135	19,58
11.920.0503	5	5	245	170	28,25
11.920.0505	5	5	315	210	42,50
11.920.0507	5	5	500	350	231,00
11.920.0551	5.5	5.5	205	140	20,63
11.920.0553	5.5	5.5	260	180	33,75
11.920.0557	5.5	5.5	330	225	48,85
11.920.0601	6	6	205	140	21,10

Ref.	d1	d2	l1	l2	€
11.920.0603	6	6	260	180	31,90
11.920.0605	6	6	330	225	47,85
11.920.0607	6	6	600	400	221,10
11.920.0608	6	6	500	400	73,70
11.920.0651	6.5	6.5	215	150	25,35
11.920.0653	6.5	6.5	275	190	38,50
11.920.0655	6.5	6.5	350	235	50,55
11.920.0701	7	7	225	155	27,95
11.920.0703	7	7	290	200	42,10
11.920.0705	7	7	370	250	58,70
11.920.0751	7.5	7.5	225	155	33,25
11.920.0753	7.5	7.5	290	200	47,00
11.920.0755	7.5	7.5	370	250	68,80
11.920.0801	8	8	240	165	33,50
11.920.0803	8	8	305	210	46,20
11.920.0805	8	8	390	265	62,30
11.920.0809	8	8	500	400	85,00
11.920.0851	8.5	8.5	240	165	36,50
11.920.0853	8.5	8.5	305	210	50,60
11.920.0901	9	9	250	175	49,30
11.920.0903	9	9	320	220	56,55
11.920.0905	9	9	410	280	81,70
11.920.0951	9.5	9.5	250	175	60,45

Ref.	d1	d2	l1	l2	€
11.920.0953	9.5	9.5	320	220	65,40
11.920.0955	9.5	9.5	410	280	102,45
11.920.1001	10	10	265	185	60,10
11.920.1003	10	10	340	235	66,80
11.920.1005	10	10	430	295	86,40
11.920.1008	10	10	600	500	114,90
11.920.1051	10.5	10.5	265	185	69,90
11.920.1053	10.5	10.5	340	235	73,90
11.920.1054	10.5	10.5	430	295	121,60
11.920.1101	11	11	280	195	82,55
11.920.1103	11	11	365	250	90,35
11.920.1104	11	11	455	310	128,00
11.920.1151	11.5	11.5	280	195	90,35
11.920.1153	11.5	11.5	365	250	107,60
11.920.1201	12	12	295	205	93,95
11.920.1203	12	12	375	260	107,25
11.920.1205	12	12	480	330	132,05
11.920.1206	12	12	600	500	162,30
11.920.1251	12.5	12.5	295	205	90,60
11.920.1253	12.5	12.5	375	260	99,35
11.920.1301	13	13	295	205	96,90
11.920.1303	13	13	375	260	105,05
11.920.1401	14	14	300	200	190,75



NL Uitleg calculatietool
FR Regardez la vidéo d'instruction de l'outil de calcul
ES Explicación de la herramienta de cálculo
DE Erläuterung Rechner
EN Calculation tool explained

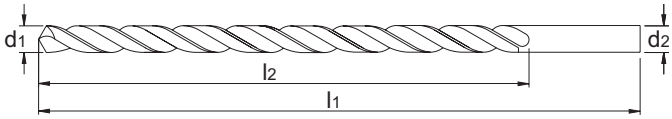
Watch me

www.phantom.eu

› 11.940 Phantom



NL **HSS-E Spiraalboor type TS**
FR **Foret HSS-E type TS**
ES **Broca HSS-E tipo TS**
DE **HSS-E Spiralbohrer Typ TS**
EN **HSS-E Twist drill type TS**



130° | DIN 1869 | HSS-E | TS

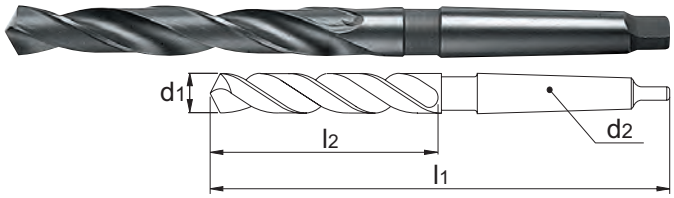
P 11	P 12	P 13	P 14	M 21	M 22	K 31	K 32	N 42	N 51	N 52
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Alu Si>10%	Cu	CuAlFe
30-35 D	20-30 D	10-20 C	8-10 B	8-10 C	6-10 B	25-30 D	20-25 D	40-50 F	20-30 D	25-30 C

Ref.	d1	d2	l1	l2	€
11.940.0301	3	3	150	100	19,33
11.940.0303	3	3	190	130	30,65
11.940.0351	3.5	3.5	165	115	21,02
11.940.0353	3.5	3.5	210	145	27,05
11.940.0355	3.5	3.5	265	180	41,40
11.940.0401	4	4	175	120	21,88
11.940.0403	4	4	220	150	27,05
11.940.0405	4	4	280	190	39,75
11.940.0451	4.5	4.5	185	125	22,14
11.940.0453	4.5	4.5	235	160	31,60
11.940.0501	5	5	195	135	24,17
11.940.0503	5	5	245	170	35,05
11.940.0505	5	5	315	210	53,60
11.940.0551	5.5	5.5	205	140	25,45
11.940.0553	5.5	5.5	260	180	41,60
11.940.0601	6	6	205	140	26,05

Ref.	d1	d2	l1	l2	€
11.940.0603	6	6	260	180	38,65
11.940.0605	6	6	330	225	59,25
11.940.0651	6.5	6.5	215	150	30,70
11.940.0653	6.5	6.5	275	190	46,60
11.940.0701	7	7	225	155	33,85
11.940.0703	7	7	290	200	52,00
11.940.0705	7	7	370	250	71,10
11.940.0751	7.5	7.5	225	155	40,30
11.940.0753	7.5	7.5	290	200	57,90
11.940.0801	8	8	240	165	41,55
11.940.0803	8	8	305	210	55,95
11.940.0805	8	8	390	265	77,15
11.940.0851	8.5	8.5	240	165	44,15
11.940.0853	8.5	8.5	305	210	61,25
11.940.0901	9	9	250	175	59,70
11.940.0903	9	9	320	220	68,50

Ref.	d1	d2	l1	l2	€
11.940.0905	9	9	410	280	98,90
11.940.0951	9.5	9.5	250	175	73,05
11.940.0953	9.5	9.5	320	220	79,25
11.940.1001	10	10	265	185	72,65
11.940.1003	10	10	340	235	80,80
11.940.1005	10	10	430	295	104,50
11.940.1101	11	11	280	195	99,95
11.940.1103	11	11	365	250	109,45
11.940.1104	11	11	455	310	155,00
11.940.1201	12	12	295	205	116,75
11.940.1203	12	12	375	260	129,70
11.940.1205	12	12	480	330	159,85
11.940.1301	13	13	295	205	139,90
11.940.1303	13	13	375	260	155,45

› 12.400 International Tools



NL **ECO HSS Spiraalboor gewalst, MK**
FR **Foret HSS ECO laminé, CM**
ES **Broca HSS ECO laminada, CM**
DE **ECO HSS Spiralbohrer Gewalzt, MK**
EN **ECO HSS Twist drill roll-forged, MT**

118° | DIN 228-B | DIN 345 | HSS | N | ECO

P 11	P 12	P 13	K 31	K 32
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	GG	GGG GTS-GTW
20-25 E	20-25 E	15-20 D	15-20 E	25-30 E

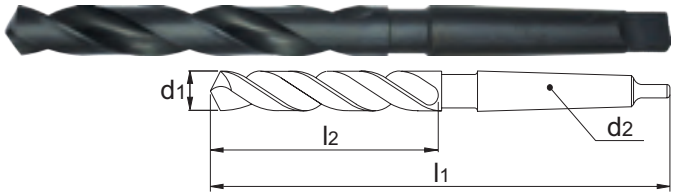
Ref.	d1	d2	l1	l2	€
12.400.0800	8	MK 1	156	75	7,88
12.400.0850	8.5	MK 1	156	75	7,88
12.400.0900	9	MK 1	162	81	7,88
12.400.0950	9.5	MK 1	162	81	7,88
12.400.0975	9.75	MK 1	168	87	3,10
12.400.1000	10	MK 1	168	87	7,88
12.400.1050	10.5	MK 1	168	87	7,88
12.400.1100	11	MK 1	175	94	7,88
12.400.1125	11.25	MK 1	175	94	3,10
12.400.1150	11.5	MK 1	175	94	7,88
12.400.1200	12	MK 1	182	101	8,20
12.400.1250	12.5	MK 1	182	101	8,20
12.400.1300	13	MK 1	182	101	8,91
12.400.1350	13.5	MK 1	189	108	8,91
12.400.1400	14	MK 1	189	108	10,22
12.400.1450	14.5	MK 2	212	114	10,92
12.400.1500	15	MK 2	212	114	10,92
12.400.1550	15.5	MK 2	218	120	10,92
12.400.1600	16	MK 2	218	120	11,71
12.400.1650	16.5	MK 2	223	125	12,50
12.400.1675	16.75	MK 2	223	125	5,30
12.400.1700	17	MK 2	223	125	13,29
12.400.1750	17.5	MK 2	228	130	13,29
12.400.1800	18	MK 2	228	130	14,09
12.400.1825	18.25	MK 2	233	135	5,62
12.400.1850	18.5	MK 2	233	135	14,09
12.400.1900	19	MK 2	233	135	14,89
12.400.1950	19.5	MK 2	238	140	14,89
12.400.2000	20	MK 2	238	140	17,41
12.400.2050	20.5	MK 2	243	145	17,41
12.400.2100	21	MK 2	243	145	19,79
12.400.2150	21.5	MK 2	248	150	19,79

Ref.	d1	d2	l1	l2	€
12.400.2200	22	MK 2	248	150	20,58
12.400.2225	22.25	MK 2	248	150	8,43
12.400.2250	22.5	MK 2	253	155	20,58
12.400.2300	23	MK 2	253	155	22,97
12.400.2325	23.25	MK 3	276	155	10,82
12.400.2350	23.5	MK 3	276	155	25,70
12.400.2400	24	MK 3	281	160	26,20
12.400.2450	24.5	MK 3	281	160	26,25
12.400.2500	25	MK 3	281	160	27,00
12.400.2550	25.5	MK 3	286	165	27,00
12.400.2575	25.75	MK 3	286	165	13,81
12.400.2600	26	MK 3	286	165	31,10
12.400.2625	26.25	MK 3	286	165	13,81
12.400.2650	26.5	MK 3	286	165	32,65
12.400.2700	27	MK 3	291	170	32,90
12.400.2750	27.5	MK 3	291	170	33,75
12.400.2800	28	MK 3	291	170	34,25
12.400.2850	28.5	MK 3	296	175	36,55
12.400.2875	28.75	MK 3	296	175	16,91
12.400.2900	29	MK 3	296	175	37,65
12.400.2950	29.5	MK 3	296	175	38,20
12.400.3000	30	MK 3	296	175	42,60
12.400.3050	30.5	MK 3	301	180	45,20
12.400.3100	31	MK 3	301	180	48,10
12.400.3125	31.25	MK 3	301	180	22,05
12.400.3150	31.5	MK 3	301	180	48,50
12.400.3200	32	MK 4	334	185	62,00
12.400.3250	32.5	MK 4	334	185	64,35
12.400.3300	33	MK 4	334	185	68,35
12.400.3350	33.5	MK 4	334	185	70,75
12.400.3400	34	MK 4	339	190	70,75
12.400.3450	34.5	MK 4	339	190	74,70

Ref.	d1	d2	l1	l2	€
12.400.3500	35	MK 4	339	190	81,10
12.400.3550	35.5	MK 4	339	190	85,80
12.400.3600	36	MK 4	344	195	87,40
12.400.3650	36.5	MK 4	344	195	92,20
12.400.3700	37	MK 4	344	195	103,90
12.400.3750	37.5	MK 4	344	195	104,90
12.400.3800	38	MK 4	349	200	104,90
12.400.3850	38.5	MK 4	349	200	104,90
12.400.3900	39	MK 4	349	200	105,70
12.400.3950	39.5	MK 4	349	200	105,70
12.400.4000	40	MK 4	349	200	105,70
12.400.4050	40.5	MK 4	354	205	105,70
12.400.4100	41	MK 4	354	205	105,70
12.400.4150	41.5	MK 4	354	205	105,70
12.400.4200	42	MK 4	354	205	114,40
12.400.4250	42.5	MK 4	354	205	114,40
12.400.4300	43	MK 4	359	210	114,40
12.400.4350	43.5	MK 4	359	210	114,40
12.400.4400	44	MK 4	359	210	126,35
12.400.4450	44.5	MK 4	359	210	126,35
12.400.4500	45	MK 4	359	210	143,00
12.400.4550	45.5	MK 4	364	215	143,00
12.400.4600	46	MK 4	364	215	143,00
12.400.4650	46.5	MK 4	364	215	143,00
12.400.4700	47	MK 4	364	215	159,65
12.400.4750	47.5	MK 4	364	215	65,95
12.400.4800	48	MK 4	369	220	159,65
12.400.4850	48.5	MK 4	369	220	159,65
12.400.4900	49	MK 4	369	220	159,65
12.400.4950	49.5	MK 4	369	220	159,65
12.400.5000	50	MK 4	369	220	174,75
12.400.5100	51	MK 5	412	225	66,15

› 12.430 International Tools

NL **ECO HSS Spiraalboor MK**
FR **Foret HSS ECO CM**
ES **Broca HSS ECO CM**
DE **ECO HSS Spiralbohrer MK**
EN **ECO HSS Twist drill MT**



118° | DIN 228-B | DIN 345 | HSS | N | ECO

NIEUW / NOUVEAU / NUEVO / NEU

P 11	P 12	P 13	M 21	K 31	K 32	N 42	N 51	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	INOX ≤850N/mm²	GG	GGG GTS-GTW	Alu Si>10%	Cu	PVC
25-27 F	22-30 F	15-20 E	8-12 D	15-20 E	25-30 E	45-50 G	25-40 D	22-28 D

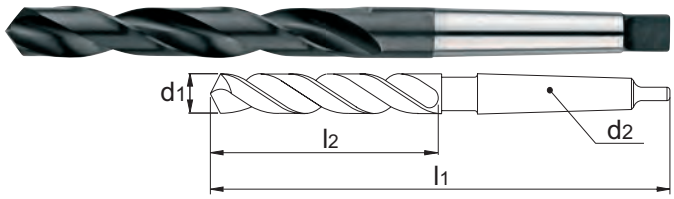
Ref.	d1	d2	l1	l2	€
12.430.0800	8	MK 1	156	75	15,21
12.430.0850	8.5	MK 1	156	75	15,21
12.430.0900	9	MK 1	162	81	15,21
12.430.0950	9.5	MK 1	162	81	15,21
12.430.1000	10	MK 1	168	87	12,17
12.430.1050	10.5	MK 1	168	87	15,21
12.430.1100	11	MK 1	175	94	15,21
12.430.1150	11.5	MK 1	175	94	15,21
12.430.1200	12	MK 1	182	101	9,48
12.430.1250	12.5	MK 1	182	101	9,48
12.430.1300	13	MK 1	182	101	12,09
12.430.1350	13.5	MK 1	189	108	13,82
12.430.1400	14	MK 1	189	108	14,50
12.430.1450	14.5	MK 2	212	114	16,57
12.430.1500	15	MK 2	212	114	16,57
12.430.1550	15.5	MK 2	218	120	16,57
12.430.1600	16	MK 2	218	120	17,90
12.430.1650	16.5	MK 2	223	125	19,16
12.430.1700	17	MK 2	223	125	20,42
12.430.1750	17.5	MK 2	228	130	17,86
12.430.1800	18	MK 2	228	130	19,03
12.430.1850	18.5	MK 2	233	135	21,75
12.430.1900	19	MK 2	233	135	20,13
12.430.1950	19.5	MK 2	238	140	23,01
12.430.2000	20	MK 2	238	140	20,38
12.430.2050	20.5	MK 2	243	145	27,17
12.430.2100	21	MK 2	243	145	27,14
12.430.2150	21.5	MK 2	248	150	31,02

Ref.	d1	d2	l1	l2	€
12.430.2200	22	MK 2	248	150	28,24
12.430.2250	22.5	MK 2	253	155	32,27
12.430.2300	23	MK 2	253	155	31,61
12.430.2350	23.5	MK 3	276	155	36,07
12.430.2400	24	MK 3	281	160	36,07
12.430.2450	24.5	MK 3	281	160	36,07
12.430.2500	25	MK 3	281	160	37,24
12.430.2550	25.5	MK 3	286	165	37,24
12.430.2600	26	MK 3	286	165	42,05
12.430.2650	26.5	MK 3	286	165	42,05
12.430.2700	27	MK 3	291	170	42,99
12.430.2750	27.5	MK 3	291	170	42,99
12.430.2800	28	MK 3	291	170	44,93
12.430.2850	28.5	MK 3	296	175	52,42
12.430.2900	29	MK 3	296	175	54,93
12.430.2950	29.5	MK 3	296	175	54,93
12.430.3000	30	MK 3	296	175	53,55
12.430.3050	30.5	MK 3	301	180	58,42
12.430.3100	31	MK 3	301	180	65,13
12.430.3150	31.5	MK 3	301	180	75,99
12.430.3200	32	MK 4	334	185	72,85
12.430.3250	32.5	MK 4	334	185	88,36
12.430.3300	33	MK 4	334	185	80,56
12.430.3350	33.5	MK 4	334	185	83,45
12.430.3400	34	MK 4	339	190	83,45
12.430.3450	34.5	MK 4	339	190	88,28
12.430.3500	35	MK 4	339	190	86,70
12.430.3550	35.5	MK 4	339	190	100,35

Ref.	d1	d2	l1	l2	€
12.430.3600	36	MK 4	344	195	93,72
12.430.3650	36.5	MK 4	344	195	108,01
12.430.3700	37	MK 4	344	195	113,15
12.430.3750	37.5	MK 4	344	195	123,44
12.430.3800	38	MK 4	349	200	123,44
12.430.3850	38.5	MK 4	349	200	123,44
12.430.3900	39	MK 4	349	200	124,38
12.430.3950	39.5	MK 4	349	200	124,38
12.430.4000	40	MK 4	349	200	124,38
12.430.4050	40.5	MK 4	354	205	124,38
12.430.4100	41	MK 4	354	205	124,38
12.430.4150	41.5	MK 4	354	205	124,38
12.430.4200	42	MK 4	354	205	123,73
12.430.4250	42.5	MK 4	354	205	157,48
12.430.4300	43	MK 4	359	210	134,98
12.430.4350	43.5	MK 4	359	210	134,98
12.430.4400	44	MK 4	359	210	161,86
12.430.4450	44.5	MK 4	359	210	161,86
12.430.4500	45	MK 4	359	210	155,53
12.430.4550	45.5	MK 4	364	215	169,67
12.430.4600	46	MK 4	364	215	197,94
12.430.4650	46.5	MK 4	364	215	197,94
12.430.4700	47	MK 4	364	215	221,51
12.430.4800	48	MK 4	369	220	221,51
12.430.4850	48.5	MK 4	369	220	221,51
12.430.4900	49	MK 4	369	220	221,51
12.430.4950	49.5	MK 4	369	220	221,51
12.430.5000	50	MK 4	369	220	208,18

› 12.440 Phantom

NL **HSS Spiraalboor MK**
FR **Foret HSS CM**
ES **Broca HSS CM**
DE **HSS Spiralbohrer MK**
EN **HSS Twist drill MT**



118° | DIN 228-B | DIN 345 | HSS | OX. | N | ≥14

P 11	P 12	P 13	M 21	K 31	K 32	N 42	N 51	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	INOX ≤850N/mm²	GG	GGG GTS-GTW	Alu Si>10%	Cu	PVC
25-27 F	22-30 F	15-20 E	8-12 D	15-20 E	25-30 E	45-50 G	25-40 D	22-28 D

Ref.	d1	d2	l1	l2	€
12.440.0375	3.75	MK 1	120	39	18,48
12.440.0500	5	MK 1	133	52	56,35
12.440.0550	5.5	MK 1	138	57	63,50
12.440.0600	6	MK 1	138	57	59,45
12.440.0625	6.25	MK 1	144	63	82,80
12.440.0650	6.5	MK 1	144	63	65,60
12.440.0675	6.75	MK 1	150	69	70,75
12.440.0700	7	MK 1	150	69	67,65
12.440.0725	7.25	MK 1	150	69	22,03
12.440.0750	7.5	MK 1	150	69	69,60
12.440.0775	7.75	MK 1	156	75	55,90
12.440.0800	8	MK 1	156	75	38,80
12.440.0825	8.25	MK 1	156	75	56,35
12.440.0850	8.5	MK 1	156	75	40,95
12.440.0875	8.75	MK 1	162	81	48,05
12.440.0900	9	MK 1	162	81	40,80
12.440.0925	9.25	MK 1	162	81	60,55
12.440.0950	9.5	MK 1	162	81	45,30
12.440.0975	9.75	MK 1	168	87	59,20
12.440.1000	10	MK 1	168	87	41,55
12.440.1025	10.25	MK 1	168	87	54,85

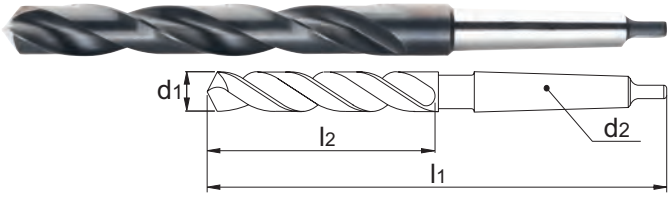
Ref.	d1	d2	l1	l2	€
12.440.1050	10.5	MK 1	168	87	33,65
12.440.1075	10.75	MK 1	175	94	55,00
12.440.1100	11	MK 1	175	94	41,60
12.440.1125	11.25	MK 1	175	94	62,30
12.440.1150	11.5	MK 1	175	94	50,65
12.440.1175	11.75	MK 1	175	94	55,35
12.440.1200	12	MK 1	182	101	43,75
12.440.1225	12.25	MK 1	182	101	54,50
12.440.1250	12.5	MK 1	182	101	37,50
12.440.1275	12.75	MK 1	182	101	52,40
12.440.1300	13	MK 1	182	101	41,30
12.440.1325	13.25	MK 1	189	108	51,65
12.440.1350	13.5	MK 1	189	108	46,20
12.440.1375	13.75	MK 1	189	108	49,25
12.440.1400	14	MK 1	189	108	44,15
12.440.1425	14.25	MK 2	212	114	57,95
12.440.1450	14.5	MK 2	212	114	50,90
12.440.1475	14.75	MK 2	212	114	61,80
12.440.1500	15	MK 2	212	114	50,90
12.440.1525	15.25	MK 2	218	120	57,25
12.440.1550	15.5	MK 2	218	120	54,05

Ref.	d1	d2	l1	l2	€
12.440.1575	15.75	MK 2	218	120	57,70
12.440.1600	16	MK 2	218	120	54,05
12.440.1625	16.25	MK 2	223	125	68,75
12.440.1650	16.5	MK 2	223	125	59,30
12.440.1675	16.75	MK 2	223	125	65,55
12.440.1700	17	MK 2	223	125	60,85
12.440.1725	17.25	MK 2	228	130	68,70
12.440.1750	17.5	MK 2	228	130	65,60
12.440.1775	17.75	MK 2	228	130	72,15
12.440.1800	18	MK 2	228	130	65,60
12.440.1825	18.25	MK 2	233	135	74,55
12.440.1850	18.5	MK 2	233	135	71,85
12.440.1875	18.75	MK 2	233	135	78,50
12.440.1900	19	MK 2	233	135	71,85
12.440.1925	19.25	MK 2	238	140	83,65
12.440.1950	19.5	MK 2	238	140	80,65
12.440.1975	19.75	MK 2	238	140	85,20
12.440.2000	20	MK 2	238	140	78,20
12.440.2025	20.25	MK 2	243	145	88,80
12.440.2050	20.5	MK 2	243	145	84,85
12.440.2075	20.75	MK 2	243	145	92,45

› 12.440 Phantom

Ref.	d1	d2	l1	l2	€
12.440.2100	21	MK 2	243	145	87,05
12.440.2125	21.25	MK 2	248	150	95,25
12.440.2150	21.5	MK 2	248	150	91,35
12.440.2175	21.75	MK 2	248	150	97,45
12.440.2200	22	MK 2	248	150	94,00
12.440.2225	22.25	MK 2	248	150	111,70
12.440.2250	22.5	MK 2	253	155	99,05
12.440.2275	22.75	MK 2	253	155	108,90
12.440.2300	23	MK 2	253	155	104,35
12.440.2325	23.25	MK 3	276	155	139,00
12.440.2350	23.5	MK 3	276	155	110,25
12.440.2375	23.75	MK 3	281	160	130,55
12.440.2400	24	MK 3	281	160	112,35
12.440.2425	24.25	MK 3	281	160	133,20
12.440.2450	24.5	MK 3	281	160	117,40
12.440.2475	24.75	MK 3	281	160	138,95
12.440.2500	25	MK 3	281	160	122,45
12.440.2525	25.25	MK 3	286	165	145,65
12.440.2550	25.5	MK 3	286	165	125,50
12.440.2575	25.75	MK 3	286	165	155,95
12.440.2600	26	MK 3	286	165	135,20
12.440.2625	26.25	MK 3	286	165	161,20
12.440.2650	26.5	MK 3	286	165	140,55
12.440.2675	26.75	MK 3	291	170	181,05
12.440.2700	27	MK 3	291	170	144,65
12.440.2725	27.25	MK 3	291	170	214,75
12.440.2750	27.5	MK 3	291	170	155,95
12.440.2775	27.75	MK 3	291	170	178,40
12.440.2800	28	MK 3	291	170	154,40
12.440.2825	28.25	MK 3	296	175	184,50
12.440.2850	28.5	MK 3	296	175	170,35
12.440.2875	28.75	MK 3	296	175	233,10
12.440.2900	29	MK 3	296	175	161,75
12.440.2925	29.25	MK 3	296	175	236,30
12.440.2950	29.5	MK 3	296	175	169,05
12.440.2975	29.75	MK 3	296	175	193,75
12.440.3000	30	MK 3	296	175	169,05
12.440.3025	30.25	MK 3	301	180	226,75
12.440.3050	30.5	MK 3	301	180	204,10
12.440.3075	30.75	MK 3	301	180	225,75
12.440.3100	31	MK 3	301	180	202,80
12.440.3125	31.25	MK 3	301	180	295,00
12.440.3150	31.5	MK 3	301	180	223,45
12.440.3200	32	MK 4	334	185	222,30
12.440.3250	32.5	MK 4	334	185	246,25
12.440.3300	33	MK 4	334	185	246,25
12.440.3350	33.5	MK 4	334	185	261,00
12.440.3400	34	MK 4	339	190	268,00
12.440.3450	34.5	MK 4	339	190	283,00
12.440.3500	35	MK 4	339	190	271,00
12.440.3550	35.5	MK 4	339	190	301,00
12.440.3600	36	MK 4	344	195	286,00
12.440.3650	36.5	MK 4	344	195	310,00
12.440.3700	37	MK 4	344	195	301,00
12.440.3750	37.5	MK 4	344	195	339,00
12.440.3800	38	MK 4	349	200	323,00
12.440.3850	38.5	MK 4	349	200	388,00
12.440.3900	39	MK 4	349	200	349,00
12.440.3950	39.5	MK 4	349	200	427,00
12.440.4000	40	MK 4	349	200	368,00
12.440.4050	40.5	MK 4	354	205	557,00
12.440.4100	41	MK 4	354	205	426,00
12.440.4150	41.5	MK 4	354	205	592,00
12.440.4200	42	MK 4	354	205	423,00
12.440.4250	42.5	MK 4	354	205	616,00
12.440.4300	43	MK 4	359	210	509,00
12.440.4350	43.5	MK 4	359	210	639,00
12.440.4400	44	MK 4	359	210	520,00
12.440.4450	44.5	MK 4	359	210	672,00
12.440.4500	45	MK 4	359	210	524,00
12.440.4550	45.5	MK 4	364	215	726,00
12.440.4600	46	MK 4	364	215	567,00
12.440.4650	46.5	MK 4	364	215	720,00
12.440.4700	47	MK 4	364	215	595,00
12.440.4750	47.5	MK 4	364	215	724,00
12.440.4800	48	MK 4	369	220	607,00
12.440.4850	48.5	MK 4	369	220	752,00
12.440.4900	49	MK 4	369	220	646,00
12.440.4950	49.5	MK 4	369	220	793,00
12.440.5000	50	MK 4	369	220	640,00
12.440.5100	51	MK 5	412	225	1.183,00
12.440.5200	52	MK 5	412	225	1.162,00
12.440.5300	53	MK 5	412	225	1.443,00
12.440.5400	54	MK 5	417	230	1.333,00
12.440.5500	55	MK 5	417	230	1.271,00
12.440.5600	56	MK 5	417	230	1.523,00
12.440.5700	57	MK 5	422	235	1.582,00
12.440.5800	58	MK 5	422	235	1.387,00
12.440.5900	59	MK 5	422	235	1.527,00
12.440.6000	60	MK 5	422	235	1.399,00

› 12.500 Phantom



NL HSS-E Spiraalboor MK
FR Foret HSS-E CM
ES Broca HSS-E CM
DE HSS-E Spiralbohrer MK
EN HSS-E Twist drill MT

118° | DIN 228-B | DIN 345 | HSS-E | OX. | N

P 11	P 12	P 13	P 14	M 21	M 22	K 31	K 32	N 51	N 52
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Cu	CuAlFe
28-35 E	30-36 E	20-27 E	12-20 D	14-18 D	10-15 C	30-35 F	24-30 F	30-40 E	8-15 C

Ref.	d1	d2	l1	l2	€
12.500.0700	7	MK 1	150	69	64,30
12.500.0800	8	MK 1	156	75	59,35
12.500.0900	9	MK 1	162	81	60,55
12.500.1000	10	MK 1	168	87	59,20
12.500.1100	11	MK 1	175	94	63,15
12.500.1200	12	MK 1	182	101	62,60
12.500.1250	12.5	MK 1	182	101	66,05
12.500.1300	13	MK 1	182	101	66,35
12.500.1350	13.5	MK 1	189	108	77,65
12.500.1400	14	MK 1	189	108	73,45
12.500.1450	14.5	MK 2	212	114	87,40
12.500.1500	15	MK 2	212	114	88,05
12.500.1550	15.5	MK 2	218	120	96,00
12.500.1600	16	MK 2	218	120	88,60
12.500.1650	16.5	MK 2	223	125	95,80
12.500.1700	17	MK 2	223	125	91,35
12.500.1750	17.5	MK 2	228	130	98,35
12.500.1800	18	MK 2	228	130	95,25
12.500.1850	18.5	MK 2	233	135	108,10
12.500.1900	19	MK 2	233	135	107,00
12.500.1950	19.5	MK 2	238	140	129,15
12.500.2000	20	MK 2	238	140	112,15
12.500.2050	20.5	MK 2	243	145	124,25
12.500.2100	21	MK 2	243	145	115,40
12.500.2150	21.5	MK 2	248	150	132,35
12.500.2200	22	MK 2	248	150	132,25
12.500.2250	22.5	MK 2	253	155	157,85
12.500.2300	23	MK 2	253	155	146,50
12.500.2350	23.5	MK 3	276	155	183,15
12.500.2400	24	MK 3	281	160	161,00
12.500.2450	24.5	MK 3	281	160	177,00
12.500.2500	25	MK 3	281	160	167,25
12.500.2550	25.5	MK 3	286	165	202,35
12.500.2600	26	MK 3	286	165	183,80
12.500.2650	26.5	MK 3	286	165	188,40
12.500.2700	27	MK 3	291	170	192,65
12.500.2750	27.5	MK 3	291	170	224,80
12.500.2800	28	MK 3	291	170	224,35
12.500.2850	28.5	MK 3	296	175	217,05
12.500.2900	29	MK 3	296	175	206,85
12.500.2950	29.5	MK 3	296	175	223,35
12.500.3000	30	MK 3	296	175	195,55
12.500.3100	31	MK 3	301	180	271,00
12.500.3200	32	MK 4	334	185	264,00
12.500.3300	33	MK 4	334	185	275,00
12.500.3400	34	MK 4	339	190	315,00
12.500.3500	35	MK 4	339	190	333,00
12.500.3600	36	MK 4	344	195	363,00
12.500.3700	37	MK 4	344	195	366,00
12.500.3800	38	MK 4	349	200	396,00
12.500.3900	39	MK 4	349	200	444,00
12.500.4000	40	MK 4	349	200	430,00



NL Productvergelijker op phantom.eu
FR Comparateur de produits sur Phantom.eu
ES Comparador de productos en phantom.eu
DE Produktvergleich auf phantom.eu
EN Product comparator on phantom.eu

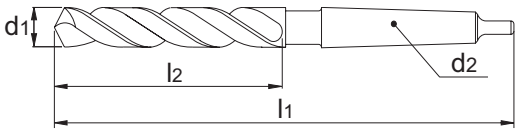
Watch me

www.phantom.eu

› 12.900 Phantom



NL **HSS Spiraalboor MK**
FR **Foret HSS CM**
ES **Broca HSS CM**
DE **HSS Spiralbohrer MK**
EN **HSS Twist drill MT**



118° | DIN 1870 | DIN 228-B | HSS | OX. | N

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 F | 22-30 F | 15-20 E | 8-12 D | 15-20 E | 25-30 E | 45-50 G | 25-40 D | 22-28 D

Ref.	d1	d2	l1	l2	€
12.900.1001	10	MK 1	285	185	105,20
12.900.1003	10	MK 1	360	235	147,05
12.900.1051	10.5	MK 1	285	185	109,95
12.900.1053	10.5	MK 1	360	235	184,70
12.900.1101	11	MK 1	300	195	117,15
12.900.1103	11	MK 1	375	250	241,30
12.900.1151	11.5	MK 1	300	195	126,45
12.900.1201	12	MK 1	310	205	118,50
12.900.1203	12	MK 1	395	260	223,50
12.900.1251	12.5	MK 1	310	205	126,85
12.900.1253	12.5	MK 1	395	260	224,05
12.900.1301	13	MK 1	310	205	122,60
12.900.1303	13	MK 1	395	260	208,05
12.900.1351	13.5	MK 1	325	220	144,05
12.900.1353	13.5	MK 1	410	275	259,00
12.900.1401	14	MK 1	325	220	132,40
12.900.1403	14	MK 1	410	275	212,25
12.900.1451	14.5	MK 2	340	220	142,70
12.900.1453	14.5	MK 2	425	275	282,00
12.900.1501	15	MK 2	340	220	148,00
12.900.1503	15	MK 2	425	275	232,90
12.900.1551	15.5	MK 2	355	230	156,35
12.900.1553	15.5	MK 2	445	295	295,00
12.900.1601	16	MK 2	355	230	154,30

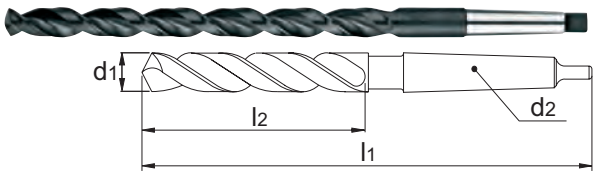
Ref.	d1	d2	l1	l2	€
12.900.1603	16	MK 2	445	295	251,00
12.900.1651	16.5	MK 2	355	230	154,30
12.900.1653	16.5	MK 2	445	295	354,00
12.900.1701	17	MK 2	355	230	173,30
12.900.1703	17	MK 2	445	295	298,00
12.900.1751	17.5	MK 2	370	245	186,85
12.900.1753	17.5	MK 2	465	310	353,00
12.900.1801	18	MK 2	370	245	181,90
12.900.1803	18	MK 2	465	310	300,00
12.900.1851	18.5	MK 2	370	245	186,95
12.900.1853	18.5	MK 2	465	310	394,00
12.900.1901	19	MK 2	370	245	193,40
12.900.1903	19	MK 2	465	310	303,00
12.900.1951	19.5	MK 2	385	260	215,40
12.900.1953	19.5	MK 2	490	325	401,00
12.900.2001	20	MK 2	385	260	216,55
12.900.2003	20	MK 2	490	325	315,00
12.900.2051	20.5	MK 2	385	260	274,00
12.900.2053	20.5	MK 2	490	325	477,00
12.900.2101	21	MK 2	385	260	254,00
12.900.2103	21	MK 2	490	325	386,00
12.900.2201	22	MK 2	405	270	275,00
12.900.2203	22	MK 2	515	345	491,00
12.900.2301	23	MK 2	405	270	309,00

Ref.	d1	d2	l1	l2	€
12.900.2303	23	MK 2	515	345	492,00
12.900.2401	24	MK 3	440	290	340,00
12.900.2403	24	MK 3	555	365	697,00
12.900.2501	25	MK 3	440	290	348,00
12.900.2503	25	MK 3	555	365	725,00
12.900.2601	26	MK 3	440	290	375,00
12.900.2603	26	MK 3	555	365	723,00
12.900.2701	27	MK 3	460	305	444,00
12.900.2801	28	MK 3	460	305	444,00
12.900.2803	28	MK 3	580	385	835,00
12.900.2901	29	MK 3	460	305	507,00
12.900.3001	30	MK 3	460	305	474,00
12.900.3003	30	MK 3	580	385	715,00
12.900.3201	32	MK 4	505	320	622,00
12.900.3203	32	MK 4	635	410	1.012,00
12.900.3501	35	MK 4	530	340	687,00
12.900.3801	38	MK 4	555	360	793,00
12.900.4001	40	MK 4	555	360	857,00
12.900.4003	40	MK 4	695	460	1.228,00
12.900.4201	42	MK 4	555	360	1.100,00
12.900.4501	45	MK 4	585	385	1.363,00
12.900.4503	45	MK 4	735	490	1.607,00
12.900.5001	50	MK 4	605	405	1.586,00

› 12.910 Phantom



NL **HSS Spiraalboor, XXL type TS, MK**
FR **Foret, XXL HSS type TS, CM**
ES **Broca, XXL HSS tipo TS, CM**
DE **HSS Spiralbohrer, XXL Typ TS, MK**
EN **HSS Twist drill, XXL type TS, MT**



130° | DIN 228-B | HSS | NORM | OX. | TS | NIT. >ø 16,0

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 E | 22-30 E | 15-20 D | 8-12 C | 15-20 D | 25-30 D | 45-50 F | 25-40 D | 22-28 C

Ref.	d1	d2	l1	l2	€
12.910.1005	10	MK 1	500	420	226,55
12.910.1205	12	MK 1	500	420	221,20
12.910.1405	14	MK 1	500	420	322,00
12.910.1407	14	MK 1	650	500	453,00
12.910.1505	15	MK 2	600	475	490,00
12.910.1507	15	MK 2	750	650	612,00
12.910.1605	16	MK 2	600	500	511,00
12.910.1705	17	MK 2	600	500	590,00
12.910.1805	18	MK 2	600	500	581,00
12.910.1905	19	MK 2	600	500	573,00
12.910.2005	20	MK 2	600	500	590,00

Ref.	d1	d2	l1	l2	€
12.910.2105	21	MK 2	600	500	661,00
12.910.2205	22	MK 2	600	500	698,00
12.910.2305	23	MK 2	600	500	723,00
12.910.2405	24	MK 3	600	475	722,00
12.910.2505	25	MK 3	600	475	780,00
12.910.2605	26	MK 3	600	475	890,00
12.910.2805	28	MK 3	600	475	919,00
12.910.3005	30	MK 3	600	475	834,00
12.910.3503	35	MK 4	600	450	912,00
12.910.3803	38	MK 4	600	450	1.048,00

› 13.740 Phantom



NL HM-tip Hamerboor, SDS-PLUS met 2 snijkanten
FR Foret Béton, SDS-PLUS à plaquette carbure à 2 taillants
ES Broca martillo, SDS-PLUS con punta MD con 2 labios
DE Hartmetallbestückt Hammerbohrer, SDS-PLUS mit 2 Schneiden
EN Carbide Tipped Hammer Drill, SDS-PLUS with 2 flutes

Z=2 | HM | SDS plus

Ref.	d1	l1	l2	€
13.740.0411	4	110	50	6,14
13.740.0511	5	110	50	4,66
13.740.0516	5	160	100	5,39
13.740.0551	5.5	110	50	5,07
13.740.0552	5.5	160	100	5,92
13.740.0611	6	110	50	4,76
13.740.0616	6	160	100	5,30
13.740.0621	6	210	150	7,15
13.740.0626	6	260	200	10,90
13.740.0631	6	310	250	14,90
13.740.0651	6.5	110	50	5,38
13.740.0652	6.5	160	100	6,25
13.740.0711	7	110	50	6,48
13.740.0716	7	160	100	7,13
13.740.0721	7	210	150	8,80
13.740.0811	8	110	50	5,34
13.740.0816	8	160	100	5,80
13.740.0821	8	210	150	7,43
13.740.0826	8	260	200	9,58
13.740.0831	8	310	250	14,12
13.740.0846	8	450	400	17,49
13.740.0916	9	160	100	8,60
13.740.0921	9	210	150	9,04
13.740.1011	10	110	50	6,42
13.740.1016	10	160	100	6,69

Ref.	d1	l1	l2	€
13.740.1021	10	210	150	7,98
13.740.1026	10	260	200	10,69
13.740.1031	10	310	250	14,34
13.740.1046	10	450	400	20,01
13.740.1116	11	160	100	9,53
13.740.1216	12	160	100	8,35
13.740.1221	12	210	150	10,73
13.740.1226	12	260	200	12,69
13.740.1231	12	310	250	17,37
13.740.1246	12	450	400	20,86
13.740.1316	13	160	100	11,38
13.740.1326	13	260	200	16,26
13.740.1346	13	450	400	24,99
13.740.1416	14	160	100	11,20
13.740.1421	14	210	150	12,49
13.740.1426	14	260	200	14,83
13.740.1431	14	310	250	18,56
13.740.1446	14	450	400	22,94
13.740.1516	15	160	100	15,41
13.740.1521	15	210	150	18,40
13.740.1526	15	260	200	19,01
13.740.1546	15	450	400	30,60
13.740.1616	16	160	100	14,73
13.740.1621	16	210	150	15,88
13.740.1626	16	260	200	22,20

Ref.	d1	l1	l2	€
13.740.1631	16	310	250	24,68
13.740.1646	16	450	400	32,25
13.740.1660	16	600	550	36,80
13.740.1690	16	1000	950	102,20
13.740.1821	18	210	150	22,25
13.740.1826	18	260	200	26,50
13.740.1831	18	310	250	34,70
13.740.1846	18	450	400	34,95
13.740.1860	18	600	550	42,35
13.740.1890	18	1000	950	109,70
13.740.2021	20	210	150	28,75
13.740.2026	20	260	200	29,50
13.740.2031	20	310	250	37,55
13.740.2046	20	450	400	41,40
13.740.2090	20	1000	950	135,45
13.740.2226	22	260	200	44,20
13.740.2231	22	310	250	42,05
13.740.2246	22	450	400	48,40
13.740.2426	24	260	200	52,40
13.740.2446	24	450	400	61,70
13.740.2526	25	260	200	55,00
13.740.2531	25	310	250	60,45
13.740.2546	25	450	400	65,30
13.740.2590	25	1000	950	168,65

› 13.744 Phantom



NL HM-tip Hamerboor, SDS-PLUS met 4 snijkanten
FR Foret Béton, SDS-PLUS à plaquette carbure à 4 taillants
ES Broca martillo, SDS-PLUS con punta MD con 4 labios
DE Hartmetallbestückt Hammerbohrer, SDS-PLUS mit 4 Schneiden
EN Carbide Tipped Hammer Drill, SDS-PLUS with 4 flutes

Z=4 | HM | SDS plus

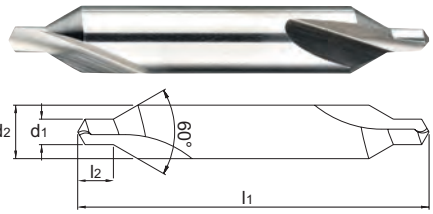
Ref.	d1	l1	l2	€
13.744.0511	5	110	50	10,80
13.744.0516	5	160	100	11,57
13.744.0552	5.5	160	100	11,23
13.744.0611	6	110	50	10,60
13.744.0616	6	160	100	11,26
13.744.0621	6	210	150	14,56
13.744.0626	6	260	200	19,27
13.744.0631	6	310	250	27,55
13.744.0652	6.5	160	100	13,74
13.744.0716	7	160	100	14,16
13.744.0811	8	110	50	11,86
13.744.0816	8	160	100	12,69
13.744.0821	8	210	150	14,56
13.744.0826	8	260	200	17,09
13.744.0831	8	310	250	28,85
13.744.0846	8	450	400	41,40
13.744.0916	9	160	100	15,52

Ref.	d1	l1	l2	€
13.744.1011	10	110	50	13,01
13.744.1016	10	160	100	14,07
13.744.1021	10	210	150	16,22
13.744.1026	10	260	200	18,85
13.744.1031	10	310	250	29,65
13.744.1046	10	450	400	45,95
13.744.1216	12	160	100	16,04
13.744.1221	12	210	150	19,23
13.744.1226	12	260	200	22,06
13.744.1231	12	310	250	34,25
13.744.1246	12	450	400	49,90
13.744.1416	14	160	100	23,25
13.744.1421	14	210	150	29,05
13.744.1426	14	260	200	34,95
13.744.1431	14	310	250	39,40
13.744.1446	14	450	400	52,35
13.744.1516	15	160	100	37,80

Ref.	d1	l1	l2	€
13.744.1526	15	260	200	46,40
13.744.1616	16	160	100	36,90
13.744.1621	16	210	150	41,30
13.744.1626	16	260	200	53,35
13.744.1631	16	310	250	55,00
13.744.1646	16	450	400	66,95
13.744.1660	16	600	550	105,25
13.744.1690	16	1000	950	195,65
13.744.1825	18	250	200	63,60
13.744.1846	18	450	400	74,10
13.744.2025	20	250	200	70,00
13.744.2046	20	450	400	84,10
13.744.2225	22	250	200	80,90
13.744.2246	22	450	400	99,70
13.744.2426	24	250	200	106,70
13.744.2525	25	250	200	94,00
13.744.2546	25	450	400	118,90

› 15.095 International Tools

NL **ECO PRO HSS Centerboor 60°**
FR **Foret à centrer HSS ECO PRO 60°**
ES **Broca escalonada HSS ECO PRO 60°**
DE **ECO PRO HSS Zentrierbohrer 60°**
EN **ECO PRO HSS Centre Drill 60°**



60° | DIN 333-A | HSS | NFE 66051-A | ECO PRO | h7

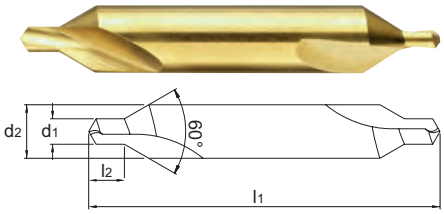
P 11	P 12	P 13	K 31	K 32	N 41	N 42	N 43	N 51	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Mg	Cu	PVC
20-25 E	15-25 E	16-22 F	25-30 E	20-25 D	50-60 E	60-70 E	45-50 E	25-40 E	18-28 E

Ref.	d1	d2	l1	l2	€
15.095.1031	1	3.15	31	1,3-1,7	3,90
15.095.1040	1	4	35	1,3-1,7	4,13
15.095.1231	1.25	3.15	31	1,6-2,0	3,90
15.095.1550	1.5	5	40	2,0-2,6	4,41
15.095.1640	1.6	4	35	2,0-2,6	4,13
15.095.2050	2	5	40	2,5-3,1	4,41
15.095.2060	2	6	45	2,5-3,1	4,82
15.095.2563	2.5	6.3	45	3,1-3,8	5,39
15.095.2580	2.5	8	50	3,1-3,8	6,88

Ref.	d1	d2	l1	l2	€
15.095.3090	3	10	55	3,9-4,6	11,08
15.095.3180	3.15	8	50	3,9-4,6	6,39
15.095.3190	3.15	10	55	3,9-4,6	11,08
15.095.4010	4	10	55	5,0-5,9	8,96
15.095.4012	4	12	63	5,0-5,9	14,06
15.095.5013	5	12.5	63	6,3-7,2	14,06
15.095.6316	6.3	16	71	8,0-8,9	24,31
15.095.8020	8	20	80	10,1-11,1	37,65
15.095.9025	10	25	100	12,8-13,8	76,05

› 15.096 International Tools

NL **ECO PRO HSS Centerboor TiN, 60°**
FR **Foret à centrer HSS ECO PRO TiN, 60°**
ES **Broca escalonada HSS ECO PRO TiN, 60°**
DE **ECO PRO HSS Zentrierbohrer TiN, 60°**
EN **ECO PRO HSS Centre Drill TiN, 60°**



60° | DIN 333-A | HSS | NFE 66051-A | TiN | ECO PRO | h7

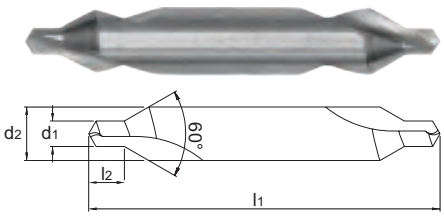
P 11	P 12	P 13	K 31	K 32	N 41	N 42	N 43	N 51	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Mg	Cu	PVC
20-25 E	15-25 E	16-22 F	25-30 E	20-25 D	50-60 E	60-70 E	45-50 E	25-40 E	18-28 E

Ref.	d1	d2	l1	l2	€
15.096.1040	1	4	35	1,3-1,7	6,71
15.096.1640	1.6	4	35	2,0-2,6	6,71
15.096.2050	2	5	40	2,5-3,1	7,37
15.096.2563	2.5	6.3	45	3,1-3,8	8,04

Ref.	d1	d2	l1	l2	€
15.096.3180	3.15	8	50	3,9-4,6	9,38
15.096.4010	4	10	55	5,0-5,9	14,91
15.096.5013	5	12.5	63	6,3-7,2	19,17

› 15.100 Phantom

NL **HSS Centerboor 60°**
FR **Foret à centrer HSS 60°**
ES **Broca escalonada HSS 60°**
DE **HSS Zentrierbohrer 60°**
EN **HSS Centre Drill 60°**



60° | DIN 333-A | HSS | NFE 66051-A | h7

P 11	P 12	P 13	K 31	K 32	N 41	N 42	N 43	N 51	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Mg	Cu	PVC
20-25 E	15-25 E	16-22 F	25-30 E	20-25 D	50-60 E	60-70 E	45-50 E	25-40 E	18-28 E

Ref.	d1	d2	l1	l2	€
15.100.0531	0.5	3.15	25	0,6-0,9	8,58
15.100.0735	0.75	3.5	35	1,0-1,3	11,46
15.100.0831	0.8	3.15	25	1,0-1,3	8,58
15.100.1031	1	3.15	31	1,3-1,7	8,58
15.100.1040	1	4	35	1,3-1,7	10,16
15.100.1231	1.25	3.15	31	1,6-2,0	8,58
15.100.1240	1.25	4	35	1,6-2,0	10,38
15.100.1550	1.5	5	40	2,0-2,6	10,78
15.100.1640	1.6	4	35	2,0-2,6	8,58
15.100.1650	1.6	5	40	2,0-2,6	11,46
15.100.2050	2	5	40	2,5-3,1	10,04
15.100.2060	2	6	45	2,5-3,1	11,96
15.100.2063	2	6.3	45	2,5-3,1	12,52
15.100.2563	2.5	6.3	45	3,1-3,8	11,96

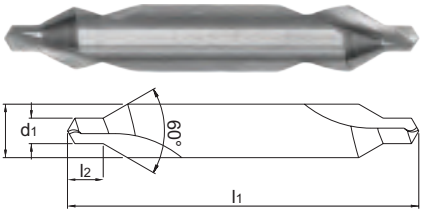
Ref.	d1	d2	l1	l2	€
15.100.2580	2.5	8	50	3,1-3,8	13,48
15.100.3090	3	10	55	3,9-4,6	16,97
15.100.3180	3.15	8	50	3,9-4,6	13,48
15.100.3190	3.15	10	55	3,9-4,6	17,44
15.100.3590	3.5	10	55	4,0-4,5	35,30
15.100.4010	4	10	55	5,0-5,9	15,69
15.100.4012	4	12	63	5,0-5,9	28,85
15.100.4013	4	12.5	63	5,0-5,9	29,60
15.100.5013	5	12.5	63	6,3-7,2	24,99
15.100.5014	5	14	69	6,3-7,2	36,30
15.100.5016	5	16	71	6,3-7,2	42,25
15.100.6018	6	18	77	8,0-8,9	57,60
15.100.6316	6.3	16	71	8,0-8,9	40,70
15.100.6320	6.3	20	80	8,0-8,9	82,40

› 15.100 Phantom

Ref.	d1	d2	l1	l2	€
15.100.8020	8	20	80	10,1-11,1	72,85
15.100.9025	10	25	100	12,8-13,8	135,75

Ref.	d1	d2	l1	l2	€
15.100.9531	12.5	31.5	125	16,5-17,5	314,00

› 15.120 Phantom



NL **HSS-E Centerboor 60°**
FR **Foret à centrer HSS-E 60°**
ES **Broca escalonada HSS-E 60°**
DE **HSS-E Zentrierbohrer 60°**
EN **HSS-E Centre Drill 60°**

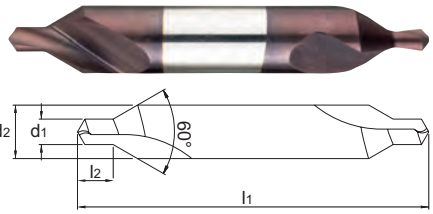
60° | DIN 333-A | HSS-E | NFE 66051-A | h7

P 11	P 12	P 13	M 21	M 22	K 31	K 32	N 41	N 42	N 51	N 52	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu	CuAlFe	PVC
25-30 E	20-40 E	16-22 F	8-10 D	6-8 C	25-30 E	20-25 D	60-70 E	50-80 E	30-40 E	10-15 D	18-21 E

Ref.	d1	d2	l1	l2	€
15.120.0735	0.75	3.5	35	1,0-1,3	12,92
15.120.0831	0.8	3.15	25	1,0-1,3	12,92
15.120.1040	1	4	35	1,3-1,7	12,92
15.120.1231	1.25	3.15	31	1,6-2,0	13,99
15.120.1550	1.5	5	40	2,0-2,6	13,20
15.120.1640	1.6	4	35	2,0-2,6	13,99
15.120.2050	2	5	40	2,5-3,1	15,40
15.120.2060	2	6	45	2,5-3,1	15,12

Ref.	d1	d2	l1	l2	€
15.120.2563	2.5	6.3	45	3,1-3,8	17,44
15.120.2580	2.5	8	50	3,1-3,8	17,22
15.120.3090	3	10	55	3,9-4,6	24,27
15.120.3180	3.15	8	50	3,9-4,6	19,57
15.120.4010	4	10	55	5,0-5,9	22,17
15.120.4012	4	12	63	5,0-5,9	39,60
15.120.5013	5	12.5	63	6,3-7,2	39,60
15.120.5014	5	14	69	6,3-7,2	51,80

› 15.124 Phantom



NL **HSS-E Centerboor TiAlN, 60°**
FR **Foret à centrer HSS-E TiAlN, 60°**
ES **Broca escalonada HSS-E TiAlN, 60°**
DE **HSS-E Zentrierbohrer TiAlN, 60°**
EN **HSS-E Centre Drill TiAlN, 60°**

60° | DIN 333-A | HSS-E | NFE 66051-A | TiAlN | h7

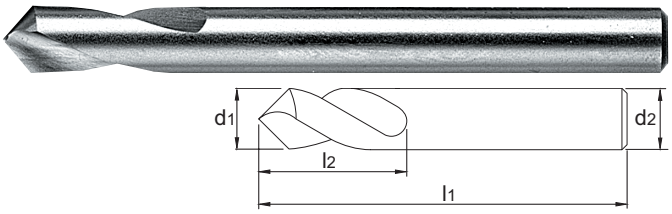
P 11	P 12	P 13	M 21	M 22	K 31	K 32	N 42	N 43	N 51	N 52	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Alu Si>10%	Mg	Cu	CuAlFe	PVC
35-45 E	25-45 E	20-25 F	10-20 D	10-15 C	40-45 E	30-40 D	75-100 E	60-80 E	40-45 D	20-25 D	18-21 E

Ref.	d1	d2	l1	l2	€
15.124.0531	0.5	3.15	25	0,6-0,9	19,19
15.124.0831	0.8	3.15	25	1,0-1,3	19,19
15.124.1031	1	3.15	31	1,3-1,7	22,20
15.124.1040	1	4	35	1,3-1,7	22,53
15.124.1231	1.25	3.15	31	1,6-2,0	22,20
15.124.1550	1.5	5	40	2,0-2,6	25,50
15.124.1640	1.6	4	35	2,0-2,6	22,53
15.124.2050	2	5	40	2,5-3,1	25,50
15.124.2060	2	6	45	2,5-3,1	28,75

Ref.	d1	d2	l1	l2	€
15.124.2563	2.5	6.3	45	3,1-3,8	28,75
15.124.2580	2.5	8	50	3,1-3,8	34,40
15.124.3090	3	10	55	3,9-4,6	42,05
15.124.3180	3.15	8	50	3,9-4,6	34,40
15.124.4010	4	10	55	5,0-5,9	42,05
15.124.4012	4	12	63	5,0-5,9	61,60
15.124.5013	5	12.5	63	6,3-7,2	61,60
15.124.6316	6.3	16	71	8,0-8,9	86,75
15.124.8020	8	20	80	10,1-11,1	157,35

› 15.600 Phantom

NL **HSS-E NC-Centreerboor 90°**
FR **Foret à pointer NC HSS-E 90°**
ES **Broca de puntear NC HSS-E 90°**
DE **HSS-E NC Anbohrer 90°**
EN **HSS-E NC Spotting Drill 90°**



90° | h6 | HSS-E | ISO 10898

P 11	P 12	P 13	M 21	M 22	K 31	K 32	N 41	N 42	N 43	N 51	N 52	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Mg	Cu	CuAlFe	PVC
25-30 E	20-40 E	16-22 F	8-10 D	6-8 C	25-30 E	20-25 D	60-70 E	50-80 E	45-50 E	30-40 E	10-15 D	18-28 E

Ref.	d1	d2	l1	l2	€
15.600.0200	2	2	49	8	17,14
15.600.0300	3	3	50	10	13,93
15.600.0400	4	4	52	12	13,93
15.600.0500	5	5	60	15	15,12
15.600.0600	6	6	66	20	19,30

Ref.	d1	d2	l1	l2	€
15.600.0800	8	8	79	25	21,49
15.600.1000	10	10	89	25	28,55
15.600.1200	12	12	102	30	35,65
15.600.1400	14	14	115	35	51,45
15.600.1600	16	16	115	35	59,40

Ref.	d1	d2	l1	l2	€
15.600.1800	18	18	130	40	85,55
15.600.2000	20	20	131	40	90,10
15.600.2500	25	25	138	45	151,50



NL Verschil tussen centerboor en centreerboor
FR La différence entre un foret à centrer et un foret à pointer
ES Diferencia entre broca de centrar y broca de puntear
DE Unterschied zwischen Zentrierbohrer und Anbohrer
EN The difference between centre drills and spot drills

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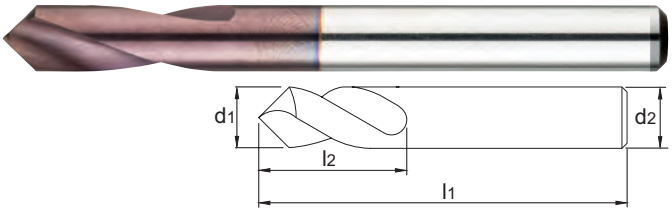
› 15.604 Phantom

NL **HSS-E NC-Centreerboor TiAlN, 90°**
FR **Foret à pointer NC HSS-E TiAlN, 90°**
ES **Broca de puntear NC HSS-E TiAlN, 90°**
DE **HSS-E NC Anbohrer TiAlN, 90°**
EN **HSS-E NC Spotting Drill TiAlN, 90°**



90° | h6 | HSS-E | TiAlN | ISO 10898

P 11	P 12	P 13	M 21	M 22	K 31	K 32	N 42	N 43	N 51	N 52
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Alu Si>10%	Mg	Cu	CuAlFe
35-45 E	25-45 E	20-25 F	10-20 D	10-15 C	40-45 E	30-40 D	75-100 E	60-80 E	40-45 D	20-25 D

Ref.	d1	d2	l1	l2	€
15.604.0300	3	3	50	10	18,57
15.604.0400	4	4	52	12	20,15
15.604.0500	5	5	60	15	22,11
15.604.0600	6	6	66	20	28,50

Ref.	d1	d2	l1	l2	€
15.604.0800	8	8	79	25	32,65
15.604.1000	10	10	89	25	43,25
15.604.1200	12	12	102	30	55,05
15.604.1600	16	16	115	35	85,25

Ref.	d1	d2	l1	l2	€
15.604.1800	18	18	130	40	120,50
15.604.2000	20	20	131	40	137,10
15.604.2500	25	25	138	45	202,80

› 19.120 International Tools

NL **ECO HSS Set Spiraalboren**
FR **Coffret de Forets HSS ECO**
ES **Estuche de brocas HSS ECO**
DE **ECO HSS Satz Spiralbohrer**
EN **ECO HSS Drill set**





118° | DIN 338 | HSS | N | ECO

P 11	P 12	P 13	K 31	K 32	N 41	N 42	N 51	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu	PVC
25-27 F	22-30 F	15-20 E	15-20 E	25-30 E	45-50 E	35-40 G	25-40 D	22-28 D

Ref.	Type	Ø mm	€
19.120.1000	11.416	1-10 mm x 0,5 mm	40,00
19.120.1300	11.416	1-13 mm x 0,5 mm	75,00

Ref.	Type	Ø mm	€
19.120.6000	11.416	1-10 mm x 0,5 mm (170x)	238,00

› 19.124 International Tools

NL **ECO PRO HSS Set Spiraalboren**
FR **Coffret de Forets HSS ECO PRO**
ES **Estuche de brocas HSS ECO PRO**
DE **ECO PRO HSS Satz Spiralbohrer**
EN **ECO PRO HSS Drill set**





118° | DIN 338 | HSS | N | ECO PRO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 F | 22-30 F | 15-20 E | 15-20 E | 25-30 E | 45-50 E | 35-40 G | 25-40 D | 22-28 D

Ref.	Type	Ø mm	€
19.124.1000	11.420	1-10 mm x 0,5 mm	59,00
19.124.1010	11.420	1-10 mm x 0,1 mm (91x)	303,00
19.124.1300	11.420	1-13 mm x 0,5 mm	123,00

Ref.	Type	Ø mm	€
19.124.6000	11.420	1-10 mm x 0,5 mm (170x)	377,00
19.124.6100	11.420	1-13 mm x 0,5 mm + 3,3 - 4,2 mm (220x)	696,00

› 19.127 International Tools

NL **ECO HSS Set Spiraalboren Kruisaanslijping, blank**
FR **Coffret de Forets HSS ECO Affûtage en croix, finition polie**
ES **Estuche de brocas HSS ECO Afilado en cruz, blanca**
DE **ECO HSS Satz Spiralbohrer Kreuzanschliff, blank**
EN **ECO HSS Drill set Split point, bright finish**



118° | DIN 338 | HSS | N | ≥3 | ECO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 F | 22-30 F | 15-20 E | 15-20 E | 25-30 E | 35-40 G | 25-40 D | 22-28 D

Ref.	Type	Ø mm	€
19.127.1000	11.423	1-10 mm x 0,5 mm	43,00

Ref.	Type	Ø mm	€
19.127.1300	11.423	1-13 mm x 0,5 mm	82,00

› 19.130 International Tools

NL **ECO HSS Set Spiraalboren Kruisaanslijping**
FR **Coffret de Forets HSS ECO Affûtage en croix**
ES **Estuche de brocas HSS ECO Afilado en cruz**
DE **ECO HSS Satz Spiralbohrer Kreuzanschliff**
EN **ECO HSS Drill set Split point**





118° | DIN 338 | HSS | N | ≥3 | ECO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 F | 22-30 F | 15-20 E | 15-20 E | 25-30 E | 35-40 G | 25-40 D | 22-28 D

Ref.	Type	Ø mm	€
19.130.1000	11.426	1-10 mm x 0,5 mm	43,00
19.130.1300	11.426	1-13 mm x 0,5 mm	82,00

Ref.	Type	Ø mm	€
19.130.6000	11.426	1-10 mm x 0,5 mm (170x)	263,00

› 19.134 International Tools

NL **ECO PRO HSS Set Spiraalboren Kruisaanslijping**
FR **Coffret de Forets HSS ECO PRO Affûtage en croix**
ES **Estuche de brocas HSS ECO PRO Afilado en cruz**
DE **ECO PRO HSS Satz Spiralbohrer Kreuzanschliff**
EN **ECO PRO HSS Drill set Split point**



118° | DIN 338 | HSS | N | ≥3 | ECO PRO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 F | 22-30 F | 15-20 E | 15-20 E | 25-30 E | 35-40 G | 25-40 D | 22-28 D

Ref.	Type	Ø mm	€
19.134.1000	11.430	1-10 mm x 0,5 mm	66,00
19.134.1300	11.430	1-13 mm x 0,5 mm	128,00

Ref.	Type	Ø mm	€
19.134.6000	11.430	1-10 mm x 0,5 mm (170x)	436,00
19.134.6100	11.430	1-13 mm x 0,5 mm + 3,3 - 4,2 mm (220x)	759,00

› 19.135 International Tools

NL **ECO PRO HSS Set Spiraalboren Step-point, TiN-tip, met drievlaks schacht**
FR **Coffret de Forets HSS ECO PRO Step-point, avec revêtement TiN sur la partie utile, queue à trois méplats**
ES **Estuche de brocas HSS ECO PRO Step-point, con punta TiN, con 3 chaflanes**
DE **ECO PRO HSS Satz Spiralbohrer Step-point, TiN-Tip, 3-Flächen-Schaft**
EN **ECO PRO HSS Drill set Step-point, TiN coated tip, with 3 flat surfaces**



118° | DIN 338 | HSS | TiN | N | ≥3 | ECO PRO | ≥3 | ≥3

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 F | 22-30 F | 15-20 E | 8-12 D | 15-20 E | 25-30 E | 45-50 G | 25-40 D | 22-28 D

Ref.	Type	Ø mm	€
19.135.0310	11.434	3-10 mm x 1 mm	44,00
19.135.1000	11.434	1-10 mm x 0,5 mm	86,00

Ref.	Type	Ø mm	€
19.135.1300	11.434	1-13 mm x 0,5 mm	171,00

› 19.136 International Tools

NL **ECO PRO HSS Set Spiraalboren TiN-tip**
FR **Coffret de Forets HSS ECO PRO avec revêtement TiN sur la partie utile**
ES **Estuche de brocas HSS ECO PRO con punta TiN**
DE **ECO PRO HSS Satz Spiralbohrer TiN-Tip**
EN **ECO PRO HSS Drill set TiN coated tip**



118° | DIN 338 | HSS | TiN | N | ≥3 | ECO PRO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 F | 22-30 F | 15-20 E | 8-12 D | 15-20 E | 25-30 E | 48-60 E | 45-50 G | 25-40 D | 22-28 D

Ref.	Type	Ø mm	€
19.136.1000	11.431	1-10 mm x 0,5 mm	86,00

Ref.	Type	Ø mm	€
19.136.1300	11.431	1-13 mm x 0,5 mm	171,00

› 19.137 Phantom

NL **HSS Set Spiraalboren met drievlaks schacht**
FR **Coffret de Forets HSS queue à trois méplats**
ES **Estuche de brocas HSS con 3 chaflanes**
DE **HSS Satz Spiralbohrer 3-Flächen-Schaft**
EN **HSS Drill set with 3 flat surfaces**



118° | DIN 338 | HSS | OX. | N | ≥4 | <4

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 F | 22-30 F | 15-20 E | 8-12 D | 15-20 E | 25-30 E | 45-50 G | 25-40 D | 22-28 D

Ref.	Type	Ø mm	€
19.137.1000	11.440	1-10 mm x 0,5 mm	102,00

Ref.	Type	Ø mm	€
19.137.1300	11.440	1-13 mm x 0,5 mm	196,00

› 19.138 Phantom

NL **HSS Set Spiraalboren TiN-tip, met drievlaks schacht, (handgebruik)**
FR **Coffret de Forets HSS avec revêtement TiN sur la partie utile, queue à trois méplats, (usage à la main)**
ES **Estuche de brocas HSS con punta TiN, con 3 chaflanes, (uso manual)**
DE **HSS Satz Spiralbohrer TiN-Tip, 3-Flächen-Schaft, (handgebrauch)**
EN **HSS Drill set TiN coated tip, with 3 flat surfaces, (handuse)**



118° | DIN 338 | HSS | >N | TiN | ≥1,6 | ≥4 | <4

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

27-30 F | 25-28 F | 17-22 E | 10-14 D | 20-33 E | 20-28 E | 50-80 E | 45-70 G | 40-65 D | 25-36 D

Ref.	Type	Ø mm	€
19.138.1000	11.441	1-10 mm x 0,5 mm	128,00

Ref.	Type	Ø mm	€
19.138.1300	11.441	1-13 mm x 0,5 mm	248,00

› 19.139 Phantom

NL **HSS Set Spiraalboren Step-point, met drievlaks schacht**
FR **Coffret de Forets HSS Step-point, queue à trois méplats**
ES **Estuche de brocas HSS Step-point, con 3 chaflanes**
DE **HSS Satz Spiralbohrer Step-point, 3-Flächen-Schaft**
EN **HSS Drill set Step-point, with 3 flat surfaces**



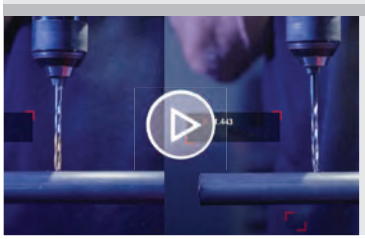
118° | DIN 338 | HSS | OX. | N | ≥4 | ≥2,5

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 F | 22-30 F | 15-20 E | 8-12 D | 15-20 E | 25-30 E | 45-50 G | 25-40 D | 22-28 D

Ref.	Type	Ø mm	€
19.139.0310	11.443	3-10 mm x 1 mm	90,00
19.139.1000	11.443	1-10 mm x 0,5 mm	180,00

Ref.	Type	Ø mm	€
19.139.1300	11.443	1-13 mm x 0,5 mm	347,00



NL Step-point spiraalboor in actie
FR Regardez le foret à pointe étagée Step-point en action
ES Broca escalonada en acción
DE Spiralbohrer mit Stufenspitze in Aktion
EN Step-Point Stub Drill in Action

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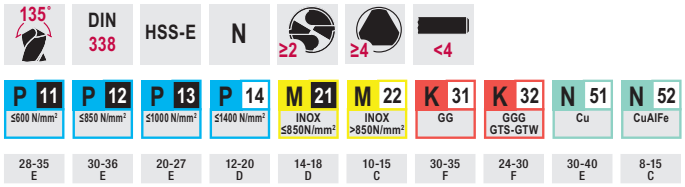
› 19.140 Phantom



NL **HSS-E Set Spiraalboren met drievlaks schacht**
FR **Coffret de Forets HSS-E queue à trois méplats**
ES **Estuche de brocas HSS-E con 3 chaflanes**
DE **HSS-E Satz Spiralbohrer 3-Flächen-Schaft**
EN **HSS-E Drill set with 3 flat surfaces**



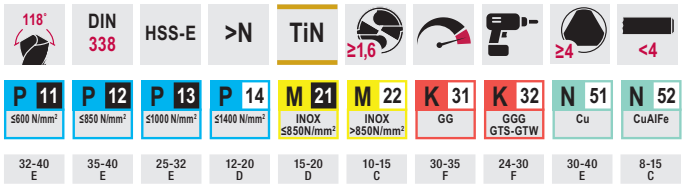
Ref.	Type	Ø mm	€
19.140.1000	11.445	1-10 mm x 0,5 mm	144,00

Ref.	Type	Ø mm	€
19.140.1300	11.445	1-13 mm x 0,5 mm	290,00

› 19.141 Phantom



NL **HSS-E Set Spiraalboren TiN-tip, met drievlaks schacht, (handgebruik)**
FR **Coffret de Forets HSS-E avec revêtement TiN sur la partie utile, queue à trois méplats, (usage à la main)**
ES **Estuche de brocas HSS-E con punta TiN, con 3 chaflanes, (uso manual)**
DE **HSS-E Satz Spiralbohrer TiN-Tip, 3-Flächen-Schaft, (handgebrauch)**
EN **HSS-E Drill set TiN coated tip, with 3 flat surfaces, (handuse)**



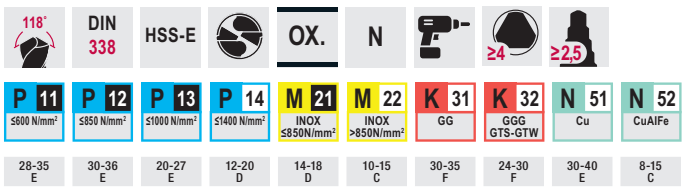
Ref.	Type	Ø mm	€
19.141.1000	11.446	1-10 mm x 0,5 mm	158,00

Ref.	Type	Ø mm	€
19.141.1300	11.446	1-13 mm x 0,5 mm	314,00

› 19.142 Phantom

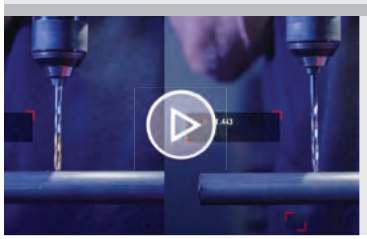


NL **HSS-E Set Spiraalboren Step-point, met drievlaks schacht**
FR **Coffret de Forets HSS-E Step-point, queue à trois méplats**
ES **Estuche de brocas HSS-E Step-point, con 3 chaflanes**
DE **HSS-E Satz Spiralbohrer Step-point, 3-Flächen-Schaft**
EN **HSS-E Drill set Step-point, with 3 flat surfaces**



Ref.	Type	Ø mm	€
19.142.0310	11.447	3-10 mm x 1 mm	107,00
19.142.1000	11.447	1-10 mm x 0,5 mm	214,00

Ref.	Type	Ø mm	€
19.142.1300	11.447	1-13 mm x 0,5 mm	413,00



NL Step-point spiraalboor in actie
FR Regardez le foret à pointe étagée Step-point en action
ES Broca escalonada en acción
DE Spiralbohrer mit Stufenspitze in Aktion
EN Step-Point Stub Drill in Action

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› 19.144 International Tools

NL **ECO HSS Set Spiraalboren gewalst**
FR **Coffret de Forets HSS ECO laminé**
ES **Estuche de brocas HSS ECO laminada**
DE **ECO HSS Satz Spiralbohrer Gewalzt**
EN **ECO HSS Drill set roll-forged**



118° | DIN 338 | HSS | N | ECO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | K 31 GG | K 32 GGG GTS-GTW

20-25 E | 20-25 E | 15-20 D | 15-20 E | 25-30 E

Ref.	Type	Ø mm	€
19.144.1002	11.400	1-10 mm x 0,5 mm	23,00
19.144.1302	11.400	1-13 mm x 0,5 mm	49,00

Ref.	Type	Ø mm	€
19.144.6001	11.400	1-10 mm x 0,5 mm (170x)	188,00
19.144.6100	11.400	1-13 mm x 0,5 mm + 3,3 - 4,2 mm (220x)	335,00

› 19.145 Phantom

NL **HSS Set Spiraalboren**
FR **Coffret de Forets HSS**
ES **Estuche de brocas HSS**
DE **HSS Satz Spiralbohrer**
EN **HSS Drill set**



118° | DIN 338 | HSS | OX. | N | ≥1

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 F | 22-30 F | 15-20 E | 8-12 D | 15-20 E | 25-30 E | 45-50 G | 25-40 D | 22-28 D

Ref.	Type	Ø mm	€
19.145.0310	11.450	3-10 mm x 1 mm	47,00
19.145.1000	11.450	1-10 mm x 0,5 mm	93,00
19.145.1010	11.450	1-10 mm x 0,1 mm (91x)	500,00
19.145.1150	11.450	1-10,5 mm x 0,5 mm + 3,3-4,2-6,8-10,2 mm	133,00
19.145.1300	11.450	1-13 mm x 0,5 mm	178,00

Ref.	Type	Ø mm	€
19.145.1590	11.450	1-5,9 mm x 0,1 mm	150,00
19.145.1600	11.450	6-10 mm x 0,1 mm	330,00
19.145.6000	11.450	1-10 mm x 0,5 mm (170x)	661,00
19.145.6100	11.450	1-13 mm x 0,5 mm + 3,3 - 4,2 mm (220x)	1.113,00

› 19.146 Phantom

NL **HSS Set Spiraalboren TiN-tip**
FR **Coffret de Forets HSS avec revêtement TiN sur la partie utile**
ES **Estuche de brocas HSS con punta TiN**
DE **HSS Satz Spiralbohrer TiN-Tip**
EN **HSS Drill set TiN coated tip**



118° | DIN 338 | HSS | TiN | N | ≥1,6

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 F | 22-30 F | 15-20 E | 8-12 D | 15-20 E | 25-30 E | 48-60 E | 45-50 G | 25-40 D | 22-28 D

Ref.	Type	Ø mm	€
19.146.1000	11.451	1-10 mm x 0,5 mm	120,00
19.146.1150	11.451	1-10,5 mm x 0,5 mm + 3,3-4,2-6,8-10,2 mm	165,00

Ref.	Type	Ø mm	€
19.146.1300	11.451	1-13 mm x 0,5 mm	231,00

› 19.147 Phantom

NL **HSS Set Spiraalboren TiN-tip, (handgebruik)**
FR **Coffret de Forets HSS avec revêtement TiN sur la partie utile, (usage à la main)**
ES **Estuche de brocas HSS con punta TiN, (uso manual)**
DE **HSS Satz Spiralbohrer TiN-Tip, (handgebrauch)**
EN **HSS Drill set TiN coated tip, (handuse)**



118° | DIN 338 | HSS | >N | TiN | ≥1,6

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 F | 22-30 F | 15-20 E | 8-12 D | 15-20 E | 25-30 E | 48-60 E | 45-50 G | 25-40 D | 22-28 D

Ref.	Type	Ø mm	€
19.147.0310	11.461	3-10 mm x 1 mm	60,00
19.147.1000	11.461	1-10 mm x 0,5 mm	120,00
19.147.1010	11.461	1-10 mm x 0,1 mm (91x)	588,00
19.147.1150	11.461	1-10,5 mm x 0,5 mm + 3,3-4,2-6,8-10,2 mm	166,00
19.147.1300	11.461	1-13 mm x 0,5 mm	232,00

› 19.148 International Tools

NL **ECO HSS-E Set Spiraalboren**
FR **Coffret de Forets HSS-E ECO**
ES **Estuche de brocas HSS-E ECO**
DE **ECO HSS-E Satz Spiralbohrer**
EN **ECO HSS-E Drill set**



NIEUW | NOUVEAU | NUEVO | NEU

135° | DIN 338 | HSS-E | N | ≥3 | ECO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 51 Cu | N 52 CuAlFe

28-35 E | 30-36 E | 20-27 E | 14-18 D | 30-35 F | 24-30 F | 30-40 E | 8-15 C

Ref.	Type	Ø mm	€
19.148.0310	11.488	3-10 mm x 1 mm	31,00
19.148.1000	11.488	1-10 mm x 0,5 mm	59,00
19.148.1300	11.488	1-13 mm x 0,5 mm	121,00

› 19.149 International Tools

NL **ECO PRO HSS-E Set Spiraalboren**
FR **Coffret de Forets HSS-E ECO PRO**
ES **Estuche de brocas HSS-E ECO PRO**
DE **ECO PRO HSS-E Satz Spiralbohrer**
EN **ECO PRO HSS-E Drill set**



135° | DIN 338 | HSS-E | N | ≥3 | ECO PRO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 51 Cu | N 52 CuAlFe

28-35 E | 30-36 E | 20-27 E | 14-18 D | 30-35 F | 24-30 F | 30-40 E | 8-15 C

Ref.	Type	Ø mm	€
19.149.0310	11.490	3-10 mm x 1 mm	41,00
19.149.1000	11.490	1-10 mm x 0,5 mm	80,00
19.149.1300	11.490	1-13 mm x 0,5 mm	172,00
19.149.6000	11.490	1-10 mm x 0,5 mm (170x)	537,00
19.149.6100	11.490	1-13 mm x 0,5 mm + 3,3 - 4,2 mm (220x)	1.012,00

› 19.150 Phantom



NL **HSS-E Set Spiraalboren**
FR **Coffret de Forets HSS-E**
ES **Estuche de brocas HSS-E**
DE **HSS-E Satz Spiralbohrer**
EN **HSS-E Drill set**

135° | DIN 338 | HSS-E | N | ≥2

P 11	P 12	P 13	P 14	M 21	M 22	K 31	K 32	N 51	N 52
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Cu	CuAlFe
28-35 E	30-36 E	20-27 E	12-20 D	14-18 D	10-15 C	30-35 F	24-30 F	30-40 E	8-15 C

Ref.	Type	Ø mm	€
19.150.0310	11.500	3-10 mm x 1 mm	69,00
19.150.1000	11.500	1-10 mm x 0,5 mm	139,00
19.150.1010	11.500	1-10 mm x 0,1 mm (91x)	920,00
19.150.1150	11.500	1-10,5 mm x 0,5 mm + 3,3-4,2-6,8-10,2 mm	200,00
19.150.1300	11.500	1-13 mm x 0,5 mm	277,00

Ref.	Type	Ø mm	€
19.150.1590	11.500	1-5,9 mm x 0,1 mm	242,00
19.150.1600	11.500	6-10 mm x 0,1 mm	658,00
19.150.6000	11.500	1-10 mm x 0,5 mm (170x)	1.008,00
19.150.6100	11.500	1-13 mm x 0,5 mm + 3,3 - 4,2 mm (220x)	1.757,00

› 19.152 Phantom



NL **HSS-E Set Spiraalboren TiN-tip, (handgebruik)**
FR **Coffret de Forets HSS-E avec revêtement TiN sur la partie utile, (usage à la main)**
ES **Estuche de brocas HSS-E con punta TiN, (uso manual)**
DE **HSS-E Satz Spiralbohrer TiN-Tip, (handgebrauch)**
EN **HSS-E Drill set TiN coated tip, (handuse)**

118° | DIN 338 | HSS-E | >N | TiN | ≥1,6

P 11	P 12	P 13	P 14	M 21	M 22	K 31	K 32	N 51	N 52
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Cu	CuAlFe
32-40 E	35-40 E	25-32 E	12-20 D	15-20 D	10-15 C	30-35 F	24-30 F	30-40 E	8-15 C

Ref.	Type	Ø mm	€
19.152.1000	11.506	1-10 mm x 0,5 mm	150,00

Ref.	Type	Ø mm	€
19.152.1300	11.506	1-13 mm x 0,5 mm	297,00

› 19.176 Phantom



NL **HSS-E Set Spiraalboren roestvaststaal**
FR **Coffret de Forets HSS-E Inox**
ES **Estuche de brocas HSS-E acero inoxidable**
DE **HSS-E Satz Spiralbohrer rostfreien Stahl**
EN **HSS-E Drill set stainless steel**

130° | DIN 338 | HSS-E | INOX | >N

P 14	M 21	M 22	S 71	S 72
≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	Ni/Co	Ti
12-16 E	14-18 D	12-16 C	6-8 A	6-10 B

Ref.	Type	Ø mm	€
19.176.0310	11.760	3-10 mm x 1 mm	81,00
19.176.1000	11.760	1-10 mm x 0,5 mm	166,00

Ref.	Type	Ø mm	€
19.176.1150	11.760	1-10,5 mm x 0,5 mm + 3,3-4,2-6,8-10,2 mm	231,00
19.176.1300	11.760	1-13 mm x 0,5 mm	349,00

› 19.195 International Tools

NL **ECO PRO HSS-E Set Spiraalboren met drievlaks schacht**
FR **Coffret de Forets HSS-E ECO PRO queue à trois méplats**
ES **Estuche de brocas HSS-E ECO PRO con 3 chaflanes**
DE **ECO PRO HSS-E Satz Spiralbohrer 3-Flächen-Schaft**
EN **ECO PRO HSS-E Drill set with 3 flat surfaces**



135° | DIN 338 | HSS-E | N | ≥3 | ECO PRO | ≥4

NIEUW / NOUVEAU / NUEVO / NEU

P 11	P 12	P 13	M 21	K 31	K 32	N 51	N 52
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	INOX ≤850N/mm²	GG	GGG GTS-GTW	Cu	CuAlFe
28-35 E	30-36 E	20-27 E	14-18 D	30-35 F	24-30 F	30-40 E	8-15 C

Ref.	Type	Ø mm	€
19.195.1000	11.438	1-10 mm x 0,5 mm	93,00

Ref.	Type	Ø mm	€
19.195.1300	11.438	1-13 mm x 0,5 mm	196,00

› 19.374 Phantom

NL **HM-tip Set Hamerboren, SDS-PLUS met 2 snijkanten**
FR **Coffret Forets à béton, SDS-PLUS à plaquette carbure à 2 taillants**
ES **Juego de brocas martillo, SDS-PLUS con punta MD con 2 labios**
DE **Hartmetallbestückt Satz Hammerbohrer, SDS-PLUS mit 2 Schneiden**
EN **Carbide Tipped Hammer Drill set, SDS-PLUS with 2 flutes**



Z=2 | HM | SICHERGRIFF | SDS plus

Ref.	Type	Ø mm	€
19.374.0512	13.740	5x110, 6x110, 8x110, 6x160, 8x160, 10x160, 12x160 mm	61,00
19.374.1000	13.740	5x110 , 6x160, 8x160, 10x160, 12x160, 8x210, 10x210, 12x210 mm (5x)	322,00

› 19.376 Phantom

NL **HM-tip Set Hamerboren, SDS-PLUS met 4 snijkanten**
FR **Coffret Forets à béton, SDS-PLUS à plaquette carbure à 4 taillants**
ES **Juego de brocas martillo, SDS-PLUS con punta MD con 4 labios**
DE **Hartmetallbestückt Satz Hammerbohrer, SDS-PLUS mit 4 Schneiden**
EN **Carbide Tipped Hammer Drill set, SDS-PLUS with 4 flutes**

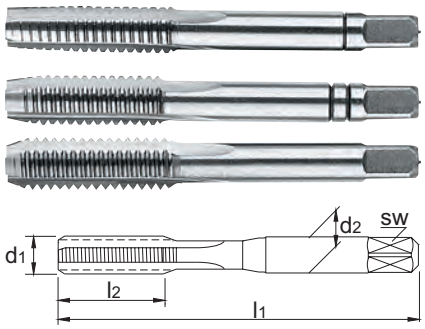


Z=4 | HM | SICHERGRIFF | SDS plus

Ref.	Type	Ø mm	€
19.376.0512	13.744	5x110, 6x110, 8x110, 6x160, 8x160, 10x160, 12x160 mm	107,00

› 21.140 International Tools

NL **ECO HSS Handtappen set à 3 stuks Metrisch**
FR **Tarauds à main HSS ECO Jeu de 3 pièces Métrique**
ES **Machos mano HSS ECO juego de 3 piezas Métrica**
DE **ECO HSS Handgewindebohrer Satz von 3 Stück Metrisch**
EN **ECO HSS Hand Taps set of 3 pieces Metric Coarse**



60° | DIN 352 | HSS | ISO 2 6H | M | ECO

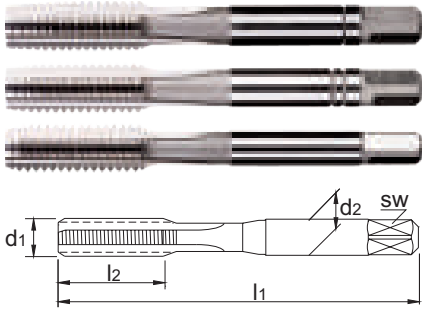
P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 51 Cu

Ref.	d1	P	l1	l2	d2	sw	€
21.140.0300	M3	0.5	40	11	3.5	2.7	15,83
21.140.0400	M4	0.7	45	13	4.5	3.4	15,83
21.140.0500	M5	0.8	50	16	6	4.9	17,77
21.140.0600	M6	1	56	19	6	4.9	19,69
21.140.0800	M8	1.25	63	22	6	4.9	24,37
21.140.1000	M10	1.5	70	24	7	5.5	30,55
21.140.1200	M12	1.75	75	28	9	7	35,25
21.140.1400	M14	2	80	30	11	9	47,15

Ref.	d1	P	l1	l2	d2	sw	€
21.140.1600	M16	2	80	32	12	9	44,20
21.140.1800	M18	2.5	95	34	14	11	72,60
21.140.2000	M20	2.5	95	34	16	12	76,80
21.140.2200	M22	2.5	100	34	18	14.5	106,85
21.140.2400	M24	3	110	38	18	14.5	118,70
21.140.2700	M27	3	110	38	20	16	206,05
21.140.3000	M30	3.5	125	45	22	18	280,00

› 21.145 Phantom

NL **HSS Handtappen set à 3 stuks Metrisch**
FR **Tarauds à main HSS Jeu de 3 pièces Métrique**
ES **Machos mano HSS juego de 3 piezas Métrica**
DE **HSS Handgewindebohrer Satz von 3 Stück Metrisch**
EN **HSS Hand Taps set of 3 pieces Metric Coarse**



60° | DIN 352 | HSS | ISO 2 6H | M

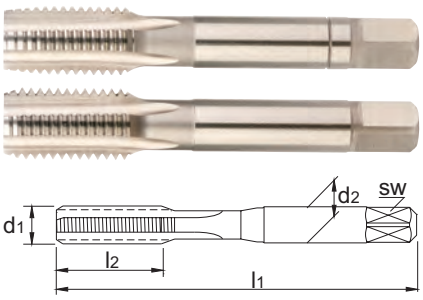
P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 51 Cu

Ref.	d1	P	l1	l2	d2	sw	€
21.145.0160	M1,6	0.35	32	8	2.5	2.1	95,40
21.145.0200	M2	0.4	36	8	2.8	2.1	30,55
21.145.0220	M2,2	0.45	36	9	2.8	2.1	69,60
21.145.0250	M2,5	0.45	40	9	2.8	2.1	34,95
21.145.0260	M2,6	0.45	40	9	2.8	2.1	34,95
21.145.0300	M3	0.5	40	11	3.5	2.7	23,24
21.145.0350	M3,5	0.6	45	12	4	3	30,25
21.145.0400	M4	0.7	45	13	4.5	3.4	23,24
21.145.0450	M4,5	0.75	50	16	6	4.9	30,95
21.145.0500	M5	0.8	50	16	6	4.9	26,10
21.145.0550	M5,5	0.9	56	18	6	4.9	33,90
21.145.0600	M6	1	56	19	6	4.9	28,90
21.145.0700	M7	1	56	19	6	4.9	43,45
21.145.0800	M8	1.25	63	22	6	4.9	35,75
21.145.0900	M9	1.25	63	22	7	5.5	53,80
21.145.1000	M10	1.5	70	24	7	5.5	44,90
21.145.1100	M11	1.5	70	24	8	6.2	64,30

Ref.	d1	P	l1	l2	d2	sw	€
21.145.1200	M12	1.75	75	28	9	7	51,75
21.145.1400	M14	2	80	30	11	9	69,25
21.145.1600	M16	2	80	32	12	9	64,85
21.145.1800	M18	2.5	95	34	14	11	130,40
21.145.2000	M20	2.5	95	34	16	12	149,00
21.145.2200	M22	2.5	100	34	18	14.5	163,75
21.145.2400	M24	3	110	38	18	14.5	174,35
21.145.2700	M27	3	110	38	20	16	303,00
21.145.3000	M30	3.5	125	45	22	18	410,00
21.145.3300	M33	3.5	125	50	25	20	405,00
21.145.3600	M36	4	150	56	28	22	431,00
21.145.3900	M39	4	150	60	32	24	539,00
21.145.4200	M42	4.5	150	60	32	24	767,00
21.145.4500	M45	4.5	160	65	36	29	883,00
21.145.4800	M48	5	180	70	36	29	987,00
21.145.5200	M52	5	180	70	40	32	1.204,00

› 21.250 Phantom

NL **HSS Handtappen Metrisch Fijn, set à 2 stuks**
FR **Tarauds à main HSS Métrique Fin, Jeu de 2 pièces**
ES **Machos mano HSS Métrica Fina, juego de 2 piezas**
DE **HSS Handgewindebohrer Metrisch Fein, Satz von 2 Stück**
EN **HSS Hand Taps Metric Fine, set of 2 pieces**



60° | DIN 2181 | HSS | ISO 2 6H | MF

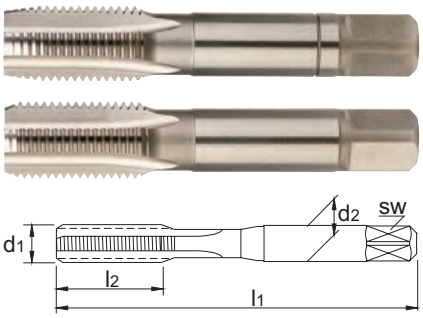
P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 51 Cu

Ref.	d1	P	l1	l2	d2	sw	€
21.250.0303	MF3	0.35	40	8	3.5	2.7	17,22
21.250.0405	MF4	0.5	45	10	4.5	3.4	22,57
21.250.0505	MF5	0.5	52	12	6	4.9	24,50
21.250.0605	MF6	0.5	56	14	6	4.9	21,91
21.250.0607	MF6	0.75	56	14	6	4.9	18,71
21.250.0707	MF7	0.75	56	14	6	4.9	35,20
21.250.0807	MF8	0.75	63	18	6	4.9	37,60
21.250.0810	MF8	1	63	22	6	4.9	32,45
21.250.0910	MF9	1	63	22	7	5.5	37,20
21.250.1007	MF10	0.75	63	20	7	5.5	33,95
21.250.1010	MF10	1	63	20	7	5.5	26,20
21.250.1012	MF10	1.25	70	24	7	5.5	26,20
21.250.1110	MF11	1	63	20	8	6.2	38,45
21.250.1210	MF12	1	70	22	9	7	37,60
21.250.1212	MF12	1.25	70	22	9	7	37,20
21.250.1215	MF12	1.5	70	22	9	7	36,85
21.250.1410	MF14	1	70	22	11	9	50,80
21.250.1412	MF14	1.25	70	22	11	9	45,70
21.250.1415	MF14	1.5	70	22	11	9	41,05

Ref.	d1	P	l1	l2	d2	sw	€
21.250.1610	MF16	1	70	22	12	9	57,45
21.250.1612	MF16	1.25	70	22	12	9	51,90
21.250.1615	MF16	1.5	70	22	12	9	46,60
21.250.1810	MF18	1	80	22	14	11	104,15
21.250.1815	MF18	1.5	80	22	14	11	93,45
21.250.1820	MF18	2	80	22	14	11	83,75
21.250.2010	MF20	1	80	22	16	12	152,15
21.250.2015	MF20	1.5	80	22	16	12	129,65
21.250.2020	MF20	2	80	22	16	12	122,55
21.250.2210	MF22	1	80	22	18	14.5	181,35
21.250.2215	MF22	1.5	80	22	18	14.5	162,95
21.250.2220	MF22	2	80	22	18	14.5	146,45
21.250.2415	MF24	1.5	90	22	18	14.5	172,90
21.250.2420	MF24	2	90	22	18	14.5	155,35
21.250.2715	MF27	1.5	90	22	20	16	291,00
21.250.2720	MF27	2	90	22	20	16	261,00
21.250.3015	MF30	1.5	90	22	22	18	351,00
21.250.3020	MF30	2	90	22	22	18	315,00
21.250.3320	MF33	2	100	25	25	20	420,00

› 21.405 Phantom

NL **HSS Handtappen set à 2 stuks G (BSP)**
FR **Tarauds à main HSS Jeu de 2 pièces G (BSP)**
ES **Machos mano HSS juego de 2 piezas G (BSP)**
DE **HSS Handgewindebohrer Satz von 2 Stück G (BSP)**
EN **HSS Hand Taps set of 2 pieces G (BSP)**



55° | BSP G | HSS | DIN 5157

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 51 Cu

Ref.	d1	TPI	l1	l2	d2	sw	€
21.405.0973	G 1/8	28	63	20	7	5.5	33,30
21.405.1316	G 1/4	19	70	22	11	9	41,45
21.405.1666	G 3/8	19	70	22	12	9	42,20
21.405.2096	G 1/2	14	80	22	16	12	52,70
21.405.2291	G 5/8	14	80	22	18	14.5	46,00
21.405.2644	G 3/4	14	90	22	20	16	96,45

Ref.	d1	TPI	l1	l2	d2	sw	€
21.405.3020	G 7/8	14	90	22	22	18	117,05
21.405.3325	G 1	11	100	25	25	20	153,25
21.405.4191	G 1.1/4	11	125	40	32	24	485,00
21.405.4780	G 1.1/2	11	140	40	36	29	765,00
21.405.5375	G 1.3/4	11	140	40	40	32	1.451,00
21.405.5961	G 2	11	160	40	45	35	1.936,00



NL Productvergelijker op phantom.eu
FR Comparateur de produits sur Phantom.eu
ES Comparador de productos en phantom.eu
DE Produktvergleich auf phantom.eu
EN Product comparator on phantom.eu

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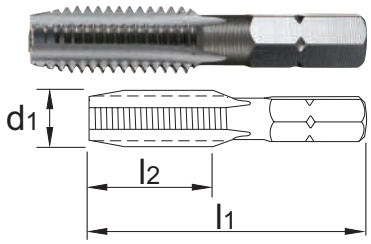
› 22.100 International Tools

NL **ECO HSS Machinetap Metrisch, 1/4" (6,35 mm)-zeskant bitopname**
FR **Taraud machine HSS ECO Métrique, avec queue hexagonale 1/4" (6,35 mm)**
ES **Macho máquina HSS ECO Métrica, con sujeción 1/4" (6,35 mm) bit**
DE **ECO HSS Maschinengewindebohrer Metrisch, 1/4" (6,35 mm) Hexa-Bitaufnahme**
EN **ECO HSS Machine Tap Metric Coarse, 1/4" (6,35 mm) hexagonal shank**



60° | HSS | ISO 2 6H | M | ECO | DIN 3126 | C6,3 1/4" | FormC 2-3 | DIN ISO 1173

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | K 31 GG | N 41 Alu

12-17 | 9-15 | 7-12 | 20-30

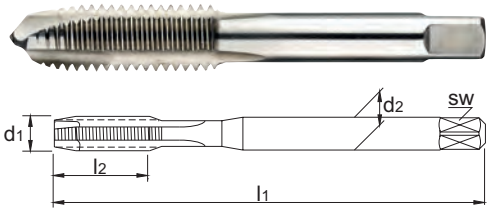
Ref.	d1	P	l1	l2	€
22.100.0300	M3	0.5	33	11	5,80
22.100.0400	M4	0.7	35	12	5,80

Ref.	d1	P	l1	l2	€
22.100.0500	M5	0.8	36	15	5,80
22.100.0600	M6	1	39	18	5,80

Ref.	d1	P	l1	l2	€
22.100.0800	M8	1.25	40	19	7,17
22.100.1000	M10	1.5	41	21	8,44

› 22.190 International Tools

NL **ECO HSS Machinetap Metrisch, kort**
FR **Taraud machine HSS ECO Métrique, version courte**
ES **Macho máquina HSS ECO Métrica, corta**
DE **ECO HSS Maschinengewindebohrer Metrisch, kurz**
EN **ECO HSS Machine Tap Metric Coarse, short**



3xD | 60° | DIN 352 | HSS | ISO 2 6H | M | ECO | FormB 3,5-5

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | K 31 GG | N 41 Alu

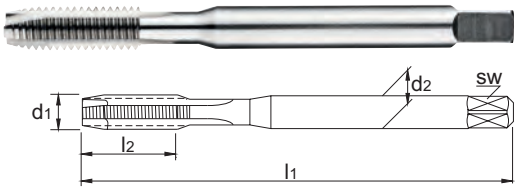
12-17 | 9-15 | 7-12 | 20-30

Ref.	d1	P	l1	l2	d2	sw	€
22.190.0300	M3	0.5	40	11	3.5	2.7	4,27
22.190.0400	M4	0.7	45	13	4.5	3.4	4,83
22.190.0500	M5	0.8	50	16	6	4.9	5,11
22.190.0600	M6	1	56	19	6	4.9	6,13

Ref.	d1	P	l1	l2	d2	sw	€
22.190.0800	M8	1.25	63	22	6	4.9	8,13
22.190.1000	M10	1.5	70	24	7	5.5	9,80
22.190.1200	M12	1.75	75	28	9	7	12,52

› 22.191 International Tools

NL **ECO HSS Machinetap Metrisch**
FR **Taraud machine HSS ECO Métrique**
ES **Macho máquina HSS ECO Métrica**
DE **ECO HSS Maschinengewindebohrer Metrisch**
EN **ECO HSS Machine Tap Metric Coarse**



3xD | 60° | DIN 371 | HSS | ISO 2 6H | M | ECO | FormB 3,5-5

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | K 31 GG | N 41 Alu

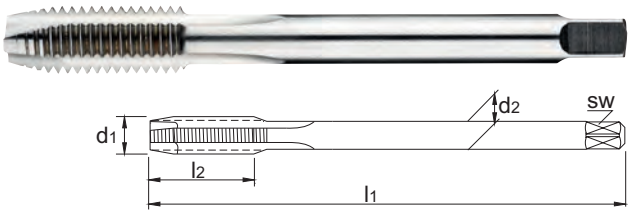
12-17 | 9-15 | 7-12 | 20-30

Ref.	d1	P	l1	l2	d2	sw	€
22.191.0300	M3	0.5	56	11	3.5	2.7	6,99
22.191.0400	M4	0.7	63	13	4.5	3.4	6,99
22.191.0500	M5	0.8	70	16	6	4.9	7,15

Ref.	d1	P	l1	l2	d2	sw	€
22.191.0600	M6	1	80	19	6	4.9	9,05
22.191.0800	M8	1.25	90	22	8	6.2	10,89
22.191.1000	M10	1.5	100	24	10	8	13,01

› 22.192 International Tools

NL ECO HSS Machinetap Metrisch
FR Taraud machine HSS ECO Métrique
ES Macho máquina HSS ECO Métrica
DE ECO HSS Maschinengewindebohrer Metrisch
EN ECO HSS Machine Tap Metric Coarse



3xD | 60° | DIN 376 | HSS | ISO 2 6H | M | ECO | FormB 3,5-5

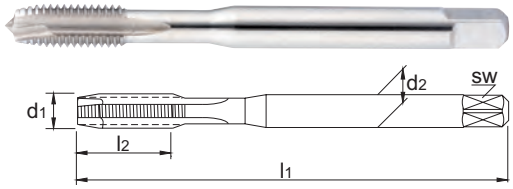
P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	K 31 GG	N 41 Alu
12-17	9-15	7-12	20-30

Ref.	d1	P	l1	l2	d2	sw	€
22.192.1200	M12	1.75	110	28	9	7	16,31

Ref.	d1	P	l1	l2	d2	sw	€

› 22.195 International Tools

NL ECO PRO HSS-E Machinetap Metrisch
FR Taraud machine HSS-E ECO PRO Métrique
ES Macho máquina HSS-E ECO PRO Métrica
DE ECO PRO HSS-E Maschinengewindebohrer Metrisch
EN ECO PRO HSS-E Machine Tap Metric Coarse



3xD | 60° | DIN 371 | HSS-E | ISO 2 6H | M | ECO PRO | FormB 3,5-5

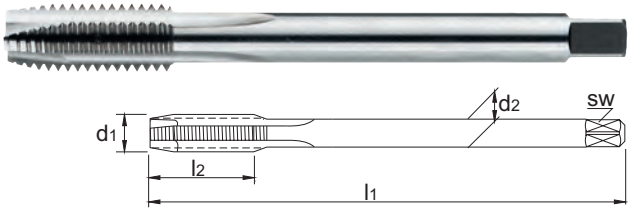
P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	K 31 GG	N 41 Alu
15-20	12-18	10-15	25-35

Ref.	d1	P	l1	l2	d2	sw	€
22.195.0200	M2	0.4	45	8	2.8	2.1	20,54
22.195.0300	M3	0.5	56	11	3.5	2.7	12,86
22.195.0400	M4	0.7	63	13	4.5	3.4	13,16
22.195.0500	M5	0.8	70	16	6	4.9	13,88

Ref.	d1	P	l1	l2	d2	sw	€
22.195.0600	M6	1	80	19	6	4.9	13,88
22.195.0800	M8	1.25	90	22	8	6.2	15,76
22.195.1000	M10	1.5	100	24	10	8	18,95

› 22.196 International Tools

NL ECO PRO HSS-E Machinetap Metrisch
FR Taraud machine HSS-E ECO PRO Métrique
ES Macho máquina HSS-E ECO PRO Métrica
DE ECO PRO HSS-E Maschinengewindebohrer Metrisch
EN ECO PRO HSS-E Machine Tap Metric Coarse



3xD | 60° | DIN 376 | HSS-E | ISO 2 6H | M | ECO PRO | FormB 3,5-5

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	K 31 GG	N 41 Alu
15-20	12-18	10-15	25-35

Ref.	d1	P	l1	l2	d2	sw	€
22.196.1000	M10	1.5	100	24	7	5.5	19,50
22.196.1200	M12	1.75	110	28	9	7	23,81
22.196.1400	M14	2	110	30	11	9	29,55
22.196.1600	M16	2	110	32	12	9	33,20
22.196.2000	M20	2.5	140	34	16	12	49,45
22.196.2200	M22	2.5	140	34	18	14.5	68,90

Ref.	d1	P	l1	l2	d2	sw	€
22.196.2400	M24	3	160	38	18	14.5	65,40
22.196.2700	M27	3	160	38	20	16	98,20
22.196.3000	M30	3.5	180	45	22	18	118,75
22.196.3300	M33	3.5	180	50	25	20	140,80
22.196.3600	M36	4	200	56	28	22	174,45



NL Tappen van doorlopend en blind gat
FR Tarauder un trou débouchant et un trou borgne
ES Roscar un agujero pasante y ciego
DE Gewindebohrer Durchgangslocher und Sacklocher
EN Tapping through and blind hole

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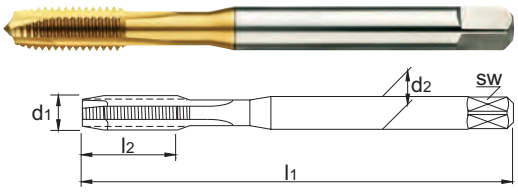
› 22.197 *International Tools*



NL **ECO PRO HSS-E Machinetap Metrisch, TiN**
FR **Taraud machine HSS-E ECO PRO Métrique, TiN**
ES **Macho máquina HSS-E ECO PRO Métrica, TiN**
DE **ECO PRO HSS-E Maschinengewindebohrer Metrisch, TiN**
EN **ECO PRO HSS-E Machine Tap Metric Coarse, TiN**

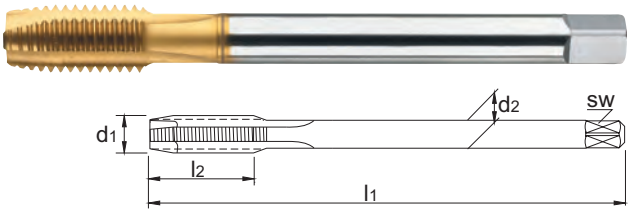
3xD | 60° | DIN 371 | HSS-E | ISO 2 6H | M | TiN | ECO PRO | FormB 3,5-5

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	M 21 INOX ≤850N/mm²	K 31 GG	N 41 Alu	N 42 Alu Si>10%	N 51 Cu
22-30	18-27	7-10	15-22	32-52	15-20	5-12

Ref.	d1	P	l1	l2	d2	sw	€
22.197.0300	M3	0.5	56	11	3.5	2.7	18,64
22.197.0400	M4	0.7	63	13	4.5	3.4	18,09
22.197.0500	M5	0.8	70	16	6	4.9	20,05

Ref.	d1	P	l1	l2	d2	sw	€
22.197.0600	M6	1	80	19	6	4.9	21,25
22.197.0800	M8	1.25	90	22	8	6.2	25,40
22.197.1000	M10	1.5	100	24	10	8	29,45

› 22.198 *International Tools*



NL **ECO PRO HSS-E Machinetap Metrisch, TiN**
FR **Taraud machine HSS-E ECO PRO Métrique, TiN**
ES **Macho máquina HSS-E ECO PRO Métrica, TiN**
DE **ECO PRO HSS-E Maschinengewindebohrer Metrisch, TiN**
EN **ECO PRO HSS-E Machine Tap Metric Coarse, TiN**

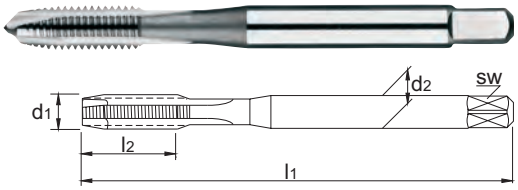
3xD | 60° | DIN 376 | HSS-E | ISO 2 6H | M | TiN | ECO PRO | FormB 3,5-5

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	M 21 INOX ≤850N/mm²	K 31 GG	N 41 Alu	N 42 Alu Si>10%	N 51 Cu
22-30	18-27	7-10	15-22	32-52	15-20	5-12

Ref.	d1	P	l1	l2	d2	sw	€
22.198.1200	M12	1.75	110	28	9	7	36,50

Ref.	d1	P	l1	l2	d2	sw	€

› 22.200 *Phantom*



NL **UNI HSS-E Machinetap Metrisch**
FR **Taraud machine HSS-E UNI Métrique**
ES **Macho máquina HSS-E UNI Métrica**
DE **UNI HSS-E Maschinengewindebohrer Metrisch**
EN **UNI HSS-E Machine Tap Metric Coarse**

3xD | 60° | DIN 371 | HSS-E | ISO 2 6H | M | UNI | FormB 3,5-5

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	M 21 INOX ≤850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 41 Alu	N 42 Alu Si>10%	N 51 Cu	S 71 Ni/Co	S 72 Ti
15-20	10-20	6-10	7-10	10-15	10-15	25-35	10-20	15-35	2-8	2-8

Ref.	d1	P	l1	l2	d2	sw	€
22.200.0100	M1	0.25	40	5.5	2.5	2.1	43,35
22.200.0110	M1,1	0.25	40	5.5	2.5	2.1	39,00
22.200.0120	M1,2	0.25	40	5.5	2.5	2.1	35,40
22.200.0140	M1,4	0.3	40	7	2.5	2.1	33,00
22.200.0160	M1,6	0.35	40	8	2.5	2.1	29,60
22.200.0170	M1,7	0.35	40	8	2.5	2.1	27,10
22.200.0180	M1,8	0.35	40	8	2.5	2.1	25,45
22.200.0200	M2	0.4	45	8	2.8	2.1	27,60
22.200.0220	M2,2	0.45	45	9	2.8	2.1	28,15
22.200.0230	M2,3	0.4	45	9	2.8	2.1	28,75
22.200.0250	M2,5	0.45	50	9	2.8	2.1	25,70

Ref.	d1	P	l1	l2	d2	sw	€
22.200.0260	M2,6	0.45	50	9	2.8	2.1	25,90
22.200.0300	M3	0.5	56	11	3.5	2.7	21,08
22.200.0350	M3,5	0.6	56	12	4	3	23,26
22.200.0400	M4	0.7	63	13	4.5	3.4	21,10
22.200.0450	M4,5	0.75	70	16	6	4.9	21,99
22.200.0500	M5	0.8	70	16	6	4.9	21,99
22.200.0600	M6	1	80	19	6	4.9	21,99
22.200.0700	M7	1	80	19	7	5.5	26,10
22.200.0800	M8	1.25	90	22	8	6.2	25,75
22.200.0900	M9	1.25	90	22	9	7	30,30
22.200.1000	M10	1.5	100	24	10	8	30,30



NL 80% kiest voor Phantom UNI machinetap!
FR 80% de notre clientèle choisissent un taraud machine Phantom UNI !
ES ¡El 80% elige el macho máquina Phantom UNI!
DE 80% entscheiden sich für den UNI-Maschinengewindebohrer von Phantom!
EN 80% opt for the Phantom UNI machine tap!

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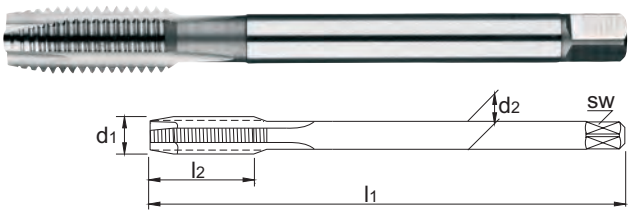
› 22.201 Phantom

NL **UNI HSS-E Machinetap Metrisch**
FR **Taraud machine HSS-E UNI Métrique**
ES **Macho máquina HSS-E UNI Métrica**
DE **UNI HSS-E Maschinengewindebohrer Metrisch**
EN **UNI HSS-E Machine Tap Metric Coarse**

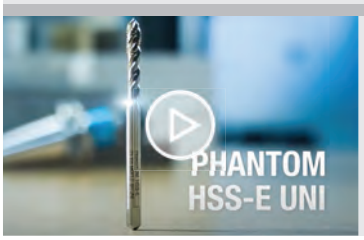


3xD | 60° | DIN 376 | | HSS-E | ISO 2 6H | M | UNI | FormB 3,5-5

P 11	P 12	P 13	M 21	K 31	K 32	N 41	N 42	N 51	S 71	S 72
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	INOX ≤850N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu	Ni/Co	Ti
15-20	10-20	6-10	7-10	10-15	10-15	25-35	10-20	15-35	2-8	2-8

Ref.	d1	P	l1	l2	d2	sw	€
22.201.0200	M2	0.4	45	4	1.4		30,30
22.201.0250	M2,5	0.45	50	5	1.8		25,45
22.201.0300	M3	0.5	56	11	2.2		24,43
22.201.0400	M4	0.7	63	13	2.8	2.1	24,72
22.201.0500	M5	0.8	70	16	3.5	2.7	24,72
22.201.0600	M6	1	80	19	4.5	3.4	24,72
22.201.0700	M7	1	80	19	5.5	4.3	26,10
22.201.0800	M8	1.25	90	22	6	4.9	28,80
22.201.0900	M9	1.25	90	22	7	5.5	41,45
22.201.1000	M10	1.5	100	24	7	5.5	33,60
22.201.1200	M12	1.75	110	28	9	7	39,15
22.201.1400	M14	2	110	30	11	9	49,85
22.201.1600	M16	2	110	32	12	9	57,90

Ref.	d1	P	l1	l2	d2	sw	€
22.201.1800	M18	2.5	125	34	14	11	77,35
22.201.2000	M20	2.5	140	34	16	12	85,75
22.201.2200	M22	2.5	140	34	18	14.5	107,25
22.201.2400	M24	3	160	38	18	14.5	114,70
22.201.2700	M27	3	160	38	20	16	162,10
22.201.3000	M30	3.5	180	45	22	18	198,15
22.201.3300	M33	3.5	180	50	25	20	237,90
22.201.3600	M36	4	200	56	28	22	306,00
22.201.3900	M39	4	200	60	32	24	448,00
22.201.4200	M42	4.5	200	60	32	24	469,00
22.201.4500	M45	4.5	220	65	36	29	542,00
22.201.4800	M48	5	250	70	36	29	637,00
22.201.5200	M52	5	250	70	40	32	822,00



NL Test Phantom HSS-E UNI Machinetappen
FR Test de tarauds machine UNI HSS-E
ES Test Phantom HSS-E UNI Machos de roscado de máquina
DE Test Phantom HSS-E UNI Maschinengewindebohrer
EN Test Phantom HSS-E UNI Machine Taps

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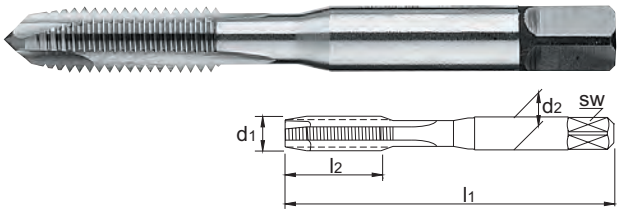
› 22.205 Phantom

NL **HSS Machinetap Metrisch**
FR **Taraud machine HSS Métrique**
ES **Macho máquina HSS Métrica**
DE **HSS Maschinengewindebohrer Metrisch**
EN **HSS Machine Tap Metric Coarse**



60° | | HSS | ISO 2 6H | ISO 529 | M | NFE 66103 | 2xD | FormB 3,5-5

P 11	P 12	K 31	K 32	N 41	N 52
≤600 N/mm²	≤850 N/mm²	GG	GGG GTS-GTW	Alu	CuAlFe
12-17	10-15	7-12	3-6	15-20	5-12

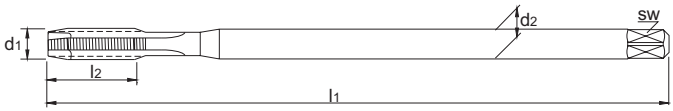
Ref.	d1	P	l1	l2	d2	sw	€
22.205.0200	M2	0.4	41	8	2.5	2	21,41
22.205.0250	M2,5	0.45	44	9.5	2.8	2.24	18,85
22.205.0300	M3	0.5	48	11	3.15	2.5	14,14
22.205.0350	M3,5	0.6	50	13	3.55	2.8	17,95
22.205.0400	M4	0.7	53	13	4	3.15	14,14
22.205.0450	M4,5	0.75	58	16	5	4	18,81
22.205.0500	M5	0.8	58	16	5	4	14,43
22.205.0600	M6	1	66	19	6.3	5	14,63
22.205.0700	M7	1	66	19	7.1	5.6	18,92
22.205.0800	M8	1.25	72	22	8	6.3	18,92
22.205.0900	M9	1.25	72	22	9	7.1	25,55

Ref.	d1	P	l1	l2	d2	sw	€
22.205.1000	M10	1.5	80	24	10	8	23,29
22.205.1200	M12	1.75	89	29	9	7.1	29,70
22.205.1400	M14	2	95	30	11.2	9	38,55
22.205.1600	M16	2	102	32	12.5	10	48,10
22.205.1800	M18	2.5	112	37	14	11.2	62,05
22.205.2000	M20	2.5	112	37	14	11.2	71,40
22.205.2200	M22	2.5	118	38	16	12.5	91,55
22.205.2400	M24	3	130	45	18	14	105,15
22.205.2700	M27	3	135	45	20	16	134,80
22.205.3000	M30	3.5	138	48	20	16	179,25

› 22.350 Phantom



NL **UNI HSS-E Machinetap Metrisch, lang**
FR **Taraud machine HSS-E UNI Métrique, version longue**
ES **Macho máquina HSS-E UNI Métrica, larga**
DE **UNI HSS-E Maschinengewindebohrer Metrisch, lang**
EN **UNI HSS-E Machine Tap Metric Coarse, long**



3xD | 60° | HSS-E | ISO 2 6H | M | NORM | UNI | FormB 3,5-5

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10% | N 51 Cu | S 71 Ni/Co | S 72 Ti

15-20 | 10-20 | 6-10 | 7-10 | 10-15 | 10-15 | 25-35 | 10-20 | 15-35 | 2-8 | 2-8

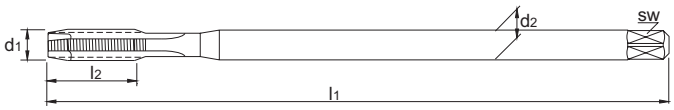
Ref.	d1	P	l1	l2	d2	sw	€
22.350.0300	M3	0.5	100	11	3.5	2.7	
22.350.0400	M4	0.7	126	13	4.5	3.4	50,65
22.350.0500	M5	0.8	140	15	6	4.9	54,80

Ref.	d1	P	l1	l2	d2	sw	€
22.350.0600	M6	1	160	17	6	4.9	56,55
22.350.0800	M8	1.25	180	20	8	6.2	64,05

› 22.351 Phantom



NL **UNI HSS-E Machinetap Metrisch, lang**
FR **Taraud machine HSS-E UNI Métrique, version longue**
ES **Macho máquina HSS-E UNI Métrica, larga**
DE **UNI HSS-E Maschinengewindebohrer Metrisch, lang**
EN **UNI HSS-E Machine Tap Metric Coarse, long**



3xD | 60° | HSS-E | ISO 2 6H | M | NORM | UNI | FormB 3,5-5

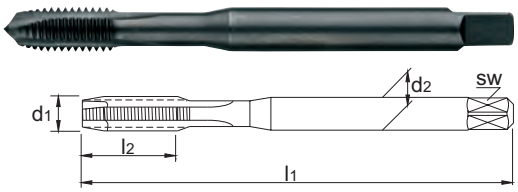
P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10% | N 51 Cu | S 71 Ni/Co | S 72 Ti

15-20 | 10-20 | 6-10 | 7-10 | 10-15 | 10-15 | 25-35 | 10-20 | 15-35 | 8-15 | 2-8

Ref.	d1	P	l1	l2	d2	sw	€
22.351.0800	M8	1.25	180	20	6	4.9	62,00
22.351.1000	M10	1.5	200	22	7	5.5	75,30
22.351.1200	M12	1.75	220	24	9	7	86,85

Ref.	d1	P	l1	l2	d2	sw	€
22.351.1600	M16	2	220	32	12	9	128,05
22.351.2000	M20	2.5	280	32	16	12	180,30
22.351.2400	M24	3	320	34	18	14.5	238,50

› 22.595 International Tools



NL **ECO PRO HSS-E Machinetap Metrisch, stoomontlaten, roestvaststaal**
FR **Taraud machine HSS-E ECO PRO Métrique, vaporisé, Inox**
ES **Macho máquina HSS-E ECO PRO Métrica, vaporizada, acero inoxidable**
DE **ECO PRO HSS-E Maschinengewindebohrer Metrisch, dampfangelassen, rostfreien Stahl**
EN **ECO PRO HSS-E Machine Tap Metric Coarse, steam oxide, stainless steel**

3xD | 60° | DIN 371 | HSS-E | INOX | ISO 2 6H | M | OX. | ECO PRO | FormB 3,5-5

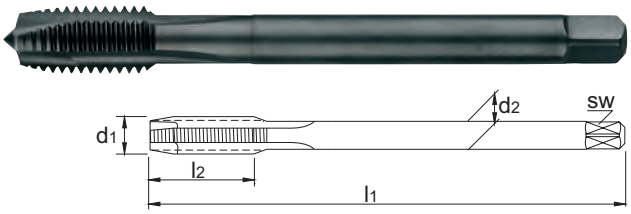
P 11 ≤600 N/mm² | M 21 INOX ≤850N/mm²

15-20 | 7-10

Ref.	d1	P	l1	l2	d2	sw	€
22.595.0300	M3	0.5	56	11	3.5	2.7	16,49
22.595.0400	M4	0.7	63	13	4.5	3.4	16,72
22.595.0500	M5	0.8	70	16	6	4.9	17,71

Ref.	d1	P	l1	l2	d2	sw	€
22.595.0600	M6	1	80	19	6	4.9	17,73
22.595.0800	M8	1.25	90	22	8	6.2	20,07
22.595.1000	M10	1.5	100	24	10	8	23,06

› 22.596 International Tools



NL **ECO PRO HSS-E Machinetap Metrisch, stoomontlaten, roestvaststaal**
FR **Taraud machine HSS-E ECO PRO Métrique, vaporisé, Inox**
ES **Macho máquina HSS-E ECO PRO Métrica, vaporizada, acero inoxidable**
DE **ECO PRO HSS-E Maschinengewindebohrer Metrisch, dampfangelassen, rostfreien Stahl**
EN **ECO PRO HSS-E Machine Tap Metric Coarse, steam oxide, stainless steel**

3xD | 60° | DIN 376 | HSS-E | INOX | ISO 2 6H | M | OX. | ECO PRO | FormB 3,5-5

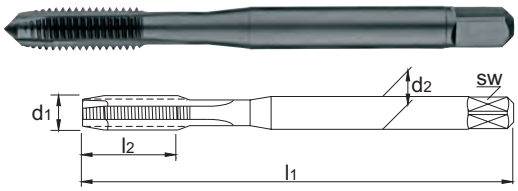
P 11 ≤600 N/mm² | M 21 INOX ≤850N/mm²

15-20 | 7-10

Ref.	d1	P	l1	l2	d2	sw	€
22.596.1200	M12	1.75	110	28	9	7	28,80
22.596.1600	M16	2	110	32	12	9	41,80

Ref.	d1	P	l1	l2	d2	sw	€
22.596.2000	M20	2.5	140	34	16	12	62,25

› 22.600 Phantom



NL **HSS-E PM Machinetap Metrisch, stoomontlaten, roestvaststaal**
FR **Taraud machine HSS-E PM Métrique, vaporisé, Inox**
ES **Macho máquina HSS-E PM Métrica, vaporizada, acero inoxidable**
DE **HSS-E PM Maschinengewindebohrer Metrisch, dampfangelassen, rostfreien Stahl**
EN **HSS-E PM Machine Tap Metric Coarse, steam oxide, stainless steel**

3xD | 60° | DIN 371 | INOX | ISO 2 6H | M | HSS-E PM | OX. | FormB 3,5-5

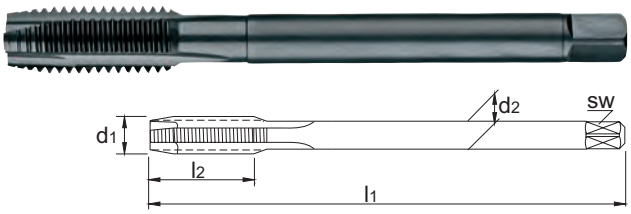
P 11 ≤600 N/mm² | M 21 INOX ≤850N/mm² | M 22 INOX >850N/mm²

15-20 | 7-10 | 5-8

Ref.	d1	P	l1	l2	d2	sw	€
22.600.0300	M3	0.5	56	11	3.5	2.7	25,55
22.600.0400	M4	0.7	63	13	4.5	3.4	25,55
22.600.0500	M5	0.8	70	16	6	4.9	25,85

Ref.	d1	P	l1	l2	d2	sw	€
22.600.0600	M6	1	80	19	6	4.9	25,85
22.600.0800	M8	1.25	90	22	8	6.2	32,30
22.600.1000	M10	1.5	100	24	10	8	40,95

› 22.601 Phantom



NL **HSS-E PM Machinetap Metrisch, stoomontlaten, roestvaststaal**
FR **Taraud machine HSS-E PM Métrique, vaporisé, Inox**
ES **Macho máquina HSS-E PM Métrica, vaporizada, acero inoxidable**
DE **HSS-E PM Maschinengewindebohrer Metrisch, dampfangelassen, rostfreien Stahl**
EN **HSS-E PM Machine Tap Metric Coarse, steam oxide, stainless steel**

3xD | 60° | DIN 376 | INOX | ISO 2 6H | M | HSS-E PM | OX. | FormB 3,5-5

P 11 ≤600 N/mm² | M 21 INOX ≤850N/mm² | M 22 INOX >850N/mm²

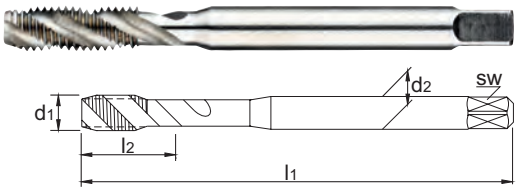
15-20 | 7-10 | 5-8

Ref.	d1	P	l1	l2	d2	sw	€
22.601.0800	M8	1.25	90	22	6	4.9	32,30
22.601.1000	M10	1.5	100	24	7	5.5	40,95
22.601.1200	M12	1.75	110	28	9	7	54,25
22.601.1400	M14	2	110	30	11	9	68,80
22.601.1600	M16	2	110	32	12	9	81,45
22.601.1800	M18	2.5	125	34	14	11	110,15

Ref.	d1	P	l1	l2	d2	sw	€
22.601.2000	M20	2.5	140	34	16	12	130,75
22.601.2200	M22	2.5	140	34	18	14.5	165,95
22.601.2400	M24	3	160	38	18	14.5	181,05
22.601.2700	M27	3	160	38	20	16	274,00
22.601.3000	M30	3.5	180	45	22	18	340,00

› 23.291 International Tools

NL **ECO HSS Machinetap Metrisch**
FR **Taraud machine HSS ECO Métrique**
ES **Macho máquina HSS ECO Métrica**
DE **ECO HSS Maschinengewindebohrer Metrisch**
EN **ECO HSS Machine Tap Metric Coarse**



60° | 35° | DIN 371 | HSS | ISO 2 6H | M | 2xD | ECO | FormC 2-3

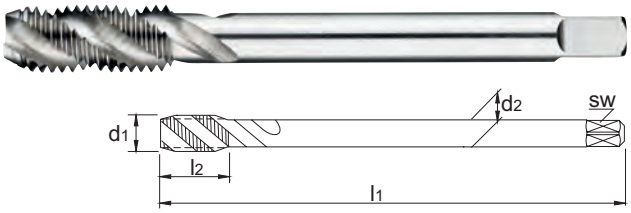
P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	K 31 GG	N 41 Alu
12-17	9-15	7-12	20-30

Ref.	d1	P	l1	l2	d2	sw	€
23.291.0300	M3	0.5	56	11	3.5	2.7	7,30
23.291.0400	M4	0.7	63	13	4.5	3.4	7,44
23.291.0500	M5	0.8	70	16	6	4.9	7,60

Ref.	d1	P	l1	l2	d2	sw	€
23.291.0600	M6	1	80	19	6	4.9	9,37
23.291.0800	M8	1.25	90	22	8	6.2	11,97
23.291.1000	M10	1.5	100	24	10	8	15,35

› 23.292 International Tools

NL **ECO HSS Machinetap Metrisch**
FR **Taraud machine HSS ECO Métrique**
ES **Macho máquina HSS ECO Métrica**
DE **ECO HSS Maschinengewindebohrer Metrisch**
EN **ECO HSS Machine Tap Metric Coarse**



60° | 35° | DIN 376 | HSS | ISO 2 6H | M | 2xD | ECO | FormC 2-3

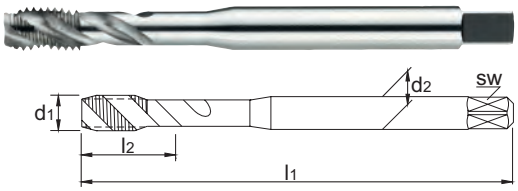
P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	K 31 GG	N 41 Alu
12-17	9-15	7-12	20-30

Ref.	d1	P	l1	l2	d2	sw	€
23.292.1200	M12	1.75	110	28	9	7	16,82

Ref.	d1	P	l1	l2	d2	sw	€

› 23.295 International Tools

NL **ECO PRO HSS-E Machinetap Metrisch**
FR **Taraud machine HSS-E ECO PRO Métrique**
ES **Macho máquina HSS-E ECO PRO Métrica**
DE **ECO PRO HSS-E Maschinengewindebohrer Metrisch**
EN **ECO PRO HSS-E Machine Tap Metric Coarse**



60° | 35° | DIN 371 | HSS-E | ISO 2 6H | M | 2xD | ECO PRO | FormC 2-3

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	K 31 GG	N 41 Alu
15-20	12-18	10-15	25-35

Ref.	d1	P	l1	l2	d2	sw	€
23.295.0200	M2	0.4	45	8	2.8	2.1	19,73
23.295.0300	M3	0.5	56	11	3.5	2.7	14,12
23.295.0400	M4	0.7	63	13	4.5	3.4	14,12
23.295.0500	M5	0.8	70	16	6	4.9	14,42

Ref.	d1	P	l1	l2	d2	sw	€
23.295.0600	M6	1	80	19	6	4.9	14,93
23.295.0800	M8	1.25	90	22	8	6.2	17,09
23.295.1000	M10	1.5	100	24	10	8	20,18



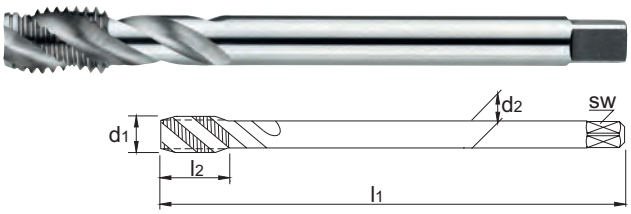
NL Uitleg calculatietool
FR Regardez la vidéo d'instruction de l'outil de calcul
ES Explicación de la herramienta de cálculo
DE Erläuterung Rechner
EN Calculation tool explained

Watch me

www.phantom.eu

› 23.296 International Tools

NL **ECO PRO HSS-E Machinetap Metrisch**
FR **Taraud machine HSS-E ECO PRO Métrique**
ES **Macho máquina HSS-E ECO PRO Métrica**
DE **ECO PRO HSS-E Maschinengewindebohrer Metrisch**
EN **ECO PRO HSS-E Machine Tap Metric Coarse**



60° | 35° | DIN 376 | HSS-E | ISO 2 6H | M | 2xD | ECO PRO | FormC 2-3

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | K 31 GG | N 41 Alu

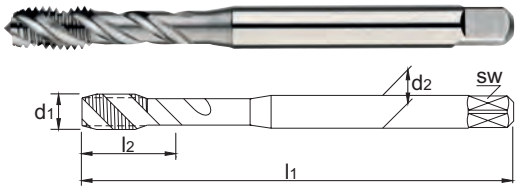
15-20 | 12-18 | 10-15 | 25-35

Ref.	d1	P	l1	l2	d2	sw	€
23.296.1000	M10	1.5	100	24	7	5.5	22,33
23.296.1200	M12	1.75	110	28	9	7	26,20
23.296.1400	M14	2	110	30	11	9	32,55
23.296.1600	M16	2	110	32	12	9	35,85
23.296.2000	M20	2.5	140	34	16	12	52,70

Ref.	d1	P	l1	l2	d2	sw	€
23.296.2200	M22	2.5	140	34	18	14.5	70,95
23.296.2400	M24	3	160	38	18	14.5	67,25
23.296.2700	M27	3	160	38	20	16	102,65
23.296.3000	M30	3.5	180	45	22	18	129,05

› 23.300 Phantom

NL **UNI HSS-E Machinetap Metrisch**
FR **Taraud machine HSS-E UNI Métrique**
ES **Macho máquina HSS-E UNI Métrica**
DE **UNI HSS-E Maschinengewindebohrer Metrisch**
EN **UNI HSS-E Machine Tap Metric Coarse**



60° | 40° | DIN 371 | HSS-E | ISO 2 6H | M | UNI | 2,5xD | FormC 2-3

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10% | N 51 Cu | S 71 Ni/Co | S 72 Ti

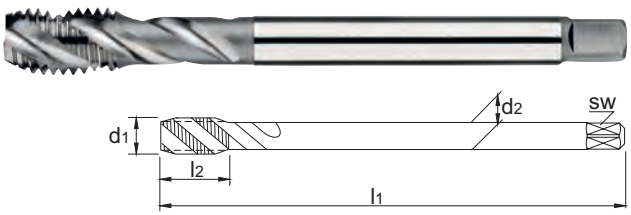
15-20 | 10-20 | 6-10 | 7-10 | 10-15 | 10-15 | 25-35 | 10-20 | 15-35 | 2-8 | 2-8

Ref.	d1	P	l1	l2	d2	sw	€
23.300.0200	M2	0.4	45	8	2.8	2.1	27,65
23.300.0220	M2,2	0.45	45	9	2.8	2.1	35,00
23.300.0230	M2,3	0.4	45	9	2.8	2.1	35,95
23.300.0250	M2,5	0.45	50	9	2.8	2.1	26,35
23.300.0260	M2,6	0.45	50	9	2.8	2.1	31,05
23.300.0300	M3	0.5	56	11	3.5	2.7	22,28
23.300.0350	M3,5	0.6	56	12	4	3	25,35

Ref.	d1	P	l1	l2	d2	sw	€
23.300.0400	M4	0.7	63	13	4.5	3.4	22,28
23.300.0500	M5	0.8	70	16	6	4.9	22,74
23.300.0600	M6	1	80	19	6	4.9	23,60
23.300.0700	M7	1	80	19	7	5.5	29,85
23.300.0800	M8	1.25	90	22	8	6.2	28,10
23.300.1000	M10	1.5	100	24	10	8	34,50

› 23.301 Phantom

NL **UNI HSS-E Machinetap Metrisch**
FR **Taraud machine HSS-E UNI Métrique**
ES **Macho máquina HSS-E UNI Métrica**
DE **UNI HSS-E Maschinengewindebohrer Metrisch**
EN **UNI HSS-E Machine Tap Metric Coarse**



60° | 40° | DIN 376 | HSS-E | ISO 2 6H | M | UNI | 2,5xD | FormC 2-3

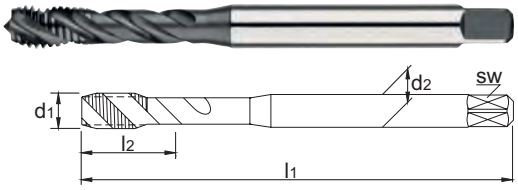
P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10% | N 51 Cu | S 71 Ni/Co | S 72 Ti

15-20 | 10-20 | 6-10 | 7-10 | 10-15 | 10-15 | 25-35 | 10-20 | 15-35 | 2-8 | 2-8

Ref.	d1	P	l1	l2	d2	sw	€
23.301.0600	M6	1	80	19	4.5	3.4	25,70
23.301.0800	M8	1.25	90	22	6	4.9	29,40
23.301.0900	M9	1.25	90	22	7	5.5	51,80
23.301.1000	M10	1.5	100	24	7	5.5	35,90
23.301.1200	M12	1.75	110	28	9	7	44,50
23.301.1400	M14	2	110	30	11	9	56,65
23.301.1600	M16	2	110	32	12	9	65,90
23.301.1800	M18	2.5	125	34	14	11	87,95

Ref.	d1	P	l1	l2	d2	sw	€
23.301.2000	M20	2.5	140	34	16	12	98,05
23.301.2200	M22	2.5	140	34	18	14.5	112,20
23.301.2400	M24	3	160	38	18	14.5	127,50
23.301.2700	M27	3	160	38	20	16	170,60
23.301.3000	M30	3.5	180	45	22	18	217,30
23.301.3300	M33	3.5	180	50	25	20	273,00
23.301.3600	M36	4	200	56	28	22	368,00

› 23.450 Phantom



NL **HSS-E Machinetap Metrisch, stoomontlaten, roestvaststaal**
FR **Taraud machine HSS-E Métrique, vaporisé, Inox**
ES **Macho máquina HSS-E Métrica, vaporizada, acero inoxidable**
DE **HSS-E Maschinengewindebohrer Metrisch, dampfangelassen, rostfreien Stahl**
EN **HSS-E Machine Tap Metric Coarse, steam oxide, stainless steel**

60° | 45° | DIN 371 | HSS-E | INOX | ISO 2 6H | M | OX. | 2,5xD | FormC 2-3

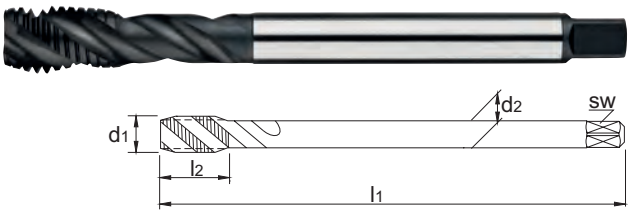
P 14 ≤1400 N/mm² | M 21 INOX ≤850N/mm² | M 22 INOX >850N/mm² | S 71 Ni/Co

3-5 | 7-10 | 5-8 | 2-8

Ref.	d1	P	l1	l2	d2	sw	€
23.450.0300	M3	0.5	56	11	3.5	2.7	27,15
23.450.0400	M4	0.7	63	13	4.5	3.4	27,55
23.450.0500	M5	0.8	70	16	6	4.9	28,40

Ref.	d1	P	l1	l2	d2	sw	€
23.450.0600	M6	1	80	19	6	4.9	28,50
23.450.0800	M8	1.25	90	22	8	6.2	33,90
23.450.1000	M10	1.5	100	24	10	8	40,75

› 23.451 Phantom



NL **HSS-E Machinetap Metrisch, stoomontlaten, roestvaststaal**
FR **Taraud machine HSS-E Métrique, vaporisé, Inox**
ES **Macho máquina HSS-E Métrica, vaporizada, acero inoxidable**
DE **HSS-E Maschinengewindebohrer Metrisch, dampfangelassen, rostfreien Stahl**
EN **HSS-E Machine Tap Metric Coarse, steam oxide, stainless steel**

60° | 40° | DIN 376 | HSS-E | INOX | ISO 2 6H | M | OX. | 2,5xD | FormC 2-3

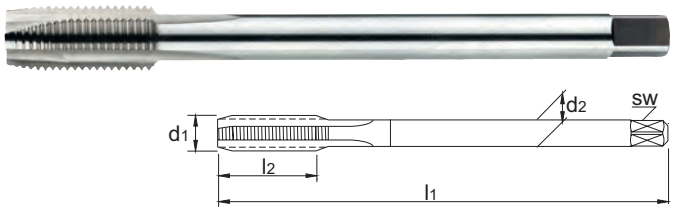
P 14 ≤1400 N/mm² | M 21 INOX ≤850N/mm² | M 22 INOX >850N/mm² | S 71 Ni/Co

3-5 | 7-10 | 5-8 | 2-8

Ref.	d1	P	l1	l2	d2	sw	€
23.451.0800	M8	1.25	90	22	6	4.9	36,80
23.451.1000	M10	1.5	100	24	7	5.5	44,15
23.451.1200	M12	1.75	110	28	9	7	52,90
23.451.1400	M14	2	110	30	11	9	65,35
23.451.1600	M16	2	110	32	12	9	77,15
23.451.1800	M18	2.5	125	34	14	11	106,65
23.451.2000	M20	2.5	140	34	16	12	115,20
23.451.2200	M22	2.5	140	34	18	14.5	143,35
23.451.2400	M24	3	160	38	18	14.5	149,10

Ref.	d1	P	l1	l2	d2	sw	€
23.451.2700	M27	3	160	38	20	16	213,85
23.451.3000	M30	3.5	180	45	22	18	251,00
23.451.3300	M33	3.5	180	50	25	20	302,00
23.451.3600	M36	4	200	56	28	22	355,00
23.451.3900	M39	4	200	60	32	24	425,00
23.451.4200	M42	4.5	200	60	32	24	495,00
23.451.4500	M45	4.5	220	65	36	29	591,00
23.451.4800	M48	5	250	70	36	29	740,00

› 23.615 International Tools



NL **ECO PRO HSS-E Machinetap Metrisch Fijn**
FR **Taraud machine HSS-E ECO PRO Métrique Fin**
ES **Macho máquina HSS-E ECO PRO Métrica Fina**
DE **ECO PRO HSS-E Maschinengewindebohrer Metrisch Fein**
EN **ECO PRO HSS-E Machine Tap Metric Fine**

60° | DIN 374 | HSS-E | ISO 2 6H | MF | 1,5xD | ECO PRO | FormB 3,5-5

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | K 31 GG | N 41 Alu

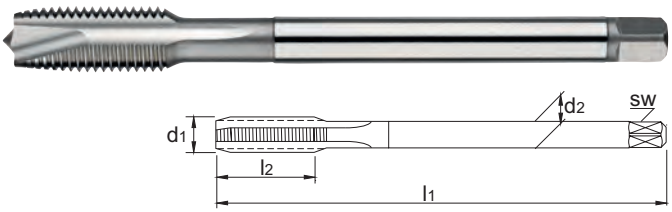
15-20 | 12-18 | 10-15 | 23-35

Ref.	d1	P	l1	l2	d2	sw	€
23.615.0505	MF5	0.5	70	12	3.5	2.7	22,78
23.615.0605	MF6	0.5	80	14	4.5	3.4	23,02
23.615.0607	MF6	0.75	80	14	4.5	3.4	22,86
23.615.0807	MF8	0.75	80	19	6	4.9	25,45
23.615.0810	MF8	1	90	22	6	4.9	23,02
23.615.1007	MF10	0.75	90	20	7	5.5	32,85
23.615.1010	MF10	1	90	20	7	5.5	24,10
23.615.1012	MF10	1.25	100	24	7	5.5	30,30
23.615.1210	MF12	1	100	22	9	7	27,85
23.615.1212	MF12	1.25	100	22	9	7	31,10
23.615.1215	MF12	1.5	100	22	9	7	26,35
23.615.1410	MF14	1	100	22	11	9	36,65
23.615.1412	MF14	1.25	100	22	11	9	35,20

Ref.	d1	P	l1	l2	d2	sw	€
23.615.1415	MF14	1.5	100	22	11	9	34,50
23.615.1610	MF16	1	100	22	12	9	41,50
23.615.1615	MF16	1.5	100	22	12	9	39,50
23.615.1810	MF18	1	110	25	14	11	52,95
23.615.1815	MF18	1.5	110	25	14	11	48,85
23.615.2010	MF20	1	125	25	16	12	57,25
23.615.2015	MF20	1.5	125	25	16	12	54,55
23.615.2020	MF20	2	140	25	16	12	74,50
23.615.2215	MF22	1.5	125	25	18	14.5	57,75
23.615.2415	MF24	1.5	140	28	18	14.5	63,65
23.615.2420	MF24	2	140	28	18	14.5	71,55
23.615.2515	MF25	1.5	140	28	18	14.5	114,10

› 23.620 Phantom

NL **UNI HSS-E Machinetap Metrisch Fijn**
FR **Taraud machine HSS-E UNI Métrique Fin**
ES **Macho máquina HSS-E UNI Métrica Fina**
DE **UNI HSS-E Maschinengewindebohrer Metrisch Fein**
EN **UNI HSS-E Machine Tap Metric Fine**



3xD | 60° | DIN 374 | HSS-E | ISO 2 6H | MF | UNI | FormB 3,5-5

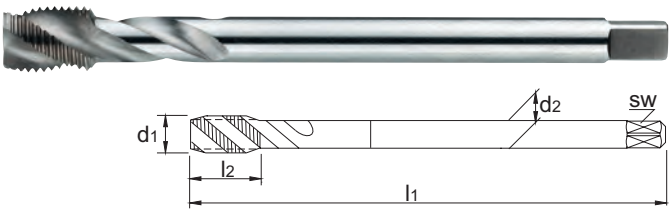
P 11	P 12	P 13	M 21	K 31	K 32	N 41	N 42	N 51	S 71	S 72
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	INOX ≤850N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu	Ni/Co	Ti
15-20	10-20	6-10	7-10	10-15	10-15	25-35	10-20	15-35	2-8	2-8

Ref.	d1	P	l1	l2	d2	sw	€
23.620.0303	MF3	0.35	56	8	2.2		33,60
23.620.0405	MF4	0.5	63	10	2.8	2.1	30,90
23.620.0505	MF5	0.5	70	11	3.5	2.7	31,95
23.620.0605	MF6	0.5	80	13	4.5	3.4	32,70
23.620.0607	MF6	0.75	80	13	4.5	3.4	31,95
23.620.0705	MF7	0.5	80	13	5.5	4.3	47,90
23.620.0707	MF7	0.75	80	13	5.5	4.3	45,05
23.620.0805	MF8	0.5	80	13	6	4.9	39,40
23.620.0807	MF8	0.75	80	13	6	4.9	37,65
23.620.0810	MF8	1	90	20	6	4.9	33,65
23.620.0907	MF9	0.75	90	20	7	5.5	45,80
23.620.0910	MF9	1	90	20	7	5.5	44,60
23.620.1005	MF10	0.5	90	16	7	5.5	48,55
23.620.1007	MF10	0.75	90	16	7	5.5	47,35
23.620.1010	MF10	1	90	16	7	5.5	37,35
23.620.1012	MF10	1.25	100	22	7	5.5	38,80
23.620.1110	MF11	1	90	20	8	6.2	55,70
23.620.1112	MF11	1.25	90	20	8	6.2	36,65
23.620.1205	MF12	0.5	100	22	9	7	49,35
23.620.1207	MF12	0.75	100	22	9	7	47,05
23.620.1210	MF12	1	100	22	9	7	40,15
23.620.1212	MF12	1.25	100	22	9	7	47,05
23.620.1215	MF12	1.5	100	22	9	7	41,50
23.620.1310	MF13	1	100	22	11	9	76,40
23.620.1410	MF14	1	100	22	11	9	57,55
23.620.1412	MF14	1.25	100	22	11	9	55,05
23.620.1415	MF14	1.5	100	22	11	9	55,05
23.620.1510	MF15	1	100	22	12	9	70,30
23.620.1515	MF15	1.5	100	22	12	9	72,20
23.620.1610	MF16	1	100	22	12	9	62,15
23.620.1612	MF16	1.25	100	22	12	9	58,55
23.620.1615	MF16	1.5	100	22	12	9	58,55
23.620.1810	MF18	1	110	25	14	11	84,15
23.620.1815	MF18	1.5	110	25	14	11	76,35
23.620.1820	MF18	2	125	30	14	11	90,65
23.620.2010	MF20	1	125	25	16	12	89,30
23.620.2015	MF20	1.5	125	25	16	12	82,90

Ref.	d1	P	l1	l2	d2	sw	€
23.620.2020	MF20	2	140	32	16	12	108,70
23.620.2210	MF22	1	125	25	18	14.5	123,75
23.620.2212	MF22	1.25	125	25	18	14.5	109,85
23.620.2215	MF22	1.5	125	25	18	14.5	94,95
23.620.2220	MF22	2	140	32	18	14.5	124,25
23.620.2410	MF24	1	140	28	18	14.5	131,95
23.620.2415	MF24	1.5	140	28	18	14.5	110,80
23.620.2420	MF24	2	140	28	18	14.5	141,20
23.620.2510	MF25	1	140	28	18	14.5	208,15
23.620.2515	MF25	1.5	140	28	18	14.5	189,15
23.620.2520	MF25	2	140	28	18	14.5	194,40
23.620.2615	MF26	1.5	140	28	18	14.5	154,55
23.620.2715	MF27	1.5	140	28	20	16	157,65
23.620.2720	MF27	2	140	28	20	16	173,45
23.620.2815	MF28	1.5	140	28	20	16	160,55
23.620.3010	MF30	1	150	28	22	18	192,05
23.620.3015	MF30	1.5	150	28	22	18	178,90
23.620.3020	MF30	2	150	28	22	18	184,40
23.620.3215	MF32	1.5	150	28	22	18	215,80
23.620.3315	MF33	1.5	160	30	25	20	292,00
23.620.3320	MF33	2	160	30	25	20	292,00
23.620.3415	MF34	1.5	170	30	28	22	298,00
23.620.3515	MF35	1.5	170	30	28	22	298,00
23.620.3615	MF36	1.5	170	30	28	22	286,00
23.620.3620	MF36	2	170	30	28	22	302,00
23.620.3630	MF36	3	200	50	28	22	321,00
23.620.3815	MF38	1.5	170	30	28	22	337,00
23.620.4015	MF40	1.5	170	30	32	24	323,00
23.620.4215	MF42	1.5	170	30	32	24	405,00
23.620.4220	MF42	2	170	30	32	24	433,00
23.620.4230	MF42	3	200	45	32	24	454,00
23.620.4515	MF45	1.5	180	32	36	29	464,00
23.620.4520	MF45	2	180	32	36	29	479,00
23.620.4815	MF48	1.5	190	32	36	29	563,00
23.620.5015	MF50	1.5	190	32	36	29	675,00
23.620.5215	MF52	1.5	190	32	40	32	697,00

› 23.835 International Tools

NL **ECO PRO HSS-E Machinetap Metrisch Fijn**
FR **Taraud machine HSS-E ECO PRO Métrique Fin**
ES **Macho máquina HSS-E ECO PRO Métrica Fina**
DE **ECO PRO HSS-E Maschinengewindebohrer Metrisch Fein**
EN **ECO PRO HSS-E Machine Tap Metric Fine**



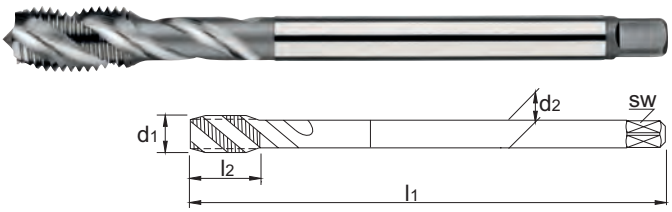
60° | 35° | DIN 374 | HSS-E | ISO 2 6H | MF | 2xD | ECO PRO | FormC 2-3

P 11	P 12	K 31	N 41
≤600 N/mm²	≤850 N/mm²	GG	Alu
15-20	12-18	10-15	23-35

Ref.	d1	P	l1	l2	d2	sw	€
23.835.0810	MF8	1	90	10	6	4.9	24,10
23.835.1010	MF10	1	90	12	7	5.5	25,90
23.835.1012	MF10	1.25	100	12	7	5.5	35,30
23.835.1210	MF12	1	100	14	9	7	30,45
23.835.1212	MF12	1.25	100	14	9	7	39,50

Ref.	d1	P	l1	l2	d2	sw	€
23.835.1215	MF12	1.5	100	14	9	7	28,95
23.835.1415	MF14	1.5	100	16	11	9	37,45
23.835.1615	MF16	1.5	100	16	12	9	45,45
23.835.1815	MF18	1.5	110	20	14	11	51,20
23.835.2015	MF20	1.5	125	20	16	12	58,65

› 23.840 Phantom



NL **UNI HSS-E Machinetap Metrisch Fijn**
FR **Taraud machine HSS-E UNI Métrique Fin**
ES **Macho máquina HSS-E UNI Métrica Fina**
DE **UNI HSS-E Maschinengewindebohrer Metrisch Fein**
EN **UNI HSS-E Machine Tap Metric Fine**

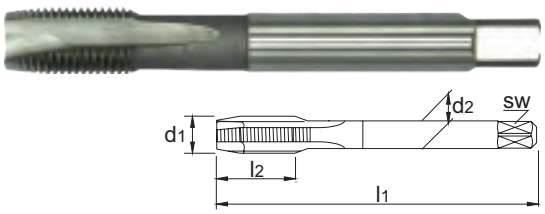
60° | 40° | DIN 374 | HSS-E | ISO 2 6H | MF | UNI | 2,5xD | Form C 2-3

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	M 21 INOX ≤850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 41 Alu	N 42 Alu Si>10%	N 51 Cu	S 71 Ni/Co	S 72 Ti
15-20	10-20	6-10	7-10	10-15	10-15	25-35	10-20	15-35	2-8	2-8

Ref.	d1	P	l1	l2	d2	sw	€
23.840.0405	MF4	0.5	63	10	2.8	2.1	31,00
23.840.0505	MF5	0.5	70	11	3.5	2.7	31,70
23.840.0605	MF6	0.5	80	13	4.5	3.4	31,70
23.840.0607	MF6	0.75	80	13	4.5	3.4	32,30
23.840.0807	MF8	0.75	80	14	6	4.9	38,40
23.840.0810	MF8	1	90	17	6	4.9	37,55
23.840.0910	MF9	1	90	18	7	5.5	45,35
23.840.1007	MF10	0.75	90	18	7	5.5	45,50
23.840.1010	MF10	1	90	18	7	5.5	40,35
23.840.1012	MF10	1.25	100	22	7	5.5	40,35
23.840.1110	MF11	1	90	18	8	6.2	50,70
23.840.1210	MF12	1	100	18	9	7	53,55
23.840.1212	MF12	1.25	100	22	9	7	53,80
23.840.1215	MF12	1.5	100	22	9	7	46,40
23.840.1310	MF13	1	100	22	11	9	55,60
23.840.1410	MF14	1	100	22	11	9	66,85
23.840.1412	MF14	1.25	100	22	11	9	66,85
23.840.1415	MF14	1.5	100	22	11	9	60,75
23.840.1510	MF15	1	100	22	12	9	73,95
23.840.1515	MF15	1.5	100	22	12	9	73,95
23.840.1610	MF16	1	100	18	12	9	73,95
23.840.1615	MF16	1.5	100	22	12	9	73,75
23.840.1810	MF18	1	110	20	14	11	97,20
23.840.1815	MF18	1.5	110	25	14	11	94,95
23.840.1820	MF18	2	125	27	14	11	91,25

Ref.	d1	P	l1	l2	d2	sw	€
23.840.2010	MF20	1	125	20	16	12	104,20
23.840.2015	MF20	1.5	125	25	16	12	102,20
23.840.2020	MF20	2	140	27	16	12	104,20
23.840.2210	MF22	1	125	20	18	14.5	130,55
23.840.2215	MF22	1.5	125	25	18	14.5	115,40
23.840.2220	MF22	2	140	27	18	14.5	118,30
23.840.2410	MF24	1	140	20	18	14.5	138,00
23.840.2415	MF24	1.5	140	27	18	14.5	136,55
23.840.2420	MF24	2	140	27	18	14.5	138,00
23.840.2515	MF25	1.5	140	28	18	14.5	219,80
23.840.2615	MF26	1.5	140	28	18	14.5	175,65
23.840.2715	MF27	1.5	140	28	20	16	196,00
23.840.2720	MF27	2	140	28	20	16	197,55
23.840.2815	MF28	1.5	140	28	20	16	199,05
23.840.3010	MF30	1	150	28	22	18	232,40
23.840.3015	MF30	1.5	150	30	22	18	223,95
23.840.3020	MF30	2	150	30	22	18	231,75
23.840.3215	MF32	1.5	150	30	22	18	259,00
23.840.3315	MF33	1.5	160	30	25	20	305,00
23.840.3320	MF33	2	160	33	25	20	307,00
23.840.3515	MF35	1.5	170	32	28	22	356,00
23.840.3615	MF36	1.5	170	33	28	22	320,00
23.840.3620	MF36	2	170	33	28	22	330,00
23.840.3630	MF36	3	200	45	28	22	340,00
23.840.4015	MF40	1.5	170	33	32	24	382,00

› 25.095 International Tools



NL **ECO PRO HSS-E Machinetap G (BSP)**
FR **Taraud machine HSS-E ECO PRO G (BSP)**
ES **Macho máquina HSS-E ECO PRO G (BSP)**
DE **ECO PRO HSS-E Maschinengewindebohrer G (BSP)**
EN **ECO PRO HSS-E Machine Tap G (BSP)**

55° | BSP G | DIN 5156 | HSS-E | 1,5xD | ECO PRO | Form B 3,5-5

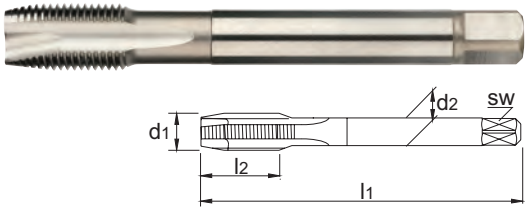
P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	K 31 GG	N 41 Alu
15-20	12-18	10-15	23-35

Ref.	d1	TPI	l1	l2	d2	sw	€
25.095.0973	G 1/8	28	90	20	7	5.5	33,25
25.095.1316	G 1/4	19	100	22	11	9	44,55
25.095.1666	G 3/8	19	100	22	12	9	55,30

Ref.	d1	TPI	l1	l2	d2	sw	€
25.095.2096	G 1/2	14	125	25	16	12	74,50
25.095.2644	G 3/4	14	140	28	20	16	117,20
25.095.3325	G 1	11	160	30	25	20	165,20

› 25.097 Phantom

NL **UNI HSS-E Machinetap G (BSP)**
FR **Taraud machine HSS-E UNI G (BSP)**
ES **Macho máquina HSS-E UNI G (BSP)**
DE **UNI HSS-E Maschinengewindebohrer G (BSP)**
EN **UNI HSS-E Machine Tap G (BSP)**



3xD | 55° | BSP G | DIN 5156 | HSS-E | UNI | FormB 3,5-5

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | M 22 INOX >850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10% | N 51 Cu | S 71 Ni/Co | S 72 Ti

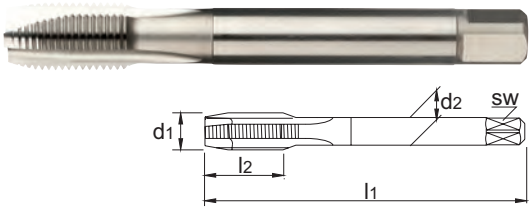
15-20 | 10-20 | 6-10 | 7-10 | 4-8 | 10-15 | 10-15 | 25-35 | 10-20 | 15-35 | 2-8 | 2-8

Ref.	d1	TPI	l1	l2	d2	sw	€
25.097.0973	G 1/8	28	90	20	7	5.5	36,10
25.097.1316	G 1/4	19	100	22	11	9	48,80
25.097.1666	G 3/8	19	100	22	12	9	57,60
25.097.2096	G 1/2	14	125	25	16	12	82,80
25.097.2291	G 5/8	14	125	25	18	14.5	113,55
25.097.2644	G 3/4	14	140	28	20	16	146,85

Ref.	d1	TPI	l1	l2	d2	sw	€
25.097.3020	G 7/8	14	150	28	22	18	179,25
25.097.3325	G 1	11	160	30	25	20	211,00
25.097.3790	G 1.1/8	11	170	30	28	22	288,00
25.097.4191	G 1.1/4	11	170	30	32	24	330,00
25.097.4780	G 1.1/2	11	190	32	36	29	470,00

› 25.100 Phantom

NL **HSS-E Machinetap G (BSP)**
FR **Taraud machine HSS-E G (BSP)**
ES **Macho máquina HSS-E G (BSP)**
DE **HSS-E Maschinengewindebohrer G (BSP)**
EN **HSS-E Machine Tap G (BSP)**



3xD | 55° | BSP G | DIN 5156 | HSS-E | FormB 3,5-5

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

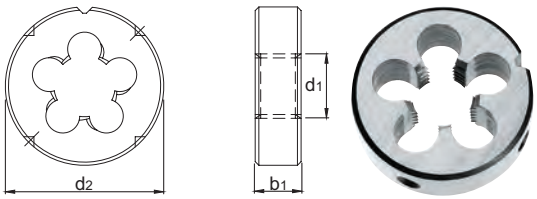
15-20 | 10-20 | 5-15 | 10-35 | 10-20 | 8-35 | 20-30

Ref.	d1	TPI	l1	l2	d2	sw	€
25.100.0973	G 1/8	28	90	20	7	5.5	36,10
25.100.1316	G 1/4	19	100	22	11	9	48,80
25.100.1666	G 3/8	19	100	22	12	9	57,60
25.100.2096	G 1/2	14	125	25	16	12	82,80
25.100.2291	G 5/8	14	125	25	18	14.5	104,60
25.100.2644	G 3/4	14	140	28	20	16	133,45

Ref.	d1	TPI	l1	l2	d2	sw	€
25.100.3020	G 7/8	14	150	28	22	18	172,35
25.100.3325	G 1	11	160	30	25	20	205,75
25.100.3790	G 1.1/8	11	170	30	28	22	280,00
25.100.4191	G 1.1/4	11	170	30	32	24	330,00
25.100.4780	G 1.1/2	11	190	32	36	29	470,00

› 27.100 International Tools

NL **ECO PRO HSS Ronde Snijplaat Metrisch**
FR **Filière ronde HSS ECO PRO Métrique**
ES **Terraja esférica HSS ECO PRO Métrica**
DE **ECO PRO HSS Runde Schneideisen Metrisch**
EN **ECO PRO HSS Thread Die Metric Coarse**



60° | 6g | DIN EN 22568 | HSS | M | ECO PRO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10%

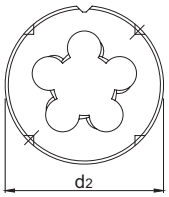
Ref.	d1	P	d2	b1	€
27.100.0200	M2	0.4	16	5	9,55
27.100.0250	M2,5	0.45	16	5	9,55
27.100.0300	M3	0.5	20	5	8,46
27.100.0400	M4	0.7	20	5	8,46
27.100.0500	M5	0.8	20	7	8,46
27.100.0600	M6	1	20	7	8,46
27.100.0700	M7	1	25	9	10,09

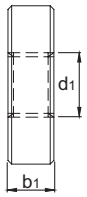
Ref.	d1	P	d2	b1	€
27.100.0800	M8	1.25	25	9	10,09
27.100.1000	M10	1.5	30	11	16,92
27.100.1200	M12	1.75	38	14	23,75
27.100.1400	M14	2	38	14	23,75
27.100.1600	M16	2	45	18	44,35
27.100.1800	M18	2.5	45	18	44,35
27.100.2000	M20	2.5	45	18	44,35

Ref.	d1	P	d2	b1	€
27.100.2200	M22	2.5	55	22	74,50
27.100.2400	M24	3	55	22	74,50
27.100.2700	M27	3	65	25	107,05
27.100.3000	M30	3.5	65	25	107,05
27.100.3300	M33	3.5	65	25	107,05
27.100.3600	M36	4	65	25	107,05

› 27.120 Phantom

NL **HSS Ronde Snijplaat Metrisch, schilaansnijding**
FR **Filière ronde HSS Métrique, coupe gun**
ES **Terraja esférica HSS Métrica, entrada corregida (gun)**
DE **HSS Runde Schneideisen Metrisch, Schälanschnitt**
EN **HSS Thread Die Metric Coarse, gun nosed**







60° | 6g | DIN EN 22568 | HSS | M | ≥M3

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | N 41 Alu

10-14 | 6-10 | 5-8 | 4-6 | 15-25

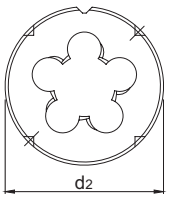
Ref.	d1	P	d2	b1	€
27.120.0100	M1	0.25	16	5	77,55
27.120.0120	M1,2	0.25	16	5	73,00
27.120.0140	M1,4	0.3	16	5	66,90
27.120.0160	M1,6	0.35	16	5	57,85
27.120.0180	M1,8	0.35	16	5	61,10
27.120.0200	M2	0.4	16	5	45,85
27.120.0220	M2,2	0.45	16	5	69,20
27.120.0230	M2,3	0.4	16	5	50,00
27.120.0250	M2,5	0.45	16	5	41,80
27.120.0260	M2,6	0.45	16	5	44,40
27.120.0300	M3	0.5	20	5	38,80
27.120.0350	M3,5	0.6	20	5	41,65

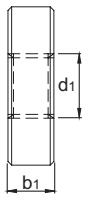
Ref.	d1	P	d2	b1	€
27.120.0400	M4	0.7	20	5	38,80
27.120.0500	M5	0.8	20	7	38,80
27.120.0600	M6	1	20	7	38,80
27.120.0700	M7	1	25	9	48,30
27.120.0800	M8	1.25	25	9	42,60
27.120.0900	M9	1.25	25	9	55,35
27.120.1000	M10	1.5	30	11	51,35
27.120.1100	M11	1.5	30	11	68,90
27.120.1200	M12	1.75	38	14	67,40
27.120.1400	M14	2	38	14	68,85
27.120.1600	M16	2	45	18	87,50
27.120.1800	M18	2.5	45	18	93,30

Ref.	d1	P	d2	b1	€
27.120.2000	M20	2.5	45	18	93,30
27.120.2200	M22	2.5	55	22	133,45
27.120.2400	M24	3	55	22	133,45
27.120.2700	M27	3	65	25	201,20
27.120.3000	M30	3.5	65	25	201,20
27.120.3300	M33	3.5	65	25	218,50
27.120.3600	M36	4	65	25	205,80
27.120.3900	M39	4	75	30	342,00
27.120.4200	M42	4.5	75	30	342,00
27.120.4500	M45	4.5	90	36	538,00
27.120.4800	M48	5	90	36	513,00
27.120.5200	M52	5	90	36	542,00

› 27.200 International Tools

NL **ECO PRO HSS Ronde Snijplaat Metrisch Fijn**
FR **Filière ronde HSS ECO PRO Métrique Fin**
ES **Terraja esférica HSS ECO PRO Métrica Fina**
DE **ECO PRO HSS Runde Schneideisen Metrisch Fein**
EN **ECO PRO HSS Thread Die Metric Fine**







60° | 6g | DIN EN 22568 | HSS | MF | ECO PRO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10%

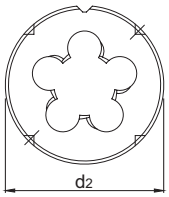
Ref.	d1	P	d2	b1	€
27.200.0403	MF4	0.35	20	5	9,38
27.200.0405	MF4	0.5	20	5	9,38
27.200.0505	MF5	0.5	20	5	9,38
27.200.0605	MF6	0.5	20	5	9,38
27.200.0607	MF6	0.75	20	7	10,09
27.200.0707	MF7	0.75	25	9	10,27
27.200.0805	MF8	0.5	25	9	10,27
27.200.0807	MF8	0.75	25	9	10,09
27.200.0810	MF8	1	25	9	10,09
27.200.0910	MF9	1	25	9	10,27
27.200.1007	MF10	0.75	30	11	17,22
27.200.1010	MF10	1	30	11	16,92

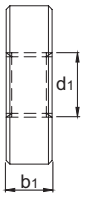
Ref.	d1	P	d2	b1	€
27.200.1012	MF10	1.25	30	11	16,92
27.200.1210	MF12	1	38	10	23,75
27.200.1212	MF12	1.25	38	10	23,75
27.200.1215	MF12	1.5	38	10	23,75
27.200.1310	MF13	1	38	10	23,68
27.200.1410	MF14	1	38	10	23,75
27.200.1412	MF14	1.25	38	10	23,75
27.200.1415	MF14	1.5	38	10	23,75
27.200.1510	MF15	1	38	10	23,75
27.200.1610	MF16	1	45	14	44,35
27.200.1615	MF16	1.5	45	14	44,35
27.200.1810	MF18	1	45	14	44,35

Ref.	d1	P	d2	b1	€
27.200.1815	MF18	1.5	45	14	44,35
27.200.2010	MF20	1	45	14	44,35
27.200.2015	MF20	1.5	45	14	44,35
27.200.2215	MF22	1.5	55	16	74,50
27.200.2220	MF22	2	55	16	74,25
27.200.2415	MF24	1.5	55	16	74,50
27.200.2420	MF24	2	55	16	74,50
27.200.2715	MF27	1.5	65	18	90,45
27.200.2720	MF27	2	65	18	90,45
27.200.3015	MF30	1.5	65	18	107,05
27.200.3020	MF30	2	65	18	107,05

› 27.220 Phantom

NL **HSS Ronde Snijplaat Metrisch Fijn, schilaansnijding**
FR **Filière ronde HSS Métrique Fin, coupe gun**
ES **Terraja esférica HSS Métrica Fina, entrada corregida (gun)**
DE **HSS Runde Schneideisen Metrisch Fein, Schälanschnitt**
EN **HSS Thread Die Metric Fine, gun nosed**







60° | 6g | DIN EN 22568 | HSS | MF

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | N 41 Alu

10-14 | 6-10 | 5-8 | 4-6 | 15-25

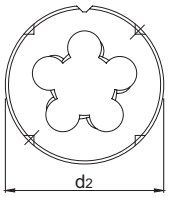
Ref.	d1	P	d2	b1	€
27.220.0303	MF3	0.35	20	5	60,35
27.220.0403	MF4	0.35	20	5	62,65
27.220.0405	MF4	0.5	20	5	50,00
27.220.0505	MF5	0.5	20	5	48,90
27.220.0605	MF6	0.5	20	5	48,90
27.220.0607	MF6	0.75	20	7	48,65
27.220.0707	MF7	0.75	25	9	54,95
27.220.0805	MF8	0.5	25	9	72,35
27.220.0807	MF8	0.75	25	9	51,65
27.220.0810	MF8	1	25	9	50,80
27.220.0907	MF9	0.75	25	9	67,95
27.220.0910	MF9	1	25	9	62,00
27.220.1005	MF10	0.5	30	11	91,70
27.220.1007	MF10	0.75	30	11	68,00
27.220.1010	MF10	1	30	11	61,35
27.220.1012	MF10	1.25	30	11	66,60
27.220.1110	MF11	1	30	11	68,50
27.220.1205	MF12	0.5	38	10	118,80
27.220.1207	MF12	0.75	38	10	91,00
27.220.1210	MF12	1	38	10	80,15
27.220.1212	MF12	1.25	38	10	83,65
27.220.1215	MF12	1.5	38	10	73,80
27.220.1310	MF13	1	38	10	85,60
27.220.1405	MF14	0.5	38	10	144,80
27.220.1407	MF14	0.75	38	10	90,60
27.220.1410	MF14	1	38	10	80,65
27.220.1412	MF14	1.25	38	10	84,25
27.220.1415	MF14	1.5	38	10	73,80

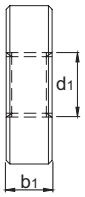
Ref.	d1	P	d2	b1	€
27.220.1510	MF15	1	38	10	84,75
27.220.1515	MF15	1.5	38	10	95,30
27.220.1607	MF16	0.75	45	14	151,00
27.220.1610	MF16	1	45	14	111,55
27.220.1612	MF16	1.25	45	14	132,50
27.220.1615	MF16	1.5	45	14	100,80
27.220.1810	MF18	1	45	14	111,55
27.220.1812	MF18	1.25	45	14	148,00
27.220.1815	MF18	1.5	45	14	100,80
27.220.1820	MF18	2	45	14	124,25
27.220.2010	MF20	1	45	14	111,55
27.220.2015	MF20	1.5	45	14	100,80
27.220.2020	MF20	2	45	14	115,45
27.220.2210	MF22	1	55	16	148,60
27.220.2215	MF22	1.5	55	16	132,30
27.220.2220	MF22	2	55	16	158,70
27.220.2410	MF24	1	55	16	148,60
27.220.2415	MF24	1.5	55	16	132,30
27.220.2420	MF24	2	55	16	146,90
27.220.2510	MF25	1	55	16	187,05
27.220.2515	MF25	1.5	55	16	157,45
27.220.2520	MF25	2	55	16	202,75
27.220.2610	MF26	1	55	16	187,05
27.220.2615	MF26	1.5	55	16	157,45
27.220.2710	MF27	1	65	18	235,60
27.220.2715	MF27	1.5	65	18	196,05
27.220.2720	MF27	2	65	18	216,00
27.220.2815	MF28	1.5	65	18	196,05

Ref.	d1	P	d2	b1	€
27.220.2820	MF28	2	65	18	259,00
27.220.3010	MF30	1	65	19	225,65
27.220.3015	MF30	1.5	65	18	196,05
27.220.3020	MF30	2	65	18	216,00
27.220.3215	MF32	1.5	65	18	200,00
27.220.3315	MF33	1.5	65	18	206,85
27.220.3320	MF33	2	65	18	216,00
27.220.3415	MF34	1.5	65	18	239,10
27.220.3515	MF35	1.5	65	18	204,65
27.220.3615	MF36	1.5	65	18	204,65
27.220.3620	MF36	2	65	18	216,00
27.220.3630	MF36	3	65	25	274,00
27.220.3815	MF38	1.5	75	20	310,00
27.220.3920	MF39	2	75	20	345,00
27.220.3930	MF39	3	75	30	373,00
27.220.4015	MF40	1.5	75	20	310,00
27.220.4020	MF40	2	75	20	345,00
27.220.4215	MF42	1.5	75	20	310,00
27.220.4220	MF42	2	75	20	345,00
27.220.4230	MF42	3	75	30	373,00
27.220.4515	MF45	1.5	90	22	417,00
27.220.4520	MF45	2	90	22	459,00
27.220.4530	MF45	3	90	22	500,00
27.220.4815	MF48	1.5	90	22	417,00
27.220.4830	MF48	3	90	22	500,00
27.220.5015	MF50	1.5	90	22	417,00
27.220.5215	MF52	1.5	90	22	417,00

› 27.500 International Tools

NL **ECO PRO HSS Ronde Snijplaat G (BSP)**
FR **Filière ronde HSS ECO PRO G (BSP)**
ES **Terraja esférica HSS ECO PRO G (BSP)**
DE **ECO PRO HSS Runde Schneideisen G (BSP)**
EN **ECO PRO HSS Thread Die G (BSP)**







55° | BSP G | HSS | DIN EN 24231 | ECO PRO

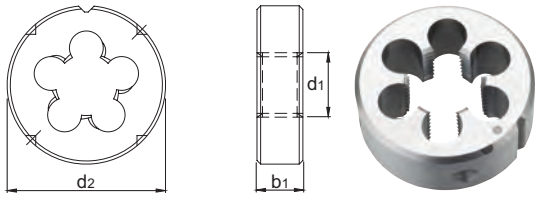
P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10%

Ref.	d1	TPI	d2	b1	€
27.500.0973	G 1/8	28	30	11	18,99
27.500.1316	G 1/4	19	38	10	23,21
27.500.1666	G 3/8	19	45	14	36,90
27.500.2096	G 1/2	14	45	14	36,90
27.500.2291	G 5/8	14	55	16	61,20
27.500.2644	G 3/4	14	55	16	61,20

Ref.	d1	TPI	d2	b1	€
27.500.3020	G 7/8	14	65	18	103,40
27.500.3325	G 1	11	65	18	103,40
27.500.4191	G 1.1/4	11	75	20	170,90
27.500.4432	G 1.3/8	11	90	22	108,40
27.500.4780	G 1.1/2	11	90	22	232,10

› 27.520 Phantom

NL **HSS Ronde Snijplaat schilaansnijding G (BSP)**
FR **Filière ronde HSS coupe gun G (BSP)**
ES **Terraja esférica HSS entrada corregida (gun) G (BSP)**
DE **HSS Runde Schneideisen Schälanschnitt G (BSP)**
EN **HSS Thread Die gun nosed G (BSP)**



55° | BSP G | HSS | DIN EN 24231

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | N 41 Alu

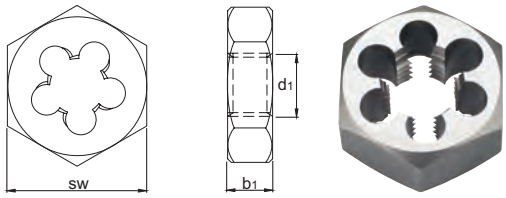
10-14 | 6-10 | 5-8 | 4-6 | 15-25

Ref.	d1	TPI	d2	b1	€
27.520.0973	G 1/8	28	30	11	71,25
27.520.1316	G 1/4	19	38	10	71,25
27.520.1666	G 3/8	19	45	14	94,70
27.520.2096	G 1/2	14	45	14	94,70
27.520.2291	G 5/8	14	55	16	145,00
27.520.2644	G 3/4	14	55	16	143,90
27.520.3020	G 7/8	14	65	18	227,35

Ref.	d1	TPI	d2	b1	€
27.520.3325	G 1	11	65	18	200,50
27.520.3790	G 1.1/8	11	75	20	351,00
27.520.4191	G 1.1/4	11	75	20	298,00
27.520.4432	G 1.3/8	11	90	22	485,00
27.520.4780	G 1.1/2	11	90	22	411,00
27.520.5375	G 1.3/4	11	90	22	437,00
27.520.5961	G 2	11	105	22	531,00

› 27.700 International Tools

NL **ECO PRO HSS Zeskante Snijmoer Metrisch**
FR **Filière hexagonale HSS ECO PRO Métrique**
ES **Terraja hexagonal HSS ECO PRO Métrica**
DE **ECO PRO HSS Sechskant Schneideisen Metrisch**
EN **ECO PRO HSS Hexagon Die Nut Metric Coarse**



60° | 6g | DIN 382 | HSS | M | ECO PRO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10%

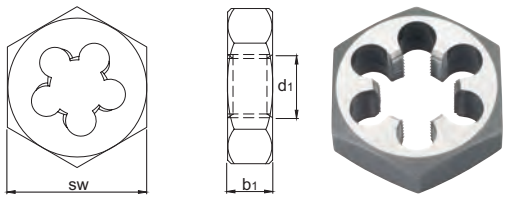
Ref.	d1	P	sw	b1	€
27.700.0300	M3	0.5	19	5	16,88
27.700.0400	M4	0.7	19	5	16,88
27.700.0500	M5	0.8	19	7	18,99
27.700.0600	M6	1	19	7	18,99
27.700.0700	M7	1	22	9	21,10
27.700.0800	M8	1.25	22	9	21,10
27.700.0900	M9	1.25	22	9	23,21
27.700.1000	M10	1.5	27	11	27,45

Ref.	d1	P	sw	b1	€
27.700.1200	M12	1.75	36	14	44,30
27.700.1400	M14	2	36	14	44,30
27.700.1600	M16	2	41	18	65,40
27.700.1800	M18	2.5	41	18	65,40
27.700.2000	M20	2.5	41	18	65,40
27.700.2200	M22	2.5	50	22	103,40
27.700.2400	M24	3	50	22	103,40
27.700.2700	M27	3	60	25	166,70

Ref.	d1	P	sw	b1	€
27.700.3000	M30	3.5	60	25	166,70
27.700.3300	M33	3.5	60	25	170,85
27.700.3600	M36	4	60	25	166,70
27.700.3900	M39	4	70	30	270,00
27.700.4200	M42	4.5	70	30	270,00
27.700.4500	M45	4.5	85	36	398,00
27.700.4800	M48	5	85	36	389,00
27.700.5200	M52	5	85	36	398,00

› 27.750 International Tools

NL **ECO PRO HSS Zeskante Snijmoer Metrisch Fijn**
FR **Filière hexagonale HSS ECO PRO Métrique Fin**
ES **Terraja hexagonal HSS ECO PRO Métrica Fina**
DE **ECO PRO HSS Sechskant Schneideisen Metrisch Fein**
EN **ECO PRO HSS Hexagon Die Nut Metric Fine**



60° | 6g | DIN 382 | HSS | MF | ECO PRO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10%

Ref.	d1	P	sw	b1	€
27.750.0303	MF3	0.35	19	5	38,60
27.750.0403	MF4	0.35	19	5	38,60
27.750.0505	MF5	0.5	19	5	38,60
27.750.0605	MF6	0.5	19	5	38,60
27.750.0607	MF6	0.75	19	7	38,60
27.750.0805	MF8	0.5	22	9	41,95
27.750.0807	MF8	0.75	22	9	41,95
27.750.0810	MF8	1	22	9	23,74
27.750.1007	MF10	0.75	27	11	41,95
27.750.1010	MF10	1	27	11	31,65
27.750.1012	MF10	1.25	27	11	31,65
27.750.1207	MF12	0.75	36	10	58,50
27.750.1210	MF12	1	36	10	50,65

Ref.	d1	P	sw	b1	€
27.750.1212	MF12	1.25	36	10	50,65
27.750.1215	MF12	1.5	36	10	50,65
27.750.1410	MF14	1	36	10	50,65
27.750.1412	MF14	1.25	36	10	50,65
27.750.1415	MF14	1.5	36	10	50,65
27.750.1610	MF16	1	41	14	75,95
27.750.1612	MF16	1.25	41	14	81,65
27.750.1615	MF16	1.5	41	14	75,95
27.750.1810	MF18	1	41	14	75,95
27.750.1812	MF18	1.25	41	14	83,85
27.750.1815	MF18	1.5	41	14	75,95
27.750.1820	MF18	2	41	14	75,95
27.750.2010	MF20	1	41	14	75,95

Ref.	d1	P	sw	b1	€
27.750.2012	MF20	1.25	41	14	83,85
27.750.2015	MF20	1.5	41	14	75,95
27.750.2020	MF20	2	41	14	75,95
27.750.2212	MF22	1.25	50	16	121,85
27.750.2215	MF22	1.5	50	16	121,85
27.750.2220	MF22	2	50	16	121,85
27.750.2415	MF24	1.5	50	16	121,85
27.750.2420	MF24	2	50	16	121,85
27.750.2515	MF25	1.5	50	16	121,85
27.750.2615	MF26	1.5	50	16	178,30
27.750.2620	MF26	2	50	16	186,45
27.750.2715	MF27	1.5	60	18	178,30
27.750.2720	MF27	2	60	18	178,30

› 27.750 International Tools

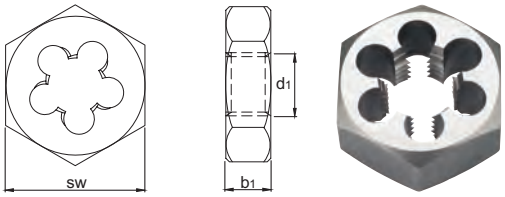
Ref.	d1	P	sw	b1	€
27.750.2815	MF28	1.5	60	18	178,30
27.750.2820	MF28	2	60	18	199,75
27.750.3015	MF30	1.5	60	18	178,30
27.750.3020	MF30	2	60	18	178,30
27.750.3215	MF32	1.5	60	18	178,30
27.750.3220	MF32	2	60	18	199,75
27.750.3315	MF33	1.5	60	18	199,75
27.750.3515	MF35	1.5	60	18	178,30
27.750.3520	MF35	2	60	18	187,60
27.750.3615	MF36	1.5	60	18	178,30
27.750.3620	MF36	2	60	18	178,30

Ref.	d1	P	sw	b1	€
27.750.3630	MF36	3	60	25	178,30
27.750.3815	MF38	1.5	70	20	237,40
27.750.3820	MF38	2	70	20	350,00
27.750.4015	MF40	1.5	70	20	237,40
27.750.4020	MF40	2	70	20	329,00
27.750.4030	MF40	3	70	30	329,00
27.750.4215	MF42	1.5	70	20	329,00
27.750.4220	MF42	2	70	20	314,00
27.750.4230	MF42	3	70	30	314,00
27.750.4515	MF45	1.5	85	22	387,00
27.750.4530	MF45	3	85	36	472,00

Ref.	d1	P	sw	b1	€
27.750.4615	MF46	1.5	85	22	515,00
27.750.4815	MF48	1.5	85	22	464,00
27.750.4820	MF48	2	85	22	464,00
27.750.4830	MF48	3	85	36	442,00
27.750.5015	MF50	1.5	85	22	406,00
27.750.5020	MF50	2	85	22	525,00
27.750.5215	MF52	1.5	85	22	406,00
27.750.5220	MF52	2	85	22	422,00
27.750.6020	MF60	2	100	22	685,00

› 27.900 International Tools

NL ECO PRO HSS Zeskante Snijmoer G (BSP)
FR Filière hexagonale HSS ECO PRO G (BSP)
ES Terraja hexagonal HSS ECO PRO G (BSP)
DE ECO PRO HSS Sechskant Schneideisen G (BSP)
EN ECO PRO HSS Hexagon Die Nut G (BSP)



55° | BSP G | DIN 382 | HSS | ECO PRO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10%

Ref.	d1	TPI	sw	b1	€
27.900.0973	G 1/8	28	27	11	29,55
27.900.1316	G 1/4	19	36	10	44,30
27.900.1666	G 3/8	19	41	14	59,10
27.900.2096	G 1/2	14	41	14	59,10
27.900.2291	G 5/8	14	50	16	99,50
27.900.2644	G 3/4	14	50	16	97,05
27.900.3020	G 7/8	14	60	18	153,55
27.900.3325	G 1	11	60	18	149,80

Ref.	d1	TPI	sw	b1	€
27.900.3790	G 1.1/8	11	70	20	215,15
27.900.4191	G 1.1/4	11	70	20	209,95
27.900.4432	G 1.3/8	11	85	22	329,00
27.900.4780	G 1.1/2	11	85	22	329,00
27.900.5375	G 1.3/4	11	85	22	534,00
27.900.5961	G 2	11	100	22	525,00
27.900.7518	G 2.1/2	11	120	22	644,00
27.900.8788	G 3	11	130	22	1.014,00

› 28.870 Phantom

NL Set Phan-Coils Metrisch
FR Coffret de Phan-Coils Métrique
ES Juego de Phan-Coils Métrica
DE Satz Phan-Coils Metrisch
EN Set Phan-Coils Metric Coarse



M | EG | Phan-Coil

Ref.	d1	P	Max. x d1	1	2	3	4	5	€
28.870.0040	M4	0.7	2	11.450.0420	21.812.0400	28.860.0025	28.865.0025	1,5xD (5), 2xD (5)	55,65
28.870.0050	M5	0.8	2	11.450.0525	21.812.0500	28.860.0035	28.865.0035	1,5xD (5), 2xD (5)	56,45
28.870.0060	M6	1	2	11.450.0630	21.812.0600	28.860.0040	28.865.0040	1,5xD (5), 2xD (5)	58,15
28.870.0080	M8	1.25	2	11.450.0840	21.812.0800	28.860.0055	28.865.0055	1,5xD (5), 2xD (5)	66,25
28.870.0100	M10	1.5	2	11.450.1050	21.812.1000	28.860.0070	28.865.0070	1,5xD (5), 2xD (5)	72,10
28.870.0120	M12	1.75	2	11.450.1250	21.812.1200	28.860.0080	28.865.0080	1,5xD (3), 2xD (3)	85,90
28.870.0160	M16	2	2	11.450.1650	21.812.1600	28.860.0095	28.865.0095	1,5xD (2), 2xD (2)	117,10



NL Schroefdraad repareren of herstellen
FR Réparer ou restaurer un filetage ?
ES ¿Reparar o restaurar roscas?
DE Gewinde reparieren oder wiederherstellen?
EN Threading – repair or restore?

Read me

www.phantom.eu

› 28.880 Phantom

NL **Set Phan-Coils Metrisch, (combinatie)**
FR **Coffret de Phan-Coils Métrique, (combinaison)**
ES **Juego de Phan-Coils Métrica, (combinación)**
DE **Satz Phan-Coils Metrisch, (Kombination)**
EN **Set Phan-Coils Metric Coarse, (combination)**





M | EG | Phan-Coil

Ref.	Contents	1	2	3	4	5	€
28.880.1000	M5, M6, M8, M10, M12	11.450.0525, 11.450.0630, 11.450.0840, 11.450.1050, 11.450.1250	21.812.0500, 21.812.0600, 21.812.0800, 21.812.1000, 21.812.1200	28.860.0035, 28.860.0040, 28.860.0055, 28.860.0070, 28.860.0080	28.865.0035, 28.865.0040, 28.865.0055, 28.865.0070, 28.865.0080	M5 1,5xD(4) 2xD(4), M6 1,5xD(4) 2xD(4), M8 1,5xD(4) 2xD(4), M10 1,5xD(3) 2xD(3), M12 1,5xD(3) 2xD(3)	293,00

› 29.100 International Tools

NL **ECO PRO HSS Set Draadsnijden in kunststof koffer**
FR **Coffret de taraudage HSS ECO PRO en valise plastique**
ES **Juego de roscar HSS ECO PRO en maleta plástico**
DE **ECO PRO HSS Satz Gewindeschneiden im Kunststoffkoffer**
EN **ECO PRO HSS Set Threading Tools in plastic case**





60° | HSS | ISO 2 6H | M | ECO PRO

Ref.	Ø	1	2	3	4	5	6	7	€
29.100.1000	M3-M12	M3-4-5-6-8-10-12	M3-4-5-6-8-10-12	2,5-3,3-4,2-5-6,8-8,5-10,2	Nr. 1 + 2	Nr. 1 + 2	20x5-20x7-25x9-30x11-38x14	2,7-3,4-4,9-5,5-7	406,00
29.100.2000	M3-M12	M3-4-5-6-8-10-12	(Ø25 mm) M3-4-5-6-8-10-12	2,5-3,3-4,2-5-6,8-8,5-10,2	Nr. 1,5	Nr. 1	25x9	-	298,00

› 29.110 International Tools

NL **ECO PRO HSS Set Draadsnijden in kunststof koffer**
FR **Coffret de taraudage HSS ECO PRO en valise plastique**
ES **Juego de roscar HSS ECO PRO en maleta plástico**
DE **ECO PRO HSS Satz Gewindeschneiden im Kunststoffkoffer**
EN **ECO PRO HSS Set Threading Tools in plastic case**





HSS | ECO PRO

Ref.	Ø	1	2	3	4	5	6	€
29.110.0314	M3-M14	M3-4-5-6-8-10-12-14	M3-4-5-6-8-10-12-14	-	Nr. 1 + 2	-	20x5-20x7-25x9-30x11-38x14	426,00
29.110.0530	M5-M30	M5-6-8-10-12-14-16-18-20-22-24-27-30	M5-6-8-10-12-14-16-18-20-22-24-27-30	-	Nr. 1 + 3 + 5	-	20x7-25x9-30x11-38x14-45x18-55x22-65x25	2.023,00
29.110.1312	M3-M12	M3-4-5-6-8-10-12	M3-4-5-6-8-10-12	2,5-3,3-4,2-5-6,8-8,5-10,2	Nr. 1 + 2	Nr. 1 + 2	20x5-20x7-25x9-30x11-38x14	430,00
29.110.1324	M3-M24	M3-4-5-6-8-10-12-14-16-18-20-22-24	M3-4-5-6-8-10-12-14-16-18-20-22-24	-	Nr. 0 + 2 + 4	-	20x5-20x7-25x9-30x11-38x14-45x18-55x22	1.266,00
29.110.3225	G (BSP) 1/8-1"	G (BSP) 1/8-1/4-3/8-1/2-3/4-1"	G (BSP) 1/8-1/4-3/8-1/2-3/4-1"	-	Nr. 3 + 5	-	30x11-38x10-45x14-55x16-65x18	937,00
29.110.8312	M3-M12	M3-4-5-6-8-10-12	(Ø25 mm) M3-4-5-6-8-10-12	2,5-3,3-4,2-5-6,8-8,5-10,2	Nr. 1,5	Nr. 1	25x9	311,00

› 29.120 International Tools

NL ECO PRO HSS Set Draadsnijden in houten cassette
FR Coffret de taraudage HSS ECO PRO en coffret bois
ES Juego de roscar HSS ECO PRO en estuche de madera
DE ECO PRO HSS Satz Gewindeschneiden in Holzkassetten
EN ECO PRO HSS Set Threading Tools in wooden case





HSS ECO PRO

Ref.	Ø	1	2	3	4	€
29.120.0001	M3-M14	M3-4-5-6-8-10-12-14	M3-4-5-6-8-10-12-14	Nr. 1 + 2	20x5-20x7-25x9-30x11-38x14	664,00
29.120.0002	M3-M24	M3-4-5-6-8-10-12-14-16-18-20-22-24	M3-4-5-6-8-10-12-14-16-18-20-22-24	Nr. 0 + 2 + 4	20x5-20x7-25x9-30x11-38x14-45x18-55x22	1.589,00
29.120.0003	M5-M30	M5-6-8-10-12-14-16-18-20-22-24-27-30	M5-6-8-10-12-14-16-18-20-22-24-27-30	Nr. 1 + 3 + 5	20x7-25x9-30x11-38x14-45x18-55x22-65x25	2.311,00
29.120.0004	UNC1/4-1"	UNC 1/4-5/16-3/8-7/16-1/2-5/8-3/4-7/8-1"	UNC 1/4-5/16-3/8-7/16-1/2-5/8-3/4-7/8-1"	Nr. 0 + 2 + 4	20x7-25x9-30x11-38x14-45x18-55x22	1.184,00
29.120.0005	UNF1/4-1"	UNF 1/4-5/16-3/8-7/16-1/2-5/8-3/4-7/8-1"	UNF 1/4-5/16-3/8-7/16-1/2-5/8-3/4-7/8-1"	Nr. 0 + 2 + 4	20x7-25x9-30x11-38x10-45x14-55x16	1.105,00
29.120.0006	G (BSP) 1/8-1"	G (BSP) 1/8-1/4-3/8-1/2-3/4-1"	G (BSP) 1/8-1/4-3/8-1/2-3/4-1"	Nr. 3 + 5	30x11-38x10-45x14-55x16-65x18	1.121,00
29.120.0007	MF6-20	MF 6x0,75-8x1-10x1-12x1,5-14x1,5-16x1,5-18x1,5-20x1,5	MF 6x0,75-8x1-10x1-12x1,5-14x1,5-16x1,5-18x1,5-20x1,5	Nr. 1 + 3	20x7-25x9-30x11-38x10-45x14	791,00
29.120.0009	NPT1/8-1"	NPT 1/8-1/4-3/8-1/2-3/4-1"	NPT 1/8-1/4-3/8-1/2-3/4-1"	Nr. 1 + 3 + 5	30x11-38x14-45x18-55x22-65x25	2.765,00
29.120.1320	M3-M20	M3-4-5-6-8-10-12-14-16-18-20	M3-4-5-6-8-10-12-14-16-18-20	Nr. 1 + 3	20x5-20x7-25x9-30x11-38x14-45x18	1.111,00
29.120.7225	BSW1/8-1"	BSW 1/8-3/16-1/4-5/16-3/8-7/16-1/2-5/8-3/4-7/8-1"	BSW 1/8-3/16-1/4-5/16-3/8-7/16-1/2-5/8-3/4-7/8-1"	Nr. 0 + 2 + 4	20x5-20x7-25x9-30x11-38x14-45x18-55x22	1.100,00

› 29.130 International Tools

NL ECO PRO HSS Set Draadsnijden in stalen cassette
FR Coffret de taraudage HSS ECO PRO en coffret métal
ES Juego de roscar HSS ECO PRO en estuche metálico
DE ECO PRO HSS Satz Gewindeschneiden in Kassette aus Stahl
EN ECO PRO HSS Set Threading Tools in metal case





60° HSS ISO 2 6H M ECO PRO

Ref.	Ø	1	2	3	4	5	€
29.130.0200	M3-M12	M3-4-5-6-8-10-12	M3-4-5-6-8-10-12	-	Nr. 1.5	25x9	292,00
29.130.1312	M3-M12	M3-4-5-6-8-10-12	M3-4-5-6-8-10-12	2,5-3,3-4,2-5-6,8-8,5-10,2	Nr. 1 + 2	20x5-20x7-25x9-30x11-38x14	330,00
29.130.1320	M3-M20	M3-4-5-6-8-10-12-14-16-18-20	M3-4-5-6-8-10-12-14-16-18-20	-	Nr. 1 + 3	20x5-20x7-25x9-30x11-38x14-45x18	771,00

› 29.170 International Tools

NL ECO HSS Set Draadsnijden in kunststof koffer
FR Coffret de taraudage HSS ECO en valise plastique
ES Juego de roscar HSS ECO en maleta plástico
DE ECO HSS Satz Gewindeschneiden im Kunststoffkoffer
EN ECO HSS Set Threading Tools in plastic case





60° DIN 352 HSS ISO 2 6H M ECO

Ref.	1	2	3	€
29.170.0312	21.140 (M3-4-5-6-8-10-12)	Nr. 1,5	Nr. 1	218,00

› 29.180 International Tools

NL **ECO HSS Set Handtappen (combinatie)**
FR **Coffret de Tarauds à main HSS ECO (combinaison)**
ES **Juego de Machos mano HSS ECO (combinación)**
DE **ECO HSS Satz Handgewindebohrer (Kombination)**
EN **ECO HSS Hand tap Set (combination)**



60° | DIN 352 | HSS | ISO 2 6H | M | ECO

Ref.	1	2	€
29.180.0001	21.140 (M3-4-5-6-8-10-12)	-	176,00
29.180.0002	21.140 (M3-4-5-6-8-10-12)	11.400 (2,5-3,3-4,2-5-6,8-8,5-10,2)	188,00

› 29.185 International Tools

NL **ECO HSS Set Draadsnijden 1/4" (6,35 mm)-zeskant bitopname, (combinatie)**
FR **Coffret de taraudage HSS ECO avec queue hexagonale 1/4" (6,35 mm), (combinaison)**
ES **Juego de roscar HSS ECO con sujeción 1/4" (6,35 mm) bit, (combinación)**
DE **ECO HSS Satz Gewindeschneiden 1/4" (6,35 mm) Hexa-Bitaufnahme, (Kombination)**
EN **ECO HSS Set Threading Tools 1/4" (6,35 mm) hexagonal shank, (combination)**



60° | HSS | ISO 2 6H | M | ECO | DIN 3126 | C6,3 1/4" | DIN ISO 1173

Ref.	1	2	3	€
29.185.1310	22.100 (M3-4-5-6-8-10)	11.120 (2,5-3,3-4,2-5-6,8-8,5)	81.990.0635	69,00

› 29.190 International Tools

NL **ECO Set machinetappen (combinatie)**
FR **Coffret de tarauds machine ECO (combinaison)**
ES **Juego de machos máquina ECO (combinación)**
DE **ECO Satz Maschinengewindebohren (Kombination)**
EN **ECO machine tap Set (combination)**



60° | HSS | ISO 2 6H | M | ECO

Ref.	1	2	3	4	A, B, C	€
29.190.1000	22.191/22.192 (M3-4-5-6-8-10-12)	-	-	-	B	82,00
29.190.2000	22.191/22.192 (M3-4-5-6-8-10-12)	11.416 (2,5-3,3-4,2-5-6,8-8,5-10,2)	-	-	B	96,00
29.190.2250	22.190 (M3-4-5-6-8-10-12)	11.416 (2,5-3,3-4,2-5-6,8-8,5-10,2)	-	81.900 (Nr. 1,5)	B	86,00
29.190.2300	22.190 (M3-4-5-6-8-10-12 x 3)	-	-	-	B	169,00
29.190.3000	22.190 (M4-5-6-8-10)	11.416 (3,3-4,2-5-6,8-8,5)	42.533 (10,4 16,5)	-	A	62,00
29.190.6000	23.291/23.292 (M3-4-5-6-8-10-12)	-	-	-	B	87,00

› 29.195 International Tools

NL ECO PRO Set machinetappen (combinatie)
FR Coffret de tarauds machine ECO PRO (combinaison)
ES Juego de machos máquina ECO PRO (combinación)
DE ECO PRO Satz Maschinengewindebohren (Kombination)
EN ECO PRO machine tap Set (combination)

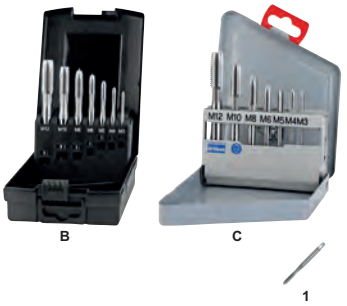


60° | ISO 2 6H | M | ECO PRO

Ref.	1	2	3	4	A, B, C	€
29.195.1000	22.195/22.196 (M3-4-5-6-8-10-12)	-	-	-	B	124,00
29.195.1250	22.197/22.198 (M3-4-5-6-8-10-12)	-	-	-	B	181,00
29.195.1500	22.595/22.596 (M3-4-5-6-8-10-12)	-	-	-	B	152,00
29.195.2000	22.195/22.196 (M3-4-5-6-8-10-12)	11.420 (2,5-3,3-4,2-5-6,8-8,5-10,2)	-	-	B	145,00
29.195.2250	22.195/22.196 (M3-4-5-6-8-10-12)	11.420 (2,5-3,3-4,2-5-6,8-8,5-10,2)	-	81.905 (Nr. 1,5)	B	168,00
29.195.2500	22.195/22.196 (M3-4-5-6-8-10-12)	11.490 (2,5-3,3-4,2-5-6,8-8,5-10,2)	-	-	B	155,00
29.195.3000	22.195 (M4-5-6-8-10)	11.420 (3,3-4,2-5-6,8-8,5)	42.535 (10,4 16,5)	-	A	125,00
29.195.3500	22.197 (M4-5-6-8-10)	11.431 (3,3-4,2-5-6,8-8,5)	42.536 (10,4 16,5)	-	A	182,00
29.195.4000	22.197/22.198 (M3-4-5-6-8-10-12)	11.431 (2,5-3,3-4,2-5-6,8-8,5-10,2)	-	-	B	213,00
29.195.5000	22.197/22.198 (M3-4-5-6-8-10-12)	11.490 (2,5-3,3-4,2-5-6,8-8,5-10,2)	-	-	B	212,00
29.195.6000	23.295/23.296 (M3-4-5-6-8-10-12)	-	-	-	B	133,00

› 29.250 Phantom

NL Set machinetappen
FR Coffret de tarauds machine
ES Juego de machos máquina
DE Satz Maschinengewindebohren
EN Machine tap Set

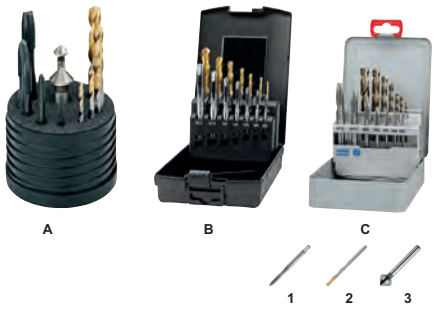


60° | ISO 2 6H | M

Ref.	1	A, B, C	€
29.250.2000	22.200/22.201 (M3-4-5-6-8-10-12)	B	193,00
29.250.2100	22.201 (M3-4-5-6-8-10-12)	C	259,00
29.250.2105	22.201 (M3-4-5-6-8-10-12)	B	229,00
29.250.2120	22.230/22.231 (M3-4-5-6-8-10-12)	B	239,00
29.250.2155	22.205 (M3-4-5-6-8-10-12)	B	158,00
29.250.2500	22.268/22.269 (M3-4-5-6-8-10-12)	B	356,00
29.250.2600	22.600/22.601 (M3-4-5-6-8-10-12)	B	242,00
29.250.3300	23.300/23.301 (M3-4-5-6-8-10-12)	B	210,00
29.250.3450	23.450/23.451 (M3-4-5-6-8-10-12)	B	251,00

› 29.260 Phantom

NL Set machinetappen (combinatie)
FR Coffret de tarauds machine (combinaison)
ES Juego de machos máquina (combinación)
DE Satz Maschinengewindebohren (Kombination)
EN Machine tap Set (combination)



60° ISO 2 6H M

Ref.	1	2	3	A, B, C	€
29.260.1941	22.200/22.201 (M3-4-5-6-8-10-12)	11.441 (2,5-3,3-4,2-5-6,8-8,5-10,2)	-	B	240,00
29.260.1980	22.200/22.201 (M3-4-5-6-8-10-12)	11.450 (2,5-3,3-4,2-5-6,8-8,5-10,2)	-	B	230,00
29.260.1995	22.200/22.201 (M3-4-5-6-8-10-12)	11.461 (2,5-3,3-4,2-5-6,8-8,5-10,2)	-	B	237,00
29.260.2000	22.200/22.201 (M3-4-5-6-8-10-12)	11.500 (2,5-3,3-4,2-5-6,8-8,5-10,2)	-	B	251,00
29.260.2100	22.201 (M3-4-5-6-8-10-12)	11.500 (2,5-3,3-4,2-5-6,8-8,5-10,2)	-	C	300,00
29.260.2120	22.230/22.231 (M3-4-5-6-8-10-12)	11.461 (2,5-3,3-4,2-5-6,8-8,5-10,2)	-	B	283,00
29.260.2205	22.220/22.221 (M3-4-5-6-8-10-12)	11.461 (2,5-3,3-4,2-5-6,8-8,5-10,2)		B	239,00
29.260.2245	22.220 (M4-5-6-8-10)	11.461 (3,3-4,2-5-6,8-8,5)	42.547 (10,4 16,5)	A	205,00
29.260.2500	22.268/22.269 (M3-4-5-6-8-10-12)	11.568 (2,5-3,3-4,2-5-6,8-8,5-10,2)	-	B	454,00
29.260.2600	22.600/22.601 (M3-4-5-6-8-10-12)	11.760 (2,5-3,3-4,2-5-6,8-8,5-10,2)	-	B	304,00
29.260.3340	23.300/23.301 (M3-4-5-6-8-10-12)	11.450 (2,5-3,3-4,2-5-6,8-8,5-10,2)	-	B	246,00
29.260.3355	23.300/23.301 (M3-4-5-6-8-10-12)	11.461 (2,5-3,3-4,2-5-6,8-8,5-10,2)		B	254,00
29.260.3360	23.300/23.301 (M3-4-5-6-8-10-12)	11.500 (2,5-3,3-4,2-5-6,8-8,5-10,2)	-	B	268,00
29.260.3450	23.450/23.451 (M3-4-5-6-8-10-12)	11.760 (2,5-3,3-4,2-5-6,8-8,5-10,2)	-	B	313,00

› 29.300 International Tools

NL ECO Set Draadeinduithalers
FR Coffret d'extracteurs, goujons et tubes cassés ECO
ES Juego de extractores de tornillos rotos ECO
DE ECO Satz Schraubenausdreher
EN ECO Set Extractors for broken screws, bolts etc.

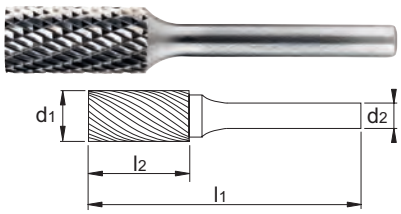


ECO

Ref.	1	€
29.300.0100	28.800 Nr. 1-5 / M3-M18	14,00
29.300.0200	28.800 Nr. 1-6 / M3-M24	22,00
29.300.0300	28.800 Nr. 1-8 / M3-M45	58,00

› 41.410 International Tools

NL **ECO PRO Hardmetaal Stiftfrees model A, cilindrisch**
FR **Fraise lime Carbure ECO PRO Forme A, forme cylindrique**
ES **Fresa rotativa Metal Duro ECO PRO forma A, cilíndrico**
DE **ECO PRO Hartmetall Frässtift Form A, Zylinderform**
EN **ECO PRO Carbide Burr model A, cylindrical**



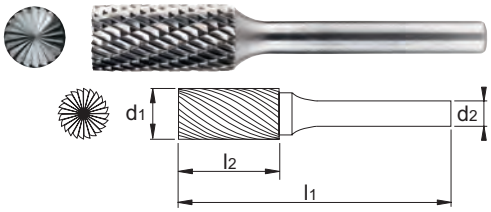
HM | Ø3 | Ø6 | A | ECO PRO

Ref.	Ø	d1	l1	l2	d2	z	€
41.410.0336	3	3	38	14	3	6-UNI	8,48
41.410.0606	6	6	50	18	6	6-UNI	13,27
41.410.0806	8	8	65	20	6	6-UNI	17,81

Ref.	Ø	d1	l1	l2	d2	z	€
41.410.1006	10	10	65	20	6	6-UNI	19,21
41.410.1206	12	12	70	25	6	6-UNI	30,25
41.410.1606	16	16	70	25	6	6-UNI	38,05

› 41.420 International Tools

NL **ECO PRO Hardmetaal Stiftfrees model B, cilindrisch met kopvertanding**
FR **Fraise lime Carbure ECO PRO Forme B, Forme cylindrique avec denture en bout**
ES **Fresa rotativa Metal Duro ECO PRO forma B, cilíndrico con corte al centro**
DE **ECO PRO Hartmetall Frässtift Form B, Zylinderform mit Stirnverzahnung**
EN **ECO PRO Carbide Burr model B, cylindrical with End Cut**



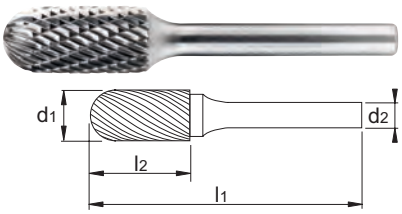
HM | Ø3 | Ø6 | B | ECO PRO

Ref.	Ø	d1	l1	l2	d2	z	€
41.420.0336	3	3	38	14	3	6-UNI	9,33
41.420.0606	6	6	50	18	6	6-UNI	14,28
41.420.0806	8	8	65	20	6	6-UNI	19,65

Ref.	Ø	d1	l1	l2	d2	z	€
41.420.1006	10	10	65	20	6	6-UNI	21,06
41.420.1206	12	12	70	25	6	6-UNI	33,45
41.420.1606	16	16	70	25	6	6-UNI	41,75

› 41.430 International Tools

NL **ECO PRO Hardmetaal Stiftfrees model C, cilindrisch, ronde kop**
FR **Fraise lime Carbure ECO PRO Forme C, Forme cylindrique à bout arrondi**
ES **Fresa rotativa Metal Duro ECO PRO forma C, cilíndrico, forma semiesférica**
DE **ECO PRO Hartmetall Frässtift Form C, Walzenrundform**
EN **ECO PRO Carbide Burr model C, Cylindrical, ball nose**



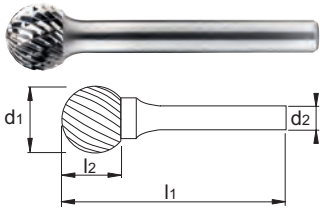
HM | Ø3 | Ø6 | C | ECO PRO

Ref.	Ø	d1	l1	l2	d2	z	€
41.430.0336	3	3	38	14	3	6-UNI	8,48
41.430.0606	6	6	50	18	6	6-UNI	15,13
41.430.0806	8	8	65	20	6	6-UNI	19,63

Ref.	Ø	d1	l1	l2	d2	z	€
41.430.1006	10	10	65	20	6	6-UNI	19,85
41.430.1206	12	12	70	25	6	6-UNI	32,50
41.430.1606	16	16	70	25	6	6-UNI	41,50

› 41.440 International Tools

NL **ECO PRO Hardmetaal Stiftfrees model D, kogelvorm**
FR **Fraise lime Carbure ECO PRO Forme D, Forme sphérique**
ES **Fresa rotativa Metal Duro ECO PRO forma D, modelo esférico**
DE **ECO PRO Hartmetall Frässtift Form D, Kugelform**
EN **ECO PRO Carbide Burr model D, ball**



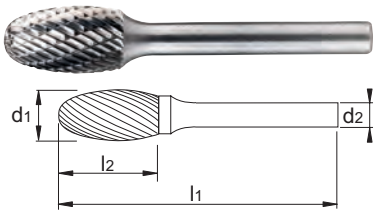
HM | Ø3 | Ø6 | D | ECO PRO

Ref.	Ø	d1	l1	l2	d2	z	€
41.440.0336	3	3	38	2.5	3	6-UNI	8,48
41.440.0606	6	6	50	5	6	6-UNI	14,70
41.440.0806	8	8	52	7	6	6-UNI	15,83

Ref.	Ø	d1	l1	l2	d2	z	€
41.440.1006	10	10	54	9	6	6-UNI	17,96
41.440.1206	12	12	56	11	6	6-UNI	22,88
41.440.1606	16	16	59	14	6	6-UNI	31,80

› 41.450 International Tools

NL **ECO PRO Hardmetaal Stiftfrees model E, druppelvorm**
FR **Fraise lime Carbure ECO PRO Forme E, Forme goutte**
ES **Fresa rotativa Metal Duro ECO PRO forma E, forma oval**
DE **ECO PRO Hartmetall Frässtift Form E, Tropfenform**
EN **ECO PRO Carbide Burr model E, Oval**



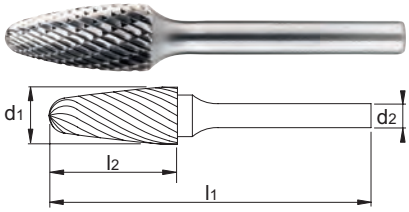
HM | Ø3 | Ø6 | E | ECO PRO

Ref.	Ø	d1	l1	l2	d2	z	€
41.450.0336	3	3	38	6	3	6-UNI	8,48
41.450.0606	6	6	50	10	6	6-UNI	16,84
41.450.0806	8	8	60	15	6	6-UNI	20,87

Ref.	Ø	d1	l1	l2	d2	z	€
41.450.1006	10	10	60	15	6	6-UNI	22,32
41.450.1206	12	12	65	20	6	6-UNI	32,80
41.450.1606	16	16	70	25	6	6-UNI	47,35

› 41.460 International Tools

NL **ECO PRO Hardmetaal Stiftfrees model F, boomvorm met ronde kop**
FR **Fraise lime Carbure ECO PRO Forme F, Forme ogive à bout arrondi**
ES **Fresa rotativa Metal Duro ECO PRO forma F, forma ojival en semiesférica**
DE **ECO PRO Hartmetall Frässtift Form F, Rundbogenform**
EN **ECO PRO Carbide Burr model F, Ball nose tree**



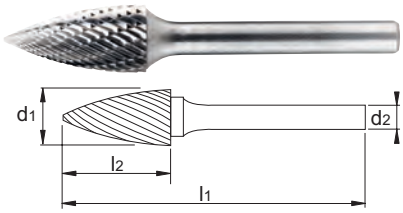
HM | Ø3 | Ø6 | F | ECO PRO

Ref.	Ø	d1	l1	l2	d2	z	€
41.460.0336	3	3	38	14	3	6-UNI	8,48
41.460.0606	6	6	50	18	6	6-UNI	16,84
41.460.0806	8	8	65	20	6	6-UNI	20,87

Ref.	Ø	d1	l1	l2	d2	z	€
41.460.1006	10	10	65	20	6	6-UNI	22,48
41.460.1206	12	12	70	25	6	6-UNI	32,80
41.460.1606	16	16	70	25	6	6-UNI	47,35

› 41.470 International Tools

NL **ECO PRO Hardmetaal Stiftfrees model G, boomvorm spits**
FR **Fraise lime Carbure ECO PRO Forme G, Forme ogive**
ES **Fresa rotativa Metal Duro ECO PRO forma G, forma ojival en punta**
DE **ECO PRO Hartmetall Frässtift Form G, Spitzbogenform**
EN **ECO PRO Carbide Burr model G, pointed tree**



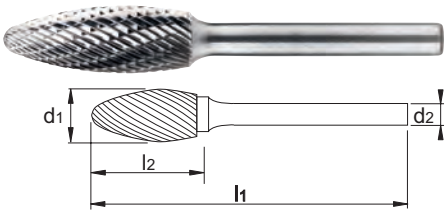
HM | Ø3 | Ø6 | G | ECO PRO

Ref.	Ø	d1	l1	l2	d2	z	€
41.470.0336	3	3	38	14	3	6-UNI	8,48
41.470.0606	6	6	50	18	6	6-UNI	16,84
41.470.0806	8	8	65	20	6	6-UNI	21,68

Ref.	Ø	d1	l1	l2	d2	z	€
41.470.1006	10	10	65	20	6	6-UNI	20,92
41.470.1206	12	12	70	25	6	6-UNI	32,80
41.470.1606	16	16	70	25	6	6-UNI	47,15

› 41.480 International Tools

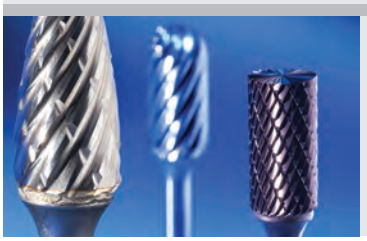
NL **ECO PRO Hardmetaal Stiftfrees model H, vlamvorm**
FR **Fraise lime Carbure ECO PRO Forme H, Forme flamme**
ES **Fresa rotativa Metal Duro ECO PRO forma H, forma llama**
DE **ECO PRO Hartmetall Frässtift Form H, Flammenform**
EN **ECO PRO Carbide Burr model H, flame**



HM | Ø3 | Ø6 | H | ECO PRO

Ref.	Ø	d1	l1	l2	d2	z	€
41.480.0336	3	3	38	6	3	6-UNI	8,48
41.480.0606	6	6	50	14	6	6-UNI	18,37
41.480.0806	8	8	65	20	6	6-UNI	22,04

Ref.	Ø	d1	l1	l2	d2	z	€
41.480.1006	10	10	65	20	6	6-UNI	41,90
41.480.1206	12	12	75	30	6	6-UNI	41,35
41.480.1606	16	16	80	35	6	6-UNI	65,85



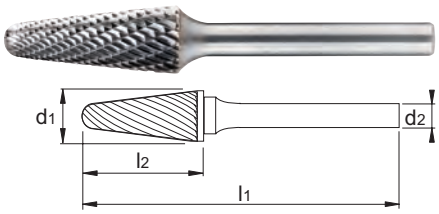
NL Stiftfrezen keuzehulp
FR Aide à la sélection des fraises lime
ES Ayuda para la selección de fresas rotativas
DE Auswahlhilfe Frässtifte
EN Selection guide for burrs

Read me

www.phantom.eu

› 41.486 International Tools

NL ECO PRO Hardmetaal Stiftfrees model L, kegelvorm, met ronde kop
FR Fraise lime Carbure ECO PRO Forme L, Forme conique à bout arrondi
ES Fresa rotativa Metal Duro ECO PRO forma L, forma cónica, con punta redondeada
DE ECO PRO Hartmetall Frässtift Form L, Rundkegelform
EN ECO PRO Carbide Burr model L, ball nose cone



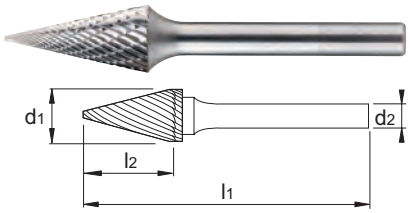
HM | Ø3 | Ø6 | L | ECO PRO

Ref.	Ø	d1	l1	l2	d2	z	€
41.486.0336	3	3	38	14	3	6-UNI	8,48
41.486.0606	6	6	50	18	6	6-UNI	16,84
41.486.0806	8	8	70	25	6	6-UNI	23,90

Ref.	Ø	d1	l1	l2	d2	z	€
41.486.1006	10	10	65	20	6	6-UNI	25,45
41.486.1206	12	12	75	30	6	6-UNI	34,65
41.486.1606	16	16	78	33	6	6-UNI	63,05

› 41.488 International Tools

NL ECO PRO Hardmetaal Stiftfrees model M, kegelvorm, spits
FR Fraise lime Carbure ECO PRO Forme M, Forme conique à bout pointu
ES Fresa rotativa Metal Duro ECO PRO forma M, forma cónica, en punta
DE ECO PRO Hartmetall Frässtift Form M, Spitzkegelform
EN ECO PRO Carbide Burr model M, cone



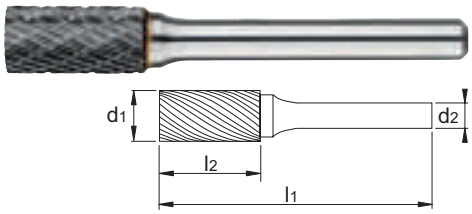
HM | Ø3 | Ø6 | M | ECO PRO

Ref.	Ø	d1	l1	l2	d2	z	€
41.488.0336	3	3	38	11	3	6-UNI	8,48
41.488.0606	6	6	50	20	6	6-UNI	16,95
41.488.0806	8	8	65	20	6	6-UNI	23,90

Ref.	Ø	d1	l1	l2	d2	z	€
41.488.1006	10	10	65	20	6	6-UNI	24,74
41.488.1206	12	12	71	26	6	6-UNI	31,65
41.488.1606	16	16	70	25	6	6-UNI	43,95

› 41.510 Phantom

NL Hardmetaal Stiftfrees model A, cilindrisch, schacht 6 mm
FR Fraise lime Carbure Forme A, forme cylindrique, queue 6 mm
ES Fresa rotativa Metal Duro forma A, cilíndrico, mango 6 mm
DE Hartmetall Frässtift Form A, Zylinderform, Schaft 6 mm
EN Carbide Burr model A, cylindrical, shank 6 mm



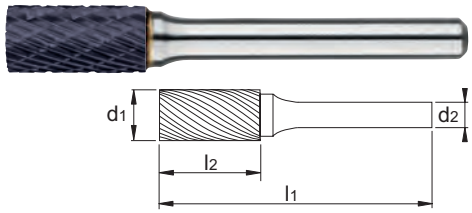
HM | Ø6 | A

Ref.	Ø	d1	l1	l2	d2	z	€
41.510.0601	6	6	50	18	6	1-ALU	28,35
41.510.0603	6	6	50	18	6	3-FINE	21,98
41.510.0604	6	6	50	18	6	4-DIAMOND	23,33
41.510.0606	6	6	50	18	6	6-UNI	22,20
41.510.0608	6	6	50	18	6	8-STEEL	24,48
41.510.0609	6	6	50	18	6	9-INOX	26,80
41.510.0801	8	8	64	19	6	1-ALU	35,90
41.510.0803	8	8	64	19	6	3-FINE	29,55
41.510.0804	8	8	64	19	6	4-DIAMOND	31,40
41.510.0806	8	8	64	19	6	6-UNI	29,80
41.510.0808	8	8	64	19	6	8-STEEL	32,90
41.510.0809	8	8	64	19	6	9-INOX	35,90
41.510.1001	10	9.5	64	19	6	1-ALU	38,95
41.510.1003	10	9.5	64	19	6	3-FINE	31,80

Ref.	Ø	d1	l1	l2	d2	z	€
41.510.1004	10	9.5	64	19	6	4-DIAMOND	33,65
41.510.1006	10	9.5	64	19	6	6-UNI	32,05
41.510.1008	10	9.5	64	19	6	8-STEEL	35,25
41.510.1009	10	9.5	64	19	6	9-INOX	38,25
41.510.1201	12	12.7	70	25	6	1-ALU	60,40
41.510.1203	12	12.7	70	25	6	3-FINE	49,95
41.510.1204	12	12.7	70	25	6	4-DIAMOND	52,70
41.510.1206	12	12.7	70	25	6	6-UNI	50,45
41.510.1208	12	12.7	70	25	6	8-STEEL	55,10
41.510.1209	12	12.7	70	25	6	9-INOX	60,40
41.510.1601	16	16	70	25	6	1-ALU	75,95
41.510.1604	16	16	70	25	6	4-DIAMOND	66,55
41.510.1606	16	16	70	25	6	6-UNI	63,45
41.510.2006	20	19	70	25	6	6-UNI	95,65

› 41.511 Phantom

NL Hardmetaal Stiftfrees model A, cilindrisch, schacht 6 mm, TiAlN
FR Fraise lime Carbure Forme A, forme cylindrique, queue 6 mm, TiAlN
ES Fresa rotativa Metal Duro forma A, cilíndrico, mango 6 mm, TiAlN
DE Hartmetall Frässtift Form A, Zylinderform, Schaft 6 mm, TiAlN
EN Carbide Burr model A, cylindrical, shank 6 mm, TiAlN

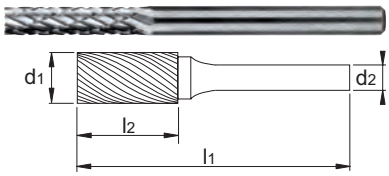


HM | TiAlN | Ø6 | A

Ref.	Ø	d1	l1	l2	d2	z	€
41.511.0606	6	6	50	18	6	6-UNI	28,25
41.511.0806	8	8	64	19	6	6-UNI	35,90

Ref.	Ø	d1	l1	l2	d2	z	€
41.511.1006	10	9.5	64	19	6	6-UNI	41,25
41.511.1206	12	12.7	70	25	6	6-UNI	63,45

› 41.513 Phantom

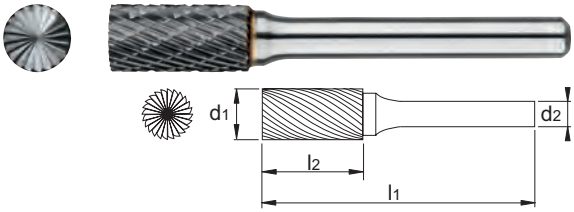


NL **Hardmetaal Stiftfrees model A, cilindrisch, schacht 3 mm**
FR **Fraise lime Carbure Forme A, forme cylindrique, queue 3 mm**
ES **Fresa rotativa Metal Duro forma A, cilíndrico, mango 3 mm**
DE **Hartmetall Fräs(„Stift" Form A, Zylinderform, Schaft 3 mm**
EN **Carbide Burr model A, cylindrical, shank 3 mm**

HM | Ø3 | A

Ref.	Ø	d1	l1	l2	d2	z	€
41.513.0153	1.5	1.5	38	6	3	3-FINE	11,09
41.513.0154	1.5	1.5	38	6	3	4-DIAMOND	12,23
41.513.0206	2	2	38	11	3	6-UNI	11,69
41.513.0301	3	3	38	14	3	1-ALU	16,06
41.513.0303	3	3	38	14	3	3-FINE	11,09
41.513.0304	3	3	38	14	3	4-DIAMOND	12,23
41.513.0306	3	3	38	14	3	6-UNI	11,78
41.513.0309	3	3	38	14	3	9-INOX	16,06
41.513.0636	6	6.3	45	12.7	3	6-UNI	20,65
41.513.0639	6	6.3	45	12.7	3	9-INOX	30,25

› 41.520 Phantom

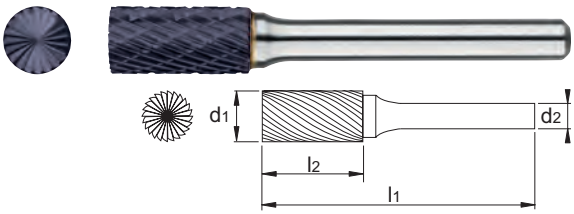


NL **Hardmetaal Stiftfrees model B, cilindrisch met kopvertanding, schacht 6 mm**
FR **Fraise lime Carbure Forme B, Forme cylindrique avec denture en bout, queue 6 mm**
ES **Fresa rotativa Metal Duro forma B, cilíndrico con corte al centro, mango 6 mm**
DE **Hartmetall Frässtift Form B, Zylinderform mit Stirnverzahnung, Schaft 6 mm**
EN **Carbide Burr model B, cylindrical with End Cut, shank 6 mm**

HM | Ø6 | B

Ref.	Ø	d1	l1	l2	d2	z	€
41.520.0601	6	6	50	18	6	1-ALU	30,55
41.520.0603	6	6	50	18	6	3-FINE	23,63
41.520.0604	6	6	50	18	6	4-DIAMOND	25,25
41.520.0606	6	6	50	18	6	6-UNI	23,85
41.520.0608	6	6	50	18	6	8-STEEL	26,80
41.520.0801	8	8	64	19	6	1-ALU	39,45
41.520.0803	8	8	64	19	6	3-FINE	32,55
41.520.0804	8	8	64	19	6	4-DIAMOND	34,40
41.520.0806	8	8	64	19	6	6-UNI	32,90
41.520.0808	8	8	64	19	6	8-STEEL	35,90
41.520.1001	10	9.5	64	19	6	1-ALU	42,05
41.520.1003	10	9.5	64	19	6	3-FINE	34,75
41.520.1004	10	9.5	64	19	6	4-DIAMOND	36,70
41.520.1006	10	9.5	64	19	6	6-UNI	35,25
41.520.1008	10	9.5	64	19	6	8-STEEL	41,60
41.520.1201	12	12.7	70	25	6	1-ALU	66,55
41.520.1203	12	12.7	70	25	6	3-FINE	55,85
41.520.1204	12	12.7	70	25	6	4-DIAMOND	58,90
41.520.1206	12	12.7	70	25	6	6-UNI	55,85
41.520.1208	12	12.7	70	25	6	8-STEEL	61,20
41.520.1603	16	16	70	25	6	3-FINE	69,50
41.520.1604	16	16	70	25	6	4-DIAMOND	73,40
41.520.1606	16	16	70	25	6	6-UNI	69,50
41.520.2006	20	19	70	25	6	6-UNI	99,40

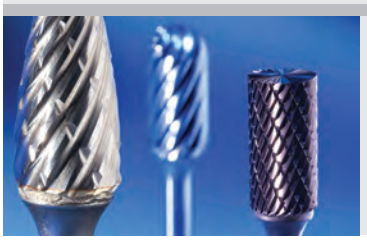
› 41.521 Phantom



NL **Hardmetaal Stiftfrees model B, cilindrisch met kopvertanding, schacht 6 mm, TiAlN**
FR **Fraise lime Carbure Forme B, Forme cylindrique avec denture en bout, queue 6 mm, TiAlN**
ES **Fresa rotativa Metal Duro forma B, cilíndrico con corte al centro, mango 6 mm, TiAlN**
DE **Hartmetall Frässtift Form B, Zylinderform mit Stirnverzahnung, Schaft 6 mm, TiAlN**
EN **Carbide Burr model B, cylindrical with End Cut, shank 6 mm, TiAlN**

HM | TiAlN | Ø6 | B

Ref.	Ø	d1	l1	l2	d2	z	€
41.521.0606	6	6	50	18	6	6-UNI	29,95
41.521.0806	8	8	64	19	6	6-UNI	38,95
41.521.1006	10	9.5	64	19	6	6-UNI	44,35
41.521.1206	12	12.7	70	25	6	6-UNI	68,85

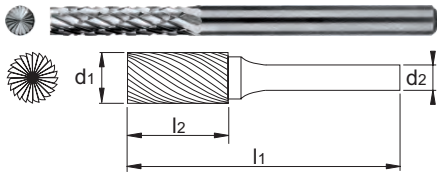


NL Stiftfrezen keuzehulp
FR Aide à la sélection des fraises lime
ES Ayuda para la selección de fresas rotativas
DE Auswahlhilfe Frässtifte
EN Selection guide for burrs

Read me

www.phantom.eu

› 41.523 Phantom



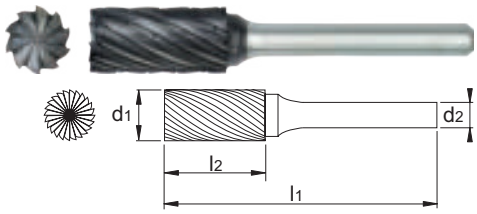
NL **Hardmetaal Stiftfrees model B, cilindrisch met kopvertanding, schacht 3 mm**
FR **Fraise lime Carbure Forme B, Forme cylindrique avec denture en bout, queue 3 mm**
ES **Fresa rotativa Metal Duroforma B, cilíndrico con corte al centro, mango 3 mm**
DE **Hartmetall Frässtift Form B, Zylinderform mit Stirnverzahnung, Schaft 3 mm**
EN **Carbide Burr model B, cylindrical with End Cut, shank 3 mm**

HM | Ø3 | B

Ref.	Ø	d1	l1	l2	d2	z	€
41.523.0153	1.5	1.5	38	6	3	3-FINE	11,09
41.523.0206	2	2	38	11	3	6-UNI	11,69
41.523.0301	3	3	38	14	3	1-ALU	16,06
41.523.0303	3	3	38	14	3	3-FINE	11,09

Ref.	Ø	d1	l1	l2	d2	z	€
41.523.0304	3	3	38	14	3	4-DIAMOND	12,23
41.523.0306	3	3	38	14	3	6-UNI	11,78
41.523.0506	5	5	38	12.7	3	6-UNI	33,00
41.523.0636	6	6.3	38	12.7	3	6-UNI	24,48

› 41.524 Phantom



NL **HP2 UNI Hardmetaal Stiftfrees model B, cilindrisch met kopvertanding, AlTiN-X**
FR **Fraise lime Carbure HP2 UNI Forme B, Forme cylindrique avec denture en bout, AlTiN-X**
ES **Fresa rotativa Metal Duro HP2 UNI forma B, cilíndrico con corte al centro, AlTiN-X**
DE **HP2 UNI Hartmetall Frässtift Form B, Zylinderform mit Stirnverzahnung, AlTiN-X**
EN **HP2 UNI Carbide Burr model B, cylindrical with End Cut, AlTiN-X**

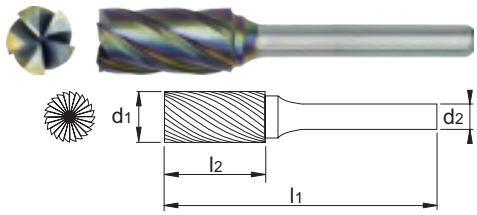
HM | AlTiN X | HP2 UNI | Ø6 | B

NIEUW NOUVEAU NUEVO NEU

Ref.	Ø	d1	l1	l2	d2	z	€
41.524.1000	10	9.5	64	19	6	HP2-UNI	42,55

Ref.	Ø	d1	l1	l2	d2	z	€
41.524.1200	12	12.7	70	25	6	HP2-UNI	66,40

› 41.526 Phantom



NL **HP2 ALU Hardmetaal Stiftfrees model B, cilindrisch met kopvertanding, ta-C**
FR **Fraise lime Carbure HP2 ALU Forme B, Forme cylindrique avec denture en bout, ta-C**
ES **Fresa rotativa Metal Duro HP2 ALU forma B, cilíndrico con corte al centro, ta-C**
DE **HP2 ALU Hartmetall Frässtift Form B, Zylinderform mit Stirnverzahnung, ta-C**
EN **HP2 ALU Carbide Burr model B, cylindrical with End Cut, ta-C**

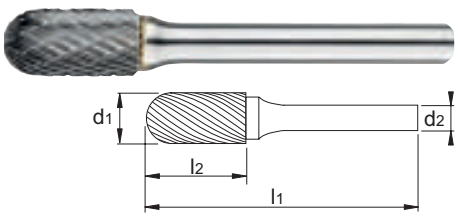
HM | Ø6 | B | HP2 ALU | ta-C

NIEUW NOUVEAU NUEVO NEU

Ref.	Ø	d1	l1	l2	d2	z	€
41.526.1000	10	9.5	64	19	6	HP2-ALU	54,55

Ref.	Ø	d1	l1	l2	d2	z	€
41.526.1200	12	12.7	70	25	6	HP2-ALU	85,15

› 41.530 Phantom



NL **Hardmetaal Stiftfrees model C, cilindrisch, ronde kop, schacht 6 mm**
FR **Fraise lime Carbure Forme C, Forme cylindrique à bout arrondi, queue 6 mm**
ES **Fresa rotativa Metal Duro forma C, cilíndrico, forma semiesférica, mango 6 mm**
DE **Hartmetall Frässtift Form C, Walzenrundform, Schaft 6 mm**
EN **Carbide Burr model C, Cylindrical, ball nose, shank 6 mm**

HM | Ø6 | C

Ref.	Ø	d1	l1	l2	d2	z	€
41.530.0306	3	3	60	15	6	6-UNI	32,90
41.530.0406	4	4	60	15	6	6-UNI	32,90
41.530.0601	6	6	50	18	6	1-ALU	32,90
41.530.0603	6	6	50	18	6	3-FINE	24,98
41.530.0604	6	6	50	18	6	4-DIAMOND	26,80
41.530.0606	6	6	50	18	6	6-UNI	25,25
41.530.0608	6	6	50	18	6	8-STEEL	27,55

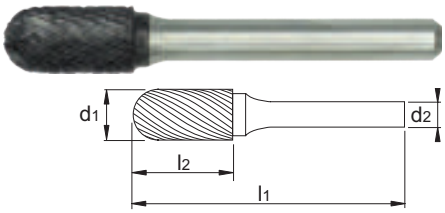
Ref.	Ø	d1	l1	l2	d2	z	€
41.530.0609	6	6	50	18	6	9-INOX	29,80
41.530.0616	6	6	60	18	6	6-UNI	33,95
41.530.0636	6	6	100	18	6	6-UNI	73,45
41.530.0801	8	8	64	19	6	1-ALU	37,15
41.530.0803	8	8	64	19	6	3-FINE	30,40
41.530.0804	8	8	64	19	6	4-DIAMOND	33,20
41.530.0806	8	8	64	19	6	6-UNI	32,65

› 41.530 Phantom

Ref.	Ø	d1	l1	l2	d2	z	€
41.530.0808	8	8	64	19	6	8-STEEL	35,85
41.530.0809	8	8	64	19	6	9-INOX	38,50
41.530.1001	10	9.5	64	19	6	1-ALU	43,70
41.530.1003	10	9.5	64	19	6	3-FINE	36,30
41.530.1004	10	9.5	64	19	6	4-DIAMOND	38,95
41.530.1006	10	9.5	64	19	6	6-UNI	36,70
41.530.1008	10	9.5	64	19	6	8-STEEL	40,55
41.530.1009	10	9.5	64	19	6	9-INOX	43,70
41.530.1201	12	12.7	70	25	6	1-ALU	67,30
41.530.1203	12	12.7	70	25	6	3-FINE	53,00

Ref.	Ø	d1	l1	l2	d2	z	€
41.530.1204	12	12.7	70	25	6	4-DIAMOND	57,40
41.530.1206	12	12.7	70	25	6	6-UNI	54,25
41.530.1208	12	12.7	70	25	6	8-STEEL	59,65
41.530.1209	12	12.7	70	25	6	9-INOX	64,95
41.530.1601	16	16	70	25	6	1-ALU	85,70
41.530.1603	16	16	70	25	6	3-FINE	67,40
41.530.1604	16	16	70	25	6	4-DIAMOND	72,15
41.530.1606	16	16	70	25	6	6-UNI	69,15
41.530.2006	20	19	70	25	6	6-UNI	104,75

› 41.531 Phantom



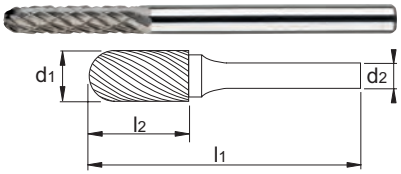
NL Hardmetaal Stiftfrees model C, cilindrisch, ronde kop, schacht 6 mm, TiAlN
FR Fraise lime Carbure Forme C, Forme cylindrique à bout arrondi, queue 6 mm, TiAlN
ES Fresa rotativa Metal Duro forma C, cilíndrico, forma semiesférica, mango 6 mm, TiAlN
DE Hartmetall Frässtift Form C, Walzenrundform, Schaft 6 mm, TiAlN
EN Carbide Burr model C, Cylindrical, ball nose, shank 6 mm, TiAlN

HM | TiAlN | Ø6 | C

Ref.	Ø	d1	l1	l2	d2	z	€
41.531.0606	6	6	50	18	6	6-UNI	32,05
41.531.0626	6	6	80	18	6	6-UNI	52,65
41.531.0806	8	8	64	19	6	6-UNI	48,10

Ref.	Ø	d1	l1	l2	d2	z	€
41.531.1006	10	9.5	64	19	6	6-UNI	47,45
41.531.1206	12	12.7	70	25	6	6-UNI	68,70

› 41.533 Phantom



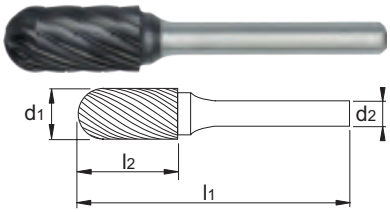
NL Hardmetaal Stiftfrees model C, cilindrisch, ronde kop, schacht 3 mm
FR Fraise lime Carbure Forme C, Forme cylindrique à bout arrondi, queue 3 mm
ES Fresa rotativa Metal Duro forma C, cilíndrico, forma semiesférica, mango 3 mm
DE Hartmetall Frässtift Form C, Walzenrundform, Schaft 3 mm
EN Carbide Burr model C, Cylindrical, ball nose, shank 3 mm

HM | Ø3 | C

Ref.	Ø	d1	l1	l2	d2	z	€
41.533.0203	2	2	38	11	3	3-FINE	11,09
41.533.0206	2	2	38	11	3	6-UNI	11,69
41.533.0301	3	3	38	14	3	1-ALU	16,06
41.533.0303	3	3	38	14	3	3-FINE	11,09
41.533.0304	3	3	38	14	3	4-DIAMOND	12,23
41.533.0306	3	3	38	14	3	6-UNI	11,78

Ref.	Ø	d1	l1	l2	d2	z	€
41.533.0309	3	3	38	14	3	9-INOX	16,06
41.533.0633	6	6.3	45	12.7	3	3-FINE	20,65
41.533.0634	6	6.3	45	12.7	3	4-DIAMOND	22,94
41.533.0636	6	6.3	45	12.7	3	6-UNI	20,65
41.533.0639	6	6.3	45	12.7	3	9-INOX	29,80

› 41.534 Phantom



NL HP2 UNI Hardmetaal Stiftfrees model C, cilindrisch, ronde kop, AlTiN-X
FR Fraise lime Carbure HP2 UNI Forme C, Forme cylindrique à bout arrondi, AlTiN-X
ES Fresa rotativa Metal Duro HP2 UNI forma C, cilíndrico, forma semiesférica, AlTiN-X
DE HP2 UNI Hartmetall Frässtift Form C, Walzenrundform, AlTiN-X
EN HP2 UNI Carbide Burr model C, Cylindrical, ball nose, AlTiN-X

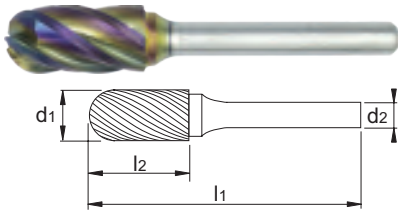
HM | AlTiN X | HP2 UNI | Ø6 | C

NIEUW | NOUVEAU | NUEVO | NEU

Ref.	Ø	d1	l1	l2	d2	z	€
41.534.1000	10	9.5	64	19	6	HP2-UNI	43,15

Ref.	Ø	d1	l1	l2	d2	z	€
41.534.1200	12	12.7	70	25	6	HP2-UNI	65,60

› 41.536 Phantom



NL **HP2 ALU Hardmetaal Stiftfrees model C, cilindrisch, ronde kop, ta-C**
FR **Fraise lime Carbure HP2 ALU Forme C, Forme cylindrique à bout arrondi, ta-C**
ES **Fresa rotativa Metal Duro HP2 ALU forma C, cilíndrico, forma semiesférica, ta-C**
DE **HP2 ALU Hartmetall Frässtift Form C, Walzenrundform, ta-C**
EN **HP2 ALU Carbide Burr model C, Cylindrical, ball nose, ta-C**

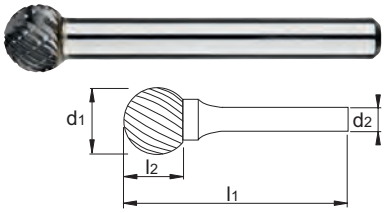
HM | Ø6 | C | HP2 ALU | ta-C

NIEUW NOUVEAU NUEVO NEU

Ref.	Ø	d1	l1	l2	d2	z	€
41.536.1000	10	9.5	64	19	6	HP2-ALU	55,30

Ref.	Ø	d1	l1	l2	d2	z	€
41.536.1200	12	12.7	70	25	6	HP2-ALU	86,85

› 41.540 Phantom



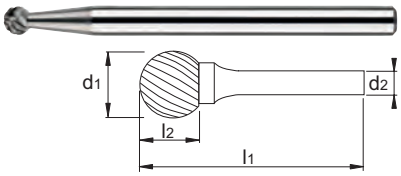
NL **Hardmetaal Stiftfrees model D, kogelvorm, schacht 6 mm**
FR **Fraise lime Carbure Forme D, Forme sphérique, queue 6 mm**
ES **Fresa rotativa Metal Duro forma D, modelo esférico, mango 6 mm**
DE **Hartmetall Frässtift Form D, Kugelform, Schaft 6 mm**
EN **Carbide Burr model D, ball, shank 6 mm**

HM | Ø6 | D

Ref.	Ø	d1	l1	l2	d2	z	€
41.540.0601	6	6	50	5	6	1-ALU	32,05
41.540.0603	6	6	50	5	6	3-FINE	23,94
41.540.0604	6	6	50	5	6	4-DIAMOND	25,70
41.540.0606	6	6	50	5	6	6-UNI	24,48
41.540.0608	6	6	50	5	6	8-STEEL	26,80
41.540.0609	6	6	50	5	6	9-INOX	29,05
41.540.0801	8	8	50	6.4	6	1-ALU	33,75
41.540.0803	8	8	50	6.4	6	3-FINE	25,75
41.540.0804	8	8	50	6.4	6	4-DIAMOND	27,90
41.540.0806	8	8	50	6.4	6	6-UNI	26,30
41.540.0808	8	8	50	6.4	6	8-STEEL	29,05
41.540.0809	8	8	50	6.4	6	9-INOX	32,05
41.540.1001	10	9.5	52	8	6	1-ALU	37,45
41.540.1003	10	9.5	52	8	6	3-FINE	28,75

Ref.	Ø	d1	l1	l2	d2	z	€
41.540.1004	10	9.5	52	8	6	4-DIAMOND	31,00
41.540.1006	10	9.5	52	8	6	6-UNI	29,80
41.540.1008	10	9.5	52	8	6	8-STEEL	32,90
41.540.1009	10	9.5	52	8	6	9-INOX	35,90
41.540.1201	12	12.7	55	11	6	1-ALU	48,90
41.540.1203	12	12.7	55	11	6	3-FINE	37,45
41.540.1204	12	12.7	55	11	6	4-DIAMOND	40,15
41.540.1206	12	12.7	55	11	6	6-UNI	38,25
41.540.1208	12	12.7	55	11	6	8-STEEL	42,05
41.540.1209	12	12.7	55	11	6	9-INOX	45,85
41.540.1601	16	16	58	14	6	1-ALU	62,75
41.540.1606	16	16	58	14	6	6-UNI	53,00
41.540.2006	20	19	62	16	6	6-UNI	72,70

› 41.543 Phantom



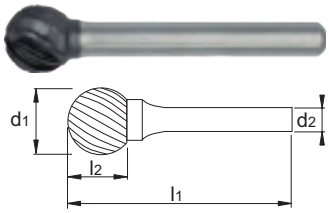
NL **Hardmetaal Stiftfrees model D, kogelvorm, schacht 3 mm**
FR **Fraise lime Carbure Forme D, Forme sphérique, queue 3 mm**
ES **Fresa rotativa Metal Duro forma D, modelo esférico, mango 3 mm**
DE **Hartmetall Frässtift Form D, Kugelform, Schaft 3 mm**
EN **Carbide Burr model D, ball, shank 3 mm**

HM | Ø3 | D

Ref.	Ø	d1	l1	l2	d2	z	€
41.543.0203	2	2	38	1.8	3	3-FINE	11,09
41.543.0206	2	2	38	1.8	3	6-UNI	11,69
41.543.0301	3	3	38	2.5	3	1-ALU	16,06
41.543.0303	3	3	38	2.5	3	3-FINE	11,09
41.543.0304	3	3	38	2.5	3	4-DIAMOND	12,23
41.543.0306	3	3	38	2.5	3	6-UNI	11,78
41.543.0309	3	3	38	2.5	3	9-INOX	16,06

Ref.	Ø	d1	l1	l2	d2	z	€
41.543.0403	4	4	38	3.4	3	3-FINE	32,90
41.543.0406	4	4	38	3.4	3	6-UNI	35,25
41.543.0631	6	6.3	38	5	3	1-ALU	28,25
41.543.0633	6	6.3	38	5	3	3-FINE	22,94
41.543.0636	6	6.3	38	5	3	6-UNI	20,65
41.543.0639	6	6.3	38	5	3	9-INOX	30,55

› 41.544 Phantom



NL **HP2 UNI Hardmetaal Stiftfrees model D, kogelvorm, AlTiN-X**
FR **Fraise lime Carbure HP2 UNI Forme D, Forme sphérique, AlTiN-X**
ES **Fresa rotativa Metal Duro HP2 UNI forma D, modelo esférico, AlTiN-X**
DE **HP2 UNI Hartmetall Frässtift Form D, Kugelform, AlTiN-X**
EN **HP2 UNI Carbide Burr model D, ball, AlTiN-X**

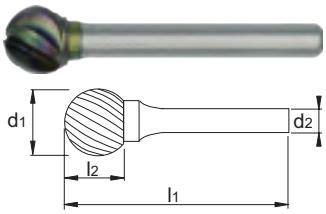
HM | AlTiN X | HP2 UNI | Ø6 | D

NIEUW NOUVEAU NUEVO NEU

Ref.	Ø	d1	l1	l2	d2	z	€
41.544.1000	10	9.5	52	8	6	HP2-UNI	35,35

Ref.	Ø	d1	l1	l2	d2	z	€
41.544.1200	12	12.7	55	11	6	HP2-UNI	47,70

› 41.546 Phantom



NL **HP2 ALU Hardmetaal Stiftfrees model D, kogelvorm, ta-C**
FR **Fraise lime Carbure HP2 ALU Forme D, Forme sphérique, ta-C**
ES **Fresa rotativa Metal Duro HP2 ALU forma D, modelo esférico, ta-C**
DE **HP2 ALU Hartmetall Frässtift Form D, Kugelform, ta-C**
EN **HP2 ALU Carbide Burr model D, ball, ta-C**

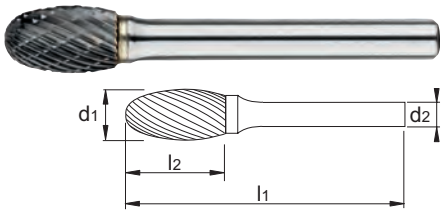
HM | Ø6 | D | HP2 ALU | ta-C

NIEUW NOUVEAU NUEVO NEU

Ref.	Ø	d1	l1	l2	d2	z	€
41.546.1000	10	9.5	52	8	6	HP2-ALU	45,35

Ref.	Ø	d1	l1	l2	d2	z	€
41.546.1200	12	12.7	55	11	6	HP2-ALU	61,20

› 41.550 Phantom



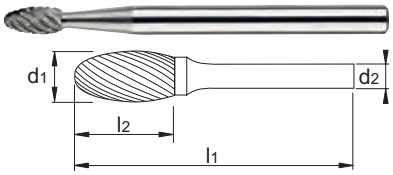
NL **Hardmetaal Stiftfrees model E, druppelvorm, schacht 6 mm**
FR **Fraise lime Carbure Forme E, Forme goutte, queue 6 mm**
ES **Fresa rotativa Metal Duro forma E, forma oval, mango 6 mm**
DE **Hartmetall Frässtift Form E, Tropfenform, Schaft 6 mm**
EN **Carbide Burr model E, Oval, shank 6 mm**

HM | Ø6 | E

Ref.	Ø	d1	l1	l2	d2	z	€
41.550.0601	6	6	50	9.5	6	1-ALU	39,40
41.550.0606	6	6	50	9.5	6	6-UNI	30,55
41.550.0806	8	8	60	15	6	6-UNI	37,45
41.550.0809	8	8	60	15	6	9-INOX	40,55
41.550.1001	10	9.5	60	16	6	1-ALU	48,40
41.550.1004	10	9.5	60	16	6	4-DIAMOND	40,90
41.550.1006	10	9.5	60	16	6	6-UNI	39,40

Ref.	Ø	d1	l1	l2	d2	z	€
41.550.1009	10	9.5	60	16	6	9-INOX	45,85
41.550.1201	12	12.7	66	22	6	1-ALU	68,85
41.550.1204	12	12.7	66	22	6	4-DIAMOND	57,55
41.550.1206	12	12.7	66	22	6	6-UNI	55,25
41.550.1209	12	12.7	66	22	6	9-INOX	64,95
41.550.1606	16	16	70	25	6	6-UNI	83,25

› 41.553 Phantom



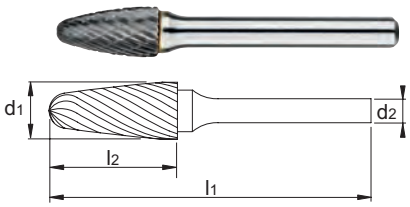
NL **Hardmetaal Stiftfrees model E, druppelvorm, schacht 3 mm**
FR **Fraise lime Carbure Forme E, Forme goutte, queue 3 mm**
ES **Fresa rotativa Metal Duro forma E, forma oval, mango 3 mm**
DE **Hartmetall Frässtift Form E, Tropfenform, Schaft 3 mm**
EN **Carbide Burr model E, Oval, shank 3 mm**

HM | Ø3 | E

Ref.	Ø	d1	l1	l2	d2	z	€
41.553.0306	3	3	38	5.5	3	6-UNI	11,78

Ref.	Ø	d1	l1	l2	d2	z	€
41.553.0636	6	6.3	42	9.5	3	6-UNI	20,65

› 41.560 Phantom



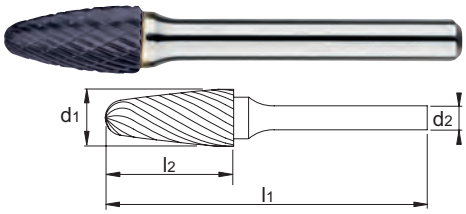
NL **Hardmetaal Stiftfrees model F, boomvorm met ronde kop, schacht 6 mm**
FR **Fraise lime Carbure Forme F, Forme ogive à bout arrondi, queue 6 mm**
ES **Fresa rotativa Metal Duro forma F, forma ojival en semiesférica, mango 6 mm**
DE **Hartmetall Frässtift Form F, Rundbogenform, Schaft 6 mm**
EN **Carbide Burr model F, Ball nose tree, shank 6 mm**

HM | Ø6 | F

Ref.	Ø	d1	l1	l2	d2	z	€
41.560.0601	6	6	50	18	6	1-ALU	35,60
41.560.0603	6	6	50	18	6	3-FINE	26,50
41.560.0604	6	6	50	18	6	4-DIAMOND	29,10
41.560.0606	6	6	50	18	6	6-UNI	28,00
41.560.0608	6	6	50	18	6	8-STEEL	29,80
41.560.0609	6	6	50	18	6	9-INOX	32,50
41.560.0806	8	8	65	20	6	6-UNI	37,45
41.560.0808	8	8	65	20	6	8-STEEL	36,70
41.560.0809	8	8	65	20	6	9-INOX	40,55
41.560.1001	10	9.5	64	19	6	1-ALU	45,45
41.560.1003	10	9.5	64	19	6	3-FINE	35,60
41.560.1004	10	9.5	64	19	6	4-DIAMOND	39,40

Ref.	Ø	d1	l1	l2	d2	z	€
41.560.1006	10	9.5	64	19	6	6-UNI	37,10
41.560.1008	10	9.5	64	19	6	8-STEEL	40,55
41.560.1009	10	9.5	64	19	6	9-INOX	43,70
41.560.1201	12	12.7	70	25	6	1-ALU	63,55
41.560.1203	12	12.7	70	25	6	3-FINE	52,30
41.560.1204	12	12.7	70	25	6	4-DIAMOND	57,55
41.560.1206	12	12.7	70	25	6	6-UNI	54,60
41.560.1208	12	12.7	70	25	6	8-STEEL	58,50
41.560.1209	12	12.7	70	25	6	9-INOX	64,20
41.560.1601	16	16	70	25	6	1-ALU	90,75
41.560.1604	16	16	70	25	6	4-DIAMOND	81,80
41.560.1606	16	16	70	25	6	6-UNI	78,75

› 41.561 Phantom



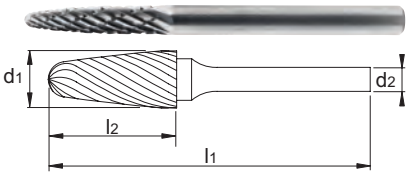
NL **Hardmetaal Stiftfrees model F, boomvorm met ronde kop, schacht 6 mm, TiAlN**
FR **Fraise lime Carbure Forme F, Forme ogive à bout arrondi, queue 6 mm, TiAlN**
ES **Fresa rotativa Metal Duro forma F, forma ojival en semiesférica, mango 6 mm, TiAlN**
DE **Hartmetall Frässtift Form F, Rundbogenform, Schaft 6 mm, TiAlN**
EN **Carbide Burr model F, Ball nose tree, shank 6 mm, TiAlN**

HM | TiAlN | Ø6 | F

Ref.	Ø	d1	l1	l2	d2	z	€
41.561.0606	6	6	80	18	6	6-UNI	35,10
41.561.1006	10	9.5	64	19	6	6-UNI	46,65

Ref.	Ø	d1	l1	l2	d2	z	€
41.561.1206	12	12.7	70	25	6	6-UNI	68,10

› 41.563 Phantom



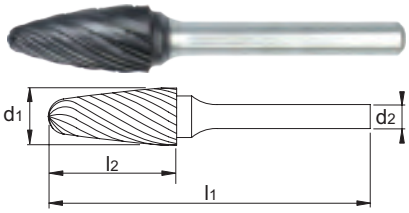
NL **Hardmetaal Stiftfrees model F, boomvorm met ronde kop, schacht 3 mm**
FR **Fraise lime Carbure Forme F, Forme ogive à bout arrondi, queue 3 mm**
ES **Fresa rotativa Metal Duro forma F, forma ojival en semiesférica, mango 3 mm**
DE **Hartmetall Frässtift Form F, Rundbogenform, Schaft 3 mm**
EN **Carbide Burr model F, Ball nose tree, shank 3 mm**

HM | Ø3 | F

Ref.	Ø	d1	l1	l2	d2	z	€
41.563.0301	3	3	38	12.7	3	1-ALU	16,06
41.563.0303	3	3	38	12.7	3	3-FINE	11,09
41.563.0304	3	3	38	12.7	3	4-DIAMOND	12,23
41.563.0306	3	3	38	12.7	3	6-UNI	11,78
41.563.0309	3	3	38	12.7	3	9-INOX	16,06

Ref.	Ø	d1	l1	l2	d2	z	€
41.563.0631	6	6.3	45	12.7	3	1-ALU	28,25
41.563.0633	6	6.3	45	12.7	3	3-FINE	20,65
41.563.0636	6	6.3	45	12.7	3	6-UNI	20,65
41.563.0639	6	6.3	45	12.7	3	9-INOX	30,55

› 41.564 Phantom



NL **HP2 UNI Hardmetaal Stiftfrees model F, boomvorm met ronde kop, AlTiN-X**
FR **Fraise lime Carbure HP2 UNI Forme F, Forme ogive à bout arrondi, AlTiN-X**
ES **Fresa rotativa Metal Duro HP2 UNI forma F, forma ojival en semiesférica, AlTiN-X**
DE **HP2 UNI Hartmetall Frässtift Form F, Rundbogenform, AlTiN-X**
EN **HP2 UNI Carbide Burr model F, Ball nose tree, AlTiN-X**

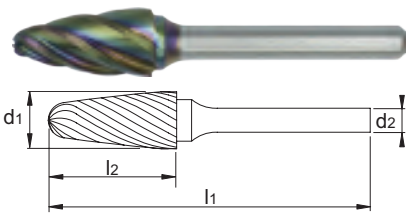
HM | AlTiN X | HP2 UNI | Ø6 | F

NIEUW NOUVEAU NUEVO NEU

Ref.	Ø	d1	l1	l2	d2	z	€
41.564.1000	10	9.5	64	19	6	HP2-UNI	42,20

Ref.	Ø	d1	l1	l2	d2	z	€
41.564.1200	12	12.7	70	25	6	HP2-UNI	62,25

› 41.566 Phantom



NL **HP2 ALU Hardmetaal Stiftfrees model F, boomvorm met ronde kop, ta-C**
FR **Fraise lime Carbure HP2 ALU Forme F, Forme ogive à bout arrondi, ta-C**
ES **Fresa rotativa Metal Duro HP2 ALU forma F, forma ojival en semiesférica, ta-C**
DE **HP2 ALU Hartmetall Frässtift Form F, Rundbogenform, ta-C**
EN **HP2 ALU Carbide Burr model F, Ball nose tree, ta-C**

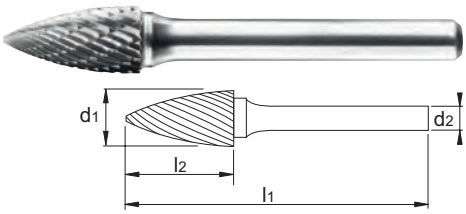
HM | Ø6 | F | HP2 ALU | ta-C

NIEUW NOUVEAU NUEVO NEU

Ref.	Ø	d1	l1	l2	d2	z	€
41.566.1000	10	9.5	64	19	6	HP2-ALU	54,00

Ref.	Ø	d1	l1	l2	d2	z	€
41.566.1200	12	12.7	70	25	6	HP2-ALU	79,95

› 41.570 Phantom

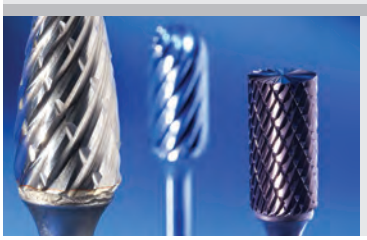


NL Hardmetaal Stiftfrees model G, boomvorm spits, schacht 6 mm
FR Fraise lime Carbure Forme G, Forme ogive, queue 6 mm
ES Fresa rotativa Metal Duro forma G, forma ojival en punta, mango 6 mm
DE Hartmetall Fräs(„Stift) Form G, Spitzbogenform, Schaft 6 mm
EN Carbide Burr model G, pointed tree, shank 6 mm

HM | Ø6 | G

Ref.	Ø	d1	l1	l2	d2	z	€
41.570.0601	6	6	50	18	6	1-ALU	35,60
41.570.0603	6	6	50	18	6	3-FINE	26,50
41.570.0604	6	6	50	18	6	4-DIAMOND	29,10
41.570.0606	6	6	50	18	6	6-UNI	28,00
41.570.0608	6	6	50	18	6	8-STEEL	29,80
41.570.0609	6	6	50	18	6	9-INOX	32,50
41.570.0801	8	8	64	19	6	1-ALU	48,40
41.570.0803	8	8	64	19	6	3-FINE	35,60
41.570.0804	8	8	64	19	6	4-DIAMOND	39,40
41.570.0806	8	8	64	19	6	6-UNI	37,85
41.570.0808	8	8	64	19	6	8-STEEL	40,55
41.570.0809	8	8	64	19	6	9-INOX	44,35
41.570.1001	10	9.5	64	19	6	1-ALU	45,45
41.570.1003	10	9.5	64	19	6	3-FINE	33,30
41.570.1004	10	9.5	64	19	6	4-DIAMOND	36,70

Ref.	Ø	d1	l1	l2	d2	z	€
41.570.1006	10	9.5	64	19	6	6-UNI	34,75
41.570.1008	10	9.5	64	19	6	8-STEEL	38,25
41.570.1009	10	9.5	64	19	6	9-INOX	41,25
41.570.1201	12	12.7	70	25	6	1-ALU	63,55
41.570.1203	12	12.7	70	25	6	3-FINE	52,30
41.570.1204	12	12.7	70	25	6	4-DIAMOND	57,55
41.570.1206	12	12.7	70	25	6	6-UNI	54,60
41.570.1208	12	12.7	70	25	6	8-STEEL	58,10
41.570.1209	12	12.7	70	25	6	9-INOX	64,20
41.570.1601	16	16	70	25	6	1-ALU	90,75
41.570.1603	16	16	70	25	6	3-FINE	74,20
41.570.1604	16	16	70	25	6	4-DIAMOND	81,80
41.570.1606	16	16	70	25	6	6-UNI	78,75
41.570.2001	20	19	69	25	6	1-ALU	43,20

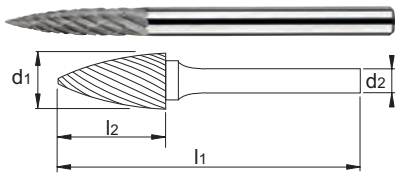


NL Stiftfrezen keuzehulp
FR Aide à la sélection des fraises lime
ES Ayuda para la selección de fresas rotativas
DE Auswahlhilfe Frässtifte
EN Selection guide for burrs

Read me

www.phantom.eu

› 41.573 Phantom



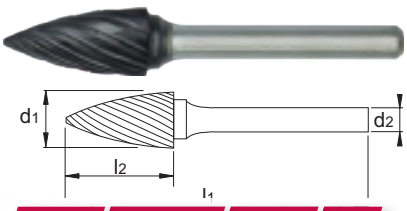
NL Hardmetaal Stiftfrees model G, boomvorm spits, schacht 3 mm
FR Fraise lime Carbure Forme G, Forme ogive, queue 3 mm
ES Fresa rotativa Metal Duro forma G, forma ojival en punta, mango 3 mm
DE Hartmetall Frässtift Form G, Spitzbogenform, Schaft 3 mm
EN Carbide Burr model G, pointed tree, shank 3 mm

HM | Ø3 | G

Ref.	Ø	d1	l1	l2	d2	z	€
41.573.0301	3	3	38	10	3	1-ALU	16,06
41.573.0303	3	3	38	10	3	3-FINE	11,09
41.573.0304	3	3	38	10	3	4-DIAMOND	12,23

Ref.	Ø	d1	l1	l2	d2	z	€
41.573.0306	3	3	38	10	3	6-UNI	11,78
41.573.0633	6	6.3	45	12.7	3	3-FINE	20,65
41.573.0636	6	6.3	45	12.7	3	6-UNI	20,65

› 41.574 Phantom



NIEUW NOUVEAU NUEVO NEU

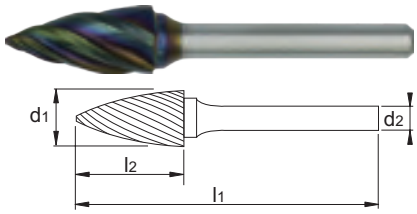
NL HP2 UNI Hardmetaal Stiftfrees model G, boomvorm spits, AlTiN-X
FR Fraise lime Carbure HP2 UNI Forme G, Forme ogive, AlTiN-X
ES Fresa rotativa Metal Duro HP2 UNI forma G, forma ojival en punta, AlTiN-X
DE HP2 UNI Hartmetall Frässtift Form G, Spitzbogenform, AlTiN-X
EN HP2 UNI Carbide Burr model G, pointed tree, AlTiN-X

HM | AlTiN X | HP2 UNI | Ø6 | G

Ref.	Ø	d1	l1	l2	d2	z	€
41.574.1000	10	9.5	64	19	6	HP2-UNI	44,95

Ref.	Ø	d1	l1	l2	d2	z	€
41.574.1200	12	12.7	70	25	6	HP2-UNI	61,20

› 41.576 Phantom



NL **HP2 ALU Hardmetaal Stiftfrees model G, boomvorm spits, ta-C**
FR **Fraise lime Carbure HP2 ALU Forme G, Forme ogive, ta-C**
ES **Fresa rotativa Metal Duro HP2 ALU forma G, forma ojival en punta, ta-C**
DE **HP2 ALU Hartmetall Frässtift Form G, Spitzbogenform, ta-C**
EN **HP2 ALU Carbide Burr model G, pointed tree, ta-C**

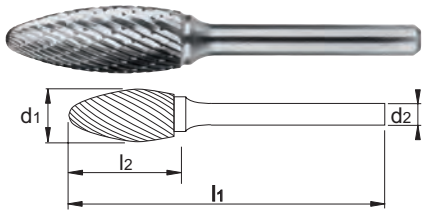
HM | Ø6 | G | HP2 ALU | ta-C

NIEUW NOUVEAU NUEVO NEU

Ref.	Ø	d1	l1	l2	d2	z	€
41.576.1000	10	9.5	64	19	6	HP2-ALU	57,50

Ref.	Ø	d1	l1	l2	d2	z	€
41.576.1200	12	12.7	70	25	6	HP2-ALU	78,05

› 41.580 Phantom



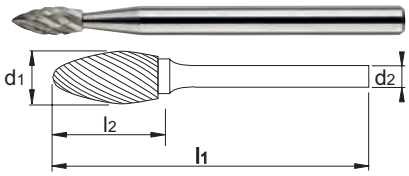
NL **Hardmetaal Stiftfrees model H, vlamvorm, schacht 6 mm**
FR **Fraise lime Carbure Forme H, Forme flamme, queue 6 mm**
ES **Fresa rotativa Metal Duro forma H, forma llama, mango 6 mm**
DE **Hartmetall Frässtift Form H, Flammenform, Schaft 6 mm**
EN **Carbide Burr model H, flame, shank 6 mm**

HM | Ø6 | H

Ref.	Ø	d1	l1	l2	d2	z	€
41.580.0606	6	6	50	9.5	6	6-UNI	30,55
41.580.0801	8	8	64	19	6	1-ALU	43,95
41.580.0803	8	8	64	19	6	3-FINE	35,90
41.580.0804	8	8	64	19	6	4-DIAMOND	38,95
41.580.0806	8	8	64	19	6	6-UNI	36,70
41.580.0808	8	8	64	19	6	8-STEEL	40,55
41.580.0809	8	8	64	19	6	9-INOX	44,35
41.580.1006	10	9.5	65	19	6	6-UNI	73,10
41.580.1009	10	9.5	65	19	6	9-INOX	79,50

Ref.	Ø	d1	l1	l2	d2	z	€
41.580.1201	12	12.7	77	32	6	1-ALU	88,35
41.580.1203	12	12.7	77	32	6	3-FINE	67,40
41.580.1204	12	12.7	77	32	6	4-DIAMOND	72,65
41.580.1206	12	12.7	77	32	6	6-UNI	68,85
41.580.1208	12	12.7	77	32	6	8-STEEL	75,75
41.580.1209	12	12.7	77	32	6	9-INOX	82,70
41.580.1606	16	16	80	36	6	6-UNI	110,05
41.580.2003	20	19	85	41	6	3-FINE	54,75

› 41.583 Phantom



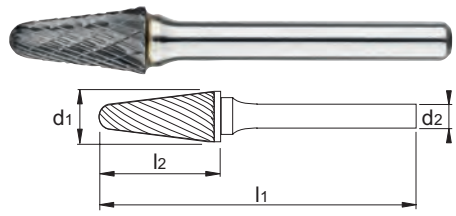
NL **Hardmetaal Stiftfrees model H, vlamvorm, schacht 3 mm**
FR **Fraise lime Carbure Forme H, Forme flamme, queue 3 mm**
ES **Fresa rotativa Metal Duro forma H, forma llama, mango 3 mm**
DE **Hartmetall Frässtift Form H, Flammenform, Schaft 3 mm**
EN **Carbide Burr model H, flame, shank 3 mm**

HM | Ø3 | H

Ref.	Ø	d1	l1	l2	d2	z	€
41.583.0306	3	3	38	6.3	3	6-UNI	11,78

Ref.	Ø	d1	l1	l2	d2	z	€
41.583.0636	6	6	43	10	3	6-UNI	22,94

› 41.620 Phantom



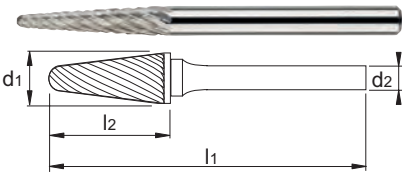
NL **Hardmetaal Stiftfrees model L, kegelvorm, met ronde kop, schacht 6 mm**
FR **Fraise lime Carbure Forme L, Forme conique à bout arrondi, queue 6 mm**
ES **Fresa rotativa Metal Duro forma L, forma cónica, con punta redondeada, mango 6 mm**
DE **Hartmetall Frässtift Form L, Rundkegelform, Schaft 6 mm**
EN **Carbide Burr model L, ball nose cone, shank 6 mm**

HM | Ø6 | L

Ref.	Ø	d1	l1	l2	d2	z	€
41.620.0601	6	6	50	16	6	1-ALU	37,85
41.620.0603	6	6	50	16	6	3-FINE	26,50
41.620.0604	6	6	50	16	6	4-DIAMOND	29,55
41.620.0606	6	6	50	16	6	6-UNI	28,00
41.620.0801	8	8	70	22	6	1-ALU	48,40
41.620.0806	8	8	70	22	6	6-UNI	35,60
41.620.0809	8	8	70	22	6	9-INOX	42,05
41.620.1001	10	9.5	74	27	6	1-ALU	57,40
41.620.1006	10	9.5	74	27	6	6-UNI	42,45

Ref.	Ø	d1	l1	l2	d2	z	€
41.620.1008	10	9.5	74	27	6	8-STEEL	50,45
41.620.1009	10	9.5	74	27	6	9-INOX	55,10
41.620.1201	12	12.7	76	28	6	1-ALU	69,65
41.620.1204	12	12.7	76	28	6	4-DIAMOND	60,50
41.620.1206	12	12.7	76	28	6	6-UNI	57,55
41.620.1208	12	12.7	76	28	6	8-STEEL	62,70
41.620.1209	12	12.7	76	28	6	9-INOX	68,85
41.620.1604	16	16	77	30	6	4-DIAMOND	35,60
41.620.1606	16	16	77	30	6	6-UNI	93,80

› 41.623 Phantom



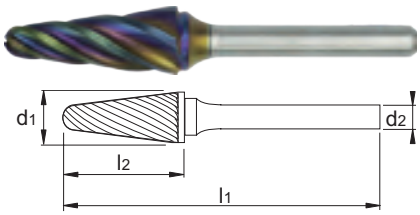
NL **Hardmetaal Stiftfrees model L, kegelvorm, met ronde kop, schacht 3 mm**
FR **Fraise lime Carbure Forme L, Forme conique à bout arrondi, queue 3 mm**
ES **Fresa rotativa Metal Duro forma L, forma cónica, con punta redondeada, mango 3 mm**
DE **Hartmetall Frässtift Form L, Rundkegelform, Schaft 3 mm**
EN **Carbide Burr model L, ball nose cone, shank 3 mm**

HM | Ø3 | L

Ref.	Ø	d1	l1	l2	d2	z	€
41.623.0301	3	3	38	12.7	3	1-ALU	16,84
41.623.0303	3	3	38	12.7	3	3-FINE	11,09

Ref.	Ø	d1	l1	l2	d2	z	€
41.623.0304	3	3	38	12.7	3	4-DIAMOND	12,23
41.623.0306	3	3	38	12.7	3	6-UNI	11,78

› 41.626 Phantom



NL **HP2 ALU Hardmetaal Stiftfrees model L, kegelvorm, met ronde kop, ta-C**
FR **Fraise lime Carbure HP2 ALU Forme L, Forme conique à bout arrondi, ta-C**
ES **Fresa rotativa Metal Duro HP2 ALU forma L, forma cónica, con punta redondeada, ta-C**
DE **HP2 ALU Hartmetall Frässtift Form L, Rundkegelform, ta-C**
EN **HP2 ALU Carbide Burr model L, ball nose cone, ta-C**

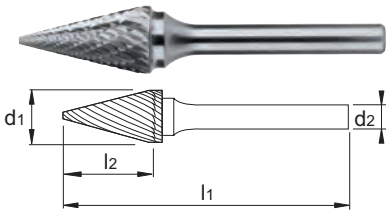
HM | Ø6 | L | HP2 ALU | ta-C

NIEUW NOUVEAU NUEVO NEU

Ref.	Ø	d1	l1	l2	d2	z	€
41.626.1200	12	12.7	76	28	6	HP2-ALU	84,40

Ref.	Ø	d1	l1	l2	d2	z	€

› 41.630 Phantom

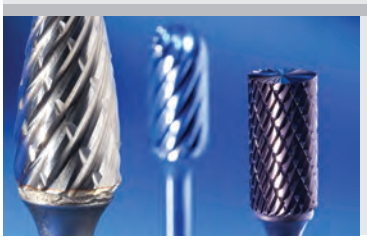


NL **Hardmetaal Stiftfrees model M, kegelvorm, spits, schacht 6 mm**
FR **Fraise lime Carbure Forme M, Forme conique à bout pointu, queue 6 mm**
ES **Fresa rotativa Metal Duro forma M, forma cónica, en punta, mango 6 mm**
DE **Hartmetall Frässtift Form M, Spitzkegelform, Schaft 6 mm**
EN **Carbide Burr model M, cone, shank 6 mm**

HM | Ø6 | M

Ref.	Ø	d1	l1	l2	d2	z	€
41.630.0601	6	6	50	12.7	6	1-ALU	34,75
41.630.0603	6	6	50	12.7	6	3-FINE	26,10
41.630.0606	6	6	50	12.7	6	6-UNI	28,25
41.630.0611	6	6	50	19	6	1-ALU	37,10
41.630.0613	6	6	50	19	6	3-FINE	28,00
41.630.0616	6	6	50	19	6	6-UNI	29,05
41.630.0621	6	6	50	25	6	1-ALU	40,10
41.630.0623	6	6	50	25	6	3-FINE	29,90
41.630.0626	6	6	50	25	6	6-UNI	34,10
41.630.0806	8	8	63	18	6	6-UNI	41,00

Ref.	Ø	d1	l1	l2	d2	z	€
41.630.1001	10	9.5	64	16	6	1-ALU	54,60
41.630.1003	10	9.5	64	16	6	3-FINE	40,10
41.630.1006	10	9.5	64	16	6	6-UNI	40,95
41.630.1201	12	12.7	70	22	6	1-ALU	69,65
41.630.1203	12	12.7	70	22	6	3-FINE	51,50
41.630.1206	12	12.7	70	22	6	6-UNI	52,40
41.630.1601	16	16	73	25	6	1-ALU	38,35
41.630.1603	16	16	73	25	6	3-FINE	78,75
41.630.1606	16	16	73	25	6	6-UNI	81,00



NL Stiftfrezen keuzehulp
FR Aide à la sélection des fraises lime
ES Ayuda para la selección de fresas rotativas
DE Auswahlhilfe Frässtifte
EN Selection guide for burrs

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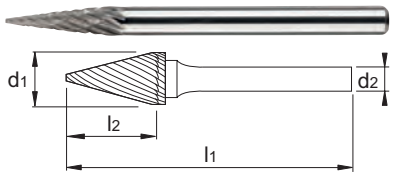
› 41.633 Phantom

NL **Hardmetaal Stiftfrees model M, kegelvorm, spits, schacht 3 mm**
FR **Fraise lime Carbure Forme M, Forme conique à bout pointu, queue 3 mm**
ES **Fresa rotativa Metal Duro forma M, forma cónica, en punta, mango 3 mm**
DE **Hartmetall Frässtift Form M, Spitzkegelform, Schaft 3 mm**
EN **Carbide Burr model M, cone, shank 3 mm**



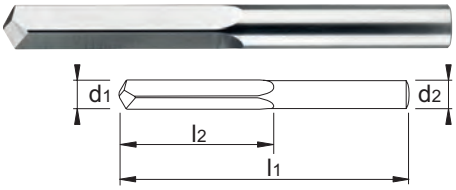
HM | Ø3 | M

Ref.	Ø	d1	l1	l2	d2	z	€
41.633.0301	3	3	38	11	3	1-ALU	16,06
41.633.0303	3	3	38	11	3	3-FINE	11,09

Ref.	Ø	d1	l1	l2	d2	z	€
41.633.0306	3	3	38	11	3	6-UNI	11,78

› 41.690 Phantom

NL **Hardmetaal Cilinderslot breker**
FR **Foret destructeur de serrure Carbure**
ES **Fresa de cerrajero Metal Duro**
DE **Hartmetall Zylinderschlossöffner**
EN **Carbide Cylinder lock opener**



NIEUW NOUVEAU NUEVO NEU

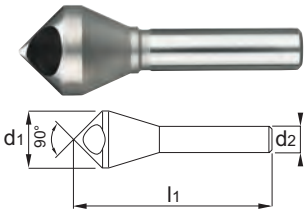
HM | Ø6

Ref.	Ø	d1	l1	l2	d2	€
41.690.4606	4.6	4.6	60	30	6	57,25

Ref.	Ø	d1	l1	l2	d2	€
41.690.4626	4.6	4.6	80	30	6	67,50

› 42.500 Phantom

NL **HSS-E Verzinkboor 90°, schuin gat**
FR **Fraise à chanfreiner HSS-E 90°, à trou**
ES **Avellanador para desbarbar HSS-E 90°, con agujero**
DE **HSS-E Kegelsenker 90°, Querloch**
EN **HSS-E Countersink 90°, through hole**

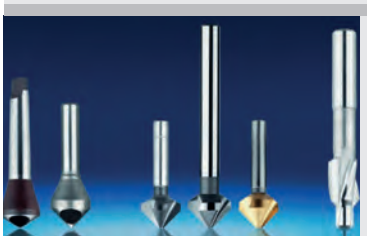


HSS-E | 90°

P 11	P 12	P 13	K 31	K 32	N 41	N 42	N 51	N 52	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu	CuAlFe	PVC
35-45 C	20-30 D	15-20 C	20-30 C	30-40 D	55-65 I	30-40 F	20-30 E	30-40 D	50-100 I

Ref.	d1	Min-Max Ø	l1	d2	€
42.500.0500	5	2-5	45	6	25,25
42.500.1000	10	4-9	45	6	25,25
42.500.1500	15	6-14	55	8	32,35
42.500.2000	20	8-18	65	10	50,55
42.500.2500	25	10-23	78	12	69,60

Ref.	d1	Min-Max Ø	l1	d2	€
42.500.2800	28	11-26	86	12	93,45
42.500.3000	30	12-28	88	12	102,90
42.500.3500	35	14-33	116	16	155,95
42.500.4000	40	16-38	132	16	221,50
42.500.5000	50	20-48	136	16	311,00



NL Verzinken keuzehulp
FR Aide à la sélection des fraises à chanfreiner
ES Ayuda para la selección de avellanadores
DE Auswahlhilfe Kegelsenker
EN Countersink selection guide

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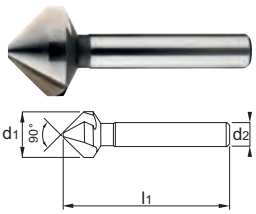
› 42.533 International Tools



NL **ECO HSS Verzinkboor 90°, 3 snijkanten**
FR **Fraise à chanfreiner HSS ECO 90°, 3 taillants**
ES **Avellanador para desbarbar HSS ECO 90°, 3 labios**
DE **ECO HSS Kegelsenker 90°, 3 Schneiden**
EN **ECO HSS Countersink 90°, 3 flute**

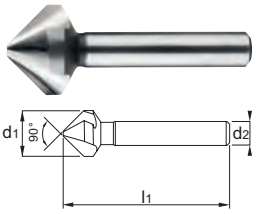
DIN 335-C | HSS | 3 | 3 | 90° | ECO

P 11	P 12	K 31	K 32	N 41
≤600 N/mm²	≤850 N/mm²	GG	GGG GTS-GTW	Alu
17-22 *	10-15 *	15-20 *	20-25 *	35-45 *

Ref.	d1	Min-Max Ø	M	l1	d2	€
42.533.0630	6.3	1,5-6,3	M3	45	5	6,70
42.533.0830	8.3	2-8,3	M4	50	6	8,12
42.533.1040	10.4	2,5-10,4	M5	50	6	8,98
42.533.1240	12.4	2,8-12,4	M6	56	8	10,61
42.533.1440	14.4	2,9-14,4	M7	56	8	11,78

Ref.	d1	Min-Max Ø	M	l1	d2	€
42.533.1650	16.5	3,2-16,5	M8	60	10	13,19
42.533.2050	20.5	3,5-20,5	M10	63	10	16,90
42.533.2500	25	3,8-25	M12	67	10	24,32
42.533.3100	31	4,2-31	M16	71	12	35,55

› 42.535 International Tools



NL **ECO PRO HSS Verzinkboor 90°, 3 snijkanten**
FR **Fraise à chanfreiner HSS ECO PRO 90°, 3 taillants**
ES **Avellanador para desbarbar HSS ECO PRO 90°, 3 labios**
DE **ECO PRO HSS Kegelsenker 90°, 3 Schneiden**
EN **ECO PRO HSS Countersink 90°, 3 flute**

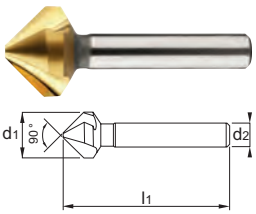
DIN 335-C | HSS | 3 | 3 | 90° | ECO PRO | ≥40

P 11	P 12	P 13	K 31	K 32	N 41	N 42	N 51
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu
15-20 *	8-12 *	6-10 *	10-15 *	15-20 *	30-40 *	20-25 *	15-25 *

Ref.	d1	Min-Max Ø	M	l1	d2	€
42.535.0630	6.3	1,5-6,3	M3	45	5	12,29
42.535.0830	8.3	2-8,3	M4	50	6	14,74
42.535.1040	10.4	2,5-10,4	M5	50	6	15,65
42.535.1240	12.4	2,8-12,4	M6	56	8	19,96
42.535.1440	14.4	2,9-14,4	M7	56	10	23,05
42.535.1650	16.5	3,2-16,5	M8	60	10	24,56

Ref.	d1	Min-Max Ø	M	l1	d2	€
42.535.2050	20.5	3,5-20,5	M10	63	10	28,75
42.535.2500	25	3,8-25	M12	67	10	36,05
42.535.3100	31	4,2-31	M16	71	12	56,05
42.535.4000	40	8-40		80	13	106,20
42.535.5000	50	10-50		90	13	201,60

› 42.536 International Tools



NL **ECO PRO HSS Verzinkboor 90°, TiN, 3 snijkanten**
FR **Fraise à chanfreiner HSS ECO PRO 90°, TiN, 3 taillants**
ES **Avellanador para desbarbar HSS ECO PRO 90°, TiN, 3 labios**
DE **ECO PRO HSS Kegelsenker 90°, TiN, 3 Schneiden**
EN **ECO PRO HSS Countersink 90°, TiN, 3 flute**

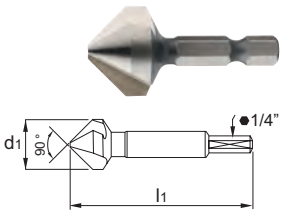
DIN 335-C | HSS | TiN | 3 | 3 | 90° | ECO PRO

P 11	P 12	P 13	M 21	K 31	K 32	N 41	N 42	N 51
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	INOX ≤850N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu
15-20 *	8-12 *	6-10 *	5-10 *	10-15 *	15-20 *	30-40 *	20-25 *	15-25 *

Ref.	d1	Min-Max Ø	M	l1	d2	€
42.536.0630	6.3	1,5-6,3	M3	45	5	15,48
42.536.0830	8.3	2-8,3	M4	50	6	18,42
42.536.1040	10.4	2,5-10,4	M5	50	6	19,89
42.536.1240	12.4	2,8-12,4	M6	56	8	24,32
42.536.1440	14.4	2,9-14,4	M7	56	10	27,80

Ref.	d1	Min-Max Ø	M	l1	d2	€
42.536.1650	16.5	3,2-16,5	M8	60	10	29,45
42.536.2050	20.5	3,5-20,5	M10	63	10	36,85
42.536.2500	25	3,8-25	M12	67	10	53,05
42.536.3100	31	4,2-31	M16	71	12	78,30

› 42.543 International Tools



NL **ECO HSS Verzinkboor 90°, 3 snijkanten, 1/4" (6,35 mm)-zeskant bitopname**
FR **Fraise à chanfreiner HSS ECO 90°, 3 taillants, avec queue hexagonale 1/4" (6,35 mm)**
ES **Avellanador para desbarbar HSS ECO 90°, 3 labios, con sujeción 1/4" (6,35 mm) bit**
DE **ECO HSS Kegelsenker 90°, 3 Schneiden, 1/4" (6,35 mm) Hexa-Bitaufnahme**
EN **ECO HSS Countersink 90°, 3 flute, 1/4" (6,35 mm) hexagonal shank**

HSS | NORM | 3 | 90° | ECO | DIN 3126 | E6,3 1/4" | DIN ISO 1173

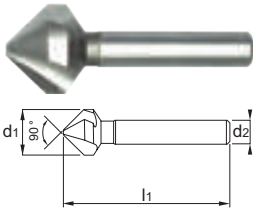
P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10% | N 51 Cu

15-20 * | 8-12 * | 6-10 * | 10-15 * | 15-20 * | 30-40 * | 20-25 * | 15-25 *

Ref.	d1	Min-Max Ø	M	l1	€
42.543.0630	6.3	1,5-6,3	M3	50	7,39
42.543.0830	8.3	2-8,3	M4	50	8,85
42.543.1040	10.4	2,5-10,4	M5	50	10,33

Ref.	d1	Min-Max Ø	M	l1	€
42.543.1240	12.4	2,8-12,4	M6	50	12,52
42.543.1650	16.5	3,2-16,5	M8	50	16,22
42.543.2050	20.5	3,5-20,5	M10	50	19,89

› 42.547 Phantom



NL **HP2 UNI HSS-E Vari Verzinkboor 90°, 3 snijkanten**
FR **Fraise à chanfreiner Vari HSS-E HP2 UNI 90°, 3 taillants**
ES **Avellanador Vari HSS-E HP2 UNI 90°, 3 labios**
DE **HP2 UNI HSS-E Kegelsenker ungleichteilung 90°, 3 Schneiden**
EN **HP2 UNI HSS-E Vari Countersink 90°, 3 flute**

DIN 335-C | HSS-E | 3 | 3 | HP2 UNI | 90° | VARI

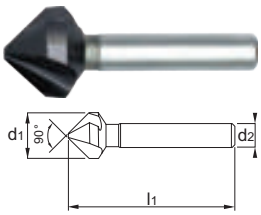
P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | P 14 ≤1400 N/mm² | M 21 INOX ≤850N/mm² | M 22 INOX >850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10% | N 51 Cu | N 52 CuAlFe | N 61 PVC

25-35 H | 20-30 F | 15-25 F | 7-13 A | 10-18 B | 9-15 A | 20-30 H | 20-30 H | 40-60 I | 30-40 I | 30-40 G | 20-30 G | 40-60 I

Ref.	d1	Min-Max Ø	M	l1	d2	€
42.547.0430	4.3	1,3-4,3	M2	40	4	20,12
42.547.0530	5.3	1,5-5,3	M2,5	40	4	20,65
42.547.0600	6	1,5-6		45	5	21,29
42.547.0630	6.3	1,5-6,3	M3	45	5	21,17
42.547.0730	7.3	1,8-7,3	M3,5	50	6	21,17
42.547.0800	8	2-8		50	6	22,00
42.547.0830	8.3	2-8,3	M4	50	6	21,71
42.547.0940	9.4	2,2-9,4	M4,5	50	6	23,06
42.547.1000	10	2,5-10		50	6	25,50
42.547.1040	10.4	2,5-10,4	M5	50	6	25,10

Ref.	d1	Min-Max Ø	M	l1	d2	€
42.547.1150	11.5	2,8-11,5	M5,5	50	8	27,90
42.547.1240	12.4	2,8-12,4	M6	56	8	27,50
42.547.1440	14.4	2,9-14,4	M7	56	8	30,20
42.547.1500	15	3,2-15		60	10	33,20
42.547.1650	16.5	3,2-16,5	M8	60	10	32,95
42.547.2050	20.5	3,5-20,5	M10	63	10	44,65
42.547.2500	25	3,8-25	M12	67	10	54,85
42.547.2800	28	4-28	M14	71	12	90,00
42.547.3100	31	4-31	M16	71	12	84,20

› 42.548 Phantom



NL **HP2 UNI HSS-E Vari Verzinkboor 90°, 3 snijkanten, AlTiN-X**
FR **Fraise à chanfreiner Vari HSS-E HP2 UNI 90°, 3 taillants, AlTiN-X**
ES **Avellanador Vari HSS-E HP2 UNI 90°, 3 labios, AlTiN-X**
DE **HP2 UNI HSS-E Kegelsenker ungleichteilung 90°, 3 Schneiden, AlTiN-X**
EN **HP2 UNI HSS-E Vari Countersink 90°, 3 flute, AlTiN-X**

DIN 335-C | HSS-E | 3 | 3 | AlTiN X | HP2 UNI | 90° | VARI

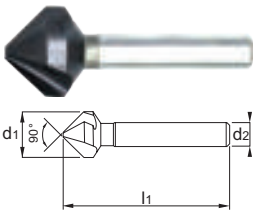
P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | P 14 ≤1400 N/mm² | M 21 INOX ≤850N/mm² | M 22 INOX >850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10% | N 51 Cu | N 52 CuAlFe | S 71 Ni/Co | S 72 Ti

30-40 H | 25-35 F | 20-30 F | 10-16 A | 13-21 B | 12-20 A | 25-35 H | 30-40 H | 60-80 I | 30-50 I | 40-60 G | 30-40 G | 7-11 A | 7-11 B

Ref.	d1	Min-Max Ø	M	l1	d2	€
42.548.0430	4.3	1,3-4,3	M2	40	4	26,80
42.548.0600	6	1,5-6		45	5	28,05
42.548.0630	6.3	1,5-6,3	M3	45	5	28,05
42.548.0800	8	2-8		50	6	31,90
42.548.0830	8.3	2-8,3	M4	50	6	31,90
42.548.1000	10	2,5-10		50	6	33,20
42.548.1040	10.4	2,5-10,4	M5	50	6	33,20

Ref.	d1	Min-Max Ø	M	l1	d2	€
42.548.1150	11.5	2,8-11,5	M5,5	50	8	41,10
42.548.1240	12.4	2,8-12,4	M6	56	8	41,10
42.548.1500	15	3,2-15		60	10	46,45
42.548.1650	16.5	3,2-16,5	M8	60	10	46,45
42.548.2050	20.5	3,5-20,5	M10	63	10	60,25
42.548.2500	25	3,8-25	M12	67	10	73,75
42.548.3100	31	4-31	M16	71	12	116,80

› 42.558 Phantom



NL **HP2 UNI HSS-E Vari Verzinkboor 90°, 3 snijkanten, AlTiN-X, met drievlaks schacht**
FR **Fraise à chanfreiner Vari HSS-E HP2 UNI 90°, 3 taillants, AlTiN-X, queue à trois méplats**
ES **Avellanador Vari HSS-E HP2 UNI 90°, 3 labios, AlTiN-X, con 3 chaflanes**
DE **HP2 UNI HSS-E Kegelsenker ungleichteilung 90°, 3 Schneiden, AlTiN-X, 3-Flächen-Schaft**
EN **HP2 UNI HSS-E Vari Countersink 90°, 3 flute, AlTiN-X, with 3 flat surfaces**

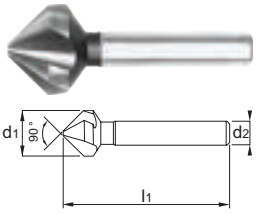
DIN 335-C | HSS-E | 3 | 3 | AlTiN X | HP2 UNI | 90° | VARI

P 11	P 12	P 13	P 14	M 21	M 22	K 31	K 32	N 41	N 42	N 51	N 52	S 71	S 72
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu	CuAlFe	Ni/Co	Ti
30-40 H	25-35 F	20-30 F	10-16 A	13-21 B	12-20 A	25-35 H	30-40 H	60-80 I	30-50 I	40-60 G	30-40 G	7-11 A	7-11 B

Ref.	d1	Min-Max Ø	M	l1	d2	€
42.558.0630	6.3	1,5-6,3	M3	45	5	31,90
42.558.0830	8.3	2-8,3	M4	50	6	35,75
42.558.1040	10.4	2,5-10,4	M5	50	6	37,15
42.558.1240	12.4	2,8-12,4	M6	56	8	43,40
42.558.1500	15	3,2-15		60	10	50,45
42.558.1650	16.5	3,2-16,5	M8	60	10	50,95

Ref.	d1	Min-Max Ø	M	l1	d2	€
42.558.2050	20.5	3,5-20,5	M10	63	10	64,30
42.558.2500	25	3,8-25	M12	67	10	78,45
42.558.3100	31	4-31	M16	71	12	123,05
42.558.4000	40	8-40		112	12	273,00
42.558.5000	50	10-50		125	16	382,00

› 42.582 Phantom



NL **HRC50 HSS-E 8% Vari Verzinkboor 90°, meersnijder met drievlaks schacht**
FR **Fraise à chanfreiner Vari HSS-E 8% HRC50 90°, multi-dents à 3 méplats**
ES **Avellanador Vari HSS-E 8% HRC50 90°, multi labios con 3 chaflanes**
DE **HRC50 HSS-E 8% Kegelsenker ungleichteilung 90°, Mehrschneiden 3-Flächen-Schaft**
EN **HRC50 HSS-E 8% Vari Countersink 90°, Multi Flute with 3 flat surfaces**

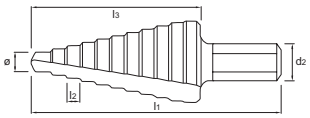
HSS-E 8% | DIN 335-C | 90° | >3 | VARI | ≥12,4 | HRc 50

P 11	P 12	P 13	P 14	H 15	M 21	M 22	K 31	K 32	N 41	N 42	N 51	N 52	S 71	S 72
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	HRC	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu	CuAlFe	Ni/Co	Ti
30-40 I	25-35 I	20-30 I	10-16 I	9-14 I	13-21 I	12-20 I	25-35 I	30-40 I	60-80 I	30-50 I	40-60 I	30-40 I	7-11 B	7-11 H

Ref.	d1	Min-Max Ø	M	l1	d2	z	€
42.582.0630	6.3	1,5-6,3	M3	45	5	4	32,90
42.582.0830	8.3	2-8,3	M4	50	6	4	34,50
42.582.1040	10.4	2,5-10,4	M5	50	6	4	41,25
42.582.1240	12.4	2,8-12,4	M6	56	8	5	45,05

Ref.	d1	Min-Max Ø	M	l1	d2	z	€
42.582.1650	16.5	3,2-16,5	M8	60	10	5	54,25
42.582.2050	20.5	3,5-20,5	M10	63	10	5	76,95
42.582.2500	25	3,8-25	M12	67	10	5	100,25
42.582.3100	31	4-31	M16	71	12	5	169,30

› 44.090 International Tools





NL **ECO PRO HSS Getrapte Plaatboor blank geslepen uitvoering**
FR **Foret étagé HSS ECO PRO taillé meulé, finition polie**
ES **Broca escalonada HSS ECO PRO versión rectificada, blanca**
DE **ECO PRO HSS Stufenbohrer blank geschliffene Ausführung**
EN **ECO PRO HSS multi diametre Step Drill ground version, bright finish**

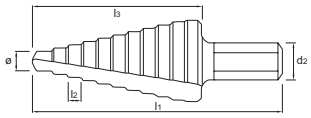
135° | Z=2 | HSS | ECO PRO | max. 4 mm

NIEUW NOUVEAU NUEVO NEU

P 11	P 12	P 13	M 21	K 31	K 32	N 42	N 51	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	INOX ≤850N/mm²	GG	GGG GTS-GTW	Alu Si>10%	Cu	PVC
25-27	22-30	15-20	8-12	15-20	25-30	45-50	25-40	22-28

Ref.	xØ	Ø mm	l1	l2	d2	l3	€
44.090.0090	9	4-5-6-7-8-9-10-11-12	65	4	6	43	14,35
44.090.0100	9	4-6-8-10-12-14-16-18-20	75	4	8	53	22,79
44.090.0200	13	6-8-10-12-14-16-18-20-22-24-26-28-30	98	4	10	73	47,05

› 44.105 Phantom





NL HSS Getrapte Plaatboor, Ergo-Step TiN
FR Foret étagé, Ergo-Step HSS TiN
ES Broca escalonada, Ergo-Step HSS TiN
DE HSS Stufenbohrer, Ergo-Step TiN
EN HSS multi diametre Step Drill, Ergo-Step TiN

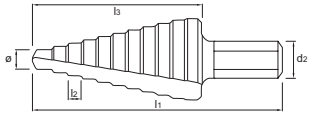
135° | Z=2 | HSS | TiN | max. 4 mm | ERGO-STEP

NIEUW / NOUVEAU / NUEVO / NEU

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	M 21 INOX ≤850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 42 Alu Si>10%	N 51 Cu	N 61 PVC
25-27	22-30	15-20	8-12	15-20	25-30	45-50	25-40	22-28

Ref.	xØ	Ø mm	l1	l2	d2	l3	€
44.105.0090	9	4-5-6-7-8-9-10-11-12	65	4	6	43	24,05
44.105.0100	9	4-6-8-10-12-14-16-18-20	75	4	8	53	34,40
44.105.0125	11	6-8-10-12-14-16-18-20-22-24-25	77	4	12	52	66,25
44.105.0200	13	6-8-10-12-14-16-18-20-22-24-26-28-30	98	4	10	73	66,25
44.105.0234	14	8-10-12-14-16-18-20-22-24-26-28-30-32-34	92	4	12	67	115,00
44.105.0300	12	6-9-13-16-19-21-23-26-29-32-35-38	87	4	13	63	121,10
44.105.2000	9	12-13-14-15-16-17-18-19-20	75	4	9	53	52,95
44.105.3000	11	20-21-22-23-24-25-26-27-28-29-30	88	4	12	66	90,75
44.105.4000	11	30-31-32-33-34-35-36-37-38-39-40	97	4	13	72	135,65
44.105.5000	11	40-41-42-43-44-45-46-47-48-49-50	97	4	13	72	190,95
44.105.6000	11	50-51-52-53-54-55-56-57-58-59-60	120	4	13	90	286,00

› 44.106 Phantom





NL HSS Getrapte Plaatboor, Ergo-Step TiAlN
FR Foret étagé, Ergo-Step HSS TiAlN
ES Broca escalonada, Ergo-Step HSS TiAlN
DE HSS Stufenbohrer, Ergo-Step TiAlN
EN HSS multi diametre Step Drill, Ergo-Step TiAlN

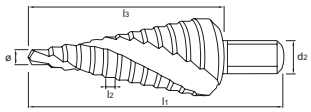
135° | Z=2 | HSS | TiAlN | max. 4 mm | ERGO-STEP

NIEUW / NOUVEAU / NUEVO / NEU

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	M 21 INOX ≤850N/mm²	M 22 INOX >850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 42 Alu Si>10%	N 51 Cu	N 61 PVC
25-27	22-30	15-20	8-12	5-8	15-20	25-30	45-50	25-40	22-28

Ref.	xØ	Ø mm	l1	l2	d2	l3	€
44.106.0090	9	4-5-6-7-8-9-10-11-12	65	4	6	43	32,40
44.106.0100	9	4-6-8-10-12-14-16-18-20	75	4	8	53	46,00
44.106.0200	13	6-8-10-12-14-16-18-20-22-24-26-28-30	98	4	10	73	82,30
44.106.2000	9	12-13-14-15-16-17-18-19-20	75	4	9	53	72,15
44.106.3000	11	20-21-22-23-24-25-26-27-28-29-30	88	4	12	66	116,05

› 44.113 International Tools





NL ECO PRO HSS Getrapte Plaatboor gespiraliseerd, blank geslepen uitvoering
FR Foret étagé HSS ECO PRO goujure hélicoïdale, taillé meulé, finition polie
ES Broca escalonada HSS ECO PRO helicoidal, versión rectificada, blanca
DE ECO PRO HSS Stufenbohrer spiralförmig, blank geschliffene Ausführung
EN ECO PRO HSS multi diametre Step Drill with spiral flute, ground version, bright finish

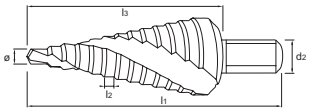
135° | Z=2 | HSS | ECO PRO | max. 4 mm

NIEUW / NOUVEAU / NUEVO / NEU

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	M 21 INOX ≤850N/mm²	M 22 INOX >850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 42 Alu Si>10%	N 51 Cu	N 61 PVC
25-27	22-30	15-20	8-12	5-8	15-20	25-30	45-50	25-40	22-28

Ref.	xØ	Ø mm	l1	l2	d2	l3	€
44.113.0090	9	4-5-6-7-8-9-10-11-12	80	4	6	58	15,72
44.113.0100	9	4-6-8-10-12-14-16-18-20	70	4	8	48	25,30
44.113.0200	13	6-8-10-12-14-16-18-20-22-24-26-28-30	98	4	10	73	52,75

› 44.115 Phantom





NL **HSS Getrapte Plaatboor, Ergo-Step gespiraliseerd, TiN**
FR **Foret étagé, Ergo-Step HSS goujure hélicoïdale, TiN**
ES **Broca escalonada, Ergo-Step HSS helicoidal, TiN**
DE **HSS Stufenbohrer, Ergo-Step spiralförmig, TiN**
EN **HSS multi diametre Step Drill, Ergo-Step with spiral flute, TiN**

NIEUW NOUVEAU NUEVO NEU

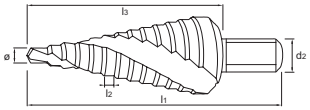
135° | Z=2 | HSS | TiN | max. 4 mm | ERGO-STEP

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 | 22-30 | 15-20 | 8-12 | 15-20 | 25-30 | 45-50 | 25-40 | 22-28

Ref.	xØ	Ø mm	l1	l2	d2	l3	€
44.115.0090	9	4-5-6-7-8-9-10-11-12	80	4	6	58	28,15
44.115.0100	9	4-6-8-10-12-14-16-18-20	70	4	8	48	36,90
44.115.0200	13	6-8-10-12-14-16-18-20-22-24-26-28-30	98	4	10	73	76,60

› 44.116 Phantom





NL **HSS Getrapte Plaatboor, Ergo-Step gespiraliseerd, TiAlN**
FR **Foret étagé, Ergo-Step HSS goujure hélicoïdale, TiAlN**
ES **Broca escalonada, Ergo-Step HSS helicoidal, TiAlN**
DE **HSS Stufenbohrer, Ergo-Step spiralförmig, TiAlN**
EN **HSS multi diametre Step Drill, Ergo-Step with spiral flute, TiAlN**

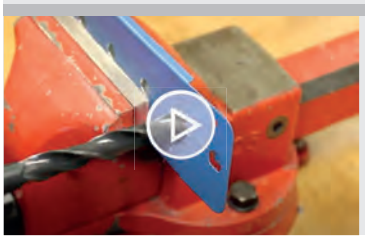
NIEUW NOUVEAU NUEVO NEU

135° | Z=2 | HSS | TiAlN | max. 4 mm | ERGO-STEP

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | M 22 INOX >850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 | 22-30 | 15-20 | 8-12 | 5-8 | 15-20 | 25-30 | 45-50 | 25-40 | 22-28

Ref.	xØ	Ø mm	l1	l2	d2	l3	€
44.116.0090	9	4-5-6-7-8-9-10-11-12	80	4	6	58	34,40
44.116.0100	9	4-6-8-10-12-14-16-18-20	70	4	8	48	48,95
44.116.0200	13	6-8-10-12-14-16-18-20-22-24-26-28-30	98	4	10	73	93,90



NL Trapboor vs spiraalboor
FR Foret étagé versus foret standard cylindrique
ES Broca escalonada o Broca cilíndrica
DE Stufenbohrer vs Spiralbohrer
EN Step drill vs twist drill

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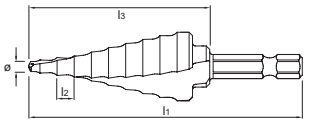
› 44.125 Phantom





NL **HSS Getrapte Plaatboor, Ergo-Step gespiraliseerd, TiN, 1/4" (6,35 mm)-zeskant bitopname**
FR **Foret étagé, Ergo-Step HSS goujure hélicoïdale, TiN, avec queue hexagonale 1/4" (6,35 mm)**
ES **Broca escalonada, Ergo-Step HSS helicoidal, TiN, con sujeción 1/4" (6,35 mm) bit**
DE **HSS Stufenbohrer, Ergo-Step spiralförmig, TiN, 1/4" (6,35 mm) Hexa-Bitaufnahme**
EN **HSS multi diametre Step Drill, Ergo-Step with spiral flute, TiN, 1/4" (6,35 mm) hexagonal shank**

NIEUW NOUVEAU NUEVO NEU

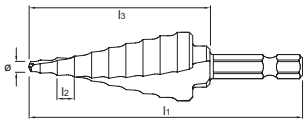
135° | Z=2 | HSS | TiN | max. 4 mm | DIN 3126 | E6,3 1/4" | DIN ISO 1173 | ERGO-STEP | IMPACT

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

25-27 | 22-30 | 15-20 | 8-12 | 15-20 | 25-30 | 45-50 | 25-40 | 22-28

Ref.	xØ	Ø mm	l1	l2	l3	€
44.125.0090	9	4-5-6-7-8-9-10-11-12	72	4	45	36,40
44.125.0100	9	4-6-8-10-12-14-16-18-20	80	4	53	69,00
44.125.0200	14	4-8-10-12-14-16-18-20-22-24-26-28-30	105	4	77	138,85

› 44.126 Phantom





NL **HSS Getrapte Plaatboor, Ergo-Step gespiraliseerd, TiAlN, 1/4" (6,35 mm)-zeskant bitopname**
FR **Foret étagé, Ergo-Step HSS goujure hélicoïdale, TiAlN, avec queue hexagonale 1/4" (6,35 mm)**
ES **Broca escalonada, Ergo-Step HSS helicoidal, TiAlN, con sujeción 1/4" (6,35 mm) bit**
DE **HSS Stufenbohrer, Ergo-Step spiralförmig, TiAlN, 1/4" (6,35 mm) Hexa-Bitaufnahme**
EN **HSS multi diametre Step Drill, Ergo-Step with spiral flute, TiAlN, 1/4" (6,35 mm) hexagonal shank**

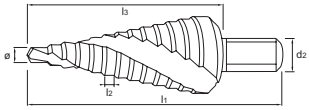
135° | Z=2 | HSS | TiAlN | max. 4 mm | DIN 3126 | E6,3 1/4" | DIN ISO 1173 | ERGO-STEP | IMPACT

NIEUW / NOUVEAU / NUEVO / NEU

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	M 21 INOX ≤850N/mm²	M 22 INOX >850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 42 Alu Si>10%	N 51 Cu	N 61 PVC
25-27	22-30	15-20	8-12	5-8	15-20	25-30	45-50	25-40	22-28

Ref.	xØ	Ø mm	l1	l2	l3	€
44.126.0090	9	4-5-6-7-8-9-10-11-12	72	4	45	47,80
44.126.0100	9	4-6-8-10-12-14-16-18-20	80	4	53	91,35
44.126.0200	14	4-8-10-12-14-16-18-20-22-24-26-28-30	105	4	77	159,85

› 44.135 Phantom





NL **HSS Getrapte Plaatboor, Ergo-Step voor kabelwartels (MF), TiN**
FR **Foret étagé, Ergo-Step HSS pour presse-étoupes (MF), TiN**
ES **Broca escalonada, Ergo-Step HSS para glándulas de cable (MF), TiN**
DE **HSS Stufenbohrer, Ergo-Step für Drüse (MF), TiN**
EN **HSS multi diametre Step Drill, Ergo-Step for glands (MF), TiN**

135° | Z=2 | HSS | MF | TiN | max. 4 mm | DIN EN 60423 | ERGO-STEP

NIEUW / NOUVEAU / NUEVO / NEU

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	M 21 INOX ≤850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 42 Alu Si>10%	N 51 Cu	N 61 PVC
25-27	22-30	15-20	8-12	15-20	25-30	45-50	25-40	22-28

Ref.	xØ	Ø mm	l1	l2	d2	l3	€
44.135.1500	11	8,5-10,5-12,5-14,5-16,5-18,5-20,5-23,5-25,5-30,5-32,5 (M10-M32)	100	6	12	75	112,35
44.135.1700	13	8,5-10,5-12,5-14,5-16,5-18,5-20,5-23,5-25,5-30,5-32,5-38,5-40,5 (M10-M40)	115	6	12	90	146,65



NL Uitleg calculatietool
FR Regardez la vidéo d'instruction de l'outil de calcul
ES Explicación de la herramienta de cálculo
DE Erläuterung Rechner
EN Calculation tool explained

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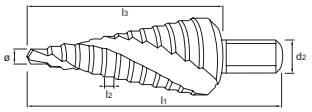
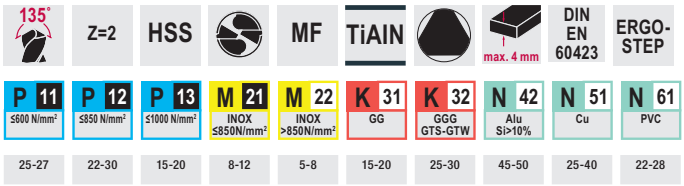
› 44.136 Phantom



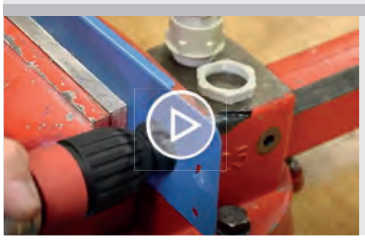


NL **HSS Getrapte Plaatboor, Ergo-Step voor kabelwartels (MF), TiAlN**
FR **Foret étagé, Ergo-Step HSS pour filetages de tubes électriques (MF), TiAlN**
ES **Broca escalonada, Ergo-Step HSS para glándulas de cable (MF), TiAlN**
DE **HSS Stufenbohrer, Ergo-Step für Drüse (MF), TiAlN**
EN **HSS multi diametre Step Drill, Ergo-Step for glands (MF), TiAlN**



NIEUW NOUVEAU NUEVO NEU

Ref.	xØ	Ø mm	l1	l2	d2	l3	€
44.136.1500	11	8,5-10,5-12,5-14,5-16,5-18,5-20,5-23,5-25,5-30,5-32,5 (M10-M32)	100	6	12	75	121,30
44.136.1700	13	8,5-10,5-12,5-14,5-16,5-18,5-20,5-23,5-25,5-30,5-32,5-38,5-40,5 (M10-M40)	115	6	12	90	161,20



NL Trapboor in actie
FR Utiliser un foret étagé
ES Uso de la broca escalonada
DE Verwendung Stufenbohrer
EN Use of stepdrill

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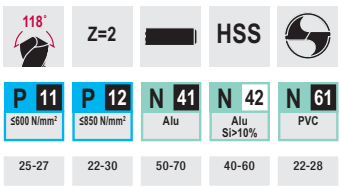
› 44.200 Phantom

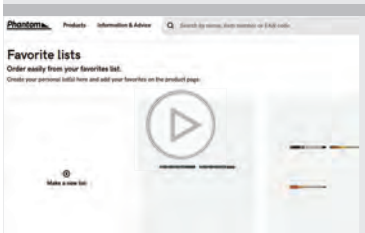


NL **HSS Conische Plaatboor**
FR **Foret conique HSS**
ES **Fresa cónica HSS**
DE **HSS konische Blechschälbohrer**
EN **HSS Taper Sheet and Tube Drill**



Ref.	Min-Max Ø	l1	d2	€
44.200.0100	3-14	62	6	31,50
44.200.0200	6-20	70	8	36,55
44.200.0300	16-30	75	10	68,65

Ref.	Min-Max Ø	l1	d2	€
44.200.0400	26-40	78	12	141,80
44.200.0700	6-30	95	10	78,30
44.200.0800	6-25,4	84	8	64,80



NL Maak favorietenlijsten naar keuze (b.v. medewerker en/of machine)
FR Créez les listes de favoris de votre choix (ex. : employés et/ou machine)
ES Cree las listas de favoritos que desee (por ejemplo, por empleado y/o por máquina)
DE Erstellen Sie Favoritenlisten Ihrer Wahl (z.B. Mitarbeiter und/oder Maschine)
EN Create favourite lists of your choice (e.g. per employee and/or per machine)

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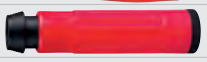
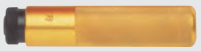
› 46.100 SHAVIV

NL **Handgrepen en Onderdelen**
FR **Manches et accessoires**
ES **Mangos y Accesorios**
DE **Handgriffe und Einzelteile**
EN **Handles and Accessories**



Ref.	Type	Image	€
46.100.0010	Mango II		11,75
46.100.1000	Classic A		11,25
46.100.1200	ALU		20,27
46.100.1300	Handychuck		50,55

› 46.120 SHAVIV

NL **type B**
FR **type B**
ES **tipo B**
DE **Typ B**
EN **type B**



Ref.	Type	Image	1	2	3	4	P	H	M	K	N	€
46.120.0250	Mango II B + B10, B20					HSS	P				N	30,40
46.120.0255	Mango II B EC + B10, B20					HSS	P				N	18,37
46.120.0260	Mango II B + B10x10					HSS	P				N	40,40
46.120.0265	Mango II B EC + B10x10					HSS	P				N	26,35
46.120.0500	UB2000 + B10					HSS	P				N	23,72
46.120.1001	B EC (Extra Close)											3,23
46.120.1002	B											14,05
46.120.2100	B10					HSS	P				N	2,56
46.120.2101	B10P					TiN	P		M		N	4,13
46.120.2102	B10C					VHM SC		H			N	14,20
46.120.2109	B10L					HSS	P				N	2,84
46.120.2110	B11					HSS	P				N	2,95
46.120.2120	B12					HSS	P				N	2,56
46.120.2121	B12P					TiN	P		M		N	4,23
46.120.2200	B20					HSS				K	N	2,56
46.120.2201	B20P					TiN				K	N	4,23
46.120.2250	B25					HSS	P				N	2,56
46.120.2252	B25C					VHM SC	P				N	14,20
46.120.2300	B30					HSS	P				N	3,57
46.120.2301	B30P					TiN	P		M		N	5,63
46.120.2320	B32					HSS				K	N	3,57
46.120.2500	B50					HM-TIP	P	H	M	K	N	9,85
46.120.2600	B60					HSS	P				N	5,51
46.120.2700	B70					HM-TIP	P	H	M	K	N	12,97

› 46.300 SHAVIV



NL **type E**
FR **type E**
ES **tipo E**
DE **Typ E**
EN **type E**

Ref.	Type	Image	1	2	3	4	P	H	M	K	N	€
46.300.0250	Mango II E + E100, E200, E300					HSS	P				N	35,05
46.300.0255	Mango II E EC + E100, E200, E300					HSS	P				N	22,88
46.300.0260	Mango II E + E100x10					HSS	P				N	46,70
46.300.0265	Mango II E EC + E100x10					HSS	P				N	32,65
46.300.1000	Handle 1 + E100, E200, E300					HSS	P				N	28,10
46.300.1100	Handle 1											17,04
46.300.1500	MB2000 + E100											20,27
46.300.2001	E EC (Extra Close)											3,40
46.300.2002	E											14,05
46.300.2100	E100					HSS	P				N	3,06
46.300.2101	E100P					TiN	P		M		N	5,12
46.300.2102	E100C					VHM SC		H			N	16,54
46.300.2104	E100S					HSS-E	P		M		N	3,28
46.300.2109	E100L					HSS	P				N	3,18
46.300.2110	E110					HSS	P				N	3,18
46.300.2111	E110P					TiN	P		M		N	5,35
46.300.2150	E111					HSS	P				N	3,18
46.300.2200	E200					HSS				K	N	3,06
46.300.2201	E200P					TiN				K	N	5,12
46.300.2250	E250					HSS	P				N	3,06
46.300.2300	E300					HSS	P				N	3,57
46.300.2320	E320					HSS				K	N	3,57
46.300.2350	E350					HSS				K	N	3,06
46.300.2600	E600					HSS	P				N	5,56
46.300.2601	E601					HSS	P				N	7,07
46.300.2720	E720						P				N	3,89

› 49.140 International Tools

NL ECO PRO Hardmetaal Set Stiftfrezen
FR Coffret de Fraises limes Carbure ECO PRO
ES Juego de fresa rotativa Carburo ECO PRO
DE ECO PRO Hartmetall Satz Frässtifte
EN ECO PRO Carbide Set Burr





VHM SC | Ø6 | ECO PRO

Ref.	Ø	z	Contents	€
49.140.0106	10	6-UNI	Form B, C, D, F, G	102,00

Ref.	Ø	z	Contents	€
49.140.0126	12	6-UNI	Form B, C, D, F, G	154,00

› 49.150 Phantom

NL Hardmetaal Set Stiftfrezen
FR Coffret de Fraises limes Carbure
ES Juego de fresa rotativa Metal Duro
DE Hartmetall Satz Frässtifte
EN Carbide Set Burr





VHM SC | Ø6

Ref.	Ø	z	Contents	€
49.150.0101	10	1-ALU	Form B, C, D, F, G	225,00
49.150.0103	10	3-FINE	Form B, C, D, F, G	179,00
49.150.0104	10	4-DIAMOND	Form B, C, D, F, G	193,00
49.150.0106	10	6-UNI	Form B, C, D, F, G	184,00

Ref.	Ø	z	Contents	€
49.150.0108	10	8-STEEL	Form B, C, D, F, G	204,00
49.150.0109	10	9-INOX	Form A, C, D, F, G	213,00
49.150.0126	12	6-UNI	Form B, C, D, F, G	267,00

› 49.164 Phantom

NL HP2 UNI Hardmetaal Set Stiftfrezen AlTiN-X
FR Coffret de Fraises limes Carbure HP2 UNI AlTiN-X
ES Juego de fresa rotativa Metal Duro HP2 UNI AlTiN-X
DE HP2 UNI Hartmetall Satz Frässtifte AlTiN-X
EN HP2 UNI Carbide Set Burr AlTiN-X



VHM SC | AlTiN X | HP2 UNI | Ø6

NIEUW | NOUVEAU | NUEVO | NEU

Ref.	Ø	z	Contents	€
49.164.0100	10	HP2-UNI	Form B, C, D, F, G	219,00

Ref.	Ø	z	Contents	€
49.164.0120	12	HP2-UNI	Form B, C, D, F, G	314,00

› 49.240 International Tools

NL **ECO HSS set Verzinkboren 42.533, 90°, 3 snijkanten**
FR **Coffret de fraises à ébavurer HSS ECO 42.533, 90°, 3 taillants**
ES **Juego de avellanadores HSS ECO 42.533, 90°, 3 labios**
DE **ECO HSS Satz Kegelsenker 42.533, 90°, 3 Schneiden**
EN **ECO HSS Countersink set 42.533, 90°, 3 flute**



DIN 335-C | HSS | 90° | ECO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu

17-22 * | 10-15 * | 15-20 * | 20-25 * | 35-45 *

Ref.	Type	Ø mm	A, B	€
49.240.0630	42.533	6,3-8,3-10,4-12,4-16,5-20,5 mm	B	74,00
49.240.0631	42.533	6,3-8,3-10,4-12,4-16,5-20,5-25 mm	B	98,00

Ref.	Type	Ø mm	A, B	€
49.240.1020	42.533	10,4-12,4-16,5-20,5 mm	A	49,00
49.240.1025	42.533	10,4-12,4-16,5-20,5-25 mm	A	73,00

› 49.242 International Tools

NL **ECO PRO HSS set Verzinkboren 42.535, 90°, 3 snijkanten**
FR **Coffret de fraises à ébavurer HSS ECO PRO 42.535, 90°, 3 taillants**
ES **Juego de avellanadores HSS ECO PRO 42.535, 90°, 3 labios**
DE **ECO PRO HSS Satz Kegelsenker 42.535, 90°, 3 Schneiden**
EN **ECO PRO HSS Countersink set 42.535, 90°, 3 flute**



DIN 335-C | HSS | 90° | ECO PRO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10% | N 51 Cu

15-20 * | 8-12 * | 6-10 * | 10-15 * | 15-20 * | 30-40 * | 20-25 * | 15-25 *

Ref.	Type	Ø mm	A, B	€
49.242.0630	42.535	6,3-8,3-10,4-12,4-16,5-20,5 mm	B	125,00
49.242.0631	42.535	6,3-8,3-10,4-12,4-16,5-20,5-25 mm	B	161,00

Ref.	Type	Ø mm	A, B	€
49.242.1020	42.535	10,4-12,4-16,5-20,5 mm	A	88,00
49.242.1025	42.535	10,4-12,4-16,5-20,5-25 mm	A	124,00

› 49.244 International Tools

NL **ECO PRO HSS set Verzinkboren 42.536, 90°, 3 snijkanten, TiN**
FR **Coffret de fraises à ébavurer HSS ECO PRO 42.536, 90°, 3 taillants, TiN**
ES **Juego de avellanadores HSS ECO PRO 42.536, 90°, 3 labios, TiN**
DE **ECO PRO HSS Satz Kegelsenker 42.536, 90°, 3 Schneiden, TiN**
EN **ECO PRO HSS Countersink set 42.536, 90°, 3 flute, TiN**



DIN 335-C | HSS | TiN | 90° | ECO PRO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10% | N 51 Cu

15-20 * | 8-12 * | 6-10 * | 5-10 * | 10-15 * | 15-20 * | 30-40 * | 20-25 * | 15-25 *

Ref.	Type	Ø mm	A, B	€
49.244.0630	42.536	6,3-8,3-10,4-12,4-16,5-20,5 mm	B	154,00
49.244.0631	42.536	6,3-8,3-10,4-12,4-16,5-20,5-25 mm	B	207,00

Ref.	Type	Ø mm	A, B	€
49.244.1020	42.536	10,4-12,4-16,5-20,5 mm	A	110,00
49.244.1025	42.536	10,4-12,4-16,5-20,5-25 mm	A	163,00

› 49.248 International Tools



NL **ECO HSS set Verzinkboren 42.543, 90°, 3 snijkanten, 1/4" (6,35 mm)-zeskant bitopname**
FR **Coffret de fraises à ébavurer HSS ECO 42.543, 90°, 3 taillants, avec queue hexagonale 1/4" (6,35 mm)**
ES **Juego de avellanadores HSS ECO 42.543, 90°, 3 labios, con sujeción 1/4" (6,35 mm) bit**
DE **ECO HSS Satz Kegelsenker 42.543, 90°, 3 Schneiden, 1/4" (6,35 mm) Hexa-Bitaufnahme**
EN **ECO HSS Countersink set 42.543, 90°, 3 flute, 1/4" (6,35 mm) hexagonal shank**

HSS | NORM | 3 | 90° | ECO | DIN 3126 | E6,3 1/4" | DIN ISO 1173

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 41 Alu	N 42 Alu Si>10%	N 51 Cu
15-20 *	8-12 *	6-10 *	10-15 *	15-20 *	30-40 *	20-25 *	15-25 *

Ref.	Type	Ø mm	€
49.248.0630	42.543	6,3-8,3-10,4-12,4-16,5-20,5 mm	84,00

Ref.	Type	Ø mm	€

› 49.263 Phantom



NL **HP2 UNI HSS-E Set Vari Verzinkboren 42.547, 90°, 3 snijkanten**
FR **Coffret de fraises à chanfreiner Vari HSS-E HP2 UNI 42.547, 90°, 3 taillants**
ES **Juego de avellanadores Vari HSS-E HP2 UNI 42.547, 90°, 3 labios**
DE **HP2 UNI HSS-E Satz Kegelsenker ungleichteilung 42.547, 90°, 3 Schneiden**
EN **HP2 UNI HSS-E Vari Countersink set 42.547, 90°, 3 flute**

DIN 335-C | HSS-E | 3 | 3 | HP2 UNI | 90° | VARI

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	P 14 ≤1400 N/mm²	M 21 INOX ≤850N/mm²	M 22 INOX >850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 41 Alu	N 42 Alu Si>10%	N 51 Cu	N 52 CuAlFe	N 61 PVC
25-35 H	20-30 F	15-25 F	7-13 A	10-18 B	9-15 A	20-30 H	20-30 H	40-60 I	30-40 I	30-40 G	20-30 G	40-60 I

Ref.	Type	Ø mm	€
49.263.0620	42.547	6,3-8,3-10,4-12,4-16,5-20,5 mm	182,00
49.263.0625	42.547	6,3-8,3-10,4-12,4-16,5-20,5-25 mm	237,00

Ref.	Type	Ø mm	€
49.263.1020	42.547	10,4-12,4-16,5-20,5 mm	139,00
49.263.1025	42.547	10,4-12,4-16,5-20,5-25 mm	194,00

› 49.264 Phantom



NL **HP2 UNI HSS-E Set Vari Verzinkboren 42.548, 90°, 3 snijkanten, AlTiN-X**
FR **Coffret de fraises à chanfreiner Vari HSS-E HP2 UNI 42.548, 90°, 3 taillants, AlTiN-X**
ES **Juego de avellanadores Vari HSS-E HP2 UNI 42.548, 90°, 3 labios, AlTiN-X**
DE **HP2 UNI HSS-E Satz Kegelsenker ungleichteilung 42.548, 90°, 3 Schneiden, AlTiN-X**
EN **HP2 UNI HSS-E Vari Countersink set 42.548, 90°, 3 flute, AlTiN-X**

DIN 335-C | HSS-E | 3 | 3 | AlTiN X | HP2 UNI | 90° | VARI

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	P 14 ≤1400 N/mm²	M 21 INOX ≤850N/mm²	M 22 INOX >850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 41 Alu	N 42 Alu Si>10%	N 51 Cu	N 52 CuAlFe	S 71 Ni/Co	S 72 Ti
30-40 H	25-35 F	20-30 F	10-16 A	13-21 B	12-20 A	25-35 H	30-40 H	60-80 I	30-50 I	40-60 G	30-40 G	7-11 A	7-11 B

Ref.	Type	Ø mm	€
49.264.0620	42.548	6,3-8,3-10,4-12,4-16,5-20,5 mm	250,00
49.264.0625	42.548	6,3-8,3-10,4-12,4-16,5-20,5-25 mm	324,00

Ref.	Type	Ø mm	€
49.264.1020	42.548	10,4-12,4-16,5-20,5 mm	190,00
49.264.1025	42.548	10,4-12,4-16,5-20,5-25 mm	264,00

› 49.266 Phantom



NL **HP2 UNI HSS-E Set Vari Verzinkboren 42.558, 90°, 3 snijkanten, AlTiN-X, met drievlaks schacht**
FR **Coffret de fraises à chanfreiner Vari HSS-E HP2 UNI 42.558, 90°, 3 taillants, AlTiN-X, queue à trois méplats**
ES **Juego de avellanadores Vari HSS-E HP2 UNI 42.558, 90°, 3 labios, AlTiN-X, con 3 chaflanes**
DE **HP2 UNI HSS-E Satz Kegelsenker ungleichteilung 42.558, 90°, 3 Schneiden, AlTiN-X, 3-Flächen-Schaft**
EN **HP2 UNI HSS-E Vari Countersink set 42.558, 90°, 3 flute, AlTiN-X, with 3 flat surfaces**

DIN 335-C | HSS-E | 3 | 3 | AlTiN X | HP2 UNI | 90° | VARI

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	P 14 ≤1400 N/mm²	M 21 INOX ≤850N/mm²	M 22 INOX >850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 41 Alu	N 42 Alu Si>10%	N 51 Cu	N 52 CuAlFe	S 71 Ni/Co	S 72 Ti
30-40 H	25-35 F	20-30 F	10-16 A	13-21 B	12-20 A	25-35 H	30-40 H	60-80 I	30-50 I	40-60 G	30-40 G	7-11 A	7-11 B

Ref.	Type	Ø mm	€
49.266.0620	42.558	6,3-8,3-10,4-12,4-16,5-20,5 mm	273,00
49.266.0625	42.558	6,3-8,3-10,4-12,4-16,5-20,5-25 mm	351,00

Ref.	Type	Ø mm	€
49.266.1020	42.558	10,4-12,4-16,5-20,5 mm	205,00
49.266.1025	42.558	10,4-12,4-16,5-20,5-25 mm	284,00

› 49.400 International Tools



NL **ECO PRO HSS Set Getrapte Plaatboren 44.090, blank geslepen uitvoering**
FR **Coffret de forets étagés HSS ECO PRO 44.090, taillé meulé, finition polie**
ES **Juego de brocas escalonada HSS ECO PRO 44.090, versión rectificada, blanca**
DE **ECO PRO HSS Satz Stufenbohrer 44.090, blank geschliffene Ausführung**
EN **ECO PRO HSS Set multi diametre Step Drills 44.090, ground version, bright finish**

NIEUW NOUVEAU NUEVO NEU

135° | Z=2 | HSS | ECO PRO | max. 4 mm

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	M 21 INOX ≤850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 42 Alu Si>10%	N 51 Cu	N 61 PVC
25-27	22-30	15-20	8-12	15-20	25-30	45-50	25-40	22-28

Ref.	Type	Ø mm	€
49.400.1000	44.090	4-12 mm, 4-20 mm, 6-30 mm	98,00

Ref.	Type	Ø mm	€

› 49.405 International Tools



NL **ECO PRO HSS Set Getrapte Plaatboren 44.113, gespiraliseerd, blank geslepen uitvoering**
FR **Coffret de forets étagés HSS ECO PRO 44.113, goujure hélicoïdale, taillé meulé, finition polie**
ES **Juego de brocas escalonada HSS ECO PRO 44.113, helicoidal, versión rectificada, blanca**
DE **ECO PRO HSS Satz Stufenbohrer 44.113, spiralförmig, blank geschliffene Ausführung**
EN **ECO PRO HSS Set multi diametre Step Drills 44.113, with spiral flute, ground version, bright finish**

NIEUW NOUVEAU NUEVO NEU

135° | Z=2 | HSS | ECO PRO | max. 4 mm

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	M 21 INOX ≤850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 42 Alu Si>10%	N 51 Cu	N 61 PVC
25-27	22-30	15-20	8-12	15-20	25-30	45-50	25-40	22-28

Ref.	Type	Ø mm	€
49.405.1000	44.113	4-12 mm, 4-20 mm, 6-30 mm	107,00

Ref.	Type	Ø mm	€

› 49.415 Phantom

NL **HSS Set Getrapte Plaatboren, Ergo-Step TiN**
FR **Coffret de forets étagés, Ergo-Step HSS TiN**
ES **Juego de brocas escalonada, Ergo-Step HSS TiN**
DE **HSS Satz Stufenbohrer, Ergo-Step TiN**
EN **HSS Set multi diametre Step Drills, Ergo-Step TiN**



135° | Z=2 | HSS | TiN | max. 4 mm | ERGO-STEP

NIEUW NOUVEAU NUEVO NEU

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	M 21 INOX ≤850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 42 Alu Si>10%	N 51 Cu	N 61 PVC
25-27	22-30	15-20	8-12	15-20	25-30	45-50	25-40	22-28

Ref.	Type	Ø mm	€
49.415.1000	44.105	4-12 mm, 4-20 mm, 6-30 mm	138,00

› 49.416 Phantom

NL **HSS Set Getrapte Plaatboren, Ergo-Step TiAlN**
FR **Coffret de forets étagés, Ergo-Step HSS TiAlN**
ES **Juego de brocas escalonada, Ergo-Step HSS TiAlN**
DE **HSS Satz Stufenbohrer, Ergo-Step TiAlN**
EN **HSS Set multi diametre Step Drills, Ergo-Step TiAlN**



135° | Z=2 | HSS | TiAlN | max. 4 mm | ERGO-STEP

NIEUW NOUVEAU NUEVO NEU

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	M 21 INOX ≤850N/mm²	M 22 INOX >850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 42 Alu Si>10%	N 51 Cu	N 61 PVC
25-27	22-30	15-20	8-12	5-8	15-20	25-30	45-50	25-40	22-28

Ref.	Type	Ø mm	€
49.416.1000	44.106	4-12 mm, 4-20 mm, 6-30 mm	174,00

› 49.417 Phantom

NL **HSS Set Getrapte Plaatboren, Ergo-Step gespiraliseerd, TiN**
FR **Coffret de forets étagés, Ergo-Step HSS goujure hélicoïdale, TiN**
ES **Juego de brocas escalonada, Ergo-Step HSS helicoidal, TiN**
DE **HSS Satz Stufenbohrer, Ergo-Step spiralförmig, TiN**
EN **HSS Set multi diametre Step Drills, Ergo-Step with spiral flute, TiN**



135° | Z=2 | HSS | TiN | max. 4 mm | ERGO-STEP

NIEUW NOUVEAU NUEVO NEU

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	M 21 INOX ≤850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 42 Alu Si>10%	N 51 Cu	N 61 PVC
25-27	22-30	15-20	8-12	15-20	25-30	45-50	25-40	22-28

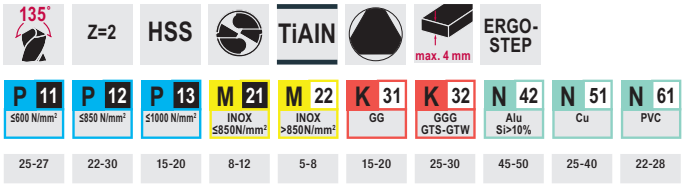
Ref.	Type	Ø mm	€
49.417.1000	44.115	4-12 mm, 4-20 mm, 6-30 mm	155,00

› 49.418 Phantom

NL HSS Set Getrapte Plaatboren, Ergo-Step gespiraliseerd, TiAlN
FR Coffret de forets étagés, Ergo-Step HSS goujure hélicoïdale, TiAlN
ES Juego de brocas escalonada, Ergo-Step HSS helicoidal, TiAlN
DE HSS Satz Stufenbohrer, Ergo-Step spiralförmig, TiAlN
EN HSS Set multi diametre Step Drills, Ergo-Step with spiral flute, TiAlN



NIEUW NOUVEAU NUEVO NEU



Ref.	Type	Ø mm	€
49.418.1000	44.116	4-12 mm, 4-20 mm, 6-30 mm	191,00



NL Maak favorietenlijsten naar keuze (b.v. medewerker en/of machine)
FR Créez les listes de favoris de votre choix (ex. : employés et/ou machine)
ES Cree las listas de favoritos que desee (por ejemplo, por empleado y/o por máquina)
DE Erstellen Sie Favoritenlisten Ihrer Wahl (z.B. Mitarbeiter und/oder Maschine)
EN Create favourite lists of your choice (e.g. per employee and/or per machine)

Watch me

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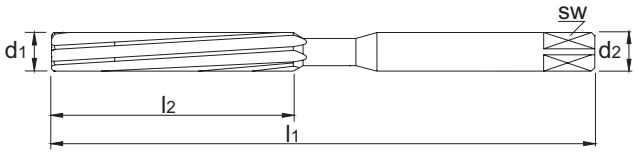
› 51.110 Phantom





NL **HSS Handruimer H7**
FR **Alésoir à main HSS H7**
ES **Escariador mano HSS H7**
DE **HSS Handreibahle H7**
EN **HSS Hand Reamer H7**

DIN 206-B | H7 | HSS

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 51 Cu

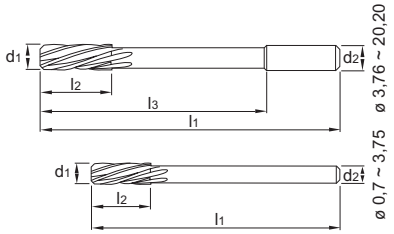
Ref.	d1	l1	l2	d2	sw	€
51.110.0200	2	50	25	2	1.6	48,25
51.110.0250	2.5	58	29	2.5	2	45,75
51.110.0300	3	62	31	3	2.24	21,50
51.110.0350	3.5	71	35	3.5	2.8	21,50
51.110.0400	4	76	38	4	3.15	19,65
51.110.0450	4.5	81	41	4.5	3.55	21,50
51.110.0500	5	87	44	5	4	21,29
51.110.0550	5.5	93	47	5.5	4.5	23,35
51.110.0600	6	93	47	6	4.5	22,96
51.110.0650	6.5	100	50	6.5	5	24,08
51.110.0700	7	107	54	7	5.6	25,80
51.110.0750	7.5	115	58	7.5	6.3	26,30
51.110.0800	8	115	58	8	6.3	28,00
51.110.0850	8.5	124	62	8.5	7.1	29,15
51.110.0900	9	124	62	9	7.1	30,75
51.110.0950	9.5	133	66	9.5	8	36,65
51.110.1000	10	133	66	10	8	34,20
51.110.1100	11	142	71	11	9	44,50

Ref.	d1	l1	l2	d2	sw	€
51.110.1200	12	152	76	12	10	49,05
51.110.1300	13	152	76	13	10	53,15
51.110.1400	14	163	81	14	11.2	59,65
51.110.1500	15	163	81	15	11.2	65,25
51.110.1600	16	175	87	16	12.5	73,40
51.110.1700	17	175	87	17	12.5	74,65
51.110.1800	18	188	93	18	14	75,55
51.110.1900	19	188	93	19	14	79,35
51.110.2000	20	201	100	20	16	93,45
51.110.2100	21	201	100	21	16	94,00
51.110.2200	22	215	107	22	18	104,60
51.110.2300	23	215	107	23	18	111,20
51.110.2400	24	231	115	24	20	128,95
51.110.2500	25	231	115	25	20	129,45
51.110.2600	26	231	115	26	20	141,65
51.110.2700	27	247	124	27	22.4	152,15
51.110.2800	28	247	124	28	22.4	168,75
51.110.2900	29	247	124	29	22.4	358,00

Ref.	d1	l1	l2	d2	sw	€
51.110.3000	30	247	124	30	22.4	185,20
51.110.3100	31	265	133	31	25	398,00
51.110.3200	32	265	133	32	25	217,30
51.110.3300	33	265	133	33	25	429,00
51.110.3400	34	284	142	34	28	252,00
51.110.3500	35	284	142	35	28	286,00
51.110.3600	36	284	142	36	28	275,00
51.110.3700	37	284	142	37	28	487,00
51.110.3800	38	305	152	38	31.5	320,00
51.110.3900	39	305	152	39	31.5	517,00
51.110.4000	40	305	152	40	31.5	349,00
51.110.4200	42	305	152	42	31.5	368,00
51.110.4400	44	326	163	44	35.5	428,00
51.110.4500	45	326	163	45	35.5	462,00
51.110.4600	46	326	163	46	35.5	637,00
51.110.4800	48	347	174	48	40	698,00
51.110.5000	50	347	174	50	40	570,00

› 51.320 Phantom





NL **HSS-E Machineruimer vorm B/D H7**
FR **Alésoir machine HSS-E forme B/D H7**
ES **Escariador máquina HSS-E forma B/D H7**
DE **HSS-E Maschinenreibahlen form B/D H7**
EN **HSS-E Machine Chucking Reamer form B/D H7**

H7 | HSS-E | h8 | DIN 212 B/D

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | P 14 ≤1400 N/mm² | M 21 INOX ≤850N/mm² | M 22 INOX >850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 42 Alu Si>10% | N 51 Cu | S 71 Ni/Co | S 72 Ti

15-22 E | 12-17 D | 7-10 C | 5-7 B | 4-6 A | 3-5 A | 4-5 C | 6-15 D | 25-35 G | 20-30 G | 12-17 D | 2-3 A | 2-3 A

Ref.	d1	l1	l2	l3	d2	€
51.320.0100	1	38	5		1	36,50
51.320.0150	1.5	40	8		1.5	34,95
51.320.0200	2	49	11		2	32,60
51.320.0250	2.5	57	14		2.5	32,75
51.320.0300	3	61	15		3	32,75
51.320.0350	3.5	70	18		3.5	32,75
51.320.0400	4	75	19	47	4	36,45
51.320.0450	4.5	80	21	52	4.5	36,45
51.320.0500	5	86	23	58	5	37,80
51.320.0550	5.5	93	26	58	5.6	39,15

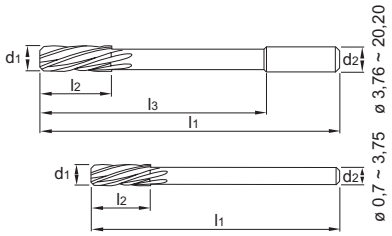
Ref.	d1	l1	l2	l3	d2	€
51.320.0600	6	93	26	58	5.6	39,15
51.320.0650	6.5	101	28	65	6.3	42,15
51.320.0700	7	109	31	73	7.1	42,15
51.320.0750	7.5	109	31	73	7.1	42,15
51.320.0800	8	117	33	81	8	42,15
51.320.0850	8.5	117	33	81	8	49,35
51.320.0900	9	125	36	85	9	49,35
51.320.0950	9.5	125	36	85	9	49,35
51.320.1000	10	133	38	93	10	49,35
51.320.1050	10.5	133	38	93	10	63,60

Ref.	d1	l1	l2	l3	d2	€
51.320.1100	11	142	41	102	10	63,60
51.320.1150	11.5	142	41	102	10	70,55
51.320.1200	12	151	44	111	10	70,55
51.320.1250	12.5	151	44	111	10	83,80
51.320.1300	13	151	44	111	10	83,80
51.320.1350	13.5	160	47	115	12.5	95,25
51.320.1400	14	160	47	117	12.5	95,25
51.320.1450	14.5	162	50	117	12.5	114,95
51.320.1500	15	162	50	117	12.5	114,95
51.320.1600	16	170	52	125	12.5	117,80

› 51.350 Phantom



NL **HSS-E Precisie Machineruimer vorm B/D x 0,01 mm**
FR **Alésoir machine de précision HSS-E forme B/D x 0,01 mm**
ES **Escariador máquina de precisión HSS-E forma B/D x 0,01 mm**
DE **HSS-E Präzisions Maschinenreibahlen form B/D x 0,01 mm**
EN **HSS-E Precision Machine Reamer form B/D x 0,01 mm**



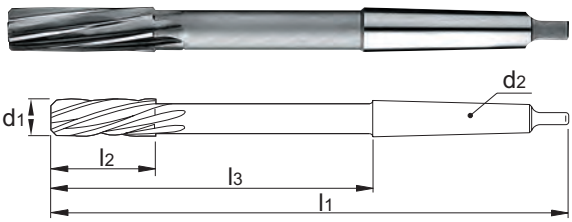
>ø6 -0,000 +0,005	≤ø3 -0,000 +0,003	≤ø6 -0,000 +0,004	HSS-E	x0,01	h8	DIN 212 B/D

P 11	P 12	P 13	P 14	M 21	M 22	K 31	K 32	N 41	N 42	N 51	S 71	S 72
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu	Ni/Co	Ti
15-22 E	12-17 D	7-10 C	5-7 B	4-6 A	3-5 A	4-5 C	6-15 D	25-35 G	20-30 G	12-17 D	2-3 A	2-3 A

Ref.	d1	l1	l2	l3	z	d2	€
51.350.0070-51.350.0079	0.7-0.79	33	5		4	0.7-0.79	63,60
51.350.0080-51.350.0089	0.8-0.89	38	5		4	0.8-0.89	57,25
51.350.0090-51.350.0096	0.9-0.96	38	5		4	0.9-0.96	41,40
51.350.0097-51.350.0105	0.97-1.05	38	5		4	0.97-1.05	39,50
51.350.0106-51.350.0132	1.06-1.32	40	5		6	1.06-1.32	36,25
51.350.0133-51.350.0150	1.33-1.5	40	8		6	1.33-1.5	36,25
51.350.0151-51.350.0170	1.51-1.7	43	9		6	1.51-1.7	36,25
51.350.0171-51.350.0179	1.71-1.79	46	10		6	1.71-1.79	36,25
51.350.0180-51.350.0190	1.80-1.9	46	10		6	1.80-1.9	33,65
51.350.0191-51.350.0212	1.91-2.12	49	11		6	1.91-2.12	33,65
51.350.0213-51.350.0236	2.13-2.36	53	12		6	2.13-2.36	33,65
51.350.0237-51.350.0265	2.37-2.65	57	14		6	2.37-2.65	33,40
51.350.0266-51.350.0300	2.66-3	61	15		6	2.66-3	33,40
51.350.0301-51.350.0329	3.01-3.29	65	16		6	3.01-3.29	33,40
51.350.0330-51.350.0335	3.30-3.35	65	16		6	3.30-3.35	34,00
51.350.0336-51.350.0375	3.36-3.75	70	18		6	3.36-3.75	34,00
51.350.0376-51.350.0425	3.76-4.25	75	19	47	6	4	35,45
51.350.0426-51.350.0475	4.26-4.75	80	21	52	6	4.5	35,45
51.350.0476-51.350.0530	4.76-5.3	86	23	58	6	5	36,75
51.350.0531-51.350.0600	5.31-6	93	26	58	6	5.6	38,25
51.350.0601-51.350.0668	6.01-6.68	101	28	65	6	6.3	38,25
51.350.0670	6.70	101	28	65	6	6.3	41,40
51.350.0671-51.350.0750	6.71-7.5	109	31	73	6	7.1	41,40

Ref.	d1	l1	l2	l3	z	d2	€
51.350.0751-51.350.0850	7.51-8.5	117	33	81	6	8	41,40
51.350.0851-51.350.0855	8.51-8.55	125	36	85	6	9	41,40
51.350.0856-51.350.0950	8.56-9.5	125	36	85	6	9	47,85
51.350.0951-51.350.0955	9.51-9.55	133	38	93	6	10	47,85
51.350.0956-51.350.1005	9.56-10.05	133	38	93	6	10	49,85
51.350.1006-51.350.1060	10.06-10.6	133	38	93	6	10	51,85
51.350.1061-51.350.1131	10.61-11.31	142	41	102	6	10	51,85
51.350.1132-51.350.1180	11.32-11.8	142	41	102	6	10	67,90
51.350.1182-51.350.1250	11.82-12.5	151	44	111	6	10	67,90
51.350.1251-51.350.1320	12.51-13.2	151	44	111	8	10	73,15
51.350.1325-51.350.1375	13.25-13.75	160	47	115	8	12.5	147,00
51.350.1397-51.350.1400	13.97-14	160	47	117	8	12.5	131,60
51.350.1401-51.350.1405	14.01-14.05	162	50	117	8	12.5	131,60
51.350.1410-51.350.1500	14.1-15	162	50	117	8	12.5	156,70
51.350.1501-51.350.1510	15.01-15.1	170	52	125	8	12.5	156,70
51.350.1515-51.350.1590	15.15-15.9	170	52	125	8	12.5	205,95
51.350.1597-51.350.1600	15.97-16.00	170	52	125	8	12.5	156,70
51.350.1601-51.350.1605	16.01-16.05	175	54	130	8	14	156,70
51.350.1610-51.350.1699	16.1-16.99	175	54	130	8	14	192,40
51.350.1701-51.350.1800	17.01-18	182	56	137	8	14	192,40
51.350.1801-51.350.1900	18.01-19	189	58	141	8	16	192,40
51.350.1901-51.350.2005	19.01-20.05	195	60	147	8	16	192,40
51.350.2010-51.350.2020	20.1-20.2	195	60	147	8	16	232,75

› 51.520 Phantom



NL **HSS-E Machineruimer vorm B H7 MK**
FR **Alésoir machine HSS-E forme B H7 MK**
ES **Escariador máquina HSS-E forma B H7 MK**
DE **HSS-E Maschinenreibahlen form B H7 MK**
EN **HSS-E Machine Chucking Reamer form B H7 MK**

DIN 228-B	DIN 208-B	H7	HSS-E

P 11	P 12	P 13	P 14	M 21	M 22	K 31	K 32	N 41	N 42	N 51	S 71	S 72
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu	Ni/Co	Ti
15-22 E	12-17 D	7-10 C	5-7 B	4-6 A	3-5 A	4-5 C	6-15 D	25-35 G	20-30 G	12-17 D	2-3 A	2-3 A

Ref.	d1	d2	l1	l2	l3	z	€
51.520.0400	4	MK 1	120	24	54	6	102,90
51.520.0500	5	MK 1	133	26	67	6	88,10
51.520.0600	6	MK 1	138	28	72	6	84,15
51.520.0700	7	MK 1	150	31	84	6	86,45
51.520.0800	8	MK 1	156	33	90	6	86,45
51.520.0900	9	MK 1	162	36	96	6	94,10
51.520.1000	10	MK 1	168	38	102	6	78,10
51.520.1050	10.5	MK 1	168	41	109	6	108,20
51.520.1100	11	MK 1	175	41	109	6	82,80
51.520.1150	11.5	MK 1	175	41	109	6	108,20
51.520.1200	12	MK 1	182	44	116	6	82,80
51.520.1250	12.5	MK 1	182	44	116	6	108,20
51.520.1300	13	MK 1	182	44	116	8	95,55
51.520.1350	13.5	MK 1	189	47	123	8	108,20
51.520.1400	14	MK 1	189	47	123	8	95,55
51.520.1450	14.5	MK 2	204	50	124	8	127,25
51.520.1500	15	MK 2	204	50	124	8	109,20
51.520.1550	15.5	MK 2	210	52	130	8	133,60
51.520.1600	16	MK 2	210	52	130	8	112,25
51.520.1650	16.5	MK 2	214	54	134	8	152,60
51.520.1700	17	MK 2	214	54	134	8	118,60

Ref.	d1	d2	l1	l2	l3	z	€
51.520.1750	17.5	MK 2	219	56	139	8	152,60
51.520.1800	18	MK 2	219	56	139	8	127,25
51.520.1850	18.5	MK 2	223	58	143	8	165,40
51.520.1900	19	MK 2	223	58	143	8	133,60
51.520.1950	19.5	MK 2	228	60	148	8	165,40
51.520.2000	20	MK 2	228	60	148	8	133,60
51.520.2050	20.5	MK 2	232	62	152	8	190,85
51.520.2100	21	MK 2	232	62	152	8	169,40
51.520.2150	21.5	MK 2	237	64	157	8	190,85
51.520.2200	22	MK 2	237	64	157	8	169,40
51.520.2250	22.5	MK 2	241	66	161	8	190,85
51.520.2300	23	MK 2	241	66	161	8	190,85
51.520.2400	24	MK 3	268	68	168	8	190,85
51.520.2500	25	MK 3	268	68	168	8	190,85
51.520.2600	26	MK 3	273	70	173	10	222,65
51.520.2700	27	MK 3	277	71	177	10	235,40
51.520.2800	28	MK 3	277	71	177	10	235,40
51.520.2900	29	MK 3	281	73	181	10	255,00
51.520.3000	30	MK 3	281	73	181	10	255,00
51.520.3100	31	MK 3	285	77	193	10	333,00
51.520.3200	32	MK 4	317	77	193	10	358,00

› 51.520 Phantom

Ref.	d1	d2	l1	l2	l3	z	€
51.520.3300	33	MK 4	317	77	193	10	363,00
51.520.3400	34	MK 4	321	78	197	10	363,00
51.520.3500	35	MK 4	321	78	197	10	363,00
51.520.3600	36	MK 4	325	79	201	10	446,00
51.520.3700	37	MK 4	325	79	201	10	446,00
51.520.3800	38	MK 4	329	81	205	10	446,00
51.520.3900	39	MK 4	329	81	205	12	446,00
51.520.4000	40	MK 4	329	81	205	12	446,00
51.520.4100	41	MK 4	333	82	209	12	605,00

Ref.	d1	d2	l1	l2	l3	z	€
51.520.4200	42	MK 4	333	82	209	12	605,00
51.520.4300	43	MK 4	336	83	212	12	605,00
51.520.4400	44	MK 4	336	83	212	12	605,00
51.520.4500	45	MK 4	336	83	212	12	605,00
51.520.4600	46	MK 4	340	84	216	12	733,00
51.520.4700	47	MK 4	340	84	216	12	733,00
51.520.4800	48	MK 4	344	86	220	12	744,00
51.520.4900	49	MK 4	344	86	220	12	744,00
51.520.5000	50	MK 4	344	86	220	12	744,00



NL Uitleg calculatietool
FR Regardez la vidéo d'instruction de l'outil de calcul
ES Explicación de la herramienta de cálculo
DE Erläuterung Rechner
EN Calculation tool explained

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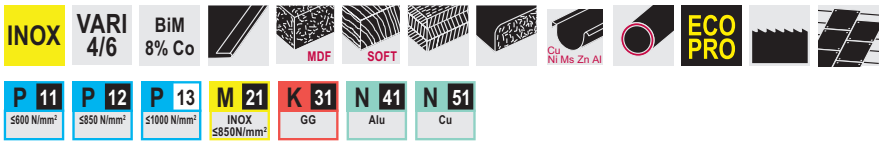
› 61.090 International Tools

NL **ECO PRO HSS-Co 8% Bi-Metaal Gatzaag**
FR **Scie cloche HSS-Co 8% Bi-métal ECO PRO**
ES **Corona Perforadora HSS-Co 8% Bi-Metal ECO PRO**
DE **ECO PRO HSS-Co 8% Bi-Metall Lochsäge**
EN **ECO PRO HSS-Co 8% Bi-Metal Hole saw**





Ref.	d1	€
61.090.0014	14	6,86
61.090.0016	16	7,39
61.090.0017	17	7,39
61.090.0019	19	7,39
61.090.0020	20	7,39
61.090.0021	21	7,39
61.090.0022	22	7,39
61.090.0024	24	7,91
61.090.0025	25	8,97
61.090.0027	27	8,97
61.090.0029	29	9,50
61.090.0030	30	9,50
61.090.0032	32	9,50
61.090.0033	33	9,50
61.090.0035	35	11,08
61.090.0037	37	11,61
61.090.0038	38	11,61
61.090.0040	40	11,61

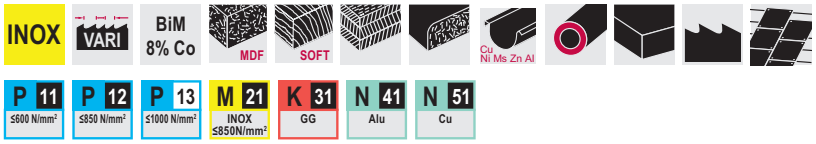
Ref.	d1	€
61.090.0041	41	11,61
61.090.0043	43	11,61
61.090.0044	44	12,66
61.090.0046	46	12,66
61.090.0048	48	13,19
61.090.0051	51	13,72
61.090.0052	52	14,24
61.090.0054	54	14,24
61.090.0057	57	14,77
61.090.0059	59	15,30
61.090.0060	60	15,83
61.090.0064	64	16,88
61.090.0065	65	16,88
61.090.0067	67	17,41
61.090.0068	68	17,41
61.090.0070	70	17,94
61.090.0073	73	18,99
61.090.0076	76	20,05

Ref.	d1	€
61.090.0079	79	20,57
61.090.0083	83	21,10
61.090.0086	86	21,63
61.090.0089	89	23,21
61.090.0092	92	23,74
61.090.0095	95	26,40
61.090.0098	98	26,40
61.090.0102	102	30,00
61.090.0105	105	30,00
61.090.0108	108	30,50
61.090.0111	111	31,50
61.090.0114	114	33,00
61.090.0121	121	35,00
61.090.0127	127	37,50
61.090.0140	140	40,50
61.090.0152	152	44,00

› 61.105 Phantom

NL **HSS-Co 8% Bi-Metaal Gatzaag**
FR **Scie cloche HSS-Co 8% Bi-métal**
ES **Corona Perforadora HSS-Co 8% Bi-Metal**
DE **HSS-Co 8% Bi-Metall Lochsäge**
EN **HSS-Co 8% Bi-Metal Hole saw**





Ref.	d1	€
61.105.0014	14	11,31
61.105.0016	16	11,58
61.105.0017	17	11,58
61.105.0018	18	12,14
61.105.0019	19	12,14
61.105.0020	20	12,14
61.105.0021	21	12,14
61.105.0022	22	12,14
61.105.0024	24	12,14
61.105.0025	25	13,80
61.105.0027	27	13,80
61.105.0028	28	14,35
61.105.0029	29	14,35
61.105.0030	30	14,35
61.105.0032	32	15,45
61.105.0033	33	15,45
61.105.0034	34	15,45
61.105.0035	35	16,33
61.105.0037	37	17,10
61.105.0038	38	17,10
61.105.0040	40	17,66

Ref.	d1	€
61.105.0041	41	17,66
61.105.0043	43	18,76
61.105.0044	44	18,76
61.105.0046	46	19,32
61.105.0048	48	19,87
61.105.0049	49	20,41
61.105.0050	50	20,41
61.105.0051	51	20,41
61.105.0052	52	21,52
61.105.0054	54	22,07
61.105.0056	56	22,62
61.105.0057	57	22,62
61.105.0059	59	23,18
61.105.0060	60	23,18
61.105.0061	61	23,18
61.105.0064	64	25,95
61.105.0065	65	26,50
61.105.0067	67	27,05
61.105.0068	68	27,60
61.105.0070	70	27,60
61.105.0073	73	28,70

Ref.	d1	€
61.105.0076	76	31,45
61.105.0079	79	32,00
61.105.0083	83	32,55
61.105.0086	86	33,15
61.105.0089	89	33,65
61.105.0090	90	34,25
61.105.0092	92	34,25
61.105.0095	95	38,60
61.105.0098	98	39,20
61.105.0100	100	39,70
61.105.0102	102	44,50
61.105.0105	105	46,00
61.105.0108	108	47,00
61.105.0111	111	48,00
61.105.0114	114	50,00
61.105.0121	121	52,00
61.105.0127	127	56,00
61.105.0133	133	60,00
61.105.0140	140	61,00
61.105.0146	146	55,95
61.105.0152	152	66,00



NL Gatzaag vertanding
FR Scie cloche HSS-Co Bi-métal pour tôle fine et tube vs la scie cloche standard
ES Corona bimetalica paso grueso o Corona bimetalica paso estándar
DE BiM Lochsäge grob gegen BiM Lochsäge standard
EN BiM holesaw coarse vs BiM holesaw standard

Watch me

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› 61.110 Phantom



NL HSS-Co 8% Bi-Metaal Gatzaag voor dunne plaat en buizen
FR Scie cloche HSS-Co 8% Bi-métal pour tôle fine et tube
ES Corona Perforadora HSS-Co 8% Bi-Metal para chapa fina y tubos
DE HSS-Co 8% Bi-Metall Lochsäge für dünne Platte und Rohren
EN HSS-Co 8% Bi-Metal Hole saw for thin plates and tubes

INOX | VARI | BiM 8% Co | MDF | SOFT | Cu Ni Ms Zn Al

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | N 41 Alu | N 51 Cu

Ref.	d1	€
61.110.0014	14	11,31
61.110.0016	16	11,58
61.110.0017	17	11,58
61.110.0018	18	12,14
61.110.0019	19	12,14
61.110.0020	20	12,14
61.110.0021	21	12,14
61.110.0022	22	12,14
61.110.0024	24	12,14
61.110.0025	25	13,80
61.110.0027	27	13,80
61.110.0028	28	14,35
61.110.0029	29	14,35
61.110.0030	30	14,35
61.110.0032	32	15,45
61.110.0033	33	15,45
61.110.0034	34	15,45
61.110.0035	35	16,33
61.110.0037	37	17,10
61.110.0038	38	17,10
61.110.0040	40	17,66
61.110.0041	41	17,66
61.110.0043	43	18,76

Ref.	d1	€
61.110.0044	44	18,76
61.110.0046	46	19,87
61.110.0048	48	19,87
61.110.0049	49	20,41
61.110.0050	50	20,41
61.110.0051	51	20,41
61.110.0052	52	21,52
61.110.0054	54	21,52
61.110.0056	56	22,62
61.110.0057	57	22,62
61.110.0059	59	23,18
61.110.0060	60	23,18
61.110.0061	61	25,95
61.110.0064	64	25,95
61.110.0065	65	27,05
61.110.0067	67	27,05
61.110.0068	68	27,60
61.110.0070	70	27,60
61.110.0073	73	28,70
61.110.0076	76	31,45
61.110.0079	79	32,00
61.110.0083	83	32,55
61.110.0086	86	33,15

Ref.	d1	€
61.110.0089	89	33,65
61.110.0090	90	34,25
61.110.0092	92	34,25
61.110.0095	95	38,60
61.110.0098	98	39,20
61.110.0100	100	39,70
61.110.0102	102	44,50
61.110.0105	105	46,00
61.110.0108	108	47,00
61.110.0111	111	48,00
61.110.0114	114	50,00
61.110.0121	121	52,00
61.110.0127	127	56,00
61.110.0133	133	60,00
61.110.0140	140	61,00
61.110.0146	146	66,00
61.110.0152	152	66,00
61.110.0160	160	85,00
61.110.0168	168	89,00
61.110.0177	177	95,00
61.110.0210	210	113,00



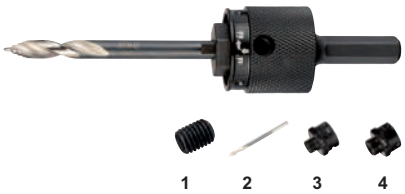
NL Gatzaag keuzehulp
FR Guide de sélection de scie-cloche
ES Guía de selección de coronas
DE Auswahlhilfe für Lochsägen
EN Hole saw selection guide

Read me

www.phantom.eu

› 61.135 International Tools

NL ECO PRO Universele Quick-Change Houder
FR Système de changement rapide 'Quick Change' ECO PRO
ES Husillo de cambio rápido ECO PRO
DE ECO PRO Universal Schnellweschelhalter
EN ECO PRO Universal Quick-Change holder



ECO PRO | 8,7mm 11/32"

Ref.	Ø	d2	1 incl.	2 incl.	3 incl.	4 incl.	€
61.135.1432	14-210 mm	11/32"(8,7mm)	61.160.9566	61.148.0900	61.137.1401	61.137.3201	30,05

› 61.137 International Tools

NL ECO PRO Universele Quick-Change adapter
FR Adaptateur Quick Change universel ECO PRO
ES Adaptador universal de cambio rápido ECO PRO
DE ECO PRO Universeller Schnellwechseladapter
EN ECO PRO Universal Quick-Change adapter

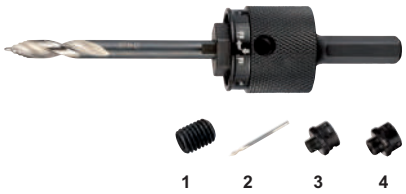


ECO PRO

Ref.	Ø	#	€
61.137.1401	14-30 mm	1	5,22
61.137.1405	14-30 mm	5	15,77
61.137.3201	32-210 mm	1	5,22
61.137.3205	32-210 mm	5	15,77

› 61.140 Phantom

NL **Universele Quick-Change Houder**
FR **Système de changement rapide 'Quick Change'**
ES **Husillo de cambio rápido**
DE **Universal Schnellweschelhalter**
EN **Universal Quick-Change holder**



8,7mm 11/32"

Ref.	Ø	d2	1 incl.	2 incl.	3 incl.	4 incl.	€
61.140.1432	14-210 mm	11/32"(8,7mm)	61.160.9566	61.180.0900	61.142.1401	61.142.3201	30,05

› 61.142 Phantom

NL **Universele Quick-Change adapter**
FR **Adaptateur Quick Change universel**
ES **Adaptador universal de cambio rápido**
DE **Universeller Schnellwechseladapter**
EN **Universal Quick-Change adapter**



Ref.	Ø	#	€
61.142.1401	14-30 mm	1	5,22
61.142.1405	14-30 mm	5	15,77
61.142.3201	32-210 mm	1	5,22
61.142.3205	32-210 mm	5	15,77



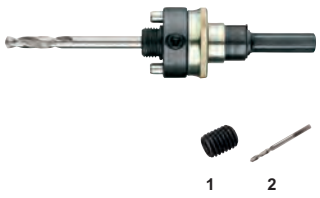
NL Quick-Change snelwisselsysteem voor gatzagen
FR Système de changement rapide 'Quick Change'
ES Quick-Change Husillo de cambio rápido
DE Quick-Change Universal Schnellweschelhalter
EN Universal Quick-Change holder for holesaws

Watch me

www.phantom.eu

› 61.145 International Tools

NL **ECO PRO Houder voor Gatzaag 61.090**
FR **Arbre pour Scies cloches ECO PRO 61.090**
ES **Husillo para Corona perforadora ECO PRO 61.090**
DE **ECO PRO Halter für Lochsägen 61.090**
EN **ECO PRO Hole saw Arbor 61.090**



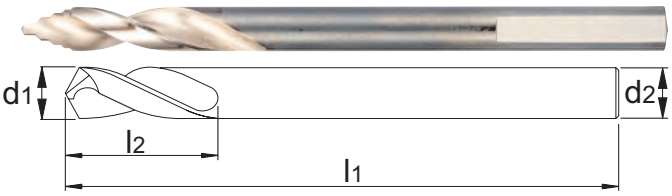
11mm 7/16" ECO PRO 8,7mm 11/32"

Ref.	Ø	d2	1 incl.	2 incl.	€
61.145.0201	32-152 mm	7/16"(11mm)	61.160.9532	61.147.0600	16,67

Ref.	Ø	d2	1 incl.	2 incl.	€
61.145.0500	14-30 mm	11/32"(8,7mm)	61.160.9514	61.147.0600	10,34

› 61.148 International Tools

NL **ECO PRO Centreerboor, Step-point voor gatzagen**
FR **Foret pilote, Step-point ECO PRO pour scies cloche**
ES **Broca guia, Step-point ECO PRO para coronas perforadoras**
DE **ECO PRO Zentrierbohrer, Step-point für Lochsägen**
EN **ECO PRO Centredrill, Step-point for hole saws**



HSS OX. ECO PRO

Ref.	Type	d1	l1	€
61.148.0900	HSS	6.35	90	6,86

› 61.150 Phantom

NL **Houder voor Gatzaag 61.105 en 61.110**
FR **Arbre pour Scies cloches 61.105 et 61.110**
ES **Husillo para Corona perforadora 61.105 y 61.110**
DE **Halter für Lochsägen 61.105 und 61.110**
EN **Hole saw Arbor 61.105 and 61.110**





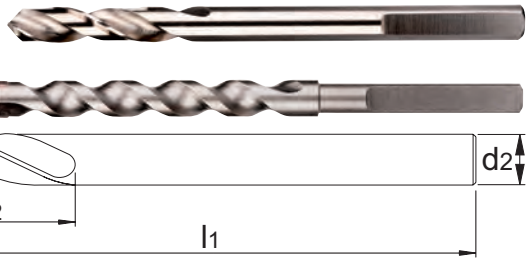
SDS plus | Ø6,35 | 11mm 7/16" | 8,7mm 11/32"

Ref.	Ø	d2	1 incl.	2 incl.	€
61.150.0100	14-30 mm	7/16"(11mm)	61.160.9514	61.170.0600	11,08
61.150.0201	32-210 mm	7/16"(11mm)	61.160.9532	61.170.0600	18,46
61.150.0400	14-30 mm	1/4"(6,35mm)	61.160.9514	61.170.0601	6,59
61.150.0500	14-30 mm	11/32"(8,7mm)	61.160.9514	61.170.0600	11,39

Ref.	Ø	d2	1 incl.	2 incl.	€
61.150.0601	32-210 mm	11/32"(8,7mm)	61.160.9532	61.170.0600	18,46
61.150.0800	14-30 mm	SDS+	61.160.9514	61.170.0600	13,29
61.150.0901	32-210 mm	SDS+	61.160.9532	61.170.0600	21,63

› 61.170 Phantom

NL **Centreerboor voor Gatzaag 61.105, 61.110 en 61.130**
FR **Foret pilote pour Scies cloches 61.105, 61.110 et 61.130**
ES **Broca guia para la Corona perforadora 61.105, 61.110 y 61.130**
DE **Zentrierbohrer für Lochsäge 61.105, 61.110 und 61.130**
EN **Centredrill for 61.105, 61.110 and 61.130**

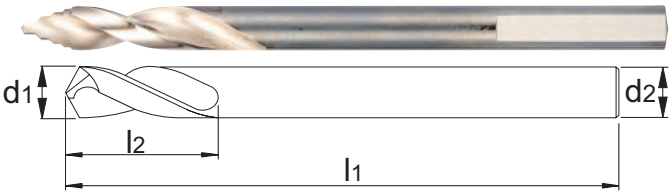


HM-TIP | HSS-E

Ref.	Type	d1	l1	61.XXX	€
61.170.0601	HSS-E	6.35	115	61.150.0400	6,11
61.170.0602	HSS-E	6.35	110	61.151	5,87
61.170.0603	Carbide Tipped	6.35	110	61.151	5,28

› 61.180 Phantom

NL **Centreerboor, Step-point voor gatzagen**
FR **Foret pilote, Step-point pour scies cloche**
ES **Broca guia, Step-point para coronas perforadoras**
DE **Zentrierbohrer, Step-point für Lochsägen**
EN **Centredrill, Step-point for hole saws**

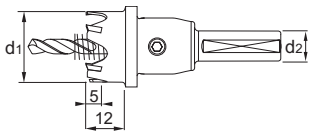


HSS | OX.

Ref.	Type	d1	l1	€
61.180.0900	HSS	6.35	90	6,86

› 61.630 Phantom

NL **HM-tip Gatfrees korte uitvoering 12 mm, materiaaldikte <5 mm**
FR **Scie trépan à plaquette carbure version courte 12 mm, épaisseur <5 mm**
ES **Corona fresa con punta MD versión corto 12 mm, espesor <5 mm**
DE **Hartmetallbestückt Lochfräser kurze Ausführung 12 mm, Materialdicke <5 mm**
EN **Carbide Tipped Hole saw short series 12 mm, thickness <5 mm**





HM-TIP | INOX | 0,5-5 mm

P 11	P 12	P 13	P 14	M 21	M 22	K 31	K 32	N 42	N 52	N 62
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Alu Si>10%	CuAlFe	GFK/CFK
30-40	30-40	25-35	20-30	16-22	8-12	50-70	30-50	80-100	30-40	25-35

Ref.	d1	d2	z	€
61.630.0140	14	10	3	39,00
61.630.0150	15	10	3	39,00
61.630.0152	15.2	10	3	39,00
61.630.0160	16	10	4	39,00
61.630.0170	17	10	4	39,00
61.630.0180	18	10	4	39,00
61.630.0186	18.6	10	4	39,00
61.630.0190	19	10	4	39,00
61.630.0200	20	10	4	39,00
61.630.0204	20.4	10	4	39,00

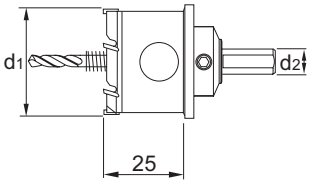
Ref.	d1	d2	z	€
61.630.0210	21	10	4	39,00
61.630.0220	22	10	4	39,00
61.630.0225	22.5	10	5	39,00
61.630.0230	23	10	6	39,00
61.630.0240	24	10	6	39,00
61.630.0250	25	10	6	39,00
61.630.0260	26	10	6	39,00
61.630.0270	27	10	6	39,00
61.630.0280	28	10	6	39,00
61.630.0283	28.3	10	6	39,00

Ref.	d1	d2	z	€
61.630.0300	30	10	6	39,00
61.630.0320	32	10	6	41,00
61.630.0350	35	13	8	41,00
61.630.0380	38	13	8	48,00
61.630.0400	40	13	8	48,00
61.630.0430	43	13	10	49,00
61.630.0450	45	13	10	49,00
61.630.0480	48	13	10	54,00
61.630.0500	50	13	10	54,00
61.630.0550	55	13	12	57,00

› 61.630 Phantom

Ref.	d1	d2	z	€
61.630.0600	60	13	12	57,00
61.630.0700	70	13	14	72,00
61.630.0760	76	13	14	78,00
61.630.0800	80	13	14	85,00
61.630.0940	94	13	18	83,95

› 61.670 Phantom





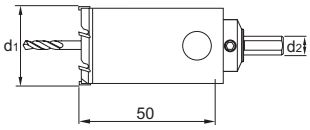
NL **HM-tip Gatfrees diepgat uitvoering 25 mm, materiaaldikte <12 mm**
FR **Scie trépan à plaquette carbure profondeur de coupe 25 mm, épaisseur <12 mm**
ES **Corona fresa con punta MD profundidad de corte 25 mm, espesor <12 mm**
DE **Hartmetallbestückt Lochfräser Tiefloch-Ausführung 25 mm, Materialdicke <12 mm**
EN **Carbide Tipped Hole saw deep hole version 25 mm, thickness <12 mm**

HM-TIP | INOX | 0,5-12 mm

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	P 14 ≤1400 N/mm²	M 21 INOX ≤850N/mm²	M 22 INOX >850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 42 Alu Si>10%	N 52 CuAlFe	N 62 GFK/CFK
30-40	30-40	25-35	20-30	16-22	8-12	50-70	30-50	80-100	30-40	25-35

Ref.	d1	d2	z	€
61.670.0016	16	10	4	52,65
61.670.0017	17	10	4	52,65
61.670.0018	18	10	6	52,65
61.670.0019	19	10	6	52,65
61.670.0020	20	10	6	52,65
61.670.0021	21	10	6	52,65
61.670.0022	22	10	6	52,65
61.670.0023	23	10	6	52,65
61.670.0024	24	10	6	52,65
61.670.0025	25	10	6	52,65
61.670.0026	26	10	6	52,65
61.670.0027	27	10	6	52,65
61.670.0028	28	10	6	52,65
61.670.0029	29	10	6	52,65
61.670.0030	30	10	6	52,65
61.670.0031	31	10	6	52,65
61.670.0032	32	10	6	52,65
61.670.0033	33	10	6	52,65
61.670.0034	34	10	9	52,65
61.670.0035	35	10	9	52,65
61.670.0036	36	10	9	52,65
61.670.0037	37	10	9	52,65
61.670.0038	38	10	9	52,65
61.670.0039	39	10	9	52,65
61.670.0040	40	10	9	52,65
61.670.0041	41	10	9	57,65
61.670.0042	42	10	9	57,65
61.670.0043	43	10	9	57,65
61.670.0044	44	10	9	57,65
61.670.0045	45	10	9	57,65
61.670.0046	46	10	9	59,65
61.670.0047	47	10	9	59,65
61.670.0048	48	10	9	59,65
61.670.0049	49	10	9	59,65
61.670.0050	50	10	9	59,65
61.670.0051	51	10	9	62,00
61.670.0052	52	10	9	62,00
61.670.0053	53	10	9	62,00
61.670.0054	54	10	9	62,00
61.670.0055	55	10	9	62,00
61.670.0056	56	10	9	73,00
61.670.0057	57	10	12	73,00
61.670.0058	58	10	12	73,00
61.670.0060	60	10	12	73,00
61.670.0061	61	10	12	80,00
61.670.0062	62	10	12	80,00
61.670.0063	63	10	12	80,00
61.670.0064	64	10	12	80,00
61.670.0065	65	10	12	80,00
61.670.0066	66	10	12	91,00
61.670.0067	67	10	12	91,00
61.670.0068	68	10	12	91,00
61.670.0070	70	10	12	91,00
61.670.0072	72	10	12	97,00
61.670.0074	74	10	12	97,00
61.670.0075	75	10	12	97,00
61.670.0076	76	10	12	105,00
61.670.0077	77	10	12	105,00
61.670.0078	78	10	12	105,00
61.670.0079	79	10	12	105,00
61.670.0080	80	13	15	105,00
61.670.0082	82	13	15	118,00
61.670.0083	83	13	15	118,00
61.670.0084	84	13	15	118,00
61.670.0085	85	13	15	118,00
61.670.0090	90	13	15	121,00
61.670.0092	92	13	15	128,00
61.670.0095	95	13	15	128,00
61.670.0100	100	13	15	130,00

› 61.680 Phantom





NL **HM-tip Gatfrees lange diepgat uitvoering 50 mm, materiaaldikte <12 mm**
FR **Scie trépan à plaquette carbure profondeur de coupe 50 mm, épaisseur <12 mm**
ES **Corona fresa con punta MD profundidad de corte 50 mm, espesor <12 mm**
DE **Hartmetallbestückt Lochfräser lange Tiefloch-Ausführung 50 mm, Materialdicke <12 mm**
EN **Carbide Tipped Hole saw long deep hole version 50 mm, thickness <12 mm**

HM-TIP | INOX | 0,5-12 mm

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	P 14 ≤1400 N/mm²	M 21 INOX ≤850N/mm²	M 22 INOX >850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 42 Alu Si>10%	N 52 CuAlFe	N 62 GFK/CFK
30-40	30-40	25-35	20-30	16-22	8-12	50-70	30-50	80-100	30-40	25-35

Ref.	d1	d2	z	€
61.680.0020	20	10	6	69,60
61.680.0021	21	10	6	75,45
61.680.0022	22	10	6	75,45
61.680.0023	23	10	6	75,45
61.680.0024	24	10	6	75,45
61.680.0025	25	10	6	75,45
61.680.0026	26	10	6	82,65
61.680.0027	27	10	6	82,65
61.680.0028	28	10	6	82,65
61.680.0030	30	10	6	82,65
61.680.0032	32	10	6	85,00
61.680.0033	33	10	6	85,00
61.680.0034	34	10	9	85,00
61.680.0035	35	10	9	85,00
61.680.0037	37	10	9	96,00
61.680.0038	38	10	9	96,00
61.680.0039	39	10	9	96,00
61.680.0040	40	10	9	96,00
61.680.0041	41	10	9	105,00
61.680.0042	42	10	9	105,00
61.680.0043	43	10	9	105,00

› 61.680 Phantom

Ref.	d1	d2	z	€
61.680.0045	45	10	9	105,00
61.680.0048	48	10	9	108,00
61.680.0050	50	10	9	108,00
61.680.0051	51	10	9	115,00
61.680.0053	53	10	9	115,00
61.680.0054	54	10	9	115,00
61.680.0055	55	10	9	115,00

Ref.	d1	d2	z	€
61.680.0057	57	10	12	138,00
61.680.0060	60	10	12	138,00
61.680.0061	61	10	12	148,00
61.680.0062	62	10	12	148,00
61.680.0064	64	10	12	148,00
61.680.0065	65	10	12	148,00
61.680.0067	67	10	12	162,00

Ref.	d1	d2	z	€
61.680.0070	70	10	12	162,00
61.680.0075	75	10	12	172,00
61.680.0076	76	10	12	180,00
61.680.0080	80	13	15	180,00
61.680.0090	90	13	15	199,00
61.680.0100	100	13	15	249,00

› 62.100 Phantom



NL HSS-EX Kernboor snijdiepte 30 mm
FR Fraise à carotter HSS-EX profondeur de coupe 30 mm
ES Fresa hueca HSS-EX profundidad de corte 30 mm
DE HSS-EX Kernbohr Schnittiefe 30 mm
EN HSS-EX Annular Cutter cutting depth 30 mm

0,5-30 mm | Ø19 WELDON | HSS-EX

P 11	P 12	P 13	K 31	N 41	N 42	N 51	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	GG	Alu	Alu Si>10%	Cu	PVC
20-30	16-22	12-16	16-22	35-45	25-35	18-26	12-20

Ref.	d1	Pin	€
62.100.1200	12	62.300.0026	28,10
62.100.1300	13	62.300.0026	28,10
62.100.1400	14	62.300.0026	29,50
62.100.1450	14.5	62.300.0026	36,80
62.100.1500	15	62.300.0026	29,50
62.100.1550	15.5	62.300.0026	38,30
62.100.1600	16	62.300.0026	30,70
62.100.1650	16.5	62.300.0026	38,30
62.100.1700	17	62.300.0026	30,70
62.100.1750	17.5	62.300.0026	39,70
62.100.1800	18	62.300.0026	31,90
62.100.1850	18.5	62.300.0026	39,70
62.100.1900	19	62.300.0026	31,90
62.100.1950	19.5	62.300.0026	42,50
62.100.2000	20	62.300.0026	34,20
62.100.2050	20.5	62.300.0026	42,50
62.100.2100	21	62.300.0026	34,20
62.100.2150	21.5	62.300.0026	50,55
62.100.2200	22	62.300.0026	40,60
62.100.2250	22.5	62.300.0026	50,55
62.100.2300	23	62.300.0026	40,60
62.100.2400	24	62.300.0026	44,90

Ref.	d1	Pin	€
62.100.2450	24.5	62.300.0026	55,85
62.100.2500	25	62.300.0026	44,90
62.100.2600	26	62.300.0026	47,90
62.100.2650	26.5	62.300.0026	59,70
62.100.2700	27	62.300.0026	47,90
62.100.2800	28	62.300.0026	50,75
62.100.2900	29	62.300.0026	50,75
62.100.3000	30	62.300.0026	56,20
62.100.3100	31	62.300.0026	56,20
62.100.3200	32	62.300.0026	61,75
62.100.3300	33	62.300.0026	61,75
62.100.3400	34	62.300.0026	66,30
62.100.3500	35	62.300.0026	66,30
62.100.3600	36	62.300.0026	69,40
62.100.3700	37	62.300.0026	69,40
62.100.3800	38	62.300.0026	74,05
62.100.3900	39	62.300.0026	74,05
62.100.4000	40	62.300.0026	81,75
62.100.4100	41	62.300.0026	81,75
62.100.4200	42	62.300.0026	90,55
62.100.4300	43	62.300.0026	90,55
62.100.4400	44	62.300.0026	97,70

Ref.	d1	Pin	€
62.100.4500	45	62.300.0026	97,70
62.100.4600	46	62.300.0026	102,90
62.100.4700	47	62.300.0026	102,90
62.100.4800	48	62.300.0026	108,75
62.100.4900	49	62.300.0026	108,75
62.100.5000	50	62.300.0026	116,25
62.100.5100	51	62.300.0026	116,25
62.100.5200	52	62.300.0026	126,90
62.100.5300	53	62.300.0026	131,05
62.100.5400	54	62.300.0026	135,05
62.100.5500	55	62.300.0026	138,35
62.100.5600	56	62.300.0026	143,35
62.100.5700	57	62.300.0026	149,75
62.100.5800	58	62.300.0026	153,45
62.100.5900	59	62.300.0026	158,25
62.100.6000	60	62.300.0026	163,10
62.100.6100	61	62.300.0026	179,30
62.100.6200	62	62.300.0026	185,20
62.100.6300	63	62.300.0026	191,10
62.100.6400	64	62.300.0026	196,35
62.100.6500	65	62.300.0026	201,50



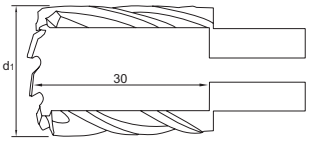
NL Kernboren keuzehulp
FR Aide à la sélection des fraises à carotter
ES Ayuda para la selección de fresas huecas
DE Auswahlhilfe Kernbohrer
EN Selection guide for annular cutters

Read me

www.phantom.eu

› 62.122 Phantom

NL **HSS-EX Kernboor genitreerd, snijdiepte 30 mm**
FR **Fraise à carotter HSS-EX nitruré, profondeur de coupe 30 mm**
ES **Fresa hueca HSS-EX nitrurado, profundidad de corte 30 mm**
DE **HSS-EX Kernbohr nitriert, Schnittiefe 30 mm**
EN **HSS-EX Annular Cutter nitrided, cutting depth 30 mm**





0,5-30 mm | Ø19 WELDON | NIT. | HSS-EX

P 11	P 12	P 13	P 14	M 21	M 22	K 31	K 32	N 41	N 42	N 51	N 52	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu	CuAlFe	PVC
25-35	16-22	12-20	6-10	8-12	4-6	16-22	12-20	35-45	30-50	30-40	30-40	18-26

Ref.	d1	Pin	€
62.122.1200	12	62.300.0026	30,40
62.122.1300	13	62.300.0026	30,40
62.122.1400	14	62.300.0026	31,90
62.122.1500	15	62.300.0026	31,90
62.122.1600	16	62.300.0026	33,30
62.122.1700	17	62.300.0026	33,30
62.122.1800	18	62.300.0026	34,45
62.122.1900	19	62.300.0026	34,45
62.122.2000	20	62.300.0026	36,90
62.122.2100	21	62.300.0026	36,90
62.122.2200	22	62.300.0026	43,90
62.122.2300	23	62.300.0026	43,90
62.122.2400	24	62.300.0026	48,50
62.122.2500	25	62.300.0026	48,50
62.122.2600	26	62.300.0026	51,85
62.122.2700	27	62.300.0026	51,85
62.122.2800	28	62.300.0026	54,85
62.122.2900	29	62.300.0026	54,85

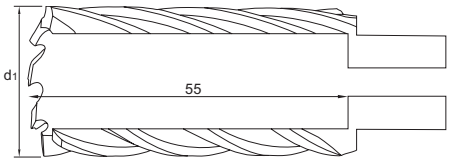
Ref.	d1	Pin	€
62.122.3000	30	62.300.0026	60,75
62.122.3100	31	62.300.0026	60,75
62.122.3200	32	62.300.0026	66,80
62.122.3300	33	62.300.0026	66,80
62.122.3400	34	62.300.0026	71,70
62.122.3500	35	62.300.0026	71,70
62.122.3600	36	62.300.0026	75,10
62.122.3700	37	62.300.0026	75,10
62.122.3800	38	62.300.0026	80,00
62.122.3900	39	62.300.0026	80,00
62.122.4000	40	62.300.0026	88,40
62.122.4100	41	62.300.0026	88,40
62.122.4200	42	62.300.0026	97,90
62.122.4300	43	62.300.0026	97,90
62.122.4400	44	62.300.0026	105,60
62.122.4500	45	62.300.0026	105,60
62.122.4600	46	62.300.0026	111,35
62.122.4700	47	62.300.0026	111,35

Ref.	d1	Pin	€
62.122.4800	48	62.300.0026	117,60
62.122.4900	49	62.300.0026	117,60
62.122.5000	50	62.300.0026	125,70
62.122.5100	51	62.300.0026	125,70
62.122.5200	52	62.300.0026	137,25
62.122.5300	53	62.300.0026	141,70
62.122.5400	54	62.300.0026	146,00
62.122.5500	55	62.300.0026	149,55
62.122.5600	56	62.300.0026	155,00
62.122.5700	57	62.300.0026	161,90
62.122.5800	58	62.300.0026	165,90
62.122.5900	59	62.300.0026	171,10
62.122.6000	60	62.300.0026	176,30
62.122.6100	61	62.300.0026	193,90
62.122.6200	62	62.300.0026	200,25
62.122.6300	63	62.300.0026	206,60
62.122.6400	64	62.300.0026	212,30
62.122.6500	65	62.300.0026	217,85

› 62.150 Phantom

NL **HSS-EX Kernboor snijdiepte 55 mm**
FR **Fraise à carotter HSS-EX profondeur de coupe 55 mm**
ES **Fresa hueca HSS-EX profundidad de corte 55 mm**
DE **HSS-EX Kernbohr Schnittiefe 55 mm**
EN **HSS-EX Annular Cutter cutting depth 55 mm**





0,5-55 mm | Ø19 WELDON | HSS-EX

P 11	P 12	P 13	K 31	N 41	N 42	N 51	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	GG	Alu	Alu Si>10%	Cu	PVC
20-30	16-22	12-16	16-22	35-45	25-35	18-26	12-20

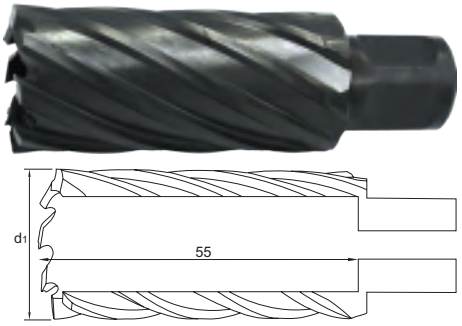
Ref.	d1	Pin	€
62.150.1200	12	62.300.0050	36,60
62.150.1300	13	62.300.0050	36,60
62.150.1400	14	62.300.0050	38,40
62.150.1500	15	62.300.0050	38,40
62.150.1600	16	62.300.0050	39,95
62.150.1700	17	62.300.0050	39,95
62.150.1800	18	62.300.0050	41,40
62.150.1900	19	62.300.0050	41,40
62.150.2000	20	62.300.0050	44,40
62.150.2100	21	62.300.0050	44,40
62.150.2200	22	62.300.0050	52,75
62.150.2300	23	62.300.0050	52,75
62.150.2400	24	62.300.0050	58,30
62.150.2500	25	62.300.0050	58,30
62.150.2600	26	62.300.0050	62,30
62.150.2700	27	62.300.0050	62,30
62.150.2800	28	62.300.0050	65,95
62.150.2900	29	62.300.0050	65,95

Ref.	d1	Pin	€
62.150.3000	30	62.300.0050	73,05
62.150.3100	31	62.300.0050	73,05
62.150.3200	32	62.300.0050	80,30
62.150.3300	33	62.300.0050	80,30
62.150.3400	34	62.300.0050	86,20
62.150.3500	35	62.300.0050	86,20
62.150.3600	36	62.300.0050	90,25
62.150.3700	37	62.300.0050	90,25
62.150.3800	38	62.300.0050	96,15
62.150.3900	39	62.300.0050	96,15
62.150.4000	40	62.300.0050	106,30
62.150.4100	41	62.300.0050	106,30
62.150.4200	42	62.300.0050	117,75
62.150.4300	43	62.300.0050	117,75
62.150.4400	44	62.300.0050	127,05
62.150.4500	45	62.300.0050	127,05
62.150.4600	46	62.300.0050	133,90
62.150.4700	47	62.300.0050	133,90

Ref.	d1	Pin	€
62.150.4800	48	62.300.0050	141,35
62.150.4900	49	62.300.0050	141,35
62.150.5000	50	62.300.0050	151,15
62.150.5100	51	62.300.0050	151,15
62.150.5200	52	62.300.0050	165,10
62.150.5300	53	62.300.0050	170,35
62.150.5400	54	62.300.0050	175,55
62.150.5500	55	62.300.0050	179,80
62.150.5600	56	62.300.0050	186,35
62.150.5700	57	62.300.0050	194,65
62.150.5800	58	62.300.0050	199,50
62.150.5900	59	62.300.0050	205,75
62.150.6000	60	62.300.0050	212,00
62.150.6100	61	62.300.0050	233,15
62.150.6200	62	62.300.0050	240,85
62.150.6300	63	62.300.0050	248,45
62.150.6400	64	62.300.0050	255,00
62.150.6500	65	62.300.0050	262,00

› 62.162 Phantom

NL **HSS-EX Kernboor genitreerd, snijdiepte 55 mm**
FR **Fraise à carotter HSS-EX nitruré, profondeur de coupe 55 mm**
ES **Fresa hueca HSS-EX nitrurado, profundidad de corte 55 mm**
DE **HSS-EX Kernbohr nitriert, Schnittiefe 55 mm**
EN **HSS-EX Annular Cutter nitrided, cutting depth 55 mm**



0,5-55 mm | Ø19 WELDON | NIT. | HSS-EX

P 11	P 12	P 13	P 14	M 21	M 22	K 31	K 32	N 41	N 42	N 51	N 52	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu	CuAlFe	PVC
25-35	16-22	12-20	6-10	8-12	4-6	16-22	12-20	35-45	30-50	30-40	30-40	18-26

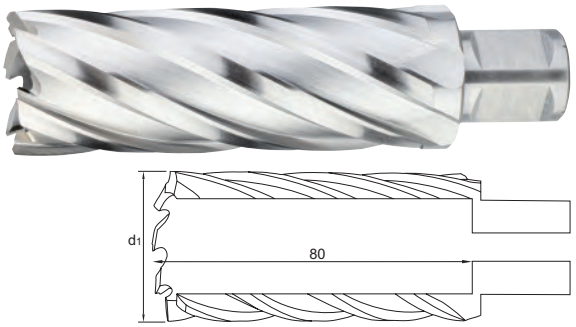
Ref.	d1	Pin	€
62.162.1200	12	62.300.0050	39,55
62.162.1300	13	62.300.0050	39,55
62.162.1400	14	62.300.0050	41,50
62.162.1450	14.5	62.300.0050	55,50
62.162.1500	15	62.300.0050	41,50
62.162.1550	15.5	62.300.0050	57,60
62.162.1600	16	62.300.0050	43,15
62.162.1650	16.5	62.300.0050	57,60
62.162.1700	17	62.300.0050	43,15
62.162.1750	17.5	62.300.0050	59,80
62.162.1800	18	62.300.0050	44,80
62.162.1850	18.5	62.300.0050	59,80
62.162.1900	19	62.300.0050	44,80
62.162.1950	19.5	62.300.0050	64,20
62.162.2000	20	62.300.0050	48,05
62.162.2050	20.5	62.300.0050	64,20
62.162.2100	21	62.300.0050	48,05
62.162.2200	22	62.300.0050	57,00
62.162.2300	23	62.300.0050	57,00
62.162.2400	24	62.300.0050	63,05
62.162.2500	25	62.300.0050	63,05

Ref.	d1	Pin	€
62.162.2600	26	62.300.0050	67,35
62.162.2700	27	62.300.0050	67,35
62.162.2800	28	62.300.0050	71,25
62.162.2900	29	62.300.0050	71,25
62.162.3000	30	62.300.0050	78,95
62.162.3100	31	62.300.0050	78,95
62.162.3200	32	62.300.0050	86,75
62.162.3300	33	62.300.0050	86,75
62.162.3400	34	62.300.0050	93,20
62.162.3500	35	62.300.0050	93,20
62.162.3600	36	62.300.0050	97,60
62.162.3700	37	62.300.0050	97,60
62.162.3800	38	62.300.0050	104,00
62.162.3900	39	62.300.0050	104,00
62.162.4000	40	62.300.0050	114,90
62.162.4100	41	62.300.0050	114,90
62.162.4200	42	62.300.0050	127,30
62.162.4300	43	62.300.0050	127,30
62.162.4400	44	62.300.0050	137,35
62.162.4500	45	62.300.0050	137,35
62.162.4600	46	62.300.0050	144,75

Ref.	d1	Pin	€
62.162.4700	47	62.300.0050	144,75
62.162.4800	48	62.300.0050	152,85
62.162.4900	49	62.300.0050	152,85
62.162.5000	50	62.300.0050	163,40
62.162.5100	51	62.300.0050	163,40
62.162.5200	52	62.300.0050	178,50
62.162.5300	53	62.300.0050	184,15
62.162.5400	54	62.300.0050	189,85
62.162.5500	55	62.300.0050	194,45
62.162.5600	56	62.300.0050	201,50
62.162.5700	57	62.300.0050	199,45
62.162.5800	58	62.300.0050	215,70
62.162.5900	59	62.300.0050	210,80
62.162.6000	60	62.300.0050	229,20
62.162.6100	61	62.300.0050	252,00
62.162.6200	62	62.300.0050	260,00
62.162.6300	63	62.300.0050	269,00
62.162.6400	64	62.300.0050	276,00
62.162.6500	65	62.300.0050	283,00

› 62.170 Phantom

NL **HSS-EX Kernboor snijdiepte 80 mm**
FR **Fraise à carotter HSS-EX profondeur de coupe 80 mm**
ES **Fresa hueca HSS-EX profundidad de corte 80 mm**
DE **HSS-EX Kernbohr Schnittiefe 80 mm**
EN **HSS-EX Annular Cutter cutting depth 80 mm**



Ø19 WELDON | HSS-EX | 0,5-80 mm

P 11	P 12	P 13	K 31	N 41	N 42	N 51	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	GG	Alu	Alu Si>10%	Cu	PVC
20-30	16-22	12-16	16-22	35-45	25-35	18-26	12-20

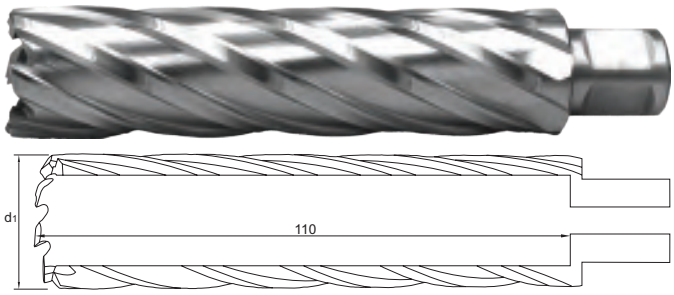
Ref.	d1	Pin	€
62.170.1800	18	62.300.0092	61,50
62.170.2000	20	62.300.0092	69,50
62.170.2200	22	62.300.0092	75,35

Ref.	d1	Pin	€
62.170.2400	24	62.300.0092	85,40
62.170.2600	26	62.300.0092	89,15
62.170.2800	28	62.300.0092	95,40

Ref.	d1	Pin	€
62.170.3000	30	62.300.0092	104,25

› 62.180 Phantom

NL **HSS-EX Kernboor snijdiepte 110 mm**
FR **Fraise à carotter HSS-EX profondeur de coupe 110 mm**
ES **Fresa hueca HSS-EX profun'''j1didad de corte 110 mm**
DE **HSS-EX Kernbohr Schnittiefe 110 mm**
EN **HSS-EX Annular Cutter cutting depth 110 mm**



0,5-110 mm | Ø19 WELDON | HSS-EX

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	K 31 GG	N 41 Alu	N 42 Alu Si>10%	N 51 Cu	N 61 PVC
20-30	16-22	12-16	16-22	35-45	25-35	18-26	12-20

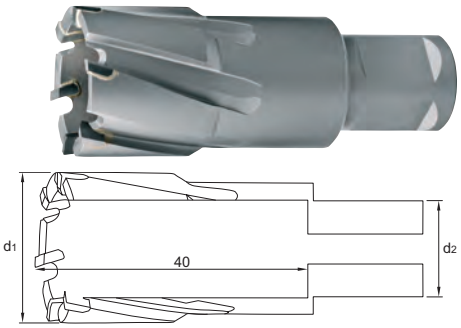
Ref.	d1	Pin	€
62.180.1800	18	62.300.0100	82,20
62.180.1900	19	62.300.0100	82,15
62.180.2000	20	62.300.0100	87,85
62.180.2100	21	62.300.0100	89,85
62.180.2200	22	62.300.0100	104,45
62.180.2400	24	62.300.0100	115,50

Ref.	d1	Pin	€
62.180.2500	25	62.300.0100	115,50
62.180.2600	26	62.300.0100	123,40
62.180.2700	27	62.300.0100	126,15
62.180.2800	28	62.300.0100	130,45
62.180.3000	30	62.300.0100	144,75
62.180.3200	32	62.300.0100	159,00

Ref.	d1	Pin	€
62.180.3400	34	62.300.0100	175,45
62.180.3500	35	62.300.0100	184,55
62.180.4000	40	62.300.0100	230,25
62.180.4500	45	62.300.0100	270,00
62.180.5000	50	62.300.0100	345,00

› 62.200 Phantom

NL **HM-tip Kernboor snijdiepte 40 mm**
FR **Fraise à carotter à plaquette carbure profondeur de coupe 40 mm**
ES **Fresa hueca con punta MD profundidad de corte 40 mm**
DE **Hartmetallbestückt Kernbohr Schnittiefe 40 mm**
EN **Carbide Tipped Annular Cutter cutting depth 40 mm**



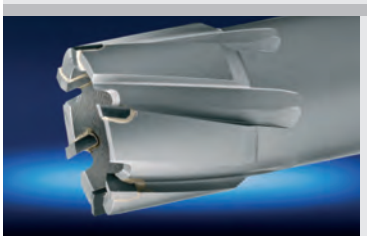
HM-TIP | 0,5-40 mm | Ø19 WELDON

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	P 14 ≤1400 N/mm²	H 15 HRC	M 21 INOX ≤850N/mm²	M 22 INOX >850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 42 Alu Si>10%	N 52 CuAlFe	N 62 GFK/CFK
30-40	30-40	25-35	20-30	16-22	16-22	8-12	50-70	30-50	80-100	30-40	25-35

Ref.	d1	Pin	€
62.200.1200	12	62.300.0035	51,00
62.200.1300	13	62.300.0035	51,00
62.200.1400	14	62.300.0035	51,00
62.200.1500	15	62.300.0035	51,00
62.200.1600	16	62.300.0035	51,00
62.200.1700	17	62.300.0035	51,00
62.200.1800	18	62.300.0076	51,00
62.200.1900	19	62.300.0076	51,00
62.200.2000	20	62.300.0076	51,00

Ref.	d1	Pin	€
62.200.2100	21	62.300.0076	51,00
62.200.2200	22	62.300.0076	51,00
62.200.2300	23	62.300.0076	51,00
62.200.2400	24	62.300.0076	51,00
62.200.2500	25	62.300.0076	51,00
62.200.2600	26	62.300.0076	56,00
62.200.2700	27	62.300.0076	56,00
62.200.2800	28	62.300.0076	56,00
62.200.3000	30	62.300.0076	56,00

Ref.	d1	Pin	€
62.200.3200	32	62.300.0076	66,00
62.200.3500	35	62.300.0076	66,00
62.200.3600	36	62.300.0076	75,00
62.200.4000	40	62.300.0076	75,00
62.200.4500	45	62.300.0076	90,00
62.200.5000	50	62.300.0076	105,00
62.200.5500	55	62.300.0076	116,50
62.200.6000	60	62.300.0076	128,00



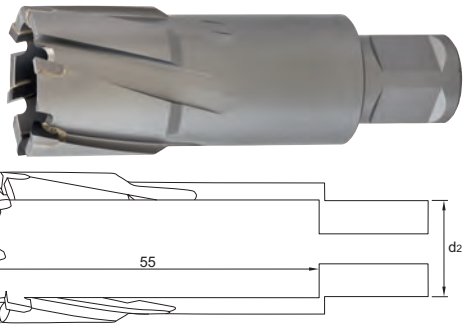
NL Wanneer HM-tip kernboor gebruiken?
FR Quand utiliser une fraise à carotter à plaquette carbure ?
ES ¿Cuándo utilizar una fresa hueca con punta MD?
DE Wann kommen HM-bestückte Kernbohrer zum Einsatz?
EN When to use a carbide tipped annular cutter?

Read me

www.phantom.eu

› 62.220 Phantom

NL **HM-tip Kernboor snijdiepte 55 mm**
FR **Fraise à carotter à plaquette carbure profondeur de coupe 55 mm**
ES **Fresa hueca con punta MD profundidad de corte 55 mm**
DE **Hartmetallbestückt Kernbohr Schnittiefe 55 mm**
EN **Carbide Tipped Annular Cutter cutting depth 55 mm**



HM-TIP | 0,5-55 mm | Ø19 WELDON | Ø32 WELDON

NIEUW NOUVEAU NUEVO NEU

P 11	P 12	P 13	P 14	H 15	M 21	M 22	K 31	K 32	N 42	N 52	N 62
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	HRC	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Alu Si>10%	CuAlFe	GFK/CFK
30-40	30-40	25-35	20-30	16-22	16-22	8-12	50-70	30-50	80-100	30-40	25-35

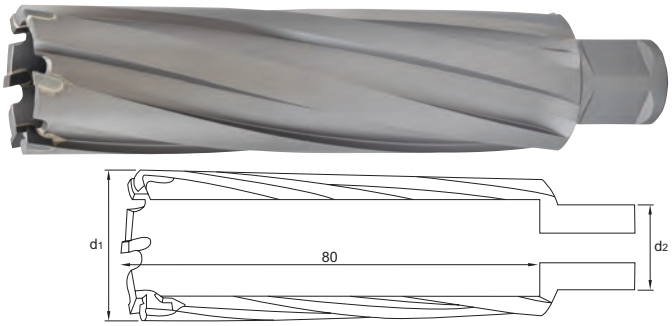
Ref.	d1	d2	Pin	€
62.220.1200	12	19 mm	62.300.0054	54,00
62.220.1300	13	19 mm	62.300.0054	54,00
62.220.1400	14	19 mm	62.300.0054	54,00
62.220.1500	15	19 mm	62.300.0054	54,00
62.220.1600	16	19 mm	62.300.0054	54,00
62.220.1700	17	19 mm	62.300.0054	54,00
62.220.1800	18	19 mm	62.300.0080	54,00
62.220.1900	19	19 mm	62.300.0080	54,00
62.220.2000	20	19 mm	62.300.0080	54,00
62.220.2100	21	19 mm	62.300.0080	54,00
62.220.2200	22	19 mm	62.300.0080	54,00
62.220.2300	23	19 mm	62.300.0080	54,00

Ref.	d1	d2	Pin	€
62.220.2400	24	19 mm	62.300.0080	54,00
62.220.2500	25	19 mm	62.300.0080	54,00
62.220.2600	26	19 mm	62.300.0080	59,00
62.220.2700	27	19 mm	62.300.0080	59,00
62.220.2800	28	19 mm	62.300.0080	59,00
62.220.3000	30	19 mm	62.300.0080	59,00
62.220.3200	32	19 mm	62.300.0080	69,00
62.220.3500	35	19 mm	62.300.0080	69,00
62.220.3600	36	19 mm	62.300.0080	81,00
62.220.4000	40	19 mm	62.300.0080	81,00
62.220.4500	45	19 mm	62.300.0080	96,00
62.220.5000	50	19 mm	62.300.0080	110,00

Ref.	d1	d2	Pin	€
62.220.5500	55	19 mm	62.300.0080	125,00
62.220.6000	60	19 mm	62.300.0080	134,00
62.220.6500	65	32 mm	62.300.0090	159,00
62.220.7000	70	32 mm	62.300.0090	179,00
62.220.7500	75	32 mm	62.300.0090	202,00
62.220.8000	80	32 mm	62.300.0090	222,00
62.220.8500	85	32 mm	62.300.0090	256,00
62.220.9000	90	32 mm	62.300.0090	273,00
62.220.9500	95	32 mm	62.300.0090	298,00
62.220.9910	100	32 mm	62.300.0090	368,00

› 62.230 Phantom

NL **HM-tip Kernboor snijdiepte 80 mm**
FR **Fraise à carotter à plaquette carbure profondeur de coupe 80 mm**
ES **Fresa hueca con punta MD profundidad de corte 80 mm**
DE **Hartmetallbestückt Kernbohr Schnittiefe 80 mm**
EN **Carbide Tipped Annular Cutter cutting depth 80 mm**



HM-TIP | Ø19 WELDON | 0,5-80 mm

NIEUW NOUVEAU NUEVO NEU

P 11	P 12	P 13	P 14	H 15	M 21	M 22	K 31	K 32	N 42	N 52	N 62
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	HRC	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Alu Si>10%	CuAlFe	GFK/CFK
30-40	30-40	25-35	20-30	16-22	16-22	8-12	50-70	30-50	80-100	30-40	25-35

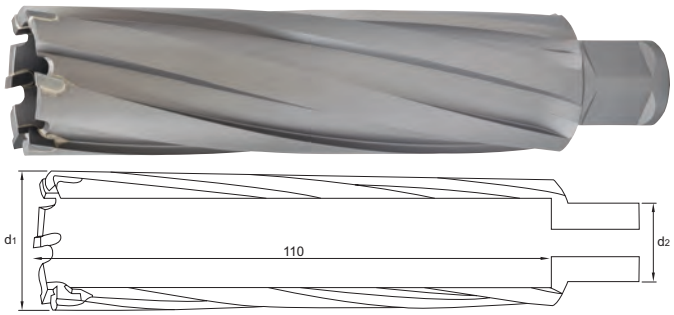
Ref.	d1	Pin	€
62.230.1200	12	62.300.0058	104,00
62.230.1300	13	62.300.0058	104,00
62.230.1400	14	62.300.0058	104,00
62.230.1500	15	62.300.0058	104,00
62.230.1600	16	62.300.0058	104,00
62.230.1700	17	62.300.0058	104,00
62.230.1800	18	62.300.0092	104,00
62.230.1900	19	62.300.0092	104,00
62.230.2000	20	62.300.0092	104,00

Ref.	d1	Pin	€
62.230.2100	21	62.300.0092	104,00
62.230.2200	22	62.300.0092	104,00
62.230.2300	23	62.300.0092	104,00
62.230.2400	24	62.300.0092	104,00
62.230.2500	25	62.300.0092	104,00
62.230.2600	26	62.300.0092	113,00
62.230.2700	27	62.300.0092	113,00
62.230.2800	28	62.300.0092	113,00
62.230.3000	30	62.300.0092	113,00

Ref.	d1	Pin	€
62.230.3200	32	62.300.0092	136,50
62.230.3500	35	62.300.0092	136,50
62.230.3600	36	62.300.0092	157,50
62.230.4000	40	62.300.0092	157,50
62.230.4500	45	62.300.0092	181,00
62.230.5000	50	62.300.0092	217,00
62.230.5500	55	62.300.0092	243,00
62.230.6000	60	62.300.0092	265,00

› 62.240 Phantom

NL **HM-tip Kernboor snijdiepte 110 mm**
FR **Fraise à carotter à plaquette carbure profondeur de coupe 110 mm**
ES **Fresa hueca con punta MD profundidad de corte 110 mm**
DE **Hartmetallbestückt Kernbohr Schnittiefe 110 mm**
EN **Carbide Tipped Annular Cutter cutting depth 110 mm**



HM-TIP | 0,5-110 mm | Ø19 WELDON

NIEUW NOUVEAU NUEVO NEU

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	P 14 ≤1400 N/mm²	H 15 HRC	M 21 INOX ≤850N/mm²	M 22 INOX >850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 42 Alu Si>10%	N 52 CuAlFe	N 62 GFK/CFK
30-40	30-40	25-35	20-30	16-22	16-22	8-12	50-70	30-50	80-100	30-40	25-35

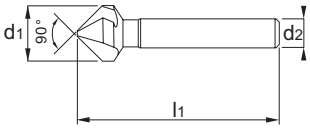
Ref.	d1	Pin	€
62.240.1400	14	62.300.0062	105,00
62.240.1500	15	62.300.0062	105,00
62.240.1600	16	62.300.0062	105,00
62.240.1700	17	62.300.0062	105,00
62.240.1800	18	62.300.0100	105,00
62.240.1900	19	62.300.0100	105,00
62.240.2000	20	62.300.0100	105,00
62.240.2100	21	62.300.0100	105,00

Ref.	d1	Pin	€
62.240.2200	22	62.300.0100	105,00
62.240.2300	23	62.300.0100	105,00
62.240.2400	24	62.300.0100	105,00
62.240.2500	25	62.300.0100	105,00
62.240.2600	26	62.300.0100	117,00
62.240.2700	27	62.300.0100	117,00
62.240.2800	28	62.300.0100	117,00
62.240.3000	30	62.300.0100	117,00

Ref.	d1	Pin	€
62.240.3200	32	62.300.0100	135,00
62.240.3500	35	62.300.0100	135,00
62.240.3600	36	62.300.0100	155,00
62.240.4000	40	62.300.0100	155,00
62.240.4500	45	62.300.0100	175,00
62.240.5000	50	62.300.0100	235,00
62.240.5500	55	62.300.0100	235,00
62.240.6000	60	62.300.0100	257,00

› 62.295 Phantom

NL **HSS Verzinkboor 90°, met 2-vlaks 3/4"(19,05 mm) Weldon-opname**
FR **Fraise à chanfreiner HSS 90°, queue Weldon 3/4"(19,05 mm)**
ES **Avellanador para desbarbar HSS 90°, con sujeción Weldon 3/4"(19,05 mm)**
DE **HSS Kegelsenker 90°, mit 2-fach 3/4"(19,05 mm) Weldon-Aufnahme**
EN **HSS Countersink 90°, Weldon type 3/4"(19,05 mm)**





HSS | 3 | Ø19 WELDON | 90°

NIEUW NOUVEAU NUEVO NEU

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	M 21 INOX ≤850N/mm²	K 31 GG	N 41 Alu	N 42 Alu Si>10%	N 51 Cu	N 61 PVC
25-35	20-30	16-22	6-10	16-22	25-35	25-35	20-30	16-22

Ref.	d1	Min-Max Ø	l1	d2	€
62.295.0325	25	5-25	45	19 mm	35,85
62.295.0330	30	5-30	47	19 mm	45,95

Ref.	d1	Min-Max Ø	l1	d2	€
62.295.0340	40	9-40	52	19 mm	65,60
62.295.0355	55	11-55	60	19 mm	118,55

› 62.300 Phantom

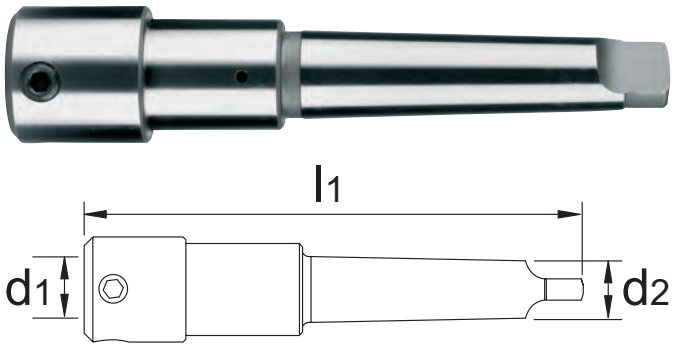


NL **Kernboor uitwerpstift**
FR **Tige d'éjection pour fraise à carotter**
ES **Expulsor para fresa hueca**
DE **Auswerferstift für Kernbohrer**
EN **Annular cutter pilot pin**

Ref.	d1	l1	62.xxx	€
62.300.0025	6,35/5,3 mm	77	62.100, 62.104, 62.122	4,77
62.300.0026	6,35/5,3 mm	77	62.100, 62.104, 62.122	4,20
62.300.0035	6,35/5,3 mm	90	62.200(≤17,5 mm), 62.250, 62.270	5,04
62.300.0050	6,35/5,3 mm	102	62.150, 62.154, 62.162, 62.280	5,33
62.300.0054	6,35/5,3 mm	106	62.220(≤17,5 mm)	5,33
62.300.0056	6,35/5,3 mm	116	62.200(≤17,5 mm) + 62.340.4126	6,16
62.300.0058	6,35/5,3 mm	127	62.230(≤17,5 mm) / 62.150, 62.154, 62.162, 62.220(≤17,5 mm) + 62.340.4126	6,73
62.300.0062	6,35/5,3 mm	160	62.240(≤17,5 mm)	11,10
62.300.0070	7,98 mm	77	62.130, 62.210	4,77
62.300.0076	7,98 mm	90	62.200 (>17,5 mm)	5,33
62.300.0080	7,98 mm	103	62.220 (18-60 mm)	7,29
62.300.0090	7,98 mm	115	62.220 (>60 mm) / 62.200 (>17,5 mm) + 62.340.4128	7,01
62.300.0092	7,98 mm	130	62.170	8,68
62.300.0094	7,98 mm	145	62.200 (>17,5 mm) + 62.330.1158	8,12
62.300.0100	7,98 mm	160	62.180, 62.240 (>17,5 mm)	9,53
62.300.0102	7,98 mm	165	62.200 (>17,5 mm) + 62.330.1178	9,53
62.300.0108	7,98 mm	180	62.220 (>17,5 mm) + 62.330.1178	12,05
62.300.0120	7,98/6,35/5,3 mm	127	62.100, 62.104, 62.122 + 62.330.1158	8,12
62.300.0125	7,98/6,35/5,3 mm	140	62.200(≤17,5mm) + 62.330.1158	8,97
62.300.0130	7,98/6,35/5,3 mm	153	62.150, 62.154, 62.162, 62.220(≤17,5 mm) + 62.330.1158	10,09
62.300.0135	7,98/6,35/5,3 mm	165	62.200(≤17,5 mm) + 62.330.1178	10,64
62.300.0140	7,98/6,35/5,3 mm	178	62.150, 62.154, 62.162, 62.220(≤17,5 mm) + 62.330.1178	11,77

› 62.310 Phantom

NL **Kernboorhouder**
FR **Porte-fraise à carotter**
ES **Portaherramienta Fresa Hueca**
DE **Werkzeughalter für Kernbohrer**
EN **Annular cutter holder**

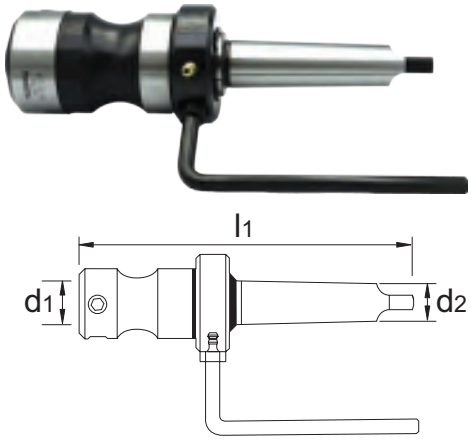


DIN 228-B | Ø19 WELDON | Ø32 WELDON

Ref.	d2	d1	l1	€
62.310.2195	MK 2	19 mm	162	124,60
62.310.3195	MK 3	19 mm	176	138,45
62.310.3325	MK 3	32 mm	172	77,25
62.310.4195	MK 4	19 mm	189	140,70
62.310.4325	MK 4	32 mm	204	89,40

› 62.320 Phantom

NL **Kernboorhouder met interne koeling**
FR **Porte-fraise à carotter avec refroidissement**
ES **Portaherramienta Fresa Hueca con refrigeración interna**
DE **Werkzeughalter für Kernbohrer mit Innenkühlung**
EN **Annular cutter holder with internal coolant**

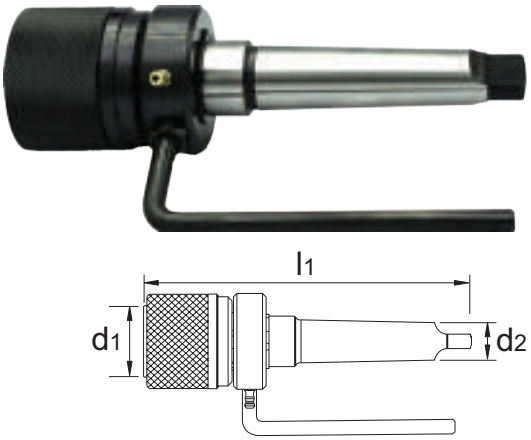


DIN 228-B | Ø19 WELDON | Ø32 WELDON

Ref.	d2	d1	l1	€
62.320.2195	MK 2	19 mm	168	188,90
62.320.3195	MK 3	19 mm	187	198,30
62.320.3325	MK 3	32 mm	202	122,95
62.320.4195	MK 4	19 mm	212	208,15

› 62.322 Phantom

NL **Kernboorhouder Quick-Change met interne koeling**
FR **Porte-fraise à carotter avec système de changement rapide avec refroidissement**
ES **Portaherramienta Fresa Hueca con sistema de cambio rapido con refrigeración interna**
DE **Schnellwechsel Werkzeughalter für Kernbohrer mit Innenkühlung**
EN **Annular cutter holder Quick-Change with internal coolant**

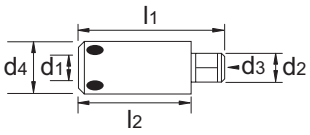


DIN 228-B | Ø19 WELDON

Ref.	d2	d1	l1	€
62.322.2195	MK 2	19 mm	168	159,80
62.322.3195	MK 3	19 mm	185	165,75

› 62.330 Phantom

NL **Kernboor verlengstuk**
FR **Rallonge pour porte-fraise à carotter**
ES **Mango de extensión para fresa heuca**
DE **Kernbohrer verlängerung**
EN **Annular cutter extension**



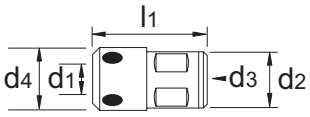


Ø19 WELDON

Ref.	d2	d1	l2	l1	d4	d3	Pin	€
62.330.1158	19 mm	19 mm	50	74	35	7.98	Ø7,98 + 50 mm	42,45
62.330.1178	19 mm	19 mm	75	99	35	7.98	Ø7,98 + 75 mm	46,55

› 62.340 Phantom

NL **Kernboor adapter**
FR **Adaptateur pour porte-fraise à carotter**
ES **Adaptador para Portaherramienta Fresa Hueca**
DE **Adapter für Kernbohrer**
EN **Annular cutter adapter**



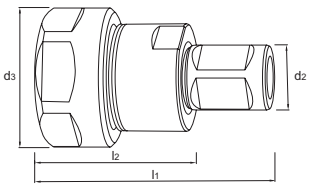


Ø18 FEIN QUICKIN | Ø19 WELDON | Ø32 WELDON

Ref.	Image	d2	d1	d4	l1	d3	Pin	€
62.340.1328		19 mm	32 mm		73	7.98	Ø7,98 + 40 mm	41,80
62.340.1620		19 mm	1/2 - 20 UNF		43			28,55
62.340.1720		19 mm	B16		57			25,25
62.340.3148		32 mm	19 mm	35	63	7.98	Ø7,98 + 40 mm	43,75
62.340.4126		18 mm	19 mm	35	51	6.35	Ø6,35 + 25 mm	31,55
62.340.4128		18 mm	19 mm	35	51	7.98	Ø7,98 + 25 mm	31,55
62.340.5120		M18x6 P1,5	19 mm	35	43			36,45

› 62.350 Phantom

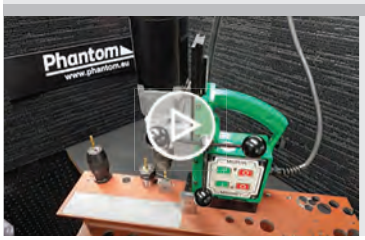
NL **Spantanghouder, voor kernboormachine ER**
FR **Mandrin porte-pinces, pour carotteuse ER**
ES **Portapinzas, para perforadora de núcleo ER**
DE **Spannzangenfutter, für Kernbohrmaschine ER**
EN **Collet Chuck, for core drilling machine ER**





ER-25 | Ø19 WELDON

Ref.	d2	Type	Ø	l1	l2	d3	sw	€
62.350.1925	19 mm	ER25	1-20	70	46	42	38	116,30



NL Unieke spantanghouder voor kleinere diameters en kort opspannen in de kernboormachine
FR Mandrin porte-pinces unique pour petits diamètres et serrage court pour perceuses magnétiques
ES Porta pinzas único para diámetros pequeños y sujeción corta para taladradoras magnéticas
DE Einzigartiges Spannzangenfutter für kleinere Durchmesser und schnelles Einspannen in die Kernbohrmaschine
EN Unique collet chuck for smaller diameters and short clamping for magnetic drilling machines

Watch me

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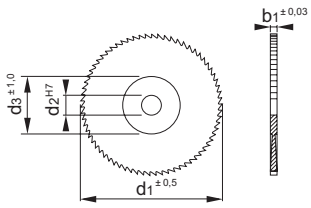
› 63.210 Phantom

NL **HSS Metaalcirkelzaag GF/Orbitalum**
FR **Fraise-scie HSS GF/Orbitalum**
ES **Fresa sierra circular HSS GF/Orbitalum**
DE **HSS Metallkreissägeblätter GF/Orbitalum**
EN **HSS Circular Saw Blade GF/Orbitalum**





+GF+ | HSS | BW

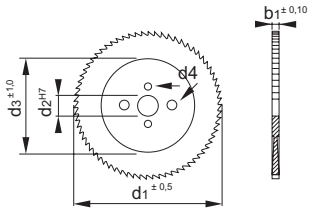
P 11	P 12	P 13	P 14	M 21	M 22	K 31	K 32	N 41	N 42	N 51	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu	PVC
30-40	25-35	15-25	15-20	10-15	6-8	25-30	20-25	500-700	500-700	200-400	200-600

Ref.	d1	b1	d2	d3	z	t	€
63.210.0612	63	1.2	16	36	100	2	36,00
63.210.0616	63	1.6	16	36	44	4,5	39,00
63.210.0617	63	1.6	16	36	64	3	39,00
63.210.0618	63	1.6	16	36	80	2,5	39,00
63.210.0716	68	1.6	16	42	44	4,75	42,50
63.210.0717	68	1.6	16	42	84	2,5	42,50
63.210.0718	68	1.6	16	42	72	3	42,50

Ref.	d1	b1	d2	d3	z	t	€
63.210.0719	68	1.6	16	42	64	3,25	42,50
63.210.0720	68	2	16	42	44	4,75	45,50
63.210.0814	80	1.6	16	42	44	5,75	50,00
63.210.0816	80	1.6	16	42	64	4	50,00
63.210.0818	80	1.6	16	42	80	3,25	50,00
63.210.0828	80	2	16	42	80	3,25	54,50

› 63.400 Phantom

NL **HSS Afkortzaag stoomontlaten**
FR **Fraise-scie à tronçonner HSS vaporisé**
ES **Fresa sierra circular tronzadora HSS vaporizada**
DE **HSS Trennsägeblätter dampfangelassen**
EN **HSS Circular Saw Blade steam oxide**





T≥5 C | T≤4 BW | HSS | OX.

P 11	P 12	P 13	K 31	K 32	N 41	N 42	N 51	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu	PVC
30-40	25-35	15-25	25-30	20-25	500-700	500-700	200-400	200-600

Ref.	d1	b1	d2	d3	z	t	d4	€
63.400.2013	200	1.8	32	90	130	5	2/8-45+2/11-63	134,45
63.400.2016	200	1.8	32	90	160	4	2/8-45+2/11-63	134,45
63.400.2018	200	1.8	32	90	180	3,5	2/8-45+2/11-63	134,45
63.400.2126	225	1.2	32	100	264	2,5	2/8-45+2/11-63+2/9-50	186,00
63.400.2209	225	2	32	90	90	8	2/8-45+2/11-63+2/9-50	135,90
63.400.2212	225	2	32	90	120	6	2/8-45+2/11-63+2/9-50	135,90
63.400.2214	225	2	32	90	140	5	2/8-45+2/11-63+2/9-50	135,90
63.400.2218	225	2	32	90	180	4	2/8-45+2/11-63+2/9-50	135,90
63.400.2222	225	2	32	90	220	3	2/8-45+2/11-63+2/9-50	135,90
63.400.2312	225	2	40	90	120	6	2/8-55+4/11-63	135,90
63.400.2318	225	2	40	90	180	4	2/8-55+4/11-63	135,90
63.400.2326	225	2	40	90	220	3	2/8-55+4/11-63	135,90
63.400.2508	250	2	32	90	80	10	2/8-45+2/11-63+2/9-50	143,05
63.400.2510	250	2	32	90	100	8	2/8-45+2/11-63+2/9-50	143,05
63.400.2512	250	2	32	90	128	6	2/8-45+2/11-63+2/9-50	143,05
63.400.2516	250	2	32	90	160	5	2/8-45+2/11-63+2/9-50	143,05
63.400.2520	250	2	32	90	200	4	2/8-45+2/11-63+2/9-50	143,05
63.400.2525	250	2	32	90	250	3	2/8-45+2/11-63+2/9-50	143,05
63.400.2566	250	2.5	32	100	160	5	2/8-45+2/11-63+2/9-50	167,65
63.400.2570	250	2.5	32	100	200	4	2/8-45+2/11-63+2/9-50	167,65
63.400.2575	250	2.5	32	100	250	3	2/8-45+2/11-63+2/9-50	167,65
63.400.2608	250	2.5	40	100	80	10	2/8-55+4/12-64	167,65
63.400.2610	250	2.5	40	100	100	8	2/8-55+4/12-64	167,65
63.400.2612	250	2.5	40	100	128	6	2/8-45+4/12-64	167,65
63.400.2616	250	2.5	40	100	160	5	2/8-55+4/12-64	167,65
63.400.2620	250	2.5	40	100	200	4	2/8-55+4/12-64	167,65
63.400.2625	250	2.5	40	100	250	3	2/8-55+4/12-64	167,65
63.400.2709	275	2.5	32	100	90	10	2/8-45+2/11-63+2/12-75	188,70
63.400.2711	275	2.5	32	100	110	8	2/8-45+2/11-63+2/12-75	188,70
63.400.2714	275	2.5	32	100	140	6	2/8-45+2/11-63+2/12-75	188,70
63.400.2718	275	2.5	32	100	180	5	2/8-45+2/11-63+2/12-75	188,70
63.400.2722	275	2.5	32	100	220	4	2/8-45+2/11-63+2/12-75	188,70
63.400.2728	275	2.5	32	100	280	3	2/8-45+2/11-63+2/12-75	188,70
63.400.2809	275	2.5	40	100	90	10	2/8-55+4/12-64	188,70
63.400.2811	275	2.5	40	100	110	8	2/8-55+4/12-64	188,70
63.400.2814	275	2.5	40	100	140	6	2/8-55+4/12-64	188,70
63.400.2818	275	2.5	40	100	180	5	2/8-55+4/12-64	188,70
63.400.2822	275	2.5	40	100	220	4	2/8-55+4/12-64	188,70
63.400.2828	275	2.5	40	100	280	3	2/8-55+4/12-64	188,70

Ref.	d1	b1	d2	d3	z	t	d4	€
63.400.3009	300	2.5	32	100	90	10	2/8-45+4/11-63	233,05
63.400.3012	300	2.5	32	100	120	8	2/8-45+4/11-63	233,05
63.400.3016	300	2.5	32	100	160	6	2/8-45+4/11-63	233,05
63.400.3018	300	2.5	32	100	180	5	2/8-45+4/11-63	233,05
63.400.3020	300	2.5	32	100	200	4,5	2/8-45+4/11-63	233,05
63.400.3022	300	2.5	32	100	220	4	2/8-45+4/11-63	233,05
63.400.3030	300	2.5	32	100	300	3	2/8-45+4/11-63	233,05
63.400.3059	300	3	40	100	90	10	2/8-55+4/12-64	297,00
63.400.3062	300	3	40	100	120	8	2/8-55+4/12-64	297,00
63.400.3066	300	3	40	100	160	6	2/8-55+4/12-64	297,00
63.400.3068	300	3	40	100	180	5	2/8-55+4/12-64	297,00
63.400.3072	300	3	40	100	220	4	2/8-55+4/12-64	297,00
63.400.3080	300	3	40	100	300	3	2/8-55+4/12-64	297,00
63.400.3110	315	2.5	32	100	100	10	2/8-45+4/11-63	252,00
63.400.3112	315	2.5	32	100	120	8	2/8-45+4/11-63	252,00
63.400.3116	315	2.5	32	100	160	6	2/8-45+4/11-63	252,00
63.400.3120	315	2.5	32	100	200	5	2/8-45+4/11-63	252,00
63.400.3124	315	2.5	32	100	240	4	2/8-45+4/11-63	252,00
63.400.3130	315	2.5	32	100	300	3	2/8-45+4/11-63	252,00
63.400.3160	315	2.5	40	100	100	10	2/8-55+2/12-64	252,00
63.400.3162	315	2.5	40	100	120	8	2/8-55+4/12-64	252,00
63.400.3166	315	2.5	40	100	160	6	2/8-55+4/12-64	252,00
63.400.3170	315	2.5	40	100	200	5	2/8-55+4/12-64	252,00
63.400.3174	315	2.5	40	100	240	4	2/8-55+4/12-64	252,00
63.400.3180	315	2.5	40	100	300	3	2/8-55+4/12-64	252,00
63.400.3512	350	3	32	120	120	9	2/8-45+4/11-63	363,00
63.400.3514	350	3	32	120	140	8	2/8-45+4/11-63	363,00
63.400.3518	350	3	32	120	180	6	2/8-45+4/11-63	363,00
63.400.3522	350	3	32	120	220	5	2/8-45+4/11-63	363,00
63.400.3528	350	3	32	120	280	4	2/8-45+4/11-63	363,00
63.400.3535	350	3	32	120	350	3	2/8-45+4/11-63	363,00
63.400.3562	350	3	40	120	120	9	2/8-55+4/12-64	363,00
63.400.3564	350	3	40	120	140	8	2/8-55+4/12-64	363,00
63.400.3568	350	3	40	120	180	6	2/8-55+2/12-64	363,00
63.400.3572	350	3	40	120	220	5	2/8-55+2/12-64	363,00
63.400.3578	350	3	40	120	280	4	2/8-55+2/12-64	363,00
63.400.3585	350	3	40	120	350	3	2/8-55+4/12-64	363,00
63.400.3608	350	3	50	120	80	14	4/15-80+4/14-85	363,00
63.400.3612	350	3	50	120	120	9	4/15-80+4/14-85	363,00

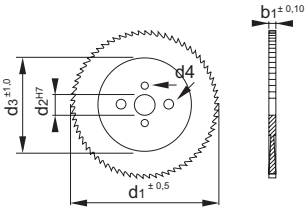
› 63.400 Phantom

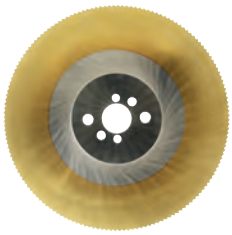
Ref.	d1	b1	d2	d3	z	t	d4	€
63.400.3616	350	3	50	120	160	7	4/15-80+4/14-85	363,00
63.400.3622	350	3	50	120	220	5	4/15-80+4/14-85	363,00
63.400.3711	370	3	50	120	110	10	4/15-80+4/14-85	488,00
63.400.3716	370	3	50	120	160	7	4/15-80+4/14-85	488,00
63.400.3722	370	3	50	120	220	5	4/15-80+4/14-85	488,00

Ref.	d1	b1	d2	d3	z	t	d4	€
63.400.4008	400	3	50	120	80	16	4/15-80+4/14-85	501,00
63.400.4010	400	3	50	120	100	12	4/15-80+4/14-85	501,00
63.400.4012	400	3	50	120	120	10	4/15-80+4/14-85	501,00
63.400.4016	400	3	50	120	160	8	4/15-80+4/14-85	501,00
63.400.4020	400	3	50	120	200	6	4/15-80+4/14-85	501,00

› 63.401 Phantom

NL **HSS Afkortzaag TiN**
FR **Fraise-scie à tronçonner HSS TiN**
ES **Fresa sierra circular tronzadora HSS TiN**
DE **HSS Trennsägeblätter TiN**
EN **HSS Circular Saw Blade TiN**





T≥5 C | T≤4 BW | HSS | TiN

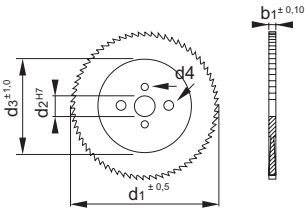
P 11	P 12	P 13	K 31	K 32	N 41	N 42	N 51	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu	PVC
30-40	25-35	15-25	25-30	20-25	500-700	500-700	200-400	200-600

Ref.	d1	b1	d2	d3	z	t	d4	€
63.401.2512	250	2	32	100	128	6	2/8-45+2/11-63+2/9-50	175,95
63.401.2516	250	2	32	100	160	5	2/8-45+2/11-63+2/9-50	175,95
63.401.2520	250	2	32	100	200	4	2/8-45+2/11-63+2/9-50	175,95
63.401.2525	250	2	32	100	250	3	2/8-45+2/11-63+2/9-50	175,95
63.401.2566	250	2.5	32	100	160	5	2/8-45+2/11-63+2/9-50	193,65
63.401.2570	250	2.5	32	100	200	4	2/8-45+2/11-63+2/9-50	193,65
63.401.2714	275	2.5	32	100	140	6	2/8-45+2/11-63+2/12-75	224,70
63.401.2718	275	2.5	32	100	180	5	2/8-45+2/11-63+2/12-75	224,70
63.401.2722	275	2.5	32	100	220	4	2/8-45+2/11-63+2/12-75	224,70
63.401.2814	275	2.5	40	100	140	6	2/8-55+4/12-64	224,70
63.401.2818	275	2.5	40	100	180	5	2/8-55+4/12-64	224,70
63.401.2822	275	2.5	40	100	220	4	2/8-55+4/12-64	224,70

Ref.	d1	b1	d2	d3	z	t	d4	€
63.401.3016	300	2.5	32	100	160	6	2/8-45+4/11-63	268,00
63.401.3018	300	2.5	32	100	180	5	2/8-45+4/11-63	268,00
63.401.3022	300	2.5	32	100	220	4	2/8-45+4/11-63	268,00
63.401.3116	315	2.5	32	100	160	6	2/8-45+4/11-63	295,00
63.401.3120	315	2.5	32	100	200	5	2/8-45+4/11-63	295,00
63.401.3124	315	2.5	32	100	240	4	2/8-45+4/11-63	295,00
63.401.3166	315	2.5	40	100	160	6	2/8-55+4/12-64	295,00
63.401.3170	315	2.5	40	100	200	5	2/8-55+4/12-64	295,00
63.401.3174	315	2.5	40	100	240	4	2/8-55+4/12-64	295,00
63.401.3518	350	3	32	100	180	6	2/8-45+4/11-63	372,00
63.401.3522	350	3	32	100	220	5	2/8-45+4/11-63	372,00

› 63.420 Phantom

NL **HSS-E Afkortzaag stoomontlaten**
FR **Fraise-scie à tronçonner HSS-E vaporisé**
ES **Fresa sierra circular tronzadora HSS-E vaporizada**
DE **HSS-E Trennsägeblätter dampfangelassen**
EN **HSS-E Circular Saw Blade steam oxide**





T≥5 C | T≤4 BW | HSS-E | INOX | OX.

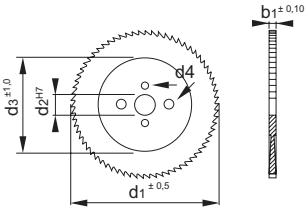
P 11	P 12	P 13	P 14	M 21	M 22	K 31	K 32	N 41	N 42	N 51	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu	PVC
30-40	25-35	15-25	15-20	10-15	6-8	25-30	20-25	500-700	500-700	200-400	200-600

Ref.	d1	b1	d2	d3	z	t	d4	€
63.420.2218	225	2	32	90	180	4	2/8-45+2/11-63+2/9-50	220,95
63.420.2222	225	2	32	90	220	3	2/8-45+2/11-63+2/9-50	220,95
63.420.2516	250	2	32	100	160	5	2/8-45+2/11-63+2/9-50	199,40
63.420.2520	250	2	32	100	200	4	2/8-45+2/11-63+2/9-50	199,40
63.420.2525	250	2	32	100	250	3	2/8-45+2/11-63+2/9-50	199,40
63.420.2714	275	2.5	32	100	140	6	2/8-45+2/11-63+2/12-75	265,00
63.420.2718	275	2.5	32	100	180	5	2/8-45+2/11-63+2/12-75	265,00
63.420.2722	275	2.5	32	100	220	4	2/8-45+2/11-63+2/12-75	265,00
63.420.2814	275	2.5	40	100	140	6	2/8-55+4/12-64	265,00
63.420.2818	275	2.5	40	100	180	5	2/8-55+4/11-63	265,00
63.420.2822	275	2.5	40	100	220	4	2/8-55+4/12-64	265,00
63.420.3018	300	2.5	32	100	180	5	2/8-45+4/11-63	319,00

Ref.	d1	b1	d2	d3	z	t	d4	€
63.420.3020	300	2.5	32	100	200	5	2/8-45+4/11-63	319,00
63.420.3022	300	2.5	32	100	220	4	2/8-45+4/11-63	319,00
63.420.3030	300	2.5	32	100	300	3	2/8-45+4/11-63	319,00
63.420.3116	315	2.5	32	100	160	6	2/8-45+2/11-63	351,00
63.420.3120	315	2.5	32	100	200	5	2/8-45+4/11-63	351,00
63.420.3124	315	2.5	32	100	240	4	2/8-45+4/11-63	351,00
63.420.3166	315	2.5	40	100	160	6	2/8-55+4/12-64	351,00
63.420.3170	315	2.5	40	100	200	5	2/8-55+4/12-64	351,00
63.420.3174	315	2.5	40	100	240	4	2/8-55+4/12-64	351,00
63.420.3518	350	3	32	120	180	6	2/8-45+4/11-63	539,00
63.420.3522	350	3	32	120	220	5	2/8-45+4/11-63	539,00
63.420.3528	350	3	32	120	280	4	2/8-45+4/11-63	539,00

› 63.424 Phantom

NL HSS-E Afkortzaag TiAlN
FR Fraise-scie à tronçonner HSS-E TiAlN
ES Fresa sierra circular tronzadora HSS-E TiAlN
DE HSS-E Trennsägeblätter TiAlN
EN HSS-E Circular Saw Blade TiAlN





T≥5 C | T≤4 BW | HSS-E | INOX | TiAlN

P 11	P 12	P 13	P 14	M 21	M 22	K 31	K 32	N 41	N 42	N 51	N 61
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Alu	Alu Si>10%	Cu	PVC
30-40	25-35	15-25	15-20	10-15	6-8	25-30	20-25	500-700	500-700	200-400	200-600

Ref.	d1	b1	d2	d3	z	t	d4	€
63.424.2822	275	2.5	40	100	220	4	2/8-55+4/12-64	316,00
63.424.3022	300	2.5	32	100	220	4	2/8-45+4/11-63	378,00
63.424.3030	300	2.5	32	100	300	3	2/8-45+4/11-63	378,00
63.424.3116	315	2.5	32	100	160	6	2/8-45+2/11-63	414,00
63.424.3120	315	2.5	32	100	200	5	2/8-45+4/11-63	414,00
63.424.3124	315	2.5	32	100	240	4	2/8-45+4/11-63	414,00

Ref.	d1	b1	d2	d3	z	t	d4	€
63.424.3166	315	2.5	40	100	160	6	2/8-55+4/12-64	414,00
63.424.3170	315	2.5	40	100	200	5	2/8-55+4/12-64	414,00
63.424.3174	315	2.5	40	100	240	4	2/8-55+4/12-64	414,00
63.424.3518	350	3	32	120	180	6	2/8-45+4/11-63	569,00
63.424.3522	350	3	32	120	220	5	2/8-45+4/11-63	569,00



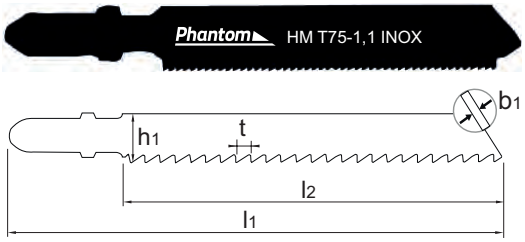
NL Productvergelijker op phantom.eu
FR Comparateur de produits sur Phantom.eu
ES Comparador de productos en phantom.eu
DE Produktvergleich auf phantom.eu
EN Product comparator on phantom.eu

Watch me

www.phantom.eu

› 64.500 Phantom

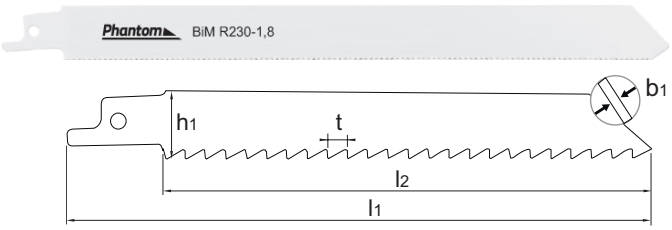
NL **Decoupeerzaag**
FR **Lame de scie sauteuse**
ES **Hojas de sierra de calar**
DE **Stichsägeblätter**
EN **Jigsaw Blade**



Ref.	Type	l1	l2	h1	b1	TPI	t	Image	1	2	3	4	5	6	7	8	9	€
64.500.0710	T75-0,9	75	50	8	1	28	0,9		BiM HSS	0,5-1,5 mm	INOX							13,41
64.500.0711	T75-1,1 HM INOX	75	50	9.5	1	24	1,1		HM	1,5-3 mm	INOX							39,75
64.500.0714	T75-1,2	75	50	8	1	21	1,2		BiM HSS	1-3 mm	INOX							13,41
64.500.0720	T75-2	75	50	8	1	12	2		BiM HSS	2,6-6 mm	INOX							13,41
64.500.0725	T75-2C	75	50	5.4	1.25	12	2		CV	2-15 mm	SOFT			MDF				6,83
64.500.0819	T80-1,9	80	55	8	1.27	13	1,9		BiM HSS	1,5-15 mm				ACRYL				17,33
64.500.1018	T100-1,2/2,5 UNI	100	75	8	1	10/21	1,2-2,5		BiM HSS	1,5-10 mm	INOX		Cu Ni Ms Zn Al		UNI			16,75
64.500.1020	T100-2G	100	75	8	1.27	12	2		BiM HSS	2-30 mm					HPL	180°		19,04
64.500.1021	T100-2	100	75	8	1.27	12	2		BiM HSS	2-20 mm		ACRYL						19,17
64.500.1024	T100-2,5CG	100	75	8	1.27	10	2,5		CV	4-30 mm	SOFT			MDF				11,65
64.500.1025	T100-3	100	75	8	1.15	8	3		HSS	3-15 mm		Cu Ni Ms Zn Al						12,36
64.500.1026	T100-2,5G	100	75	8	1.27	10	2,5		BiM HSS	3-30 mm				MDF		HPL		19,04
64.500.1027	T100-3C	100	75	6.2	1.15	8	3		HSS	3-15 mm		Cu Ni Ms Zn Al						15,22
64.500.1028	T100-2,5NG	100	75	8	1.27	10	2,5		BiM HSS	3-45 mm						HPL		19,04
64.500.1042	T100-4G	100	75	8	1.27	6	4		BiM HSS	5-50 mm		SOFT				MDF		17,14
64.500.1150	T115-2,5/3,2G	115	90	8	1.45	8/10	2,5-3,2		CV	3-65 mm					MDF			21,29
64.500.1312	T132-1,2	132	110	8	1	21	1,2		BiM HSS	1-3 mm			Cu Ni Ms Zn Al					20,11
64.500.1313	T132-1/1,6 UNI	132	110	8	1	16/25	1-1,6		BiM HSS	1,2-6 mm	INOX		Cu Ni Ms Zn Al					21,89
64.500.1321	T132-1,8/2,5 UNI	132	110	8	1.27	10/14	1,8-2,5		BiM HSS	3-80 mm	INOX			Cu Ni Ms Zn Al		UNI		21,89
64.500.1330	T132-2/4 UNI	132	110	8	1.27	6/12	2-4		BiM HSS	3-65 mm	INOX			Cu Ni Ms Zn Al		UNI		20,95
64.500.1340	T132-4G	132	110	8	1.27	6	4		BiM HSS	5-80 mm		SOFT				MDF		20,95
64.500.1540	T150-4	150	130	8	1.25	6	4		CV	5-100 mm	SOFT			MDF				9,86
64.500.1950	T75-HM-Grit	75	50	8	1				HM	3-15 mm								6,83
64.500.2043	T100-4,3HM	100	75	8	1.25	6	4,3		HM	5-50 mm								80,45

› 64.600 Phantom

NL Reciprozaag
FR Lame de scie sabre
ES Hojas de sierra de sable
DE Säbelsägeblätter
EN Sabre Saw Blade



Ref.	Type	l1	l2	h1	b1	TPI	t	Image	1	2	3	4	5	6	7	8	9	€
64.600.1510	R150-1	150	130	19	0.9	25	1		BiM 8% Co	1-15 mm								22,52
64.600.1514	R150-1,4	150	130	19	0.9	18	1,4		BiM 8% Co	1,5-4 mm	INOX		Cu Ni Ms Zn Al					22,52
64.600.1518	R150-1,8	150	130	19	0.9	14	1,8		BiM 8% Co	2-8 mm	INOX							22,52
64.600.1519	R150-1,8 90°	150	130	25.4	0.9	14	1,8		BiM 8% Co	3-8 mm	INOX					90°		34,10
64.600.1522	R150-1,8/2,5 UNI	150	130	19	1.27	10/14	1,8-2,5		BiM 8% Co	2-10 mm	INOX						90°	30,95
64.600.1525	R150-2,5	150	130	19	0.9	10	2,5		BiM 8% Co	3-12 mm			Cu Ni Ms Zn Al					22,52
64.600.1540	R150-4,2C	150	130	19	1.27	6	4,2		BiM 8% Co	6-100 mm			MDF					28,35
64.600.2014	R200-1,4	200	180	19	0.9	18	1,4		BiM 8% Co	1,5-4 mm	INOX		Cu Ni Ms Zn Al					28,80
64.600.2018	R200-1,8	200	180	19	0.9	14	1,8		BiM 8% Co	2-8 mm	INOX							28,80
64.600.2023	R200-1,8/2,5 UNI	200	180	19	1.27	10/14	1,8-2,5		BiM 8% Co	2-10 mm	INOX						90°	38,80
64.600.2025	R200-2,5	200	180	19	0.9	10	2,5		BiM 8% Co	3-12 mm			Cu Ni Ms Zn Al					28,80
64.600.2214	R230-1,4	230	210	19	0.9	18	1,4		BiM 8% Co	1,5-4 mm	INOX		Cu Ni Ms Zn Al					34,10
64.600.2218	R230-1,8	230	210	19	0.9	14	1,8		BiM 8% Co	2-8 mm	INOX							32,80
64.600.2220	R230-2	230	210	19	1.27	12	2		BiM 8% Co	2,5-10 mm								39,10
64.600.2221	R230-1,8/2,5 UNI	230	210	19	0.9	10/14	1,8-2,5		BiM 8% Co	3-10 mm	INOX		Cu Ni Ms Zn Al					35,20
64.600.2225	R230-2,5	230	210	19	0.9	10	2,5		BiM 8% Co	3-12 mm			Cu Ni Ms Zn Al					34,10
64.600.2232	R230-2,5/3,2 UNI	230	210	19	1.27	8/10	2,5-3,2		BiM 8% Co	3-18 mm	INOX		Cu Ni Ms Zn Al			MDF		40,85
64.600.2332	R230-2,5/3,2	230	210	19	1.57	8/10	2,5-3,2		BiM 8% Co	4-12 mm					90°			56,15
64.600.2342	R230-4,2C	230	210	19	1.27	6	4,2		BiM 8% Co	6-175 mm			MDF					37,75
64.600.2356	R230-5/6,5	230	210	19	1.2	4/5	5-6,5		CV	15-190 mm	SOFT							34,90
64.600.3018	R300-1,8	300	280	19	0.9	14	1,8		BiM 8% Co	2-8 mm	INOX							37,40
64.600.3021	R300-1,8/2,5 UNI	300	280	19	0.9	10/14	1,8-2,5		BiM 8% Co	3-10 mm	INOX		Cu Ni Ms Zn Al					45,40
64.600.3025	R300-2,5	300	280	19	0.9	10	2,5		BiM 8% Co	3-12 mm			Cu Ni Ms Zn Al					37,40
64.600.3032	R300-4,2C	300	280	19	1.27	6	4,2		BiM 8% Co	6-250 mm			MDF					47,60

› 66.450 Phantom

NL **M42 Bi-Metaal Bandzaag voor profielmateriaal**
FR **Scie à ruban Bi-métal M42 pour profilés**
ES **Sierra de cinta Bimetal M42 para materiales de perfiles**
DE **M42 Bi-Metall Sägebänder für Profilmaterial**
EN **M42 Bi-Metal Band saw for profile material**



BiM HSS | HSS-E 8% | VARI | ∧ α0°

P 11	P 12	P 13	P 14	M 21	M 22	K 31	K 32	N 41	N 51	S 71	S 72
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	GGG GTS-GTW	Alu	Cu	Ni/Co	Ti
50-120	35-50	30-45	30-40	30-40	10-30	30-60	30-60	80-800	50-400	10-25	10-20

h1 x b1 (mm)	Price pr. Meter €	Welding costs €	z=5-8/"	z=6-10/"	z=8-12/"	z=10-14/"
13 x 0,65	16,25	12,50		66.450.07....	66.450.08....	66.450.09....
13 x 0,9	17,30	12,50		66.450.17....	66.450.18....	66.450.19....
20 x 0,9	17,90	14,00	66.450.26....	66.450.27....	66.450.28....	66.450.29....
27 x 0,9	18,80	14,75	66.450.36....	66.450.37....	66.450.38....	66.450.39....
34 x 1,1	23,30	15,30	66.450.56....	66.450.57....	66.450.58....	

› 66.460 Phantom

NL **M42 Bi-Metaal Bandzaag voor grotere afmetingen**
FR **Scie à ruban Bi-métal M42 pour matériaux de grandes dimensions**
ES **Sierra de cinta Bi-metal M42 para materiales con dimensiones grandes**
DE **M42 Bi-Metall Sägebänder größer Abmessung**
EN **M42 Bi-Metal Band saw for large sizes**



BiM HSS | HSS-E 8% | VARI | ∧ α10°

P 11	P 12	P 13	P 14	M 21	M 22	K 31	N 41	N 42
≤600 N/mm²	≤850 N/mm²	≤1000 N/mm²	≤1400 N/mm²	INOX ≤850N/mm²	INOX >850N/mm²	GG	Alu	Alu Si>10%
50-120	35-50	30-45	30-40	30-40	10-30	30-60	80-800	80-800

h1 x b1 (mm)	Price pr. Meter €	Welding costs €	z=2-3/"	z=3-4/"	z=4-6/"
20 x 0,9	17,90	14,00			66.460.25....
27 x 0,9	18,80	14,75	66.460.33....	66.460.34....	66.460.35....
34 x 1,1	23,30	15,30	66.460.53....	66.460.54....	66.460.55....
41 x 1,3	33,65	21,65	66.460.63....	66.460.64....	66.460.65....
54 x 1,6	48,35	34,40	66.450.73....	66.460.74....	

› 66.580 Phantom

NL **M51 Bi-Metal Bandzaag voor grotere afmetingen, extra slijtvast**
FR **Scie à ruban Bi-métal M51 pour matériaux de grandes dimensions, très résistante à l'usure**
ES **Sierra de cinta Bi-metal M51 para materiales con dimensiones grandes, extra resistente al degaste**
DE **M51 BiMetall Sägebänder größer Abmessung, besonders Verschleissfest**
EN **M51 Bi-Metal Band saw for large sizes, Extra wear-resistant**



BiM HSS | 10% Co | VARI | ∧α10° | P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | P 14 ≤1400 N/mm² | M 21 INOX ≤850N/mm² | M 22 INOX >850N/mm² | S 71 Ni/Co | S 72 Ti

50-120 | 35-50 | 30-45 | 30-40 | 30-40 | 10-30 | 10-25 | 10-20

h1 x b1 (mm)	Price pr. Meter €	Welding costs €	z=3-4/"	z=4-6/"	z=5-8/"
27 x 0,9	26,30	14,75	66.580.44....	66.580.45....	66.580.46....
34 x 1,1	36,45	15,30	66.580.54....	66.580.55....	
41 x 1,3	43,30	21,65	66.580.64....	66.580.65....	

› 66.700 Phantom

NL **HP2 UNI M42 Bi-Metaal Bandzaag universele multizaag**
FR **Scie à ruban Bi-métal M42 HP2 UNI scie multifonction**
ES **Sierra de cinta Bimetal M42 HP2 UNI sierra universal**
DE **HP2 UNI M42 Bi-Metall Sägebänder Universal-Sägeband**
EN **HP2 UNI M42 Bi-Metal Band saw universal multi-saw**



BiM HSS | HSS-E 8% | VARI | ∧α5° | HP2 UNI | P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | P 14 ≤1400 N/mm² | M 21 INOX ≤850N/mm² | M 22 INOX >850N/mm² | K 31 GG | K 32 GGG GTS-GTW | N 41 Alu | N 51 Cu | S 71 Ni/Co | S 72 Ti

50-120 | 35-50 | 30-45 | 30-40 | 30-40 | 10-30 | 30-60 | 30-60 | 80-800 | 50-400 | 10-25 | 10-20

h1 x b1 (mm)	Price pr. Meter €	Welding costs €	z=2-3/"	z=3-4/"	z=4-6/"	z=5-7/"	z=7-9/"	z=8-11/"
27 x 0,9	21,55	14,75		66.700.34....	66.700.35....	66.700.36....	66.700.37....	66.700.38....
34 x 1,1	25,30	15,30	66.700.53.	66.700.54....	66.700.55....	66.700.56....		
41 x 1,3	36,40	21,65	66.700.63.	66.700.64....	66.700.65....	66.700.66....		
54 x 1,6	52,45	34,40		66.700.74....				

› 69.090 International Tools

NL **ECO PRO HSS-Co 8% Bi-Metaal Set Gatzagen 61.090**
FR **Coffret de Scies cloches HSS-Co 8% Bi-métal ECO PRO 61.090**
ES **Juego de coronas perforadoras HSS-Co 8% Bi-Metal ECO PRO 61.090**
DE **ECO PRO HSS-Co 8% Bi-Metall Satz Lochsägen 61.090**
EN **ECO PRO HSS-Co 8% Bi-Metal Hole saw set 61.090**



INOX | VARI 4/6 | BiM 8% Co | MDF | SOFT | Cu Ni Ms Zn Al | ECO PRO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | N 41 Alu | N 51 Cu

Ref.	1	2	3	4	€
69.090.1200	16, 19, 22, 25, 29, 32, 35, 38, 44, 51, 64, 76 mm	61.145.0201/0500	61.147.0600	61.160.9500	187,00
69.090.1201	16, 19, 22, 25, 29, 32, 35, 38, 44, 51, 68, 76 mm	61.145.0201/0500	61.147.0600	61.160.9500	187,00

› 69.092 International Tools

NL **ECO PRO HSS-Co 8% Bi-Metaal Set Gatzagen 61.090, met Universele Quick-Change houder en adapters**
FR **Coffret de Scies cloches HSS-Co 8% Bi-métal ECO PRO 61.090, avec système de changement rapide 'Quick Change'arbre et adaptateurs**
ES **Juego de coronas perforadoras HSS-Co 8% Bi-Metal ECO PRO 61.090, con husillo de cambio rápido y adaptadores**
DE **ECO PRO HSS-Co 8% Bi-Metall Satz Lochsägen 61.090, mit Schnellweschelhalter und Adapters**
EN **ECO PRO HSS-Co 8% Bi-Metal Hole saw set 61.090, with Quick-Change holder and adapters**



INOX | VARI 4/6 | BiM 8% Co | MDF | SOFT | Cu Ni Ms Zn Al | ECO PRO

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | N 41 Alu | N 51 Cu

Ref.	1	2	3 incl.	4 incl.	5 incl.	6 incl.	€
69.092.1200	16, 19, 22, 25, 29, 32, 35, 38, 44, 51, 64, 76 mm	61.135.1432	5x 61.137.1401	7x 61.137.3201	61.148.0900	61.160.9500	209,00
69.092.1201	16, 19, 22, 25, 29, 32, 35, 38, 44, 51, 68, 76 mm	61.135.1432	5x 61.137.1401	7x 61.137.3201	61.148.0900	61.160.9500	209,00

› 69.111 Phantom

NL **HSS-Co 8% Bi-Metaal Set Gatzagen 61.105**
FR **Coffret de Scies cloches HSS-Co 8% Bi-métal 61.105**
ES **Juego de coronas perforadoras HSS-Co 8% Bi-Metal 61.105**
DE **HSS-Co 8% Bi-Metall Satz Lochsägen 61.105**
EN **HSS-Co 8% Bi-Metal Hole saw set 61.105**



INOX | VARI | BiM 8% Co | MDF | SOFT | Cu Ni Ms Zn Al

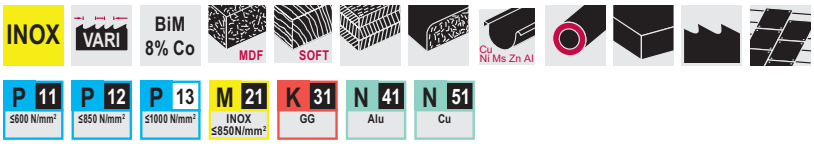
P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | N 41 Alu | N 51 Cu

Ref.	1	2	3	4	€
69.111.0900	19, 22, 29, 35, 38, 44, 51, 57, 64 mm	61.150.0201/0500	61.170.0600	61.160.9500	214,00
69.111.0901	19, 22, 29, 35, 38, 44, 51, 57, 68 mm	61.150.0201/0500	61.170.0600	61.160.9500	216,00
69.111.1200	16, 19, 22, 25, 29, 32, 35, 38, 44, 51, 64, 76 mm	61.150.0201/0500	61.170.0600	61.160.9500	264,00
69.111.1201	16, 19, 22, 25, 29, 32, 35, 38, 44, 51, 68, 76 mm	61.150.0201/0500	61.170.0600	61.160.9500	265,00

› 69.112 Phantom

NL HSS-Co 8% Bi-Metaal Set Gatzagen 61.105, met Universele Quick-Change houder en adapters
FR Coffret de Scies cloches HSS-Co 8% Bi-métal 61.105, avec système de changement rapide 'Quick Change'arbre et adaptateurs
ES Juego de coronas perforadoras HSS-Co 8% Bi-Metal 61.105, con husillo de cambio rápido y adaptadores
DE HSS-Co 8% Bi-Metall Satz Lochsägen 61.105, mit Schnellweschelhalter und Adapters
EN HSS-Co 8% Bi-Metal Hole saw set 61.105, with Quick-Change holder and adapters



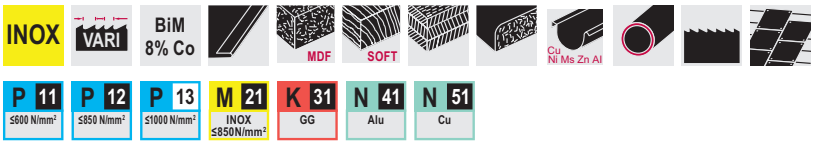


Ref.	1	2	3 incl.	4 incl.	5 incl.	6 incl.	€
69.112.0900	19, 22, 29, 35, 38, 44, 51, 57, 64 mm	61.140.1432	3x 61.142.1401	6x 61.142.3201	61.180.0900	61.160.9500	237,00
69.112.0901	19, 22, 29, 35, 38, 44, 51, 57, 68 mm	61.140.1432	3x 61.142.1401	6x 61.142.3201	61.180.0900	61.160.9500	237,00
69.112.1200	16, 19, 22, 25, 29, 32, 35, 38, 44, 51, 64, 76 mm	61.140.1432	5x 61.142.1401	7x 61.142.3201	61.180.0900	61.160.9500	286,00
69.112.1201	16, 19, 22, 25, 29, 32, 35, 38, 44, 51, 68, 76 mm	61.140.1432	5x 61.142.1401	7x 61.142.3201	61.180.0900	61.160.9500	286,00

› 69.114 Phantom

NL HSS-Co 8% Bi-Metaal Set Gatzagen voor dunne plaat en buizen, 61.110
FR Coffret de Scies cloches HSS-Co 8% Bi-métal pour tôle fine et tube, 61.110
ES Juego de coronas perforadoras HSS-Co 8% Bi-Metal para chapa fina y tubos, 61.110
DE HSS-Co 8% Bi-Metall Satz Lochsägen für dünne Platte und Rohren, 61.110
EN HSS-Co 8% Bi-Metal Hole saw set for thin plates and tubes, 61.110





Ref.	1	2	3	4	€
69.114.1200	16, 19, 22, 25, 29, 32, 35, 38, 44, 51, 64, 76 mm	61.150.0201/0500	61.170.0600	61.160.9500	264,00
69.114.1201	16, 19, 22, 25, 29, 32, 35, 38, 44, 51, 68, 76 mm	61.150.0201/0500	61.170.0600	61.160.9500	265,00



NL Gatzagen in actie
FR Phantom Scies Cloches best of the test!
ES Phantom Corona best of the test!
DE Lochsägen in Aktion
EN Phantom Hole Saw best of the test!

Read me

www.phantom.eu

› 69.116 Phantom

NL **HSS-Co 8% Bi-Metaal Set Gatzagen voor dunne plaat en buizen, 61.110, met Universele Quick-Change houder en adapters**
FR **Coffret de Scies cloches HSS-Co 8% Bi-métal pour tôle fine et tube, 61.110, avec système de changement rapide 'Quick Change'arbre et adaptateurs**
ES **Juego de coronas perforadoras HSS-Co 8% Bi-Metal para chapa fina y tubos, 61.110, con husillo de cambio rápido y adaptadores**
DE **HSS-Co 8% Bi-Metall Satz Lochsägen für dünne Platte und Rohren, 61.110, mit Schnellweschelhalter und Adapters**
EN **HSS-Co 8% Bi-Metal Hole saw set for thin plates and tubes, 61.110, with Quick-Change holder and adapters**





INOX | VARI | BiM 8% Co | MDF | SOFT | Cu Ni Ms Zn Al

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | M 21 INOX ≤850N/mm² | K 31 GG | N 41 Alu | N 51 Cu

Ref.	1	2	3 incl.	4 incl.	5 incl.	6 incl.	€
69.116.1200	16, 19, 22, 25, 29, 32, 35, 38, 44, 51, 64, 76 mm	61.140.1432	5x 61.142.1401	7x 61.142.3201	61.180.0900	61.160.9500	269,00
69.116.1201	16, 19, 22, 25, 29, 32, 35, 38, 44, 51, 68, 76 mm	61.140.1432	5x 61.142.1401	7x 61.142.3201	61.180.0900	61.160.9500	269,00

› 69.210 Phantom

NL **HSS-EX Set Kernboren snijdiepte 30 mm, 62.100**
FR **Coffret de Fraises à carotter HSS-EX profondeur de coupe 30 mm, 62.100**
ES **Juego de Fresas huecas HSS-EX profundidad de corte 30 mm, 62.100**
DE **HSS-EX Satz Kernbohrer Schnittiefe 30 mm, 62.100**
EN **HSS-EX Set Annular Cutters cutting depth 30 mm, 62.100**



0,5-30 mm | Ø19 WELDON | HSS-EX

P 11 ≤600 N/mm² | P 12 ≤850 N/mm² | P 13 ≤1000 N/mm² | K 31 GG | N 41 Alu | N 42 Alu Si>10% | N 51 Cu | N 61 PVC

20-30 | 16-22 | 12-16 | 16-22 | 35-45 | 25-35 | 18-26 | 12-20

Ref.	Type	Ø mm	€
69.210.0001	62.100	12-14-16-18-20-22 + 62.300.0026	218,00



NL Kernboren keuzehulp
FR Aide à la sélection des fraises à carotter
ES Ayuda para la selección de fresas huecas
DE Auswahlhilfe Kernbohrer
EN Selection guide for annular cutters

Read me

www.phantom.eu

› 69.220 Phantom

NL HM-tip Set Kernboren snijdiepte 40 mm, 62.200
FR Coffret de Fraises à carotter à plaquette carbure profondeur de coupe 40 mm, 62.200
ES Juego de Fresas huecas con punta MD profundidad de corte 40 mm, 62.200
DE Hartmetallbestückt Satz Kernbohrer Schnittiefe 40 mm, 62.200
EN Carbide Tipped Set Annular Cutters cutting depth 40 mm, 62.200



NIEUW NOUVEAU NUEVO NEU

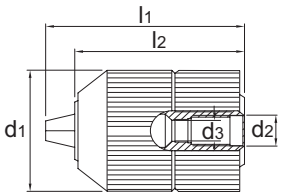
HM-TIP | 0,5-40 mm | Ø19 WELDON

P 11 ≤600 N/mm²	P 12 ≤850 N/mm²	P 13 ≤1000 N/mm²	P 14 ≤1400 N/mm²	H 15 HRC	M 21 INOX ≤850N/mm²	M 22 INOX >850N/mm²	K 31 GG	K 32 GGG GTS-GTW	N 42 Alu Si>10%	N 52 CuAlFe	N 62 GFK/CFK
30-40	30-40	25-35	20-30	16-22	16-22	8-12	50-70	30-50	80-100	30-40	25-35

Ref.	Type	Ø mm	€
69.220.1222	62.200	12-14-16-18-20-22	335,00

› 81.181 Phantom

NL **Snelspanboorhouder, in metalen uitvoering, met spankrachtborging**
FR **Mandrin porte-forets auto-serrant, en métal, avec trou de serrage**
ES **Portabroca cierre automático, en metal, sistema de autoapriete, con cierre de seguridad**
DE **Schnellspannbohrfutter, in Metallausführung, mit Spannkraftsicherung**
EN **Keyless Drill Chuck, in metal, with security locking ring**

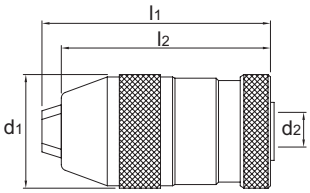




Ref.	Ø	d2	d3	d1	l2	l1	Watt Max.	1 incl.	2 excl.	€
81.181.1020	1-10	3/8"-24 UNF	5.5	40.4	56	65.5	1000	81.182.0510	-	48,00
81.181.1325	2-13	1/2"-20 UNF	6.5	42.5	68	75	1000	81.182.0610	81.182.1330	64,10

› 81.200 Phantom

NL **Zelfspannende Boorhouder, type A**
FR **Mandrin de perçage auto-serrant, type A**
ES **Portabroca cierre automático, tipo A**
DE **Selbstspannende Bohrfutter, Typ A**
EN **Industrial Keyless Chuck, type A**





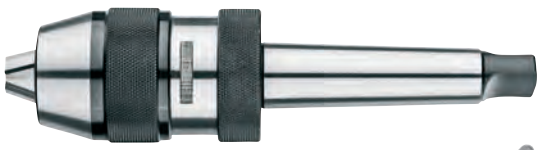


TYPE A

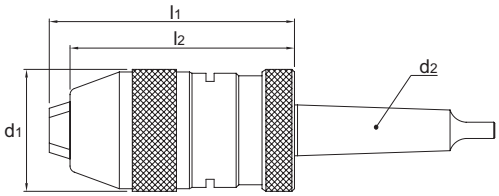
Ref.	Ø	d2	d1	l1	l2	Type	1	€
81.200.0810	0,8-8	B10	33	70	65	8A	81.412.0800	150,75
81.200.0812	0,8-8	B12	33	70	65	8A	81.412.0800	150,75
81.200.1012	0,8-10	B12	39	80	73	10A	81.412.0800	147,60
81.200.1016	0,8-10	B16	39	80	73	10A	81.412.0800	147,60
81.200.1020	0,8-10	3/8"-24 UNF	39	80	73	10A	81.412.0800	147,60
81.200.1092	0,8-10	J2	39	80	73	10A	81.412.0800	147,60
81.200.1094	0,8-10	J33	39	80	73	10A	81.412.0800	86,55
81.200.1312	1-13	B12	44	95	86	13A	81.412.1300	156,10
81.200.1316	1-13	B16	47	102	92	13A	81.412.1300	156,10
81.200.1320	2-13	3/8"-24 UNF	44	95	86	13A	81.412.0800	156,10
81.200.1325	2-13	1/2"-20 UNF	44	95	86	13A	81.412.0800	156,10
81.200.1392	1-13	J2	44	95	86	13A	81.412.1300	156,10
81.200.1396	1-13	J6	44	95	86	13A	81.412.1300	156,10
81.200.1616	3-16	B16	51	105	95	16A	81.412.1300	185,20
81.200.1618	3-16	B18	51	115	102	16A	81.412.1300	185,20
81.200.1625	3-16	1/2"-20 UNF	51	115	102	16A	81.412.1300	185,20
81.200.1630	3-16	5/8"-16 UN	51	115	102	16A	81.412.1300	185,20
81.200.1696	3-16	J6	51	115	102	16A	81.412.1300	185,20
81.200.1762	5-20	B18	64	140	127	20A	81.412.1600	276,00
81.200.1828	5-20	B22	64	140	127	20A	81.412.1600	276,00
81.200.1894	5-20	J3	64	140	127	20A	81.412.1600	276,00

› 81.300 Phantom

NL **Zelfspannende Precisieboorhouder, type XP, DIN 228-B**
FR **Mandrin de perçage de précision auto-serrant, type XP, DIN 228-B**
ES **Portabroca de precisión, cierre automático, tipo XP, DIN 228-B**
DE **Selbstspannende Präzisionsbohrfutter, Typ XP, DIN 228-B**
EN **High Precision Keyless Chuck, type XP, DIN 228-B**







DIN 228-B | 0,04 | TYPE XP

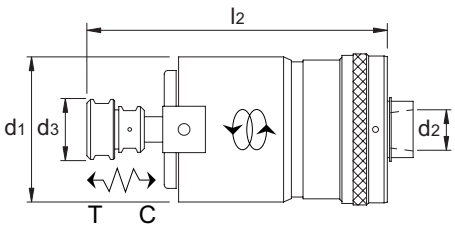
NIEUW NOUVEAU NUEVO NEU

Ref.	Ø	d2	d1	l1	l2	Type	1	2 incl.	€
81.300.0208	0,3-8	MK 2	38	72	65	8XP	81.412.0800	81.413.0800	378,00
81.300.0213	1-13	MK 2	48	92	80	13XP	81.412.1300	81.413.1300	404,00
81.300.0313	1-13	MK 3	48	92	80	13XP	81.412.1300	81.413.1300	409,00
81.300.0316	3-16	MK 3	54	96	85	16XP	81.412.1600	81.413.1600	448,00
81.300.0413	1-13	MK 4	48	92	80	13XP	81.412.1300	81.413.1300	446,00
81.300.0416	3-16	MK 4	54	96	85	16XP	81.412.1600	81.413.1600	458,00

› 81.700 International Tools

NL **ECO PRO Tapapparaat met omkeerinrichting, met druk- en trekcompensatie, met instelbare slipkoppeling**
FR **Appareil à tarauder ECO PRO dispositif d'inversion, à compensation de pression et de traction, à réglage de couple par friction**
ES **Aparato roscador ECO PRO con dispositivo de inversión, con compensación de presión y de tracción, con ajuste de par por fricción**
DE **ECO PRO Gewindeschneidmaschinen mit Umkehrvorrichtung, mit Zug-und Druckausgleich, mit einstellbarer Rutschkupplung**
EN **ECO PRO Tapping Unit with reversing arrangement, with push and pull compensation, with adjustable torque coupling**



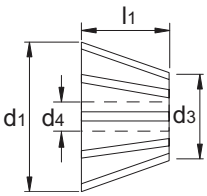


C T | AUTO REVERSAL | ECO PRO

Ref.	Ø	d2	d1	d3	l2	x:y	RPM	Release	1 incl.	2 excl.	€
81.700.0070	M2-M7	B16	54	23	129.5	1:2.4	1500	3.5	81.710.0204/0407	84.170	621,00
81.700.0120	M5-M12	B16	74	28	156	1:2,2	1000	4	81.710.0510/0712	84.170	820,00
81.700.0200	M8-M20	B22	89	38	205.5	1:2,3	600	6	81.710.0814/1620	84.170	840,00

› 81.710 International Tools

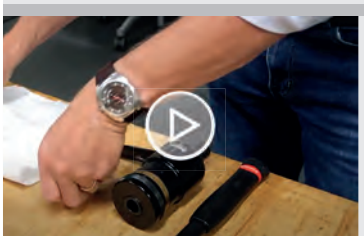
NL **ECO PRO Rubberflex spantang voor 81.700**
FR **Pince de serrage Rubberflex ECO PRO pour 81.700**
ES **Pinza de sujeción Rubberflex ECO PRO parra 81.700**
DE **ECO PRO Rubberflex-Spannzangen für 81.700**
EN **ECO PRO Rubberflex collet for 81.700**





ECO PRO

Ref.	d1	d3	d4	l1	M	Ø	€
81.710.0204	13.3	4.5	2.5	11	M2-M4	2,5-4,5	58,55
81.710.0407	13.3	6.5	4.5	11	M4-M7	4,5-6,5	58,55
81.710.0510	20.5	6.5	3.5	13	M3-M8	3,5-6,5	58,55
81.710.0712	20.5	10	6.5	13	M7-M12	6,5-10	58,55
81.710.0814	28.5	10	4.5	15	M4-M12	4,5-10	58,55
81.710.1620	28.5	13	7	15	M10-M16	7,0-13	58,55



NL Montage boorhouderstift in tapkop
FR Monter un abre de mandrin de perçage dans un appareil à tarauder
ES Sujetar una espiga en un portamachos
DE Montieren Bohrfutteraufnahme im Gewindeschneidhalter
EN Mounting arbor into tapping head

Watch me

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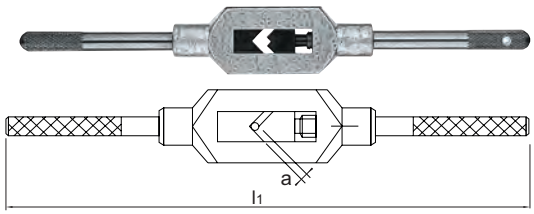
› 81.900

NL **Verstelbaar Wringijzer, standaard kwaliteit, Zink-legering**
FR **Tourne à gauche expansible, qualité standard, alliage de zinc**
ES **Giramacho extensible, calidad estándar, aleación de cinc**
DE **Verstellbare Windeisen, Standard-Qualität, Zinkdruckguß**
EN **Adjustable Tap Wrench, standard quality, zinc die cast**

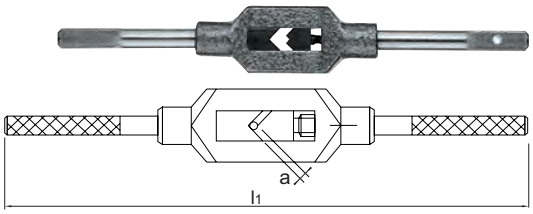


DIN 1814

Ref.	Nr.	M	BSW	BSP	l1	a	€
81.900.0000	0	M1-M6	1/16-1/4	-	125	2-5	9,25
81.900.0100	1	M1-M10	1/16-3/8	1/8	180	2-6	9,42
81.900.0150	1,5	M3-M12	1/16-1/2	1/8	200	2,5-8	9,81
81.900.0200	2	M4,5-M16	5/32-1/2	1/8	280	4-9	17,27
81.900.0300	3	M4,5-M20	7/32-3/4	1/8-1/2	375	4,9-12	30,45
81.900.0400	4	M7-M27	7/16-1	1/4-3/4	500	5,5-16	47,45
81.900.0500	5L	M9-M33	1/2-1.1/4	1/4-1	750	7-20	76,70

› 81.905

NL **Verstelbaar Wringijzer, extra kwaliteit, staal**
FR **Tourne à gauche expansible, qualité supérieure, acier**
ES **Giramacho extensible, calidad superior, acero**
DE **Verstellbare Windeisen, Extra-Qualität, stahl**
EN **Adjustable Tap Wrench, extra quality, steel**

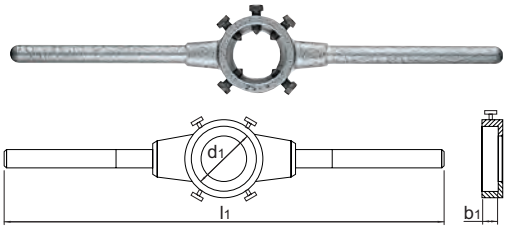


DIN 1814

Ref.	Nr.	M	BSW	BSP	l1	a	€
81.905.0000	0	M1-M6	1/16-1/4	-	130	2-5	18,99
81.905.0100	1	M1-M10	1/16-3/8	1/8	180	2-6	22,16
81.905.0150	1,5	M3-M12	1/16-1/2	1/8	200	2,5-8	22,16
81.905.0200	2	M4,5-M16	5/32-1/2	1/8	280	4-9	33,75
81.905.0300	3	M4,5-M20	7/32-3/4	1/8-1/2	375	4,9-12	50,65
81.905.0400	4	M7-M27	7/16-1	1/4-3/4	500	5,5-16	83,35
81.905.0500	5S	M9-M33	1/2-1.1/4	1/4-1	750	7-20	143,50
81.905.0600	6L	M18-M42	3/4-1.1/2	1/2-1.1/4	1000	9-25	160,05
81.905.0800	8	M27-M68	1-2.1/2	3/4-3	1250	16-40	235,75

› 81.910

NL **Snijplaathouder, standaard kwaliteit, Zink-legering**
FR **Porte-filières, qualité standard, alliage de zinc**
ES **Portaterraja, calidad estándar, aleación de cinc**
DE **Schneideisenhalter, Standard-Qualität, Zinkdruckguß**
EN **Die Stock, standard quality, zinc die cast**



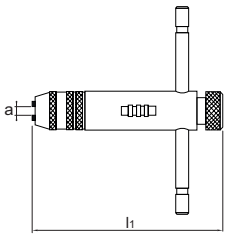
DIN 225 | DIN EN 22568 | DIN EN 24230 | DIN EN 24231 | ISO 2568

Ref.	d1	b1	l1	€
81.910.1605	16	5	160	3,48
81.910.2005	20	5	200	4,11
81.910.2007	20	7	200	4,11
81.910.2509	25	9	224	5,12
81.910.3011	30	11	280	8,07
81.910.3810	38	10	315	11,18
81.910.3814	38	14	315	11,18
81.910.4514	45	14	450	17,57
81.910.4518	45	18	450	17,57
81.910.5516	55	16	560	24,37
81.910.5522	55	22	560	24,37
81.910.6518	65	18	630	32,05
81.910.6525	65	25	630	32,05

Ref.	d1	b1	l1	€
81.910.7520	75	20	800	117,40
81.910.7530	75	30	800	71,65
81.910.9022	90	22	900	161,15
81.910.9036	90	36	900	161,15
81.910.9122	105	22	1000	275,00
81.910.9136	105	36	1000	275,00
81.910.9222	120	22	1100	449,00
81.910.9236	120	36	1100	426,00
81.910.9322	130	25	1100	633,00
81.910.9336	130	36	1100	633,00
81.910.9422	140	25	1200	739,00
81.910.9522	150	25	1200	843,00
81.910.9622	160	25	1300	1.336,00

› 81.930

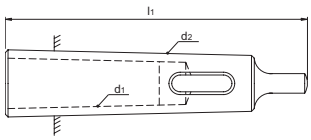
NL **Rateltapkruk**
FR **Porte-tarauds à cliquet**
ES **Giromacho en T con carraca**
DE **Werkzeughalter mit Knarre**
EN **T-handle tap Wrench**





Ref.	Nr.	M	BSW	BSP	a	l1	1	€
81.930.0100	1	M3-M10	1/8-3/8	-	2,4-5,5	85	81.938.0100	15,83
81.930.0200	2	M5-M12	7/32-1/2	1/8	4,5-7	100	81.938.0200	21,10

› 84.100 International Tools





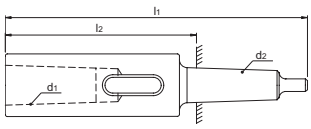
NL ECO PRO Boorhuls (Reduceerhuls) MK x MK
FR Douille (de réduction) ECO PRO CM x CM
ES Casquillo (Casquillo de reducción) ECO PRO CM x CM
DE ECO PRO Bohrhülse (Reduzierhülse) MK x MK
EN ECO PRO Morse Taper Sleeve (Reducing Bush) MT x MT

DIN 228-B | DIN 2185 | ECO PRO

Ref.	d2	d1	l1	€
84.100.0100	MK 1	MK 0	85	7,91
84.100.0201	MK 2	MK 1	92	7,97
84.100.0301	MK 3	MK 1	99	7,52
84.100.0302	MK 3	MK 2	112	7,52
84.100.0401	MK 4	MK 1	124	10,79
84.100.0402	MK 4	MK 2	124	10,79
84.100.0403	MK 4	MK 3	140	10,79
84.100.0501	MK 5	MK 1	156	26,05

Ref.	d2	d1	l1	€
84.100.0502	MK 5	MK 2	156	24,89
84.100.0503	MK 5	MK 3	156	22,74
84.100.0504	MK 5	MK 4	171	22,74
84.100.0602	MK 6	MK 2	218	44,65
84.100.0603	MK 6	MK 3	218	39,10
84.100.0604	MK 6	MK 4	218	39,10
84.100.0605	MK 6	MK 5	218	39,10

› 84.110 International Tools





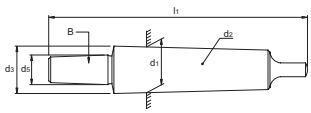
NL ECO PRO Verlengde Boorhuls MK x MK
FR Douille allongée ECO PRO CM x CM
ES Casquillo de prolongación ECO PRO CM x CM
DE ECO PRO Verlängerte Bohrhülsen MK x MK
EN ECO PRO Extended Morse Taper Sleeve MT x MT

DIN 228-B | DIN 2187 | ECO PRO

Ref.	d2	d1	l1	l2	€
84.110.0101	MK 1	MK 1	145	83	11,29
84.110.0102	MK 1	MK 2	160	91	20,28
84.110.0103	MK 1	MK 3	183	121	30,95
84.110.0201	MK 2	MK 1	160	85	15,76
84.110.0202	MK 2	MK 2	175	100	21,44
84.110.0203	MK 2	MK 3	196	112	29,20
84.110.0204	MK 2	MK 4	221	146	40,45
84.110.0301	MK 3	MK 1	175	81	21,74
84.110.0302	MK 3	MK 2	194	100	21,44
84.110.0303	MK 3	MK 3	215	121	29,20
84.110.0304	MK 3	MK 4	240	137	34,60

Ref.	d2	d1	l1	l2	€
84.110.0305	MK 3	MK 5	275	181	67,45
84.110.0401	MK 4	MK 1	200	76	31,50
84.110.0402	MK 4	MK 2	215	97.5	26,00
84.110.0403	MK 4	MK 3	240	122.5	30,45
84.110.0404	MK 4	MK 4	265	147.5	49,10
84.110.0405	MK 4	MK 5	300	172	73,20
84.110.0502	MK 5	MK 2	247	145	52,45
84.110.0503	MK 5	MK 3	268	118.5	52,45
84.110.0504	MK 5	MK 4	300	150.5	50,70
84.110.0505	MK 5	MK 5	335	185.5	79,85

› 84.170 International Tools





NL ECO PRO Boorhouderstift B-opname MK
FR Arbre de mandrin de perçage ECO PRO cône B CM
ES Espiga para portabrocas ECO PRO sujeción B CM
DE ECO PRO Bohrfutterkegel B-Aufnahme MK
EN ECO PRO Drill Chuck Arbor B taper MT

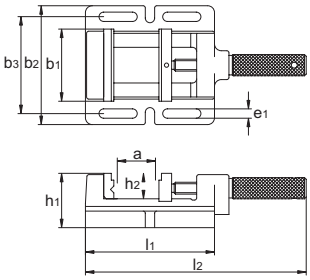
DIN 228-B | DIN 238 | ECO PRO

Ref.	d2	B	l1	d1	d5	d3	€
84.170.0110	MK 1	B10	86	12.065	10.095	12.22	5,41
84.170.0112	MK 1	B12	90	12.065	12.065	12.22	5,41
84.170.0116	MK 1	B16	96	12.065	15.733	12.22	5,41
84.170.0118	MK 1	B18	104	12.065	17.78	12.22	5,41
84.170.0210	MK 2	B10	105	17.78	10.095	18	5,98
84.170.0212	MK 2	B12	105	17.78	12.065	18	5,98
84.170.0216	MK 2	B16	112	17.78	15.733	18	5,98
84.170.0218	MK 2	B18	119	17.78	17.78	18	5,98
84.170.0222	MK 2	B22	128	17.78	21.793	18	5,98
84.170.0312	MK 3	B12	124	23.825	12.065	24.1	7,75

Ref.	d2	B	l1	d1	d5	d3	€
84.170.0316	MK 3	B16	130	23.825	15.733	24.1	7,75
84.170.0318	MK 3	B18	138	23.825	17.78	24.1	7,75
84.170.0322	MK 3	B22	147	23.825	21.793	24.1	8,35
84.170.0416	MK 4	B16	156	31.267	15.733	31.6	11,53
84.170.0418	MK 4	B18	164	31.267	17.78	31.6	11,53
84.170.0422	MK 4	B22	176	31.267	21.793	31.6	11,53
84.170.0516	MK 5	B16	188	44.399	15.733	44.7	24,21
84.170.0518	MK 5	B18	198	44.399	17.78	44.7	24,21
84.170.0522	MK 5	B22	207	44.399	21.793	44.7	24,21

› 88.152 *International Tools*

NL **ECO PRO Boorklem**
FR **Étau machine ECO PRO**
ES **Mordaza para taladros ECO PRO**
DE **ECO PRO Bohrschraubstock**
EN **ECO PRO Drilling Machine Vise**





ECO PRO

Ref.	b1	b2	b3	a max	l1	l2	h1	h2	e1	€
88.152.0085	85	143	105	70	157	238	54	30	12,5	103,45
88.152.0100	100	152	126	95	176	280	60	30	14	119,80
88.152.0120	120	178	149	105	220	340	60	35	14	179,70
88.152.0150	150	195	166	140	229	380	77	39	15	267,00

› 90.105 Phantom



NL **Universal Snijolie EP (Extreme Pressure), chloor- en silicoonvrij, op plantaardige basis**
FR **Huile de coupe Universal EP (Haute Pression), sans chlore, à base d'huile végétale**
ES **Aceite de corte Universal EP (Alta Presión), sin cloro, base vegatal**
DE **Universal Schneidöl EP (Hochdruck), Chlor- und Silikonfrei, auf pflanzlicher Basis**
EN **Universal Cutting oil EP (Extreme Pressure), chlorine-free, vegetable based**

UNI

Ref.	Contents	€
90.105.0250	250 ml	18,10

Ref.	Contents	€
90.105.0251	Box with 10 x 250 ml	150,40

› 90.110 Phantom



NL **Universal Snijolie EP (Extreme Pressure), chloor- en silicoonvrij, op mineraaloliebasis**
FR **Huile de coupe Universal EP (Haute Pression), sans chlore, à base d'huile minérale**
ES **Aceite de corte Universal EP (Alta Presión), sin cloro, base de aceite mineral**
DE **Universal Schneidöl EP (Hochdruck), Chlor- und Silikonfrei, auf Mineralölbasis**
EN **Universal Cutting oil EP (Extreme Pressure), chlorine-free, mineral oil based**

UNI

Ref.	Contents	€
90.110.0250	250 ml	21,10
90.110.0251	Box with 10 x 250 ml	175,35
90.110.5005	5 l	140,60
90.110.5010	10 l	243,20

Ref.	Contents	€
90.110.5025	25 l	575,00
90.110.5060	60 l	1.185,00
90.110.5200	200 l	3.372,00

› 90.120 Phantom



NL **Non-Ferro Snijolie EP (Extreme Pressure), chloor- en silicoonvrij, op mineraaloliebasis**
FR **Huile de coupe Non-Ferro EP (Haute Pression), sans chlore, à base d'huile minérale**
ES **Aceite de corte Non-Ferro EP (Alta Presión), sin cloro, base de aceite mineral**
DE **Nicht-Eisen Schneidöl EP (Hochdruck), Chlor- und Silikonfrei, auf Mineralölbasis**
EN **Non-Ferro Cutting oil EP (Extreme Pressure), chlorine-free, mineral oil based**

ALU

Ref.	Contents	€
90.120.0250	250 ml	22,50
90.120.0251	Box with 10 x 250 ml	188,90
90.120.5005	5 l	160,25
90.120.5010	10 l	210,40

Ref.	Contents	€
90.120.5025	25 l	487,00
90.120.5060	60 l	1.053,00
90.120.5200	200 l	2.953,00

› 90.130 Phantom



NL **Heavy Duty Snijolie EP (Extreme Pressure), chloor- en silicoonvrij, op mineraaloliebasis**
FR **Huile de coupe Heavy Duty EP (Haute Pression), sans chlore, à base d'huile minérale**
ES **Aceite de corte Heavy Duty EP (Alta Presión), sin cloro, base de aceite mineral**
DE **Heavy Duty Schneidöl EP (Hochdruck), Chlor- und Silikonfrei, auf Mineralölbasis**
EN **Heavy Duty Cutting oil EP (Extreme Pressure), chlorine-free, mineral oil based**

INOX

Ref.	Contents	€
90.130.0250	250 ml	23,92
90.130.0251	Box with 10 x 250 ml	199,75
90.130.5005	5 l	170,60
90.130.5010	10 l	270,00

Ref.	Contents	€
90.130.5025	25 l	730,00
90.130.5060	60 l	1.452,00
90.130.5200	200 l	4.223,00

› 90.140 Phantom



NL **Universal Snijolie spray EP (Extreme Pressure), chloor- en silicoonvrij, op plantaardige basis**
FR **Universal Huile de coupe spray EP (Haute Pression), sans chlore, à base d'huile végétale**
ES **Universal Aceite de corte pulverizador EP (Alta Presión), sin cloro, base vegatal**
DE **Universal Schneidöl Spray EP (Extreme Pressure), Chlor- und Silikonfrei, auf pflanzlicher Basis**
EN **Universal Cutting oil spray EP (Extreme Pressure), chlorine-free, vegetable based**

UNI

Ref.	Contents	€
90.140.0400	400 ml	21,10

Ref.	Contents	€
90.140.0401	Box with 12 x 400 ml	214,20

› 90.145 Phantom



NL **Universal Snijolie-schuim, chloor-, zwavel- en mineraalolievrij**
FR **Huile de coupe Universal sous forme de mousse, sans chlore, ni soufre ni huile minérale**
ES **Aceite de corte Universal en espuma, sin cloro, azufre y aceite mineral**
DE **Universal Schneidöl-Schaum, Chlor-, Schwevel und Mineralölfrei**
EN **Universal Cutting oil foam, chlorine- and mineral oil free**

UNI

Ref.	Contents	€
90.145.0400	400 ml	45,70

Ref.	Contents	€
90.145.0401	Box with 12 x 400 ml	430,00

› 90.150 Phantom



NL **Extreme Snijpasta, chloor- en silicoonvrij**
FR **Pâte de coupe Extrême, sans chlore**
ES **Pasta de corte Extreme, sin cloro**
DE **Hochleistungs-Schneidpaste, Chlor- und Silikonfrei**
EN **Extreme Cutting paste, chlorine-free**

INOX

Ref.	Contents	€
90.150.0250	250 gr.	29,55
90.150.0251	Box with 10 x 250 gr.	271,00

Ref.	Contents	€
90.150.2500	2,5 kg.	152,20
90.150.5000	5 kg.	239,85

› 90.170 Phantom

NL Snijwas EP (Extreme Pressure), chloorvrij
FR Pâte de coupe EP (Haute Pression), sans chlore
ES Cera de corte EP (Alta Presión), sin cloro
DE Wachsstift EP (Extreme Pressure), chlorfreier
EN Cutting wax EP (Extreme Pressure), chlorine free



UNI

Ref.	Contents	€
90.170.0300	300 gr	41,65

Ref.	Contents	€
90.170.0301	Box with 50 x 300 gr	1.750,00



NL Keuzehulp snijolie en smeermiddelen
FR Aide à la sélection des huiles de coupe et lubrifiants
ES Ayuda para la selección de aceites de corte y lubricantes
DE Auswahlhilfe Schneidöl und Schmiermittel
EN Selection Guide for Cutting Oils and Lubricants

Read me

www.phantom.eu

› 90.180 Phantom

NL Micro Doseer Vloeistof EP (Extreme Pressure), chloor- en mineraalolievrij, op plantaardige basis
FR Huile pour micro lubrification EP (Haute Pression), sans chlore et sans huile minérale, à base d'huile végétale
ES Líquido microdosificador EP (Alta Presión), exento de cloro y aceites minerales, base vegatal
DE Mikro-dosierflüssigkeit EP (Extreme Pressure), Chlor- und Mineralölfreier, auf pflanzlicher Basis
EN Micro dosing liquid EP (Extreme Pressure), chlorine- and mineral oil free, vegetable based



UNI

Ref.	Contents	€
90.180.5005	5 l	137,15

› 90.190 Phantom

NL Nevelolie, AluMist MQL
FR Huile de micro-pulvérisation, AluMist MQL
ES Aceite de micro-pulverización, AluMist MQL
DE Sprühöl, AluMist MQL
EN Cutting Mist, AluMist MQL



NIEUW NOUVEAU NUEVO NEU

ALU

Ref.	Contents	€
90.190.5005	5 l	199,40

› 90.210 Phantom



NL **UNI Multi Cooling Concentrate, chloor- en silicoonvrij, secundair aminevrij en nitrietvrij**
FR **UNI Multi Cooling Concentrate, sans chlore, exempt d'amine secondaire et de nitrite**
ES **UNI Multi Cooling Concentrate, sin cloro, sin amina secundaria y sin nitritos**
DE **UNI Hochleistungs- Kühlsmier- Konzentrat, Chlor- und Silikonfrei, sekundäre Amin-frei und Nitrit-frei**
EN **UNI Multi Cooling Concentrate, chlorine-free, secondary amine-free and nitrite-free**

UNI

Ref.	Contents	€
90.210.0050	5 l	105,05
90.210.0051	Box with 4 x 5 l	394,00

› 90.310 Phantom



NL **Klauwplaatvet**
FR **Pâte pour mandrin de serrage**
ES **Grasa especial para platos de torno**
DE **Spanfutterpaste**
EN **Chuck Jaw Paste**

NIEUW NOUVEAU NUEVO NEU

Ref.	Contents	€
90.310.0400	400 gr	46,20

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