

**Uranusz**

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Szerszámban a mérce

na obrábění



for hole-machining
für Bohrungsbearbeitung



Zet[®]

Výrobní divize STIMZET společnosti M&V, s. r. o. se zabývá výrobou a prodejem nástrojů a nářadí značky STIMZET. Vznikla na začátku roku 2010 odkoupením bývalé firmy STIMZET a.s. velkoobchodní firmou M&V, s. r. o. Cílem společnosti je nabízet zákazníkům z řad průmyslových podniků a profesionálů, ale také obchodním organizacím, vysoce kvalitní nástroje pro obrábění otvorů.

Výrobní program firmy tvoří zejména vrtáky, výhružníky, výstružníky, záhlubníky a speciální nástroje značky STIMZET vyráběné z nejkvalitnější rychlořezné oceli HSS a HSSCo. V současné době je společnost jedním z jejich nejvýznamnějších evropských producentů. Tohoto postavení dosáhla zejména díky své orientaci na zákazníka a výhodným cenám nástrojů při zachování jejich vynikající kvality. Kromě standardních produktů vyrábí také speciální nástroje dle požadavků zákazníka.

Tradice výroby nástrojů na otvory a cesta k současnému úspěchu značky STIMZET začala již v roce 1937 v bývalé firmě Zbrojovka Vsetín. Výsledkem spojení dlouholetých zkušeností s využíváním moderních technologií a neustálými inovacemi je vysoká kvalita nástrojů STIMZET a tomu odpovídající spokojenost našich zákazníků.

Manufacturing division STIMZET of M&V, s.r.o. is engaged in manufacturing and sale of tools with the brand mark STIMZET. This division results at the beginning of 2010, when the wholesaler M&V, s.r.o. has acquired STIMZET, Inc. The aim of the company M&V is to offer the high quality tools for hole machining to customers, plants, engineers and trading companies as well.

The production program is comprised of primarily drills, reamer drills, reamers, countersinks, counterbores and special tools of brand mark STIMZET, made of high-quality high speed steel (HSS or HSS-Co). Actually is the company one of the most significant European manufacturers of this tools. This standing of the firm was achieved by its orientation on customer and by accommodating prices of tools at maintenance of its excellent quality. Outside of standard tools, the special tools according to customer's requirements are manufactured as well.

Manufacturing tradition of tools for holemaking and the way to actual success of the brand mark STIMZET was beginning in the year 1937 in the former firm Zbrojovka Vsetín. The long standing experiences with utilisation of modern technologies in conjunction with continual innovations assure the high quality of tools STIMZET and appropriate satisfaction of several hundreds of customers.

Der Produktionsbereich STIMZET der Großhandelsfirma M&V GmbH befasst sich mit der Herstellung und Verkauf der Werkzeuge von Warenzeichen STIMZET. Dieser Geschäftszweig entstand anfangs 2010 durch den Aukauf der ehemaligen Firma STIMZET, a.G. durch die Großhandelsfirma M&V GmbH. Alle Aktivitäten der Firma sind darauf gezielt, den Kunden vom Industriebereich, den Profesionalem und Handel-organisationen höchstwertige Werkzeuge für die Bohrungsbearbeitung anzubieten.

Werkzeugprogramm der Firma umfasst vor allem Bohrer, Reibahlen, Senker und kundenspezifische Sonderlösungen; alle Werkzeuge sind vom HSS und HSSCo Qualitätsstahl gefertigt. Zur Zeit gehört die Firma zu den bedeutendsten europäischen Produzenten und diese Markstellung wurde vornehmlich dank der konsequenten Kundenorientierung und durch günstigen Preise bei der Erhaltung der Spitzenqualität der Werkzeuge erreicht.

Die langjährige Tradition der Bohrungswerkzeuge und der Weg zum gegenwärtigen Erfolg der Warenzeichen STIMZET begann schon im Jahre 1937 in der damaligen Firma Waffenwerk Vsetín. Das Ergebnis der Verbindung von langjährigen professionellen Erfahrungen, dem Einsatz der modernsten Fertigungstechnologien und ununterbrochenen Weiterentwicklungen ist die Spitzenqualität der Werkzeuge STIMZET und die entsprechende Zufriedenheit unserer Kunden.
























M&V, spol. s r.o., Divize STIMZET, Jasenická 2092, 755 01 Vsetín, Czech Republic

Vysvětlivky, symboly

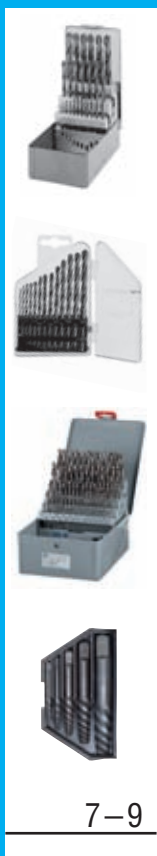






Comments, symbols

Erläuterung, Symbole

















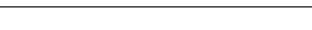
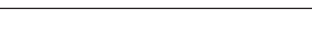

HSS	rychlořezná ocel high speed steel Schnellarbeitsstahl		levořezný left hand cutting linksschneidend
HSSCo	rychlořezná ocel 5% Co high speed steel 5% Co Schnellarbeitsstahl 5% Co		pravořezný right hand cutting rechtsschneidend
HSSCo8	rychlořezná ocel 8% Co high speed steel 8% Co Schnellarbeitsstahl 8% Co		profil drážky shape of the flute Spannutprofil
CTS	ocel nástrojová uhlíková carbon tool steel Kohlenstoffwerkzeugstahl	T1000 (GT 100)	profil drážky shape of the flute Spannutprofil
HTS	ocel k zušlechťování heat-treating steel Vergütungsstahl	V 1,0 ÷ 1,9	způsob výroby: vybrušování z plna manufacturing mode: ground from solid Herstellungsart: ausgeschliffen
CHS	ocel cementační case-hardening steel Einsatzstahl	T 2,0 ÷ 20,9	způsob výroby: tváření za tepla manufacturing mode: rollforged Herstellungsart: rollgewalzt
SK	tvrdokov solid carbide VHM	F 10,1 ÷ 40,0	způsob výroby: frézování manufacturing mode: milled Herstellungsart: gefräst
PAS	povrchová úprava: pasivováno surface finish: steamtempered Oberfläche: dampfbehandelt		přímé zuby straight flute geradegenutet
TiN	povrchová úprava: povlakováno TiN surface finish: TiN coating Oberfläche: beschichtet TiN		zuby v pravé šroubovici right hand spiral flute drallgenutet - rechts
TiAlN	povrchová úprava: povlakováno TiAlN surface finish: TiAlN coating Oberfläche: beschichtet TiAlN		zuby v levé šroubovici left hand spiral flute drallgenutet - links
BLANC	povrchová úprava: bez úpravy surface finish: bright Oberfläche: blank		tolerance nástroje tool tolerance Werkzeugtoleranz
BRONZE	povrchová úprava: nízkoteplotní oxidace surface finish: bronze oxide Oberfläche: Tieftemperaturoxidierung		tolerance obrobeného otvoru tolerance of machined hole Toleranz der bearbeiteten Bohrung
	úhel špičky point angle Spitzenwinkel $\epsilon = 118^\circ$	FORM A/C	provedení form Form
	úhel šroubovice helix angle Drallwinkel $\lambda = 25^\circ - 30^\circ$		kuželové zahloubení countersink Kegelsenkung
	ostření DIN 1412 Form N point DIN 1412 form N Ausspitzung DIN 1412 Form N		kuželové zahloubení countersink Kegelsenkung
	ostření DIN 1412 Form C split-point DIN 1412 form C Kreuzanschliff DIN 1412 Form C		válcové zahloubení counterbore Flachsenkung
	ostření DIN 1412 Form E center point DIN 1412 form E Zentrierspitze DIN 1412 Form E		válcové zahloubení counterbore Flachsenkung
	ostření DIN 1412 Form A thinned chisel edge DIN 1412 form A Ausspitzung DIN 1412 Form A		úhel zahloubení countersink angle Senkungswinkel
	ostření DIN 1412 Form B thinned chisel edge DIN 1412 form B Ausspitzung DIN 1412 Form B		zarovnání čela spot-facing Planen
..xD	vrtaná hloubka drilling depth Bohrtiefe	na požávku on request auf Anfrage	na požávku on request auf Anfrage

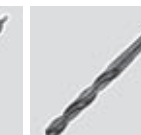
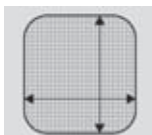
Zvýrazněné položky jsou cenikové, ostatní položky na požávku. / Standard price list items are highlighted, any other items - on request. / Die angemerkenen Posten sind in Preisliste, die anderen Posten sind nur nach Nachfrage.

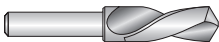














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 <p>7-9</p>	 <p>10-55</p>	 <p>56-67</p>	 <p>68-82</p>	 <p>83-101</p>	 <p>102-111</p>	 <p>112-115</p>	<p>116-144</p>
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Norma Standard Norm	Materiál nástroje Tool material Schneidenstoff		Poznámka Note Notiz	Rozsah mm Ø range mm Ø Bereich mm	Strana Page Seite
1					
SADY VRTÁKŮ DRILL SETS BOHRERSÄTZE					
ČSN 221121, PN 2913 PN 2907, PN 238980, PN 238980.1	HSS HSSCo THS	sady vrtáků drill sets Bohrersatz			7
2					
VRTÁKY S VÁLCOVOU STOPKOU STRAIGHT SHANK DRILLS SPIRALBOHRER MIT ZYLINDERSCHAFT					
ČSN 221121 DIN 338 RN	HSS			1,00 ÷ 20,00	10
PN 2913 DIN 338 RN	HSS			0,30 ÷ 20,00	12
PN 2931 DIN 338 RN	HSS		TiN	1,00 ÷ 20,00	14
PN 2914 DIN 338 LN	HSS		levořezný left hand cutting linksschneidend	0,70 ÷ 14,00	16
ČSN 221131 DIN 338 LN	HSS		levořezný left hand cutting linksschneidend	14,25 ÷ 20,00	17
PN 2907 DIN 338 RN	HSSCo5			0,60 ÷ 20,00	18
PN 2907 T1000 DIN 338 - GT100	HSSCo5			2,00 ÷ 14,00	19
PN 2907 UNI FL DIN 338 R UFL	HSSCo			2,00 ÷ 14,00	20
PN 2907 Ti DIN 338 R Ti	HSSCo5			1,00 ÷ 20,00	21
ČSN 2906 DIN 338 RN	HSSCo8			2,00 ÷ 20,00	22
PN 2908 DIN 338 LN	HSSCo5		levořezný left hand cutting linksschneidend	1,00 ÷ 14,00	23
PN 2909 DIN 338 RW	HSS			1,00 ÷ 14,00	24
PN 2910 DIN 338 LW	HSS		levořezný left hand cutting linksschneidend	1,00 ÷ 14,00	25
PN 2911 DIN 338 RH	HSS			1,00 ÷ 14,00	26
PN 2912 DIN 338 LH	HSS		levořezný left hand cutting linksschneidend	1,00 ÷ 14,00	27
PN 221135 DIN 338 RN	HSS			1/64" ÷ 63/64"	28
ČSN 221182 DIN 1897 RN	HSS			0,70 ÷ 40,00	29
PN 2905 DIN 1897 RN	HSS			0,70 ÷ 20,00	31
PN 2905 T1000 DIN 1897 - GT100	HSSCo			2,00 ÷ 14,00	32

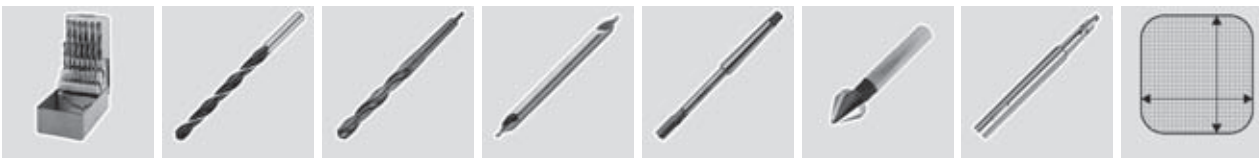






















Norma Standard Norm	Materiál nástroje Tool material Schneidenstoff		Poznámka Note Notiz	Rozsah mm Ø range mm Ø Bereich mm	Strana Page Seite
ČSN 221180 DIN 1897 LN	HSS		levořezný left hand cutting linksschneidend	14,25 ÷ 40,00	33
PN 2904 DIN 1897 LN	HSS		levořezný left hand cutting linksschneidend	0,70 ÷ 14,00	34
ČSN 221187	HSS			13,00 ÷ 38,1	35
ČSN 221191 DIN 1999A RN	HSS			0,25 ÷ 1,45	36
ČSN 221192 DIN 1999A LN	HSS		levořezný left hand cutting linksschneidend	0,25 ÷ 1,45	37
ČSN 2916 pas DIN 340 RN	HSS			2,00 ÷ 20,00	38
PN 2916 DIN 340 RN	HSS			0,90 ÷ 20,00	40
PN 2916 T500 DIN 340 - GT50	HSS			2,00 ÷ 14,00	42
PN 2921 DIN 340 LN	HSS		levořezný left hand cutting linksschneidend	0,90 ÷ 14,00	43
PN 2915 DIN 340 RN	HSSCo5			0,90 ÷ 16,00	45
PN 2915 T1000 DIN 340 - GT100	HSSCo5			2,00 ÷ 14,00	47
PN 2920 DIN 340 LN	HSSCo5		levořezný left hand cutting linksschneidend	0,90 ÷ 14,00	48
PN 2917 DIN 340 RW	HSS			2,00 ÷ 14,00	50
ZV 3001 DIN 1869 RN	HSS			2,00 ÷ 13,00	51
ZV 3001 T1000 DIN 1869 - GT100	HSSCo5			2,00 ÷ 13,00	55

3


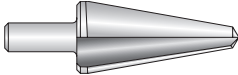



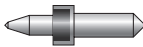



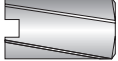










VRTÁKY S KUŽELOVOU STOPKOU TAPER SHANK DRILLS SPIRALBOHRER MIT MORSEKEGEL

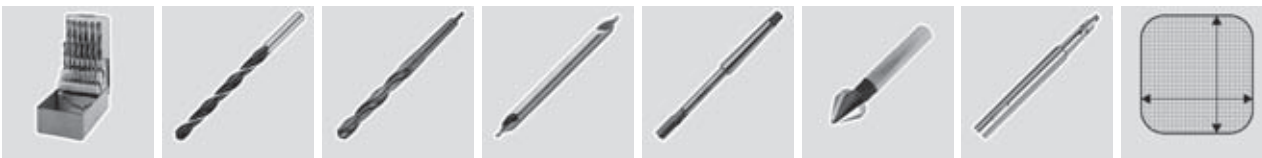
ČSN 221140 DIN 345 RN	HSS			2,00 ÷ 90,00	56
ČSN 221143 DIN 345 RN	HSSCo5			5,00 ÷ 90,00	60
ČSN 221148 DIN 345 RN	HSSCo8			5,00 ÷ 90,00	61
ZVSE 221146	HSSCo8			10,00 ÷ 50,00	62
PN 221155 DIN 345 RN	HSS			13/64" ÷ 3 1/2"	63























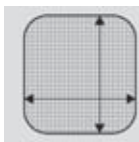
Norma Standard Norm	Materiál nástroje Tool material Schneidenstoff		Poznámka Note Notiz	Rozsah mm Ø range mm Ø Bereich mm	Strana Page Seite
ZV 5001 DIN 341 RN DIN 1870 RN	HSS			8,00 ÷ 50,00	65
ZV 5001 T1000 DIN 341 - GT100 DIN 1870 - GT100	HSSCo5			8,50 ÷ 20,00	67
4 VRTÁKY PRO SPECIÁLNÍ POUŽITÍ SPECIAL USE DRILLS BOHRER FÜR SPEZIELLE ANWENDUNGEN					
PN 221252 DIN 8376	HSS			M3 ÷ M10 M4 ÷ M8	68
PN 221254 DIN 8374	HSS			M3 ÷ M8 M4 ÷ M8	68
PN 221253 DIN 8377	HSS			M5 ÷ M20	69
PN 221255 DIN 8375	HSS			M5 ÷ M14 M5 ÷ M20	70
PN 221258 DIN 8378	HSS			M3 ÷ M14 M4 ÷ M14	71
PN 221259 DIN 8379	HSS			M8 ÷ M20	72
ZVSE 221322 TP 320	SK-K10			2,50 ÷ 20,00	73
ZVSE 221332 TP 330	SK-K10			10,00 ÷ 40,00	74
ČSN 221110 DIN 333A	HSS			0,50 ÷ 10,00	75
ČSN 221116 DIN 333R	HSS			1,00 ÷ 10,00	75
ČSN 221112 DIN 333B	HSS			1,00 ÷ 10,00	76
ZVSE 221185	HSSCo5			3,00 ÷ 25,00	76
ZVSE 221189	HSSCo5			3,00 ÷ 25,00	77
ZVSE 221186	HSSCo5			3,00 ÷ 25,00	77
ZVSE 221138.1	HSSCo5			5,00 ÷ 10,00	78
ZVSE 221138.2	HSSCo5			5,00 ÷ 10,00	78
ZVSE 221138.3	HSSCo5			5,00 ÷ 10,00	79
ZVSE 221270	HSS			6,00; 8,00	79


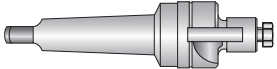







Norma Standard Norm	Materiál nástroje Tool material Schneidenstoff		Poznámka Note Notiz	Rozsah mm Ø range mm Ø Bereich mm	Strana Page Seite
ZVSE 221137	HSS			2,50 ÷ 10,50	80
ZVSE 221260	HSS			14,00; 20,00; 30,50	80
PN 225677	HSS			5,00 ÷ 12,00	81
231680	HTS			č. 1 ÷ č. 6	81
ZVSE 221313A	SK (VHM)		M3 - M12	2,5 ÷ 10,2	82
ZVSE 221313B	SK (VHM)		M3 - M12	2,5 ÷ 10,2	82
5	VÝHRUBNÍKY A VÝSTRUŽNÍKY CORE DRILLS AND REAMERS AUFBOHRER UND REIBAHLEN				
ČSN 221411 DIN 222	HSS			9,80 ÷ 32,00	83
ČSN 221480 DIN 344	HSS			4,80 ÷ 16,00	84
ČSN 221482 DIN 343	HSS			8,80 ÷ 50,00	85
ČSN 221414 DIN 222 Form N	HSS			24,70 ÷ 100,00	87
ČSN 221420 DIN 206 Form B	HSS			2,00 ÷ 50,00	88
ČSN 221460 Form A	HSS		1:10	10,00 ÷ 32,00	89
ZVSE 221469 DIN 9 Form B	HSS		1:50	3,00 ÷ 50,00	89
ZVSE 221469 DIN 2180 Form A	HSSCo		1:50	3,00 ÷ 50,00	90
ČSN 221471 DIN 2180	HSS			8,00 ÷ 14,00	90
ČSN 221430 DIN 212 Form B, D	HSS			2,00 ÷ 16,00	91
ČSN 221430 DIN 212 Form B, D	HSSCo5			2,00 ÷ 20,00	92
ČSN 221445 DIN 212 Form A, C	HSS			2,00 ÷ 16,00	93
ČSN 221446 DIN 208 Form A	HSS			6,00 ÷ 32,00	94
ČSN 221431 DIN 208 Form B	HSS			5,00 ÷ 32,00	95



Norma Standard Norm	Materiál nástroje Tool material Schneidenstoff		Poznámka Note Notiz	Rozsah mm Ø range mm Ø Bereich mm	Strana Page Seite
ČSN 221431 DIN 208 Form B	HSSCo5			5,00 ÷ 50,00	96
PN 221429 DIN 212 Form E	HSS			6,00 ÷ 16,00	97
PN 221458 DIN 208 Form C	HSS			6,00 ÷ 32,00	98
ČSN 221452 DIN 311	HSS			8,40 ÷ 37,00	99
ČSN 221432 DIN 219 Form B	HSS			25,00 ÷ 100,00	100
ČSN 221447 DIN 219 Form A	HSS			25,00 ÷ 100,00	101
6	ZÁHLUBNÍKY COUNTERBORES AND COUNTERSINKS FLASCHSENKER UND KEGELSENKER				
ČSN 221604 DIN 373	HSS			M2 ÷ M12	102
ČSN 221606 DIN 375	HSS			13,00 ÷ 60,00	103
ČSN 221608 DIN 1868	CCS			4,30 ÷ 37,00	104
ČSN 221605 DIN 1866	HSS			M2 ÷ M6	105
ČSN 221607 DIN 1867	HSS			M8 ÷ M20	105
ČSN 221627 DIN 334, 335, 347 Form A	HSS		60°, 90°, 120°	8,00 ÷ 20,00	106
ČSN 221628 DIN 334, 335, 347 Form B	HSS		60°, 90°, 120°	16,00 ÷ 63,00	106
ZVSE 221623 DIN 334 Form C	HSS		60°	6,30 ÷ 25,00	107
ZVSE 221624 DIN 334 Form D	HSS		60°	16,00 ÷ 63,00	107
ZVSE 221625 DIN 335 Form C	HSS		90°	4,30 ÷ 31,00	108
ZVSE 221626 DIN 335 Form D	HSS		90°	15,0 ÷ 63,00	109
ČSN 221655	HSS			68,00 ÷ 118,00	110
ČSN 221657	HSS			61,00 ÷ 112,00	110
ČSN 221650	HSS			18,00 ÷ 52,00	111



Norma Standard Norm	Materiál nástroje Tool material Schneidenstoff		Poznámka Note Notiz	Rozsah mm Ø range mm Ø Bereich mm	Strana Page Seite
7					
UPÍNACÍ NÁŘADÍ CLAMPING TOOLS SPANNWERKZEUGE					
ČSN 241210 DIN 217	CHS		Mk3, Mk4, Mk5	13,00 ÷ 50,00	112
ČSN 241213	HTS			22, 27	112
ČSN 241210.1	CHS			13,00 ÷ 50,00	113
ČSN 241214	CHS			31,00 ÷ 56,00	113
ČSN 241216	CHS			9,00 ÷ 30,00	114
ČSN 241217	CHS			33,00 ÷ 62,00	114
ČSN 241329 DIN 238	CHS			B10 ÷ B24	115

8

**TECHNICKÁ ČÁST
TECHNICAL SECTION
TECHNISCHER TEIL**

116 – 142





13DÍLNÉ SADY VRTÁKŮ SETS OF 13 DRILLS 13-TEILIGE BOHRERSÄTZE

SADA

HSS	HSSCo						



Objednáací číslo Order No. Bestell-Nr.	Norma Standard Norm	Obsah kazety / Contents of set / Satzinhalt ØD mm	Code SADA
A002013V000S	PN 2913	1,5; 2,0; 2,5; 3,0; 3,3; 3,5; 4,0; 4,2; 4,5; 5,0; 5,5; 6,0; 6,5	13DÍLNÁ 2913
A002013V400S	PN 2907		13DÍLNÁ 2907
A002013T000S	ČSN 221121		13DÍLNÁ 221121

Poznámka / Note / Notiz: PN 2913 viz strana / see page / siehe Seite 12-13
PN 2907 viz strana / see page / siehe Seite 18
ČSN 221121 viz strana / see page / siehe Seite 10-11



19DÍLNÉ SADY VRTÁKŮ SETS OF 19 DRILLS 19-TEILIGE BOHRERSÄTZE

SADA

HSS	HSSCo						



Objednáací číslo Order No. Bestell-Nr.	Norma Standard Norm	Obsah kazety / Contents of set / Satzinhalt ØD mm	Code SADA
A002019V000S	PN 2913	1,0 - 10,0 à 0,5 mm	19DÍLNÁ 2913
A002019V400S	PN 2907		19DÍLNÁ 2907
A002019T000S	ČSN 221121		19DÍLNÁ 221121

Poznámka / Note / Notiz: PN 2913 viz strana / see page / siehe Seite 12-13
PN 2907 viz strana / see page / siehe Seite 18
ČSN 221121 viz strana / see page / siehe Seite 10-11



25DÍLNÉ SADY VRTÁKŮ SETS OF 25 DRILLS 25-TEILIGE BOHRERSÄTZE

SADA

HSS	HSSCo						



Objednáací číslo Order No. Bestell-Nr.	Norma Standard Norm	Obsah kazety / Contents of set / Satzinhalt ØD mm	Code SADA
A002025V000S	PN 2913	1,0 - 13,0 à 0,5 mm	25DÍLNÁ 2913
A002025V400S	PN 2907		25DÍLNÁ 2907
A002025T000S	ČSN 221121		25DÍLNÁ 221121

Poznámka / Note / Notiz: PN 2913 viz strana / see page / siehe Seite 12-13
PN 2907 viz strana / see page / siehe Seite 18
ČSN 221121 viz strana / see page / siehe Seite 10-11



SADA

DIN 338 RN


41DÍLNÉ SADY VRTÁKŮ
SETS OF 41 DRILLS
41-TEILIGE BOHRERSÄTZE


HSS	HSSCo							

Objednáací číslo Order No. Bestell-Nr.	Norma Standard Norm	Obsah kazety / Contents of set / Satzinhalt ØD mm	Code SADA
A002041V000S	PN 2913		41DÍLNÁ 2913
A002041V400S	PN 2907	6,0 - 10,0	41DÍLNÁ 2907
A002041T000S	ČSN 221121	à 0,1 mm	41DÍLNÁ 221121

Poznámka / Note / Notiz: PN 2913 viz strana / see page / siehe Seite 12-13
 PN 2907 viz strana / see page / siehe Seite 18
 ČSN 221121 viz strana / see page / siehe Seite 10-11

SADA

DIN 338 RN


50DÍLNÉ SADY VRTÁKŮ
SETS OF 50 DRILLS
50-TEILIGE BOHRERSÄTZE


HSS	HSSCo							

Objednáací číslo Order No. Bestell-Nr.	Norma Standard Norm	Obsah kazety / Contents of set / Satzinhalt ØD mm	Code SADA
A002050V000S	PN 2913		50DÍLNÁ 2913
A002050V400S	PN 2907	1,0 - 5,9	50DÍLNÁ 2907
A002050T000S	ČSN 221121	à 0,1 mm	50DÍLNÁ 221121

Poznámka / Note / Notiz: PN 2913 viz strana / see page / siehe Seite 12-13
 PN 2907 viz strana / see page / siehe Seite 18
 ČSN 221121 viz strana / see page / siehe Seite 10-11

SADA

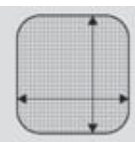
DIN 338 RN


81DÍLNÉ SADY VRTÁKŮ
SETS OF 81 DRILLS
81-TEILIGES BOHRERSATZ


HSS	HSSCo							

Objednáací číslo Order No. Bestell-Nr.	Norma Standard Norm	Obsah kazety / Contents of set / Satzinhalt ØD mm	Code SADA
A002081V000S	PN 2913		81DÍLNÁ 2913
A002081V400S	PN 2907	2,0 - 10,0	81DÍLNÁ 2907
		à 0,1 mm	

Poznámka / Note / Notiz: PN 2913 viz strana / see page / siehe Seite 12-13
 PN 2907 viz strana / see page / siehe Seite 18





91DÍLNÉ SADY VRTÁKŮ SETS OF 91 DRILLS 91-TEILIGE BOHRERSÄTZE

SADA

DIN 338 RN

HSS	HSSCo	R					



Objednáací číslo Order No. Bestell-Nr.	Norma Standard Norm	Obsah kazety / Contents of set / Satzhalt ØD mm	Code SADA
A002091T111S	221121*		91DÍLNÁ 221121
A002091T000S	221121**		91DÍLNÁ 221121 (s víkem)
A002091V111S	2913*	1,0 - 10,0	91DÍLNÁ 2913
A002091V000S	2913**	à 0,1 mm	91DÍLNÁ 2913 (s víkem)
A002091V400S	2907**		91DÍLNÁ 2907 (s víkem)

Poznámka / Note / Notiz: * bez víka / without cover / ohne Deckel; ** s víkem / with cover / mit Deckel

ČSN 221121 viz strana / see page / siehe Seite 10-11

PN 2913 viz strana / see page / siehe Seite 12-13

PN 2907 viz strana / see page / siehe Seite 18



SADA VYTAHOVAČŮ SET OF SCREW EXTRACTORS EXTRAKTORSATZ

ČSN 238980

HTS	PAS	L					



Objednáací číslo Order No. Bestell-Nr.	Číslo Number Nummer	Obsah kazety / Contents of set / Satzhalt	Code 238980
E807000T500S	1; 2; 3; 4; 5	(1) M 3 - M 4,5 (2) M 5 - M 7 (3) M 8 - M 10 (4) M 11 - M 14 (5) M 16 - M 18	1-5 PRO M3-18



SADA VYTAHOVAČŮ S VRTÁKY SET OF SCREW EXTRACTORS WITH DRILLS EXTRAKTORSATZ MIT BOHRERN

ČSN 238980.1

HTS	HSS	PAS					



Objednáací číslo Order No. Bestell-Nr.	Číslo Number Nummer	Obsah kazety / Contents of set / Satzhalt	Code 238980.1
E818000T500S	1; 2; 3; 4; 5	(1) M 3 - M 4,5 + Ø 2 (2) M 5 - M 7 + Ø 3 (3) M 8 - M 10 + Ø 4,5 (4) M 11 - M 14 + Ø 7 (5) M 16 - M 18 + Ø 10	1-5 PRO M3-18



Vrtáky s válcovou stopkou

Straight shank drills

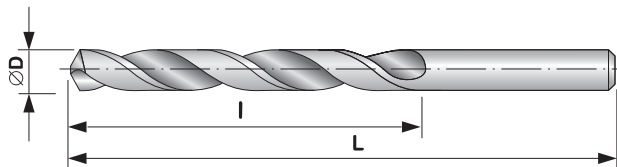
Spiralbohrer mit Zylinderschaft

VRTÁKY S VÁLCOVOU STOPKOU
JOBBER DRILLS
KURZE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT

ČSN 221121

DIN 338 RN

HSS	PAS					V 1,0 ÷ 1,9	T 2,0 ÷ 20,0	5xD		
Steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics						



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm		Code 221121
A211040T000S	10,40	133	87	0,054	10,4x133/87
A211050T000S	10,50	133	87	0,055	10,5x133/87
A211060T000S	10,60	133	87	0,055	10,6x133/87
A211070T000S	10,70	142	94	0,065	10,7x142/94
A211075T000S	10,75	142	94	0,066	10,75x142/94
A211080T000S	10,80	142	94	0,067	10,8x142/94
A211090T000S	10,90	142	94	0,068	10,9x142/94
A211100T000S	11,00	142	94	0,068	11x142/94
A211110T000S	11,10	142	94	0,069	11,1x142/94
A211120T000S	11,20	142	94	0,069	11,2x142/94
A211125T000S	11,25	142	94	0,069	11,25x142/94
A211130T000S	11,30	142	94	0,070	11,3x142/94
A211140T000S	11,40	142	94	0,070	11,4x142/94
A211150T000S	11,50	142	94	0,071	11,5x142/94
A211160T000S	11,60	142	94	0,071	11,6x142/94
A211170T000S	11,70	142	94	0,073	11,7x142/94
A211175T000S	11,75	142	94	0,075	11,75x142/94
A211180T000S	11,80	142	94	0,075	11,8x142/94
A211190T000S	11,90	151	101	0,086	11,9x151/101
A211200T000S	12,00	151	101	0,086	12x151/101
A211210T000S	12,10	151	101	0,088	12,1x151/101
A211220T000S	12,20	151	101	0,088	12,2x151/101
A211225T000S	12,25	151	101	0,090	12,25x151/101
A211230T000S	12,30	151	101	0,090	12,3x151/101
A211240T000S	12,40	151	101	0,091	12,4x151/101
A211250T000S	12,50	151	101	0,091	12,5x151/101
A211260T000S	12,60	151	101	0,092	12,6x151/101
A211270T000S	12,70	151	101	0,092	12,7x151/101
A211275T000S	12,75	151	101	0,093	12,75x151/101
A211280T000S	12,80	151	101	0,093	12,8x151/101
A211290T000S	12,90	151	101	0,094	12,9x151/101
A211300T000S	13,00	151	101	0,094	13x151/101
A211310T000S	13,10	151	101	0,095	13,1x151/101
A211320T000S	13,20	151	101	0,096	13,2x151/101
A211325T000S	13,25	160	108	0,100	13,25x160/108
A211330T000S	13,30	160	108	0,100	13,3x160/108
A211340T000S	13,40	160	108	0,110	13,4x160/108
A211350T000S	13,50	160	108	0,110	13,5x160/108

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm		Code 221121
A211360T000S	13,60	160	108	0,110	13,6x160/108
A211370T000S	13,70	160	108	0,110	13,7x160/108
A211375T000S	13,75	160	108	0,111	13,75x160/108
A211380T000S	13,80	160	108	0,112	13,8x160/108
A211390T000S	13,90	160	108	0,114	13,9x160/108
A211400T000S	14,00	160	108	0,114	14x160/108
A211410T000S	14,10	169	114	0,125	14,1x169/114
A211420T000S	14,20	169	114	0,125	14,2x169/114
A211425T000S	14,25	169	114	0,125	14,25x169/114
A211430T000S	14,30	169	114	0,128	14,3x169/114
A211440T000S	14,40	169	114	0,130	14,4x169/114
A211450T000S	14,50	169	114	0,130	14,5x169/114
A211460T000S	14,60	169	114	0,130	14,6x169/114
A211470T000S	14,70	169	114	0,137	14,7x169/114
A211475T000S	14,75	169	114	0,137	14,75x169/114
A211480T000S	14,80	169	114	0,137	14,8x169/114
A211490T000S	14,90	169	114	0,137	14,9x169/114
A211500T000S	15,00	169	114	0,137	15x169/114
A211525T000S	15,25	178	120	0,145	15,25x178/120
A211550T000S	15,50	178	120	0,155	15,5x178/120
A211575T000S	15,75	178	120	0,162	15,75x178/120
A211600T000S	16,00	178	120	0,170	16x178/120
A211625T000S	16,25	184	125	0,190	16,25x184/125
A211650T000S	16,50	184	125	0,198	16,5x184/125
A211675T000S	16,75	184	125	0,208	16,75x184/125
A211700T000S	17,00	184	125	0,215	17x184/125
A211725T000S	17,25	191	130	0,220	17,25x191/130
A211750T000S	17,50	191	130	0,224	17,5x191/130
A211775T000S	17,75	191	130	0,228	17,75x191/130
A211800T000S	18,00	191	130	0,232	18x191/130
A211825T000S	18,25	198	135	0,240	18,25x198/135
A211850T000S	18,50	198	135	0,250	18,5x198/135
A211875T000S	18,75	198	135	0,260	18,75x198/135
A211900T000S	19,00	198	135	0,270	19x198/135
A211925T000S	19,25	205	140	0,280	19,25x205/140
A211950T000S	19,50	205	140	0,288	19,5x205/140
A211975T000S	19,75	205	140	0,296	19,75x205/140
A212000T000S	20,00	205	140	0,303	20x205/140

Poznámka / Note / Notiz: ostatní neuvedené rozměry na požádání / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



Vrtáky s válčovou stopkou

Straight shank drills

Spiralbohrer mit Zylinderschaft

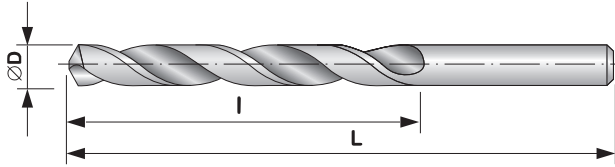


VRTÁKY S VÁLCOVOU STOPKOU
JOBBER DRILLS
KURZE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT

PN 2913

DIN 338 RN

HSS	BLANC	$\epsilon = 118^\circ$	$\lambda = 25^\circ - 30^\circ$	DIN 1412 FORM „N“	R	V	5xD			
Steel < 850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics						



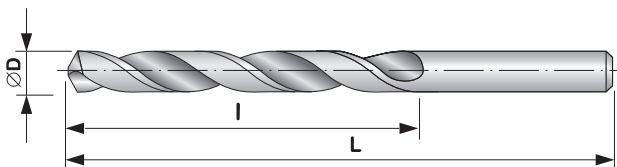
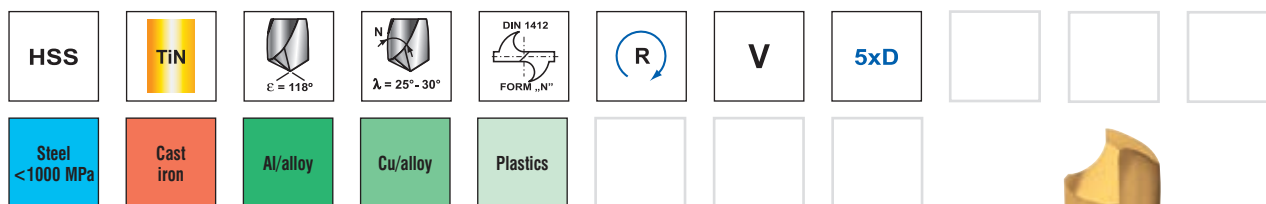
Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2913
A210750V000S	7,50	109	69	0,0230	7,5x109/69
A210760V000S	7,60	117	75	0,0240	7,6x117/75
A210770V000S	7,70	117	75	0,0240	7,7x117/75
A210780V000S	7,80	117	75	0,0250	7,8x117/75
A210790V000S	7,90	117	75	0,0260	7,9x117/75
A210800V000S	8,00	117	75	0,0270	8x117/75
A210810V000S	8,10	117	75	0,0270	8,1x117/75
A210820V000S	8,20	117	75	0,0280	8,2x117/75
A210830V000S	8,30	117	75	0,0290	8,3x117/75
A210840V000S	8,40	117	75	0,0290	8,4x117/75
A210850V000S	8,50	117	75	0,0300	8,5x117/75
A210860V000S	8,60	125	81	0,0350	8,6x125/81
A210870V000S	8,70	125	81	0,0350	8,7x125/81
A210880V000S	8,80	125	81	0,0370	8,8x125/81
A210890V000S	8,90	125	81	0,0380	8,9x125/81
A210900V000S	9,00	125	81	0,0380	9x125/81
A210910V000S	9,10	125	81	0,0380	9,1x125/81
A210920V000S	9,20	125	81	0,0390	9,2x125/81
A210930V000S	9,30	125	81	0,0400	9,3x125/81
A210940V000S	9,40	125	81	0,0420	9,4x125/81
A210950V000S	9,50	125	81	0,0430	9,5x125/81
A210960V000S	9,60	133	87	0,0500	9,6x133/87
A210970V000S	9,70	133	87	0,0500	9,7x133/87
A210980V000S	9,80	133	87	0,0510	9,8x133/87
A210990V000S	9,90	133	87	0,0510	9,9x133/87
A211000V000S	10,00	133	87	0,0520	10x133/87
A211010V000S	10,10	133	87	0,0520	10,1x133/87
A211020V000S	10,20	133	87	0,0530	10,2x133/87
A211030V000S	10,30	133	87	0,0540	10,3x133/87
A211040V000S	10,40	133	87	0,0540	10,4x133/87
A211050V000S	10,50	133	87	0,0550	10,5x133/87
A211060V000S	10,60	133	87	0,0550	10,6x133/87
A211070V000S	10,70	142	94	0,0650	10,7x142/94
A211080V000S	10,80	142	94	0,0670	10,8x142/94
A211090V000S	10,90	142	94	0,0680	10,9x142/94
A211100V000S	11,00	142	94	0,0680	11x142/94
A211110V000S	11,10	142	94	0,0690	11,1x142/94
A211120V000S	11,20	142	94	0,0690	11,2x142/94
A211130V000S	11,30	142	94	0,0700	11,3x142/94
A211140V000S	11,40	142	94	0,0700	11,4x142/94
A211150V000S	11,50	142	94	0,0710	11,5x142/94
A211160V000S	11,60	142	94	0,0710	11,6x142/94
A211170V000S	11,70	142	94	0,0730	11,7x142/94
A211180V000S	11,80	142	94	0,0750	11,8x142/94
A211190V000S	11,90	151	101	0,0860	11,9x151/101
A211200V000S	12,00	151	101	0,0860	12x151/101
A211210V000S	12,10	151	101	0,0880	12,1x151/101
A211220V000S	12,20	151	101	0,0880	12,2x151/101
A211230V000S	12,30	151	101	0,0900	12,3x151/101

Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2913
A211240V000S	12,40	151	101	0,0910	12,4x151/101
A211250V000S	12,50	151	101	0,0910	12,5x151/101
A211260V000S	12,60	151	101	0,0920	12,6x151/101
A211270V000S	12,70	151	101	0,0920	12,7x151/101
A211280V000S	12,80	151	101	0,0930	12,8x151/101
A211290V000S	12,90	151	101	0,0940	12,9x151/101
A211300V000S	13,00	151	101	0,0940	13x151/101
A211310V000S	13,10	151	101	0,0950	13,1x151/101
A211320V000S	13,20	151	101	0,0960	13,2x151/101
A211330V000S	13,30	160	108	0,1000	13,3x160/108
A211340V000S	13,40	160	108	0,1100	13,4x160/108
A211350V000S	13,50	160	108	0,1100	13,5x160/108
A211360V000S	13,60	160	108	0,1110	13,6x160/108
A211370V000S	13,70	160	108	0,1110	13,7x160/108
A211380V000S	13,80	160	108	0,1120	13,8x160/108
A211390V000S	13,90	160	108	0,1140	13,9x160/108
A211400V000S	14,00	160	108	0,1150	14x160/108
A211410V000S	14,10	169	114	0,125	14,1x169/114
A211420V000S	14,20	169	114	0,125	14,2x169/114
A211425V000S	14,25	169	114	0,125	14,25x169/114
A211430V000S	14,30	169	114	0,128	14,3x169/114
A211440V000S	14,40	169	114	0,130	14,4x169/114
A211450V000S	14,50	169	114	0,130	14,5x169/114
A211460V000S	14,60	169	114	0,130	14,6x169/114
A211470V000S	14,70	169	114	0,137	14,7x169/114
A211475V000S	14,75	169	114	0,137	14,75x169/114
A211480V000S	14,80	169	114	0,137	14,8x169/114
A211490V000S	14,90	169	114	0,137	14,9x169/114
A211500V000S	15,00	169	114	0,137	15x169/114
A211525V000S	15,25	178	120	0,145	15,25x178/120
A211550V000S	15,50	178	120	0,155	15,5x178/120
A211575V000S	15,75	178	120	0,162	15,75x178/120
A211600V000S	16,00	178	120	0,170	16x178/120
A211625V000S	16,25	184	125	0,190	16,25x184/125
A211650V000S	16,50	184	125	0,198	16,5x184/125
A211675V000S	16,75	184	125	0,208	16,75x184/125
A211700V000S	17,00	184	125	0,215	17x184/125
A211725V000S	17,25	191	130	0,220	17,25x191/130
A211750V000S	17,50	191	130	0,224	17,5x191/130
A211775V000S	17,75	191	130	0,228	17,75x191/130
A211800V000S	18,00	191	130	0,232	18x191/130
A211825V000S	18,25	198	135	0,240	18,25x198/135
A211850V000S	18,50	198	135	0,250	18,5x198/135
A211875V000S	18,75	198	135	0,260	18,75x198/135
A211900V000S	19,00	198	135	0,270	19x198/135
A211925V000S	19,25	205	140	0,280	19,25x205/140
A211950V000S	19,50	205	140	0,288	19,5x205/140
A211975V000S	19,75	205	140	0,296	19,75x205/140
A212000V000S	20,00	205	140	0,303	20x205/140

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



PN 2931
DIN 338 RN

VRTÁKY S VÁLCOVOU STOPKOU POVLAKOVANÉ TiN
JOBBER DRILLS, TIN COATED
KURZE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, TIN BESCHICHTET


Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2931
A210100Z000S	1,00	34	12	0,0002	1x34/12
A210105Z000S	1,05	34	12	0,0002	1,05x34/12
A210110Z000S	1,10	36	14	0,0002	1,1x36/14
A210115Z000S	1,15	36	14	0,0002	1,15x36/14
A210120Z000S	1,20	38	16	0,0002	1,2x38/16
A210125Z000S	1,25	38	16	0,0003	1,25x38/16
A210130Z000S	1,30	38	16	0,0003	1,3x38/16
A210135Z000S	1,35	40	18	0,0004	1,35x40/18
A210140Z000S	1,40	40	18	0,0004	1,4x40/18
A210145Z000S	1,45	40	18	0,0004	1,45x40/18
A210150Z000S	1,50	40	18	0,0004	1,5x40/18
A210155Z000S	1,55	43	20	0,0005	1,55x43/20
A210160Z000S	1,60	43	20	0,0005	1,6x43/20
A210165Z000S	1,65	43	20	0,0005	1,65x43/20
A210170Z000S	1,70	43	20	0,0005	1,7x43/20
A210175Z000S	1,75	46	22	0,0005	1,75x46/22
A210180Z000S	1,80	46	22	0,0006	1,8x46/22
A210185Z000S	1,85	46	22	0,0006	1,85x46/22
A210190Z000S	1,90	46	22	0,0006	1,9x46/22
A210195Z000S	1,95	49	24	0,0007	1,95x49/24
A210200Z000S	2,00	49	24	0,0007	2x49/24
A210205Z000S	2,05	49	24	0,0008	2,05x49/24
A210210Z000S	2,10	49	24	0,0008	2,1x49/24
A210215Z000S	2,15	53	27	0,0008	2,15x53/27
A210220Z000S	2,20	53	27	0,0009	2,2x53/27
A210225Z000S	2,25	53	27	0,0009	2,25x53/27
A210230Z000S	2,30	53	27	0,001	2,3x53/27
A210235Z000S	2,35	53	27	0,001	2,35x53/27
A210240Z000S	2,40	57	30	0,0012	2,4x57/30
A210245Z000S	2,45	57	30	0,0012	2,45x57/30
A210250Z000S	2,50	57	30	0,0013	2,5x57/30
A210255Z000S	2,55	57	30	0,0013	2,55x57/30
A210260Z000S	2,60	57	30	0,0014	2,6x57/30
A210265Z000S	2,65	57	30	0,0015	2,65x57/30
A210270Z000S	2,70	61	33	0,0016	2,7x61/33
A210275Z000S	2,75	61	33	0,0017	2,75x61/33
A210280Z000S	2,80	61	33	0,0018	2,8x61/33
A210285Z000S	2,85	61	33	0,002	2,85x61/33
A210290Z000S	2,90	61	33	0,0019	2,9x61/33
A210295Z000S	2,95	61	33	0,002	2,95x61/33
A210300Z000S	3,00	61	33	0,0022	3x61/33
A210310Z000S	3,10	65	36	0,0026	3,1x65/36
A210320Z000S	3,20	65	36	0,0028	3,2x65/36
A210330Z000S	3,30	65	36	0,003	3,3x65/36
A210340Z000S	3,40	70	39	0,0034	3,4x70/39
A210350Z000S	3,50	70	39	0,0035	3,5x70/39
A210360Z000S	3,60	70	39	0,0036	3,6x70/39
A210370Z000S	3,70	70	39	0,0038	3,7x70/39
A210380Z000S	3,80	75	43	0,0042	3,8x75/43
A210390Z000S	3,90	75	43	0,0043	3,9x75/43
A210400Z000S	4,00	75	43	0,0044	4x75/43
A210410Z000S	4,10	75	43	0,0048	4,1x75/43
A210420Z000S	4,20	75	43	0,005	4,2x75/43
A210430Z000S	4,30	80	47	0,0055	4,3x80/47
A210440Z000S	4,40	80	47	0,0055	4,4x80/47
A210450Z000S	4,50	80	47	0,006	4,5x80/47
A210460Z000S	4,60	80	47	0,007	4,6x80/47

Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2931
A210470Z000S	4,70	80	47	0,007	4,7x80/47
A210480Z000S	4,80	86	52	0,008	4,8x86/52
A210490Z000S	4,90	86	52	0,008	4,9x86/52
A210500Z000S	5,00	86	52	0,0085	5x86/52
A210510Z000S	5,10	86	52	0,0085	5,1x86/52
A210520Z000S	5,20	86	52	0,009	5,2x86/52
A210530Z000S	5,30	86	52	0,009	5,3x86/52
A210540Z000S	5,40	93	57	0,009	5,4x93/57
A210550Z000S	5,50	93	57	0,01	5,5x93/57
A210560Z000S	5,60	93	57	0,01	5,6x93/57
A210570Z000S	5,70	93	57	0,01	5,7x93/57
A210580Z000S	5,80	93	57	0,012	5,8x93/57
A210590Z000S	5,90	93	57	0,012	5,9x93/57
A210600Z000S	6,00	93	57	0,013	6x93/57
A210610Z000S	6,10	101	63	0,013	6,1x101/63
A210620Z000S	6,20	101	63	0,014	6,2x101/63
A210630Z000S	6,30	101	63	0,015	6,3x101/63
A210640Z000S	6,40	101	63	0,016	6,4x101/63
A210650Z000S	6,50	101	63	0,017	6,5x101/63
A210660Z000S	6,60	101	63	0,018	6,6x101/63
A210670Z000S	6,70	101	63	0,019	6,7x101/63
A210680Z000S	6,80	109	69	0,0195	6,8x109/69
A210690Z000S	6,90	109	69	0,02	6,9x109/69
A210700Z000S	7,00	109	69	0,02	7x109/69
A210710Z000S	7,10	109	69	0,021	7,1x109/69
A210720Z000S	7,20	109	69	0,021	7,2x109/69
A210730Z000S	7,30	109	69	0,022	7,3x109/69
A210740Z000S	7,40	109	69	0,023	7,4x109/69
A210750Z000S	7,50	109	69	0,023	7,5x109/69
A210760Z000S	7,60	117	75	0,024	7,6x117/75
A210770Z000S	7,70	117	75	0,024	7,7x117/75
A210780Z000S	7,80	117	75	0,025	7,8x117/75
A210790Z000S	7,90	117	75	0,026	7,9x117/75
A210800Z000S	8,00	117	75	0,027	8x117/75
A210810Z000S	8,10	117	75	0,027	8,1x117/75
A210820Z000S	8,20	117	75	0,028	8,2x117/75
A210830Z000S	8,30	117	75	0,029	8,3x117/75
A210840Z000S	8,40	117	75	0,029	8,4x117/75
A210850Z000S	8,50	117	75	0,03	8,5x117/75
A210860Z000S	8,60	125	81	0,035	8,6x125/81
A210870Z000S	8,70	125	81	0,035	8,7x125/81
A210880Z000S	8,80	125	81	0,037	8,8x125/81
A210890Z000S	8,90	125	81	0,038	8,9x125/81
A210900Z000S	9,00	125	81	0,039	9x125/81
A210910Z000S	9,10	125	81	0,039	9,1x125/81
A210920Z000S	9,20	125	81	0,039	9,2x125/81
A210930Z000S	9,30	125	81	0,04	9,3x125/81
A210940Z000S	9,40	125	81	0,042	9,4x125/81
A210950Z000S	9,50	125	81	0,043	9,5x125/81
A210960Z000S	9,60	133	87	0,05	9,6x133/87
A210970Z000S	9,70	133	87	0,05	9,7x133/87
A210980Z000S	9,80	133	87	0,051	9,8x133/87
A210990Z000S	9,90	133	87	0,051	9,9x133/87
A211000Z000S	10,00	133	87	0,052	10x133/87
A211010Z000S	10,10	133	87	0,052	10,1x133/87
A211020Z000S	10,20	133	87	0,053	10,2x133/87



Vrtáky s válcovou stopkou

Straight shank drills

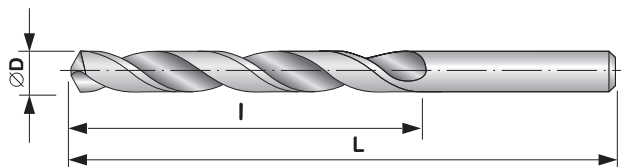
Spiralbohrer mit Zylinderschaft

VRTÁKY S VÁLCOVOU STOPKOU POVLAKOVANÉ TIN
JOBBER DRILLS, TIN COATED
KURZE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, TIN BESCHICHTET

PN 2931

DIN 338 RN

HSS	TiN					V	5xD			
Steel <1000 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics						



Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm		Code 2931
A211030Z000S	10,30	133	87	0,054	10,3x133/87
A211040Z000S	10,40	133	87	0,054	10,4x133/87
A211050Z000S	10,50	133	87	0,055	10,5x133/87
A211060Z000S	10,60	133	87	0,055	10,6x133/87
A211070Z000S	10,70	142	94	0,065	10,7x142/94
A211080Z000S	10,80	142	94	0,067	10,8x142/94
A211090Z000S	10,90	142	94	0,068	10,9x142/94
A211100Z000S	11,00	142	94	0,068	11x142/94
A211110Z000S	11,10	142	94	0,069	11,1x142/94
A211120Z000S	11,20	142	94	0,069	11,2x142/94
A211130Z000S	11,30	142	94	0,07	11,3x142/94
A211140Z000S	11,40	142	94	0,07	11,4x142/94
A211150Z000S	11,50	142	94	0,071	11,5x142/94
A211160Z000S	11,60	142	94	0,071	11,6x142/94
A211170Z000S	11,70	142	94	0,073	11,7x142/94
A211180Z000S	11,80	142	94	0,075	11,8x142/94
A211190Z000S	11,90	151	101	0,086	11,9x151/101
A211200Z000S	12,00	151	101	0,086	12x151/101
A211210Z000S	12,10	151	101	0,088	12,1x151/101
A211220Z000S	12,20	151	101	0,088	12,2x151/101
A211230Z000S	12,30	151	101	0,09	12,3x151/101
A211240Z000S	12,40	151	101	0,091	12,4x151/101
A211250Z000S	12,50	151	101	0,091	12,5x151/101
A211260Z000S	12,60	151	101	0,092	12,6x151/101
A211270Z000S	12,70	151	101	0,092	12,7x151/101
A211280Z000S	12,80	151	101	0,093	12,8x151/101
A211290Z000S	12,90	151	101	0,094	12,9x151/101
A211300Z000S	13,00	151	101	0,094	13x151/101
A211310Z000S	13,10	151	101	0,095	13,1x151/101
A211320Z000S	13,20	151	101	0,096	13,2x151/101
A211330Z000S	13,30	160	108	0,1	13,3x160/108
A211340Z000S	13,40	160	108	0,11	13,4x160/108
A211350Z000S	13,50	160	108	0,11	13,5x160/108
A211360Z000S	13,60	160	108	0,11	13,6x160/108
A211370Z000S	13,70	160	108	0,11	13,7x160/108

Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm		Code 2931
A211380Z000S	13,80	160	108	0,112	13,8x160/108
A211390Z000S	13,90	160	108	0,114	13,9x160/108
A211400Z000S	14,00	160	108	0,114	14x160/108
A211410Z000S	14,10	169	114	0,125	14,1x169/114
A211420Z000S	14,20	169	114	0,125	14,2x169/114
A211425Z000S	14,25	169	114	0,125	14,25x169/114
A211430Z000S	14,30	169	114	0,128	14,3x169/114
A211440Z000S	14,40	169	114	0,130	14,4x169/114
A211450Z000S	14,50	169	114	0,130	14,5x169/114
A211460Z000S	14,60	169	114	0,130	14,6x169/114
A211470Z000S	14,70	169	114	0,137	14,7x169/114
A211475Z000S	14,75	169	114	0,137	14,75x169/114
A211480Z000S	14,80	169	114	0,137	14,8x169/114
A211490Z000S	14,90	169	114	0,137	14,9x169/114
A211500Z000S	15,00	169	114	0,137	15x169/114
A211525Z000S	15,25	178	120	0,145	15,25x178/120
A211550Z000S	15,50	178	120	0,155	15,5x178/120
A211575Z000S	15,75	178	120	0,162	15,75x178/120
A211600Z000S	16,00	178	120	0,170	16x178/120
A211625Z000S	16,25	184	125	0,190	16,25x184/125
A211650Z000S	16,50	184	125	0,198	16,5x184/125
A211675Z000S	16,75	184	125	0,208	16,75x184/125
A211700Z000S	17,00	184	125	0,215	17x184/125
A211725Z000S	17,25	191	130	0,220	17,25x191/130
A211750Z000S	17,50	191	130	0,224	17,5x191/130
A211775Z000S	17,75	191	130	0,228	17,75x191/130
A211800Z000S	18,00	191	130	0,232	18x191/130
A211825Z000S	18,25	198	135	0,240	18,25x198/135
A211850Z000S	18,50	198	135	0,250	18,5x198/135
A211875Z000S	18,75	198	135	0,260	18,75x198/135
A211900Z000S	19,00	198	135	0,270	19x198/135
A211925Z000S	19,25	205	140	0,280	19,25x205/140
A211950Z000S	19,50	205	140	0,288	19,5x205/140
A211975Z000S	19,75	205	140	0,296	19,75x205/140
A212000Z000S	20,00	205	140	0,303	20x205/140

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage

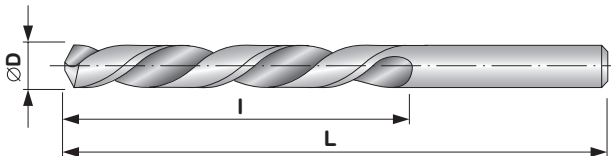
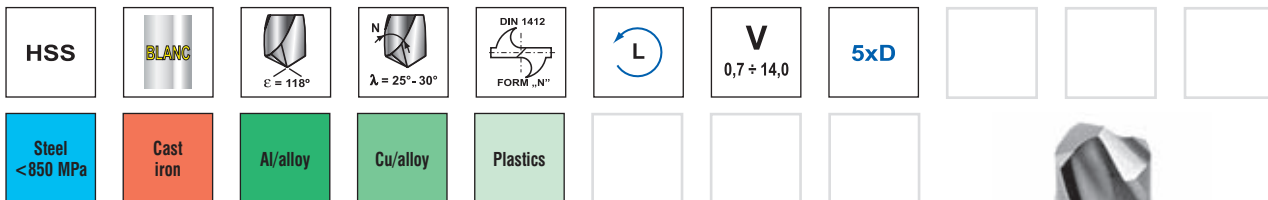


PN 2914

DIN 338 LN



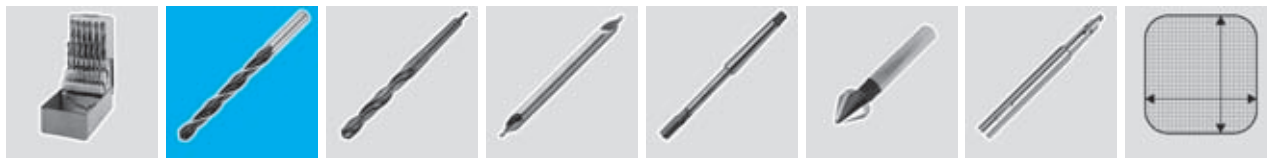
VRTÁKY S VÁLCOVOU STOPKOU, LEVOŘEZNÉ
JOBBER DRILLS, LEFT HAND CUTTING
KURZE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, LINKSSCHNEIDEND



Objednáací číslo Order No. Bestell-Nr.	∅D mm	L mm	I mm	kg	Code 2914
A310070L000S	0,70	28	9	0,00007	0,7x28/9
A310080L000S	0,80	30	10	0,00011	0,8x30/10
A310090L000S	0,90	32	11	0,00014	0,9x32/11
A310100L000S	1,00	34	12	0,00019	1x34/12
A310110L000S	1,10	36	14	0,00022	1,1x36/14
A310120L000S	1,20	38	16	0,00028	1,2x38/16
A310130L000S	1,30	38	16	0,00036	1,3x38/16
A310140L000S	1,40	40	18	0,00043	1,4x40/18
A310150L000S	1,50	40	18	0,00051	1,5x40/18
A310160L000S	1,60	43	20	0,00058	1,6x43/20
A310170L000S	1,70	43	20	0,00064	1,7x43/20
A310180L000S	1,80	46	22	0,00072	1,8x46/22
A310190L000S	1,90	46	22	0,00084	1,9x46/22
A310200L000S	2,00	49	24	0,00095	2x49/24
A310210L000S	2,10	49	24	0,0011	2,1x49/24
A310220L000S	2,20	53	27	0,0013	2,2x53/27
A310230L000S	2,30	53	27	0,0014	2,3x53/27
A310240L000S	2,40	57	30	0,0016	2,4x57/30
A310250L000S	2,50	57	30	0,0017	2,5x57/30
A310260L000S	2,60	57	30	0,0019	2,6x57/30
A310270L000S	2,70	61	33	0,0021	2,7x61/33
A310280L000S	2,80	61	33	0,0023	2,8x61/33
A310290L000S	2,90	61	33	0,0025	2,9x61/33
A310300L000S	3,00	61	33	0,0029	3x61/33
A310310L000S	3,10	65	36	0,0031	3,1x65/36
A310320L000S	3,20	65	36	0,0032	3,2x65/36
A310330L000S	3,30	65	36	0,0034	3,3x65/36
A310340L000S	3,40	70	39	0,0036	3,4x70/39
A310350L000S	3,50	70	39	0,0039	3,5x70/39
A310360L000S	3,60	70	39	0,0042	3,6x70/39
A310370L000S	3,70	70	39	0,0045	3,7x70/39
A310380L000S	3,80	75	43	0,0049	3,8x75/43
A310390L000S	3,90	75	43	0,0053	3,9x75/43
A310400L000S	4,00	75	43	0,0056	4x75/43
A310410L000S	4,10	75	43	0,0059	4,1x75/43
A310420L000S	4,20	75	43	0,0061	4,2x75/43
A310430L000S	4,30	80	47	0,0066	4,3x80/47
A310440L000S	4,40	80	47	0,0072	4,4x80/47
A310450L000S	4,50	80	47	0,0075	4,5x80/47
A310460L000S	4,60	80	47	0,0080	4,6x80/47
A310470L000S	4,70	80	47	0,0085	4,7x80/47
A310480L000S	4,80	86	52	0,0090	4,8x86/52
A310490L000S	4,90	86	52	0,0095	4,9x86/52
A310500L000S	5,00	86	52	0,010	5x86/52
A310510L000S	5,10	86	52	0,011	5,1x86/52
A310520L000S	5,20	86	52	0,011	5,2x86/52
A310530L000S	5,30	86	52	0,012	5,3x86/52
A310540L000S	5,40	93	57	0,012	5,4x93/57
A310550L000S	5,50	93	57	0,013	5,5x93/57
A310560L000S	5,60	93	57	0,013	5,6x93/57
A310570L000S	5,70	93	57	0,014	5,7x93/57
A310580L000S	5,80	93	57	0,014	5,8x93/57
A310590L000S	5,90	93	57	0,015	5,9x93/57
A310600L000S	6,00	93	57	0,016	6x93/57
A310610L000S	6,10	101	63	0,016	6,1x101/63

Objednáací číslo Order No. Bestell-Nr.	∅D mm	L mm	I mm	kg	Code 2914
A310620L000S	6,20	101	63	0,017	6,2x101/63
A310630L000S	6,30	101	63	0,017	6,3x101/63
A310640L000S	6,40	101	63	0,018	6,4x101/63
A310650L000S	6,50	101	63	0,018	6,5x101/63
A310660L000S	6,60	101	63	0,019	6,6x101/63
A310670L000S	6,70	101	63	0,019	6,7x101/63
A310680L000S	6,80	109	69	0,020	6,8x109/69
A310690L000S	6,90	109	69	0,021	6,9x109/69
A310700L000S	7,00	109	69	0,022	7x109/69
A310710L000S	7,10	109	69	0,023	7,1x109/69
A310720L000S	7,20	109	69	0,024	7,2x109/69
A310730L000S	7,30	109	69	0,025	7,3x109/69
A310740L000S	7,40	109	69	0,026	7,4x109/69
A310750L000S	7,50	109	69	0,028	7,5x109/69
A310760L000S	7,60	117	75	0,029	7,6x117/75
A310770L000S	7,70	117	75	0,030	7,7x117/75
A310780L000S	7,80	117	75	0,031	7,8x117/75
A310790L000S	7,90	117	75	0,032	7,9x117/75
A310800L000S	8,00	117	75	0,034	8x117/75
A310810L000S	8,10	117	75	0,036	8,1x117/75
A310820L000S	8,20	117	75	0,037	8,2x117/75
A310830L000S	8,30	117	75	0,038	8,3x117/75
A310840L000S	8,40	117	75	0,039	8,4x117/75
A310850L000S	8,50	117	75	0,040	8,5x117/75
A310860L000S	8,60	125	81	0,041	8,6x125/81
A310870L000S	8,70	125	81	0,042	8,7x125/81
A310880L000S	8,80	125	81	0,043	8,8x125/81
A310890L000S	8,90	125	81	0,044	8,9x125/81
A310900L000S	9,00	125	81	0,045	9x125/81
A310910L000S	9,10	125	81	0,046	9,1x125/81
A310920L000S	9,20	125	81	0,047	9,2x125/81
A310930L000S	9,30	125	81	0,048	9,3x125/81
A310940L000S	9,40	125	81	0,049	9,4x125/81
A310950L000S	9,50	125	81	0,050	9,5x125/81
A310960L000S	9,60	133	87	0,052	9,6x133/87
A310970L000S	9,70	133	87	0,054	9,7x133/87
A310980L000S	9,80	133	87	0,055	9,8x133/87
A310990L000S	9,90	133	87	0,056	9,9x133/87
A311000L000S	10,00	133	87	0,058	10x133/87
A311020L000S	10,20	133	87	0,061	10,2x133/87
A311050L000S	10,50	133	87	0,064	10,5x133/87
A311080L000S	10,80	142	94	0,070	10,8x142/94
A311100L000S	11,00	142	94	0,072	11x142/94
A311120L000S	11,20	142	94	0,074	11,2x142/94
A311150L000S	11,50	142	94	0,077	11,5x142/94
A311180L000S	11,80	142	94	0,080	11,8x142/94
A311200L000S	12,00	151	101	0,085	12x151/101
A311220L000S	12,20	151	101	0,091	12,2x151/101
A311250L000S	12,50	151	101	0,099	12,5x151/101
A311280L000S	12,80	151	101	0,104	12,8x151/101
A311300L000S	13,00	151	101	0,108	13x151/101
A311320L000S	13,20	151	101	0,112	13,2x151/101
A311350L000S	13,50	160	108	0,117	13,5x160/108
A311380L000S	13,80	160	108	0,129	13,8x160/108
A311400L000S	14,00	160	108	0,133	14x160/108

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



Vrtáky s válcovou stopkou

Straight shank drills

Spiralbohrer mit Zylinderschaft



VRTÁKY S VÁLCOVOU STOPKOU, LEVOŘEZNÉ
JOBBER DRILLS, LEFT HAND CUTTING
KURZE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, LINKSSCHNEIDEND

ČSN 221131

DIN 338 LN

na požávku
on request
auf Anfrage

HSS

PAS



F
14,25±20,0

5xD

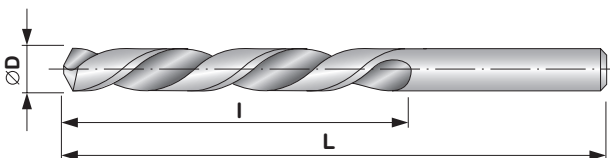
Steel
< 850 Mpa

Cast
iron

Al/alloy

Cu/alloy

Plastics



Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 221131
A311425F000S	14,25	169	114	0,139	14,25x169/114
A311450F000S	14,50	169	114	0,139	14,5x169/114
A311485F000S	14,75	169	114	0,142	14,75x169/114
A311500F000S	15,00	169	114	0,145	15x169/114
A311525F000S	15,25	178	120	0,155	15,25x178/120
A311550F000S	15,50	178	120	0,163	15,5x178/120
A311575F000S	15,75	178	120	0,173	15,75x178/120
A311600F000S	16,00	178	120	0,185	16x178/120
A311625F000S	16,25	184	125	0,195	16,25x184/125
A311650F000S	16,50	184	125	0,210	16,5x184/125
A311675F000S	16,75	184	125	0,216	16,75x184/125
A311700F000S	17,00	184	125	0,220	17x184/125

Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 221131
A311725F000S	17,25	191	130	0,230	17,25x191/130
A311750F000S	17,50	191	130	0,235	17,5x191/130
A311775F000S	17,75	191	130	0,240	17,75x191/130
A311800F000S	18,00	191	130	0,245	18x191/130
A311825F000S	18,25	198	135	0,255	18,25x198/135
A311850F000S	18,50	198	135	0,260	18,5x198/135
A311875F000S	18,75	198	135	0,268	18,75x198/135
A311900F000S	19,00	198	135	0,278	19x198/135
A311925F000S	19,25	205	140	0,288	19,25x205/140
A311950F000S	19,50	205	140	0,300	19,5x205/140
A311975F000S	19,75	205	140	0,310	19,75x205/140
A312000F000S	20,00	205	140	0,320	20x205/140



PN 2907

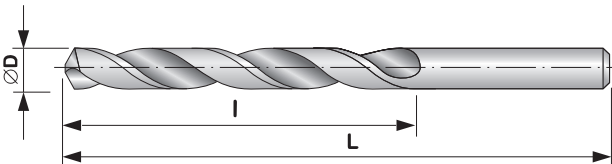
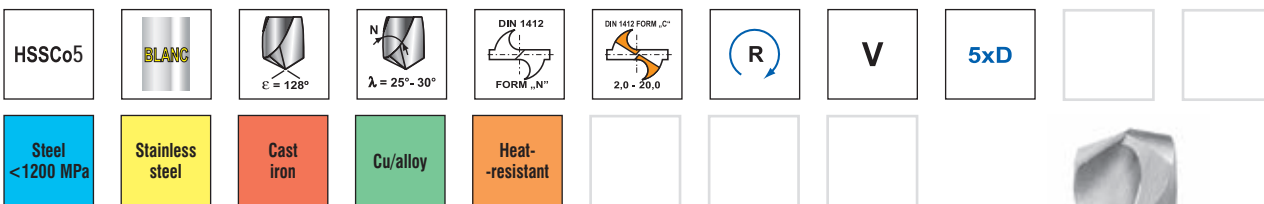
DIN 338 RN





VRTÁKY S VÁLCOVOU STOPKOU PRO TĚŽKO OBROBITELNÉ MATERIÁLY

COBALT JOBBER DRILLS

KURZE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, FÜR SCHWER ZERSPANBARE WERKSTOFFE



Objednací číslo Order No. Bestell-Nr.	$\varnothing D$ mm	L mm	I mm		Code 2907
A270060V400S	0,60	24	7	0,0005	0,6x24/7
A270070V400S	0,70	28	9	0,0006	0,7x28/9
A270080V400S	0,80	30	10	0,0006	0,8x30/10
A270085V400S	0,85	30	10	0,0006	0,85x30/10
A270090V400S	0,90	32	11	0,0007	0,9x32/11
A270095V400S	0,95	32	11	0,0007	0,95x32/11
A270100V400S	1,00	34	12	0,0007	1x34/12
A270110V400S	1,10	36	14	0,0007	1,1x36/14
A270120V400S	1,20	38	16	0,0008	1,2x38/16
A270130V400S	1,30	38	16	0,0008	1,3x38/16
A270140V400S	1,40	40	18	0,0009	1,4x40/18
A270150V400S	1,50	40	18	0,0009	1,5x40/18
A270160V400S	1,60	43	20	0,0009	1,6x43/20
A270170V400S	1,70	43	20	0,001	1,7x43/20
A270180V400S	1,80	46	22	0,001	1,8x46/22
A270190V400S	1,90	46	22	0,001	1,9x46/22
A270200V400S	2,00	49	24	0,001	2x49/24
A270210V400S	2,10	49	24	0,001	2,1x49/24
A270220V400S	2,20	53	27	0,001	2,2x53/27
A270230V400S	2,30	53	27	0,001	2,3x53/27
A270240V400S	2,40	57	30	0,002	2,4x57/30
A270250V400S	2,50	57	30	0,002	2,5x57/30
A270260V400S	2,60	57	30	0,002	2,6x57/30
A270270V400S	2,70	61	33	0,002	2,7x61/33
A270280V400S	2,80	61	33	0,002	2,8x61/33
A270290V400S	2,90	61	33	0,003	2,9x61/33
A270300V400S	3,00	61	33	0,003	3x61/33
A270310V400S	3,10	65	36	0,003	3,1x65/36
A270320V400S	3,20	65	36	0,003	3,2x65/36
A270330V400S	3,30	65	36	0,003	3,3x65/36
A270340V400S	3,40	70	39	0,004	3,4x70/39
A270350V400S	3,50	70	39	0,004	3,5x70/39
A270360V400S	3,60	70	39	0,004	3,6x70/39
A270370V400S	3,70	70	39	0,004	3,7x70/39
A270380V400S	3,80	75	43	0,004	3,8x75/43
A270390V400S	3,90	75	43	0,005	3,9x75/43
A270400V400S	4,00	75	43	0,005	4x75/43
A270410V400S	4,10	75	43	0,005	4,1x75/43
A270420V400S	4,20	75	43	0,006	4,2x75/43
A270430V400S	4,30	80	47	0,006	4,3x80/47
A270440V400S	4,40	80	47	0,006	4,4x80/47
A270450V400S	4,50	80	47	0,007	4,5x80/47
A270460V400S	4,60	80	47	0,007	4,6x80/47
A270470V400S	4,70	80	47	0,007	4,7x80/47
A270480V400S	4,80	86	52	0,008	4,8x86/52
A270490V400S	4,90	86	52	0,008	4,9x86/52
A270500V400S	5,00	86	52	0,009	5x86/52
A270510V400S	5,10	86	52	0,009	5,1x86/52
A270520V400S	5,20	86	52	0,010	5,2x86/52
A270530V400S	5,30	86	52	0,010	5,3x86/52
A270540V400S	5,40	93	57	0,011	5,4x93/57
A270550V400S	5,50	93	57	0,012	5,5x93/57
A270560V400S	5,60	93	57	0,012	5,6x93/57
A270570V400S	5,70	93	57	0,013	5,7x93/57
A270580V400S	5,80	93	57	0,014	5,8x93/57
A270590V400S	5,90	93	57	0,015	5,9x93/57
A270600V400S	6,00	93	57	0,016	6x93/57

Objednací číslo Order No. Bestell-Nr.	$\varnothing D$ mm	L mm	I mm		Code 2907
A270610V400S	6,10	101	63	0,017	6,1x101/63
A270620V400S	6,20	101	63	0,018	6,2x101/63
A270630V400S	6,30	101	63	0,018	6,3x101/63
A270640V400S	6,40	101	63	0,019	6,4x101/63
A270650V400S	6,50	101	63	0,019	6,5x101/63
A270660V400S	6,60	101	63	0,020	6,6x101/63
A270670V400S	6,70	101	63	0,020	6,7x101/63
A270680V400S	6,80	109	69	0,021	6,8x109/69
A270690V400S	6,90	109	69	0,022	6,9x109/69
A270700V400S	7,00	109	69	0,023	7x109/69
A270710V400S	7,10	109	69	0,024	7,1x109/69
A270720V400S	7,20	109	69	0,025	7,2x109/69
A270730V400S	7,30	109	69	0,026	7,3x109/69
A270740V400S	7,40	109	69	0,027	7,4x109/69
A270750V400S	7,50	109	69	0,028	7,5x109/69
A270760V400S	7,60	117	75	0,028	7,6x117/75
A270770V400S	7,70	117	75	0,029	7,7x117/75
A270780V400S	7,80	117	75	0,030	7,8x117/75
A270790V400S	7,90	117	75	0,032	7,9x117/75
A270800V400S	8,00	117	75	0,033	8x117/75
A270810V400S	8,10	117	75	0,034	8,1x117/75
A270820V400S	8,20	117	75	0,035	8,2x117/75
A270830V400S	8,30	117	75	0,036	8,3x117/75
A270840V400S	8,40	117	75	0,036	8,4x117/75
A270850V400S	8,50	117	75	0,037	8,5x117/75
A270860V400S	8,60	125	81	0,037	8,6x125/81
A270870V400S	8,70	125	81	0,038	8,7x125/81
A270880V400S	8,80	125	81	0,039	8,8x125/81
A270890V400S	8,90	125	81	0,042	8,9x125/81
A270900V400S	9,00	125	81	0,045	9x125/81
A270910V400S	9,10	125	81	0,048	9,1x125/81
A270920V400S	9,20	125	81	0,049	9,2x125/81
A270930V400S	9,30	125	81	0,049	9,3x125/81
A270940V400S	9,40	125	81	0,050	9,4x125/81
A270950V400S	9,50	125	81	0,051	9,5x125/81
A270960V400S	9,60	133	87	0,052	9,6x133/87
A270970V400S	9,70	133	87	0,053	9,7x133/87
A270980V400S	9,80	133	87	0,055	9,8x133/87
A270990V400S	9,90	133	87	0,056	9,9x133/87
A271000V400S	10,00	133	87	0,057	10x133/87
A271020V400S	10,20	133	87	0,057	10,2x133/87
A271050V400S	10,50	133	87	0,061	10,5x133/87
A271080V400S	10,80	142	94	0,065	10,8x142/94
A271100V400S	11,00	142	94	0,065	11x142/94
A271120V400S	11,20	142	94	0,068	11,2x142/94
A271150V400S	11,50	142	94	0,071	11,5x142/94
A271180V400S	11,80	142	94	0,075	11,8x142/94
A271200V400S	12,00	151	101	0,081	12x151/101
A271220V400S	12,20	151	101	0,086	12,2x151/101
A271250V400S	12,50	151	101	0,092	12,5x151/101
A271280V400S	12,80	151	101	0,095	12,8x151/101
A271300V400S	13,00	151	101	0,102	13x151/101
A271320V400S	13,20	151	101	0,108	13,2x151/101
A271350V400S	13,50	160	108	0,114	13,5x160/108
A271380V400S	13,80	160	108	0,118	13,8x160/108
A271400V400S	14,00	160	108	0,123	14x160/108

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



Vrtáky s válcovou stopkou

Straight shank drills

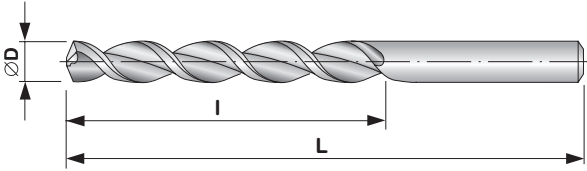
Spiralbohrer mit Zylinderschaft



VRTÁKY S VÁLCOVOU STOPKOU PRO TĚŽKO OBROBITELNÉ MATERIÁLY
COBALT JOBBER DRILLS
 KURZE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, FÜR SCHWER ZERSPANBARE WERKSTOFFE

PN 2907-T 1000

HSSCo5	BLANC	$\epsilon = 128^\circ$	$\lambda = 25^\circ - 40^\circ$	T1000 (GT 100)	DIN 1412 FORM „C“ 2,0 - 14,0	R	V	5xD		
Steel <1200 MPa	Stainless steel	Cast iron	Cu/alloy	Heat-resistant						



Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2907 T1000
A270200G400S	2,00	49	24	0,001	2x49/24 T1000
A270210G400S	2,10	49	24	0,001	2,1x49/24 T1000
A270220G400S	2,20	53	27	0,001	2,2x53/27 T1000
A270230G400S	2,30	53	27	0,001	2,3x53/27 T1000
A270240G400S	2,40	57	30	0,002	2,4x57/30 T1000
A270250G400S	2,50	57	30	0,002	2,5x57/30 T1000
A270260G400S	2,60	57	30	0,002	2,6x57/30 T1000
A270270G400S	2,70	61	33	0,002	2,7x61/33 T1000
A270280G400S	2,80	61	33	0,002	2,8x61/33 T1000
A270290G400S	2,90	61	33	0,003	2,9x61/33 T1000
A270300G400S	3,00	61	33	0,003	3x61/33 T1000
A270310G400S	3,10	65	36	0,003	3,1x65/36 T1000
A270320G400S	3,20	65	36	0,003	3,2x65/36 T1000
A270330G400S	3,30	65	36	0,003	3,3x65/36 T1000
A270340G400S	3,40	70	39	0,004	3,4x70/39 T1000
A270350G400S	3,50	70	39	0,004	3,5x70/39 T1000
A270360G400S	3,60	70	39	0,004	3,6x70/39 T1000
A270370G400S	3,70	70	39	0,004	3,7x70/39 T1000
A270380G400S	3,80	75	43	0,004	3,8x75/43 T1000
A270390G400S	3,90	75	43	0,005	3,9x75/43 T1000
A270400G400S	4,00	75	43	0,005	4x75/43 T1000
A270410G400S	4,10	75	43	0,005	4,1x75/43 T1000
A270420G400S	4,20	75	43	0,006	4,2x75/43 T1000
A270430G400S	4,30	80	47	0,006	4,3x80/47 T1000
A270440G400S	4,40	80	47	0,006	4,4x80/47 T1000
A270450G400S	4,50	80	47	0,007	4,5x80/47 T1000
A270460G400S	4,60	80	47	0,007	4,6x80/47 T1000
A270470G400S	4,70	80	47	0,007	4,7x80/47 T1000
A270480G400S	4,80	86	52	0,008	4,8x86/52 T1000
A270490G400S	4,90	86	52	0,008	4,9x86/52 T1000
A270500G400S	5,00	86	52	0,009	5x86/52 T1000
A270510G400S	5,10	86	52	0,009	5,1x86/52 T1000
A270520G400S	5,20	86	52	0,010	5,2x86/52 T1000
A270530G400S	5,30	86	52	0,010	5,3x86/52 T1000
A270540G400S	5,40	93	57	0,011	5,4x93/57 T1000
A270550G400S	5,50	93	57	0,012	5,5x93/57 T1000
A270560G400S	5,60	93	57	0,012	5,6x93/57 T1000
A270570G400S	5,70	93	57	0,013	5,7x93/57 T1000
A270580G400S	5,80	93	57	0,014	5,8x93/57 T1000
A270590G400S	5,90	93	57	0,015	5,9x93/57 T1000
A270600G400S	6,00	93	57	0,016	6x93/57 T1000
A270610G400S	6,10	101	63	0,017	6,1x101/63 T1000
A270620G400S	6,20	101	63	0,018	6,2x101/63 T1000
A270630G400S	6,30	101	63	0,018	6,3x101/63 T1000
A270640G400S	6,40	101	63	0,019	6,4x101/63 T1000
A270650G400S	6,50	101	63	0,019	6,5x101/63 T1000
A270660G400S	6,60	101	63	0,020	6,6x101/63 T1000
A270670G400S	6,70	101	63	0,020	6,7x101/63 T1000
A270680G400S	6,80	109	69	0,021	6,8x109/69 T1000

Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2907 T1000
A270690G400S	6,90	109	69	0,022	6,9x109/69 T1000
A270700G400S	7,00	109	69	0,023	7x109/69 T1000
A270710G400S	7,10	109	69	0,024	7,1x109/69 T1000
A270720G400S	7,20	109	69	0,025	7,2x109/69 T1000
A270730G400S	7,30	109	69	0,026	7,3x109/69 T1000
A270740G400S	7,40	109	69	0,027	7,4x109/69 T1000
A270750G400S	7,50	109	69	0,028	7,5x109/69 T1000
A270760G400S	7,60	117	75	0,028	7,6x117/75 T1000
A270770G400S	7,70	117	75	0,029	7,7x117/75 T1000
A270780G400S	7,80	117	75	0,030	7,8x117/75 T1000
A270790G400S	7,90	117	75	0,032	7,9x117/75 T1000
A270800G400S	8,00	117	75	0,033	8x117/75 T1000
A270810G400S	8,10	117	75	0,034	8,1x117/75 T1000
A270820G400S	8,20	117	75	0,035	8,2x117/75 T1000
A270830G400S	8,30	117	75	0,036	8,3x117/75 T1000
A270840G400S	8,40	117	75	0,036	8,4x117/75 T1000
A270850G400S	8,50	117	75	0,037	8,5x117/75 T1000
A270860G400S	8,60	125	81	0,037	8,6x125/81 T1000
A270870G400S	8,70	125	81	0,038	8,7x125/81 T1000
A270880G400S	8,80	125	81	0,039	8,8x125/81 T1000
A270890G400S	8,90	125	81	0,042	8,9x125/81 T1000
A270900G400S	9,00	125	81	0,045	9x125/81 T1000
A270910G400S	9,10	125	81	0,048	9,1x125/81 T1000
A270920G400S	9,20	125	81	0,049	9,2x125/81 T1000
A270930G400S	9,30	125	81	0,049	9,3x125/81 T1000
A270940G400S	9,40	125	81	0,050	9,4x125/81 T1000
A270950G400S	9,50	125	81	0,051	9,5x125/81 T1000
A270960G400S	9,60	133	87	0,052	9,6x133/87 T1000
A270970G400S	9,70	133	87	0,053	9,7x133/87 T1000
A270980G400S	9,80	133	87	0,055	9,8x133/87 T1000
A270990G400S	9,90	133	87	0,056	9,9x133/87 T1000
A271000G400S	10,00	133	87	0,057	10x133/87 T1000
A271020G400S	10,20	133	87	0,057	10,2x133/87 T1000
A271050G400S	10,50	133	87	0,061	10,5x133/87 T1000
A271080G400S	10,80	142	94	0,065	10,8x142/94 T1000
A271100G400S	11,00	142	94	0,065	11x142/94 T1000
A271120G400S	11,20	142	94	0,068	11,2x142/94 T1000
A271150G400S	11,50	142	94	0,071	11,5x142/94 T1000
A271180G400S	11,80	142	94	0,075	11,8x142/94 T1000
A271200G400S	12,00	151	101	0,081	12x151/101 T1000
A271220G400S	12,20	151	101	0,086	12,2x151/101 T1000
A271250G400S	12,50	151	101	0,092	12,5x151/101 T1000
A271280G400S	12,80	151	101	0,095	12,8x151/101 T1000
A271300G400S	13,00	151	101	0,102	13x151/101 T1000
A271320G400S	13,20	151	101	0,108	13,2x151/101 T1000
A271350G400S	13,50	160	108	0,114	13,5x160/108 T1000
A271380G400S	13,80	160	108	0,118	13,8x160/108 T1000
A271400G400S	14,00	160	108	0,123	14x160/108 T1000

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage
 povlakování na poptávku / coating on request / Beschichtung auf Anfrage



PN 2907 UNI FL DIN 338 R UFL

VRTÁKY S VÁLCOVOU STOPKOU PRO TĚŽKO OBROBITELNÉ MATERIÁLY
COBALT JOBBER DRILLS
KURZE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, FÜR SCHWER ZERSPANBARE WERKSTOFFE

na požávkou
on request
auf Anfrage

Steel
<1200 MPa

HSSCo

Stainless steel

BLANC

Cast iron

Uni FL

Al/alloy

$\epsilon = 130^\circ$

Cu/alloy

$\lambda = 40^\circ$

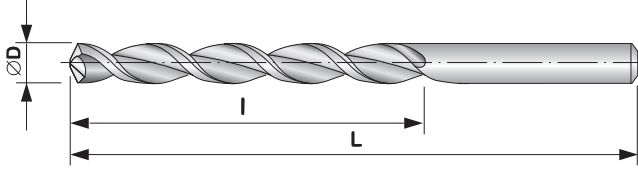
Plastics

DIN 1412
FORM „B“

Heat-resistant

R

5xD



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2907 UFL
A270200U400S	2	49	24	0,001	2x49/24 UFL
A270210U400S	2,1	49	24	0,001	2,1x49/24 UFL
A270220U400S	2,2	53	27	0,001	2,2x53/27 UFL
A270230U400S	2,3	53	27	0,001	2,3x53/27 UFL
A270240U400S	2,4	57	30	0,002	2,4x57/30 UFL
A270250U400S	2,5	57	30	0,002	2,5x57/30 UFL
A270260U400S	2,6	57	30	0,002	2,6x57/30 UFL
A270270U400S	2,7	61	33	0,002	2,7x61/33 UFL
A270280U400S	2,8	61	33	0,002	2,8x61/33 UFL
A270290U400S	2,9	61	33	0,003	2,9x61/33 UFL
A270300U400S	3	61	33	0,003	3x61/33 UFL
A270310U400S	3,1	65	36	0,003	3,1x65/36 UFL
A270320U400S	3,2	65	36	0,003	3,2x65/36 UFL
A270330U400S	3,3	65	36	0,003	3,3x65/36 UFL
A270340U400S	3,4	70	39	0,004	3,4x70/39 UFL
A270350U400S	3,5	70	39	0,004	3,5x70/39 UFL
A270360U400S	3,6	70	39	0,004	3,6x70/39 UFL
A270370U400S	3,7	70	39	0,004	3,7x70/39 UFL
A270380U400S	3,8	75	43	0,004	3,8x75/43 UFL
A270390U400S	3,9	75	43	0,005	3,9x75/43 UFL
A270400U400S	4	75	43	0,005	4x75/43 UFL
A270410U400S	4,1	75	43	0,005	4,1x75/43 UFL
A270420U400S	4,2	75	43	0,006	4,2x75/43 UFL
A270430U400S	4,3	80	47	0,006	4,3x80/47 UFL
A270440U400S	4,4	80	47	0,006	4,4x80/47 UFL
A270450U400S	4,5	80	47	0,007	4,5x80/47 UFL
A270460U400S	4,6	80	47	0,007	4,6x80/47 UFL
A270470U400S	4,7	80	47	0,007	4,7x80/47 UFL
A270480U400S	4,8	86	52	0,008	4,8x86/52 UFL
A270490U400S	4,9	86	52	0,008	4,9x86/52 UFL
A270500U400S	5	86	52	0,009	5x86/52 UFL
A270510U400S	5,1	86	52	0,009	5,1x86/52 UFL
A270520U400S	5,2	86	52	0,01	5,2x86/52 UFL
A270530U400S	5,3	86	52	0,01	5,3x86/52 UFL
A270540U400S	5,4	93	57	0,011	5,4x93/57 UFL
A270550U400S	5,5	93	57	0,012	5,5x93/57 UFL
A270560U400S	5,6	93	57	0,012	5,6x93/57 UFL
A270570U400S	5,7	93	57	0,013	5,7x93/57 UFL
A270580U400S	5,8	93	57	0,014	5,8x93/57 UFL
A270590U400S	5,9	93	57	0,015	5,9x93/57 UFL
A270600U400S	6	93	57	0,016	6x93/57 UFL
A270610U400S	6,1	101	63	0,017	6,1x101/63 UFL
A270620U400S	6,2	101	63	0,018	6,2x101/63 UFL
A270630U400S	6,3	101	63	0,018	6,3x101/63 UFL
A270640U400S	6,4	101	63	0,019	6,4x101/63 UFL
A270650U400S	6,5	101	63	0,019	6,5x101/63 UFL
A270660U400S	6,6	101	63	0,02	6,6x101/63 UFL
A270670U400S	6,7	101	63	0,02	6,7x101/63 UFL
A270680U400S	6,8	109	69	0,021	6,8x109/69 UFL

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2907 UFL
A270690U400S	6,9	109	69	0,022	6,9x109/69 UFL
A270700U400S	7	109	69	0,023	7x109/69 UFL
A270710U400S	7,1	109	69	0,024	7,1x109/69 UFL
A270720U400S	7,2	109	69	0,025	7,2x109/69 UFL
A270730U400S	7,3	109	69	0,026	7,3x109/69 UFL
A270740U400S	7,4	109	69	0,027	7,4x109/69 UFL
A270750U400S	7,5	109	69	0,028	7,5x109/69 UFL
A270760U400S	7,6	117	75	0,028	7,6x117/75 UFL
A270770U400S	7,7	117	75	0,029	7,7x117/75 UFL
A270780U400S	7,8	117	75	0,03	7,8x117/75 UFL
A270790U400S	7,9	117	75	0,032	7,9x117/75 UFL
A270800U400S	8	117	75	0,033	8x117/75 UFL
A270810U400S	8,1	117	75	0,034	8,1x117/75 UFL
A270820U400S	8,2	117	75	0,035	8,2x117/75 UFL
A270830U400S	8,3	117	75	0,036	8,3x117/75 UFL
A270840U400S	8,4	117	75	0,036	8,4x117/75 UFL
A270850U400S	8,5	117	75	0,037	8,5x117/75 UFL
A270860U400S	8,6	125	81	0,037	8,6x125/81 UFL
A270870U400S	8,7	125	81	0,038	8,7x125/81 UFL
A270880U400S	8,8	125	81	0,039	8,8x125/81 UFL
A270890U400S	8,9	125	81	0,042	8,9x125/81 UFL
A270900U400S	9	125	81	0,045	9x125/81 UFL
A270910U400S	9,1	125	81	0,048	9,1x125/81 UFL
A270920U400S	9,2	125	81	0,049	9,2x125/81 UFL
A270930U400S	9,3	125	81	0,049	9,3x125/81 UFL
A270940U400S	9,4	125	81	0,05	9,4x125/81 UFL
A270950U400S	9,5	125	81	0,051	9,5x125/81 UFL
A270960U400S	9,6	133	87	0,052	9,6x133/87 UFL
A270970U400S	9,7	133	87	0,053	9,7x133/87 UFL
A270980U400S	9,8	133	87	0,055	9,8x133/87 UFL
A270990U400S	9,9	133	87	0,056	9,9x133/87 UFL
A271000U400S	10	133	87	0,057	10x133/87 UFL
A271020U400S	10,2	133	87	0,057	10,2x133/87 UFL
A271050U400S	10,5	133	87	0,061	10,5x133/87 UFL
A271080U400S	10,8	142	94	0,065	10,8x142/94 UFL
A271100U400S	11	142	94	0,065	11x142/94 UFL
A271120U400S	11,2	142	94	0,068	11,2x142/94 UFL
A271150U400S	11,5	142	94	0,071	11,5x142/94 UFL
A271180U400S	11,8	142	94	0,075	11,8x142/94 UFL
A271200U400S	12	151	101	0,081	12x151/101 UFL
A271220U400S	12,2	151	101	0,086	12,2x151/101 UFL
A271250U400S	12,5	151	101	0,092	12,5x151/101 UFL
A271280U400S	12,8	151	101	0,095	12,8x151/101 UFL
A271300U400S	13	151	101	0,102	13x151/101 UFL
A271320U400S	13,2	151	101	0,108	13,2x151/101 UFL
A271350U400S	13,5	160	108	0,114	13,5x160/108 UFL
A271380U400S	13,8	160	108	0,118	13,8x160/108 UFL
A271400U400S	14	160	108	0,123	14x160/108 UFL

Poznámka / Note / Notiz: ostatní neuvedené rozměry na požávkou / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage
povlakování na požávkou / coating on request / Beschichtung auf Anfrage

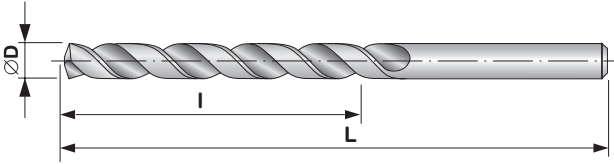
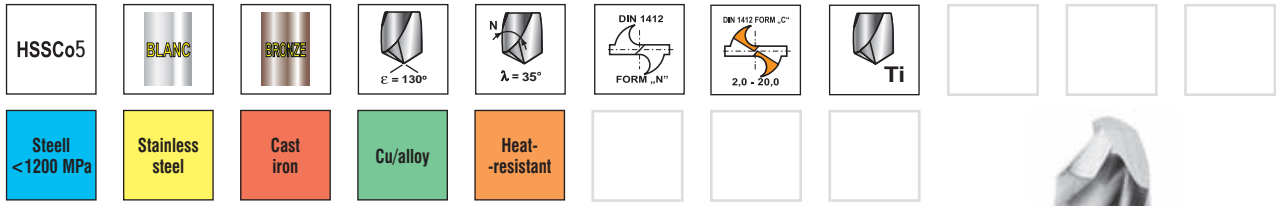




VRTÁKY S VÁLCOVOU STOPKOU PRO TĚŽKO OBROBITELNÉ MATERIÁLY
COBALT JOBBER DRILLS
KURZE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, FÜR SCHWER ZERSPANBARE WERKSTOFFE

PN 2907 Ti

DIN 338 R Ti



Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2907 Ti
A270100W400S	1	34	12	0.007	2x49/24 Ti
A270110W400S	1.1	36	14	0.007	2.1x49/24 Ti
A270120W400S	1.2	38	16	0.008	2.2x53/27 Ti
A270130W400S	1.3	38	16	0.008	2.3x53/27 Ti
A270140W400S	1.4	40	18	0.009	2.4x57/30 Ti
A270150W400S	1.5	40	18	0.009	2.5x57/30 Ti
A270160W400S	1.6	43	20	0.009	2.6x57/30 Ti
A270170W400S	1.7	43	20	0.01	2.7x61/33 Ti
A270180W400S	1.8	46	22	0.01	2.8x61/33 Ti
A270190W400S	1.9	46	22	0.01	2.9x61/33 Ti
A270200W400S	2	49	24	0.01	2x49/24 Ti
A270210W400S	2.1	49	24	0.01	2.1x49/24 Ti
A270220W400S	2.2	53	27	0.01	2.2x53/27 Ti
A270230W400S	2.3	53	27	0.01	2.3x53/27 Ti
A270240W400S	2.4	57	30	0.01	2.4x57/30 Ti
A270250W400S	2.5	57	30	0.01	2.5x57/30 Ti
A270260W400S	2.6	57	30	0.01	2.6x57/30 Ti
A270270W400S	2.7	61	33	0.01	2.7x61/33 Ti
A270280W400S	2.8	61	33	0.01	2.8x61/33 Ti
A270290W400S	2.9	61	33	0.01	2.9x61/33 Ti
A270300W400S	3	61	33	0.01	3x61/33 Ti
A270310W400S	3.1	65	36	0.01	3.1x65/36 Ti
A270320W400S	3.2	65	36	0.01	3.2x65/36 Ti
A270330W400S	3.3	65	36	0.01	3.3x65/36 Ti
A270340W400S	3.4	70	39	0.01	3.4x70/39 Ti
A270350W400S	3.5	70	39	0.01	3.5x70/39 Ti
A270360W400S	3.6	70	39	0.01	3.6x70/39 Ti
A270370W400S	3.7	70	39	0.01	3.7x70/39 Ti
A270380W400S	3.8	75	43	0.01	3.8x75/43 Ti
A270390W400S	3.9	75	43	0.01	3.9x75/43 Ti
A270400W400S	4	75	43	0.01	4x75/43 Ti
A270410W400S	4.1	75	43	0.01	4.1x75/43 Ti
A270420W400S	4.2	75	43	0.01	4.2x75/43 Ti
A270430W400S	4.3	80	47	0.01	4.3x80/47 Ti
A270440W400S	4.4	80	47	0.01	4.4x80/47 Ti
A270450W400S	4.5	80	47	0.01	4.5x80/47 Ti
A270460W400S	4.6	80	47	0.01	4.6x80/47 Ti
A270470W400S	4.7	80	47	0.01	4.7x80/47 Ti
A270480W400S	4.8	86	52	0.01	4.8x86/52 Ti
A270490W400S	4.9	86	52	0.01	4.9x86/52 Ti
A270500W400S	5	86	52	0.01	5x86/52 Ti
A270510W400S	5.1	86	52	0.01	5.1x86/52 Ti
A270520W400S	5.2	86	52	0.01	5.2x86/52 Ti
A270530W400S	5.3	86	52	0.01	5.3x86/52 Ti
A270540W400S	5.4	93	57	0.01	5.4x93/57 Ti
A270550W400S	5.5	93	57	0.01	5.5x93/57 Ti
A270560W400S	5.6	93	57	0.01	5.6x93/57 Ti
A270570W400S	5.7	93	57	0.01	5.7x93/57 Ti
A270580W400S	5.8	93	57	0.01	5.8x93/57 Ti
A270590W400S	5.9	93	57	0.01	5.9x93/57 Ti
A270600W400S	6	93	57	0.01	6x93/57 Ti
A270610W400S	6.1	101	63	0.01	6.1x101/63 Ti
A270620W400S	6.2	101	63	0.01	6.2x101/63 Ti
A270630W400S	6.3	101	63	0.01	6.3x101/63 Ti
A270640W400S	6.4	101	63	0.01	6.4x101/63 Ti
A270650W400S	6.5	101	63	0.01	6.5x101/63 Ti
A270660W400S	6.6	101	63	0.02	6.6x101/63 Ti
A270670W400S	6.7	101	63	0.02	6.7x101/63 Ti
A270680W400S	6.8	109	69	0.02	6.8x109/69 Ti
A270690W400S	6.9	109	69	0.02	6.9x109/69 Ti

Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2907 Ti
A270700W400S	7	109	69	0.023	7x109/69 Ti
A270710W400S	7.1	109	69	0.024	7.1x109/69 Ti
A270720W400S	7.2	109	69	0.025	7.2x109/69 Ti
A270730W400S	7.3	109	69	0.026	7.3x109/69 Ti
A270740W400S	7.4	109	69	0.027	7.4x109/69 Ti
A270750W400S	7.5	109	69	0.028	7.5x109/69 Ti
A270760W400S	7.6	117	75	0.028	7.6x117/75 Ti
A270770W400S	7.7	117	75	0.029	7.7x117/75 Ti
A270780W400S	7.8	117	75	0.03	7.8x117/75 Ti
A270790W400S	7.9	117	75	0.032	7.9x117/75 Ti
A270800W400S	8	117	75	0.033	8x117/75 Ti
A270810W400S	8.1	117	75	0.034	8.1x117/75 Ti
A270820W400S	8.2	117	75	0.035	8.2x117/75 Ti
A270830W400S	8.3	117	75	0.036	8.3x117/75 Ti
A270840W400S	8.4	117	75	0.036	8.4x117/75 Ti
A270850W400S	8.5	117	75	0.037	8.5x117/75 Ti
A270860W400S	8.6	125	81	0.037	8.6x125/81 Ti
A270870W400S	8.7	125	81	0.038	8.7x125/81 Ti
A270880W400S	8.8	125	81	0.039	8.8x125/81 Ti
A270890W400S	8.9	125	81	0.042	8.9x125/81 Ti
A270900W400S	9	125	81	0.045	9x125/81 Ti
A270910W400S	9.1	125	81	0.048	9.1x125/81 Ti
A270920W400S	9.2	125	81	0.049	9.2x125/81 Ti
A270930W400S	9.3	125	81	0.049	9.3x125/81 Ti
A270940W400S	9.4	125	81	0.05	9.4x125/81 Ti
A270950W400S	9.5	125	81	0.051	9.5x125/81 Ti
A270960W400S	9.6	133	87	0.052	9.6x133/87 Ti
A270970W400S	9.7	133	87	0.053	9.7x133/87 Ti
A270980W400S	9.8	133	87	0.055	9.8x133/87 Ti
A270990W400S	9.9	133	87	0.056	9.9x133/87 Ti
A271000W400S	10	133	87	0.057	10x133/87 Ti
A271020W400S	10.2	133	87	0.057	10.2x133/87 Ti
A271050W400S	10.5	133	87	0.061	10.5x133/87 Ti
A271080W400S	10.8	142	94	0.065	10.8x142/94 Ti
A271100W400S	11	142	94	0.065	11x142/94 Ti
A271120W400S	11.2	142	94	0.068	11.2x142/94 Ti
A271150W400S	11.5	142	94	0.071	11.5x142/94 Ti
A271180W400S	11.8	142	94	0.075	11.8x142/94 Ti
A271200W400S	12	151	101	0.081	12x151/101 Ti
A271220W400S	12.2	151	101	0.086	12.2x151/101 Ti
A271250W400S	12.5	151	101	0.092	12.5x151/101 Ti
A271280W400S	12.8	151	101	0.095	12.8x151/101 Ti
A271300W400S	13	151	101	0.102	13x151/101 Ti
A271320W400S	13.2	151	101	0.108	13.2x151/101 Ti
A271350W400S	13.5	160	108	0.114	13.5x160/108 Ti
A271380W400S	13.8	160	108	0.118	13.8x160/108 Ti
A271400W400S	14	160	108	0.123	14x160/108 Ti
A271450W400S	14.5	169	114	0.123	14.5x169/114 Ti
A271500W400S	15	169	114	0.14	15x169/114 Ti
A271550W400S	15.5	178	120	0.177	15.5x178/120 Ti
A271600W400S	16	178	120	0.177	16x178/120 Ti
A271650W400S	16.5	184	125	0.2	16.5x184/125 Ti
A271700W400S	17	184	125	0.2	17x184/125 Ti
A271750W400S	17.5	191	130	0.22	17.5x191/130 Ti
A271800W400S	18	191	130	0.22	18x191/130 Ti
A271850W400S	18.5	198	135	0.252	18.5x198/135 Ti
A271900W400S	19	198	135	0.252	19x198/135 Ti
A271950W400S	19.5	205	140	0.285	19.5x205/140 Ti
A272000W400S	20	205	140	0.285	20x205/140 Ti

Poznámka / Note / Notiz: ostatní neuvedené rozměry na požádání / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



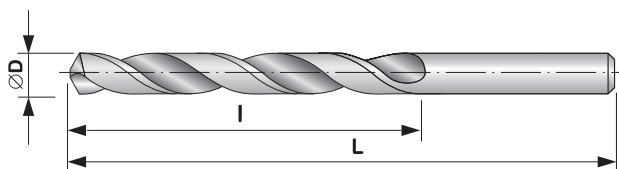
PN 2906

DIN 338 RN



VRTÁKY S VÁLCOVOU STOPKOU PRO TĚŽKO OBROBITELNÉ MATERIÁLY
COBALT JOBBER DRILLS
KURZE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, FÜR SCHWER ZERSPANBARE WERKSTOFFE

HSSCo8	BLANC					V				
Steel >1200 MPa	HARDOX 400	HARDOX 500	Stainless steel	Cast iron	Cu/alloy	Heat-resistant				



Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	 kg	Code 2906
A270200V600S	2,0	49	24	0,001	2x49/24
A270220V600S	2,2	53	27	0,001	2,2x53/27
A270250V600S	2,5	57	30	0,002	2,5x57/30
A270280V600S	2,8	61	33	0,002	2,8x61/33
A270300V600S	3,0	61	33	0,003	3x61/33
A270320V600S	3,2	65	36	0,003	3,2x65/36
A270330V600S	3,3	65	36	0,003	3,3x65/36
A270350V600S	3,5	70	39	0,004	3,5x70/39
A270400V600S	4,0	75	43	0,005	4x75/43
A270420V600S	4,2	75	43	0,006	4,2x75/43
A270450V600S	4,5	80	47	0,007	4,5x80/47
A270500V600S	5,0	86	52	0,009	5x86/52
A270510V600S	5,1	86	52	0,009	5,1x86/52
A270520V600S	5,2	86	52	0,010	5,2x86/52
A270550V600S	5,5	93	57	0,012	5,5x93/57
A270600V600S	6,0	93	57	0,016	6x93/57
A270650V600S	6,5	101	63	0,019	6,5x101/63
A270680V600S	6,8	109	69	0,021	6,8x109/69
A270700V600S	7,0	109	69	0,023	7x109/69
A270750V600S	7,5	109	69	0,028	7,5x109/69
A270800V600S	8,0	117	75	0,033	8x117/75
A270850V600S	8,5	117	75	0,037	8,5x117/75
A270900V600S	9,0	125	81	0,045	9x125/81

Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	 kg	Code 2906
A270950V600S	9,5	125	81	0,051	9,5x125/81
A271000V600S	10,0	133	87	0,057	10x133/87
A271050V600S	10,5	133	87	0,061	10,5x133/87
A271100V600S	11,0	142	94	0,065	11x142/94
A271150V600S	11,5	142	94	0,071	11,5x142/94
A271200V600S	12,0	151	101	0,081	12x151/101
A271250V600S	12,5	151	101	0,092	12,5x151/101
A271300V600S	13,0	151	101	0,102	13x151/101
A271350V600S	13,5	160	108	0,114	13,5x160/108
A271400V600S	14,0	160	108	0,123	14x160/108
A271450V600S	14,5	169	114	0,123	14,5x169/114
A271500V600S	15,0	169	114	0,140	15x169/114
A271550V600S	15,5	178	120	0,177	15,5x178/120
A271600V600S	16,0	178	120	0,177	16x178/120
A271650V600S	16,5	184	125	0,200	16,5x184/125
A271700V600S	17,0	184	125	0,200	17x184/125
A271750V600S	17,5	191	130	0,220	17,5x191/130
A271800V600S	18,0	191	130	0,220	18x191/130
A271850V600S	18,5	198	135	0,252	18,5x198/135
A271900V600S	19,0	198	135	0,252	19x198/135
A271950V600S	19,5	205	140	0,285	19,5x205/140
A272000V600S	20,0	205	140	0,285	20x205/140

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



Vrtáky s válcovou stopkou

Straight shank drills

Spiralbohrer mit Zylinderschaft

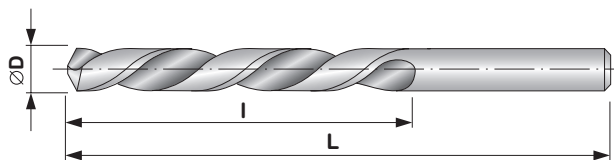


VRTÁKY S VÁLCOVOU STOPKOU PRO TĚŽKO OBROBITELNÉ MATERIÁLY, LEVOŘEZNÉ
COBALT JOBBER DRILLS, LEFT HAND CUTTING
KURZE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, FÜR SCHWER ZERSPANBARE WERKSTOFFE, LINKSSCHNEIDEND

PN 2908

DIN 338 LN

HSSCo5	BLANC	$\epsilon = 128^\circ$	$\lambda = 25^\circ - 30^\circ$	DIN 1412 FORM...N						
Steel <1200 MPa	Stainless steel	Cast iron	Cu/alloy	Heat-resistant						



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2908
A270100L400S	1,00	34	12	0,0007	1x34/12
A270110L400S	1,10	36	14	0,0007	1,1x36/14
A270120L400S	1,20	38	16	0,0008	1,2x38/16
A270130L400S	1,30	38	16	0,0008	1,3x38/16
A270140L400S	1,40	40	18	0,0009	1,4x40/18
A270150L400S	1,50	40	18	0,0009	1,5x40/18
A270160L400S	1,60	43	20	0,0009	1,6x43/20
A270170L400S	1,70	43	20	0,001	1,7x43/20
A270180L400S	1,80	46	22	0,001	1,8x46/22
A270190L400S	1,90	46	22	0,001	1,9x46/22
A270200L400S	2,00	49	24	0,001	2x49/24
A270210L400S	2,10	49	24	0,001	2,1x49/24
A270220L400S	2,20	53	27	0,001	2,2x53/27
A270230L400S	2,30	53	27	0,001	2,3x53/27
A270240L400S	2,40	57	30	0,002	2,4x57/30
A270250L400S	2,50	57	30	0,002	2,5x57/30
A270260L400S	2,60	57	30	0,002	2,6x57/30
A270270L400S	2,70	61	33	0,002	2,7x61/33
A270280L400S	2,80	61	33	0,002	2,8x61/33
A270290L400S	2,90	61	33	0,003	2,9x61/33
A270300L400S	3,00	61	33	0,003	3x61/33
A270310L400S	3,10	65	36	0,003	3,1x65/36
A270320L400S	3,20	65	36	0,003	3,2x65/36
A270330L400S	3,30	65	36	0,003	3,3x65/36
A270340L400S	3,40	70	39	0,004	3,4x70/39
A270350L400S	3,50	70	39	0,004	3,5x70/39
A270360L400S	3,60	70	39	0,004	3,6x70/39
A270370L400S	3,70	70	39	0,004	3,7x70/39
A270380L400S	3,80	75	43	0,004	3,8x75/43
A270390L400S	3,90	75	43	0,005	3,9x75/43
A270400L400S	4,00	75	43	0,005	4x75/43
A270410L400S	4,10	75	43	0,005	4,1x75/43
A270420L400S	4,20	75	43	0,006	4,2x75/43
A270430L400S	4,30	80	47	0,006	4,3x80/47
A270440L400S	4,40	80	47	0,006	4,4x80/47
A270450L400S	4,50	80	47	0,007	4,5x80/47
A270460L400S	4,60	80	47	0,007	4,6x80/47
A270470L400S	4,70	80	47	0,007	4,7x80/47
A270480L400S	4,80	86	52	0,008	4,8x86/52
A270490L400S	4,90	86	52	0,008	4,9x86/52
A270500L400S	5,00	86	52	0,009	5x86/52
A270510L400S	5,10	86	52	0,009	5,1x86/52
A270520L400S	5,20	86	52	0,010	5,2x86/52
A270530L400S	5,30	86	52	0,010	5,3x86/52
A270540L400S	5,40	93	57	0,011	5,4x93/57
A270550L400S	5,50	93	57	0,012	5,5x93/57
A270560L400S	5,60	93	57	0,012	5,6x93/57
A270570L400S	5,70	93	57	0,013	5,7x93/57
A270580L400S	5,80	93	57	0,014	5,8x93/57
A270590L400S	5,90	93	57	0,015	5,9x93/57
A270600L400S	6,00	93	57	0,016	6x93/57
A270610L400S	6,10	101	63	0,017	6,1x101/63
A270620L400S	6,20	101	63	0,018	6,2x101/63
A270630L400S	6,30	101	63	0,018	6,3x101/63

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2908
A270640L400S	6,40	101	63	0,019	6,4x101/63
A270650L400S	6,50	101	63	0,019	6,5x101/63
A270660L400S	6,60	101	63	0,020	6,6x101/63
A270670L400S	6,70	101	63	0,020	6,7x101/63
A270680L400S	6,80	109	69	0,021	6,8x109/69
A270690L400S	6,90	109	69	0,022	6,9x109/69
A270700L400S	7,00	109	69	0,023	7x109/69
A270710L400S	7,10	109	69	0,024	7,1x109/69
A270720L400S	7,20	109	69	0,025	7,2x109/69
A270730L400S	7,30	109	69	0,026	7,3x109/69
A270740L400S	7,40	109	69	0,027	7,4x109/69
A270750L400S	7,50	109	69	0,028	7,5x109/69
A270760L400S	7,60	117	75	0,028	7,6x117/75
A270770L400S	7,70	117	75	0,029	7,7x117/75
A270780L400S	7,80	117	75	0,030	7,8x117/75
A270790L400S	7,90	117	75	0,032	7,9x117/75
A270800L400S	8,00	117	75	0,033	8x117/75
A270810L400S	8,10	117	75	0,034	8,1x117/75
A270820L400S	8,20	117	75	0,035	8,2x117/75
A270830L400S	8,30	117	75	0,036	8,3x117/75
A270840L400S	8,40	117	75	0,036	8,4x117/75
A270850L400S	8,50	117	75	0,037	8,5x117/75
A270860L400S	8,60	125	81	0,037	8,6x125/81
A270870L400S	8,70	125	81	0,038	8,7x125/81
A270880L400S	8,80	125	81	0,039	8,8x125/81
A270890L400S	8,90	125	81	0,042	8,9x125/81
A270900L400S	9,00	125	81	0,045	9x125/81
A270910L400S	9,10	125	81	0,048	9,1x125/81
A270920L400S	9,20	125	81	0,049	9,2x125/81
A270930L400S	9,30	125	81	0,049	9,3x125/81
A270940L400S	9,40	125	81	0,050	9,4x125/81
A270950L400S	9,50	125	81	0,051	9,5x125/81
A270960L400S	9,60	133	87	0,052	9,6x133/87
A270970L400S	9,70	133	87	0,053	9,7x133/87
A270980L400S	9,80	133	87	0,055	9,8x133/87
A270990L400S	9,90	133	87	0,056	9,9x133/87
A271000L400S	10,00	133	87	0,057	10x133/87
A271020L400S	10,20	133	87	0,057	10,2x133/87
A271050L400S	10,50	133	87	0,061	10,5x133/87
A271080L400S	10,80	142	94	0,065	10,8x142/94
A271100L400S	11,00	142	94	0,065	11x142/94
A271120L400S	11,20	142	94	0,068	11,2x142/94
A271150L400S	11,50	142	94	0,071	11,5x142/94
A271180L400S	11,80	142	94	0,075	11,8x142/94
A271200L400S	12,00	151	101	0,081	12x151/101
A271220L400S	12,20	151	101	0,086	12,2x151/101
A271250L400S	12,50	151	101	0,092	12,5x151/101
A271280L400S	12,80	151	101	0,095	12,8x151/101
A271300L400S	13,00	151	101	0,102	13x151/101
A271320L400S	13,20	151	101	0,108	13,2x151/101
A271350L400S	13,50	160	108	0,114	13,5x160/108
A271380L400S	13,80	160	108	0,118	13,8x160/108
A271400L400S	14,00	160	108	0,123	14x160/108

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



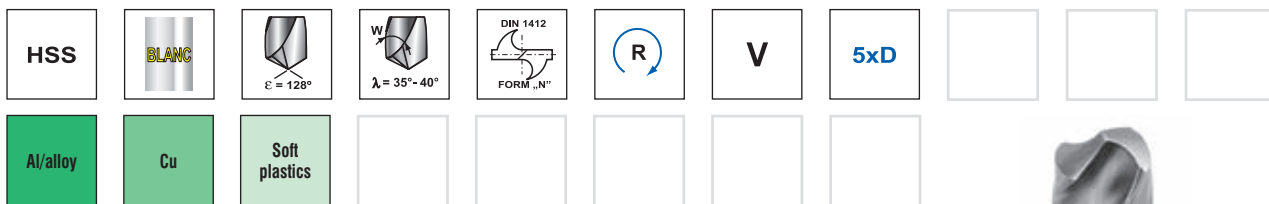
PN 2909

DIN 338 RW



VRTÁKY S VÁLCOVOU STOPKOU – ŠROUBOVICE 40°
QUICK HELIX JOBBER DRILLS

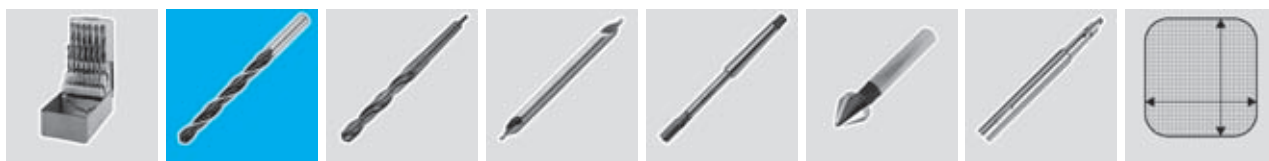
KURZE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, HELIX 40° – TYP W



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm		Code 2909
A220100V000S	1,00	34	12	0,0002	1x34/12
A220110V000S	1,10	36	14	0,0002	1,1x36/14
A220120V000S	1,20	38	16	0,0003	1,2x38/16
A220130V000S	1,30	38	16	0,0003	1,3x38/16
A220140V000S	1,40	40	18	0,0003	1,4x40/18
A220150V000S	1,50	40	18	0,0004	1,5x40/18
A220160V000S	1,60	43	20	0,0005	1,6x43/20
A220170V000S	1,70	43	20	0,0006	1,7x43/20
A220180V000S	1,80	46	22	0,0006	1,8x46/22
A220190V000S	1,90	46	22	0,0007	1,9x46/22
A220200V000S	2,00	49	24	0,0007	2x49/24
A220210V000S	2,10	49	24	0,0007	2,1x49/24
A220220V000S	2,20	53	27	0,0009	2,2x53/27
A220230V000S	2,30	53	27	0,001	2,3x53/27
A220240V000S	2,40	57	30	0,001	2,4x57/30
A220250V000S	2,50	57	30	0,001	2,5x57/30
A220260V000S	2,60	57	30	0,001	2,6x57/30
A220270V000S	2,70	61	33	0,001	2,7x61/33
A220280V000S	2,80	61	33	0,001	2,8x61/33
A220290V000S	2,90	61	33	0,002	2,9x61/33
A220300V000S	3,00	61	33	0,002	3x61/33
A220310V000S	3,10	65	36	0,002	3,1x65/36
A220320V000S	3,20	65	36	0,002	3,2x65/36
A220330V000S	3,30	65	36	0,002	3,3x65/36
A220340V000S	3,40	70	39	0,003	3,4x70/39
A220350V000S	3,50	70	39	0,003	3,5x70/39
A220360V000S	3,60	70	39	0,004	3,6x70/39
A220370V000S	3,70	70	39	0,004	3,7x70/39
A220380V000S	3,80	75	43	0,004	3,8x75/43
A220390V000S	3,90	75	43	0,004	3,9x75/43
A220400V000S	4,00	75	43	0,005	4x75/43
A220410V000S	4,10	75	43	0,005	4,1x75/43
A220420V000S	4,20	75	43	0,005	4,2x75/43
A220430V000S	4,30	80	47	0,005	4,3x80/47
A220440V000S	4,40	80	47	0,005	4,4x80/47
A220450V000S	4,50	80	47	0,006	4,5x80/47
A220460V000S	4,60	80	47	0,006	4,6x80/47
A220470V000S	4,70	80	47	0,006	4,7x80/47
A220480V000S	4,80	86	52	0,008	4,8x86/52
A220490V000S	4,90	86	52	0,008	4,9x86/52
A220500V000S	5,00	86	52	0,009	5x86/52
A220510V000S	5,10	86	52	0,010	5,1x86/52
A220520V000S	5,20	86	52	0,010	5,2x86/52
A220530V000S	5,30	86	52	0,010	5,3x86/52
A220540V000S	5,40	93	57	0,011	5,4x93/57
A220550V000S	5,50	93	57	0,012	5,5x93/57
A220560V000S	5,60	93	57	0,013	5,6x93/57
A220570V000S	5,70	93	57	0,013	5,7x93/57
A220580V000S	5,80	93	57	0,014	5,8x93/57
A220590V000S	5,90	93	57	0,015	5,9x93/57
A220600V000S	6,00	93	57	0,016	6x93/57
A220610V000S	6,10	101	63	0,016	6,1x101/63
A220620V000S	6,20	101	63	0,016	6,2x101/63
A220630V000S	6,30	101	63	0,017	6,3x101/63

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm		Code 2909
A220640V000S	6,40	101	63	0,017	6,4x101/63
A220650V000S	6,50	101	63	0,017	6,5x101/63
A220660V000S	6,60	101	63	0,018	6,6x101/63
A220670V000S	6,70	101	63	0,018	6,7x101/63
A220680V000S	6,80	109	69	0,019	6,8x109/69
A220690V000S	6,90	109	69	0,020	6,9x109/69
A220700V000S	7,00	109	69	0,021	7x109/69
A220710V000S	7,10	109	69	0,022	7,1x109/69
A220720V000S	7,20	109	69	0,023	7,2x109/69
A220730V000S	7,30	109	69	0,024	7,3x109/69
A220740V000S	7,40	109	69	0,025	7,4x109/69
A220750V000S	7,50	109	69	0,025	7,5x109/69
A220760V000S	7,60	117	75	0,026	7,6x117/75
A220770V000S	7,70	117	75	0,027	7,7x117/75
A220780V000S	7,80	117	75	0,028	7,8x117/75
A220790V000S	7,90	117	75	0,029	7,9x117/75
A220800V000S	8,00	117	75	0,030	8x117/75
A220810V000S	8,10	117	75	0,031	8,1x117/75
A220820V000S	8,20	117	75	0,032	8,2x117/75
A220830V000S	8,30	117	75	0,033	8,3x117/75
A220840V000S	8,40	117	75	0,034	8,4x117/75
A220850V000S	8,50	117	75	0,035	8,5x117/75
A220860V000S	8,60	125	81	0,037	8,6x125/81
A220870V000S	8,70	125	81	0,038	8,7x125/81
A220880V000S	8,80	125	81	0,039	8,8x125/81
A220890V000S	8,90	125	81	0,040	8,9x125/81
A220900V000S	9,00	125	81	0,042	9x125/81
A220910V000S	9,10	125	81	0,043	9,1x125/81
A220920V000S	9,20	125	81	0,044	9,2x125/81
A220930V000S	9,30	125	81	0,046	9,3x125/81
A220940V000S	9,40	125	81	0,047	9,4x125/81
A220950V000S	9,50	125	81	0,048	9,5x125/81
A220960V000S	9,60	133	87	0,049	9,6x133/87
A220970V000S	9,70	133	87	0,050	9,7x133/87
A220980V000S	9,80	133	87	0,051	9,8x133/87
A220990V000S	9,90	133	87	0,052	9,9x133/87
A221000V000S	10,00	133	87	0,053	10x133/87
A221020V000S	10,20	133	87	0,055	10,2x133/87
A221050V000S	10,50	133	87	0,065	10,5x133/87
A221080V000S	10,80	142	94	0,075	10,8x142/94
A221100V000S	11,00	142	94	0,080	11x142/94
A221120V000S	11,20	142	94	0,083	11,2x142/94
A221150V000S	11,50	142	94	0,085	11,5x142/94
A221180V000S	11,80	142	94	0,088	11,8x142/94
A221200V000S	12,00	151	101	0,090	12x151/101
A221220V000S	12,20	151	101	0,093	12,2x151/101
A221250V000S	12,50	151	101	0,095	12,5x151/101
A221280V000S	12,80	151	101	0,098	12,8x151/101
A221300V000S	13,00	151	101	0,100	13x151/101
A221320V000S	13,20	151	101	0,105	13,2x151/101
A221350V000S	13,50	160	108	0,110	13,5x160/108
A221380V000S	13,80	160	108	0,115	13,8x160/108
A221400V000S	14,00	160	108	0,120	14x160/108

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



Vrtáky s válcovou stopkou

Straight shank drills

Spiralbohrer mit Zylinderschaft



VRTÁKY S VÁLCOVOU STOPKOU – ŠROUBOVICE 40°, LEVOŘEZNÉ
QUICK HELIX JOBBER DRILLS, LEFT HAND CUTTING
KURZE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, HELIX 40° – TYP W, LINKSSCHNEIDEND

PN 2910

DIN 338 LW

na poptávku
on request
auf Anfrage

HSS

BLANC



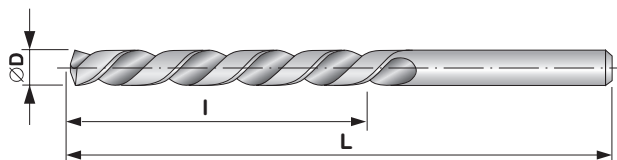
V


5xD


Al/alloy

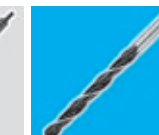
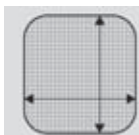
Cu

Soft plastics



Objednací číslo Order No. Bestell-Nr.	∅D mm	L mm	l mm		Code 2910
A220100L000S	1,00	34	12	0,0002	1x34/12
A220110L000S	1,10	36	14	0,0002	1,1x36/14
A220120L000S	1,20	38	16	0,0003	1,2x38/16
A220130L000S	1,30	38	16	0,0003	1,3x38/16
A220140L000S	1,40	40	18	0,0003	1,4x40/18
A220150L000S	1,50	40	18	0,0004	1,5x40/18
A220160L000S	1,60	43	20	0,0005	1,6x43/20
A220170L000S	1,70	43	20	0,0006	1,7x43/20
A220180L000S	1,80	46	22	0,0006	1,8x46/22
A220190L000S	1,90	46	22	0,0007	1,9x46/22
A220200L000S	2,00	49	24	0,0007	2x49/24
A220210L000S	2,10	49	24	0,0007	2,1x49/24
A220220L000S	2,20	53	27	0,0009	2,2x53/27
A220230L000S	2,30	53	27	0,001	2,3x53/27
A220240L000S	2,40	57	30	0,001	2,4x57/30
A220250L000S	2,50	57	30	0,001	2,5x57/30
A220260L000S	2,60	57	30	0,001	2,6x57/30
A220270L000S	2,70	61	33	0,001	2,7x61/33
A220280L000S	2,80	61	33	0,001	2,8x61/33
A220290L000S	2,90	61	33	0,002	2,9x61/33
A220300L000S	3,00	61	33	0,002	3x61/33
A220310L000S	3,10	65	36	0,002	3,1x65/36
A220320L000S	3,20	65	36	0,002	3,2x65/36
A220330L000S	3,30	65	36	0,002	3,3x65/36
A220340L000S	3,40	70	39	0,003	3,4x70/39
A220350L000S	3,50	70	39	0,003	3,5x70/39
A220360L000S	3,60	70	39	0,004	3,6x70/39
A220370L000S	3,70	70	39	0,004	3,7x70/39
A220380L000S	3,80	75	43	0,004	3,8x75/43
A220390L000S	3,90	75	43	0,004	3,9x75/43
A220400L000S	4,00	75	43	0,005	4x75/43
A220410L000S	4,10	75	43	0,005	4,1x75/43
A220420L000S	4,20	75	43	0,005	4,2x75/43
A220430L000S	4,30	80	47	0,005	4,3x80/47
A220440L000S	4,40	80	47	0,005	4,4x80/47
A220450L000S	4,50	80	47	0,006	4,5x80/47
A220460L000S	4,60	80	47	0,006	4,6x80/47
A220470L000S	4,70	80	47	0,006	4,7x80/47
A220480L000S	4,80	86	52	0,008	4,8x86/52
A220490L000S	4,90	86	52	0,008	4,9x86/52
A220500L000S	5,00	86	52	0,009	5x86/52
A220510L000S	5,10	86	52	0,010	5,1x86/52
A220520L000S	5,20	86	52	0,010	5,2x86/52
A220530L000S	5,30	86	52	0,010	5,3x86/52
A220540L000S	5,40	93	57	0,011	5,4x93/57
A220550L000S	5,50	93	57	0,012	5,5x93/57
A220560L000S	5,60	93	57	0,013	5,6x93/57
A220570L000S	5,70	93	57	0,013	5,7x93/57
A220580L000S	5,80	93	57	0,014	5,8x93/57
A220590L000S	5,90	93	57	0,015	5,9x93/57
A220600L000S	6,00	93	57	0,016	6x93/57
A220610L000S	6,10	101	63	0,016	6,1x101/63
A220620L000S	6,20	101	63	0,016	6,2x101/63
A220630L000S	6,30	101	63	0,017	6,3x101/63

Objednací číslo Order No. Bestell-Nr.	∅D mm	L mm	l mm		Code 2910
A220640L000S	6,40	101	63	0,017	6,4x101/63
A220650L000S	6,50	101	63	0,017	6,5x101/63
A220660L000S	6,60	101	63	0,018	6,6x101/63
A220670L000S	6,70	101	63	0,018	6,7x101/63
A220680L000S	6,80	109	69	0,019	6,8x109/69
A220690L000S	6,90	109	69	0,020	6,9x109/69
A220700L000S	7,00	109	69	0,021	7x109/69
A220710L000S	7,10	109	69	0,022	7,1x109/69
A220720L000S	7,20	109	69	0,023	7,2x109/69
A220730L000S	7,30	109	69	0,024	7,3x109/69
A220740L000S	7,40	109	69	0,025	7,4x109/69
A220750L000S	7,50	109	69	0,025	7,5x109/69
A220760L000S	7,60	117	75	0,026	7,6x117/75
A220770L000S	7,70	117	75	0,027	7,7x117/75
A220780L000S	7,80	117	75	0,028	7,8x117/75
A220790L000S	7,90	117	75	0,029	7,9x117/75
A220800L000S	8,00	117	75	0,030	8x117/75
A220810L000S	8,10	117	75	0,031	8,1x117/75
A220820L000S	8,20	117	75	0,032	8,2x117/75
A220830L000S	8,30	117	75	0,033	8,3x117/75
A220840L000S	8,40	117	75	0,034	8,4x117/75
A220850L000S	8,50	117	75	0,035	8,5x117/75
A220860L000S	8,60	125	81	0,037	8,6x125/81
A220870L000S	8,70	125	81	0,038	8,7x125/81
A220880L000S	8,80	125	81	0,039	8,8x125/81
A220890L000S	8,90	125	81	0,040	8,9x125/81
A220900L000S	9,00	125	81	0,042	9x125/81
A220910L000S	9,10	125	81	0,043	9,1x125/81
A220920L000S	9,20	125	81	0,044	9,2x125/81
A220930L000S	9,30	125	81	0,046	9,3x125/81
A220940L000S	9,40	125	81	0,047	9,4x125/81
A220950L000S	9,50	125	81	0,048	9,5x125/81
A220960L000S	9,60	133	87	0,049	9,6x133/87
A220970L000S	9,70	133	87	0,050	9,7x133/87
A220980L000S	9,80	133	87	0,051	9,8x133/87
A220990L000S	9,90	133	87	0,052	9,9x133/87
A221000L000S	10,00	133	87	0,053	10x133/87
A221020L000S	10,20	133	87	0,055	10,2x133/87
A221050L000S	10,50	133	87	0,065	10,5x133/87
A221080L000S	10,80	142	94	0,075	10,8x142/94
A221100L000S	11,00	142	94	0,080	11x142/94
A221120L000S	11,20	142	94	0,083	11,2x142/94
A221150L000S	11,50	142	94	0,085	11,5x142/94
A221180L000S	11,80	142	94	0,088	11,8x142/94
A221200L000S	12,00	151	101	0,090	12x151/101
A221220L000S	12,20	151	101	0,093	12,2x151/101
A221250L000S	12,50	151	101	0,095	12,5x151/101
A221280L000S	12,80	151	101	0,098	12,8x151/101
A221300L000S	13,00	151	101	0,100	13x151/101
A221320L000S	13,20	151	101	0,105	13,2x151/101
A221350L000S	13,50	160	108	0,110	13,5x160/108
A221380L000S	13,80	160	108	0,115	13,8x160/108
A221400L000S	14,00	160	108	0,120	14x160/108



PN 2911

DIN 338 RH

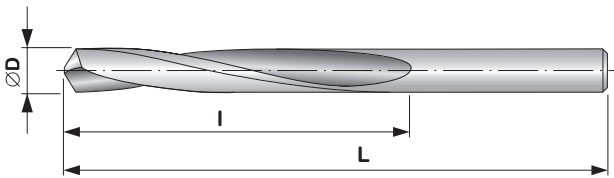


VRTÁKY S VÁLCOVOU STOPKOU – ŠROUBOVICE 12°

SLOW HELIX JOBBER DRILLS

KURZE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, HELIX 12° – TYP H

HSS	BLANC					V	5xD			
Mg/alloy	Cu/alloy	Hard plastics								



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm		Code 2911
A230100V000S	1,00	34	12	0,002	1x34/12
A230110V000S	1,10	36	14	0,002	1,1x36/14
A230120V000S	1,20	38	16	0,003	1,2x38/16
A230130V000S	1,30	38	16	0,003	1,3x38/16
A230140V000S	1,40	40	18	0,003	1,4x40/18
A230150V000S	1,50	40	18	0,004	1,5x40/18
A230160V000S	1,60	43	20	0,005	1,6x43/20
A230170V000S	1,70	43	20	0,006	1,7x43/20
A230180V000S	1,80	46	22	0,006	1,8x46/22
A230190V000S	1,90	46	22	0,007	1,9x46/22
A230200V000S	2,00	49	24	0,007	2x49/24
A230210V000S	2,10	49	24	0,007	2,1x49/24
A230220V000S	2,20	53	27	0,009	2,2x53/27
A230230V000S	2,30	53	27	0,01	2,3x53/27
A230240V000S	2,40	57	30	0,001	2,4x57/30
A230250V000S	2,50	57	30	0,001	2,5x57/30
A230260V000S	2,60	57	30	0,001	2,6x57/30
A230270V000S	2,70	61	33	0,001	2,7x61/33
A230280V000S	2,80	61	33	0,001	2,8x61/33
A230290V000S	2,90	61	33	0,002	2,9x61/33
A230300V000S	3,00	61	33	0,002	3x61/33
A230310V000S	3,10	65	36	0,002	3,1x65/36
A230320V000S	3,20	65	36	0,002	3,2x65/36
A230330V000S	3,30	65	36	0,002	3,3x65/36
A230340V000S	3,40	70	39	0,003	3,4x70/39
A230350V000S	3,50	70	39	0,003	3,5x70/39
A230360V000S	3,60	70	39	0,004	3,6x70/39
A230370V000S	3,70	70	39	0,004	3,7x70/39
A230380V000S	3,80	75	43	0,004	3,8x75/43
A230390V000S	3,90	75	43	0,004	3,9x75/43
A230400V000S	4,00	75	43	0,005	4x75/43
A230410V000S	4,10	75	43	0,005	4,1x75/43
A230420V000S	4,20	75	43	0,005	4,2x75/43
A230430V000S	4,30	80	47	0,005	4,3x80/47
A230440V000S	4,40	80	47	0,005	4,4x80/47
A230450V000S	4,50	80	47	0,006	4,5x80/47
A230460V000S	4,60	80	47	0,006	4,6x80/47
A230470V000S	4,70	80	47	0,006	4,7x80/47
A230480V000S	4,80	86	52	0,008	4,8x86/52
A230490V000S	4,90	86	52	0,008	4,9x86/52
A230500V000S	5,00	86	52	0,009	5x86/52
A230510V000S	5,10	86	52	0,010	5,1x86/52
A230520V000S	5,20	86	52	0,010	5,2x86/52
A230530V000S	5,30	86	52	0,010	5,3x86/52
A230540V000S	5,40	93	57	0,011	5,4x93/57
A230550V000S	5,50	93	57	0,012	5,5x93/57
A230560V000S	5,60	93	57	0,013	5,6x93/57
A230570V000S	5,70	93	57	0,013	5,7x93/57
A230580V000S	5,80	93	57	0,014	5,8x93/57
A230590V000S	5,90	93	57	0,015	5,9x93/57
A230600V000S	6,00	93	57	0,016	6x93/57
A230610V000S	6,10	101	63	0,016	6,1x101/63
A230620V000S	6,20	101	63	0,016	6,2x101/63
A230630V000S	6,30	101	63	0,017	6,3x101/63

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm		Code 2911
A230640V000S	6,40	101	63	0,017	6,4x101/63
A230650V000S	6,50	101	63	0,017	6,5x101/63
A230660V000S	6,60	101	63	0,018	6,6x101/63
A230670V000S	6,70	101	63	0,018	6,7x101/63
A230680V000S	6,80	109	69	0,019	6,8x109/69
A230690V000S	6,90	109	69	0,020	6,9x109/69
A230700V000S	7,00	109	69	0,021	7x109/69
A230710V000S	7,10	109	69	0,022	7,1x109/69
A230720V000S	7,20	109	69	0,023	7,2x109/69
A230730V000S	7,30	109	69	0,024	7,3x109/69
A230740V000S	7,40	109	69	0,025	7,4x109/69
A230750V000S	7,50	109	69	0,025	7,5x109/69
A230760V000S	7,60	117	75	0,026	7,6x117/75
A230770V000S	7,70	117	75	0,027	7,7x117/75
A230780V000S	7,80	117	75	0,028	7,8x117/75
A230790V000S	7,90	117	75	0,029	7,9x117/75
A230800V000S	8,00	117	75	0,030	8x117/75
A230810V000S	8,10	117	75	0,031	8,1x117/75
A230820V000S	8,20	117	75	0,032	8,2x117/75
A230830V000S	8,30	117	75	0,033	8,3x117/75
A230840V000S	8,40	117	75	0,034	8,4x117/75
A230850V000S	8,50	117	75	0,035	8,5x117/75
A230860V000S	8,60	125	81	0,037	8,6x125/81
A230870V000S	8,70	125	81	0,038	8,7x125/81
A230880V000S	8,80	125	81	0,039	8,8x125/81
A230890V000S	8,90	125	81	0,040	8,9x125/81
A230900V000S	9,00	125	81	0,042	9x125/81
A230910V000S	9,10	125	81	0,043	9,1x125/81
A230920V000S	9,20	125	81	0,044	9,2x125/81
A230930V000S	9,30	125	81	0,046	9,3x125/81
A230940V000S	9,40	125	81	0,047	9,4x125/81
A230950V000S	9,50	125	81	0,048	9,5x125/81
A230960V000S	9,60	133	87	0,049	9,6x133/87
A230970V000S	9,70	133	87	0,050	9,7x133/87
A230980V000S	9,80	133	87	0,051	9,8x133/87
A230990V000S	9,90	133	87	0,052	9,9x133/87
A231000V000S	10,00	133	87	0,053	10x133/87
A231020V000S	10,20	133	87	0,055	10,2x133/87
A231050V000S	10,50	133	87	0,065	10,5x133/87
A231080V000S	10,80	142	94	0,075	10,8x142/94
A231100V000S	11,00	142	94	0,080	11x142/94
A231120V000S	11,20	142	94	0,083	11,2x142/94
A231150V000S	11,50	142	94	0,085	11,5x142/94
A231180V000S	11,80	142	94	0,088	11,8x142/94
A231200V000S	12,00	151	101	0,090	12x151/101
A231220V000S	12,20	151	101	0,093	12,2x151/101
A231250V000S	12,50	151	101	0,095	12,5x151/101
A231280V000S	12,80	151	101	0,098	12,8x151/101
A231300V000S	13,00	151	101	0,100	13x151/101
A231320V000S	13,20	151	101	0,105	13,2x151/101
A231350V000S	13,50	160	108	0,110	13,5x160/108
A231380V000S	13,80	160	108	0,115	13,8x160/108
A231400V000S	14,00	160	108	0,120	14x160/108

Poznámka / Note / Notiz: ostatní neuvedené rozměry na požádání / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage





VRTÁKY S VÁLCOVOU STOPKOU – ŠROUBOVICE 12°, LEVOŘEZNÉ
 SLOW HELIX JOBBER DRILLS, LEFT HAND CUTTING
 KURZE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, HELIX 12° – TYP H, LINKSSCHNEIDEND

PN 2912

DIN 338 LH

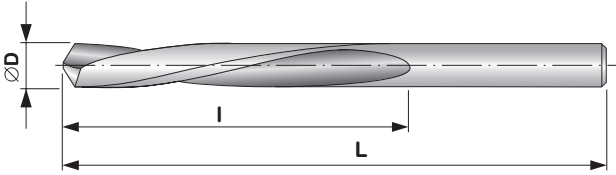
na požávku
on request
auf Anfrage

HSS	BLANC	$\epsilon = 118^\circ$	$\lambda = 10^\circ - 15^\circ$	DIN 1412 FORM „N“	L	V	5xD		
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Mg/alloy

Cu/alloy

Hard
plastics



Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2912
A230100L000S	1,00	34	12	0,0002	1x34/12
A230110L000S	1,10	36	14	0,0002	1,1x36/14
A230120L000S	1,20	38	16	0,0003	1,2x38/16
A230130L000S	1,30	38	16	0,0003	1,3x38/16
A230140L000S	1,40	40	18	0,0003	1,4x40/18
A230150L000S	1,50	40	18	0,0004	1,5x40/18
A230160L000S	1,60	43	20	0,0005	1,6x43/20
A230170L000S	1,70	43	20	0,0006	1,7x43/20
A230180L000S	1,80	46	22	0,0006	1,8x46/22
A230190L000S	1,90	46	22	0,0007	1,9x46/22
A230200L000S	2,00	49	24	0,0007	2x49/24
A230210L000S	2,10	49	24	0,0007	2,1x49/24
A230220L000S	2,20	53	27	0,0009	2,2x53/27
A230230L000S	2,30	53	27	0,001	2,3x53/27
A230240L000S	2,40	57	30	0,001	2,4x57/30
A230250L000S	2,50	57	30	0,001	2,5x57/30
A230260L000S	2,60	57	30	0,001	2,6x57/30
A230270L000S	2,70	61	33	0,001	2,7x61/33
A230280L000S	2,80	61	33	0,001	2,8x61/33
A230290L000S	2,90	61	33	0,002	2,9x61/33
A230300L000S	3,00	61	33	0,002	3x61/33
A230310L000S	3,10	65	36	0,002	3,1x65/36
A230320L000S	3,20	65	36	0,002	3,2x65/36
A230330L000S	3,30	65	36	0,002	3,3x65/36
A230340L000S	3,40	70	39	0,003	3,4x70/39
A230350L000S	3,50	70	39	0,003	3,5x70/39
A230360L000S	3,60	70	39	0,004	3,6x70/39
A230370L000S	3,70	70	39	0,004	3,7x70/39
A230380L000S	3,80	75	43	0,004	3,8x75/43
A230390L000S	3,90	75	43	0,004	3,9x75/43
A230400L000S	4,00	75	43	0,005	4x75/43
A230410L000S	4,10	75	43	0,005	4,1x75/43
A230420L000S	4,20	75	43	0,005	4,2x75/43
A230430L000S	4,30	80	47	0,005	4,3x80/47
A230440L000S	4,40	80	47	0,005	4,4x80/47
A230450L000S	4,50	80	47	0,006	4,5x80/47
A230460L000S	4,60	80	47	0,006	4,6x80/47
A230470L000S	4,70	80	47	0,006	4,7x80/47
A230480L000S	4,80	86	52	0,008	4,8x86/52
A230490L000S	4,90	86	52	0,008	4,9x86/52
A230500L000S	5,00	86	52	0,009	5x86/52
A230510L000S	5,10	86	52	0,010	5,1x86/52
A230520L000S	5,20	86	52	0,010	5,2x86/52
A230530L000S	5,30	86	52	0,010	5,3x86/52
A230540L000S	5,40	93	57	0,011	5,4x93/57
A230550L000S	5,50	93	57	0,012	5,5x93/57
A230560L000S	5,60	93	57	0,013	5,6x93/57
A230570L000S	5,70	93	57	0,013	5,7x93/57
A230580L000S	5,80	93	57	0,014	5,8x93/57
A230590L000S	5,90	93	57	0,015	5,9x93/57
A230600L000S	6,00	93	57	0,016	6x93/57
A230610L000S	6,10	101	63	0,016	6,1x101/63
A230620L000S	6,20	101	63	0,016	6,2x101/63
A230630L000S	6,30	101	63	0,017	6,3x101/63

Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2912
A230640L000S	6,40	101	63	0,017	6,4x101/63
A230650L000S	6,50	101	63	0,017	6,5x101/63
A230660L000S	6,60	101	63	0,018	6,6x101/63
A230670L000S	6,70	101	63	0,018	6,7x101/63
A230680L000S	6,80	109	69	0,019	6,8x109/69
A230690L000S	6,90	109	69	0,020	6,9x109/69
A230700L000S	7,00	109	69	0,021	7x109/69
A230710L000S	7,10	109	69	0,022	7,1x109/69
A230720L000S	7,20	109	69	0,023	7,2x109/69
A230730L000S	7,30	109	69	0,024	7,3x109/69
A230740L000S	7,40	109	69	0,025	7,4x109/69
A230750L000S	7,50	109	69	0,025	7,5x109/69
A230760L000S	7,60	117	75	0,026	7,6x117/75
A230770L000S	7,70	117	75	0,027	7,7x117/75
A230780L000S	7,80	117	75	0,028	7,8x117/75
A230790L000S	7,90	117	75	0,029	7,9x117/75
A230800L000S	8,00	117	75	0,030	8x117/75
A230810L000S	8,10	117	75	0,031	8,1x117/75
A230820L000S	8,20	117	75	0,032	8,2x117/75
A230830L000S	8,30	117	75	0,033	8,3x117/75
A230840L000S	8,40	117	75	0,034	8,4x117/75
A230850L000S	8,50	117	75	0,035	8,5x117/75
A230860L000S	8,60	125	81	0,037	8,6x125/81
A230870L000S	8,70	125	81	0,038	8,7x125/81
A230880L000S	8,80	125	81	0,039	8,8x125/81
A230890L000S	8,90	125	81	0,040	8,9x125/81
A230900L000S	9,00	125	81	0,042	9x125/81
A230910L000S	9,10	125	81	0,043	9,1x125/81
A230920L000S	9,20	125	81	0,044	9,2x125/81
A230930L000S	9,30	125	81	0,046	9,3x125/81
A230940L000S	9,40	125	81	0,047	9,4x125/81
A230950L000S	9,50	125	81	0,048	9,5x125/81
A230960L000S	9,60	133	87	0,049	9,6x133/87
A230970L000S	9,70	133	87	0,050	9,7x133/87
A230980L000S	9,80	133	87	0,051	9,8x133/87
A230990L000S	9,90	133	87	0,052	9,9x133/87
A231000L000S	10,00	133	87	0,053	10x133/87
A231020L000S	10,20	133	87	0,055	10,2x133/87
A231050L000S	10,50	133	87	0,065	10,5x133/87
A231080L000S	10,80	142	94	0,075	10,8x142/94
A231100L000S	11,00	142	94	0,080	11x142/94
A231120L000S	11,20	142	94	0,083	11,2x142/94
A231150L000S	11,50	142	94	0,085	11,5x142/94
A231180L000S	11,80	142	94	0,088	11,8x142/94
A231200L000S	12,00	151	101	0,090	12x151/101
A231220L000S	12,20	151	101	0,093	12,2x151/101
A231250L000S	12,50	151	101	0,095	12,5x151/101
A231280L000S	12,80	151	101	0,098	12,8x151/101
A231300L000S	13,00	151	101	0,100	13x151/101
A231320L000S	13,20	151	101	0,105	13,2x151/101
A231350L000S	13,50	160	108	0,110	13,5x160/108
A231380L000S	13,80	160	108	0,115	13,8x160/108
A231400L000S	14,00	160	108	0,120	14x160/108



PN 221135

DIN 338 RN



VRTÁKY S VÁLCOVOU STOPKOU (PALCOVÉ ROZMĚRY)
JOBBER DRILLS (INCH SIZES)
KURZE SPIRALBOHRER MIT MIT ZYLINDRISCHEM SCHAFT, ZOLLAUSFÜHRUNG

na požávkou
on request
auf Anfrage

HSS

BLANC
1/64 ÷ 1/16

PAS



V
0,39 ÷ 1,8

T
1,9 ÷ 20,9

F
21,0 ÷ 25,4

5xD

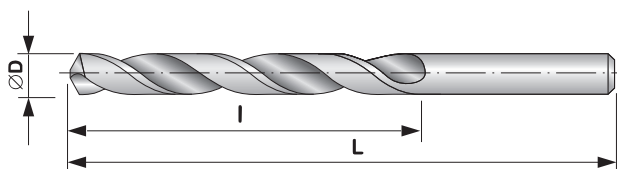
Steel
<850 MPa

Cast iron

Al/alloy

Cu/alloy

Plastics



Objednáací číslo Order No. Bestell-Nr.	ØD inch	ØD mm	L mm	I mm	kg	Code 221135
A350040V000S	1/64	0,397	20	5	0,0001	1/64
A350079V000S	1/32	0,794	30	10	0,0002	1/32
A350119V000S	3/64	1,191	38	16	0,0003	3/64
A350159V000S	1/16	1,588	43	20	0,0004	1/16
A350198T000S	5/64	1,984	49	24	0,0008	5/64
A350238T000S	3/32	2,381	57	30	0,0009	3/32
A350278T000S	7/64	2,778	61	33	0,001	7/64
A350318T000S	1/8	3,175	65	36	0,002	1/8
A350357T000S	9/64	3,572	70	39	0,003	9/64
A350397T000S	5/32	3,969	75	43	0,004	5/32
A350437T000S	11/64	4,366	80	47	0,005	11/64
A350476T000S	3/16	4,763	86	52	0,007	3/16
A350516T000S	13/64	5,159	86	52	0,010	13/64
A350556T000S	7/32	5,556	93	57	0,012	7/32
A350595T000S	15/64	5,953	93	57	0,014	15/64
A350635T000S	1/4	6,350	101	63	0,017	1/4
A350675T000S	17/64	6,747	109	69	0,020	17/64
A350714T000S	9/32	7,144	109	69	0,023	9/32
A350754T000S	19/64	7,541	117	75	0,026	19/64
A350794T000S	5/16	7,938	117	75	0,030	5/16
A350833T000S	21/64	8,335	117	75	0,036	21/64
A350873T000S	11/32	8,732	125	81	0,040	11/32
A350913T000S	23/64	9,128	125	81	0,043	23/64
A350953T000S	3/8	9,525	133	87	0,046	3/8
A350992T000S	25/64	9,922	133	87	0,052	25/64
A351032T000S	13/32	10,319	133	87	0,062	13/32
A351072T000S	27/64	10,716	142	94	0,067	27/64
A351111T000S	7/16	11,113	142	94	0,070	7/16
A351151T000S	29/64	11,510	142	94	0,076	29/64
A351191T000S	15/32	11,907	151	101	0,088	15/32
A351230T000S	31/64	12,304	151	101	0,095	31/64
A351270T000S	1/2	12,700	151	101	0,098	1/2

Objednáací číslo Order No. Bestell-Nr.	ØD inch	ØD mm	L mm	I mm	kg	Code 221135
A351310T000S	33/64	13,097	151	101	0,104	33/64
A351349T000S	17/32	13,494	160	108	0,113	17/32
A351389T000S	35/64	13,891	160	108	0,121	35/64
A351429T000S	9/16	14,288	169	114	0,135	9/16
A351468T000S	37/64	14,685	169	114	0,148	37/64
A351508T000S	19/32	15,082	178	120	0,150	19/32
A351548T000S	39/64	15,479	178	120	0,169	39/64
A351588T000S	5/8	15,876	178	120	0,180	5/8
A351627T000S	41/64	16,272	184	125	0,185	41/64
A351667T000S	21/32	16,669	184	125	0,210	21/32
A351707T000S	43/64	17,066	191	130	0,217	43/64
A351746T000S	11/16	17,463	191	130	0,230	11/16
A351786T000S	45/64	17,860	191	130	0,248	45/64
A351826T000S	23/32	18,257	198	135	0,263	23/32
A351865T000S	47/64	18,654	198	135	0,269	47/64
A351905T000S	3/4	19,051	205	140	0,275	3/4
A351945T000S	49/64	19,448	205	140	0,298	49/64
A351984T000S	25/32	19,844	205	140	0,323	25/32
A352024T000S	51/64	20,241	210	145	0,331	51/64
A352064T000S	13/16	20,638	210	145	0,328	13/16
A352103F000S	53/64	21,035	210	145	0,337	53/64
A352143F000S	27/32	21,432	215	150	0,342	27/32
A352183F000S	55/64	21,829	215	150	0,348	55/64
A352223F000S	7/8	22,226	215	150	0,350	7/8
A352262F000S	57/64	22,623	220	155	0,355	57/64
A352302F000S	29/32	23,020	220	155	0,366	29/32
A352342F000S	59/64	23,416	220	155	0,380	59/64
A352381F000S	15/16	23,813	225	160	0,380	15/16
A352421F000S	61/64	24,210	225	160	0,385	61/64
A352461F000S	31/32	24,607	225	160	0,400	31/32
A352500F000S	63/64	25,004	225	160	0,408	63/64
A352540F000S	1	25,400	250	165	0,412	1





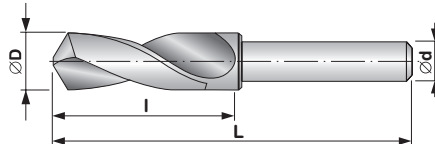
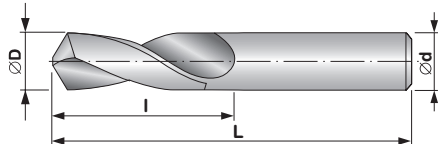
VRTÁKY S VÁLCOVOU STOPKOU KRÁTKÉ
STUB DRILLS
EXTRA KURZE AUTOMATENBOHRER

PN 221182

DIN 1897 RN

HSS	PAS					V 0,7 ± 20,0	F 20,1 ± 40,0	3xD		
Steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics						

ØD = 0,70-20,0 mm ~Ød=ØD ØD = 20,00-25,0 mm ~Ød=20 mm ØD = 25,25-40,0 mm ~ Ød=25 mm



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 221182
A820070V500S	0,70	23	4,5	0,0001	0,7x23/4,5
A820080V500S	0,80	24	5	0,0001	0,8x24/5
A820090V500S	0,90	25	5,5	0,00012	0,9x25/5,5
A820100V500S	1,00	26	6	0,00015	1x26/6
A820110V500S	1,10	28	7	0,0002	1,1x28/7
A820120V500S	1,20	30	8	0,00025	1,2x30/8
A820130V500S	1,30	30	8	0,0003	1,3x30/8
A820140V500S	1,40	32	9	0,00035	1,4x32/9
A820150V500S	1,50	32	9	0,0004	1,5x32/9
A820160V500S	1,60	34	10	0,00045	1,6x34/10
A820170V500S	1,70	34	10	0,00055	1,7x34/10
A820180V500S	1,80	36	11	0,00066	1,8x36/11
A820190V500S	1,90	36	11	0,00077	1,9x36/11
A820200V500S	2,00	38	12	0,00088	2x38/12
A820210V500S	2,10	38	12	0,00099	2,1x38/12
A820220V500S	2,20	40	13	0,0011	2,2x40/13
A820225V500S	2,25	40	13	0,0011	2,25x40/13
A820230V500S	2,30	40	13	0,0012	2,3x40/13
A820240V500S	2,40	43	14	0,0013	2,4x43/14
A820250V500S	2,50	43	14	0,0014	2,5x43/14
A820260V500S	2,60	43	14	0,0016	2,6x43/14
A820270V500S	2,70	46	16	0,0018	2,7x46/16
A820275V500S	2,75	46	16	0,0018	2,75x46/16
A820280V500S	2,80	46	16	0,002	2,8x46/16
A820290V500S	2,90	46	16	0,0021	2,9x46/16
A820300V500S	3,00	46	16	0,0022	3x46/16
A820310V500S	3,10	49	18	0,024	3,1x49/18
A820320V500S	3,20	49	18	0,0026	3,2x49/18
A820325V500S	3,25	49	18	0,0026	3,25x49/18
A820330V500S	3,30	49	18	0,0029	3,3x49/18
A820340V500S	3,40	52	20	0,0033	3,4x52/20
A820350V500S	3,50	52	20	0,0035	3,5x52/20
A820360V500S	3,60	52	20	0,0039	3,6x52/20
A820370V500S	3,70	52	20	0,0042	3,7x52/20
A820375V500S	3,75	52	20	0,0042	3,75x52/20
A820380V500S	3,80	55	22	0,0046	3,8x55/22
A820390V500S	3,90	55	22	0,0048	3,9x55/22
A820400V500S	4,00	55	22	0,005	4x55/22
A820410V500S	4,10	55	22	0,0053	4,1x55/22
A820420V500S	4,20	55	22	0,0055	4,2x55/22
A820425V500S	4,25	55	22	0,0055	4,25x55/22
A820430V500S	4,30	58	24	0,0057	4,3x58/24
A820440V500S	4,40	58	24	0,0059	4,4x58/24
A820450V500S	4,50	58	24	0,0061	4,5x58/24
A820460V500S	4,60	58	24	0,0063	4,6x58/24
A820470V500S	4,70	58	24	0,0067	4,7x58/24
A820475V500S	4,75	58	24	0,0067	4,75x58/24
A820480V500S	4,80	62	26	0,0082	4,8x62/26
A820490V500S	4,90	62	26	0,0085	4,9x62/26
A820500V500S	5,00	62	26	0,009	5x62/26
A820510V500S	5,10	62	26	0,0095	5,1x62/26
A820520V500S	5,20	62	26	0,01	5,2x62/26
A820525V500S	5,25	62	26	0,01	5,25x62/26
A820530V500S	5,30	62	26	0,0103	5,3x62/26
A820540V500S	5,40	66	28	0,0106	5,4x66/28
A820550V500S	5,50	66	28	0,011	5,5x66/28
A820560V500S	5,60	66	28	0,0112	5,6x66/28

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 221182
A820570V500S	5,70	66	28	0,0113	5,7x66/28
A820575V500S	5,75	66	28	0,0113	5,75x66/28
A820580V500S	5,80	66	28	0,0115	5,8x66/28
A820590V500S	5,90	66	28	0,0118	5,9x66/28
A820600V500S	6,00	66	28	0,012	6x66/28
A820610V500S	6,10	70	31	0,013	6,1x70/31
A820620V500S	6,20	70	31	0,014	6,2x70/31
A820625V500S	6,25	70	31	0,014	6,25x70/31
A820630V500S	6,30	70	31	0,015	6,3x70/31
A820640V500S	6,40	70	31	0,0152	6,4x70/31
A820650V500S	6,50	70	31	0,016	6,5x70/31
A820660V500S	6,60	70	31	0,017	6,6x70/31
A820670V500S	6,70	70	31	0,018	6,7x70/31
A820675V500S	6,75	70	31	0,018	6,75x70/31
A820680V500S	6,80	74	34	0,019	6,8x74/34
A820690V500S	6,90	74	34	0,0193	6,9x74/34
A820700V500S	7,00	74	34	0,0195	7x74/34
A820710V500S	7,10	74	34	0,0198	7,1x74/34
A820720V500S	7,20	74	34	0,02	7,2x74/34
A820725V500S	7,25	74	34	0,02	7,25x74/34
A820730V500S	7,30	74	34	0,0202	7,3x74/34
A820740V500S	7,40	74	34	0,0203	7,4x74/34
A820750V500S	7,50	74	34	0,0205	7,5x74/34
A820760V500S	7,60	79	37	0,0207	7,6x79/37
A820770V500S	7,70	79	37	0,0209	7,7x79/37
A820775V500S	7,75	79	37	0,0209	7,75x79/37
A820780V500S	7,80	79	37	0,0211	7,8x79/37
A820790V500S	7,90	79	37	0,0213	7,9x79/37
A820800V500S	8,00	79	37	0,0215	8x79/37
A820810V500S	8,10	79	37	0,0218	8,1x79/37
A820820V500S	8,20	79	37	0,022	8,2x79/37
A820825V500S	8,25	79	37	0,022	8,25x79/37
A820830V500S	8,30	79	37	0,0222	8,3x79/37
A820840V500S	8,40	79	37	0,0223	8,4x79/37
A820850V500S	8,50	79	37	0,0225	8,5x79/37
A820860V500S	8,60	84	40	0,0227	8,6x84/40
A820870V500S	8,70	84	40	0,0229	8,7x84/40
A820875V500S	8,75	84	40	0,0229	8,75x84/40
A820880V500S	8,80	84	40	0,023	8,8x84/40
A820890V500S	8,90	84	40	0,0232	8,9x84/40
A820900V500S	9,00	84	40	0,0235	9x84/40
A820910V500S	9,10	84	40	0,0238	9,1x84/40
A820920V500S	9,20	84	40	0,024	9,2x84/40
A820925V500S	9,25	84	40	0,024	9,25x84/40
A820930V500S	9,30	84	40	0,026	9,3x84/40
A820940V500S	9,40	84	40	0,028	9,4x84/40
A820950V500S	9,50	84	40	0,03	9,5x84/40
A820960V500S	9,60	89	43	0,0315	9,6x89/43
A820970V500S	9,70	89	43	0,033	9,7x89/43
A820975V500S	9,75	89	43	0,033	9,75x89/43
A820980V500S	9,80	89	43	0,035	9,8x89/43
A820990V500S	9,90	89	43	0,038	9,9x89/43
A821000V500S	10,00	89	43	0,039	10x89/43
A821020V500S	10,20	89	43	0,04	10,2x89/43
A821050V500S	10,50	89	43	0,055	10,5x89/43
A821080V500S	10,80	95	47	0,056	10,8x95/47



PN 221182

DIN 1897 RN



VRTÁKY S VÁLCOVOU STOPKOU KRÁTKÉ
STUB DRILLS
EXTRA KURZE AUTOMATENBOHRER

HSS

PAS

ε = 118°

λ = 25°-30°

DIN 1412
FORM „N“

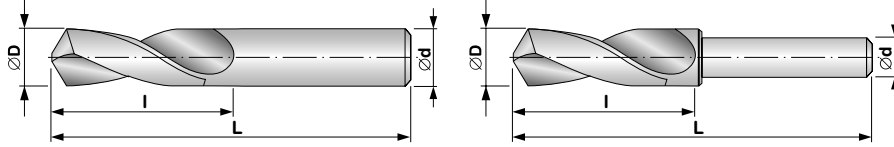
R

V
0,7 ± 0,0

F
20,1 ± 0,0

3xD

ØD = 0,70-20,0 mm ~ Ød=ØD ØD = 20,00-25,0 mm ~ Ød=20 mm ØD = 25,25-40,0 mm ~ Ød=25 mm



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm		Code 221182
A821100V500S	11,00	95	47	0,058	11x95/47
A821120V500S	11,20	95	47	0,06	11,2x95/47
A821150V500S	11,50	95	47	0,065	11,5x95/47
A821180V500S	11,80	95	47	0,072	11,8x95/47
A821200V500S	12,00	102	51	0,075	12x102/51
A821220V500S	12,20	102	51	0,08	12,2x102/51
A821250V500S	12,50	102	51	0,085	12,5x102/51
A821280V500S	12,80	102	51	0,09	12,8x102/51
A821300V500S	13,00	102	51	0,095	13x102/51
A821320V500S	13,20	102	51	0,1	13,2x102/51
A821350V500S	13,50	107	54	0,115	13,5x107/54
A821380V500S	13,80	107	54	0,118	13,8x107/54
A821400V500S	14,00	107	54	0,12	14x107/54
A821425V500S	14,25	111	56	0,125	14,25x111/56
A821450V500S	14,50	111	56	0,128	14,5x111/56
A821475V500S	14,75	111	56	0,13	14,75x111/56
A821500V500S	15,00	111	56	0,132	15x111/56
A821525V500S	15,25	115	58	0,135	15,25x115/58
A821550V500S	15,50	115	58	0,138	15,5x115/58
A821575V500S	15,75	115	58	0,14	15,75x115/58
A821600V500S	16,00	115	58	0,145	16x115/58
A821625V500S	16,25	119	60	0,148	16,25x119/60
A821650V500S	16,50	119	60	0,15	16,5x119/60
A821675V500S	16,75	119	60	0,155	16,75x119/60
A821700V500S	17,00	119	60	0,16	17x119/60
A821725V500S	17,25	123	62	0,163	17,25x123/62
A821750V500S	17,50	123	62	0,165	17,5x123/62
A821775V500S	17,75	123	62	0,17	17,75x123/62
A821800V500S	18,00	123	62	0,175	18x123/62
A821825V500S	18,25	127	64	0,18	18,25x127/64
A821850V500S	18,50	127	64	0,185	18,5x127/64
A821875V500S	18,75	127	64	0,19	18,75x127/64
A821900V500S	19,00	127	64	0,195	19x127/64
A821925V500S	19,25	131	66	0,2	19,25x131/66
A821950V500S	19,50	131	66	0,21	19,5x131/66
A821975V500S	19,75	131	66	0,22	19,75x131/66
A822000V500S	20,00	131	66	0,23	20x131/66
A822025F000S	20,25	135	70	0,235	20,25x135/70
A822050F000S	20,50	135	70	0,235	20,5x135/70
A822075F000S	20,75	135	70	0,235	20,75x135/70
A822100F000S	21,00	135	70	0,24	21x135/70
A822125F000S	21,25	135	70	0,24	21,25x135/70
A822150F000S	21,50	135	70	0,25	21,5x135/70
A822175F000S	21,75	135	70	0,25	21,75x135/70
A822200F000S	22,00	135	70	0,26	22x135/70
A822225F000S	22,25	135	70	0,26	22,25x135/70
A822250F000S	22,50	135	70	0,27	22,5x135/70
A822275F000S	22,75	135	70	0,27	22,75x135/70
A822300F000S	23,00	135	70	0,28	23x135/70
A822325F000S	23,25	135	70	0,28	23,25x135/70
A822350F000S	23,50	135	70	0,29	23,5x135/70
A822375F000S	23,75	135	70	0,29	23,75x135/70

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm		Code 221182
A822400F000S	24,00	135	70	0,3	24x135/70
A822425F000S	24,25	135	70	0,3	24,25x135/70
A822450F000S	24,50	135	70	0,32	24,5x135/70
A822475F000S	24,75	135	70	0,32	24,75x135/70
A822500F000S	25,00	135	70	0,34	25x135/70
A822525F000S	25,25	135	70	0,34	25,25x135/70
A822550F000S	25,50	135	70	0,36	25,5x135/70
A822575F000S	25,75	135	70	0,36	25,75x135/70
A822600F000S	26,00	135	70	0,38	26x135/70
A822625F000S	26,25	135	70	0,38	26,25x135/70
A822650F000S	26,50	135	70	0,4	26,5x135/70
A822675F000S	26,75	135	70	0,4	26,75x135/70
A822700F000S	27,00	135	70	0,42	27x135/70
A822725F000S	27,25	135	70	0,43	27,25x135/70
A822750F000S	27,50	135	70	0,43	27,5x135/70
A822775F000S	27,75	135	70	0,43	27,75x135/70
A822800F000S	28,00	135	70	0,44	28x135/70
A822825F000S	28,25	135	70	0,44	28,25x135/70
A822850F000S	28,50	135	70	0,45	28,5x135/70
A822875F000S	28,75	135	70	0,45	28,75x135/70
A822900F000S	29,00	135	70	0,46	29x135/70
A822925F000S	29,25	135	70	0,46	29,25x135/70
A822950F000S	29,50	135	70	0,47	29,5x135/70
A822975F000S	29,75	135	70	0,46	29,75x135/70
A823000F000S	30,00	135	70	0,48	30x135/70
A823025F000S	30,25	135	70	0,48	30,25x135/70
A823050F000S	30,50	135	70	0,48	30,5x135/70
A823075F000S	30,75	135	70	0,48	30,75x135/70
A823100F000S	31,00	135	70	0,49	31x135/70
A823125F000S	31,25	135	70	0,49	31,25x135/70
A823150F000S	31,50	135	70	0,49	31,5x135/70
A823175F000S	31,75	135	70	0,49	31,75x135/70
A823200F000S	32,00	135	70	0,5	32x135/70
A823225F000S	32,25	135	70	0,5	32,25x135/70
A823250F000S	32,50	135	70	0,5	32,5x135/70
A823275F000S	32,75	135	70	0,5	32,75x135/70
A823300F000S	33,00	135	70	0,51	33x135/70
A823350F000S	33,50	135	70	0,51	33,5x135/70
A823400F000S	34,00	135	70	0,52	34x135/70
A823450F000S	34,50	135	70	0,52	34,5x135/70
A823500F000S	35,00	135	70	0,53	35x135/70
A823550F000S	35,50	135	70	0,53	35,5x135/70
A823600F000S	36,00	135	70	0,54	36x135/70
A823650F000S	36,50	135	70	0,54	36,5x135/70
A823700F000S	37,00	135	70	0,55	37x135/70
A823750F000S	37,50	135	70	0,55	37,5x135/70
A823800F000S	38,00	135	70	0,57	38x135/70
A823850F000S	38,50	135	70	0,57	38,5x135/70
A823900F000S	39,00	135	70	0,59	39x135/70
A823950F000S	39,50	135	70	0,59	39,5x135/70
A824000F000S	40,00	135	70	0,6	40x135/70

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



Vrtáky s válcovou stopkou

Straight shank drills

Spiralbohrer mit Zylinderschaft

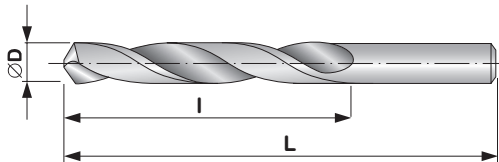


VRTÁKY S VÁLCOVOU STOPKOU KRÁTKÉ
STUB DRILLS
EXTRA KURZE AUTOMATENBOHRER

PN 2905

DIN 1897 RN

HSS	BLANC	$\epsilon = 118^\circ$	$\lambda = 25^\circ - 30^\circ$	DIN 1412 FORM „N“	R	V	3xD			
Steel < 850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics						



Objednáací číslo Order No. Bestell-Nr.	∅ mm	L mm	I mm	kg	Code 2905
A820070V000S	0.70	23	4.5	0.0001	0.7x23/4.5
A820075V000S	0.75	23	4.5	0.0001	0.75x23/4.5
A820080V000S	0.80	24	5	0.0001	0.8x24/5
A820090V000S	0.90	25	5.5	0.00012	0.9x25/5.5
A820100V000S	1.00	26	6	0.00015	1x26/6
A820110V000S	1.10	28	7	0.0002	1.1x28/7
A820120V000S	1.20	30	8	0.00025	1.2x30/8
A820125V000S	1.25	30	8	0.00025	1.25x30/8
A820130V000S	1.30	30	8	0.0003	1.3x30/8
A820140V000S	1.40	32	9	0.00035	1.4x32/9
A820150V000S	1.50	32	9	0.0004	1.5x32/9
A820160V000S	1.60	34	10	0.00045	1.6x34/10
A820170V000S	1.70	34	10	0.00055	1.7x34/10
A820175V000S	1.75	36	11	0.00055	1.75x36/11
A820180V000S	1.80	36	11	0.00066	1.8x36/11
A820190V000S	1.90	36	11	0.00077	1.9x36/11
A820200V000S	2.00	38	12	0.00088	2x38/12
A820210V000S	2.10	38	12	0.00099	2.1x38/12
A820220V000S	2.20	40	13	0.0011	2.2x40/13
A820225V000S	2.25	40	13	0.0011	2.25x40/13
A820230V000S	2.30	40	13	0.0012	2.3x40/13
A820240V000S	2.40	43	14	0.0013	2.4x43/14
A820250V000S	2.50	43	14	0.0014	2.5x43/14
A820260V000S	2.60	43	14	0.0016	2.6x43/14
A820270V000S	2.70	46	16	0.0018	2.7x46/16
A820275V000S	2.75	46	16	0.0018	2.75x46/16
A820280V000S	2.80	46	16	0.002	2.8x46/16
A820290V000S	2.90	46	16	0.0021	2.9x46/16
A820300V000S	3.00	46	16	0.0022	3x46/16
A820310V000S	3.10	49	18	0.024	3.1x49/18
A820320V000S	3.20	49	18	0.0026	3.2x49/18
A820325V000S	3.25	49	18	0.0026	3.25x49/18
A820330V000S	3.30	49	18	0.0029	3.3x49/18
A820340V000S	3.40	52	20	0.0033	3.4x52/20
A820350V000S	3.50	52	20	0.0035	3.5x52/20
A820360V000S	3.60	52	20	0.0039	3.6x52/20
A820370V000S	3.70	52	20	0.0042	3.7x52/20
A820375V000S	3.75	52	20	0.0042	3.75x52/20
A820380V000S	3.80	55	22	0.0046	3.8x55/22
A820390V000S	3.90	55	22	0.0048	3.9x55/22
A820400V000S	4.00	55	22	0.005	4x55/22
A820410V000S	4.10	55	22	0.0053	4.1x55/22
A820420V000S	4.20	55	22	0.0055	4.2x55/22
A820425V000S	4.25	55	22	0.0055	4.25x55/22
A820430V000S	4.30	58	24	0.0057	4.3x58/24
A820440V000S	4.40	58	24	0.0059	4.4x58/24
A820450V000S	4.50	58	24	0.0061	4.5x58/24
A820460V000S	4.60	58	24	0.0063	4.6x58/24
A820470V000S	4.70	58	24	0.0067	4.7x58/24
A820475V000S	4.75	58	24	0.0067	4.75x58/24
A820480V000S	4.80	62	26	0.0082	4.8x62/26
A820490V000S	4.90	62	26	0.0085	4.9x62/26
A820500V000S	5.00	62	26	0.009	5x62/26
A820510V000S	5.10	62	26	0.0095	5.1x62/26
A820520V000S	5.20	62	26	0.01	5.2x62/26
A820525V000S	5.25	62	26	0.01	5.25x62/26
A820530V000S	5.30	62	26	0.0103	5.3x62/26
A820540V000S	5.40	66	28	0.0106	5.4x66/28
A820550V000S	5.50	66	28	0.011	5.5x66/28
A820560V000S	5.60	66	28	0.0112	5.6x66/28
A820570V000S	5.70	66	28	0.0113	5.7x66/28

Objednáací číslo Order No. Bestell-Nr.	∅ mm	L mm	I mm	kg	Code 2905
A820575V000S	5.75	66	28	0.0113	5.75x66/28
A820580V000S	5.80	66	28	0.0115	5.8x66/28
A820590V000S	5.90	66	28	0.0118	5.9x66/28
A820600V000S	6.00	66	28	0.012	6x66/28
A820610V000S	6.10	70	31	0.013	6.1x70/31
A820620V000S	6.20	70	31	0.014	6.2x70/31
A820630V000S	6.30	70	31	0.015	6.3x70/31
A820640V000S	6.40	70	31	0.0152	6.4x70/31
A820650V000S	6.50	70	31	0.016	6.5x70/31
A820660V000S	6.60	70	31	0.017	6.6x70/31
A820670V000S	6.70	70	31	0.018	6.7x70/31
A820680V000S	6.80	74	34	0.019	6.8x74/34
A820690V000S	6.90	74	34	0.0193	6.9x74/34
A820700V000S	7.00	74	34	0.0195	7x74/34
A820710V000S	7.10	74	34	0.0198	7.1x74/34
A820720V000S	7.20	74	34	0.02	7.2x74/34
A820730V000S	7.30	74	34	0.0202	7.3x74/34
A820740V000S	7.40	74	34	0.0203	7.4x74/34
A820750V000S	7.50	74	34	0.0205	7.5x74/34
A820760V000S	7.60	79	37	0.0207	7.6x79/37
A820770V000S	7.70	79	37	0.0209	7.7x79/37
A820780V000S	7.80	79	37	0.0211	7.8x79/37
A820790V000S	7.90	79	37	0.0213	7.9x79/37
A820800V000S	8.00	79	37	0.0215	8x79/37
A820810V000S	8.10	79	37	0.0218	8.1x79/37
A820820V000S	8.20	79	37	0.022	8.2x79/37
A820830V000S	8.30	79	37	0.0222	8.3x79/37
A820840V000S	8.40	79	37	0.0223	8.4x79/37
A820850V000S	8.50	79	37	0.0225	8.5x79/37
A820860V000S	8.60	84	40	0.0227	8.6x84/40
A820870V000S	8.70	84	40	0.0229	8.7x84/40
A820880V000S	8.80	84	40	0.023	8.8x84/40
A820890V000S	8.90	84	40	0.0232	8.9x84/40
A820900V000S	9.00	84	40	0.0235	9x84/40
A820910V000S	9.10	84	40	0.0238	9.1x84/40
A820920V000S	9.20	84	40	0.024	9.2x84/40
A820930V000S	9.30	84	40	0.026	9.3x84/40
A820940V000S	9.40	84	40	0.028	9.4x84/40
A820950V000S	9.50	84	40	0.03	9.5x84/40
A820960V000S	9.60	89	43	0.0315	9.6x89/43
A820970V000S	9.70	89	43	0.033	9.7x89/43
A820980V000S	9.80	89	43	0.035	9.8x89/43
A820990V000S	9.90	89	43	0.038	9.9x89/43
A821000V000S	10.00	89	43	0.039	10x89/43
A821020V000S	10.20	89	43	0.04	10.2x89/43
A821050V000S	10.50	89	43	0.055	10.5x89/43
A821080V000S	10.80	95	47	0.056	10.8x95/47
A821100V000S	11.00	95	47	0.058	11x95/47
A821120V000S	11.20	95	47	0.06	11.2x95/47
A821150V000S	11.50	95	47	0.065	11.5x95/47
A821180V000S	11.80	95	47	0.072	11.8x95/47
A821200V000S	12.00	102	51	0.075	12x102/51
A821220V000S	12.20	102	51	0.08	12.2x102/51
A821250V000S	12.50	102	51	0.085	12.5x102/51
A821280V000S	12.80	102	51	0.09	12.8x102/51
A821300V000S	13.00	102	51	0.095	13x102/51
A821320V000S	13.20	102	51	0.1	13.2x102/51
A821350V000S	13.50	107	54	0.115	13.5x107/54
A821380V000S	13.80	107	54	0.118	13.8x107/54
A821400V000S	14.00	107	54	0.12	14x107/54

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



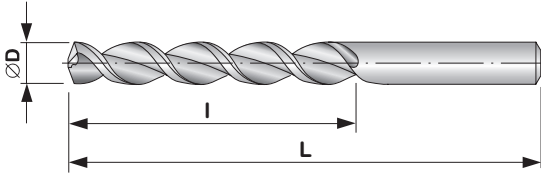
PN 2905 - T 1000

DIN 1897 GT100



VRTÁKY S VÁLCOVOU STOPKOU KRÁTKÉ PRO TĚŽKO OBROBITELNÉ MATERIÁLY
COBALT STUB DRILLS
KURZE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, FÜR SCHWER ZERSPANBARE WERKSTOFFE

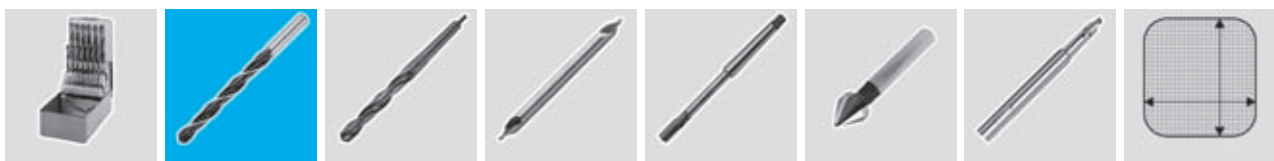
HSSCo	BLANC	$\epsilon = 128^\circ$	$\lambda = 35^\circ - 40^\circ$	T1000 (GT 100)	DIN 1412 FORM „C“	R	V	3xD		
Steel <1200 MPa	Stainless steel	Cast iron	Cu/alloy	Heat-resistant						



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2905 T1000
A820200G400S	2,00	38	12	0,00088	2x38/12 T1000
A820210G400S	2,10	38	12	0,00099	2,1x38/12 T1000
A820220G400S	2,20	40	13	0,0011	2,2x40/13 T1000
A820225G400S	2,25	40	13	0,0011	2,25x40/13 T1000
A820230G400S	2,30	40	13	0,0012	2,3x40/13 T1000
A820240G400S	2,40	43	14	0,0013	2,4x43/14 T1000
A820250G400S	2,50	43	14	0,0014	2,5x43/14 T1000
A820260G400S	2,60	43	14	0,0016	2,6x43/14 T1000
A820270G400S	2,70	46	16	0,0018	2,7x46/16 T1000
A820275G400S	2,75	46	16	0,0018	2,75x46/16 T1000
A820280G400S	2,80	46	16	0,002	2,8x46/16 T1000
A820290G400S	2,90	46	16	0,0021	2,9x46/16 T1000
A820300G400S	3,00	46	16	0,0022	3x46/16 T1000
A820310G400S	3,10	49	18	0,024	3,1x49/18 T1000
A820320G400S	3,20	49	18	0,0026	3,2x49/18 T1000
A820325G400S	3,25	49	18	0,0026	3,25x49/18 T1000
A820330G400S	3,30	49	18	0,0029	3,3x49/18 T1000
A820340G400S	3,40	52	20	0,0033	3,4x52/20 T1000
A820350G400S	3,50	52	20	0,0035	3,5x52/20 T1000
A820360G400S	3,60	52	20	0,0039	3,6x52/20 T1000
A820370G400S	3,70	52	20	0,0042	3,7x52/20 T1000
A820375G400S	3,75	52	20	0,0042	3,75x52/20 T1000
A820380G400S	3,80	55	22	0,0046	3,8x55/22 T1000
A820390G400S	3,90	55	22	0,0048	3,9x55/22 T1000
A820400G400S	4,00	55	22	0,005	4x55/22 T1000
A820410G400S	4,10	55	22	0,0053	4,1x55/22 T1000
A820420G400S	4,20	55	22	0,0055	4,2x55/22 T1000
A820425G400S	4,25	55	22	0,0055	4,25x55/22 T1000
A820430G400S	4,30	58	24	0,0057	4,3x58/24 T1000
A820440G400S	4,40	58	24	0,0059	4,4x58/24 T1000
A820450G400S	4,50	58	24	0,0061	4,5x58/24 T1000
A820460G400S	4,60	58	24	0,0063	4,6x58/24 T1000
A820470G400S	4,70	58	24	0,0067	4,7x58/24 T1000
A820475G400S	4,75	58	24	0,0067	4,75x58/24 T1000
A820480G400S	4,80	62	26	0,0082	4,8x62/26 T1000
A820490G400S	4,90	62	26	0,0085	4,9x62/26 T1000
A820500G400S	5,00	62	26	0,009	5x62/26 T1000
A820510G400S	5,10	62	26	0,0095	5,1x62/26 T1000
A820520G400S	5,20	62	26	0,01	5,2x62/26 T1000
A820525G400S	5,25	62	26	0,01	5,25x62/26 T1000
A820530G400S	5,30	62	26	0,0103	5,3x62/26 T1000
A820540G400S	5,40	66	28	0,0106	5,4x66/28 T1000
A820550G400S	5,50	66	28	0,011	5,5x66/28 T1000
A820560G400S	5,60	66	28	0,0112	5,6x66/28 T1000
A820570G400S	5,70	66	28	0,0113	5,7x66/28 T1000
A820575G400S	5,75	66	28	0,0113	5,75x66/28 T1000
A820580G400S	5,80	66	28	0,0115	5,8x66/28 T1000
A820590G400S	5,90	66	28	0,0118	5,9x66/28 T1000
A820600G400S	6,00	66	28	0,012	6x66/28 T1000
A820610G400S	6,10	70	31	0,013	6,1x70/31 T1000
A820620G400S	6,20	70	31	0,014	6,2x70/31 T1000
A820630G400S	6,30	70	31	0,015	6,3x70/31 T1000
A820640G400S	6,40	70	31	0,0152	6,4x70/31 T1000

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2905 T1000
A820650G400S	6,50	70	31	0,016	6,5x70/31 T1000
A820660G400S	6,60	70	31	0,017	6,6x70/31 T1000
A820670G400S	6,70	70	31	0,018	6,7x70/31 T1000
A820680G400S	6,80	74	34	0,019	6,8x74/34 T1000
A820690G400S	6,90	74	34	0,0193	6,9x74/34 T1000
A820700G400S	7,00	74	34	0,0195	7x74/34 T1000
A820710G400S	7,10	74	34	0,0198	7,1x74/34 T1000
A820720G400S	7,20	74	34	0,02	7,2x74/34 T1000
A820730G400S	7,30	74	34	0,0202	7,3x74/34 T1000
A820740G400S	7,40	74	34	0,0203	7,4x74/34 T1000
A820750G400S	7,50	74	34	0,0205	7,5x74/34 T1000
A820760G400S	7,60	79	37	0,0207	7,6x79/37 T1000
A820770G400S	7,70	79	37	0,0209	7,7x79/37 T1000
A820780G400S	7,80	79	37	0,0211	7,8x79/37 T1000
A820790G400S	7,90	79	37	0,0213	7,9x79/37 T1000
A820800G400S	8,00	79	37	0,0215	8x79/37 T1000
A820810G400S	8,10	79	37	0,0218	8,1x79/37 T1000
A820820G400S	8,20	79	37	0,022	8,2x79/37 T1000
A820830G400S	8,30	79	37	0,0222	8,3x79/37 T1000
A820840G400S	8,40	79	37	0,0223	8,4x79/37 T1000
A820850G400S	8,50	79	37	0,0225	8,5x79/37 T1000
A820860G400S	8,60	84	40	0,0227	8,6x84/40 T1000
A820870G400S	8,70	84	40	0,0229	8,7x84/40 T1000
A820880G400S	8,80	84	40	0,023	8,8x84/40 T1000
A820890G400S	8,90	84	40	0,0232	8,9x84/40 T1000
A820900G400S	9,00	84	40	0,0235	9x84/40 T1000
A820910G400S	9,10	84	40	0,0238	9,1x84/40 T1000
A820920G400S	9,20	84	40	0,024	9,2x84/40 T1000
A820930G400S	9,30	84	40	0,026	9,3x84/40 T1000
A820940G400S	9,40	84	40	0,028	9,4x84/40 T1000
A820950G400S	9,50	84	40	0,03	9,5x84/40 T1000
A820960G400S	9,60	89	43	0,0315	9,6x89/43 T1000
A820970G400S	9,70	89	43	0,033	9,7x89/43 T1000
A820980G400S	9,80	89	43	0,035	9,8x89/43 T1000
A820990G400S	9,90	89	43	0,038	9,9x89/43 T1000
A821000G400S	10,00	89	43	0,039	10x89/43 T1000
A821020G400S	10,20	89	43	0,04	10,2x89/43 T1000
A821050G400S	10,50	89	43	0,055	10,5x89/43 T1000
A821080G400S	10,80	95	47	0,056	10,8x95/47 T1000
A821100G400S	11,00	95	47	0,058	11x95/47 T1000
A821120G400S	11,20	95	47	0,06	11,2x95/47 T1000
A821150G400S	11,50	95	47	0,065	11,5x95/47 T1000
A821180G400S	11,80	95	47	0,072	11,8x95/47 T1000
A821200G400S	12,00	102	51	0,075	12x102/51 T1000
A821220G400S	12,20	102	51	0,08	12,2x102/51 T1000
A821250G400S	12,50	102	51	0,085	12,5x102/51 T1000
A821280G400S	12,80	102	51	0,09	12,8x102/51 T1000
A821300G400S	13,00	102	51	0,095	13x102/51 T1000
A821320G400S	13,20	102	51	0,1	13,2x102/51 T1000
A821350G400S	13,50	107	54	0,115	13,5x107/54 T1000
A821380G400S	13,80	107	54	0,118	13,8x107/54 T1000
A821400G400S	14,00	107	54	0,12	14x107/54 T1000

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



Vrtáky s válcovou stopkou

Straight shank drills

Spiralbohrer mit Zylinderschaft



VRTÁKY S VÁLCOVOU STOPKOU KRÁTKÉ, LEVOŘEZNÉ
STUB DRILLS, LEFT HAND CUTTING
EXTRA KURZE AUTOMATENBOHRER, LINKSSCHNEIDEND

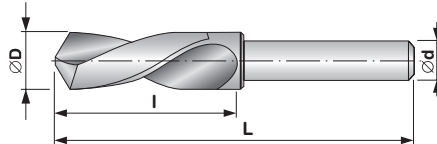
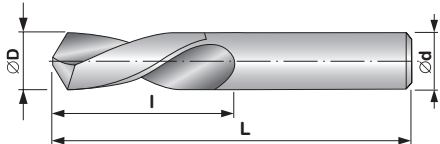
PN 221180

DIN 1897 LN

na požtávku
on request
auf Anfrage

HSS	BLANC 14	$\epsilon = 118^\circ$	$\lambda = 25^\circ - 30^\circ$	DIN 1412 FORM „N“	L	F	3xD		
Steel < 850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics					

$\varnothing D = 14,25-20,0$ mm $\sim \varnothing d = \varnothing D$ $\varnothing D = 20,00-25,0$ mm $\sim \varnothing d = 20$ mm $\varnothing D = 25,25-40,0$ mm $\sim \varnothing d = 25$ mm



Objednací číslo Order No. Bestell-Nr.	∅D mm	L mm	I mm	kg	Code 221180
A801425F000S	14,25	111	56	0,125	14,25x111/56
A801450F000S	14,50	111	56	0,128	14,5x111/56
A801475F000S	14,75	111	56	0,13	14,75x111/56
A801500F000S	15,00	111	56	0,132	15x111/56
A801525F000S	15,25	115	58	0,135	15,25x115/58
A801550F000S	15,50	115	58	0,138	15,5x115/58
A801575F000S	15,75	115	58	0,14	15,75x115/58
A801600F000S	16,00	115	58	0,145	16x115/58
A801625F000S	16,25	119	60	0,148	16,25x119/60
A801650F000S	16,50	119	60	0,15	16,5x119/60
A801675F000S	16,75	119	60	0,155	16,75x119/60
A801700F000S	17,00	119	60	0,16	17x119/60
A801725F000S	17,25	123	62	0,163	17,25x123/62
A801750F000S	17,50	123	62	0,165	17,5x123/62
A801775F000S	17,75	123	62	0,17	17,75x123/62
A801800F000S	18,00	123	62	0,175	18x123/62
A801825F000S	18,25	127	64	0,18	18,25x127/64
A801850F000S	18,50	127	64	0,185	18,5x127/64
A801875F000S	18,75	127	64	0,19	18,75x127/64
A801900F000S	19,00	127	64	0,195	19x127/64
A801925F000S	19,25	131	66	0,2	19,25x131/66
A801950F000S	19,50	131	66	0,21	19,5x131/66
A801975F000S	19,75	131	66	0,22	19,75x131/66
A802000F000S	20,00	131	66	0,23	20x131/66
A802025F000S	20,25	135	70	0,235	20,25x135/70
A802050F000S	20,50	135	70	0,235	20,5x135/70
A802075F000S	20,75	135	70	0,235	20,75x135/70
A802100F000S	21,00	135	70	0,24	21x135/70
A802125F000S	21,25	135	70	0,24	21,25x135/70
A802150F000S	21,50	135	70	0,25	21,5x135/70
A802175F000S	21,75	135	70	0,25	21,75x135/70
A802200F000S	22,00	135	70	0,26	22x135/70
A802225F000S	22,25	135	70	0,26	22,25x135/70
A802250F000S	22,50	135	70	0,27	22,5x135/70
A802275F000S	22,75	135	70	0,27	22,75x135/70
A802300F000S	23,00	135	70	0,28	23x135/70
A802325F000S	23,25	135	70	0,28	23,25x135/70
A802350F000S	23,50	135	70	0,29	23,5x135/70
A802375F000S	23,75	135	70	0,29	23,75x135/70
A802400F000S	24,00	135	70	0,3	24x135/70
A802425F000S	24,25	135	70	0,3	24,25x135/70
A802450F000S	24,50	135	70	0,32	24,5x135/70
A802475F000S	24,75	135	70	0,32	24,75x135/70
A802500F000S	25,00	135	70	0,34	25x135/70
A802525F000S	25,25	135	70	0,34	25,25x135/70

Objednací číslo Order No. Bestell-Nr.	∅D mm	L mm	I mm	kg	Code 221180
A802550F000S	25,50	135	70	0,36	25,5x135/70
A802575F000S	25,75	135	70	0,36	25,75x135/70
A802600F000S	26,00	135	70	0,38	26x135/70
A802625F000S	26,25	135	70	0,38	26,25x135/70
A802650F000S	26,50	135	70	0,4	26,5x135/70
A802675F000S	26,75	135	70	0,4	26,75x135/70
A802700F000S	27,00	135	70	0,42	27x135/70
A802725F000S	27,25	135	70	0,43	27,25x135/70
A802750F000S	27,50	135	70	0,43	27,5x135/70
A802775F000S	27,75	135	70	0,43	27,75x135/70
A802800F000S	28,00	135	70	0,44	28x135/70
A802825F000S	28,25	135	70	0,44	28,25x135/70
A802850F000S	28,50	135	70	0,45	28,5x135/70
A802875F000S	28,75	135	70	0,45	28,75x135/70
A802900F000S	29,00	135	70	0,46	29x135/70
A802925F000S	29,25	135	70	0,46	29,25x135/70
A802950F000S	29,50	135	70	0,47	29,5x135/70
A802975F000S	29,75	135	70	0,46	29,75x135/70
A803000F000S	30,00	135	70	0,48	30x135/70
A803025F000S	30,25	135	70	0,48	30,25x135/70
A803050F000S	30,50	135	70	0,48	30,5x135/70
A803075F000S	30,75	135	70	0,48	30,75x135/70
A803100F000S	31,00	135	70	0,49	31x135/70
A803125F000S	31,25	135	70	0,49	31,25x135/70
A803150F000S	31,50	135	70	0,49	31,5x135/70
A803175F000S	31,75	135	70	0,49	31,75x135/70
A803200F000S	32,00	135	70	0,5	32x135/70
A803225F000S	32,25	135	70	0,5	32,25x135/70
A803250F000S	32,50	135	70	0,5	32,5x135/70
A803275F000S	32,75	135	70	0,5	32,75x135/70
A803300F000S	33,00	135	70	0,51	33x135/70
A803350F000S	33,50	135	70	0,51	33,5x135/70
A803400F000S	34,00	135	70	0,52	34x135/70
A803450F000S	34,50	135	70	0,52	34,5x135/70
A803500F000S	35,00	135	70	0,53	35x135/70
A803550F000S	35,50	135	70	0,53	35,5x135/70
A803600F000S	36,00	135	70	0,54	36x135/70
A803650F000S	36,50	135	70	0,54	36,5x135/70
A803700F000S	37,00	135	70	0,55	37x135/70
A803750F000S	37,50	135	70	0,55	37,5x135/70
A803800F000S	38,00	135	70	0,57	38x135/70
A803850F000S	38,50	135	70	0,57	38,5x135/70
A803900F000S	39,00	135	70	0,59	39x135/70
A803950F000S	39,50	135	70	0,59	39,5x135/70
A804000F000S	40,00	135	70	0,6	40x135/70

Poznámka / Note / Notiz: ostatní neuvedené rozměry na požtávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



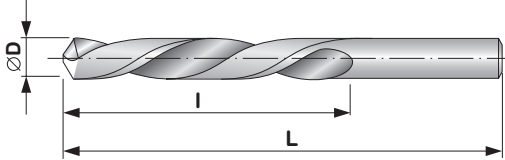
PN 2904

DIN 1897 LN



VRTÁKY S VÁLCOVOU STOPKOU KRÁTKÉ, LEVOŘEZNÉ
STUB DRILLS, LEFT HAND CUTTING
EXTRA KURZE AUTOMATENBOHRER, LINKSSCHNEIDEND

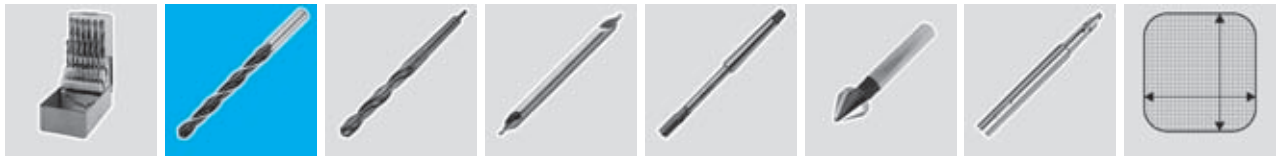
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Steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm	kg	Code 2904
A800070L000S	0.70	23	4.5	0.0001	0.7x23/4.5
A800075L000S	0.75	23	4.5	0.0001	0.75x23/4.5
A800080L000S	0.80	24	5	0.0001	0.8x24/5
A800090L000S	0.90	25	5.5	0.00012	0.9x25/5.5
A800100L000S	1.00	26	6	0.00015	1x26/6
A800110L000S	1.10	28	7	0.0002	1.1x28/7
A800120L000S	1.20	30	8	0.00025	1.2x30/8
A800125L000S	1.25	30	8	0.00025	1.25x30/8
A800130L000S	1.30	30	8	0.0003	1.3x30/8
A800140L000S	1.40	32	9	0.00035	1.4x32/9
A800150L000S	1.50	32	9	0.0004	1.5x32/9
A800160L000S	1.60	34	10	0.00045	1.6x34/10
A800170L000S	1.70	34	10	0.00055	1.7x34/10
A800175L000S	1.75	36	11	0.00055	1.75x36/11
A800180L000S	1.80	36	11	0.00066	1.8x36/11
A800190L000S	1.90	36	11	0.00077	1.9x36/11
A800200L000S	2.00	38	12	0.00088	2x38/12
A800210L000S	2.10	38	12	0.00099	2.1x38/12
A800220L000S	2.20	40	13	0.0011	2.2x40/13
A800225L000S	2.25	40	13	0.0011	2.25x40/13
A800230L000S	2.30	40	13	0.0012	2.3x40/13
A800240L000S	2.40	43	14	0.0013	2.4x43/14
A800250L000S	2.50	43	14	0.0014	2.5x43/14
A800260L000S	2.60	43	14	0.0016	2.6x43/14
A800270L000S	2.70	46	16	0.0018	2.7x46/16
A800275L000S	2.75	46	16	0.0018	2.75x46/16
A800280L000S	2.80	46	16	0.002	2.8x46/16
A800290L000S	2.90	46	16	0.0021	2.9x46/16
A800300L000S	3.00	46	16	0.0022	3x46/16
A800310L000S	3.10	49	18	0.024	3.1x49/18
A800320L000S	3.20	49	18	0.026	3.2x49/18
A800325L000S	3.25	49	18	0.026	3.25x49/18
A800330L000S	3.30	49	18	0.029	3.3x49/18
A800340L000S	3.40	52	20	0.033	3.4x52/20
A800350L000S	3.50	52	20	0.035	3.5x52/20
A800360L000S	3.60	52	20	0.039	3.6x52/20
A800370L000S	3.70	52	20	0.042	3.7x52/20
A800375L000S	3.75	52	20	0.042	3.75x52/20
A800380L000S	3.80	55	22	0.046	3.8x55/22
A800390L000S	3.90	55	22	0.048	3.9x55/22
A800400L000S	4.00	55	22	0.005	4x55/22
A800410L000S	4.10	55	22	0.053	4.1x55/22
A800420L000S	4.20	55	22	0.055	4.2x55/22
A800425L000S	4.25	55	22	0.055	4.25x55/22
A800430L000S	4.30	58	24	0.057	4.3x58/24
A800440L000S	4.40	58	24	0.059	4.4x58/24
A800450L000S	4.50	58	24	0.061	4.5x58/24
A800460L000S	4.60	58	24	0.063	4.6x58/24
A800470L000S	4.70	58	24	0.067	4.7x58/24
A800475L000S	4.75	58	24	0.067	4.75x58/24
A800480L000S	4.80	62	26	0.082	4.8x62/26
A800490L000S	4.90	62	26	0.085	4.9x62/26
A800500L000S	5.00	62	26	0.009	5x62/26
A800510L000S	5.10	62	26	0.095	5.1x62/26
A800520L000S	5.20	62	26	0.1	5.2x62/26
A800525L000S	5.25	62	26	0.1	5.25x62/26
A800530L000S	5.30	62	26	0.103	5.3x62/26
A800540L000S	5.40	66	28	0.106	5.4x66/28
A800550L000S	5.50	66	28	0.11	5.5x66/28
A800560L000S	5.60	66	28	0.112	5.6x66/28
A800570L000S	5.70	66	28	0.113	5.7x66/28

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm	kg	Code 2904
A800575L000S	5.75	66	28	0.113	5.75x66/28
A800580L000S	5.80	66	28	0.115	5.8x66/28
A800590L000S	5.90	66	28	0.118	5.9x66/28
A800600L000S	6.00	66	28	0.012	6x66/28
A800610L000S	6.10	70	31	0.013	6.1x70/31
A800620L000S	6.20	70	31	0.014	6.2x70/31
A800630L000S	6.30	70	31	0.015	6.3x70/31
A800640L000S	6.40	70	31	0.0152	6.4x70/31
A800650L000S	6.50	70	31	0.016	6.5x70/31
A800660L000S	6.60	70	31	0.017	6.6x70/31
A800670L000S	6.70	70	31	0.018	6.7x70/31
A800680L000S	6.80	74	34	0.019	6.8x74/34
A800690L000S	6.90	74	34	0.0193	6.9x74/34
A800700L000S	7.00	74	34	0.0195	7x74/34
A800710L000S	7.10	74	34	0.0198	7.1x74/34
A800720L000S	7.20	74	34	0.02	7.2x74/34
A800730L000S	7.30	74	34	0.0202	7.3x74/34
A800740L000S	7.40	74	34	0.0203	7.4x74/34
A800750L000S	7.50	74	34	0.0205	7.5x74/34
A800760L000S	7.60	79	37	0.0207	7.6x79/37
A800770L000S	7.70	79	37	0.0209	7.7x79/37
A800780L000S	7.80	79	37	0.0211	7.8x79/37
A800790L000S	7.90	79	37	0.0213	7.9x79/37
A800800L000S	8.00	79	37	0.0215	8x79/37
A800810L000S	8.10	79	37	0.0218	8.1x79/37
A800820L000S	8.20	79	37	0.022	8.2x79/37
A800830L000S	8.30	79	37	0.0222	8.3x79/37
A800840L000S	8.40	79	37	0.0223	8.4x79/37
A800850L000S	8.50	79	37	0.0225	8.5x79/37
A800860L000S	8.60	84	40	0.0227	8.6x84/40
A800870L000S	8.70	84	40	0.0229	8.7x84/40
A800880L000S	8.80	84	40	0.023	8.8x84/40
A800890L000S	8.90	84	40	0.0232	8.9x84/40
A800900L000S	9.00	84	40	0.0235	9x84/40
A800910L000S	9.10	84	40	0.0238	9.1x84/40
A800920L000S	9.20	84	40	0.024	9.2x84/40
A800930L000S	9.30	84	40	0.026	9.3x84/40
A800940L000S	9.40	84	40	0.028	9.4x84/40
A800950L000S	9.50	84	40	0.03	9.5x84/40
A800960L000S	9.60	89	43	0.0315	9.6x89/43
A800970L000S	9.70	89	43	0.033	9.7x89/43
A800980L000S	9.80	89	43	0.035	9.8x89/43
A800990L000S	9.90	89	43	0.038	9.9x89/43
A801000L000S	10.00	89	43	0.039	10x89/43
A801020L000S	10.20	89	43	0.04	10.2x89/43
A801050L000S	10.50	89	43	0.055	10.5x89/43
A801080L000S	10.80	95	47	0.056	10.8x95/47
A801100L000S	11.00	95	47	0.058	11x95/47
A801120L000S	11.20	95	47	0.06	11.2x95/47
A801150L000S	11.50	95	47	0.065	11.5x95/47
A801180L000S	11.80	95	47	0.072	11.8x95/47
A801200L000S	12.00	102	51	0.075	12x102/51
A801220L000S	12.20	102	51	0.08	12.2x102/51
A801250L000S	12.50	102	51	0.085	12.5x102/51
A801280L000S	12.80	102	51	0.09	12.8x102/51
A801300L000S	13.00	102	51	0.095	13x102/51
A801320L000S	13.20	102	51	0.1	13.2x102/51
A801350L000S	13.50	107	54	0.115	13.5x107/54
A801380L000S	13.80	107	54	0.118	13.8x107/54
A801400L000S	14.00	107	54	0.12	14x107/54

Poznámka / Note / Notiz: ostatní neuvedené rozměry na požádání / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



Vrtáky s válcovou stopkou

Straight shank drills

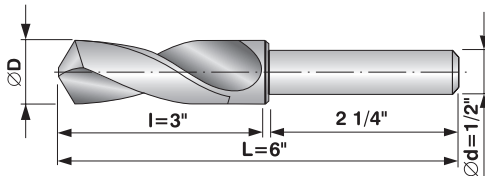
Spiralbohrer mit Zylinderschaft



VRTÁKY S VÁLCOVOU STOPKOU OSAZENOU
SILVER AND DEMINGS DRILLS
KURZE SPIRALBOHRER MIT ABGESETZTEM ZYLINDRISCHEM SCHAFT

ČSN 221187

HSS	PAS / BLANC					F	3xD		
Steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics					



Objednací číslo Order No. Bestell-Nr.	ØD mm	ØD inch	L mm	I mm		Code 221187
A871300F000S	13,0		6	3	0,13	13
A871349F000S	13,494	17/32	6	3	0,13	17/32
A871350F000S	13,5		6	3	0,13	13,5
A871400F000S	14,0		6	3	0,14	14
A871429F000S	14,288	9/16	6	3	0,14	9/16
A871450F000S	14,5		6	3	0,14	14,5
A871500F000S	15,0		6	3	0,14	15
A871508F000S	15,081	19/32	6	3	0,14	19/32
A871550F000S	15,5		6	3	0,15	15,5
A871588F000S	15,875	5/8	6	3	0,15	5/8
A871600F000S	16,0		6	3	0,15	16
A871650F000S	16,5		6	3	0,16	16,5
A871667F000S	16,669	21/32	6	3	0,16	21/32
A871700F000S	17,0		6	3	0,17	17
A871746F000S	17,463	11/16	6	3	0,17	11/16
A871750F000S	17,5		6	3	0,17	17,5
A871800F000S	18,0		6	3	0,18	18
A871826F000S	18,256	23/32	6	3	0,18	23/32
A871850F000S	18,5		6	3	0,19	18,5
A871900F000S	19,0		6	3	0,19	19
A871905F000S	19,050	3/4	6	3	0,19	3/4
A871950F000S	19,5		6	3	0,21	19,5
A871984F000S	19,844	25/32	6	3	0,21	25/32
A872000F000S	20,0		6	3	0,21	20
A872050F000S	20,5		6	3	0,22	20,5
A872064F000S	20,638	13/16	6	3	0,22	13/16
A872100F000S	21,0		6	3	0,22	21
A872143F000S	21,431	27/32	6	3	0,23	27/32
A872150F000S	21,5		6	3	0,23	21,5
A872200F000S	22,0		6	3	0,24	22
A872223F000S	22,225	7/8	6	3	0,24	7/8
A872250F000S	22,5		6	3	0,25	22,5
A872300F000S	23,0		6	3	0,26	23
A872302F000S	23,019	29/32	6	3	0,26	29/32
A872350F000S	23,5		6	3	0,27	23,5
A872381F000S	23,813	15/16	6	3	0,27	15/16
A872400F000S	24,0		6	3	0,28	24

Objednací číslo Order No. Bestell-Nr.	ØD mm	ØD inch	L mm	I mm		Code 221187
A872450F000S	24,5		6	3	0,29	24,5
A872461F000S	24,606	31/32	6	3	0,29	31/32
A872500F000S	25,0		6	3	0,29	25
A872540F000S	25,400	1	6	3	0,30	1
A872550F000S	25,5		6	3	0,30	25,5
A872600F000S	26,0		6	3	0,31	26
A872650F000S	26,5		6	3	0,32	26,5
A872699F000S	26,988	1 1/16	6	3	0,33	1 1/16
A872700F000S	27,0		6	3	0,33	27
A872750F000S	27,5		6	3	0,34	27,5
A872800F000S	28,0		6	3	0,35	28
A872850F000S	28,5		6	3	0,36	28,5
A872858F000S	28,575	1 1/8	6	3	0,36	1 1/8
A872900F000S	29,0		6	3	0,37	29
A872950F000S	29,5		6	3	0,38	29,5
A873000F000S	30,0		6	3	0,39	30
A873016F000S	30,163	1 3/16	6	3	0,40	1 3/16
A873050F000S	30,5		6	3	0,41	30,5
A873100F000S	31,0		6	3	0,42	31
A873150F000S	31,5		6	3	0,43	31,5
A873175F000S	31,750	1 1/4	6	3	0,44	1 1/4
A873200F000S	32,0		6	3	0,45	32
A873250F000S	32,5		6	3	0,46	32,5
A873300F000S	33,0		6	3	0,47	33
A873350F000S	33,5		6	3	0,49	33,5
A873400F000S	34,0		6	3	0,50	34
A873450F000S	34,5		6	3	0,51	34,5
A873493F000S	34,925	1 3/8	6	3	0,52	1 3/8
A873500F000S	35,0		6	3	0,52	35
A873550F000S	35,5		6	3	0,53	35,5
A873600F000S	36,0		6	3	0,54	36
A873650F000S	36,5		6	3	0,56	36,5
A873700F000S	37,0		6	3	0,57	37
A873750F000S	37,5		6	3	0,58	37,5
A873800F000S	38,0		6	3	0,59	38
A873810F000S	38,100	1 1/2	6	3	0,60	1 1/2

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



ČSN 221191

DIN 1899A RN



VRTÁKY SE ZESÍLENOU VÁLCOVOU STOPKOU
MICRO DRILLS
KLEINSTBOHRER MIT VERSTÄRKTEM SCHAFT

HSS	BLANC					V	3xD			
Steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics						

∅D < 0,8 mm ~ ∅d=1,0 mm ∅D ≥ 0,8 mm ~ ∅d=1,5 mm



Objednáací číslo Order No. Bestell-Nr.	∅D mm	L mm	l mm		Code 221191
A910025F000S	0,25	25	1,8	0,0001	0,25x25/1,8
A910026F000S	0,26	25	1,8	0,0001	0,26x25/1,8
A910027F000S	0,27	25	1,8	0,0001	0,27x25/1,8
A910028F000S	0,28	25	2,0	0,0001	0,28x25/2
A910029F000S	0,29	25	2,0	0,0001	0,29x25/2
A910030F000S	0,30	25	2,0	0,0001	0,3x25/2
A910031F000S	0,31	25	2,4	0,0001	0,31x25/2,4
A910032F000S	0,32	25	2,4	0,0001	0,32x25/2,4
A910033F000S	0,33	25	2,4	0,0001	0,33x25/2,4
A910034F000S	0,34	25	2,8	0,0001	0,34x25/2,8
A910035F000S	0,35	25	2,8	0,0001	0,35x25/2,8
A910036F000S	0,36	25	2,8	0,0001	0,36x25/2,8
A910037F000S	0,37	25	3,1	0,0001	0,37x25/3,1
A910038F000S	0,38	25	3,1	0,0001	0,38x25/3,1
A910039F000S	0,39	25	3,1	0,0001	0,39x25/3,1
A910040F000S	0,40	25	3,1	0,0001	0,4x25/3,1
A910041F000S	0,41	25	3,5	0,0001	0,41x25/3,5
A910042F000S	0,42	25	3,5	0,0001	0,42x25/3,5
A910043F000S	0,43	25	3,5	0,0001	0,43x25/3,5
A910044F000S	0,44	25	3,5	0,0001	0,44x25/3,5
A910045F000S	0,45	25	3,8	0,0001	0,45x25/3,8
A910046F000S	0,46	25	3,8	0,0001	0,46x25/3,8
A910047F000S	0,47	25	3,8	0,0001	0,47x25/3,8
A910048F000S	0,48	25	3,8	0,0001	0,48x25/3,8
A910049F000S	0,49	25	3,8	0,0001	0,49x25/3,8
A910050F000S	0,50	25	4,0	0,0001	0,5x25/4
A910051F000S	0,51	25	4,0	0,0001	0,51x25/4
A910052F000S	0,52	25	4,0	0,0001	0,52x25/4
A910053F000S	0,53	25	4,0	0,0001	0,53x25/4
A910054F000S	0,54	25	4,0	0,0001	0,54x25/4
A910055F000S	0,55	25	4,3	0,0001	0,55x25/4,3
A910056F000S	0,56	25	4,3	0,0001	0,56x25/4,3
A910057F000S	0,57	25	4,3	0,0001	0,57x25/4,3
A910058F000S	0,58	25	4,3	0,0001	0,58x25/4,3
A910059F000S	0,59	25	4,3	0,0001	0,59x25/4,3
A910060F000S	0,60	25	4,5	0,0001	0,6x25/4,5
A910061F000S	0,61	25	4,5	0,0001	0,61x25/4,5
A910062F000S	0,62	25	4,5	0,0001	0,62x25/4,5
A910063F000S	0,63	25	4,5	0,0001	0,63x25/4,5
A910064F000S	0,64	25	4,5	0,0001	0,64x25/4,5
A910065F000S	0,65	25	4,8	0,0001	0,65x25/4,8
A910066F000S	0,66	25	4,8	0,0001	0,66x25/4,8
A910067F000S	0,67	25	4,8	0,0001	0,67x25/4,8

Objednáací číslo Order No. Bestell-Nr.	∅D mm	L mm	l mm		Code 221191
A910068F000S	0,68	25	4,8	0,0001	0,68x25/4,8
A910069F000S	0,69	25	4,8	0,0001	0,69x25/4,8
A910070F000S	0,70	25	5,0	0,0001	0,7x25/5
A910071F000S	0,71	25	5,0	0,0001	0,71x25/5
A910072F000S	0,72	25	5,0	0,0001	0,72x25/5
A910073F000S	0,73	25	5,0	0,0001	0,73x25/5
A910074F000S	0,74	25	5,0	0,0001	0,74x25/5
A910075F000S	0,75	25	5,5	0,0001	0,75x25/5,5
A910076F000S	0,76	25	5,5	0,0001	0,76x25/5,5
A910077F000S	0,77	25	5,5	0,0001	0,77x25/5,5
A910078F000S	0,78	25	5,5	0,0001	0,78x25/5,5
A910079F000S	0,79	25	5,5	0,0001	0,79x25/5,5
A910080F000S	0,80	25	6,0	0,0003	0,8x25/6
A910081F000S	0,81	25	6,0	0,0003	0,81x25/6
A910082F000S	0,82	25	6,0	0,0003	0,82x25/6
A910083F000S	0,83	25	6,0	0,0003	0,83x25/6
A910084F000S	0,84	25	6,0	0,0003	0,84x25/6
A910085F000S	0,85	25	6,0	0,0003	0,85x25/6
A910086F000S	0,86	25	6,0	0,0003	0,86x25/6
A910087F000S	0,87	25	6,0	0,0003	0,87x25/6
A910088F000S	0,88	25	6,0	0,0003	0,88x25/6
A910089F000S	0,89	25	6,0	0,0003	0,89x25/6
A910090F000S	0,90	25	6,0	0,0003	0,9x25/6
A910091F000S	0,91	25	6,0	0,0003	0,91x25/6
A910092F000S	0,92	25	6,0	0,0003	0,92x25/6
A910093F000S	0,93	25	6,0	0,0003	0,93x25/6
A910094F000S	0,94	25	6,0	0,0003	0,94x25/6
A910095F000S	0,95	25	6,0	0,0003	0,95x25/6
A910096F000S	0,96	25	6,0	0,0003	0,96x25/6
A910097F000S	0,97	25	6,0	0,0003	0,97x25/6
A910098F000S	0,98	25	6,0	0,0003	0,98x25/6
A910099F000S	0,99	25	6,0	0,0003	0,99x25/6
A910100F000S	1,00	25	9,0	0,0003	1x25/9
A910105F000S	1,05	25	9,0	0,0003	1,05x25/9
A910110F000S	1,10	25	9,0	0,0003	1,1x25/9
A910115F000S	1,15	25	9,0	0,0003	1,15x25/9
A910120F000S	1,20	25	9,0	0,0003	1,2x25/9
A910125F000S	1,25	25	9,0	0,0003	1,25x25/9
A910130F000S	1,30	25	9,0	0,0003	1,3x25/9
A910135F000S	1,35	25	9,0	0,0003	1,35x25/9
A910140F000S	1,40	25	9,0	0,0003	1,4x25/9
A910145F000S	1,45	25	9,0	0,0003	1,45x25/9

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



Vrtáky s válcovou stopkou

Straight shank drills

Spiralbohrer mit Zylinderschaft

VRTÁKY SE ZESÍLENOU VÁLCOVOU STOPKOU, LEVOŘEZNÉ
MICRO DRILLS, LEFT HAND CUTTING
KLEINSTBOHRER MIT VERSTÄRKTEM SCHAFT, LINKSSCHNEIDEND

ČSN 221192

DIN 1899A LN

na požávku
on request
auf Anfrage

HSS

BLANC



λ = 25° - 30°



V

3xD

Steel
<850 MPa

Cast
iron

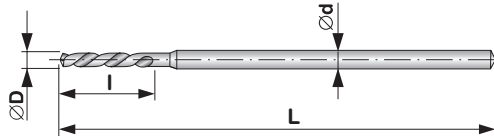
Al/alloy

Cu/alloy

Plastics

∅D < 0,8 mm ~ ∅d=1,0 mm

∅D ≥ 0,8 mm ~ ∅d=1,5 mm



Objednací číslo Order No. Bestell-Nr.	∅D mm	L mm	I mm	kg	Code 221192
A920025F000S	0,25	25	1,8	0,0001	0,25x25/1,8
A920026F000S	0,26	25	1,8	0,0001	0,26x25/1,8
A920027F000S	0,27	25	1,8	0,0001	0,27x25/1,8
A920028F000S	0,28	25	2,0	0,0001	0,28x25/2
A920029F000S	0,29	25	2,0	0,0001	0,29x25/2
A920030F000S	0,30	25	2,0	0,0001	0,3x25/2
A920031F000S	0,31	25	2,4	0,0001	0,31x25/2,4
A920032F000S	0,32	25	2,4	0,0001	0,32x25/2,4
A920033F000S	0,33	25	2,4	0,0001	0,33x25/2,4
A920034F000S	0,34	25	2,8	0,0001	0,34x25/2,8
A920035F000S	0,35	25	2,8	0,0001	0,35x25/2,8
A920036F000S	0,36	25	2,8	0,0001	0,36x25/2,8
A920037F000S	0,37	25	3,1	0,0001	0,37x25/3,1
A920038F000S	0,38	25	3,1	0,0001	0,38x25/3,1
A920039F000S	0,39	25	3,1	0,0001	0,39x25/3,1
A920040F000S	0,40	25	3,1	0,0001	0,4x25/3,1
A920041F000S	0,41	25	3,5	0,0001	0,41x25/3,5
A920042F000S	0,42	25	3,5	0,0001	0,42x25/3,5
A920043F000S	0,43	25	3,5	0,0001	0,43x25/3,5
A920044F000S	0,44	25	3,5	0,0001	0,44x25/3,5
A920045F000S	0,45	25	3,8	0,0001	0,45x25/3,8
A920046F000S	0,46	25	3,8	0,0001	0,46x25/3,8
A920047F000S	0,47	25	3,8	0,0001	0,47x25/3,8
A920048F000S	0,48	25	3,8	0,0001	0,48x25/3,8
A920049F000S	0,49	25	3,8	0,0001	0,49x25/3,8
A920050F000S	0,50	25	4,0	0,0001	0,5x25/4
A920051F000S	0,51	25	4,0	0,0001	0,51x25/4
A920052F000S	0,52	25	4,0	0,0001	0,52x25/4
A920053F000S	0,53	25	4,0	0,0001	0,53x25/4
A920054F000S	0,54	25	4,0	0,0001	0,54x25/4
A920055F000S	0,55	25	4,3	0,0001	0,55x25/4,3
A920056F000S	0,56	25	4,3	0,0001	0,56x25/4,3
A920057F000S	0,57	25	4,3	0,0001	0,57x25/4,3
A920058F000S	0,58	25	4,3	0,0001	0,58x25/4,3
A920059F000S	0,59	25	4,3	0,0001	0,59x25/4,3
A920060F000S	0,60	25	4,5	0,0001	0,6x25/4,5
A920061F000S	0,61	25	4,5	0,0001	0,61x25/4,5
A920062F000S	0,62	25	4,5	0,0001	0,62x25/4,5
A920063F000S	0,63	25	4,5	0,0001	0,63x25/4,5
A920064F000S	0,64	25	4,5	0,0001	0,64x25/4,5
A920065F000S	0,65	25	4,8	0,0001	0,65x25/4,8
A920066F000S	0,66	25	4,8	0,0001	0,66x25/4,8
A920067F000S	0,67	25	4,8	0,0001	0,67x25/4,8

Objednací číslo Order No. Bestell-Nr.	∅D mm	L mm	I mm	kg	Code 221192
A920068F000S	0,68	25	4,8	0,0001	0,68x25/4,8
A920069F000S	0,69	25	4,8	0,0001	0,69x25/4,8
A920070F000S	0,70	25	5,0	0,0001	0,7x25/5
A920071F000S	0,71	25	5,0	0,0001	0,71x25/5
A920072F000S	0,72	25	5,0	0,0001	0,72x25/5
A920073F000S	0,73	25	5,0	0,0001	0,73x25/5
A920074F000S	0,74	25	5,0	0,0001	0,74x25/5
A920075F000S	0,75	25	5,5	0,0001	0,75x25/5,5
A920076F000S	0,76	25	5,5	0,0001	0,76x25/5,5
A920077F000S	0,77	25	5,5	0,0001	0,77x25/5,5
A920078F000S	0,78	25	5,5	0,0001	0,78x25/5,5
A920079F000S	0,79	25	5,5	0,0001	0,79x25/5,5
A920080F000S	0,80	25	6,0	0,0003	0,8x25/6
A920081F000S	0,81	25	6,0	0,0003	0,81x25/6
A920082F000S	0,82	25	6,0	0,0003	0,82x25/6
A920083F000S	0,83	25	6,0	0,0003	0,83x25/6
A920084F000S	0,84	25	6,0	0,0003	0,84x25/6
A920085F000S	0,85	25	6,0	0,0003	0,85x25/6
A920086F000S	0,86	25	6,0	0,0003	0,86x25/6
A920087F000S	0,87	25	6,0	0,0003	0,87x25/6
A920088F000S	0,88	25	6,0	0,0003	0,88x25/6
A920089F000S	0,89	25	6,0	0,0003	0,89x25/6
A920090F000S	0,90	25	6,0	0,0003	0,9x25/6
A920091F000S	0,91	25	6,0	0,0003	0,91x25/6
A920092F000S	0,92	25	6,0	0,0003	0,92x25/6
A920093F000S	0,93	25	6,0	0,0003	0,93x25/6
A920094F000S	0,94	25	6,0	0,0003	0,94x25/6
A920095F000S	0,95	25	6,0	0,0003	0,95x25/6
A920096F000S	0,96	25	6,0	0,0003	0,96x25/6
A920097F000S	0,97	25	6,0	0,0003	0,97x25/6
A920098F000S	0,98	25	6,0	0,0003	0,98x25/6
A920099F000S	0,99	25	6,0	0,0003	0,99x25/6
A920100F000S	1,00	25	9,0	0,0003	1x25/9
A920105F000S	1,05	25	9,0	0,0003	1,05x25/9
A920110F000S	1,10	25	9,0	0,0003	1,1x25/9
A920115F000S	1,15	25	9,0	0,0003	1,15x25/9
A920120F000S	1,20	25	9,0	0,0003	1,2x25/9
A920125F000S	1,25	25	9,0	0,0003	1,25x25/9
A920130F000S	1,30	25	9,0	0,0003	1,3x25/9
A920135F000S	1,35	25	9,0	0,0003	1,35x25/9
A920140F000S	1,40	25	9,0	0,0003	1,4x25/9
A920145F000S	1,45	25	9,0	0,0003	1,45x25/9

Poznámka / Note / Notiz: ostatní neuvedené rozměry na požávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage

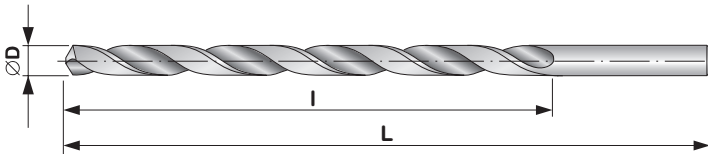
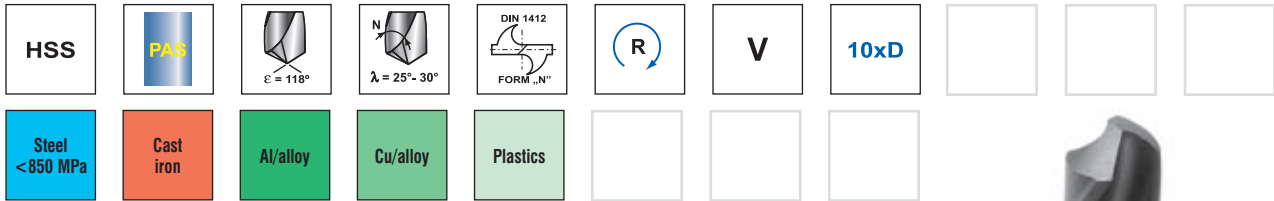


ČSN 2916 pas

DIN 340 RN



VRTÁKY S VÁLCOVOU STOPKOU DLOUHÉ
LONG SERIES STRAIGHT SHANK DRILLS
LANGE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT



Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm		Code 221125
A250200V500S	2	85	56	0,002	2x85/56
A250210V500S	2,1	85	56	0,002	2,1x85/56
A250220V500S	2,2	90	59	0,002	2,2x90/59
A250225V500S	2,25	90	59	0,002	2,25x90/59
A250230V500S	2,3	90	59	0,002	2,3x90/59
A250240V500S	2,4	95	62	0,002	2,4x95/62
A250250V500S	2,5	95	62	0,0025	2,5x95/62
A250260V500S	2,6	95	62	0,0025	2,6x95/62
A250270V500S	2,7	100	66	0,0025	2,7x100/66
A250275V500S	2,75	100	66	0,003	2,75x100/66
A250280V500S	2,8	100	66	0,003	2,8x100/66
A250290V500S	2,9	100	66	0,0035	2,9x100/66
A250300V500S	3	100	66	0,0035	3x100/66
A250310V500S	3,1	106	69	0,004	3,1x106/69
A250320V500S	3,2	106	69	0,0045	3,2x106/69
A250325V500S	3,25	106	69	0,005	3,25x106/69
A250330V500S	3,3	106	69	0,005	3,3x106/69
A250340V500S	3,4	112	73	0,0055	3,4x112/73
A250350V500S	3,5	112	73	0,006	3,5x112/73
A250360V500S	3,6	112	73	0,0065	3,6x112/73
A250370V500S	3,7	112	73	0,007	3,7x112/73
A250375V500S	3,75	112	73	0,007	3,75x112/73
A250380V500S	3,8	119	78	0,0075	3,8x119/78
A250390V500S	3,9	119	78	0,0075	3,9x119/78
A250400V500S	4	119	78	0,008	4x119/78
A250410V500S	4,1	119	78	0,008	4,1x119/78
A250420V500S	4,2	119	78	0,009	4,2x119/78
A250425V500S	4,25	119	78	0,009	4,25x119/78
A250430V500S	4,3	126	82	0,009	4,3x126/82
A250440V500S	4,4	126	82	0,01	4,4x126/82
A250450V500S	4,5	126	82	0,011	4,5x126/82
A250460V500S	4,6	126	82	0,011	4,6x126/82
A250470V500S	4,7	126	82	0,012	4,7x126/82
A250475V500S	4,75	126	82	0,012	4,75x126/82
A250480V500S	4,8	132	87	0,013	4,8x132/87
A250490V500S	4,9	132	87	0,014	4,9x132/87
A250500V500S	5	132	87	0,015	5x132/87
A250510V500S	5,1	132	87	0,015	5,1x132/87
A250520V500S	5,2	132	87	0,015	5,2x132/87
A250525V500S	5,25	132	87	0,016	5,25x132/87
A250530V500S	5,3	132	87	0,017	5,3x132/87
A250540V500S	5,4	139	91	0,018	5,4x139/91
A250550V500S	5,5	139	91	0,019	5,5x139/91
A250560V500S	5,6	139	91	0,02	5,6x139/91
A250570V500S	5,7	139	91	0,02	5,7x139/91
A250575V500S	5,75	139	91	0,021	5,75x139/91
A250580V500S	5,8	139	91	0,022	5,8x139/91
A250590V500S	5,9	139	91	0,023	5,9x139/91
A250600V500S	6	139	91	0,024	6x139/91
A250610V500S	6,1	148	97	0,025	6,1x148/97
A250620V500S	6,2	148	97	0,025	6,2x148/97
A250625V500S	6,25	148	97	0,026	6,25x148/97
A250630V500S	6,3	148	97	0,027	6,3x148/97
A250640V500S	6,4	148	97	0,028	6,4x148/97
A250650V500S	6,5	148	97	0,029	6,5x148/97
A250660V500S	6,6	148	97	0,03	6,6x148/97
A250675V500S	6,75	156	102	0,031	6,75x156/102

Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm		Code 221125
A250680V500S	6,8	156	102	0,032	6,8x156/102
A250690V500S	6,9	156	102	0,033	6,9x156/102
A250700V500S	7	156	102	0,034	7x156/102
A250710V500S	7,1	156	102	0,034	7,1x156/102
A250720V500S	7,2	156	102	0,035	7,2x156/102
A250725V500S	7,25	156	102	0,036	7,25x156/102
A250730V500S	7,3	156	102	0,037	7,3x156/102
A250740V500S	7,4	156	102	0,038	7,4x156/102
A250750V500S	7,5	156	102	0,039	7,5x156/102
A250760V500S	7,6	165	109	0,04	7,6x165/109
A250770V500S	7,7	165	109	0,041	7,7x165/109
A250775V500S	7,75	165	109	0,042	7,75x165/109
A250780V500S	7,8	165	109	0,042	7,8x165/109
A250790V500S	7,9	165	109	0,043	7,9x165/109
A250800V500S	8	165	109	0,044	8x165/109
A250810V500S	8,1	165	109	0,045	8,1x165/109
A250820V500S	8,2	165	109	0,046	8,2x165/109
A250825V500S	8,25	165	109	0,046	8,25x165/109
A250830V500S	8,3	165	109	0,048	8,3x165/109
A250840V500S	8,4	165	109	0,049	8,4x165/109
A250850V500S	8,5	165	109	0,049	8,5x165/109
A250860V500S	8,6	175	115	0,053	8,6x175/115
A250870V500S	8,7	175	115	0,055	8,7x175/115
A250875V500S	8,75	175	115	0,057	8,75x175/115
A250880V500S	8,8	175	115	0,06	8,8x175/115
A250890V500S	8,9	175	115	0,061	8,9x175/115
A250900V500S	9	175	115	0,063	9x175/115
A250910V500S	9,1	175	115	0,064	9,1x175/115
A250920V500S	9,2	175	115	0,065	9,2x175/115
A250925V500S	9,25	175	115	0,066	9,25x175/115
A250930V500S	9,3	175	115	0,067	9,3x175/115
A250940V500S	9,4	175	115	0,068	9,4x175/115
A250950V500S	9,5	175	115	0,069	9,5x175/115
A250960V500S	9,6	184	121	0,07	9,6x184/121
A250970V500S	9,7	184	121	0,071	9,7x184/121
A250975V500S	9,75	184	121	0,072	9,75x184/121
A250980V500S	9,8	184	121	0,074	9,8x184/121
A250990V500S	9,9	184	121	0,076	9,9x184/121
A251000V500S	10	184	121	0,077	10x184/121
A251010V500S	10,1	184	121	0,078	10,1x184/121
A251020V500S	10,2	184	121	0,079	10,2x184/121
A251025V500S	10,25	184	121	0,08	10,25x184/121
A251030V500S	10,3	184	121	0,081	10,3x184/121
A251040V500S	10,4	184	121	0,081	10,4x184/121
A251050V500S	10,5	184	121	0,082	10,5x184/121
A251060V500S	10,6	184	121	0,085	10,6x184/121
A251070V500S	10,7	195	128	0,085	10,7x195/128
A251075V500S	10,75	195	128	0,086	10,75x195/128
A251080V500S	10,8	195	128	0,088	10,8x195/128
A251090V500S	10,9	195	128	0,09	10,9x195/128
A251100V500S	11	195	128	0,093	11x195/128
A251110V500S	11,1	195	128	0,095	11,1x195/128
A251120V500S	11,2	195	128	0,098	11,2x195/128
A251125V500S	11,25	195	128	0,099	11,25x195/128
A251130V500S	11,3	195	128	0,102	11,3x195/128
A251140V500S	11,4	195	128	0,105	11,4x195/128



Vrtáky s válcovou stopkou

Straight shank drills

Spiralbohrer mit Zylinderschaft

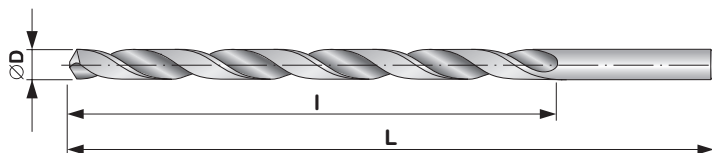


VRTÁKY S VÁLCOVOU STOPKOU DLOUHÉ
LONG SERIES STRAIGHT SHANK DRILLS
LANGE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT

ČSN 2916 pas

DIN 340 RN

HSS	PAS					V	10xD			
Steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics						



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm		Code 221125
A251150V500S	11,5	195	128	0,111	11,5x195/128
A251160V500S	11,6	195	128	0,115	11,6x195/128
A251170V500S	11,7	195	128	0,118	11,7x195/128
A251175V500S	11,75	195	128	0,12	11,75x195/128
A251180V500S	11,8	195	128	0,125	11,8x195/128
A251190V500S	11,9	205	134	0,13	11,9x205/134
A251200V500S	12	205	134	0,132	12x205/134
A251210V500S	12,1	205	134	0,134	12,1x205/134
A251220V500S	12,2	205	134	0,136	12,2x205/134
A251225V500S	12,25	205	134	0,137	12,25x205/134
A251230V500S	12,3	205	134	0,138	12,3x205/134
A251240V500S	12,4	205	134	0,14	12,4x205/134
A251250V500S	12,5	205	134	0,142	12,5x205/134
A251260V500S	12,6	205	134	0,144	12,6x205/134
A251270V500S	12,7	205	134	0,146	12,7x205/134
A251275V500S	12,75	205	134	0,147	12,75x205/134
A251280V500S	12,8	205	134	0,148	12,8x205/134
A251290V500S	12,9	205	134	0,15	12,9x205/134
A251300V500S	13	205	134	0,152	13x205/134
A251310V500S	13,1	205	134	0,154	13,1x205/134
A251320V500S	13,2	205	134	0,155	13,2x205/134
A251325V500S	13,25	214	140	0,16	13,25x214/140
A251330V500S	13,3	214	140	0,165	13,3x214/140
A251340V500S	13,4	214	140	0,168	13,4x214/140
A251350V500S	13,5	214	140	0,172	13,5x214/140
A251360V500S	13,6	214	140	0,175	13,6x214/140
A251370V500S	13,7	214	140	0,177	13,7x214/140
A251375V500S	13,75	214	140	0,178	13,75x214/140

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm		Code 221125
A251380V500S	13,8	214	140	0,18	13,8x214/140
A251390V500S	13,9	214	140	0,183	13,9x214/140
A251400V500S	14	214	140	0,185	14x214/140
A251425V500S	14,25	220	144	0,19	14,25x220/144
A251450V500S	14,5	220	144	0,192	14,5x220/144
A251475V500S	14,75	220	144	0,195	14,75x220/144
A251500V500S	15	220	144	0,197	15x220/144
A251525V500S	15,25	227	149	0,21	15,25x227/149
A251550V500S	15,5	227	149	0,22	15,5x227/149
A251575V500S	15,75	227	149	0,225	15,75x227/149
A251600V500S	16	227	149	0,23	16x227/149
A251625V500S	16,25	235	154	0,24	16,25x235/154
A251650V500S	16,5	235	154	0,245	16,5x235/154
A251675V500S	16,75	235	154	0,25	16,75x235/154
A251700V500S	17	235	154	0,255	17x235/154
A251725V500S	17,25	241	158	0,28	17,25x241/158
A251750V500S	17,5	241	158	0,29	17,5x241/158
A251775V500S	17,75	241	158	0,3	17,75x241/158
A251800V500S	18	241	158	0,31	18x241/158
A251825V500S	18,25	247	162	0,32	18,25x247/162
A251850V500S	18,5	247	162	0,33	18,5x247/162
A251875V500S	18,75	247	162	0,34	18,75x247/162
A251900V500S	19	247	162	0,35	19x247/162
A251925V500S	19,25	254	166	0,37	19,25x254/166
A251950V500S	19,5	254	166	0,38	19,5x254/166
A251975V500S	19,75	254	166	0,385	19,75x254/166
A252000V500S	20	254	166	0,39	20x254/166

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage

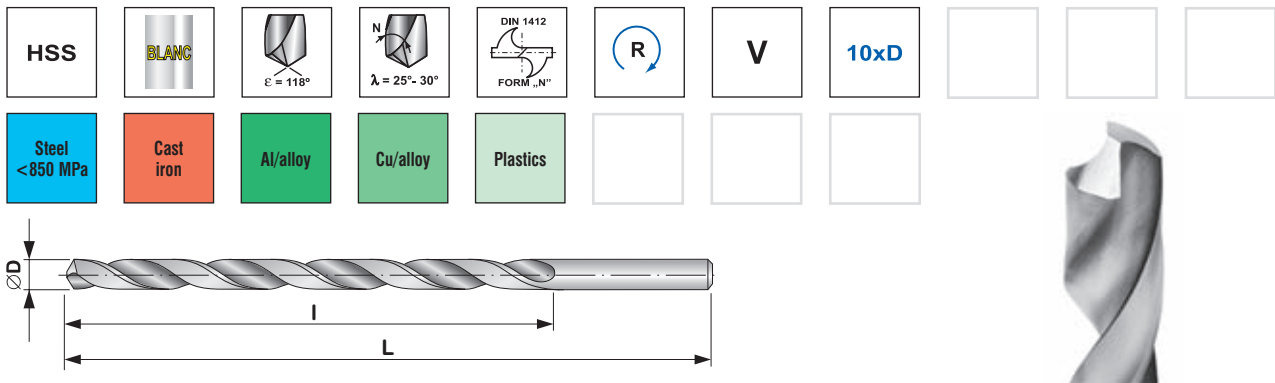



PN 2916


DIN 340 RN



VRTÁKY S VÁLCOVOU STOPKOU DLOUHÉ
LONG SERIES STRAIGHT SHANK DRILLS
LANGE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm		Code 2916
A250090V000S	0,90	52	30	0,001	0,9x52/30
A250100V000S	1,00	56	33	0,001	1x56/33
A250110V000S	1,10	60	37	0,001	1,1x60/37
A250120V000S	1,20	65	41	0,001	1,2x65/41
A250130V000S	1,30	65	41	0,001	1,3x65/41
A250140V000S	1,40	70	45	0,001	1,4x70/45
A250150V000S	1,50	70	45	0,001	1,5x70/45
A250160V000S	1,60	76	50	0,002	1,6x76/50
A250170V000S	1,70	76	50	0,002	1,7x76/50
A250180V000S	1,80	80	53	0,002	1,8x80/53
A250190V000S	1,90	80	53	0,002	1,9x80/53
A250200V000S	2,00	85	56	0,002	2x85/56
A250210V000S	2,10	85	56	0,002	2,1x85/56
A250220V000S	2,20	90	59	0,002	2,2x90/59
A250230V000S	2,30	90	59	0,002	2,3x90/59
A250240V000S	2,40	95	62	0,0025	2,4x95/62
A250250V000S	2,50	95	62	0,0025	2,5x95/62
A250260V000S	2,60	95	62	0,0025	2,6x95/62
A250270V000S	2,70	100	66	0,0030	2,7x100/66
A250280V000S	2,80	100	66	0,0030	2,8x100/66
A250290V000S	2,90	100	66	0,0035	2,9x100/66
A250300V000S	3,00	100	66	0,0035	3x100/66
A250310V000S	3,10	106	69	0,0040	3,1x106/69
A250320V000S	3,20	106	69	0,0045	3,2x106/69
A250330V000S	3,30	106	69	0,0050	3,3x106/69
A250340V000S	3,40	112	73	0,0055	3,4x112/73
A250350V000S	3,50	112	73	0,0060	3,5x112/73
A250360V000S	3,60	112	73	0,0065	3,6x112/73
A250370V000S	3,70	112	73	0,0070	3,7x112/73
A250380V000S	3,80	119	78	0,0075	3,8x119/78
A250390V000S	3,90	119	78	0,0080	3,9x119/78
A250400V000S	4,00	119	78	0,0085	4x119/78
A250410V000S	4,10	119	78	0,0090	4,1x119/78
A250420V000S	4,20	119	78	0,0095	4,2x119/78
A250430V000S	4,30	126	82	0,010	4,3x126/82
A250440V000S	4,40	126	82	0,011	4,4x126/82
A250450V000S	4,50	126	82	0,012	4,5x126/82
A250460V000S	4,60	126	82	0,013	4,6x126/82
A250470V000S	4,70	126	82	0,014	4,7x126/82
A250480V000S	4,80	132	87	0,015	4,8x132/87
A250490V000S	4,90	132	87	0,015	4,9x132/87
A250500V000S	5,00	132	87	0,016	5x132/87
A250510V000S	5,10	132	87	0,016	5,1x132/87
A250520V000S	5,20	132	87	0,017	5,2x132/87
A250530V000S	5,30	132	87	0,017	5,3x132/87
A250540V000S	5,40	139	91	0,018	5,4x139/91
A250550V000S	5,50	139	91	0,019	5,5x139/91
A250560V000S	5,60	139	91	0,020	5,6x139/91
A250570V000S	5,70	139	91	0,021	5,7x139/91
A250580V000S	5,80	139	91	0,021	5,8x139/91
A250590V000S	5,90	139	91	0,022	5,9x139/91
A250600V000S	6,00	139	91	0,023	6x139/91
A250610V000S	6,10	148	97	0,025	6,1x148/97
A250620V000S	6,20	148	97	0,026	6,2x148/97
A250630V000S	6,30	148	97	0,027	6,3x148/97
A250640V000S	6,40	148	97	0,028	6,4x148/97
A250650V000S	6,50	148	97	0,029	6,5x148/97

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm		Code 2916
A250660V000S	6,60	148	97	0,030	6,6x148/97
A250670V000S	6,70	148	97	0,031	6,7x148/97
A250680V000S	6,80	156	102	0,032	6,8x156/102
A250690V000S	6,90	156	102	0,033	6,9x156/102
A250700V000S	7,00	156	102	0,034	7x156/102
A250710V000S	7,10	156	102	0,035	7,1x156/102
A250720V000S	7,20	156	102	0,036	7,2x156/102
A250730V000S	7,30	156	102	0,037	7,3x156/102
A250740V000S	7,40	156	102	0,038	7,4x156/102
A250750V000S	7,50	156	102	0,039	7,5x156/102
A250760V000S	7,60	165	109	0,040	7,6x165/109
A250770V000S	7,70	165	109	0,041	7,7x165/109
A250780V000S	7,80	165	109	0,042	7,8x165/109
A250790V000S	7,90	165	109	0,043	7,9x165/109
A250800V000S	8,00	165	109	0,044	8x165/109
A250810V000S	8,10	165	109	0,045	8,1x165/109
A250820V000S	8,20	165	109	0,046	8,2x165/109
A250830V000S	8,30	165	109	0,047	8,3x165/109
A250840V000S	8,40	165	109	0,048	8,4x165/109
A250850V000S	8,50	165	109	0,049	8,5x165/109
A250860V000S	8,60	175	115	0,053	8,6x175/115
A250870V000S	8,70	175	115	0,055	8,7x175/115
A250880V000S	8,80	175	115	0,060	8,8x175/115
A250890V000S	8,90	175	115	0,061	8,9x175/115
A250900V000S	9,00	175	115	0,063	9x175/115
A250910V000S	9,10	175	115	0,064	9,1x175/115
A250920V000S	9,20	175	115	0,065	9,2x175/115
A250930V000S	9,30	175	115	0,066	9,3x175/115
A250940V000S	9,40	175	115	0,067	9,4x175/115
A250950V000S	9,50	175	115	0,068	9,5x175/115
A250960V000S	9,60	184	121	0,069	9,6x184/121
A250970V000S	9,70	184	121	0,070	9,7x184/121
A250980V000S	9,80	184	121	0,075	9,8x184/121
A250990V000S	9,90	184	121	0,076	9,9x184/121
A251000V000S	10,00	184	121	0,077	10x184/121
A251010V000S	10,10	184	121	0,078	10,1x184/121
A251020V000S	10,20	184	121	0,079	10,2x184/121
A251030V000S	10,30	184	121	0,080	10,3x184/121
A251040V000S	10,40	184	121	0,081	10,4x184/121
A251050V000S	10,50	184	121	0,082	10,5x184/121
A251060V000S	10,60	184	121	0,083	10,6x184/121
A251070V000S	10,70	195	128	0,085	10,7x195/128
A251080V000S	10,80	195	128	0,088	10,8x195/128
A251090V000S	10,90	195	128	0,090	10,9x195/128
A251100V000S	11,00	195	128	0,093	11x195/128
A251110V000S	11,10	195	128	0,095	11,1x195/128
A251120V000S	11,20	195	128	0,098	11,2x195/128
A251130V000S	11,30	195	128	0,100	11,3x195/128
A251140V000S	11,40	195	128	0,105	11,4x195/128
A251150V000S	11,50	195	128	0,111	11,5x195/128
A251160V000S	11,60	195	128	0,115	11,6x195/128
A251170V000S	11,70	195	128	0,120	11,7x195/128
A251180V000S	11,80	195	128	0,125	11,8x195/128
A251190V000S	11,90	205	134	0,130	11,9x205/134
A251200V000S	12,00	205	134	0,132	12x205/134
A251210V000S	12,10	205	134	0,134	12,1x205/134



Vrtáky s válcovou stopkou

Straight shank drills

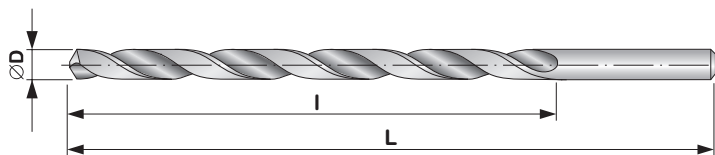
Spiralbohrer mit Zylinderschaft

VRTÁKY S VÁLCOVOU STOPKOU DLOUHÉ
LONG SERIES STRAIGHT SHANK DRILLS
LANGE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT

PN 2916

DIN 340 RN

HSS	BLANC	$\epsilon = 118^\circ$	$\lambda = 25^\circ - 30^\circ$			V	10xD			
Steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics						



Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm		Code 2916
A251220V000S	12,20	205	134	0,136	12,2x205/134
A251230V000S	12,30	205	134	0,138	12,3x205/134
A251240V000S	12,40	205	134	0,140	12,4x205/134
A251250V000S	12,50	205	134	0,142	12,5x205/134
A251260V000S	12,60	205	134	0,144	12,6x205/134
A251270V000S	12,70	205	134	0,146	12,7x205/134
A251280V000S	12,80	205	134	0,148	12,8x205/134
A251290V000S	12,90	205	134	0,150	12,9x205/134
A251300V000S	13,00	205	134	0,152	13x205/134
A251310V000S	13,10	205	134	0,154	13,1x205/134
A251320V000S	13,20	205	134	0,155	13,2x205/134
A251330V000S	13,30	214	140	0,165	13,3x214/140
A251340V000S	13,40	214	140	0,168	13,4x214/140
A251350V000S	13,50	214	140	0,172	13,5x214/140
A251360V000S	13,60	214	140	0,175	13,6x214/140
A251370V000S	13,70	214	140	0,177	13,7x214/140
A251380V000S	13,80	214	140	0,180	13,8x214/140
A251390V000S	13,90	214	140	0,183	13,9x214/140
A251400V000S	14,00	214	140	0,185	14x214/140
A251425V000S	14,25	220	144	0,19	14,25x220/144
A251450V000S	14,50	220	144	0,192	14,5x220/144
A251475V000S	14,75	220	144	0,195	14,75x220/144

Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm		Code 2916
A251500V000S	15,00	220	144	0,197	15x220/144
A251525V000S	15,25	227	149	0,21	15,25x227/149
A251550V000S	15,50	227	149	0,22	15,5x227/149
A251575V000S	15,75	227	149	0,225	15,75x227/149
A251600V000S	16,00	227	149	0,23	16x227/149
A251625V000S	16,25	235	154	0,24	16,25x235/154
A251650V000S	16,50	235	154	0,245	16,5x235/154
A251675V000S	16,75	235	154	0,25	16,75x235/154
A251700V000S	17,00	235	154	0,255	17x235/154
A251725V000S	17,25	241	158	0,28	17,25x241/158
A251750V000S	17,50	241	158	0,29	17,5x241/158
A251775V000S	17,75	241	158	0,3	17,75x241/158
A251800V000S	18,00	241	158	0,31	18x241/158
A251825V000S	18,25	247	162	0,32	18,25x247/162
A251850V000S	18,50	247	162	0,33	18,5x247/162
A251875V000S	18,75	247	162	0,34	18,75x247/162
A251900V000S	19,00	247	162	0,35	19x247/162
A251925V000S	19,25	254	166	0,37	19,25x254/166
A251950V000S	19,50	254	166	0,38	19,5x254/166
A251975V000S	19,75	254	166	0,385	19,75x254/166
A252000V000S	20,00	254	166	0,39	20x254/166

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



PN 2916 - T500
DIN 340 GT50

VRTÁKY S VÁLCOVOU STOPKOU DLOUHÉ
LONG SERIES STRAIGHT SHANK DRILLS
LANGE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT

 na poptávku
 on request
 auf Anfrage

HSS
BLANC

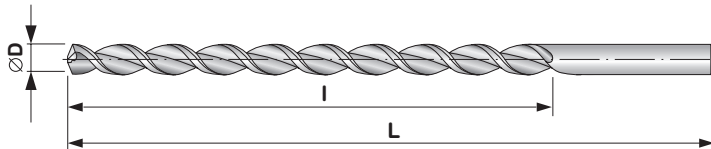
T500
 (GT 50)

R
V
10xD

 Steel
 <500 MPa

Al/alloy

Plastics



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2916 T500
A250200H000S	2.00	85	56	0.002	2x85/56 T500
A250210H000S	2.10	85	56	0.002	2.1x85/56 T500
A250220H000S	2.20	90	59	0.002	2.2x90/59 T500
A250230H000S	2.30	90	59	0.002	2.3x90/59 T500
A250240H000S	2.40	95	62	0.0025	2.4x95/62 T500
A250250H000S	2.50	95	62	0.0025	2.5x95/62 T500
A250260H000S	2.60	95	62	0.0025	2.6x95/62 T500
A250270H000S	2.70	100	66	0.0030	2.7x100/66 T500
A250280H000S	2.80	100	66	0.0030	2.8x100/66 T500
A250290H000S	2.90	100	66	0.0035	2.9x100/66 T500
A250300H000S	3.00	100	66	0.0035	3x100/66 T500
A250310H000S	3.10	106	69	0.0040	3.1x106/69 T500
A250320H000S	3.20	106	69	0.0045	3.2x106/69 T500
A250330H000S	3.30	106	69	0.0050	3.3x106/69 T500
A250340H000S	3.40	112	73	0.0055	3.4x112/73 T500
A250350H000S	3.50	112	73	0.0060	3.5x112/73 T500
A250360H000S	3.60	112	73	0.0065	3.6x112/73 T500
A250370H000S	3.70	112	73	0.0070	3.7x112/73 T500
A250380H000S	3.80	119	78	0.0075	3.8x119/78 T500
A250390H000S	3.90	119	78	0.0080	3.9x119/78 T500
A250400H000S	4.00	119	78	0.0085	4x119/78 T500
A250410H000S	4.10	119	78	0.0090	4.1x119/78 T500
A250420H000S	4.20	119	78	0.0095	4.2x119/78 T500
A250430H000S	4.30	126	82	0.010	4.3x126/82 T500
A250440H000S	4.40	126	82	0.011	4.4x126/82 T500
A250450H000S	4.50	126	82	0.012	4.5x126/82 T500
A250460H000S	4.60	126	82	0.013	4.6x126/82 T500
A250470H000S	4.70	126	82	0.014	4.7x126/82 T500
A250480H000S	4.80	132	87	0.015	4.8x132/87 T500
A250490H000S	4.90	132	87	0.015	4.9x132/87 T500
A250500H000S	5.00	132	87	0.016	5x132/87 T500
A250510H000S	5.10	132	87	0.016	5.1x132/87 T500
A250520H000S	5.20	132	87	0.017	5.2x132/87 T500
A250530H000S	5.30	132	87	0.017	5.3x132/87 T500
A250540H000S	5.40	139	91	0.018	5.4x139/91 T500
A250550H000S	5.50	139	91	0.019	5.5x139/91 T500
A250560H000S	5.60	139	91	0.020	5.6x139/91 T500
A250570H000S	5.70	139	91	0.021	5.7x139/91 T500
A250580H000S	5.80	139	91	0.021	5.8x139/91 T500
A250590H000S	5.90	139	91	0.022	5.9x139/91 T500
A250600H000S	6.00	139	91	0.023	6x139/91 T500
A250610H000S	6.10	148	97	0.025	6.1x148/97 T500
A250620H000S	6.20	148	97	0.026	6.2x148/97 T500
A250630H000S	6.30	148	97	0.027	6.3x148/97 T500
A250640H000S	6.40	148	97	0.028	6.4x148/97 T500
A250650H000S	6.50	148	97	0.029	6.5x148/97 T500
A250660H000S	6.60	148	97	0.030	6.6x148/97 T500
A250670H000S	6.70	148	97	0.031	6.7x148/97 T500
A250680H000S	6.80	156	102	0.032	6.8x156/102 T500
A250690H000S	6.90	156	102	0.033	6.9x156/102 T500
A250700H000S	7.00	156	102	0.034	7x156/102 T500
A250710H000S	7.10	156	102	0.035	7.1x156/102 T500
A250720H000S	7.20	156	102	0.036	7.2x156/102 T500
A250730H000S	7.30	156	102	0.037	7.3x156/102 T500
A250740H000S	7.40	156	102	0.038	7.4x156/102 T500
A250750H000S	7.50	156	102	0.039	7.5x156/102 T500
A250760H000S	7.60	165	109	0.040	7.6x165/109 T500
A250770H000S	7.70	165	109	0.041	7.7x165/109 T500
A250780H000S	7.80	165	109	0.042	7.8x165/109 T500
A250790H000S	7.90	165	109	0.043	7.9x165/109 T500
A250800H000S	8.00	165	109	0.044	8x165/109 T500

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2916 T500
A250810H000S	8.10	165	109	0.045	8.1x165/109 T500
A250820H000S	8.20	165	109	0.046	8.2x165/109 T500
A250830H000S	8.30	165	109	0.047	8.3x165/109 T500
A250840H000S	8.40	165	109	0.048	8.4x165/109 T500
A250850H000S	8.50	165	109	0.049	8.5x165/109 T500
A250860H000S	8.60	175	115	0.053	8.6x175/115 T500
A250870H000S	8.70	175	115	0.055	8.7x175/115 T500
A250880H000S	8.80	175	115	0.060	8.8x175/115 T500
A250890H000S	8.90	175	115	0.061	8.9x175/115 T500
A250900H000S	9.00	175	115	0.063	9x175/115 T500
A250910H000S	9.10	175	115	0.064	9.1x175/115 T500
A250920H000S	9.20	175	115	0.065	9.2x175/115 T500
A250930H000S	9.30	175	115	0.066	9.3x175/115 T500
A250940H000S	9.40	175	115	0.067	9.4x175/115 T500
A250950H000S	9.50	175	115	0.068	9.5x175/115 T500
A250960H000S	9.60	184	121	0.069	9.6x184/121 T500
A250970H000S	9.70	184	121	0.070	9.7x184/121 T500
A250980H000S	9.80	184	121	0.075	9.8x184/121 T500
A250990H000S	9.90	184	121	0.076	9.9x184/121 T500
A251000H000S	10.00	184	121	0.077	10x184/121 T500
A251010H000S	10.10	184	121	0.078	10.1x184/121 T500
A251020H000S	10.20	184	121	0.079	10.2x184/121 T500
A251030H000S	10.30	184	121	0.080	10.3x184/121 T500
A251040H000S	10.40	184	121	0.081	10.4x184/121 T500
A251050H000S	10.50	184	121	0.082	10.5x184/121 T500
A251060H000S	10.60	184	121	0.083	10.6x184/121 T500
A251070H000S	10.70	195	128	0.085	10.7x195/128 T500
A251080H000S	10.80	195	128	0.088	10.8x195/128 T500
A251090H000S	10.90	195	128	0.090	10.9x195/128 T500
A251100H000S	11.00	195	128	0.093	11x195/128 T500
A251110H000S	11.10	195	128	0.095	11.1x195/128 T500
A251120H000S	11.20	195	128	0.098	11.2x195/128 T500
A251130H000S	11.30	195	128	0.100	11.3x195/128 T500
A251140H000S	11.40	195	128	0.105	11.4x195/128 T500
A251150H000S	11.50	195	128	0.111	11.5x195/128 T500
A251160H000S	11.60	195	128	0.115	11.6x195/128 T500
A251170H000S	11.70	195	128	0.120	11.7x195/128 T500
A251180H000S	11.80	195	128	0.125	11.8x195/128 T500
A251190H000S	11.90	205	134	0.130	11.9x205/134 T500
A251200H000S	12.00	205	134	0.132	12x205/134 T500
A251210H000S	12.10	205	134	0.134	12.1x205/134 T500
A251220H000S	12.20	205	134	0.136	12.2x205/134 T500
A251230H000S	12.30	205	134	0.138	12.3x205/134 T500
A251240H000S	12.40	205	134	0.140	12.4x205/134 T500
A251250H000S	12.50	205	134	0.142	12.5x205/134 T500
A251260H000S	12.60	205	134	0.144	12.6x205/134 T500
A251270H000S	12.70	205	134	0.146	12.7x205/134 T500
A251280H000S	12.80	205	134	0.148	12.8x205/134 T500
A251290H000S	12.90	205	134	0.150	12.9x205/134 T500
A251300H000S	13.00	205	134	0.152	13x205/134 T500
A251310H000S	13.10	205	134	0.154	13.1x205/134 T500
A251320H000S	13.20	205	134	0.155	13.2x205/134 T500
A251330H000S	13.30	214	140	0.165	13.3x214/140 T500
A251340H000S	13.40	214	140	0.168	13.4x214/140 T500
A251350H000S	13.50	214	140	0.172	13.5x214/140 T500
A251360H000S	13.60	214	140	0.175	13.6x214/140 T500
A251370H000S	13.70	214	140	0.177	13.7x214/140 T500
A251380H000S	13.80	214	140	0.180	13.8x214/140 T500
A251390H000S	13.90	214	140	0.183	13.9x214/140 T500
A251400H000S	14.00	214	140	0.185	14x214/140 T500

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



Vrtáky s válcovou stopkou

Straight shank drills

Spiralbohrer mit Zylinderschaft

VRTÁKY S VÁLCOVOU STOPKOU DLOUHÉ, LEVOŘEZNÉ
LONG SERIES STRAIGHT SHANK DRILLS, LEFT HAND CUTTING
LANGE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, LINKSSCHNEIDEND

PN 2921

DIN 340 LN

na požávku
on request
auf Anfrage

HSS

BLANC



V

10xD

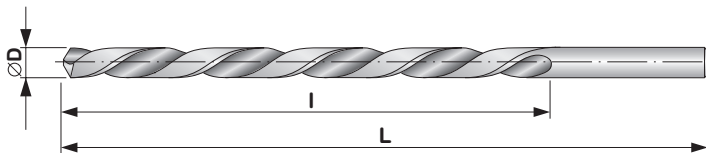
Steel
<850 MPa

Cast
iron

Al/alloy

Cu/alloy

Plastics



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2921
A250090L000S	0,90	52	30	0,001	0,9x52/30
A250100L000S	1,00	56	33	0,001	1x56/33
A250110L000S	1,10	60	37	0,001	1,1x60/37
A250120L000S	1,20	65	41	0,001	1,2x65/41
A250130L000S	1,30	65	41	0,001	1,3x65/41
A250140L000S	1,40	70	45	0,001	1,4x70/45
A250150L000S	1,50	70	45	0,001	1,5x70/45
A250160L000S	1,60	76	50	0,002	1,6x76/50
A250170L000S	1,70	76	50	0,002	1,7x76/50
A250180L000S	1,80	80	53	0,002	1,8x80/53
A250190L000S	1,90	80	53	0,002	1,9x80/53
A250200L000S	2,00	85	56	0,002	2x85/56
A250210L000S	2,10	85	56	0,002	2,1x85/56
A250220L000S	2,20	90	59	0,002	2,2x90/59
A250230L000S	2,30	90	59	0,002	2,3x90/59
A250240L000S	2,40	95	62	0,0025	2,4x95/62
A250250L000S	2,50	95	62	0,0025	2,5x95/62
A250260L000S	2,60	95	62	0,0025	2,6x95/62
A250270L000S	2,70	100	66	0,0030	2,7x100/66
A250280L000S	2,80	100	66	0,0030	2,8x100/66
A250290L000S	2,90	100	66	0,0035	2,9x100/66
A250300L000S	3,00	100	66	0,0035	3x100/66
A250310L000S	3,10	106	69	0,0040	3,1x106/69
A250320L000S	3,20	106	69	0,0045	3,2x106/69
A250330L000S	3,30	106	69	0,0050	3,3x106/69
A250340L000S	3,40	112	73	0,0055	3,4x112/73
A250350L000S	3,50	112	73	0,0060	3,5x112/73
A250360L000S	3,60	112	73	0,0065	3,6x112/73
A250370L000S	3,70	112	73	0,0070	3,7x112/73
A250380L000S	3,80	119	78	0,0075	3,8x119/78
A250390L000S	3,90	119	78	0,0080	3,9x119/78
A250400L000S	4,00	119	78	0,0085	4x119/78
A250410L000S	4,10	119	78	0,0090	4,1x119/78
A250420L000S	4,20	119	78	0,0095	4,2x119/78
A250430L000S	4,30	126	82	0,010	4,3x126/82
A250440L000S	4,40	126	82	0,011	4,4x126/82
A250450L000S	4,50	126	82	0,012	4,5x126/82
A250460L000S	4,60	126	82	0,013	4,6x126/82
A250470L000S	4,70	126	82	0,014	4,7x126/82
A250480L000S	4,80	132	87	0,015	4,8x132/87
A250490L000S	4,90	132	87	0,015	4,9x132/87
A250500L000S	5,00	132	87	0,016	5x132/87
A250510L000S	5,10	132	87	0,016	5,1x132/87
A250520L000S	5,20	132	87	0,017	5,2x132/87
A250530L000S	5,30	132	87	0,017	5,3x132/87
A250540L000S	5,40	139	91	0,018	5,4x139/91
A250550L000S	5,50	139	91	0,019	5,5x139/91
A250560L000S	5,60	139	91	0,020	5,6x139/91
A250570L000S	5,70	139	91	0,021	5,7x139/91
A250580L000S	5,80	139	91	0,021	5,8x139/91
A250590L000S	5,90	139	91	0,022	5,9x139/91
A250600L000S	6,00	139	91	0,023	6x139/91
A250610L000S	6,10	148	97	0,025	6,1x148/97
A250620L000S	6,20	148	97	0,026	6,2x148/97
A250630L000S	6,30	148	97	0,027	6,3x148/97
A250640L000S	6,40	148	97	0,028	6,4x148/97
A250650L000S	6,50	148	97	0,029	6,5x148/97

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2921
A250660L000S	6,60	148	97	0,030	6,6x148/97
A250670L000S	6,70	148	97	0,031	6,7x148/97
A250680L000S	6,80	156	102	0,032	6,8x156/102
A250690L000S	6,90	156	102	0,033	6,9x156/102
A250700L000S	7,00	156	102	0,034	7x156/102
A250710L000S	7,10	156	102	0,035	7,1x156/102
A250720L000S	7,20	156	102	0,036	7,2x156/102
A250730L000S	7,30	156	102	0,037	7,3x156/102
A250740L000S	7,40	156	102	0,038	7,4x156/102
A250750L000S	7,50	156	102	0,039	7,5x156/102
A250760L000S	7,60	165	109	0,040	7,6x165/109
A250770L000S	7,70	165	109	0,041	7,7x165/109
A250780L000S	7,80	165	109	0,042	7,8x165/109
A250790L000S	7,90	165	109	0,043	7,9x165/109
A250800L000S	8,00	165	109	0,044	8x165/109
A250810L000S	8,10	165	109	0,045	8,1x165/109
A250820L000S	8,20	165	109	0,046	8,2x165/109
A250830L000S	8,30	165	109	0,047	8,3x165/109
A250840L000S	8,40	165	109	0,048	8,4x165/109
A250850L000S	8,50	165	109	0,049	8,5x165/109
A250860L000S	8,60	175	115	0,053	8,6x175/115
A250870L000S	8,70	175	115	0,055	8,7x175/115
A250880L000S	8,80	175	115	0,060	8,8x175/115
A250890L000S	8,90	175	115	0,061	8,9x175/115
A250900L000S	9,00	175	115	0,063	9x175/115
A250910L000S	9,10	175	115	0,064	9,1x175/115
A250920L000S	9,20	175	115	0,065	9,2x175/115
A250930L000S	9,30	175	115	0,066	9,3x175/115
A250940L000S	9,40	175	115	0,067	9,4x175/115
A250950L000S	9,50	175	115	0,068	9,5x175/115
A250960L000S	9,60	184	121	0,069	9,6x184/121
A250970L000S	9,70	184	121	0,070	9,7x184/121
A250980L000S	9,80	184	121	0,075	9,8x184/121
A250990L000S	9,90	184	121	0,076	9,9x184/121
A251000L000S	10,00	184	121	0,077	10x184/121
A251010L000S	10,10	184	121	0,078	10,1x184/121
A251020L000S	10,20	184	121	0,079	10,2x184/121
A251030L000S	10,30	184	121	0,080	10,3x184/121
A251040L000S	10,40	184	121	0,081	10,4x184/121
A251050L000S	10,50	184	121	0,082	10,5x184/121
A251060L000S	10,60	184	121	0,083	10,6x184/121
A251070L000S	10,70	195	128	0,085	10,7x195/128
A251080L000S	10,80	195	128	0,088	10,8x195/128
A251090L000S	10,90	195	128	0,090	10,9x195/128
A251100L000S	11,00	195	128	0,093	11x195/128
A251110L000S	11,10	195	128	0,095	11,1x195/128
A251120L000S	11,20	195	128	0,098	11,2x195/128
A251130L000S	11,30	195	128	0,100	11,3x195/128
A251140L000S	11,40	195	128	0,105	11,4x195/128
A251150L000S	11,50	195	128	0,111	11,5x195/128
A251160L000S	11,60	195	128	0,115	11,6x195/128
A251170L000S	11,70	195	128	0,120	11,7x195/128
A251180L000S	11,80	195	128	0,125	11,8x195/128
A251190L000S	11,90	205	134	0,130	11,9x205/134
A251200L000S	12,00	205	134	0,132	12x205/134
A251210L000S	12,10	205	134	0,134	12,1x205/134



Vrtáky s válcovou stopkou

Straight shank drills

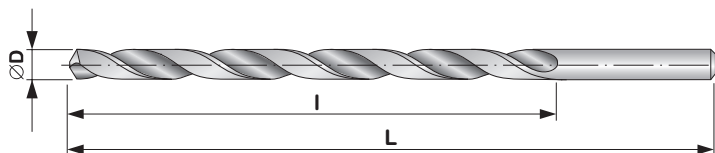
Spiralbohrer mit Zylinderschaft

VRTÁKY S VÁLCOVOU STOPKOU DLOUHÉ, PRO TĚŽKO OBROBITELNÉ MATERIÁLY
 COBALT LONG SERIES STRAIGHT SHANK DRILLS
 LANGE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, FÜR SCHWER ZERSPANBARE WERKSTOFFE

PN 2915

DIN 340 RN

HSSCo5	BLANC	$\epsilon = 128^\circ$	$\lambda = 25^\circ - 30^\circ$	DIN 1412 FORM „N“ 0,9 - 1,95	DIN 1412 FORM „C“	R	V	10xD		
Steel <1200 MPa	Stainless steel	Cast iron	Cu/alloy	Heat- resistant						



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2915
A250090V400S	0,90	52	30	0,001	0,9x52/30
A250100V400S	1,00	56	33	0,001	1x56/33
A250110V400S	1,10	60	37	0,001	1,1x60/37
A250120V400S	1,20	65	41	0,001	1,2x65/41
A250130V400S	1,30	65	41	0,001	1,3x65/41
A250140V400S	1,40	70	45	0,001	1,4x70/45
A250150V400S	1,50	70	45	0,001	1,5x70/45
A250160V400S	1,60	76	50	0,002	1,6x76/50
A250170V400S	1,70	76	50	0,002	1,7x76/50
A250180V400S	1,80	80	53	0,002	1,8x80/53
A250190V400S	1,90	80	53	0,002	1,9x80/53
A250200V400S	2,00	85	56	0,002	2x85/56
A250210V400S	2,10	85	56	0,002	2,1x85/56
A250220V400S	2,20	90	59	0,002	2,2x90/59
A250230V400S	2,30	90	59	0,002	2,3x90/59
A250240V400S	2,40	95	62	0,0025	2,4x95/62
A250250V400S	2,50	95	62	0,0025	2,5x95/62
A250260V400S	2,60	95	62	0,0025	2,6x95/62
A250270V400S	2,70	100	66	0,0030	2,7x100/66
A250280V400S	2,80	100	66	0,0030	2,8x100/66
A250290V400S	2,90	100	66	0,0035	2,9x100/66
A250300V400S	3,00	100	66	0,0035	3x100/66
A250310V400S	3,10	106	69	0,0040	3,1x106/69
A250320V400S	3,20	106	69	0,0045	3,2x106/69
A250330V400S	3,30	106	69	0,0050	3,3x106/69
A250340V400S	3,40	112	73	0,0055	3,4x112/73
A250350V400S	3,50	112	73	0,0060	3,5x112/73
A250360V400S	3,60	112	73	0,0065	3,6x112/73
A250370V400S	3,70	112	73	0,0070	3,7x112/73
A250380V400S	3,80	119	78	0,0075	3,8x119/78
A250390V400S	3,90	119	78	0,0080	3,9x119/78
A250400V400S	4,00	119	78	0,0085	4x119/78
A250410V400S	4,10	119	78	0,0090	4,1x119/78
A250420V400S	4,20	119	78	0,0095	4,2x119/78
A250430V400S	4,30	126	82	0,010	4,3x126/82
A250440V400S	4,40	126	82	0,011	4,4x126/82
A250450V400S	4,50	126	82	0,012	4,5x126/82
A250460V400S	4,60	126	82	0,013	4,6x126/82
A250470V400S	4,70	126	82	0,014	4,7x126/82
A250480V400S	4,80	132	87	0,015	4,8x132/87
A250490V400S	4,90	132	87	0,015	4,9x132/87
A250500V400S	5,00	132	87	0,016	5x132/87
A250510V400S	5,10	132	87	0,016	5,1x132/87
A250520V400S	5,20	132	87	0,017	5,2x132/87
A250530V400S	5,30	132	87	0,017	5,3x132/87
A250540V400S	5,40	139	91	0,018	5,4x139/91
A250550V400S	5,50	139	91	0,019	5,5x139/91
A250560V400S	5,60	139	91	0,020	5,6x139/91
A250570V400S	5,70	139	91	0,021	5,7x139/91
A250580V400S	5,80	139	91	0,021	5,8x139/91
A250590V400S	5,90	139	91	0,022	5,9x139/91
A250600V400S	6,00	139	91	0,023	6x139/91
A250610V400S	6,10	148	97	0,025	6,1x148/97
A250620V400S	6,20	148	97	0,026	6,2x148/97
A250630V400S	6,30	148	97	0,027	6,3x148/97
A250640V400S	6,40	148	97	0,028	6,4x148/97
A250650V400S	6,50	148	97	0,029	6,5x148/97

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2915
A250660V400S	6,60	148	97	0,030	6,6x148/97
A250670V400S	6,70	148	97	0,031	6,7x148/97
A250680V400S	6,80	156	102	0,032	6,8x156/102
A250690V400S	6,90	156	102	0,033	6,9x156/102
A250700V400S	7,00	156	102	0,034	7x156/102
A250710V400S	7,10	156	102	0,035	7,1x156/102
A250720V400S	7,20	156	102	0,036	7,2x156/102
A250730V400S	7,30	156	102	0,037	7,3x156/102
A250740V400S	7,40	156	102	0,038	7,4x156/102
A250750V400S	7,50	156	102	0,039	7,5x156/102
A250760V400S	7,60	165	109	0,040	7,6x165/109
A250770V400S	7,70	165	109	0,041	7,7x165/109
A250780V400S	7,80	165	109	0,042	7,8x165/109
A250790V400S	7,90	165	109	0,043	7,9x165/109
A250800V400S	8,00	165	109	0,044	8x165/109
A250810V400S	8,10	165	109	0,045	8,1x165/109
A250820V400S	8,20	165	109	0,046	8,2x165/109
A250830V400S	8,30	165	109	0,047	8,3x165/109
A250840V400S	8,40	165	109	0,048	8,4x165/109
A250850V400S	8,50	165	109	0,049	8,5x165/109
A250860V400S	8,60	175	115	0,053	8,6x175/115
A250870V400S	8,70	175	115	0,055	8,7x175/115
A250880V400S	8,80	175	115	0,060	8,8x175/115
A250890V400S	8,90	175	115	0,061	8,9x175/115
A250900V400S	9,00	175	115	0,063	9x175/115
A250910V400S	9,10	175	115	0,064	9,1x175/115
A250920V400S	9,20	175	115	0,065	9,2x175/115
A250930V400S	9,30	175	115	0,066	9,3x175/115
A250940V400S	9,40	175	115	0,067	9,4x175/115
A250950V400S	9,50	175	115	0,068	9,5x175/115
A250960V400S	9,60	184	121	0,069	9,6x184/121
A250970V400S	9,70	184	121	0,070	9,7x184/121
A250980V400S	9,80	184	121	0,075	9,8x184/121
A250990V400S	9,90	184	121	0,076	9,9x184/121
A251000V400S	10,00	184	121	0,077	10x184/121
A251010V400S	10,10	184	121	0,078	10,1x184/121
A251020V400S	10,20	184	121	0,079	10,2x184/121
A251030V400S	10,30	184	121	0,080	10,3x184/121
A251040V400S	10,40	184	121	0,081	10,4x184/121
A251050V400S	10,50	184	121	0,082	10,5x184/121
A251060V400S	10,60	184	121	0,083	10,6x184/121
A251070V400S	10,70	195	128	0,085	10,7x195/128
A251080V400S	10,80	195	128	0,088	10,8x195/128
A251090V400S	10,90	195	128	0,090	10,9x195/128
A251100V400S	11,00	195	128	0,093	11x195/128
A251110V400S	11,10	195	128	0,095	11,1x195/128
A251120V400S	11,20	195	128	0,098	11,2x195/128
A251130V400S	11,30	195	128	0,100	11,3x195/128
A251140V400S	11,40	195	128	0,105	11,4x195/128
A251150V400S	11,50	195	128	0,111	11,5x195/128
A251160V400S	11,60	195	128	0,115	11,6x195/128
A251170V400S	11,70	195	128	0,120	11,7x195/128
A251180V400S	11,80	195	128	0,125	11,8x195/128
A251190V400S	11,90	205	134	0,130	11,9x205/134
A251200V400S	12,00	205	134	0,132	12x205/134
A251210V400S	12,10	205	134	0,134	12,1x205/134



PN 2915

DIN 340 RN



**VRTÁKY S VÁLCOVOU STOPKOU DLOUHÉ, PRO TĚŽKO OBROBITELNÉ MATERIÁLY
COBALT LONG SERIES STRAIGHT SHANK DRILLS
LANGE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, FÜR SCHWER ZERSPANBARE WERKSTOFFE**

HSSCo5	BLANC	$\epsilon = 128^\circ$	$\lambda = 25^\circ - 30^\circ$	DIN 1412 FORM „N“ 0,9 - 1,95	DIN 1412 FORM „C“	R	V	10xD		
Steel <1200 MPa	Stainless steel	Cast iron	Cu/alloy	Heat-resistant						

Objednací číslo Order No. Bestell-Nr.	∅D mm	L mm	I mm	kg	Code 2915
A251230V400S	12,30	205	134	0,138	12,3x205/134
A251240V400S	12,40	205	134	0,140	12,4x205/134
A251250V400S	12,50	205	134	0,142	12,5x205/134
A251260V400S	12,60	205	134	0,144	12,6x205/134
A251270V400S	12,70	205	134	0,146	12,7x205/134
A251280V400S	12,80	205	134	0,148	12,8x205/134
A251290V400S	12,90	205	134	0,150	12,9x205/134
A251300V400S	13,00	205	134	0,152	13x205/134
A251310V400S	13,10	205	134	0,154	13,1x205/134

Objednací číslo Order No. Bestell-Nr.	∅D mm	L mm	I mm	kg	Code 2915
A251320V400S	13,20	205	134	0,155	13,2x205/134
A251330V400S	13,30	214	140	0,165	13,3x214/140
A251340V400S	13,40	214	140	0,168	13,4x214/140
A251350V400S	13,50	214	140	0,172	13,5x214/140
A251360V400S	13,60	214	140	0,175	13,6x214/140
A251370V400S	13,70	214	140	0,177	13,7x214/140
A251380V400S	13,80	214	140	0,180	13,8x214/140
A251390V400S	13,90	214	140	0,183	13,9x214/140
A251400V400S	14,00	214	140	0,185	14x214/140

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



Vrtáky s válcovou stopkou

Straight shank drills

Spiralbohrer mit Zylinderschaft



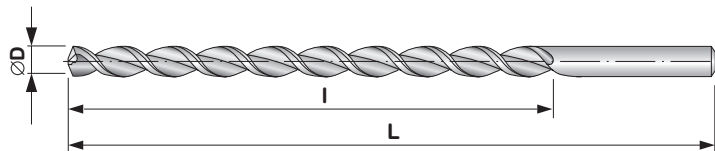
DIN 340 GT100



VRTÁKY S VÁLCOVOU STOPKOU DLOUHÉ, PRO TĚŽKO OBROBITELNÉ MATERIÁLY
COBALT LONG SERIES STRAIGHT SHANK DRILLS
LANGE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, FÜR SCHWER ZERSPANBARE WERKSTOFFE

PN 2915 - T 1000

HSSCo5	BLANC	$\epsilon = 128^\circ$	$\lambda = 35^\circ - 40^\circ$	T1000 (GT 100)	DIN 1412 FORM „C“	R	V	10xD		
Steel <1200 MPa	Stainless steel	Cast iron	Al/alloy	Cu/alloy	Heat-resistant					



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm	kg	Code 2915 T1000
A250200G400S	2.00	85	56	0.002	2x85/56 T1000
A250210G400S	2.10	85	56	0.002	2.1x85/56 T1000
A250220G400S	2.20	90	59	0.002	2.2x90/59 T1000
A250230G400S	2.30	90	59	0.002	2.3x90/59 T1000
A250240G400S	2.40	95	62	0.0025	2.4x95/62 T1000
A250250G400S	2.50	95	62	0.0025	2.5x95/62 T1000
A250260G400S	2.60	95	62	0.0025	2.6x95/62 T1000
A250270G400S	2.70	100	66	0.0030	2.7x100/66 T1000
A250280G400S	2.80	100	66	0.0030	2.8x100/66 T1000
A250290G400S	2.90	100	66	0.0035	2.9x100/66 T1000
A250300G400S	3.00	100	66	0.0035	3x100/66 T1000
A250310G400S	3.10	106	69	0.0040	3.1x106/69 T1000
A250320G400S	3.20	106	69	0.0045	3.2x106/69 T1000
A250330G400S	3.30	106	69	0.0050	3.3x106/69 T1000
A250340G400S	3.40	112	73	0.0055	3.4x112/73 T1000
A250350G400S	3.50	112	73	0.0060	3.5x112/73 T1000
A250360G400S	3.60	112	73	0.0065	3.6x112/73 T1000
A250370G400S	3.70	112	73	0.0070	3.7x112/73 T1000
A250380G400S	3.80	119	78	0.0075	3.8x119/78 T1000
A250390G400S	3.90	119	78	0.0080	3.9x119/78 T1000
A250400G400S	4.00	119	78	0.0085	4x119/78 T1000
A250410G400S	4.10	119	78	0.0090	4.1x119/78 T1000
A250420G400S	4.20	119	78	0.0095	4.2x119/78 T1000
A250430G400S	4.30	126	82	0.010	4.3x126/82 T1000
A250440G400S	4.40	126	82	0.011	4.4x126/82 T1000
A250450G400S	4.50	126	82	0.012	4.5x126/82 T1000
A250460G400S	4.60	126	82	0.013	4.6x126/82 T1000
A250470G400S	4.70	126	82	0.014	4.7x126/82 T1000
A250480G400S	4.80	132	87	0.015	4.8x132/87 T1000
A250490G400S	4.90	132	87	0.015	4.9x132/87 T1000
A250500G400S	5.00	132	87	0.016	5x132/87 T1000
A250510G400S	5.10	132	87	0.016	5.1x132/87 T1000
A250520G400S	5.20	132	87	0.017	5.2x132/87 T1000
A250530G400S	5.30	132	87	0.017	5.3x132/87 T1000
A250540G400S	5.40	139	91	0.018	5.4x139/91 T1000
A250550G400S	5.50	139	91	0.019	5.5x139/91 T1000
A250560G400S	5.60	139	91	0.020	5.6x139/91 T1000
A250570G400S	5.70	139	91	0.021	5.7x139/91 T1000
A250580G400S	5.80	139	91	0.021	5.8x139/91 T1000
A250590G400S	5.90	139	91	0.022	5.9x139/91 T1000
A250600G400S	6.00	139	91	0.023	6x139/91 T1000
A250610G400S	6.10	148	97	0.025	6.1x148/97 T1000
A250620G400S	6.20	148	97	0.026	6.2x148/97 T1000
A250630G400S	6.30	148	97	0.027	6.3x148/97 T1000
A250640G400S	6.40	148	97	0.028	6.4x148/97 T1000
A250650G400S	6.50	148	97	0.029	6.5x148/97 T1000
A250660G400S	6.60	148	97	0.030	6.6x148/97 T1000
A250670G400S	6.70	148	97	0.031	6.7x148/97 T1000
A250680G400S	6.80	156	102	0.032	6.8x156/102 T1000
A250690G400S	6.90	156	102	0.033	6.9x156/102 T1000
A250700G400S	7.00	156	102	0.034	7x156/102 T1000
A250710G400S	7.10	156	102	0.035	7.1x156/102 T1000
A250720G400S	7.20	156	102	0.036	7.2x156/102 T1000
A250730G400S	7.30	156	102	0.037	7.3x156/102 T1000
A250740G400S	7.40	156	102	0.038	7.4x156/102 T1000
A250750G400S	7.50	156	102	0.039	7.5x156/102 T1000
A250760G400S	7.60	165	109	0.040	7.6x165/109 T1000
A250770G400S	7.70	165	109	0.041	7.7x165/109 T1000
A250780G400S	7.80	165	109	0.042	7.8x165/109 T1000
A250790G400S	7.90	165	109	0.043	7.9x165/109 T1000
A250800G400S	8.00	165	109	0.044	8x165/109 T1000

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm	kg	Code 2915 T1000
A250810G400S	8.10	165	109	0.045	8.1x165/109 T1000
A250820G400S	8.20	165	109	0.046	8.2x165/109 T1000
A250830G400S	8.30	165	109	0.047	8.3x165/109 T1000
A250840G400S	8.40	165	109	0.048	8.4x165/109 T1000
A250850G400S	8.50	165	109	0.049	8.5x165/109 T1000
A250860G400S	8.60	175	115	0.053	8.6x175/115 T1000
A250870G400S	8.70	175	115	0.055	8.7x175/115 T1000
A250880G400S	8.80	175	115	0.060	8.8x175/115 T1000
A250890G400S	8.90	175	115	0.061	8.9x175/115 T1000
A250900G400S	9.00	175	115	0.063	9x175/115 T1000
A250910G400S	9.10	175	115	0.064	9.1x175/115 T1000
A250920G400S	9.20	175	115	0.065	9.2x175/115 T1000
A250930G400S	9.30	175	115	0.066	9.3x175/115 T1000
A250940G400S	9.40	175	115	0.067	9.4x175/115 T1000
A250950G400S	9.50	175	115	0.068	9.5x175/115 T1000
A250960G400S	9.60	184	121	0.069	9.6x184/121 T1000
A250970G400S	9.70	184	121	0.070	9.7x184/121 T1000
A250980G400S	9.80	184	121	0.075	9.8x184/121 T1000
A250990G400S	9.90	184	121	0.076	9.9x184/121 T1000
A251000G400S	10.00	184	121	0.077	10x184/121 T1000
A251010G400S	10.10	184	121	0.078	10.1x184/121 T1000
A251020G400S	10.20	184	121	0.079	10.2x184/121 T1000
A251030G400S	10.30	184	121	0.080	10.3x184/121 T1000
A251040G400S	10.40	184	121	0.081	10.4x184/121 T1000
A251050G400S	10.50	184	121	0.082	10.5x184/121 T1000
A251060G400S	10.60	184	121	0.083	10.6x184/121 T1000
A251070G400S	10.70	195	128	0.085	10.7x195/128 T1000
A251080G400S	10.80	195	128	0.088	10.8x195/128 T1000
A251090G400S	10.90	195	128	0.090	10.9x195/128 T1000
A251100G400S	11.00	195	128	0.093	11x195/128 T1000
A251110G400S	11.10	195	128	0.095	11.1x195/128 T1000
A251120G400S	11.20	195	128	0.098	11.2x195/128 T1000
A251130G400S	11.30	195	128	0.100	11.3x195/128 T1000
A251140G400S	11.40	195	128	0.105	11.4x195/128 T1000
A251150G400S	11.50	195	128	0.111	11.5x195/128 T1000
A251160G400S	11.60	195	128	0.115	11.6x195/128 T1000
A251170G400S	11.70	195	128	0.120	11.7x195/128 T1000
A251180G400S	11.80	195	128	0.125	11.8x195/128 T1000
A251190G400S	11.90	205	134	0.130	11.9x205/134 T1000
A251200G400S	12.00	205	134	0.132	12x205/134 T1000
A251210G400S	12.10	205	134	0.134	12.1x205/134 T1000
A251220G400S	12.20	205	134	0.136	12.2x205/134 T1000
A251230G400S	12.30	205	134	0.138	12.3x205/134 T1000
A251240G400S	12.40	205	134	0.140	12.4x205/134 T1000
A251250G400S	12.50	205	134	0.142	12.5x205/134 T1000
A251260G400S	12.60	205	134	0.144	12.6x205/134 T1000
A251270G400S	12.70	205	134	0.146	12.7x205/134 T1000
A251280G400S	12.80	205	134	0.148	12.8x205/134 T1000
A251290G400S	12.90	205	134	0.150	12.9x205/134 T1000
A251300G400S	13.00	205	134	0.152	13x205/134 T1000
A251310G400S	13.10	205	134	0.154	13.1x205/134 T1000
A251320G400S	13.20	205	134	0.155	13.2x205/134 T1000
A251330G400S	13.30	214	140	0.165	13.3x214/140 T1000
A251340G400S	13.40	214	140	0.168	13.4x214/140 T1000
A251350G400S	13.50	214	140	0.172	13.5x214/140 T1000
A251360G400S	13.60	214	140	0.175	13.6x214/140 T1000
A251370G400S	13.70	214	140	0.177	13.7x214/140 T1000
A251380G400S	13.80	214	140	0.180	13.8x214/140 T1000
A251390G400S	13.90	214	140	0.183	13.9x214/140 T1000
A251400G400S	14.00	214	140	0.185	14x214/140 T1000

Poznámka / Note / Notiz: ostatní neuvedené rozměry na povtávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage
 povlakování na povtávku / coating on request / Beschichtung auf Anfrage



PN 2920

DIN 340 LN



VRTÁKY S VÁLCOVOU STOPKOU DLOUHÉ, PRO TĚŽKÉ OBROBITELNÉ MATERIÁLY, LEVOŘEZNÉ
COBALT LONG SERIES STRAIGHT SHANK DRILLS, LEFT HAND CUTTING
LANGE SPIRALBOHRER MIT ZYLINDRISCEM SCHAFT, FÜR SCHWER ZERSPANBARE WERKSTOFFE, LINKSSCHNEIDEND

na požádání
on request
auf Anfrage

HSSCo5

BLANC

$\epsilon = 128^\circ$

$\lambda = 25^\circ - 30^\circ$



L

V

10xD

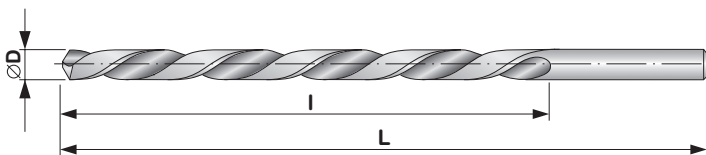
Steel
<1200 MPa

Stainless
steel

Cast
iron

Cu/alloy

Heat-
resistant



Objednáací číslo Order No. Bestell-Nr.	∅D mm	L mm	I mm		Code 2920
A250090L400S	0,90	52	30	0,001	0,9x52/30
A250100L400S	1,00	56	33	0,001	1x56/33
A250110L400S	1,10	60	37	0,001	1,1x60/37
A250120L400S	1,20	65	41	0,001	1,2x65/41
A250130L400S	1,30	65	41	0,001	1,3x65/41
A250140L400S	1,40	70	45	0,001	1,4x70/45
A250150L400S	1,50	70	45	0,001	1,5x70/45
A250160L400S	1,60	76	50	0,002	1,6x76/50
A250170L400S	1,70	76	50	0,002	1,7x76/50
A250180L400S	1,80	80	53	0,002	1,8x80/53
A250190L400S	1,90	80	53	0,002	1,9x80/53
A250200L400S	2,00	85	56	0,002	2x85/56
A250210L400S	2,10	85	56	0,002	2,1x85/56
A250220L400S	2,20	90	59	0,002	2,2x90/59
A250230L400S	2,30	90	59	0,002	2,3x90/59
A250240L400S	2,40	95	62	0,0025	2,4x95/62
A250250L400S	2,50	95	62	0,0025	2,5x95/62
A250260L400S	2,60	95	62	0,0025	2,6x95/62
A250270L400S	2,70	100	66	0,0030	2,7x100/66
A250280L400S	2,80	100	66	0,0030	2,8x100/66
A250290L400S	2,90	100	66	0,0035	2,9x100/66
A250300L400S	3,00	100	66	0,0035	3x100/66
A250310L400S	3,10	106	69	0,0040	3,1x106/69
A250320L400S	3,20	106	69	0,0045	3,2x106/69
A250330L400S	3,30	106	69	0,0050	3,3x106/69
A250340L400S	3,40	112	73	0,0055	3,4x112/73
A250350L400S	3,50	112	73	0,0060	3,5x112/73
A250360L400S	3,60	112	73	0,0065	3,6x112/73
A250370L400S	3,70	112	73	0,0070	3,7x112/73
A250380L400S	3,80	119	78	0,0075	3,8x119/78
A250390L400S	3,90	119	78	0,0080	3,9x119/78
A250400L400S	4,00	119	78	0,0085	4x119/78
A250410L400S	4,10	119	78	0,0090	4,1x119/78
A250420L400S	4,20	119	78	0,0095	4,2x119/78
A250430L400S	4,30	126	82	0,010	4,3x126/82
A250440L400S	4,40	126	82	0,011	4,4x126/82
A250450L400S	4,50	126	82	0,012	4,5x126/82
A250460L400S	4,60	126	82	0,013	4,6x126/82
A250470L400S	4,70	126	82	0,014	4,7x126/82
A250480L400S	4,80	132	87	0,015	4,8x132/87
A250490L400S	4,90	132	87	0,015	4,9x132/87
A250500L400S	5,00	132	87	0,016	5x132/87
A250510L400S	5,10	132	87	0,016	5,1x132/87
A250520L400S	5,20	132	87	0,017	5,2x132/87
A250530L400S	5,30	132	87	0,017	5,3x132/87
A250540L400S	5,40	139	91	0,018	5,4x139/91
A250550L400S	5,50	139	91	0,019	5,5x139/91
A250560L400S	5,60	139	91	0,020	5,6x139/91
A250570L400S	5,70	139	91	0,021	5,7x139/91
A250580L400S	5,80	139	91	0,021	5,8x139/91
A250590L400S	5,90	139	91	0,022	5,9x139/91
A250600L400S	6,00	139	91	0,023	6x139/91
A250610L400S	6,10	148	97	0,025	6,1x148/97
A250620L400S	6,20	148	97	0,026	6,2x148/97
A250630L400S	6,30	148	97	0,027	6,3x148/97
A250640L400S	6,40	148	97	0,028	6,4x148/97
A250650L400S	6,50	148	97	0,029	6,5x148/97

Objednáací číslo Order No. Bestell-Nr.	∅D mm	L mm	I mm		Code 2920
A250660L400S	6,60	148	97	0,030	6,6x148/97
A250670L400S	6,70	148	97	0,031	6,7x148/97
A250680L400S	6,80	156	102	0,032	6,8x156/102
A250690L400S	6,90	156	102	0,033	6,9x156/102
A250700L400S	7,00	156	102	0,034	7x156/102
A250710L400S	7,10	156	102	0,035	7,1x156/102
A250720L400S	7,20	156	102	0,036	7,2x156/102
A250730L400S	7,30	156	102	0,037	7,3x156/102
A250740L400S	7,40	156	102	0,038	7,4x156/102
A250750L400S	7,50	156	102	0,039	7,5x156/102
A250760L400S	7,60	165	109	0,040	7,6x165/109
A250770L400S	7,70	165	109	0,041	7,7x165/109
A250780L400S	7,80	165	109	0,042	7,8x165/109
A250790L400S	7,90	165	109	0,043	7,9x165/109
A250800L400S	8,00	165	109	0,044	8x165/109
A250810L400S	8,10	165	109	0,045	8,1x165/109
A250820L400S	8,20	165	109	0,046	8,2x165/109
A250830L400S	8,30	165	109	0,047	8,3x165/109
A250840L400S	8,40	165	109	0,048	8,4x165/109
A250850L400S	8,50	165	109	0,049	8,5x165/109
A250860L400S	8,60	175	115	0,053	8,6x175/115
A250870L400S	8,70	175	115	0,055	8,7x175/115
A250880L400S	8,80	175	115	0,060	8,8x175/115
A250890L400S	8,90	175	115	0,061	8,9x175/115
A250900L400S	9,00	175	115	0,063	9x175/115
A250910L400S	9,10	175	115	0,064	9,1x175/115
A250920L400S	9,20	175	115	0,065	9,2x175/115
A250930L400S	9,30	175	115	0,066	9,3x175/115
A250940L400S	9,40	175	115	0,067	9,4x175/115
A250950L400S	9,50	175	115	0,068	9,5x175/115
A250960L400S	9,60	184	121	0,069	9,6x184/121
A250970L400S	9,70	184	121	0,070	9,7x184/121
A250980L400S	9,80	184	121	0,075	9,8x184/121
A250990L400S	9,90	184	121	0,076	9,9x184/121
A251000L400S	10,00	184	121	0,077	10x184/121
A251010L400S	10,10	184	121	0,078	10,1x184/121
A251020L400S	10,20	184	121	0,079	10,2x184/121
A251030L400S	10,30	184	121	0,080	10,3x184/121
A251040L400S	10,40	184	121	0,081	10,4x184/121
A251050L400S	10,50	184	121	0,082	10,5x184/121
A251060L400S	10,60	184	121	0,083	10,6x184/121
A251070L400S	10,70	195	128	0,085	10,7x195/128
A251080L400S	10,80	195	128	0,088	10,8x195/128
A251090L400S	10,90	195	128	0,090	10,9x195/128
A251100L400S	11,00	195	128	0,093	11x195/128
A251110L400S	11,10	195	128	0,095	11,1x195/128
A251120L400S	11,20	195	128	0,098	11,2x195/128
A251130L400S	11,30	195	128	0,100	11,3x195/128
A251140L400S	11,40	195	128	0,105	11,4x195/128
A251150L400S	11,50	195	128	0,111	11,5x195/128
A251160L400S	11,60	195	128	0,115	11,6x195/128
A251170L400S	11,70	195	128	0,120	11,7x195/128
A251180L400S	11,80	195	128	0,125	11,8x195/128
A251190L400S	11,90	205	134	0,130	11,9x205/134
A251200L400S	12,00	205	134	0,132	12x205/134
A251210L400S	12,10	205	134	0,134	12,1x205/134



Vrtáky s válcovou stopkou

Straight shank drills

Spiralbohrer mit Zylinderschaft



VRTÁKY S VÁLCOVOU STOPKOU DLOUHÉ, PRO TĚŽKO OBROBITELNÉ MATERIÁLY, LEVOŘEZNÉ
 COBALT LONG SERIES STRAIGHT SHANK DRILLS, LEFT HAND CUTTING
 LANGE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, FÜR SCHWER ZERSPANBARE WERKSTOFFE, LINKSSCHNEIDEND

PN 2920

DIN 340 LN

na poptávku
on request
auf Anfrage

HSSCo5

BLANC



V

10xD



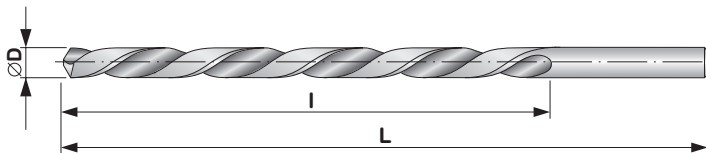
Steel
<1200 MPa

Stainless steel

Cast iron

Cu/alloy

Heat-resistant



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2920
A251220L400S	12,20	205	134	0,136	12,2x205/134
A251230L400S	12,30	205	134	0,138	12,3x205/134
A251240L400S	12,40	205	134	0,140	12,4x205/134
A251250L400S	12,50	205	134	0,142	12,5x205/134
A251260L400S	12,60	205	134	0,144	12,6x205/134
A251270L400S	12,70	205	134	0,146	12,7x205/134
A251280L400S	12,80	205	134	0,148	12,8x205/134
A251290L400S	12,90	205	134	0,150	12,9x205/134
A251300L400S	13,00	205	134	0,152	13x205/134
A251310L400S	13,10	205	134	0,154	13,1x205/134

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 2920
A251320L400S	13,20	205	134	0,155	13,2x205/134
A251330L400S	13,30	214	140	0,165	13,3x214/140
A251340L400S	13,40	214	140	0,168	13,4x214/140
A251350L400S	13,50	214	140	0,172	13,5x214/140
A251360L400S	13,60	214	140	0,175	13,6x214/140
A251370L400S	13,70	214	140	0,177	13,7x214/140
A251380L400S	13,80	214	140	0,180	13,8x214/140
A251390L400S	13,90	214	140	0,183	13,9x214/140
A251400L400S	14,00	214	140	0,185	14x214/140

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



PN 2917**DIN 340 RW**

VRTÁKY S VÁLCOVOU STOPKOU DLOUHÉ – ŠROUBOVICE 40°
QUICK HELIX LONG SERIES STRAIGHT SHANK DRILLS
LANGE SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT, HELIX 40° – TYP W

na poptávku
on request
auf Anfrage

HSS

BLANC


 $\epsilon = 128^\circ$

 $\lambda = 35^\circ - 40^\circ$

 $\lambda = 35^\circ - 40^\circ$

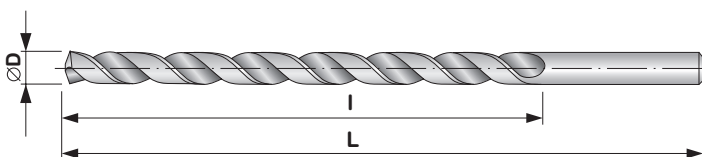
 $\lambda = 35^\circ - 40^\circ$


 $\lambda = 35^\circ - 40^\circ$
10xD


Al/alloy

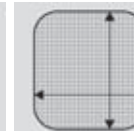
Cu/alloy

Plastics



Objednáací číslo Order No. Bestell-Nr.	∅D mm	L mm	I mm	 kg	Code 2917
A260200V000S	2.00	85	56	0.002	2x85/56
A260210V000S	2.10	85	56	0.002	2.1x85/56
A260220V000S	2.20	90	59	0.002	2.2x90/59
A260230V000S	2.30	90	59	0.002	2.3x90/59
A260240V000S	2.40	95	62	0.0025	2.4x95/62
A260250V000S	2.50	95	62	0.0025	2.5x95/62
A260260V000S	2.60	95	62	0.0025	2.6x95/62
A260270V000S	2.70	100	66	0.0030	2.7x100/66
A260280V000S	2.80	100	66	0.0030	2.8x100/66
A260290V000S	2.90	100	66	0.0035	2.9x100/66
A260300V000S	3.00	100	66	0.0035	3x100/66
A260310V000S	3.10	106	69	0.0040	3.1x106/69
A260320V000S	3.20	106	69	0.0045	3.2x106/69
A260330V000S	3.30	106	69	0.0050	3.3x106/69
A260340V000S	3.40	112	73	0.0055	3.4x112/73
A260350V000S	3.50	112	73	0.0060	3.5x112/73
A260360V000S	3.60	112	73	0.0065	3.6x112/73
A260370V000S	3.70	112	73	0.0070	3.7x112/73
A260380V000S	3.80	119	78	0.0075	3.8x119/78
A260390V000S	3.90	119	78	0.0080	3.9x119/78
A260400V000S	4.00	119	78	0.0085	4x119/78
A260410V000S	4.10	119	78	0.0090	4.1x119/78
A260420V000S	4.20	119	78	0.0095	4.2x119/78
A260430V000S	4.30	126	82	0.010	4.3x126/82
A260440V000S	4.40	126	82	0.011	4.4x126/82
A260450V000S	4.50	126	82	0.012	4.5x126/82
A260460V000S	4.60	126	82	0.013	4.6x126/82
A260470V000S	4.70	126	82	0.014	4.7x126/82
A260480V000S	4.80	132	87	0.015	4.8x132/87
A260490V000S	4.90	132	87	0.015	4.9x132/87
A260500V000S	5.00	132	87	0.016	5x132/87
A260510V000S	5.10	132	87	0.016	5.1x132/87
A260520V000S	5.20	132	87	0.017	5.2x132/87
A260530V000S	5.30	132	87	0.017	5.3x132/87
A260540V000S	5.40	139	91	0.018	5.4x139/91
A260550V000S	5.50	139	91	0.019	5.5x139/91
A260560V000S	5.60	139	91	0.020	5.6x139/91
A260570V000S	5.70	139	91	0.021	5.7x139/91
A260580V000S	5.80	139	91	0.021	5.8x139/91
A260590V000S	5.90	139	91	0.022	5.9x139/91
A260600V000S	6.00	139	91	0.023	6x139/91
A260610V000S	6.10	148	97	0.025	6.1x148/97
A260620V000S	6.20	148	97	0.026	6.2x148/97
A260630V000S	6.30	148	97	0.027	6.3x148/97
A260640V000S	6.40	148	97	0.028	6.4x148/97
A260650V000S	6.50	148	97	0.029	6.5x148/97
A260660V000S	6.60	148	97	0.030	6.6x148/97
A260670V000S	6.70	148	97	0.031	6.7x148/97
A260680V000S	6.80	156	102	0.032	6.8x156/102
A260690V000S	6.90	156	102	0.033	6.9x156/102
A260700V000S	7.00	156	102	0.034	7x156/102
A260710V000S	7.10	156	102	0.035	7.1x156/102
A260720V000S	7.20	156	102	0.036	7.2x156/102
A260730V000S	7.30	156	102	0.037	7.3x156/102
A260740V000S	7.40	156	102	0.038	7.4x156/102
A260750V000S	7.50	156	102	0.039	7.5x156/102
A260760V000S	7.60	165	109	0.040	7.6x165/109
A260770V000S	7.70	165	109	0.041	7.7x165/109
A260780V000S	7.80	165	109	0.042	7.8x165/109
A260790V000S	7.90	165	109	0.043	7.9x165/109
A260800V000S	8.00	165	109	0.044	8x165/109

Objednáací číslo Order No. Bestell-Nr.	∅D mm	L mm	I mm	 kg	Code 2917
A260810V000S	8.10	165	109	0.045	8.1x165/109
A260820V000S	8.20	165	109	0.046	8.2x165/109
A260830V000S	8.30	165	109	0.047	8.3x165/109
A260840V000S	8.40	165	109	0.048	8.4x165/109
A260850V000S	8.50	165	109	0.049	8.5x165/109
A260860V000S	8.60	175	115	0.053	8.6x175/115
A260870V000S	8.70	175	115	0.055	8.7x175/115
A260880V000S	8.80	175	115	0.060	8.8x175/115
A260890V000S	8.90	175	115	0.061	8.9x175/115
A260900V000S	9.00	175	115	0.063	9x175/115
A260910V000S	9.10	175	115	0.064	9.1x175/115
A260920V000S	9.20	175	115	0.065	9.2x175/115
A260930V000S	9.30	175	115	0.066	9.3x175/115
A260940V000S	9.40	175	115	0.067	9.4x175/115
A260950V000S	9.50	175	115	0.068	9.5x175/115
A260960V000S	9.60	184	121	0.069	9.6x184/121
A260970V000S	9.70	184	121	0.070	9.7x184/121
A260980V000S	9.80	184	121	0.075	9.8x184/121
A260990V000S	9.90	184	121	0.076	9.9x184/121
A261000V000S	10.00	184	121	0.077	10x184/121
A261010V000S	10.10	184	121	0.078	10.1x184/121
A261020V000S	10.20	184	121	0.079	10.2x184/121
A261030V000S	10.30	184	121	0.080	10.3x184/121
A261040V000S	10.40	184	121	0.081	10.4x184/121
A261050V000S	10.50	184	121	0.082	10.5x184/121
A261060V000S	10.60	184	121	0.083	10.6x184/121
A261070V000S	10.70	195	128	0.085	10.7x195/128
A261080V000S	10.80	195	128	0.088	10.8x195/128
A261090V000S	10.90	195	128	0.090	10.9x195/128
A261100V000S	11.00	195	128	0.093	11x195/128
A261110V000S	11.10	195	128	0.095	11.1x195/128
A261120V000S	11.20	195	128	0.098	11.2x195/128
A261130V000S	11.30	195	128	0.100	11.3x195/128
A261140V000S	11.40	195	128	0.105	11.4x195/128
A261150V000S	11.50	195	128	0.111	11.5x195/128
A261160V000S	11.60	195	128	0.115	11.6x195/128
A261170V000S	11.70	195	128	0.120	11.7x195/128
A261180V000S	11.80	195	128	0.125	11.8x195/128
A261190V000S	11.90	205	134	0.130	11.9x205/134
A261200V000S	12.00	205	134	0.132	12x205/134
A261210V000S	12.10	205	134	0.134	12.1x205/134
A261220V000S	12.20	205	134	0.136	12.2x205/134
A261230V000S	12.30	205	134	0.138	12.3x205/134
A261240V000S	12.40	205	134	0.140	12.4x205/134
A261250V000S	12.50	205	134	0.142	12.5x205/134
A261260V000S	12.60	205	134	0.144	12.6x205/134
A261270V000S	12.70	205	134	0.146	12.7x205/134
A261280V000S	12.80	205	134	0.148	12.8x205/134
A261290V000S	12.90	205	134	0.150	12.9x205/134
A261300V000S	13.00	205	134	0.152	13x205/134
A261310V000S	13.10	205	134	0.154	13.1x205/134
A261320V000S	13.20	205	134	0.155	13.2x205/134
A261330V000S	13.30	214	140	0.165	13.3x214/140
A261340V000S	13.40	214	140	0.168	13.4x214/140
A261350V000S	13.50	214	140	0.172	13.5x214/140
A261360V000S	13.60	214	140	0.175	13.6x214/140
A261370V000S	13.70	214	140	0.177	13.7x214/140
A261380V000S	13.80	214	140	0.180	13.8x214/140
A261390V000S	13.90	214	140	0.183	13.9x214/140
A261400V000S	14.00	214	140	0.185	14x214/140





VRTÁKY S VÁLCOVOU STOPKOU ZVLÁŠŤ DLOUHÉ, PROVEDENÍ 1

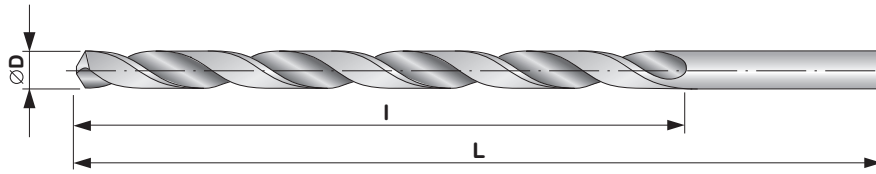
EXTRA LONG STRAIGHT SHANK DRILLS SERIES 1

EXTRA LANGE BOHRER MIT ZYLINDRISCHEM SCHAFT, AUSFÜHRUNG 1

ZV 3001

DIN 1869 RN

HSS	BLANC	$\epsilon = 118^\circ$	$\lambda = 25^\circ - 30^\circ$	DIN 1412 FORM „C“	R	V	10xD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Steel < 850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code ZV 3001
A180201V000S	2,0	125	85	0,002	2x125/85
A180211V000S	2,1	125	85	0,002	2,1x125/85
A180221V000S	2,2	135	90	0,002	2,2x135/90
A180225V000S	2,25	135	90	0,002	2,25x135/90
A180231V000S	2,3	135	90	0,002	2,3x135/90
A180241V000S	2,4	140	95	0,002	2,4x140/95
A180251V000S	2,5	140	95	0,004	2,5x140/95
A180261V000S	2,6	140	95	0,004	2,6x140/95
A180271V000S	2,7	150	100	0,004	2,7x150/100
A180275V000S	2,75	150	100	0,004	2,75x150/100
A180281V000S	2,8	150	100	0,004	2,8x150/100
A180291V000S	2,9	150	100	0,004	2,9x150/100
A180301V000S	3,0	150	100	0,006	3x150/100
A180311V000S	3,1	155	105	0,006	3,1x155/105
A180321V000S	3,2	155	105	0,006	3,2x155/105
A180325V000S	3,25	155	105	0,006	3,25x155/105
A180331V000S	3,3	155	105	0,006	3,3x155/105
A180341V000S	3,4	165	115	0,006	3,4x165/115
A180351V000S	3,5	165	115	0,008	3,5x165/115
A180361V000S	3,6	165	115	0,008	3,6x165/115
A180371V000S	3,7	165	115	0,008	3,7x165/115
A180375V000S	3,75	165	115	0,008	3,75x165/115
A180381V000S	3,8	175	120	0,008	3,8x175/120
A180391V000S	3,9	175	120	0,008	3,9x175/120
A180401V000S	4,0	175	120	0,011	4x175/120
A180411V000S	4,1	175	120	0,011	4,1x175/120
A180421V000S	4,2	175	120	0,011	4,2x175/120
A180425V000S	4,25	175	120	0,011	4,25x175/120
A180431V000S	4,3	185	125	0,011	4,3x185/125
A180441V000S	4,4	185	125	0,011	4,4x185/125
A180451V000S	4,5	185	125	0,016	4,5x185/125
A180461V000S	4,6	185	125	0,016	4,6x185/125
A180471V000S	4,7	185	125	0,016	4,7x185/125
A180475V000S	4,75	185	125	0,016	4,75x185/125
A180481V000S	4,8	195	135	0,016	4,8x195/135
A180491V000S	4,9	195	135	0,016	4,9x195/135
A180501V000S	5,0	195	135	0,02	5x195/135
A180511V000S	5,1	195	135	0,02	5,1x195/135
A180521V000S	5,2	195	135	0,02	5,2x195/135
A180525V000S	5,25	195	135	0,02	5,25x195/135
A180531V000S	5,3	195	135	0,02	5,3x195/135
A180541V000S	5,4	205	140	0,02	5,4x205/140
A180551V000S	5,5	205	140	0,026	5,5x205/140
A180561V000S	5,6	205	140	0,026	5,6x205/140
A180571V000S	5,7	205	140	0,026	5,7x205/140
A180575V000S	5,75	205	140	0,026	5,75x205/140
A180581V000S	5,8	205	140	0,026	5,8x205/140
A180591V000S	5,9	205	140	0,026	5,9x205/140
A180601V000S	6,0	205	140	0,031	6x205/140
A180611V000S	6,1	215	150	0,031	6,1x215/150
A180621V000S	6,2	215	150	0,031	6,2x215/150
A180625V000S	6,25	215	150	0,031	6,25x215/150
A180631V000S	6,3	215	150	0,031	6,3x215/150
A180641V000S	6,4	215	150	0,031	6,4x215/150
A180651V000S	6,5	215	150	0,038	6,5x215/150
A180661V000S	6,6	215	150	0,038	6,6x215/150
A180671V000S	6,7	215	150	0,038	6,7x215/150

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code ZV 3001
A180675V000S	6,75	215	150	0,038	6,75x215/150
A180681V000S	6,8	225	155	0,038	6,8x225/155
A180691V000S	6,9	225	155	0,038	6,9x225/155
A180701V000S	7,0	225	155	0,046	7x225/155
A180711V000S	7,1	225	155	0,046	7,1x225/155
A180721V000S	7,2	225	155	0,046	7,2x225/155
A180725V000S	7,25	225	155	0,046	7,25x225/155
A180731V000S	7,3	225	155	0,046	7,3x225/155
A180741V000S	7,4	225	155	0,046	7,4x225/155
A180751V000S	7,5	225	155	0,053	7,5x225/155
A180761V000S	7,6	240	165	0,053	7,6x240/165
A180771V000S	7,7	240	165	0,053	7,7x240/165
A180775V000S	7,75	240	165	0,053	7,75x240/165
A180781V000S	7,8	240	165	0,053	7,8x240/165
A180791V000S	7,9	240	165	0,053	7,9x240/165
A180801V000S	8,0	240	165	0,064	8x240/165
A180811V000S	8,1	240	165	0,064	8,1x240/165
A180821V000S	8,2	240	165	0,064	8,2x240/165
A180825V000S	8,25	240	165	0,064	8,25x240/165
A180831V000S	8,3	240	165	0,064	8,3x240/165
A180841V000S	8,4	240	165	0,064	8,4x240/165
A180851V000S	8,5	240	165	0,073	8,5x240/165
A180861V000S	8,6	250	175	0,073	8,6x250/175
A180871V000S	8,7	250	175	0,073	8,7x250/175
A180875V000S	8,75	250	175	0,073	8,75x250/175
A180881V000S	8,8	250	175	0,073	8,8x250/175
A180891V000S	8,9	250	175	0,073	8,9x250/175
A180901V000S	9,0	250	175	0,084	9x250/175
A180911V000S	9,1	250	175	0,084	9,1x250/175
A180921V000S	9,2	250	175	0,084	9,2x250/175
A180925V000S	9,25	250	175	0,084	9,25x250/175
A180931V000S	9,3	250	175	0,084	9,3x250/175
A180941V000S	9,4	250	175	0,084	9,4x250/175
A180951V000S	9,5	250	175	0,094	9,5x250/175
A180961V000S	9,6	265	185	0,094	9,6x265/185
A180971V000S	9,7	265	185	0,094	9,7x265/185
A180975V000S	9,75	265	185	0,094	9,75x265/185
A180981V000S	9,8	265	185	0,094	9,8x265/185
A180991V000S	9,9	265	185	0,094	9,9x265/185
A181001V000S	10,0	265	185	0,111	10x265/185
A181011V000S	10,1	265	185	0,111	10,1x265/185
A181021V000S	10,2	265	185	0,111	10,2x265/185
A181025V000S	10,25	265	185	0,111	10,25x265/185
A181031V000S	10,3	265	185	0,111	10,3x265/185
A181041V000S	10,4	265	185	0,111	10,4x265/185
A181051V000S	10,5	265	185	0,122	10,5x265/185
A181061V000S	10,6	265	185	0,122	10,6x265/185
A181071V000S	10,7	280	195	0,122	10,7x280/195
A181075V000S	10,75	280	195	0,122	10,75x280/195
A181081V000S	10,8	280	195	0,122	10,8x280/195
A181091V000S	10,9	280	195	0,122	10,9x280/195
A181101V000S	11,0	280	195	0,142	11x280/195
A181111V000S	11,1	280	195	0,142	11,1x280/195
A181121V000S	11,2	280	195	0,142	11,2x280/195
A181125V000S	11,25	280	195	0,142	11,25x280/195
A181131V000S	11,3	280	195	0,142	11,3x280/195



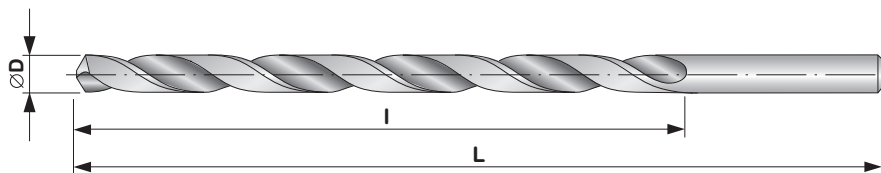
ZV 3001

DIN 1869 RN



VRTÁKY S VÁLCOVOU STOPKOU ZVLÁŠŤ DLOUHÉ, PROVEDENÍ 1
EXTRA LONG STRAIGHT SHANK DRILLS SERIES 1
EXTRA LANGE BOHRER MIT ZYLINDRISCHEM SCHAFT, AUSFÜHRUNG 1

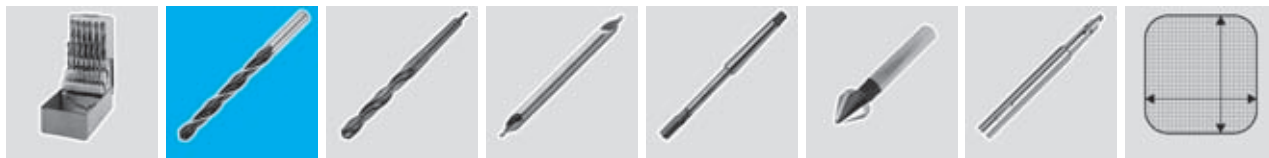
HSS	BLANC	$\epsilon = 118^\circ$	$\lambda = 25^\circ - 30^\circ$	DIN 1412 FORM „C“	R	V	10xD			
Steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics						



Objednací číslo Order No. Bestell-Nr.	∅D mm	L mm	I mm		Code ZV 3001
A181141V000S	11,4	280	195	0,142	11,4x280/195
A181151V000S	11,5	280	195	0,155	11,5x280/195
A181161V000S	11,6	280	195	0,155	11,6x280/195
A181171V000S	11,7	280	195	0,155	11,7x280/195
A181175V000S	11,75	280	195	0,155	11,75x280/195
A181181V000S	11,8	280	195	0,155	11,8x280/195
A181191V000S	11,9	295	205	0,155	11,9x295/205
A181201V000S	12,0	295	205	0,178	12x295/205
A181211V000S	12,1	295	205	0,178	12,1x295/205
A181221V000S	12,2	295	205	0,178	12,2x295/205

Objednací číslo Order No. Bestell-Nr.	∅D mm	L mm	I mm		Code ZV 3001
A181225V000S	12,25	295	205	0,178	12,25x295/205
A181231V000S	12,3	295	205	0,178	12,3x295/205
A181241V000S	12,4	295	205	0,178	12,4x295/205
A181251V000S	12,5	295	205	0,193	12,5x295/205
A181261V000S	12,6	295	205	0,193	12,6x295/205
A181271V000S	12,7	295	205	0,193	12,7x295/205
A181275V000S	12,75	295	205	0,193	12,75x295/205
A181281V000S	12,8	295	205	0,193	12,8x295/205
A181291V000S	12,9	295	205	0,193	12,9x295/205
A181301V000S	13,0	295	205	0,209	13x295/205

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



Vrtáky s válcovou stopkou

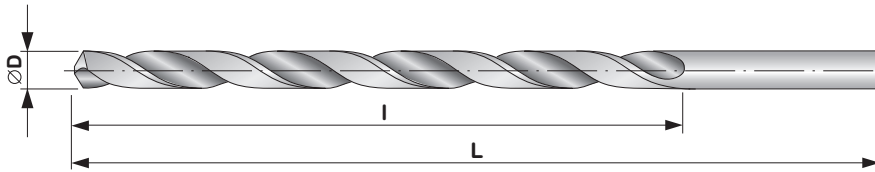
Straight shank drills
Spiralbohrer mit Zylinderschaft



VRTÁKY S VÁLCOVOU STOPKOU ZVLÁŠTĚ DLOUHÉ, PROVEDENÍ 2
EXTRA LONG STRAIGHT SHANK DRILLS SERIES 2
EXTRA LANGE BOHRER MIT ZYLINDRISCHEM SCHAFT, AUSFÜHRUNG 2

ZV 3001

HSS	BLANC	$\epsilon = 118^\circ$	$\lambda = 25^\circ - 30^\circ$	DIN 1412 FORM „C“	R	V	10xD			
Steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics						



Objednáací číslo Order No. Bestell-Nr.	Ø mm	L mm	I mm	kg	Code ZV 3001
A180272V000S	2,7	190	130	0,005	2,7x190/130
A180276V000S	2,75	190	130	0,005	2,75x190/130
A180282V000S	2,8	190	130	0,005	2,8x190/130
A180292V000S	2,9	190	130	0,005	2,9x190/130
A180302V000S	3,0	190	130	0,007	3x190/130
A180312V000S	3,1	200	135	0,007	3,1x200/135
A180322V000S	3,2	200	135	0,007	3,2x200/135
A180326V000S	3,25	200	135	0,007	3,25x200/135
A180332V000S	3,3	200	135	0,007	3,3x200/135
A180342V000S	3,4	210	145	0,007	3,4x210/145
A180352V000S	3,5	210	145	0,01	3,5x210/145
A180362V000S	3,6	210	145	0,01	3,6x210/145
A180372V000S	3,7	210	145	0,01	3,7x210/145
A180376V000S	3,75	210	145	0,01	3,75x210/145
A180382V000S	3,8	220	150	0,01	3,8x220/150
A180392V000S	3,9	220	150	0,01	3,9x220/150
A180402V000S	4,0	220	150	0,014	4x220/150
A180412V000S	4,1	220	150	0,014	4,1x220/150
A180422V000S	4,2	220	150	0,014	4,2x220/150
A180426V000S	4,25	220	150	0,014	4,25x220/150
A180432V000S	4,3	235	160	0,014	4,3x235/160
A180442V000S	4,4	235	160	0,014	4,4x235/160
A180452V000S	4,5	235	160	0,02	4,5x235/160
A180462V000S	4,6	235	160	0,02	4,6x235/160
A180472V000S	4,7	235	160	0,02	4,7x235/160
A180476V000S	4,75	235	160	0,02	4,75x235/160
A180482V000S	4,8	245	170	0,02	4,8x245/170
A180492V000S	4,9	245	170	0,02	4,9x245/170
A180502V000S	5,0	245	170	0,025	5x245/170
A180512V000S	5,1	245	170	0,025	5,1x245/170
A180522V000S	5,2	245	170	0,025	5,2x245/170
A180526V000S	5,25	245	170	0,025	5,25x245/170
A180532V000S	5,3	245	170	0,025	5,3x245/170
A180542V000S	5,4	260	180	0,025	5,4x260/180
A180552V000S	5,5	260	180	0,033	5,5x260/180
A180562V000S	5,6	260	180	0,033	5,6x260/180
A180572V000S	5,7	260	180	0,033	5,7x260/180
A180576V000S	5,75	260	180	0,033	5,75x260/180
A180582V000S	5,8	260	180	0,033	5,8x260/180
A180592V000S	5,9	260	180	0,033	5,9x260/180
A180602V000S	6,0	260	180	0,039	6x260/180
A180612V000S	6,1	275	190	0,039	6,1x275/190
A180622V000S	6,2	275	190	0,039	6,2x275/190
A180626V000S	6,25	275	190	0,039	6,25x275/190
A180632V000S	6,3	275	190	0,039	6,3x275/190
A180642V000S	6,4	275	190	0,039	6,4x275/190
A180652V000S	6,5	275	190	0,049	6,5x275/190
A180662V000S	6,6	275	190	0,049	6,6x275/190
A180672V000S	6,7	275	190	0,049	6,7x275/190
A180676V000S	6,75	275	190	0,049	6,75x275/190
A180682V000S	6,8	290	200	0,049	6,8x290/200
A180692V000S	6,9	290	200	0,049	6,9x290/200
A180702V000S	7,0	290	200	0,06	7x290/200
A180712V000S	7,1	290	200	0,06	7,1x290/200
A180722V000S	7,2	290	200	0,06	7,2x290/200
A180726V000S	7,25	290	200	0,06	7,25x290/200
A180732V000S	7,3	290	200	0,06	7,3x290/200
A180742V000S	7,4	290	200	0,06	7,4x290/200
A180752V000S	7,5	290	200	0,068	7,5x290/200
A180762V000S	7,6	305	210	0,068	7,6x305/210
A180772V000S	7,7	305	210	0,068	7,7x305/210
A180776V000S	7,75	305	210	0,068	7,75x305/210
A180782V000S	7,8	305	210	0,068	7,8x305/210

Objednáací číslo Order No. Bestell-Nr.	Ø mm	L mm	I mm	kg	Code ZV 3001
A180792V000S	7,9	305	210	0,068	7,9x305/210
A180802V000S	8,0	305	210	0,082	8x305/210
A180812V000S	8,1	305	210	0,082	8,1x305/210
A180822V000S	8,2	305	210	0,082	8,2x305/210
A180826V000S	8,25	305	210	0,082	8,25x305/210
A180832V000S	8,3	305	210	0,082	8,3x305/210
A180842V000S	8,4	305	210	0,082	8,4x305/210
A180852V000S	8,5	305	210	0,093	8,5x305/210
A180862V000S	8,6	320	220	0,093	8,6x320/220
A180872V000S	8,7	320	220	0,093	8,7x320/220
A180876V000S	8,75	320	220	0,093	8,75x320/220
A180882V000S	8,8	320	220	0,093	8,8x320/220
A180892V000S	8,9	320	220	0,093	8,9x320/220
A180902V000S	9,0	320	220	0,122	9x320/220
A180912V000S	9,1	320	220	0,122	9,1x320/220
A180922V000S	9,2	320	220	0,122	9,2x320/220
A180926V000S	9,25	320	220	0,122	9,25x320/220
A180932V000S	9,3	320	220	0,122	9,3x320/220
A180942V000S	9,4	320	220	0,122	9,4x320/220
A180952V000S	9,5	320	220	0,13	9,5x320/220
A180962V000S	9,6	340	235	0,13	9,6x340/235
A180972V000S	9,7	340	235	0,13	9,7x340/235
A180976V000S	9,75	340	235	0,13	9,75x340/235
A180982V000S	9,8	340	235	0,13	9,8x340/235
A180992V000S	9,9	340	235	0,13	9,9x340/235
A181002V000S	10,0	340	235	0,143	10x340/235
A181012V000S	10,1	340	235	0,143	10,1x340/235
A181022V000S	10,2	340	235	0,143	10,2x340/235
A181026V000S	10,25	340	235	0,143	10,25x340/235
A181032V000S	10,3	340	235	0,143	10,3x340/235
A181042V000S	10,4	340	235	0,143	10,4x340/235
A181052V000S	10,5	340	235	0,158	10,5x340/235
A181062V000S	10,6	340	235	0,158	10,6x340/235
A181072V000S	10,7	365	250	0,158	10,7x365/250
A181076V000S	10,75	365	250	0,158	10,75x365/250
A181082V000S	10,8	365	250	0,158	10,8x365/250
A181092V000S	10,9	365	250	0,158	10,9x365/250
A181102V000S	11,0	365	250	0,187	11x365/250
A181112V000S	11,1	365	250	0,187	11,1x365/250
A181122V000S	11,2	365	250	0,187	11,2x365/250
A181126V000S	11,25	365	250	0,187	11,25x365/250
A181132V000S	11,3	365	250	0,187	11,3x365/250
A181142V000S	11,4	365	250	0,187	11,4x365/250
A181152V000S	11,5	365	250	0,204	11,5x365/250
A181162V000S	11,6	365	250	0,204	11,6x365/250
A181172V000S	11,7	365	250	0,204	11,7x365/250
A181176V000S	11,75	365	250	0,204	11,75x365/250
A181182V000S	11,8	365	250	0,204	11,8x365/250
A181192V000S	11,9	375	260	0,204	11,9x375/260
A181202V000S	12,0	375	260	0,227	12x375/260
A181212V000S	12,1	375	260	0,227	12,1x375/260
A181222V000S	12,2	375	260	0,227	12,2x375/260
A181226V000S	12,25	375	260	0,227	12,25x375/260
A181232V000S	12,3	375	260	0,227	12,3x375/260
A181242V000S	12,4	375	260	0,227	12,4x375/260
A181252V000S	12,5	375	260	0,246	12,5x375/260
A181262V000S	12,6	375	260	0,246	12,6x375/260
A181272V000S	12,7	375	260	0,246	12,7x375/260
A181276V000S	12,75	375	260	0,246	12,75x375/260
A181282V000S	12,8	375	260	0,246	12,8x375/260
A181292V000S	12,9	375	260	0,246	12,9x375/260
A181302V000S	13,0	375	260	0,266	13x375/260

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage

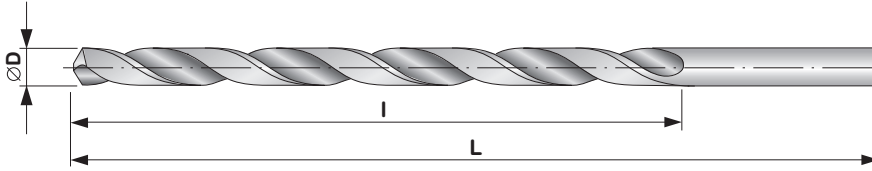
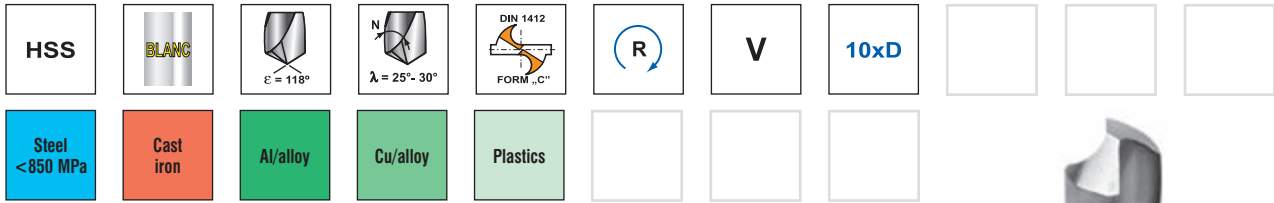


ZV 3001

DIN 1869 RN



VRTÁKY S VÁLCOVOU STOPKOU ZVLÁŠT DLOUHÉ, PROVEDENÍ 3
EXTRA LONG STRAIGHT SHANK DRILLS SERIES 3
EXTRA LANGE BOHRER MIT ZYLINDRISCHEM SCHAFT, AUSFÜHRUNG 3



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm	kg	Code ZV 3001
A180343V000S	3,4	265	180	0,013	3,4x265/180
A180353V000S	3,5	265	180	0,013	3,5x265/180
A180363V000S	3,6	265	180	0,013	3,6x265/180
A180373V000S	3,7	265	180	0,013	3,7x265/180
A180377V000S	3,75	265	180	0,013	3,75x265/180
A180383V000S	3,8	280	190	0,013	3,8x280/190
A180393V000S	3,9	280	190	0,013	3,9x280/190
A180403V000S	4,0	280	190	0,019	4x280/190
A180413V000S	4,1	280	190	0,019	4,1x280/190
A180423V000S	4,2	280	190	0,019	4,2x280/190
A180427V000S	4,25	280	190	0,019	4,25x280/190
A180433V000S	4,3	295	200	0,019	4,3x295/200
A180443V000S	4,4	295	200	0,019	4,4x295/200
A180453V000S	4,5	295	200	0,025	4,5x295/200
A180463V000S	4,6	295	200	0,025	4,6x295/200
A180473V000S	4,7	295	200	0,025	4,7x295/200
A180477V000S	4,75	295	200	0,025	4,75x295/200
A180483V000S	4,8	315	210	0,025	4,8x315/210
A180493V000S	4,9	315	210	0,025	4,9x315/210
A180503V000S	5,0	315	210	0,033	5x315/210
A180513V000S	5,1	315	210	0,033	5,1x315/210
A180523V000S	5,2	315	210	0,033	5,2x315/210
A180527V000S	5,25	315	210	0,033	5,25x315/210
A180533V000S	5,3	315	210	0,033	5,3x315/210
A180543V000S	5,4	330	225	0,033	5,4x330/225
A180553V000S	5,5	330	225	0,042	5,5x330/225
A180563V000S	5,6	330	225	0,042	5,6x330/225
A180573V000S	5,7	330	225	0,042	5,7x330/225
A180577V000S	5,75	330	225	0,042	5,75x330/225
A180583V000S	5,8	330	225	0,042	5,8x330/225
A180593V000S	5,9	330	225	0,042	5,9x330/225
A180603V000S	6,0	330	225	0,05	6x330/225
A180613V000S	6,1	350	235	0,05	6,1x350/235
A180623V000S	6,2	350	235	0,05	6,2x350/235
A180627V000S	6,25	350	235	0,05	6,25x350/235
A180633V000S	6,3	350	235	0,05	6,3x350/235
A180643V000S	6,4	350	235	0,05	6,4x350/235
A180653V000S	6,5	350	235	0,063	6,5x350/235
A180663V000S	6,6	350	235	0,063	6,6x350/235
A180673V000S	6,7	350	235	0,063	6,7x350/235
A180677V000S	6,75	350	235	0,063	6,75x350/235
A180683V000S	6,8	370	250	0,063	6,8x370/250
A180693V000S	6,9	370	250	0,063	6,9x370/250
A180703V000S	7,0	370	250	0,077	7x370/250
A180713V000S	7,1	370	250	0,077	7,1x370/250
A180723V000S	7,2	370	250	0,077	7,2x370/250
A180727V000S	7,25	370	250	0,077	7,25x370/250
A180733V000S	7,3	370	250	0,077	7,3x370/250
A180743V000S	7,4	370	250	0,077	7,4x370/250
A180753V000S	7,5	370	250	0,088	7,5x370/250
A180763V000S	7,6	390	265	0,088	7,6x390/265
A180773V000S	7,7	390	265	0,088	7,7x390/265
A180777V000S	7,75	390	265	0,088	7,75x390/265
A180783V000S	7,8	390	265	0,088	7,8x390/265
A180793V000S	7,9	390	265	0,088	7,9x390/265
A180803V000S	8,0	390	265	0,106	8x390/265
A180813V000S	8,1	390	265	0,106	8,1x390/265
A180823V000S	8,2	390	265	0,106	8,2x390/265

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm	kg	Code ZV 3001
A180827V000S	8,25	390	265	0,106	8,25x390/265
A180833V000S	8,3	390	265	0,106	8,3x390/265
A180843V000S	8,4	390	265	0,106	8,4x390/265
A180853V000S	8,5	390	265	0,119	8,5x390/265
A180863V000S	8,6	410	280	0,119	8,6x410/280
A180873V000S	8,7	410	280	0,119	8,7x410/280
A180877V000S	8,75	410	280	0,119	8,75x410/280
A180883V000S	8,8	410	280	0,119	8,8x410/280
A180893V000S	8,9	410	280	0,119	8,9x410/280
A180903V000S	9,0	410	280	0,14	9x410/280
A180913V000S	9,1	410	280	0,14	9,1x410/280
A180923V000S	9,2	410	280	0,14	9,2x410/280
A180927V000S	9,25	410	280	0,14	9,25x410/280
A180933V000S	9,3	410	280	0,14	9,3x410/280
A180943V000S	9,4	410	280	0,14	9,4x410/280
A180953V000S	9,5	410	280	0,157	9,5x410/280
A180963V000S	9,6	430	295	0,157	9,6x430/295
A180973V000S	9,7	430	295	0,157	9,7x430/295
A180977V000S	9,75	430	295	0,157	9,75x430/295
A180983V000S	9,8	430	295	0,157	9,8x430/295
A180993V000S	9,9	430	295	0,157	9,9x430/295
A181003V000S	10,0	430	295	0,18	10x430/295
A181013V000S	10,1	430	295	0,18	10,1x430/295
A181023V000S	10,2	430	295	0,18	10,2x430/295
A181027V000S	10,25	430	295	0,18	10,25x430/295
A181033V000S	10,3	430	295	0,18	10,3x430/295
A181043V000S	10,4	430	295	0,18	10,4x430/295
A181053V000S	10,5	430	295	0,2	10,5x430/295
A181063V000S	10,6	430	295	0,2	10,6x430/295
A181073V000S	10,7	455	310	0,2	10,7x455/310
A181077V000S	10,75	455	310	0,2	10,75x455/310
A181083V000S	10,8	455	310	0,2	10,8x455/310
A181093V000S	10,9	455	310	0,2	10,9x455/310
A181103V000S	11,0	455	310	0,233	11x455/310
A181113V000S	11,1	455	310	0,233	11,1x455/310
A181123V000S	11,2	455	310	0,233	11,2x455/310
A181127V000S	11,25	455	310	0,233	11,25x455/310
A181133V000S	11,3	455	310	0,233	11,3x455/310
A181143V000S	11,4	455	310	0,233	11,4x455/310
A181153V000S	11,5	455	310	0,255	11,5x455/310
A181163V000S	11,6	455	310	0,255	11,6x455/310
A181173V000S	11,7	455	310	0,255	11,7x455/310
A181177V000S	11,75	455	310	0,255	11,75x455/310
A181183V000S	11,8	455	310	0,255	11,8x455/310
A181193V000S	11,9	480	330	0,255	11,9x480/330
A181203V000S	12,0	480	330	0,292	12x480/330
A181213V000S	12,1	480	330	0,292	12,1x480/330
A181223V000S	12,2	480	330	0,292	12,2x480/330
A181227V000S	12,25	480	330	0,292	12,25x480/330
A181233V000S	12,3	480	330	0,292	12,3x480/330
A181243V000S	12,4	480	330	0,292	12,4x480/330
A181253V000S	12,5	480	330	0,316	12,5x480/330
A181263V000S	12,6	480	330	0,316	12,6x480/330
A181273V000S	12,7	480	330	0,316	12,7x480/330
A181277V000S	12,75	480	330	0,316	12,75x480/330
A181283V000S	12,8	480	330	0,316	12,8x480/330
A181293V000S	12,9	480	330	0,316	12,9x480/330
A181303V000S	13,0	480	330	0,342	13x480/330

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



Vrtáky s válcovou stopkou

Straight shank drills

Spiralbohrer mit Zylinderschaft

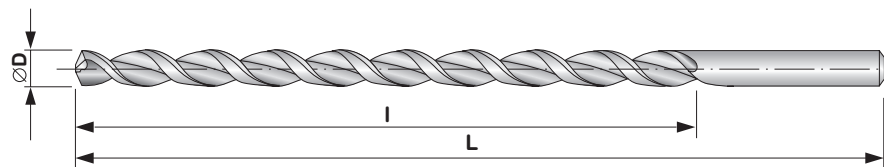
DIN 1869 GT100

ZV 3001 - T 1000



VRTÁKY S VÁLCOVOU STOPKOU ZVLÁŠTĚ DLOUHÉ, HSS Co
COBALT EXTRA LONG STRAIGHT SHANK DRILLS
EXTRA LANGE BOHRER MIT ZYLINDRISCHEM SCHAFT, HSS Co

HSSCo	BLANC	$\epsilon = 128^\circ$	$\lambda = 35^\circ - 40^\circ$	T1000 (GT 100)	DIN 1412 FORM „C“	R	V	10xD		
Steel <1200 MPa	Stainless steel	Cast iron	Al/alloy	Cu/alloy	Heat-resistant					



ØD mm	délkové provedení 1 / serie 1 / Reihe 1				Code ZV 3001 T1000	délkové provedení 2 / serie 2 / Reihe 2				Code ZV 3001 T1000
	Objednáací číslo Order No. Bestell-Nr.	L mm	l mm	kg		Objednáací číslo Order No. Bestell-Nr.	L mm	l mm	kg	
2,0	A180201G400S	125	85	0,002	2x125/85 T1000					
2,2	A180221G400S	135	90	0,002	2,2x135/90 T1000					
2,5	A180251G400S	140	95	0,004	2,5x140/95 T1000					
2,8	A180281G400S	150	100	0,004	2,8x150/100 T1000	A180282G400S	190	130	0,005	2,8x190/130 T1000
3,0	A180301G400S	150	100	0,006	3x150/100 T1000	A180302G400S	190	130	0,007	3x190/130 T1000
3,2	A180321G400S	155	105	0,006	3,2x155/105 T1000	A180322G400S	200	135	0,007	3,2x200/135 T1000
3,5	A180351G400S	165	115	0,008	3,5x165/115 T1000	A180352G400S	210	145	0,01	3,5x210/145 T1000
3,8	A180381G400S	175	120	0,008	3,8x175/120 T1000	A180382G400S	220	150	0,01	3,8x220/150 T1000
4,0	A180401G400S	175	120	0,011	4x175/120 T1000	A180402G400S	220	150	0,014	4x220/150 T1000
4,2	A180421G400S	175	120	0,011	4,2x175/120 T1000	A180422G400S	220	150	0,014	4,2x220/150 T1000
4,5	A180451G400S	185	125	0,016	4,5x185/125 T1000	A180452G400S	235	160	0,02	4,5x235/160 T1000
4,8	A180481G400S	195	135	0,016	4,8x195/135 T1000	A180482G400S	245	170	0,02	4,8x245/170 T1000
5,0	A180501G400S	195	135	0,02	5x195/135 T1000	A180502G400S	245	170	0,025	5x245/170 T1000
5,2	A180521G400S	195	135	0,02	5,2x195/135 T1000	A180522G400S	245	170	0,025	5,2x245/170 T1000
5,5	A180551G400S	205	140	0,026	5,5x205/140 T1000	A180552G400S	260	180	0,033	5,5x260/180 T1000
5,8	A180581G400S	205	140	0,026	5,8x205/140 T1000	A180582G400S	260	180	0,033	5,8x260/180 T1000
6,0	A180601G400S	205	140	0,031	6x205/140 T1000	A180602G400S	260	180	0,039	6x260/180 T1000
6,5	A180651G400S	215	150	0,038	6,5x215/150 T1000	A180652G400S	275	190	0,049	6,5x275/190 T1000
7,0	A180701G400S	225	155	0,046	7x225/155 T1000	A180702G400S	290	200	0,06	7x290/200 T1000
7,5	A180751G400S	225	155	0,053	7,5x225/155 T1000	A180752G400S	290	200	0,068	7,5x290/200 T1000
8,0	A180801G400S	240	165	0,064	8x240/165 T1000	A180802G400S	305	210	0,082	8x305/210 T1000
8,5	A180851G400S	240	165	0,073	8,5x240/165 T1000	A180852G400S	305	210	0,093	8,5x305/210 T1000
9,0	A180901G400S	250	175	0,084	9x250/175 T1000	A180902G400S	320	220	0,122	9x320/220 T1000
9,5	A180951G400S	250	175	0,094	9,5x250/175 T1000	A180952G400S	320	220	0,13	9,5x320/220 T1000
10,0	A181001G400S	265	185	0,111	10x265/185 T1000	A181002G400S	340	235	0,143	10x340/235 T1000
10,5	A181051G400S	265	185	0,122	10,5x265/185 T1000	A181052G400S	340	235	0,158	10,5x340/235 T1000
11,0	A181101G400S	280	195	0,142	11x280/195 T1000	A181102G400S	365	250	0,187	11x365/250 T1000
11,5	A181151G400S	280	195	0,155	11,5x280/195 T1000	A181152G400S	365	250	0,204	11,5x365/250 T1000
12,0	A181201G400S	295	205	0,178	12x295/205 T1000	A181202G400S	375	260	0,227	12x375/260 T1000
12,5	A181251G400S	295	205	0,193	12,5x295/205 T1000	A181252G400S	375	260	0,246	12,5x375/260 T1000
13,0	A181301G400S	295	205	0,209	13x295/205 T1000	A181302G400S	375	260	0,266	13x375/260 T1000

ØD mm	délkové provedení 3 / serie 3 / Reihe 3				Code ZV 3001 T1000
	Objednáací číslo Order No. Bestell-Nr.	L mm	l mm	kg	
3,5	A180353G400S	265	180	0,013	3,5x265/180 T1000
3,8	A180383G400S	280	190	0,013	3,8x280/190 T1000
4,0	A180403G400S	280	190	0,019	4x280/190 T1000
4,2	A180423G400S	280	190	0,019	4,2x280/190 T1000
4,5	A180453G400S	295	200	0,025	4,5x295/200 T1000
4,8	A180483G400S	315	210	0,025	4,8x315/210 T1000
5,0	A180503G400S	315	210	0,033	5x315/210 T1000
5,2	A180523G400S	315	210	0,033	5,2x315/210 T1000
5,5	A180553G400S	330	225	0,042	5,5x330/225 T1000
5,8	A180583G400S	330	225	0,042	5,8x330/225 T1000
6,0	A180603G400S	330	225	0,05	6x330/225 T1000
6,5	A180653G400S	350	235	0,063	6,5x350/235 T1000
7,0	A180703G400S	370	250	0,077	7x370/250 T1000

ØD mm	délkové provedení 3 / serie 3 / Reihe 3				Code ZV 3001 T1000
	Objednáací číslo Order No. Bestell-Nr.	L mm	l mm	kg	
7,5	A180753G400S	370	250	0,088	7,5x370/250 T1000
8,0	A180803G400S	390	265	0,106	8x390/265 T1000
8,5	A180853G400S	390	265	0,119	8,5x390/265 T1000
9,0	A180903G400S	410	280	0,14	9x410/280 T1000
9,5	A180953G400S	410	280	0,157	9,5x410/280 T1000
10,0	A181003G400S	430	295	0,18	10x430/295 T1000
10,5	A181053G400S	430	295	0,2	10,5x430/295 T1000
11,0	A181103G400S	455	310	0,233	11x455/310 T1000
11,5	A181153G400S	455	310	0,255	11,5x455/310 T1000
12,0	A181203G400S	480	330	0,292	12x480/330 T1000
12,5	A181253G400S	480	330	0,316	12,5x480/330 T1000
13,0	A181303G400S	480	330	0,342	13x480/330 T1000

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage









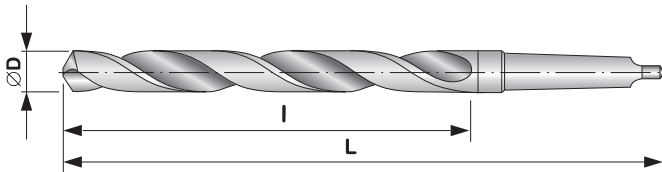
ČSN 221140


DIN 345 RN




VRTÁKY S KUŽELOVOU STOPKOU TAPER SHANK DRILLS KURZE SPIRALBOHRER MIT MORSEKEGELSCHAFT

HSS	PAS	 $\epsilon = 118^\circ$	 $\lambda = 25^\circ - 30^\circ$	 FORM „N“	 FORM „A“ 14,1 - 50,0		V 2,0 ± 14,0	F 14,25 ± 90,0	5xD	
Steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics						
$\varnothing D = 2,00 \pm 14,00 \sim \text{MORSE 1}$			$\varnothing D = 23,25 \pm 31,75 \sim \text{MORSE 3}$							
$\varnothing D = 14,25 \pm 23,00 \sim \text{MORSE 2}$			$\varnothing D = 32,00 \pm 50,50 \sim \text{MORSE 4}$							
										$\varnothing D = 51,00 \pm 76,00 \sim \text{MORSE 5}$
										$\varnothing D = 77,00 \pm 90,00 \sim \text{MORSE 6}$



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm		Code 221140
A400200V500S	2,0	108	24	0,0474	2x108/24
A400220V500S	2,2	108	27	0,0474	2,2x108/27
A400250V500S	2,5	111	30	0,0477	2,5x111/30
A400280V500S	2,8	114	33	0,0483	2,8x114/33
A400300V500S	3,0	114	33	0,0490	3x114/33
A400320V500S	3,2	117	36	0,0493	3,2x117/36
A400350V500S	3,5	120	39	0,0500	3,5x120/39
A400380V500S	3,8	124	43	0,0505	3,8x124/43
A400400V500S	4,0	124	43	0,0508	4x124/43
A400420V500S	4,2	124	43	0,0515	4,2x124/43
A400450V500S	4,5	128	47	0,0525	4,5x128/47
A400480V500S	4,8	133	52	0,0535	4,8x133/52
A400500V000S	5,0	133	52	0,055	5x133/52
A400510V000S	5,1	133	52	0,056	5,1x133/52
A400520V000S	5,2	133	52	0,056	5,2x133/52
A400525V000S	5,25	133	52	0,056	5,25x133/52
A400530V000S	5,3	133	52	0,056	5,3x133/52
A400540V000S	5,4	138	57	0,056	5,4x138/57
A400550V000S	5,5	138	57	0,057	5,5x138/57
A400560V000S	5,6	138	57	0,057	5,6x138/57
A400570V000S	5,7	138	57	0,057	5,7x138/57
A400575V000S	5,75	138	57	0,057	5,75x138/57
A400580V000S	5,8	138	57	0,058	5,8x138/57
A400590V000S	5,9	138	57	0,058	5,9x138/57
A400600V000S	6,0	138	57	0,058	6x138/57
A400610V000S	6,1	144	63	0,06	6,1x144/63
A400620V000S	6,2	144	63	0,06	6,2x144/63
A400625V000S	6,25	144	63	0,06	6,25x144/63
A400630V000S	6,3	144	63	0,06	6,3x144/63
A400640V000S	6,4	144	63	0,061	6,4x144/63
A400650V000S	6,5	144	63	0,062	6,5x144/63
A400660V000S	6,6	144	63	0,062	6,6x144/63
A400670V000S	6,7	144	63	0,062	6,7x144/63
A400675V000S	6,75	150	69	0,063	6,75x150/69
A400680V000S	6,8	150	69	0,063	6,8x150/69
A400690V000S	6,9	150	69	0,064	6,9x150/69
A400700V000S	7,0	150	69	0,064	7x150/69
A400710V000S	7,1	150	69	0,065	7,1x150/69
A400720V000S	7,2	150	69	0,065	7,2x150/69
A400725V000S	7,25	150	69	0,066	7,25x150/69
A400730V000S	7,3	150	69	0,067	7,3x150/69
A400740V000S	7,4	150	69	0,067	7,4x150/69
A400750V000S	7,5	150	69	0,067	7,5x150/69
A400760V000S	7,6	156	75	0,067	7,6x156/75
A400770V000S	7,7	156	75	0,067	7,7x156/75
A400775V000S	7,75	156	75	0,067	7,75x156/75
A400780V000S	7,8	156	75	0,068	7,8x156/75
A400790V000S	7,9	156	75	0,068	7,9x156/75
A400800V000S	8,0	156	75	0,068	8x156/75
A400810V000S	8,1	156	75	0,069	8,1x156/75
A400820V000S	8,2	156	75	0,069	8,2x156/75
A400825V000S	8,25	156	75	0,069	8,25x156/75
A400830V000S	8,3	156	75	0,069	8,3x156/75
A400840V000S	8,4	156	75	0,069	8,4x156/75
A400850V000S	8,5	156	75	0,07	8,5x156/75

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm		Code 221140
A400860V000S	8,6	162	81	0,07	8,6x162/81
A400870V000S	8,7	162	81	0,071	8,7x162/81
A400875V000S	8,75	162	81	0,072	8,75x162/81
A400880V000S	8,8	162	81	0,073	8,8x162/81
A400890V000S	8,9	162	81	0,074	8,9x162/81
A400900V000S	9,0	162	81	0,075	9x162/81
A400910V000S	9,1	162	81	0,076	9,1x162/81
A400920V000S	9,2	162	81	0,076	9,2x162/81
A400925V000S	9,25	162	81	0,077	9,25x162/81
A400930V000S	9,3	162	81	0,078	9,3x162/81
A400940V000S	9,4	162	81	0,078	9,4x162/81
A400950V000S	9,5	162	81	0,079	9,5x162/81
A400960V000S	9,6	168	87	0,08	9,6x168/87
A400970V000S	9,7	168	87	0,081	9,7x168/87
A400975V000S	9,75	168	87	0,082	9,75x168/87
A400980V000S	9,8	168	87	0,083	9,8x168/87
A400990V000S	9,9	168	87	0,085	9,9x168/87
A401000V000S	10,0	168	87	0,086	10x168/87
A401010V000S	10,1	168	87	0,087	10,1x168/87
A401020V000S	10,2	168	87	0,088	10,2x168/87
A401025V000S	10,25	168	87	0,088	10,25x168/87
A401030V000S	10,3	168	87	0,089	10,3x168/87
A401040V000S	10,4	168	87	0,089	10,4x168/87
A401050V000S	10,5	168	87	0,09	10,5x168/87
A401060V000S	10,6	168	87	0,091	10,6x168/87
A401070V000S	10,7	175	94	0,092	10,7x175/94
A401075V000S	10,75	175	94	0,093	10,75x175/94
A401080V000S	10,8	175	94	0,094	10,8x175/94
A401090V000S	10,9	175	94	0,095	10,9x175/94
A401100V000S	11,0	175	94	0,096	11x175/94
A401110V000S	11,1	175	94	0,096	11,1x175/94
A401120V000S	11,2	175	94	0,098	11,2x175/94
A401125V000S	11,25	175	94	0,099	11,25x175/94
A401130V000S	11,3	175	94	0,1	11,3x175/94
A401140V000S	11,4	175	94	0,103	11,4x175/94
A401150V000S	11,5	175	94	0,105	11,5x175/94
A401160V000S	11,6	175	94	0,107	11,6x175/94
A401170V000S	11,7	175	94	0,107	11,7x175/94
A401175V000S	11,75	175	94	0,107	11,75x175/94
A401180V000S	11,8	175	94	0,108	11,8x175/94
A401190V000S	11,9	182	101	0,11	11,9x182/101
A401200V000S	12,0	182	101	0,112	12x182/101
A401210V000S	12,1	182	101	0,115	12,1x182/101
A401220V000S	12,2	182	101	0,115	12,2x182/101
A401225V000S	12,25	182	101	0,115	12,25x182/101
A401230V000S	12,3	182	101	0,116	12,3x182/101
A401240V000S	12,4	182	101	0,117	12,4x182/101
A401250V000S	12,5	182	101	0,118	12,5x182/101
A401260V000S	12,6	182	101	0,119	12,6x182/101
A401270V000S	12,7	182	101	0,12	12,7x182/101
A401275V000S	12,75	182	101	0,12	12,75x182/101
A401280V000S	12,8	182	101	0,12	12,8x182/101
A401290V000S	12,9	182	101	0,122	12,9x182/101
A401300V000S	13,0	182	101	0,123	13x182/101



Vrtáky s kuželovou stopkou

Taper shank drills

Spiralbohrer mit Morsekegel



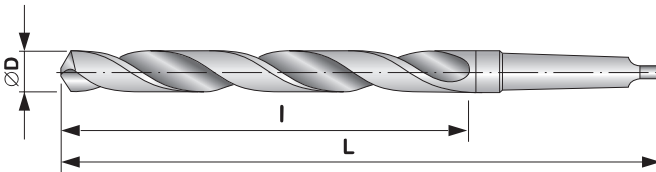
VRTÁKY S KUŽELOVOU STOPKOU
TAPER SHANK DRILLS
KURZE SPIRALBOHRER MIT MORSEKEGELSCHAFT

ČSN 221140

DIN 345 RN

HSS	PAS						V 2,0 + 14,0	F 14,25 + 90,0	5xD	
Steel < 850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics						

ØD= 2,00 ÷ 14,00 ~ MORSE 1
 ØD=14,25 ÷ 23,00 ~ MORSE 2
 ØD=23,25 ÷ 31,75 ~ MORSE 3
 ØD=32,00 ÷ 50,50 ~ MORSE 4
 ØD=51,00 ÷ 76,00 ~ MORSE 5
 ØD=77,00 ÷ 90,00 ~ MORSE 6



Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm		Code 221140
A401310V000S	13,1	182	101	0,124	13,1x182/101
A401320V000S	13,2	182	101	0,125	13,2x182/101
A401325V000S	13,25	189	108	0,126	13,25x189/108
A401330V000S	13,3	189	108	0,128	13,3x189/108
A401340V000S	13,4	189	108	0,129	13,4x189/108
A401350V000S	13,5	189	108	0,13	13,5x189/108
A401360V000S	13,6	189	108	0,131	13,6x189/108
A401370V000S	13,7	189	108	0,132	13,7x189/108
A401375V000S	13,75	189	108	0,133	13,75x189/108
A401380V000S	13,8	189	108	0,135	13,8x189/108
A401390V000S	13,9	189	108	0,135	13,9x189/108
A401400V000S	14,0	189	108	0,136	14x189/108
A401425F000S	14,25	212	114	0,139	14,25x212/114
A401450F000S	14,5	212	114	0,142	14,5x212/114
A401475F000S	14,75	212	114	0,149	14,75x212/114
A401500F000S	15,0	212	114	0,16	15x212/114
A401525F000S	15,25	218	120	0,17	15,25x218/120
A401550F000S	15,5	218	120	0,18	15,5x218/120
A401575F000S	15,75	218	120	0,19	15,75x218/120
A401600F000S	16,0	218	120	0,21	16x218/120
A401625F000S	16,25	223	125	0,235	16,25x223/125
A401650F000S	16,5	223	125	0,247	16,5x223/125
A401675F000S	16,75	223	125	0,258	16,75x223/125
A401700F000S	17,0	223	125	0,269	17x223/125
A401725F000S	17,25	228	130	0,285	17,25x228/130
A401750F000S	17,5	228	130	0,291	17,5x228/130
A401775F000S	17,75	228	130	0,295	17,75x228/130
A401800F000S	18,0	228	130	0,3	18x228/130
A401825F000S	18,25	233	135	0,306	18,25x233/135
A401850F000S	18,5	233	135	0,312	18,5x233/135
A401875F000S	18,75	233	135	0,316	18,75x233/135
A401900F000S	19,0	233	135	0,32	19x233/135
A401925F000S	19,25	238	140	0,325	19,25x238/140
A401950F000S	19,5	238	140	0,334	19,5x238/140
A401975F000S	19,75	238	140	0,345	19,75x238/140
A402000F000S	20,0	238	140	0,35	20x238/140
A402025F000S	20,25	243	145	0,36	20,25x243/145
A402050F000S	20,5	243	145	0,38	20,5x243/145
A402075F000S	20,75	243	145	0,395	20,75x243/145
A402100F000S	21,0	243	145	0,415	21x243/145
A402125F000S	21,25	248	150	0,419	21,25x248/150
A402150F000S	21,5	248	150	0,424	21,5x248/150
A402175F000S	21,75	248	150	0,43	21,75x248/150
A402200F000S	22,0	248	150	0,455	22x248/150
A402225F000S	22,25	248	150	0,48	22,25x248/150
A402250F000S	22,5	253	155	0,495	22,5x253/155
A402275F000S	22,75	253	155	0,52	22,75x253/155
A402300F000S	23,0	253	155	0,56	23x253/155
A402325F000S	23,25	276	155	0,6	23,25x276/155
A402350F000S	23,5	276	155	0,62	23,5x276/155
A402375F000S	23,75	281	160	0,64	23,75x281/160
A402400F000S	24,0	281	160	0,66	24x281/160
A402425F000S	24,25	281	160	0,684	24,25x281/160
A402450F000S	24,5	281	160	0,715	24,5x281/160
A402475F000S	24,75	281	160	0,715	24,75x281/160



ČSN 221140

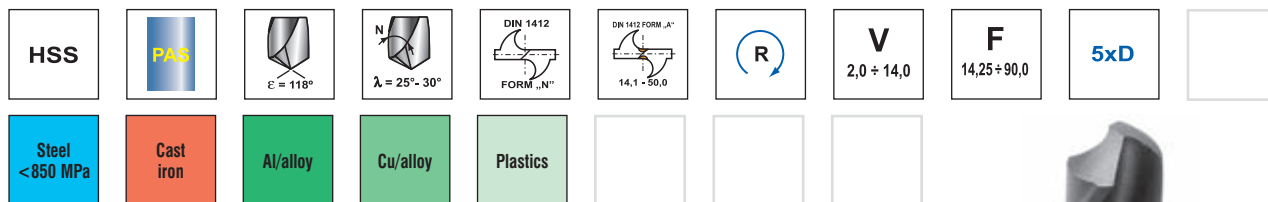
DIN 345 RN



VRTÁKY S KUŽELOVOU STOPKOU

TAPER SHANK DRILLS

KURZE SPIRALBOHRER MIT MORSEKEGELSCHAFT

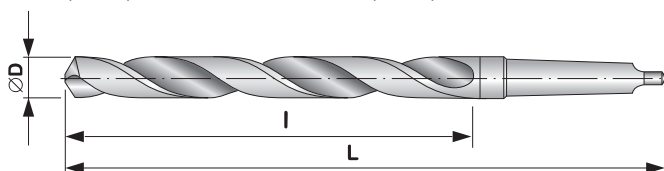


Steel <850 MPa
 Cast iron
 Al/alloy
 Cu/alloy
 Plastics

ØD = 2,00 ÷ 14,00 ~ MORSE 1
 ØD = 14,25 ÷ 23,00 ~ MORSE 2

ØD = 23,25 ÷ 31,75 ~ MORSE 3
 ØD = 32,00 ÷ 50,50 ~ MORSE 4

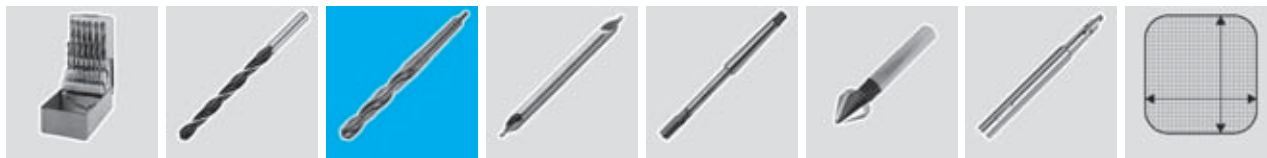
ØD = 51,00 ÷ 76,00 ~ MORSE 5
 ØD = 77,00 ÷ 90,00 ~ MORSE 6



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm		Code 221140
A404500F000S	45,0	359	210	2,3	45x359/210
A404550F000S	45,5	364	215	2,335	45,5x364/215
A404600F000S	46,0	364	215	2,41	46x364/215
A404650F000S	46,5	364	215	2,498	46,5x364/215
A404700F000S	47,0	364	215	2,58	47x364/215
A404750F000S	47,5	364	215	2,65	47,5x364/215
A404800F000S	48,0	369	220	2,695	48x369/220
A404850F000S	48,5	369	220	2,778	48,5x369/220
A404900F000S	49,0	369	220	2,85	49x369/220
A404950F000S	49,5	369	220	2,91	49,5x369/220
A405000F000S	50,0	369	220	3,25	50x369/220
A405050F000S	50,5	374	225	3,48	50,5x374/225
A405100F000S	51,0	412	225	3,85	51x412/225
A405200F000S	52,0	412	225	4,25	52x412/225
A405300F000S	53,0	412	225	4,295	53x412/225
A405400F000S	54,0	417	230	4,32	54x417/230
A405500F000S	55,0	417	230	4,38	55x417/230
A405600F000S	56,0	417	230	4,415	56x417/230
A405700F000S	57,0	422	235	4,55	57x422/235
A405800F000S	58,0	422	235	4,645	58x422/235
A405900F000S	59,0	422	235	4,76	59x422/235
A406000F000S	60,0	422	235	4,995	60x422/235
A406100F000S	61,0	427	240	5,3	61x427/240
A406200F000S	62,0	427	240	5,36	62x427/240
A406300F000S	63,0	427	240	5,41	63x427/240
A406400F000S	64,0	432	245	5,51	64x432/245

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm		Code 221140
A406500F000S	65,0	432	245	5,595	65x432/245
A406600F000S	66,0	432	245	5,72	66x432/245
A406700F000S	67	432	245	5,85	67x432/245
A406800F000S	68	437	250	5,98	68x437/250
A406900F000S	69	437	250	6,12	69x437/250
A407000F000S	70	437	250	6,215	70x437/250
A407100F000S	71	437	250	6,305	71x437/250
A407200F000S	72	442	255	6,61	72x442/255
A407300F000S	73	442	255	6,645	73x442/255
A407400F000S	74	442	255	6,78	74x442/255
A407500F000S	75	442	255	6,91	75x442/255
A407600F000S	76	447	260	7,1	76x447/260
A407700F000S	77	514	260	7,85	77x514/260
A407800F000S	78	514	260	8,45	78x514/260
A407900F000S	79	514	260	8,62	79x514/260
A408000F000S	80	514	260	8,88	80x514/260
A408100F000S	81	519	265	8,95	81x519/265
A408200F000S	82	519	265	9,11	82x519/265
A408300F000S	83	519	265	9,3	83x519/265
A408400F000S	84	519	265	9,32	84x519/265
A408500F000S	85	519	265	9,34	85x519/265
A408600F000S	86	524	270	9,36	86x524/270
A408700F000S	87	524	270	9,38	87x524/270
A408800F000S	88	524	270	10,4	88x524/270
A408900F000S	89	524	270	10,42	89x524/270
A409000F000S	90	524	270	10,46	90x524/270

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



Vrtáky s kuželovou stopkou

Taper shank drills

Spiralbohrer mit Morsekegel



StimZet®

3



VRTÁKY S KUŽELOVOU STOPKOU – TVÁŘENÉ PŘEVODENÍ
TAPER SHANK DRILLS – ROLLFORGED
KURZE SPIRALBOHRER MIT MORSEKEGELSCHAFT – ROLLGEWALZT

ČSN 221140

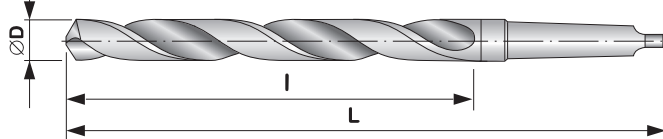
DIN 345 RN

HSS	PAS	$\epsilon = 118^\circ$	$\lambda = 25^\circ - 30^\circ$	DIN 1412 FORM „N“	R	T	5xD			
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Steel < 850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics						
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∅D = 6,75 ÷ 14,00 ~ MORSE 1

∅D = 14,25 ÷ 23,00 ~ MORSE 2



Objednáčí číslo Order No. Bestell-Nr.	∅D mm	L mm	l mm	kg	Code 221140
A400675T000S	6.75	150	69	0,063	6,75x150/69
A400680T000S	6.80	150	69	0,063	6,8x150/69
A400690T000S	6.90	150	69	0,064	6,9x150/69
A400700T000S	7.00	150	69	0,064	7x150/69
A400710T000S	7.10	150	69	0,065	7,1x150/69
A400720T000S	7.20	150	69	0,065	7,2x150/69
A400725T000S	7.25	150	69	0,066	7,25x150/69
A400730T000S	7.30	150	69	0,067	7,3x150/69
A400740T000S	7.40	150	69	0,067	7,4x150/69
A400750T000S	7.50	150	69	0,067	7,5x150/69
A400760T000S	7.60	156	75	0,067	7,6x156/75
A400770T000S	7.70	156	75	0,067	7,7x156/75
A400775T000S	7.75	156	75	0,067	7,75x156/75
A400780T000S	7.80	156	75	0,068	7,8x156/75
A400790T000S	7.90	156	75	0,068	7,9x156/75
A400800T000S	8.00	156	75	0,068	8x156/75
A400810T000S	8.10	156	75	0,069	8,1x156/75
A400820T000S	8.20	156	75	0,069	8,2x156/75
A400825T000S	8.25	156	75	0,069	8,25x156/75
A400830T000S	8.30	156	75	0,069	8,3x156/75
A400840T000S	8.40	156	75	0,069	8,4x156/75
A400850T000S	8.50	156	75	0,07	8,5x156/75
A400860T000S	8.60	162	81	0,07	8,6x162/81
A400870T000S	8.70	162	81	0,071	8,7x162/81
A400875T000S	8.75	162	81	0,072	8,75x162/81
A400880T000S	8.80	162	81	0,073	8,8x162/81
A400890T000S	8.90	162	81	0,074	8,9x162/81
A400900T000S	9.00	162	81	0,075	9x162/81
A400910T000S	9.10	162	81	0,076	9,1x162/81
A400920T000S	9.20	162	81	0,076	9,2x162/81
A400925T000S	9.25	162	81	0,077	9,25x162/81
A400930T000S	9.30	162	81	0,078	9,3x162/81
A400940T000S	9.40	162	81	0,078	9,4x162/81
A400950T000S	9.50	162	81	0,079	9,5x162/81
A400960T000S	9.60	168	87	0,08	9,6x168/87
A400970T000S	9.70	168	87	0,081	9,7x168/87
A400975T000S	9.75	168	87	0,082	9,75x168/87
A400980T000S	9.80	168	87	0,083	9,8x168/87
A400990T000S	9.90	168	87	0,085	9,9x168/87
A401000T000S	10.00	168	87	0,086	10x168/87
A401010T000S	10.10	168	87	0,087	10,1x168/87
A401020T000S	10.20	168	87	0,088	10,2x168/87
A401025T000S	10.25	168	87	0,088	10,25x168/87
A401030T000S	10.30	168	87	0,089	10,3x168/87
A401040T000S	10.40	168	87	0,089	10,4x168/87
A401050T000S	10.50	168	87	0,09	10,5x168/87
A401060T000S	10.60	168	87	0,091	10,6x168/87
A401070T000S	10.70	175	94	0,092	10,7x175/94
A401075T000S	10.75	175	94	0,093	10,75x175/94
A401080T000S	10.80	175	94	0,094	10,8x175/94
A401090T000S	10.90	175	94	0,095	10,9x175/94
A401100T000S	11.00	175	94	0,096	11x175/94
A401110T000S	11.10	175	94	0,096	11,1x175/94
A401120T000S	11.20	175	94	0,098	11,2x175/94
A401125T000S	11.25	175	94	0,099	11,25x175/94
A401130T000S	11.30	175	94	0,1	11,3x175/94
A401140T000S	11.40	175	94	0,103	11,4x175/94
A401150T000S	11.50	175	94	0,105	11,5x175/94
A401160T000S	11.60	175	94	0,107	11,6x175/94
A401170T000S	11.70	175	94	0,107	11,7x175/94
A401175T000S	11.75	175	94	0,107	11,75x175/94

Objednáčí číslo Order No. Bestell-Nr.	∅D mm	L mm	l mm	kg	Code 221140
A401180T000S	11.80	175	94	0,108	11,8x175/94
A401190T000S	11.90	182	101	0,11	11,9x182/101
A401200T000S	12.00	182	101	0,112	12x182/101
A401210T000S	12.10	182	101	0,115	12,1x182/101
A401220T000S	12.20	182	101	0,115	12,2x182/101
A401225T000S	12.25	182	101	0,115	12,25x182/101
A401230T000S	12.30	182	101	0,116	12,3x182/101
A401240T000S	12.40	182	101	0,117	12,4x182/101
A401250T000S	12.50	182	101	0,118	12,5x182/101
A401260T000S	12.60	182	101	0,119	12,6x182/101
A401270T000S	12.70	182	101	0,12	12,7x182/101
A401275T000S	12.75	182	101	0,12	12,75x182/101
A401280T000S	12.80	182	101	0,12	12,8x182/101
A401290T000S	12.90	182	101	0,122	12,9x182/101
A401300T000S	13.00	182	101	0,123	13x182/101
A401310T000S	13.10	182	101	0,124	13,1x182/101
A401320T000S	13.20	182	101	0,125	13,2x182/101
A401330T000S	13.30	189	108	0,128	13,3x189/108
A401340T000S	13.40	189	108	0,129	13,4x189/108
A401350T000S	13.50	189	108	0,13	13,5x189/108
A401360T000S	13.60	189	108	0,131	13,6x189/108
A401370T000S	13.70	189	108	0,132	13,7x189/108
A401380T000S	13.80	189	108	0,135	13,8x189/108
A401390T000S	13.90	189	108	0,136	13,9x189/108
A401400T000S	14.00	189	108	0,138	14x189/108
A401425T000S	14.25	212	114	0,139	14,25x212/114
A401450T000S	14.50	212	114	0,142	14,5x212/114
A401475T000S	14.75	212	114	0,149	14,75x212/114
A401500T000S	15.00	212	114	0,16	15x212/114
A401525T000S	15.25	218	120	0,17	15,25x218/120
A401550T000S	15.50	218	120	0,18	15,5x218/120
A401575T000S	15.75	218	120	0,19	15,75x218/120
A401600T000S	16.00	218	120	0,21	16x218/120
A401625T000S	16.25	223	125	0,235	16,25x223/125
A401650T000S	16.50	223	125	0,247	16,5x223/125
A401675T000S	16.75	223	125	0,258	16,75x223/125
A401700T000S	17.00	223	125	0,269	17x223/125
A401725T000S	17.25	228	130	0,285	17,25x228/130
A401750T000S	17.50	228	130	0,291	17,5x228/130
A401775T000S	17.75	228	130	0,295	17,75x228/130
A401800T000S	18.00	228	130	0,3	18x228/130
A401825T000S	18.25	233	135	0,306	18,25x233/135
A401850T000S	18.50	233	135	0,312	18,5x233/135
A401875T000S	18.75	233	135	0,316	18,75x233/135
A401900T000S	19.00	233	135	0,32	19x233/135
A401925T000S	19.25	238	140	0,325	19,25x238/140
A401950T000S	19.50	238	140	0,334	19,5x238/140
A401975T000S	19.75	238	140	0,345	19,75x238/140
A402000T000S	20.00	238	140	0,35	20x238/140
A402025T000S	20.25	243	145	0,36	20,25x243/145
A402050T000S	20.50	243	145	0,38	20,5x243/145
A402075T000S	20.75	243	145	0,395	20,75x243/145
A402100T000S	21.00	243	145	0,415	21x243/145
A402125T000S	21.25	248	150	0,419	21,25x248/150
A402150T000S	21.5	248	150	0,424	21,5x248/150
A402175T000S	21.75	248	150	0,43	21,75x248/150
A402200T000S	22.0	248	150	0,455	22x248/150
A402225T000S	22.25	248	150	0,48	22,25x248/150
A402250T000S	22.5	253	155	0,495	22,5x253/155
A402275T000S	22.75	253	155	0,52	22,75x253/155
A402300T000S	23.0	253	155	0,56	23x253/155



ČSN 221143

DIN 345 RN



VRTÁKY S KUŽELOVOU STOPKOU PRO TĚŽKO OBROBITELNÉ MATERIÁLY

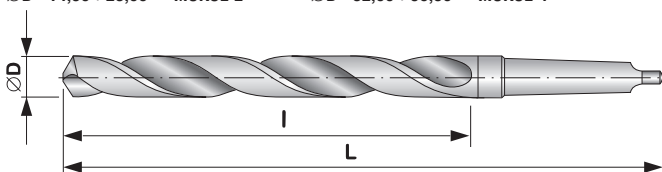
COBALT TAPER SHANK DRILLS

KURZE SPIRALBOHRER MIT MORSEKEGELSCHAFT FÜR SCHWER ZERSPANBARE WERKSTOFFE

HSSCo5	BLANC			DIN 1412 FORM „C“ 5,0 - 14,0	DIN 1412 FORM „A“ 14,5 - 50,0	DIN 1412 FORM „B“ 50,0 - 90,0	R	V 5,0 ÷ 14,0	F 14,25 ÷ 90,0	5xD
Steel <1200 MPa	Stainless steel	Cast iron	Al/alloy	Cu/alloy	Heat-resistant					

ØD = 5,00 ÷ 14,00 ~ MORSE 1
ØD = 14,50 ÷ 23,00 ~ MORSE 2

ØD = 23,50 ÷ 31,50 ~ MORSE 3
ØD = 32,00 ÷ 50,50 ~ MORSE 4



Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	 kg	Code 221143
A43050V400S	5,00	133	52	0,052	5x133/52
A43055V400S	5,50	138	57	0,055	5,5x138/57
A43060V400S	6,00	138	57	0,057	6x138/57
A43065V400S	6,50	144	63	0,060	6,5x144/63
A43070V400S	7,00	150	69	0,064	7x150/69
A43075V400S	7,50	150	69	0,067	7,5x150/69
A43080V400S	8,00	156	75	0,068	8x156/75
A43085V400S	8,50	156	75	0,070	8,5x156/75
A43090V400S	9,00	162	81	0,075	9x162/81
A43095V400S	9,50	162	81	0,081	9,5x162/81
A43100V400S	10,00	168	87	0,088	10x168/87
A43105V400S	10,50	168	87	0,092	10,5x168/87
A43110V400S	11,00	175	94	0,099	11x175/94
A43115V400S	11,50	175	94	0,105	11,5x175/94
A43120V400S	12,00	182	101	0,110	12x182/101
A43125V400S	12,50	182	101	0,140	12,5x182/101
A43130V400S	13,00	182	101	0,180	13x182/101
A43135V400S	13,50	189	108	0,195	13,5x189/108
A43140V400S	14,00	189	108	0,210	14x189/108
A43145V400S	14,50	212	114	0,290	14,5x212/114
A43150V400S	15,00	212	114	0,350	15x212/114
A43155V400S	15,50	218	120	0,370	15,5x218/120
A43160V400S	16,00	218	120	0,380	16x218/120
A43165V400S	16,50	223	125	0,400	16,5x223/125
A43170V400S	17,00	223	125	0,420	17x223/125
A43175V400S	17,50	228	130	0,435	17,5x228/130
A43180V400S	18,00	228	130	0,450	18x228/130
A43185V400S	18,50	233	135	0,500	18,5x233/135
A43190V400S	19,00	233	135	0,560	19x233/135
A43195V400S	19,50	238	140	0,570	19,5x238/140
A43200V400S	20,00	238	140	0,580	20x238/140
A43205V400S	20,50	243	145	0,590	20,5x243/145
A43210V400S	21,00	243	145	0,600	21x243/145
A43215V400S	21,50	248	150	0,610	21,5x248/150
A43220V400S	22,00	248	150	0,620	22x248/150
A43225V400S	22,50	253	155	0,635	22,5x253/155
A43230V400S	23,00	253	155	0,650	23x253/155
A43235V400S	23,50	276	155	0,660	23,5x276/155
A43240V400S	24,00	281	160	0,666	24x281/160
A43245V400S	24,50	281	160	0,690	24,5x281/160
A43250V400S	25,00	281	160	0,710	25x281/160
A43255V400S	25,50	286	165	0,725	25,5x286/165
A43260V400S	26,00	286	165	0,740	26x286/165
A43265V400S	26,50	286	165	0,760	26,5x286/165
A43270V400S	27,00	291	170	0,850	27x291/170
A43275V400S	27,50	291	170	0,870	27,5x291/170

Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	 kg	Code 221143
A43280V400S	28,00	291	170	0,890	28x291/170
A43285V400S	28,50	296	175	0,910	28,5x296/175
A43290V400S	29,00	296	175	0,930	29x296/175
A43295V400S	29,50	296	175	0,950	29,5x296/175
A43300V400S	30,00	296	175	0,975	30x296/175
A43305V400S	30,50	301	180	1,100	30,5x301/180
A43310V400S	31,00	301	180	1,130	31x301/180
A43315V400S	31,50	301	180	1,160	31,5x301/180
A43320V400S	32,00	334	185	1,310	32x334/185
A43325V400S	32,50	334	185	1,335	32,5x334/185
A43330V400S	33,00	334	185	1,360	33x334/185
A43335V400S	33,50	334	185	1,385	33,5x334/185
A43340V400S	34,00	339	190	1,430	34x339/190
A43345V400S	34,50	339	190	1,465	34,5x339/190
A43350V400S	35,00	339	190	1,510	35x339/190
A43355V400S	35,50	339	190	1,520	35,5x339/190
A43360V400S	36,00	344	195	1,580	36x344/195
A43365V400S	36,50	344	195	1,720	36,5x344/195
A43370V400S	37,00	344	195	1,760	37x344/195
A43375V400S	37,50	344	195	1,800	37,5x344/195
A43380V400S	38,00	349	200	1,950	38x349/200
A43385V400S	38,50	349	200	1,980	38,5x349/200
A43390V400S	39,00	349	200	2,210	39x349/200
A43395V400S	39,50	349	200	2,240	39,5x349/200
A43400V400S	40,00	349	200	2,270	40x349/200
A43405V400S	40,50	354	205	2,3	40,5x354/205
A43410V400S	41,00	354	205	2,35	41x354/205
A43415V400S	41,50	354	205	2,38	41,5x354/205
A43420V400S	42,00	354	205	2,42	42x354/205
A43425V400S	42,50	354	205	2,455	42,5x354/205
A43430V400S	43,00	359	210	2,5	43x359/210
A43435V400S	43,50	359	210	2,55	43,5x359/210
A43440V400S	44,00	359	210	2,6	44x359/210
A43445V400S	44,50	359	210	2,63	44,5x359/210
A43450V400S	45,00	359	210	2,7	45x359/210
A43455V400S	45,50	364	215	2,75	45,5x364/215
A43460V400S	46,00	364	215	2,8	46x364/215
A43465V400S	46,50	364	215	2,85	46,5x364/215
A43470V400S	47,00	364	215	2,9	47x364/215
A43475V400S	47,50	364	215	3	47,5x364/215
A43480V400S	48,00	369	220	3,05	48x369/220
A43485V400S	48,50	369	220	3,055	48,5x369/220
A43490V400S	49,00	369	220	3,1	49x369/220
A43495V400S	49,50	369	220	3,15	49,5x369/220
A43500V400S	50,00	369	220	3,2	50x369/220

Poznámka / Note / Notiz: ostatní neuvedené rozměry na požádání / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



Vrtáky s kuželovou stopkou

Taper shank drills




Spiralbohrer mit Morsekegel



VRTÁKY S KUŽELOVOU STOPKOU PRO TĚŽKO OBROBITELNÉ MATERIÁLY
COBALT TAPER SHANK DRILLS (HSS Co8)
KURZE SPIRALBOHRER MIT MORSEKEGELSCHAFT FÜR SCHWER ZERSPANBARE WERKSTOFFE

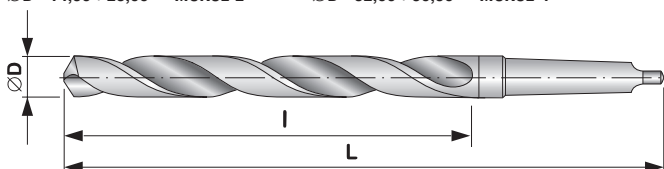
ZVSE 221148


DIN 345 RN


HSSCo8	BLANC	 $\epsilon = 128^\circ$	 $\lambda = 25^\circ - 30^\circ$	DIN 1412 FORM „C“ $5,0 - 31,5$	DIN 1412 FORM „A“ $32,0 - 90,0$		V 5,0 ÷ 14,0	F 14,25 ÷ 90,0	5xD	
Steel >1200 MPa	HARDOX 400	HARDOX 500	Stainless steel	Cast iron	Al/alloy	Cu/alloy	Heat-resistant			

ØD = 5,00 ÷ 14,00 ~ MORSE 1
 ØD = 14,50 ÷ 23,00 ~ MORSE 2

ØD = 23,50 ÷ 31,50 ~ MORSE 3
 ØD = 32,00 ÷ 50,50 ~ MORSE 4



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm	 kg	Code 221148
A480500V600S	5,00	133	52	0,052	5x133/52
A480550V600S	5,50	138	57	0,055	5,5x138/57
A480600V600S	6,00	138	57	0,057	6x138/57
A480650V600S	6,50	144	63	0,060	6,5x144/63
A480700V600S	7,00	150	69	0,064	7x150/69
A480750V600S	7,50	150	69	0,067	7,5x150/69
A480800V600S	8,00	156	75	0,068	8x156/75
A480850V600S	8,50	156	75	0,070	8,5x156/75
A480900V600S	9,00	162	81	0,075	9x162/81
A480950V600S	9,50	162	81	0,081	9,5x162/81
A481000V600S	10,00	168	87	0,088	10x168/87
A481050V600S	10,50	168	87	0,092	10,5x168/87
A481100V600S	11,00	175	94	0,099	11x175/94
A481150V600S	11,50	175	94	0,105	11,5x175/94
A481200V600S	12,00	182	101	0,110	12x182/101
A481250V600S	12,50	182	101	0,140	12,5x182/101
A481300V600S	13,00	182	101	0,180	13x182/101
A481350V600S	13,50	189	108	0,195	13,5x189/108
A481400V600S	14,00	189	108	0,210	14x189/108
A481450V600S	14,50	212	114	0,290	14,5x212/114
A481500V600S	15,00	212	114	0,350	15x212/114
A481550V600S	15,50	218	120	0,370	15,5x218/120
A481600V600S	16,00	218	120	0,380	16x218/120
A481650V600S	16,50	223	125	0,400	16,5x223/125
A481700V600S	17,00	223	125	0,420	17x223/125
A481750V600S	17,50	228	130	0,435	17,5x228/130
A481800V600S	18,00	228	130	0,450	18x228/130
A481850V600S	18,50	233	135	0,500	18,5x233/135
A481900V600S	19,00	233	135	0,560	19x233/135
A481950V600S	19,50	238	140	0,570	19,5x238/140
A482000V600S	20,00	238	140	0,580	20x238/140
A482050V600S	20,50	243	145	0,590	20,5x243/145
A482100V600S	21,00	243	145	0,600	21x243/145
A482150V600S	21,50	248	150	0,610	21,5x248/150
A482200V600S	22,00	248	150	0,620	22x248/150
A482250V600S	22,50	253	155	0,635	22,5x253/155
A482300V600S	23,00	253	155	0,650	23x253/155
A482350V600S	23,50	276	155	0,660	23,5x276/155
A482400V600S	24,00	281	160	0,666	24x281/160
A482450V600S	24,50	281	160	0,690	24,5x281/160
A482500V600S	25,00	281	160	0,710	25x281/160
A482550V600S	25,50	286	165	0,725	25,5x286/165
A482600V600S	26,00	286	165	0,740	26x286/165
A482650V600S	26,50	286	165	0,760	26,5x286/165
A482700V600S	27,00	291	170	0,850	27x291/170
A482750V600S	27,50	291	170	0,870	27,5x291/170

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm	 kg	Code 221148
A482800F600S	28,00	291	170	0,890	28x291/170
A482850F600S	28,50	296	175	0,910	28,5x296/175
A482900F600S	29,00	296	175	0,930	29x296/175
A482950F600S	29,50	296	175	0,950	29,5x296/175
A483000F600S	30,00	296	175	0,975	30x296/175
A483050F600S	30,50	301	180	1,100	30,5x301/180
A483100F600S	31,00	301	180	1,130	31x301/180
A483150F600S	31,50	301	180	1,160	31,5x301/180
A483200F600S	32,00	334	185	1,310	32x334/185
A483250F600S	32,50	334	185	1,335	32,5x334/185
A483300F600S	33,00	334	185	1,360	33x334/185
A483350F600S	33,50	334	185	1,385	33,5x334/185
A483400F600S	34,00	339	190	1,430	34x339/190
A483450F600S	34,50	339	190	1,465	34,5x339/190
A483500F600S	35,00	339	190	1,510	35x339/190
A483550F600S	35,50	339	190	1,520	35,5x339/190
A483600F600S	36,00	344	195	1,580	36x344/195
A483650F600S	36,50	344	195	1,720	36,5x344/195
A483700F600S	37,00	344	195	1,760	37x344/195
A483750F600S	37,50	344	195	1,800	37,5x344/195
A483800F600S	38,00	349	200	1,950	38x349/200
A483850F600S	38,50	349	200	1,980	38,5x349/200
A483900F600S	39,00	349	200	2,210	39x349/200
A483950F600S	39,50	349	200	2,240	39,5x349/200
A484000F600S	40,00	349	200	2,270	40x349/200
A484050F600S	40,50	354	205	2,3	40,5x354/205
A484100F600S	41,00	354	205	2,35	41x354/205
A484150F600S	41,50	354	205	2,38	41,5x354/205
A484200F600S	42,00	354	205	2,42	42x354/205
A484250F600S	42,50	354	205	2,455	42,5x354/205
A484300F600S	43,00	359	210	2,5	43x359/210
A484350F600S	43,50	359	210	2,55	43,5x359/210
A484400F600S	44,00	359	210	2,6	44x359/210
A484450F600S	44,50	359	210	2,63	44,5x359/210
A484500F600S	45,00	359	210	2,7	45x359/210
A484550F600S	45,50	364	215	2,75	45,5x364/215
A484600F600S	46,00	364	215	2,8	46x364/215
A484650F600S	46,50	364	215	2,85	46,5x364/215
A484700F600S	47,00	364	215	2,9	47x364/215
A484750F600S	47,50	364	215	3	47,5x364/215
A484800F600S	48,00	369	220	3,05	48x369/220
A484850F600S	48,50	369	220	3,055	48,5x369/220
A484900F600S	49,00	369	220	3,1	49x369/220
A484950F600S	49,50	369	220	3,15	49,5x369/220
A485000F600S	50,00	369	220	3,2	50x369/220

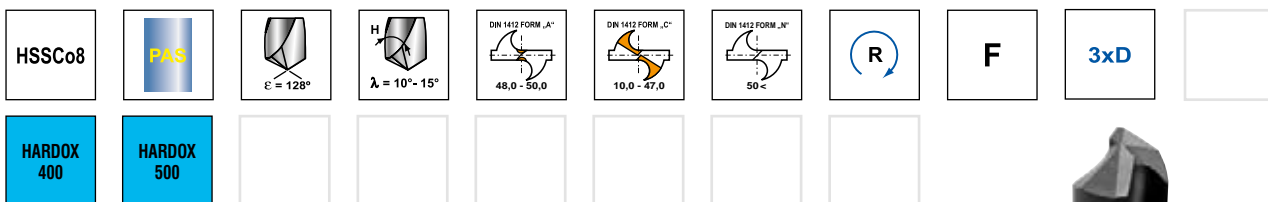
Poznámka / Note / Notiz: ostatní neuvedené rozměry na požádání / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



ZVSE 221146

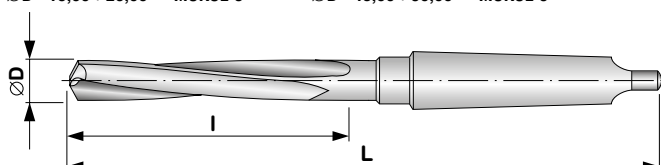


VRTÁKY S KUŽELOVOU STOPKOU PRO VRTÁNÍ V TĚŽCE OBROBITELNÝCH MATERIÁLECH
COBALT TAPER SHANK DRILLS (HSS Co8)
KURZE SPIRALBOHRER MIT MORSEKEGELSCHAFT FÜR SCHWER ZERSPANBARE WERKSTOFFE



∅D=10,00 ÷ 18,00 ~ MORSE 2
∅D=19,00 ÷ 26,00 ~ MORSE 3

∅D=27,00 ÷ 47,00 ~ MORSE 4
∅D=48,00 ÷ 50,00 ~ MORSE 5



Objednáací číslo Order No. Bestell-Nr.	∅D mm	L mm	I mm	kg	Code 221146
A461000F111S	10	190	90	0,17	10x190/90
A461100F111S	11	190	90	0,18	11x190/90
A461200F111S	12	190	90	0,19	12x190/90
A461300F111S	13	190	90	0,2	13x190/90
A461400F111S	14	190	90	0,21	14x190/90
A461500F111S	15	190	90	0,215	15x190/90
A461600F111S	16	190	90	0,235	16x190/90
A461700F111S	17	190	90	0,25	17x190/90
A461800F111S	18	190	90	0,265	18x190/90
A461900F111S	19	225	105	0,46	19x225/105
A462000F111S	20	225	105	0,48	20x225/105
A462100F111S	21	225	105	0,5	21x225/105
A462200F111S	22	225	105	0,52	22x225/105
A462300F111S	23	225	105	0,54	23x225/105
A462400F111S	24	225	105	0,56	24x225/105
A462500F111S	25	225	105	0,58	25x225/105
A462600F111S	26	225	105	0,6	26x225/105
A462700F111S	27	265	120	0,95	27x265/120
A462800F111S	28	265	120	1	28x265/120
A462900F111S	29	265	120	1,03	29x265/120
A463000F111S	30	265	120	1,07	30x265/120

Objednáací číslo Order No. Bestell-Nr.	∅D mm	L mm	I mm	kg	Code 221146
A463100F111S	31	265	120	1,1	31x265/120
A463200F111S	32	265	120	1,13	32x265/120
A463300F111S	33	265	120	1,17	33x265/120
A463400F111S	34	265	120	1,2	34x265/120
A463500F111S	35	265	120	1,23	35x265/120
A463600F111S	36	265	120	1,27	36x265/120
A463700F111S	37	265	120	1,3	37x265/120
A463800F111S	38	265	120	1,34	38x265/120
A463900F111S	39	265	120	1,47	39x265/120
A464000F111S	40	265	120	1,51	40x265/120
A464100F111S	41	265	120	1,56	41x265/120
A464200F111S	42	265	120	1,68	42x265/120
A464300F111S	43	265	120	1,80	43x265/120
A464400F111S	44	265	120	1,95	44x265/120
A464500F111S	45	265	120	2,10	45x265/120
A464600F111S	46	265	120	2,25	46x265/120
A464700F111S	47	265	120	2,40	47x265/120
A464800F111S	48	340	150	3,10	48x340/150
A464900F111S	49	340	150	3,30	49x340/150
A465000F111S	50	340	150	3,50	50x340/150
A465700F111S	57	340	150	4,2	57x340/150



Vrtáky s kuželovou stopkou

Taper shank drills

Spiralbohrer mit Morsekegel








VRTÁKY S KUŽELOVOU STOPKOU (PALCOVÉ ROZMĚRY)

TAPER SHANK DRILLS (INCH SIZES)

KURZE SPIRALBOHRER MIT MORSEKEGELSCHAFT, ZOLLAUSFÜHRUNG

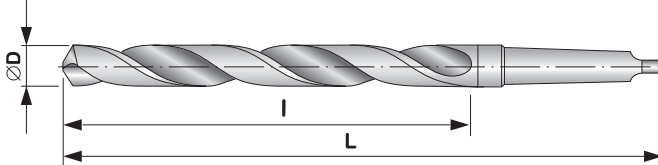
PN 221155


HSS	PAS						V 5,1 + 6,35	T 6,75 + 23,02	F 13,1 + 88,9	5xD
Steel < 850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics						


ØD=13/64" ÷ 35/64" ~ MORSE 1
ØD=9/16" ÷ 29/32" ~ MORSE 2

ØD=59/64" ÷ 1 1/4" ~ MORSE 3
ØD=1 17/64" ÷ 2" ~ MORSE 4

ØD=2 1/32" ÷ 3" ~ MORSE 5
ØD=3 1/8" ÷ 3 1/2" ~ MORSE 6



Objednáací číslo Order No. Bestell-Nr.	ØD inch	ØD mm	L inch	I inch	 kg	Code 221155
A550516V500S	13/64	5,169	5 1/4	2 1/16	0,056	13/64
A550556V500S	7/32	5,556	5 7/16	2 1/4	0,058	7/32
A550595V500S	15/64	5,953	5 7/16	2 1/4	0,058	15/64
A550635V500S	1/4	6,350	5 11/16	2 1/2	0,059	1/4
A550675T000S	17/64	6,747	5 29/32	2 23/32	0,061	17/64
A550714T000S	9/32	7,144	5 29/32	2 23/32	0,063	9/32
A550754T000S	19/64	7,541	6 1/8	2 15/16	0,064	19/64
A550794T000S	5/16	7,938	6 1/8	2 15/16	0,065	5/16
A550833T000S	21/64	8,335	6 1/8	2 15/16	0,067	21/64
A550873T000S	11/32	8,732	6 3/8	3 3/16	0,071	11/32
A550913T000S	23/64	9,128	6 3/8	3 3/16	0,075	23/64
A550953T000S	3/8	9,525	6 5/8	3 7/16	0,077	3/8
A550992T000S	25/64	9,922	6 5/8	3 7/16	0,081	25/64
A551032T000S	13/32	10,319	6 5/8	3 7/16	0,085	13/32
A551072T000S	27/64	10,716	6 7/8	3 11/16	0,090	27/64
A551111T000S	7/16	11,113	6 7/8	3 11/16	0,097	7/16
A551151T000S	29/64	11,510	6 7/8	3 11/16	0,100	29/64
A551191T000S	15/32	11,907	7 5/32	3 31/32	0,106	15/32
A551230T000S	31/64	12,304	7 5/32	3 31/32	0,110	31/64
A551270T000S	1/2	12,700	7 5/32	3 31/32	0,114	1/2
A551310T000S	33/64	13,097	7 5/32	3 31/32	0,123	33/64
A551349T000S	17/32	13,494	7 7/16	4 1/4	0,127	17/32
A551389T000S	35/64	13,891	7 7/16	4 1/4	0,133	35/64
A551429T000S	9/16	14,288	8 3/8	4 1/2	0,138	9/16
A551468T000S	37/64	14,685	8 3/8	4 1/2	0,142	37/64
A551508T000S	19/32	15,082	8 5/8	4 3/4	0,147	19/32
A551548T000S	39/64	15,479	8 5/8	4 3/4	0,172	39/64
A551588T000S	5/8	15,876	8 5/8	4 3/4	0,191	5/8
A551627T000S	41/64	16,272	8 3/4	4 7/8	0,234	41/64
A551667T000S	21/32	16,669	8 3/4	4 7/8	0,257	21/32
A551707T000S	43/64	17,068	9	5 1/8	0,275	43/64
A551746T000S	11/16	17,463	9	5 1/8	0,286	11/16
A551786T000S	45/64	17,860	9	5 1/8	0,297	45/64
A551826T000S	23/32	18,257	9 1/8	5 1/4	0,305	23/32
A551865T000S	47/64	18,654	9 1/8	5 1/4	0,313	47/64
A551905T000S	3/4	19,051	9 3/8	5 1/2	0,320	3/4
A551945T000S	49/64	19,448	9 3/8	5 1/2	0,331	49/64
A551984T000S	25/32	19,844	9 3/8	5 1/2	0,334	25/32
A552024T000S	51/64	20,241	9 5/8	5 3/4	0,365	51/64
A552064T000S	13/16	20,638	9 5/8	5 3/4	0,387	13/16
A552103T000S	53/64	21,035	9 3/4	5 3/4	0,394	53/64
A552143T000S	27/32	21,432	9 3/4	5 7/8	0,406	27/32
A552183T000S	55/64	21,829	9 3/4	5 7/8	0,416	55/64
A552223T000S	7/8	22,226	9 3/4	5 7/8	0,448	7/8
A552262T000S	57/64	22,623	10	6 1/8	0,520	57/64
A552302F000S	29/32	23,020	10	6 1/8	0,565	29/32
A552342F000S	59/64	23,416	10 7/8	6 1/8	0,605	59/64
A552381F000S	15/16	24,813	11	6 1/4	0,618	15/16
A552421F000S	61/64	24,210	11	6 1/4	0,640	61/64
A552461F000S	31/32	24,607	11	6 1/4	0,650	31/32
A552500F000S	63/64	25,004	11 1/4	6 1/2	0,670	63/64
A552540F000S	1	25,400	11 1/4	6 1/2	0,680	1
A552580F000S	1 1/64	25,798	11 1/4	6 1/2	0,714	1 1/64
A552619F000S	1 1/32	26,195	11 1/4	6 1/2	0,714	1 1/32
A552659F000S	1 3/64	26,591	11 3/8	6 5/8	0,734	1 3/64

Objednáací číslo Order No. Bestell-Nr.	ØD inch	ØD mm	L inch	I inch	 kg	Code 221155
A552699F000S	1 1/16	26,989	11 3/8	6 5/8	0,760	1 1/16
A552739F000S	1 5/64	27,385	11 3/8	6 5/8	0,775	1 5/64
A552778F000S	1 3/32	27,782	11 3/8	6 5/8	0,813	1 3/32
A552818F000S	1 7/64	28,179	11 5/8	6 7/8	0,830	1 7/64
A552858F000S	1 1/8	28,576	11 5/8	6 7/8	0,853	1 1/8
A552897F000S	1 9/64	28,973	11 5/8	6 7/8	0,874	1 9/64
A552937F000S	1 5/32	29,370	11 5/8	6 7/8	0,885	1 5/32
A552977F000S	1 11/64	29,767	11 5/8	6 7/8	0,910	1 11/64
A553016F000S	1 3/16	30,164	11 7/8	7 1/8	0,918	1 3/16
A553056F000S	30,560	11 7/8	7 1/8	0,940	0,930	30,56
A553096F000S	1 7/32	30,957	11 7/8	7 1/8	0,950	1 7/32
A553135F000S	31,354	11 7/8	7 1/8	0,974	0,980	31,354
A553175F000S	1 1/4	31,751	12	7 1/4	1,038	1 1/4
A553215F000S	1 17/64	32,148	13 1/8	7 1/4	1,070	1 17/64
A553254F000S	1 9/32	32,545	13 1/8	7 1/4	1,160	1 9/32
A553294F000S	1 19/64	32,942	13 1/8	7 1/4	1,205	1 19/64
A553334F000S	1 5/16	33,339	13 1/8	7 1/4	1,285	1 5/16
A553374F000S	1 21/64	33,734	13 3/8	7 1/2	1,360	1 21/64
A553413F000S	1 11/32	34,133	13 3/8	7 1/2	1,400	1 11/32
A553453F000S	1 23/64	34,529	13 3/8	7 1/2	1,460	1 23/64
A553493F000S	1 3/8	34,926	13 3/8	7 1/2	1,520	1 3/8
A553532F000S	1 25/64	35,323	13 3/8	7 1/2	1,545	1 25/64
A553572F000S	1 13/32	35,720	13 1/2	7 5/8	1,600	1 13/32
A553612F000S	1 27/64	36,117	13 1/2	7 5/8	1,630	1 27/64
A553651F000S	1 7/16	36,514	13 1/2	7 5/8	1,660	1 7/16
A553691F000S	1 29/32	36,911	13 1/2	7 5/8	1,700	1 29/32
A553731F000S	1 15/32	37,308	13 1/2	7 5/8	1,720	1 15/32
A553770F000S	1 31/64	37,705	13 3/4	7 7/8	1,760	1 31/64
A553810F000S	1 1/2	38,101	13 3/4	7 7/8	1,780	1 1/2
A553850F000S	1 33/64	38,498	13 3/4	7 7/8	1,810	1 33/64
A553899F000S	1 17/32	38,895	13 3/4	7 7/8	1,855	1 17/32
A553929F000S	1 35/64	39,292	13 3/4	7 7/8	1,860	1 35/64
A553969F000S	1 9/16	39,689	13 3/4	7 7/8	1,870	1 9/16
A554009F000S	1 37/64	40,086	14	8 1/8	1,910	1 37/64
A554048F000S	1 19/32	40,483	14	8 1/8	1,950	1 19/32
A554088F000S	1 39/64	40,880	14	8 1/8	1,990	1 39/64
A554128F000S	1 5/8	41,277	14	8 1/8	1,990	1 5/8
A554167F000S	1 41/64	41,673	14	8 1/8	2,030	1 41/64
A554207F000S	1 21/32	42,070	14	8 1/8	2,070	1 21/32
A554247F000S	1 43/64	42,467	14	8 1/8	2,110	1 43/64
A554286F000S	1 11/16	42,864	14 1/8	8 1/4	2,130	1 11/16
A554326F000S	1 45/64	43,261	14 1/8	8 1/4	2,150	1 45/64
A554366F000S	1 23/32	43,658	14 1/8	8 1/4	2,190	1 23/32
A554405F000S	1 47/64	44,055	14 1/8	8 1/4	2,230	1 47/64
A554445F000S	1 3/4	44,452	14 1/8	8 1/4	2,270	1 3/4
A554485F000S	1 49/64	44,849	14 1/8	8 1/4	2,320	1 49/64
A554524F000S	1 25/32	45,245	14 3/8	8 1/2	2,320	1 25/32
A554564F000S	1 51/64	45,642	14 3/8	8 1/2	2,370	1 51/64
A554604F000S	1 13/16	46,039	14 3/8	8 1/2	2,420	1 13/16
A554644F000S	1 53/64	46,436	14 3/8	8 1/2	2,480	1 53/64
A554683F000S	1 27/32	46,833	14 3/8	8 1/2	2,550	1 27/32
A554723F000S	1 55/64	47,230	14 3/8	8 1/2	2,580	1 55/64
A554763F000S	1 7/8	47,628	14 1/2	8 5/8	2,625	1 7/8
A554802F000S	1 57/64	48,024	14 1/2	8 5/8	2,700	1 57/64



PN 221155

DIN 345 RN

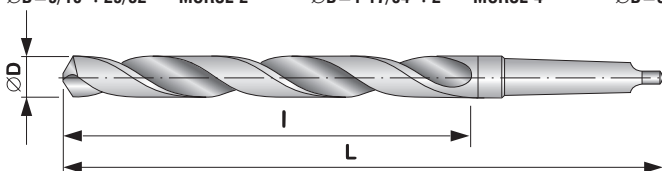


VRTÁKY S KUŽELOVOU STOPKOU (PALCOVÉ ROZMĚRY)
TAPER SHANK DRILLS (INCH SIZES)
KURZE SPIRALBOHRER MIT MORSEKEGELSCHAFT, ZOLLAUSFÜHRUNG

HSS	PAS	$\epsilon = 118^\circ$	$\lambda = 25^\circ - 30^\circ$		$14,1 - 50,5$		V 5,1 + 6,35	T 6,75 + 23,02	F 13,1 + 88,9	5xD
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Steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics						
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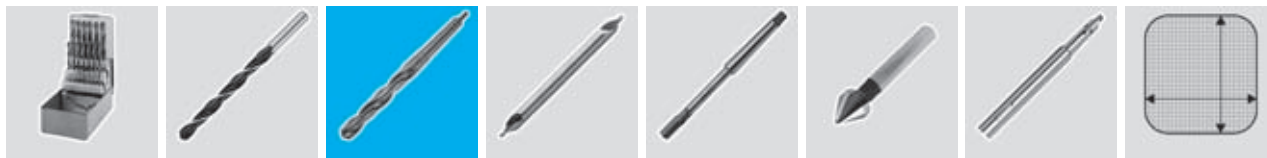
$\varnothing D = 13/64" \div 35/64" \sim$ MORSE 1
 $\varnothing D = 9/16" \div 29/32" \sim$ MORSE 2
 $\varnothing D = 59/64" \div 1 1/4" \sim$ MORSE 3
 $\varnothing D = 1 17/64" \div 2" \sim$ MORSE 4
 $\varnothing D = 2 1/32" \div 3" \sim$ MORSE 5
 $\varnothing D = 3 1/8" \div 3 1/2" \sim$ MORSE 6



Objednáací číslo Order No. Bestell-Nr.	$\varnothing D$ inch	$\varnothing D$ mm	L inch	l inch	kg	Code 221155
A554842F000S	1 29/32	48,421	14 1/2	8 5/8	2,825	1 29/32
A554882F000S	1 59/64	48,871	14 1/2	8 5/8	2,950	1 59/64
A554921F000S	1 15/16	49,214	14 1/2	8 5/8	2,980	1 15/16
A554961F000S	1 61/64	49,611	14 1/2	8 5/8	3,100	1 61/64
A555001F000S	1 31/32	50,008	14 3/4	8 7/8	3,250	1 31/32
A555040F000S	1 63/64	50,405	14 3/4	8 7/8	3,480	1 63/64
A555080F000S	2	50,800	14 3/4	8 7/8	4,220	2
A555159F000S	2 1/32	51,596	16 1/4	8 7/8	4,230	2 1/32
A555239F000S	2 1/16	52,387	16 1/4	8 7/8	4,240	2 1/16
A555318F000S	2 3/32	53,183	16 3/8	9	4,280	2 3/32
A555398F000S	2 1/8	53,977	16 3/8	9	4,300	2 1/8
A555477F000S	2 5/32	54,768	16 3/8	9	4,330	2 5/32
A555556F000S	2 3/16	55,565	16 3/8	9	4,370	2 3/16
A555636F000S	2 7/32	56,358	16 5/8	9 1/4	4,480	2 7/32
A555715F000S	2 1/4	57,152	16 5/8	9 1/4	4,730	2 1/4
A555794F000S	2 9/32	57,946	16 5/8	9 1/4	4,840	2 9/32
A555874F000S	2 5/16	58,740	16 5/8	9 1/4	5,060	2 5/16
A555953F000S	2 11/32	59,533	16 5/8	9 1/4	5,090	2 11/32
A556033F000S	2 3/8	60,327	16 7/8	9 1/2	5,160	2 3/8
A556112F000S	2 13/32	61,121	16 7/8	9 1/2	5,180	2 13/32
A556191F000S	2 7/16	61,915	16 7/8	9 1/2	5,260	2 7/16
A556271F000S	2 15/32	62,708	16 7/8	9 1/2	5,420	2 15/32

Objednáací číslo Order No. Bestell-Nr.	$\varnothing D$ inch	$\varnothing D$ mm	L inch	l inch	kg	Code 221155
A556350F000S	2 1/2	63,502	17	9 5/8	5,430	2 1/2
A556429F000S	2 17/32	64,296	17	9 5/8	5,450	2 17/32
A556509F000S	2 9/16	65,090	17	9 5/8	5,570	2 9/16
A556588F000S	2 19/32	65,884	17	9 5/8	5,700	2 19/32
A556668F000S	2 5/8	66,667	17	9 5/8	5,720	2 5/8
A556747F000S	2 21/32	67,471	17 1/4	9 7/8	5,740	2 21/32
A556826F000S	2 11/16	68,265	17 1/4	9 7/8	5,940	2 11/16
A556906F000S	2 23/32	69,056	17 1/4	9 7/8	6,090	2 23/32
A556985F000S	2 3/4	69,853	17 1/4	9 7/8	6,220	2 3/4
A557064F000S	2 25/32	70,646	17 1/4	9 7/8	6,250	2 25/32
A557144F000S	2 13/16	71,440	17 3/8	10	6,300	2 13/16
A557223F000S	2 27/32	72,234	17 3/8	10	6,390	2 27/32
A557303F000S	2 7/8	73,028	17 3/8	10	6,410	2 7/8
A557382F000S	2 29/32	73,821	17 3/8	10	6,500	2 29/32
A557461F000S	2 15/16	74,615	17 3/8	10	6,600	2 15/16
A557541F000S	2 31/32	75,409	17 5/8	10 1/4	6,900	2 31/32
A557620F000S	3	76,200	17 5/8	10 1/4	7,100	3
A557938F000S	3 1/8	79,375	20 1/4	10 1/4	8,700	3 1/8
A558255F000S	3 1/4	82,550	20 1/2	10 1/2	9,100	3 1/4
A558573F000S	3 3/8	85,725	20 5/8	10 5/8	9,700	3 3/8
A558890F000S	3 1/2	88,900	20 5/8	10 5/8	10,550	3 1/2

Poznámka / Note / Notiz: ostatní neuvedené rozměry na požádání / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



Vrtáky s kuželovou stopkou

Taper shank drills

Spiralbohrer mit Morsekegel



StimZet®

3



VRTÁKY S KUŽELOVOU STOPKOU ZVLÁŠTĚ DLOUHÉ
EXTRA LONG TAPER SHANK DRILLS
SPIRALBOHRER, EXTRA LANG, MIT MORSEKEGELSCHAFT

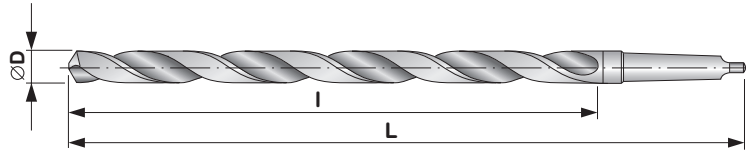
ZV 5001

DIN 341 RN
DIN 1870 RN

HSS	BLANC						V 8,0 ÷ 14,0	F 14,5 ÷ 50,0	10xD	

ØD = 8,00 ÷ 14,00 ~ MORSE 1
ØD = 14,25 ÷ 23,00 ~ MORSE 2

ØD = 23,50 ÷ 31,00 ~ MORSE 3
ØD = 32,00 ÷ 50,00 ~ MORSE 4



ØD mm	délkové provedení 1 / DIN 341				Code ZV 5001	délkové provedení 2 / DIN 1870 series 1 / Reihe 1				Code ZV 5001
	Objednací číslo Order No. Bestell-Nr.	L mm	l mm			Objednací číslo Order No. Bestell-Nr.	L mm	l mm		
8,0	A990801V000S	181	100	0,087	8x181/100	A990802V000S	265	165	0,093	8x265/165
8,5	A990851V000S	181	100	0,090	8,5x181/100	A990852V000S	265	165	0,095	8,5x265/165
9,0	A990901V000S	188	107	0,093	9x188/107	A990902V000S	275	175	0,102	9x275/175
9,5	A990951V000S	188	107	0,096	9,5x188/107	A990952V000S	275	175	0,107	9,5x275/175
10,0	A991001V000S	197	116	0,099	10x197/116	A991002V000S	285	185	0,093	10x285/185
10,5	A991051V000S	197	116	0,100	10,5x197/116	A991052V000S	285	185	0,095	10,5x285/185
11,0	A991101V000S	206	125	0,109	11x206/125	A991102V000S	300	195	0,102	11x300/195
11,5	A991151V000S	206	125	0,115	11,5x206/125	A991152V000S	300	195	0,107	11,5x300/195
12,0	A991201V000S	215	134	0,117	12x215/134	A991202V000S	310	205	0,125	12x310/205
12,5	A991251V000S	215	134	0,124	12,5x215/134	A991252V000S	310	205	0,132	12,5x310/205
13,0	A991301V000S	215	134	0,136	13x215/134	A991302V000S	310	205	0,139	13x310/205
13,5	A991351V000S	223	142	0,197	13,5x223/142	A991352V000S	325	220	0,151	13,5x325/220
14,0	A991401V000S	223	142	0,159	14x223/142	A991402F000S	325	220	0,209	14x325/220
14,5	A991451F000S	245	147	0,25	14,5x245/147	A991452F000S	340	220	0,3	14,5x340/220
15,0	A991501F000S	245	147	0,259	15x245/147	A991502F000S	340	220	0,312	15x340/220
15,5	A991551F000S	251	153	0,273	15,5x251/153	A991552F000S	355	230	0,332	15,5x355/230
16,0	A991601F000S	251	153	0,238	16x251/153	A991602F000S	355	230	0,346	16x355/230
16,5	A991651F000S	257	159	0,257	16,5x257/159	A991652F000S	355	230	0,360	16,5x355/230
17,0	A991701F000S	257	159	0,309	17x257/159	A991702F000S	355	230	0,375	17x355/230
17,5	A991751F000S	263	165	0,326	17,5x263/165	A991752F000S	370	245	0,405	17,5x370/245
18,0	A991801F000S	263	165	0,337	18x263/165	A991802F000S	370	245	0,421	18x370/245
18,5	A991851F000S	269	171	0,356	18,5x269/171	A991852F000S	370	245	0,437	18,5x370/245
19,0	A991901F000S	269	171	0,369	19x269/171	A991902F000S	370	245	0,455	19x370/245
19,5	A991951F000S	275	177	0,389	19,5x275/177	A991952F000S	385	260	0,491	19,5x385/260
20,0	A992001F000S	275	177	0,403	20x275/177	A992002F000S	385	260	0,510	20x385/260
20,5	A992051F000S	282	184	0,427	20,5x282/184	A992052F000S	385	260	0,529	20,5x385/260
21,0	A992101F000S	282	184	0,442	21x282/184	A992102F000S	385	260	0,550	21x385/260
21,5	A992151F000S	289	191	0,467	21,5x289/191	A992152F000S	405	270	0,585	21,5x405/270
22,0	A992201F000S	289	191	0,484	22x289/191	A992202F000S	405	270	0,607	22x405/270
22,5	A992251F000S	296	198	0,511	22,5x296/198	A992252F000S	405	270	0,629	22,5x405/270
23,0	A992301F000S	296	198	0,529	23x296/198	A992302F000S	405	270	0,652	23x405/270
23,5	A992351F000S	319	198	0,687	23,5x319/198	A992352F000S	425	270	0,815	23,5x425/270
24,0	A992401F000S	327	206	0,720	24x327/206	A992402F000S	440	290	0,875	24x440/290
24,5	A992451F000S	327	206	0,739	24,5x327/206	A992452F000S	440	290	0,901	24,5x440/290
25,0	A992501F000S	327	206	0,759	25x327/206	A992502F000S	440	290	0,928	25x440/290
25,5	A992551F000S	335	214	0,795	25,5x335/214	A992552F000S	440	290	0,954	25,5x440/290
26,0	A992601F000S	335	214	0,816	26x335/214	A992602F000S	440	290	0,982	26x440/290
26,5	A992651F000S	335	214	0,838	26,5x335/214	A992652F000S	440	290	1,009	26,5x440/290
27,0	A992701F000S	343	222	0,879	27x343/222	A992702F000S	460	305	1,073	27x460/305
27,5	A992751F000S	343	222	0,901	27,5x343/222	A992752F000S	460	305	1,103	27,5x460/305
28,0	A992801F000S	343	222	0,925	28x343/222	A992802F000S	460	305	1,135	28x460/305
28,5	A992851F000S	351	230	0,969	28,5x351/230	A992852F000S	460	305	1,166	28,5x460/305
29,0	A992901F000S	351	230	0,995	29x351/230	A992902F000S	460	305	1,198	29x460/305
29,5	A992951F000S	351	230	1,020	29,5x351/230	A992952F000S	460	305	1,230	29,5x460/305
30,0	A993001F000S	351	230	1,046	30x351/230	A993002F000S	460	305	1,263	30x460/305
31,0	A993101F000S	360	239	1,127	31x360/239	A993102F000S	480	320	1,378	31x480/320
32,0	A993201F000S	397	248	1,435	32x397/248	A993202F000S	505	320	1,673	32x505/320
33,0	A993301F000S	397	248	1,495	33x397/248	A993302F000S	505	320	1,748	33x505/320
34,0	A993401F000S	406	257	1,591	34x406/257	A993402F000S	530	340	1,900	34x530/340
35,0	A993501F000S	406	257	1,657	35x406/257	A993502F000S	530	340	1,985	35x530/340
36,0	A993601F000S	416	267	1,767	36x416/267	A993602F000S	530	340	2,071	36x530/340
37,0	A993701F000S	416	267	1,839	37x416/267	A993702F000S	530	340	2,161	37x530/340
38,0	A993801F000S	426	277	1,960	38x426/277	A993802F000S	555	360	2,346	38x555/360








ZV 5001

DIN 341 RN
DIN 1870 RN

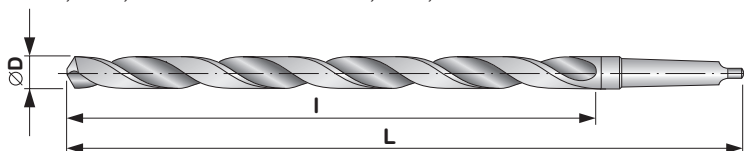




VRTÁKY S KUŽELOVOU STOPKOU ZVLÁŠŤ DLOUHÉ
EXTRA LONG TAPER SHANK DRILLS
SPIRALBOHRER, EXTRA LANG, MIT MORSEKEGELSCHAFT

HSS	BLANC	 $\epsilon = 118^\circ$	 $\lambda = 25^\circ - 30^\circ$	 8,0 - 14,0	 14,1 - 50,0	 R	V 8,0 ÷ 14,0	F 14,5 ÷ 50,0	10xD
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Steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics					
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ØD = 8,00 ÷ 14,00 ~ MORSE 1 ØD = 23,50 ÷ 31,00 ~ MORSE 3
ØD = 14,25 ÷ 23,00 ~ MORSE 2 ØD = 32,00 ÷ 50,00 ~ MORSE 4



délkové provedení 1 / DIN 341					délkové provedení 2 / DIN 1870 series 1 / Reihe 1					
ØD mm	Objednací číslo Order No. Bestell-Nr.	L mm	I mm	 kg	Code ZV 5001	Objednací číslo Order No. Bestell-Nr.	L mm	I mm	 kg	Code ZV 5001
39,0	A993901F000S	426	277	2,038	39x426/277	A993902F000S	555	360	2,445	39x555/360
40,0	A994001F000S	426	277	2,119	40x426/277	A994002F000S	555	360	2,547	40x555/360
41,0	A994101F000S	436	287	2,256	41x436/287	A994102F000S	555	360	2,651	41x555/360
42,0	A994201F000S	436	287	2,343	42x436/287	A994202F000S	555	360	2,758	42x555/360
43,0	A994301F000S	447	298	2,498	43x447/298	A994302F000S	585	385	3,016	43x585/385
44,0	A994401F000S	447	298	2,593	44x447/298	A994402F000S	585	385	3,136	44x585/385
45,0	A994501F000S	447	298	2,69	45x447/298	A994502F000S	585	385	3,257	45x585/385
46,0	A994601F000S	459	310	2,87	46x459/310	A994602F000S	585	385	3,382	46x585/385
47,0	A994701F000S	459	310	2,975	47x459/310	A994702F000S	585	385	3,509	47x585/385
48,0	A994801F000S	470	321	3,082	48x470/321	A994802F000S	605	405	3,787	48x605/405
49,0	A994901F000S	470	321	3,277	49x470/321	A994902F000S	605	405	3,926	49x605/405
50,0	A995001F000S	470	321	3,397	50x470/321	A995002F000S	605	405	4,075	50x605/405

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage

délkové provedení 3 / DIN 1870 series 2 / Reihe 2					
ØD mm	Objednací číslo Order No. Bestell-Nr.	L mm	I mm	 kg	Code ZV 5001
10,0	A991003V000S	360	235	0,133	10x360/235
10,5	A991053V000S	360	235	0,142	10,5x360/235
11,0	A991103V000S	375	250	0,158	11x375/250
11,5	A991153V000S	375	250	0,168	11,5x375/250
12,0	A991203V000S	395	260	0,184	12x395/260
12,5	A991253V000S	395	260	0,195	12,5x395/260
13,0	A991303V000S	395	260	0,208	13x395/260
13,5	A991353V000S	410	275	0,229	13,5x410/275
14,0	A991403F000S	410	275	0,234	14x410/275
14,5	A991453F000S	425	275	0,337	14,5x425/275
15,0	A991503F000S	425	275	0,352	15x425/275
15,5	A991553F000S	445	295	0,383	15,5x445/295
16,0	A991603F000S	445	295	0,400	16x445/295
16,5	A991653F000S	445	295	0,417	16,5x445/295
17,0	A991703F000S	445	295	0,435	17x445/295
17,5	A991753F000S	465	310	0,469	17,5x465/310
18,0	A991803F000S	465	310	0,489	18x465/310
18,5	A991853F000S	465	310	0,465	18,5x465/310
19,0	A991903F000S	465	310	0,53	19x465/310
19,5	A991953F000S	490	325	0,57	19,5x490/325
20,0	A992003F000S	490	325	0,594	20x490/325
20,5	A992053F000S	490	325	0,617	20,5x490/325
21,0	A992103F000S	490	325	0,642	21x490/325
21,5	A992153F000S	515	345	0,696	21,5x515/345
22,0	A992203F000S	515	345	0,724	22x515/345
22,5	A992253F000S	515	345	0,751	22,5x515/345
23,0	A992303F000S	515	345	0,779	23x515/345
23,5	A992353F000S	535	345	0,948	23,5x535/345
24,0	A992403F000S	555	365	1,015	24x555/365
24,5	A992453F000S	555	365	1,046	24,5x555/365
25,0	A992503F000S	555	365	1,079	25x555/365

délkové provedení 3 / DIN 1870 series 2 / Reihe 2					
ØD mm	Objednací číslo Order No. Bestell-Nr.	L mm	I mm	 kg	Code ZV 5001
25,5	A992553F000S	555	365	1,117	25,5x555/365
26,0	A992603F000S	555	365	1,145	26x555/365
26,5	A992653F000S	555	365	1,179	26,5x555/365
27,0	A992703F000S	580	385	1,261	27x580/385
27,5	A992753F000S	580	385	1,298	27,5x580/385
28,0	A992803F000S	580	385	1,337	28x580/385
28,5	A992853F000S	580	385	1,375	28,5x580/385
29,0	A992903F000S	580	385	1,145	29x580/385
29,5	A992953F000S	580	385	1,454	29,5x580/385
30,0	A993003F000S	580	385	1,495	30x580/385
31,0	A993103F000S	610	410	1,656	31x610/410
32,0	A993203F000S	635	410	1,969	32x635/410
33,0	A993303F000S	635	410	2,064	33x635/410
34,0	A993403F000S	665	430	2,235	34x665/430
35,0	A993503F000S	665	430	2,340	35x665/430
36,0	A993603F000S	665	430	2,447	36x665/430
37,0	A993703F000S	665	430	2,557	37x665/430
38,0	A993803F000S	695	460	2,811	38x695/460
39,0	A993903F000S	695	460	2,934	39x695/460
40,0	A994003F000S	695	460	3,062	40x695/460
41,0	A994103F000S	695	460	3,192	41x695/460
42,0	A994203F000S	695	460	3,326	42x695/460
43,0	A994303F000S	735	490	3,641	43x735/490
44,0	A994403F000S	735	490	3,790	44x735/490
45,0	A994503F000S	735	490	3,942	45x735/490
46,0	A994603F000S	735	490	4,097	46x735/490
47,0	A994703F000S	735	490	4,255	47x735/490
48,0	A994803F000S	765	510	4,64	48x765/510
49,0	A994903F000S	765	510	4,815	49x765/510
50,0	A995003F000S	765	510	5,002	50x765/510

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



Vrtáky s kuželovou stopkou

Taper shank drills

Spiralbohrer mit Morsekegel



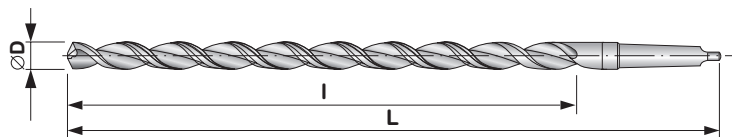
VRTÁKY S KUŽELOVOU STOPKOU ZVLÁŠT DLOUHÉ, PRO TĚŽKO OBROBITELNÉ MATERIÁLY
COBALT EXTRA LONG TAPER SHANK DRILLS
SPIRALBOHRER, EXTRA LANG, FÜR SCHWER ZERSPANBARE WERKSTOFFE, MIT MORSEKEGELSCHAFT

ZV 5001 - T 1000

DIN 341 GT100
DIN 1870 GT100

HSSCo5	BLANC	$\epsilon = 128^\circ$	$\lambda = 35^\circ - 40^\circ$	T1000 (GT 100)	DIN 1412 FORM „C“	R	V	10xD		
Steel <1200 MPa	Stainless steel	Cast iron	Al/alloy	Cu/alloy						

ØD = 8,00 ÷ 14,00 ~ MORSE 1



ØD mm	délkové provedení 1 / DIN 341				Code ZV 5001 T1000	délkové provedení 2 / DIN 1870 series 1 / Reihe 1				Code ZV 5001 T1000
	Objednáací číslo Order No. Bestell-Nr.	L mm	I mm	kg		Objednáací číslo Order No. Bestell-Nr.	L mm	I mm	kg	
8,0	A990801G400S	181	100	0,087	8x181/100	A990802G400S	265	165	0,093	8x265/165
8,5	A990851G400S	181	100	0,09	8,5x181/100	A990852G400S	265	165	0,095	8,5x265/165
9,0	A990901G400S	188	107	0,093	9x188/107	A990902G400S	275	175	0,102	9x275/175
9,5	A990951G400S	188	107	0,096	9,5x188/107	A990952G400S	275	175	0,107	9,5x275/175
10,0	A991001G400S	197	116	0,099	10x197/116	A991002G400S	285	185	0,117	10x285/185
10,5	A991051G400S	197	116	0,1	10,5x197/116	A991052G400S	285	185	0,124	10,5x285/185
11,0	A991101G400S	206	125	0,109	11x206/125	A991102G400S	300	195	0,136	11x300/195
11,5	A991151G400S	206	125	0,115	11,5x206/125	A991152G400S	300	195	0,145	11,5x300/195
12,0	A991201G400S	215	134	0,125	12x215/134	A991202G400S	310	205	0,158	12x310/205
12,5	A991251G400S	215	134	0,132	12,5x215/134	A991252G400S	310	205	0,158	12,5x310/205
13,0	A991301G400S	215	134	0,139	13x215/134	A991302G400S	310	205	0,178	13x310/205
13,5	A991351G400S	223	142	0,151	13,5x223/142	A991352G400S	325	220	0,197	13,5x325/220
14,0	A991401G400S	223	142	0,159	14x223/142	A991402G400S	325	220	0,209	14x325/220
14,5	A991451G400S	245	147	0,250	14,5x245/147	A991452G400S	340	220	0,300	14,5x340/220
15,0	A991501G400S	245	147	0,259	15x245/147	A991502G400S	340	220	0,312	15x340/220
15,5	A991551G400S	251	153	0,273	15,5x251/153	A991552G400S	355	230	0,332	15,5x355/230
16,0	A991601G400S	251	153	0,283	16x251/153	A991602G400S	355	230	0,346	16x355/230
16,5	A991651G400S	257	159	0,297	16,5x257/159	A991652G400S	355	230	0,360	16,5x355/230
17,0	A991701G400S	257	159	0,309	17x257/159	A991702G400S	355	230	0,375	17x355/230
17,5	A991751G400S	263	165	0,326	17,5x263/165	A991752G400S	370	245	0,405	17,5x370/245
18,0	A991801G400S	263	165	0,337	18x263/165	A991802G400S	370	245	0,421	18x370/245
18,5	A991851G400S	269	171	0,356	18,5x269/171	A991852G400S	370	245	0,437	18,5x370/245
19,0	A991901G400S	269	171	0,369	19x269/171	A991902G400S	370	245	0,455	19x370/245
19,5	A991951G400S	275	177	0,389	19,5x275/177	A991952G400S	385	260	0,491	19,5x385/260
20,0	A992001G400S	275	177	0,403	20x275/177	A992002G400S	385	260	0,510	20x385/260

ØD mm	délkové provedení 3 / DIN 1870 series 2 / Reihe 2				Code ZV 5001 T1000
	Objednáací číslo Order No. Bestell-Nr.	L mm	I mm	kg	
14,0	A991403G400S	410	275	0,234	14x410/275
14,5	A991453G400S	425	275	0,337	14,5x425/275
15,0	A991503G400S	425	275	0,352	15x425/275
15,5	A991553G400S	445	295	0,383	15,5x445/295
16,0	A991603G400S	445	295	0,400	16x445/295
16,5	A991653G400S	445	295	0,417	16,5x445/295
17,0	A991703G400S	445	295	0,435	17x445/295
17,5	A991753G400S	465	310	0,469	17,5x465/310
18,0	A991803G400S	465	310	0,489	18x465/310
18,5	A991853G400S	465	310	0,510	18,5x465/310
19,0	A991903G400S	465	310	0,530	19x465/310
19,5	A991953G400S	490	325	0,570	19,5x490/325
20,0	A992003G400S	490	325	0,594	20x490/325

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



PN 221252

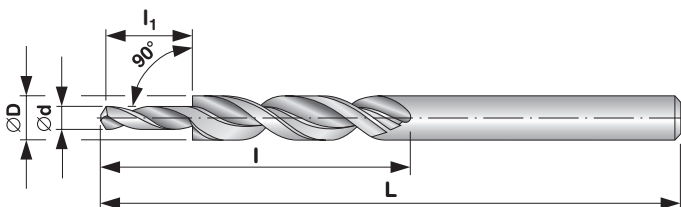
DIN 8376



VRTÁKY STUPŇOVITÉ S VÁLCOVOU STOPKOU NA DÍRY PRO DŘÍK A HLAVU ŠROUBU 180°
 STRAIGHT SHANK SUBLAND DRILLS, FOR DRILLING OF CLEARANCE HOLES, 180°
 MEHRFASENSTUFENBOHRER MIT ZYLINDRISCHEM SCHAFT, FÜR DURCHGANGSBOHRUNGEN, 180°

HSS	BLANC	$\epsilon = 118^\circ$	$\lambda = 25^\circ - 30^\circ$	DIN 1412 FORM „A“		V	F			
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Steel < 850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics						
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Objednací číslo Order No. Bestell-Nr.	$\varnothing D$ mm	$\varnothing d$ mm	L mm	l mm	l_1 mm	Pro závit For thread Für Gewinde		Code 221252
DIN 8376								
K520600V000S	6,0	3,4	93	57	9	M3	0,013	6x3,4 / M3-180°/
K520800V000S	8,0	4,5	117	75	11	M4	0,026	8x4,5 / M4-180°/
K521000V000S	10,0	5,5	133	87	13	M5	0,051	10x5,5 / M5-180°/
K521100V000S	11,0	6,6	142	94	15	M6	0,066	11x6,6 / M6-180°/
K521500V000S	15,0	9,0	169	114	19	M8	0,134	15x9,0 / M8-180°/
K521800V000S	18,0	11,0	191	130	23	M10	0,22	18x11,0 / M10-180°/
PN 221252								
K520801V000S	8,0	4,3	117	75	11	M4	0,027	8x4,3 / M4-180°/
K521001V000S	10,0	5,3	133	87	13	M5	0,052	10x5,3 / M5-180°/
K521101V000S	11,0	6,4	142	94	15	M6	0,068	11x6,4 / M6-180°/
K521501V000S	15,0	8,4	169	114	19	M8	0,137	15x8,4 / M8-180°/

Poznámka / Note / Notiz: ostatní neuvedené rozměry na požádání / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage

PN 221254

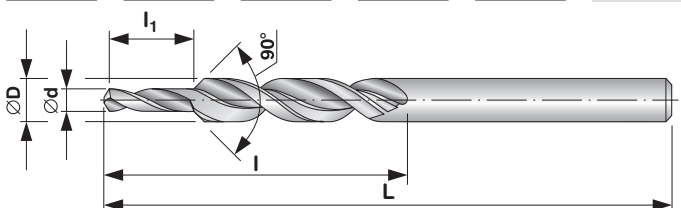
DIN 8374



VRTÁKY STUPŇOVITÉ S VÁLCOVOU STOPKOU NA DÍRY PRO DŘÍK A HLAVU ŠROUBU 90°
 STRAIGHT SHANK SUBLAND DRILLS, FOR DRILLING OF CLEARANCE HOLES, 90°
 MEHRFASENSTUFENBOHRER MIT ZYLINDRISCHEM SCHAFT FÜR DURCHGANGSBOHRUNGEN, 90°

HSS	BLANC	$\epsilon = 118^\circ$	$\lambda = 25^\circ - 30^\circ$	DIN 1412 FORM „A“		V 7,8 ÷ 17,2	F 15,4			
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Steel < 850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics						
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Objednací číslo Order No. Bestell-Nr.	$\varnothing D$ mm	$\varnothing d$ mm	L mm	l mm	l_1 mm	Pro závit For thread Für Gewinde		Code 221254
DIN 8374								
K540660V000S	6,6	3,4	101	63	9	M3	0,018	6,6x3,4 / M3-90°/
K540900V000S	9,0	4,5	125	81	11	M4	0,037	9x4,5 / M4-90°/
K541100V000S	11,0	5,5	142	94	13	M5	0,067	11x5,5 / M5-90°/
K541300V000S	13	6,6	151	101	15	M6	0,092	13x6,6 / M6-90°/
K541720V000S	17,2	9	191	130	19	M8	0,210	17,2x9 / M8-90°/
PN 221254								
K540780V000S	7,8	4,3	117	75	11	M4	0,024	7,8x4,3 / M4-90°/
K540950V000S	9,5	5,3	125	81	13	M5	0,039	9,5x5,3 / M5-90°/
K541140V000S	11,4	6,4	142	94	15	M6	0,069	11,4x6,4 / M6-90°/
K541540V000S	15,4	8,4	178	120	19	M8	0,15	15,4x8,4 / M8-90°/

Poznámka / Note / Notiz: ostatní neuvedené rozměry na požádání / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



Vrtáky pro speciální použití

Special use drills

Bohrer für spezielle Anwendungen



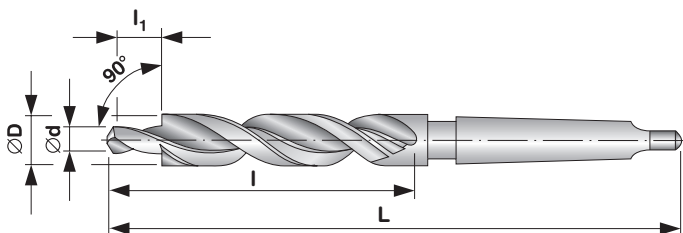
VRTÁKY STUPŇOVITÉ S KUŽELOVOU STOPKOU NA DÍRY PRO DŘÍK A HLAVU ŠROUBU, 180°
 TAPER SHANK SUBLAND DRILLS, FOR DRILLING OF CLEARANCE HOLES, 180°
 MEHRFASENSTUFENBOHRER MIT MORSEKEGELSCHAFT, FÜR DURCHGANGSBOHRUNGEN, 180°

PN 221253

DIN 8377

HSS	BLANC	$\epsilon = 118^\circ$	$\lambda = 25^\circ - 30^\circ$	DIN 1412 FORM „A“	R	V	F			
Steel < 850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics						

$\varnothing D = 8,00 \div 11,00 \sim$ MORSE 1 $\varnothing D = 24,00 \div 30,00 \sim$ MORSE 3
 $\varnothing D = 15,00 \div 20,00 \sim$ MORSE 2 $\varnothing D = 34,00 \sim$ MORSE 4



Objednáací číslo Order No. Bestell-Nr.	$\varnothing D$ mm	$\varnothing d$ mm	L mm	l mm	l ₁ mm	Pro závit For thread Für Gewinde	MK		Code 221253
DIN 8377									
K531000V000S	10,0	5,5	168	87	13	M5	1	0,084	10x5,5 /M5-180°/
K531100V000S	11,0	6,6	175	94	15	M6	1	0,094	11x6,6 /M6-180°/
K531500V000S	15,0	9,0	212	114	19	M8	2	0,098	15x9 /M8-180°/
K531800F000S	18,0	11,0	228	130	23	M10	2	0,295	18x11 /M10-180°/
K532000F000S	20,0	13,5	238	140	27	M12	2	0,344	20x13,5 /M12-180°/
K532400F000S	24,0	15,5	281	160	31	M14	3	0,651	24x15,5 /M14-180°/
K532600F000S	26,0	17,5	286	165	35	M16	3	0,726	26x17,5 /M16-180°/
K533000F000S	30,0	20,0	296	175	39	M18	3	0,923	30x20 /M18-180°/
K533300F000S	33,0	22,0	334	185	43	M20	4	1,304	34x22 /M20-180°/
PN 221253									
K531001V000S	10,0	5,3	168	87	13	M5	1	0,084	10x5,3 /M5-180°/
K531101V000S	11,0	6,4	175	94	15	M6	1	0,094	11x6,4 /M6-180°/
K531501V000S	15,0	8,4	212	114	19	M8	2	0,098	15x8,4 /M8-180°/
K531801V000S	18,0	10,5	228	130	23	M10	2	0,295	18x10,5 /M10-180°/
K532001V000S	20,0	13,0	238	140	27	M12	2	0,344	20x13 /M12-180°/
K532401F000S	24,0	15,0	281	160	31	M14	3	0,651	24x15 /M14-180°/
K532601F000S	26,0	17,0	286	165	35	M16	3	0,726	26x17 /M16-180°/
K533001F000S	30,0	19,0	296	175	39	M18	3	0,923	30x19 /M18-180°/
K533401F000S	34,0	21,0	339	190	43	M20	3	1,304	34x21 /M20-180°/

Poznámka / Note / Notiz: ostatní neuvedené rozměry na požádání / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage

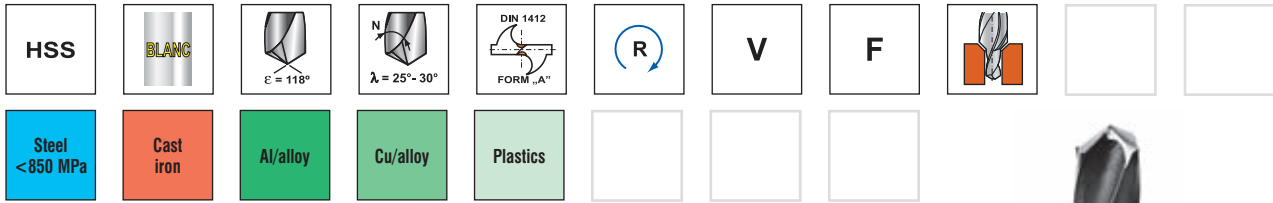


PN 221255

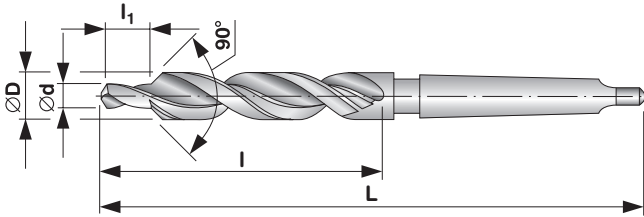
DIN 8375



VRTÁKY STUPŇOVITÉ S KUŽELOVOU STOPKOU NA DÍRY PRO DŘÍK A HLAVU ŠROUBU, 90°
 TAPER SHANK SUBLAND DRILLS, FOR DRILLING OF CLEARANCE HOLES, 90°
 MEHRFASENSTUFENBOHRER, MIT MORSEKEGELSCHAFT, FÜR DURCHGANGSBOHRUNGEN, 90°



ØD = 9,50 ÷ 14,00 ~ MORSE 1
 ØD = 15,40 ÷ 22,50 ~ MORSE 2
 ØD = 25,00 ÷ 28,00 ~ MORSE 3
 ØD = 33,00 ÷ 37,00 ~ MORSE 4



Objednáací číslo Order No. Bestell-Nr.	ØD mm	Ød mm	L mm	l mm	l ₁ mm	Pro závit For thread Für Gewinde	MK	kg	Code 221255
DIN 8375									
K551100V000S	11,0	5,5	175	94	13	M5	1	0,094	11x5,5 / M5-90°/
K551300V000S	13,0	6,6	182	101	15	M6	1	0,096	13x6,6 / M6-90°/
K551720V000S	17,2	9,0	228	130	19	M8	2	0,283	17,2x9 / M8-90°/
K552150F000S	21,5	11,0	248	150	23	M10	2	0,421	21,5x11 / M10-90°/
K552600F000S	26,0	14,0	286	165	27	M12	3	0,728	26x14 / M12-90°/
K552900F000S	29,0	16,0	296	175	31	M14	3	0,871	29x16 / M14-90°/
PN 221255									
K550950V000S	9,5	5,3	162	81	13	M5	1	0,077	9,5x5,3 / M5-90°/
K551140V000S	11,4	6,4	175	94	15	M6	1	0,103	11,4x6,4 / M6-90°/
K551540V000S	15,4	8,4	218	120	19	M8	2	0,18	15,4x8,4 / M8-90°/
K551850V000S	18,5	10,5	233	135	23	M10	2	0,314	18,5x10,5 / M10-90°/
K552250F000S	22,5	13,0	253	155	27	M12	2	0,56	22,5x13 / M12-90°/
K552500F000S	25,0	15,0	281	160	31	M14	3	0,715	25x15 / M14-90°/
K552800F000S	28,0	17,0	291	170	35	M16	3	0,82	28x17 / M16-90°/
K553300F000S	33,0	19,0	334	185	39	M18	4	1,195	33x19 / M18-90°/
K553700F000S	37,0	21,0	344	195	43	M20	4	1,71	37x21 / M20-90°/

Poznámka / Note / Notiz: ostatní neuvedené rozměry na požádání / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



Vrtáky pro speciální použití

Special use drills

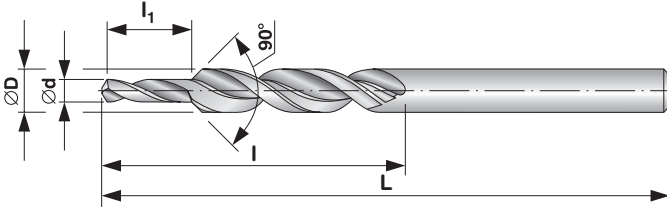
Bohrer für spezielle Anwendungen



VRTÁKY STUPŇOVITÉ S VÁLCOVOU STOPKOU NA DÍRY PRO ZÁVIT A HLAVU ŠROUBU 90°
STRAIGHT SHANK SUBLAND DRILLS, FOR DRILLING OF TAPPING SIZED HOLES, 90°
MEHRFASENSTUFENBOHRER, MIT ZYLINDERISCHEM SCHAFT, FÜR GEWINDEKERNBOHRUNGEN, 90°

PN 221258

DIN 8378



Objednáací číslo Order No. Bestell-Nr.	ØD mm	Ød mm	L mm	l mm	l ₁ mm	Pro závit For thread Für Gewinde	kg	Code 221258
DIN 8378								
K580340V000S	3,4	2,5	70	39	8,8	M3	0,003	3,4x2,5 /M3-90°/
K580450V000S	4,5	3,3	80	47	11,4	M4	0,006	4,5x3,3 /M4-90°/
K580550V000S	5,5	4,2	93	57	13,6	M5	0,098	5,5x4,2 /M5-90°/
K580660V000S	6,6	5,0	101	63	16,5	M6	0,018	6,6x5 /M6-90°/
K580900V000S	9,0	6,8	125	81	21	M8	0,037	9x6,8 /M8-90°/
K581100V000S	11,0	8,50	142	94	25,5	M10	0,067	11x8,5 /M10-90°/
K581350V000S	13,5	10,2	160	108	30	M12	0,108	13,5x10,2 /M12-90°/
K581600V000S	16,0	12,0	178	120	35	M14	0,17	16x12 /M14-90°/
PN 221258								
K580451V000S	4,5	3,3	80	47	12	M4	0,006	4,5x3,3 /M4-90°/
K580551V000S	5,5	4,2	93	57	14,5	M5	0,098	5,5x4,2 /M5-90°/
K580661V000S	6,6	5,0	101	63	17	M6	0,018	6,6x5 /M6-90°/
K580901V000S	9,0	6,8	125	81	21,5	M8	0,038	9x6,8 /M8-90°/
K581101V000S	11,0	8,5	142	94	26	M10	0,068	11x8,5 /M10-90°/
K581401V000S	14,0	10,2	160	108	30,5	M12	0,125	14x10,2 /M12-90°/
K581601V000S	16,0	12,0	178	120	35	M14	0,17	16x12 /M14-90°/

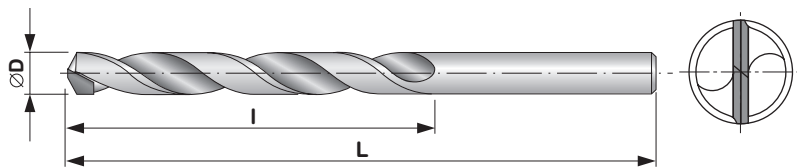
Poznámka / Note / Notiz: ostatní neuvedené rozměry na požádání / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



VRTÁKY DO KOVU S VÁLCOVOU STOPKOU S OSTRÍM ZE SLINUTÉHO KARBIDU
 CARBIDE TIPPED TWIST DRILLS WITH STRAIGHT SHANK
 SPIRALBOHRER MIT ZYLINDRISCHEM SCHAFT UND HARTMETALLBESTÜCKT

ZVSE 221322, TP 320

SK-K10	BLANC	$\epsilon = 118^\circ$	$\lambda = 25^\circ - 30^\circ$	DIN 1412 FORM „N“	R	F	5xD			
Steel <1200 MPa	Cast iron	Heat- resistant	Titanium alloy							



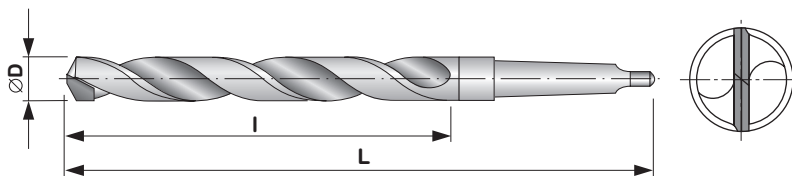
$\varnothing D$ mm	kg	Code TP 320
2,5	0,001	2,5
2,8	0,002	2,8
3	0,003	3
3,1	0,003	3,1
3,2	0,003	3,2
3,4	0,004	3,4
3,5	0,004	3,5
3,8	0,004	3,8
4	0,005	4
4,2	0,006	4,2
4,5	0,007	4,5
4,8	0,009	4,8
5	0,010	5
5,2	0,012	5,2
5,5	0,013	5,5
5,8	0,016	5,8
6	0,017	6
6,2	0,019	6,2
6,5	0,022	6,5
6,8	0,025	6,8
7	0,027	7
7,2	0,029	7,2
7,5	0,032	7,5
7,8	0,036	7,8
8	0,038	8
8,2	0,040	8,2
8,5	0,043	8,5
8,8	0,047	8,8
9	0,054	9
9,2	0,053	9,2
9,5	0,058	9,5
9,8	0,062	9,8
10	0,065	10
10,5	0,070	10,5
11	0,080	11
11,5	0,087	11,5
12	0,095	12
13	0,102	13
14	0,113	14
15	0,148	15
16	0,173	16
17	0,202	17
18	0,243	18
19	0,279	19
20	0,319	20



ZVSE 221332, TP 330

VRTÁKY DO KOVU S KUŽELOVOU STOPKOU S OSTRÍM ZE SLINUTÉHO KARBIDU
CARBIDE TIPPED TWIST DRILLS WITH TAPER SHANK
SPIRALBOHRER MIT MORSEKEGELSCHAFT UND HARTMETALLBESTÜCKT

SK-K10	BLANC	$\epsilon = 118^\circ$	$\lambda = 25^\circ - 30^\circ$	DIN 1412 FORM „N“	R	F	5xD			
Steel <1200 MPa	Cast iron	Heat- resistant	Titanium alloy							



ØD mm	MORSE	kg	Code TP 330
10	1	0,085	10
10,5	1	0,090	10,5
11	1	0,092	11
11,5	1	0,095	11,5
12	1	0,095	12
13	2	0,210	13
14	2	0,220	14
15	2	0,234	15
16	2	0,237	16
17	2	0,248	17
18	2	0,252	18
19	3	0,453	19
20	3	0,472	20
21	3	0,483	21
22	3	0,498	22
23	3	0,502	23
24	3	0,531	24
25	3	0,558	25
26	3	0,598	26
27	4	1,025	27
28	4	1,040	28
29	4	1,062	29
30	4	1,083	30
31	4	1,164	31
32	4	1,186	32
33	4	1,216	33
34	4	1,304	34
35	4	1,544	35
36	4	1,586	36
37	4	1,767	37
38	4	1,808	38
39	4	1,972	39
40	4	2,043	40



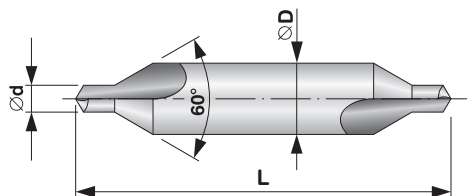


VRTÁKY STŘEDICÍ 60° – TVAR A
CENTER DRILLS, RIGHT HAND CUTTING – FORM A
ZENTRIERBOHRER 60°, RECHTSSCHNEIDEND – FORM A

ČSN 221110

DIN 333A

HSS	HSSCo	BLANC	DIN 1412 FORM „N“	R	V					
HSS Steel <850 MPa	HSS Co Steel <1000 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics					



HSS

Objednáací číslo Order No. Bestell-Nr.	∅d mm	L mm	∅D mm	Code 221110
A100050V000S	0,5	25,00	3,15	0,5
A100080V000S	0,8	25,00	3,15	0,8
A100100V000S	1,0	31,5	3,15	1
A100125V000S	1,25	31,5	3,15	1,25
A100160V000S	1,6	35,5	4,00	1,6
A100200V000S	2,0	40,0	5,00	2
A100250V000S	2,5	45,0	6,30	2,5
A100315V000S	3,15	50,0	8,00	3,15
A100400V000S	4,0	56,0	10,00	4
A100500V000S	5,0	63,0	12,50	5
A100630V000S	6,3	71,0	16,00	6,3
A100800V000S	8,0	80,0	20,00	8
A101000V000S	10,0	100,00	25,00	10

HSS Co

Objednáací číslo Order No. Bestell-Nr.	∅d mm	L mm	∅D mm	Code 221110
A100050V400S	0,5	25,00	3,15	0,5
A100080V400S	0,8	25,00	3,15	0,8
A100100V400S	1,0	31,5	3,15	1
A100125V400S	1,25	31,5	3,15	1,25
A100160V400S	1,6	35,5	4,00	1,6
A100200V400S	2,0	40,0	5,00	2
A100250V400S	2,5	45,0	6,30	2,5
A100315V400S	3,15	50,0	8,00	3,15
A100400V400S	4,0	56,0	10,00	4
A100500V400S	5,0	63,0	12,50	5
A100630V400S	6,3	71,0	16,00	6,3
A100800V400S	8,0	80,0	20,00	8
A101000V400S	10,0	100,00	25,00	10

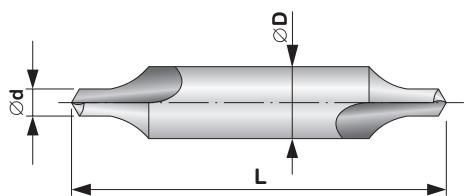


VRTÁKY STŘEDICÍ 60° – TVAR R
CENTER DRILLS, RIGHT HAND CUTTING – FORM R
ZENTRIERBOHRER 60°, RECHTSSCHNEIDEND – FORM R

ČSN 221116

DIN 333R

HSS	BLANC	DIN 1412 FORM „N“	R	V						
Steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics						



Objednáací číslo Order No. Bestell-Nr.	∅d mm	L mm	∅D mm	Code 221116
A160100V000S	1,0	31,5	3,15	1
A160125V000S	1,25	31,5	3,15	1,25
A160160V000S	1,6	35,5	4,00	1,6
A160200V000S	2,0	40,0	5,00	2
A160250V000S	2,5	45,0	6,30	2,5
A160315V000S	3,15	50,0	8,00	3,15

Objednáací číslo Order No. Bestell-Nr.	∅d mm	L mm	∅D mm	Code 221116
A160400V000S	4,0	56,0	10,00	4
A160500V000S	5,0	63,0	12,50	5
A160630V000S	6,3	71,0	16,00	6,3
A160800V000S	8,0	80,0	20,00	8
A160100V000S	10,0	100,0	25,00	10

Poznámka / Note / Notiz: HSS Co – na poptávku / HSS Co – on demand / HSS Co – auf Anfrage

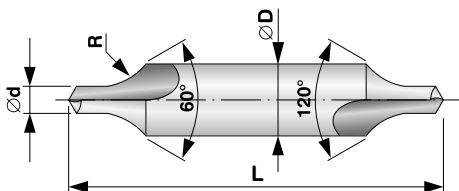
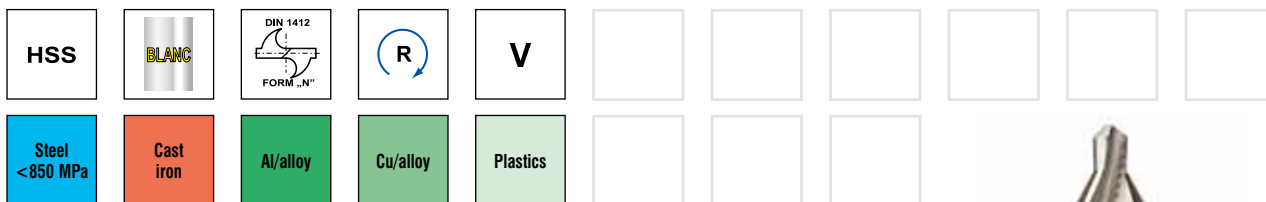


ČSN 221112

DIN 333B



VRTÁKY STŘEDICÍ 60° – TVAR B
CENTER DRILLS, RIGHT HAND CUTTING – FORM B
ZENTRIERBOHRER 60°, RECHTSSCHNEIDEND – FORM B



Objednací číslo Order No. Bestell-Nr.	$\varnothing d$ mm	L mm	$\varnothing D$ mm	Code 221116
A160100V000S	1,0	31,5	3,15	1
A160125V000S	1,25	31,5	3,15	1,25
A160160V000S	1,6	35,5	4,00	1,6
A160200V000S	2,0	40,0	5,00	2
A160250V000S	2,5	45,0	6,30	2,5
A160315V000S	3,15	50,0	8,00	3,15

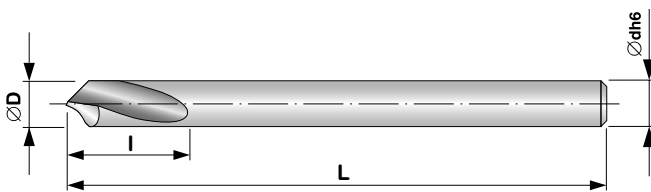
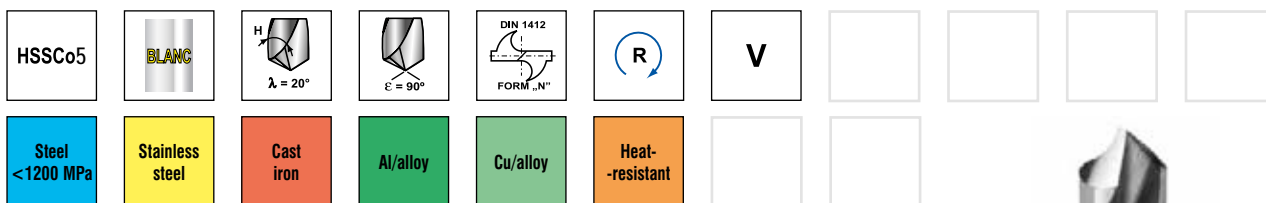
Objednací číslo Order No. Bestell-Nr.	$\varnothing d$ mm	L mm	$\varnothing D$ mm	Code 221116
A160400V000S	4,0	56,0	10,00	4
A160500V000S	5,0	63,0	12,50	5
A160630V000S	6,3	71,0	16,00	6,3
A160800V000S	8,0	80,0	20,0	8
A160100V000S	10,0	100,0	25,0	10

Poznámka / Note / Notiz: HSS Co – na poptávku / HSS Co – on demand / HSS Co – auf Anfrage

ZVSE 221185



NC NAVRTÁVÁKY 90°
SPOTTING DRILLS 90°
NC-ANBOHRER 90°



Objednací číslo Order No. Bestell-Nr.	$\varnothing D$ mm	L mm	I mm		Code 221185
A850300V400S	3	46	12	0,002	3x46/12
A850400V400S	4	55	12	0,005	4x55/16
A850500V400S	5	62	14	0,009	5x62/18
A850600V400S	6	66	16	0,014	6x66/20
A850800V400S	8	79	21	0,030	8x79/26

Objednací číslo Order No. Bestell-Nr.	$\varnothing D$ mm	L mm	I mm		Code 221185
A851000V400S	10	89	25	0,050	10x89/30
A851200V400S	12	102	30	0,070	12x102/35
A851600V400S	16	115	38	0,150	16x115/40
A852000V400S	20	131	45	0,270	20x131/47
A852500V400S	25	151	53	0,481	25x151/53

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage

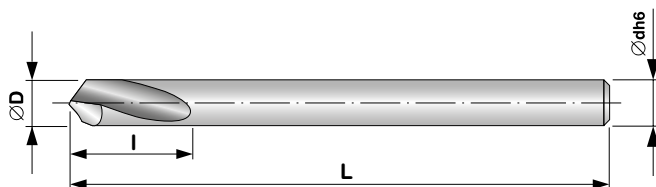




NC NAVRTÁVÁKY 120°
SPOTTING DRILLS 120°
NC-ANBOHRER 120°

ZVSE 221189

HSSCo5	BLANC	$\lambda = 20^\circ$	$\epsilon = 120^\circ$	DIN 1412 FORM „N“	R	V				
Steel <1200 MPa	Stainless steel	Cast iron	Al/alloy	Cu/alloy	Heat-resistant					



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 221189
A890300V400S	3	46	12	0,002	3x46/12
A890400V400S	4	55	16	0,005	4x55/16
A890500V400S	5	62	18	0,009	5x62/18
A890600V400S	6	66	20	0,014	6x66/20
A890800V400S	8	79	26	0,030	8x79/26
A891000V400S	10	89	30	0,050	10x89/25

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 221189
A891200V400S	12	102	35	0,070	12x102/30
A891400V400S	14	107	38	0,110	14x107/34
A891600V400S	16	115	43	0,150	16x115/38
A892000V400S	20	131	50	0,270	20x131/45
A892500V400S	25	151	58	0,481	25x151/53

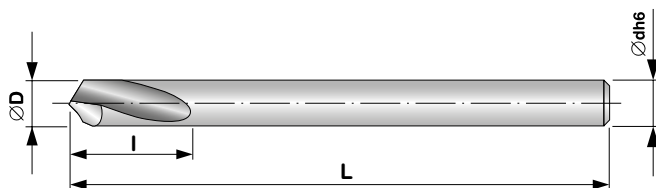
Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



NC NAVRTÁVÁKY 145°
SPOTTING DRILLS 145°
NC-ANBOHRER 145°

ZVSE 221186

HSSCo5	BLANC	$\lambda = 20^\circ$	$\epsilon = 145^\circ$	DIN 1412 FORM „N“	R	V				
Steel <1200 MPa	Stainless steel	Cast iron	Al/alloy	Cu/alloy	Heat-resistant					



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 221186
A860300V400S	3	46	12	0,002	3x46/12
A860400V400S	4	55	12	0,005	4x55/16
A860500V400S	5	62	14	0,009	5x62/18
A860600V400S	6	66	16	0,014	6x66/20
A860800V400S	8	79	21	0,030	8x79/26

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	kg	Code 221186
A861000V400S	10	89	25	0,050	10x89/30
A861200V400S	12	102	30	0,070	12x102/35
A861600V400S	16	115	38	0,150	16x115/40
A862000V400S	20	131	45	0,270	20x131/47
A862500V400S	25	151	53	0,481	25x151/53

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage

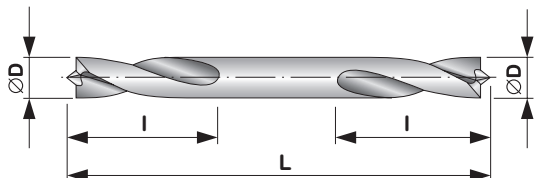


ZVSE 221138.1



VRTÁKY OBOUSTRANNÉ NA BODOVÉ SVARY
DOUBLE-ENDED TWIST DRILLS FOR WELDING SPOTS
SCHWEISSPUNKT BOHRER

HSSCo5	BLANC	DIN 1412 FORM „E“	N $\lambda = 25^\circ - 30^\circ$	R	V					
Steel <1200 MPa										



Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm	kg	Code 221138.1
A380500V400S	5	62	20	0,009	5x62/20
A380600V400S	6	66	22	0,012	6x66/22

Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm	kg	Code 221138.1
A380800V400S	8	79	27	0,0215	8x79/27
A381000V400S	10	89	30	0,039	10x89/30

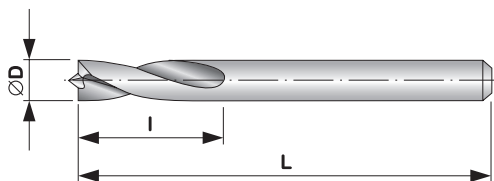
Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage

ZVSE 221138.2



VRTÁKY NA BODOVÉ SVARY
TWIST DRILLS FOR WELDING SPOTS
SCHWEISSPUNKT BOHRER

HSSCo5	BLANC	DIN 1412 FORM „E“	N $\lambda = 25^\circ - 30^\circ$	R	V					
Steel <1200 MPa										



Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm	kg	Code 221138.2
A380501V400S	5	62	26	0,009	5x62/26
A380601V400S	6	66	28	0,012	6x66/28

Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm	kg	Code 221138.2
A380801V400S	8	79	37	0,0215	8x79/37
A381001V400S	10	89	43	0,039	10x89/43

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage

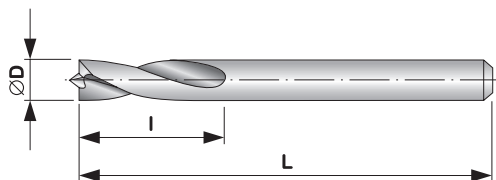




VRTÁKY NA BODOVÉ SVARY
TWIST DRILLS FOR WELDING SPOTS
SCHWEISSPUNKT BOHRER

ZVSE 221138.3

HSSCo5	BLANC	DIN 1412 FORM „E“	N λ = 25°-30°	R	V						
Steel <1200 MPa											



Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm	kg	Code 221138.3
A380502V400S	5	86	52	0,009	5x86/52
A380602V400S	6	93	57	0,016	6x93/57

Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm	kg	Code 221138.3
A380802V400S	8	117	75	0,033	8x117/75
A381002V400S	10	133	87	0,057	10x133/87

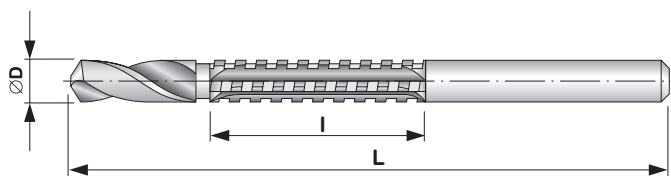
Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



VRTÁKY FRÉZOVACÍ S VÁLCOVOU STOPKOU
DRILL SAW
FRÄSBOHRER

ZVSE 221270

HSS	BLANC	ε = 118°	R	V							
Steel <500 MPa	Al/alloy	Cu/alloy	Plastics								



Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm	kg	Code 221270
K700600V000S	6	86	31	0,012	6

Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm	kg	Code 221270
K700800V000S	8	86	31	0,0215	8



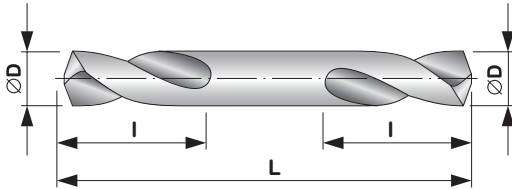
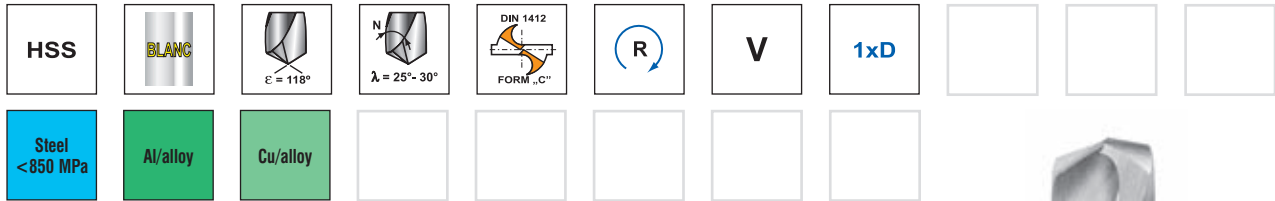
ZVSE 221137



VRTÁKY OBOUSTRANNÉ (KAROSÁŘSKÉ)

DOUBLE-ENDED BODY DRILLS

KAROSSERIEBOHRER-BEIDSEITIG



Objednáací číslo Order No. Bestell-Nr.	∅D mm	L mm	l mm	kg	Code 221137
A370250V000S	2,5	43	9,5	0,0014	2,5
A370260V000S	2,6	43	9,5	0,00158	2,6
A370270V000S	2,7	46	10,6	0,00168	2,7
A370280V000S	2,8	46	10,6	0,002	2,8
A370290V000S	2,9	46	10,6	0,0021	2,9
A370300V000S	3,0	46	10,6	0,0022	3
A370310V000S	3,1	49	11,2	0,0024	3,1
A370320V000S	3,2	49	11,2	0,0026	3,2
A370325V000S	3,25	49	11,2	0,0029	3,25
A370330V000S	3,3	49	11,2	0,0032	3,3
A370340V000S	3,4	52	12,5	0,0034	3,4
A370350V000S	3,5	52	12,5	0,0036	3,5
A370360V000S	3,6	52	12,5	0,0039	3,6
A370370V000S	3,7	52	12,5	0,0041	3,7
A370380V000S	3,8	55	14	0,0046	3,8
A370390V000S	3,9	55	14	0,0048	3,9
A370400V000S	4,0	55	14	0,005	4
A370410V000S	4,1	55	14	0,0053	4,1
A370420V000S	4,2	55	14	0,0055	4,2
A370430V000S	4,3	58	15,5	0,0058	4,3
A370440V000S	4,4	58	15,5	0,0059	4,4
A370450V000S	4,5	58	15,5	0,0063	4,5
A370460V000S	4,6	58	15,5	0,0068	4,6
A370470V000S	4,7	58	15,5	0,0073	4,7
A370480V000S	4,8	62	19	0,0082	4,8
A370490V000S	4,9	62	19	0,0086	4,9
A370500V000S	5,0	62	19	0,009	5

Objednáací číslo Order No. Bestell-Nr.	∅D mm	L mm	l mm	kg	Code 221137
A370510V000S	5,1	62	19	0,0095	5,1
A370520V000S	5,2	62	19	0,01	5,2
A370530V000S	5,3	62	19	0,0105	5,3
A370540V000S	5,4	66	24	0,0107	5,4
A370550V000S	5,5	66	24	0,011	5,5
A370560V000S	5,6	66	24	0,0111	5,6
A370570V000S	5,7	66	24	0,0113	5,7
A370580V000S	5,8	66	24	0,0115	5,8
A370590V000S	5,9	66	24	0,0117	5,9
A370600V000S	6,0	66	24	0,012	6
A370610V000S	6,1	70	24	0,013	6,1
A370620V000S	6,2	70	24	0,014	6,2
A370630V000S	6,3	70	24	0,0145	6,3
A370640V000S	6,4	70	24	0,0152	6,4
A370650V000S	6,5	70	24	0,016	6,5
A370680V000S	6,8	74	24	0,019	6,8
A370700V000S	7,0	74	24	0,0195	7
A370710V000S	7,1	74	24	0,0198	7,1
A370750V000S	7,5	74	24	0,0205	7,5
A370800V000S	8,0	79	25	0,0215	8
A370850V000S	8,5	79	25	0,0225	8,5
A370860V000S	8,6	84	25	0,0226	8,6
A370900V000S	9,0	84	25	0,0235	9
A370950V000S	9,5	84	25	0,03	9,5
A371000V000S	10,0	89	25	0,039	10
A371050V000S	10,5	89	25	0,045	10,5

Poznámka / Note / Notiz: ostatní neuvedené rozměry na požádání / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage
HSSCo na zvláštní požadavek / version HSSCo on the request / Ausführung HSSCo auf besondere Anforderung

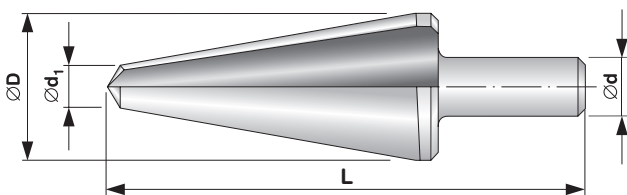
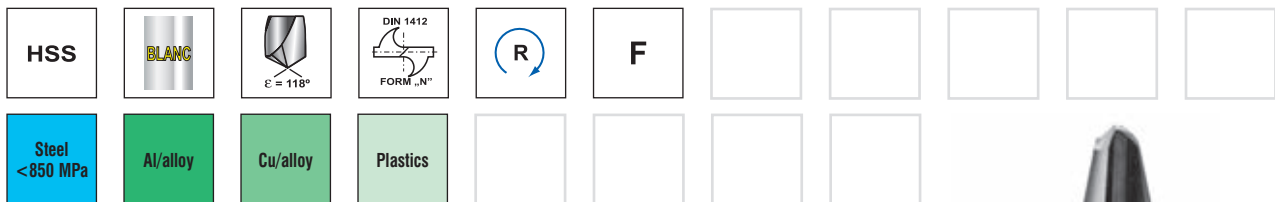
ZVSE 221260



VRTÁKY KUŽELOVÉ S VÁLCOVOU STOPKOU NA DÍRY DO PLECHU

SHEET AND TUBE DRILLS

BLECHSCHÄLBOHRER MIT ZYLINDRISCHEM SCHAFT



Objednáací číslo Order No. Bestell-Nr.	∅D mm	∅d ₁ mm	∅d mm	L mm	kg	Code 221260
K601400F000S	14	3	6	55	0,018	1 / 3-14/
K602000F000S	20	6	8	65	0,045	2 / 6-20/

Objednáací číslo Order No. Bestell-Nr.	∅D mm	∅d ₁ mm	∅d mm	L mm	kg	Code 221260
K603050F000S	30,5	15	10	80	0,135	3 / 15-30,5/

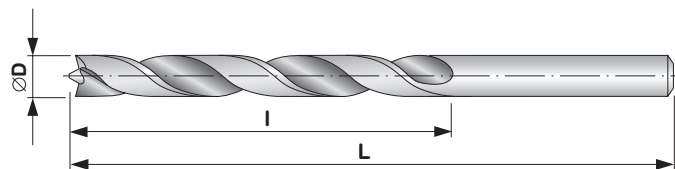




VRTÁKY S VÁLCOVOU STOPKOU PRO VRTÁNÍ DO DŘEVA DOWEL DRILLS DÜBELBOHRER

PN 225677

HSS	PAS	$\lambda = 25^\circ - 30^\circ$	DIN 1412 FORM „E“		T						
Wood											



Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm		Code 225677
H770300T000S	3	61	33	0,0025	3
H770400T000S	4	75	43	0,004	4
H770500T000S	5	86	52	0,0085	5
H770600T000S	6	93	57	0,013	6
H770700T000S	7	109	69	0,02	7

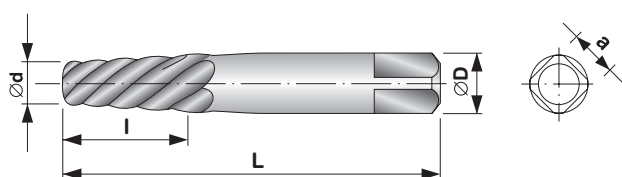
Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm		Code 225677
H770800T000S	8	117	75	0,027	8
H770900T000S	9	125	81	0,038	9
H771000T000S	10	133	87	0,052	10
H771100T000S	11	142	94	0,068	11
H771200T000S	12	151	101	0,086	12



VYTAHOVAČE ŠROUBŮ, VELIKOST Č. 1 ÷ 6 SCREW EXTRACTORS NO. 1 ÷ 6 SCHRAUBENEXTRAKTOREN NR. 1 ÷ 6

231680 (238980)

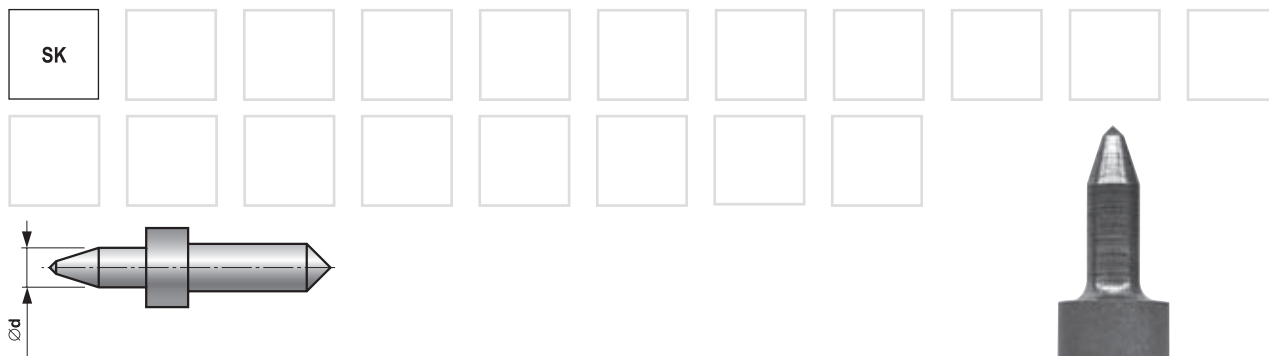
HTS	PAS										




Objednací číslo Order No. Bestell-Nr.	Číslo Number Nummer	Pro šrouby Screw Schrauben M	Pro šrouby Screw Schrauben inch	Ød mm	I mm	L mm	ØD mm	a mm	Ø předvrt. otvoru Rough-drilled hole Vorgebohrte Bohrung mm	Code 231680
E831000T500S	1	3 ÷ 4,5	1/8" ÷ 3/16"	1,75	17,5	40	3,5	2,8	2	Č.1
E832000T500S	2	5 ÷ 7	1/4"	2,65	18,5	46	4,5	3,55	3	Č.2
E833000T500S	3	8 ÷ 10	5/16" ÷ 3/8"	4,2	23	53	6,5	5	4,5	Č.3
E834000T500S	4	11 ÷ 14	7/16" ÷ 9/16"	6,5	25	63	9,0	7	7	Č.4
E835000T500S	5	15 ÷ 18	5/8" ÷ 3/4"	9,2	28	75	12,0	10	10	Č.5
E846000F500S	6	20 ÷ 30	7/8" ÷ 1 1/8"	12,5	33	90	15,5	12,5	13	Č.6




ZVSE 221313A

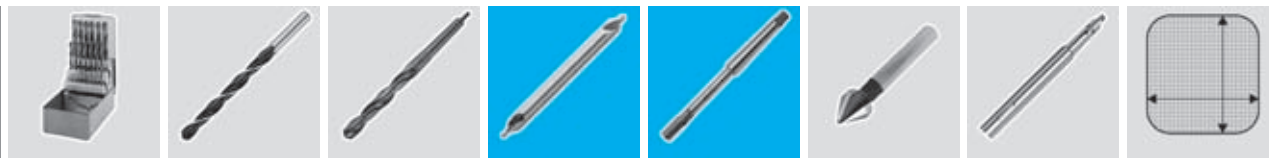
VRTÁKY TVÁŘECÍ BEZ ŘEZNÉHO ZAROVNÁVACÍHO BŘITU
FORMING DRILLS FOR DRILLING OF TAPPING HOLES IN SHEETS AND SECTIONS
UMFORMBOHRER FÜR GEWINDEKERNBOHRUNGEN IN BLECH UND IN STAHLPROFILIEN, OHNE STIRNSENKER


Objednáací číslo Order No. Bestell-Nr.	Pro závit For thread Für Gewinde	Ød mm	Doporučené otáčky / Revolutions per minute / Drehzahlrichtwerte n/min		Code 221313A
F130301F000S	M 3	2,5	2500-4800	0,0053	M3
F130401F000S	M 4	3,3	2200-4200	0,0125	M4
F130501F000S	M 5	4,2	1800-4000	0,013	M5
F130601F000S	M 6	5	1600-3500	0,016	M6
F130801F000S	M 8	6,8	1200-3000	0,028	M8
F131001F000S	M 10	8,5	1000-2500	0,040	M10
F131201F000S	M 12	10,2	800-1800	0,055	M12

ZVSE 221313B

VRTÁKY TVÁŘECÍ S ŘEZNÝM ZAROVNÁVACÍM BŘITEM
FORMING DRILLS FOR DRILLING OF TAPPING HOLES IN SHEETS AND SECTIONS
UMFORMBOHRER FÜR GEWINDEKERNBOHRUNGEN IN BLECH UND IN STAHLPROFILIEN, MIT STIRNSENKER


Objednáací číslo Order No. Bestell-Nr.	Pro závit For thread Für Gewinde	Ød mm	Doporučené otáčky / Revolutions per minute / Drehzahlrichtwerte n/min		Code 221313B
F130302F000S	M 3	2,5	2500-4800	0,0053	M3
F130402F000S	M 4	3,3	2200-4200	0,0125	M4
F130502F000S	M 5	4,2	1800-4000	0,013	M5
F130602F000S	M 6	5	1600-3500	0,016	M6
F130802F000S	M 8	6,8	1200-3000	0,028	M8
F131002F000S	M 10	8,5	1000-2500	0,04	M10
F131202F000S	M 12	10,2	800-1800	0,055	M12



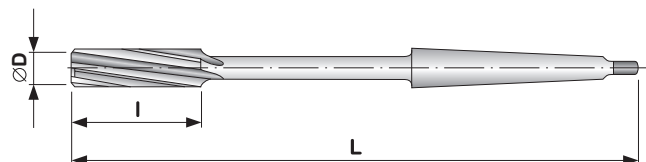


VÝHRUBNÍKY S KUŽELOVOU STOPKOU
REAMER DRILLS WITH TAPER SHANK
AUFBOHRER MIT MORSEKEGELSCHAFT

ČSN 221411

DIN 222

HSS	BLANC								
Steel <1000 MPa	Stainless steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics	Ti/alloy <850 MPa			



Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm	MORSE			Code 241411
B110980F000S	9,80	168	38	1	4	0,090	9,8x168/38
B111001F000S	10 H11	168	38	1	4	0,090	10 H11 168/38
B111075F000S	10,75	175	41	1	4	0,100	10,75x175/41
B111101F000S	11 H11	175	41	1	4	0,100	11 H11 175/41
B111175F000S	11,75	182	44	1	4	0,120	11,75x182/44
B111201F000S	12 H11	182	44	1	4	0,120	12 H11 182/44
B111275F000S	12,75	182	44	1	4	0,130	12,75x182/44
B111301F000S	13 H11	182	44	1	4	0,130	13 H11 182/44
B111375F000S	13,75	189	47	1	4	0,140	13,75x189/47
B111401F000S	14 H11	189	47	1	4	0,140	14 H11 189/47
B111475F000S	14,75	204	50	2	4	0,240	14,75x204/50
B111501F000S	15 H11	204	50	2	4	0,240	15 H11 204/50
B111575F000S	15,75	210	52	2	4	0,275	15,75x210/52
B111601F000S	16 H11	210	52	2	4	0,280	16 H11 210/52
B111675F000S	16,75	214	54	2	4	0,310	16,75x214/54
B111701F000S	17 H11	214	54	2	4	0,315	17 H11 214/54
B111775F000S	17,75	219	56	2	4	0,340	17,75x219/56
B111801F000S	18 H11	219	56	2	4	0,345	18 H11 219/56
B111870F000S	18,70	223	58	2	4	0,355	18,7x223/58
B111901F000S	19 H11	223	58	2	4	0,360	19 H11 223/58
B111970F000S	19,70	228	60	2	4	0,370	19,7x228/60
B112001F000S	20 H11	228	60	2	4	0,375	20 H11 228/60
B112070F000S	20,7	232	62	2	4	0,380	20,7x232/62
B112101F000S	21 H11	232	62	2	4	0,380	21 H11 232/62
B112170F000S	21,70	237	64	2	4	0,400	21,7x237/64
B112201F000S	22 H11	237	64	2	4	0,405	22 H11 237/64
B112270F000S	22,70	241	66	2	4	0,580	22,7x241/66
B112301F000S	23 H11	241	66	2	4	0,610	23 H11 241/66
B112370F000S	23,70	268	68	3	4	0,730	23,7x268/68
B112401F000S	24 H11	268	68	3	4	0,738	24 H11 268/68
B112470F000S	24,70	268	68	3	4	0,740	24,7x268/68
B112501F000S	25 H11	268	68	3	4	0,750	25 H11 268/68
B112570F000S	25,70	273	70	3	4	0,790	25,7x273/70
B112601F000S	26 H11	273	70	3	4	0,795	26 H11 273/70
B112770F000S	27,70	277	71	3	4	0,850	27,7x277/71
B112801F000S	28 H11	277	71	3	4	0,855	28 H11 277/71
B112970F000S	29,70	281	73	3	4	0,905	29,7x281/73
B113001F000S	30 H11	281	73	3	4	0,910	30 H11 281/73
B113160F000S	31,60	317	77	4	4	1,490	31,6x317/77
B113201F000S	32 H11	317	77	4	4	1,500	32 H11 317/77

Poznámka / Note / Notiz: ostatní neuvedené rozměry a lícování na požádání / other dimensions and fits - on request / nicht angegebene Abmessungen und Passung nur auf Anfrage

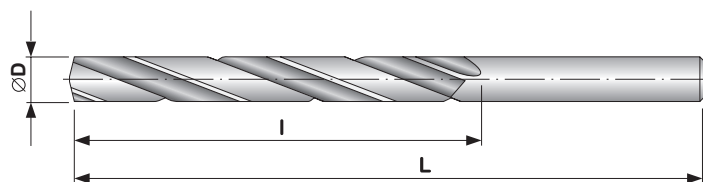
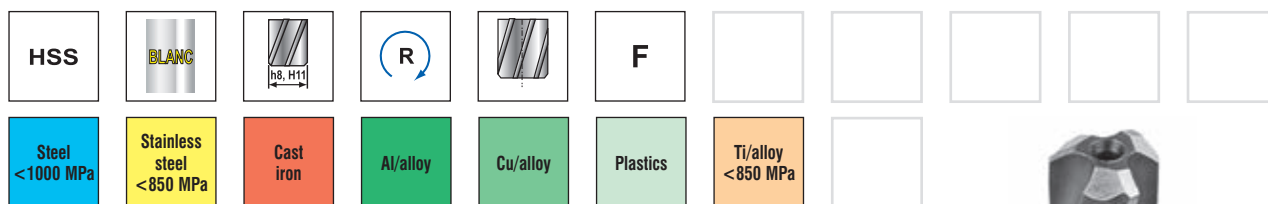




ČSN 221480

DIN 344



VÝHRUBNÍKY SPIRÁLOVÉ TŘÍBŘITÉ S VÁLCOVOU STOPKOU
 REAMER DRILLS WITH THREE FLUTES AND STRAIGHT SHANK
 AUFBOHRER MIT ZYLINDRISCHEM SCHAFT, DREISCHNEIDIG



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm			Code 221480
B800480F000S	4,8	86	52	3	0,011	4,8x86/52
B800500F000S	5	86	52	3	0,013	5x86/52
B800501F000S	5 H11	86	52	3	0,013	5 H11 86/52
B800580F000S	5,80	93	57	3	0,017	5,8x93/57
B800600F000S	6	93	57	3	0,020	6x93/57
B800601F000S	6 H11	93	57	3	0,020	6 H11 93/57
B800680F000S	6,80	109	69	3	0,022	6,8x109/69
B800700F000S	7	109	69	3	0,026	7x109/69
B800701F000S	7 H11	109	69	3	0,026	7 H11 109/69
B800780F000S	7,80	117	75	3	0,032	7,8x117/75
B800800F000S	8	117	75	3	0,037	8x117/75
B800801F000S	8 H11	117	75	3	0,037	8 H11 117/75
B800880F000S	8,80	125	81	3	0,050	8,8x125/81
B800900F000S	9	125	81	3	0,056	9x125/81
B800901F000S	9 H11	125	81	3	0,056	9 H11 125/81
B800980F000S	9,80	133	87	3	0,066	9,8x133/87
B801000F000S	10	133	87	3	0,071	10x133/87
B801001F000S	10 H11	133	87	3	0,071	10 H11 133/87
B801075F000S	10,75	142	94	3	0,079	10,75x142/94
B801100F000S	11	142	94	3	0,084	11x142/94
B801101F000S	11 H11	142	94	3	0,084	11 H11 142/94
B801175F000S	11,75	142	94	3	0,095	11,75x142/94
B801200F000S	12	151	101	3	0,104	12x151/101
B801201F000S	12 H11	151	101	3	0,104	12 H11 151/101
B801275F000S	12,75	151	101	3	0,115	12,75x151/101
B801300F000S	13	151	101	3	0,120	13x151/101
B801301F000S	13 H11	151	101	3	0,120	13 H11 151/101
B801375F000S	13,75	160	108	3	0,139	13,75x160/108
B801400F000S	14	160	108	3	0,144	14x160/108
B801401F000S	14 H11	160	108	3	0,144	14 H11 160/108
B801475F000S	14,75	169	114	3	0,169	14,75x169/114
B801500F000S	15	169	114	3	0,174	15x169/114
B801501F000S	15 H11	169	114	3	0,174	15 H11 169/114
B801575F000S	15,75	178	120	3	0,199	15,75x178/120
B801600F000S	16	178	120	3	0,204	16x178/120
B801601F000S	16 H11	178	120	3	0,204	16 H11 178/120

Poznámka / Note / Notiz: ostatní neuvedené rozměry a licování na požádání / other dimensions and fits - on request / nicht angegebene Abmessungen und Passung nur auf Anfrage



Výhrubníky a výstružníky

Core drills and reamers

Aufbohrer und Reibahlen

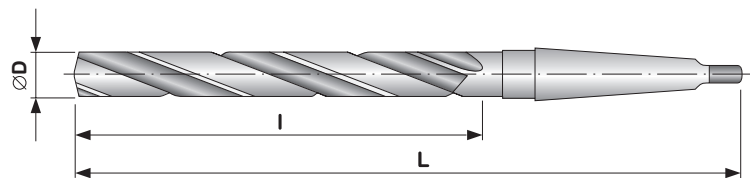


VÝHRUBNÍKY SPIRÁLOVÉ TŘÍBŘITÉ S KUŽELOVOU STOPKOU
REAMER DRILLS WITH THREE FLUTES AND TAPER SHANK
AUFBOHRER MIT MORSEKEGELSCHAFT, DREISCHNEIDIG

ČSN 221482

DIN 343

HSS	BLANC				F					
Steel <1000 MPa	Stainless steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics	Ti/alloy <850 MPa				



Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm	MORSE			Code 221482
B820880F000S	8,8	162	81	1	3	0,085	8,8x162/81
B820900F000S	9	162	81	1	3	0,090	9x162/81
B820901F000S	9 H11	162	81	1	3	0,090	9 H11 162/81
B820980F000S	9,8	168	87	1	3	0,105	9,8x168/87
B821000F000S	10	168	87	1	3	0,110	10x168/87
B821001F000S	10 H11	168	87	1	3	0,110	10 H11 168/87
B821075F000S	10,75	175	94	1	3	0,115	10,75x175/94
B821100F000S	11	175	94	1	3	0,120	11x175/94
B821101F000S	11 H11	175	94	1	3	0,120	11 H11 175/94
B821175F000S	11,75	175	94	1	3	0,122	11,75x175/94
B821200F000S	12	182	101	1	3	0,130	12x182/101
B821201F000S	12 H11	182	101	1	3	0,130	12 H11 182/101
B821275F000S	12,75	182	101	1	3	0,135	12,75x182/101
B821300F000S	13	182	101	1	3	0,140	13x182/101
B821301F000S	13 H11	182	101	1	3	0,140	13 H11 182/101
B821375F000S	13,75	189	108	1	3	0,155	13,75x189/108
B821400F000S	14	189	108	1	3	0,160	14x189/108
B821401F000S	14 H11	189	108	1	3	0,160	14 H11 189/108
B821475F000S	14,75	212	114	2	3	0,255	14,75x212/114
B821500F000S	15	212	114	2	3	0,260	15x212/114
B821501F000S	15 H11	212	114	2	3	0,260	15 H11 212/114
B821575F000S	15,75	218	120	2	3	0,285	15,75x218/120
B821600F000S	16	218	120	2	3	0,290	16x218/120
B821601F000S	16 H11	218	120	2	3	0,290	16 H11 218/120
B821675F000S	16,75	223	125	2	3	0,305	16,75x223/125
B821700F000S	17	223	125	2	3	0,310	17x223/125
B821701F000S	17 H11	223	125	2	3	0,310	17 H11 223/125
B821775F000S	17,75	228	130	2	3	0,332	17,75x228/130
B821800F000S	18	228	130	2	3	0,338	18x228/130
B821801F000S	18 H11	228	130	2	3	0,338	18 H11 228/130
B821870F000S	18,7	233	135	2	3	0,352	18,7x233/135
B821900F000S	19	233	135	2	3	0,358	19x233/135
B821901F000S	19 H11	233	135	2	3	0,358	19 H11 233/135
B821970F000S	19,7	238	140	2	3	0,384	19,7x238/140
B822000F000S	20	238	140	2	3	0,390	20x238/140
B822001F000S	20 H11	238	140	2	3	0,390	20 H11 238/140
B822170F000S	21,7	248	150	2	3	0,420	21,7x248/150
B822200F000S	22	248	150	2	3	0,427	22x248/150
B822201F000S	22 H11	248	150	2	3	0,427	22 H11 248/150
B822370F000S	23,7	281	160	3	3	0,460	23,7x281/160
B822400F000S	24	281	160	3	3	0,470	24x281/160
B822401F000S	24 H11	281	160	3	3	0,470	24 H11 281/160
B822470F000S	24,7	281	160	3	3	0,475	24,7x281/160
B822500F000S	25	281	160	3	3	0,485	25x281/160
B822501F000S	25 H11	281	160	3	3	0,485	25 H11 281/160
B822570F000S	25,7	286	165	3	3	0,710	25,7x286/165
B822600F000S	26	286	165	3	3	0,720	26x286/165
B822601F000S	26 H11	286	165	3	3	0,720	26 H11 286/165
B822770F000S	27,7	291	170	3	3	0,850	27,7x291/170
B822800F000S	28	291	170	3	3	0,860	28x291/170
B822801F000S	28 H11	291	170	3	3	0,860	28 H11 291/170
B822970F000S	29,7	296	175	3	3	0,955	29,7x296/175
B823000F000S	30	296	175	3	3	0,960	30x296/175
B823001F000S	30 H11	296	175	3	3	0,960	30 H11 296/175
B823160F000S	31,6	306	185	3	3	1,152	31,6x306/185
B823200F000S	32	334	185	4	3	1,490	32x334/185

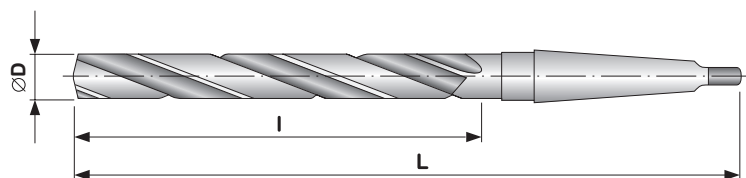
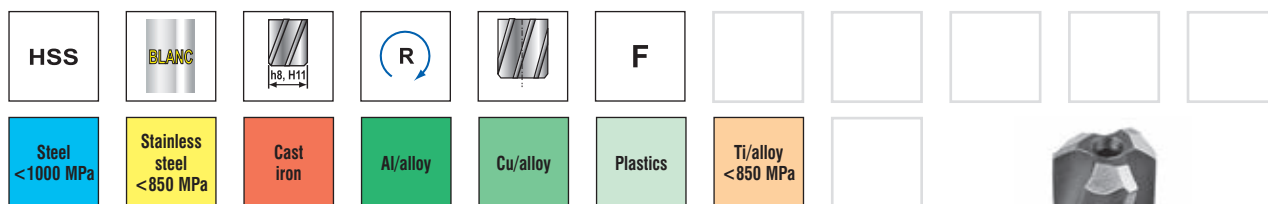




ČSN 221482

DIN 343



VÝHRUBNÍKY SPIRÁLOVÉ TŘÍBŘITÉ S KUŽELOVOU STOPKOU
 REAMER DRILLS WITH THREE FLUTES AND TAPER SHANK
 AUFBOHRER MIT MORSEKEGELSCHAFT, DREISCHNEIDIG



Objednací číslo Order No. Bestell-Nr.	ØD mm	L mm	I mm	MORSE			Code 221482
B823201F000S	32 H11	334	185	4	3	1,490	32 H11 334/185
B823360F000S	33,6	339	190	4	3	1,555	33,6x339/190
B823400F000S	34	339	190	4	3	1,560	34x339/190
B823401F000S	34 H11	339	190	4	3	1,560	34 H11 339/190
B823460F000S	34,6	339	190	4	3	1,650	34,6x339/190
B823500F000S	35	339	190	4	3	1,660	35x339/190
B823501F000S	35 H11	339	190	4	3	1,660	35 H11 339/190
B823560F000S	35,6	344	195	4	3	1,740	35,6x344/195
B823600F000S	36	344	195	4	3	1,750	36x344/195
B823601F000S	36 H11	344	195	4	3	1,750	36 H11 344/195
B823760F000S	37,6	349	200	4	3	1,860	37,6x349/200
B823800F000S	38	349	200	4	3	1,870	38x349/200
B823801F000S	38 H11	349	200	4	3	1,870	38 H11 349/200
B823960F000S	39,6	349	200	4	3	2,030	39,6x349/200
B824000F000S	40	349	200	4	3	2,040	40x349/200
B824001F000S	40 H11	349	200	4	3	2,040	40 H11 349/200
B824160F000S	41,6	354	205	4	3	2,210	41,6x354/205
B824200F000S	42	354	205	4	3	2,220	42x354/205
B824201F000S	42 H11	354	205	4	3	2,220	42 H11 354/205
B824360F000S	43,6	359	210	4	3	2,380	43,6x359/210
B824400F000S	44	359	210	4	3	2,390	44x359/210
B824401F000S	44 H11	359	210	4	3	2,390	44 H11 359/210
B824460F000S	44,6	359	210	4	3	2,500	44,6x359/210
B824500F000S	45	359	210	4	3	2,510	45x359/210
B824501F000S	45 H11	359	210	4	3	2,510	45 H11 359/210
B824560F000S	45,6	364	215	4	3	2,575	45,6x364/215
B824600F000S	46	364	215	4	3	2,585	46x364/215
B824601F000S	46 H11	364	215	4	3	2,585	46 H11 364/215
B824760F000S	47,6	369	220	4	3	2,830	47,6x369/220
B824800F000S	48	369	220	4	3	2,840	48x369/220
B824801F000S	48 H11	369	220	4	3	2,840	48 H11 369/220
B824960F000S	49,6	369	220	4	3	3,015	49,6x369/220
B825000F000S	50	369	220	4	3	3,025	50x369/220
B825001F000S	50 H11	369	220	4	3	3,025	50 H11 369/220

Poznámka / Note / Notiz: ostatní neuvedené rozměry a lícování na požádání / other dimensions and fits - on request / nicht angegebene Abmessungen und Passung nur auf Anfrage



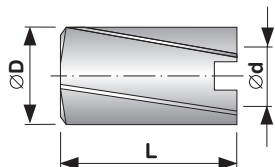


VÝHRUBNÍKY NÁSTRČNÉ
SHELL REAMER DRILLS
AUFSTECK-AUFBOHRER

ČSN 221414

DIN 222

HSS	BLANC				F					
Steel <1000 MPa	Stainless steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics	Ti/alloy <850 MPa				



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	Ød mm			Code 221414
B142470F000S	24,7	45	13	4	0,080	24,7
B142501F000S	25 H11	45	13	4	0,085	25 H11
B142570F000S	25,7	45	13	4	0,090	25,7
B142601F000S	26 H11	45	13	4	0,095	26 H11
B142770F000S	27,7	45	13	4	0,110	27,7
B142801F000S	28 H11	45	13	4	0,115	28 H11
B142870F000S	28,7	45	13	4	0,118	28,7
B142901F000S	29 H11	45	13	4	0,120	29 H11
B142970F000S	29,7	45	13	4	0,125	29,7
B143001F000S	30 H11	45	13	4	0,130	30 H11
B143060F000S	30,6	45	13	4	0,140	30,6
B143101F000S	31 H11	45	13	4	0,145	31 H11
B143160F000S	31,6	45	13	4	0,155	31,6
B143201F000S	32 H11	45	13	4	0,160	32 H11
B143260F000S	32,6	45	13	4	0,168	32,6
B143301F000S	33 H11	45	13	4	0,170	33 H11
B143360F000S	33,6	45	13	4	0,175	33,6
B143401F000S	34 H11	45	13	4	0,180	34 H11
B143460F000S	34,6	45	13	4	0,190	34,6
B143501F000S	35 H11	45	13	4	0,195	35 H11
B143560F000S	35,6	50	16	4	0,200	35,6
B143601F000S	36 H11	50	16	4	0,205	36 H11
B143660F000S	36,6	50	16	4	0,215	36,6
B143701F000S	37 H11	50	16	4	0,220	37 H11
B143760F000S	37,6	50	16	4	0,225	37,6
B143801F000S	38 H11	50	16	4	0,230	38 H11
B143860F000S	38,6	50	16	4	0,245	38,6
B143901F000S	39 H11	50	16	4	0,250	39 H11
B143960F000S	39,6	50	16	4	0,260	39,6
B144001F000S	40 H11	50	16	4	0,265	40 H11
B144060F000S	40,6	50	16	4	0,275	40,6
B144101F000S	41 H11	50	16	4	0,280	41 H11
B144160F000S	41,6	50	16	4	0,300	41,6
B144201F000S	42 H11	50	16	4	0,305	42 H11
B144260F000S	42,6	50	16	4	0,315	42,6
B144301F000S	43 H11	50	16	4	0,320	43 H11
B144360F000S	43,6	50	16	4	0,330	43,6
B144401F000S	44 H11	50	16	4	0,335	44 H11
B144460F000S	44,6	50	16	4	0,360	44,6
B144501F000S	45 H11	50	16	4	0,365	45 H11
B144560F000S	45,6	56	19	4	0,380	45,6
B144601F000S	46 H11	56	19	4	0,385	46 H11
B144660F000S	46,6	56	19	4	0,405	46,6
B144701F000S	47 H11	56	19	4	0,410	47 H11
B144760F000S	47,6	56	19	4	0,420	47,6
B144801F000S	48 H11	56	19	4	0,425	48 H11
B144860F000S	48,6	56	19	4	0,435	48,6

Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	Ød mm			Code 221414
B144901F000S	49 H11	56	19	4	0,440	49 H11
B144960F000S	49,6	56	19	4	0,455	49,6
B145001F000S	50 H11	56	19	4	0,460	50 H11
B145150F000S	51,5	56	19	4	0,525	51,5
B145201F000S	52 H11	56	19	4	0,530	52 H11
B145450F000S	54,5	63	22	4	0,640	54,5
B145501F000S	55 H11	63	22	4	0,690	55 H11
B145550F000S	55,5	63	22	4	0,690	55,5
B145601F000S	56 H11	63	22	4	0,700	56 H11
B145750F000S	57,5	63	22	4	0,735	57,5
B145801F000S	58 H11	63	22	4	0,735	58 H11
B145950F000S	59,5	63	22	4	0,790	59,5
B146001F000S	60 H11	63	22	4	0,795	60 H11
B146150F000S	61,5	63	22	4	0,840	61,5
B146201F000S	62 H11	63	22	4	0,845	62 H11
B146250F000S	62,5	63	22	4	0,930	62,5
B146301F000S	63 H11	63	22	4	0,940	63 H11
B146450F000S	64,5	71	27	4	1,003	64,5
B146501F000S	65 H11	71	27	4	1,008	65 H11
B146750F000S	67,5	71	27	4	1,160	67,5
B146801F000S	68 H11	71	27	4	1,165	68 H11
B146950F000S	69,5	71	27	4	1,300	69,5
B147001F000S	70 H11	71	27	4	1,305	70 H11
B147150F000S	71,5	71	27	4	1,450	71,5
B147201F000S	72 H11	71	27	4	1,455	72 H11
B147450F000S	74,5	71	27	4	1,570	74,5
B147501F000S	75 H11	71	27	4	1,575	75 H11
B147750F000S	77,5	80	32	6	1,790	77,5
B147801F000S	78 H11	80	32	6	1,820	78 H11
B147950F000S	79,5	80	32	6	1,950	79,5
B148001F000S	80 H11	80	32	6	1,955	80 H11
B148150F000S	81,5	80	32	6	2,130	81,5
B148201F000S	82 H11	80	32	6	2,135	82 H11
B148450F000S	84,5	80	32	6	2,250	84,5
B148501F000S	85 H11	80	32	6	2,255	85 H11
B148750F000S	87,5	80	32	6	2,480	87,5
B148801F000S	88 H11	80	32	6	2,520	88 H11
B148950F000S	89,5	80	32	6	2,750	89,5
B149001F000S	90 H11	80	32	6	2,755	90 H11
B149150F000S	91,5	90	40	6	2,850	91,5
B149201F000S	92 H11	90	40	6	2,855	92 H11
B149450F000S	94,5	90	40	6	2,980	94,5
B149501F000S	95 H11	90	40	6	2,985	95 H11
B149750F000S	97,5	90	40	6	3,280	97,5
B149801F000S	98 H11	90	40	6	3,325	98 H11
B149950F000S	99,5	90	40	6	3,625	99,5
B149991F000S	100 H11	90	40	6	3,630	100 H11

Poznámka / Note / Notiz: ostatní neuvedené rozměry a licování na požádání / other dimensions and fits - on request / nicht angegebene Abmessungen und Passung nur auf Anfrage
pro upínání slouží držáky ČSN 241210 (DIN 217) / arbors ČSN 241210 (DIN 217) are used for clamping /
für das Spannen sind die Halter ČSN 241210 (DIN 217) zu verwenden



ČSN 221420

DIN 206

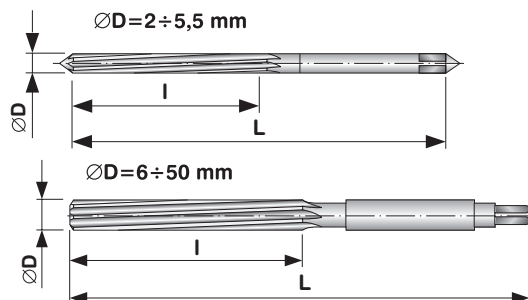


VÝSTRUŽNÍKY RUČNÍ S VÁLCOVOU STOPKOU

HAND REAMERS WITH STRAIGHT SHANK

HANDREIBAHLEN MIT ZYLINDRISCHEM SCHAFT

HSS	BLANC	FORM B							
Steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics					



ØD mm	L mm	l mm	a mm			Code 221420
2,0	50	25	1,60	4	0,001	2 .. 50/25
2,2	54	27	1,80	4	0,001	2,2 .. 54/27
2,5	58	29	2,00	4	0,002	2,5 .. 58/29
2,8	62	31	2,24	4	0,002	2,8 .. 62/31
3,0	62	31	2,24	4	0,003	3 .. 62/31
3,5	71	35	2,80	4	0,004	3,5 .. 71/35
4,0	76	38	3,15	4	0,005	4 .. 76/38
4,5	81	41	3,55	4	0,007	4,5 .. 81/41
5,0	87	44	4,00	4	0,010	5 .. 87/44
5,5	93	47	4,50	4	0,013	5,5 .. 93/47
6,0	93	47	4,50	6	0,017	6 .. 93/47
6,5	100	50	5,00	6	0,023	6,5 .. 100/50
7,0	107	54	5,60	6	0,028	7 .. 107/54
7,5	107	54	5,60	6	0,031	7,5 .. 107/54
8,0	115	58	6,30	6	0,036	8 .. 115/58
8,5	115	58	6,30	6	0,041	8,5 .. 115/58
9,0	124	62	7,10	6	0,051	9 .. 124/62
10,0	133	66	8,00	6	0,067	10 .. 133/66
11,0	142	71	9,00	6	0,087	11 .. 142/71
12,0	152	76	10,00	8	0,110	12 .. 152/76
13,0	152	76	10,00	8	0,130	13 .. 152/76
14,0	163	81	11,20	8	0,160	14 .. 163/81
15,0	163	81	11,20	8	0,190	15 .. 163/81
16,0	175	87	12,50	8	0,230	16 .. 175/87
17,0	175	87	12,50	8	0,260	17 .. 175/87
18,0	188	93	14,00	8	0,320	18 .. 188/93
19,0	188	93	14,00	8	0,370	19 .. 188/93
20,0	201	100	16,00	8	0,410	20 .. 201/100
21,0	201	100	16,00	8	0,460	21 .. 201/100
22,0	215	107	18,00	8	0,540	22 .. 215/107
23,0	215	107	18,00	8	0,570	23 .. 215/107
24,0	231	115	20,00	8	0,690	24 .. 231/115
25,0	231	115	20,00	8	0,730	25 .. 231/115
26,0	231	115	20,00	8	0,830	26 .. 231/115
27,0	247	124	22,40	10	0,940	27 .. 247/124
28,0	247	124	22,40	10	1,150	28 .. 247/124
30,0	247	124	22,40	10	1,210	30 .. 247/124
32,0	265	133	25,00	10	1,410	32 .. 265/133
34,0	284	142	28,00	10	1,710	34 .. 284/142
36,0	284	142	28,00	10	1,900	36 .. 284/142
38,0	305	152	31,50	10	2,345	38 .. 305/152
40,0	305	152	31,50	10	2,530	40 .. 305/152
42,0	305	152	31,50	12	2,980	42 .. 305/152
44,0	326	163	35,50	12	3,380	44 .. 326/163
45,0	326	163	35,50	12	3,630	45 .. 326/163
46,0	326	163	35,50	12	3,850	46 .. 326/163
48,0	347	174	40,00	12	4,340	48 .. 347/174
50,0	347	174	40,00	12	4,650	50 .. 347/174

Poznámka / Note / Notiz: .. = lícování výstružníku (7 = H7; 8 = H8; 1 = H11) / .. = tolerances of reamer (7 = H7; 8 = H8; 1 = H11) / .. = Reibahlenpassung (7 = H7; 8 = H8; 1 = H11)

FORM A na zvláštní požadavek / Version FORM A on the special request / Ausführung FORM A auf besondere Anforderung

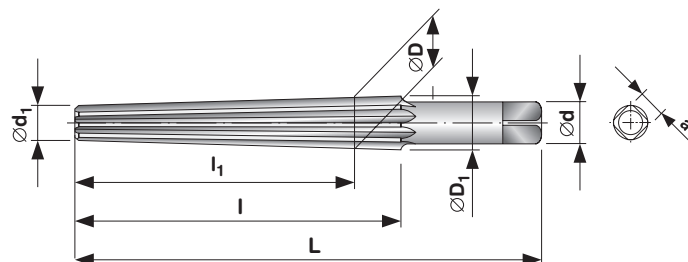




VÝSTRUŽNÍKY RUČNÍ KUŽELOVÉ 1 : 10 S PŘÍMÝMI ZUBY
HAND TAPER REAMERS 1 : 10 STRAIGHT FLUTED
HANDKEGELREIBAHLEN 1 : 10 GERADEGENUTET

ČSN 221460

HSS	BLANC	FORM A	R		F						
Steel < 850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics							



Objednáací číslo Order No. Bestell-Nr.	$\varnothing D$ mm	L mm	l_1 mm	l mm	$\varnothing d$ mm	a mm	$(\varnothing D_1)$ mm	$(\varnothing d_1)$ mm			Code 221460
B601000F000S	10	100	60	70	10,0	8	11	4	4	0,035	10x100/60
B601600F000S	16	120	70	80	12,5	10	17	9	6	0,092	16x120/70
B602400F000S	24	160	100	110	20,0	16	25	14	6	0,304	24x160/100
B603200F000S	32	200	120	140	25,0	20	34	20	8	0,690	32x200/120

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage

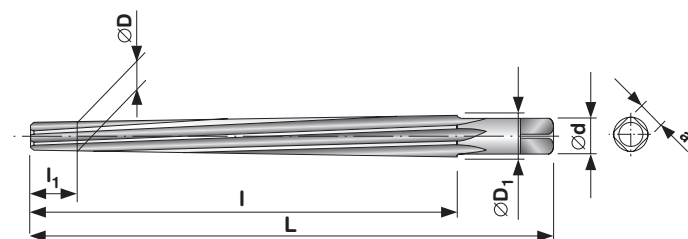


VÝSTRUŽNÍKY RUČNÍ KUŽELOVÉ 1 : 50 SE ZUBY VE ŠROUBOVICI
HAND TAPER REAMERS 1 : 50 SPIRAL FLUTED
HAND-KEGELREIBAHLEN 1 : 50 DRALLGENUTET

ZVSE 221469

DIN 9

HSS	BLANC	FORM B	R		F						
Steel < 850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics							



Objednáací číslo Order No. Bestell-Nr.	$\varnothing D$ mm	L mm	l_1 mm	l mm	$\varnothing d$ mm	a mm	$(\varnothing D_1)$ mm			Code 221469
B690300F000S	3	80	5	58	4,0	3,15	4,06	4	0,004	3x80/58
B690400F000S	4	93	5	68	5,0	4,00	5,26	4	0,008	4x93/68
B690500F000S	5	100	5	73	6,3	5,00	6,36	5	0,017	5x100/73
B690600F000S	6	135	5	105	8,0	6,30	8,00	6	0,027	6x135/105
B690800F000S	8	180	5	145	10,0	8,00	10,80	6	0,060	8x180/145
B691000F000S	10	215	5	175	12,5	10,00	13,40	6	0,102	10x215/175
B691200F000S	12	255	10	210	14,0	11,20	16,00	8	0,245	12x255/210
B691400F000S	14	255	10	210	14,0	11,20	18,00	8	0,300	14x255/210
B691600F000S	16	280	10	230	18,0	14,00	20,40	8	0,430	16x280/230
B692000F000S	20	310	10	250	22,4	18,00	24,80	8	0,715	20x310/250
B692500F000S	25	370	15	300	28,0	22,40	30,70	10	1,418	25x370/300
B693000F000S	30	400	15	320	31,5	25,00	36,10	10	2,040	30x400/320
B693200F000S	32	400	15	320	31,5	25,00	38,10	10	2,48	32x400/320
B694000F000S	40	430	15	340	40,0	31,50	46,50	12	3,60	40x430/340
B695000F000S	50	460	15	360	50,0	40,00	56,90	12	5,80	50x460/360

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage
 FORM A na zvláštní požadavek / Version FORM A on the special request / Ausführung FORM A auf besondere Anforderung



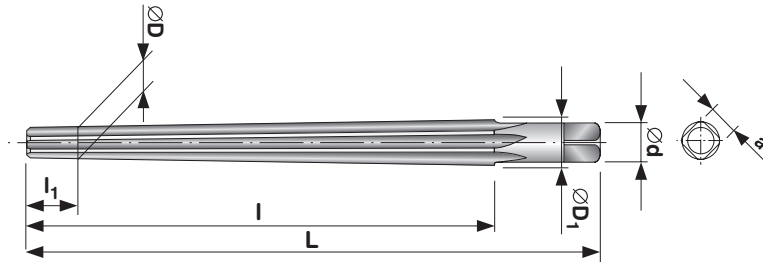
ZVSE 221469

DIN 9



VÝSTRUŽNÍKY RUČNÍ KUŽELOVÉ 1 : 50 S PŘÍMÝMI ZUBY
HAND TAPER REAMERS 1 : 50 STRAIGHT FLUTED
HANDKEGELREIBAHLEN 1 : 50 GERADEGENUTET

HSSCo	BLANC	FORM A			F						
Steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics							



Objednáací číslo Order No. Bestell-Nr.	$\varnothing D$ mm	L mm	l_1 mm	l mm	$\varnothing d$ mm	a mm	$(\varnothing D_1)$ mm			Code 221469
B690301F400S	3	80	5	58	4,0	3,15	4,06	4	0,004	3x80/58
B690401F400S	4	93	5	68	5,0	4,00	5,26	4	0,008	4x93/68
B690501F400S	5	100	5	73	6,3	5,00	6,36	5	0,017	5x100/73
B690601F400S	6	135	5	105	8,0	6,30	8,00	6	0,027	6x135/105
B690801F400S	8	180	5	145	10,0	8,00	10,80	6	0,060	8x180/145
B691001F400S	10	215	5	175	12,5	10,00	13,40	6	0,102	10x215/175
B691201F400S	12	255	10	210	14,0	11,20	16,00	8	0,245	12x255/210
B691401F400S	14	255	10	210	14,0	11,20	18,00	8	0,300	14x255/210
B691601F400S	16	280	10	230	18,0	14,00	20,40	8	0,430	16x280/230
B692001F400S	20	310	10	250	22,4	18,00	24,80	8	0,715	20x310/250
B692501F400S	25	370	15	300	28,0	22,40	30,70	10	1,418	25x370/300
B693001F400S	30	400	15	320	31,5	25,00	36,10	10	2,040	30x400/320
B693201F400S	32	400	15	320	31,5	25,00	38,10	10	2,48	32x400/320
B694001F400S	40	430	15	340	40,0	31,50	46,50	12	3,60	40x430/340
B695001F400S	50	460	15	360	50,0	40,00	56,90	12	5,80	50x460/360

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage

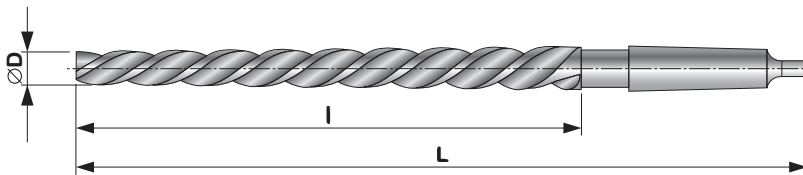
ČSN 221471

DIN 2180



STROJNÍ VÝSTRUŽNÍKY S KUŽEL. STOPKOU NA DÍRY PRO KOLÍKY S KUŽELOVOSTÍ 1:50
MACHINE TAPER PIN REAMERS 1:50 WITH TAPER SHANK
MASCHINEN-REIBAHLEN MIT MORSEKEGELSCHAFT FÜR KEGELSTIFTEN 1:50

na poptávku on request auf Anfrage	HSS		V 8,0 ÷ 12,0	F 14,0 ÷ 20,0							
Steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics							



Objednáací číslo Order No. Bestell-Nr.	$\varnothing D$ mm	L mm	l mm	MORSE			Code 221471
B710800V000S	8	215	135	1	3	0,120	8
B711000V000S	10	240	155	1	3	0,160	10
B711200V000S	12	290	185	2	3	0,200	12
B711400F000S	14	310	200	2	3	0,600	14

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



Výhrubníky a výstružníky

Core drills and reamers
Aufbohrer und Reibahlen



5

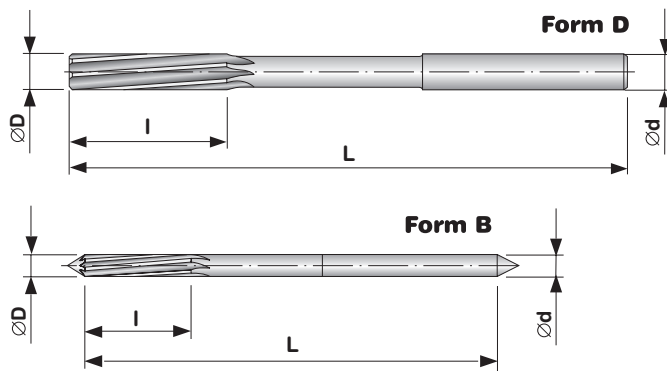


VÝSTRUŽNÍKY STROJNÍ SE ZUBY VE ŠROUBOVICI S VÁLCOVOU STOPKOU
MACHINE REAMERS WITH STRAIGHT SHANK, SPIRAL-FLUTED
MASCHINEN-REIBAHLEN MIT ZYLINDRISCHEM SCHAFT, DRALLGENUTET

ČSN 221430

DIN 212

HSS	BLANC	FORM B 2,0 ÷ 5,5	FORM D 6,0 ÷ 16,0				V 2,0 ÷ 5,5	F 6,0 ÷ 16,0		
Steel <1000 MPa	Stainless steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics	Ti/alloy <850 MPa				



ØD mm	L mm	l mm	Ød h9 mm			Code 221430
2	49	11	2,0	4	0,001	2 .. 49/11
2,2	53	12	2,2	4	0,001	2,2 .. 53/12
2,5	57	14	2,5	4	0,002	2,5 .. 57/14
2,8	61	15	2,8	6	0,003	2,8 .. 61/15
3	61	15	3,0	6	0,003	3 .. 61/15
3,2	65	16	3,2	6	0,004	3,2 .. 65/16
3,5	70	18	3,5	6	0,005	3,5 .. 70/18
4	75	19	4,0	6	0,006	4 .. 75/19
4,5	80	21	4,5	6	0,009	4,5 .. 80/21
5	86	23	5,0	6	0,011	5 .. 86/23
5,5	93	26	5,5	6	0,016	5,5 .. 93/26
6	93	26	6,0	6	0,020	6 .. 93/26
7	109	31	7,0	6	0,028	7 .. 109/31
8	117	33	8,0	6	0,035	8 .. 117/33
9	125	36	9,0	6	0,050	9 .. 125/36
10	133	38	10,0	6	0,064	10 .. 133/38
11	142	41	10,0	6	0,085	11 .. 142/41
12	151	44	10,0	8	0,100	12 .. 151/44
13	151	44	10,0	8	0,120	13 .. 151/44
14	160	47	12,5	8	0,160	14 .. 160/47
15	162	50	12,5	8	0,168	15 .. 162/50
16	170	52	12,5	8	0,180	16 .. 170/52

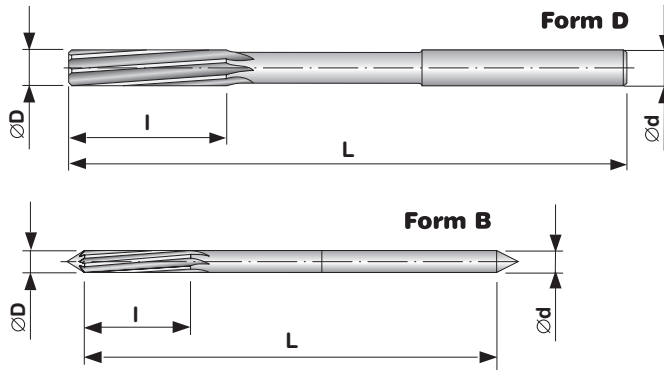
Poznámka / Note / Notiz: ostatní neuvedené rozměry a lícování na požádání / other dimensions and fits - on request / nicht angegebene Abmessungen und Passungen nur auf Anfrage
 .. = lícování výstružníku (7 = H7; 8 = H8; 1 = H11) / .. = tolerances of reamer (7 = H7; 8 = H8; 1 = H11) /
 .. = Reibahlenpassung (7 = H7; 8 = H8; 1 = H11)



ČSN 221430
DIN 212

VÝSTRUŽNÍKY STROJNÍ SE ZUBY VE ŠROUBOVICI S VÁLCOVOU STOPKOU
MACHINE REAMERS WITH STRAIGHT SHANK, SPIRAL-FLUTED
MASCHINEN-REIBAHLEN MIT ZYLINDRISCHEM SCHAFT, DRALLGENUTET

HSSCo5	BLANC	FORM B 2,0 ÷ 5,5	FORM D 6,0 ÷ 20,0				V 2,0 ÷ 5,5	F 6,0 ÷ 20,0		
Steel <1200 MPa	Stainless steel <850 MPa	Cast iron	Heat-resistant	Ti/alloy <850 MPa						



ØD mm	L mm	l mm	Ød h9 mm		 kg	Code 221430
2	49	11	2,0	4	0,001	2 .. 49/11 Co5
2,2	53	12	2,2	4	0,001	2,2 .. 53/12 Co5
2,5	57	14	2,5	4	0,002	2,5 .. 57/14 Co5
2,8	61	15	2,8	6	0,003	2,8 .. 61/15 Co5
3	61	15	3,0	6	0,003	3 .. 61/15 Co5
3,2	65	16	3,2	6	0,004	3,2 .. 65/16 Co5
3,5	70	18	3,5	6	0,005	3,5 .. 70/18 Co5
4	75	19	4,0	6	0,006	4 .. 75/19 Co5
4,5	80	21	4,5	6	0,009	4,5 .. 80/21 Co5
5	86	23	5,0	6	0,011	5 .. 86/23 Co5
5,5	93	26	5,5	6	0,016	5,5 .. 93/26 Co5
6	93	26	6,0	6	0,020	6 .. 93/26 Co5
7	109	31	7,0	6	0,028	7 .. 109/31 Co5
8	117	33	8,0	6	0,035	8 .. 117/33 Co5
9	125	36	9,0	6	0,050	9 .. 125/36 Co5
10	133	38	10,0	6	0,064	10 .. 133/38 Co5
11	142	41	10,0	6	0,085	11 .. 142/41 Co5
12	151	44	10,0	8	0,100	12 .. 151/44 Co5
13	151	44	10,0	8	0,120	13 .. 151/44 Co5
14	160	47	12,5	8	0,160	14 .. 160/47 Co5
15	162	50	12,5	8	0,168	15 .. 162/50 Co5
16	170	52	12,5	8	0,180	16 .. 170/52 Co5
17	175	54	14,0	8	0,192	17 .. 175/54 Co5
18	182	56	14,0	8	0,203	18 .. 182/56 Co5
19	189	58	16,0	8	0,215	19 .. 189/58 Co5
20	195	60	16,0	8	0,230	20 .. 195/60 Co5

Poznámka / Note / Notiz: ostatní neuvedené rozměry a lícování na požádání / other dimensions and fits - on request / nicht angegebene Abmessungen und Passung nur auf Anfrage
 .. = lícování výstružníku (7 = H7; 8 = H8; 1 = H11) / .. = tolerances of reamer (7 = H7; 8 = H8; 1 = H11) /
 .. = Reibahlenpassung (7 = H7; 8 = H8; 1 = H11)



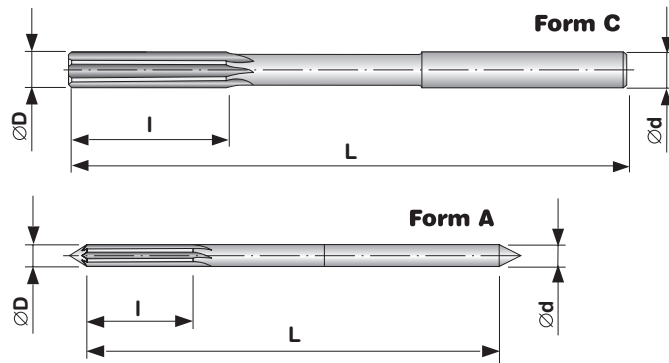


VÝSTRUŽNÍKY STROJNÍ S VÁLCOVOU STOPKOU S PŘÍMÝMI ZUBY
MACHINE REAMERS WITH STRAIGHT SHANK, STRAIGHT FLUTED
MASCHINEN-REIBAHLEN MIT ZYLINDRISCHEM SCHAFT, GERADEGENUTET

ČSN 221445

DIN 212

HSS	BLANC	FORM A 2,0 ÷ 5,5	FORM C 6,0 ÷ 16,0				V 2,0 ÷ 5,5	F 6,0 ÷ 16,0		
Steel <1000 MPa	Stainless steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics	Ti/alloy <850 MPa				



ØD mm	L mm	l mm	Ød h9 mm			Code 221445
2	49	11	2,0	4	0,001	2 .. 49/11
2,2	53	12	2,2	4	0,001	2,2 .. 53/12
2,5	57	14	2,5	4	0,002	2,5 .. 57/14
2,8	61	15	2,8	6	0,003	2,8 .. 61/15
3	61	15	3,0	6	0,003	3 .. 61/15
3,2	65	16	3,2	6	0,004	3,2 .. 65/16
3,5	70	18	3,5	6	0,005	3,5 .. 70/18
4	75	19	4,0	6	0,006	4 .. 75/19
4,5	80	21	4,5	6	0,009	4,5 .. 80/21
5	86	23	5,0	6	0,011	5 .. 86/23
5,5	93	26	5,5	6	0,016	5,5 .. 93/26
6	93	26	6,0	6	0,020	6 .. 93/26
7	109	31	7,0	6	0,028	7 .. 109/31
8	117	33	8,0	6	0,035	8 .. 117/33
9	125	36	9,0	6	0,050	9 .. 125/36
10	133	38	10,0	6	0,064	10 .. 133/38
11	142	41	10,0	6	0,085	11 .. 142/41
12	151	44	10,0	8	0,100	12 .. 151/44
13	151	44	10,0	8	0,120	13 .. 151/44
14	160	47	12,5	8	0,160	14 .. 160/47
15	162	50	12,5	8	0,168	15 .. 162/50
16	170	52	12,5	8	0,180	16 .. 170/52

Poznámka / Note / Notiz: ostatní neuvedené rozměry a lícování na požádání / other dimensions and fits - on request / nicht angegebene Abmessungen und Passung nur auf Anfrage
 HSS Co na zvláštní požadavek / version HSS Co on the special request / Ausführung HSS Co auf besonderer Forderung
 .. = lícování výstružníku (7 = H7; 8 = H8; 1 = H11) / .. = tolerances of reamer (7 = H7; 8 = H8; 1 = H11) /
 .. = Reibahlenpassung (7 = H7; 8 = H8; 1 = H11)

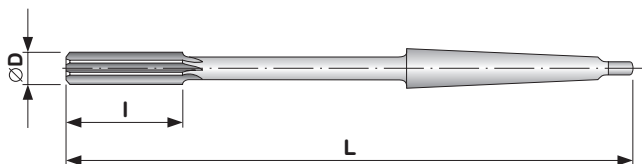
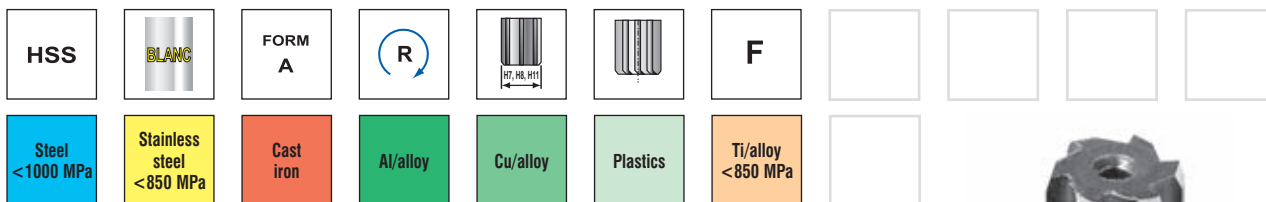


ČSN 221446

DIN 208



VÝSTRUŽNÍKY STROJNÍ S KUŽELOVOU STOPKOU S PŘÍMÝMI ZUBY
 MACHINE REAMERS WITH TAPER SHANK, STRAIGHT FLUTED
 MASCHINEN-REIBAHLEN MIT MORSEKEGELSCHAFT, GERADEGENUTET



ØD mm	L mm	l mm	MORSE			Code 221446
6	138	26	1	6	0,063	6 .. 138/26
7	150	31	1	6	0,068	7 .. 150/31
8	156	33	1	6	0,076	8 .. 156/33
9	162	36	1	6	0,085	9 .. 162/36
10	168	38	1	6	0,095	10 .. 168/38
11	175	41	1	6	0,107	11 .. 175/41
12	182	44	1	8	0,125	12 .. 182/44
13	182	44	1	8	0,133	13 .. 182/44
14	189	47	1	8	0,145	14 .. 189/47
15	204	50	2	8	0,265	15 .. 204/50
16	210	52	2	8	0,295	16 .. 210/52
17	214	54	2	8	0,325	17 .. 214/54
18	219	56	2	8	0,350	18 .. 219/56
19	223	58	2	8	0,370	19 .. 223/58
20	228	60	2	8	0,385	20 .. 228/60
21	232	62	2	8	0,415	21 .. 232/62
22	237	64	2	8	0,435	22 .. 237/64
23	241	66	2	8	0,455	23 .. 241/66
24	268	68	3	8	0,730	24 .. 268/68
25	268	68	3	8	0,790	25 .. 268/68
26	273	70	3	10	0,830	26 .. 273/70
27	277	71	3	10	0,850	27 .. 277/71
28	277	71	3	10	0,880	28 .. 277/71
29	281	73	3	10	0,920	29 .. 281/73
30	281	73	3	10	0,940	30 .. 281/73
31	285	75	3	10	0,965	31 .. 285/75
32	317	77	4	10	1,565	32 .. 317/77

Poznámka / Note / Notiz: ostatní neuvedené rozměry a lícování na požádání / other dimensions and fits - on request / nicht angegebene Abmessungen und Passung nur auf Anfrage
 HSS Co na zvláštní požadavek / version HSS Co on the special request / Ausführung HSS Co auf besonderer Forderung
 .. = lícování výstružníku (7 = H7; 8 = H8; 1 = H11) / .. = tolerances of reamer (7 = H7; 8 = H8; 1 = H11) /
 .. = Reibahlenpassung (7 = H7; 8 = H8; 1 = H11)



Výhrubníky a výstružníky

Core drills and reamers
Aufbohrer und Reibahlen



VÝSTRUŽNÍKY STROJNÍ SE ZUBY VE ŠROUBOVICI S KUŽELOVOU STOPKOU
MACHINE REAMERS WITH TAPER SHANK, SPIRAL-FLUTED
MASCHINEN-REIBAHLEN MIT MORSEKEGELSCHAFT, DRALLGENUTET

ČSN 221431

DIN 208

HSS	BLANC	FORM B	R	H7, H8, H11		F				
Steel <1000 MPa	Stainless steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics	Ti/alloy <850 MPa				



∅D mm	L mm	l mm	MORSE			Code 221431
5	133	23	1	6	0,058	5 .. 133/23
6	138	26	1	6	0,063	6 .. 138/26
7	150	31	1	6	0,068	7 .. 150/31
8	156	33	1	6	0,076	8 .. 156/33
9	162	36	1	6	0,085	9 .. 162/36
10	168	38	1	6	0,095	10 .. 168/38
11	175	41	1	6	0,107	11 .. 175/41
12	182	44	1	8	0,125	12 .. 182/44
13	182	44	1	8	0,133	13 .. 182/44
14	189	47	1	8	0,145	14 .. 189/47
15	204	50	2	8	0,265	15 .. 204/50
16	210	52	2	8	0,295	16 .. 210/52
17	214	54	2	8	0,325	17 .. 214/54
18	219	56	2	8	0,350	18 .. 219/56
19	223	58	2	8	0,370	19 .. 223/58
20	228	60	2	8	0,385	20 .. 228/60
21	232	62	2	8	0,415	21 .. 232/62
22	237	64	2	8	0,435	22 .. 237/64
23	241	66	2	8	0,455	23 .. 241/66
24	268	68	3	8	0,73	24 .. 268/68
25	268	68	3	8	0,79	25 .. 268/68
26	273	70	3	10	0,83	26 .. 273/70
27	277	71	3	10	0,85	27 .. 277/71
28	277	71	3	10	0,88	28 .. 277/71
29	281	73	3	10	0,92	29 .. 281/73
30	281	73	3	10	0,94	30 .. 281/73
31	285	75	3	10	0,965	31 .. 285/75
32	317	77	4	10	1,565	32 .. 317/77

Poznámka / Note / Notiz: ostatní neuvedené rozměry a lícování na poptávku / other dimensions and fits - on request / nicht angegebene Abmessungen und Passung nur auf Anfrage nad Ø30 (30,00-50,00) na poptávku / over Ø30 (30,00-50,00) on request / über Ø30 (30,00-50,00) auf Anfrage
 .. = lícování výstružníku (7 = H7; 8 = H8; 1 = H11) / .. = tolerances of reamer (7 = H7; 8 = H8; 1 = H11) /
 .. = Reibahlenpassung (7 = H7; 8 = H8; 1 = H11)

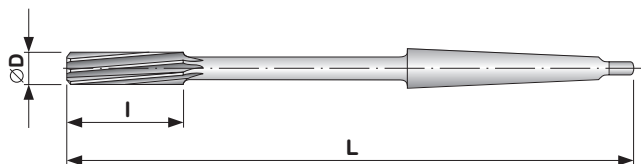
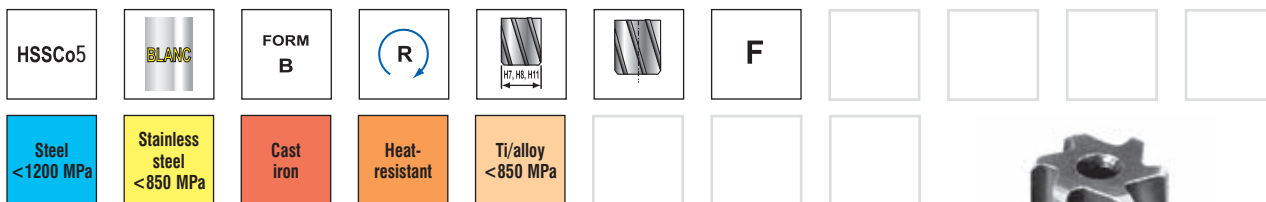


ČSN 221431

DIN 208



VÝSTRUŽNÍKY STROJNÍ SE ZUBY VE ŠROUBOVICI S KUŽELOVOU STOPKOU
MACHINE REAMERS WITH TAPER SHANK, SPIRAL-FLUTED
MASCHINEN-REIBAHLEN MIT MORSEKEGELSCHAFT, DRALLGENUTET



ØD mm	L mm	l mm	MORSE			Code 221431
5	133	23	1	6	0,058	5 .. 133/23 Co5
6	138	26	1	6	0,063	6 .. 138/26 Co5
7	150	31	1	6	0,068	7 .. 150/31 Co5
8	156	33	1	6	0,076	8 .. 156/33 Co5
9	162	36	1	6	0,085	9 .. 162/36 Co5
10	168	38	1	6	0,095	10 .. 168/38 Co5
11	175	41	1	6	0,107	11 .. 175/41 Co5
12	182	44	1	8	0,125	12 .. 182/44 Co5
13	182	44	1	8	0,133	13 .. 182/44 Co5
14	189	47	1	8	0,145	14 .. 189/47 Co5
15	204	50	2	8	0,265	15 .. 204/50 Co5
16	210	52	2	8	0,295	16 .. 210/52 Co5
17	214	54	2	8	0,325	17 .. 214/54 Co5
18	219	56	2	8	0,35	18 .. 219/56 Co5
19	223	58	2	8	0,37	19 .. 223/58 Co5
20	228	60	2	8	0,385	20 .. 228/60 Co5
21	232	62	2	8	0,415	21 .. 232/62 Co5
22	237	64	2	8	0,435	22 .. 237/64 Co5
23	241	66	2	8	0,455	23 .. 241/66 Co5
24	268	68	3	8	0,73	24 .. 268/68 Co5
25	268	68	3	8	0,79	25 .. 268/68 Co5
26	273	70	3	10	0,83	26 .. 273/70 Co5
27	277	71	3	10	0,85	27 .. 277/71 Co5
28	277	71	3	10	0,88	28 .. 277/71 Co5
29	281	73	3	10	0,92	29 .. 281/73 Co5
30	281	73	3	10	0,94	30 .. 281/73 Co5
31	285	75	3	10	0,965	31 .. 285/75 Co5
32	317	77	4	10	1,565	32 .. 317/77 Co5
33	317	77	4	10	1,565	33 .. 317/77 Co5
34	321	78	4	10	1,565	34 .. 321/78 Co5
35	321	78	4	10	1,565	35 .. 321/78 Co5
36	325	79	4	10	1,565	36 .. 325/79 Co5
37	325	79	4	10	1,565	37 .. 325/79 Co5
38	329	81	4	10	1,565	38 .. 329/81 Co5
39	329	81	4	10	1,565	39 .. 329/81 Co5
40	329	81	4	10	1,565	40 .. 329/81 Co5
41	333	82	4	12	1,565	41 .. 333/82 Co5
42	333	82	4	12	1,565	42 .. 333/82 Co5
43	333	82	4	12	1,565	43 .. 333/82 Co5
44	336	83	4	12	1,565	44 .. 336/83 Co5
45	336	83	4	12	2,285	45 .. 336/83 Co5
46	340	84	4	12	2,29	46 .. 340/84 Co5
47	340	84	4	12	3	47 .. 340/84 Co5
48	344	86	4	12	3,08	48 .. 344/86 Co5
49	344	86	4	12	3,15	49 .. 344/86 Co5
50	344	86	4	12	3,25	50 .. 344/86 Co5

Poznámka / Note / Notiz: ostatní neuvedené rozměry a lícování na požádání / other dimensions and fits - on request / nicht angegebene Abmessungen und Passungen nur auf Anfrage
 .. = lícování výstružníku (7 = H7; 8 = H8; 1 = H11) / .. = tolerances of reamer (7 = H7; 8 = H8; 1 = H11) /
 .. = Reibahlenpassung (7 = H7; 8 = H8; 1 = H11)





VÝSTRUŽNÍKY LOUPACÍ S VÁLCOVOU STOPKOU
QUICK-SPIRAL REAMERS WITH STRAIGHT SHANK
SCHÄLREIBAHLEN MIT ZYLINDRISCHEM SCHAFT

PN 221429

DIN 212

na poptávku
on request
auf Anfrage

HSS

BLANC

FORM
E



F

Steel
<1000 MPa

Stainless
steel
<850 MPa

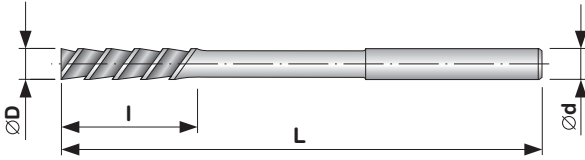
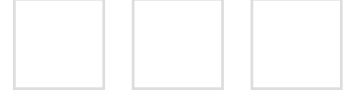
Cast
iron

Al/alloy

Cu/alloy

Plastics

Ti/alloy
<850 MPa



ØD mm	L mm	I mm	Ød f8 mm		 kg	Code 221429
6	93	26	6,0	2	0,016	6 .. 93/26
7	109	31	7,0	2	0,028	7 .. 109/31
8	117	33	8,0	2	0,035	8 .. 117/33
9	125	36	9,0	2	0,050	9 .. 125/36
10	133	38	10,0	2	0,064	10 .. 133/38
11	142	41	10,0	2	0,085	11 .. 142/41
12	151	44	10,0	2	0,100	12 .. 151/44
13	151	44	10,0	2	0,120	13 .. 151/44
14	160	47	12,5	3	0,160	14 .. 160/47
15	162	50	12,5	3	0,168	15 .. 162/50
16	170	52	12,5	3	0,180	16 .. 170/52

Poznámka / Note / Notiz: ostatní neuvedené rozměry a lícování na poptávku / other dimensions and fits - on request / nicht angegebene Abmessungen und Passung nur auf Anfrage
 HSS Co na zvláštní požadavek / version HSS Co on the special request / Ausführung HSS Co auf besonderer Forderung
 .. = lícování výstružníku (7 = H7; 8 = H8; 1 = H11) / .. = tolerances of reamer (7 = H7; 8 = H8; 1 = H11) /
 .. = Reibahlenpassung (7 = H7; 8 = H8; 1 = H11)



PN 221458

DIN 208



VÝSTRUŽNÍKY LOUPACÍ S KUŽELOVOU STOPKOU
QUICK-SPIRAL REAMERS WITH TAPER SHANK
SCHÄLREIBAHLEN MIT MORSEKEGELSCHAFT

na poptávku
on request
auf Anfrage

HSS

BLANC

FORM
C

R



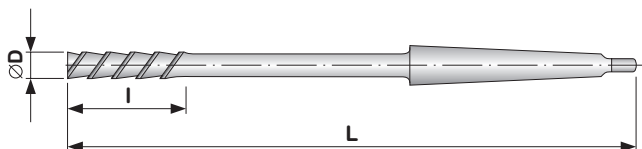
F



Steel
<1000 MPaStainless
steel
<850 MPaCast
iron

Al/alloy

Cu/alloy

Plastics

Ti/alloy
<850 MPa

ØD mm	L mm	l mm	MORSE		 kg	Code 221458
6	138	26	1	2	0,063	6 .. 138/26
7	150	31	1	2	0,068	7 .. 150/31
8	156	33	1	2	0,076	8 .. 156/33
9	162	36	1	2	0,085	9 .. 162/36
10	168	38	1	2	0,095	10 .. 168/38
11	175	41	1	2	0,107	11 .. 175/41
12	182	44	1	2	0,125	12 .. 182/44
13	182	44	1	2	0,133	13 .. 182/44
14	189	47	1	3	0,145	14 .. 189/47
15	204	50	2	3	0,265	15 .. 204/50
16	210	52	2	3	0,295	16 .. 210/52
17	214	54	2	3	0,325	17 .. 214/54
18	219	56	2	3	0,350	18 .. 219/56
19	223	58	2	3	0,370	19 .. 223/58
20	228	60	2	3	0,385	20 .. 228/60
21	232	62	2	3	0,415	21 .. 232/62
22	237	64	2	3	0,435	22 .. 237/64
23	241	66	2	3	0,455	23 .. 241/66
24	268	68	3	3	0,730	24 .. 268/68
25	268	68	3	3	0,790	25 .. 268/68
26	273	70	3	3	0,830	26 .. 273/70
28	277	71	3	3	0,880	28 .. 277/71
30	281	73	3	3	0,940	30 .. 281/73
32	317	77	4	3	1,565	32 .. 317/77

Poznámka / Note / Notiz: ostatní neuvedené rozměry a lícování na poptávku / other dimensions and fits - on request / nicht angegebene Abmessungen und Passung nur auf Anfrage
HSS Co na zvláštní požadavek / version HSS Co on the special request / Ausführung HSS Co auf besonderer Forderung
.. = lícování výstružníku (7 = H7; 8 = H8; 1 = H11) / .. = tolerances of reamer (7 = H7; 8 = H8; 1 = H11) /
.. = Reibahlenpassung (7 = H7; 8 = H8; 1 = H11)



Výhrubníky a výstružníky

Core drills and reamers
Aufbohrer und Reibahlen

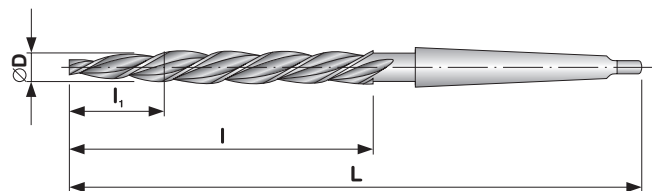


VÝSTRUŽNÍKY STROJNÍ S KUŽELOVOU STOPKOU NA DÍRY PRO NÝTY
MACHINE BRIDGE REAMERS WITH TAPER SHANK
MASCHINEN-NIETLOCHREIBAHLEN MIT MORSEKEGELSCHAFT

ČSN 221452

DIN 311

HSS	BLANC	R		F						
Steel <1000 MPa	Stainless steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics	Ti/alloy <850 MPa				



Objednáací číslo Order No. Bestell-Nr.	ØD mm	L mm	l mm	l ₁ mm	MORSE			Code 221452
B520840F000S	8,4	161	85	25	1	4	0,085	8,4x161/85
B520950F000S	9,5	166	90	27	1	4	0,090	9,5x166/90
B521000F000S	10	171	95	30	1	4	0,095	10x171/95
B521100F000S	11	176	100	33	1	4	0,100	11x176/100
B521200F000S	12	199	105	39	2	4	0,180	12x199/105
B521300F000S	13	199	105	39	2	4	0,210	13x199/105
B521400F000S	14	209	115	42	2	4	0,240	14x209/115
B521500F000S	15	219	125	45	2	4	0,280	15x219/125
B521600F000S	16	229	135	48	2	4	0,320	16x229/135
B521700F000S	17	251	135	51	3	4	0,380	17x251/135
B521800F000S	18	261	145	58	3	4	0,400	18x261/145
B521900F000S	19	261	145	58	3	4	0,420	19x261/145
B522000F000S	20	271	155	62	3	4	0,520	20x271/155
B522100F000S	21	271	155	62	3	4	0,630	21x271/155
B522200F000S	22	281	165	66	3	4	0,650	22x281/165
B522300F000S	23	281	165	66	3	4	0,660	23x281/165
B522400F000S	24	296	180	72	3	4	0,740	24x296/180
B522500F000S	25	296	180	72	3	4	0,780	25x296/180
B522600F000S	26	296	180	72	3	4	0,820	26x296/180
B522700F000S	27	311	195	78	3	4	0,900	27x311/195
B522800F000S	28	311	195	78	3	4	0,930	28x311/195
B522900F000S	29	311	195	78	3	4	0,960	29x311/195
B523000F000S	30	311	195	78	3	4	1,070	30x311/195
B523100F000S	31	326	210	84	3	4	1,120	31x326/210
B523400F000S	34	364	220	88	4	4	1,740	34x364/220
B523700F000S	37	364	220	88	4	4	2,000	37x364/220

Poznámka / Note / Notiz: ostatní neuvedené rozměry na požádání / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage

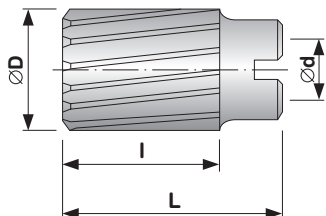
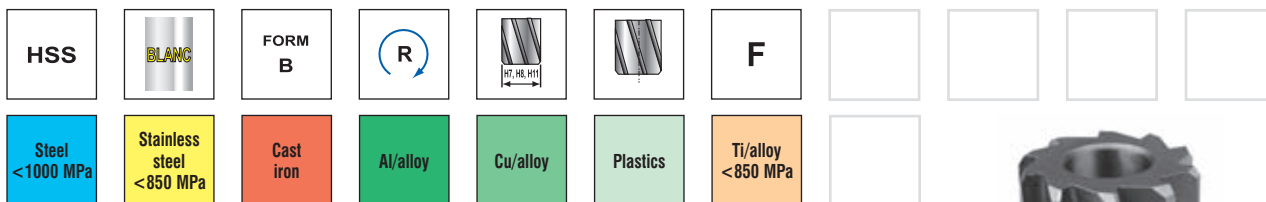


ČSN 221432

DIN 219



VÝSTRUŽNÍKY NÁSTRČNÉ SE ZUBY VE ŠROUBOVICI
SHELL REAMERS, SPIRAL-FLUTED
AUFSTECK-REIBAHLEN, DRALLGENUTET



ØD mm	L mm	l mm	Ød mm	λ	$\frac{g}{kg}$	Code 221432
25	45	32	13	10	0,090	25..
26	45	32	13	10	0,100	26..
27	45	32	13	10	0,110	27..
28	45	32	13	10	0,120	28..
29	45	32	13	10	0,130	29..
30	45	32	13	10	0,140	30..
31	50	36	16	10	0,160	31..
32	50	36	16	10	0,170	32..
34	50	36	16	10	0,185	34..
35	50	36	16	10	0,200	35..
36	56	40	19	10	0,230	36..
38	56	40	19	10	0,260	38..
40	56	40	19	10	0,290	40..
42	56	40	19	12	0,330	42..
44	63	45	22	12	0,435	44..
45	63	45	22	12	0,455	45..
46	63	45	22	12	0,475	46..
48	63	45	22	12	0,495	48..
50	63	45	22	12	0,515	50..
52	71	50	27	12	0,640	52..
55	71	50	27	12	0,760	55..
58	71	50	27	12	0,830	58..
60	71	50	27	14	0,900	60..
62	80	56	32	14	0,970	62..
63	80	56	32	14	1,100	63..
65	80	56	32	14	1,160	65..
68	80	56	32	14	1,340	68..
70	80	56	32	14	1,500	70..
72	90	63	40	14	1,670	72..
75	90	63	40	14	1,810	75..
78	90	63	40	14	2,150	78..
80	90	63	40	14	2,240	80..
82	90	63	40	14	2,450	82..
85	90	63	40	14	2,590	85..
88	100	71	50	16	3,100	88..
90	100	71	50	16	3,170	90..
92	100	71	50	16	3,280	92..
95	100	71	50	16	3,430	95..
98	100	71	50	16	4,150	98..
100	100	71	50	16	4,170	100..

Poznámka / Note / Notiz: ostatní neuvedené rozměry a lícování na poptávku / other dimensions and fits - on request / nicht angegebene Abmessungen und Passung nur auf Anfrage pro upínání slouží držáky ČSN 241210 (DIN 217) / arbors ČSN 241210 (DIN 217) are used for clamping / für das Spannen die Halter ČSN 241210 (DIN 217)

.. = lícování výstružníku (7 = H7; 8 = H8; 1 = H11) / .. = tolerances of reamer (7 = H7; 8 = H8; 1 = H11) /

.. = Reibahlenpassung (7 = H7; 8 = H8; 1 = H11)



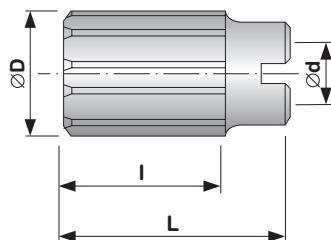


VÝSTRUŽNÍKY NÁSTRČNÉ S PŘÍMÝMI ZUBY
SHELL REAMERS, STRAIGHT FLUTED
AUFSTECK-REIBAHLEN, GERADEGENUTET

ČSN 221447

DIN 219

HSS	BLANC	FORM A	R	H7, H8, H11		F				
Steel <1000 MPa	Stainless steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics	Ti/alloy <850 MPa				



ØD mm	L mm	l mm	Ød mm			Code 221447
25	45	32	13	10	0,090	25..
26	45	32	13	10	0,100	26..
27	45	32	13	10	0,110	27..
28	45	32	13	10	0,120	28..
29	45	32	13	10	0,130	29..
30	45	32	13	10	0,140	30..
31	50	36	16	10	0,160	31..
32	50	36	16	10	0,170	32..
34	50	36	16	10	0,185	34..
35	50	36	16	10	0,200	35..
36	56	40	19	10	0,230	36..
38	56	40	19	10	0,260	38..
40	56	40	19	10	0,290	40..
42	56	40	19	12	0,330	42..
44	63	45	22	12	0,435	44..
45	63	45	22	12	0,455	45..
46	63	45	22	12	0,475	46..
48	63	45	22	12	0,495	48..
50	63	45	22	12	0,515	50..
52	71	50	27	12	0,640	52..
55	71	50	27	12	0,760	55..
58	71	50	27	12	0,830	58..
60	71	50	27	14	0,900	60..
62	80	56	32	14	0,970	62..
63	80	56	32	14	1,100	63..
65	80	56	32	14	1,160	65..
68	80	56	32	14	1,340	68..
70	80	56	32	14	1,500	70..
72	90	63	40	14	1,670	72..
75	90	63	40	14	1,810	75..
78	90	63	40	14	2,150	78..
80	90	63	40	14	2,240	80..
82	90	63	40	14	2,450	82..
85	90	63	40	14	2,590	85..
88	100	71	50	16	3,100	88..
90	100	71	50	16	3,170	90..
92	100	71	50	16	3,280	92..
95	100	71	50	16	3,430	95..
98	100	71	50	16	4,150	98..
100	100	71	50	16	4,170	100..

Poznámka / Note / Notiz: ostatní neuvedené rozměry a lícování na poptávku / other dimensions and fits - on request / nicht angegebene Abmessungen und Passung nur auf Anfrage pro upínání slouží držáky ČSN 241210 (DIN 217) / arbors ČSN 241210 (DIN 217) are used for clamping / für das Spannen die Halter ČSN 241210 (DIN 217)

.. = lícování výstružníku (7 = H7; 8 = H8; 1 = H11) / .. = tolerances of reamer (7 = H7; 8 = H8; 1 = H11) / .. = Reibahlenpassung (7 = H7; 8 = H8; 1 = H11)

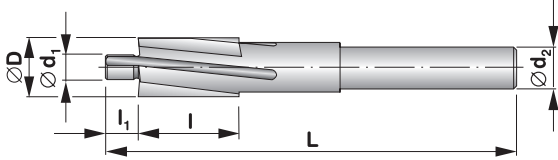
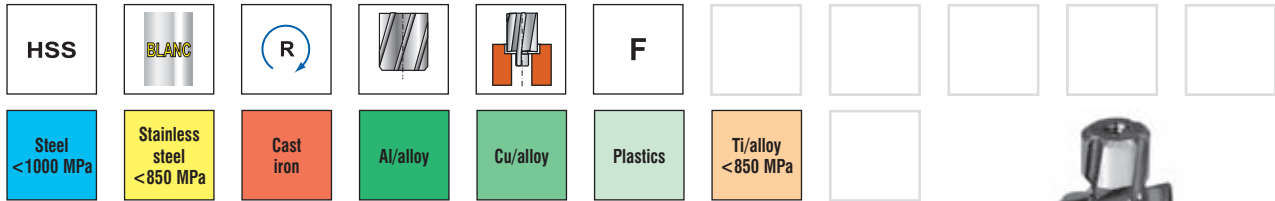


ČSN 221604

DIN 373



ZÁHLUBNÍKY S VÁLCOVOU STOPKOU A VODICÍM ČEPEM
 PILOT COUNTERBORES WITH STRAIGHT SHANK
 FLACHSENENKER MIT ZYLINDRENSCHAFT UND FESTEM FÜHRUNGSZAPFEN



Objednáací číslo Order No. Bestell-Nr.	ØDz9 mm	Ød ₁ e8 mm	Ød ₂ h9 mm	L mm	l mm	l ₁ mm	Závit šroubu Screw thread Für Schrauben			Code 221604
C040022F000S	4,3	2,2	4,3	56	10	3	M2	4	0,005	4,3x2,2
C040016F000S	4,3	*1,6	4,3	56	10	3	M2	4	0,005	4,3x1,6
C041027F000S	5,0	2,7	5,0	56	10	3	M2,5	4	0,006	5x2,7
C041020F000S	5,0	*2,05	5,0	56	10	3	M2,5	4	0,006	5x2,05
C042032F000S	6,0	3,2	5,0	71	14	4	M3	4	0,010	6x3,2
C042025F000S	6,0	*2,5	5,0	71	14	4	M3	4	0,010	6x2,5
C043037F000S	6,5	3,7	5,0	71	14	4	M3,5	4	0,011	6,5x3,7
C043029F000S	6,5	*2,9	5,0	71	14	4	M3,5	4	0,011	6,5x2,9
C044043F000S	8,0	4,3	5,0	71	14	4	M4	4	0,012	8x4,3
C044033F000S	8,0	*3,3	5,0	71	14	4	M4	4	0,012	8x3,3
C045053F000S	10,0	5,3	8,0	80	18	6	M5	4	0,028	10x5,3
C045042F000S	10,0	*4,2	8,0	80	18	6	M5	4	0,028	10x4,2
C046064F000S	11,0	6,4	8,0	80	18	6	M6	4	0,034	11x6,4
C046050F000S	11,0	*5,0	8,0	80	18	6	M6	4	0,034	11x5
C047084F000S	15,0	8,4	12,5	100	22	8	M8	4	0,086	15x8,4
C047068F000S	15,0	*6,8	12,5	100	22	8	M8	4	0,086	15x6,8
C048105F000S	18,0	10,5	12,5	100	22	10	M10	4	0,114	18x10,5
C048085F000S	18,0	*8,5	12,5	100	22	10	M10	4	0,114	18x8,5
C049130F000S	20,0	13,0	12,5	100	22	12	M12	4	0,122	20x13
C049102F000S	20,0	*10,2	12,5	100	22	12	M12	4	0,122	20x10,2

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage
 provedení označená * mají rozměry vodicích čepů přizpůsobené předvrtaným díram pro závit / pilot diameter of * marked versions is adapted for
 tapping sized holes / die mit *bezeichnete Ausführungen haben Dimensionen der Führungszapfen den vorgebohrten Löcher für gewinde angepasst



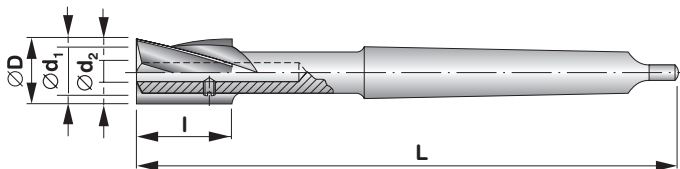


ZÁHLUBNÍKY S KUŽELOVOU STOPKOU A VÝMĚNNÝMI VODÍCÍMI ČEPY
COUNTERBORES WITH HOLE FOR DETACHABLE PILOT AND TAPER SHANK
FLACHSENKER MIT AUSWECHSELBAREM FÜHRUNGSZAPFEN UND MORSEKEGELSCHAFT

ČSN 221606

DIN 375

HSS	BLANC	R			F					
Steel <1000 MPa	Stainless steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics	Ti/alloy <850 MPa				



Objednáací číslo Order No. Bestell-Nr.	ØDz9 mm	Ød ₁ čep / pin / Zapfen mm	Ød ₂ mm	L mm	l mm	MORSE	Závít šroubu Screw thread Für Schrauben			Code 221606
C061302F000S	13	4,3; 4,5	4,0	132	22	2		4	0,160	13
C061502F000S	15	5,3; 5,5; 6,8; 8,4	4,0	132	22	2		4	0,160	15
C061802F000S	18	6,4; 6,6; 8,5; 10,5	5,0	140	25	2	M10	4	0,210	18
C062002F000S	20	7,4; 7,6; 10,2; 13	5,0	140	25	2	M12	4	0,210	20
C062402F000S	24	8,4; 9; 12; 15	6,0	150	30	2	M14	4	0,300	24
C062603F000S	26	14; 17	8,0	180	35	3	M16	4	0,480	26
C062803F000S	28	10,5; 11	8,0	180	35	3		4	0,540	28
C063003F000S	30	15,5; 19	8,0	180	35	3	M18	4	0,580	30
C063403F000S	34	13; 14; 17,5; 21	10,0	190	40	3	M20	4	0,730	34
C063603F000S	36	15; 16	10,0	190	40	3		4	0,770	36
C064003F000S	40	17; 18; 21; 25	10,0	190	40	3	M24	4	0,820	40
C064304F000S	43	19; 20	12,0	236	50	4		4	1,500	43
C064804F000S	48	21; 22; 26,5; 31	12,0	236	50	4	M30	4	1,800	48
C065304F000S	53	23; 24	16,0	250	63	4		4	2,200	53
C065704F000S	57	25; 26; 33; 37	16,0	250	63	4	M36x3	4	2,250	57
C066004F000S	60	28; 30	16,0	250	63	4		4	2,400	60

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage
pro záhlubníky jsou určeny vodící čepy dle ČSN 221608 (DIN 1868) - viz strana 104 / counterbores have to be used with pilots acc. to ČSN 221608 (DIN 1868) - see page 104 / die Senker werden Führungszapfen gemäss ČSN 221608 (DIN 1868) verordnet - siehe Seite 104

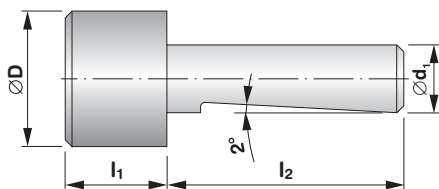



ČSN 221608

DIN 1868



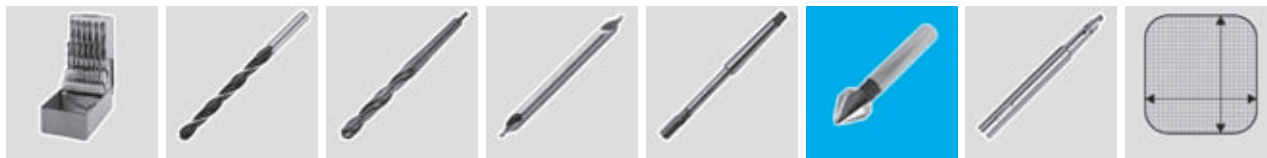
VODÍČÍ ČEPY PRO ZÁHLUBNÍKY ČSN 221606 (DIN 375)
 PILOTS FOR COUNTERBORES ČSN 221606 (DIN 375)
 FÜHRUNGSAFFEN FÜR SENKER GEMÄSS ČSN 221606 (DIN 375)



Objednací číslo Order No. Bestell-Nr.	ØDe8 mm	Ød1 mm	l1 mm	l2 mm	Pro záhlubník For counterbores Für Senker	Závít šroubu Screw thread Für Schrauben	 kg	Code 221608
C080431F000S	4,3	4	5	20	13,0		0,003	4,3x4
C080451F000S	4,5	4	5	20	13,0		0,003	4,5x4
C080531F000S	5,3	4	5	20	15,0		0,003	5,3x4
C080551F000S	5,5	4	5	20	15,0	M8	0,004	5,5x4
C080681F000S	*6,8	4	6	20	15,0	M8	0,005	6,8x4
C080841F000S	8,4	4	7	20	15,0		0,008	8,4x4
C080642F000S	6,4	5	6	23	18,0		0,006	6,4x5
C080662F000S	6,6	5	6	23	18,0		0,005	6,6x5
C080742F000S	7,4	5	6	23	20,0		0,007	7,4x5
C080762F000S	7,6	5	6	23	20,0		0,007	7,6x5
C080852F000S	*8,5	5	7	23	18,0	M10	0,008	8,5x5
C081022F000S	*10,2	5	8	23	20,0	M12	0,008	10,2x5
C081052F000S	*10,5	5	8	23	18,0	M10	0,008	10,5x5
C081302F000S	13,0	5	10	23	20,0	M12	0,012	13x5
C080843F000S	8,4	6	7	28	24,0		0,009	8,4x6
C080903F000S	9,0	6	7	28	24,0		0,010	9x6
C081203F000S	*12,0	6	8	28	24,0	M14	0,014	12x6
C081503F000S	15,0	6	10	28	24,0	M14	0,017	15x6
C081054F000S	10,5	8	8	32	28,0		0,010	10,5x8
C081104F000S	11,0	8	8	32	28,0		0,016	11x8
C081404F000S	*14,0	8	10	32	26,0	M16	0,020	14x8
C081554F000S	*15,5	8	10	32	30,0	M18	0,025	15,5x8
C081704F000S	17,0	8	12	32	26,0	M16	0,035	17x8
C081904F000S	19,0	8	12	32	30,0	M18	0,038	19x8
C081305F000S	13,0	10	10	40	34,0		0,032	13x10
C081405F000S	14,0	10	10	40	34,0		0,032	14x10
C081505F000S	15,0	10	10	40	36,0		0,035	15x10
C081605F000S	16,0	10	10	40	36,0		0,038	16x10
C081705F000S	17,0	10	12	40	40,0		0,040	17x10
C081755F000S	*17,5	10	12	40	34,0	M20	0,040	17,5x10
C081805F000S	18,0	10	12	40	40,0		0,045	18x10
C082105F000S	21,0	10	15	40	34,0	M20	0,060	21x10
C082105F000S	*21,0	10	15	40	40,0	M24	0,060	21x10
C082505F000S	25,0	10	15	40	40,0	M24	0,080	25x10
C081906F000S	19,0	12	12	50	43,0		0,070	19x12
C082006F000S	20,0	12	12	50	43,0		0,070	20x12
C082106F000S	21,0	12	15	50	48,0		0,075	21x12
C082206F000S	22,0	12	15	50	48,0		0,085	22x12
C082656F000S	*26,5	12	18	50	48,0	M30	0,120	26,5x12
C083106F000S	31,0	12	18	50	48,0	M30	0,140	31x12
C082307F000S	23,0	16	15	60	53,0		0,120	23x16
C082407F000S	24,0	16	15	60	53,0		0,130	24x16
C082507F000S	25,0	16	15	60	57,0		0,150	25x16
C082607F000S	26,0	16	18	60	57,0		0,160	26x16
C082807F000S	28,0	16	18	60	60,0		0,190	28x16
C083007F000S	30,0	16	18	60	60,0		0,200	30x16
C083307F000S	*33,0	16	22	60	57,0	M36x3	0,230	33x16
C083707F000S	37,0	16	22	60	57,0	M36x3	0,280	37x16

Poznámka / Note / Notiz: ostatní neuvedené rozměry na požádání / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage

Velikosti označené * jsou určeny do předvrtané díry pro závít. Ostatní čepy jsou určeny k záhlubníkům pro opracování méně obvyklých velikostí záhlubení. / Dimensions marked * are for prebored thread holes. Other pins are intended for counterbores to machine less usual dimensions of boring. / Die mit * sind bezeichnete Ausführungen passen für die vorgebohrte Löcher der Gewinde. Andere Führungszapfen sind für Senker für die Bearbeitung der nicht so üblichen Größen von Senkungen geeignet.



ZÁHLUBNÍKY S VÁLCOVOU STOPKOU A VODICÍM ČEPEM PILOT COUNTERSINKS WITH STRAIGHT SHANK KEGELSENKER 90° MIT ZYLINDRISCHEM SCHAFT UND FESTEM FÜHRUNGSPAPPEN

ČSN 221605 DIN 1866

HSS	BLANC	R				F				
Steel <1000 MPa	Stainless steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics	Ti/alloy <850 MPa				

Objednáací číslo Order No. Bestell-Nr.	ØDz9 mm	Ød1e8 mm	Ød2h9 mm	L mm	l mm	l1 mm	Závit šroubu Screw thread Für Schrauben			Code 221605
C050220F000S	4,0	2,2	4	56	10	3	M2	4	0,005	4x2,2
C050160F000S	4,0	*1,6	4	56	10	3	M2	4	0,005	4x1,6
C050270F000S	4,9	2,7	5	56	10	3	M2,5	4	0,006	4,9x2,7
C050205F000S	4,9	*2,05	5	56	10	3	M2,5	4	0,006	4,9x2,05
C050320F000S	5,7	3,2	5	71	14	4	M3	4	0,012	5,7x3,2
C050250F000S	5,7	*2,5	5	71	14	4	M3	4	0,012	5,7x2,5
C050370F000S	6,7	3,7	5	71	14	4	M3,5	4	0,013	6,7x3,7
C050290F000S	6,7	*2,9	5	71	14	4	M3,5	4	0,013	6,7x2,9
C050430F000S	7,8	4,3	5	71	14	4	M4	4	0,025	7,8x4,3
C050330F000S	7,8	*3,3	5	71	14	4	M4	4	0,025	7,8x3,3
C050530F000S	9,5	5,3	8	80	18	6	M5	4	0,030	9,5x5,3
C050420F000S	9,5	*4,2	8	80	18	6	M5	4	0,030	9,5x4,2
C050640F000S	11,4	6,4	8	80	18	6	M6	4	0,036	11,4x6,4
C050500F000S	11,4	*5,0	8	80	18	6	M6	4	0,036	11,4x5

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage
 Rozměry d₁ označené * jsou určeny do předvrtaných děr pro závit (ostatní jsou do díry pro drík šroubu). / Pilot diameter d₁ of * marked versions is adapted for tapping sized holes (other for clearance holes). / Die mit * bezeichnete Ausführungen sind für vorgebohrte Löcher der Gewinde bestimmt (die andere sind in das Loch für die Schraubenschaft bestimmt).

ZÁHLUBNÍKY S KUŽELOVOU STOPKOU A VODICÍM ČEPEM PILOT COUNTERSINKS WITH TAPER SHANK KEGELSENKER 90° MIT KEGELSCHAFT UND FESTEM FÜHRUNGSPAPPEN

ČSN 221607 DIN 1867

HSS	BLANC	R				F				
Steel <1000 MPa	Stainless steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics	Ti/alloy <850 MPa				

Objednáací číslo Order No. Bestell-Nr.	ØD mm	Ød1e8 mm	L mm	l mm	l1 mm	MORSE	Závit šroubu Screw thread Für Schrauben			Code 221607
C070840F000S	15,4	8,4	140	22	8	2	M8	4	0,180	15,4x8,4
C070680F000S	15,4	*6,8	140	22	8	2	M8	4	0,180	15,4x6,8
C071050F000S	18,5	10,5	148	25	10	2	M10	4	0,270	18,5x10,5
C070850F000S	18,5	*8,5	148	25	10	2	M10	4	0,270	18,5x8,5
C071300F000S	22,5	13,0	160	30	12	2	M12	4	0,330	22,5x13
C071020F000S	22,5	*10,2	160	30	12	2	M12	4	0,330	22,5x10,2
C071700F000S	28,0	17,0	192	35	15	3	M16	4	0,430	28x17
C071400F000S	28,0	*14,0	192	35	15	3	M16	4	0,430	28x14
C072100F000S	37,0	21,0	205	40	19	3	M20	4	0,830	37x21
C071750F000S	37,0	*17,5	205	40	19	3	M20	4	0,870	37x17,5

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage
 Rozměry d₁ označené * jsou určeny do předvrtaných děr pro závit (ostatní jsou do díry pro drík šroubu). / Pilot diameter d₁ of * marked versions is adapted for tapping sized holes (other for clearance holes). / Die mit * bezeichnete Ausführungen sind für vorgebohrte Löcher der Gewinde bestimmt (die andere sind in das Loch für die Schraubenschaft bestimmt).

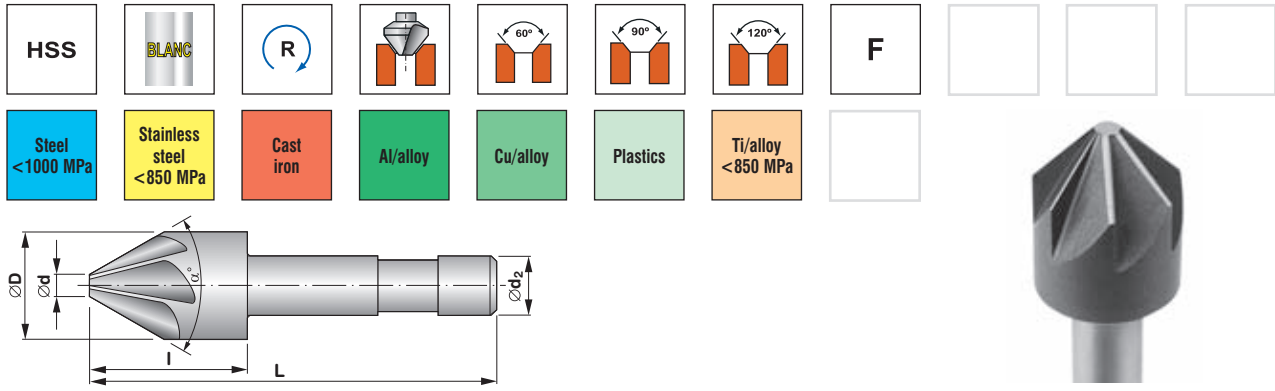


ČSN 221627

DIN 334
DIN 335
DIN 347



ZÁHLUBNÍKY KUŽELOVÉ 60°, 90°, 120° S VÁLCOVOU STOPKOU
COUNTERSINKS 60°, 90°, 120° WITH STRAIGHT SHANK
KEGELSENKER 60°, 90°, 120° MIT ZYLINDRISCHEM SCHAFT



Objednací číslo Order No. Bestell-Nr.	$\varnothing D$ mm	α°	$\varnothing d$ mm	$\varnothing d_2$ mm	L mm	l mm			Code 221627
C270608F000S	8,0	60	1,6	8	48	-	5	0,018	60x8
C270908F000S	8,0	90	1,6	8	44	-	5	0,016	90x8
C271208F000S	8,0	120	1,6	8	44	-	5	0,017	120x8
C270610F000S	10,0	60	2,0	8	50	18	5	0,025	60x10
C270910F000S	10,0	90	2,0	8	46	14	5	0,027	90x10
C271210F000S	10,0	120	2,0	8	46	14	5	0,030	120x10
C270612F000S	12,5	60	2,5	8	52	20	5	0,030	60x12,5
C270912F000S	12,5	90	2,5	8	48	16	5	0,025	90x12,5
C271216F000S	16,0	120	3,2	10	56	20	7	0,054	120x16
C270920F000S	20,0	90	4,0	10	60	24	7	0,074	90x20

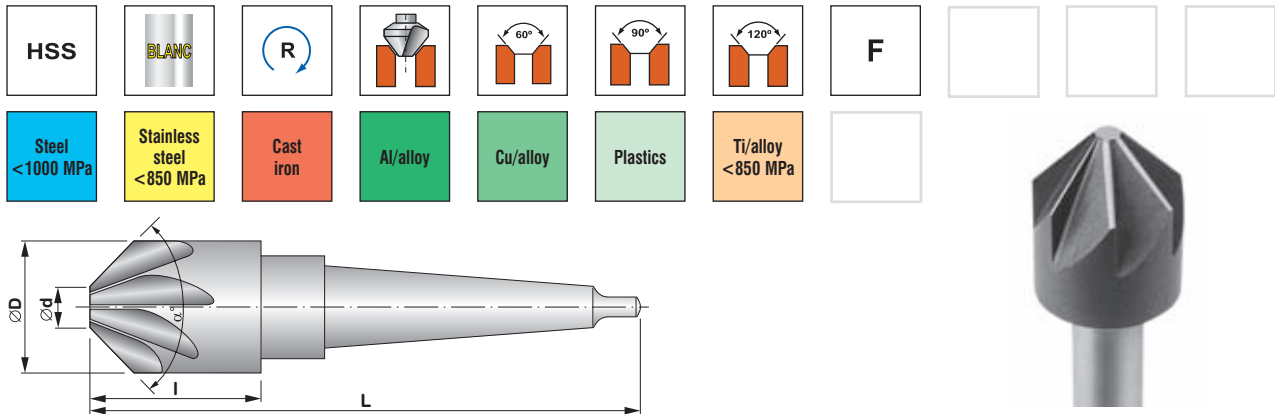
Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage

ČSN 221628

DIN 334
DIN 335
DIN 347



ZÁHLUBNÍKY KUŽELOVÉ 60°, 90°, 120° S KUŽELOVOU STOPKOU
COUNTERSINKS 60°, 90°, 120° WITH TAPER SHANK
KEGELSENKER 60°, 90°, 120° MIT KEGELSCHAFT



Objednací číslo Order No. Bestell-Nr.	$\varnothing D$ mm	α°	$\varnothing d$ mm	L mm	l mm	MORSE			Code 221628
C280616F000S	16,0	60	3,2	97	24	1	7	0,076	60x16
C280916F000S	16,0	90	3,2	93	20	1	7	0,080	90x16
C280625F000S	25,0	60	7,0	125	33	2	7	0,250	60x25
C280925F000S	25,0	90	7,0	121	29	2	7	0,250	90x25
C280931F000S	31,5	90	9,0	124	32	2	7	0,325	90x31,5
C281231F000S	31,5	120	9,0	124	32	2	7	0,315	120x31,5
C280640F000S	40,0	60	12,5	160	45	3	9	0,700	60x40
C280940F000S	40,0	90	12,5	150	35	3	9	0,660	90x40
C280950F000S	50,0	90	16,0	153	38	3	9	0,750	90x50
C280663F000S	63,0	60	20,0	200	58	4	9	1,530	60x63
C280963F000S	63,0	90	20,0	185	43	4	9	1,150	90x63
C281263F000S	63,0	120	20,0	185	43	4	9	1,150	120x63

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



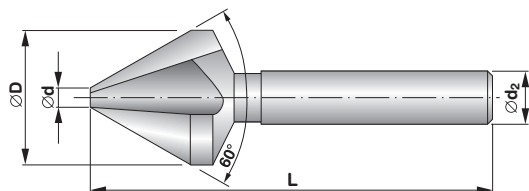


ZÁHLUBNÍKY KUŽELOVÉ 60° S VÁLCOVOU STOPKOU
COUNTERSINKS 60° WITH STRAIGHT SHANK
KEGELSENKER 60° MIT ZYLINDRISCHEM SCHAFT

ZVSE 221623

DIN 334

HSS	BLANC	FORM C	R			V 6,3 ÷ 10,0	F 12,5 ÷ 25,0			
Steel <1000 MPa	Stainless steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics	Ti/alloy <850 MPa				



Objednáací číslo Order No. Bestell-Nr.	ØD mm	Ød ₂ mm	Ød mm	L mm			Code 221623
C236063V000S	6,3	5	1,6	45	3	0,007	6,3x60
C236080V000S	8,0	6	2,0	50	3	0,011	8x60
C236125F000S	12,5	8	3,2	56	3	0,028	12,5x60
C236160F000S	16,0	10	4,0	63	3	0,038	16x60
C236200F000S	20,0	10	5,0	67	3	0,046	20x60
C236250F000S	25,0	10	6,3	71	3	0,060	25x60

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage

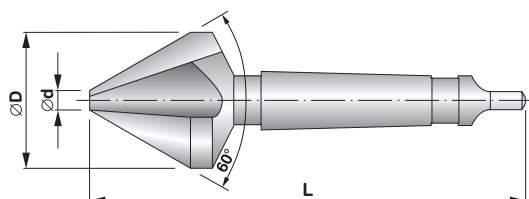


ZÁHLUBNÍKY KUŽELOVÉ 60° S KUŽELOVOU STOPKOU
COUNTERSINKS 60° WITH TAPER SHANK
KEGELSENKER 60° MIT KEGELSCHAFT

ZVSE 221624

DIN 334

HSS	BLANC	FORM D	R			F				
Steel <1000 MPa	Stainless steel <850 MPa	Cast iron	Al/alloy	Cu/alloy	Plastics	Ti/alloy <850 MPa				



Objednáací číslo Order No. Bestell-Nr.	ØD mm	Ød mm	L mm	MORSE			Code 221624
C246160F000S	16,0	4,0	90	1	3	0,060	16x60
C246200F000S	20,0	5,0	106	2	3	0,150	20x60
C246250F000S	25,0	6,3	112	2	3	0,165	25x60
C246310F000S	31,5	10	118	2	3	0,200	31,5x60
C246400F000S	40,0	12,5	150	3	3	0,450	40x60
C246500F000S	50,0	16,0	160	3	3	0,650	50x60
C246630F000S	63,0	20,0	190	4	3	1,050	63x60

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage

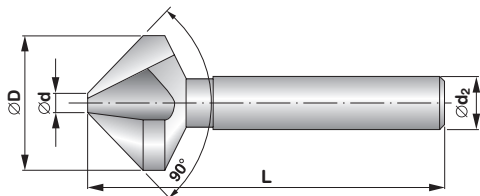
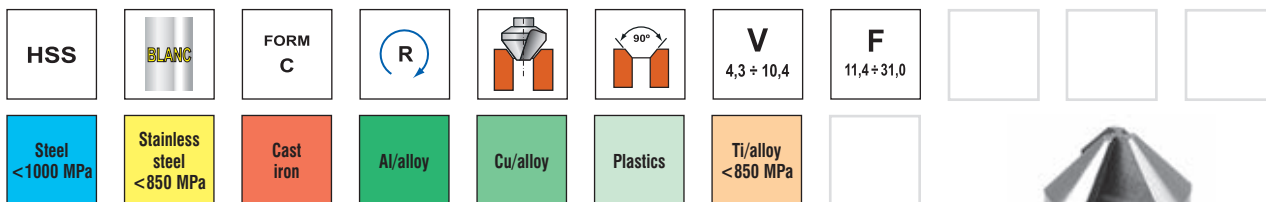


ZVSE 221625

DIN 335



ZÁHLUBNÍKY KUŽELOVÉ 90° S VÁLCOVOU STOPKOU
COUNTERSINKS 90° WITH STRAIGHT SHANK
KEGELSENKER 90° MIT ZYLINDRISCHEM SCHAFT



Objednací číslo Order No. Bestell-Nr.	ØD mm	Ød ₂ mm	Ød mm	L mm		 kg	Code 221625
C259043V000S	4,3	4	1,3	40	3	0,004	4,3x90
C259049V000S	4,9	4	1,5	40	3	0,004	4,9x90
C259050V000S	5,0	4	1,5	40	3	0,004	5x90
C259053V000S	5,3	4	1,5	40	3	0,005	5,3x90
C259057V000S	5,7	5	1,5	45	3	0,006	5,7x90
C259058V000S	5,8	5	1,5	45	3	0,007	5,8x90
C259060V000S	6,0	5	1,5	45	3	0,007	6x90
C259063V000S	6,3	5	1,5	45	3	0,007	6,3x90
C259070V000S	7,0	6	1,8	50	3	0,007	7x90
C259073V000S	7,3	6	1,8	50	3	0,007	7,3x90
C259078V000S	7,8	6	2,0	50	3	0,011	7,8x90
C259080V000S	8,0	6	2,0	50	3	0,011	8x90
C259083V000S	8,3	6	2,0	50	3	0,011	8,3x90
C259094V000S	9,4	6	2,2	50	3	0,012	9,4x90
C259095V000S	9,5	6	2,2	50	3	0,012	9,5x90
C259100V000S	10,0	6	2,5	50	3	0,012	10x90
C259104V000S	10,4	6	2,5	50	3	0,012	10,4x90
C259114F000S	11,4	8	2,8	56	3	0,022	11,4x90
C259115F000S	11,5	8	2,8	56	3	0,022	11,5x90
C259124F000S	12,4	8	2,8	56	3	0,028	12,4x90
C259134F000S	13,4	8	2,9	56	3	0,024	13,4x90
C259150F000S	15,0	10	3,2	60	3	0,038	15x90
C259154F000S	15,4	10	3,2	60	3	0,038	15,4x90
C259165F000S	16,5	10	3,2	60	3	0,038	16,5x90
C259185F000S	18,5	10	3,5	63	3	0,044	18,5x90
C259190F000S	19,0	10	3,5	63	3	0,044	19x90
C259205F000S	20,5	10	3,5	63	3	0,046	20,5x90
C259225F000S	22,5	10	3,8	67	3	0,055	22,5x90
C259230F000S	23,0	10	3,8	67	3	0,055	23x90
C259250F000S	25,0	10	3,8	67	3	0,060	25x90
C259260F000S	26,0	10	3,8	67	3	0,070	26x90
C259280F000S	28,0	12	4,0	71	3	0,100	28x90
C259300F000S	30,0	12	4,2	71	3	0,100	30x90
C259310F000S	31,0	12	4,2	71	3	0,100	31x90

Poznámka / Note / Notiz: ostatní neuvedené rozměry na požádání / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage
HSS Co5 a povlaky na požádání / HSS Co5 and coatings on demand / HSS Co5 und Beschichtungen auf Anfrage



ČSN 221655



ZÁHLUBOVACÍ NOŽE COUNTERBOHRING CUTTERS SENKMESSER

na poptávku
on request
auf Anfrage

HSS

BLANC

R



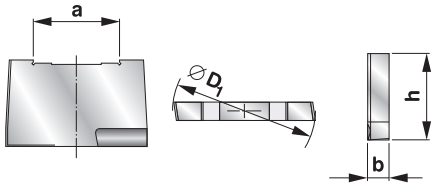
F

Steel
<850 MPa

Cast
iron

Al/alloy

Cu/alloy



Objednáací číslo Order No. Bestell-Nr.	∅D ₁ mm	b mm	h mm	a H7 mm			Doplňuje držák ČSN 241213 Completes arbor ČSN 241213 Mit Halter ČSN 241213 ein- setzen	Vodicí pouzdro Guiding bush Führungshülse ČSN 241214	Code 221655
C550685F000S	68	10	40	45	2	0,202	22	31 x 22 až 45 x 22	68x10
C550755F000S	75	10	40	45	2	0,224	22		75x10
C550825F000S	82	10	40	45	2	0,244	22		82x10
C550905F000S	90	10	40	45	2	0,269	22		90x10
C550985F000S	98	10	40	45	2	0,292	22	37 x 27 až 56 x 27	98x10
C550826F000S	82	12	45	56	2	0,330	27		82x12
C550906F000S	90	12	45	56	2	0,363	27		90x12
C550986F000S	98	12	45	56	2	0,395	27		98x12
C551076F000S	107	12	45	56	2	0,431	27		107x12
C551126F000S	112	12	45	56	2	0,451	27		112x12
C551186F000S	118	12	45	56	2	0,475	27		118x12

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage

ČSN 221657



ZÁROVNÁVACÍ NOŽE OBOUSTRANNÉ TWO-SIDED SPOT-FACING CUTTERS BEIDSEITIGE MESSER FÜR STIRNSENKER

na poptávku
on request
auf Anfrage

HSS

BLANC

R



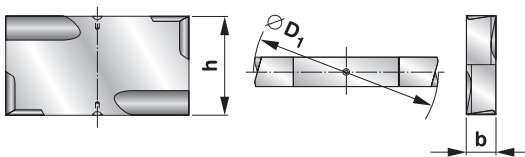
F

Steel
<850 MPa

Cast
iron

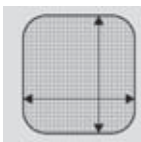
Al/alloy

Cu/alloy



Objednáací číslo Order No. Bestell-Nr.	∅D ₁ mm	b mm	h mm			Doplňuje držák ČSN 241217 Completes arbor ČSN 241217 Mit Halter ČSN 241217	Code 221657
C570615F000S	61	10	30	2 + 2	0,80	33	61x10
C570675F000S	67	10	30	2 + 2	0,85	36	67x10
C570715F000S	71	10	30	2 + 2	0,90	39	71x10
C570755F000S	75	10	30	2 + 2	0,90	42	75x10
C570806F000S	80	12	36	2 + 2	0,91	45	80x12
C570906F000S	90	12	36	2 + 2	0,93	48	90x12
C570956F000S	95	12	36	2 + 2	0,95	52	95x12
C571056F000S	105	12	36	2 + 2	1,00	56	105x12
C571126F000S	112	12	36	2 + 2	1,00	62	112x12

Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage





ZAROVNÁVAČE NÁSTRČNÉ OBOUSTRANNÉ
SHELL TWO-SIDED SPOT-FACING TOOLS
AUFSTECK-STIRNSENKER, BEIDSEITIG

ČSN 221650

na poptávku
on request
auf Anfrage

HSS

BLANC

R

F



Steel
<1000 MPa

Stainless
steel
<850 MPa

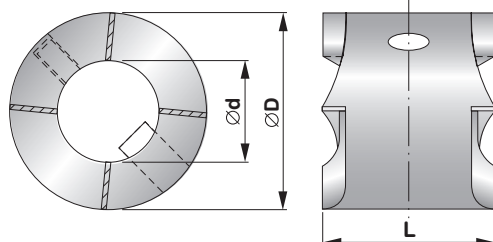
Cast
iron

Al/alloy

Cu/alloy

Plastics

Ti/alloy
<850 MPa



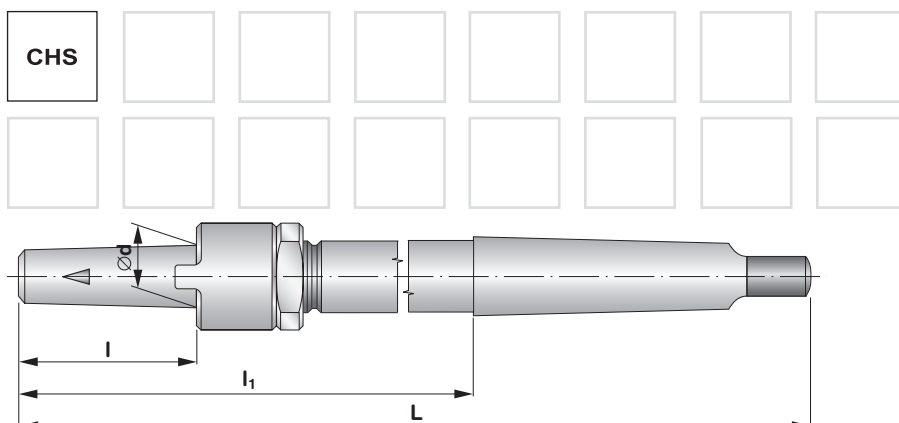
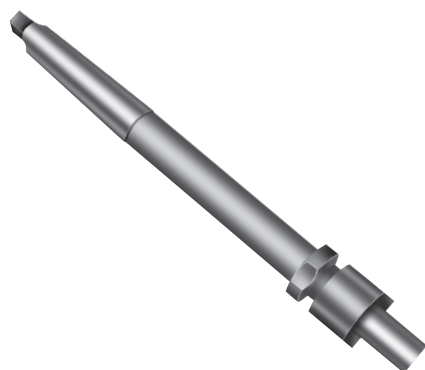
Objednáací číslo Order No. Bestell-Nr.	ØD mm	Ød mm	L mm	kg	Doplňuje držák ČSN 241216 Completes arbor ČSN 241216 Mit Halter ČSN 241216 ein- setzen	Code 221650
C501802F000S	18	9	20	0,030	9	18x9
C502206F000S	22	11	22	0,045	11	22x11
C502610F000S	26	14	25	0,075	14	26x14
C503012F000S	30	16	28	0,090	16	30x16
C503314F000S	33	18	32	0,130	18	33x18
C503616F000S	36	20	32	0,150	20	36x20
C504018F000S	40	22	36	0,210	22	40x22
C504320F000S	43	24	40	0,270	24	43x24
C504822F000S	48	26	45	0,390	26	48x26
C505225F000S	52	30	50	0,500	30	52x30


Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage



ČSN 241210

DIN 217

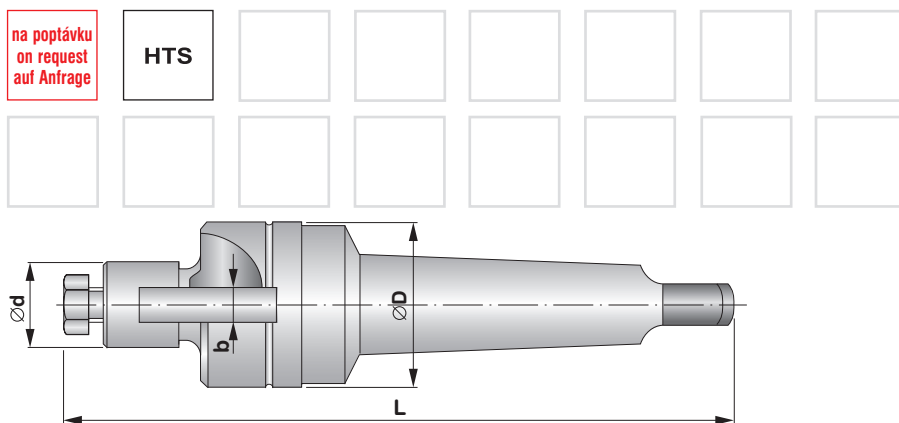

DRŽÁKY NÁSTRČNÝCH VÝHRUBNÍKŮ A VÝSTRUŽNÍKŮ
ARBORS FOR SHELL REAMER DRILLS AND REAMERS
HALTER FÜR AUFSTECK-AUFBOHRER UND -REIBAHLEN



Objednací číslo Order No. Bestell-Nr.	Ød h6 mm	l h16 mm	l ₁ mm	L js16 mm	MORSE	 kg	Code 241210
D101303F000S	13	45	151	250	3	0,470	13 M3 DRŽÁKY
D101603F000S	16	50	162	261	3	0,750	16 M3 DRŽÁKY
D101904F000S	19	56	174	298	4	1,180	19 M4 DRŽÁKY
D102204F000S	22	63	188	312	4	2,100	22 M4 DRŽÁKY
D102705F000S	27	71	203	359	5	4,800	27 M5 DRŽÁKY
D103205F000S	32	80	220	376	5	5,050	32 M5 DRŽÁKY
D104005F000S	40	90	240	396	5	5,400	40 M5 DRŽÁKY
D104004F000S	*40	90	316	440	4	5,300	40 M4 DRŽÁKY
D105005F000S	50	100	260	416	5	7,350	50 M5 DRŽÁKY

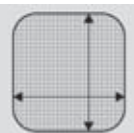
Poznámka / Note / Notiz: ostatní neuvedené rozměry na poptávku / other dimensions - on request / nicht angegebene Abmessungen nur auf Anfrage

 k upínání výstružníků ČSN 221432, ČSN 221447, ČSN 221435 a výhrubníků ČSN 221414 / for clamping of reamers ČSN 221432, ČSN 221447, ČSN 221435 and reamer drills ČSN 221414 / zum Spannen der Reibahlen ČSN 221432, ČSN 221447, ČSN 221435 und der Aufbohrer ČSN 221414
 * staré provedení / old version / alte Ausführung

ČSN 241213

DRŽÁKY PRO ZAHLUBOVACÍ NŮŽE
ARBORS FOR COUNTERBORING CUTTERS
HALTER FÜR STIRNSENKMESSE


Objednací číslo Order No. Bestell-Nr.	Ød h6 mm	ØD h6 mm	b H8 mm	L js16 mm	MORSE	Upínací šroub Clamping screw Klemmschraube	 kg	Vodící pouzdro Guiding bush Führungshülse ČSN 241214	Zahlubovací nůž Counterboring cutter Senkmesser ČSN 221655	Code 241213
D132204F000S	22	45	10	210	4	M10 x 20	1,050	31 x 22 až 45 x 22	68 x 10 až 98 x 10	22
D132705F000S	27	56	12	250	5	M12 x 22	2,550	37 x 27 až 56 x 27	82 x 12 až 118 x 12	27

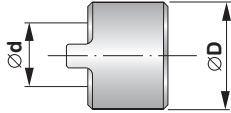




SAMOSTATNÉ UNAŠEČE PRO DRŽÁK DLE ČSN 241210
DRIVER RINGS FOR ARBOR ACCORDING TO ČSN 241210
MITNEHMERRINGE FÜR HALTER GEMÄSS ČSN 241210

ČSN 241210.1

CHS							



Objednací číslo Order No. Bestell-Nr.	$\varnothing d$ H7 mm	$\varnothing D$ mm	kg	Code 241210.1
D101303N030S	13	23	0,040	13 M3
D101603N030S	16	27	0,050	16 M3
D101904N030S	19	32	0,090	19 M4
D102204N030S	22	39	0,150	22 M4

Objednací číslo Order No. Bestell-Nr.	$\varnothing d$ H7 mm	$\varnothing D$ mm	kg	Code 241210.1
D102705N030S	27	46	0,280	27 M5
D103205N030S	32	56	0,560	32 M5
D104005N030S	40	65	0,700	40 M5
D105005N030S	50	80	1,300	50 M5

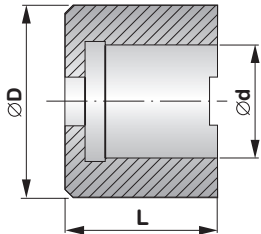


VODÍCÍ POUZDRA K DRŽÁKŮM PRO ZAHLUBOVACÍ NOŽE
GUIDE BUSHES FOR ARBORS FOR COUNTERBORING CUTTERS
FÜHRUNGSHÜLSEN FÜR HALTER DER STIRNSENKMESSER

ČSN 241214

na požávk
on request
auf Anfrage

CHS							



Objednací číslo Order No. Bestell-Nr.	$\varnothing D$ e8 mm	$\varnothing d$ H7 mm	L js16 mm	Držák Arbor Halter ČSN 241213	kg	Code 241214
D143122F000S	31	22	28	22	0,090	31/22
D143322F000S	33	22	28	22	0,115	33/22
D143422F000S	34	22	28	22	0,130	34/22
D143622F000S	36	22	28	22	0,150	36/22
D143722F000S	37	22	28	22	0,168	37/22
D143922F000S	39	22	28	22	0,203	39/22
D144022F000S	40	22	28	22	0,216	40/22
D144222F000S	42	22	28	22	0,248	42/22
D144322F000S	43	22	28	22	0,266	43/22
D144522F000S	45	22	28	22	0,302	45/22
D143727F000S	37	27	30	27	0,120	37/27
D143927F000S	39	27	30	27	0,150	39/27
D144027F000S	40	27	30	27	0,175	40/27
D144227F000S	42	27	30	27	0,205	42/27
D144327F000S	43	27	30	27	0,220	43/27
D144527F000S	45	27	30	27	0,257	45/27
D144627F000S	46	27	30	27	0,280	46/27
D144827F000S	48	27	30	27	0,315	48/27
D145027F000S	50	27	30	27	0,410	50/27
D145227F000S	52	27	30	27	0,450	52/27
D145427F000S	54	27	30	27	0,490	54/27
D145627F000S	56	27	30	27	0,530	56/27

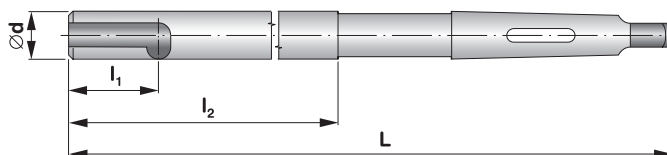


ČSN 241216

DRŽÁKY PRO ZAROVNÁVAČE NÁSTRČNÉ OBOUSTRANNÉ
ARBORS FOR TWO-SIDED SHELL SPOT-FACING TOOLS
HALTER FÜR BEIDSEITIGE AUFSTECK-STIRN SENKER

na poptávku
on request
auf Anfrage

CHS



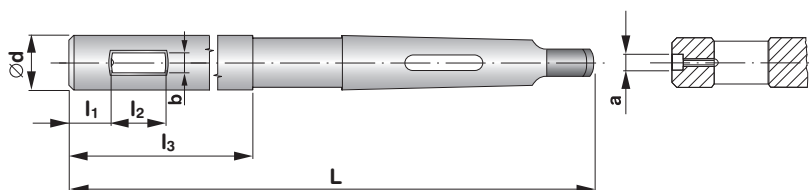
Objednací číslo Order No. Bestell-Nr.	Ød f8 mm	l ₁ mm	l ₂ mm	L mm	MORSE	kg	Doplňuje nástrčný zarovnávač ČSN 221650 Completes shell spot-facing tool ČSN 221650 Mit aufsteckbarem Senker ČSN 221650 ein- setzen	Code 241216
D160902F000S	9	20	80	200	2	0,25	18	9 M2
D161102F000S	11	22	85	212	2	0,29	22	11 M2
D161403F000S	14	25	90	236	3	0,42	26	14 M3
D161603F000S	16	28	100	250	3	0,44	30	16 M3
D161803F000S	18	32	112	265	3	0,59	33	18 M3
D162003F000S	20	34	125	280	3	0,72	36	20 M3
D162203F000S	22	38	132	300	3	0,89	40	22 M3
D162403F000S	24	42	140	315	3	1,07	43	24 M3
D162604F000S	26	45	150	335	4	1,51	48	26 M4
D163004F000S	30	50	160	355	4	1,95	52	30 M4

ČSN 241217

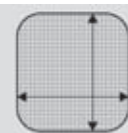
DRŽÁKY PRO ZAROVNÁVAČÍ NOŽE
ARBORS FOR FACING CUTTERS
HALTER FÜR STIRNSENKMESSE

na poptávku
on request
auf Anfrage

CHS



Objednací číslo Order No. Bestell-Nr.	Ød f9 mm	l ₁ mm	l ₂ H10 mm	b H9 mm	a H6 mm	l ₃ mm	L mm	MORSE	kg	Doplňuje zarovnávač nůž ČSN 221657 Completes facing cutter ČSN 221657 Mit Stirnsenkmesser ČSN 221657 einsetzen	Code 241217
D173304F000S	33	30	30	10	M10	150	355	4	2,20	61	33
D173604F000S	36	34	30	10	M10	160	365	4	2,50	67	36
D173904F000S	39	36	30	10	M10	170	375	4	3,05	71	39
D174205F000S	42	40	30	10	M10	180	400	5	4,45	75	42
D174505F000S	45	42	36	12	M12	190	425	5	5,30	80	45
D174805F000S	48	45	36	12	M12	200	450	5	5,75	90	48
D175205F000S	52	48	36	12	M12	212	475	5	6,90	95	52
D175605F000S	56	53	36	12	M12	236	500	5	8,10	105	56
D176205F000S	62	60	36	12	M12	250	530	5	11,50	112	62

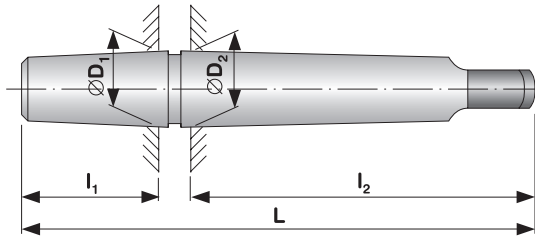





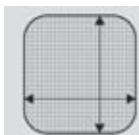
TRNY PRO VRTAČKOVÁ SKLÍČIDLA
ARBORS FOR DRILL CHUCKS
AUFNAHMEDORNE FÜR BOHRFUTTER

ČSN 241329

DIN 238



Objednací číslo Order No. Bestell-Nr.	Stopka Shank Schaft ČSN 220444	Přirazená stopka MORSE Attached MORSE Shank Zugeordnete Morseschaft ČSN 220424	$\varnothing D_1$ mm	$\varnothing D_2$ mm	l_1 mm	l_2 mm	L mm	 kg	Code 241329
D291000F000S	B 10	0	10,094	9,045	14,5	56,5	80	0,055	B 10x0
D291001F000S	B 10	1	10,094	12,065	14,5	62,0	86	0,060	B 10x1
D291201F000S	B 12	1	12,065	12,065	18,5	62,0	90	0,062	B 12x1
D291601F000S	B 16	1	15,733	12,065	24,0	62,0	97	0,087	B 16x1
D291801F000S	B 18	1	17,780	12,065	32,0	62,0	106	0,115	B 18x1
D291002F000S	B 10	2	10,094	17,780	14,5	75,0	102	0,150	B 10x2
D291202F000S	B 12	2	12,065	17,780	18,5	75,0	105	0,128	B 12x2
D291602F000S	B 16	2	15,733	17,780	24,0	75,0	112	0,161	B 16x2
D291802F000S	B 18	2	17,780	17,780	32,0	75,0	120	0,188	B 18x2
D292202F000S	B 22	2	21,793	17,780	40,5	75,0	128	0,234	B 22x2
D291203F000S	B 12	3	12,065	23,825	18,5	94,0	124	0,286	B 12x3
D291603F000S	B 16	3	15,733	23,825	24,0	94,0	133	0,320	B 16x3
D291803F000S	B 18	3	17,780	23,825	32,0	94,0	140	0,341	B 18x3
D292203F000S	B 22	3	21,793	23,825	40,5	94,0	147	0,343	B 22x3
D292403F000S	B 24	3	23,825	23,825	50,5	94,0	157	0,513	B 24x3
D292204F000S	B 22	4	21,793	31,267	40,5	117,5	175	0,702	B 22x4
D292404F000S	B 24	4	23,825	31,267	50,5	117,5	186	0,790	B 24x4
D292405F000S	B 24	5	23,825	44,399	50,5	149,5	221	1,680	B 24x5



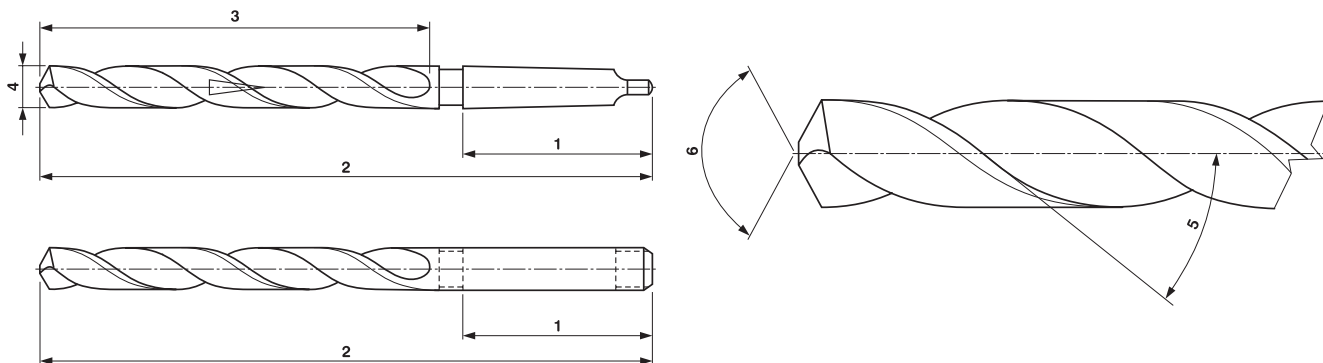
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TECHNICAL SECTION
TECHNISCHER TEIL

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Termíny pro šroubové vrtáky / Twist drills - Terminology / Bezeichnungen und Begriffe für Spiralbohrer:

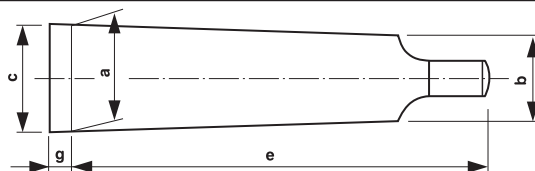
1. stopka; 2. celková délka; 3. délka drážky (šroubovice); 4. průměr vrtáku (h8); 5. úhel šroubovice λ ; 6. úhel špičky ϵ / 1. shaft; 2. overall length; 3. flute length; 4. drill diameter (h8); 5. helix angle λ ; 6. point angle ϵ / 1. Schaft; 2. Gesamtlänge; 3. Nutenlänge; 4. Bohrerdurchmesser/Schneidendurchmesser (h8); 5. Drallwinkel λ / 6. Spitzenwinkel ϵ



Upínací Morse stopka

Morse taper shank

Morsekegelschaft



MORSE	pro ØD nástroje / für ØD Werkzeug / to ØD tool	a	b	c	e	g
1	5 ÷ 14	12,065	9	12,2	62	3,5
2	14,05 ÷ 23	17,780	14	18	75	5
3	23,25 ÷ 31,75	23,825	19,1	24,1	94	5
4	32 ÷ 50,5	31,267	25,2	31,6	117,5	6,5
5	51 ÷ 76	44,399	36,5	44,7	149,5	6,5
6	77 ÷ 100	63,348	52,4	63,8	210	8

Materiál pro výrobu nástrojů na opracování otvorů

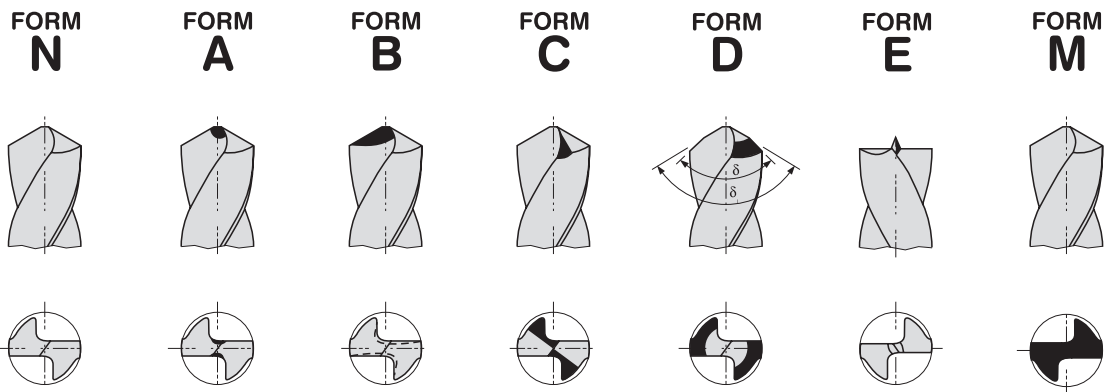
Material for drilling tools

Schneidstoffe für Bohrwerkzeuge



Označení materiálu Mark of material Materialbezeichnung	Norma Standard Norm	Odpovídá According to Nach	C	W	V	Co	Mo	Cr
HSS	ČSN	19830	0,85	6,25	1,85	0,0	5,0	4,15
	DIN	S 6-5-2 WERKSTOFF Nr. 1.3343						
	AISI	M 2						
	AFNOR	Z 85 WDCV 06 05 04 02						
	BOHLER	S 600						
	GOST	R 6 M 5						
HSS E (HSS Co)	B.S.	BM2	0,85	6,25	1,85	4,75	5,0	4,2
	ČSN	19852						
	DIN	S 6-5-2-5 WERKSTOFF Nr. 1.3243						
	AISI	M 35						
	AFNOR	Z 85 WDKCV 06 05 04 02						
	BOHLER	S 705						
HSS E Co 8% (HSS Co 8%)	GOST	R 6 M 5 K 5	1,1	1,4	1,2	7,8	9,2	3,9
	DIN	S 2-1-1-8 WERKSTOFF Nr. 1.3247						
	AISI	M 42						
	BOHLER	S 500						
	B.S.	BM42						





- N** - podbroušená kuželová plocha
A - podbroušená kuželová plocha se zkrácením příčného břitu - typ A
B - podbroušená kuželová plocha se zkrácením příčného břitu s korekcí úhlu čela - typ B
C - podbroušená kuželová plocha se zkrácením příčného břitu - typ C
D - podbroušená kuželová plocha, lomený břit - typ D
E - ostření s vrcholovým úhlem 180° a středícím hrotem - typ E
M - mikrovrtáky
S - speciální ostření

- N** - conical lip relief
A - conical lip relief, split point - form A
B - conical lip relief, split point with rake correction - form B
C - conical lip relief, split point - form C
D - conical lip relief with bevelled outer corners - form D
E - point angle 180° with centre point - form E
M - micro drills
S - special grinding

- N** - Kegelmantelschliff
A - Kegelmantelschliff mit ausgesetztem Kern - Form A
B - Kegelmantelschliff mit ausgesetztem Kern, Spanwinkel korrigiert - Form B
C - Kegelmantelschliff mit Kreuzanschliff - Form C
D - Kegelmantelschliff, ausgesetzter Kern, Schneidecken facettiert - Form D
E - Spitzenwinkel 180° mit Zentrums Spitze - Form E
M - Kleinbohrer
S - Sonderanschliff

Stanovení otáček nástroje dle jeho průměru a řezné rychlosti

Table of cutting speeds

Tabelle von Schnittgeschwindigkeiten

Převod řezné rychlosti na otáčky / Conversion of cutting speed to speed of rotation / Umwandlung Schnittgeschwindigkeit/Umdrehungen:

$$v = \frac{\pi D n}{1000} \quad n = \frac{1000 v}{\pi D}$$

D Ø vrtáku v mm / drill diameter (mm) / Bohrerdurchmesser in mm

v řezná rychlost v m/min / cutting speed (m/min) / Schnittgeschwindigkeit in m/min

n otáčky nástroje za minutu / speed of rotation (rev/min) / Drehzahl/des Werkzeuges in n/min

Vrták / Drill / Bohrer D(mm)	Řezná rychlost v (m/min) / Cutting speed (m/min) / Schnittgeschwindigkeit in m/min											
	10	12	15	18	20	25	30	35	40	50	70	100
2,0	1590	1910	2390	2860	3190	3980	4780	5580	6380	7960	11160	15900
2,5	1274	1528	1910	2290	2550	3180	3820	4460	6000	6370	8920	12740
3,15	1010	1210	1520	1820	2020	2530	3030	3540	4040	5060	7080	10100
4,0	796	955	1195	1430	1595	1990	2380	2990	3190	3980	5980	7960
5,0	637	760	955	1145	1275	1590	1910	2230	2550	3180	4460	6370
6,3	506	607	758	910	1010	1265	1520	1770	2020	2530	3540	5060
8,0	398	475	597	715	796	996	1194	1392	1592	1992	2784	3980
10,0	318	381	478	572	637	796	955	1115	1274	1592	2230	3180
12,5	254	305	382	458	508	635	764	890	1016	1270	1780	2540
16,0	199	239	299	358	398	498	597	697	796	995	1390	1990
20,0	159	191	239	286	318	398	478	558	636	795	1115	1590
25,0	127	153	191	229	255	318	382	446	600	637	892	1274
31,5	101	121	152	182	202	253	303	354	404	506	708	1010
40,0	80	95	119	143	159	194	239	278	318	398	557	795
50,0	64	76	96	114	127	159	191	223	255	318	445	636
63,0	51	61	76	91	101	127	152	177	202	253	354	506
80,0	40	48	60	71	80	100	119	139	159	199	278	398
100,0	32	38	48	57	64	80	96	112	127	159	223	318



Nejčastěji používané povlaky:

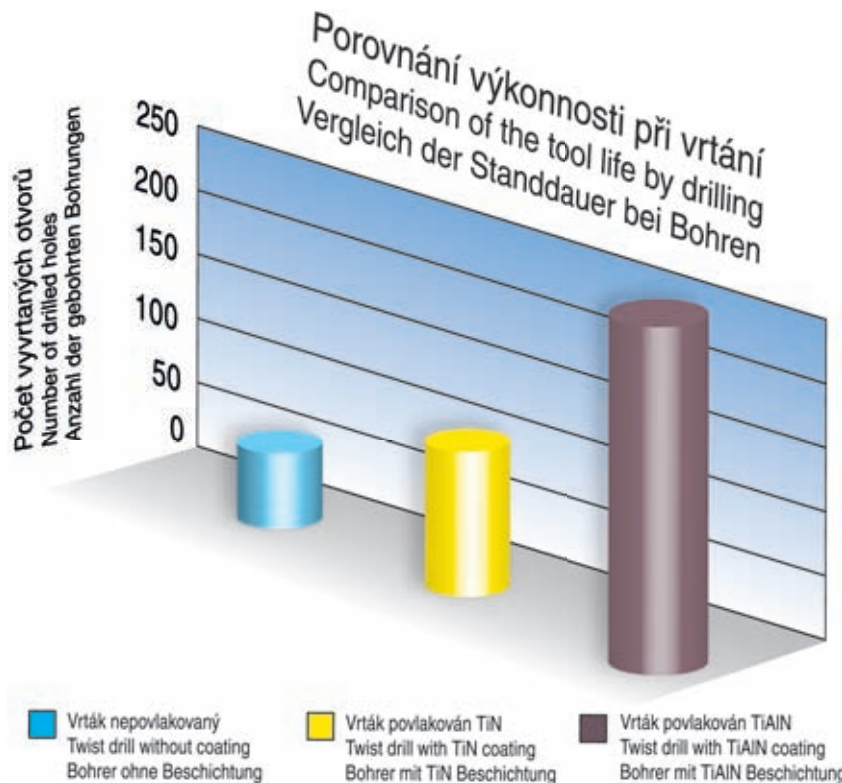
- TiN (nitrid titanu) - základní a nejdéle používaná vrstva. Mikrotvrdost od 20 – 25 GPa, barva zlatá. Je použitelný téměř ve všech aplikacích. Pokud uživatel není schopen přesně popsat, v jakých podmínkách chodí PVD vrstvy nasadit, pak to bývá tento povlak. Výhodou TiN je dobrá elasticita a adheze.
- TiAlN (titan aluminium nitrid) - mikrotvrdost 30 – 33 GPa, barva červenohnědá. Má výbornou odolnost vůči vysokým teplotám. V současné době vhodné pro vysokorychlostní obrábění.

Most frequently used coatings

- TiN (titanium nitride) - basic and long time used coating. Microhardness of 20 - 25 GPa, gold coloured. This coating is usable for nearly all applications. If the customer is not able to define the requirements of using, then this coating may be suitable. Elasticity and adhesion of TiN are satisfactory.
- TiAlN (titanium-aluminium nitride) - microhardness 30 - 33 GPa, red-brown coloured. This coating is high temperature resistant and suitable for high-speed machining.

Meistbenutzte Typen der Beschichtung:

- TiN (Titanitrid) - grundlegende und längstbenutzte Beschichtung. Mikrohärté 20-25 Gpa, gold. Einsetzbar fast in allen Applikationen. Falls der Benutzer nicht fähig ist, unter welchen Bedingungen die PVD Schichten eingesetzt werden, dann ist diese Beschichtung die erste Wahl. Vorzug der TiN Beschichtung ist die gute Elastizität und Adhesion.
- TiAlN (Titanaluminiumnitrid) - Mikrohärté 30-33 Gpa, rotbraun. Die Beschichtung hat die grosse Beständigkeit unter hohen Temperaturen. Derzeit eignet sich für HSC Bearbeitung.



Zkoušený vrták:
vrták HSS DIN 338
průměr vrtáku: 6 mm
vrtaná hloubka: 15 mm
vrtaný materiál: 1.2379
pevnost materiálu: 800 N/mm²
chlazení: emulze 5%

Tested drill:
drill HSS DIN 338
drill diameter: 6 mm
depth of drilling: 15 mm
machined material: 1.2379
strength of material: 800 N/mm²
cooling: emulsion 5%

Geprüfter Bohrer:
HSS Bohrer nach DIN 338
Bohrerdurchmesser: 6 mm
Bohrtiefe: 15 mm
Werkstoff: 1.2379
Werkstofffestigkeit :800 N/mm²
Kühlung: Emulsion 5%

Doporučené PVD vrstvy / Recommended PVD coatings / Empfohlene PVD Schichten

Obráběný materiál / Machining material / Bearbeitende Material	Vrtání / Drilling / Bohren		Závitování / Threading / Gewindebohren		Vystružování / Reaming / Reiben	
	TiN	TiAlN	TiN	nACo	TiN	TiCN-MP
ocel / steel / Stahl < 800 N	TiN	TiAlN	TiN		TiN	TiCN-MP
ocel / steel / Stahl 800 - 1000 N	TiAlN	AlTiN	TiCN-MP		TiN	TiCN-MP
ocel / steel / Stahl > 1000 N	TiAlN	AlTiN	TiCN-MP	nACo	TiN	TiCN-MP
korozivzdorná ocel / stainless steel / rostfreiem Stahl	TiAlN	AlTiN	TiCN-MP		TiCN-MP	
šedá litina / gray cast iron / Grauguss	TiAlN	AlTiN	TiCN-MP		TiCN-MP	
Al	CrN	CBC	CrN	CBC	CrN	CBC
Al slitiny / Aluminium alloys / Alu-Legierungen	TiCN-MP	TiAlN	TiCN-MP	TiAlN	TiCN-MP	TiN
Cu	CrN		CrN		CrN	
Cu slitiny / Cu alloys / Cu-Legierungen	TiCN-MP	TiAlN	TiCN-MP	TiAlN	TiCN-MP	TiN
Ti, Ni slitiny / Ti, Ni alloys / Ti-, Ni-Legierungen	TiAlN	AlTiN	TiAlN	TiCN-MP	TiCN-MP	
plasty / plastics / Kunststoffe	TiCN-MP	CrN	TiCN-MP	CrN	TiCN-MP	CrN

Použity materiály FSI VUT v Brně, Ústavu strojírenské technologie, Odboru technologie obrábění a LISS Rožnov, a.s.



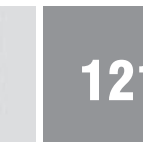
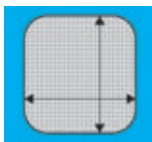
ČSN	Werkstoff	DIN	EN	AFNOR	BS	UNI	UNE	AISI
1.1 Konstrukční ocel do 500 N/mm² / Structural steel up to 500 N/mm² / Baustahl bis 500 N/mm²								
10004	1.0035	St33		A33		Fe 320	AE235-B	
11373	1.0036	S235JRG1						
11373	1.0037	US137-2						
11375	1.0038	S235JRG2	S235JRG2	S235JRG2	S235JRG2			Gr.36
11443	1.0044	St 44-2	S275JR	E28-2	43/25 HR			Gr.40
11500	1.0050	E 295	E 295	A 50	E 295			Gr 50
11368	1.0345	P326GH	P265GH	A 37 AP	141 360			Gr. 55
11418	1.0425	Hlll	P265GH					
11481	1.0436	GS45	P305 GH	P305 GH		P305 GH		
1.2. Konstrukční ocel do 850 N/mm² / Structural steel up to 850 N/mm² / Baustahl bis 850 N/mm²								
11500	1.0050	St50-2, E 295	E 295	E 295	E 295	Fe 490		Gr.50
11600	1.0060	E 335	E 335 E 335	E 335	E 335	E 335		Gr 65
11700	1.0116	S 235 52GS	S 235 52GS	E 24-3	4360-40C	Fe 37-3	A 360	A 570 Gr.36
11448	1.0144	St44-3		E 28-4	4360	Fe 430 D FF	AE 275-D	A 573
	1.0461	StE255						
13030	1.0481	17Mn						
	1.0482	19Mn5		A52 CP	224-460			
	1.0486	StE285				Fe E 285 KG	AE 285 KG	
	1.0505	StE315						
	1.0562	StE355		E 355 R/PF		Fe E 355 KG	AE 355 KG	A 633 Gr. C
11523	1.0566	St52-3	S355J0	E 36 E	En 50 C	Fe 510 C FN	S355Jo	
15320	1.7733	24CrMoV55		20 CDV 6		24 CrVMoV5 5		
	1.8911	StE380						
1.3. Automatová ocel do 500 N/mm² / Machining steel up to 500 N/mm² / Automatenstahl bis 500 N/mm²								
11109	1.0715	9SMn28	11 Smn 28	S250	230 M 07	CF 9 SMn 28	11 SMn 28	1213
	1.0718	9SMnPb28	11 SMnPb 28	S 250 Pb		CF 9 SMnPb 28	11 SMnPb 28	12 L 13
11110	1.0721	10S20	10 S 20	10 F 1	210 M 15	CF 10 S 20	10 S 20	1108
	1.0722	10SPb20	10 SPb 20	10 Pb F 2		CF 10 SPb20	10SPb20	11 L 08
	1.0736	9Mn36		S 300	240 M 07	CF 9 SMn 36	12 SMn 35	1215
	1.0737	9SMnPb36		S 300 Pb		CF 9 MnPb 36	12 SMnPb 35	12 L 14
1.4. Automatová ocel do 850 N/mm² / Machining steel up to 850 N/mm² / Automatenstahl bis 850 N/mm²								
11140		35S20	35S20	35 MF 6	212 M 36			Gr.1140
1.5. Ocel nelegovaná k zušlechťení < 700 N/mm² / Unalloyed heat-treatable steel < 700 N/mm² / Unlegierte Vergütungsstahl < 700 N/mm²								
12024	1.0402	C22	C22	XC 18	070 M 20			1020
12030	1.0406	C25	1 C 25	CC 25	070 M 26	C 25	C 25 k	1025
12040	1.0501	C35	1 C 35	CC 35	060 A 35	C 35	R.113	1035
12030	1.1158	CK25	2 C 25	XC 25	070 M 26	C 25	C 25 k	1025
	1.1170	28Mn6	28 Mn 5	35 M 5	150 M 28	C 28 Mn	36 Mn 6	1330
	1.1178	CK30	2 C 30	XC 32	080 M 30	C 30		1030
12040	1.1181	CK35	2 C 35	XC 38 H1	080 M 36	C35	C 35 k	1034
	1.1183	CF35		XC 38 TS	060 A 35	C 35		1035
12041	1.1186	CK40		C 40 E				1040
	1.1191	CK45	2 C 45	XC 42	080 M 46	C 40	C 45 k	1045
	1.1206	CK50	2 C 50		080 M 50	C 50		1050
1.6. Ocel nelegovaná k zušlechťení < 850 N/mm² / Unalloyed heat-treatable steel < 850 N/mm² / Unlegierte Vergütungsstahl < 850 N/mm²								
12050	1.0503	C45	1 C 45	CC 45	080 M 46	C 45	C 45 k	1045
12041	1.0511	C40	1 C 40		080 M 40		F.114.A	1040
12031	1.0528	C30	1 C 30	CC 32	080 M 30	C 30		1030
12051	1.0540	C50	1 C 50		080 M 50			1050
	1.1157	40Mn4		35 M 5	150 M 36			1039
1.7. Ocel nelegovaná k zušlechťení < 1000 N/mm² / Unalloyed heat-treatable steel < 1000 N/mm² / Unlegierte Vergütungsstahl < 1000 N/mm²								
12060	1.0536	C55	1 C 55		070 M 55	C 55		1055
13141	1.1165	GS30Mn5					30 Mn 5	1330
13242	1.5523	42MnV5						
	1.7238	49CrMo4						
	1.7561	42CrV6						
1.8. Nelegovaná ocel cementační < 750 N/mm² / Unalloyed case hardened steel < 750 N/mm² / Unlegierte Einsatzstahl < 750 N/mm²								
12010	1.1121	CK10	2 C 10	XC 10	040 A 10	C 10	C 10 k	1010
12020	1.1141	CK15	2 C 15	XC 15	080 M 15	C 15	C 16 k	1015
12023	1.1141	CK15	2 C 15	XC 15	080 M 15	C 15	C 16 k	1015

1. Nelegované oceli - Unalloyed steels - Unlegierte Stähle



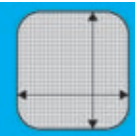
ČSN	Werkstoff	DIN	EN	AFNOR	BS	UNI	UNE	AISI
2.1 Ocel legovaná k zušlechtnění < 850 N/mm² / Alloyed heat-treatable steel < 850 N/mm² / Legierte Vergütungsstähle < 850 N/mm²								
	1.6511	36CrNiMo4	36 CrNiMo 4	40 NCD 3	816 M 40	38 NiCrMo 4 KB	38 NiCrMo 4	9840
16343	1.6582	34CrNiMo6	34 CrNiMo 6	35 NCD 6	817 M 40	36 NiCrMo 6 KB	40 NiCrMo 7	4340
	1.7003	38Cr2	38 Cr 2 KD	38 C 2		38 Cr 2	38 Cr 3	
	1.7045	42Cr4		42 C 4 TS	530 A 40	41 Cr 4	42 Cr 4	5140
	1.7227	42CrMoS4	42CrMoS4		708 H 42		40CrMo 4	
15330	1.7707	30CrMoV9	31 CrMoV 9					
	1.7735	14CrMoV69						
15260	1.8159	50CrV4	51 CV 4	50 CV 4	735 A 50	50 CrV 4	51 CrV 4	6150
16341	1.6563	34CrNiMo6						
16343	1.6582	34CrNiMo6						
14140	1.7034	37Cr4		38 C 4				Gr 5135 H
	1.7038	37CrS4	37 CrS 4					
2.2. Legovaná ocel cementační < 1000 N/mm² / Alloyed case hardened steel < 1000 N/mm² / Legierte Einsatzstähle < 1000 N/mm²								
1.7030	28Cr4	28Cr4	28Cr4	28Cr4			Gr.5130	
14120		15Cr3	15 Cr 2	12 C8	523M15			5015
14220	1.7131	15MnCr5	16 MnCr 6	16MC6	527M17			Gr.5120
14221	1.7147	20MnV5	20MnCr6	20MC5				5120
	1.7160	16MnCrB5	16MnCrB5	16MnCrB5	16MnCrB5	16MnCrB5		
14223								
2.3. Legovaná ocel cementační < 1200 N/mm² / Alloyed case hardened steel < 1200 N/mm² / Legierte Einsatzstähle < 1200 N/mm²								
16220	1.5810	15CrNi6	15NiCr6	16+NC6		16 CrNi 4		Gr.4320
16231		19CrNi8		20 NC6	822 M17			3120
16523		14NiCr18						E 3316
16420	1.5752	14NiCr14	14NiCr14	16 NC 12	655	M 13		E3310
16240	1.5710	36NiCr6		30 NC 6	640 A 35			3135
	1.5755	31NiCr14		18 NC 13				
16321	1.5919	15CrNi6		16 NC 6	S 107	16 CrNi 4		
2.4. Ocel k nitrídování < 1000 N/mm² / Nitriding steel < 1000 N/mm² / Nitrierstähle < 1000 N/mm²								
14340	1.8504	34CrAl6						
15260	1.8159	50CrV4	51 CV 4	50 CV 4	735 A 50	50 CrV 4	51 CrV 4	6150
15330	1.8519	31CrMoV9						
15340	1.8509	41CrAlMo7-10						
	1.8521	15CrMoV59						
	1.8550	34CrAlNi7						
2.5. Pružinová ocel / Spring steel / Federstähle								
13151	1.5024	46Si7						4557
13270	1.5028	65Si7		92604				6057
	1.5029	71Si7						
	1.7701	51CrMoV4						
	1.5023	38Si7						
	1.5025	51Si7						
	1.5142	60SiMn5						
	1.7103	67SiCr5				67 SiCr 5		
14220	1.7131	16MnCr5	16 MnCr 5 KD	16 MC 5	527 M 17	16 MnCr 5	16 MnCr 5	5115
2.6. Nástrojová ocel < 850 N/mm² / Tool steel < 850 N/mm² / Werkzeugstähle < 850 N/mm²								
	1.2101	62SiMnCr4						
19487	1.2162	21MnCr5	21 MnCr 5	20 NC 5				
	1.2208	31CrV3						
19421	1.2210	115CrV3				107 CrV 3 KU	F,520 .L	L2
19419	1.2235	80CrV2					F 520.J	
	1.2241	51CeV4	51 CrMnV 4			51 CrMnV 4 KU		
	1.2307	29CrMoV9						
	1.2323	48CrMoV67		45 CDV 6				
19710	1.2414	120W4					F,532	
	1.2419	105WCr6	105 WCr 5	105 WC 13		107 WCr 5 KU	105 WCr 5 KU	
	1.2519	110WCrV5					102 WCrV 5	
	1.2542	45WCrV7	45 WCrV 8		BS 1	45 WCrV 8 KU	45 WCrSi 8	S 1
	1.2552	80WCrV8					60 WCrSi 8	
	1.2710	45NiCr6						
	1.2726	26NiCrMoV5						

2. Legované oceli - Alloyed steels - Legierte Stähle



ČSN	Werkstoff	DIN	EN	AFNOR	BS	UNI	UNE	AISI
	1.2737	28NiCrV5						
	1.2738	40CrMnNiMo864	40CrMnNiMo8-6-4					
19675	1.2740	28NiCrMoV10						
19614	1.2743	60NiCrMoV124						
	1.2762	75CrMoNiW67						
	1.2826	60MnSi4						
	1.2838	145V33						
19312	1.2842	90MnCrV8		90 MV 8	BO 2	90 MnVCr 8 KU		O 2
19132	1.1520	C70W1				C 70 KU		
19083	1.1730	C25W	C 45 U	Y2 140 C				
	1.2003	75Cr1						
19420	1.2008	140Cr3		Y2 140 C				
19423	1.2056	90Cr3						
	1.2057	105Cr4					F.120J	
	1.1525	C80W1	C 80 U	Y1 90		C 80 KU	F.513	W 108
19191	1.1645	C105W1	C 105 U	Y1 105		C 100 KU	F.515	W 110
2.7. Nástrojová ocel < 850 N/mm² / Tool steel < 850 N/mm² / Werkzeugstahl < 850 N/mm²								
19132	1.1620	C70W2	C 70 U					
19152	1.1625	C80W2		Y1 90	BW 1B		C80	W 1
19255	1.1663	C 125 W	C 120 U	Y2 120		C 120 KU	C 120	W 112
19103	1.1740	C80W		Y3 55				
	1.1820	C55W						
	1.1830	C85W	C 90 U	Y3 90				
19436	1.2080	X210Cr12	X 210 Cr 12	Y 200 C 12	BD 3	X 205 Cr 12 KU	X210Cr12	D3
	1.2063	X42Cr13	X 42 Cr 13	Z 40 C 14		X 41 CR 13 KU		
	1.2316	X38CrMo17	X 38 CrMo 17			X 38 CrMo 16 1 KU	X 38 CrMo 16	
19552	1.2343	X38CrMoV5H1	X 38 CrMoV 5 1	Z 38 CDV 5	BH 11	X 37 CrMoV 5 1 KU	X 37 CrMoV h	H11
19554	1.2344	X40CrMoV51	X 40 CrMoV 5 1	Z 40 CDV 5	BH 13	X40 CrMoV 5 1 1 KU	X 40 CrMoV 5	H 13
	1.2362	X63CrMoV51						
19571	1.2363	X100CrMoV51	X 100 CrMoV 5 1	Z100 CDV 5	BA 2	X100 CrMoV 5 1 KU	X 100 CrMoV 5	A 3
19541	1.2365	X32CrMoV33	32CrMoV 12-28		BH 10			
	1.2367	X38CrMoV53						
	1.2376	X96CrMoV12						
19573	1.2379	X155CrVMo121	X 153 CrMoV 12	Z 160 CDV 12	BD 2	X155 CrVMo 12 1 KU		D 2
19437	1.2436	X210CrW12	X 210 CrW 12			X 215 CrW 12 1 KU	X 210 CrW 12	
19714	1.2453	X130W5						
19740	1.2564	X30WCrV41					F.527	
19720	1.2567	X30WCrV17/2		30WCrV17/2				
19720	1.2567	X30WCrV53	X 30 WCrV 5 3	Z 32 WCV 5		X 30 WCrV 5		
19721	1.2581	X30WCrV93	X 30 WCrV 9 3	Z 30WCV 9	BH 21	X 30 WCrV 9 3 KU	X 30 WCrV 9	H21
19572	1.2601	X65CrMoV12	X 165 CrMoV 12			X 165 CrMoV 12 KU	X 160 CrMoV 12	
	1.2606	X37CrMoV51		Z 35 CWDV 5	BH 12	X 35 CrMoV 05 KU	F.537	H 12
	1.2622	X60WCrMoV94						
19559	1.2631	X50CrMoW911						
	1.2662	X30WCrCoV93						
	1.2678	X45CrCoVW555						
19642	1.2766	35NiCrMo16		40 NiCrMo16				
19655	1.2767	X45NiCrMo4	40 NiCrMo4	Y 35 NCD 16	X45NiCrMo 4	42NiCrMo 15 7 KU		
2.8. Nástrojová ocel < 1200 N/mm² / Tool steel < 1200 N/mm² / Werkzeugstahl < 1200 N/mm²								
	1.1525	C80W1	C 80 U	Y1 90		C 80 KU	F.513	W 108
19191	1.1645	C105W1	C 105 U	Y1 105		C 100 KU	F.515	W 110
19132	1.1620	C70W2	C 70 U					
19152	1.1625	C80W2		Y1 90	BW 1B		C80	W 1
19255	1.1663	C 125 W	C 120 U	Y2 120		C 120 KU	C 120	W 112
19103	1.1740	C80W		Y3 55				
	1.1820	C55W						
	1.1830	C85W	C 90 U	Y3 90				
19501	1.2303	100CrMo5					F.520.F	L 7
19520	1.2311	40CrMnMo7		40 CrMnMo 7				
	1.2747	28NiMo17						
19642	1.2766	35NiCrMo16						

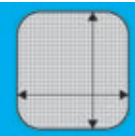
2. Legované oceli - Alloyed steels - Legierte Stähle



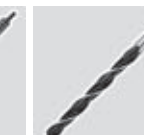
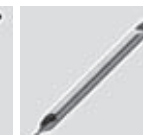
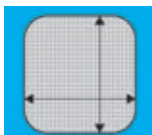
	ČSN	Werkstoff	DIN	EN	AFNOR	BS	UNI	UNE	AISI		
2. Legované oceli - Alloyed steels - Legierte Stähle	19902	1.2709	X3NiCoMoTi1895								
		1.2731	X50NiCrWV1313								
		1.2779	X6NiCrTi2615								
		1.2787	X23CrNi17								
		1.2888	X20CoCrWMo109								
	2.9. Rychlořezná ocel < 1200 N/mm² / High-speed steel < 1200 N/mm² / Schnellarbeitsstahl < 1200 N/mm²										
		19810	1.3302	S1214							
		19802	1.3318	S1212							
		19858	1.3202	S12145	(HS 12-1-5-5)		BT 15	HS 12-1-5-5	12-1-5-5	T15	
		19861	1.3207	S104310	HS 10-4-3-10	Z130WKCDV10-10-04-04	BT 42	HS 10-4-3-10	10-4-3-10		
		19852	1.3243	S6525	(HS 6-5-2-5)	KCV 06-05-05-04-02		HS 6-5-2-5	6-5-2-5	M35	
		19851	1.3246	S7425	HS1-8-1	Z110WKCDV 07-05-04		HS 7-4-2-5	7-4-2-5	M41	
			1.3247	S21018	HS2-9-1-8	Z110DKCWW 09-08-04	BM42	HS 2-9-1-8	2-10-1-8	M42	
			1.3249	S2928			BM 34		2-9-2-8		
		19855	1.3255	S18125	(HS18-1-1-5)	Z80 WKCW 18-05-04-01	BT 42	HS18-1-1-5	18-1-1-5	T4	
		19860	1.3265	S181210	(HS18-0-1-10)		BT 5	HS18-0-1-10	18-0-2-10	T5	
		19829	1.3342	SC652	(HS6-5-2)	Z90WDCV06-05-04-02		HSC 6-5-3		M 3	
		19830	1.3343	S6525	HS6-5-3	Z85WDCV06-05-04-02	BM 2	HS 6-5-2	6-5-2	M2	
			1.3344	S653		Z120WDCV06-05-04-03			6-5-3	.2	
		1.3346	S291	HS1-8-1	Z85DCWV08-04-02-01	BM 1	HS 1-8-1		M 1		
		1.3348	S2928	HS2-9-2	Z100DCWV09-04-02-02		HS 2-9-2	2-9-2	M7		
	19824	1.3355	S1801	HS18-0-1	Z80WCV18-04-01	BT 15	HS 18-0-1	18-0-1	T 1		
3. Korozivzdorné oceli - Stainless steels - Rostfreie Stähle	3.1. Ferritická ocel / Ferritic / Ferritischer Stahl										
		17020	1.4000	X6Cr13	X 6 Cr 13	Z 6 C 13	403 S 17	X 6 Cr 13	X 6 Cr 13	403	
			1.4002	X6CrAl13	X 6 CrAl 13	Z 6 CA 13	405 S 17	X 6 CrAl 13	X 6 CrAl 13	405	
		17040	1.4016	X6Cr17		Z 8 C 17	430 S 15	X 8 Cr 17 KD	X 8 Cr 17	430	
			1.4105	X4CrMoS18							
			1.4113	X8CrMo171	X 8 CrMo17	Z 8 CD 17.01	434 S 17	X 8 CrMo 17		434	
			1.4510	X6CrTi17	X 8 CrTi17	Z 8 CT 17		X 6 CrTi 17	X 8 CrTi 17	430 Ti	
			1.4511	X6CrNb17		Z 8 CNb 17		X 6 CrNb 17		430 Nb	
			1.4512	X6CrTi12		Z 6 CT 12	409 S 19	X 6 CrTi 12		409	
			1.4523	X8CrMoTi17							
	3.2. Martenzitická ocel / Martensitic / Martensitischer Stahl										
			1.4005	X12CrS13	X 13 CrS 13	Z 12 CF 13	416 S 21	X 12 CrS 13	X 12 CrS 13	416	
			17021	1.4006	X10Cr13	(X 12 Cr 13 KD)	Y 12 C 13	410 S 21	X 12 Cr 13	X 12 Cr 13	410
			17040	1.4016	X6Cr17		Z 8 C 17	430 S 15	X 8 Cr 17 KD	X 8 Cr 17	430
			17022	1.4021	X20Cr13	X 20 Cr 13	Z 20 C 13	420 S 37	X 20 Cr 13	X 20 Cr 13	420
			17023	1.4028	X30Cr13	X 30 Cr 13	Z 30 C 13	420 S 45	X 30 Cr 13	X 30 Cr 13	
			17140	1.4104	X12CrMoS17	X 14 CrMoS 17	Z 10 CF 17		X 10 CF 17	X 10 CF 17	430 F
				1.4313	X5CrNi134		Z 4 CDN 13,4		X 6 CrNi 13.04		CA 6-NM
			17024	1.4031	X38Cr13	X 40 Cr 13	Z 40 C 14		X 40 Cr 14	X 40 Cr 13	
			17029	1.4034	X46Cr13	X 45 Cr 13 Z 40 C 14	(420 S 45)	X 40 Cr 14	X 46 Cr 13		
			17145	1.4057	X20CrNi172	X 19 CrNi 17 2	Z 15 CN 16.02	431 S 29	X 16 CrNi 16	X 15 CrNi 16	431
			17151	1.4112	X90CrMoV18						440 B
				1.4116	X45CrMoV15					X 46 CrMo 16	
				1.4122	X35CrMo17				X 35 CrMo 17		
				1.4125	X105CrMo17		Z 100 CD 17				440 C
	3.3. Austenitická ocel / Austenitic / Austenitischer Stahl										
			17243	1.4305	X10CrNiS189	X 10 CrNiS 18 9	Z 10 CNF 18.09	303 S 21	X 10 CrNiS 18 09	X 10 CrNiS 18 09	303
				1.4303	X5CrNi1812	X 8 CrNi 18 12 KD	Z 8 CN 18.12	305 S 19	X 8 CrNi 19 10	X 8 CrNi 18-12	308
			17241	1.4310	X12CrNi18/8	X12CrNi18/8	X12CrNi18/8	304 S21			
				1.4311	X2CrNiN1810	X 2 CrNiN 18 10	Z 8 CN 18.12	X 8 CrNi 19 10	X 8 CrNi 19 10	X 8 CrNi 18-12	304 LN
			17346	1.4401	X5CrNiMo17122	X6 CrNiMo 17 12 2 KD	Z 6 CND 17.11	316 S 16	X 5 CrNiMo 17 12	X 5 CrNiMo 17-12	316
			17349	1.4404	X2CrNiMo17132	GX3CrNiMo 17 12 KD	Z 3 CND 18.10 M	316 S 12	GX 2 CrNiMo 19 11	X 2 CrNiMo 17-12-03	316 L
				1.4406	X2CrNiMoN17122	X 3 CrNiMoN 17 12 2	Z 2 CND 17.12 Az	316 S 61	X 2 CrNiMoN 17 12		316 Ln
				1.4410	GX10CrNiMo189		Z 5 CND 20.10 M				
			1.4429	X2CrNiMoN17133	X 3 CrNiMoN 17 13 3	Z 2 CND 17.13 Az	316 S 62	X 2 CrNiMoN 17 13		316 Ln	
		17352	1.4436	X5CrNiMo17133	X6 CrNiMo 18 13 3 KD	Z 6 CND 17.12	316 S 16	X 5 CrNiMo 17 13	X 6 CrNiMo 17-12-03	316	
			1.4439	X2CrNiMoN17135							
			1.4449	X5CrNiMo1713			317 S 16	X 5 CrNiMo 18 15		317	
			1.4529	X1NiCrMoCuN25206							



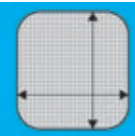
	ČSN	Werkstoff	DIN	EN	AFNOR	BS	UNI	UNE	AISI	
3. Korozivzdorné oceli - Stainless steels - Rostfreie Stähle		1.4539	X1NiCrMoCuN25205		Z 1 NCDU 25 20					
	17246	1.4541	X6CrNiTi1810	X 6 CrNiTi 1810	Z 6 CNT 18.10	32 1 S 12	X 6 CrNiTi 18 11	X 7 CrNiTi 18-11	321	
		1.4542	X5CrNiCuNb164	X5CrNiCuNb 16-4	Z 7 CNU 17.04		X5CrNiCuNb 16-4		630	
		1.4550	X6CrNiNb1810	X 6 CrNiNb 18 10	Z 6 CNNb 18.10	347 S 17	X 6 CrNiNb 18 11	X 6 CrNiNb 18-11	347	
	17347	1.4571	X6CrNiMoTi17122		Z 6 CNDT 17.12	320 S 31	X 6 CrNiMoTi 17-12	X6 CrNiMoTi 17-12-03	316 Ti	
	17113	1.4713	X10CrAlSi7	X10CrAlSi7	X10CrAlSi7					
		1.4748	X85CrMoV1872		Z 85 CDMV 18.02		X 85 CrMoV 19 3	X 85 CrMoV 18-02		
	17125	1.4724	X10CrAl13		Z 10 C 13	(403 S 17)	X 10 CrAl 12	X 10 CrAl 12		
		1.4742	X10CrAl18		Z 10CAS 18	(430 S 15)	(X 8 Cr 17)	X 10 CrAl 18	430	
		1.4762	X10CrAl24		Z 10 CAS 24		X 16 Cr 26	X 10 CrAl 24	446	
		1.4821	15CrNiSi25-4							
	17251	1.4828	X15CrNiSi2012		Z 15 CNS 20.12	309 S 24	X 16 CrNiSi 25.20	X 15 CrNiSi 20-12	309	
		1.4833	X7CrNi2314		Z 15 CN 24.13	309 S 24	X 6 CrNi 23 14		309 S	
	17255	1.4841	X15CrNiSi2520		Z 15 CNS 25.20		X 16 CrNiSi 25 20	X 15 CrNiSi 25-20	310	
		1.4845	X12CrNi2521		Z 12 CN 25.20	310 S 24	X 6 CrNi 25 20	F.331	310 S	
		1.4854	X6NiCrSiCe35-25	X6NiCrSiCe35-25	X6NiCrSiCe35-25				S35315	
		1.4864	X12NiCrSi38-16	X12NiCrSi38-16	X12NiCrSi38-16				330	
		1.4867	X12CrSi							
	17246	1.4878	X12CrNiTi189		Z 6 CNT 18.12	321 S 20	X 6 CrNiTi 18.11	X 6 CrNiTi 18 11	321	
	17134	1.4923	X22CrMoV121				X 22 CrMoV 121			
	1.4941	X8CrNiTi1810								
	1.4948	X6CrNi1811								
	1.4961	X3CrNiNb1613					X 7 CrNiNb 16-13			
17460	1.3965	X8CrMnNi188								
4. Litina - Cast iron - Gusseisen	4.1. Šedá litina do 180 HB / Grey cast iron up to 180 HB / Grauguss bis 180 HB									
	422410	0.6010	GG10	GJL-100	Ft 10 B		G10	FG 10	A48-20 B	
		0.6012	GG150HB	GJL-HB 170						
	422415	0.6015	GG15	GJL-150	Ft 15 D	Grade 150	G 15	FG 15	A48-25 B	
		0.6017	GG170HB	GJL-HB 205						
	4.2. Šedá litina do 260 HB / Grey cast iron up to 260 HB / Grauguss bis 260 HB									
	422420	0.6020	GG20	GJL-200	Ft 20 D	Grade 220	G 20	FG 20	A48-30 B	
		0.6022	GG190HB	GJL-HB 230						
	422425	0.6025	GG25	GJL-250	Ft 25 D	Grade 260	G 25	FG 25	A48-40 B	
		0.6027	GG220HB	GJL-HB 250						
	422430	0.6030	GG30	GJL-300	Ft 30 D	Grade 300	G 30	FG 30	A48-45 B	
		0.6032	GG240HB	GJL-HB 275						
	422435	0.6036	GG35	GJL-350	Ft 35 D	Grade 350	G 35	FG 35	A48-50 B	
		0.6037	GG260HB	GJL-HB 275						
		0.6040	GG40	GJL-400	Ft 40 D	Grade 400			A48-60 B	
	4.3. Tvárná litina do 160 HB / Nodular cast iron up to 160 HB / Kugelgraphitguss bis 160 HB									
		0.6652	GGLNiMn137	GJLA-XNiMn 13-7	L-NM 13 7	L-NiMn 13 7				
		0.6655	GGLNiCuCr1562	GJLA-XNiCuCr 15-6-2	L-NiCuCr 15 6 2	L-NiCuCr 15-6-2			A 436 Type1	
		0.6656	GGLNiCuCr1563	GJLA-XNiCuCr 15-6-3	L-NUC 15 6 3	L-NiCuCr 15 6 3			A 436 Type 1b	
		0.6660	GGLNiCr202	GJLA-XNiCr 20-2	L-NC 20 2	L-NiCr 20 2			A 436 Type 2	
	422303	0.7033	GGG353							
	422304	0.7040	GGG40		FGS 400-12	420/12	GS 400-12		60-40-18	
	422314	0.7043	GGG403		FGS 370-17	370/17	GSO 42/15			
	422305	0.7050	GGG50		FGS 500-7	500/7	GS 500/7		65-45-12	
		0.7652	GGSNiMn137	GJSA-XNiMn 13-7	S-Mn 13 7	S-NiMn 13 7				
		0.7659	GGSNiCrNb202	GJSA-XNiCrNb 20-2						
		0.7660	GGSNiCr202	GJSA-XNiCr 20-2	L-NC 20 2	L-NiCuCr 20 2			A439 Type D2	
		0.7665	GGSNiSiCr2052	GJSA-XNiSiCr 20-5-2	S-NSC 20 5 2	S-NiSiCr 20 5 2				
		0.7670	GGSNi22	GJSA.X Ni 22	S-N 22	S-Ni 22			A 439 Type D-2C	
		0.7673	GGSNiMn234	GJSA-XNiMn 23-4		S-NiMn 23 4			A 571 Type D-2M	
	4.4. Tvárná litina do 250 HB / Nodular cast iron up to 250 HB / Kugelgraphitguss bis 250 HB									
		0.661	GGLNiCr203	GJLA-XNiCr 20 3		L-NiCr 20 3			A436 Type 2 B	
		0.667	GGLNiSiCr2053	GJLA-XNiSiCr 20 5 3	L-NSC 20 5 3	L-NiSiCr20 5 3				
	422306	0.7060	GGG60		FSG 600-3	600/3	GS 600/3		80-55-06	
	422307	0.7070	GGG70		FSG 700-2	700/2	GS 700-2		100-70-03	
	4.5. Temperovaná litina do 130 HB / Maleable cast iron up to 130 HB / Temperguss bis 130 HB									
		0.8038	GTWS3812	GJMV-360-12						



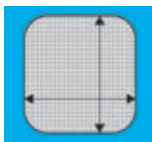
	ČSN	Werkstoff	DIN	EN	AFNOR	BS	UNI	UNE	AISI	
4. Litina - Cast iron - Gusseisen	422540	0.8040	GTW4005	GJMW-400-5		GMB 40				
		0.8045	GTW4507			GMB 45				
		0.8055	GTW55			GMB 55				
		0.8065	GTW 65			GMB 65				
	422533	0.8135	GTS3510	GJMB-350-10	MN 35-10	B 340/12			32510	
	422545	0.8145	GTS4506	GJMB-450-6		P 440/7			40010	
	4.6. Temperovaná litina do 230 HB / Maleable cast iron up to 230 HB / Temperguss bis 230 HB									
	422536	0.8035	GTW3504	GJMW-350-4						
	422556	0.8155	GTS5504	GJMB-550-4		MP 50-5				50005
		0.8165	GTS6502	GJMB-650-2		MP 60-3				70003
	0.8170	GTS7002	GJMB-700-2	Mn 700-2		P 690/2	GMN 70		90001	
5. Slitiny Al - Aluminium alloys - Alu-Legierungen	5.1. Al a slitiny Al tvářené do 250 N/mm² / Wrought alu alloy up to 250 N/mm² / Alu-Knetlegierungen bis 250 N/mm²									
	424005	3.0255	Al99.5			1050 A				A 91060
	424002	3.0280	Al99.8			1080 A				
		1.3315	AlMg1	AW-6082						
	424415	3.3547	AlMg4,5Mn	AlMg4		5183				a 95083
	424415	3.3555	AlMg5							
	5.2. Al a slitiny Al tvářené do 350 N/mm² / Wrought alu alloy up to 350 N/mm² / Alu-Knetlegierungen bis 350 N/mm²									
		3.0615	AlMgSiPb							
	424201	3.1325	AlCuMg1	AlCu4MgSi		2017 A				A 92017
	424203	3.1355	AlCuMg2	AlCu4Mg1		2024	2024			2024
		3.1371	AlCu4TiMg							
	424254	3.1645	AlCuMgPb	AlCu4PbMg		2030				
		3.1655	AlCuBiPb							
		3.1754	AlCu5Ni1,5							
	424400	3.2315	AlMgSi1	AlSiMg0,5Mn		6082	6082			A 96061
		3.3206	AlMgSi0,5							
		3.3541	AlMg3							
		3.4345	AlZnMgCu0,5			AZ 4 GU/9051	L 86	811-04		7050
	5.3. Al pro odlévání Si < 12% do 250 N/mm² / Cast alu alloy Si < 12 % up to 250 N/mm² / Alu-Gusslegierungen Si < 12% bis 250 N/mm²									
		3.1841	AlCu4Ti							
		3.2131	AlSi5Cu1							
	424357	3.2151	AlSi6Cu4			A-S5UZ				
		3.2161	AlSi8Cu3							
	424339	3.2163	GDAISi9Cu3			A-S9U3 Y4				
	424330	3.2211	AlSi11			A-S12 Y4	LM 20			A 04130
		3.2341	AlSi5Mg							
		3.2373	AlSi9Mg							
	424331	3.2381	AlSi10Mg	AC AlSi10Mg		A-S10G				A-0359.0
		3.2382	GDAISi10Mg							
		3.2383	AlSi10Mg(Cu)				LM 9			A 360.2
	424334	3.2581	AlSi7Mg	AlSi7Mg		A-S7G03	LM 6			A 413.2
		3.3241	AlMg3Si							
	424515	3.3261	AlMg5Si			A-G6				
		3.3561	AlMg5							
		3.5101	GMgZn4SE1Zr1	MCMgZn 4 RE 1 Zr		G-Z 4 TR	MAG 5			ZE 41
		3.5102	GMgZn5Th2Zr1							
		3.5100	MgSE3Zn2Zr1	MCMgRE 3 Zn 2 Zr		G-TrR 3 Z 2	MAG 6			EZ 33
		3.5105	GMgTh3Zn2Zr1							
		3.5106	GMgAg3SE2Zr1	MCMgRE 2 Ag 2 Zr		A-Ag 22,5	MAG 12			QE 22
		3.5200	GMgAl8Zn1							
		3.5470	GDMgAl4Si1							AS 41
		3.5612	GDMgAl6Zn1							
		3.5662	GDNgAl6							
		3.5812	GMgAl8Zn1	MCMgAl 8 Zn 1		G-A 9	MAG 12			AZ 81
		3.5912	GMgAl9Zn1	MCMgAl 9 Zn 1		A-A 9 Z 1	MAG 7			AZ 91
	5.4. Al pro odlévání Si < 12% do 350 N/mm² / Cast alu alloy Si < 12 % up to 350 N/mm² / Alu-Gußlegierungen Si < 12% bis 350 N/mm²									
		2.1871	AlCu4TiMg							
424334	3.2371	AlSi7Mg							4218 B	
5.5. Magnesium / Magnesium / Magnesium										
	3.520	MgMn2								
	3.5812.05	G-MgAl8Zn1								
	3.5612	G-MgAl6Zn1								



	ČSN	Werkstoff	DIN	EN	AFNOR	BS	UNI	UNE	AISI	
6. Cu a slitiny Cu - Copper and copper alloys - Kupfer und Kupferlegierungen	Cu - legovaná Cu, Pb > 1% / Cooper machining alloys, Pb > 1% / Kupfer-Automatenlegierung, Blei > 1%									
		2.0331	CuZn36Pb1,5							
		2.0340	GCuZn37Pb							
		2.0401	CuZn39Pb3							
		2.0402	CuZn39Pb2							
		2.1061	GCuSn12Pb							
		2.1090	GCuSn7YnPb			U/E 7 Y 5 Pb 4			C 93200	
	423135	2.1096	GCuSn5Zn5Pb			U-E 5 Pb 5 Z 5	LG 2		C 83600	
		2.1176	GCuPb10Sn			U-E 10 Pb 10	LB 2			
		2.1182	GCuPb15Sn			U-Pb 15 E 8	LB 1		C 93800	
	Bronz, mosaz / Bronze, brass / Bronze, Messing									
	423200	2.0220	CuZn5			C Zn 5				
	423202	2.0240	CuZn15			CuZn 15			C 23000	
	423210	2.0265	CuZn30			CuZn 30	CZ 102		C 26000	
	423213	2.0321	CuZn37			CuZn 37	CZ 108		C 27200	
		2.0380	CuZn39Pb2							
	423303	2.0492	GCuZn15Si4						B 198	
	423221	2.0561	CuZn40Al1							
		2.0592	GCuZn35Al1			U-Z 36 N 32	HTB 1		C 86500	
	423221	2.0595	GKCuZn3Al1							
	423322	2.0596	GCuZn34A2			U-Z 36 N 3	HTB 1		C 86200	
	423311	2.0598	GCuZn25Al5							
		2.1188	GCuPb20Sn			U-Pb 20	LB 5		C 94100	
		2.21292	GCuCrF35				CC1-FF		C 81500	
		2.21293	CuCrZr			U-Cr 0,8 Zr			C 18200	
	Cu, elektrolytická Cu / Copper lead free copper, electrolytic-cooper / Kupfer, bleifreies Kupfer, Elektrolytkupfer									
	423000	2.0040	OF-Cu	Cu-OF		Cu-c1	C103			C10200
	423001	2.0060	ECu57	Cu-ETP		Cu-a1	C101			B-120
		2.0065	Ecu 58			Cn-a2	C 101			C 11000
		2.0070	SECu			Cu-c1	C 101			C 10300
		2.0082	GCuL45				HCC1			C 81100
		2.0085	GCuL50							C 81100
		2.0872	CuNi10Fe1Mn							
423063	2.0882	CuNi30Mn1Fe				CN 07			C 71500	
423046	2.0936	CuAl10Fe3Mn2			U-A 10 Fe	CA 103				
423145	2.0940	GCuAl10Fe				AB 1				
	2.0966	CuAl10Ni5Fe4			U-A 10 N				C 63000	
423147	2.0975	GCuAl10Ni				AB 2			B-148-52	
	2.1050	GCuSn10				CT 1			C 90700	
7. Plastické hmoty - Plastics - Kunststoffe	Duroplasty, thermoplasty / Duroplastic, thermoplastic / Duroplaste, Thermoplaste									
	PC	Makralon, Placarbon		Orgalan	Sinvet			Lexan, Merlon	Lexan, Merlon	
	Pe	Hostalen, GUR			Fertene, Eraclene	Escorene		Bakelite, Dylen	Bakelite, Dylen	
	PF	Alberit, Bakelit, Durax, Harex			Renachen, Mildesile			Biralit, Birax	Biralit, Birax	
	PFTE	Hostalon		Soreflon				Halon, Teflon	Halon, Teflon	
	Masten	PP	Vestolen, Novolen, Hostalen PP			Eitex P, Napryl	Moplen, Kastylen	Carola P		Pro-fax, Tenife
	PS		Polystyrol, Syron, Hostyion				Edistir, Lastinol	Lustrex		Carinex, Dylena
	Termosety / Fibrous-reinforced plastic / Faserverstärkte Kunststoffe									
		AFK	Kevlar							
		BFK								
		CFK								
	GFK									
	MFK									
	SFK									
8. Žárupevné slitiny - Heat-resistant materials - Warmfeste Legierungen	Na bázi Fe do 650 N/mm² / Fe basis up to 650 N/mm² / Fe-basierte Legierung bis 650 N/mm²									
		1.4335	X1CrNi2521							
		1.4361	X1CrNiSi1815	Z 1 CNS 18.15						
		1.4558	X2NiCrAlTi3220							
		1.4562	X1NiCrMoCu32287							
		1.4563	X1NiCrMoCuN31274							
	422955	1.4857	GX40NiCrSi3525				GX 50 NiCr 35 25			
	1.4862	X8NiCrSi3818								



	ČSN	Werkstoff	DIN	EN	AFNOR	BS	UNI	UNE	AISI	
8. Žárupevné slitiny - Heat-resistant materials - Warmfeste Legierungen		1.4864	X12NiCrSi3616	Z 12 NCS 37.18				330		
		1.4865	GX40NiCrSi3818			330 C 40		GX 50 NiCr 39 19		
		1.4876	X10NiCrAlTi3220	Z 8 NC 32.21				B 163		
	Na bázi Fe do 750 N/mm² / Fe basis up to 750 N/mm² / Fe-basierte Legierung bis 750 N/mm²									
		1.4958	X5NiCrAlTi3120							
		1.4977	X40CoCrNi2020	Z 42 CNKDOWNb						
	Na bázi Cr-Ni do 850 N/mm² / Cr-Ni basis up to 850 N/mm² / Cr-Ni-basierte Legierung bis 850 N/mm²									
		1.4959	X5NiCrAlTi3221							
		1.4980	X5CrNiTi2615		Z 6 NCTDV 25.12 B		286 S 31		660	
		2.4360	NiCu30Fe		NU 30		NA 13		N 04400	
		2.4605	NiCr23Mo16Al							
		2.4610	NiMo16Cr16Ti						N 06455	
		2.4617	NiMo28		NiMo28				N 10665	
		2.4619	NiCr22Mo7Cu						N 06985	
		2.4630	NiCr20Ti		NC 20 T		HRS		N 06075	
		2.4642	NiCr29Fe		NC 30 Fe				N 06690	
		2.4658	NiCr7030							
		2.4660							N 08020	
		2.4778	GCoCr28							
		2.4810	GNiMo30						N-12 MV	
		2.4816	NiCr15rFe		NC 15 Fe		NA 14		N 06600	
		2.4819	NiMo16Cr15W		NC 17 D				N 10276	
		2.4851	NiCr23Fe		NC 23 Fe A				N 06601	
		2.4856	NiCr22Mo9Nb		NC 22 Fe DNb		NA 21		N 06625	
		2.4858	NiCr21Mo		NC 21 Fe DU		NA 16		N 08826	
		2.4867	NiCr6015							
		2.4869	NiCr8020							
		2.4951	NiCr20Ti		NC 20 T		HR 5		N 06075	
		2.4969	NiCr2018Ti							
		2.4975	NiFeCr12Mo							
Na bázi Cr-Ni do 950 N/mm² / Cr-Ni basis up to 950 N/mm² / Cr-Ni-basierte Legierung bis 950 N/mm²										
	2.4365	GNiCu30Nb						M 35 1/2		
	2.4367	GNiCu30SiC						M 30-H		
	2.4368	GNiCu30Si4						M-255		
	2.4669	NiCr15Fe7TiAl		NC 15 TNb A				N 07750		
	2.4685	GNiMo28						N-7 M		
	2.4686	GNiMo17CrW						CW-12 MW		
	2.4964	CoCr20W15Ni		KC 22 WN		HR 240		R 30605		
	2.4973	NiCr19Co11MoTi		NC 19 KDT				AMS 53998		
Na bázi Cr-Ni do 1100 N/mm² / Cr-Ni basis up to 1100 N/mm² / Cr-Ni-basierte Legierung bis 1100 N/mm²										
	2.4375	NiCu30Al		NU 30 AT		NA 18		N 05500		
	2.4650	NiCo20Cr20MoTi		NCK 20 D		HR 10		N 07263		
	2.4663	NiCr23Co12Mo						N 06617		
	2.4668	NiCr19FeNbMo		NC 19 Fe Nb				N 07718		
	2.4952	NiCr20TiAl		NC 20 TA		NA 20		N 07080		
	2.4955	NiFe25Cr20NbTi								
Ti a legovaný Ti do 850 N/mm² / Pure titanium and titanium alloys up to 850 N/mm² / Reintitan und Titanlegierungen bis 850 N/mm²										
9. Titan a jeho slitiny - Titanium and titanium alloys - Titan und Titanlegierungen		3.7025	Ti1			2 TA 1			R50250	
		3.7035	Ti2			2 TA 2-5			R 50400	
		3.7055	Ti3			TA 3			R50500	
		3.7065	Ti4			2 TA 6-9			R 50700	
		3.7124	TiCu2			A TA 21-24				
		3.7225	Ti1Pb			TP 1			R 52250	
		3.7235	Ti2Pd						R 52400	
	Legovaný Ti do 1200 N/mm² / Titanium alloys up to 1200 N/mm² / Titanlegierungen bis 1200 N/mm²									
		3.7145	TiAl6Sn2Zr4Mo2Si						R 54620	
		3.7155	TiAl6ZrMo0,5				TA 43			
		3.7165	TiAl6V4		T-A 6 V		TA 10-13		R 56400	
		3.7175	TiAl6V6Sn2							
	3.7185	TiAl4Mo4Sn2				TA 45-41				



Kód posuvu*	Rozměr vrtáku D (mm) / Diameter of the drill D (mm) / Durchmesser des Bohrers D (mm)																			
	0,3	0,8	1,3	2,0	2,5	3,15	4,0	5,00	6,5	8,0	10,0	12,5	16,0	20,0	25,0	31,5	40,0	50,0	63,0	80,0
Posuv S (mm/ot) / Feed f (mm/rev) / Vorschub f (mm/U)																				
A				0,015	0,020	0,025	0,032	0,032	0,040	0,050	0,063	0,063	0,080	0,100	0,125	0,125	0,160	0,200	0,250	0,315
B				0,020	0,025	0,032	0,040	0,040	0,050	0,063	0,080	0,080	0,100	0,125	0,160	0,160	0,200	0,250	0,315	0,400
C				0,025	0,032	0,040	0,050	0,050	0,063	0,080	0,100	0,100	0,125	0,160	0,200	0,200	0,250	0,315	0,400	0,500
D	0,008	0,020	0,025	0,032	0,040	0,050	0,063	0,063	0,080	0,100	0,125	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800
E	0,010	0,025	0,035	0,040	0,050	0,063	0,080	0,080	0,100	0,125	0,160	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000
F	0,012	0,030	0,040	0,050	0,063	0,080	0,100	0,100	0,125	0,160	0,200	0,200	0,250	0,315	0,400	0,400	0,500	0,630	0,800	1,000
G	0,020	0,040	0,050	0,063	0,080	0,100	0,125	0,125	0,160	0,200	0,250	0,250	0,315	0,400	0,500	0,500	0,630	0,800	1,000	1,250
H				0,080	0,100	0,125	0,160	0,160	0,200	0,250	0,315	0,315	0,400	0,500	0,630	0,630	0,800	1,000	1,250	1,600

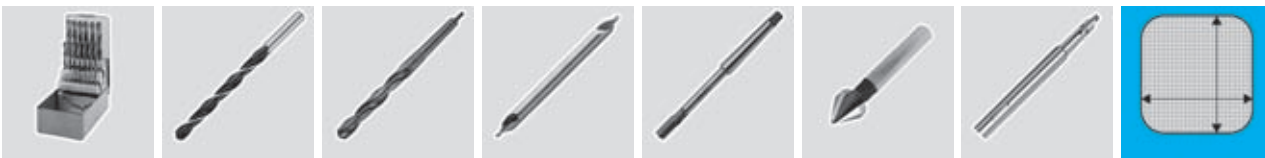
* feed code / Vorschubskode

ČSN, PN	
DIN	
Typ / Type / Type	
D mm	
Povlakování / Coating / Beschichtung	
Materiál / Material / Werkstoff	
Strana / Page / Seite	

Materiálové skupiny / Material groups / Werkstoffgruppe

1	Nelegované oceli	Unalloyed steels	Unlegierte Stähle	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	CH
	konstrukční	common structural	Allgemeine Baustähle	400 - 500 N/mm ² 500 - 850 N/mm ²		E E
	automatová	free cutting	Automatenstähle	< 850 N/mm ²		E
	k zušlechťení	heat-treatable	Vergütungsstähle	850 - 1000 N/mm ² 400 - 700 N/mm ² 700 - 850 N/mm ²		E E E
	cementační	case hardened	Einsatzstähle	850 - 1000 N/mm ² 400 - 750 N/mm ²		E E
2	Legované oceli	Alloy steels	Legierte Stähle	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	k zušlechťení	heat-treatable	Vergütungsstähle	850 - 1000 N/mm ² 1000 - 1200 N/mm ²		E E
	cementační	case hardened	Einsatzstähle	800 - 1000 N/mm ² 1000 - 1200 N/mm ²		O O
	nitridační	nitriding	Nitrierstähle	850 - 1000 N/mm ² 1000 - 1200 N/mm ²		E O
	pružinová	spring	Federstähle		< 330 HB	O
	nástrojová	tool	Werkzeugstähle	500 - 850 N/mm ² 850 - 1000 N/mm ²		E O
	rychlořezná	high-speed	Schnellarbeitsstahl	850 - 1200 N/mm ²		O
	kalené oceli Hardox 400	hardened steels Hardox 400	Gehärtete Stähle Hardox 400		400 HB	E
	kalené oceli Hardox 500	hardened steels Hardox 500	Gehärtete Stähle Hardox 500		500 HB	E
3	Korozivzdorné oceli	Stainless steels	Rostfreie Stähle	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	feritická/martenzitická	ferritic/martensitic	ferritische/martensitische	500 - 850 N/mm ²		O
	martenzitická	martensitic	martensitische	500 - 850 N/mm ²		O
	austenitická/feritická	austenitic/ferritic	austenitische/feritische	500 - 850 N/mm ²		O
4	Litina	Cast iron	Gusseisen	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	šedá	grey	Grauguss		< 200 HB	E/L
	šedá	grey	Grauguss		200 - 300 HB	E/L
	tvárná	nodular	Kugelgraphit		< 240 HB	E
	temperovaná	malleable	Temperguss		< 300 HB	E
5	Al a slitiny Al	Aluminium alloys	Alu-Legierungen	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	nelegovaný	unalloyed	unlegierte	< 400 N/mm ²		E
	tvářený	wrought alloys	Knetlegierungen	< 450 N/mm ²		E
	pro odlévání < 10 % Si	cast alloys <10% Si	Gusslegierungen <10% Si	< 600 N/mm ²		E
	pro odlévání > 10 % Si	cast alloys >10% Si	Gusslegierungen >10% Si	< 600 N/mm ²		E
6	Cu a slitiny Cu	Cu and Cu alloys	Cu und Cu-Legierungen	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	nelegovaná	unalloyed	unlegierte	< 400 N/mm ²		E
	mosaz - krátká tříška	brass - shortchipping	Messing - kurzspaned	< 600 N/mm ²		E
	- dlouhá tříška	- longchipping	Messing - langspaned	< 600 N/mm ²		E
	bronz - krátká tříška	bronze - shortchipping	Bronzen - kurzspaned	< 600 N/mm ²		E/O
	- dlouhá tříška	- longchipping	Bronzen - langspaned	< 600 N/mm ²		E
7	Umělá hmota	Plastics	Kunststoffe	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	termostat	Duroplastics	Duroplastisch			L
	termoplast	Thermoplastics	Thermoplastisch			E/L
8	Žárupevná ocel	Heat resistant steel	Warmfester Stahl	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	na bázi Fe	Fe basis	Fe-basierter	< 650 N/mm ²		O
	na bázi Fe	Fe basis	Fe-basierter	< 750 N/mm ²		O
	na bázi Cr-Ni	Monel 400, Hastelloy C-4, Nimonic 75, Inconel 625		750 - 800 N/mm ²		O
	na bázi Cr-Ni	Inconel X 750, Hastelloy B, Inconel 751		800 - 950 N/mm ²		O
	na bázi Cr-Ni	Monel K 5400, Inconel 718		900 - 1100 N/mm ²		O
9	Ti a slitiny Ti	Ti and Ti alloys	Ti und Ti-Legierungen	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	Ti a slitiny Ti	Ti and Ti alloys	Ti und Ti-Legierungen	< 850 N/mm ²		O
	Ti a slitiny Ti	Ti and Ti alloys	Ti und Ti-Legierungen	850 - 1200 N/mm ²		O

CH = Chlazení / Coolant / Kühlmittel; E = emulze / emulsion / Emulsion; O = olej / oil / Öl; L = vzduch / air / Luft



Doporučené řezné podmínky pro vrtnání dle vrтанého materiálu

Recommended cutting conditions for drilling

Einsatzempfehlungen für Spiralbohrer

<3xD vrтанá hloubka / drilling depth / Bohrtiefe								<5xD vrтанá hloubka / drilling depth / Bohrtiefe						
ZVSE 221185	ČSN 221191	PN 2905	PN 2904	ČSN 221182	ČSN 221180	PN 221187	PN 2905 T 1000	ČSN 221121	PN 221135	PN 221134	PN 2913	PN 2931	ČSN 221131	
1897 RH	1899A RN	1897 RN	1897 LN	1897 RN	1897 LN	RN	1897 GT 100	338 RN	338 RN	B 94.11 RN	338 RN	338 RN	338 LN	
3.0-20.0	0.25-1.5	0.7-14.0	0.7-14.0	0.7-40.0	0.7-40.0	13.0-38.0	2.0-14.0	1.0-20.0	1/64"-1"	1/64"-1/2"	0.3-14.0	1.0-14.0 TiN	14.25-20.0	
HSSCo		HSS					HSSCo		HSS					
v (m/min) kód posuvu / feed code / Vorschubskode														
35 F	18 F	33 F	33 F	33 F	33 F	33 F		29 E	29 E	29 E	29 E	36 F	29 E	
30 F	15 F	25 E	25 E	25 E	25 E	25 E		23 E	23 E	23 E	23 E	29 E	23 E	
30 F	15 F	33 F	33 F	33 F	33 F	33 F		29 E	29 E	29 E	29 E	36 F	29 E	
25 F	13 E	25 E	25 E	25 E	25 E	25 E	28 E	23 E	23 E	23 E	23 E	29 E	23 E	
30 F	18 F	33 E	33 E	33 E	33 E	33 E		29 E	29 E	29 E	29 E	36 E	29 E	
30 F	13 F	25 E	25 E	25 E	25 E	25 E	25 E	23 E	23 E	23 E	23 E	29 E	23 E	
25 F												15 D		
30 F	15 F	33 F	33 F	33 F	33 F	33 F		29 F	29 F	29 F	29 F	36 F	29 F	
25 F							16 D					18 D		
20 E							13 C							
25 F							14 D					16 D		
20 E							11 D							
25 F							13 D					14 D		
20 E							9 C							
25 F							7 B							
22 F	10 D	16 D	16 D	16 D	16 D	16 D	16 D	14 D	14 D	14 D	14 D	18 D	14 D	
18 E							9 C							
18 E							9 C							
							5 C							
20 F							13 D							
18 F							9 D							
15 E							11 C							
35 G	18 F	33 F	33 F	33 F	33 F	33 F	33 F	29 F	29 F	29 F	29 F	36 F	29 F	
25 G	15 F	25 F	25 F	25 F	25 F	25 F	25 F	23 F	23 F	23 F	23 F	29 F	23 F	
30 G	18 F	29 F	29 F	29 F	29 F	29 F	29 F	25 F	25 F	25 F	25 F	32 F	25 F	
25 G	12 F	21 F	21 F	21 F	21 F	21 F	21 F	18 F	18 F	18 F	18 F	23 F	18 F	
100 H		72 F	72 F	72 F	72 F	72 F								
100 H		72 F	72 F	72 F	72 F	72 F								
70 H	20 F	63 F	63 F	63 F	63 F	63 F	70 G	56 G	56 G	56 G	56 G	72 G	56 G	
60 H	15 F	50 F	50 F	50 F	50 F	50 F	55 F	45 F	45 F	45 F	45 F	63 F	45 F	
60 G	22 F	33 E	33 E	33 E	33 E	33 E	33 E	29 E	29 E	29 E	29 E	36 E	29 E	
60 G														
70 G	18 F	41 E	41 E	41 E	41 E	41 E	41 E	36 E	36 E	36 E	36 E	45 E	36 E	
60 G	15 F	33 D	33 D	33 D	33 D	33 D	33 D	29 D	29 D	29 D	29 D	36 D	29 D	
50 G	10 F	25 D	25 D	25 D	25 D	25 D	25 D	22 D	22 D	22 D	22 D	29 D	22 D	
		16 D	16 D	16 D	16 D	16 D	16 D	14 D	14 D	14 D	14 D	18 D	14 D	
		25 E	25 E	25 E	25 E	25 E	25 E	22 E	22 E	22 E	22 E	29 E	22 E	
12 C							9 A							
10 B							7 A							
10 B							7 A							
8 B							6 A							
18 B							5 A							
20 B							8 A							
18 B							6 A							

Příklad: 33 F = řezná rychlost 33 m/min, posuv F (v mm/ot) z tabulky dle průměru vrtáku / Example: 33F=cutting speed 33 m/min, feed (mm/rev.) see the table according to diameter of the drill / Beispiel: 33F= Schnittgeschwindigkeit 33 m/Min., Vorschub siehe die Tabelle gemäss Durchmesser des Bohrers.



Kód posuvu*	Rozměr vrtáku D (mm) / Diameter of the drill D (mm) / Durchmesser des Bohrers D (mm)																			
	0,3	0,8	1,3	2,0	2,5	3,15	4,0	5,00	6,5	8,0	10,0	12,5	16,0	20,0	25,0	31,5	40,0	50,0	63,0	80,0
	Posuv S (mm/ot) / Feed f (mm/rev) / Vorschub f (mm/U)																			
A				0,015	0,020	0,025	0,032	0,032	0,040	0,050	0,063	0,063	0,080	0,100	0,125	0,125	0,160	0,200	0,250	0,315
B				0,020	0,025	0,032	0,040	0,040	0,050	0,063	0,080	0,080	0,100	0,125	0,160	0,160	0,200	0,250	0,315	0,400
C				0,025	0,032	0,040	0,050	0,050	0,063	0,080	0,100	0,100	0,125	0,160	0,200	0,200	0,250	0,315	0,400	0,500
D	0,008	0,020	0,025	0,032	0,040	0,050	0,063	0,063	0,080	0,100	0,125	0,125	0,160	0,200	0,250	0,250	0,315	0,400	0,500	0,630
E	0,010	0,025	0,035	0,040	0,050	0,063	0,080	0,080	0,100	0,125	0,160	0,160	0,200	0,250	0,315	0,315	0,400	0,500	0,630	0,800
F	0,012	0,030	0,040	0,050	0,063	0,080	0,100	0,100	0,125	0,160	0,200	0,200	0,250	0,315	0,400	0,400	0,500	0,630	0,800	1,000
G	0,020	0,040	0,050	0,063	0,080	0,100	0,125	0,125	0,160	0,200	0,250	0,250	0,315	0,400	0,500	0,500	0,630	0,800	1,000	1,250
H				0,080	0,100	0,125	0,160	0,160	0,200	0,250	0,315	0,315	0,400	0,500	0,630	0,630	0,800	1,000	1,250	1,600

* feed code / Vorschubskode

ČSN, PN

DIN

Typ / Type / Type

D mm

Povlakování / Coating / Beschichtung

Materiál / Material / Werkstoff

Strana / Page / Seite

Materiálové skupiny / Material groups / Werkstoffgruppe

1	Nelegované oceli	Unalloyed steels	Unlegierte Stähle	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	CH
	konstrukční	common structural	Allgemeine Baustähle	400 - 500 N/mm ² 500 - 850 N/mm ²		E E
	automatová	free cutting	Automatenstähle	< 850 N/mm ²		E
	k zušlechťení	heat-treatable	Vergütungsstähle	850 - 1000 N/mm ² 400 - 700 N/mm ² 700 - 850 N/mm ²		E E E
	cementační	case hardened	Einsatzstähle	850 - 1000 N/mm ² 400 - 750 N/mm ²		E E
2	Legované oceli	Alloy steels	Legierte Stähle	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	k zušlechťení	heat-treatable	Vergütungsstähle	850 - 1000 N/mm ² 1000 - 1200 N/mm ²		E E
	cementační	case hardened	Einsatzstähle	800 - 1000 N/mm ² 1000 - 1200 N/mm ²		O O
	nitridační	nitriding	Nitrierstähle	850 - 1000 N/mm ² 1000 - 1200 N/mm ²		E O
	pružinová	spring	Federstähle		< 330 HB	O
	nástrojová	tool	Werkzeugstähle	500 - 850 N/mm ² 850 - 1000 N/mm ²		E O
	rychlořezná	high-speed	Schnellarbeitsstahl	850 - 1200 N/mm ²		O
	kalené oceli Hardox 400	hardened steels Hardox 400	Gehärtete Stähle Hardox 400		400 HB	E
	kalené oceli Hardox 500	hardened steels Hardox 500	Gehärtete Stähle Hardox 500		500 HB	E
3	Korozivzdorné oceli	Stainless steels	Rostfreie Stähle	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	feritická/martenzitická	ferritic/martensitic	ferritische/martensitische	500 - 850 N/mm ²		O
	martenzitická	martensitic	martensitische	500 - 850 N/mm ²		O
	austenitická/feritická	austenitic/ferritic	austenitische/feritische	500 - 850 N/mm ²		O
4	Litina	Cast iron	Gusseisen	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	šedá	grey	Grauguss		< 200 HB	E/L
	šedá	grey	Grauguss		200 - 300 HB	E/L
	tvárná	nodular	Kugelgraphit		< 240 HB	E
	temperovaná	malleable	Temperguss		< 300 HB	E
5	Al a slitiny Al	Aluminium alloys	Alu-Legierungen	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	nelegovaný	unalloyed	unlegierte	< 400 N/mm ²		E
	tvářený	wrought alloys	Knetlegierungen	< 450 N/mm ²		E
	pro odlévání < 10 % Si	cast alloys <10% Si	Gusslegierungen <10% Si	< 600 N/mm ²		E
	pro odlévání > 10 % Si	cast alloys >10% Si	Gusslegierungen >10% Si	< 600 N/mm ²		E
6	Cu a slitiny Cu	Cu and Cu alloys	Cu und Cu-Legierungen	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	nelegovaná	unalloyed	unlegierte	< 400 N/mm ²		E
	mosaz - krátká tříška	brass - shortchipping	Messing - kurzspaned	< 600 N/mm ²		E
	- dlouhá tříška	- longchipping	Messing - langspaned	< 600 N/mm ²		E
	bronz - krátká tříška	bronze - shortchipping	Bronzen - kurzspaned	< 600 N/mm ²		E/O
	- dlouhá tříška	- longchipping	Bronzen - langspaned	< 600 N/mm ²		E
7	Umělá hmota	Plastics	Kunststoffe	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	termostat	Duroplastics	duroplastisch			L
	termoplast	Thermoplastics	thermoelastisch			E/L
8	Žárupevná ocel	Heat resistant steel	Warmfester Stahl	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	na bázi Fe	Fe basis	Fe-basierter	< 650 N/mm ²		O
	na bázi Fe	Fe basis	Fe-basierter	< 750 N/mm ²		O
	na bázi Cr-Ni	Monel 400, Hastelloy C-4, Nimonic 75, Inconel 625		750 - 800 N/mm ²		O
	na bázi Cr-Ni	Inconel X 750, Hastelloy B, Inconel 751		800 - 950 N/mm ²		O
	na bázi Cr-Ni	Monel K 5400, Inconel 718		900 - 1100 N/mm ²		O
9	Ti a slitiny Ti	Ti and Ti alloys	Ti und Ti-Legierungen	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	Ti a slitiny Ti	Ti and Ti alloys	Ti und Ti-Legierungen	< 850 N/mm ²		O
	Ti a slitiny Ti	Ti and Ti alloys	Ti und Ti-Legierungen	850 - 1200 N/mm ²		O

CH = Chlazení / Coolant / Kühlmittel; E = emulze / emulsion / Emulsion; O = olej / oil / Öl; L = vzduch / air / Luft



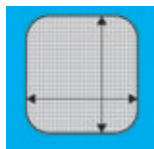
Doporučené řezné podmínky pro vrtnání dle vrтанého materiálu

Recommended cutting conditions for drilling

Einsatzempfehlungen für Spiralbohrer

-5xD vrтанá hloubka / drilling depth / Bohrtiefe												
PN 2914	ČSN 221140	PN 221155	PN 2909	PN 2911	PN 2906 PN 2907	PN 2907 T 1000 PN 2907 Ti	ČSN 221127	PN 2908	PN 2910	PN 2912	ČSN 221143 ČSN 221148	ZVSE 221146
338 LN	345 RN	345 RN	338 RW	338 RH	338 RN	338 GT 100	338 RN	338 LN	338 LW	338 LH	345 RN	
0,7-14,0	5,0-90,0	13/64"-3 1/2"	0,7-14,0	0,7-14,0	0,7-40,0	2,0-14,0	14,25-20,0	1,0-14,0	0,7-14,0	0,7-14,0	5,0-50,0	10,0-40,0
HSS			HSSCo				HSS			HSSCo		HSSCo8
v (m/min) kód posuvu / feed code / Vorschubskode												
29 E	29 E	29 E										
23 E	23 E	23 E										
29 F	29 F	29 F										
23 E	23 E	23 E			25 E	25 E	25 E	25 E			25 E	
29 E	29 E	29 E			25 E	25 E	25 E	25 E			25 E	
23 E	23 E	23 E			14 D	14 D	14 D	14 D			14 D	
29 F	29 F	29 F										
					16 D	16 D	16 D	16 D			16 D	
					13 C	13 C	13 C	13 C			13 C	
					14 D	14 D	14 D	14 D			14 D	
					11 D	11 D	11 D	11 D			11 D	
					13 D	13 D	13 D	13 D			13 D	
					9 C	9 C	9 C	9 C			9 C	
					7 B	7 B	7 B	7 B			7 B	8 B
14 D	14 D	14 D			16 D	16 D	16 D	16 D			16 D	
					9 C	9 C	9 C	9 C			9 C	
					9 C	9 C	9 C	9 C			9 C	
					5 C	5 C	5 C	5 C			5 C	9 D
												5 D
					13 D	13 D	13 D	13 D			13 D	
					9 D	9 D	9 D	9 D			9 D	
					11 C	11 C	11 C	11 C			11 C	
29 F	29 F	29 F			33 F	33 F	33 F	33 F			33 F	
23 F	23 F	23 F			25 F	25 F	25 F	25 F			25 F	
25 F	25 F	25 F			27 F	27 F	27 F	27 F			27 F	
18 F	18 F	18 F			20 F	20 F	20 F	20 F			20 F	
				63 G						63 G		
				63 G						63 G		
56 G	56 G	56 G		56 G	65G					56 G		
45 F	45 F	45 F			50 F							
29 E	29 E	29 E	29 E		33 E	33 E	33 E	33 E	29 E		33 E	
				56 F						56 F		
36 E	36 E	36 E			41 E	41 E	41 E	41 E			41 E	
29 D	29 D	29 D		28 D	33 D	33 D	33 D	33 D		28 D	33 D	
22 D	22 D	22 D			25 D	25 D	25 D	25 D			25 D	
14 D	16 D	16 D		14 D	16 D	16 D	16 D	16 D		14 D	16 D	
22 E	25 E	25 E	22 E	22 E					22 E	22 E		
					8 A	8 A	8 A	8 A			8 A	8 A
					6 A	6 A	6 A	6 A			6 A	6 A
					6 A	6 A	6 A	6 A			6 A	6 A
					5 A	5 A	5 A	5 A			5 A	5 A
					5 A	5 A	5 A	5 A			5 A	5 A

Příklad: 33 F = řezná rychlost 33 m/min, posuv F (v mm/ot) z tabulky dle průměru vrtáku / Example: 33F=cutting speed 33 m/min, feed (mm/rev.) see the table according to diameter of the drill / Beispiel: 33F= Schnittgeschwindigkeit 33 m/Min., Vorschub siehe die Tabelle gemäss Durchmesser des Bohrers.



Kód posuvu*	Rozměr vrtáku D (mm) / Diameter of the drill D (mm) / Durchmesser des Bohrers D (mm)																			
	0,3	0,8	1,3	2,0	2,5	3,15	4,0	5,00	6,5	8,0	10,0	12,5	16,0	20,0	25,0	31,5	40,0	50,0	63,0	80,0
Posuv S (mm/ot) / Feed f (mm/rev) / Vorschub f (mm/U)																				
A				0,015	0,020	0,025	0,032	0,032	0,040	0,050	0,063	0,063	0,080	0,100	0,125	0,125	0,160	0,200	0,250	0,315
B				0,020	0,025	0,032	0,040	0,040	0,050	0,063	0,080	0,080	0,100	0,125	0,160	0,160	0,200	0,250	0,315	0,400
C				0,025	0,032	0,040	0,050	0,050	0,063	0,080	0,100	0,100	0,125	0,160	0,200	0,200	0,250	0,315	0,400	0,500
D	0,008	0,020	0,025	0,032	0,040	0,050	0,063	0,063	0,080	0,100	0,125	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800
E	0,010	0,025	0,035	0,040	0,050	0,063	0,080	0,080	0,100	0,125	0,160	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000
F	0,012	0,030	0,040	0,050	0,063	0,080	0,100	0,100	0,125	0,160	0,200	0,200	0,250	0,315	0,400	0,400	0,500	0,630	0,800	1,000
G	0,020	0,040	0,050	0,063	0,080	0,100	0,125	0,125	0,160	0,200	0,250	0,250	0,315	0,400	0,500	0,500	0,630	0,800	1,000	1,250
H				0,080	0,100	0,125	0,160	0,160	0,200	0,250	0,315	0,315	0,400	0,500	0,630	0,630	0,800	1,000	1,250	1,600

* feed code / Vorschubskode

ČSN, PN

DIN

Typ / Type / Type

D mm

Povlakování / Coating / Beschichtung

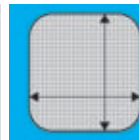
Materiál / Material / Werkstoff

Strana / Page / Seite

Materiálové skupiny / Material groups / Werkstoffgruppe

1	Nelegované oceli	Unalloyed steels	Unlegierte Stähle	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	CH
	konstrukční	common structural	Allgemeine Baustähle	400 - 500 N/mm ² 500 - 850 N/mm ²		E E
	automatová	free cutting	Automatenstähle	< 850 N/mm ²		E
	k zušlechťení	heat-treatable	Vergütungsstähle	850 - 1000 N/mm ² 400 - 700 N/mm ² 700 - 850 N/mm ²		E E E
	cementační	case hardened	Einsatzstähle	850 - 1000 N/mm ² 400 - 750 N/mm ²		E E
2	Legované oceli	Alloy steels	Legierte Stähle	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	k zušlechťení	heat-treatable	Vergütungsstähle	850 - 1000 N/mm ² 1000 - 1200 N/mm ²		E E
	cementační	case hardened	Einsatzstähle	800 - 1000 N/mm ² 1000 - 1200 N/mm ²		O O
	nitridační	nitriding	Nitrierstähle	850 - 1000 N/mm ² 1000 - 1200 N/mm ²		E O
	pružinová	spring	Federstähle		< 330 HB	O
	nástrojová	tool	Werkzeugstähle	500 - 850 N/mm ² 850 - 1000 N/mm ²		E O
	rychlořezná	high-speed	Schnellarbeitsstahl	850 - 1200 N/mm ²		O
	kalené oceli Hardox 400	hardened steels Hardox 400	Gehärtete Stähle Hardox 400		400 HB	E
	kalené oceli Hardox 500	hardened steels Hardox 500	Gehärtete Stähle Hardox 500		500 HB	E
3	Korozivzdorné oceli	Stainless steels	Rostfreie Stähle	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	feritická/martenzitická	ferritic/martensitic	ferritische/martensitische	500 - 850 N/mm ²		O
	martenzitická	martensitic	martensitische	500 - 850 N/mm ²		O
	austenitická/feritická	austenit./ferritic	austenitische/feritische	500 - 850 N/mm ²		O
4	Litina	Cast iron	Gusseisen	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	šedá	grey	Grauguss		< 200 HB	E/L
	šedá	grey	Grauguss		200 - 300 HB	E/L
	tvárná	nodular	Kugelgraphit		< 240 HB	E
	temperovaná	malleable	Temperguss		< 300 HB	E
5	Al a slitiny Al	Aluminium alloys	Alu-Legierungen	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	nelegovaný	unalloyed	unlegierte	< 400 N/mm ²		E
	tvářený	wrought alloys	Knetlegierungen	< 450 N/mm ²		E
	pro odlévání < 10 % Si	cast alloys <10% Si	Gusslegierungen <10% Si	< 600 N/mm ²		E
	pro odlévání > 10 % Si	cast alloys >10% Si	Gusslegierungen >10% Si	< 600 N/mm ²		E
6	Cu a slitiny Cu	Cu and Cu alloys	Cu und Cu-Legierungen	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	nelegovaná	unalloyed	unlegierte	< 400 N/mm ²		E
	mosaz - krátká tříška	brass - shortchipping	Messing - kurzspaned	< 600 N/mm ²		E
	- dlouhá tříška	- longchipping	Messing - langspaned	< 600 N/mm ²		E
	bronz - krátká tříška	bronze - shortchipping	Bronzen - kurzspaned	< 600 N/mm ²		E/O
	- dlouhá tříška	- longchipping	Bronzen - langspaned	< 600 N/mm ²		E
7	Umělá hmota	Plastics	Kunststoffe	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	termostat	Duroplastics	duroplastisch			L
	termoplast	Thermoplastics	thermoplastisch			E/L
8	Žárupevná ocel	Heat resistant steel	Warmfester Stahl	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	na bázi Fe	Fe basis	Fe-basierter	< 650 N/mm ²		O
	na bázi Fe	Fe basis	Fe-basierter	< 750 N/mm ²		O
	na bázi Cr-Ni	Monel 400, Hastelloy C-4, Nimonic 75, Inconel 625		750 - 800 N/mm ²		O
	na bázi Cr-Ni	Inconel X 750, Hastelloy B, Inconel 751		800 - 950 N/mm ²		O
	na bázi Cr-Ni	Monel K 5400, Inconel 718		900 - 1100 N/mm ²		O
9	Ti a slitiny Ti	Ti and Ti alloys	Ti und Ti-Legierungen	Pevnost v tahu / Tensile strength / Zugfestigkeit	Tvrđost / Hardness / Härte	
	Ti a slitiny Ti	Ti and Ti alloys	Ti und Ti-Legierungen	< 850 N/mm ²		O
	Ti a slitiny Ti	Ti and Ti alloys	Ti und Ti-Legierungen	850 - 1200 N/mm ²		O

CH = Chlazení / Coolant / Kühlmittel; E = emulze / emulsion / Emulsion; O = olej / oil / Öl; L = vzduch / air / Luft



Doporučené řezné podmínky pro vrtnání dle vrтанého materiálu
Recommended cutting conditions for drilling
Einsatzempfehlungen für Spiralbohrer

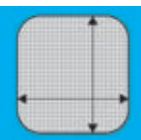
<10xD vrтанá hloubka / drilling depth / Bohrtiefe								>10xD vrтанá hloubka / drilling depth / Bohrtiefe					
ČSN 221125	PN 2916	PN 2916 T 500	PN 2917	PN 2921	PN 2915	PN 2920	PN 2915 T 1000	ZV 5001/1	ZV 5001/1 T 1000	ZV 5001/2 T 1000	ZV 5001/2, 3	ZV 3001/1-3	ZV 3001/1-3 T 1000
340 RN	340 RN	340 GT 50	340 RW	340 LN	340 RN	340 LN	340 GT100	341 RN	341 GT 100	1870 GT 100	1870 RN	1869 RN	1869 GT 100
0.9 - 20.0	0.9-14.0	0.9-14.0	2.0-14.0	0.9-14.0	0.9-14.0	0.9-14.0	2.0-14.0	8.0-14.0	8.0-14.0	8.0-14.0	8.0-50.0	2.0 - 13.0	2.0 - 13.0
HSS				HSSCo				HSS	HSSCo		HSS		HSSCo
v (m/min) kód posuvu / feed code / Vorschubskode													
25 F	25 F	25 F		25 F				20 F			20 E	20 E	
20 E	20 E			20 E				16 E			16 E	16 E	
25 F	25 F			25 F				20 D			20 D	20 D	
20 E	20 E			20 E	22 E	22 E	22 E	16 E	18 D	18 D	16 E	16 E	18 D
25 E	25 E			25 E				20 D			20 D	20 D	
20 E	20 E			20 E	22 E	22 E	22 E	16 E			16 E	16 E	
					14 D	14 D	14 D		12 C	12 C			12 C
25 F	25 F			25 F				20 E			20 E	20 E	
					14 D	14 D	14 D	10 C	12 C	12 C	10 C	10 C	12 C
					10 C	10 C	10 C		8 B	8 B			8 B
					12 D	12 D	12 D	8 C	10 C	10 C	8 C	8 C	10 C
					8 C	8 C	8 C		8 B	8 B			8 B
					10 D	10 D	10 D	6 C	8 C	8 B	7 C	7 C	8 C
					7 C	7 C	7 C		7 B	7 C			7 C
					5 B	5 B	5 B		5 A	5 A			5 A
12 D				14 D	14 D	14 D	10 C	12 C	12 C	10 C	10 C	12 C	
					7 C	7 C	7 C	5 C	7 B	7 B	5 B	5 B	7 B
					7 C	7 C	7 C		7 B	7 B			7 B
								5 C					
					10 D	10 D	10 D		8 C	8 C			8 C
					7 C	7 C	7 C		6 B	6 B			6 B
					8 C	8 C	8 C		8 B	8 B			8 B
25 F	25 F			25 F	27 F	27 F	27 F	20 F			20 E	20 E	
20 F	20 F			20 F	22 F	22 F	22 F	16 F	18 E	18 E	16 E	16 E	18 E
20 F	20 F			20 F	22 F	22 F	22 F	16 F			18 E	18 E	
16 F	16 F			16 F	18 F	18 F	18 F	12 F	14 E	14 E	12 E	12 E	14 E
				60 G									
				60 G									
50 G	50 G	50 G		50 G			55 G	40 G	45 F	45 F	40 F	40 F	45 F
40 F	40 F	40 F		40 F			45 F	32 F	36 F	36 F	33 F	33 F	36 F
25 E	25 E			25 E	27 E	27 E	27 E	20 D	27 E	22 D	20 D	20 D	22 D
								40 D			40 D	40 D	
30 E	30 E			30 E	34 E	34 E	34 E	25 D	34 E	27 D	25 D	25 D	27 D
25 D	25 D			25 D	27 D	27 D	27 D	18 C	27 D		20 C	20 C	
20 D	20 D			20 D	20 D	20 D	20 D	14 C	20 D	18 C	16 C	16 C	18 C
12 D	12 D	12 D		12 D	16 D	16 D	16 D	10 C					
20 E	20 E	20 E	20 E	20 E				15 D					
					8 A	8 A	8 A						
					6 A	6 A	6 A						
					6 A	6 A	6 A						
					5 A	5 A	5 A						
					5 A	5 A	5 A						

Příklad: 33 F = řezná rychlost 33 m/min, posuv F (v mm/ot) z tabulky dle průměru vrtáku. / Example: 33F=cutting speed 33 m/min, feed (mm/rev) see the table according to diameter of the drill. / Beispiel: Beispiel: 33F= Schnittgeschwindigkeit 33 m/Min., Vorschub siehe die Tabelle gemäss Durchmesser des Bohrers.



TABULKA MEZNÍCH ÚCHYLEK JMENOVITÉHO PRŮMĚRU VÝSTRUŽNÍKŮ V 0,001 MM PRO LÍCOVANÉ DÍRY
TABLE OF LIMIT DEVIATIONS OF REAMERS NOMINAL DIAMETER FOR TOLERANCED HOLES IN 0,001 MM
OBERE UND UNTERE GRENZWERTE VON ABMASSE DER NENNDURCHMESSER ØD VON REIBAHLE IN 0,001 MM FÜR BOHRUNGS-TOLERANZFELDER

Jmenovitý průměr výstružníku Nominal diameter of reamer Nenndurchmesser des Reibwerkzeuges		Toleranční pole děr / Tolerance zone of holes / Toleranzfelder der Bohrungen													
		A 11	B 11	B 12	C 11	D 8	D 9	D 10	D 11	E 8	E 9	F 7	F 8	F 9	G 6
přes over von	do to bis	Mezní úchyly výstružníků v mikrometrech / Limit deviations of reamers in μm / Grenzabweichungen der Reibwerkzeuge in μm													
1	3	+321	+191	+225	+111	+31	+41	+54	+71	+25	+35	+14	+17	+27	+7
		+300	+170	+190	+90	+26	+32	+40	+50	+20	+26	+10	+12	+18	+4
3	6	+333	+203	+242	+133	+45	+55	+70	+93	+35	+45	+20	+25	+35	+10
		+306	+176	+200	+106	+38	+44	+53	+66	+28	+34	+15	+18	+24	+7
6	10	+356	+226	+278	+156	+58	+70	+89	+116	+43	+55	+25	+31	+43	+12
		+324	+194	+226	+124	+50	+57	+68	+84	+35	+42	+19	+23	+30	+8
10	18	+383	+243	+303	+188	+72	+86	+109	+143	+54	+68	+31	+38	+52	+15
		+344	+204	+240	+149	+62	+70	+84	+104	+44	+52	+24	+28	+36	+11
18	24	+410	+270	+338	+220	+93	+109	+136	+175	+68	+84	+37	+48	+64	+18
		+364	+224	+264	+174	+81	+90	+106	+129	+56	+65	+29	+36	+45	+13
24	30	+410	+270	+338	+220	+93	+109	+136	+175	+68	+84	+37	+48	+64	+18
		+364	+224	+264	+174	+81	+90	+106	+129	+56	+65	+29	+36	+45	+13
30	40	+446	+306	+382	+256	+113	+132	+165	+216	+83	+102	+46	+58	+77	+22
		+390	+250	+294	+200	+99	+110	+130	+160	+69	+80	+37	+44	+55	+16
40	50	+456	+316	+392	+266	+113	+132	+165	+216	+83	+102	+46	+58	+77	+22
		+400	+260	+304	+210	+99	+110	+130	+160	+69	+80	+37	+44	+55	+16
50	65	+501	+351	+445	+301	+139	+162	+202	+261	+99	+122	+55	+69	+92	+26
		+434	+284	+340	+234	+122	+136	+160	+194	+82	+96	+44	+52	+66	+19
65	80	+521	+361	+455	+311	+139	+162	+202	+261	+99	+122	+55	+69	+92	+26
		+454	+294	+350	+244	+122	+136	+160	+194	+82	+96	+44	+52	+66	+19
80	100	+567	+407	+518	+357	+169	+193	+139	+307	+117	+145	+65	+81	+109	+30
		+490	+330	+396	+280	+146	+162	+190	+230	+98	+114	+52	+62	+78	+22
		G 7	H 6	H 7	H 8	H 9	H 10	H 11	H 12	Js6	Js7	Js8	K 6	K 7	
1	3	+10	+5	+8	+11	+21	+34	+51	+85	+2	+3	+4	-1	-2	
		+6	+2	+4	+6	+12	+20	+30	+50	-1	-1	-1	-4	-6	
3	6	+14	+6	+10	+15	+25	+40	+63	+102	+2	+4	+6	0	+1	
		+9	+3	+5	+8	+14	+23	+36	+60	-1	-1	-1	-3	-4	
6	10	+17	+7	+12	+18	+30	+49	+76	+127	+3	+5	+7	0	+2	
		+11	+3	+6	+10	+17	+28	+44	+74	-1	-1	-1	-4	-4	
10	18	+21	+9	+15	+22	+36	+59	+93	+153	+3	+6	+9	0	+3	
		+14	+5	+8	+12	+20	+34	+54	+90	-1	-1	-1	-5	-4	
18	24	+24	+11	+17	+28	+44	+71	+110	+178	+4	+7	+11	0	+2	
		+16	+6	+9	+16	+25	+41	+64	+104	-1	-1	-1	-5	-6	
24	30	+24	+11	+17	+28	+44	+71	+110	+178	+4	+7	+11	0	+2	
		+16	+6	+9	+16	+25	+41	+64	+104	-1	-1	-1	-6	-6	
30	40	+30	+13	+21	+33	+52	+85	+136	+212	+5	+8	+13	0	+3	
		+21	+7	+12	+19	+30	+50	+80	+124	-1	-1	-1	-6	-6	
40	50	+30	+13	+21	+33	+52	+85	+136	+212	+5	+8	+13	0	+3	
		+21	+7	+12	+19	+30	+50	+80	+124	-1	-1	-1	-6	-6	
50	65	+35	+16	+25	+39	+62	+102	+161	+255	+6	+10	+16	+1	+4	
		+24	+9	+14	+22	+36	+60	+94	+150	-1	-1	-1	-6	-7	
65	80	+35	+16	+25	+39	+62	+102	+161	+255	+6	+10	+16	+1	+4	
		+24	+9	+14	+22	+36	+60	+94	+150	-1	-1	-1	-6	-7	
80	100	+41	+18	+29	+45	+73	+119	+187	+297	+7	+12	+18	0	+4	
		+28	+10	+16	+26	+42	+70	+110	+174	-1	-1	-1	-8	-9	



TABULKA MEZNÍCH ÚCHYLEK JMENOVITÉHO PRŮMĚRU VÝSTRUŽNÍKŮ V 0,001 MM PRO LÍCOVANÉ DÍRY
TABLE OF LIMIT DEVIATIONS OF REAMER'S NOMINAL DIAMETER FOR TOLERANCED HOLES IN 0,001 MM
OBERE UND UNTERE GRENZWERTE VON ABMASSE DER NENNDURCHMESSER ØD VON REIBAHLE IN 0,001 MM FÜR BOHRUNGS-TOLERANZFELDER

Jmenovitý průměr výstružníku Nominal diameter of reamer Nenndurchmesser des Reibwerkzeuges		Toleranční pole děr / Tolerance zone of holes / Toleranzfelder der Bohrungen												
		K 8	M 6	M 7	M 8	N6	N7	N8	P 6	P 7	R 7	S 7	T 7	U 8
přes over von	do to bis	Mezní úchytky výstružníků v mikrometrech / Limit deviations of reamers in µm / Grenzabweichungen der Reibwerkzeuge in µm												
1	3	-3	-3	-4		-5	-6	-7	-7	-8	-12	-16		-20
		-8	-6	-8		-8	-10	-12	-10	-12	-16	-20		-25
3	6	+2	-3	-2	-1	-7	-6	-5	-11	-10	-13	-17		-26
		-5	-6	-7	-8	-10	-11	-12	-14	-15	-18	-22		-32
6	10	+2	-5	-3	-3	-9	-7	-7	-14	-12	-16	-20		-31
		-6	-9	-9	-11	-13	-13	-15	-18	-18	-22	-26		-39
10	18	+3	-6	-3	-3	-11	-8	-8	-17	-14	-19	-24		-37
		-7	-10	-10	-14	-15	-15	-18	-21	-21	-26	-31		-46
18	24	+5	-6	-4	-1	-13	-11	-8	-20	-18	-24	-31		-46
		-7	-11	-12	-13	-18	-19	-20	-25	-25	-32	-39		-58
24	30	+5	-6	-4	-1	-13	-11	-8	-20	-18	-24	-31	-37	-46
		-7	-11	-12	-13	-18	-19	-20	-25	-25	-32	-39	-45	-58
30	40	+6	-7	-4	-1	-15	-12	-9	-24	-21	-29	-38	-43	-60
		-8	-13	-13	-15	-21	-21	-23	-30	-30	-38	-47	-52	-80
40	50	+6	-7	-4	-1	-15	-12	-9	-24	-21	-29	-38	-49	-70
		-8	-13	-13	-15	-21	-21	-23	-30	-30	-38	-47	-58	-90
50	65	+7	-8	-5	-2	-17	-14	-11	-29	-26	-35	-47	-60	-94
		-10	-15	-16	-19	-24	-25	-28	-36	-37	-47	-58	-71	-110
65	80	+7	-8	-5	-2	-17	-14	-11	-29	-26	-37	-53	-69	-109
		-10	-15	-16	-19	-24	-25	-28	-36	-37	-48	-64	-80	-125
80	100	+7	-10	-6	-3	-20	-16	-13	-34	-30	-44	-64	-84	-132
		-12	-18	-19	-22	-28	-29	-32	-42	-43	-57	-77	-97	-151

Řezné podmínky pro výstružníky strojní s řeznými břity SK
Cutting conditions for machine reamers with carbide cutting edges K 10
Empfohlene Schnittbedingungen für Reibahlen, Hartmetall bestückt mit K10

Materiál Material Werkstoff	Pevn. mat. Strength of material erkstoff- festigkeit N/mm²	Řezná rychlost (m/min) Cutting speed Schnittgeschwindigkeit		Posuv nástroje / Feed / Vorschub des Werkzeuges (mm/ot)							
		Bez povlaku Without coating Ohne Beschichtung	Povlak TiAlN TiAlN coating TiAlN Beschichtung	do/to/bis Ø10 mm	do/to/bis Ø10 ÷ 15 mm	do/to/bis Ø15 ÷ 25 mm	do/to/bis Ø25 ÷ 32 mm	do/to/bis Ø32 ÷ 36 mm	do/to/bis Ø36 ÷ 50 mm	do/to/bis Ø50 ÷ 52 mm	
Konstrukční ocel / structural steel / Baustahl Automatová ocel / machining steel / Automatenstahl	400	8-10	30-60	0,15-0,3	0,25-0,4	0,3-0,5	0,4-0,6	0,5-0,8	0,6-0,9	0,7-1,1	
Nelegovaná ocel / unalloyed steel / unlegierter Stahl Ocelolitina / cast steel / Gussstahl	600	7-9	25-55	0,1-0,3	0,2-0,35	0,25-0,4	0,3-0,5	0,4-0,7	0,5-0,8	0,6-1,0	
Legovaná ocel / alloyed steel / Legierter Stahl Ocelolitina / cast steel / Gussstahl	900	5-7	15-35	0,1-0,3	0,2-0,35	0,25-0,4	0,3-0,5	0,4-0,7	0,5-0,8	0,6-1,0	
Vysoce legovaná ocel / high alloyed steel / hochlegierter Stahl Ocelolitina / cast steel / Gussstahl Nástrojová ocel / tool steel / Werkzeugstahl	1200	4-6	9-20	0,1-0,25	0,2-0,3	0,25-0,35	0,3-0,4	0,4-0,6	0,5-0,7	0,6-0,9	
Litina / cast iron / Gusseisen	HB < 200	10-20	12-35	0,1-0,2	0,2-0,3	0,3-0,4	0,4-0,5	0,5-0,6	0,6-0,7	0,65-0,75	
Litina / cast iron / Gusseisen	HB > 200	8-16	10-30	0,1-0,2	0,15-0,3	0,25-0,4	0,35-0,5	0,45-0,6	0,55-0,7	0,6-0,75	
Bronz / bronze / Bronze	110 HB	10-20	-	0,1-0,3	0,2-0,4	0,25-0,5	0,3-0,6	0,4-0,8	0,5-0,9	0,6-1,0	
Hliník / Aluminium / Aluminium Slitiny Al / Aluminium alloys / Alu-Legierungen	90 HB	15-40	-	0,2-0,4	0,3-0,5	0,4-0,7	0,5-0,8	0,6-1,0	0,7-1,2	0,8-1,4	



Doporučené řezné podmínky pro vyhrubování / Recommended cutting conditions for reamer drilling / Empfohlene Schittbedingungen fürs Aufbohren
Platí pro výhrubníky dle / Apply for reamer drills according to / Gültig für Aufbohrer nach ČSN 221411, 221414, 221480, 221482

Materiál Material Werkstoff	Pevnost Strength Werkstofffestigkeit [MPa]	Chlazení Cooling Kühlung	Řezná rychlost Cutting speed Schnittgeschwindigkeit (m/min)	Posuv s [mm/ot] pro ØD výhrubníku [mm] Feed s (mm/rev) for ØD of reamer drill (mm) Vorschub F (mm/U) für Aufbohrerdurchmesser ØD (mm)								
				5	10	18	25	40	63	80	100	
				Nelegovaná ocel / unalloyed steel / unlegiertem Stahl	<500 <700 <900	E E E	30÷25 26÷22 22÷16	0,20 0,16 0,13	0,25 0,20 0,16	0,35 0,25 0,20	0,50 0,40 0,30	0,60 0,50 0,40
Legovaná ocel / alloyed steel / legiertem Stahl	<800 <1000	E E	20÷15 15÷10	0,10 0,08	0,15 0,10	0,20 0,15	0,25 0,20	0,30 0,25	0,35 0,30	0,45 0,40	0,60 0,50	
Korozivzdorná ocel / stainless steel / rostfreiem Stahl	<850	O	10÷5	0,06	0,08	0,12	0,18	0,24	0,28	0,35	0,40	
Šedá litina / grey cast iron / Grauguss	<200 HB >200 HB	E/L E/L	20÷15 15÷10	0,25 0,20	0,30 0,25	0,35 0,30	0,40 0,35	0,55 0,45	0,70 0,60	0,90 0,80	1,20 1,20	
Temperovaná litina / malleable cast iron / Temperguss	<300 HB	E	18÷14	0,20	0,25	0,30	0,35	0,45	0,60	0,80	1,20	
Titan a jeho slitiny / Ti and Ti alloys / TI und Titanlegierungen	<850	O	10÷6	0,06	0,10	0,14	0,18	0,22	0,28	0,36	0,45	
Al a jeho slitiny - tvářené / Al and its wrought alloys / Al- Knetlegierungen	<450	E	70÷50	0,25	0,30	0,35	0,40	0,45	0,60	0,90	1,20	
Al pro odlévání / cast aluminium / Al- Gusslegierungen	<10%Si >10%Si	E E	40÷25 30÷10	0,20 0,20	0,25 0,25	0,35 0,35	0,45 0,45	0,60 0,60	0,80 0,80	1,10 1,10	1,40 1,40	
Elektrolyt. měď / Electrolytic copper Kupfer, elektrolytisch	Cu>99% <400	E/O	32÷25	0,20	0,25	0,45	0,40	0,50	0,60	0,90	1,20	
Mosaz / brass / Messing	<600	E	60÷40	0,25	0,30	0,35	0,40	0,45	0,50	0,60	0,80	
- krátká tříška / short chip / kurzer Span - dlouhá tříška / long chip / langer Span	<600	E	45÷30	0,20	0,25	0,30	0,35	0,40	0,45	0,50	0,60	
Bronz / bronze / Bronze	<600	E/O	24÷10	0,20	0,25	0,30	0,35	0,40	0,50	0,60	0,80	
Umělá hmota / plastics / Kunststoff	<300	L	25÷12	0,15	0,15	0,22	0,26	0,32	0,40	0,50	0,60	
- termoset / duroplastic / Duroplastisch - termoplast / thermoplastic / Termoplastisch	<600	L	30÷20	0,15	0,15	0,22	0,26	0,32	0,40	0,50	0,60	

Chlazení / Cooling / : E - emulze / emulsion / Emulsion, vrtací oleje / oils for drilling / Bohřole; O - olej řepkový / rape-seed oil / Rapsöl; L - vzduch / air / Luft
 Menší řezná rychlost platí pro výhrubníky větších rozměrů. / The smaller cutting speed apply for greater reamer drills. / Kleinere Schnittgeschwindigkeit gilt für grössere Aufbohrer.

Doporučené řezné podmínky pro vystružování / Recommended cutting conditions for reaming / Empfohlene Schittbedingungen fürs Reiben
Platí pro výstružníky dle / Apply for reamers according to / Gültig für die Reibahlen nach ČSN 221429, 221430, 221431, 221432, 221435, 221445, 221446, 221447, 221452, 221458

Materiál Material Werkstoff	Pevnost Strength Werkstofffestigkeit [MPa]	Chlazení Cooling Kühlung	Řezná rychlost Cutting speed Schnittgeschwindigkeit (m/min)	Posuv s [mm/ot] pro ØD výstružníku [mm] Feed s (mm/rev) for ØD of reamer (mm) Vorschub F (mm/U) für Reibahledurchmesser ØD (mm)								
				5	10	18	25	40	63	80	100	
				Nelegovaná ocel / unalloyed steel / unlegiertem Stahl	<500 <700 <900	E E E	9÷7 8÷5 6÷4	0,12 0,12 0,10	0,22 0,22 0,18	0,32 0,32 0,22	0,40 0,40 0,32	0,50 0,50 0,40
Legovaná ocel / alloyed steel / legiertem Stahl	<800 <1000	E E	6÷4 4÷3	0,12 0,10	0,22 0,18	0,32 0,22	0,40 0,32	0,50 0,40	0,60 0,50	0,80 0,80	1,00 0,80	
Korozivzdorná ocel / stainless steel / rostfreiem Stahl	<850	O	4÷2	0,10	0,18	0,22	0,32	0,40	0,50	0,60	0,80	
Šedá litina / grey cast iron / Grauguss	<200 HB >200 HB	E/L E/L	8÷6 5÷3	0,12 0,12	0,15 0,15	0,20 0,20	0,30 0,30	0,40 0,40	0,60 0,60	0,80 0,80	1,00 1,00	
Temperovaná litina / malleable cast iron / Temperguss	<300 HB	E	8÷6	0,16	0,22	0,30	0,40	0,50	0,70	0,90	1,10	
Titan a jeho slitiny / Ti and Ti alloys / TI und Titanlegierungen	<850	O	4÷3	0,08	0,12	0,15	0,20	0,25	0,35	0,50	0,60	
Al a jeho slitiny - tvářené / Al and its wrought alloys / Al- Knetlegierungen	<450	E	15÷10	0,20	0,25	0,32	0,40	0,60	0,80	1,00	1,20	
Al pro odlévání / cast aluminium / Al- Gusslegierungen	<10%Si >10%Si	E E	10÷8 8÷6	0,10 0,20	0,25 0,25	0,32 0,32	0,40 0,40	0,60 0,60	0,80 0,80	1,00 1,00	1,20 1,20	
Elektrolyt. měď / Electrolytic copper Kupfer, elektrolytisch	Cu>99% <400	E/O	8÷4	0,12	0,15	0,20	0,30	0,40	0,60	0,80	1,00	
Mosaz / brass / Messing	<600	E	15÷11	0,16	0,22	0,30	0,40	0,50	0,70	0,90	1,10	
- krátká tříška / short chip / kurzer Span - dlouhá tříška / long chip / langer Span	<600	E	11÷6	0,16	0,22	0,30	0,40	0,50	0,70	0,90	1,10	
Bronz / bronze / Bronze	<600	E/O	6÷4	0,10	0,15	0,20	0,30	0,40	0,50	0,70	1,00	
Umělá hmota / plastics / Kunststoff	<300	L	6÷3	0,20	0,30	0,40	0,50	0,70	0,90	1,20	1,50	
- termoset / duroplastic / Duroplastisch - termoplast / thermoplastic / Termoplastisch	<600	L	10÷6	0,10	0,30	0,40	0,50	0,70	0,90	1,20	1,50	

Chlazení / Cooling / : E - emulze / emulsion / Emulsion, vrtací oleje / oils for drilling / Bohřole; O - olej řepkový / rape-seed oil / Rapsöl; L - vzduch / air / Luft
 Menší řezná rychlost platí pro výstružníky větších rozměrů / The smaller cutting speed apply for greater reamer drills / Kleinere Schnittgeschwindigkeit gilt für grössere Aufbohrer
 Pro loupací výstružníky ČSN 221429 a 221458 je možné zvýšit řeznou rychlost a posuv, pouze pro průchozí díry. Velmi vhodné pro ocel do pevnosti 800 MPa, slitiny Al, Cu a termoplasty. / It is possible to increase the cutting speed and feed for quick-spiral reamers ČSN 221429 and 221458 for through holes only. Very suitable for steel to 800 MPa, Al-alloys, Cu and thermoplastics. / Bei Schäl- Reibahlen nach ČSN 221429 und 221458 ist es möglich, Schnittgeschwindigkeit und Vorschub nur bei Durchgangsbohrungen hinaufzusetzen. Sehr geeignet für Stahl von Festigkeit bis 800 Mpa, Al- Legierungen, Cu und Kunststoffe.



Doporučené řezné podmínky pro zahlubování / Recommended cutting conditions for counterboring or countersinking / Empfohlene Schnittbedingungen fürs Senken

Platí pro záhlubníky dle / Apply for counterbores or countersinks according to / Gültig für die Senker nach ČSN 221604, 221605, 221606, 221607, 221623, 221624, 221625, 221626, 221627, 221628, 221650

Materiál Material Werkstoff	Pevnost Strength Werkstofffestigkeit [MPa]	Chlazení Cooling Kühlung	Řezná rychlost Cutting speed Schnittgeschwindigkeit (m/min)	Posuv s [mm/ot] pro ØD výhrubníku [mm] Feed s (mm/rev) for ØD of counterbore (mm) or countersinks (mm) Vorschub F (mm/U) für Senkerdurchmesser ØD (mm)							
				4	6	10	16	20	25	40	63
Nelegovaná ocel / unalloyed steel / unlegiertem Stahl	<500	E	30÷25	0,07	0,09	0,12	0,14	0,16	0,20	0,25	0,35
	<700	E	26÷22	0,06	0,08	0,10	0,12	0,14	0,18	0,22	0,30
	<900	E	22÷16	0,04	0,06	0,08	0,10	0,12	0,14	0,18	0,25
Legovaná ocel / alloyed steel / legiertem Stahl	<800	E	20÷15	0,03	0,05	0,06	0,08	0,10	0,12	0,14	0,18
	<1000	E	15÷10	ručně	0,04	0,05	0,06	0,08	0,10	0,12	0,16
Korozivzdorná ocel / stainless steel / rostfreiem Stahl	<850	O	9÷4	ručně	0,05	0,06	0,07	0,08	0,09	0,12	0,14
Šedá litina / grey cast iron / Grauguss	<200 HB	E/L	20÷15	0,08	0,10	0,12	0,16	0,20	0,25	0,30	0,32
	>200 HB	E/L	13÷9	0,06	0,07	0,08	0,12	0,16	0,20	0,25	0,28
Temperovaná litina / malleable cast iron / Temperguss	<300 HB	E	13÷9	0,06	0,07	0,08	0,12	0,16	0,20	0,25	0,28
Titan a jeho slitiny / Ti and Ti alloys / Ti und Titanlegierungen	<850	O	4÷9	ručně	0,04	0,06	0,08	0,10	0,12	0,14	0,18
Al a jeho slitiny - tvářené / Al and its wrought alloys / Al- Knetlegierungen	<450	E	70÷50	0,10	0,12	0,14	0,18	0,22	0,26	0,30	0,40
Al pro odlévání / cast aluminium / Al- Gusslegierungen	<10%Si >10%Si	E E	40÷25 30÷10	0,10 0,10	0,12 0,12	0,14 0,14	0,18 0,18	0,22 0,22	0,26 0,26	0,30 0,30	0,40 0,40
Elektrolyt. měď / Electrolytic copper Kupfer, elektrolytisch	Cu>99% <400	E/O E/O	32÷25	0,06	0,07	0,09	0,12	0,14	0,16	0,18	0,22
Mosaz / brass / Messing	<600	E	60÷40	0,10	0,12	0,14	0,18	0,20	0,24	0,30	0,40
- krátká tříška / short chip / kurzer Span	<600	E	45÷30	0,10	0,12	0,14	0,18	0,20	0,24	0,30	0,40
- dlouhá tříška / long chip / langer Span	<600	E/O	24÷10	0,08	0,10	0,12	0,14	0,16	0,18	0,24	0,30
Bronz / bronze / Bronze	<300	L	25÷12	0,04	0,06	0,08	0,10	0,12	0,16	0,20	0,25
Umělá hmota / plastics / Kunststoff	<600	L	30÷20	0,04	0,04	0,08	0,10	0,12	0,16	0,20	0,25
- termostet / duroplastic / Duroplastisch											
- termoplast / thermoplastic / Termoplastisch											

Chlazení / Cooling /: E - emulze / emulsion / Emulsion, vrtací oleje / oils for drilling / Bohröle; O - olej řepkový / rape-seed oil / Rapsöl; L - vzduch / air / Luft

Doporučené řezné podmínky pro zahlubování / Recommended cutting conditions for counterboring or countersinking / Empfohlene Schnittbedingungen fürs Senken

Platí pro nože dle ČSN 221655 a zarovnávací nože ČSN 221657 / Apply for counterboring tools according to ČSN 22 1655 and spot facing tools according to ČSN 22 1657 / Gültig für Senkmesser nach ČSN 221655 und für zweiseitige Messer für Stirnsenker nach ČSN 221657

Materiál Material Werkstoff	Pevnost Strength Werkstofffestigkeit [MPa]	Chlazení Cooling Kühlung	Řezná rychlost Cutting speed Schnittgeschwindigkeit (m/min)	Posuv s [mm/ot] pro ØD záhlubovacího nože [mm] / Feed s (mm/rev) for ØD of spot facer (mm) / Vorschub F (mm/U) für Senkmesser ØD (mm)		
				40	75	100
Ocel / steel / Stahl		E/O	20÷10	0,10	0,10	0,12
Litina / cast iron / Gusseisen		E/L	30÷14	0,13	0,15	0,18
Barevné kovy / Cu-alloys / Bunte Metalle		E/O	55÷20	0,13	0,15	0,18
Lehké kovy / light alloys / Leichte Metalle		E	60÷25	0,12	0,13	0,14

Chlazení / Cooling /: E - emulze / emulsion / Emulsion, vrtací oleje / oils for drilling / Bohröle; O - olej řepkový / rape-seed oil / Rapsöl; L - vzduch / air / Luft



Nejmenší průměr předvrtané díry pro třířbitý výhrubník ČSN 221480 a ČSN 221482 / The minimum diameter of drilled bore for reamer-drill with three edges ČSN 221480 and ČSN 221482 / Kleinster Durchmesser der vorgebohrter Bohrung für dreischneidigen Aufbohrer nach ČSN 221480 und 221482

Rozměr výhrubníku Reamer-drill size Ausmass der Aubohrer	Rozměr vrtané díry Drilled bore diameter Ausmass der gebohrten Bohrung	Rozměr výhrubníku Reamer-drill size Ausmass der Aubohrer	Rozměr vrtané díry Drilled bore diameter Ausmass der gebohrten Bohrung	Rozměr výhrubníku Reamer-drill size Ausmass der Aubohrer	Rozměr vrtané díry Drilled bore diameter Ausmass der gebohrten Bohrung
4,8÷5,0	3,5	16,75÷17,0	11,9	31,6÷32,0	22,0
5,8÷6,0	4,2	17,75÷18,0	12,6	33,6÷34,0	24,0
6,8÷7,0	4,9	18,7÷19,0	13,3	35,6÷36,0	25,5
7,8÷8,0	5,6	19,7÷20,0	14,0	37,6÷38,0	26,5
8,8÷9,0	6,3	20,7÷21,0	14,6	39,6÷40,0	28,0
9,8÷10,0	7,0	21,7÷22,0	15,3	41,6÷42,0	29,0
10,75÷11,0	7,7	22,7÷23,0	16,0	43,6÷44,0	30,5
11,75÷12,0	8,4	23,7÷24,0	16,6	44,6÷45,0	31,0
12,75÷13,0	9,1	24,7÷25,0	17,3	45,6÷46,0	32,0
13,75÷14,0	9,8	25,7÷26,0	18,5	47,7÷48,8	33,0
14,75÷15,0	10,75	27,7÷28,0	19,3	49,6÷50,0	34,5
15,75÷16,0	11,2	29,7÷30,0	20,5		

Nejmenší průměr předvrtané díry pro čtyřřbitý výhrubník ČSN 221411 a ČSN 221414 / The minimum diameter of drilled bore for reamer-drill with four edges ČSN 221411 and ČSN 221414 / Kleinster Durchmesser der vorgebohrter Bohrung für vierschneidige Aufbohrer nach ČSN 221411 und 221414

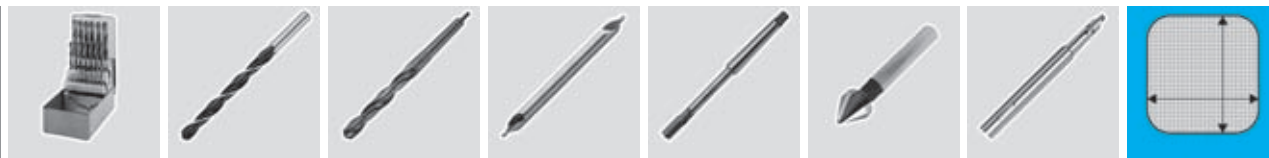
Rozměr výhrubníku Reamer-drill size Ausmass der Aubohrer	Rozměr vrtané díry Drilled bore diameter Ausmass der gebohrten Bohrung	Rozměr výhrubníku Reamer-drill size Ausmass der Aubohrer	Rozměr vrtané díry Drilled bore diameter Ausmass der gebohrten Bohrung	Rozměr výhrubníku Reamer-drill size Ausmass der Aubohrer	Rozměr vrtané díry Drilled bore diameter Ausmass der gebohrten Bohrung
9,8÷10,0	D - 2 mm	35,6÷45,0	D - 6 mm	64,5÷75,0	D - 11 mm
10,75÷23,0	D - 3 mm	45,6÷52,0	D - 8 mm	79,5÷90,0	D - 13 mm
23,7÷28,0	D - 4 mm	54,5÷63,0	D - 9 mm	91,5÷100,0	D - 15 mm
29,7÷35,0	D - 5 mm				

Doporučené přidavky na opracování pro vystružování děr / Recommended machining allowances for reaming / Empfohlene Aufmasse fürs Reiben der Bohrungen

Materiál / Material / Werkstoff	D do/to/bis 6 mm	D do/to/bis 10 mm	D do/to/bis 16 mm	D do/to/bis 25 mm	D nad/over/ über 25 mm
ocel do pevnosti 700 N/mm ² / steel strength up to 700 N/mm ² / Stahl von Festigkeit bis 700 N/mm ²	0,1 ÷ 0,2	0,2	0,2 ÷ 0,3	0,3 ÷ 0,4	0,4 ÷ 0,5
ocel do pevnosti 1000 N/mm / steel strength up to 1000 N/mm ² / Stahl von Festigkeit bis 1000 N/mm ²	0,1 ÷ 0,2	0,2	0,2	0,3	0,3 ÷ 0,4
ocelolitina / cast steel / Gussstahl	0,1 ÷ 0,2	0,2	0,2	0,2 ÷ 0,3	0,3 ÷ 0,4
šedá litina / grey cast iron / Grauguss	0,1 ÷ 0,2	0,2	0,2 ÷ 0,3	0,3 ÷ 0,4	0,4 ÷ 0,5
temperovaná litina / maleable cast iron / Temperguss	0,1 ÷ 0,2	0,2	0,3	0,4	0,5
měď / copper / Kupfer	0,1 ÷ 0,2	0,2 ÷ 0,3	0,3 ÷ 0,4	0,4 ÷ 0,5	0,5
mosaz, bronz / brass, bronze / Messing, Bronze	0,1 ÷ 0,2	0,2	0,2 ÷ 0,3	0,3	0,3 ÷ 0,4
lehké kovy / light alloys / leichte Metalle	0,1 ÷ 0,2	0,2 ÷ 0,3	0,3 ÷ 0,4	0,4 ÷ 0,5	0,5
plastické hmoty tvrdé / plastics hard / Kunststoffe hart	0,1 ÷ 0,2	0,3	0,4	0,4 ÷ 0,5	0,5
plastické hmoty měkké / plastics soft / Kunststoffe weich	0,1 ÷ 0,2	0,2	0,2	0,3	0,3 ÷ 0,4

Při použití ručních rozpínacích výstružníků může být přidavek na stružení až o 30% menší. / Machining allowance for hand expansion reamers may be up to 30% smaller. / Bei der Verwendung von nachstellbaren Hand- Reibahlen kann der Aufmass bis um 30% kleiner sein.

Při použití loupacích výstružníků mohou být dané hodnoty zvýšeny o 50÷100% s přihlédnutím ke zvláštnímu způsobu práce loupacího výstružníku. / Machining allowances for quick-spiral reamer may be up to 50 - 100% increased owing to its special working process. / Bei der Verwendung von Schäl- Reibahlen können die gegebene Werte unter Berücksichtigung von spezieller Arbeitsart der Schäl- Reibahlen um 50 - 100% erhöht werden.

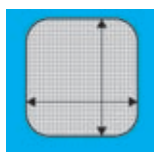


Délkové rozměry pro vrtáky s válcovou stopkou

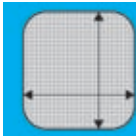
Length dimensions of drills with straight shank

Abmessungen der Bohrer mit Zylindrischem Schaft

	DIN 338	DIN 340	DIN 1897	DIN 1869 Reihe 1	DIN 1869 Reihe 2	DIN 1869 Reihe 3
rozsah průměrů vrtáků range od drill diameters Durchmesser-Bereich von Bohrern	ČSN 221121 ČSN 221131 ČSN 221127 PN 221135 PN 2913; 14 PN 2907; 8 PN 2909; 10 PN 2911; 12 PN 2906 PN 2907 RTI	ČSN 221125 PN 2916; 21 PN 2915; 20 PN 2917	ČSN 221182 ČSN 221180 PN 2905; 04	ZV 3001 / 1	ZV 3001 / 2	ZV 3001 / 3
mm do / to / bis	L / l mm	L / l mm	L / l mm	L / l mm	L / l mm	L / l mm
0,30	19 / 3		19 / 1,5			
0,38	19 / 4		19 / 2,5			
0,48	20 / 5	30 / 10	19 / 2,5			
0,53	22 / 6	32 / 12	20 / 3			
0,60	24 / 7	35 / 15	21 / 3,5			
0,67	26 / 8	38 / 18	22 / 4			
0,75	28 / 9	42 / 21	23 / 4,5			
0,85	30 / 10	46 / 25	24 / 5			
0,95	32 / 11	51 / 29	25 / 5,5			
1,06	34 / 12	56 / 33	26 / 6			
1,18	36 / 14	60 / 37	28 / 7			
1,32	38 / 16	65 / 41	30 / 8			
1,50	40 / 18	70 / 45	32 / 9			
1,70	43 / 20	75 / 50	34 / 10	115 / 75		
1,90	46 / 22	80 / 53	36 / 11	120 / 80		
2,12	49 / 24	85 / 56	38 / 12	125 / 85	160 / 110	205 / 135
2,36	53 / 27	90 / 59	40 / 13	135 / 90	170 / 115	215 / 145
2,65	57 / 30	95 / 62	43 / 14	140 / 95	180 / 120	225 / 150
3,00	61 / 33	100 / 66	46 / 16	150 / 100	190 / 130	240 / 160
3,35	65 / 36	106 / 69	49 / 18	155 / 105	200 / 135	250 / 170
3,75	70 / 39	112 / 73	52 / 20	165 / 115	210 / 145	265 / 180
4,25	75 / 43	119 / 78	55 / 22	175 / 120	220 / 150	280 / 190
4,75	80 / 47	126 / 82	58 / 24	185 / 125	235 / 160	295 / 200
5,30	86 / 52	132 / 87	62 / 26	195 / 135	245 / 170	315 / 210
6,00	93 / 57	139 / 91	66 / 28	205 / 140	260 / 180	330 / 225
6,70	101 / 63	148 / 97	70 / 31	215 / 150	275 / 190	350 / 235
7,50	109 / 69	156 / 102	74 / 34	225 / 155	290 / 200	370 / 270
8,50	117 / 75	165 / 109	79 / 37	240 / 165	305 / 210	390 / 265
9,50	125 / 81	175 / 115	84 / 40	250 / 175	320 / 220	410 / 280
10,60	133 / 87	184 / 121	89 / 43	265 / 185	340 / 235	430 / 295
11,80	142 / 94	195 / 128	95 / 47	280 / 195	365 / 250	455 / 310
13,20	151 / 101	205 / 134	102 / 51	295 / 205	375 / 260	480 / 320
14,00	160 / 108	214 / 140	107 / 54			
15,00	169 / 114	220 / 144	111 / 56			
16,00	178 / 120	227 / 149	115 / 58			
17,00	184 / 125	235 / 154	119 / 60			
18,00	191 / 130	241 / 158	123 / 62			
19,00	198 / 135	247 / 162	127 / 64			
20,00	205 / 140	254 / 166	131 / 66			
21,20		261 / 171	135 / 70			
22,40		268 / 176	135 / 70			
23,60		275 / 180	135 / 70			
25,00		282 / 185	135 / 70			
26,50		290 / 190	135 / 70			
28,00		298 / 195	135 / 70			
30,00		307 / 201	135 / 70			
31,50		316 / 207	135 / 70			
33,50			135 / 70			
35,50			135 / 70			
37,50			135 / 70			
40,00			135 / 70			



	DIN 345		DIN 341		DIN 1870 Reihe 1		DIN 1870 Reihe 2			
rozsah průměrů vrtáků range od drill diameters Durchmesser-Bereich von Bohrern	ČSN 221140 ČSN 221143 ZVSE 221148 PN 221155		ZV 5001/1		ZV 5001/2		ZV 5001/3		ZVSE 221146	
mm do / to / bis	L / l mm	Mk	L / l mm	Mk	L / l mm	Mk	L / l mm	Mk	L / l mm	Mk
5,30	133 / 52	1	155 / 74	1						
6,00	138 / 57	1	161 / 80	1						
6,70	144 / 63	1	167 / 86	1						
7,50	150 / 69	1	174 / 83	1						
8,50	156 / 75	1	181 / 100	1	265 / 165	1	330 / 210	1		
9,50	162 / 81	1	188 / 107	1	275 / 175	1	345 / 220	1		
10,60	168 / 87	1	197 / 116	1	285 / 185	1	360 / 235	1	190 / 90	2
11,80	175 / 94	1	206 / 125	1	300 / 195	1	375 / 250	1	190 / 90	2
13,20	182 / 101	1	215 / 134	1	310 / 205	1	395 / 260	1	190 / 90	2
14,00	189 / 108	1	223 / 142	1	325 / 220	1	410 / 275	1	190 / 90	2
15,00	212 / 114	2	245 / 147	2	340 / 220	2	425 / 275	2	190 / 90	2
16,00	218 / 120	2	251 / 153	2	355 / 230	2	445 / 295	2	190 / 90	2
17,00	223 / 125	2	257 / 159	2	355 / 230	2	445 / 295	2	190 / 90	2
18,00	228 / 130	2	263 / 165	2	370 / 245	2	465 / 310	2	190 / 90	2
19,00	233 / 135	2	269 / 171	2	370 / 245	2	465 / 310	2	225 / 105	3
20,00	238 / 140	2	275 / 177	2	385 / 260	2	490 / 325	2	225 / 105	3
21,20	243 / 145	2	282 / 184	2	385 / 260	2	490 / 325	2	225 / 105	3
22,40	248 / 150	2	289 / 191	2	405 / 270	2	515 / 345	2	225 / 105	3
23,02	235 / 155	2	296 / 198	2	405 / 270	2	515 / 345	2	225 / 105	3
23,60	276 / 155	3	319 / 198	3	425 / 270	3	535 / 345	3	225 / 105	3
25,00	281 / 160	3	327 / 206	3	440 / 290	3	555 / 365	3	225 / 105	3
26,50	286 / 165	3	335 / 214	3	440 / 290	3	555 / 365	3	225 / 105	3
28,00	291 / 170	3	343 / 222	3	460 / 305	3	580 / 385	3	265 / 120	4
30,00	296 / 175	3	351 / 230	3	460 / 305	3	580 / 385	3	265 / 120	4
31,50	301 / 180	3	360 / 239	3	480 / 320	3	610 / 410	3	265 / 120	4
31,75	306 / 185	3	369 / 248	3	480 / 320	3	610 / 410	3	265 / 120	4
33,50	334 / 185	4	397 / 248	4	505 / 320	4	635 / 410	4	265 / 120	4
35,50	339 / 190	4	406 / 257	4	530 / 340	4	665 / 430	4	265 / 120	4
37,50	344 / 195	4	416 / 267	4	530 / 340	4	665 / 430	4	265 / 120	4
40,00	349 / 200	4	426 / 277	4	555 / 360	4	695 / 460	4	265 / 120	4
42,50	354 / 205	4	436 / 287	4	555 / 360	4	695 / 460	4	265 / 120	4
45,00	359 / 210	4	447 / 298	4	585 / 385	4	735 / 490	4	265 / 120	4
47,50	364 / 215	4	459 / 310	4	585 / 385	4	735 / 490	4	265 / 120	4
50,00	369 / 220	4	470 / 321	4	605 / 405	4	765 / 510	4	340 / 150	5
50,80	374 / 225	4	475 / 326	4						
53,00	412 / 225	5	513 / 326	5						
56,00	417 / 230	5	518 / 331	5						
60,00	422 / 235	5	523 / 336	5						
63,00	427 / 240	5								
67,00	432 / 245	5								
71,00	437 / 250	5								
75,00	442 / 255	5								
76,50	447 / 260	5								
80,00	514 / 260	6								
85,00	519 / 265	6								
90,00	524 / 270	6								
95,00	529 / 275	6								
100,00	534 / 280	6								
106,00	539 / 285	6								



DOPORUČENÉ CHLAZENÍ PRO VŠECHNY T-A® DESTIČKY / RECOMMENDED COOLING FOR ALL T-A® INSERTS / EMPFOHLENE KÜHLUNG FÜR ALLE T-A® SCHNEIDPLATTEN

Materiál Material Werkstoff	Tvrdost - pevnost Hardness - Tensile strength Härte - Festigkeit			Tlak chladicí kapaliny / Pressure of coolant / Kühlmitteldruck											
				Průtok chladicí kapaliny - litrů/min / Flow rate of coolant - l/min / Kühlmittel- Durchfluss - l/min											
				HSS destičky (AM 200™, TiN, TiCN, TiAlN povlak) rozsah průměrů HSS inserts (AM 200™, TiN, TiCN, TiAlN coated) diameter range HSS- Schneidplatten (AM200, mit TiN, TiCN und TiAlN Beschichtung), Durchmesser- Bereich						Karbídové destičky (AM 200™, TiN, TiCN, TiAlN povlak) rozsah průměrů Carbide inserts (AM 200™, TiN, TiCN, TiAlN coated) diameter range Hartmetall- Schneidplatten (AM200, mit TiN, TiCN und TiAlN Beschichtung), Durchmesser- Bereich					
HB	kg	Nmm²	9.5 - 12.95	12.98 - 17.53	17.54 - 24.38	24.39 - 35.0	35.1 - 47.8	47.85 - 65.0	66.0 - 114.48	9.5 - 12.95	12.98 - 17.53	17.53 - 24.38	24.41 - 35.0	35.37 - 47.8	
Automatová ocel Machining steel Automatenstahl	100-250	38-88	370-870	12.8 9.6	8.3 11.4	9.9 19.7	7.9 30.3	6.9 53.0	3.5 125.0	6.2 167.0	20 12.2	16.5 16.3	16.5 25.2	15.2 41.5	12 71.9
Ocel s nízkým obsahem uhlíku Low carbon steel Stahl mit niedrigem Kohlenstoffgehalt	85-275	30-96	300-940	11.8 9.5	6.2 9.8	6.6 15.9	5.5 26.5	5.2 45.4	2.8 114.0	4.5 144.0	17.5 11.4	11 13.3	11 20.6	11.8 36.5	9.0 62
Ocel se středním obsahem uhlíku Medium carbon steel Stahl mit mittlerem Kohlenstoffgehalt	125-325	46-111	450-1090	11.4 9.1	5.9 9.8	6.2 15.5	5.2 22.7	4.8 45.4	2.8 114.0	4.5 144.0	17.2 11.3	9.7 12.5	10.4 20	10.4 33.8	7.5 57
Legovaná ocel Alloyed steel Legierter Stahl	125-375	46-129	450-1265	11.4 9.1	5.2 9.1	5.5 14.8	4.8 22.7	4.2 41.6	2.4 106.0	3.5 125.0	16.5 11.1	9.3 12.3	9.7 19.3	7.9 30	7.2 55.8
Ocel s vysokou pevností High strength steel Stahl mit hoher Festigkeit	225-400	77-139	600-1365	10.7 9.1	4.2 8.3	3.5 11.7	2.0 19.0	2.0 30.0	1.7 87.0	2.0 98.0	14.5 10.4	5.2 9.1	4.1 12.6	3.1 18.8	2.7 33.6
Konstrukční ocel Structural steel Baustahl	100-350	38-121	370-1180	11.4 9.1	5.9 9.8	5.5 14.8	3.8 23.0	3.5 38.0	2.0 98.0	3.5 125.0	15.8 10.8	9.0 12	7.9 17.5	6.9 27.8	5.2 47.1
Žárovzdorné slitiny Heat-resistant alloys Hitzebeständige Legierungen	140-310	49-101	480-990	10.7 9.1	4.5 8.7	3.8 12.1	2.4 18.9	2.0 30.0	2.0 98.0	3.1 125.0	16.5 11.1	11.4 13.5	12.4 21.9	11 35.4	9.0 62
Slitiny titanu Ti alloys Ti-Legierungen	140-310	49-101	480-990	10.7 9.1	4.5 8.7	3.8 12.1	2.4 18.9	2.0 30.0	2.0 98.0	3.1 125.0	16.5 11.1	11.4 13.5	12.4 21.9	11 35.4	9.0 62
Austenitická nerezavějící ocel Austenitic stainless steel Austenitischer nichtrostender Stahl	135-275	49-96	480-940	11.8 9.5	5.9 9.8	5.2 14.0	3.8 23.0	3.5 38.0	2.0 98.0	3.1 117.0	22.7 13	16.5 16.3	17.9 26.3	17.2 44.2	13.1 75
Nerezavějící ocel Stainless steel Nichtrostender Stahl	185-350	65-121	640-1180	11.8 9.5	5.9 9.8	5.2 14.0	3.8 23.0	3.5 38.0	2.0 98.0	3.1 117.0	22.7 13	16.5 16.3	17.9 26.3	17.2 44.2	13.1 75
Super Duplex Duplex St/Stl	135-275	49-96	480-940	11.8 9.5	5.9 9.8	5.2 14.0	3.8 23.0	3.5 38.0	2.0 98.0	3.1 117.0	22.7 13	16.5 16.3	17.9 26.3	17.2 44.2	13.1 75
Nástrojová ocel Tool steel Werkzeugstahl	150-250	50-88	500-870	10.7 9.1	4.2 8.3	3.5 11.7	2.0 19.0	2.0 30.0	1.7 87.0	2.0 98.0	14.5 10.4	5.2 9.1	4.8 13.6	3.4 19.7	3.1 36.5
Kalená ocel Stainless steel Nichtrostender Stahl	300-500	104-139	1020-1365	10.7 9.1	4.2 8.3	3.5 11.7	2.0 19.0	2.0 30.0	1.7 87.0	2.0 98.0	14.5 10.4	5.2 9.1	4.8 13.6	3.4 19.7	3.1 36.5
Slévárenské slitiny hliníku Casting Al-alloys Al- Gusslegierungen	30-180	62	600	14.5 10.0	12.4 14.0	15.8 23.0	11.0 34.0	8.6 61.0	3.5 125.0	5.5 159.0	24.1 13.4	22 18.8	21.7 29	19.6 47.2	13.8 77
Tvářené slitiny hliníku Wrought aluminum alloys Aluminium-Knetlegierungen	30-180	62	600	14.5 10.0	12.4 14.0	15.8 23.0	11.0 34.0	8.6 61.0	3.5 125.0	5.5 159.0	24.1 13.4	22 18.8	21.7 29	19.6 47.2	13.8 77
Tvárná litina Šedá/bílá litina Nodular cast iron Gray iron / white iron Kugelgraphitguss Grauguss/Weissguss	120-320	44-104	430-1020	11.0 9.1	4.5 8.7	4.2 12.5	2.8 19.0	2.4 34.0	2.0 98.0	2.4 106.0	15.5 10.7	7.2 10.8	6.2 15.4	6.2 26.5	5.5 48.7
Hliníkový bronz Aluminium bronze Al- Bronze	100-250	38-87	370-855	12.8 9.6	8.3 11.4	9.7 19.7	8.0 30.3	6.9 53.0	3.5 125.0	6.2 167.0	20 12.2	16.5 16.3	16.5 25.2	15.2 41.5	12 71.9
Mosaz Brass Messing	100	38	370	11.0 9.1	4.5 8.7	4.2 12.5	2.8 19.0	2.4 34.0	2.0 98.0	2.4 106.0	24.1 13.4	22 18.8	21.7 29	19.6 47.2	13.8 77
Měď Copper Kupfer	60	-	-	12.8 9.6	8.3 11.4	9.7 19.7	8.0 30.3	6.9 53.0	3.5 125.0	6.2 167.0	20 12.2	16.5 16.3	16.5 25.2	15.2 41.5	12 71.9

KOEFICIENT PRO VÝPOČET TLAKU A PRŮTOKU CHLADÍČÍ KAPALINY / COEFFICIENT FOR CALCULATION OF COOLANT PRESSURE AND FLOW RATE / ERCHNUNGSKOEFIZIENT FÜR KÜHLMITTELDRUCK UND KÜHLMITTELMENGE

Délka držáku / Length of holder / Halterlänge							
Extra krátký / extra short / extrakurz	Krátký / short / kurz	Střední / medium / mittel	Standardní / standard / standard	Prodloužený / extended / verlängerter	Dlouhý / long / lang	XL	3XL
viz horní tabulka / see the table above / siehe die obenstehende Tabelle				1.3	1.5	2	3

DOPORUČENÉ CHLAZENÍ / RECOMMENDED COOLING / EMPFOHLENE KÜHLUNG:

Příklad / Example / Beispiel: vrtání průměru 25 mm v legované oceli o tvrdosti 125 až 325 HB / drilling of Ø 25 mm in alloyed steel of hardness 125 - 325 HB / Bohrungsdurchmesser 25 mm in der legierten Stahl von Härte 125 bis 325 HB

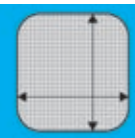
Standardní držák / Standard holder / Standarthalter = 4,8 barů, 22,7 litrů/min

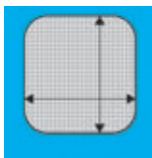
Držák XL / XL holder / XL- Halter = 4,8 x 2 = 9,6 barů, 22,7 x 2 = 45,4 litrů/min

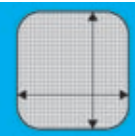
Držák 3XL / 3XL holder / 3XL- Halter = 4,8 x 3 = 14,4 barů, 22,7 x 3 = 68,1 litrů/min



Norma / Standard			Norma / Standard			Norma / Standard		
221110	DIN 333A	75	221429	DIN 212	97	241213		112
221112	DIN 333B	76	221430	DIN 212	91-92	241214		113
221116	DIN 333R	75	221431	DIN 208	95-96	241216		114
221121	DIN 338 RN	10-11	221432	DIN 219	100	241217		114
221131	DIN 338 LN	17	221445	DIN 212	93	241329		115
221135	DIN 338 RN	28	221446	DIN 208	94	2904	DIN 1897 LN	34
221137		80	221447	DIN 219	101	2905	DIN 1897 RN	31
221138.1		78	221452	DIN 311	99	2905 - T 1000	DIN 1897 GT100	32
221138.2		78	221458	DIN 208	98	2906	DIN 338 RN	22
221138.3		79	221460		89	2907	DIN 338 RN	18
221140	DIN 345 RN	56-59	221469	DIN 9	89-90	2907 - T 1000	DIN 338 GT100	19
221143	DIN 345 RN	60	221471		90	2907 UNI FL	DIN 338	20
221146		62	221480	DIN 344	84	2907 Ti	DIN 338 R UFL	21
221148	DIN 345 RN	61	221482	DIN 343	85-86	2908	DIN 338 LN	23
221155	DIN 345 RN	63-64	221604	DIN 373	102	2909	DIN 338 RW	24
221180	DIN 1897 LN	33	221605	DIN 1866	105	2910	DIN 338 LW	25
221182	DIN 1897 RN	29-30	221606	DIN 375	103	2911	DIN 338 RH	26
221185		76	221607	DIN 1867	105	2912	DIN 338 LH	27
221186		77	221608	DIN 1868	104	2913	DIN 338 RN	12-13
221187		35	221623	DIN 334	107	2914	DIN 338 LN	16
221189		77	221624	DIN 334	107	2915	DIN 340 RN	45-46
221191	DIN 1899A RN	36	221625	DIN 335	108	2915 - T 1000	DIN 340 GT100	47
221192	DIN 1899A LN	37	221626	DIN 335	109	2916	DIN 340 RN	40-41
221252	DIN 8376	68	221627	DIN 334 DIN 335 DIN 347	106	2916 - T 500	DIN 340 GT50	42
221253	DIN 8377	69	221628	DIN 334 DIN 335 DIN 347	106	2916 pas	DIN340 RN	38-39
221254	DIN 8374	68	221650		111	2917	DIN 340 RW	50
221255	DIN 8375	70	221655		110	2920	DIN 340 LN	48-49
221258	DIN 8378	71	221657		110	2921	DIN 340 LN	43-44
221259	DIN 8379	72	225677		81	2931	DIN 338 RN	14-15
221260		80	231680 (238980)		81	SADA	DIN 338 RN	7-9
221270		79	238980		9	TP 320 (221322)		73
221313A		82	238980.1		9	TP 330 (221332)		74
221313B		82	241210		112	ZV 3001	DIN 1869 RN	51-54
221411	DIN 222	83	241210.1		113	ZV 3001 - T 1000	DIN 1869 GT100	55
221414	DIN 222	87				ZV 5001	DIN 341 RN DIN 1870 RN	65-66
221420	DIN 206	88				ZV 5001 - T 1000	DIN 341 RN DIN 1870 RN	67









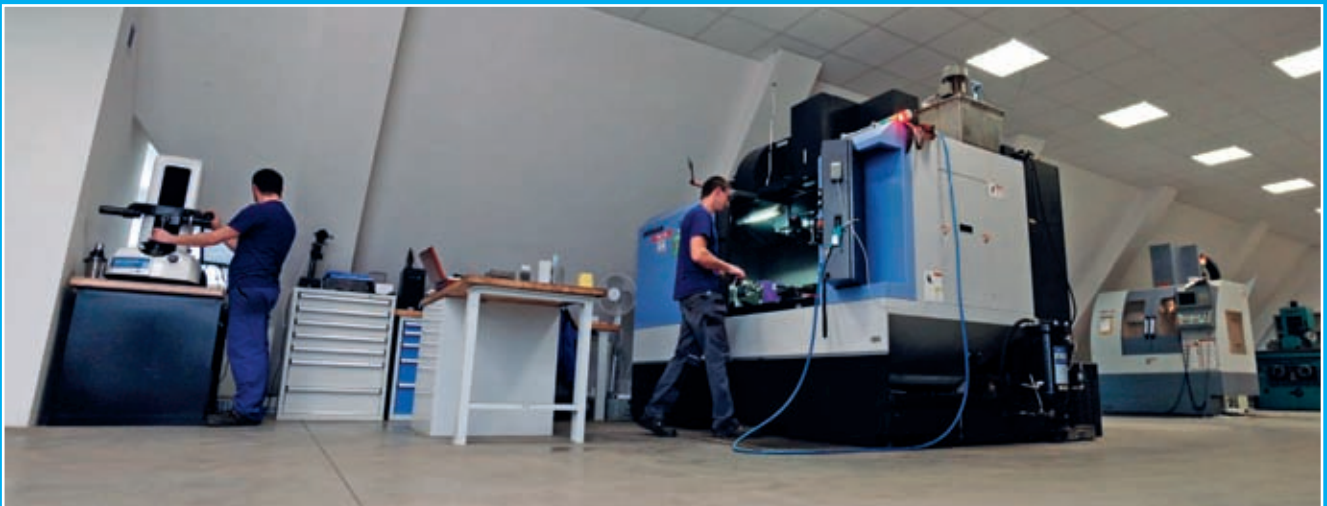
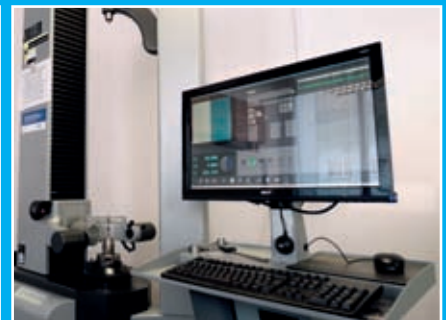
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