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PRESTO[®]

QUALITY SINCE 1843

**ENGINEERS
CUTTING
TOOLS**

PRODUCT
CATALOGUE

presto-tools.com



2020V01

WELCOME TO THE **PRESTO** CATALOGUE

This publication supersedes all previous editions and continues the PRESTO tradition of offering a complete range of High Quality cutting tools.

The name PRESTO has been synonymous with the provision of Cutting Tool Solutions for over 170 years, and is now acknowledged as a comprehensive supplier of cutting tool solutions across a wide range of industrial applications.

The PRESTO range has been expanded to include many new product types and sizes.

Our R&D department continuously strive to offer new solutions for the ever changing environment in which we operate.

We will continue to invest our resources in all areas which we can make improvements, our Technical Help Desk being a practical example of our acknowledgement of customer requirements.

We recognise that logistical solutions are also a vital component of any service. Our customer Service and Distribution Teams are ready to discuss and respond to our customers requirements in order that the PRESTO name can remain at the forefront in it's field.

Presto International UK LTD

Newton Chambers Road
Thornccliffe Park Estate
Chapelton
Sheffield, England
S35 2PH





By Royal Charter

Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that:

Presto International UK Ltd
Newton Chambers Road
Thorncliffe Park Estate
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Sheffield
S35 2PH
United Kingdom

Holds Certificate Number:

FS 584714

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

The procurement and supply of hand tools, cutting tools and associated products, including the provision of surface marking and packing.

For and on behalf of BSI:

Andrew Launn, EMEA Systems Certification Director

Original Registration Date: 2013-02-20

Latest Revision Date: 2019-02-11

Effective Date: 2019-02-21

Expiry Date: 2022-02-20

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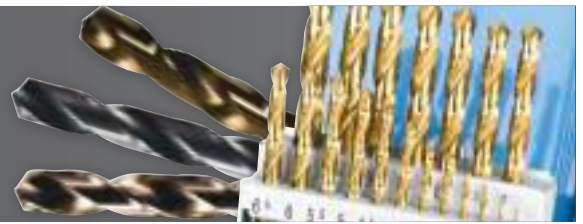
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DRILLING
6 - 102



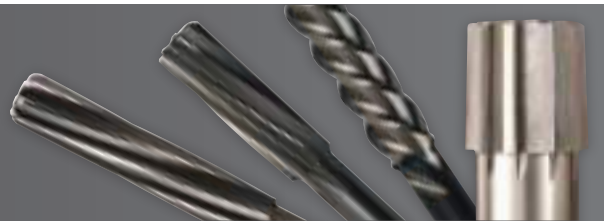
DRILLING

COUNTERSINKS
104 - 112



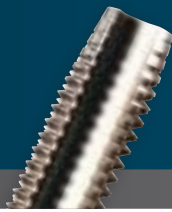
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REAMING
114 - 136



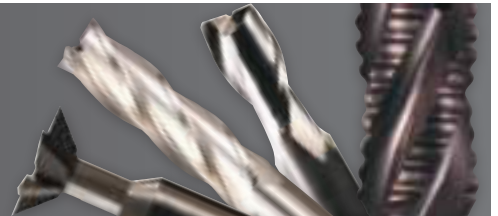
REAMING

THREADING
138 - 228



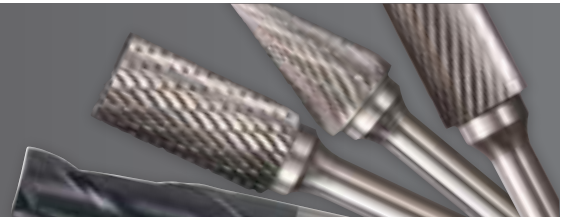
THREADING

MILLING
230 - 300



MILLING

CARBIDE
302 - 326



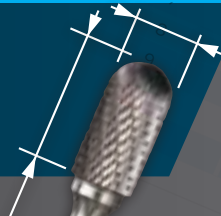
CARBIDE

MISCELLANEOUS
328 - 336



MISCELLANEOUS

TECHNICAL
338 - 371



TECHNICAL

A close-up, high-angle photograph of a metal drill bit. The bit is positioned diagonally, with its sharp, double-flute tip pointing towards the top right. The body of the bit is cylindrical and features a series of longitudinal grooves. The background is a soft, out-of-focus industrial setting with metallic surfaces and a yellow safety line.

DRILLING

6 - 102

PRESTO

Straight Shank Jobber Drills

	Series #	Standard	Material	Type	Size Range		Surface	Point	Page	
	01000	DIN 338 Jobber Length Drills	HSS	Std	0.3 - 20.0mm	1/64" - 3/4"	P1 Steam	118°	11	
	01001			Std	1.0 - 16.0mm	3/64" - 1/2"	P0 Bright	118° Split	15	
	01002			Elite	3.0 - 13.0mm	1/8" - 1/2"	P1 Steam	118° Split	18	
	01010			Left Hand	3.0 - 13.0mm	1/8" - 1/2"	P1 Steam	118°	20	
	01020			Number Drills		#1 - #60	P1 Steam	118°	21	
	01040			Letter Drills		A - Z	P1 Steam	118°	22	
	01065			Elite Plus	1.0 - 16.0mm	1/16" - 1/2"	P5 TiN	118° Split	23	
	01150			Tri-Quad	1.0 - 13.0mm	1/16" - 1/2"	P1 / P2 Steam & Bronze	135° Split	26	
	01200			Slow Spiral	3.0 - 13.0mm	1/8" - 1/2"	P0 Bright	118°	27	
	01300			Quick Spiral	3.0 - 13.0mm	1/8" - 1/2"	P0 Bright	118°	28	
	01320			Hi-Nox	3.0 - 13.0mm	1/8" - 1/2"	P1 Steam / Bright	130° Thin	29	
	01900			Drill Blank	1.0 - 13.0mm	1/16" - 1/2"	P0 Bright	118°	31	
	01111			Heavy Duty	1.0 - 13.0mm	3/64" - 1/2"	P2 Bronze	135° Split	33	
	01117			Super Elite	1.0 - 13.0mm	1/16" - 1/2"	P2 Bronze	135° Split	35	
	01401			SM200	2.5 - 13.0mm	1/8" - 1/2"	P0 Bright	135° Split	36	
	01405			SM200	2.5 - 13.0mm	1/8" - 1/2"	P5 TiN	135° Split	36	
	01408			SM200	2.5 - 13.0mm	1/8" - 1/2"	P8 TiALN	135° Split	36	
	01217					3.0 - 20.0mm	3/32" - 1/4"	P0 Bright	120° Carbide Tip	38
	20100				CARBIDE		1.0 - 13.0mm	P0 Bright	135° Solid Carbide	39




Straight Shank Stub Drills

	Series #	Standard	Material	Type	Size Range		Surface	Point	Page	
	02000	DIN 1897 Stub Length Drills	HSS	Std	1.0 - 30.0mm	3/64" - 1"	P1 Steam	118° Split	40	
	02005			Std	3.0 - 20.0mm		P5 TiN	118° Split	43	
	08100			Rivot Bit Drills	3.0 - 6.0mm	3/32" - 1/4"	P1 Steam	135° Split	44	
	08150			Double Ended Drill	2.0 - 10.0mm	3/32" - 9/32"	P1 Steam	135° Split	45	
	08300			Panel Drills		3/32" - 5/16"	P1 Steam	118°	46	
	02111			Heavy Duty	1.0 - 13.0mm	1/16" - 1/2"	P2 Bronze	135° Split	47	
	02115			Heavy Duty	1.0 - 13.0mm	1/16" - 1/2"	P5 TiN	135° Split	49	
	02401			SM200	3.0 - 13.0mm	1/8" - 1/2"	P0 Bright	135° Split	51	
	02405			SM200	3.0 - 13.0mm	1/8" - 1/2"	P5 TiN	135° Split	51	
	02408			SM200	3.0 - 13.0mm	1/8" - 1/2"	P8 TiALN	135° Split	51	
	08050			Spotting Drill	3.0 - 16.0mm		P0 Bright	90°	53	
	02181			Welda	6.0 - 10.0mm		P2 Bronze	Welda Form 'E'	53	
	02188			Factory Std	CARBIDE	Boron Welda	8.0mm	P8 TiALN	Welda Form 'E'	54


Straight Shank Long Series Drills

	Series #	Standard	Material	Type	Size Range		Surface	Point	Page
	04000	DIN 340 Long Series Drills	HSS	Std	1.0 - 16.0mm	3/64" - 5/8"	P1 Steam	118°	55
	04111		HSCo	Heavy Duty	1.0 - 13.0mm		P2 Bronze	135° Split	58


Straight Shank Long Series Drills

	Series #	Standard	Material	Type	Size Range		Surface	Point	Page
	04161	DIN 340 Long Series Drills	HSCo	SM200	3.0 - 13.0mm	1/8" - 1/2"	P0 Bright	135° Split	59
	04165						P5 TiN		59
	04168						P6 TiCN		59


Straight Shank Extra Length Drills

	Series #	Standard	Material	Type	Size Range		Surface	Point	Page
	05000	BS 328	HSS	Std	1.5 - 14.0mm	1/16" - 1/2"	P1 Steam	118°	61






Centre Drills

	Series #	Standard	Material	Type	Size Range		Surface	Point	Page
	07000	DIN 333 / BS 328	HSS	Form 'A'	1.0 - 12.5mm	BS1 - BS7	P0 Bright	118° / 60°	66


Blacksmith's 1/2" Shank Drills

	Series #	Standard	Material	Type	Size Range		Surface	Point	Page
	08610	Factory Std	HSS	Std	13.0 - 32.0mm	17/32" - 1.1/2"	P1 Steam	118°	67



Morse Taper Shank & Core Drills

	Series #	Standard	Material	Type	Size Range		Surface	Point	Page
	11000	DIN 345	HSS	Std	6.0 - 100.0mm	1/4" - 3"	P1 Steam	118°	68
	15000	BS 328			6.0 - 50.0mm	1/4" - 2"		118°	74
	17000	DIN 343	Std 3 Flute	10.0 - 40.0mm	1/4" - 1.1/2"	118° Truc.		82	
	11111	DIN 345	HSCo	Heavy Duty	10.0 - 40.0mm	13/32" - 1"		118° Split	84
	11211	Factory Std		H/D Slow Spiral	10.0 - 40.0mm	7/16" - 1.1/4"		135° Split	86

Drill Sleeves

	Series #	Standard	Material	Type	Size Range		Surface	Point	Page
	91030	Factory Std	#45	Hardened & Ground	MTS1	MTS6	P0 Bright	N/A	87

Annular Cutters

	Series #	Standard	Material	Type	Size Range		Surface	Shank	Page
	49010	Factory Std	HSS	SHORT	12.0 - 52.0mm		P0 Bright	23mm x Ø19mm	88
	49020			LONG	12.0 - 63.0mm		P0 Bright	23mm x Ø19mm	89

Selection of HSS & HSCo Drill Sets & HSS Annular Cutter Sets Supplied in Various Cases



SERIES SUITABILITY DRILLING

DRILLING

- 1** Excellent
- 2** Suitable
- 3** For unstable rough duty application.
(Hand held, flimsy parts, poor jiggling, machine vibrates)
- 4** Wear resistant.
(A coating will resist wear or P4 on request)
- 5** Thin material application.
(Use a split point, Hi-Nox or Rivbit stub drill)
- 6** Drill stationary. Part revolving.
(Use worm pattern or slow spiral on short holes)
- 7** NOTE: Only if no alternative is available.

***Use 01000 data for centre drills (07000) sheet metal drills (08*) and spot drills (08050)**

	HSS			
DIN338 JOBBER LENGTH	*01000 01010 01020 01040	01001	01002 01150	01065
DIN1897 STUB LENGTH	02000			02005
DIN340 LONG SERIES	04000			
BS328 SS EXTRA LENGTH	05000			
PARSHANK / BLACKSMITH	08610			
DIN345 MTS	11000			
BS328 MTS EX LENGTH	15000			

Main Group	Material Group	N/mm ²	HB	HSS			
				HSS G/P	HSS S/P		
1. Steel	1.1 Magnetic Soft	<400	120	1	2	2	1
	1.2 Structural	<750	220	1	2	1	1
	1.3 Plain Carbon Steel	<850	250	1	2	1	1
	1.4 Low Alloy Engineering	<850	250	1	2	1	1
	1.5 Alloy Steel	<1000	300	2		1	2
	1.6 Alloy Steel Heat Treated	<1200	350	7		2	2
	1.7 Heat Treated steel	<1450	425				
	1.8 Wear Resistant Steel	<1650	500				
2. Stainless Steel	2.1 Austenitic	<850	250	7		7	2
	2.2 Ferritic	<1000	300	2		2	2
	2.3 Duplex	<1000	300	7		7	2
	2.4 Martensitic			2		2	2
3. Cast Iron	3.1 Soft Grey Iron	<500	140	1		1	1
	3.2 Grey and Heat Treated Irons	<850	250	1		1	1
	3.3 Spheroidal Graphite	<750	220	2		2	2
4. Titanium	4.1 Pure Titanium	<700	200	2			2
	4.2 Titanium Alloy	<1000	300	2			7
5. Nickel	5.3 Pure Nickel	<850	250	2	2		2
	5.4 Nickel Alloys	<1200	350	2	2		7
6. Copper & Brasses	6.1 Pure Copper	<350	100		6		1
	6.2 Short Chipping Brass	<700	200		1		1
	6.3 Long Chipping Brass	<700	200		2		2
	6.4 High Strength Bronze	<1350	400		2		2
7. Aluminium	7.1 Aluminium	<350	100		2		1
	7.2 Aluminium Cast Si<0.5	<500	140		1		1
	7.3 Aluminium Cast Si =0.5 -10%	>400	120		1		1
	7.4 Aluminium Cast Si>10%	>400	120		2		2
8. Plastics	8.1 Thermo Plastics			7	2	7	1
	8.2 Thermo Setting Plastics			2	2	2	4
	8.3 Reinforced Plastics			7	7	7	4

HSS			HSCo					CARBIDE	
01200	01300	01320	0111 0117	01175	01401	01405	01408	01217 20100	
			02111	02115	02401	02405	02408		
			04111		04161	04165	04168		
			11111				11211		
SLOW	QUICK	Hi-NOX	HSCo S/P		PARABOLIC			ARMOUR	CARBIDE
6	2	5	2	2	1	1	2	1	
6	2	5	2	2	1	1	1	1	
		5	2	2	1	1	1	1	
			1	1	1	1	1	1	
			1	1	1	1	1	1	
			1	1	1	1	1	1	
			2		2	2	1	1	
							1	1	
		1	2		1	1			
		1	2		1	1			
		1	2		1	1			
		1	2		1	1			
6			2	1	2	1		1	
6			2	1	2	1		1	
6			2	1	2	1		1	
		1	1	1	1	1	1		
		2	2	2	2	2	2		
		1	1	1	1	1	1		
		2	2	2	2	2	2		
	1				1	1	1		
1					6	6	6	2	
1					6	6	6	2	
2					2	2	2		
	1				1	1	1	1	
	1				1	1	1	1	
	1				1	1	1	1	
	2				2	2	4	1	
	1	2			2	2	1	2	
1		7						2	
2		7						2	

01000

HSS Straight Shank DIN338 Jobber Drill



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite.

Discount Group	00	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	<=8.50mm (21/64") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
0.30		0.0118	19.0	3.0
0.35		0.0137	19.0	4.0
0.396	1/64"	0.0156	20.0	5.0
0.40		0.0157	20.0	5.0
0.45		0.0177	20.0	5.0
0.50		0.0196	22.0	6.0
0.55		0.0216	24.0	7.0
0.60		0.0236	24.0	7.0
0.65		0.0255	26.0	8.0
0.70		0.0275	28.0	9.0
0.75		0.0295	28.0	9.0
0.792	1/32"	0.0312	30.0	10.0
0.80		0.0314	30.0	10.0
0.85		0.0334	30.0	10.0
0.90		0.0354	32.0	11.0
0.95		0.0374	32.0	11.0
1.00		0.0393	34.0	12.0
1.05		0.0413	34.0	12.0
1.10		0.0433	36.0	14.0
1.15		0.0452	36.0	14.0
1.189	3/64"	0.0468	38.0	16.0
1.20		0.0472	38.0	16.0
1.25		0.0492	38.0	16.0
1.30		0.0511	38.0	16.0
1.35		0.0531	40.0	18.0
1.40		0.0551	40.0	18.0
1.45		0.0570	40.0	18.0
1.50		0.0590	40.0	18.0
1.55		0.0610	43.0	20.0
1.588	1/16"	0.0625	43.0	20.0
1.60		0.0629	43.0	20.0
1.65		0.0649	43.0	20.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
1.70		0.0669	43.0	20.0
1.75		0.0688	46.0	22.0
1.80		0.0708	46.0	22.0
1.85		0.0728	46.0	22.0
1.90		0.0748	46.0	22.0
1.95		0.0767	49.0	24.0
1.984	5/64"	0.0781	49.0	24.0
2.00		0.0787	49.0	24.0
2.05		0.0807	49.0	24.0
2.10		0.0826	49.0	24.0
2.15		0.0846	53.0	27.0
2.20		0.0866	53.0	27.0
2.25		0.0885	53.0	27.0
2.30		0.0905	53.0	27.0
2.35		0.0925	53.0	27.0
2.381	3/32"	0.0937	57.0	30.0
2.40		0.0944	57.0	30.0
2.45		0.0964	57.0	30.0
2.50		0.0984	57.0	30.0
2.55		0.1003	57.0	30.0
2.60		0.1023	57.0	30.0
2.65		0.1043	57.0	30.0
2.70		0.1062	61.0	33.0
2.75		0.1082	61.0	33.0
2.776	7/64"	0.1093	61.0	33.0
2.80		0.1102	61.0	33.0
2.85		0.1122	61.0	33.0
2.90		0.1141	61.0	33.0
2.95		0.1161	61.0	33.0
3.00		0.1181	61.0	33.0
3.05		0.1200	65.0	36.0
3.10		0.1220	65.0	36.0

continued on p12

01000

HSS Straight Shank DIN338 Jobber Drill



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite.

Discount Group	00	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	<=8.50mm (21/64") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
3.15		0.1240	65.0	36.0
3.175	1/8"	0.1250	65.0	36.0
3.20		0.1259	65.0	36.0
3.25		0.1279	65.0	36.0
3.30		0.1299	65.0	36.0
3.35		0.1318	65.0	36.0
3.40		0.1338	70.0	39.0
3.45		0.1358	70.0	39.0
3.50		0.1377	70.0	39.0
3.55		0.1397	70.0	39.0
3.571	9/64"	0.1406	70.0	39.0
3.60		0.1417	70.0	39.0
3.65		0.1437	70.0	39.0
3.70		0.1456	70.0	39.0
3.75		0.1476	70.0	39.0
3.80		0.1496	75.0	43.0
3.85		0.1515	75.0	43.0
3.90		0.1535	75.0	43.0
3.95		0.1555	75.0	43.0
3.967	5/32"	0.1562	75.0	43.0
4.00		0.1574	75.0	43.0
4.05		0.1594	75.0	43.0
4.10		0.1614	75.0	43.0
4.15		0.1633	75.0	43.0
4.20		0.1653	75.0	43.0
4.25		0.1673	75.0	43.0
4.30		0.1692	80.0	47.0
4.35		0.1712	80.0	47.0
4.364	11/64"	0.1718	80.0	47.0
4.40		0.1732	80.0	47.0
4.45		0.1751	80.0	47.0
4.50		0.1771	80.0	47.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
4.55		0.1791	80.0	47.0
4.60		0.1811	80.0	47.0
4.65		0.1830	80.0	47.0
4.70		0.1850	80.0	47.0
4.75		0.1870	80.0	47.0
4.763	3/16"	0.1875	86.0	52.0
4.80		0.1889	86.0	52.0
4.85		0.1909	86.0	52.0
4.90		0.1929	86.0	52.0
4.95		0.1948	86.0	52.0
5.00		0.1968	86.0	52.0
5.10		0.2007	86.0	52.0
5.159	13/64"	0.2031	86.0	52.0
5.20		0.2047	86.0	52.0
5.25		0.2066	86.0	52.0
5.30		0.2086	86.0	52.0
5.40		0.2125	93.0	57.0
5.50		0.2165	93.0	57.0
5.555	7/32"	0.2187	93.0	57.0
5.60		0.2204	93.0	57.0
5.70		0.2244	93.0	57.0
5.75		0.2263	93.0	57.0
5.80		0.2283	93.0	57.0
5.90		0.2322	93.0	57.0
5.951	15/64"	0.2343	93.0	57.0
6.00		0.2362	93.0	57.0
6.10		0.2401	101.0	63.0
6.20		0.2440	101.0	63.0
6.25		0.2460	101.0	63.0
6.30		0.2480	101.0	63.0
6.351	1/4"	0.2500	101.0	63.0
6.40		0.2519	101.0	63.0

continued on p13

01000

HSS Straight Shank DIN338 Jobber Drill



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite.

Discount Group	00	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	<=8.50mm (21/64") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
6.50		0.2559	101.0	63.0
6.60		0.2598	101.0	63.0
6.70		0.2637	101.0	63.0
6.746	17/64"	0.2656	109.0	69.0
6.75		0.2657	109.0	69.0
6.80		0.2677	109.0	69.0
6.90		0.2716	109.0	69.0
7.00		0.2755	109.0	69.0
7.10		0.2795	109.0	69.0
7.142	9/32"	0.2812	109.0	69.0
7.20		0.2834	109.0	69.0
7.25		0.2854	109.0	69.0
7.30		0.2874	109.0	69.0
7.40		0.2913	109.0	69.0
7.50		0.2952	109.0	69.0
7.539	19/64"	0.2968	117.0	75.0
7.60		0.2992	117.0	75.0
7.70		0.3031	117.0	75.0
7.75		0.3051	117.0	75.0
7.80		0.3070	117.0	75.0
7.90		0.3110	117.0	75.0
7.938	5/16"	0.3125	117.0	75.0
8.00		0.3149	117.0	75.0
8.10		0.3188	117.0	75.0
8.20		0.3228	117.0	75.0
8.25		0.3248	117.0	75.0
8.30		0.3267	117.0	75.0
8.334	21/64"	0.3281	117.0	75.0
8.40		0.3307	117.0	75.0
8.50		0.3346	117.0	75.0
8.60		0.3385	125.0	81.0
8.70		0.3425	125.0	81.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
8.731	11/32"	0.3437	125.0	81.0
8.75		0.3444	125.0	81.0
8.80		0.3464	125.0	81.0
8.90		0.3503	125.0	81.0
9.00		0.3543	125.0	81.0
9.10		0.3582	125.0	81.0
9.126	23/64"	0.3593	125.0	81.0
9.20		0.3622	125.0	81.0
9.25		0.3641	125.0	81.0
9.30		0.3661	125.0	81.0
9.40		0.3700	125.0	81.0
9.50		0.3740	125.0	81.0
9.525	3/8"	0.3750	133.0	87.0
9.60		0.3779	133.0	87.0
9.70		0.3818	133.0	87.0
9.75		0.3838	133.0	87.0
9.80		0.3858	133.0	87.0
9.90		0.3897	133.0	87.0
9.921	25/64"	0.3906	133.0	87.0
10.00		0.3937	133.0	87.0
10.10		0.3976	133.0	87.0
10.20		0.4015	133.0	87.0
10.25		0.4035	133.0	87.0
10.30		0.4055	133.0	87.0
10.317	13/32"	0.4062	133.0	87.0
10.40		0.4094	133.0	87.0
10.50		0.4133	133.0	87.0
10.60		0.4173	133.0	87.0
10.70		0.4212	142.0	94.0
10.714	27/64"	0.4218	142.0	94.0
10.75		0.4232	142.0	94.0
10.80		0.4251	142.0	94.0

continued on p14

01000

HSS Straight Shank DIN338 Jobber Drill



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite.

Discount Group	00	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	<=8.50mm (21/64") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
10.90		0.4291	142.0	94.0
11.00		0.4330	142.0	94.0
11.10		0.4370	142.0	94.0
11.113	7/16"	0.4375	142.0	94.0
11.20		0.4409	142.0	94.0
11.25		0.4429	142.0	94.0
11.30		0.4448	142.0	94.0
11.40		0.4488	142.0	94.0
11.50		0.4527	142.0	94.0
11.509	29/64"	0.4531	142.0	94.0
11.60		0.4566	142.0	94.0
11.70		0.4606	142.0	94.0
11.75		0.4625	142.0	94.0
11.80		0.4645	142.0	94.0
11.90		0.4685	151.0	101.0
11.905	15/32"	0.4687	151.0	101.0
12.00		0.4724	151.0	101.0
12.10		0.4763	151.0	101.0
12.20		0.4803	151.0	101.0
12.25		0.4822	151.0	101.0
12.30		0.4842	151.0	101.0
12.301	31/64"	0.4843	151.0	101.0
12.40		0.4881	151.0	101.0
12.50		0.4921	151.0	101.0
12.60		0.4960	151.0	101.0
12.70		0.5000	151.0	101.0
12.700	1/2"	0.5000	151.0	101.0
12.75		0.5019	151.0	101.0
12.80		0.5039	151.0	101.0
12.90		0.5078	151.0	101.0
13.00		0.5118	151.0	101.0
13.10		0.5157	151.0	101.0
13.20		0.5196	151.0	101.0
13.25		0.5216	160.0	108.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
13.30		0.5236	160.0	108.0
13.40		0.5275	160.0	108.0
13.492	17/32"	0.5312	160.0	108.0
13.50		0.5314	160.0	108.0
13.60		0.5354	160.0	108.0
13.70		0.5393	160.0	108.0
13.75		0.5413	160.0	108.0
13.80		0.5433	160.0	108.0
13.90		0.5472	160.0	108.0
14.00		0.5511	160.0	108.0
14.25		0.5610	169.0	114.0
14.288	9/16"	0.5625	169.0	114.0
14.50		0.5708	169.0	114.0
14.75		0.5807	169.0	114.0
15.00		0.5905	169.0	114.0
15.081	19/32"	0.5937	178.0	120.0
15.25		0.6003	178.0	120.0
15.50		0.6102	178.0	120.0
15.75		0.6200	178.0	120.0
15.875	5/8"	0.6250	178.0	120.0
16.00		0.6299	178.0	120.0
16.50		0.6496	184.0	125.0
16.667	21/32"	0.6562	184.0	125.0
17.00		0.6692	184.0	125.0
17.463	11/16"	0.6875	191.0	130.0
17.50		0.6889	191.0	130.0
18.00		0.7086	191.0	130.0
18.255	23/32"	0.7187	198.0	135.0
18.50		0.7283	198.0	135.0
19.00		0.7480	198.0	135.0
19.050	3/4"	0.7500	205.0	140.0
19.50		0.7677	205.0	140.0
20.00		0.7874	205.0	140.0

01001

HSS Straight Shank DIN338 Bright Jobber Drill



Design and application like List-No. 01000. The additional split detail permits better positioning and reduced feed force and torque.

Discount Group	05	Surface Treatment	Bright
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	118° Split	Tolerance	h8
Packing Unit	<=8.50mm (21/64") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
1.00		0.0393	34.0	12.0
1.10		0.0433	36.0	14.0
1.189	3/64"	0.0468	38.0	16.0
1.20		0.0472	38.0	16.0
1.30		0.0511	38.0	16.0
1.40		0.0551	40.0	18.0
1.50		0.0590	40.0	18.0
1.588	1/16"	0.0625	43.0	20.0
1.60		0.0629	43.0	20.0
1.70		0.0669	43.0	20.0
1.80		0.0708	46.0	22.0
1.90		0.0748	46.0	22.0
1.984	5/64"	0.0781	49.0	24.0
2.00		0.0787	49.0	24.0
2.10		0.0826	49.0	24.0
2.20		0.0866	53.0	27.0
2.30		0.0905	53.0	27.0
2.381	3/32"	0.0937	57.0	30.0
2.40		0.0944	57.0	30.0
2.50		0.0984	57.0	30.0
2.60		0.1023	57.0	30.0
2.70		0.1062	61.0	33.0
2.776	7/64"	0.1093	61.0	33.0
2.80		0.1102	61.0	33.0
2.90		0.1141	61.0	33.0
3.00		0.1181	61.0	33.0
3.10		0.1220	65.0	36.0
3.175	1/8"	0.1250	65.0	36.0
3.20		0.1259	65.0	36.0
3.30		0.1299	65.0	36.0
3.40		0.1338	70.0	39.0
3.50		0.1377	70.0	39.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
3.571	9/64"	0.1406	70.0	39.0
3.60		0.1417	70.0	39.0
3.70		0.1456	70.0	39.0
3.80		0.1496	75.0	43.0
3.90		0.1535	75.0	43.0
3.967	5/32"	0.1562	75.0	43.0
4.00		0.1574	75.0	43.0
4.10		0.1614	75.0	43.0
4.20		0.1653	75.0	43.0
4.30		0.1692	80.0	47.0
4.364	11/64"	0.1718	80.0	47.0
4.40		0.1732	80.0	47.0
4.50		0.1771	80.0	47.0
4.60		0.1811	80.0	47.0
4.70		0.1850	80.0	47.0
4.763	3/16"	0.1875	86.0	52.0
4.80		0.1889	86.0	52.0
4.90		0.1929	86.0	52.0
5.00		0.1968	86.0	52.0
5.10		0.2007	86.0	52.0
5.159	13/64"	0.2031	86.0	52.0
5.20		0.2047	86.0	52.0
5.30		0.2086	86.0	52.0
5.40		0.2125	93.0	57.0
5.50		0.2165	93.0	57.0
5.555	7/32"	0.2187	93.0	57.0
5.60		0.2204	93.0	57.0
5.70		0.2244	93.0	57.0
5.80		0.2283	93.0	57.0
5.90		0.2322	93.0	57.0
5.951	15/64"	0.2343	93.0	57.0
6.00		0.2362	93.0	57.0

continued on p16

01001

HSS Straight Shank DIN338 Bright Jobber Drill



DRILLING

Design and application like List-No. 01000. The additional split detail permits better positioning and reduced feed force and torque.

Discount Group	05	Surface Treatment	Bright
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	118° Split	Tolerance	h8
Packing Unit	<=8.50mm (21/64") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
6.10		0.2401	101.0	63.0
6.20		0.2440	101.0	63.0
6.30		0.2480	101.0	63.0
6.350	1/4"	0.2500	101.0	63.0
6.40		0.2519	101.0	63.0
6.50		0.2559	101.0	63.0
6.60		0.2598	101.0	63.0
6.70		0.2637	101.0	63.0
6.746	17/64"	0.2656	109.0	69.0
6.80		0.2677	109.0	69.0
6.90		0.2716	109.0	69.0
7.00		0.2755	109.0	69.0
7.10		0.2795	109.0	69.0
7.142	9/32"	0.2812	109.0	69.0
7.20		0.2834	109.0	69.0
7.30		0.2874	109.0	69.0
7.40		0.2913	109.0	69.0
7.50		0.2952	109.0	69.0
7.539	19/64"	0.2968	117.0	75.0
7.60		0.2992	117.0	75.0
7.70		0.3031	117.0	75.0
7.80		0.3070	117.0	75.0
7.90		0.3110	117.0	75.0
7.938	5/16"	0.3125	117.0	75.0
8.00		0.3149	117.0	75.0
8.10		0.3188	117.0	75.0
8.20		0.3228	117.0	75.0
8.30		0.3267	117.0	75.0
8.334	21/64"	0.3281	117.0	75.0
8.40		0.3307	117.0	75.0
8.50		0.3346	117.0	75.0
8.60		0.3385	125.0	81.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
8.70		0.3425	125.0	81.0
8.731	11/32"	0.3437	125.0	81.0
8.80		0.3464	125.0	81.0
8.90		0.3503	125.0	81.0
9.00		0.3543	125.0	81.0
9.10		0.3582	125.0	81.0
9.126	23/64"	0.3593	125.0	81.0
9.20		0.3622	125.0	81.0
9.30		0.3661	125.0	81.0
9.40		0.3700	125.0	81.0
9.50		0.3740	125.0	81.0
9.525	3/8"	0.3750	133.0	87.0
9.60		0.3779	133.0	87.0
9.70		0.3818	133.0	87.0
9.80		0.3858	133.0	87.0
9.90		0.3897	133.0	87.0
9.921	25/64"	0.3906	133.0	87.0
10.00		0.3937	133.0	87.0
10.10		0.3976	133.0	87.0
10.20		0.4015	133.0	87.0
10.30		0.4055	133.0	87.0
10.317	13/32"	0.4062	133.0	87.0
10.40		0.4094	133.0	87.0
10.50		0.4133	133.0	87.0
10.60		0.4173	133.0	87.0
10.70		0.4212	142.0	94.0
10.714	27/64"	0.4218	142.0	94.0
10.80		0.4251	142.0	94.0
10.90		0.4291	142.0	94.0
11.00		0.4330	142.0	94.0
11.10		0.4370	142.0	94.0
11.113	7/16"	0.4375	142.0	94.0

continued on p17

01001

HSS Straight Shank DIN338 Bright Jobber Drill



Design and application like List-No. 01000. The additional split detail permits better positioning and reduced feed force and torque.

Discount Group	05	Surface Treatment	Bright
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	118° Split	Tolerance	h8
Packing Unit	<=8.50mm (21/64") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
11.20		0.4409	142.0	94.0
11.30		0.4448	142.0	94.0
11.40		0.4488	142.0	94.0
11.50		0.4527	142.0	94.0
11.509	29/64"	0.4531	142.0	94.0
11.60		0.4566	142.0	94.0
11.70		0.4606	142.0	94.0
11.80		0.4645	142.0	94.0
11.90		0.4685	151.0	101.0
11.905	15/32"	0.4687	151.0	101.0
12.00		0.4724	151.0	101.0
12.10		0.4763	151.0	101.0
12.20		0.4803	151.0	101.0
12.30		0.4842	151.0	101.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
12.301	31/64"	0.4843	151.0	101.0
12.40		0.4881	151.0	101.0
12.50		0.4921	151.0	101.0
12.60		0.4960	151.0	101.0
12.700	1/2"	0.5000	151.0	101.0
12.80		0.5039	151.0	101.0
12.90		0.5078	151.0	101.0
13.00		0.5118	151.0	101.0
13.50		0.5314	160.0	108.0
14.00		0.5511	160.0	108.0
14.50		0.5708	169.0	114.0
15.00		0.5905	169.0	114.0
15.50		0.6102	178.0	120.0
16.00		0.6299	178.0	120.0

01002

HSS Straight Shank DIN338 Jobber Drill - Elite



DRILLING

Universal, very robust drill for all standard applications with improved finished hole tolerances. The radius split point permits very good positioning and reduced feed force and torque. To drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, aluminium and aluminium alloys.

Discount Group	05	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	118° Split	Tolerance	h8
Packing Unit	<=8.50mm (21/64") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
3.00		0.1181	61.0	33.0
3.10		0.1220	65.0	36.0
3.175	1/8"	0.1250	65.0	36.0
3.20		0.1259	65.0	36.0
3.30		0.1299	65.0	36.0
3.40		0.1338	70.0	39.0
3.50		0.1377	70.0	39.0
3.60		0.1417	70.0	39.0
3.70		0.1456	70.0	39.0
3.80		0.1496	75.0	43.0
3.90		0.1535	75.0	43.0
3.967	5/32"	0.1562	75.0	43.0
4.00		0.1574	75.0	43.0
4.10		0.1614	75.0	43.0
4.20		0.1653	75.0	43.0
4.30		0.1692	80.0	47.0
4.40		0.1732	80.0	47.0
4.50		0.1771	80.0	47.0
4.60		0.1811	80.0	47.0
4.70		0.1850	80.0	47.0
4.763	3/16"	0.1875	86.0	52.0
4.80		0.1889	86.0	52.0
4.90		0.1929	86.0	52.0
5.00		0.1968	86.0	52.0
5.10		0.2007	86.0	52.0
5.20		0.2047	86.0	52.0
5.30		0.2086	86.0	52.0
5.40		0.2125	93.0	57.0
5.50		0.2165	93.0	57.0
5.555	7/32"	0.2187	93.0	57.0
5.60		0.2204	93.0	57.0
5.70		0.2244	93.0	57.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
5.80		0.2283	93.0	57.0
5.90		0.2322	93.0	57.0
6.00		0.2362	93.0	57.0
6.10		0.2401	101.0	63.0
6.20		0.2440	101.0	63.0
6.30		0.2480	101.0	63.0
6.350	1/4"	0.2500	101.0	63.0
6.40		0.2519	101.0	63.0
6.50		0.2559	101.0	63.0
6.60		0.2598	101.0	63.0
6.70		0.2637	101.0	63.0
6.80		0.2677	109.0	69.0
6.90		0.2716	109.0	69.0
7.00		0.2755	109.0	69.0
7.10		0.2795	109.0	69.0
7.142	9/32"	0.2812	109.0	69.0
7.20		0.2834	109.0	69.0
7.30		0.2874	109.0	69.0
7.40		0.2913	109.0	69.0
7.50		0.2952	109.0	69.0
7.60		0.2992	117.0	75.0
7.70		0.3031	117.0	75.0
7.80		0.3070	117.0	75.0
7.90		0.3110	117.0	75.0
7.938	5/16"	0.3125	117.0	75.0
8.00		0.3149	117.0	75.0
8.10		0.3188	117.0	75.0
8.20		0.3228	117.0	75.0
8.30		0.3267	117.0	75.0
8.40		0.3307	117.0	75.0
8.50		0.3346	117.0	75.0
8.60		0.3385	125.0	81.0

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01002

HSS Straight Shank DIN338 Jobber Drill - Elite



Universal, very robust drill for all standard applications with improved finished hole tolerances. The radius split point permits very good positioning and reduced feed force and torque. To drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, aluminium and aluminium alloys.

Discount Group	05	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	118° Split	Tolerance	h8
Packing Unit	<=8.50mm (21/64") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
8.70		0.3425	125.0	81.0
8.731	11/32"	0.3437	125.0	81.0
8.80		0.3464	125.0	81.0
8.90		0.3503	125.0	81.0
9.00		0.3543	125.0	81.0
9.10		0.3582	125.0	81.0
9.20		0.3622	125.0	81.0
9.30		0.3661	125.0	81.0
9.40		0.3700	125.0	81.0
9.50		0.3740	125.0	81.0
9.525	3/8"	0.3750	133.0	87.0
9.60		0.3779	133.0	87.0
9.70		0.3818	133.0	87.0
9.80		0.3858	133.0	87.0
9.90		0.3897	133.0	87.0
10.00		0.3937	133.0	87.0
10.10		0.3976	133.0	87.0
10.20		0.4015	133.0	87.0
10.30		0.4055	133.0	87.0
10.317	13/32"	0.4062	133.0	87.0
10.40		0.4094	133.0	87.0
10.50		0.4133	133.0	87.0
10.60		0.4173	133.0	87.0
10.70		0.4212	142.0	94.0
10.80		0.4251	142.0	94.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
10.90		0.4291	142.0	94.0
11.00		0.4330	142.0	94.0
11.10		0.4370	142.0	94.0
11.113	7/16"	0.4375	142.0	94.0
11.20		0.4409	142.0	94.0
11.30		0.4448	142.0	94.0
11.40		0.4488	142.0	94.0
11.50		0.4527	142.0	94.0
11.60		0.4566	142.0	94.0
11.70		0.4606	142.0	94.0
11.80		0.4645	142.0	94.0
11.90		0.4685	151.0	101.0
11.905	15/32"	0.4687	151.0	101.0
12.00		0.4724	151.0	101.0
12.10		0.4763	151.0	101.0
12.20		0.4803	151.0	101.0
12.30		0.4842	151.0	101.0
12.40		0.4881	151.0	101.0
12.50		0.4921	151.0	101.0
12.60		0.4960	151.0	101.0
12.7	1/2"	0.5000	151.0	101.0
12.80		0.5039	151.0	101.0
12.90		0.5078	151.0	101.0
13.00		0.5118	151.0	101.0

01010

HSS Straight Shank DIN338 Left Hand Jobber Drill



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. Similar to Series 01000 but for left hand application.

Discount Group	00	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	LH
Point Angle	118°	Tolerance	h8
Packing Unit	<=8.50mm (21/64") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
3.00		0.1181	61.0	33.0
3.175	1/8"	0.1250	65.0	36.0
3.50		0.1377	70.0	39.0
4.00		0.1574	75.0	43.0
4.50		0.1771	80.0	47.0
4.763	3/16"	0.1875	86.0	52.0
5.00		0.1968	86.0	52.0
5.50		0.2165	93.0	57.0
6.00		0.2362	93.0	57.0
6.350	1/4"	0.2500	101.0	63.0
6.50		0.2559	101.0	63.0
7.00		0.2755	109.0	69.0
7.50		0.2952	109.0	69.0
7.938	5/16"	0.3125	117.0	75.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
8.00		0.3149	117.0	75.0
8.50		0.3346	117.0	75.0
9.00		0.3543	125.0	81.0
9.50		0.3740	125.0	81.0
9.525	3/8"	0.3750	133.0	87.0
10.00		0.3937	133.0	87.0
10.50		0.4133	133.0	87.0
11.00		0.4330	142.0	94.0
11.113	7/16"	0.4375	142.0	94.0
11.50		0.4527	142.0	94.0
12.00		0.4724	151.0	101.0
12.50		0.4921	151.0	101.0
12.700	1/2"	0.5000	151.0	101.0
13.00		0.5118	151.0	101.0

01020

HSS Straight Shank DIN338 Jobber Drill Wire Gauge Number Sizes



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite.

Discount Group	01
Material	HSS
Standard	DIN338
Depth Of Cut	4 x Ø
Point Angle	118°
Packing Unit	All Sizes Packed in 10's

Surface Treatment	Steam
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h8

# Ø	Ø Dec Inch	O/all Length mm	Flute Length mm
#60	0.0400	34.0	12.0
#59	0.0410	34.0	12.0
#58	0.0420	36.0	14.0
#57	0.0430	36.0	14.0
#56	0.0465	38.0	16.0
#55	0.0520	40.0	18.0
#54	0.0550	40.0	18.0
#53	0.0595	43.0	20.0
#52	0.0635	43.0	20.0
#51	0.0670	46.0	22.0
#50	0.0700	46.0	22.0
#49	0.0730	46.0	22.0
#48	0.0760	49.0	24.0
#47	0.0785	49.0	24.0
#46	0.0810	49.0	24.0
#45	0.0820	49.0	24.0
#44	0.0860	53.0	27.0
#43	0.0890	53.0	27.0
#42	0.0935	57.0	30.0
#41	0.0960	57.0	30.0
#40	0.0980	57.0	30.0
#39	0.0995	57.0	30.0
#38	0.1015	57.0	30.0
#37	0.1040	57.0	30.0
#36	0.1065	61.0	33.0
#35	0.1100	61.0	33.0
#34	0.1110	61.0	33.0
#33	0.1130	61.0	33.0
#32	0.1160	61.0	33.0
#31	0.1200	65.0	36.0

# Ø	Ø Dec Inch	O/all Length mm	Flute Length mm
#30	0.1285	65.0	36.0
#29	0.1360	70.0	39.0
#28	0.1405	70.0	39.0
#27	0.1440	70.0	39.0
#26	0.1470	70.0	39.0
#25	0.1495	75.0	43.0
#24	0.1520	75.0	43.0
#23	0.1540	75.0	43.0
#22	0.1570	75.0	43.0
#21	0.1590	75.0	43.0
#20	0.1610	75.0	43.0
#19	0.1660	75.0	43.0
#18	0.1695	80.0	47.0
#17	0.1730	80.0	47.0
#16	0.1770	80.0	47.0
#15	0.1800	80.0	47.0
#14	0.1820	80.0	47.0
#13	0.1850	80.0	47.0
#12	0.1890	86.0	52.0
#11	0.1910	86.0	52.0
#10	0.1935	86.0	52.0
#9	0.1960	86.0	52.0
#8	0.1990	86.0	52.0
#7	0.2010	86.0	52.0
#6	0.2040	86.0	52.0
#5	0.2055	86.0	52.0
#4	0.2090	93.0	57.0
#3	0.2130	93.0	57.0
#2	0.2210	93.0	57.0
#1	0.2280	93.0	57.0

01040

HSS Straight Shank DIN338 Jobber Drill Letter Sizes



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite.

Discount Group	01	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	Packed in 10's for sizes A-Q, then in 5's R-Z		

Let Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
Let A		0.2340	93.0	57.0
Let B		0.2380	101.0	63.0
Let C		0.2420	101.0	63.0
Let D		0.2460	101.0	63.0
Let E	1/4"	0.2500	101.0	63.0
Let F		0.2570	101.0	63.0
Let G		0.2610	101.0	63.0
Let H		0.2660	109.0	69.0
Let I		0.2720	109.0	69.0
Let J		0.2770	109.0	69.0
Let K		0.2810	109.0	69.0
Let L		0.2900	109.0	69.0
Let M		0.2950	109.0	69.0

Let Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
Let N		0.3020	117.0	75.0
Let O		0.3160	117.0	75.0
Let P		0.3230	117.0	75.0
Let Q		0.3320	117.0	75.0
Let R		0.3390	125.0	81.0
Let S		0.3480	125.0	81.0
Let T		0.3580	125.0	81.0
Let U		0.3680	125.0	81.0
Let V		0.3770	133.0	87.0
Let W		0.3860	133.0	87.0
Let X		0.3970	133.0	87.0
Let Y		0.4040	133.0	87.0
Let Z		0.4130	133.0	87.0

01065

HSS Straight Shank DIN338 Jobber Drill Elite Plus



Design and application like List-No. 01002.
TiN coating provides longer tool life or increased cutting speeds.

Discount Group	05	Surface Treatment	TiN
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	118° Split	Tolerance	h8
Packing Unit	<=8.50mm (21/64") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
1.00		0.0393	34.0	12.0
1.10		0.0433	36.0	14.0
1.20		0.0472	38.0	16.0
1.30		0.0511	38.0	16.0
1.40		0.0551	40.0	18.0
1.50		0.0590	40.0	18.0
1.588	1/16"	0.0625	43.0	20.0
1.60		0.0629	43.0	20.0
1.70		0.0669	43.0	20.0
1.80		0.0708	46.0	22.0
1.90		0.0748	46.0	22.0
2.00		0.0787	49.0	24.0
2.10		0.0826	49.0	24.0
2.20		0.0866	53.0	27.0
2.30		0.0905	53.0	27.0
2.381	3/32"	0.0937	57.0	30.0
2.40		0.0944	57.0	30.0
2.50		0.0984	57.0	30.0
2.60		0.1023	57.0	30.0
2.70		0.1062	61.0	33.0
2.80		0.1102	61.0	33.0
2.90		0.1141	61.0	33.0
3.00		0.1181	61.0	33.0
3.10		0.1220	65.0	36.0
3.175	1/8"	0.1250	65.0	36.0
3.20		0.1259	65.0	36.0
3.30		0.1299	65.0	36.0
3.40		0.1338	70.0	39.0
3.50		0.1377	70.0	39.0
3.60		0.1417	70.0	39.0
3.70		0.1456	70.0	39.0
3.80		0.1496	75.0	43.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
3.90		0.1535	75.0	43.0
3.967	5/32"	0.1562	75.0	43.0
4.00		0.1574	75.0	43.0
4.10		0.1614	75.0	43.0
4.20		0.1653	75.0	43.0
4.30		0.1692	80.0	47.0
4.40		0.1732	80.0	47.0
4.50		0.1771	80.0	47.0
4.60		0.1811	80.0	47.0
4.70		0.1850	80.0	47.0
4.763	3/16"	0.1875	86.0	52.0
4.80		0.1889	86.0	52.0
4.90		0.1929	86.0	52.0
5.00		0.1968	86.0	52.0
5.10		0.2007	86.0	52.0
5.20		0.2047	86.0	52.0
5.30		0.2086	86.0	52.0
5.40		0.2125	93.0	57.0
5.50		0.2165	93.0	57.0
5.555	7/32"	0.2187	93.0	57.0
5.60		0.2204	93.0	57.0
5.70		0.2244	93.0	57.0
5.80		0.2283	93.0	57.0
5.90		0.2322	93.0	57.0
6.00		0.2362	93.0	57.0
6.10		0.2401	101.0	63.0
6.20		0.2440	101.0	63.0
6.30		0.2480	101.0	63.0
6.350	1/4"	0.2500	101.0	63.0
6.40		0.2519	101.0	63.0
6.50		0.2559	101.0	63.0
6.60		0.2598	101.0	63.0

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01065

HSS Straight Shank DIN338 Jobber Drill Elite Plus



DRILLING

Design and application like List-No. 01002.
TiN coating provides longer tool life or increased cutting speeds.

Discount Group	05	Surface Treatment	TiN
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	118° Split	Tolerance	h8
Packing Unit	<=8.50mm (21/64") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
6.70		0.2637	101.0	63.0
6.80		0.2677	109.0	69.0
6.90		0.2716	109.0	69.0
7.00		0.2755	109.0	69.0
7.10		0.2795	109.0	69.0
7.142	9/32"	0.2812	109.0	69.0
7.20		0.2834	109.0	69.0
7.30		0.2874	109.0	69.0
7.40		0.2913	109.0	69.0
7.50		0.2952	109.0	69.0
7.60		0.2992	117.0	75.0
7.70		0.3031	117.0	75.0
7.80		0.3070	117.0	75.0
7.90		0.3110	117.0	75.0
7.938	5/16"	0.3125	117.0	75.0
8.00		0.3149	117.0	75.0
8.10		0.3188	117.0	75.0
8.20		0.3228	117.0	75.0
8.30		0.3267	117.0	75.0
8.40		0.3307	117.0	75.0
8.50		0.3346	117.0	75.0
8.60		0.3385	125.0	81.0
8.70		0.3425	125.0	81.0
8.731	11/32"	0.3437	125.0	81.0
8.80		0.3464	125.0	81.0
8.90		0.3503	125.0	81.0
9.00		0.3543	125.0	81.0
9.10		0.3582	125.0	81.0
9.20		0.3622	125.0	81.0
9.30		0.3661	125.0	81.0
9.40		0.3700	125.0	81.0
9.50		0.3740	125.0	81.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
9.525	3/8"	0.3750	133.0	87.0
9.60		0.3779	133.0	87.0
9.70		0.3818	133.0	87.0
9.80		0.3858	133.0	87.0
9.90		0.3897	133.0	87.0
10.00		0.3937	133.0	87.0
10.10		0.3976	133.0	87.0
10.20		0.4015	133.0	87.0
10.30		0.4055	133.0	87.0
10.317	13/32"	0.4062	133.0	87.0
10.40		0.4094	133.0	87.0
10.50		0.4133	133.0	87.0
10.60		0.4173	133.0	87.0
10.70		0.4212	142.0	94.0
10.80		0.4251	142.0	94.0
10.90		0.4291	142.0	94.0
11.00		0.4330	142.0	94.0
11.10		0.4370	142.0	94.0
11.113	7/16"	0.4375	142.0	94.0
11.20		0.4409	142.0	94.0
11.30		0.4448	142.0	94.0
11.40		0.4488	142.0	94.0
11.50		0.4527	142.0	94.0
11.60		0.4566	142.0	94.0
11.70		0.4606	142.0	94.0
11.80		0.4645	142.0	94.0
11.90		0.4685	151.0	101.0
11.905	15/32"	0.4687	151.0	101.0
12.00		0.4724	151.0	101.0
12.10		0.4763	151.0	101.0
12.20		0.4803	151.0	101.0
12.30		0.4842	151.0	101.0

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01065

HSS Straight Shank DIN338 Jobber Drill Elite Plus



Design and application like List-No. 01002.
TiN coating provides longer tool life or increased cutting speeds.

Discount Group	05	Surface Treatment	TiN
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	118° Split	Tolerance	h8
Packing Unit	<=8.50mm (21/64") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
12.40		0.4881	151.0	101.0
12.50		0.4921	151.0	101.0
12.60		0.4960	151.0	101.0
12.70		0.5000	151.0	101.0
12.700	1/2"	0.5000	151.0	101.0
12.80		0.5039	151.0	101.0
12.90		0.5078	151.0	101.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
13.00		0.5118	151.0	101.0
13.50		0.5314	160.0	108.0
14.00		0.5511	160.0	108.0
14.50		0.5708	169.0	114.0
15.00		0.5905	169.0	114.0
15.50		0.6102	178.0	120.0
16.00		0.6299	178.0	120.0

01150

HSS Straight Shank DIN338 Tri Quad Drill



Maintenance style drill with extra rigidity designed for use in hand drills. The additional split detail permits better positioning and reduced feed force and torque. The driving flats on sizes $\geq 5.00\text{mm}$ or $7/32''$ eliminates slippage.

Discount Group	01	Surface Treatment	Steam / Bronze
Material	HSS	Shank Type	Straight
Standard	PRESTO	Helix Group (Din1836)	N
Depth Of Cut	4 x \emptyset	Cutting Direction	RH
Point Angle	135° Split	Tolerance	h8
Packing Unit	$\leq 8.50\text{mm}$ (21/64") in 10's, $> 8.50\text{mm} - 13.00\text{mm}$ (1/2") in 5's, $> 13.00\text{mm}$ in 1's.		

\emptyset mm	\emptyset Inch	\emptyset Dec Inch	O/all Length mm	Flute Length mm
1.00		0.0393	34.0	12.0
1.50		0.0590	40.0	18.0
1.588	1/16"	0.0625	43.0	20.0
2.00		0.0787	49.0	24.0
2.381	3/32"	0.0937	57.0	30.0
2.50		0.0984	57.0	30.0
3.00		0.1181	61.0	33.0
3.175	1/8"	0.1250	65.0	36.0
3.30		0.1299	65.0	36.0
3.50		0.1377	70.0	39.0
3.967	5/32"	0.1562	75.0	44.5
4.00		0.1574	75.0	44.5
4.20		0.1653	75.0	47.6
4.50		0.1771	80.0	47.6
4.763	3/16"	0.1875	86.0	50.8
5.00		0.1968	86.0	54.0
5.50		0.2165	93.0	57.2
5.555	7/32"	0.2187	93.0	57.2
6.00		0.2362	93.0	60.3
6.350	1/4"	0.2500	101.0	50.8
6.50		0.2559	101.0	54.0
6.80		0.2677	109.0	57.5

\emptyset mm	\emptyset Inch	\emptyset Dec Inch	O/all Length mm	Flute Length mm
7.00		0.2755	109.0	57.2
7.142	9/32"	0.2812	109.0	57.2
7.50		0.2952	109.0	60.3
7.938	5/16"	0.3125	117.0	63.5
8.00		0.3149	117.0	63.5
8.50		0.3346	117.0	66.7
8.731	11/32"	0.3437	125.0	66.7
9.00		0.3543	125.0	68.3
9.50		0.3740	125.0	66.7
9.525	3/8"	0.3750	133.0	66.7
10.00		0.3937	133.0	68.3
10.20		0.4015	133.0	68.3
10.317	13/32"	0.4062	133.0	69.9
10.50		0.4133	133.0	69.9
11.00		0.4330	142.0	73.0
11.113	7/16"	0.4375	142.0	73.0
11.50		0.4527	142.0	76.2
11.905	15/32"	0.4687	151.0	79.4
12.00		0.4724	151.0	79.4
12.50		0.4921	151.0	85.7
12.700	1/2"	0.5000	151.0	85.7
13.00		0.5118	151.0	85.7

01200

HSS Straight Shank DIN338 Slow Spiral Jobber Drill



Low helix drill to drill short-chipping, brittle materials like brass, magnesium alloys, bronze and plastics.

Discount Group	02	Surface Treatment	Bright
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	H
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	<=8.50mm (21/64") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
3.00		0.1181	61.0	33.0
3.175	1/8"	0.1250	65.0	36.0
3.50		0.1377	70.0	39.0
4.00		0.1574	75.0	43.0
4.50		0.1771	80.0	47.0
4.763	3/16"	0.1875	86.0	52.0
5.00		0.1968	86.0	52.0
5.50		0.2165	93.0	57.0
6.00		0.2362	93.0	57.0
6.350	1/4"	0.2500	101.0	63.0
6.50		0.2559	101.0	63.0
7.00		0.2755	109.0	69.0
7.50		0.2952	109.0	69.0
7.938	5/16"	0.3125	117.0	75.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
8.00		0.3149	117.0	75.0
8.50		0.3346	117.0	75.0
9.00		0.3543	125.0	81.0
9.50		0.3740	125.0	81.0
9.525	3/8"	0.3750	133.0	87.0
10.00		0.3937	133.0	87.0
10.50		0.4133	133.0	87.0
11.00		0.4330	142.0	94.0
11.113	7/16"	0.4375	142.0	94.0
11.50		0.4527	142.0	94.0
12.00		0.4724	151.0	101.0
12.50		0.4921	151.0	101.0
12.700	1/2"	0.5000	151.0	101.0
13.00		0.5118	151.0	101.0

01300

HSS Straight Shank DIN338 Quick Spiral Jobber Drill



High helix drill, to drill long-chipping materials like aluminium, aluminium alloys, copper and soft plastics.

Discount Group	02	Surface Treatment	Bright
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	W
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	<=8.50mm (21/64") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
3.00		0.1181	61.0	33.0
3.175	1/8"	0.1250	65.0	36.0
3.50		0.1377	70.0	39.0
4.00		0.1574	75.0	43.0
4.50		0.1771	80.0	47.0
4.763	3/16"	0.1875	86.0	52.0
5.00		0.1968	86.0	52.0
5.50		0.2165	93.0	57.0
6.00		0.2362	93.0	57.0
6.350	1/4"	0.2500	101.0	63.0
6.50		0.2559	101.0	63.0
7.00		0.2755	109.0	69.0
7.50		0.2952	109.0	69.0
7.938	5/16"	0.3125	117.0	75.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
8.00		0.3149	117.0	75.0
8.50		0.3346	117.0	75.0
9.00		0.3543	125.0	81.0
9.50		0.3740	125.0	81.0
9.525	3/8"	0.3750	133.0	87.0
10.00		0.3937	133.0	87.0
10.50		0.4133	133.0	87.0
11.00		0.4330	142.0	94.0
11.113	7/16"	0.4375	142.0	94.0
11.50		0.4527	142.0	94.0
12.00		0.4724	151.0	101.0
12.50		0.4921	151.0	101.0
12.700	1/2"	0.5000	151.0	101.0
13.00		0.5118	151.0	101.0

01320

HSS Straight Shank Hi-Nox Jobber Drill For Stainless Steel



Short fluted jobber drill to give more strength. To be used in Austenitic Stainless Steel, in sheet metal with work hardened surface, and steels with galvanised surface coating. Particularly used in hand machines, where centring is a problem.

Discount Group	02	Surface Treatment	Steam / Bright
Material	HSS	Shank Type	Straight
Standard	-DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	130°	Tolerance	h8
Packing Unit	<=8.50mm (21/64") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
3.00		0.1181	61.0	18.0
3.10		0.1220	65.0	20.0
3.175	1/8"	0.1250	65.0	20.0
3.20		0.1259	65.0	20.0
3.30		0.1299	65.0	20.0
3.40		0.1338	70.0	22.0
3.50		0.1377	70.0	22.0
3.60		0.1417	70.0	22.0
3.70		0.1456	70.0	22.0
3.80		0.1496	75.0	25.0
3.90		0.1535	75.0	25.0
3.967	5/32"	0.1562	75.0	25.0
4.00		0.1574	75.0	25.0
4.10		0.1614	75.0	25.0
4.20		0.1653	75.0	25.0
4.30		0.1692	80.0	28.0
4.40		0.1732	80.0	28.0
4.50		0.1771	80.0	28.0
4.60		0.1811	80.0	28.0
4.70		0.1850	80.0	28.0
4.763	3/16"	0.1875	86.0	32.0
4.80		0.1889	86.0	32.0
4.90		0.1929	86.0	32.0
5.00		0.1968	86.0	32.0
5.10		0.2007	86.0	32.0
5.20		0.2047	86.0	32.0
5.30		0.2086	86.0	32.0
5.40		0.2125	93.0	36.0
5.50		0.2165	93.0	36.0
5.555	7/32"	0.2187	93.0	36.0
5.60		0.2204	93.0	36.0
5.70		0.2244	93.0	36.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
5.80		0.2283	93.0	36.0
5.90		0.2322	93.0	36.0
6.00		0.2362	93.0	36.0
6.10		0.2401	101.0	40.0
6.20		0.2440	101.0	40.0
6.30		0.2480	101.0	40.0
6.350	1/4"	0.2500	101.0	40.0
6.40		0.2519	101.0	40.0
6.50		0.2559	101.0	40.0
6.60		0.2598	101.0	40.0
6.70		0.2637	101.0	40.0
6.80		0.2677	109.0	45.0
6.90		0.2716	109.0	45.0
7.00		0.2755	109.0	45.0
7.10		0.2795	109.0	45.0
7.142	9/32"	0.2812	109.0	45.0
7.20		0.2834	109.0	45.0
7.30		0.2874	109.0	45.0
7.40		0.2913	109.0	45.0
7.50		0.2952	109.0	45.0
7.60		0.2992	117.0	51.0
7.70		0.3031	117.0	51.0
7.80		0.3070	117.0	51.0
7.90		0.3110	117.0	51.0
7.938	5/16"	0.3125	117.0	51.0
8.00		0.3149	117.0	51.0
8.10		0.3188	117.0	51.0
8.20		0.3228	117.0	51.0
8.30		0.3267	117.0	51.0
8.40		0.3307	117.0	51.0
8.50		0.3346	117.0	51.0
8.60		0.3385	125.0	57.0

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01320

HSS Straight Shank Hi-Nox Jobber Drill For Stainless Steel



Short fluted jobber drill to give more strength. To be used in Austenitic Stainless Steel, in sheet metal with work hardened surface, and steels with galvanised surface coating. Particularly used in hand machines, where centring is a problem.

Discount Group	02	Surface Treatment	Steam / Bright
Material	HSS	Shank Type	Straight
Standard	-DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	130°	Tolerance	h8
Packing Unit	<=8.50mm (21/64") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
8.70		0.3425	125.0	57.0
8.731	11/32"	0.3437	125.0	57.0
8.80		0.3464	125.0	57.0
8.90		0.3503	125.0	57.0
9.00		0.3543	125.0	57.0
9.10		0.3582	125.0	57.0
9.20		0.3622	125.0	57.0
9.30		0.3661	125.0	57.0
9.40		0.3700	125.0	57.0
9.50		0.3740	125.0	57.0
9.525	3/8"	0.3750	133.0	63.0
9.60		0.3779	133.0	63.0
9.70		0.3818	133.0	63.0
9.80		0.3858	133.0	63.0
9.90		0.3897	133.0	63.0
10.00		0.3937	133.0	63.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
10.20		0.4015	133.0	63.0
10.317	13/32"	0.4062	133.0	63.0
10.50		0.4133	133.0	63.0
10.80		0.4251	142.0	71.0
11.00		0.4330	142.0	71.0
11.113	7/16"	0.4375	142.0	71.0
11.20		0.4409	142.0	71.0
11.50		0.4527	142.0	71.0
11.80		0.4645	142.0	71.0
11.905	15/32"	0.4687	151.0	78.0
12.00		0.4724	151.0	78.0
12.20		0.4803	151.0	78.0
12.50		0.4921	151.0	78.0
12.700	1/2"	0.5000	151.0	78.0
12.80		0.5039	151.0	78.0
13.00		0.5118	151.0	78.0

01900

HSS DIN338 h8 Hardened & Ground Jobber Drill Blank



Jobber length blank hardened & ground all over, h8, without back taper. They may be used for the sizing of holes, drifts, gauges, rollers, punches, locating and knockout pins, etc.

Discount Group	02	Surface Treatment	Bright
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N/A
Depth Of Cut	N/A	Cutting Direction	N/A
Point Angle	118°	Tolerance	h8
Packing Unit	<=8.50mm (21/64") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm
1.00		0.0393	34.0
1.10		0.0433	36.0
1.20		0.0472	38.0
1.30		0.0511	38.0
1.40		0.0551	40.0
1.50		0.0590	40.0
1.588	1/16"	0.0625	43.0
1.60		0.0629	43.0
1.70		0.0669	43.0
1.80		0.0708	46.0
1.90		0.0748	46.0
2.00		0.0787	49.0
2.10		0.0826	49.0
2.20		0.0866	53.0
2.30		0.0905	53.0
2.381	3/32"	0.0937	57.0
2.40		0.0944	57.0
2.50		0.0984	57.0
2.60		0.1023	57.0
2.70		0.1062	61.0
2.80		0.1102	61.0
2.90		0.1141	61.0
3.00		0.1181	61.0
3.10		0.1220	65.0
3.175	1/8"	0.1250	65.0
3.20		0.1259	65.0
3.30		0.1299	65.0
3.40		0.1338	70.0
3.50		0.1377	70.0
3.60		0.1417	70.0
3.70		0.1456	70.0
3.80		0.1496	75.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm
3.90		0.1535	75.0
3.967	5/32"	0.1562	75.0
4.00		0.1574	75.0
4.10		0.1614	75.0
4.20		0.1653	75.0
4.30		0.1692	80.0
4.40		0.1732	80.0
4.50		0.1771	80.0
4.60		0.1811	80.0
4.70		0.1850	80.0
4.763	3/16"	0.1875	86.0
4.80		0.1889	86.0
4.90		0.1929	86.0
5.00		0.1968	86.0
5.10		0.2007	86.0
5.20		0.2047	86.0
5.30		0.2086	86.0
5.40		0.2125	93.0
5.50		0.2165	93.0
5.555	7/32"	0.2187	93.0
5.60		0.2204	93.0
5.70		0.2244	93.0
5.80		0.2283	93.0
5.90		0.2322	93.0
6.00		0.2362	93.0
6.10		0.2401	101.0
6.20		0.2440	101.0
6.30		0.2480	101.0
6.350	1/4"	0.2500	101.0
6.40		0.2519	101.0
6.50		0.2559	101.0
6.60		0.2598	101.0

continued on p32

01900

HSS DIN338 h8 Hardened & Ground Jobber Drill Blank



DRILLING

Jobber length blank hardened & ground all over, h8, without back taper. They may be used for the sizing of holes, drifts, gauges, rollers, punches, locating and knockout pins, etc.

Discount Group	02	Surface Treatment	Bright
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N/A
Depth Of Cut	N/A	Cutting Direction	N/A
Point Angle	118°	Tolerance	h8
Packing Unit	<=8.50mm (21/64") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm
6.70		0.2637	101.0
6.80		0.2677	109.0
6.90		0.2716	109.0
7.00		0.2755	109.0
7.10		0.2795	109.0
7.142	9/32"	0.2812	109.0
7.20		0.2834	109.0
7.30		0.2874	109.0
7.40		0.2913	109.0
7.50		0.2952	109.0
7.60		0.2992	117.0
7.70		0.3031	117.0
7.80		0.3070	117.0
7.90		0.3110	117.0
7.938	5/16"	0.3125	117.0
8.00		0.3149	117.0
8.10		0.3188	117.0
8.20		0.3228	117.0
8.30		0.3267	117.0
8.40		0.3307	117.0
8.50		0.3346	117.0
8.60		0.3385	125.0
8.70		0.3425	125.0
8.731	11/32"	0.3437	125.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm
8.80		0.3464	125.0
8.90		0.3503	125.0
9.00		0.3543	125.0
9.10		0.3582	125.0
9.20		0.3622	125.0
9.30		0.3661	125.0
9.40		0.3700	125.0
9.50		0.3740	125.0
9.525	3/8"	0.3750	133.0
9.60		0.3779	133.0
9.70		0.3818	133.0
9.80		0.3858	133.0
9.90		0.3897	133.0
10.00		0.3937	133.0
10.317	13/32"	0.4062	133.0
10.50		0.4133	133.0
11.00		0.4330	142.0
11.113	7/16"	0.4375	142.0
11.50		0.4527	142.0
11.905	15/32"	0.4687	151.0
12.00		0.4724	151.0
12.50		0.4921	151.0
12.700	1/2"	0.5000	151.0
13.00		0.5118	151.0

O1111

HSCo Straight Shank DIN338 Jobber Drill



Heavy-duty drill made of cobalt material with excellent heat resistance. To drill steels with tensile strength up to 1400N/mm², very hard bronze, stainless steels as well as heat and acid resistant steels.

Discount Group	O1	Surface Treatment	Bronze
Material	HSCo	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	135° Split	Tolerance	h8
Packing Unit	Packed in 5's upto & Including 13.00mm (1/2") then in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
1.00		0.0393	34.0	12.0
1.10		0.0433	36.0	14.0
1.189	3/64"	0.0468	38.0	16.0
1.20		0.0472	38.0	16.0
1.30		0.0511	38.0	16.0
1.40		0.0551	40.0	18.0
1.50		0.0590	40.0	18.0
1.588	1/16"	0.0625	43.0	20.0
1.60		0.0629	43.0	20.0
1.70		0.0669	43.0	20.0
1.80		0.0708	46.0	22.0
1.90		0.0748	46.0	22.0
1.984	5/64"	0.0781	49.0	24.0
2.00		0.0787	49.0	24.0
2.10		0.0826	49.0	24.0
2.20		0.0866	53.0	27.0
2.30		0.0905	53.0	27.0
2.381	3/32"	0.0937	57.0	30.0
2.40		0.0944	57.0	30.0
2.50		0.0984	57.0	30.0
2.60		0.1023	57.0	30.0
2.70		0.1062	61.0	33.0
2.776	7/64"	0.1093	61.0	33.0
2.80		0.1102	61.0	33.0
2.90		0.1141	61.0	33.0
3.00		0.1181	61.0	33.0
3.10		0.1220	65.0	36.0
3.175	1/8"	0.1250	65.0	36.0
3.20		0.1259	65.0	36.0
3.30		0.1299	65.0	36.0
3.40		0.1338	70.0	39.0
3.50		0.1377	70.0	39.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
3.571	9/64"	0.1406	70.0	39.0
3.60		0.1417	70.0	39.0
3.70		0.1456	70.0	39.0
3.80		0.1496	75.0	43.0
3.90		0.1535	75.0	43.0
3.967	5/32"	0.1562	75.0	43.0
4.00		0.1574	75.0	43.0
4.10		0.1614	75.0	43.0
4.20		0.1653	75.0	43.0
4.30		0.1692	80.0	47.0
4.364	11/64"	0.1718	80.0	47.0
4.40		0.1732	80.0	47.0
4.50		0.1771	80.0	47.0
4.60		0.1811	80.0	47.0
4.70		0.1850	80.0	47.0
4.763	3/16"	0.1875	86.0	52.0
4.80		0.1889	86.0	52.0
4.90		0.1929	86.0	52.0
5.00		0.1968	86.0	52.0
5.10		0.2007	86.0	52.0
5.159	13/64"	0.2031	86.0	52.0
5.20		0.2047	86.0	52.0
5.30		0.2086	86.0	52.0
5.40		0.2125	93.0	57.0
5.50		0.2165	93.0	57.0
5.555	7/32"	0.2187	93.0	57.0
5.60		0.2204	93.0	57.0
5.70		0.2244	93.0	57.0
5.80		0.2283	93.0	57.0
5.90		0.2322	93.0	57.0
5.951	15/64"	0.2343	93.0	57.0
6.00		0.2362	93.0	57.0

continued on p34

01111

HSCo Straight Shank
DIN338 Jobber Drill

Heavy-duty drill made of cobalt material with excellent heat resistance.
To drill steels with tensile strength up to 1400N/mm², very hard bronze,
stainless steels as well as heat and acid resistant steels.

Discount Group	01	Surface Treatment	Bronze
Material	HSCo	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	135° Split	Tolerance	h8
Packing Unit	Packed in 5's upto & Including 13.00mm (1/2") then in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
6.10		0.2401	101.0	63.0
6.20		0.2440	101.0	63.0
6.30		0.2480	101.0	63.0
6.351	1/4"	0.2500	101.0	63.0
6.40		0.2519	101.0	63.0
6.50		0.2559	101.0	63.0
6.60		0.2598	101.0	63.0
6.70		0.2637	101.0	63.0
6.746	17/64"	0.2656	109.0	69.0
6.80		0.2677	109.0	69.0
6.90		0.2716	109.0	69.0
7.00		0.2755	109.0	69.0
7.10		0.2795	109.0	69.0
7.142	9/32"	0.2812	109.0	69.0
7.20		0.2834	109.0	69.0
7.30		0.2874	109.0	69.0
7.40		0.2913	109.0	69.0
7.50		0.2952	109.0	69.0
7.539	19/64"	0.2968	117.0	75.0
7.60		0.2992	117.0	75.0
7.70		0.3031	117.0	75.0
7.80		0.3070	117.0	75.0
7.90		0.3110	117.0	75.0
7.938	5/16"	0.3125	117.0	75.0
8.00		0.3149	117.0	75.0
8.10		0.3188	117.0	75.0
8.20		0.3228	117.0	75.0
8.30		0.3267	117.0	75.0
8.334	21/64"	0.3281	117.0	75.0
8.40		0.3307	117.0	75.0
8.50		0.3346	117.0	75.0
8.60		0.3385	125.0	81.0
8.70		0.3425	125.0	81.0
8.731	11/32"	0.3437	125.0	81.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
8.80		0.3464	125.0	81.0
8.90		0.3503	125.0	81.0
9.00		0.3543	125.0	81.0
9.10		0.3582	125.0	81.0
9.126	23/64"	0.3593	125.0	81.0
9.20		0.3622	125.0	81.0
9.30		0.3661	125.0	81.0
9.40		0.3700	125.0	81.0
9.50		0.3740	125.0	81.0
9.525	3/8"	0.3750	133.0	87.0
9.60		0.3779	133.0	87.0
9.70		0.3818	133.0	87.0
9.80		0.3858	133.0	87.0
9.90		0.3897	133.0	87.0
9.921	25/64"	0.3906	133.0	87.0
10.00		0.3937	133.0	87.0
10.10		0.3976	133.0	87.0
10.20		0.4015	133.0	87.0
10.30		0.4055	133.0	87.0
10.317	13/32"	0.4062	133.0	87.0
10.40		0.4094	133.0	87.0
10.50		0.4133	133.0	87.0
10.60		0.4173	133.0	87.0
10.714	27/64"	0.4218	142.0	94.0
11.00		0.4330	142.0	94.0
11.113	7/16"	0.4375	142.0	94.0
11.50		0.4527	142.0	94.0
11.509	29/64"	0.4531	142.0	94.0
11.905	15/32"	0.4687	151.0	101.0
12.00		0.4724	151.0	101.0
12.301	31/64"	0.4843	151.0	101.0
12.50		0.4921	151.0	101.0
12.700	1/2"	0.5000	151.0	101.0
13.00		0.5118	151.0	101.0

O1117

HSCo Straight Shank DIN338 Jobber Drill - Super Elite



Heavy-Duty drill made of cobalt material with excellent heat resistance. Specially treated for superior mechanical properties.

Discount Group	O1	Surface Treatment	Bronze
Material	HSCo	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	135° Split	Tolerance	h8
Packing Unit	Packed in 5's upto & Including 13.00mm (1/2") then in 1's.		

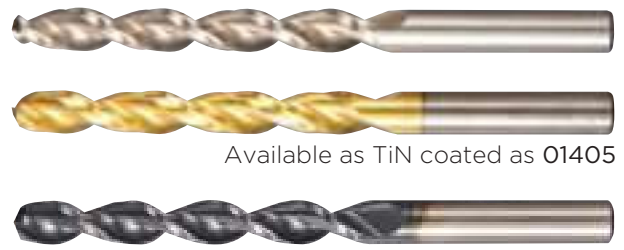
Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
1.00		0.0393	34.0	12.0
1.50		0.0590	40.0	18.0
1.588	1/16"	0.0625	43.0	20.0
1.984	5/64"	0.0781	49.0	24.0
2.00		0.0787	49.0	24.0
2.381	3/32"	0.0937	57.0	30.0
2.50		0.0984	57.0	30.0
2.776	7/64"	0.1093	61.0	33.0
3.00		0.1181	61.0	33.0
3.175	1/8"	0.1250	65.0	36.0
3.30		0.1299	65.0	36.0
3.50		0.1377	70.0	39.0
3.571	9/64"	0.1406	70.0	39.0
3.967	5/32"	0.1562	75.0	43.0
4.00		0.1574	75.0	43.0
4.20		0.1653	75.0	43.0
4.364	11/64"	0.1718	80.0	47.0
4.50		0.1771	80.0	47.0
4.763	3/16"	0.1875	86.0	52.0
5.00		0.1968	86.0	52.0
5.159	13/64"	0.2031	86.0	52.0
5.50		0.2165	93.0	57.0
5.555	7/32"	0.2187	93.0	57.0
5.951	15/64"	0.2343	93.0	57.0
6.00		0.2362	93.0	57.0
6.350	1/4"	0.2500	101.0	63.0
6.50		0.2559	101.0	63.0
6.746	17/64"	0.2656	109.0	69.0
6.80		0.2677	109.0	69.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
7.00		0.2755	109.0	69.0
7.142	9/32"	0.2812	109.0	69.0
7.50		0.2952	109.0	69.0
7.539	19/64"	0.2968	117.0	75.0
7.938	5/16"	0.3125	117.0	75.0
8.00		0.3149	117.0	75.0
8.334	21/64"	0.3281	117.0	75.0
8.50		0.3346	117.0	75.0
8.731	11/32"	0.3437	125.0	81.0
9.00		0.3543	125.0	81.0
9.126	23/64"	0.3593	125.0	81.0
9.50		0.3740	125.0	81.0
9.525	3/8"	0.3750	133.0	87.0
9.921	25/64"	0.3906	133.0	87.0
10.00		0.3937	133.0	87.0
10.20		0.4015	133.0	87.0
10.317	13/32"	0.4062	133.0	87.0
10.50		0.4133	133.0	87.0
10.714	27/64"	0.4218	142.0	94.0
11.00		0.4330	142.0	94.0
11.113	7/16"	0.4375	142.0	94.0
11.50		0.4527	142.0	94.0
11.509	29/64"	0.4531	142.0	94.0
11.905	15/32"	0.4687	151.0	101.0
12.00		0.4724	151.0	101.0
12.301	31/64"	0.4843	151.0	101.0
12.50		0.4921	151.0	101.0
12.700	1/2"	0.5000	151.0	101.0
13.00		0.5118	151.0	101.0

01401

HSCo Straight Shank DIN338 SM200 Jobber Drill

Deep-hole drill with high heat resistance to drill non alloyed and alloyed steels as well as long chipping materials with tensile strength up to 1300N/mm². Because of the special point design optimised chip breaking and reduced feed force and torque are required. Ample chip space enables drilling over 5 times diameter deep without pecking.



Available as TiN coated as O1405

Available as TiCN coated as O1408

DRILLING

Discount Group	O1
Material	HSCo
Standard	DIN338
Depth Of Cut	6 x Ø
Point Angle	135° Split

Packing Unit	All Sizes Packed in 1's
Surface Treatment	Bright
Shank Type	Straight
Tolerance	h8
Cutting Direction	RH

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
2.50		0.0984	57.0	30.0
3.00		0.1181	61.0	33.0
3.10		0.1220	65.0	36.0
3.175	1/8"	0.1250	65.0	36.0
3.20		0.1259	65.0	36.0
3.30		0.1299	65.0	36.0
3.40		0.1338	70.0	39.0
3.50		0.1377	70.0	39.0
3.60		0.1417	70.0	39.0
3.70		0.1456	70.0	39.0
3.80		0.1496	75.0	43.0
3.90		0.1535	75.0	43.0
3.967	5/32"	0.1562	75.0	43.0
4.00		0.1574	75.0	43.0
4.10		0.1614	75.0	43.0
4.20		0.1653	75.0	43.0
4.30		0.1692	80.0	47.0
4.40		0.1732	80.0	47.0
4.50		0.1771	80.0	47.0
4.60		0.1811	80.0	47.0
4.70		0.1850	80.0	47.0
4.763	3/16"	0.1875	86.0	52.0
4.80		0.1889	86.0	52.0
4.90		0.1929	86.0	52.0
5.00		0.1968	86.0	52.0
5.10		0.2007	86.0	52.0
5.20		0.2047	86.0	52.0
5.30		0.2086	86.0	52.0
5.40		0.2125	93.0	57.0
5.50		0.2165	93.0	57.0
5.555	7/32"	0.2187	93.0	57.0
5.60		0.2204	93.0	57.0

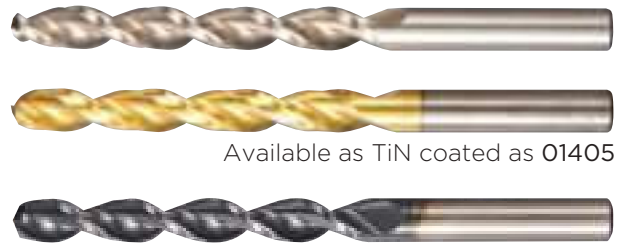
Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
5.70		0.2244	93.0	57.0
5.80		0.2283	93.0	57.0
5.90		0.2322	93.0	57.0
6.00		0.2362	93.0	57.0
6.10		0.2401	101.0	63.0
6.20		0.2440	101.0	63.0
6.30		0.2480	101.0	63.0
6.350	1/4"	0.2500	101.0	63.0
6.40		0.2519	101.0	63.0
6.50		0.2559	101.0	63.0
6.60		0.2598	101.0	63.0
6.70		0.2637	101.0	63.0
6.80		0.2677	109.0	69.0
6.90		0.2716	109.0	69.0
7.00		0.2755	109.0	69.0
7.10		0.2795	109.0	69.0
7.142	9/32"	0.2812	109.0	69.0
7.20		0.2834	109.0	69.0
7.30		0.2874	109.0	69.0
7.40		0.2913	109.0	69.0
7.50		0.2952	109.0	69.0
7.60		0.2992	117.0	75.0
7.70		0.3031	117.0	75.0
7.80		0.3070	117.0	75.0
7.90		0.3110	117.0	75.0
7.938	5/16"	0.3125	117.0	75.0
8.00		0.3149	117.0	75.0
8.10		0.3188	117.0	75.0
8.20		0.3228	117.0	75.0
8.30		0.3267	117.0	75.0
8.40		0.3307	117.0	75.0
8.50		0.3346	117.0	75.0

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01401

HSCo Straight Shank DIN338 SM200 Jobber Drill

Deep-hole drill with high heat resistance to drill non alloyed and alloyed steels as well as long chipping materials with tensile strength up to 1300N/mm². Because of the special point design optimised chip breaking and reduced feed force and torque are required. Ample chip space enables drilling over 5 times diameter deep without pecking.



Available as TiN coated as 01405

Available as TiCN coated as 01408

Discount Group	01
Material	HSCo
Standard	DIN338
Depth Of Cut	6 x Ø
Point Angle	135° Split

Packing Unit	All Sizes Packed in 1's
Surface Treatment	Bright
Shank Type	Straight
Tolerance	h8
Cutting Direction	RH

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
8.60		0.3385	125.0	81.0
8.70		0.3425	125.0	81.0
8.731	11/32"	0.3437	125.0	81.0
8.80		0.3464	125.0	81.0
8.90		0.3503	125.0	81.0
9.00		0.3543	125.0	81.0
9.10		0.3582	125.0	81.0
9.20		0.3622	125.0	81.0
9.30		0.3661	125.0	81.0
9.40		0.3700	125.0	81.0
9.50		0.3740	125.0	81.0
9.525	3/8"	0.3750	133.0	87.0
9.60		0.3779	133.0	87.0
9.70		0.3818	133.0	87.0
9.80		0.3858	133.0	87.0
9.90		0.3897	133.0	87.0
10.00		0.3937	133.0	87.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
10.20		0.4015	133.0	87.0
10.317	13/32"	0.4062	133.0	87.0
10.50		0.4133	133.0	87.0
10.80		0.4251	142.0	94.0
11.00		0.4330	142.0	94.0
11.113	7/16"	0.4375	142.0	94.0
11.20		0.4409	142.0	94.0
11.50		0.4527	142.0	94.0
11.80		0.4645	142.0	94.0
11.905	15/32"	0.4687	151.0	101.0
12.00		0.4724	151.0	101.0
12.20		0.4803	151.0	101.0
12.50		0.4921	151.0	101.0
12.700	1/2"	0.5000	151.0	101.0
12.80		0.5039	151.0	101.0
13.00		0.5118	151.0	101.0

01217

Precision Carbide Tipped Straight Shank DIN338 Jobber Drill



Carbide tipped precision drills are designed for cutting hard and very abrasive materials like hardened steel, cast iron and reinforced plastics.

Discount Group	47
Material	CARBIDE
Standard	DIN338
Depth Of Cut	4 x Ø
Point Angle	120°
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h7

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
2.381	3/32"	0.0937	50.8	25.4
3.00		0.1181	61.0	33.0
3.175	1/8"	0.1250	65.0	36.0
3.50		0.1377	70.0	39.0
3.967	5/32"	0.1562	75.0	43.0
4.00		0.1574	75.0	43.0
4.50		0.1771	80.0	47.0
4.763	3/16"	0.1875	86.0	52.0
5.00		0.1968	86.0	52.0
5.50		0.2165	93.0	57.0
6.00		0.2362	93.0	57.0
6.350	1/4"	0.2500	101.0	63.0
6.50		0.2559	101.0	63.0
7.00		0.2755	109.0	69.0
7.50		0.2952	109.0	69.0
8.00		0.3149	117.0	75.0
8.50		0.3346	117.0	75.0
9.00		0.3543	125.0	81.0
9.50		0.3740	125.0	81.0
10.00		0.3937	133.0	87.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
10.50		0.4133	133.0	87.0
11.00		0.4330	142.0	94.0
11.50		0.4527	142.0	94.0
12.00		0.4724	151.0	101.0
12.50		0.4921	151.0	101.0
13.00		0.5118	151.0	101.0
13.50		0.5314	160.0	108.0
14.00		0.5511	160.0	108.0
14.50		0.5708	169.0	114.0
15.00		0.5905	169.0	114.0
15.50		0.6102	178.0	120.0
16.00		0.6299	178.0	120.0
16.50		0.6496	184.0	125.0
17.00		0.6692	184.0	125.0
17.50		0.6889	191.0	130.0
18.00		0.7086	191.0	130.0
18.50		0.7283	198.0	135.0
19.00		0.7480	198.0	135.0
19.50		0.7677	205.0	140.0
20.00		0.7874	205.0	140.0

20100

Solid Carbide Straight Shank DIN338 Drill



General purpose drill intended mainly to drill non-ferrous metals and abrasive plastics, but also useable for general applications. Designed to drill upto 5 times diameter deep.

Discount Group	46
Material	K15
Standard	DIN338
Depth Of Cut	5 x Ø
Point Angle	118°
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h7

Ø mm	Ø Dec Inch	O/all Length mm	Flute Length mm
1.00	0.0393	34.0	12.0
1.50	0.0590	40.0	18.0
2.00	0.0787	49.0	24.0
2.50	0.0984	57.0	30.0
3.00	0.1181	61.0	33.0
3.50	0.1377	70.0	39.0
4.00	0.1574	75.0	43.0
4.50	0.1771	80.0	47.0
5.00	0.1968	86.0	52.0
5.50	0.2165	93.0	57.0
6.00	0.2362	93.0	57.0
6.50	0.2559	101.0	63.0
7.00	0.2755	109.0	69.0

Ø mm	Ø Dec Inch	O/all Length mm	Flute Length mm
7.50	0.2952	109.0	69.0
8.00	0.3149	117.0	75.0
8.50	0.3346	117.0	75.0
9.00	0.3543	125.0	81.0
9.50	0.3740	125.0	81.0
10.00	0.3937	133.0	87.0
10.50	0.4133	133.0	87.0
11.00	0.4330	142.0	94.0
11.50	0.4527	142.0	94.0
12.00	0.4724	151.0	101.0
12.50	0.4921	151.0	101.0
13.00	0.5118	151.0	101.0

02000

HSS Straight Shank DIN1897 Stub Drill



General-purpose-drill for use on automatics and turret lathes. To drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. The split point provides better positioning and reduced feed force and torque.

Discount Group	02	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	DIN1897	Helix Group (Din1836)	N
Depth Of Cut	2.5 x Ø	Cutting Direction	RH
Point Angle	118° Split	Tolerance	h8
Packing Unit	<=6.35mm (1/4") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
1.00		0.0393	26.0	6.0
1.10		0.0433	28.0	7.0
1.189	3/64"	0.0468	30.0	8.0
1.20		0.0472	30.0	8.0
1.30		0.0511	30.0	8.0
1.40		0.0551	32.0	9.0
1.50		0.0590	32.0	9.0
1.588	1/16"	0.0625	34.0	10.0
1.60		0.0629	34.0	10.0
1.70		0.0669	34.0	10.0
1.80		0.0708	36.0	11.0
1.90		0.0748	36.0	11.0
1.984	5/64"	0.0781	38.0	12.0
2.00		0.0787	38.0	12.0
2.10		0.0826	38.0	12.0
2.20		0.0866	40.0	13.0
2.30		0.0905	40.0	13.0
2.381	3/32"	0.0937	43.0	14.0
2.40		0.0944	43.0	14.0
2.45		0.0964	43.0	14.0
2.50		0.0984	43.0	14.0
2.55		0.1003	43.0	14.0
2.60		0.1023	43.0	14.0
2.70		0.1062	46.0	16.0
2.776	7/64"	0.1093	46.0	16.0
2.80		0.1102	46.0	16.0
2.90		0.1141	46.0	16.0
3.00		0.1181	46.0	16.0
3.10		0.1220	49.0	18.0
3.175	1/8"	0.1250	49.0	18.0
3.20		0.1259	49.0	18.0
3.25		0.1279	49.0	18.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
3.30		0.1299	49.0	18.0
3.40		0.1338	52.0	20.0
3.50		0.1377	52.0	20.0
3.571	9/64"	0.1406	52.0	20.0
3.60		0.1417	52.0	20.0
3.70		0.1456	52.0	20.0
3.80		0.1496	55.0	22.0
3.90		0.1535	55.0	22.0
3.967	5/32"	0.1562	55.0	22.0
4.00		0.1574	55.0	22.0
4.10		0.1614	55.0	22.0
4.20		0.1653	55.0	22.0
4.25		0.1673	55.0	22.0
4.30		0.1692	58.0	24.0
4.364	11/64"	0.1718	58.0	24.0
4.40		0.1732	58.0	24.0
4.50		0.1771	58.0	24.0
4.60		0.1811	58.0	24.0
4.70		0.1850	58.0	24.0
4.763	3/16"	0.1875	62.0	26.0
4.80		0.1889	62.0	26.0
4.90		0.1929	62.0	26.0
5.00		0.1968	62.0	26.0
5.10		0.2007	62.0	26.0
5.159	13/64"	0.2031	62.0	26.0
5.20		0.2047	62.0	26.0
5.30		0.2086	62.0	26.0
5.40		0.2125	66.0	28.0
5.50		0.2165	66.0	28.0
5.555	7/32"	0.2187	66.0	28.0
5.60		0.2204	66.0	28.0
5.70		0.2244	66.0	28.0

continued on p41

02000

HSS Straight Shank DIN1897 Stub Drill



General-purpose-drill for use on automatics and turret lathes. To drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. The split point provides better positioning and reduced feed force and torque.

Discount Group	O2	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	DIN1897	Helix Group (Din1836)	N
Depth Of Cut	2.5 x Ø	Cutting Direction	RH
Point Angle	118° Split	Tolerance	h8
Packing Unit	<=6.35mm (1/4") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
5.80		0.2283	66.0	28.0
5.90		0.2322	66.0	28.0
5.951	15/64"	0.2343	66.0	28.0
6.00		0.2362	66.0	28.0
6.10		0.2401	70.0	31.0
6.20		0.2440	70.0	31.0
6.30		0.2480	70.0	31.0
6.350	1/4"	0.2500	70.0	31.0
6.40		0.2519	70.0	31.0
6.50		0.2559	70.0	31.0
6.60		0.2598	70.0	31.0
6.70		0.2637	70.0	31.0
6.746	17/64"	0.2656	74.0	34.0
6.80		0.2677	74.0	34.0
6.90		0.2716	74.0	34.0
7.00		0.2755	74.0	34.0
7.10		0.2795	74.0	34.0
7.142	9/32"	0.2812	74.0	34.0
7.20		0.2834	74.0	34.0
7.30		0.2874	74.0	34.0
7.40		0.2913	74.0	34.0
7.50		0.2952	74.0	34.0
7.539	19/64"	0.2968	79.0	37.0
7.60		0.2992	79.0	37.0
7.70		0.3031	79.0	37.0
7.80		0.3070	79.0	37.0
7.90		0.3110	79.0	37.0
7.938	5/16"	0.3125	79.0	37.0
8.00		0.3149	79.0	37.0
8.10		0.3188	79.0	37.0
8.20		0.3228	79.0	37.0
8.30		0.3267	79.0	37.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
8.334	21/64"	0.3281	79.0	37.0
8.40		0.3307	79.0	37.0
8.50		0.3346	79.0	37.0
8.60		0.3385	84.0	40.0
8.70		0.3425	84.0	40.0
8.731	11/32"	0.3437	84.0	40.0
8.80		0.3464	84.0	40.0
8.90		0.3503	84.0	40.0
9.00		0.3543	84.0	40.0
9.10		0.3582	84.0	40.0
9.126	23/64"	0.3593	84.0	40.0
9.20		0.3622	84.0	40.0
9.30		0.3661	84.0	40.0
9.40		0.3700	84.0	40.0
9.50		0.3740	84.0	40.0
9.525	3/8"	0.3750	89.0	43.0
9.60		0.3779	89.0	43.0
9.70		0.3818	89.0	43.0
9.80		0.3858	89.0	43.0
9.90		0.3897	89.0	43.0
9.921	25/64"	0.3906	89.0	43.0
10.00		0.3937	89.0	43.0
10.10		0.3976	89.0	43.0
10.20		0.4015	89.0	43.0
10.30		0.4055	89.0	43.0
10.317	13/32"	0.4062	89.0	43.0
10.40		0.4094	89.0	43.0
10.50		0.4133	89.0	43.0
10.60		0.4173	89.0	43.0
10.70		0.4212	95.0	47.0
10.714	27/64"	0.4218	95.0	47.0
10.80		0.4251	95.0	47.0

continued on p42

O2000

HSS Straight Shank

DIN1897 Stub Drill



DRILLING

General-purpose-drill for use on automatics and turret lathes. To drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. The split point provides better positioning and reduced feed force and torque.

Discount Group	O2	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	DIN1897	Helix Group (Din1836)	N
Depth Of Cut	2.5 x Ø	Cutting Direction	RH
Point Angle	118° Split	Tolerance	h8
Packing Unit	<=6.35mm (1/4") in 10's, >8.50mm - 13.00mm (1/2") in 5's, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
10.90		0.4291	95.0	47.0
11.00		0.4330	95.0	47.0
11.10		0.4370	95.0	47.0
11.113	7/16"	0.4375	95.0	47.0
11.20		0.4409	95.0	47.0
11.30		0.4448	95.0	47.0
11.40		0.4488	95.0	47.0
11.50		0.4527	95.0	47.0
11.509	29/64"	0.4531	95.0	47.0
11.60		0.4566	95.0	47.0
11.70		0.4606	95.0	47.0
11.80		0.4645	95.0	47.0
11.90		0.4685	102.0	51.0
11.905	15/32"	0.4687	102.0	51.0
12.00		0.4724	102.0	51.0
12.10		0.4763	102.0	51.0
12.20		0.4803	102.0	51.0
12.30		0.4842	102.0	51.0
12.301	31/64"	0.4843	102.0	51.0
12.40		0.4881	102.0	51.0
12.50		0.4921	102.0	51.0
12.60		0.4960	102.0	51.0
12.700	1/2"	0.5000	102.0	51.0
12.80		0.5039	102.0	51.0
12.90		0.5078	102.0	51.0
13.00		0.5118	102.0	51.0
13.492	17/32"	0.5312	107.0	54.0
13.50		0.5314	107.0	54.0
14.00		0.5511	107.0	54.0
14.288	9/16"	0.5625	111.0	56.0
14.50		0.5708	111.0	56.0
15.00		0.5905	111.0	56.0
15.081	19/32"	0.5937	115.0	58.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
15.50		0.6102	115.0	58.0
15.875	5/8"	0.6250	115.0	58.0
16.00		0.6299	115.0	58.0
16.50		0.6496	119.0	60.0
16.667	21/32"	0.6562	119.0	60.0
17.00		0.6692	119.0	60.0
17.463	11/16"	0.6875	123.0	62.0
17.50		0.6889	123.0	62.0
18.00		0.7086	123.0	62.0
18.255	23/32"	0.7187	127.0	64.0
18.50		0.7283	127.0	64.0
19.00		0.7480	127.0	64.0
19.050	3/4"	0.7500	131.0	66.0
19.50		0.7677	131.0	66.0
19.842	25/32"	0.7812	131.0	66.0
20.00		0.7874	131.0	66.0
20.638	13/16"	0.8125	136.0	68.0
21.00		0.8267	136.0	68.0
21.431	27/32"	0.8437	141.0	70.0
22.00		0.8661	141.0	70.0
22.225	7/8"	0.8750	141.0	70.0
23.00		0.9055	146.0	72.0
23.017	29/32"	0.9062	146.0	72.0
23.813	15/16"	0.9375	151.0	75.0
24.00		0.9448	151.0	75.0
24.605	31/32"	0.9687	151.0	75.0
25.00		0.9842	151.0	75.0
25.400	1"	1.0000	156.0	78.0
26.00		1.0236	156.0	78.0
27.00		1.0629	162.0	81.0
28.00		1.1023	162.0	81.0
29.00		1.1417	168.0	84.0
30.00		1.1811	168.0	84.0

02005

HSS Straight Shank DIN1897 Stub Drill - TiN



Design and application like List-No. 02000.
TiN Coating provides longer tool life or increased cutting speeds.

Discount Group	35
Material	HSS
Standard	DIN1897
Depth Of Cut	2.5 x Ø
Point Angle	118° Split
Packing Unit	All Sizes Packed in 1's

Surface Treatment	TiN
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h8

Ø mm	Ø Dec Inch	O/all Length mm	Flute Length mm
3.00	0.1181	46.0	16.0
3.50	0.1377	52.0	20.0
3.70	0.1456	52.0	20.0
3.80	0.1496	55.0	22.0
4.00	0.1574	55.0	22.0
4.20	0.1653	55.0	22.0
4.50	0.1771	58.0	24.0
5.00	0.1968	62.0	26.0
5.50	0.2165	66.0	28.0
6.00	0.2362	66.0	28.0
6.50	0.2559	70.0	31.0
6.80	0.2677	74.0	34.0
7.00	0.2755	74.0	34.0
7.50	0.2952	74.0	34.0
8.00	0.3149	79.0	37.0
8.50	0.3346	79.0	37.0
9.00	0.3543	84.0	40.0
9.50	0.3740	84.0	40.0
10.00	0.3937	89.0	43.0
10.20	0.4015	89.0	43.0

Ø mm	Ø Dec Inch	O/all Length mm	Flute Length mm
10.50	0.4133	89.0	43.0
11.00	0.4330	95.0	47.0
11.50	0.4527	95.0	47.0
12.00	0.4724	102.0	51.0
12.50	0.4921	102.0	51.0
13.00	0.5118	102.0	51.0
13.50	0.5314	107.0	54.0
14.00	0.5511	107.0	54.0
14.50	0.5708	111.0	56.0
15.00	0.5905	111.0	56.0
15.50	0.6102	115.0	58.0
16.00	0.6299	115.0	58.0
16.50	0.6496	119.0	60.0
17.00	0.6692	119.0	60.0
17.50	0.6889	123.0	62.0
18.00	0.7086	123.0	62.0
18.50	0.7283	127.0	64.0
19.00	0.7480	127.0	64.0
19.50	0.7677	131.0	66.0
20.00	0.7874	131.0	66.0

08100

HSS Straight Shank DIN1897 RIVBIT Sheet Metal Drill



Single end twist drill, to drill sheet metals. Especially designed for thin sheet metal and car body building and for rivet holes. Mainly used in hand drills.

Discount Group	02
Material	HSS
Standard	-DIN1897
Depth Of Cut	1.5 x Ø
Point Angle	135° Split
Packing Unit	All Sizes Packed in 10's

Surface Treatment	Steam
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h8

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
2.381	3/32"	0.0937	43.0	14.0
3.00		0.1181	46.0	16.0
3.10		0.1220	49.0	18.0
3.175	1/8"	0.1250	49.0	18.0
3.20		0.1259	49.0	18.0
3.25		0.1279	49.0	18.0
3.30		0.1299	49.0	18.0
3.50		0.1377	52.0	20.0
3.967	5/32"	0.1562	55.0	22.0
4.00		0.1574	55.0	22.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
4.10		0.1614	55.0	22.0
4.20		0.1653	55.0	22.0
4.50		0.1771	58.0	24.0
4.763	3/16"	0.1875	62.0	26.0
4.90		0.1929	62.0	26.0
5.00		0.1968	62.0	26.0
5.50		0.2165	66.0	28.0
5.555	7/32"	0.2187	66.0	28.0
6.00		0.2362	66.0	28.0
6.350	1/4"	0.2500	70.0	31.0

08150

HSS Straight Shank DIN1897 Double Ended Sheet Metal Drill



Double end twist drill, to drill sheet metals. Especially designed for thin sheet metal and carbody building and for rivet holes. Mainly used in hand drills. Same as 08100, but with 2 drilling ends.

Discount Group	02	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	-DIN1897	Helix Group (Din1836)	N
Depth Of Cut	1.5 x Ø	Cutting Direction	RH
Point Angle	135° Split	Tolerance	h8
Packing Unit	<=8.50mm (21/64") in 10's, >8.50mm - 10.00mm in 5's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
2.00		0.0787	38.0	12.0
2.381	3/32"	0.0937	43.0	14.0
2.50		0.0984	43.0	14.0
3.00		0.1181	46.0	16.0
3.10		0.1220	49.0	18.0
3.175	1/8"	0.1250	49.0	18.0
3.20		0.1259	49.0	18.0
3.25		0.1279	49.0	18.0
3.30		0.1299	49.0	18.0
3.50		0.1377	52.0	20.0
3.967	5/32"	0.1562	55.0	22.0
4.00		0.1574	55.0	22.0
4.10		0.1614	55.0	22.0
4.20		0.1653	55.0	22.0
4.50		0.1771	58.0	24.0
4.763	3/16"	0.1875	62.0	26.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
4.90		0.1929	62.0	26.0
5.00		0.1968	62.0	26.0
5.10		0.2007	62.0	26.0
5.20		0.2047	62.0	26.0
5.50		0.2165	66.0	28.0
5.555	7/32"	0.2187	66.0	28.0
6.00		0.2362	66.0	28.0
6.20		0.2440	70.0	31.0
6.350	1/4"	0.2500	70.0	31.0
6.50		0.2559	70.0	31.0
6.80		0.2677	74.0	34.0
7.00		0.2755	74.0	34.0
7.142	9/32"	0.2812	74.0	34.0
8.00		0.3149	79.0	37.0
10.00		0.3937	89.0	43.0

08300

HSS Straight Shank
Panel Drill

Single end twist drill, to drill sheet metals. Especially designed for thin sheet metal in the aerospace industry. Mainly used in hand drills.

Discount Group	02
Material	HSS
Standard	-DIN1897
Depth Of Cut	1.5 x Ø
Point Angle	118°
Packing Unit	All Sizes Packed in 10's

Surface Treatment	Steam
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h8

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
2.381	3/32"	0.0937	43.0	14.0
3.175	1/8"	0.1250	49.0	18.0
3.967	5/32"	0.1562	55.0	22.0
4.763	3/16"	0.1875	62.0	26.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
5.555	7/32"	0.2187	66.0	28.0
6.350	1/4"	0.2500	70.0	31.0
7.938	5/16"	0.3125	79.0	37.0

O2111

HSCo Straight Shank DIN1897 Stub Drill



Heavy-duty drill made of cobalt material with excellent heat resistance. To drill steels with tensile strength up to 1400N/mm², very hard bronze, stainless steels as well as heat and acid resistant steels. Particularly applicable on automatics.

Discount Group	O1	Surface Treatment	Bronze
Material	HSCo	Shank Type	Straight
Standard	DIN1897	Helix Group (Din1836)	N
Depth Of Cut	2.5 x Ø	Cutting Direction	RH
Point Angle	135° Split	Tolerance	h8
Packing Unit	<= 1.90mm (1/16") in 10's, >1.90mm - 13.00mm (1/2") in 5,s, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
1.00		0.0393	26.0	6.0
1.10		0.0433	28.0	7.0
1.20		0.0472	30.0	8.0
1.30		0.0511	30.0	8.0
1.40		0.0551	32.0	9.0
1.50		0.0590	32.0	9.0
1.588	1/16"	0.0625	34.0	10.0
1.60		0.0629	34.0	10.0
1.70		0.0669	34.0	10.0
1.80		0.0708	36.0	11.0
1.90		0.0748	36.0	11.0
2.00		0.0787	38.0	12.0
2.10		0.0826	38.0	12.0
2.20		0.0866	40.0	13.0
2.30		0.0905	40.0	13.0
2.381	3/32"	0.0937	43.0	14.0
2.40		0.0944	43.0	14.0
2.50		0.0984	43.0	14.0
2.60		0.1023	43.0	14.0
2.70		0.1062	46.0	16.0
2.776	7/64"	0.1093	46.0	16.0
2.80		0.1102	46.0	16.0
2.90		0.1141	46.0	16.0
3.00		0.1181	46.0	16.0
3.10		0.1220	49.0	18.0
3.175	1/8"	0.1250	49.0	18.0
3.20		0.1259	49.0	18.0
3.30		0.1299	49.0	18.0
3.40		0.1338	52.0	20.0
3.50		0.1377	52.0	20.0
3.60		0.1417	52.0	20.0
3.70		0.1456	52.0	20.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
3.80		0.1496	55.0	22.0
3.90		0.1535	55.0	22.0
3.967	5/32"	0.1562	55.0	22.0
4.00		0.1574	55.0	22.0
4.10		0.1614	55.0	22.0
4.20		0.1653	55.0	22.0
4.30		0.1692	58.0	24.0
4.40		0.1732	58.0	24.0
4.50		0.1771	58.0	24.0
4.60		0.1811	58.0	24.0
4.70		0.1850	58.0	24.0
4.763	3/16"	0.1875	62.0	26.0
4.80		0.1889	62.0	26.0
4.90		0.1929	62.0	26.0
5.00		0.1968	62.0	26.0
5.10		0.2007	62.0	26.0
5.20		0.2047	62.0	26.0
5.30		0.2086	62.0	26.0
5.40		0.2125	66.0	28.0
5.50		0.2165	66.0	28.0
5.555	7/32"	0.2187	66.0	28.0
5.60		0.2204	66.0	28.0
5.70		0.2244	66.0	28.0
5.80		0.2283	66.0	28.0
5.90		0.2322	66.0	28.0
6.00		0.2362	66.0	28.0
6.10		0.2401	70.0	31.0
6.20		0.2440	70.0	31.0
6.30		0.2480	70.0	31.0
6.350	1/4"	0.2500	70.0	31.0
6.40		0.2519	70.0	31.0
6.50		0.2559	70.0	31.0

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O2111

HSCo Straight Shank
DIN1897 Stub Drill

Heavy-duty drill made of cobalt material with excellent heat resistance. To drill steels with tensile strength up to 1400N/mm², very hard bronze, stainless steels as well as heat and acid resistant steels. Particularly applicable on automatics.

Discount Group	01	Surface Treatment	Bronze
Material	HSCo	Shank Type	Straight
Standard	DIN1897	Helix Group (Din1836)	N
Depth Of Cut	2.5 x Ø	Cutting Direction	RH
Point Angle	135° Split	Tolerance	h8
Packing Unit	<= 1.90mm (1/16") in 10's, >1.90mm - 13.00mm (1/2") in 5,s, >13.00mm in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
6.60		0.2598	70.0	31.0
6.70		0.2637	70.0	31.0
6.80		0.2677	74.0	34.0
6.90		0.2716	74.0	34.0
7.00		0.2755	74.0	34.0
7.10		0.2795	74.0	34.0
7.142	9/32"	0.2812	74.0	34.0
7.20		0.2834	74.0	34.0
7.30		0.2874	74.0	34.0
7.40		0.2913	74.0	34.0
7.50		0.2952	74.0	34.0
7.60		0.2992	79.0	37.0
7.70		0.3031	79.0	37.0
7.80		0.3070	79.0	37.0
7.90		0.3110	79.0	37.0
7.938	5/16"	0.3125	79.0	37.0
8.00		0.3149	79.0	37.0
8.10		0.3188	79.0	37.0
8.20		0.3228	79.0	37.0
8.30		0.3267	79.0	37.0
8.40		0.3307	79.0	37.0
8.50		0.3346	79.0	37.0
8.60		0.3385	84.0	40.0
8.70		0.3425	84.0	40.0
8.731	11/32"	0.3437	84.0	40.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
8.80		0.3464	84.0	40.0
8.90		0.3503	84.0	40.0
9.00		0.3543	84.0	40.0
9.10		0.3582	84.0	40.0
9.20		0.3622	84.0	40.0
9.30		0.3661	84.0	40.0
9.40		0.3700	84.0	40.0
9.50		0.3740	84.0	40.0
9.525	3/8"	0.3750	89.0	43.0
9.60		0.3779	89.0	43.0
9.70		0.3818	89.0	43.0
9.80		0.3858	89.0	43.0
9.90		0.3897	89.0	43.0
10.00		0.3937	89.0	43.0
10.20		0.4015	89.0	43.0
10.317	13/32"	0.4062	89.0	43.0
10.50		0.4133	89.0	43.0
11.00		0.4330	95.0	47.0
11.113	7/16"	0.4375	95.0	47.0
11.50		0.4527	95.0	47.0
11.905	15/32"	0.4687	102.0	51.0
12.00		0.4724	102.0	51.0
12.50		0.4921	102.0	51.0
12.700	1/2"	0.5000	102.0	51.0
13.00		0.5118	102.0	51.0

O2115

HSCo Straight Shank DIN1897 Stub Drill - TiN



Design and application like List-No. O2111.
TiN coating provides longer tool life or increased cutting speeds.

Discount Group	36
Material	HSCo
Standard	DIN1897
Depth Of Cut	2.5 x Ø
Point Angle	135° Split
Packing Unit	All Sizes Packed in 1's

Surface Treatment	TiN
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h8

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
1.00		0.0393	26.0	6.0
1.10		0.0433	28.0	7.0
1.20		0.0472	30.0	8.0
1.30		0.0511	30.0	8.0
1.40		0.0551	32.0	9.0
1.50		0.0590	32.0	9.0
1.588	1/16"	0.0625	34.0	10.0
1.60		0.0629	34.0	10.0
1.70		0.0669	34.0	10.0
1.80		0.0708	36.0	11.0
1.90		0.0748	36.0	11.0
2.00		0.0787	38.0	12.0
2.10		0.0826	38.0	12.0
2.20		0.0866	40.0	13.0
2.30		0.0905	40.0	13.0
2.381	3/32"	0.0937	43.0	14.0
2.40		0.0944	43.0	14.0
2.50		0.0984	43.0	14.0
2.60		0.1023	43.0	14.0
2.70		0.1062	46.0	16.0
2.80		0.1102	46.0	16.0
2.90		0.1141	46.0	16.0
3.00		0.1181	46.0	16.0
3.10		0.1220	49.0	18.0
3.175	1/8"	0.1250	49.0	18.0
3.20		0.1259	49.0	18.0
3.30		0.1299	49.0	18.0
3.40		0.1338	52.0	20.0
3.50		0.1377	52.0	20.0
3.60		0.1417	52.0	20.0
3.70		0.1456	52.0	20.0
3.80		0.1496	55.0	22.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
3.90		0.1535	55.0	22.0
3.967	5/32"	0.1562	55.0	22.0
4.00		0.1574	55.0	22.0
4.10		0.1614	55.0	22.0
4.20		0.1653	55.0	22.0
4.30		0.1692	58.0	24.0
4.40		0.1732	58.0	24.0
4.50		0.1771	58.0	24.0
4.60		0.1811	58.0	24.0
4.70		0.1850	58.0	24.0
4.763	3/16"	0.1875	62.0	26.0
4.80		0.1889	62.0	26.0
4.90		0.1929	62.0	26.0
5.00		0.1968	62.0	26.0
5.10		0.2007	62.0	26.0
5.20		0.2047	62.0	26.0
5.30		0.2086	62.0	26.0
5.40		0.2125	66.0	28.0
5.50		0.2165	66.0	28.0
5.555	7/32"	0.2187	66.0	28.0
5.60		0.2204	66.0	28.0
5.70		0.2244	66.0	28.0
5.80		0.2283	66.0	28.0
5.90		0.2322	66.0	28.0
6.00		0.2362	66.0	28.0
6.10		0.2401	70.0	31.0
6.20		0.2440	70.0	31.0
6.30		0.2480	70.0	31.0
6.350	1/4"	0.2500	70.0	31.0
6.40		0.2519	70.0	31.0
6.50		0.2559	70.0	31.0
6.60		0.2598	70.0	31.0

continued on p50

O2115

HSCo Straight Shank
DIN1897 Stub Drill - TiN

Design and application like List-No. O2111.
TiN coating provides longer tool life or increased cutting speeds.

Discount Group	36
Material	HSCo
Standard	DIN1897
Depth Of Cut	2.5 x Ø
Point Angle	135° Split
Packing Unit	All Sizes Packed in 1's

Surface Treatment	TiN
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h8

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
6.70		0.2637	70.0	31.0
6.80		0.2677	74.0	34.0
6.90		0.2716	74.0	34.0
7.00		0.2755	74.0	34.0
7.10		0.2795	74.0	34.0
7.142	9/32"	0.2812	74.0	34.0
7.20		0.2834	74.0	34.0
7.30		0.2874	74.0	34.0
7.40		0.2913	74.0	34.0
7.50		0.2952	74.0	34.0
7.60		0.2992	79.0	37.0
7.70		0.3031	79.0	37.0
7.80		0.3070	79.0	37.0
7.90		0.3110	79.0	37.0
7.938	5/16"	0.3125	79.0	37.0
8.00		0.3149	79.0	37.0
8.10		0.3188	79.0	37.0
8.20		0.3228	79.0	37.0
8.30		0.3267	79.0	37.0
8.40		0.3307	79.0	37.0
8.50		0.3346	79.0	37.0
8.60		0.3385	84.0	40.0
8.70		0.3425	84.0	40.0
8.731	11/32"	0.3437	84.0	40.0
8.80		0.3464	84.0	40.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
8.90		0.3503	84.0	40.0
9.00		0.3543	84.0	40.0
9.10		0.3582	84.0	40.0
9.20		0.3622	84.0	40.0
9.30		0.3661	84.0	40.0
9.40		0.3700	84.0	40.0
9.50		0.3740	84.0	40.0
9.525	3/8"	0.3750	89.0	43.0
9.60		0.3779	89.0	43.0
9.70		0.3818	89.0	43.0
9.80		0.3858	89.0	43.0
9.90		0.3897	89.0	43.0
10.00		0.3937	89.0	43.0
10.20		0.4015	89.0	43.0
10.317	13/32"	0.4062	89.0	43.0
10.50		0.4133	89.0	43.0
11.00		0.4330	95.0	47.0
11.113	7/16"	0.4375	95.0	47.0
11.50		0.4527	95.0	47.0
11.905	15/32"	0.4687	102.0	51.0
12.00		0.4724	102.0	51.0
12.50		0.4921	102.0	51.0
12.700	1/2"	0.5000	102.0	51.0
13.00		0.5118	102.0	51.0

02401

HSCo Straight Shank DIN1897 SM200 Stub Drill

Drill with high heat resistance to drill non alloyed and alloyed steels as well as long chipping materials with tensile strength up to 1300N/mm². The special point design permits optimised chip breaking and reduced feed force and torque. Particularly applicable on automatics.



Available as TiN coated as 02405

Available as TiCN coated as 02408

Discount Group	01
Material	HSCo
Standard	DIN1897
Depth Of Cut	3.0 x Ø
Point Angle	135° Split
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Shank Type	Straight
Helix Group (Din1836)	'W'
Cutting Direction	RH
Tolerance	h8

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
3.00		0.1181	46.0	16.0
3.10		0.1220	49.0	18.0
3.175	1/8"	0.1250	49.0	18.0
3.20		0.1259	49.0	18.0
3.30		0.1299	49.0	18.0
3.40		0.1338	52.0	20.0
3.50		0.1377	52.0	20.0
3.60		0.1417	52.0	20.0
3.70		0.1456	52.0	20.0
3.80		0.1496	55.0	22.0
3.90		0.1535	55.0	22.0
3.967	5/32"	0.1562	55.0	22.0
4.00		0.1574	55.0	22.0
4.10		0.1614	55.0	22.0
4.20		0.1653	55.0	22.0
4.30		0.1692	58.0	24.0
4.40		0.1732	58.0	24.0
4.50		0.1771	58.0	24.0
4.60		0.1811	58.0	24.0
4.70		0.1850	58.0	24.0
4.763	3/16"	0.1875	62.0	26.0
4.80		0.1889	62.0	26.0
4.90		0.1929	62.0	26.0
5.00		0.1968	62.0	26.0
5.10		0.2007	62.0	26.0
5.20		0.2047	62.0	26.0
5.30		0.2086	62.0	26.0
5.40		0.2125	66.0	28.0
5.50		0.2165	66.0	28.0
5.555	7/32"	0.2187	66.0	28.0
5.60		0.2204	66.0	28.0
5.70		0.2244	66.0	28.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
5.80		0.2283	66.0	28.0
5.90		0.2322	66.0	28.0
6.00		0.2362	66.0	28.0
6.10		0.2401	70.0	31.0
6.20		0.2440	70.0	31.0
6.30		0.2480	70.0	31.0
6.350	1/4"	0.2500	70.0	31.0
6.40		0.2519	70.0	31.0
6.50		0.2559	70.0	31.0
6.60		0.2598	70.0	31.0
6.70		0.2637	70.0	31.0
6.80		0.2677	74.0	34.0
6.90		0.2716	74.0	34.0
7.00		0.2755	74.0	34.0
7.10		0.2795	74.0	34.0
7.142	9/32"	0.2812	74.0	34.0
7.20		0.2834	74.0	34.0
7.30		0.2874	74.0	34.0
7.40		0.2913	74.0	34.0
7.50		0.2952	74.0	34.0
7.60		0.2992	79.0	37.0
7.70		0.3031	79.0	37.0
7.80		0.3070	79.0	37.0
7.90		0.3110	79.0	37.0
7.938	5/16"	0.3125	79.0	37.0
8.00		0.3149	79.0	37.0
8.10		0.3188	79.0	37.0
8.20		0.3228	79.0	37.0
8.30		0.3267	79.0	37.0
8.40		0.3307	79.0	37.0
8.50		0.3346	79.0	37.0
8.60		0.3385	84.0	40.0

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02401

HSCo Straight Shank DIN1897 SM200 Stub Drill

Drill with high heat resistance to drill non alloyed and alloyed steels as well as long chipping materials with tensile strength up to 1300N/mm². The special point design permits optimised chip breaking and reduced feed force and torque. Particularly applicable on automatics.



Available as TiN coated as 02405

Available as TiCN coated as 02408

DRILLING

Discount Group	01
Material	HSCo
Standard	DIN1897
Depth Of Cut	3.0 x Ø
Point Angle	135° Split
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Shank Type	Straight
Helix Group (Din1836)	'W'
Cutting Direction	RH
Tolerance	h8

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
8.70		0.3425	84.0	40.0
8.731	11/32"	0.3437	84.0	40.0
8.80		0.3464	84.0	40.0
8.90		0.3503	84.0	40.0
9.00		0.3543	84.0	40.0
9.10		0.3582	84.0	40.0
9.20		0.3622	84.0	40.0
9.30		0.3661	84.0	40.0
9.40		0.3700	84.0	40.0
9.50		0.3740	84.0	40.0
9.525	3/8"	0.3750	89.0	43.0
9.60		0.3779	89.0	43.0
9.70		0.3818	89.0	43.0
9.80		0.3858	89.0	43.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
9.90		0.3897	89.0	43.0
10.00		0.3937	89.0	43.0
10.20		0.4015	89.0	43.0
10.317	13/32"	0.4062	89.0	43.0
10.50		0.4133	89.0	43.0
11.00		0.4330	95.0	47.0
11.113	7/16"	0.4375	95.0	47.0
11.50		0.4527	95.0	47.0
11.905	15/32"	0.4687	102.0	51.0
12.00		0.4724	102.0	51.0
12.50		0.4921	102.0	51.0
12.700	1/2"	0.5000	102.0	51.0
13.00		0.5118	102.0	51.0

08050

HSCo Straight Shank DIN1897 90° Spot Drill



Special Twist Drill for precisely positioned drilling on NC-machines. For centring, deburring and chamfering of tapping drill holes. Not suitable for deep holes.

Discount Group	02
Material	HSCo
Standard	-DIN1897
Depth Of Cut	1.0 x Ø
Point Angle	90°
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Shank Type	Straight
Helix Group (Din1836)	H
Cutting Direction	RH
Tolerance	h8

Ø mm	Ø Dec Inch	O/all Length mm	Flute Length mm
3.00	0.1181	46.0	16.0
4.00	0.1574	55.0	22.0
5.00	0.1968	62.0	26.0
6.00	0.2362	66.0	28.0

Ø mm	Ø Dec Inch	O/all Length mm	Flute Length mm
8.00	0.3149	79.0	37.0
10.00	0.3937	89.0	43.0
12.00	0.4724	102.0	51.0
16.00	0.6299	115.0	58.0

02181

HSCo Straight Shank Welda Drill



Special Twist Drill designed to drill spot welding points. Mainly used in hand drills.

Discount Group	01
Material	HSCo
Standard	-DIN1897
Depth Of Cut	0.5 x Ø
Point Angle	180° Spot Weld
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bronze
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h8

Ø mm	Ø Dec Inch	O/all Length mm	Flute Length mm
6.00	0.2362	66.0	28.0
8.00	0.3149	79.0	37.0
10.00	0.3937	89.0	43.0

02188

Carbide Straight Shank
Boron Welda Drill

Special drill designed to cut spot welds on auto body panels made of Boron or other advanced high strength steels. The TiALN coating reduces chip welding and the need for lubrication. The 3 flute design removes more material per revolution and guides straighter into the weld.

Discount Group	46	Surface Treatment	TiALN
Material	CARBIDE	Shank Type	Straight
Standard	-DIN1897	Helix Group (Din1836)	N
Depth Of Cut	0.5 x Ø	Cutting Direction	RH
Point Angle	180° Spot Weld	Tolerance	h8
Packing Unit	All Sizes Packed in 1's		

Ø mm	Ø Dec Inch	O/all Length mm	Flute Length mm
8.0 x 40.0	0.3149	40.0	9.0
8.0 x 45.0	0.3149	45.0	9.0

04000

HSS Straight Shank DIN340 Long Series Drill



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. The web thinning permits better positioning and reduced feed force and torque. Capable of drilling deep holes or through drill bushings.

Discount Group	02	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	DIN340	Helix Group (Din1836)	N
Depth Of Cut	6.0 x Ø	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	Packed in 5's upto & Including 13.00mm (1/2") then in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
1.00		0.0393	56.0	33.0
1.10		0.0433	60.0	37.0
1.189	3/64"	0.0468	65.0	41.0
1.20		0.0472	65.0	41.0
1.30		0.0511	65.0	41.0
1.40		0.0551	70.0	45.0
1.50		0.0590	70.0	45.0
1.588	1/16"	0.0625	76.0	50.0
1.60		0.0629	76.0	50.0
1.70		0.0669	76.0	50.0
1.80		0.0708	80.0	53.0
1.90		0.0748	80.0	53.0
1.984	5/64"	0.0781	85.0	56.0
2.00		0.0787	85.0	56.0
2.10		0.0826	85.0	56.0
2.20		0.0866	90.0	59.0
2.30		0.0905	90.0	59.0
2.381	3/32"	0.0937	95.0	62.0
2.40		0.0944	95.0	62.0
2.50		0.0984	95.0	62.0
2.60		0.1023	95.0	62.0
2.70		0.1062	100.0	66.0
2.776	7/64"	0.1093	100.0	66.0
2.80		0.1102	100.0	66.0
2.90		0.1141	100.0	66.0
3.00		0.1181	100.0	66.0
3.10		0.1220	106.0	69.0
3.175	1/8"	0.1250	106.0	69.0
3.20		0.1259	106.0	69.0
3.30		0.1299	106.0	69.0
3.40		0.1338	112.0	73.0
3.50		0.1377	112.0	73.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
3.571	9/64"	0.1406	112.0	73.0
3.60		0.1417	112.0	73.0
3.70		0.1456	112.0	73.0
3.80		0.1496	119.0	78.0
3.90		0.1535	119.0	78.0
3.967	5/32"	0.1562	119.0	78.0
4.00		0.1574	119.0	78.0
4.10		0.1614	119.0	78.0
4.20		0.1653	119.0	78.0
4.30		0.1692	126.0	82.0
4.364	11/64"	0.1718	126.0	82.0
4.40		0.1732	126.0	82.0
4.50		0.1771	126.0	82.0
4.60		0.1811	126.0	82.0
4.70		0.1850	126.0	82.0
4.763	3/16"	0.1875	132.0	87.0
4.80		0.1889	132.0	87.0
4.90		0.1929	132.0	87.0
5.00		0.1968	132.0	87.0
5.10		0.2007	132.0	87.0
5.159	13/64"	0.2031	132.0	87.0
5.20		0.2047	132.0	87.0
5.30		0.2086	132.0	87.0
5.40		0.2125	139.0	91.0
5.50		0.2165	139.0	91.0
5.555	7/32"	0.2187	139.0	91.0
5.60		0.2204	139.0	91.0
5.70		0.2244	139.0	91.0
5.80		0.2283	139.0	91.0
5.90		0.2322	139.0	91.0
5.951	15/64"	0.2343	139.0	91.0
6.00		0.2362	139.0	91.0

continued on p56

04000

HSS Straight Shank DIN340 Long Series Drill



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. The web thinning permits better positioning and reduced feed force and torque. Capable of drilling deep holes or through drill bushings.

Discount Group	02	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	DIN340	Helix Group (Din1836)	N
Depth Of Cut	6.0 x Ø	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	Packed in 5's upto & Including 13.00mm (1/2") then in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
6.10		0.2401	148.0	97.0
6.20		0.2440	148.0	97.0
6.30		0.2480	148.0	97.0
6.350	1/4"	0.2500	148.0	97.0
6.40		0.2519	148.0	97.0
6.50		0.2559	148.0	97.0
6.60		0.2598	148.0	97.0
6.70		0.2637	148.0	97.0
6.746	17/64"	0.2656	156.0	102.0
6.80		0.2677	156.0	102.0
6.90		0.2716	156.0	102.0
7.00		0.2755	156.0	102.0
7.10		0.2795	156.0	102.0
7.142	9/32"	0.2812	156.0	102.0
7.20		0.2834	156.0	102.0
7.30		0.2874	156.0	102.0
7.40		0.2913	156.0	102.0
7.50		0.2952	156.0	102.0
7.539	19/64"	0.2968	165.0	109.0
7.60		0.2992	165.0	109.0
7.70		0.3031	165.0	109.0
7.80		0.3070	165.0	109.0
7.90		0.3110	165.0	109.0
7.938	5/16"	0.3125	165.0	109.0
8.00		0.3149	165.0	109.0
8.10		0.3188	165.0	109.0
8.20		0.3228	165.0	109.0
8.30		0.3267	165.0	109.0
8.334	21/64"	0.3281	165.0	109.0
8.40		0.3307	165.0	109.0
8.50		0.3346	165.0	109.0
8.60		0.3385	175.0	115.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
8.70		0.3425	175.0	115.0
8.731	11/32"	0.3437	175.0	115.0
8.80		0.3464	175.0	115.0
8.90		0.3503	175.0	115.0
9.00		0.3543	175.0	115.0
9.10		0.3582	175.0	115.0
9.126	23/64"	0.3593	175.0	115.0
9.20		0.3622	175.0	115.0
9.30		0.3661	175.0	115.0
9.40		0.3700	175.0	115.0
9.50		0.3740	175.0	115.0
9.525	3/8"	0.3750	184.0	121.0
9.60		0.3779	184.0	121.0
9.70		0.3818	184.0	121.0
9.80		0.3858	184.0	121.0
9.90		0.3897	184.0	121.0
9.921	25/64"	0.3906	184.0	121.0
10.00		0.3937	184.0	121.0
10.10		0.3976	184.0	121.0
10.20		0.4015	184.0	121.0
10.317	13/32"	0.4062	184.0	121.0
10.50		0.4133	184.0	121.0
10.714	27/64"	0.4218	195.0	128.0
10.80		0.4251	195.0	128.0
11.00		0.4330	195.0	128.0
11.113	7/16"	0.4375	195.0	128.0
11.20		0.4409	195.0	128.0
11.50		0.4527	195.0	128.0
11.509	29/64"	0.4531	195.0	128.0
11.80		0.4645	195.0	128.0
11.905	15/32"	0.4687	205.0	134.0
12.00		0.4724	205.0	134.0

continued on p57

04000

HSS Straight Shank DIN340 Long Series Drill



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. The web thinning permits better positioning and reduced feed force and torque. Capable of drilling deep holes or through drill bushings.

Discount Group	02	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	DIN340	Helix Group (Din1836)	N
Depth Of Cut	6.0 x Ø	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	Packed in 5's upto & Including 13.00mm (1/2") then in 1's.		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
12.20		0.4803	205.0	134.0
12.301	31/64"	0.4843	205.0	134.0
12.50		0.4921	205.0	134.0
12.700	1/2"	0.5000	205.0	134.0
12.80		0.5039	205.0	134.0
13.00		0.5118	205.0	134.0
13.096	33/64"	0.5156	205.0	134.0
13.492	17/32"	0.5312	214.0	140.0
13.50		0.5314	214.0	140.0
13.889	35/64"	0.5468	214.0	140.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
14.00		0.5511	214.0	140.0
14.288	9/16"	0.5625	220.0	144.0
14.50		0.5708	220.0	144.0
14.684	37/64"	0.5781	220.0	144.0
15.00		0.5905	220.0	144.0
15.081	19/32"	0.5937	227.0	149.0
15.476	39/64"	0.6093	227.0	149.0
15.50		0.6102	227.0	149.0
15.875	5/8"	0.6250	227.0	149.0
16.00		0.6299	227.0	149.0

O4111

HSCo Straight Shank

DIN340 Heavy Duty

Long Series Drill



Heavy-duty drill made of cobalt material with excellent heat resistance. To drill steels with tensile strength up to 1400N/mm², very hard bronze, stainless steels as well as heat and acid resistant steels. Capable of drilling deep holes or through drill bushings.

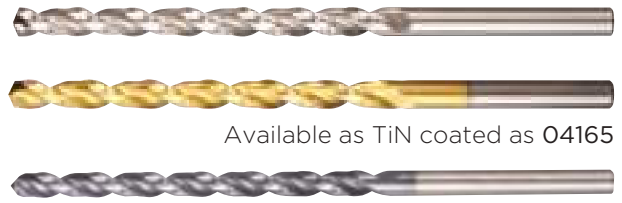
Discount Group	01	Surface Treatment	Bronze
Material	HSCo	Shank Type	Straight
Standard	DIN340	Helix Group (Din1836)	N
Depth Of Cut	6.0 x Ø	Cutting Direction	RH
Point Angle	135° Split	Tolerance	h8
Packing Unit	Packed in 5's upto & Including 13.00mm (1/2") then in 1's.		

Ø mm	Ø Dec Inch	O/all Length mm	Flute Length mm
1.00	0.0393	56.0	33.0
1.10	0.0433	60.0	37.0
1.20	0.0472	65.0	41.0
1.30	0.0511	65.0	41.0
1.40	0.0551	70.0	45.0
1.50	0.0590	70.0	45.0
1.60	0.0629	76.0	50.0
1.70	0.0669	76.0	50.0
1.80	0.0708	80.0	53.0
1.90	0.0748	80.0	53.0
2.00	0.0787	85.0	56.0
2.10	0.0826	85.0	56.0
2.20	0.0866	90.0	59.0
2.30	0.0905	90.0	59.0
2.40	0.0944	95.0	62.0
2.50	0.0984	95.0	62.0
2.60	0.1023	95.0	62.0
2.70	0.1062	100.0	66.0
2.80	0.1102	100.0	66.0
2.90	0.1141	100.0	66.0
3.00	0.1181	100.0	66.0
3.10	0.1220	106.0	69.0
3.20	0.1259	106.0	69.0
3.30	0.1299	106.0	69.0
3.40	0.1338	112.0	73.0
3.50	0.1377	112.0	73.0
3.60	0.1417	112.0	73.0
3.70	0.1456	112.0	73.0
3.80	0.1496	119.0	78.0
3.90	0.1535	119.0	78.0
4.00	0.1574	119.0	78.0
4.10	0.1614	119.0	78.0
4.20	0.1653	119.0	78.0
4.30	0.1692	126.0	82.0

Ø mm	Ø Dec Inch	O/all Length mm	Flute Length mm
4.40	0.1732	126.0	82.0
4.50	0.1771	126.0	82.0
4.60	0.1811	126.0	82.0
4.70	0.1850	126.0	82.0
4.80	0.1889	132.0	87.0
4.90	0.1929	132.0	87.0
5.00	0.1968	132.0	87.0
5.10	0.2007	132.0	87.0
5.20	0.2047	132.0	87.0
5.30	0.2086	132.0	87.0
5.40	0.2125	139.0	91.0
5.50	0.2165	139.0	91.0
5.60	0.2204	139.0	91.0
5.70	0.2244	139.0	91.0
5.80	0.2283	139.0	91.0
5.90	0.2322	139.0	91.0
6.00	0.2362	139.0	91.0
6.50	0.2559	148.0	97.0
6.80	0.2677	156.0	102.0
7.00	0.2755	156.0	102.0
7.50	0.2952	156.0	102.0
8.00	0.3149	165.0	109.0
8.50	0.3346	165.0	109.0
9.00	0.3543	175.0	115.0
9.50	0.3740	175.0	115.0
10.00	0.3937	184.0	121.0
10.20	0.4015	184.0	121.0
10.50	0.4133	184.0	121.0
11.00	0.4330	195.0	128.0
11.50	0.4527	195.0	128.0
12.00	0.4724	205.0	134.0
12.50	0.4921	205.0	134.0
13.00	0.5118	205.0	134.0

04161

HSCo Straight Shank DIN340 SM200 Long Series Drill



Available as TiN coated as O4165

Available as TiCN coated as O4168

Deep-hole drill with high heat resistance to drill non alloyed and alloyed steels as well as long chipping materials with tensile strength up to 1300N/mm². The special point design permits optimised chip breaking and reduced feed force and torque. Capable of drilling through drill bushings. Ample chip space enables drilling over 5 times diameter deep without pecking.

Discount Group	O1
Material	HSCo
Standard	DIN340
Depth Of Cut	6.0 x Ø
Point Angle	135° Split
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Shank Type	Straight
Helix Group (Din1836)	'W'
Cutting Direction	RH
Tolerance	h8

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
3.00		0.1181	100.0	66.0
3.10		0.1220	106.0	69.0
3.175	1/8"	0.1250	106.0	69.0
3.20		0.1259	106.0	69.0
3.30		0.1299	106.0	69.0
3.40		0.1338	112.0	73.0
3.50		0.1377	112.0	73.0
3.60		0.1417	112.0	73.0
3.70		0.1456	112.0	73.0
3.80		0.1496	119.0	78.0
3.90		0.1535	119.0	78.0
4.00		0.1574	119.0	78.0
4.10		0.1614	119.0	78.0
4.20		0.1653	119.0	78.0
4.30		0.1692	126.0	82.0
4.40		0.1732	126.0	82.0
4.50		0.1771	126.0	82.0
4.60		0.1811	126.0	82.0
4.70		0.1850	126.0	82.0
4.763	3/16"	0.1875	132.0	87.0
4.80		0.1889	132.0	87.0
4.90		0.1929	132.0	87.0
5.00		0.1968	132.0	87.0
5.10		0.2007	132.0	87.0
5.20		0.2047	132.0	87.0
5.30		0.2086	132.0	87.0
5.40		0.2125	139.0	91.0
5.50		0.2165	139.0	91.0
5.60		0.2204	139.0	91.0
5.70		0.2244	139.0	91.0
5.80		0.2283	139.0	91.0
5.90		0.2322	139.0	91.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
6.00		0.2362	139.0	91.0
6.10		0.2401	148.0	97.0
6.20		0.2440	148.0	97.0
6.30		0.2480	148.0	97.0
6.350	1/4"	0.2500	148.0	97.0
6.40		0.2519	148.0	97.0
6.50		0.2559	148.0	97.0
6.60		0.2598	148.0	97.0
6.70		0.2637	148.0	97.0
6.80		0.2677	156.0	102.0
6.90		0.2716	156.0	102.0
7.00		0.2755	156.0	102.0
7.10		0.2795	156.0	102.0
7.20		0.2834	156.0	102.0
7.30		0.2874	156.0	102.0
7.40		0.2913	156.0	102.0
7.50		0.2952	156.0	102.0
7.60		0.2992	165.0	109.0
7.70		0.3031	165.0	109.0
7.80		0.3070	165.0	109.0
7.90		0.3110	165.0	109.0
7.938	5/16"	0.3125	165.0	109.0
8.00		0.3149	165.0	109.0
8.10		0.3188	165.0	109.0
8.20		0.3228	165.0	109.0
8.30		0.3267	165.0	109.0
8.40		0.3307	165.0	109.0
8.50		0.3346	165.0	109.0
8.60		0.3385	175.0	115.0
8.70		0.3425	175.0	115.0
8.80		0.3464	175.0	115.0
8.90		0.3503	175.0	115.0

continued on p60

04161

HSCo Straight Shank DIN340 SM200 Long Series Drill



Available as TiN coated as 04165

Available as TiCN coated as 04168

Deep-hole drill with high heat resistance to drill non alloyed and alloyed steels as well as long chipping materials with tensile strength up to 1300N/mm². The special point design permits optimised chip breaking and reduced feed force and torque. Capable of drilling through drill bushings. Ample chip space enables drilling over 5 times diameter deep without pecking.

Discount Group	01
Material	HSCo
Standard	DIN340
Depth Of Cut	6.0 x Ø
Point Angle	135° Split
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Shank Type	Straight
Helix Group (Din1836)	'W'
Cutting Direction	RH
Tolerance	h8

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
9.00		0.3543	175.0	115.0
9.10		0.3582	175.0	115.0
9.20		0.3622	175.0	115.0
9.30		0.3661	175.0	115.0
9.40		0.3700	175.0	115.0
9.50		0.3740	175.0	115.0
9.525	3/8"	0.3750	184.0	121.0
9.60		0.3779	184.0	121.0
9.70		0.3818	184.0	121.0
9.80		0.3858	184.0	121.0
9.90		0.3897	184.0	121.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
10.00		0.3937	184.0	121.0
10.20		0.4015	184.0	121.0
10.50		0.4133	184.0	121.0
11.00		0.4330	195.0	128.0
11.113	7/16"	0.4375	195.0	128.0
11.50		0.4527	195.0	128.0
12.00		0.4724	205.0	134.0
12.50		0.4921	205.0	134.0
12.700	1/2"	0.5000	205.0	134.0
13.00		0.5118	205.0	134.0

O5000

HSS Straight Shank BS328 Extra Length Drill



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. Extra length enables deeper holes when used in series and pecking. These drills are also ideal where extra reach is required. Take care to conform to cutting speed recommendations, frequently pecking and sufficient lubrication.

Discount Group	O2	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	BS328	Helix Group (Din1836)	N
Depth Of Cut	VARIOUS	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	All Sizes Packed in 1's		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
1.50 x 125		0.0590	125.0	80.0
1.50 x 160		0.0590	160.0	100.0
1.588	1/16" x 125mm	0.0625	125.0	80.0
1.588	1/16" x 160mm	0.0625	160.0	100.0
1.984	5/64" x 125mm	0.0781	125.0	80.0
1.984	5/64" x 160mm	0.0781	160.0	100.0
2.00 x 125		0.0787	125.0	80.0
2.00 x 160		0.0787	160.0	100.0
2.381	3/32" x 125mm	0.0937	125.0	80.0
2.381	3/32" x 160mm	0.0937	160.0	100.0
2.381	3/32" x 200mm	0.0937	200.0	150.0
2.50 x 125		0.0984	125.0	80.0
2.50 x 160		0.0984	160.0	100.0
2.776	7/64" x 125mm	0.1093	125.0	80.0
2.776	7/64" x 160mm	0.1093	160.0	100.0
3.00 x 125		0.1181	125.0	80.0
3.00 x 160		0.1181	160.0	100.0
3.00 x 200		0.1181	200.0	150.0
3.00 x 250		0.1181	250.0	200.0
3.175	1/8" x 125mm	0.1250	125.0	80.0
3.175	1/8" x 160mm	0.1250	160.0	100.0
3.175	1/8" x 200mm	0.1250	200.0	150.0
3.175	1/8" x 250mm	0.1250	250.0	200.0
3.175	1/8" x 315mm	0.1250	315.0	250.0
3.30 x 160		0.1299	160.0	100.0
3.50 x 160		0.1377	160.0	100.0
3.50 x 200		0.1377	200.0	150.0
3.50 x 250		0.1377	250.0	200.0
3.571	9/64" x 160mm	0.1406	160.0	100.0
3.571	9/64" x 200mm	0.1406	200.0	150.0
3.571	9/64" x 250mm	0.1406	250.0	200.0
3.967	5/32" x 160mm	0.1562	160.0	100.0

continued on p62

O5000

HSS Straight Shank BS328 Extra Length Drill



DRILLING

General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. Extra length enables deeper holes when used in series and pecking. These drills are also ideal where extra reach is required. Take care to conform to cutting speed recommendations, frequently pecking and sufficient lubrication.

Discount Group	O2	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	BS328	Helix Group (Din1836)	N
Depth Of Cut	VARIOUS	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	All Sizes Packed in 1's		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
3.967	5/32" x 200mm	0.1562	200.0	150.0
3.967	5/32" x 250mm	0.1562	250.0	200.0
3.967	5/32" x 315mm	0.1562	315.0	250.0
4.00 x 160		0.1574	160.0	100.0
4.00 x 200		0.1574	200.0	150.0
4.00 x 250		0.1574	250.0	200.0
4.00 x 315		0.1574	315.0	250.0
4.364	11/64" x 160mm	0.1718	160.0	100.0
4.364	11/64" x 200mm	0.1718	200.0	150.0
4.364	11/64" x 250mm	0.1718	250.0	200.0
4.50 x 160		0.1771	160.0	100.0
4.50 x 200		0.1771	200.0	150.0
4.50 x 250		0.1771	250.0	200.0
4.50 x 315		0.1771	315.0	250.0
4.763	3/16" x 160mm	0.1875	160.0	100.0
4.763	3/16" x 200mm	0.1875	200.0	150.0
4.763	3/16" x 250mm	0.1875	250.0	200.0
4.763	3/16" x 315mm	0.1875	315.0	250.0
4.763	3/16" x 400mm	0.1875	400.0	300.0
5.00 x 160		0.1968	160.0	100.0
5.00 x 200		0.1968	200.0	150.0
5.00 x 250		0.1968	250.0	200.0
5.00 x 315		0.1968	315.0	250.0
5.00 x 400		0.1968	400.0	300.0
5.159	13/64" x 200mm	0.2031	200.0	150.0
5.159	13/64" x 250mm	0.2031	250.0	200.0
5.50 x 200		0.2165	200.0	150.0
5.50 x 250		0.2165	250.0	200.0
5.50 x 315		0.2165	315.0	250.0
5.555	7/32" x 200mm	0.2187	200.0	150.0
5.555	7/32" x 250mm	0.2187	250.0	200.0
5.555	7/32" x 315mm	0.2187	315.0	250.0

continued on p63

05000

HSS Straight Shank BS328 Extra Length Drill



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. Extra length enables deeper holes when used in series and pecking. These drills are also ideal where extra reach is required. Take care to conform to cutting speed recommendations, frequently pecking and sufficient lubrication.

Discount Group	02	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	BS328	Helix Group (Din1836)	N
Depth Of Cut	VARIOUS	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	All Sizes Packed in 1's		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
5.951	15/64" x 200mm	0.2343	200.0	150.0
5.951	15/64" x 250mm	0.2343	250.0	200.0
6.00 x 200		0.2362	200.0	150.0
6.00 x 250		0.2362	250.0	200.0
6.00 x 315		0.2362	315.0	250.0
6.00 x 400		0.2362	400.0	300.0
6.350	1/4" x 200mm	0.2500	200.0	150.0
6.350	1/4" x 250mm	0.2500	250.0	200.0
6.350	1/4" x 315mm	0.2500	315.0	250.0
6.350	1/4" x 400mm	0.2500	400.0	300.0
6.50 x 200		0.2559	200.0	150.0
6.50 x 250		0.2559	250.0	200.0
6.50 x 315		0.2559	315.0	250.0
6.746	17/64" x 200mm	0.2656	200.0	150.0
6.746	17/64" x 250mm	0.2656	250.0	200.0
7.00 x 200		0.2755	200.0	150.0
7.00 x 250		0.2755	250.0	200.0
7.00 x 315		0.2755	315.0	250.0
7.00 x 400		0.2755	400.0	300.0
7.142	9/32" x 200mm	0.2812	200.0	150.0
7.142	9/32" x 250mm	0.2812	250.0	200.0
7.142	9/32" x 315mm	0.2812	315.0	250.0
7.50 x 200		0.2952	200.0	150.0
7.50 x 250		0.2952	250.0	200.0
7.50 x 315		0.2952	315.0	250.0
7.938	5/16" x 200mm	0.3125	200.0	150.0
7.938	5/16" x 250mm	0.3125	250.0	200.0
7.938	5/16" x 315mm	0.3125	315.0	250.0
7.938	5/16" x 400mm	0.3125	400.0	300.0
8.00 x 200		0.3149	200.0	150.0
8.00 x 250		0.3149	250.0	200.0
8.00 x 315		0.3149	315.0	250.0

continued on p64

05000

HSS Straight Shank BS328 Extra Length Drill



DRILLING

General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. Extra length enables deeper holes when used in series and pecking. These drills are also ideal where extra reach is required. Take care to conform to cutting speed recommendations, frequently pecking and sufficient lubrication.

Discount Group	02	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	BS328	Helix Group (Din1836)	N
Depth Of Cut	VARIOUS	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	All Sizes Packed in 1's		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
8.00 x 400		0.3149	400.0	300.0
8.50 x 250		0.3346	250.0	200.0
8.50 x 315		0.3346	315.0	250.0
8.731	11/32" x 250mm	0.3437	250.0	200.0
8.731	11/32" x 315mm	0.3437	315.0	250.0
9.00 x 250		0.3543	250.0	200.0
9.00 x 315		0.3543	315.0	250.0
9.00 x 400		0.3543	400.0	300.0
9.50 x 250		0.3740	250.0	200.0
9.50 x 315		0.3740	315.0	250.0
9.525	3/8" x 200mm	0.3750	200.0	150.0
9.525	3/8" x 250mm	0.3750	250.0	200.0
9.525	3/8" x 315mm	0.3750	315.0	250.0
9.525	3/8" x 400mm	0.3750	400.0	300.0
10.00 x 250		0.3937	250.0	200.0
10.00 x 315		0.3937	315.0	250.0
10.00 x 400		0.3937	400.0	300.0
10.317	13/32" x 250mm	0.4062	250.0	200.0
10.317	13/32" x 315mm	0.4062	315.0	250.0
10.50 x 250		0.4133	250.0	200.0
10.50 x 315		0.4133	315.0	250.0
11.00 x 250		0.4330	250.0	200.0
11.00 x 315		0.4330	315.0	250.0
11.00 x 400		0.4330	400.0	300.0
11.113	7/16" x 250mm	0.4375	250.0	200.0
11.113	7/16" x 315mm	0.4375	315.0	250.0
11.113	7/16" x 400mm	0.4375	400.0	300.0
11.50 x 250		0.4527	250.0	200.0
11.905	15/32" x 250mm	0.4687	250.0	200.0
11.905	15/32" x 315mm	0.4687	315.0	250.0
12.00 x 250		0.4724	250.0	200.0
12.00 x 315		0.4724	315.0	250.0

continued on p65

05000

HSS Straight Shank BS328 Extra Length Drill



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. Extra length enables deeper holes when used in series and pecking. These drills are also ideal where extra reach is required. Take care to conform to cutting speed recommendations, frequently pecking and sufficient lubrication.

Discount Group	02	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	BS328	Helix Group (Din1836)	N
Depth Of Cut	VARIOUS	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	All Sizes Packed in 1's		

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
12.00 x 400		0.4724	400.0	300.0
12.700	1/2" x 250mm	0.5000	250.0	200.0
12.700	1/2" x 315mm	0.5000	315.0	250.0
12.700	1/2" x 400mm	0.5000	400.0	300.0
13.00 x 315		0.5118	315.0	250.0
13.00 x 400		0.5118	400.0	300.0
14.00 x 315		0.5511	315.0	250.0
14.00 x 400		0.5511	400.0	300.0

07000

HSS Straight Shank DIN333 / BS328 Centre Drill - Form 'A'



Plain-type combination centre drill, 60°, designed for machining centre holes according to DIN332/1, form A.

Discount Group	34	Surface Treatment	Bright
Material	HSS	Shank Type	Straight
Standard	DIN333 / BS328	Helix Group (Din1836)	H
Depth Of Cut	1.0 x Ø	Cutting Direction	RH
Point Angle	120° x 60° Angle	Tolerance	k12
Packing Unit	All Sizes Packed in 1's		

Body x Pilot Ø	Nominal BSØ	Dec Inch Body Ø	O/all Length	Pilot Length
3.15mm x 1.0mm		0.1240	31.5	1.3
3.15mm x 1.25mm		0.1240	31.5	1.6
1/8" x 3/64"	BS1	0.1250	38.1	2.0
4.00mm x 1.6mm		0.1574	35.5	2.0
3/16" x 1/16"	BS2	0.1875	44.5	2.4
5.00mm x 2.0mm		0.1968	40.0	2.5
6.30mm x 2.5mm		0.2480	45.0	3.1
1/4" x 3/32"	BS3	0.2500	50.8	4.0
5/16" x 1/8"	BS4	0.3125	57.2	4.8
8.00mm x 3.15mm		0.3149	50.0	3.9
10.00mm x 4.0mm		0.3937	56.0	5.0
7/16" x 3/16"	BS5	0.4375	63.5	7.1
12.50mm x 5.0mm		0.4921	63.0	6.3
5/8" x 1/4"	BS6	0.6250	76.2	9.5
16.00mm x 6.3mm		0.6299	71.0	8.0
3/4" x 5/16"	BS7	0.7500	88.9	11.9
20.00mm x 8.0mm		0.7874	80.0	10.1
25.00mm x 10.0mm		0.9842	100.0	12.8
31.50mm x 12.5mm		1.2401	125.0	16.5

08610

HSS Straight 1/2" Reduced Shank Blacksmith's Drill



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. Reduced parallel 1/2" shank generally for use in hand drills.

Discount Group	O2
Material	HSS
Standard	PRESTO
Depth Of Cut	79.0mm
Point Angle	118°
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Steam
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h8

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
13.00		0.5118	151.0	79.0
13.492	17/32"	0.5312	151.0	79.0
13.50		0.5314	151.0	79.0
14.00		0.5511	151.0	79.0
14.288	9/16"	0.5625	151.0	79.0
14.50		0.5708	151.0	79.0
15.00		0.5905	151.0	79.0
15.081	19/32"	0.5937	151.0	79.0
15.50		0.6102	151.0	79.0
15.875	5/8"	0.6250	151.0	79.0
16.00		0.6299	151.0	79.0
16.50		0.6496	151.0	79.0
16.667	21/32"	0.6562	151.0	79.0
17.00		0.6692	151.0	79.0
17.463	11/16"	0.6875	151.0	79.0
17.50		0.6889	151.0	79.0
18.00		0.7086	151.0	79.0
18.255	23/32"	0.7187	151.0	79.0
18.50		0.7283	151.0	79.0
19.00		0.7480	151.0	79.0
19.050	3/4"	0.7500	151.0	79.0
19.50		0.7677	151.0	79.0
19.842	25/32"	0.7812	151.0	79.0
20.00		0.7874	151.0	79.0
20.638	13/16"	0.8125	151.0	79.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
21.00		0.8267	151.0	79.0
21.431	27/32"	0.8437	151.0	79.0
22.00		0.8661	151.0	79.0
22.225	7/8"	0.8750	151.0	79.0
23.00		0.9055	151.0	79.0
23.017	29/32"	0.9062	151.0	79.0
23.813	15/16"	0.9375	151.0	79.0
24.00		0.9448	151.0	79.0
24.605	31/32"	0.9687	151.0	79.0
25.00		0.9842	151.0	79.0
25.400	1"	1.0000	151.0	79.0
26.00		1.0236	151.0	79.0
26.988	1.1/16"	1.0625	151.0	79.0
27.00		1.0629	151.0	79.0
28.00		1.1023	151.0	79.0
28.575	1.1/8"	1.1250	151.0	79.0
29.00		1.1417	151.0	79.0
30.00		1.1811	151.0	79.0
30.163	1.3/16"	1.1875	151.0	79.0
31.750	1.1/4"	1.2500	151.0	79.0
32.00		1.2598	151.0	79.0
33.338	1.5/16"	1.3125	151.0	79.0
34.925	1.3/8"	1.3750	151.0	79.0
36.513	1.7/16"	1.4375	151.0	79.0
38.100	1.1/2"	1.5000	151.0	79.0

11000

HSS Morse Taper Shank DIN345 Drill



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite.

Discount Group	41
Material	HSS
Standard	DIN345
Depth Of Cut	4-5 x Ø
Point Angle	118°
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Steam
Shank Type	MTS
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h8

MTS1 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
6.00		0.2362	138.0	57.0
6.10		0.2401	144.0	63.0
6.20		0.2440	144.0	63.0
6.25		0.2460	144.0	63.0
6.30		0.2480	144.0	63.0
6.350	1/4"	0.2500	144.0	63.0
6.40		0.2519	144.0	63.0
6.50		0.2559	144.0	63.0
6.60		0.2598	144.0	63.0
6.70		0.2637	144.0	63.0
6.746	17/64"	0.2656	150.0	69.0
6.75		0.2657	150.0	69.0
6.80		0.2677	150.0	69.0
6.90		0.2716	150.0	69.0
7.00		0.2755	150.0	69.0
7.10		0.2795	150.0	69.0
7.142	9/32"	0.2812	150.0	69.0
7.20		0.2834	150.0	69.0
7.25		0.2854	150.0	69.0
7.30		0.2874	150.0	69.0
7.40		0.2913	150.0	69.0
7.50		0.2952	150.0	69.0
7.539	19/64"	0.2968	156.0	75.0
7.60		0.2992	156.0	75.0
7.70		0.3031	156.0	75.0
7.75		0.3051	156.0	75.0
7.80		0.3070	156.0	75.0
7.90		0.3110	156.0	75.0
7.938	5/16"	0.3125	156.0	75.0
8.00		0.3149	156.0	75.0
8.10		0.3188	156.0	75.0
8.20		0.3228	156.0	75.0

MTS1 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
8.25		0.3248	156.0	75.0
8.30		0.3267	156.0	75.0
8.334	21/64"	0.3281	156.0	75.0
8.40		0.3307	156.0	75.0
8.50		0.3346	156.0	75.0
8.60		0.3385	162.0	81.0
8.70		0.3425	162.0	81.0
8.731	11/32"	0.3437	162.0	81.0
8.75		0.3444	162.0	81.0
8.80		0.3464	162.0	81.0
8.90		0.3503	162.0	81.0
9.00		0.3543	162.0	81.0
9.10		0.3582	162.0	81.0
9.126	23/64"	0.3593	162.0	81.0
9.20		0.3622	162.0	81.0
9.25		0.3641	162.0	81.0
9.30		0.3661	162.0	81.0
9.40		0.3700	162.0	81.0
9.50		0.3740	162.0	81.0
9.525	3/8"	0.3750	168.0	87.0
9.60		0.3779	168.0	87.0
9.70		0.3818	168.0	87.0
9.75		0.3838	168.0	87.0
9.80		0.3858	168.0	87.0
9.90		0.3897	168.0	87.0
9.921	25/64"	0.3906	168.0	87.0
10.00		0.3937	168.0	87.0
10.10		0.3976	168.0	87.0
10.20		0.4015	168.0	87.0
10.25		0.4035	168.0	87.0
10.30		0.4055	168.0	87.0
10.317	13/32"	0.4062	168.0	87.0

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11000

HSS Morse Taper Shank DIN345 Drill

DRILLING



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite.

Discount Group	41
Material	HSS
Standard	DIN345
Depth Of Cut	4-5 x Ø
Point Angle	118°
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Steam
Shank Type	MTS
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h8

MTS1 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
10.40		0.4094	168.0	87.0
10.50		0.4133	168.0	87.0
10.60		0.4173	168.0	87.0
10.70		0.4212	175.0	94.0
10.714	27/64"	0.4218	175.0	94.0
10.75		0.4232	175.0	94.0
10.80		0.4251	175.0	94.0
10.90		0.4291	175.0	94.0
11.00		0.4330	175.0	94.0
11.10		0.4370	175.0	94.0
11.113	7/16"	0.4375	175.0	94.0
11.20		0.4409	175.0	94.0
11.25		0.4429	175.0	94.0
11.30		0.4448	175.0	94.0
11.40		0.4488	175.0	94.0
11.50		0.4527	175.0	94.0
11.509	29/64"	0.4531	175.0	94.0
11.60		0.4566	175.0	94.0
11.70		0.4606	175.0	94.0
11.75		0.4625	175.0	94.0
11.80		0.4645	175.0	94.0
11.90		0.4685	182.0	101.0
11.905	15/32"	0.4687	182.0	101.0
12.00		0.4724	182.0	101.0
12.10		0.4763	182.0	101.0

MTS1 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
12.20		0.4803	182.0	101.0
12.25		0.4822	182.0	101.0
12.301	31/64"	0.4843	182.0	101.0
12.40		0.4881	182.0	101.0
12.50		0.4921	182.0	101.0
12.60		0.4960	182.0	101.0
12.700	1/2"	0.5000	182.0	101.0
12.75		0.5019	182.0	101.0
12.80		0.5039	182.0	101.0
12.90		0.5078	182.0	101.0
13.00		0.5118	182.0	101.0
13.096	33/64"	0.5156	182.0	101.0
13.20		0.5196	182.0	101.0
13.25		0.5216	189.0	108.0
13.30		0.5236	189.0	108.0
13.40		0.5275	189.0	108.0
13.492	17/32"	0.5312	189.0	108.0
13.50		0.5314	189.0	108.0
13.60		0.5354	189.0	108.0
13.70		0.5393	189.0	108.0
13.75		0.5413	189.0	108.0
13.80		0.5433	189.0	108.0
13.889	35/64"	0.5468	189.0	108.0
13.90		0.5472	189.0	108.0
14.00		0.5511	189.0	108.0

continued on p70

11000

HSS Morse Taper Shank DIN345 Drill



DRILLING

General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite.

Discount Group	41
Material	HSS
Standard	DIN345
Depth Of Cut	4-5 x Ø
Point Angle	118°
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Steam
Shank Type	MTS
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h8

MTS2 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
14.10		0.5551	212.0	114.0
14.20		0.5590	212.0	114.0
14.25		0.5610	212.0	114.0
14.288	9/16"	0.5625	212.0	114.0
14.50		0.5708	212.0	114.0
14.684	37/64"	0.5781	212.0	114.0
14.75		0.5807	212.0	114.0
15.00		0.5905	212.0	114.0
15.081	19/32"	0.5937	218.0	120.0
15.25		0.6003	218.0	120.0
15.476	39/64"	0.6093	218.0	120.0
15.50		0.6102	218.0	120.0
15.75		0.6200	218.0	120.0
15.875	5/8"	0.6250	218.0	120.0
16.00		0.6299	218.0	120.0
16.25		0.6397	223.0	125.0
16.271	41/64"	0.6406	223.0	125.0
16.50		0.6496	223.0	125.0
16.667	21/32"	0.6562	223.0	125.0
16.75		0.6594	223.0	125.0
17.00		0.6692	223.0	125.0
17.064	43/64"	0.6718	228.0	130.0
17.25		0.6791	228.0	130.0
17.463	11/16"	0.6875	228.0	130.0
17.50		0.6889	228.0	130.0
17.75		0.6988	228.0	130.0
17.859	45/64"	0.7031	228.0	130.0
18.00		0.7086	228.0	130.0
18.25		0.7185	233.0	135.0
18.255	23/32"	0.7187	233.0	135.0
18.50		0.7283	233.0	135.0

MTS2 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
18.651	47/64"	0.7343	233.0	135.0
18.75		0.7381	233.0	135.0
19.00		0.7480	233.0	135.0
19.050	3/4"	0.7500	238.0	140.0
19.25		0.7578	238.0	140.0
19.446	49/64"	0.7656	238.0	140.0
19.50		0.7677	238.0	140.0
19.75		0.7775	238.0	140.0
19.842	25/32"	0.7812	238.0	140.0
20.00		0.7874	238.0	140.0
20.239	51/64"	0.7968	243.0	145.0
20.25		0.7972	243.0	145.0
20.50		0.8070	243.0	145.0
20.638	13/16"	0.8125	243.0	145.0
20.75		0.8169	243.0	145.0
21.00		0.8267	243.0	145.0
21.034	53/64"	0.8281	243.0	145.0
21.25		0.8366	248.0	150.0
21.431	27/32"	0.8437	248.0	150.0
21.50		0.8464	248.0	150.0
21.75		0.8562	248.0	150.0
21.826	55/64"	0.8593	248.0	150.0
22.00		0.8661	248.0	150.0
22.225	7/8"	0.8750	248.0	150.0
22.25		0.8759	248.0	150.0
22.50		0.8858	253.0	155.0
22.621	57/64"	0.8906	253.0	155.0
22.75		0.8956	253.0	155.0
23.00		0.9055	253.0	155.0
23.017	29/32"	0.9062	253.0	155.0

continued on p71

11000

HSS Morse Taper Shank DIN345 Drill

DRILLING



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite.

Discount Group	41
Material	HSS
Standard	DIN345
Depth Of Cut	4-5 x Ø
Point Angle	118°
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Steam
Shank Type	MTS
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h8

MTS3 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
23.25		0.9153	276.0	155.0
23.414	59/64"	0.9218	276.0	155.0
23.50		0.9251	276.0	155.0
23.75		0.9350	281.0	160.0
23.813	15/16"	0.9375	281.0	160.0
24.00		0.9448	281.0	160.0
24.209	61/64"	0.9531	281.0	160.0
24.25		0.9547	281.0	160.0
24.50		0.9645	281.0	160.0
24.605	31/32"	0.9687	281.0	160.0
24.75		0.9744	281.0	160.0
25.00		0.9842	281.0	160.0
25.001	63/64"	0.9843	286.0	165.0
25.25		0.9940	286.0	165.0
25.400	1"	1.0000	286.0	165.0
25.50		1.0039	286.0	165.0
25.75		1.0137	286.0	165.0
26.00		1.0236	286.0	165.0
26.192	1.1/32"	1.0312	286.0	165.0
26.25		1.0334	286.0	165.0
26.50		1.0433	286.0	165.0
26.75		1.0531	291.0	170.0
26.988	1.1/16"	1.0625	291.0	170.0
27.00		1.0629	291.0	170.0

MTS3 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
27.25		1.0728	291.0	170.0
27.50		1.0826	291.0	170.0
27.75		1.0925	291.0	170.0
27.781	1.3/32"	1.0937	291.0	170.0
28.00		1.1023	291.0	170.0
28.25		1.1122	296.0	175.0
28.50		1.1220	296.0	175.0
28.575	1.1/8"	1.1250	296.0	175.0
28.75		1.1318	296.0	175.0
29.00		1.1417	296.0	175.0
29.25		1.1515	296.0	175.0
29.367	1.5/32"	1.1562	296.0	175.0
29.50		1.1614	296.0	175.0
29.75		1.1712	296.0	175.0
30.00		1.1811	296.0	175.0
30.163	1.3/16"	1.1875	301.0	180.0
30.25		1.1909	301.0	180.0
30.50		1.2007	301.0	180.0
30.75		1.2106	301.0	180.0
30.955	1.7/32"	1.2187	301.0	180.0
31.00		1.2204	301.0	180.0
31.25		1.2303	301.0	180.0
31.50		1.2401	301.0	180.0
31.750	1.1/4"	1.2500	306.0	185.0

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11000

HSS Morse Taper Shank DIN345 Drill



DRILLING

General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite.

Discount Group	41
Material	HSS
Standard	DIN345
Depth Of Cut	4-5 x Ø
Point Angle	118°
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Steam
Shank Type	MTS
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h8

MTS4 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
32.00		1.2598	334.0	185.0
32.50		1.2795	334.0	185.0
32.542	1.9/32"	1.2812	334.0	185.0
33.00		1.2992	334.0	185.0
33.338	1.5/16"	1.3125	334.0	185.0
33.50		1.3188	334.0	185.0
34.00		1.3385	339.0	190.0
34.131	1.11/32"	1.3437	339.0	190.0
34.50		1.3582	339.0	190.0
34.925	1.3/8"	1.3750	339.0	190.0
35.00		1.3779	339.0	190.0
35.50		1.3976	339.0	190.0
35.717	1.13/32"	1.4062	344.0	195.0
36.00		1.4173	344.0	195.0
36.50		1.4370	344.0	195.0
36.513	1.7/16"	1.4375	344.0	195.0
37.00		1.4566	344.0	195.0
37.305	1.15/32"	1.4687	344.0	195.0
37.50		1.4763	344.0	195.0
38.00		1.4960	349.0	200.0
38.100	1.1/2"	1.5000	349.0	200.0
38.50		1.5157	349.0	200.0
38.892	1.17/32"	1.5312	349.0	200.0
39.00		1.5354	349.0	200.0
39.50		1.5551	349.0	200.0
39.688	1.9/16"	1.5625	349.0	200.0
40.00		1.5748	349.0	200.0
40.481	1.19/32"	1.5937	354.0	205.0
40.50		1.5944	354.0	205.0
41.00		1.6141	354.0	205.0
41.275	1.5/8"	1.6250	354.0	205.0

MTS4 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
41.50		1.6338	354.0	205.0
42.00		1.6535	354.0	205.0
42.067	1.21/32"	1.6562	354.0	205.0
42.50		1.6732	354.0	205.0
42.863	1.11/16"	1.6875	359.0	210.0
43.00		1.6929	359.0	210.0
43.50		1.7125	359.0	210.0
43.655	1.23/32"	1.7187	359.0	210.0
44.00		1.7322	359.0	210.0
44.450	1.3/4"	1.7500	359.0	210.0
44.50		1.7519	359.0	210.0
45.00		1.7716	359.0	210.0
45.242	1.25/32"	1.7812	364.0	215.0
45.50		1.7913	364.0	215.0
46.00		1.8110	364.0	215.0
46.038	1.13/16"	1.8125	364.0	215.0
46.50		1.8307	364.0	215.0
46.831	1.27/32"	1.8437	364.0	215.0
47.00		1.8503	364.0	215.0
47.50		1.8700	364.0	215.0
47.625	1.7/8"	1.8750	369.0	220.0
48.00		1.8897	369.0	220.0
48.417	1.29/32"	1.9062	369.0	220.0
48.50		1.9094	369.0	220.0
49.00		1.9291	369.0	220.0
49.213	1.15/16"	1.9375	369.0	220.0
49.50		1.9488	369.0	220.0
50.00		1.9685	369.0	220.0
50.006	1.31/32"	1.9687	374.0	225.0
50.8	2"	2.0000	374.0	225.0

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11000

HSS Morse Taper Shank DIN345 Drill

General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite.



Discount Group	41
Material	HSS
Standard	DIN345
Depth Of Cut	4-5 x Ø
Point Angle	118°
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Steam
Shank Type	MTS
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h8

MTS5 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
51.00		2.0078	412.0	225.0
52.00		2.0472	412.0	225.0
52.388	2.1/16"	2.0625	412.0	225.0
53.00		2.0866	412.0	225.0
53.975	2.1/8"	2.1250	417.0	230.0
54.00		2.1259	417.0	230.0
55.00		2.1653	417.0	230.0
55.563	2.3/16"	2.1875	417.0	230.0
56.00		2.2047	417.0	230.0
57.00		2.2440	422.0	235.0
57.150	2.1/4"	2.2500	422.0	235.0
58.00		2.2834	422.0	235.0
58.738	2.5/16"	2.3125	422.0	235.0
59.00		2.3228	422.0	235.0
60.00		2.3622	422.0	235.0
60.325	2.3/8"	2.3750	427.0	240.0
61.00		2.4015	427.0	240.0
61.913	2.7/16"	2.4375	427.0	240.0
62.00		2.4409	427.0	240.0
63.00		2.4803	427.0	240.0
63.500	2.1/2"	2.5000	432.0	245.0
64.00		2.5196	432.0	245.0
65.00		2.5590	432.0	245.0
65.088	2.9/16"	2.5625	432.0	245.0
66.00		2.5984	432.0	245.0
66.675	2.5/8"	2.6250	432.0	245.0
67.00		2.6377	432.0	245.0
68.00		2.6771	437.0	250.0
68.263	2.11/16"	2.6875	437.0	250.0
69.00		2.7165	437.0	250.0
69.850	2.3/4"	2.7500	437.0	250.0
70.00		2.7559	437.0	250.0

MTS5 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
71.00		2.7952	437.0	250.0
71.438	2.13/16"	2.8125	442.0	255.0
72.00		2.8346	442.0	255.0
73.00		2.8740	442.0	255.0
73.025	2.7/8"	2.8750	442.0	255.0
74.00		2.9133	442.0	255.0
74.613	2.15/16"	2.9375	442.0	255.0
75.00		2.9527	442.0	255.0
76.00		2.9921	447.0	260.0
76.200	3"	3.0000	447.0	260.0

MTS6 mm Ø	Ø Dec Inch	O/all Length mm	Flute Length mm
77.00	3.0314	514.0	260.0
78.00	3.0708	514.0	260.0
79.00	3.1102	514.0	260.0
80.00	3.1496	514.0	260.0
85.00	3.3464	519.0	265.0
90.00	3.5433	524.0	270.0
95.00	3.7401	529.0	275.0
100.00	3.9370	534.0	280.0

15000

HSS Morse Taper Shank
BS328 Extra Length Drill

General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. Extra length enables deeper holes when used in series and pecking. These drills are also ideal where extra reach is required. Take care to conform to cutting speed recommendations, frequently pecking and sufficient lubrication.

Discount Group	40	Surface Treatment	Steam
Material	HSS	Shank Type	MTS
Standard	BS328	Helix Group (Din1836)	N
Depth Of Cut	VARIOUS	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	All Sizes Packed in 1's		

MTS1 mm Ø	Ø Dec Inch	O/all Length mm	Flute Length mm
6.00mm x 200mm	0.2362	200.0	110.0
6.00mm x 250mm	0.2362	250.0	160.0
6.00mm x 315mm	0.2362	315.0	225.0
1/4" x 200mm	0.2500	200.0	110.0
1/4" x 250mm	0.2500	250.0	160.0
1/4" x 315mm	0.2500	315.0	225.0
6.50mm x 200mm	0.2559	200.0	110.0
6.50mm x 250mm	0.2559	250.0	160.0
6.50mm x 315mm	0.2559	315.0	225.0
17/64" x 200mm	0.2656	200.0	110.0
17/64" x 250mm	0.2656	250.0	160.0
17/64" x 315mm	0.2656	315.0	225.0
7.00mm x 200mm	0.2755	200.0	110.0
7.00mm x 250mm	0.2755	250.0	160.0
7.00mm x 315mm	0.2755	315.0	225.0
9/32" x 200mm	0.2812	200.0	110.0
9/32" x 250mm	0.2812	250.0	160.0
9/32" x 315mm	0.2812	315.0	225.0
7.50mm x 200mm	0.2952	200.0	110.0
7.50mm x 250mm	0.2952	250.0	160.0
7.50mm x 315mm	0.2952	315.0	225.0
19/64" x 200mm	0.2968	200.0	110.0
19/64" x 250mm	0.2968	250.0	160.0
19/64" x 315mm	0.2968	315.0	225.0
5/16" x 200mm	0.3125	200.0	110.0
5/16" x 250mm	0.3125	250.0	160.0
5/16" x 315mm	0.3125	315.0	225.0
8.00mm x 200mm	0.3149	200.0	110.0
8.00mm x 250mm	0.3149	250.0	160.0
8.00mm x 315mm	0.3149	315.0	225.0
21/64" x 200mm	0.3281	200.0	110.0
21/64" x 250mm	0.3281	250.0	160.0

continued on p75

15000

HSS Morse Taper Shank BS328 Extra Length Drill



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. Extra length enables deeper holes when used in series and pecking. These drills are also ideal where extra reach is required. Take care to conform to cutting speed recommendations, frequently pecking and sufficient lubrication.

Discount Group	40	Surface Treatment	Steam
Material	HSS	Shank Type	MTS
Standard	BS328	Helix Group (Din1836)	N
Depth Of Cut	VARIOUS	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	All Sizes Packed in 1's		

MTS1 mm Ø	Ø Dec Inch	O/all Length mm	Flute Length mm
21/64" x 315mm	0.3281	315.0	225.0
8.50mm x 200mm	0.3346	200.0	110.0
8.50mm x 250mm	0.3346	250.0	160.0
8.50mm x 315mm	0.3346	315.0	225.0
11/32" x 200mm	0.3437	200.0	110.0
11/32" x 250mm	0.3437	250.0	160.0
11/32" x 315mm	0.3437	315.0	225.0
9.00mm x 200mm	0.3543	200.0	110.0
9.00mm x 250mm	0.3543	250.0	160.0
9.00mm x 315mm	0.3543	315.0	225.0
23/64" x 200mm	0.3593	200.0	110.0
23/64" x 250mm	0.3593	250.0	160.0
23/64" x 315mm	0.3593	315.0	225.0
9.50mm x 200mm	0.3740	200.0	110.0
9.50mm x 250mm	0.3740	250.0	160.0
9.50mm x 315mm	0.3740	315.0	225.0
3/8" x 200mm	0.3750	200.0	110.0
3/8" x 250mm	0.3750	250.0	160.0
3/8" x 315mm	0.3750	315.0	225.0
25/64" x 200mm	0.3906	200.0	110.0
25/64" x 250mm	0.3906	250.0	160.0
25/64" x 315mm	0.3906	315.0	225.0
10.00mm x 250mm	0.3937	250.0	160.0
10.00mm x 315mm	0.3937	315.0	225.0
13/32" x 200mm	0.4062	200.0	110.0
13/32" x 250mm	0.4062	250.0	160.0
13/32" x 315mm	0.4062	315.0	225.0
27/64" x 200mm	0.4218	200.0	110.0
27/64" x 250mm	0.4218	250.0	160.0
27/64" x 315mm	0.4218	315.0	225.0
11.00mm x 250mm	0.4330	250.0	160.0
11.00mm x 315mm	0.4330	315.0	225.0

continued on p76

15000

HSS Morse Taper Shank
BS328 Extra Length Drill

General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. Extra length enables deeper holes when used in series and pecking. These drills are also ideal where extra reach is required. Take care to conform to cutting speed recommendations, frequently pecking and sufficient lubrication.

Discount Group	40	Surface Treatment	Steam
Material	HSS	Shank Type	MTS
Standard	BS328	Helix Group (Din1836)	N
Depth Of Cut	VARIOUS	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	All Sizes Packed in 1's		

MTS1 mm Ø	Ø Dec Inch	O/all Length mm	Flute Length mm
7/16" x 200mm	0.4375	200.0	110.0
7/16" x 250mm	0.4375	250.0	160.0
7/16" x 315mm	0.4375	315.0	225.0
29/64" x 200mm	0.4531	200.0	110.0
29/64" x 250mm	0.4531	250.0	160.0
29/64" x 315mm	0.4531	315.0	225.0
15/32" x 200mm	0.4687	200.0	110.0
15/32" x 250mm	0.4687	250.0	160.0
15/32" x 315mm	0.4687	315.0	225.0
12.00mm x 250mm	0.4724	250.0	160.0
12.00mm x 315mm	0.4724	315.0	225.0
31/64" x 250mm	0.4843	250.0	160.0
31/64" x 315mm	0.4843	315.0	225.0
1/2" x 200mm	0.5000	200.0	110.0
1/2" x 250mm	0.5000	250.0	160.0
1/2" x 315mm	0.5000	315.0	225.0
13.00mm x 250mm	0.5118	250.0	160.0
13.00mm x 315mm	0.5118	315.0	225.0
33/64" x 250mm	0.5156	250.0	160.0
33/64" x 315mm	0.5156	315.0	225.0
17/32" x 250mm	0.5312	250.0	160.0
17/32" x 315mm	0.5312	315.0	225.0
17/32" x 400mm	0.5312	400.0	310.0
35/64" x 315mm	0.5468	315.0	225.0
14.00mm x 250mm	0.5511	250.0	160.0
14.00mm x 315mm	0.5511	315.0	225.0
14.00mm x 400mm	0.5511	400.0	310.0
14.00mm x 500mm	0.5511	500.0	410.0

continued on p77

15000

HSS Morse Taper Shank BS328 Extra Length Drill



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. Extra length enables deeper holes when used in series and pecking. These drills are also ideal where extra reach is required. Take care to conform to cutting speed recommendations, frequently pecking and sufficient lubrication.

Discount Group	40	Surface Treatment	Steam
Material	HSS	Shank Type	MTS
Standard	BS328	Helix Group (Din1836)	N
Depth Of Cut	VARIOUS	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	All Sizes Packed in 1's		

MTS2 mm Ø	Ø Dec Inch	O/all Length mm	Flute Length mm
9/16" x 315mm	0.5625	315.0	215.0
9/16" x 400mm	0.5625	400.0	300.0
9/16" x 500mm	0.5625	500.0	400.0
37/64" x 315mm	0.5781	315.0	215.0
37/64" x 400mm	0.5781	400.0	300.0
15.00mm x 315mm	0.5905	315.0	215.0
15.00mm x 400mm	0.5905	400.0	300.0
15.00mm x 500mm	0.5905	500.0	400.0
19/32" x 315mm	0.5937	315.0	215.0
19/32" x 400mm	0.5937	400.0	300.0
19/32" x 500mm	0.5937	500.0	400.0
39/64" x 315mm	0.6093	315.0	215.0
39/64" x 400mm	0.6093	400.0	300.0
5/8" x 315mm	0.6250	315.0	215.0
5/8" x 400mm	0.6250	400.0	300.0
5/8" x 500mm	0.6250	500.0	400.0
16.00mm x 315mm	0.6299	315.0	215.0
16.00mm x 400mm	0.6299	400.0	300.0
16.00mm x 500mm	0.6299	500.0	400.0
41/64" x 315mm	0.6406	315.0	215.0
41/64" x 400mm	0.6406	400.0	300.0
21/32" x 315mm	0.6562	315.0	215.0
21/32" x 400mm	0.6562	400.0	300.0
21/32" x 500mm	0.6562	500.0	400.0
17.00mm x 315mm	0.6692	315.0	215.0
17.00mm x 400mm	0.6692	400.0	300.0
17.00mm x 500mm	0.6692	500.0	400.0
43/64" x 315mm	0.6718	315.0	215.0
11/16" x 315mm	0.6875	315.0	215.0
11/16" x 400mm	0.6875	400.0	300.0
11/16" x 500mm	0.6875	500.0	400.0
45/64" x 315mm	0.7031	315.0	215.0

continued on p78

15000

HSS Morse Taper Shank
BS328 Extra Length Drill

General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. Extra length enables deeper holes when used in series and pecking. These drills are also ideal where extra reach is required. Take care to conform to cutting speed recommendations, frequently pecking and sufficient lubrication.

Discount Group	40	Surface Treatment	Steam
Material	HSS	Shank Type	MTS
Standard	BS328	Helix Group (Din1836)	N
Depth Of Cut	VARIOUS	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	All Sizes Packed in 1's		

MTS2 mm Ø	Ø Dec Inch	O/all Length mm	Flute Length mm
45/64" x 400mm	0.7031	400.0	300.0
18.00mm x 315mm	0.7086	315.0	215.0
18.00mm x 400mm	0.7086	400.0	300.0
18.00mm x 500mm	0.7086	500.0	400.0
23/32" x 315mm	0.7187	315.0	215.0
23/32" x 400mm	0.7187	400.0	300.0
23/32" x 500mm	0.7187	500.0	400.0
47/64" x 315mm	0.7343	315.0	215.0
47/64" x 400mm	0.7343	400.0	300.0
19.00mm x 315mm	0.7480	315.0	215.0
19.00mm x 400mm	0.7480	400.0	300.0
19.00mm x 500mm	0.7480	500.0	400.0
3/4" x 315mm	0.7500	315.0	215.0
3/4" x 400mm	0.7500	400.0	300.0
3/4" x 500mm	0.7500	500.0	400.0
49/64" x 315mm	0.7656	315.0	215.0
25/32" x 315mm	0.7812	315.0	215.0
25/32" x 400mm	0.7812	400.0	300.0
25/32" x 500mm	0.7812	500.0	400.0
20.00mm x 315mm	0.7874	315.0	215.0
20.00mm x 400mm	0.7874	400.0	300.0
20.00mm x 500mm	0.7874	500.0	400.0
13/16" x 315mm	0.8125	315.0	215.0
13/16" x 400mm	0.8125	400.0	300.0
13/16" x 500mm	0.8125	500.0	400.0
21.00mm x 315mm	0.8267	315.0	215.0
21.00mm x 400mm	0.8267	400.0	300.0
21.00mm x 500mm	0.8267	500.0	400.0
27/32" x 315mm	0.8437	315.0	215.0
27/32" x 400mm	0.8437	400.0	300.0
27/32" x 500mm	0.8437	500.0	400.0
22.00mm x 315mm	0.8661	315.0	215.0

continued on p79

15000

HSS Morse Taper Shank BS328 Extra Length Drill



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. Extra length enables deeper holes when used in series and pecking. These drills are also ideal where extra reach is required. Take care to conform to cutting speed recommendations, frequently pecking and sufficient lubrication.

Discount Group	40	Surface Treatment	Steam
Material	HSS	Shank Type	MTS
Standard	BS328	Helix Group (Din1836)	N
Depth Of Cut	VARIOUS	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	All Sizes Packed in 1's		

MTS2 mm Ø	Ø Dec Inch	O/all Length mm	Flute Length mm
22.00mm x 400mm	0.8661	400.0	300.0
22.00mm x 500mm	0.8661	500.0	400.0
7/8" x 315mm	0.8750	315.0	215.0
7/8" x 400mm	0.8750	400.0	300.0
7/8" x 500mm	0.8750	500.0	400.0
23.00mm x 315mm	0.9055	315.0	190.0
23.00mm x 400mm	0.9055	400.0	275.0
23.00mm x 500mm	0.9055	500.0	375.0
29/32" x 315mm	0.9062	315.0	190.0
29/32" x 400mm	0.9062	400.0	275.0
29/32" x 500mm	0.9062	500.0	375.0

continued on p80

15000

HSS Morse Taper Shank
BS328 Extra Length Drill

General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. Extra length enables deeper holes when used in series and pecking. These drills are also ideal where extra reach is required. Take care to conform to cutting speed recommendations, frequently pecking and sufficient lubrication.

Discount Group	40	Surface Treatment	Steam
Material	HSS	Shank Type	MTS
Standard	BS328	Helix Group (Din1836)	N
Depth Of Cut	VARIOUS	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	All Sizes Packed in 1's		

MTS3 mm Ø	Ø Dec Inch	O/all Length mm	Flute Length mm
15/16" x 315mm	0.9375	315.0	190.0
15/16" x 400mm	0.9375	400.0	275.0
24.00mm x 315mm	0.9448	315.0	190.0
24.00mm x 400mm	0.9448	400.0	275.0
24.00mm x 500mm	0.9448	500.0	375.0
31/32" x 315mm	0.9687	315.0	190.0
31/32" x 400mm	0.9687	400.0	275.0
31/32" x 500mm	0.9687	500.0	375.0
25.00mm x 315mm	0.9842	315.0	190.0
25.00mm x 400mm	0.9842	400.0	275.0
25.00mm x 500mm	0.9842	500.0	375.0
1" x 315mm	1.0000	315.0	190.0
1" x 400mm	1.0000	400.0	275.0
1" x 500mm	1.0000	500.0	375.0
26.00mm x 400mm	1.0236	400.0	275.0
26.00mm x 500mm	1.0236	500.0	375.0
1.1/16" x 400mm	1.0625	400.0	275.0
27.00mm x 400mm	1.0629	400.0	275.0
27.00mm x 500mm	1.0629	500.0	375.0
28.00mm x 400mm	1.1023	400.0	275.0
28.00mm x 500mm	1.1023	500.0	375.0
1.1/8" x 400mm	1.1250	400.0	275.0
1.1/8" x 500mm	1.1250	500.0	375.0
30.00mm x 400mm	1.1811	400.0	275.0
30.00mm x 500mm	1.1811	500.0	375.0
1.3/16" x 400mm	1.1875	400.0	275.0
1.1/4" x 400mm	1.2500	400.0	275.0
1.1/4" x 500mm	1.2500	500.0	375.0

continued on p81

15000

HSS Morse Taper Shank BS328 Extra Length Drill



General-purpose drill, to drill steels with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. Extra length enables deeper holes when used in series and pecking. These drills are also ideal where extra reach is required. Take care to conform to cutting speed recommendations, frequently pecking and sufficient lubrication.

Discount Group	40	Surface Treatment	Steam
Material	HSS	Shank Type	MTS
Standard	BS328	Helix Group (Din1836)	N
Depth Of Cut	VARIOUS	Cutting Direction	RH
Point Angle	118°	Tolerance	h8
Packing Unit	All Sizes Packed in 1's		

MTS4 mm Ø	Ø Dec Inch	O/all Length mm	Flute Length mm
32.00mm x 400mm	1.2598	400.0	250.0
32.00mm x 500mm	1.2598	500.0	350.0
1.3/8" x 500mm	1.3750	500.0	350.0
35.00mm x 400mm	1.3779	400.0	250.0
35.00mm x 500mm	1.3779	500.0	350.0
38.00mm x 400mm	1.4960	400.0	250.0
38.00mm x 500mm	1.4960	500.0	350.0
1.1/2" x 500mm	1.5000	500.0	350.0
40.00mm x 400mm	1.5748	400.0	250.0
40.00mm x 500mm	1.5748	500.0	350.0
1.5/8" x 500mm	1.6250	500.0	350.0
42.00mm x 500mm	1.6535	500.0	350.0
1.3/4" x 500mm	1.7500	500.0	350.0
45.00mm x 500mm	1.7716	500.0	350.0
1.7/8" x 500mm	1.8750	500.0	350.0
48.00mm x 500mm	1.8897	500.0	350.0
50.00mm x 500mm	1.9685	500.0	350.0
2" x 500mm	2.0000	500.0	350.0

17000

HSS Morse Taper Shank DIN343 3 Flute Core Drill



Robust three fluted drill for enlarging holes from approx. 60% of the core drill diameter, that have previously been drilled, cored or punched. Use of Core Drills will ensure corrections of misalignment and concentricity of the preformed hole. The improved surface quality of the enlarged hole guarantees a perfect finishing through a reamer.

Discount Group	25
Material	HSS
Standard	DIN343
Depth Of Cut	4-5 x Ø
Point Angle	118° 2/3
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Steam
Shank Type	MTS
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h8

MTS1 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
6.350	1/4"	0.2500	144.0	63.0
7.142	9/32"	0.2812	150.0	69.0
7.938	5/16"	0.3125	156.0	75.0
8.731	11/32"	0.3437	162.0	81.0
9.525	3/8"	0.3750	168.0	87.0
10.00		0.3937	168.0	87.0
10.317	13/32"	0.4062	168.0	87.0
11.00		0.4330	175.0	94.0
11.113	7/16"	0.4375	175.0	94.0
12.00		0.4724	182.0	101.0
12.700	1/2"	0.5000	182.0	101.0
13.00		0.5118	182.0	101.0
14.00		0.5511	189.0	108.0

MTS2 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
14.288	9/16"	0.5625	212.0	114.0
15.00		0.5905	212.0	114.0
15.081	19/32"	0.5937	218.0	120.0
15.875	5/8"	0.6250	218.0	120.0
16.00		0.6299	218.0	120.0
16.667	21/32"	0.6562	223.0	125.0
17.00		0.6692	223.0	125.0
17.463	11/16"	0.6875	228.0	130.0
18.00		0.7086	228.0	130.0
18.255	23/32"	0.7187	233.0	135.0
19.00		0.7480	233.0	135.0
19.050	3/4"	0.7500	238.0	140.0
19.842	25/32"	0.7812	238.0	140.0
20.00		0.7874	238.0	140.0
20.638	13/16"	0.8125	243.0	145.0
21.00		0.8267	243.0	145.0
21.431	27/32"	0.8437	248.0	150.0
22.00		0.8661	248.0	150.0
22.225	7/8"	0.8750	248.0	150.0
23.00		0.9055	253.0	155.0
23.017	29/32"	0.9062	253.0	155.0

continued on p83

17000

HSS Morse Taper Shank DIN343 3 Flute Core Drill



Robust three fluted drill for enlarging holes from approx. 60% of the core drill diameter, that have previously been drilled, cored or punched. Use of Core Drills will ensure corrections of misalignment and concentricity of the preformed hole. The improved surface quality of the enlarged hole guarantees a perfect finishing through a reamer.

Discount Group	25
Material	HSS
Standard	DIN343
Depth Of Cut	4-5 x Ø
Point Angle	118° 2/3
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Steam
Shank Type	MTS
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h8

MTS3 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
23.813	15/16"	0.9375	281.0	160.0
24.00		0.9448	281.0	160.0
24.605	31/32"	0.9687	281.0	160.0
25.00		0.9842	281.0	160.0
25.400	1"	1.0000	286.0	165.0
26.00		1.0236	286.0	165.0
26.988	1.1/16"	1.0625	291.0	170.0
27.00		1.0629	291.0	170.0
28.00		1.1023	291.0	170.0
28.575	1.1/8"	1.1250	296.0	175.0
29.367	1.5/32"	1.1562	296.0	175.0
30.00		1.1811	296.0	175.0
30.163	1.3/16"	1.1875	301.0	180.0
31.00		1.2204	301.0	180.0
31.750	1.1/4"	1.2500	306.0	185.0

MTS4 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
32.00		1.2598	334.0	185.0
32.542	1.9/32"	1.2812	334.0	185.0
33.338	1.5/16"	1.3125	334.0	185.0
34.00		1.3385	339.0	190.0
34.925	1.3/8"	1.3750	339.0	190.0
35.00		1.3779	339.0	190.0
36.00		1.4173	344.0	195.0
36.513	1.7/16"	1.4375	344.0	195.0
37.00		1.4566	344.0	195.0
38.00		1.4960	349.0	200.0
38.100	1.1/2"	1.5000	349.0	200.0
39.00		1.5354	349.0	200.0
40.00		1.5748	349.0	200.0

11111

HSCo Morse Taper Shank DIN345 Drill



DRILLING

Heavy-duty drill made of cobalt material with excellent heat resistance. To drill steels with tensile strength up to 1400N/mm², very hard bronze, stainless steels as well as heat and acid resistant steels.

Discount Group	42
Material	HSCo
Standard	DIN345
Depth Of Cut	4-5 x Ø
Point Angle	118°
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Steam
Shank Type	MTS
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h8

MTS1 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
10.00		0.3937	168.0	87.0
10.20		0.4015	168.0	87.0
10.317	13/32"	0.4062	168.0	87.0
10.50		0.4133	168.0	87.0
10.80		0.4251	175.0	94.0
11.00		0.4330	175.0	94.0
11.113	7/16"	0.4375	175.0	94.0
11.20		0.4409	175.0	94.0
11.50		0.4527	175.0	94.0
11.80		0.4645	175.0	94.0
11.905	15/32"	0.4687	182.0	101.0
12.00		0.4724	182.0	101.0
12.50		0.4921	182.0	101.0
12.700	1/2"	0.5000	182.0	101.0
12.80		0.5039	182.0	101.0
13.00		0.5118	182.0	101.0
13.25		0.5216	189.0	108.0
13.492	17/32"	0.5312	189.0	108.0
13.50		0.5314	189.0	108.0
13.75		0.5413	189.0	108.0
14.00		0.5511	189.0	108.0

MTS2 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
15.75		0.6200	218.0	120.0
15.875	5/8"	0.6250	218.0	120.0
16.00		0.6299	218.0	120.0
16.25		0.6397	223.0	125.0
16.50		0.6496	223.0	125.0
16.667	21/32"	0.6562	223.0	125.0
16.75		0.6594	223.0	125.0
17.00		0.6692	223.0	125.0
17.25		0.6791	228.0	130.0
17.463	11/16"	0.6875	228.0	130.0
17.50		0.6889	228.0	130.0
17.75		0.6988	228.0	130.0
18.00		0.7086	228.0	130.0
18.25		0.7185	233.0	135.0
18.255	23/32"	0.7187	233.0	135.0
18.50		0.7283	233.0	135.0
18.75		0.7381	233.0	135.0
19.00		0.7480	233.0	135.0
19.050	3/4"	0.7500	238.0	140.0
19.25		0.7578	238.0	140.0
19.50		0.7677	238.0	140.0
19.75		0.7775	238.0	140.0
19.842	25/32"	0.7812	238.0	140.0
20.00		0.7874	238.0	140.0
20.50		0.8070	243.0	145.0
20.638	13/16"	0.8125	243.0	145.0
21.00		0.8267	243.0	145.0
21.431	27/32"	0.8437	248.0	150.0
21.50		0.8464	248.0	150.0
22.00		0.8661	248.0	150.0
22.225	7/8"	0.8750	248.0	150.0
22.50		0.8858	253.0	155.0
23.00		0.9055	253.0	155.0
23.017	29/32"	0.9062	253.0	155.0

MTS2 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
14.25		0.5610	212.0	114.0
14.288	9/16"	0.5625	212.0	114.0
14.50		0.5708	212.0	114.0
14.75		0.5807	212.0	114.0
15.00		0.5905	212.0	114.0
15.081	19/32"	0.5937	218.0	120.0
15.25		0.6003	218.0	120.0
15.50		0.6102	218.0	120.0

continued on p85

11111

HSCo Morse Taper Shank
DIN345 Drill

DRILLING

Heavy-duty drill made of cobalt material with excellent heat resistance. To drill steels with tensile strength up to 1400N/mm², very hard bronze, stainless steels as well as heat and acid resistant steels.



Discount Group	42
Material	HSCo
Standard	DIN345
Depth Of Cut	4-5 x Ø
Point Angle	118°
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Steam
Shank Type	MTS
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h8

MTS3 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
23.50		0.9251	276.0	155.0
23.813	15/16"	0.9375	281.0	160.0
24.00		0.9448	281.0	160.0
24.50		0.9645	281.0	160.0
24.605	31/32"	0.9687	281.0	160.0
25.00		0.9842	281.0	160.0
25.400	1"	1.0000	286.0	165.0
25.50		1.0039	286.0	165.0
26.00		1.0236	286.0	165.0
26.50		1.0433	286.0	165.0
27.00		1.0629	291.0	170.0
27.50		1.0826	291.0	170.0
28.00		1.1023	291.0	170.0
28.50		1.1220	296.0	175.0
29.00		1.1417	296.0	175.0
29.50		1.1614	296.0	175.0
30.00		1.1811	296.0	175.0
31.00		1.2204	301.0	180.0

MTS4 mm Ø	Ø Dec Inch	O/all Length mm	Flute Length mm
32.00	1.2598	334.0	185.0
33.00	1.2992	334.0	185.0
34.00	1.3385	339.0	190.0
35.00	1.3779	339.0	190.0
36.00	1.4173	344.0	195.0
37.00	1.4566	344.0	195.0
38.00	1.4960	349.0	200.0
39.00	1.5354	349.0	200.0
40.00	1.5748	349.0	200.0

11211

HSCo Morse Taper Shank Armour Piercing Drill

Cobalt armour piercing drill with high heat resistance, made from high alloyed HSCo including 8% cobalt and 10% molybdenum. To be used for machining manganese steel such as Hardox 400 and Hardox 500.



Discount Group	42
Material	HSCo
Standard	PRESTO
Depth Of Cut	3.5 x Ø
Point Angle	135° Web Thin
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Steam
Shank Type	MTS
Helix Group (Din1836)	H
Cutting Direction	RH
Tolerance	h8

MTS1 mm Ø	Ø Dec Inch	O/all Length mm	Flute Length mm
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10.00	0.3937	140.0	56.0
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MTS2 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
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11.00		0.4330	175.0	76.0
11.113	7/16"	0.4375	175.0	76.0
12.00		0.4724	179.0	81.0
12.700	1/2"	0.5000	179.0	81.0
13.00		0.5118	179.0	81.0
14.00		0.5511	184.0	86.0
14.288	9/16"	0.5625	184.0	86.0
15.00		0.5905	187.0	89.0
15.875	5/8"	0.6250	187.0	89.0
16.00		0.6299	187.0	89.0
17.00		0.6692	190.0	92.0
17.463	11/16"	0.6875	190.0	92.0
18.00		0.7086	190.0	92.0

MTS3 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
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19.00		0.7480	213.0	95.0
19.050	3/4"	0.7500	213.0	95.0
20.00		0.7874	213.0	95.0
20.638	13/16"	0.8125	219.0	102.0
21.00		0.8267	222.0	105.0
22.00		0.8661	222.0	105.0
22.225	7/8"	0.8750	222.0	105.0
23.813	15/16"	0.9375	222.0	105.0
24.00		0.9448	222.0	105.0
25.00		0.9842	225.0	108.0
25.400	1"	1.0000	225.0	108.0
26.00		1.0236	225.0	108.0

MTS3 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
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28.00		1.1023	270.0	124.0
28.575	1.1/8"	1.1250	270.0	124.0
30.00		1.1811	270.0	124.0
31.750	1.1/4"	1.2500	279.0	133.0
32.00		1.2598	279.0	133.0
35.00		1.3779	292.0	146.0
40.00		1.5748	298.0	152.0

91030

DIN2185 Hardened & Ground Drill Sleeve



The Morse Taper sleeve is fully hardened and accurately ground. It is for adapting morse taper shank tooling to machines having large morse taper spindles.

Discount Group	O4	Surface Treatment	Bright
Material	#45	Shank Type	MTS
Standard	DIN2185	Helix Group (Din1836)	N/A
Depth Of Cut	N/A	Cutting Direction	N/A
Point Angle	N/A	Tolerance	N/A
Packing Unit	All Sizes Packed in 1's		

Outside Taper	Inside Taper	Abbrev.	O/all Length	Angle to CL
#1 MTS	#0 MTS	1-0	65.5	1° 25' 43"
#2 MTS	#0 MTS	2-0	80.0	1° 25' 50"
#2 MTS	#1 MTS	2-1	80.0	1° 25' 50"
#3 MTS	#1 MTS	3-1	99.0	1° 26' 16"
#3 MTS	#2 MTS	3-2	99.0	1° 26' 16"
#4 MTS	#1 MTS	4-1	124.0	1° 29' 15"
#4 MTS	#2 MTS	4-2	124.0	1° 29' 15"
#4 MTS	#3 MTS	4-3	124.0	1° 29' 15"
#5 MTS	#1 MTS	5-1	156.0	1° 30' 26"
#5 MTS	#2 MTS	5-2	156.0	1° 30' 26"
#5 MTS	#3 MTS	5-3	156.0	1° 30' 26"
#5 MTS	#4 MTS	5-4	156.0	1° 30' 26"
#6 MTS	#3 MTS	6-3	218.0	1° 29' 36"
#6 MTS	#4 MTS	6-4	218.0	1° 29' 36"
#6 MTS	#5 MTS	6-5	218.0	1° 29' 36"

49010

HSS Short Series

Annular Cutter



Fully ground M2 high speed steel cutters. Annular cutters are designed to suit a wide range of applications throughout many industries including construction, engineering, mining, petro-chemical, gas, oil, ship building and railways. Annular cutters are supplied with the industry standard 1/4" pilot bore and can be used in most magnetic drills. Suitable for machining upto 700N/mm².

Discount Group	22	Surface Treatment	Bright
Material	HSS	Shank Type	Ø19 x 23mm Weldon
Standard	PRESTO	Helix Group (Din1836)	N
Depth Of Cut	30mm	Cutting Direction	RH
Point Angle	N/A	Tolerance	N/A
Packing Unit	All Sizes Packed in 1's		

Ø mm	Ø Dec Inch	O/all Length mm	Flute Length mm
12.00	0.4724	63.0	30.0
13.00	0.5118	63.0	30.0
14.00	0.5511	63.0	30.0
15.00	0.5905	63.0	30.0
16.00	0.6299	63.0	30.0
17.00	0.6692	63.0	30.0
18.00	0.7086	63.0	30.0
19.00	0.7480	63.0	30.0
20.00	0.7874	63.0	30.0
21.00	0.8267	63.0	30.0
22.00	0.8661	63.0	30.0
23.00	0.9055	63.0	30.0
24.00	0.9448	63.0	30.0
25.00	0.9842	63.0	30.0
26.00	1.0236	63.0	30.0
27.00	1.0629	63.0	30.0
28.00	1.1023	63.0	30.0
29.00	1.1417	63.0	30.0
30.00	1.1811	63.0	30.0
31.00	1.2204	63.0	30.0
32.00	1.2598	63.0	30.0
33.00	1.2992	63.0	30.0

Ø mm	Ø Dec Inch	O/all Length mm	Flute Length mm
34.00	1.3385	63.0	30.0
35.00	1.3779	63.0	30.0
36.00	1.4173	63.0	30.0
37.00	1.4566	63.0	30.0
38.00	1.4960	63.0	30.0
39.00	1.5354	63.0	30.0
40.00	1.5748	63.0	30.0
41.00	1.6141	63.0	30.0
42.00	1.6535	63.0	30.0
43.00	1.6929	63.0	30.0
44.00	1.7322	63.0	30.0
45.00	1.7716	63.0	30.0
46.00	1.8110	63.0	30.0
47.00	1.8503	63.0	30.0
48.00	1.8897	63.0	30.0
49.00	1.9291	63.0	30.0
50.00	1.9685	63.0	30.0
51.00	2.0078	63.0	30.0
52.00	2.0472	63.0	30.0
12.00 SHORT PIN	0.1968	78.0	
SHORT	0.2500	78.0	

49020

HSS Long Series Annular Cutter



Fully ground M2 high speed steel cutters. Annular cutters are designed to suit a wide range of applications throughout many industries including construction, engineering, mining, petro-chemical, gas, oil, ship building and railways. Annular cutters are supplied with the industry standard 1/4" pilot bore and can be used in most magnetic drills. Suitable for machining upto 700N/mm².

Discount Group	22
Material	HSS
Standard	PRESTO
Depth Of Cut	50mm
Point Angle	N/A
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Shank Type	Ø19 x 23mm Weldon
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	N/A

Ø mm	Ø Dec Inch	O/all Length mm	Flute Length mm
12.00	0.4724	88.5	50.0
13.00	0.5118	88.5	50.0
14.00	0.5511	88.5	50.0
15.00	0.5905	88.5	50.0
16.00	0.6299	88.5	50.0
17.00	0.6692	88.5	50.0
18.00	0.7086	88.5	50.0
19.00	0.7480	88.5	50.0
20.00	0.7874	88.5	50.0
21.00	0.8267	88.5	50.0
22.00	0.8661	88.5	50.0
23.00	0.9055	88.5	50.0
24.00	0.9448	88.5	50.0
25.00	0.9842	88.5	50.0
26.00	1.0236	88.5	50.0
27.00	1.0629	88.5	50.0
28.00	1.1023	88.5	50.0
29.00	1.1417	88.5	50.0
30.00	1.1811	88.5	50.0
31.00	1.2204	88.5	50.0
32.00	1.2598	88.5	50.0
33.00	1.2992	88.5	50.0
34.00	1.3385	88.5	50.0
35.00	1.3779	88.5	50.0
36.00	1.4173	88.5	50.0
37.00	1.4566	88.5	50.0
38.00	1.4960	88.5	50.0

Ø mm	Ø Dec Inch	O/all Length mm	Flute Length mm
39.00	1.5354	88.5	50.0
40.00	1.5748	88.5	50.0
41.00	1.6141	88.5	50.0
42.00	1.6535	88.5	50.0
43.00	1.6929	88.5	50.0
44.00	1.7322	88.5	50.0
45.00	1.7716	88.5	50.0
46.00	1.8110	88.5	50.0
47.00	1.8503	88.5	50.0
48.00	1.8897	88.5	50.0
49.00	1.9291	88.5	50.0
50.00	1.9685	88.5	50.0
51.00	2.0078	88.5	50.0
52.00	2.0472	88.5	50.0
53.00	2.0866	88.5	50.0
54.00	2.1259	88.5	50.0
55.00	2.1653	88.5	50.0
56.00	2.2047	88.5	50.0
57.00	2.2440	88.5	50.0
58.00	2.2834	88.5	50.0
59.00	2.3228	88.5	50.0
60.00	2.3622	88.5	50.0
61.00	2.4015	88.5	50.0
62.00	2.4409	88.5	50.0
63.00	2.4803	88.5	50.0
12.00 LONG PIN	0.1968	102.0	
LONG	0.2500	102.0	

09500

HSS DIN338

Jobber Drill Set

A range of HSS DIN338 Jobber Drill Sets supplied metric or imperial are available in various size range options.

Discount Group	49
Material	HSS
Standard	DIN338
Depth Of Cut	4 x Ø
Point Angle	118°

Packing Unit	Packed in a Drill Set Box
Surface Treatment	Steam
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH

List no.		Ø Range	Increments	No. of Drills
0950013		1/16" - 1/4"	1/64"	13
0950015		1/16" - 1/2"	1/32"	15
0950021		1/16" - 3/8"	1/64"	21
0950029		1/16" - 1/2"	1/64"	29
0950060		#1 - #60	#1	60
09500M19		1mm - 10mm	0.5mm	19

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09500

HSS DIN338 Jobber Drill Set

A range of HSS DIN338 Jobber Drill Sets supplied metric or imperial are available in various size range options.

Discount Group	49
Material	HSS
Standard	DIN338
Depth Of Cut	4 x Ø
Point Angle	118°

Packing Unit	Packed in a Drill Set Box
Surface Treatment	Steam
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH

List no.		Ø Range	Increments	No. of Drills
09500M25		1mm - 13mm	0.5mm	25
09500M41		6mm - 10mm	0.1mm	41
09500M50		1mm - 5.9mm	0.1mm	50
09510M19		1mm - 10mm	0.5mm	19
09500M170		1mm - 10mm	0.5mm	170 (Qty 10 upto 8mm, then 5)
09500M240		1mm - 13mm + 3.3 & 4.2	0.5mm	240 (Qty 10 upto 10mm, then 5)

09520 HSS DIN338 Left Hand Jobber Drill Set

A range of HSS DIN338 Left Hand Jobber Drill Sets supplied in metric and are available in various size range options.

Discount Group	49
Material	HSS
Standard	DIN338
Depth Of Cut	4 x Ø
Point Angle	118°

Packing Unit	Packed in a Drill Set Box
Surface Treatment	Steam
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	LH

List no.		Ø Range	Increments	No. of Drills
09520M15		3mm - 10mm	0.5mm	15
09520M21		3mm - 13mm	0.5mm	21

09502 HSS DIN338 HiNOX Jobber Drill Set

A range of HSCo DIN338 HiNox Drill Sets supplied in metric or imperial.

Discount Group	49
Material	HSS
Standard	-DIN338
Depth Of Cut	4 x Ø
Point Angle	130°

Packing Unit	Packed in a Drill Set Box
Surface Treatment	Steam
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH

List no.		Ø Range	Increments	No. of Drills
09502M19		1mm - 10mm	0.5mm	19
09502M25		1mm - 13mm	0.5mm	25



09503

HSS DIN338 Tri-Quad Jobber Drill Set

HSS DIN338 Tri-Quad Drill Sets supplied in metric only.

Discount Group	49
Material	HSS
Standard	DIN338
Depth Of Cut	4 x Ø
Point Angle	135° Split

Packing Unit	Packed in a Drill Set Box
Surface Treatment	Steam / Bronze
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH

List no.		Ø Range	Increments	No. of Drills
09503M19		1mm - 10mm	0.5mm	19
09503M25		1mm - 13mm	0.5mm	25



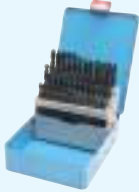


09522

HSS DIN338 Elite Jobber Drill Set

A range of HSS DIN338 Elite Jobber Drill Sets supplied in metric sizes only, available in various size range options.

Discount Group	49
Material	HSS
Standard	DIN338
Depth Of Cut	4 x Ø
Point Angle	118° Split

Packing Unit	Packed in a Drill Set Box
Surface Treatment	Steam
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH

List no.		Ø Range	Increments	No. of Drills
09522M19		1mm - 10mm	0.5mm	19
09522M25		1mm - 13mm	0.5mm	25
09522M41		6mm - 10mm	0.1mm	41
09522M50		1mm - 5.9mm	0.1mm	50
09522M170		1mm - 10mm	0.5mm	170 (Qty 10 upto 8mm, then 5)

09565

HSS DIN338 Elite Plus Jobber Drill Set

A range of HSS DIN338 ELITE PLUS Jobber Drill Sets supplied metric or imperial and are available in various size range options.

Discount Group	05
Material	HSS
Standard	DIN338
Depth Of Cut	4 x Ø
Point Angle	118° Split

Packing Unit	Packed in a Drill Set Box
Surface Treatment	TiN
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH

List no.		Ø Range	Increments	No. of Drills
09565M19		1mm - 10mm	0.5mm	19
09565M25		1mm - 13mm	0.5mm	25
09565M41		6mm - 10mm	0.1mm	41
09565M50		1mm - 5.9mm	0.1mm	50
09565M170		1mm - 10mm	0.5mm	170 (Qty 10 upto 8mm, then 5)
09565M240		1mm - 13mm + 3.3 & 4.2	0.5mm	240 (Qty 10 upto 10mm, then 5)

09540

HSS DIN338 Jobber Drill Dispenser

A range of HSS DIN338 Jobber Drills supplied in a counter top drill dispenser. Metric are available in 1.0-13.0mm x 0.5 plus tapping sizes (excluding 10.2mm).

Discount Group	49	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	118°		
Packing Unit	Packed as Dispenser and Drills in Pack Quantities		



List no.	Ø Range	Increments	No. of Drills
09540M29 	1mm - 13mm + 3.2, 4.2, 4.8 & 6.8	0.5mm	435 (Qty 20 upto 6.5mm, 10 upto 11.5mm then 5)

09501

HSCo DIN338 Jobber Drill Set

A range of HSCo DIN338 Jobber Drill Sets supplied in metric or imperial and are available in various size range options.

Discount Group	49	Packing Unit	Packed in a Drill Set Box
Material	HSCo	Surface Treatment	Bronze
Standard	DIN338	Shank Type	Straight
Depth Of Cut	4 x Ø	Helix Group (Din1836)	N
Point Angle	135° Split	Cutting Direction	RH

List no.	Ø Range	Increments	No. of Drills
0950115 	1/16" - 1/2"	1/32"	15
0950129 	1/16" - 1/2"	1/64"	29

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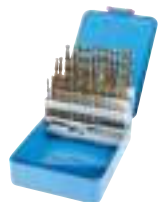

09501

HSCo DIN338 Jobber Drill Set

A range of HSCo DIN338 Jobber Drill Sets supplied in metric or imperial and are available in various size range options.

Discount Group	49
Material	HSCo
Standard	DIN338
Depth Of Cut	4 x Ø
Point Angle	135° Split

Packing Unit	Packed in a Drill Set Box
Surface Treatment	Bronze
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH

List no.		Ø Range	Increments	No. of Drills
09501M19		1mm - 10mm	0.5mm	19
09501M25		1mm - 13mm	0.5mm	25
09501M41		6mm - 10mm	0.1mm	41
09501M50		1mm - 5.9mm	0.1mm	50
09501M170		1mm - 10mm	0.5mm	170 (Qty 10 upto 8mm, then 5)



09507

HSCo DIN338 Super Elite Drill Set

A range of HSCo DIN338 Jobber Drill Sets supplied in a drill set box. Specially treated for superior mechanical properties.

Discount Group	49
Material	HSCo
Standard	DIN338
Depth Of Cut	4 x Ø
Point Angle	135° Split
Packing Unit	Packed in a Drill Set Box

Surface Treatment	Bronze
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH

List no.		Ø Range	Increments	No. of Drills
09507M19		1mm - 10mm	0.5mm	19
09507M25		1mm - 13mm	0.5mm	25


09900

HSS DIN338 Jobber Drillbank Set

A range of HSS DIN338 Jobber Drill Sets supplied in a uniquely designed plastic drill bank with integral diameter measuring facility. Metric sizes available only.

Discount Group	49
Material	HSS
Standard	DIN338
Depth Of Cut	4 x Ø
Point Angle	118°
Packing Unit	3 Drills upto & Including 4mm then 2 Drills Upto & Including 8mm then 1 Drill Above 8mm + Tapping

Surface Treatment	Steam
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH

List no.		Ø Range	Increments	No. of Drills
09900M25		1mm - 13mm + 3.2, 4.2, 6.8 & 10.2	0.5mm	55

09902 HSS DIN338 HiNOX Drillbank Set

A range of HSS DIN338 HiNox Jobber Drill Sets supplied in a uniquely designed plastic drill bank with integral diameter measuring facility. Metric set only.

Discount Group	49	Surface Treatment	Steam / Bright
Material	HSS	Shank Type	Straight
Standard	-DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	130°		
Packing Unit	3 Drills upto & Including 4mm then 2 Drills Upto & Including 8mm then 1 Drill Above 8mm		

List no.	Ø Range	Increments	No. of Drills
09902M25	1mm - 13mm + 3.2, 4.2, 6.8 & 10.2	0.5mm	55




09901 HSS DIN338 Elite Drillbank Set

A range of HSS DIN338 ELITE Jobber Drill Sets supplied in a uniquely designed plastic drill bank with integral diameter measuring facility. Metric set only.

Discount Group	49	Surface Treatment	Steam
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	118° Split		
Packing Unit	3 Drills upto & Including 4mm then 2 Drills Upto & Including 8mm then 1 Drill Above 8mm		

List no.	Ø Range	Increments	No. of Drills
09901M29	1mm - 13mm + 3.2, 4.2, 6.8 & 10.2	0.5mm	55




09965

HSS DIN338

Elite Plus Drillbank Set

A range of HSS DIN338 Elite Plus Jobber Drill Sets supplied in a uniquely designed plastic drill bank with integral diameter measuring facility. Metric set only.

Discount Group	49	Surface Treatment	TiN
Material	HSS	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	118° Split		
Packing Unit	3 Drills upto & Including 4mm then 2 Drills Upto & Including 8mm then 1 Drill Above 8mm + Tapping		

List no.	Ø Range	Increments	No. of Drills
09965M25 	1mm - 13mm + 3.2, 4.2, 6.8 & 10.2	0.5mm	55

09911

HSCo DIN338

Jobber Drill Drillbank Set

A range of HSCo DIN338 Jobber Drill Sets supplied in a uniquely designed plastic drill bank with integral diameter measuring facility. Metric sizes available only.

Discount Group	49	Surface Treatment	Bronze
Material	HSCo	Shank Type	Straight
Standard	DIN338	Helix Group (Din1836)	N
Depth Of Cut	4 x Ø	Cutting Direction	RH
Point Angle	135° Split		
Packing Unit	3 Drills upto & Including 4mm then 2 Drills Upto & Including 8mm then 1 Drill Above 8mm		

List no.	Ø Range	Increments	No. of Drills
09911M25 	1mm - 13mm + 3.2, 4.2, 6.8 & 10.2	0.5mm	55

08690


HSS 6 Peice Blacksmith Set

General-purpose drill, to drill steels with tensile strength up to 1.000 N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. Reduced parallel 1/2" shank generally for use in hand drills.

Discount Group	02
Material	HSS
Standard	PRESTO
Depth Of Cut	79.0mm
Point Angle	118°
Packing Unit	All Sizes Packed in 1's

Packing Unit	Packed in a Drill Set Box
Surface Treatment	Steam
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH

List no.	Ø Range	Increments	No. of Drills
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0869014-25		14,16,18,20,22,25mm	6
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09490

Annular Cutter Sets

A range of HSS annular cutters supplied in metric only, in either short or long series.

Discount Group	22
Material	HSS
Standard	PRESTO
Depth Of Cut	30mm / 50mm
Point Angle	N/A

Packing Unit	Packed as Set in handy set case
Surface Treatment	Bright
Shank Type	Ø19 x 23mm Weldon
Helix Group (Din1836)	N
Cutting Direction	RH

List no.		Ø Range	Increments	No. of Cutters
0949010		14mm - 24mm SHORT	2mm	6 + PIN
0949020		14mm - 24mm LONG	2mm	6 + PIN







COUNTERSINKS


104 - 112

PRESTO



Straight Shank Countersinks

	Series #	Standard	Material	Type	Small Ø	Large Ø	Surface	Form	Page
	78011	DIN 334	HSS	60° 3 Flt	1.6 - 6.3mm	6.3 - 25.0mm	PO Bright	C	106
	78010	DIN 335		90° 3 Flt	1.3 - 4.2mm	4.3 - 31.0mm	PO Bright	C	107
	78015	DIN 335		90° 3 Flt	1.3 - 3.5mm	4.3 - 20.5mm	P5 TiN	C	108
	78012	Factory	HSCo	90° De Burr	2.0 - 5.0mm	5.0 - 10.0mm	PO Bright		109

Morse Taper Shank Countersinks

	Series #	Standard	Material	Type	Small Ø	Large Ø	Surface	Form	Page
	78020	DIN 335	HSS	90° 3 Flt	3.2 - 28.0mm	15.0 - 100.0mm	PO Bright	D	110

Straight Shank Countersink Sets

	Series #	Material	Type	Size Range	Surface	Page
	78091	HSS	90° Straight Shank - 3 Flute	6mm - 16mm	PO Bright	111
	78095				P5 TiN	111

78011

HSS Straight Shank DIN334 60° 3 Flute Countersink



Universal tool for deburring and countersinking. Advantages are chatter-free working and easy regrinding at the cutting face.

Discount Group	25	Surface Treatment	Bright
Material	HSS	Shank Type	Straight
Standard	DIN334	Type	60° Form C
Packing Unit	All Sizes Packed in 1's	Flute Form	3 Straight Flutes

Ø mm	Small Ø	Ø Dec Inch	O/all Length mm	Head Length mm	Shank Ø
6.30	1.60	0.2480	45.0	6.3	5.0
8.00	2.00	0.3149	50.0	8.0	6.0
12.50	3.20	0.4921	56.0	11.2	8.0
16.00	4.00	0.6299	63.0	14.0	10.0
20.00	5.00	0.7874	67.0	17.0	10.0
25.00	6.30	0.9842	71.0	20.0	10.0

78010

HSS Straight Shank DIN335 90° 3 Flute Countersink



Universal tool for deburring and countersinking. Used to produce countersinks for screws and a chamfer for tapping. Advantages are chatter-free working and easy regrinding at the cutting face.

COUNTERSINKS

Discount Group	25	Surface Treatment	Bright
Material	HSS	Shank Type	Straight
Standard	DIN335	Type	90° Form C
Packing Unit	All Sizes Packed in 1's	Flute Form	3 Straight Flutes

Ø mm	Small Ø	Ø Dec Inch	O/all Length mm	Head Length mm	Shank Ø
4.30	1.30	0.1692	40.0	3.5	4.0
5.00	1.50	0.1968	40.0	4.0	4.0
5.30	1.50	0.2086	40.0	4.0	4.0
5.80	1.50	0.2283	45.0	4.5	5.0
6.00	1.50	0.2362	45.0	4.5	5.0
6.30	1.50	0.2480	45.0	5.0	5.0
7.00	1.80	0.2755	50.0	5.0	6.0
7.30	1.80	0.2874	50.0	5.6	6.0
8.00	2.00	0.3149	50.0	5.6	6.0
8.30	2.00	0.3267	50.0	6.0	6.0
9.40	2.20	0.3700	50.0	6.7	6.0
10.00	2.50	0.3937	50.0	7.1	6.0
10.40	2.50	0.4094	50.0	7.1	6.0
11.50	2.80	0.4527	56.0	7.5	8.0
12.40	2.80	0.4881	56.0	8.0	8.0
13.40	2.90	0.5275	56.0	8.5	8.0
15.00	3.20	0.5905	60.0	9.0	10.0
16.50	3.20	0.6496	60.0	10.0	10.0
19.00	3.50	0.7480	63.0	11.2	10.0
20.50	3.50	0.8070	63.0	12.5	10.0
23.00	3.80	0.9055	67.0	13.2	10.0
25.00	3.80	0.9842	67.0	15.0	10.0
26.00	3.80	1.0236	67.0	15.0	10.0
28.00	4.00	1.1023	71.0	16.0	12.0
30.00	4.20	1.1811	71.0	18.0	12.0
31.00	4.20	1.2204	71.0	18.0	12.0

78015

HSS Straight Shank DIN335 90° 3 Flute Countersink - TiN



Design and application similar to List-No's. 78010.
The coating provides longer tool-life or increased cutting-values.

Discount Group	25	Surface Treatment	TiN
Material	HSS	Shank Type	Straight
Standard	DIN335	Type	90° Form C
Packing Unit	All Sizes Packed in 1's	Flute Form	3 Straight Flutes

Ø mm	Small Ø	Ø Dec Inch	O/all Length mm	Head Length mm	Shank Ø
4.30	1.30	0.1692	40.0	3.5	4.0
5.00	1.50	0.1968	40.0	4.0	4.0
5.30	1.50	0.2086	40.0	4.0	4.0
5.80	1.50	0.2283	45.0	4.5	5.0
6.00	1.50	0.2362	45.0	4.5	5.0
6.30	1.50	0.2480	45.0	5.0	5.0
7.00	1.80	0.2755	50.0	5.0	6.0
7.30	1.80	0.2874	50.0	5.6	6.0
8.00	2.00	0.3149	50.0	5.6	6.0
8.30	2.00	0.3267	50.0	6.0	6.0
9.40	2.20	0.3700	50.0	6.7	6.0
10.00	2.50	0.3937	50.0	7.1	6.0
10.40	2.50	0.4094	50.0	7.1	6.0
11.50	2.80	0.4527	56.0	7.5	8.0
12.40	2.80	0.4881	56.0	8.0	8.0
13.40	2.90	0.5275	56.0	8.5	8.0
15.00	3.20	0.5905	60.0	9.0	10.0
16.50	3.20	0.6496	60.0	10.0	10.0
19.00	3.50	0.7480	63.0	11.2	10.0
20.50	3.50	0.8070	63.0	12.5	10.0

78012

HSCo 90° Single Hole De Burr Tool



Universal tool for deburring with a chatter-free finish.

COUNTERSINKS

Discount Group	25	Surface Treatment	Bright
Material	HSCo	Shank Type	Straight
Standard	PRESTO	Type	90° Single Hole
Packing Unit	All Sizes Packed in 1's	Flute Form	Deburr Hole

Ø mm	Ø Dec Inch	O/all Length mm	Head Length mm	Shank Ø mm
2 - 5	0.1968	45.0	5.0 / 21.0	6.0
5 - 10	0.3937	48.0	6.0 / 23.0	8.0

78020

HSS Morse Taper Shank DIN335 90° 3 Flute Countersink



Universal tool for deburring and countersinking. Used to produce countersinks for screws and a chamfer for tapping. Advantages are chatter-free working and easy regrinding at the cutting face.

Discount Group	25	Surface Treatment	Bright
Material	HSS	Shank Type	MTS
Standard	DIN335	Type	90° Form D
Packing Unit	All Sizes Packed in 1's	Flute Form	3 Straight Flutes

MTS1 mm Ø	Small Ø	Ø Dec Inch	O/all Length mm	Head Length mm
15.00	3.20	0.5905	85.0	9.0
16.50	3.20	0.6496	85.0	10.0

MTS2 mm Ø	Small Ø	Ø Dec Inch	O/all Length mm	Head Length mm
19.00	3.50	0.7480	100.0	11.2
20.50	3.50	0.8070	100.0	12.5
23.00	3.80	0.9055	106.0	13.2
25.00	3.80	0.9842	106.0	15.0
26.00	3.80	1.0236	106.0	15.0
28.00	4.00	1.1023	112.0	16.0
30.00	4.20	1.1811	112.0	18.0
31.00	4.20	1.2204	112.0	18.0
34.00	4.50	1.3385	118.0	19.0
37.00	4.80	1.4566	118.0	21.2

MTS3 mm Ø	Small Ø	Ø Dec Inch	O/all Length mm	Head Length mm
40.00	10.00	1.5748	140.0	20.0
50.00	14.00	1.9685	150.0	23.6

MTS4 mm Ø	Small Ø	Ø Dec Inch	O/all Length mm	Head Length mm
63.00	16.00	2.4803	180.0	28.0
80.00	22.00	3.1496	190.0	35.5
100.00	28.00	3.9370	200.0	42.0

78091

HSS Straight Shank DIN335 90° 3 Flute Countersink 6 Piece Set



An HSS Straight Shank DIN335 90° 3 Flute Countersinks Set supplied in a handy set box.

COUNTERSINKS

Discount Group	25	Surface Treatment	Bright
Material	HSS	Shank Type	Straight
Standard	DIN335	Type	90° Form C
Packing Unit	Packed as a Set in a Handy Container	Flute Form	3 Straight Flutes

Ø Range	Increment	No. of Countersinks
6.3, 8.3, 10.4, 12.4, 16.5, 20.5mm	Various	6

78095

HSS Straight Shank DIN335 90° 3 Flute Countersink 6 Piece Set - TiN

An HSS Straight Shank DIN335 90° 3 Flute TiN Coated Countersinks Set supplied in a handy set box.



Discount Group	25	Surface Treatment	TiN
Material	HSS	Shank Type	Straight
Standard	DIN335	Type	90° Form C
Packing Unit	Packed as a Set in a Handy Container	Flute Form	3 Straight Flutes

Ø Range	Increment	No. of Countersinks
6.3, 8.3, 10.4, 12.4, 16.5, 20.5mm	Various	6





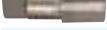


REAMMING




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PRESTO



Straight Shank Reamers

	Series #	Standard	Material	Type	Size Range	Surface	Form	Page	
	73060	DIN 206	HSS	SS Hand	1.5 - 40.0mm	1/16" - 2"	PO Bright	B	116
	73000	BS 328		SS Machine	1.5 - 16.0mm	1/16" - 1/2"	PO Bright	B	120
	75040	DIN 9		1:50 Taper Pin	1.5 - 50.0mm		PO Bright	A	121
	75020	BS 328		1:48 Taper Pin		1/16" - 7/8"	PO Bright	A	122
	73200	ANSI		1:16 NPT		1/16" - 2"	PO Bright	A	123






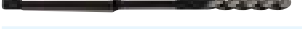
Straight Shank Adjustable Reamers

	Series #	Standard	Material	Type	Size Range	Surface	Form	Page	
	75090	Factory	Special Steel	Straight	8.0 - 65.0mm		PO Bright		124
	75290				8.0 - 65.0mm		PO Bright		125
	75080	BS 3088			3/8" - 2.7/32"	H1 - H16	PO Bright		126

Morse Taper Shank Reamers

	Series #	Standard	Material	Type	Size Range	Surface	Form	Page	
	72000	BS 328	HSS	MTS	3.0 - 40.0mm	1/8" - 1.1/2"	PO Bright	B	127
	72050	DIN 311		Bridge	6.4 - 40.0mm		PO Bright		130

Chucking Reamers

	Series #	Standard	Material	Type	Size Range	Surface	Form	Page
	75201	DIN 212	HSCo	Straight	1.4 - 20.0mm	PO Bright	A, C	131
	75211	DIN 212		Spiral	1.4 - 20.0mm	PO Bright	B, D	132
	75221	DIN 212		Quick	2.0 - 20.0mm	PO Bright	E	133
	75101	DIN 208		Straight	3.0 - 50.0mm	PO Bright	A	134
	75111	DIN 208		Spiral	3.0 - 50.0mm	PO Bright	B	135
	75121	DIN 208		Quick	5.0 - 32.0mm	PO Bright	C	136

73060

HSS Straight Shank DIN206 Spiral Flute H7 Hand Reamer



General-purpose reamer to be used on all ferrous and non-ferrous materials as well as soft and hard plastics. Due to the long taper lead not suitable for blind holes.

Discount Group	O6	Packing Unit	All Sizes Packed in 1's
Material	HSS	Surface Treatment	Bright
Standard	DIN206	Shank Type	Straight
Taper Lead	2°	Type	Form B
Square Details	DIN10	Flute Form	Spiral. LH Helix

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Cut Length mm	Sqare A/F mm	Square Length mm
1.50		0.0590	41.0	20.0	1.12	4.0
1.588	1/16"	0.0625	44.0	21.0	1.25	4.0
1.984	5/64"	0.0781	50.0	25.0	1.6	4.0
2.00		0.0787	50.0	25.0	1.6	4.0
2.381	3/32"	0.0937	58.0	29.0	2.0	4.0
2.50		0.0984	58.0	29.0	2.0	4.0
2.776	7/64"	0.1093	62.0	31.0	2.24	5.0
3.00		0.1181	62.0	31.0	2.24	5.0
3.175	1/8"	0.1250	66.0	33.0	2.5	5.0
3.50		0.1377	71.0	35.0	2.8	5.0
3.571	9/64"	0.1406	71.0	35.0	2.8	5.0
3.967	5/32"	0.1562	76.0	38.0	3.15	6.0
4.00		0.1574	76.0	38.0	3.15	6.0
4.364	11/64"	0.1718	81.0	41.0	3.55	6.0
4.50		0.1771	81.0	41.0	3.55	6.0
4.763	3/16"	0.1875	87.0	44.0	4.0	7.0
5.00		0.1968	87.0	44.0	4.0	7.0
5.159	13/64"	0.2031	87.0	44.0	4.0	7.0
5.50		0.2165	93.0	47.0	4.5	7.0
5.555	7/32"	0.2187	93.0	47.0	4.5	7.0
5.951	15/64"	0.2343	93.0	47.0	4.5	7.0
6.00		0.2362	93.0	47.0	4.5	7.0
6.350	1/4"	0.2500	100.0	50.0	5.0	8.0
6.50		0.2559	100.0	50.0	5.0	8.0
6.746	17/64"	0.2656	107.0	54.0	5.6	8.0
7.00		0.2755	107.0	54.0	5.6	8.0
7.142	9/32"	0.2812	107.0	54.0	5.6	8.0
7.50		0.2952	107.0	54.0	5.6	8.0
7.539	19/64"	0.2968	115.0	58.0	6.3	9.0
7.938	5/16"	0.3125	115.0	58.0	6.3	9.0
8.00		0.3149	115.0	58.0	6.3	9.0
8.334	21/64"	0.3281	115.0	58.0	6.3	9.0

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73060

HSS Straight Shank DIN206 Spiral Flute H7 Hand Reamer



General-purpose reamer to be used on all ferrous and non-ferrous materials as well as soft and hard plastics. Due to the long taper lead not suitable for blind holes.

Discount Group	O6	Packing Unit	All Sizes Packed in 1's
Material	HSS	Surface Treatment	Bright
Standard	DIN206	Shank Type	Straight
Taper Lead	2°	Type	Form B
Square Details	DIN10	Flute Form	Spiral. LH Helix

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Cut Length mm	Sqare A/F mm	Square Length mm
8.50		0.3346	115.0	58.0	6.3	9.0
8.731	11/32"	0.3437	124.0	62.0	7.1	10.0
9.00		0.3543	124.0	62.0	7.1	10.0
9.126	23/64"	0.3593	124.0	62.0	7.1	10.0
9.50		0.3740	124.0	62.0	7.1	10.0
9.525	3/8"	0.3750	133.0	66.0	8.0	11.0
9.921	25/64"	0.3906	133.0	66.0	8.0	11.0
10.00		0.3937	133.0	66.0	8.0	11.0
10.317	13/32"	0.4062	133.0	66.0	8.0	11.0
10.50		0.4133	133.0	66.0	8.0	11.0
10.714	27/64"	0.4218	142.0	71.0	9.0	12.0
11.00		0.4330	142.0	71.0	9.0	12.0
11.113	7/16"	0.4375	142.0	71.0	9.0	12.0
11.50		0.4527	142.0	71.0	9.0	12.0
11.905	15/32"	0.4687	152.0	76.0	10.0	13.0
12.00		0.4724	152.0	76.0	10.0	13.0
12.50		0.4921	152.0	76.0	10.0	13.0
12.700	1/2"	0.5000	152.0	76.0	10.0	13.0
13.00		0.5118	152.0	76.0	10.0	13.0
13.492	17/32"	0.5312	163.0	81.0	11.2	14.0
13.50		0.5314	163.0	81.0	11.2	14.0
13.889	35/64"	0.5468	163.0	81.0	11.2	14.0
14.00		0.5511	163.0	81.0	11.2	14.0
14.288	9/16"	0.5625	163.0	81.0	11.2	14.0
14.50		0.5708	163.0	81.0	11.2	14.0
14.684	37/64"	0.5781	163.0	81.0	11.2	14.0
15.00		0.5905	163.0	81.0	11.2	14.0
15.081	19/32"	0.5937	175.0	87.0	12.5	16.0
15.875	5/8"	0.6250	175.0	87.0	12.5	16.0
16.00		0.6299	175.0	87.0	12.5	16.0
16.667	21/32"	0.6562	175.0	87.0	12.5	16.0
17.00		0.6692	175.0	87.0	12.5	16.0

continued on p118

73060

HSS Straight Shank DIN206 Spiral Flute H7 Hand Reamer



General-purpose reamer to be used on all ferrous and non-ferrous materials as well as soft and hard plastics. Due to the long taper lead not suitable for blind holes.

Discount Group	O6	Packing Unit	All Sizes Packed in 1's
Material	HSS	Surface Treatment	Bright
Standard	DIN206	Shank Type	Straight
Taper Lead	2°	Type	Form B
Square Details	DIN10	Flute Form	Spiral. LH Helix

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Cut Length mm	Sqare A/F mm	Square Length mm
17.064	43/64"	0.6718	188.0	93.0	14.0	18.0
17.463	11/16"	0.6875	188.0	93.0	14.0	18.0
18.00		0.7086	188.0	93.0	14.0	18.0
18.255	23/32"	0.7187	188.0	93.0	14.0	18.0
19.00		0.7480	188.0	93.0	14.0	18.0
19.050	3/4"	0.7500	201.0	100.0	16.0	20.0
19.842	25/32"	0.7812	201.0	100.0	16.0	20.0
20.00		0.7874	201.0	100.0	16.0	20.0
20.638	13/16"	0.8125	201.0	100.0	16.0	20.0
21.00		0.8267	201.0	100.0	16.0	20.0
21.431	27/32"	0.8437	215.0	107.0	18.0	22.0
22.00		0.8661	215.0	107.0	18.0	22.0
22.225	7/8"	0.8750	215.0	107.0	18.0	22.0
23.00		0.9055	215.0	107.0	18.0	22.0
23.017	29/32"	0.9062	215.0	107.0	18.0	22.0
23.414	59/64"	0.9218	215.0	107.0	18.0	22.0
23.813	15/16"	0.9375	231.0	115.0	20.0	24.0
24.00		0.9448	231.0	115.0	20.0	24.0
24.209	61/64"	0.9531	231.0	115.0	20.0	24.0
24.605	31/32"	0.9687	231.0	115.0	20.0	24.0
25.00		0.9842	231.0	115.0	20.0	24.0
25.400	1"	1.0000	231.0	115.0	20.0	24.0
26.00		1.0236	231.0	115.0	20.0	24.0
27.00		1.0629	247.0	124.0	22.4	26.0
28.00		1.1023	247.0	124.0	22.4	26.0
29.00		1.1417	247.0	124.0	22.4	26.0
30.00		1.1811	247.0	124.0	22.4	26.0
31.00		1.2204	265.0	133.0	25.0	28.0
32.00		1.2598	265.0	133.0	25.0	28.0
33.00		1.2992	265.0	133.0	25.0	28.0
34.00		1.3385	284.0	142.0	28.0	31.0
34.925	1.3/8"	1.3750	284.0	142.0	28.0	31.0

continued on p119

73060

HSS Straight Shank DIN206 Spiral Flute H7 Hand Reamer



General-purpose reamer to be used on all ferrous and non-ferrous materials as well as soft and hard plastics. Due to the long taper lead not suitable for blind holes.

Discount Group	06	Packing Unit	All Sizes Packed in 1's
Material	HSS	Surface Treatment	Bright
Standard	DIN206	Shank Type	Straight
Taper Lead	2°	Type	Form B
Square Details	DIN10	Flute Form	Spiral. LH Helix

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Cut Length mm	Sqare A/F mm	Square Length mm
35.00		1.3779	284.0	142.0	28.0	31.0
36.00		1.4173	284.0	142.0	28.0	31.0
37.00		1.4566	284.0	142.0	28.0	31.0
38.00		1.4960	305.0	152.0	31.5	34.0
39.00		1.5354	305.0	152.0	31.5	34.0
40.00		1.5748	305.0	152.0	31.5	34.0
41.275	1.5/8"	1.6250	305.0	152.0	31.5	34.0
44.450	1.3/4"	1.7500	326.0	163.0	35.5	38.0
47.625	1.7/8"	1.8750	347.0	174.0	40.0	42.0
50.800	2"	2.0000	347.0	174.0	40.0	42.0

73000

HSS Straight Shank
BS328 H7 Machine Reamer

General-purpose reamers with long flutes designed for machining steels with tensile strength up to 700 N/mm², long-chipping aluminium, copper and soft plastics.

Discount Group	O6
Material	HSS
Standard	BS328
Bevel Lead	Short, 45°
Square Details	N/A

Packing Unit	All Sizes Packed in 1's
Surface Treatment	Bright
Shank Type	Straight
Type	Form B
Flute Form	Spiral. LH Helix

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
1.50		0.0590	41.0	20.0
1.588	1/16"	0.0625	44.0	21.0
1.984	5/64"	0.0781	50.0	25.0
2.00		0.0787	50.0	25.0
2.381	3/32"	0.0937	58.0	29.0
2.50		0.0984	58.0	29.0
3.00		0.1181	62.0	31.0
3.175	1/8"	0.1250	66.0	33.0
3.50		0.1377	71.0	35.0
3.571	9/64"	0.1406	71.0	35.0
3.967	5/32"	0.1562	76.0	38.0
4.00		0.1574	76.0	38.0
4.364	11/64"	0.1718	81.0	41.0
4.50		0.1771	81.0	41.0
4.763	3/16"	0.1875	87.0	44.0
5.00		0.1968	87.0	44.0
5.159	13/64"	0.2031	87.0	44.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
5.50		0.2165	93.0	47.0
5.555	7/32"	0.2187	93.0	47.0
6.00		0.2362	93.0	47.0
6.350	1/4"	0.2500	100.0	50.0
7.00		0.2755	107.0	54.0
7.938	5/16"	0.3125	115.0	58.0
8.00		0.3149	115.0	58.0
9.00		0.3543	124.0	62.0
9.525	3/8"	0.3750	133.0	66.0
10.00		0.3937	133.0	66.0
11.00		0.4330	142.0	71.0
11.113	7/16"	0.4375	142.0	71.0
12.00		0.4724	152.0	76.0
12.700	1/2"	0.5000	152.0	76.0
13.00		0.5118	152.0	76.0
14.00		0.5511	163.0	81.0
16.00		0.6299	175.0	87.0

75040

HSS Straight Shank DIN9 1:50 Taper Pin Reamer



Reamers designed for machining all ferrous and non-ferrous metals as well as for hard and soft plastics. Used for reaming of taper bores to suit taper pins (acc. DIN 1, DIN 258, DIN 7977, DIN 7978).

Discount Group	06	Packing Unit	All Sizes Packed in 1's
Material	HSS	Surface Treatment	Bright
Standard	DIN9	Shank Type	Straight
Taper	1:50	Type	Form A
Square Details	DIN10	Flute Form	Straight Flute

Ø mm	Small Ø mm	Large Ø mm	O/all Length mm	Cut Length mm	Sqare A/F mm	Square Length mm
1.50	1.40	2.14	57.0	37.0	1.8	4.0
2.00	1.90	2.86	68.0	48.0	2.24	5.0
2.50	2.40	3.36	68.0	48.0	2.8	5.0
3.00	2.90	4.06	80.0	58.0	3.15	6.0
4.00	3.90	5.26	93.0	68.0	4.0	7.0
5.00	4.90	6.36	100.0	73.0	5.0	8.0
6.00	5.90	8.00	135.0	105.0	6.3	9.0
7.00	6.90	9.72	177.0	141.0	6.3	9.0
8.00	7.90	10.80	180.0	145.0	8.0	11.0
10.00	9.90	13.40	215.0	175.0	10.0	13.0
12.00	11.80	16.00	255.0	210.0	11.2	14.0
13.00	12.86	16.74	240.0	194.0	12.5	16.0
14.00	13.86	17.74	240.0	194.0	12.5	16.0
16.00	15.80	20.40	280.0	230.0	14.0	18.0
20.00	19.80	24.80	310.0	250.0	18.0	22.0
25.00	24.70	30.70	370.0	300.0	22.4	26.0
30.00	29.70	36.10	400.0	320.0	25.0	28.0
40.00	39.70	46.50	430.0	340.0	31.5	34.0
50.00	49.70	56.90	460.0	360.0	40.0	42.0

75020

HSS Straight Shank BS328
1:48 Taper Pin Reamer

Reamers designed for machining all ferrous and non-ferrous metals as well as for hard and soft plastics. Used for reaming of taper bores to suit taper pins.

Discount Group	06	Packing Unit	All Sizes Packed in 1's
Material	HSS	Surface Treatment	Bright
Standard	BS328	Shank Type	Straight
Taper	1:48	Type	Form A
Square Details	Factory Std	Flute Form	Straight Flute

Ø inch	Taper Pin No.	Small Ø mm	Large Ø mm	O/all Length mm	Cut Length mm	Sqare A/F mm	Square Length mm
1/16"	7/0	1.097	1.626	50.8	25.4	0.049"	5/32"
5/64"	6/0	1.504	2.032	50.8	25.4	0.063"	5/32"
3/32"	5/0	1.753	2.413	57.2	31.8	0.079"	5/32"
7/64"	4/0	2.027	2.819	63.5	38.1	0.088"	3/16"
1/8"	3/0	2.299	3.226	69.9	44.5	0.098"	3/16"
9/64"	2/0	2.639	3.632	73.0	47.6	0.110"	3/16"
5/32"	0	2.954	4.013	76.2	50.8	0.124"	1/4"
11/64"	1	3.228	4.420	88.9	57.2	0.140"	1/4"
3/16"	2	3.498	4.953	101.6	69.9	0.157"	9/32"
7/32"	3	4.133	5.588	101.6	69.9	0.177"	9/32"
1/4"	4	4.641	6.426	117.5	85.7	0.197"	5/16"
9/32"	5	5.235	7.417	142.9	104.8	0.220"	5/16"
5/16"		5.845	8.026	142.9	104.8	0.248"	11/32"
11/32"	6	6.434	8.814	152.4	114.3	0.280"	13/32"
3/8"		7.031	9.677	165.1	127.0	0.315"	7/16"
13/32"	7	7.422	10.465	190.5	146.1	0.315"	7/16"
7/16"		8.209	11.252	190.5	146.1	0.354"	15/32"
1/2"	8	9.413	12.852	209.6	165.1	0.394"	1/2"
9/16"		10.932	14.503	215.9	171.5	0.441"	9/16"
5/8"		12.111	16.078	235.0	191.0	0.492"	5/8"
3/4"	10	14.674	19.304	273.1	222.3	0.630"	25/32"
7/8"	11	17.452	22.479	304.8	241.3	0.709"	7/8"

73200

HSS NPT 1:16 Pipe Reamer - Finishing



Reamers designed for machining all ferrous and non-ferrous metals as well as for hard and soft plastics. For pipe threads, NPT, NPTF, API.

Discount Group	06	Packing Unit	All Sizes Packed in 1's
Material	HSS	Surface Treatment	Bright
Standard	PRESTO	Shank Type	Straight
Taper	1:16	Type	Form A
Square Details	Factory Std	Flute Form	Straight Flute

Ø mm	Small Ø"	Large Ø"	O/all Length mm	Cut Length mm	Sqare A/F mm	Square Length mm
1/16" NPT	0.223	0.266	54.0	17.5	0.234"	3/8"
1/8" NPT	0.316	0.362	54.0	19.0	0.328"	3/8"
1/4" NPT	0.406	0.472	62.0	27.0	0.421"	7/16"
3/8" NPT	0.540	0.606	65.0	27.0	0.531"	1/2"
1/2" NPT	0.665	0.751	79.5	35.0	0.515"	5/8"
3/4" NPT	0.876	0.962	82.5	35.0	0.679"	11/16"
1" NPT	1.103	1.212	95.0	44.5	0.843"	13/16"
1.1/4" NPT	1.444	1.553	101.0	44.5	0.984"	15/16"
1.1/2" NPT	1.684	1.793	108.0	44.5	1.125"	1"
2" NPT	2.159	2.268	114.0	44.5	1.406"	1.1/8"

75090

Straight Shank Adjustable Hand Reamer Metric Range



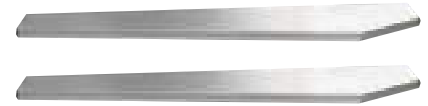
Right hand cutting reamer with unequal pitched, adjustable cutting blades and straight shank with square. The blades are made of special steel. Cutting edges are eccentric domed relief-grounded. A nut with scale will ensure adjustability. Particularly to be used for repairing jobs.

Discount Group	08	Packing Unit	All Sizes Packed in 1's
Material	SPECIAL STEEL	Surface Treatment	Bright
Standard	PRESTO	Shank Type	Straight
Taper Lead	Long	Type	Form A
Square Details	DIN10	Flute Form	Straight Flute

Ø mm	No. Blades	Ø Dec Inch	O/all Length mm	Cut Length mm	Sqare A/F mm	Square Length mm
8.00 - 9.00	5	0.3149 - 0.3543	111.0	32.0	4.0	7.0
9.00 - 10.00	5	0.3543 - 0.3937	115.0	32.0	4.5	7.0
10.00 - 11.00	5	0.3937 - 0.4331	120.0	35.0	5.0	8.0
11.00 - 12.00	5	0.4330 - 0.4724	125.0	35.0	5.6	8.0
12.00 - 13.50	5	0.4724 - 0.5315	130.0	42.0	6.3	9.0
13.50 - 15.50	5	0.5314 - 0.6101	145.0	50.0	6.3	9.0
15.50 - 18.00	5	0.6102 - 0.7086	165.0	60.0	8.0	11.0
18.00 - 21.00	5	0.7086 - 0.8267	180.0	65.0	9.0	12.0
21.00 - 24.00	6	0.8267 - 0.9448	190.0	70.0	10.0	13.0
24.00 - 27.50	6	0.9448 - 1.0826	205.0	75.0	11.2	14.0
27.50 - 31.50	6	1.0826 - 1.2401	225.0	80.0	12.5	16.0
31.50 - 37.00	6	1.2401 - 1.4566	240.0	90.0	14.0	18.0
37.00 - 45.00	6	1.4566 - 1.7716	285.0	100.0	16.0	20.0
45.00 - 55.00	6	1.7716 - 2.1653	320.0	109.0	20.0	24.0
55.00 - 65.00	8	2.1653 - 2.559	350.0	120.0	25.0	28.0

75290

Set of Blades For Adjustable Hand Reamer (75090 Range)



Blade sets for use with series 75090.
The blades are made of special steel.

Discount Group	08	Packing Unit	All Sizes Packed in 1's
Material	SPECIAL STEEL	Surface Treatment	Bright
Standard	PRESTO	Shank Type	N/A
Taper Lead	Long	Type	Form A
Square Details	N/A	Flute Form	Spare Blades

REAMING

Ø mm	No. Blades	Ø Dec Inch	Cut Length mm
8.00 - 9.00	5	0.3149 - 0.3543	32.0
9.00 - 10.00	5	0.3543 - 0.3937	32.0
10.00 - 11.00	5	0.3937 - 0.4331	35.0
11.00 - 12.00	5	0.4330 - 0.4724	35.0
12.00 - 13.50	5	0.4724 - 0.5315	42.0
13.50 - 15.50	5	0.5314 - 0.6101	50.0
15.50 - 18.00	5	0.6102 - 0.7086	60.0
18.00 - 21.00	5	0.7086 - 0.8267	65.0
21.00 - 24.00	6	0.8267 - 0.9448	70.0
24.00 - 27.50	6	0.9448 - 1.0826	75.0
27.50 - 31.50	6	1.0826 - 1.2401	80.0
31.50 - 37.00	6	1.2401 - 1.4566	90.0
37.00 - 45.00	6	1.4566 - 1.7716	100.0
45.00 - 55.00	6	1.7716 - 2.1653	109.0
55.00 - 65.00	8	2.1653 - 2.559	120.0

75080

Straight Shank Adjustable Hand Reamer Fractional Range



Right hand cutting reamer with unequal pitched, adjustable cutting blades and straight shank with square. The blades are made of special steel. Cutting edges are eccentric domed relief-grounded. A nut with scale will ensure adjustability. Particularly to be used for repairing jobs.

Discount Group	O8	Packing Unit	All Sizes Packed in 1's
Material	SPECIAL STEEL	Surface Treatment	Bright
Standard	BS3088	Shank Type	Straight
Taper Lead	Long	Type	Form A
Square Details	DIN10	Flute Form	Straight Flute

Ø Inch	Ø mm	Ø Dec Inch	O/all Length mm	Cut Length mm
(H1) 3/8" - 13/32"	9.525 - 10.319	0.3750 - 0.4063	120.5	38.1
(H2) 13/32" - 7/16"	10.317 - 11.113	0.4062 - 0.4375	125.0	38.1
(H3) 7/16" - 15/32"	11.113 - 11.906	0.4375 - 0.4688	133.0	41.3
(H4) 15/32" - 17/32"	11.905 - 13.494	0.4687 - 0.5313	140.0	41.3
(H5) 17/32" - 19/32"	13.492 - 15.081	0.5312 - 0.5938	146.0	46.0
(H6) 19/32" - 21/32"	15.081 - 16.669	0.5937 - 0.6563	165.0	52.4
(H7) 21/32" - 23/32"	16.667 - 18.256	0.6562 - 0.7188	171.0	55.6
(H8) 23/32" - 25/32"	18.255 - 19.844	0.7187 - 0.7813	175.0	63.5
(H9) 25/32" - 27/32"	19.842 - 21.431	0.7812 - 0.8438	187.0	66.7
(H10) 27/32" - 15/16"	21.431 - 23.813	0.8437 - 0.9375	200.0	76.2
(H11) 15/16 - 1.1/16"	23.813 - 26.988	0.9375 - 1.0625	225.0	82.6
(H12) 1.1/16 - 1.3/16"	26.988 - 30.163	1.0625 - 1.1875	250.0	85.7
(H13) 1.3/16" - 1.11/32"	30.163 - 34.131	1.1875 - 1.3438	275.0	98.4
(H14) 1.11/32" - 1.1/2"	34.131 - 38.100	1.3437 - 1.500	300.0	108.0
(H15) 1.1/2" - 1.13/16"	38.100 - 46.038	1.5000 - 1.8125	350.0	112.6
(H16) 1.13/16" - 2.7/32"	46.038 - 56.356	1.8125 - 2.2188	400.0	133.4

72000

HSS Morse Taper Shank BS328 H7 Machine Reamer



General-purpose reamers with long flutes designed for machining steels with tensile strength up to 700 N/mm², long-chipping aluminium, copper and soft plastics.

Discount Group	O6
Material	HSS
Standard	BS328
Taper Lead	Short, 45°
Square Details	MTS

Packing Unit	All Sizes Packed in 1's
Surface Treatment	Bright
Shank Type	MTS
Type	Form B
Flute Form	Spiral. LH Helix

REAMING

MTS1 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Cut Length mm
3.00		0.1181	110.0	31.0
3.175	1/8"	0.1250	112.0	33.0
3.50		0.1377	115.0	35.0
3.571	9/64"	0.1406	115.0	35.0
3.967	5/32"	0.1562	117.0	38.0
4.00		0.1574	117.0	38.0
4.50		0.1771	120.0	41.0
4.763	3/16"	0.1875	124.0	44.0
5.00		0.1968	124.0	44.0
5.159	13/64"	0.2031	124.0	44.0
5.50		0.2165	127.0	47.0
5.555	7/32"	0.2187	127.0	47.0
5.951	15/64"	0.2343	127.0	47.0
6.00		0.2362	127.0	47.0
6.350	1/4"	0.2500	130.0	50.0
6.50		0.2559	130.0	50.0
6.746	17/64"	0.2656	134.0	54.0
7.00		0.2755	134.0	54.0
7.142	9/32"	0.2812	134.0	54.0
7.50		0.2952	134.0	54.0
7.539	19/64"	0.2968	138.0	58.0
7.938	5/16"	0.3125	138.0	58.0
8.00		0.3149	138.0	58.0
8.334	21/64"	0.3281	138.0	58.0
8.50		0.3346	138.0	58.0

MTS1 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Cut Length mm
8.731	11/32"	0.3437	142.0	62.0
9.00		0.3543	142.0	62.0
9.126	23/64"	0.3593	142.0	62.0
9.50		0.3740	142.0	62.0
9.525	3/8"	0.3750	146.0	66.0
9.921	25/64"	0.3906	146.0	66.0
10.00		0.3937	146.0	66.0
10.317	13/32"	0.4062	146.0	66.0
10.50		0.4133	146.0	66.0
10.714	27/64"	0.4218	151.0	71.0
11.00		0.4330	151.0	71.0
11.113	7/16"	0.4375	151.0	71.0
11.50		0.4527	151.0	71.0
11.509	29/64"	0.4531	151.0	71.0
11.905	15/32"	0.4687	156.0	76.0
12.00		0.4724	156.0	76.0
12.301	31/64"	0.4843	156.0	76.0
12.50		0.4921	156.0	76.0
12.700	1/2"	0.5000	156.0	76.0
13.00		0.5118	156.0	76.0
13.096	33/64"	0.5156	156.0	76.0
13.492	17/32"	0.5312	161.0	81.0
13.50		0.5314	161.0	81.0
13.889	35/64"	0.5468	161.0	81.0
14.00		0.5511	161.0	81.0

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72000

HSS Morse Taper Shank
BS328 H7 Machine Reamer

General-purpose reamers with long flutes designed for machining steels with tensile strength up to 700 N/mm², long-chipping aluminium, copper and soft plastics.

Discount Group	06
Material	HSS
Standard	BS328
Taper Lead	Short, 45°
Square Details	MTS

Packing Unit	All Sizes Packed in 1's
Surface Treatment	Bright
Shank Type	MTS
Type	Form B
Flute Form	Spiral. LH Helix

MTS2 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Cut Length mm
14.288	9/16"	0.5625	181.0	81.0
14.50		0.5708	181.0	81.0
14.684	37/64"	0.5781	181.0	81.0
15.00		0.5905	181.0	81.0
15.081	19/32"	0.5937	187.0	87.0
15.476	39/64"	0.6093	187.0	87.0
15.50		0.6102	187.0	87.0
15.875	5/8"	0.6250	187.0	87.0
16.00		0.6299	187.0	87.0
16.271	41/64"	0.6406	187.0	87.0
16.50		0.6496	187.0	87.0
16.667	21/32"	0.6562	187.0	87.0
17.00		0.6692	187.0	87.0
17.064	43/64"	0.6718	193.0	93.0
17.463	11/16"	0.6875	193.0	93.0
17.50		0.6889	193.0	93.0
17.859	45/64"	0.7031	193.0	93.0
18.00		0.7086	193.0	93.0
18.255	23/32"	0.7187	193.0	93.0
18.50		0.7283	193.0	93.0

MTS2 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Cut Length mm
18.651	47/64"	0.7343	193.0	93.0
19.00		0.7480	193.0	93.0
19.050	3/4"	0.7500	200.0	100.0
19.446	49/64"	0.7656	200.0	100.0
19.50		0.7677	200.0	100.0
19.842	25/32"	0.7812	200.0	100.0
20.00		0.7874	200.0	100.0
20.239	51/64"	0.7968	200.0	100.0
20.50		0.8070	200.0	100.0
20.638	13/16"	0.8125	200.0	100.0
21.00		0.8267	200.0	100.0
21.034	53/64"	0.8281	200.0	100.0
21.431	27/32"	0.8437	207.0	107.0
21.826	55/64"	0.8593	207.0	107.0
22.00		0.8661	207.0	107.0
22.225	7/8"	0.8750	207.0	107.0
22.621	57/64"	0.8906	207.0	107.0
23.00		0.9055	207.0	107.0
23.017	29/32"	0.9062	207.0	107.0

continued on p129

72000

HSS Morse Taper Shank BS328 H7 Machine Reamer



General-purpose reamers with long flutes designed for machining steels with tensile strength up to 700 N/mm², long-chipping aluminium, copper and soft plastics.

Discount Group	O6
Material	HSS
Standard	BS328
Taper Lead	Short, 45°
Square Details	MTS

Packing Unit	All Sizes Packed in 1's
Surface Treatment	Bright
Shank Type	MTS
Type	Form B
Flute Form	Spiral. LH Helix

REAMING

MTS3 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Cut Length mm
23.414	59/64"	0.9218	242.0	115.0
23.50		0.9251	242.0	115.0
23.813	15/16"	0.9375	242.0	115.0
24.00		0.9448	242.0	115.0
24.209	61/64"	0.9531	242.0	115.0
24.605	31/32"	0.9687	242.0	115.0
25.00		0.9842	242.0	115.0
25.400	1"	1.0000	242.0	115.0
26.00		1.0236	242.0	115.0
26.192	1.1/32"	1.0312	242.0	115.0
26.988	1.1/16"	1.0625	251.0	124.0
27.00		1.0629	251.0	124.0
27.78	1.3/32"	1.0937	251.0	124.0
28.00		1.1023	251.0	124.0
28.575	1.1/8"	1.1250	251.0	124.0
29.00		1.1417	251.0	124.0
29.367	1.5/32"	1.1562	251.0	124.0
30.00		1.1811	251.0	124.0
30.163	1.3/16"	1.1875	260.0	133.0
30.955	1.7/32"	1.2187	260.0	133.0
31.00		1.2204	260.0	133.0
31.750	1.1/4"	1.2500	260.0	133.0

MTS4 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Cut Length mm
32.00		1.2598	293.0	133.0
32.542	1.9/32"	1.2812	293.0	133.0
33.00		1.2992	293.0	133.0
33.338	1.5/16"	1.3125	293.0	133.0
34.00		1.3385	302.0	142.0
34.925	1.3/8"	1.3750	302.0	142.0
35.00		1.3779	302.0	142.0
36.00		1.4173	302.0	142.0
36.513	1.7/16"	1.4375	302.0	142.0
37.00		1.4566	302.0	142.0
38.00		1.4960	312.0	152.0
38.100	1.1/2"	1.5000	312.0	152.0
39.00		1.5354	312.0	152.0
40.00		1.5748	312.0	152.0

72050

HSS Morse Taper Shank DIN311 Bridge Reamer



Reamers with high metal removal rate for machining all ferrous and non-ferrous metals as well as for hard and soft plastics, mainly used in the steel construction, boiler, vessel and shipbuilding industries. Special design provides correction of misalignment of sheet metal stacked parts to the required hole diameter (e.g. for riveting or bolting).

Discount Group	O6
Material	HSS
Standard	DIN311
Taper Lead	Approx. 1/3 Cut Length
Square Details	MTS

Packing Unit	All Sizes Packed in 1's
Surface Treatment	Bright
Shank Type	MTS
Type	Slow Sliral
Flute Form	25° Spiral. LH Helix

MTS1 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Cut Length mm
6.40	4.50	0.2519	151.0	75.0
7.40	5.20	0.2913	156.0	80.0
8.00	5.50	0.3149	161.0	85.0
8.40	5.90	0.3307	161.0	85.0
9.00	6.30	0.3543	166.0	90.0
9.50	6.60	0.3740	166.0	90.0
10.00	7.00	0.3937	171.0	95.0
11.00	7.70	0.4330	176.0	100.0

MTS3 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Cut Length mm
17.00	11.90	0.6692	251.0	135.0
18.00	12.60	0.7086	261.0	145.0
19.00	13.30	0.7480	261.0	145.0
20.00	14.00	0.7874	271.0	155.0
21.00	14.70	0.8267	271.0	155.0
22.00	15.40	0.8661	281.0	165.0
23.00	16.40	0.9055	281.0	165.0
24.00	16.80	0.9448	296.0	180.0
25.00	17.50	0.9842	296.0	180.0
26.00	18.20	1.0236	296.0	180.0
27.00	18.90	1.0629	311.0	195.0
28.00	19.60	1.1023	311.0	195.0
29.00	20.30	1.1417	311.0	195.0
30.00	21.00	1.1811	311.0	195.0
31.00	21.70	1.2204	326.0	210.0

MTS2 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Cut Length mm
12.00	8.40	0.4724	199.0	105.0
13.00	9.10	0.5118	199.0	105.0
14.00	9.80	0.5511	209.0	115.0
15.00	10.50	0.5905	219.0	125.0
16.00	11.20	0.6299	229.0	135.0

MTS4 mm Ø	Ø Inch	Ø Dec Inch	O/all Length mm	Cut Length mm
32.00	22.40	1.2598	354.0	210.0
33.00	23.10	1.2992	354.0	210.0
34.00	23.80	1.3385	364.0	220.0
35.00	24.50	1.3779	364.0	220.0
36.00	25.20	1.4173	364.0	220.0
37.00	25.90	1.4566	364.0	220.0
38.00	26.60	1.4960	374.0	230.0
39.00	27.30	1.5354	374.0	230.0
40.00	28.00	1.5748	374.0	230.0

REAMING

75201

HSCo Straight shank DIN212 H7 Machine Reamer Straight Flute Form 'A' & 'C'



General-purpose reamers designed for machining steels with tensile strength up to 700N/mm², long-chipping aluminium, copper and soft plastics. Form A, C with straight flute, form C, D with spiral flute. When reaming blind holes, use the straight fluted style; for interrupted holes, it is recommended to use the spiral-fluted style.

Discount Group	07
Material	HSS-E
Standard	DIN212
Taper Lead	Short, 45°
Square Details	N/A

Packing Unit	All Sizes Packed in 1's
Surface Treatment	Bright
Shank Type	Straight
Type	Form A,C
Flute Form	Straight Flute

REAMING

Ø mm	Shank Ø	Ø Dec Inch	O/all Length mm	Cut Length mm
1.40	1.40	0.0551	40.0	8.0
1.50	1.50	0.0590	40.0	8.0
1.60	1.60	0.0629	43.0	9.0
1.80	1.80	0.0708	46.0	10.0
2.00	2.00	0.0787	49.0	11.0
2.20	2.20	0.0866	53.0	12.0
2.50	2.50	0.0984	57.0	14.0
2.80	2.80	0.1102	61.0	15.0
3.00	3.00	0.1181	61.0	15.0
3.20	3.20	0.1259	65.0	16.0
3.50	3.50	0.1377	70.0	18.0
4.00	4.00	0.1574	75.0	19.0
4.50	4.50	0.1771	80.0	21.0
5.00	5.00	0.1968	86.0	23.0
5.50	5.60	0.2165	93.0	26.0
6.00	5.60	0.2362	93.0	26.0

Ø mm	Shank Ø	Ø Dec Inch	O/all Length mm	Cut Length mm
6.50	6.30	0.2559	101.0	28.0
7.00	7.10	0.2755	109.0	31.0
8.00	8.00	0.3149	117.0	33.0
9.00	9.00	0.3543	125.0	36.0
10.00	10.00	0.3937	133.0	38.0
11.00	10.00	0.4330	142.0	41.0
12.00	10.00	0.4724	151.0	44.0
13.00	10.00	0.5118	151.0	44.0
14.00	12.50	0.5511	160.0	47.0
15.00	12.50	0.5905	162.0	50.0
16.00	12.50	0.6299	170.0	52.0
17.00	14.00	0.6692	175.0	54.0
18.00	14.00	0.7086	182.0	56.0
19.00	16.00	0.7480	189.0	58.0
20.00	16.00	0.7874	195.0	60.0

75211

HSCo Straight Shank DIN212 H7 Machine Reamer L/H Flute Form 'B'&'D'



General-purpose reamers designed for machining steels with tensile strength up to 700N/mm², long-chipping aluminium, copper and soft plastics. Form A, C with straight flute, form C, D with spiral flute. When reaming blind holes, use the straight fluted style; for interrupted holes, it is recommended to use the spiral-fluted style.

Discount Group	07
Material	HSS-E
Standard	DIN212
Taper Lead	Short, 45°
Square Details	N/A

Packing Unit	All Sizes Packed in 1's
Surface Treatment	Bright
Shank Type	Straight
Type	Form B,D
Flute Form	Spiral. LH Helix

Ø mm	Shank Ø	Ø Dec Inch	O/all Length mm	Cut Length mm
1.40	1.40	0.0551	40.0	8.0
1.50	1.50	0.0590	40.0	8.0
1.60	1.60	0.0629	43.0	9.0
1.80	1.80	0.0708	46.0	10.0
2.00	2.00	0.0787	49.0	11.0
2.20	2.20	0.0866	53.0	12.0
2.50	2.50	0.0984	57.0	14.0
2.80	2.80	0.1102	61.0	15.0
3.00	3.00	0.1181	61.0	15.0
3.20	3.20	0.1259	65.0	16.0
3.50	3.50	0.1377	70.0	18.0
4.00	4.00	0.1574	75.0	19.0
4.50	4.50	0.1771	80.0	21.0
5.00	5.00	0.1968	86.0	23.0
5.50	5.60	0.2165	93.0	26.0
6.00	5.60	0.2362	93.0	26.0

Ø mm	Shank Ø	Ø Dec Inch	O/all Length mm	Cut Length mm
6.50	6.30	0.2559	101.0	28.0
7.00	7.10	0.2755	109.0	31.0
8.00	8.00	0.3149	117.0	33.0
9.00	9.00	0.3543	125.0	36.0
10.00	10.00	0.3937	133.0	38.0
11.00	10.00	0.4330	142.0	41.0
12.00	10.00	0.4724	151.0	44.0
13.00	10.00	0.5118	151.0	44.0
14.00	12.50	0.5511	160.0	47.0
15.00	12.50	0.5905	162.0	50.0
16.00	12.50	0.6299	170.0	52.0
17.00	14.00	0.6692	175.0	54.0
18.00	14.00	0.7086	182.0	56.0
19.00	16.00	0.7480	189.0	58.0
20.00	16.00	0.7874	195.0	60.0

75221

HSCo Straight Shank DIN212 H7 Machine Reamer L/H Flute Form 'E'



Left-hand quick spiral reamers designed for machining through holes in steels with tensile strength up to 700 N/mm², ductile stainless steel, long-chipping aluminium, copper and soft plastics. Due to the long taper lead, they are not suitable for blind holes. The Reamers have reduced number of flutes. When operated at the same cutting conditions in comparison with conventionally used, multiple fluted reaming tools, and used with up to 100% higher reaming allowance they produce a clean, chatter-free surface quality, an excellent concentricity on the bore and also gain a substantially longer tool life.

Discount Group	07
Material	HSS-E
Standard	DIN212
Taper Lead	Approx. 1/6 Cut Length
Square Details	N/A

Packing Unit	All Sizes Packed in 1's
Surface Treatment	Bright
Shank Type	Straight
Type	Form E
Flute Form	45° Spiral. LH Helix

Ø mm	Shank Ø	Ø Dec Inch	O/all Length mm	Cut Length mm
2.00	2.00	0.0787	49.0	11.0
2.50	2.50	0.0984	57.0	14.0
3.00	3.00	0.1181	61.0	15.0
3.20	3.20	0.1259	65.0	16.0
3.50	3.50	0.1377	70.0	18.0
4.00	4.00	0.1574	75.0	19.0
4.50	4.50	0.1771	80.0	21.0
5.00	5.00	0.1968	86.0	23.0
6.00	5.60	0.2362	93.0	26.0
7.00	7.10	0.2755	109.0	31.0
8.00	8.00	0.3149	117.0	33.0
9.00	9.00	0.3543	125.0	36.0

Ø mm	Shank Ø	Ø Dec Inch	O/all Length mm	Cut Length mm
10.00	10.00	0.3937	133.0	38.0
11.00	10.00	0.4330	142.0	41.0
12.00	10.00	0.4724	151.0	44.0
13.00	10.00	0.5118	151.0	44.0
14.00	12.50	0.5511	160.0	47.0
15.00	12.50	0.5905	162.0	50.0
16.00	12.50	0.6299	170.0	52.0
17.00	14.00	0.6692	175.0	54.0
18.00	14.00	0.7086	182.0	56.0
19.00	16.00	0.7480	189.0	58.0
20.00	16.00	0.7874	195.0	60.0

75101

HSCo Morse Taper Shank DIN208 H7 Machine Reamer Straight Flute Form 'A'



General-purpose reamers designed for machining steels with tensile strength up to 700 N/mm², long-chipping aluminium, copper and soft plastics. When reaming blind holes use the straight fluted style, for interrupted holes it is recommended to use the spiral-fluted style.

Discount Group	07
Material	HSS-E
Standard	DIN208
Taper Lead	Short, 45°
Square Details	N/A

Packing Unit	All Sizes Packed in 1's
Surface Treatment	Bright
Shank Type	MTS
Type	Form A
Flute Form	Straight Flute

MTS1 mm Ø	Ø Dec Inch	O/all Length mm	Cut Length mm
3.00	0.1181	113.0	15.0
4.00	0.1574	124.0	19.0
5.00	0.1968	133.0	23.0
6.00	0.2362	138.0	26.0
7.00	0.2755	150.0	31.0
8.00	0.3149	156.0	33.0
9.00	0.3543	162.0	36.0
10.00	0.3937	168.0	38.0
11.00	0.4330	175.0	41.0
12.00	0.4724	182.0	44.0
13.00	0.5118	182.0	44.0
14.00	0.5511	189.0	47.0

MTS3 mm Ø	Ø Dec Inch	O/all Length mm	Cut Length mm
24.00	0.9448	268.0	68.0
25.00	0.9842	268.0	68.0
26.00	1.0236	273.0	70.0
27.00	1.0629	277.0	71.0
28.00	1.1023	277.0	71.0
29.00	1.1417	281.0	73.0
30.00	1.1811	281.0	73.0
31.00	1.2204	285.0	75.0

MTS2 mm Ø	Ø Dec Inch	O/all Length mm	Cut Length mm
15.00	0.5905	204.0	50.0
16.00	0.6299	210.0	52.0
17.00	0.6692	214.0	54.0
18.00	0.7086	219.0	56.0
19.00	0.7480	223.0	58.0
20.00	0.7874	228.0	60.0
21.00	0.8267	232.0	62.0
22.00	0.8661	237.0	64.0
23.00	0.9055	241.0	66.0

MTS4 mm Ø	Ø Dec Inch	O/all Length mm	Cut Length mm
32.00	1.2598	317.0	77.0
33.00	1.2992	317.0	77.0
34.00	1.3385	321.0	78.0
35.00	1.3779	321.0	78.0
36.00	1.4173	325.0	79.0
37.00	1.4566	325.0	79.0
38.00	1.4960	329.0	81.0
39.00	1.5354	329.0	81.0
40.00	1.5748	329.0	81.0
41.00	1.6141	333.0	82.0
42.00	1.6535	333.0	82.0
43.00	1.6929	336.0	83.0
44.00	1.7322	336.0	83.0
45.00	1.7716	336.0	83.0
46.00	1.8110	340.0	84.0
47.00	1.8503	340.0	84.0
48.00	1.8897	344.0	86.0
49.00	1.9291	344.0	86.0
50.00	1.9685	344.0	86.0

75111

HSCo Morse Taper Shank DIN208 H7 Machine Reamer L/H Flute Form 'B'



General-purpose reamers designed for machining steels with tensile strength up to 700 N/mm², long-chipping aluminium, copper and soft plastics. When reaming blind holes use the straight fluted style, for interrupted holes it is recommended to use the spiral-fluted style.

Discount Group	07
Material	HSS-E
Standard	DIN208
Taper Lead	Short, 45°
Square Details	N/A

Packing Unit	All Sizes Packed in 1's
Surface Treatment	Bright
Shank Type	MTS
Type	Form B
Flute Form	Spiral. LH Helix

REAMING

MTS1 mm Ø	Ø Dec Inch	O/all Length mm	Cut Length mm
3.00	0.1181	113.0	15.0
4.00	0.1574	124.0	19.0
5.00	0.1968	133.0	23.0
6.00	0.2362	138.0	26.0
7.00	0.2755	150.0	31.0
8.00	0.3149	156.0	33.0
9.00	0.3543	162.0	36.0
10.00	0.3937	168.0	38.0
11.00	0.4330	175.0	41.0
12.00	0.4724	182.0	44.0
13.00	0.5118	182.0	44.0
14.00	0.5511	189.0	47.0

MTS3 mm Ø	Ø Dec Inch	O/all Length mm	Cut Length mm
24.00	0.9448	268.0	68.0
25.00	0.9842	268.0	68.0
26.00	1.0236	273.0	70.0
27.00	1.0629	277.0	71.0
28.00	1.1023	277.0	71.0
29.00	1.1417	281.0	73.0
30.00	1.1811	281.0	73.0
31.00	1.2204	285.0	75.0

MTS2 mm Ø	Ø Dec Inch	O/all Length mm	Cut Length mm
15.00	0.5905	204.0	50.0
16.00	0.6299	210.0	52.0
17.00	0.6692	214.0	54.0
18.00	0.7086	219.0	56.0
19.00	0.7480	223.0	58.0
20.00	0.7874	228.0	60.0
21.00	0.8267	232.0	62.0
22.00	0.8661	237.0	64.0
23.00	0.9055	241.0	66.0

MTS4 mm Ø	Ø Dec Inch	O/all Length mm	Cut Length mm
32.00	1.2598	317.0	77.0
33.00	1.2992	317.0	77.0
34.00	1.3385	321.0	78.0
35.00	1.3779	321.0	78.0
36.00	1.4173	325.0	79.0
37.00	1.4566	325.0	79.0
38.00	1.4960	329.0	81.0
39.00	1.5354	329.0	81.0
40.00	1.5748	329.0	81.0
41.00	1.6141	333.0	82.0
42.00	1.6535	333.0	82.0
43.00	1.6929	336.0	83.0
44.00	1.7322	336.0	83.0
45.00	1.7716	336.0	83.0
46.00	1.8110	340.0	84.0
47.00	1.8503	340.0	84.0
48.00	1.8897	344.0	86.0
49.00	1.9291	344.0	86.0
50.00	1.9685	344.0	86.0

75121

HSCo Morse Taper Shank DIN208 H7 Machine Reamer 45° L/H Flute Form 'C'



Left hand quick spiral reamers designed for machining through holes in steels with tensile strength up to 700 N/mm², long-chipping aluminium, copper and soft plastics. Due to the long taper lead they are not suitable for blind holes. The reamers have reduced number of flutes. When operated at the same cutting conditions in comparison with conventionally used, multiple fluted reaming tools, and used with up to 100% higher reaming allowance they produce a clean, chatter-free surface quality, an excellent concentricity on the bore and also gain a substantially longer tool life.

Discount Group	07
Material	HSS-E
Standard	DIN208
Taper Lead	Approx. 1/6 Cut Length
Square Details	N/A

Packing Unit	All Sizes Packed in 1's
Surface Treatment	Bright
Shank Type	MTS
Type	Form C
Flute Form	45° Spiral. LH Helix

MTS1 mm Ø	Ø Dec Inch	O/all Length mm	Cut Length mm
5.00	0.1968	133.0	23.0
6.00	0.2362	138.0	26.0
7.00	0.2755	150.0	31.0
8.00	0.3149	156.0	33.0
9.00	0.3543	162.0	36.0
10.00	0.3937	168.0	38.0
11.00	0.4330	175.0	41.0
12.00	0.4724	182.0	44.0
13.00	0.5118	182.0	44.0
14.00	0.5511	189.0	47.0

MTS3 mm Ø	Ø Dec Inch	O/all Length mm	Cut Length mm
24.00	0.9448	268.0	68.0
25.00	0.9842	268.0	68.0
26.00	1.0236	273.0	70.0
27.00	1.0629	277.0	71.0
28.00	1.1023	277.0	71.0
29.00	1.1417	281.0	73.0
30.00	1.1811	281.0	73.0
31.00	1.2204	285.0	75.0

MTS2 mm Ø	Ø Dec Inch	O/all Length mm	Cut Length mm
15.00	0.5905	204.0	50.0
16.00	0.6299	210.0	52.0
17.00	0.6692	214.0	54.0
18.00	0.7086	219.0	56.0
19.00	0.7480	223.0	58.0
20.00	0.7874	228.0	60.0
21.00	0.8267	232.0	62.0
22.00	0.8661	237.0	64.0
23.00	0.9055	241.0	66.0

MTS4 mm Ø	Ø Dec Inch	O/all Length mm	Cut Length mm
32.00	1.2598	317.0	77.0













THREADING





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PRESTO




ISO Metric Coarse Taps

	Series #	Standard	Material	Type	Size Range	Surface	Page	
	60000	ISO 529	HSS	Straight	M1.6 - M60	P0 Bright	144	
	60005			Straight	M3 - M16	P5 TiN	145	
	60010			Spiral Point	M1 - M30	P1 Steam	146	
	60015			Spiral Point	M3 - M16	P5 TiN	147	
	60020			Spiral Flute	M2 - M30	P0 Bright	148	
	60025			Spiral Flute	M3 - M16	P5 TiN	149	
	60027			Spiral Flute	M2 - M30	P1 Steam	150	
	61117			HSCo	Spiral Point	M3 - M20	P6 TiCN	151
	61127				Spiral Flute	M3 - M20	P6 TiCN	152
	61000			ISO 2283	HSS	Straight	M3 - M24	P0 Bright




ISO Metric Fine Taps

	Series #	Standard	Material	Type	Size Range	Surface	Page
	60080	ISO 529	HSS	Straight	M3 - M40	P0 Bright	154
	60085			Straight	M3 - M16	P5 TiN	156
	62810			Spiral Point	M4 - M22	P1 Steam	157
	62820			Spiral Flute	M4 - M22	P0 Bright	158




ISO UNC Taps

	Series #	Standard	Material	Type	Size Range	Surface	Page
	60100	ISO 529	HSS	Straight	No.1 - 2"	P0 Bright	159
	60110			Spiral Point	No.1 - 1"	P1 Steam	160
	60120			Spiral Flute	No.4 - 1"	P0 Bright	161



ISO UNF Taps

	Series #	Standard	Material	Type	Size Range	Surface	Page
	60200	ISO 529	HSS	Straight	No.0 - 1.1/2"	P0 Bright	162
	60210			Spiral Point	No.4 - 1"	P1 Steam	163
	60220			Spiral Flute	No.10 - 1"	P0 Bright	164


ISO BSW Taps

	Series #	Standard	Material	Type	Size Range	Surface	Page
	60300	ISO 529	HSS	Straight	1/16" - 2.1/2"	P0 Bright	165
	60310			Spiral Point	1/8" - 1"	P1 Steam	166
	60320			Spiral Flute	1/8" - 1"	P0 Bright	167





ISO BSF Taps

	Series #	Standard	Material	Type	Size Range	Surface	Page
	60400	ISO 529	HSS	Straight	3/16" - 2.1/2"	P0 Bright	168
	60420			Spiral Flute	3/16" - 1"	P0 Bright	169



ISO BA Fine Taps

	Series #	Standard	Material	Type	Size Range	Surface	Page
	60500	ISO 529	HSS	Straight	No.12 - No.0	P0 Bright	170




ISO BSP Taps

	Series #	Standard	Material	Type	Size Range	Surface	Page
	60600	ISO 2284	HSS	Straight BSP	1/8" - 2.1/2"	P0 Bright	171
	60610			Spiral Point BSP	1/8" - 3/4"	P1 Steam	172
	60620			Spiral Flute BSP	1/8" - 3/4"	P0 Bright	173
	60680			Straight BSPT	1/8" - 2"	P0 Bright	174

ANSI NPT Taps


	Series #	Standard	Material	Type	Size Range	Surface	Page
	60750	ANSI 94.9	HSS	Straight NPT	1/16" - 2"	P0 Bright	175
	60760			Straight NPTF	1/8" - 1.1/4"	P0 Bright	176

ISO Fluteless Roll Taps


	Series #	Standard	Material	Type	Size Range	Surface	Page
	69000	ISO 529	HSS	Metric ROLL	M2 - M12	P0 Bright	177
	69010			UNC ROLL	No.2 - 1/2"	P0 Bright	178
	69030			BSW ROLL	1/4" - 3/8"	P0 Bright	179

THREADING


Circular Split Dies

	Series #	Standard	Material	Type	Size Range	Surface	Page
	64100	BS 1127	HSS	Metric (M)	M1.2 - M36	PO Bright	180
	64110			Metric Fine (MF)	M3 - M32	PO Bright	181
	64120			UNC	No.1 - 1.1/2"	PO Bright	182
	64130			UNF	No.0 - 1.1/2"	PO Bright	183
	64140			BSW	1/16" - 1.1/2"	PO Bright	184
	64150			BSF	3/16" - 1.1/2"	PO Bright	185
	64160			G(BSPF)	1/8" - 2"	PO Bright	186
	64170			BA	No.14 - No.0	PO Bright	187
	64190	ANSI-B1.20.1	NPT	1/8" - 2"	PO Bright	188	

Circular Solid Dies

	Series #	Standard	Material	Type	Size Range	Surface	Page
	64000	DIN 223	HSS	Metric (M)	M3 - M24	PO Bright	189
	64010			Metric Fine (MF)	M5 - M30	PO Bright	190


Dienuts

	Series #	Standard	Material	Type	Size Range	Surface	Page
	64400	BS 1127	HSS	Metric (M)	M3 - M42	PO Bright	191
	64410			Metric Fine (MF)	M3 - M42	PO Bright	192
	64420			UNC	No.8 - 2"	PO Bright	193
	64430			UNF	No.8 - 1.1/2"	PO Bright	194
	64440			BSW	1/8" - 2"	PO Bright	195
	64450			BSF	3/16" - 1.3/4"	PO Bright	196
	64460			G(BSPF)	1/8" - 1.1/2"	PO Bright	197
	64490			NPT	1/8" - 2"	PO Bright	198








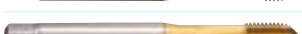
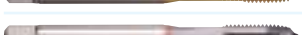

Selection of HSS & HSCo Tap Sets & Tap and Die Sets Supplied in Various Cases

	Page
 <p>See Tap Type for sets of 3. See end of section for others sets.</p>	199








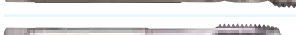
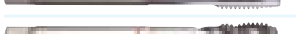
DIN 352 Metric Coarse Taps

	Series #	Standard	Material	Type	Size Range	Surface	Page
	60702	N	HSS	Straight	M3 - M24	P0 Bright	206


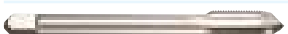


DIN 371 Metric Coarse Taps

	Series #	Standard	Material	Type	Size Range	Surface	Page
	631305	N	HSSE	Straight	M3 - M10	P0 Bright	207
	631313	GG	HSSE PM	Straight		P6 TiCN	208
	631319	RH15	HSSE PM	Spiral Flute		P6 TiCN	208
	631332	BN	HSS	Spiral Point		P0 Bright or P5 TiN	209
	631334	BVA	HSS	Spiral Point		P0 Bright	209
	631363	R40N	HSS	Spiral Flute		P0 Bright or P5 TiN	210
	631370	R40VAT	HSS	Spiral Flute		P0 Bright	210
	631377	FCS	HSSE PM	Fluteless Roll		P5 TiN	211
	651346	BVAX	HSSE PM	Spiral Point		P6 TiCN	212
	651386	R40VAX	HSSE PM	Spiral Flute		P6 TiCN	212




DIN 376 Metric Coarse Taps

	Series #	Standard	Material	Type	Size Range	Surface	Page
	631405	N	HSSE	Straight	M6 - M36	P0 Bright	213
	631413	GG	HSSE PM	Straight	M8 - M16	P6 TiCN	214
	631419	RH15	HSSE PM	Spiral Flute	M8 - M24	P6 TiCN	215
	631432	BN	HSSE	Spiral Point	M8 - M42	P0 Bright or P5 TiN	216
	631434	BVA	HSSE	Spiral Point	M8 - M24	P0 Bright	217
	631463	R40N	HSSE	Spiral Flute	M6 - M42	P0 Bright or P5 TiN	218
	631470	R40VAT	HSSE	Spiral Flute	M8 - M24	P0 Bright	219
	651446	BVAX	HSSE PM	Spiral Point	M12 - M20	P6 TiCN	220
	651486	R40VAX	HSSE PM	Spiral Flute	M8 - M24	P6 TiCN	221



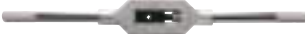
DIN 374 Metric Coarse & MF Taps

	Series #	Standard	Material	Type	Size Range	Surface	Page
	632505	N	HSSE	Straight	M8 - M27	P0 Bright	222
	632532	BN		Spiral Point	M8 - M16	P0 Bright	223
	632563	R40N		Spiral Flute	M8 - M24	P0 Bright or P5 TiN	224
	652546	BVAX		Spiral Point	MF8 - MF16	P0 Bright	225



DIN 5156 BSPF (G) Taps

	Series #	Standard	Material	Type	Size Range	Surface	Page
	635705	N	HSSE	Straight	1/8" - 1"	PO Bright	225
	635732	BN		Spiral Point			226
	635763	R40N		Spiral Flute			226

Tap Wrenches

	Series #	Type	Size Range	Surface	Page
	69823	Letter Size	M2 - M12 (1/16 - 1/2)	Grey	227
	69833	T Type	M2 - M12 (1/8 - 1/2)	Chrome	227
	69843	American Bar Type	M3 - M60 (1/8 - 2.1/2)	Grey	227

Diestocks

	Series #	Type	Size Range	Surface	Page
	69403	Circular Split	13/16 x 1/4 - 4 x 1	General	228
	69413	Circular Solid	M20 x 5 - M55 x 22	General	228

60000

HSS Short Machine Tap Metric Coarse ISO 529



Straight Flute full size taps used as Machine taps or sets of 3 as Hand taps. Used for tapping in free cutting Steel up to 800N/mm². The perfect form thread is generated by a combination of effective pitch diameter, major diameter and chamfer length. Order as TAPER (8-10 Thread Lead), SECOND (4-5 Thread Lead), BOTTOM (1.5-2.5 Thread Lead) or SET OF 3.

Discount Group	10	Surface Treatment	Bright
Material	HSS	Tolerance	ISO2 (6H)
Standard	ISO529	Type	STF
Packing Unit	All Sizes Packed in 1's, Sets packed in a Handy Plastic Set Box.		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M1.6 x 0.35	41.0	8.0	2.5	2.0	4.0	1.25	Let. X M2 - M6 Bar Type 69823X
M2 x 0.4	41.0	8.0	2.5	2.0	4.0	1.6	
M2.5 x 0.45	44.5	9.5	2.8	2.24	5.0	2.05	
M3 x 0.5	48.0	16.0	3.15	2.5	5.0	2.5	101 M3 - M12 Adj. 69843101
M3.5 x 0.6	50.0	19.0	3.55	2.8	5.0	2.9	
M4 x 0.7	53.0	13.0	4.0	3.15	6.0	3.3	102 M5 - M20 Adj. 69843102
M4.5 x 0.75	53.0	13.0	4.5	3.55	6.0	3.7	
M5 x 0.8	58.0	16.0	5.0	4.0	7.0	4.2	103 M9 - M27 Adj. 69843103
M6 x 1.0	66.0	19.0	6.3	5.0	8.0	5.0	
M7 x 1.0	66.0	19.0	7.1	5.6	8.0	6.0	104 M18 - M42 Adj. 69843104
M8 x 1.25	72.0	22.0	8.0	6.3	9.0	6.8	
M9 x 1.25	72.0	22.0	9.0	7.1	10.0	7.8	105 M24 - M60 Adj. 69843105
M10 x 1.5	80.0	24.0	10.0	8.0	11.0	8.5	
M11 x 1.5	85.0	25.0	8.0	6.3	9.0	9.5	105 M24 - M60 Adj. 69843105
M12 x 1.75	89.0	29.0	9.0	7.1	10.0	10.2	
M14 x 2.0	95.0	30.0	11.2	9.0	12.0	12.0	105 M24 - M60 Adj. 69843105
M16 x 2.0	102.0	32.0	12.5	10.0	13.0	14.0	
M18 x 2.5	112.0	37.0	14.0	11.2	14.0	15.5	105 M24 - M60 Adj. 69843105
M20 x 2.5	112.0	37.0	14.0	11.2	14.0	17.5	
M22 x 2.5	118.0	38.0	16.0	12.5	16.0	19.5	105 M24 - M60 Adj. 69843105
M24 x 3.0	130.0	45.0	18.0	14.0	18.0	21.0	
M27 x 3.0	135.0	45.0	20.0	16.0	20.0	24.0	105 M24 - M60 Adj. 69843105
M30 x 3.5	138.0	48.0	20.0	16.0	20.0	26.5	
M33 x 3.5	151.0	51.0	22.4	18.0	22.0	29.5	105 M24 - M60 Adj. 69843105
M36 x 4.0	162.0	57.0	25.0	20.0	24.0	32.0	
M39 x 4.0	170.0	60.0	28.0	22.4	26.0	35.0	105 M24 - M60 Adj. 69843105
M42 x 4.5	170.0	60.0	28.0	22.4	26.0	37.5	
M45 x 4.5	187.0	67.0	31.5	25.0	28.0	40.5	105 M24 - M60 Adj. 69843105
M48 x 5.0	187.0	67.0	31.5	25.0	28.0	43.0	
M52 x 5.0	200.0	70.0	35.5	28.0	31.0	47.0	105 M24 - M60 Adj. 69843105
M56 x 5.5	200.0	70.0	35.5	28.0	31.0	50.5	
M60 x 5.5	221.0	76.0	40.0	31.5	34.0	54.5	105 M24 - M60 Adj. 69843105

THREADING

60005

HSS Short Machine Tap Metric Coarse ISO 529 TiN



Design and application like List-No. 60000. TiN coating provides longer tool life or increased cutting speeds. Available in Second and Bottoming Leads.

Discount Group	10	Surface Treatment	TiN
Material	HSS	Tolerance	ISO2 (6H)
Standard	ISO529	Type	STF
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M3 x 0.5	48.0	16.0	3.15	2.5	5.0	2.5	101 M3 - M12 Adj. 69843101
M3.5 x 0.6	50.0	19.0	3.55	2.8	5.0	2.9	
M4 x 0.7	53.0	13.0	4.0	3.15	6.0	3.3	
M4.5 x 0.75	53.0	13.0	4.5	3.55	6.0	3.7	
M5 x 0.8	58.0	16.0	5.0	4.0	7.0	4.2	
M6 x 1.0	66.0	19.0	6.3	5.0	8.0	5.0	
M7 x 1.0	66.0	19.0	7.1	5.6	8.0	6.0	
M8 x 1.25	72.0	22.0	8.0	6.3	9.0	6.8	102 M5 - M20 Adj. 69843102
M9 x 1.25	72.0	22.0	9.0	7.1	10.0	7.8	
M10 x 1.5	80.0	24.0	10.0	8.0	11.0	8.5	
M11 x 1.5	85.0	25.0	8.0	6.3	9.0	9.5	
M12 x 1.75	89.0	29.0	9.0	7.1	10.0	10.2	
M14 x 2.0	95.0	30.0	11.2	9.0	12.0	12.0	
M16 x 2.0	102.0	32.0	12.5	10.0	13.0	14.0	

THREADING

60010

HSS Short Machine Tap Metric Coarse Spiral Point ISO 529



Spiral point Machine tap with straight flutes for working in steel up to 750 N/mm². Swarf is forced forward in the direction of the cut in through holes.

Discount Group	10	Surface Treatment	Steam
Material	HSS	Tolerance	ISO2 (6H)
Standard	ISO529	Type	SpPt
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench	
M1 x 0.25	38.5	5.5	2.5	2.0	4.0	0.75	Let. X M2 - M6 Bar Type 69823X	
M1.2 x 0.25	38.5	5.5	2.5	2.0	4.0	0.95		
M1.4 x 0.3	40.0	7.0	2.5	2.0	4.0	1.1		
M1.6 x 0.35	41.0	8.0	2.5	2.0	4.0	1.25		
M2 x 0.4	41.0	8.0	2.5	2.0	4.0	1.6		
M2.5x 0.45	44.5	9.5	2.8	2.24	5.0	2.05		
M3 x 0.5	48.0	16.0	3.15	2.5	5.0	2.5	101 M3 - M12 Adj. 69843101	
M3.5 x 0.6	50.0	19.0	3.55	2.8	5.0	2.9		
M4 x 0.7	53.0	13.0	4.0	3.15	6.0	3.3		
M5 x 0.8	58.0	16.0	5.0	4.0	7.0	4.2		
M6 x 1.0	66.0	19.0	6.3	5.0	8.0	5.0		
M7 x 1.0	66.0	19.0	7.1	5.6	8.0	6.0		
M8 x 1.25	72.0	22.0	8.0	6.3	9.0	6.8		
M10 x 1.5	80.0	24.0	10.0	8.0	11.0	8.5		
M12 x 1.75	89.0	29.0	9.0	7.1	10.0	10.2		
M14 x 2.0	95.0	30.0	11.2	9.0	12.0	12.0		102 M5 - M20 Adj. 69843102
M16 x 2.0	102.0	32.0	12.5	10.0	13.0	14.0		
M18 x 2.5	112.0	37.0	14.0	11.2	14.0	15.5		
M20 x 2.5	112.0	37.0	14.0	11.2	14.0	17.5		
M22 x 2.5	118.0	38.0	16.0	12.5	16.0	19.5	103 M9 - M27 Adj. 69843103	
M24 x 3.0	130.0	45.0	18.0	14.0	18.0	21.0		
M27 x 3.0	135.0	45.0	20.0	16.0	20.0	24.0		
M30 x 3.5	138.0	48.0	20.0	16.0	20.0	26.5	104 M18 - M42 Adj. 69843104	

THREADING

60015

HSS Short Machine Tap Metric Coarse Spiral Point ISO 529 TiN



Design and application like List-No. 60010.
TiN coating provides longer tool life or increased cutting speeds.

Discount Group	10	Surface Treatment	TiN
Material	HSS	Tolerance	ISO2 (6H)
Standard	ISO529	Type	SpPt
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M3 x 0.5	48.0	16.0	3.15	2.5	5.0	2.5	101 M3 - M12 Adj. 69843101
M3.5 x 0.6	50.0	19.0	3.55	2.8	5.0	2.9	
M4 x 0.7	53.0	13.0	4.0	3.15	6.0	3.3	
M5 x 0.8	58.0	16.0	5.0	4.0	7.0	4.2	
M6 x 1.0	66.0	19.0	6.3	5.0	8.0	5.0	
M7 x 1.0	66.0	19.0	7.1	5.6	8.0	6.0	
M8 x 1.25	72.0	22.0	8.0	6.3	9.0	6.8	
M10 x 1.5	80.0	24.0	10.0	8.0	11.0	8.5	
M12 x 1.75	89.0	29.0	9.0	7.1	10.0	10.2	
M14 x 2.0	95.0	30.0	11.2	9.0	12.0	12.0	102 M5 - M20 Adj. 69843102
M16 x 2.0	102.0	32.0	12.5	10.0	13.0	14.0	

THREADING

60020

HSS Short Machine Tap Metric Coarse Spiral Flute ISO 529



Machine tap with 40°-spiral flute for blind holes. Short chamfer permits work on steel up to 750 N/mm² and Aluminium alloys with more than 0.5% Si.

Discount Group	10	Surface Treatment	Bright
Material	HSS	Tolerance	ISO2 (6H)
Standard	ISO529	Type	SpFI
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M2 x 0.4	41.0	8.0	2.5	2.0	4.0	1.6	Let. X M2 - M6 Bar Type 69823X
M2.5 x 0.45	44.5	9.5	2.8	2.24	5.0	2.05	
M3 x 0.5	48.0	16.0	3.15	2.5	5.0	2.5	101 M3 - M12 Adj. 69843101
M3.5 x 0.6	50.0	19.0	3.55	2.8	5.0	2.9	
M4 x 0.7	53.0	13.0	4.0	3.15	6.0	3.3	
M5 x 0.8	58.0	16.0	5.0	4.0	7.0	4.2	
M6 x 1.0	66.0	19.0	6.3	5.0	8.0	5.0	
M7 x 1.0	66.0	19.0	7.1	5.6	8.0	6.0	
M8 x 1.25	72.0	22.0	8.0	6.3	9.0	6.8	
M10 x 1.5	80.0	24.0	10.0	8.0	11.0	8.5	
M12 x 1.75	89.0	29.0	9.0	7.1	10.0	10.2	
M14 x 2.0	95.0	30.0	11.2	9.0	12.0	12.0	102 M5 - M20 Adj. 69843102
M16 x 2.0	102.0	32.0	12.5	10.0	13.0	14.0	
M18 x 2.5	112.0	37.0	14.0	11.2	14.0	15.5	
M20 x 2.5	112.0	37.0	14.0	11.2	14.0	17.5	
M22 x 2.5	118.0	38.0	16.0	12.5	16.0	19.5	103 M9 - M27 Adj. 69843103
M24 x 3.0	130.0	45.0	18.0	14.0	18.0	21.0	
M27 x 3.0	135.0	45.0	20.0	16.0	20.0	24.0	
M30 x 3.5	138.0	48.0	20.0	16.0	20.0	26.5	104 M18 - M42 Adj. 69843104

THREADING

60025

HSS Short Machine Tap Metric Coarse Spiral Flute ISO 529 TiN



Design and application like List-No. 60020.
TiN coating provides longer tool life or increased cutting speeds.

Discount Group	10	Surface Treatment	TiN
Material	HSS	Tolerance	ISO2 (6H)
Standard	ISO529	Type	SpFI
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M3 x 0.5	48.0	16.0	3.15	2.5	5.0	2.5	101 M3 - M12 Adj. 69843101
M4 x 0.7	53.0	13.0	4.0	3.15	6.0	3.3	
M5 x 0.8	58.0	16.0	5.0	4.0	7.0	4.2	102 M5 - M20 Adj. 69843102
M6 x 1.0	66.0	19.0	6.3	5.0	8.0	5.0	
M7 x 1.0	66.0	19.0	7.1	5.6	8.0	6.0	
M8 x 1.25	72.0	22.0	8.0	6.3	9.0	6.8	
M10 x 1.5	80.0	24.0	10.0	8.0	11.0	8.5	
M12 x 1.75	89.0	29.0	9.0	7.1	10.0	10.2	
M14 x 2.0	95.0	30.0	11.2	9.0	12.0	12.0	
M16 x 2.0	102.0	32.0	12.5	10.0	13.0	14.0	

THREADING

60027

HSS Short Machine Tap Metric Coarse Spiral Flute ISO 529 Steam Tempered



Design and application like List-No. 60020.
Steam Temper promotes wear resistance.

Discount Group	10	Surface Treatment	Steam
Material	HSS	Tolerance	ISO2 (6H)
Standard	ISO529	Type	SpFI
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M2 x 0.4	41.0	8.0	2.5	2.0	4.0	1.6	Let. X M2 - M6 Bar Type 69823X
M2.5 x 0.45	44.5	9.5	2.8	2.24	5.0	2.05	
M3 x 0.5	48.0	16.0	3.15	2.5	5.0	2.5	101 M3 - M12 Adj. 69843101
M3.5 x 0.6	50.0	19.0	3.55	2.8	5.0	2.9	
M4 x 0.7	53.0	13.0	4.0	3.15	6.0	3.3	
M5 x 0.8	58.0	16.0	5.0	4.0	7.0	4.2	
M6 x 1.0	66.0	19.0	6.3	5.0	8.0	5.0	
M7 x 1.0	66.0	19.0	7.1	5.6	8.0	6.0	
M8 x 1.25	72.0	22.0	8.0	6.3	9.0	6.8	
M10 x 1.5	80.0	24.0	10.0	8.0	11.0	8.5	
M12 x 1.75	89.0	29.0	9.0	7.1	10.0	10.2	
M14 x 2.0	95.0	30.0	11.2	9.0	12.0	12.0	102 M5 - M20 Adj. 69843102
M16 x 2.0	102.0	32.0	12.5	10.0	13.0	14.0	
M18 x 2.5	112.0	37.0	14.0	11.2	14.0	15.5	
M20 x 2.5	112.0	37.0	14.0	11.2	14.0	17.5	
M22 x 2.5	118.0	38.0	16.0	12.5	16.0	19.5	103 M9 - M27 Adj. 69843103
M24 x 3.0	130.0	45.0	18.0	14.0	18.0	21.0	
M27 x 3.0	135.0	45.0	20.0	16.0	20.0	24.0	
M30 x 3.5	138.0	48.0	20.0	16.0	20.0	26.5	104 M18 - M42 Adj. 69843104

THREADING

61117

HSCo Short Machine Tap Metric Coarse Spiral Point ISO 529 TiCN



HSCo Spiral point Machine tap with a surface treatment for tough steels with elasticity >30%. The unique geometry helps to avoid pick up and resists work hardening tendencies in materials such as Stainless Steel.

Discount Group	10	Surface Treatment	TiCN
Material	HSCo	Tolerance	ISO2 (6H)
Standard	ISO529	Type	SpPt
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M3 x 0.5	48.0	16.0	3.15	2.5	5.0	2.5	101 M3 - M12 Adj. 69843101
M4 x 0.7	53.0	13.0	4.0	3.15	6.0	3.3	
M5 x 0.8	58.0	16.0	5.0	4.0	7.0	4.2	
M6 x 1.0	66.0	19.0	6.3	5.0	8.0	5.0	
M7 x 1.0	66.0	19.0	7.1	5.6	8.0	6.0	
M8 x 1.25	72.0	22.0	8.0	6.3	9.0	6.8	
M10 x 1.5	80.0	24.0	10.0	8.0	11.0	8.5	
M12 x 1.75	89.0	29.0	9.0	7.1	10.0	10.2	102 M5 - M20 Adj. 69843102
M14 x 2.0	95.0	30.0	11.2	9.0	12.0	12.0	
M16 x 2.0	102.0	32.0	12.5	10.0	13.0	14.0	
M18 x 2.5	112.0	37.0	14.0	11.2	14.0	15.5	
M20 x 2.5	112.0	37.0	14.0	11.2	14.0	17.5	

THREADING

61127

HSCo Short Machine Tap Metric Coarse Spiral Flute ISO 529 TiCN



HSCo Spiral Flute Machine tap with a surface treatment for tough steels with elasticity >30%. The unique geometry helps to avoid pick up and resists work hardening tendencies in materials such as Stainless Steel.

Discount Group	10	Surface Treatment	TiCN
Material	HSCo	Tolerance	ISO2 (6H)
Standard	ISO529	Type	SpFI
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M3 x 0.5	48.0	16.0	3.15	2.5	5.0	2.5	101 M3 - M12 Adj. 69843101
M4 x 0.7	53.0	13.0	4.0	3.15	6.0	3.3	
M5 x 0.8	58.0	16.0	5.0	4.0	7.0	4.2	
M6 x 1.0	66.0	19.0	6.3	5.0	8.0	5.0	
M8 x 1.25	72.0	22.0	8.0	6.3	9.0	6.8	
M10 x 1.5	80.0	24.0	10.0	8.0	11.0	8.5	
M12 x 1.75	89.0	29.0	9.0	7.1	10.0	10.2	102 M5 - M20 Adj. 69843102
M14 x 2.0	95.0	30.0	11.2	9.0	12.0	12.0	
M16 x 2.0	102.0	32.0	12.5	10.0	13.0	14.0	
M18 x 2.5	112.0	37.0	14.0	11.2	14.0	15.5	
M20 x 2.5	112.0	37.0	14.0	11.2	14.0	17.5	

THREADING

61000

HSS Long Shank Machine Tap

Metric Coarse ISO 2283



Straight Flute full size taps used as Machine Taps or Hand Taps for tapping in free cutting Steel up to 800N/mm². The perfect form thread is generated by a combination of effective pitch diameter, major diameter and chamfer length. Available in Second and Bottoming Leads.

Discount Group	11	Surface Treatment	Bright
Material	HSS	Tolerance	ISO2 (6H)
Standard	ISO2283	Type	STF
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M3 x 0.5	66.0	11.0	2.24	1.8	4.0	2.5	101 M3 - M12 Adj. 69843101
M4 x 0.7	73.0	13.0	3.15	2.5	5.0	3.3	
M5 x 0.8	79.0	16.0	4.0	3.15	6.0	4.2	
M6 x 1.0	89.0	19.0	4.5	3.55	6.0	5.0	
M8 x 1.25	97.5	22.0	6.3	5.0	8.0	6.8	
M10 x 1.5	108.0	24.0	8.0	6.3	9.0	8.5	
M12 x 1.75	119.0	29.0	9.0	7.1	10.0	10.2	102 M5 - M20 Adj. 69843102
M14 x 2.0	127.0	30.0	11.2	9.0	12.0	12.0	
M16 x 2.0	137.0	32.0	12.5	10.0	13.0	14.0	
M20 x 2.5	149.0	37.0	14.0	11.2	14.0	17.5	103 M9 - M27 Adj. 69843103
M22 x 2.5	158.0	38.0	16.0	12.5	16.0	19.5	
M24 x 3.0	172.0	45.0	18.0	14.0	18.0	21.0	

THREADING

60080

HSS Short Machine Tap Metric Fine ISO 529



Straight Flute full size taps used as Machine taps or sets of 3 as Hand taps. Used for tapping in free cutting Steel up to 800N/mm². The perfect form thread is generated by a combination of effective pitch diameter, major diameter and chamfer length. Order as TAPER (8-10 Thread Lead), SECOND (4-5 Thread Lead), BOTTOM (1.5-2.5 Thread Lead) or SET OF 3.

Discount Group	10	Surface Treatment	Bright
Material	HSS	Tolerance	ISO2 (6H)
Standard	ISO529	Type	STF
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M3 x 0.35 MF	48.0	16.0	3.15	2.5	5.0	2.65	101 M3 - M12 Adj. 69843101
M4 x 0.5 MF	53.0	13.0	4.0	3.15	6.0	3.5	
M4.5 x 0.5 MF	53.0	13.0	4.5	3.55	6.0	4.0	
M5 x 0.5 MF	58.0	16.0	5.0	4.0	7.0	4.5	
M5 x 0.75 MF	58.0	16.0	5.0	4.0	7.0	4.2	
M6 x 0.75 MF	66.0	19.0	6.3	5.0	8.0	5.2	
M7 x 0.75 MF	66.0	19.0	7.1	5.6	8.0	6.25	
M8 x 0.75 MF	72.0	22.0	8.0	6.3	9.0	7.0	
M8 x 1.0 MF	72.0	22.0	8.0	6.3	9.0	7.0	
M9 x 1.0 MF	72.0	22.0	9.0	7.1	10.0	8.0	
M10 x 0.75 MF	80.0	24.0	10.0	8.0	11.0	9.2	
M10 x 1.0 MF	80.0	24.0	10.0	8.0	11.0	9.0	
M10 x 1.25 MF	80.0	24.0	10.0	8.0	11.0	8.8	
M12 x 1.0 MF	89.0	29.0	9.0	7.1	10.0	11.0	
M12 x 1.25 MF	89.0	29.0	9.0	7.1	10.0	10.8	
M12 x 1.5 MF	89.0	29.0	9.0	7.1	10.0	10.5	
M14 x 1.0 MF	95.0	30.0	11.2	9.0	12.0	13.0	102 M5 - M20 Adj. 69843102
M14 x 1.25 MF	95.0	30.0	11.2	9.0	12.0	12.8	
M14 x 1.5 MF	95.0	30.0	11.2	9.0	12.0	12.5	
M16 x 1.0 MF	102.0	32.0	12.5	10.0	13.0	15.0	
M16 x 1.5 MF	102.0	32.0	12.5	10.0	13.0	14.5	
M18 x 1.0 MF	112.0	37.0	14.0	11.2	14.0	17.0	
M18 x 1.5 MF	112.0	37.0	14.0	11.2	14.0	16.5	
M18 x 2.0 MF	112.0	37.0	14.0	11.2	14.0	16.0	
M20 x 1.0 MF	112.0	37.0	14.0	11.2	14.0	19.0	
M20 x 1.5 MF	112.0	37.0	14.0	11.2	14.0	18.5	
M20 x 2.0 MF	112.0	37.0	14.0	11.2	14.0	18.0	
M22 x 1.5 MF	118.0	38.0	16.0	12.5	16.0	20.5	103 M9 - M27 Adj. 69843103
M22 x 2.0 MF	118.0	38.0	16.0	12.5	16.0	20.0	
M24 x 1.5 MF	130.0	45.0	18.0	14.0	18.0	22.5	
M24 x 2.0 MF	130.0	45.0	18.0	14.0	18.0	22.0	

THREADING

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60080

HSS Short Machine Tap Metric Fine ISO 529



Straight Flute full size taps used as Machine taps or sets of 3 as Hand taps. Used for tapping in free cutting Steel up to 800N/mm². The perfect form thread is generated by a combination of effective pitch diameter, major diameter and chamfer length. Order as TAPER (8-10 Thread Lead), SECOND (4-5 Thread Lead), BOTTOM (1.5-2.5 Thread Lead) or SET OF 3.

Discount Group	10	Surface Treatment	Bright
Material	HSS	Tolerance	ISO2 (6H)
Standard	ISO529	Type	STF
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Recommened Tap Wrench
M25 x 1.5 MF	130.0	45.0	18.0	14.0	18.0	23.5	103 M9 - M27 Adj. 69843103
M27 x 1.5 MF	130.0	45.0	20.0	16.0	20.0	25.5	
M27 x 2.0 MF	130.0	45.0	20.0	16.0	20.0	25.0	
M30 x 1.5 MF	138.0	48.0	20.0	16.0	20.0	28.5	104 M18 - M42 Adj. 69843104
M30 x 2.0 MF	138.0	48.0	20.0	16.0	20.0	28.0	
M32 x 1.5 MF	137.0	37.0	22.4	18.0	22.0	30.5	
M33 x 2.0 MF	137.0	37.0	22.4	18.0	22.0	31.0	
M40 x 1.5 MF	149.0	39.0	28.0	22.4	26.0	38.5	

THREADING

60085

HSS Short Machine Tap Metric Fine ISO 529 TiN



Design and application like List-No. 60080. TiN coating provides longer tool life or increased cutting speeds. Available in BOTTOM (1.5-2.5 Thread Lead) only.

Discount Group	10	Surface Treatment	TiN
Material	HSS	Tolerance	ISO2 (6H)
Standard	ISO529	Type	STF
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M3 x 0.35 MF	48.0	16.0	3.15	2.5	5.0	2.65	101 M3 - M12 Adj. 69843101
M4 x 0.5 MF	53.0	13.0	4.0	3.15	6.0	3.5	
M4.5 x 0.5 MF	53.0	13.0	4.5	3.55	6.0	4.0	
M5 x 0.5 MF	58.0	16.0	5.0	4.0	7.0	4.5	
M5 x 0.75 MF	58.0	16.0	5.0	4.0	7.0	4.2	
M6 x 0.75 MF	66.0	19.0	6.3	5.0	8.0	5.2	
M7 x 0.75 MF	66.0	19.0	7.1	5.6	8.0	6.25	
M8 x 1.0 MF	72.0	22.0	8.0	6.3	9.0	7.0	102 M5 - M20 Adj. 69843102
M10 x 1.0 MF	80.0	24.0	10.0	8.0	11.0	9.0	
M10 x 1.25 MF	80.0	24.0	10.0	8.0	11.0	8.8	
M12 x 1.0 MF	89.0	29.0	9.0	7.1	10.0	11.0	
M12 x 1.25 MF	89.0	29.0	9.0	7.1	10.0	10.8	
M14 x 1.25 MF	95.0	30.0	11.2	9.0	12.0	12.8	
M14 x 1.5 MF	95.0	30.0	11.2	9.0	12.0	12.5	
M16 x 1.5 MF	102.0	32.0	12.5	10.0	13.0	14.5	

THREADING

62810

HSS Short Machine Tap Metric Fine Spiral Point ISO 529



Spiral point Machine tap with straight flutes for working in steel up to 750 N/mm². Swarf is forced forward in the direction of the cut.

Discount Group	11	Surface Treatment	Steam
Material	HSS	Tolerance	ISO2 (6H)
Standard	ISO529	Type	SpPt
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M4 x 0.5 MF	53.0	13.0	4.0	3.15	6.0	3.5	101 M3 - M12 Adj. 69843101
M5 x 0.5 MF	58.0	16.0	5.0	4.0	7.0	4.5	
M6 x 0.75 MF	66.0	19.0	6.3	5.0	8.0	5.2	
M8 x 1.0 MF	72.0	22.0	8.0	6.3	9.0	7.0	
M10 x 1.0 MF	80.0	24.0	10.0	8.0	11.0	9.0	
M10 x 1.25 MF	80.0	24.0	10.0	8.0	11.0	8.8	
M12 x 1.25 MF	89.0	29.0	9.0	7.1	10.0	10.8	102 M5 - M20 Adj. 69843102
M12 x 1.5 MF	89.0	29.0	9.0	7.1	10.0	10.5	
M14 x 1.25 MF	95.0	30.0	11.2	9.0	12.0	12.8	
M14 x 1.5 MF	95.0	30.0	11.2	9.0	12.0	12.5	
M16 x 1.5 MF	102.0	32.0	12.5	10.0	13.0	14.5	
M18 x 1.5 MF	112.0	37.0	14.0	11.2	14.0	16.5	
M20 x 1.5 MF	112.0	37.0	14.0	11.2	14.0	18.5	103 M9 - M27 Adj. 69843103
M22 x 1.5 MF	118.0	38.0	16.0	12.5	16.0	20.5	

THREADING

62820

HSS Short Machine Tap Metric Fine Spiral Flute ISO 529



Machine tap with 40°-spiral flute. Short chamfer permits work on steel up to 750 N/mm². and Aluminium alloys with more than 0.5% Si.

Discount Group	11	Surface Treatment	Bright
Material	HSS	Tolerance	ISO2 (6H)
Standard	ISO529	Type	SpFI
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M4 x 0.5 MF	53.0	13.0	4.0	3.15	6.0	3.5	101 M3 - M12 Adj. 69843101
M5 x 0.5 MF	58.0	16.0	5.0	4.0	7.0	4.5	
M6 x 0.75 MF	66.0	19.0	6.3	5.0	8.0	5.2	
M8 x 1.0 MF	72.0	22.0	8.0	6.3	9.0	7.0	
M10 x 1.0 MF	80.0	24.0	10.0	8.0	11.0	9.0	102 M5 - M20 Adj. 69843102
M10 x 1.25 MF	80.0	24.0	10.0	8.0	11.0	8.8	
M12 x 1.25 MF	89.0	29.0	9.0	7.1	10.0	10.8	
M12 x 1.5 MF	89.0	29.0	9.0	7.1	10.0	10.5	
M14 x 1.25 MF	95.0	30.0	11.2	9.0	12.0	12.8	103 M9 - M27 Adj. 69843103
M14 x 1.5 MF	95.0	30.0	11.2	9.0	12.0	12.5	
M16 x 1.5 MF	102.0	32.0	12.5	10.0	13.0	14.5	
M18 x 1.5 MF	112.0	37.0	14.0	11.2	14.0	16.5	
M20 x 1.5 MF	112.0	37.0	14.0	11.2	14.0	18.5	
M22 x 1.5 MF	118.0	38.0	16.0	12.5	16.0	20.5	

THREADING

60100

HSS Short Machine Tap UNC ISO 529



Straight Flute full size taps used as Machine taps or sets of 3 as Hand taps. Used for tapping in free cutting Steel up to 800N/mm². The perfect form thread is generated by a combination of effective pitch diameter, major diameter and chamfer length. Order as TAPER (8-10 Thread Lead), SECOND (4-5 Thread Lead), BOTTOM (1.5-2.5 Thread Lead) or SET OF 3.

Discount Group	10	Surface Treatment	Bright
Material	HSS	Tolerance	Class 2 for 2B
Standard	ISO529	Type	STF
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
No.1 x 64 UNC	41.0	8.0	2.5	2.0	4.0	1.55	Let. X M2 - M6 Bar Type 69823X
No.2 x 56 UNC	44.5	9.5	2.8	2.24	5.0	1.85	
No.3 x 48 UNC	44.5	9.5	2.8	2.24	5.0	2.1	
No.4 x 40 UNC	48.0	16.0	3.15	2.5	5.0	2.35	101 M3 - M12 Adj. 69843101
No.5 x 40 UNC	48.0	16.0	3.15	2.5	5.0	2.65	
No.6 x 32 UNC	50.0	19.0	3.55	2.8	5.0	2.85	
No.8 x 32 UNC	53.0	13.0	4.5	3.55	6.0	3.5	
No.10 x 24 UNC	58.0	16.0	5.0	4.0	7.0	3.9	
No.12 x 24 UNC	62.0	17.0	5.6	4.5	7.0	4.5	
1/4" x 20 UNC	66.0	19.0	6.3	5.0	8.0	5.1	
5/16" x 18 UNC	72.0	22.0	8.0	6.3	9.0	6.6	
3/8" x 16 UNC	80.0	24.0	10.0	8.0	11.0	8.0	
7/16" x 14 UNC	85.0	25.0	8.0	6.3	9.0	9.4	
1/2" x 13 UNC	89.0	29.0	9.0	7.1	10.0	10.8	
9/16" x 12 UNC	95.0	30.0	11.2	9.0	12.0	12.2	102 M5 - M20 Adj. 69843102
5/8" x 11 UNC	102.0	32.0	12.5	10.0	13.0	13.5	
3/4" x 10 UNC	112.0	37.0	14.0	11.2	14.0	16.5	
7/8" x 9 UNC	118.0	38.0	16.0	12.5	16.0	19.5	103 M9 - M27 Adj. 69843103
1" x 8 UNC	130.0	45.0	18.0	14.0	18.0	22.25	
1.1/8" x 7 UNC	138.0	48.0	20.0	16.0	20.0	25.0	
1.1/4" x 7 UNC	151.0	51.0	22.4	18.0	22.0	28.0	104 M18 - M42 Adj. 69843104
1.3/8" x 6 UNC	162.0	57.0	25.0	20.0	24.0	30.75	105 M24 - M60 Adj. 69843105
1.1/2" x 6 UNC	170.0	60.0	28.0	22.4	26.0	24.0	
1.3/4" x 5 UNC	187.0	67.0	31.5	25.0	28.0	39.5	
2" x 4.1/2 UNC	200.0	70.0	35.5	28.0	31.0	45.0	

60110

HSS Short Machine Tap

UNC SPIRAL POINT ISO 529



Spiral point Machine tap with straight flutes for working in steel up to 750 N/mm². Swarf is forced forward in the direction of the cut.

Discount Group	10	Surface Treatment	Steam
Material	HSS	Tolerance	Class 2 for 2B
Standard	ISO529	Type	SpPt
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
No.1 x 64 UNC	41.0	8.0	2.5	2.0	4.0	1.55	Let. X M2 - M6 Bar Type 69823X
No.2 x 56 UNC	44.5	9.5	2.8	2.24	5.0	1.85	
No.3 x 48 UNC	44.5	9.5	2.8	2.24	5.0	2.1	
No.4 x 40 UNC	48.0	16.0	3.15	2.5	5.0	2.35	101 M3 - M12 Adj. 69843101
No.5 x 40 UNC	48.0	16.0	3.15	2.5	5.0	2.65	
No.6 x 32 UNC	50.0	19.0	3.55	2.8	5.0	2.85	
No.8 x 32 UNC	53.0	13.0	4.5	3.55	6.0	3.5	
No.10 x 24 UNC	58.0	16.0	5.0	4.0	7.0	3.9	
No.12 x 24 UNC	62.0	17.0	5.6	4.5	7.0	4.5	
1/4" x 20 UNC	66.0	19.0	6.3	5.0	8.0	5.1	
5/16" x 18 UNC	72.0	22.0	8.0	6.3	9.0	6.6	
3/8" x 16 UNC	80.0	24.0	10.0	8.0	11.0	8.0	
7/16" x 14 UNC	85.0	25.0	8.0	6.3	9.0	9.4	
1/2" x 13 UNC	89.0	29.0	9.0	7.1	10.0	10.8	
9/16" x 12 UNC	95.0	30.0	11.2	9.0	12.0	12.2	102 M5 - M20 Adj. 69843102
5/8" x 11 UNC	102.0	32.0	12.5	10.0	13.0	13.5	
3/4" x 10 UNC	112.0	37.0	14.0	11.2	14.0	16.5	
7/8" x 9 UNC	118.0	38.0	16.0	12.5	16.0	19.5	103 M9 - M27 Adj. 69843103
1" x 8 UNC	130.0	45.0	18.0	14.0	18.0	22.25	

THREADING

60120

HSS Short Machine Tap UNC Spiral Flute ISO 529



Machine tap with 40°-spiral flute. Short chamfer permits work on steel up to 750 N/mm². and Aluminium alloys with more than 0.5% Si.

Discount Group	10	Surface Treatment	Bright
Material	HSS	Tolerance	Class 2 for 2B
Standard	ISO529	Type	SpFI
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
No.4 x 40 UNC	48.0	16.0	3.15	2.5	5.0	2.35	101 M3 - M12 Adj. 69843101
No.6 x 32 UNC	50.0	19.0	3.55	2.8	5.0	2.85	
No.8 x 32 UNC	53.0	13.0	4.5	3.55	6.0	3.5	
No.10 x 24 UNC	58.0	16.0	5.0	4.0	7.0	3.9	
1/4" x 20 UNC	66.0	19.0	6.3	5.0	8.0	5.1	
5/16" x 18 UNC	72.0	22.0	8.0	6.3	9.0	6.6	
3/8" x 16 UNC	80.0	24.0	10.0	8.0	11.0	8.0	
7/16" x 14 UNC	85.0	25.0	8.0	6.3	9.0	9.4	
1/2" x 13 UNC	89.0	29.0	9.0	7.1	10.0	10.8	
9/16" x 12 UNC	95.0	30.0	11.2	9.0	12.0	12.2	102 M5 - M20 Adj. 69843102
5/8" x 11 UNC	102.0	32.0	12.5	10.0	13.0	13.5	
3/4" x 10 UNC	112.0	37.0	14.0	11.2	14.0	16.5	
7/8" x 9 UNC	118.0	38.0	16.0	12.5	16.0	19.5	103 M9 - M27 Adj. 69843103
1" x 8 UNC	130.0	45.0	18.0	14.0	18.0	22.25	

THREADING

60200

HSS Short Machine Tap UNF ISO 529



Straight Flute full size taps used as Machine taps or sets of 3 as Hand taps. Used for tapping in free cutting Steel up to 800N/mm². The perfect form thread is generated by a combination of effective pitch diameter, major diameter and chamfer length. Order as TAPER (8-10 Thread Lead), SECOND (4-5 Thread Lead), BOTTOM (1.5-2.5 Thread Lead) or SET OF 3.

Discount Group	10	Surface Treatment	Bright
Material	HSS	Tolerance	Class 2 for 2B
Standard	ISO529	Type	STF
Packing Unit	All Sizes Packed in 1's, Sets packed in a Handy Plastic Set Box.		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench	
No.0 x 80 UNF	41.0	8.0	2.5	2.0	4.0	1.25	Let. X M2 - M6 Bar Type 69823X	
No.1 x 72 UNF	41.0	8.0	2.5	2.0	4.0	1.55		
No.2 x 64 UNF	44.5	9.5	2.8	2.24	5.0	1.9		
No.3 x 56 UNF	44.5	9.5	2.8	2.24	5.0	2.15		
No.4 x 48 UNF	48.0	16.0	3.15	2.5	5.0	2.4		101 M3 - M12 Adj. 69843101
No.5 x 44 UNF	48.0	16.0	3.15	2.5	5.0	2.7		
No.6 x 40 UNF	50.0	19.0	3.55	2.8	5.0	2.95	102 M5 - M20 Adj. 69843102	
No.8 x36 UNF	53.0	13.0	4.5	3.55	6.0	3.5		
No.10 x 32 UNF	58.0	16.0	5.0	4.0	7.0	4.1		
No.12 x 28 UNF	62.0	17.0	5.6	4.5	7.0	4.7		
1/4" x 28 UNF	66.0	19.0	6.3	5.0	8.0	5.5		
5/16" x 24 UNF	72.0	22.0	8.0	6.3	9.0	6.9		
3/8" x 24 UNF	80.0	24.0	10.0	8.0	11.0	8.5		
7/16" x 20 UNF	85.0	25.0	8.0	6.3	9.0	9.9		
1/2" x 20 UNF	89.0	29.0	9.0	7.1	10.0	11.5		
9/16" x 18 UNF	95.0	30.0	11.2	9.0	12.0	12.9		
5/8" x 18 UNF	102.0	32.0	12.5	10.0	13.0	14.5	103 M9 - M27 Adj. 69843103	
3/4" x 16 UNF	112.0	37.0	14.0	11.2	14.0	17.5		
7/8" x 14 UNF	118.0	38.0	16.0	12.5	16.0	20.4	104 M18 - M42 Adj. 69843104	
1" x 12 UNF	130.0	45.0	18.0	14.0	18.0	23.25		
1.1/8" x 12 UNF	127.0	37.0	20.0	16.0	20.0	26.5		
1.1/4" x 12 UNF	137.0	37.0	22.4	18.0	22.0	29.5	105 M24 - M60 Adj. 69843105	
1.3/8" x 12 UNF	144.0	39.0	25.0	20.0	24.0	32.75		
1.1/2" x 12 UNF	149.0	39.0	28.0	22.4	26.0	36.0		

THREADING

60210

HSS Short Machine Tap

UNF Spiral Point ISO 529



Machine tap with 40°-spiral flute. Short chamfer permits work on steel up to 750 N/mm². and Aluminium alloys with more than 0.5% Si.

Discount Group	10	Surface Treatment	Steam
Material	HSS	Tolerance	Class 2 for 2B
Standard	ISO529	Type	SpPt
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
No.4 x 48 UNF	48.0	16.0	3.15	2.5	5.0	2.4	101 M3 - M12 Adj. 69843101
No.6 x 40 UNF	50.0	19.0	3.55	2.8	5.0	2.95	
No.10 x 32 UNF	58.0	16.0	5.0	4.0	7.0	4.1	
No.12 x 28 UNF	62.0	17.0	5.6	4.5	7.0	4.7	
1/4" x 28 UNF	66.0	19.0	6.3	5.0	8.0	5.5	
5/16" x 24 UNF	72.0	22.0	8.0	6.3	9.0	6.9	
3/8" x 24 UNF	80.0	24.0	10.0	8.0	11.0	8.5	
7/16" x 20 UNF	85.0	25.0	8.0	6.3	9.0	9.9	
1/2" x 20 UNF	89.0	29.0	9.0	7.1	10.0	11.5	
5/8" x 18 UNF	102.0	32.0	12.5	10.0	13.0	14.5	102 M5 - M20 Adj. 69843102
3/4" x 16 UNF	112.0	37.0	14.0	11.2	14.0	17.5	
7/8" x 14 UNF	118.0	38.0	16.0	12.5	16.0	20.4	103 M9 - M27 Adj. 69843103
1" x 12 UNF	130.0	45.0	18.0	14.0	18.0	23.25	

THREADING

60220

HSS Short Machine Tap UNC Spiral Flute ISO 529



Machine tap with 40°-spiral flute. Short chamfer permits work on steel up to 750 N/mm². and Aluminium alloys with more than 0.5% Si.

Discount Group	10	Surface Treatment	Bright
Material	HSS	Tolerance	Class 2 for 2B
Standard	ISO529	Type	SpFI
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
No.10 x 32 UNF	58.0	16.0	5.0	4.0	7.0	4.1	101 M3 - M12 Adj. 69843101
1/4" x 28 UNF	66.0	19.0	6.3	5.0	8.0	5.5	
5/16" x 24 UNF	72.0	22.0	8.0	6.3	9.0	6.9	
3/8" x 24 UNF	80.0	24.0	10.0	8.0	11.0	8.5	
7/16" x 20 UNF	85.0	25.0	8.0	6.3	9.0	9.9	
1/2" x 20 UNF	89.0	29.0	9.0	7.1	10.0	11.5	
9/16" x 18 UNF	95.0	30.0	11.2	9.0	12.0	12.9	102 M5 - M20 Adj. 69843102
5/8" x 18 UNF	102.0	32.0	12.5	10.0	13.0	14.5	
3/4" x 16 UNF	112.0	37.0	14.0	11.2	14.0	17.5	
7/8" x 14 UNF	118.0	38.0	16.0	12.5	16.0	20.4	103 M9 - M27 Adj. 69843103
1" x 12 UNF	130.0	45.0	18.0	14.0	18.0	23.25	

THREADING

60300

HSS Short Machine Tap

BSW ISO 529



Straight Flute full size taps used as Machine taps or sets of 3 as Hand taps. Used for tapping in free cutting Steel up to 800N/mm². The perfect form thread is generated by a combination of effective pitch diameter, major diameter and chamfer length. Order as TAPER (8-10 Thread Lead), SECOND (4-5 Thread Lead), BOTTOM (1.5-2.5 Thread Lead) or SET OF 3.

Discount Group	10	Surface Treatment	Bright
Material	HSS	Tolerance	Class 2 Medium
Standard	ISO529	Type	STF
Packing Unit	All Sizes Packed in 1's, Sets packed in a Handy Plastic Set Box.		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
1/16" x 60 BSW	41.0	8.0	2.5	2.0	4.0	1.15	Let. X M2 - M6 Bar Type 69823X
3/32" x 48 BSW	44.5	9.5	2.8	2.24	5	1.85	
1/8" x 40 BSW	48.0	16.0	3.15	2.5	5.0	2.55	101 M3 - M12 Adj. 69843101
5/32 x 32 BSW	53.0	13.0	4.0	3.15	6.0	3.1	
3/16" x 24 BSW	58.0	16.0	5.0	4.0	7.0	3.7	
7/32 x 24 BSW	62.0	17.0	5.6	4.5	7.0	4.4	
1/4" x 20 BSW	66.0	19.0	6.3	5.0	8.0	5.1	
5/16 x 18 BSW	72.0	22.0	8.0	6.3	9.0	6.5	
3/8 x 16 BSW	80.0	24.0	10.0	8.0	11.0	7.9	
7/16 x 14 BSW	85.0	25.0	8.0	6.3	9.0	9.3	
1/2" x 12 BSW	89.0	29.0	9.0	7.1	10.0	10.5	
9/16 x 12 BSW	95.0	30.0	11.2	9.0	12.0	12.1	102 M5 - M20 Adj. 69843102
5/8 x 11 BSW	102.0	32.0	12.5	10.0	13.0	13.5	
3/4 x 10 BSW	112.0	37.0	14.0	11.2	14.0	16.25	
7/8 x 9 BSW	118.0	38.0	16.0	12.5	16.0	19.25	103 M9 - M27 Adj. 69843103
1" x 8 BSW	130.0	45.0	18.0	14.0	18.0	22.0	
1.1/8" x 7 BSW	138.0	48.0	20.0	16.0	20.0	24.75	
1.1/4" x 7 BSW	151.0	51.0	22.4	18.0	22.0	28.0	104 M18 - M42 Adj. 69843104
1.3/8" x 6 BSW	162.0	57.0	25.0	20.0	24.0	30.5	
1.1/2" x 6 BSW	170.0	60.0	28.0	22.4	26.0	33.5	
1.3/4" x 5 BSW	187.0	67.0	31.5	25.0	28.0	39.0	105 M24 - M60 Adj. 69843105
2" x 4.1/2 BSW	200.0	70.0	35.5	28.0	31.0	44.5	
2.1/4" x 4 BSW	221.0	76.0	40.0	31.5	34.0	51.0	
2.1/2" x 4 BSW	224.0	79.0	40.0	31.5	34.0	57.0	

THREADING

60310

HSS Short Machine Tap BSW Spiral Point ISO 529



Spiral point Machine tap with straight flutes for working in steel up to 750 N/mm². Swarf is forced forward in the direction of the cut.

Discount Group	10	Surface Treatment	Steam
Material	HSS	Tolerance	Class 2 Medium
Standard	ISO529	Type	SpPt
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
1/8" x 40 BSW	48.0	16.0	3.15	2.5	5.0	2.55	101 M3 - M12 Adj. 69843101
5/32" x 32 BSW	53.0	13.0	4.0	3.15	6.0	3.1	
3/16" x 24 BSW	58.0	16.0	5.0	4.0	7.0	3.7	
1/4" x 20 BSW	66.0	19.0	6.3	5.0	8.0	5.1	
5/16" x 18 BSW	72.0	22.0	8.0	6.3	9.0	6.5	
3/8" x 16 BSW	80.0	24.0	10.0	8.0	11.0	7.9	
7/16" x 14 BSW	85.0	25.0	8.0	6.3	9.0	9.3	
1/2" x 12 BSW	89.0	29.0	9.0	7.1	10.0	10.5	
9/16" x 12 BSW	95.0	30.0	11.2	9.0	12.0	12.1	102 M5 - M20 Adj. 69843102
5/8" x 11 BSW	102.0	32.0	12.5	10.0	13.0	13.5	
3/4" x 10 BSW	112.0	37.0	14.0	11.2	14.0	16.25	
7/8" x 9 BSW	118.0	38.0	16.0	12.5	16.0	19.25	103 M9 - M27 Adj. 69843103
1" x 8 BSW	130.0	45.0	18.0	14.0	18.0	22.0	

THREADING

60320

HSS Short Machine Tap BSW Spiral Flute ISO 529



Machine tap with 40°-spiral flute. Short chamfer permits work on steel up to 750 N/mm². and Aluminium alloys with more than 0.5% Si.

Discount Group	10	Surface Treatment	Bright
Material	HSS	Tolerance	Class 2 Medium
Standard	ISO529	Type	SpFI
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
1/8" x 40 BSW	48.0	16.0	3.15	2.5	5.0	2.55	101 M3 - M12 Adj. 69843101
3/16" x 24 BSW	58.0	16.0	5.0	4.0	7.0	3.7	
1/4" x 20 BSW	66.0	19.0	6.3	5.0	8.0	5.1	
5/16 x 18 BSW	72.0	22.0	8.0	6.3	9.0	6.5	
3/8 x 16 BSW	80.0	24.0	10.0	8.0	11.0	7.9	
7/16 x 14 BSW	85.0	25.0	8.0	6.3	9.0	9.3	
1/2" x 12 BSW	89.0	29.0	9.0	7.1	10.0	10.5	
9/16 x 12 BSW	95.0	30.0	11.2	9.0	12.0	12.1	102 M5 - M20 Adj. 69843102
5/8 x 11 BSW	102.0	32.0	12.5	10.0	13.0	13.5	
3/4 x 10 BSW	112.0	37.0	14.0	11.2	14.0	16.25	
7/8 x 9 BSW	118.0	38.0	16.0	12.5	16.0	19.25	103 M9 - M27 Adj. 69843103
1" x 8 BSW	130.0	45.0	18.0	14.0	18.0	22.0	

THREADING

60400

HSS Short Machine Tap BSF ISO 529



Straight Flute full size taps used as Machine taps or sets of 3 as Hand taps. Used for tapping in free cutting Steel up to 800N/mm². The perfect form thread is generated by a combination of effective pitch diameter, major diameter and chamfer length. Order as TAPER (8-10 Thread Lead), SECOND (4-5 Thread Lead), BOTTOM (1.5-2.5 Thread Lead) or SET OF 3.

Discount Group	10	Surface Treatment	Bright
Material	HSS	Tolerance	Class 2 Medium
Standard	ISO529	Type	STF
Packing Unit	All Sizes Packed in 1's, Sets packed in a Handy Plastic Set Box.		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
3/16" x 32 BSF	58.0	16.0	5.0	4.0	7.0	4.0	101 M3 - M12 Adj. 69843101
1/4" x 26 BSF	66.0	19.0	6.3	5.0	8.0	5.3	
5/16 x 22 BSF	72.0	22.0	8.0	6.3	9.0	6.8	
3/8 x 20 BSF	80.0	24.0	10.0	8.0	11.0	8.3	
7/16 x 18 BSF	85.0	25.0	8.0	6.3	9.0	9.7	
1/2" x 16 BSF	89.0	29.0	9.0	7.1	10.0	11.1	
9/16 x 16 BSF	95.0	30.0	11.2	9.0	12.0	12.7	102 M5 - M20 Adj. 69843102
5/8 x 14 BSF	102.0	32.0	12.5	10.0	13.0	14.0	
3/4 x 12 BSF	112.0	37.0	14.0	11.2	14.0	16.75	
7/8 x 11 BSF	118.0	38.0	16.0	12.5	16.0	19.75	103 M9 - M27 Adj. 69843103
1" x 10 BSF	130.0	45.0	18.0	14.0	18.0	22.75	
1.1/8" x 9 BSF	138.0	48.0	20.0	16.0	20.0	25.5	
1.1/4" x 9 BSF	151.0	51.0	22.4	18.0	22.0	28.5	104 M18 - M42 Adj. 69843104
1.3/8" x 8 BSF	162.0	57.0	25.0	20.0	24.0	31.5	
1.1/2" x 8 BSF	170.0	60.0	28.0	22.4	26.0	34.5	
1.3/4" x 7 BSF	187.0	67.0	31.5	25.0	28.0	41.0	105 M24 - M60 Adj. 69843105
2" x 7 BSF	200.0	70.0	35.5	28.0	31.0	47.0	
2.1/4" x 6 BSF	221.0	76.0	40.0	31.5	34.0	53.0	
2.1/2" x 6 BSF	224.0	79.0	40.0	31.5	34.0	58.0	

THREADING

60420

HSS Short Machine Tap BSF Spiral Flute ISO 529



Machine tap with 40°-spiral flute. Short chamfer permits work on steel up to 750 N/mm². and Aluminium alloys with more than 0.5% Si.

Discount Group	10	Surface Treatment	Bright
Material	HSS	Tolerance	Class 2 Medium
Standard	ISO529	Type	SpFI
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
3/16" x 32 BSF	58.0	16.0	5.0	4.0	7.0	4.0	101 M3 - M12 Adj. 69843101
1/4" x 26 BSF	66.0	19.0	6.3	5.0	8.0	5.3	
5/16 x 22 BSF	72.0	22.0	8.0	6.3	9.0	6.8	
3/8 x 20 BSF	80.0	24.0	10.0	8.0	11.0	8.3	
7/16 x 18 BSF	85.0	25.0	8.0	6.3	9.0	9.7	
1/2" x 16 BSF	89.0	29.0	9.0	7.1	10.0	11.1	
5/8 x 14 BSF	102.0	32.0	12.5	10.0	13.0	14.0	102 M5 - M20 Adj. 69843102
3/4 x 12 BSF	112.0	37.0	14.0	11.2	14.0	16.75	
7/8 x 11 BSF	118.0	38.0	16.0	12.5	16.0	19.75	103 M9 - M27 Adj. 69843103
1" x 10 BSF	130.0	45.0	18.0	14.0	18.0	22.75	

THREADING

60500

HSS Short Machine Tap BA ISO 529



Straight Flute full size taps used as Machine taps or sets of 3 as Hand taps. Used for tapping in free cutting Steel up to 800N/mm². The perfect form thread is generated by a combination of effective pitch diameter, major diameter and chamfer length. Order as TAPER (8-10 Thread Lead), SECOND (4-5 Thread Lead), BOTTOM (1.5-2.5 Thread Lead) or SET OF 3.

Discount Group	10	Surface Treatment	Bright
Material	HSS	Tolerance	Class 2
Standard	ISO529	Type	STF
Packing Unit	All Sizes Packed in 1's, Sets packed in a Handy Plastic Set Box.		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
No.12 x 0.28 BA	40.0	7.0	2.5	2.0	4.0	1.05	Let. X M2 - M6 Bar Type 69823X
No.10 x 0.35 BA	41.0	8.0	2.5	2.0	4.0	1.4	
No.9 x 0.39 BA	41.0	8.0	2.5	2.0	4.0	1.55	
No.8 x 0.43 BA	44.5	9.5	2.8	2.24	5.0	1.8	
No.7 x 0.48 BA	44.5	9.5	2.8	2.24	5.0	2.05	
No.6 x 0.53 BA	44.5	9.5	2.8	2.24	5.0	2.3	
No.5 x 0.59 BA	48.0	16.0	3.15	2.5	5.0	2.65	101 M3 - M12 Adj. 69843101
No.4 x 0.66 BA	50.0	19.0	3.55	2.8	5.0	3.0	
No.3 x 0.73 BA	53.0	13.0	4.5	3.55	6.0	3.4	
No.2 x 0.81 BA	58.0	16.0	5.0	4.0	7.0	4.0	
No.1 x 0.90 BA	62.0	17.0	5.6	4.5	7.0	4.5	
No.0 x 1.00 BA	66.0	19.0	6.3	5.0	8.0	5.1	

THREADING

60600

HSS Short Machine Tap BSPF (G) ISO 2284



Straight Flute full size taps used as Machine taps or sets of 3 as Hand taps. Used for tapping in free cutting Steel up to 800N/mm². The perfect form thread is generated by a combination of effective pitch diameter, major diameter and chamfer length. Order as TAPER (8-10 Thread Lead), SECOND (4-5 Thread Lead), BOTTOM (1.5-2.5 Thread Lead) or SET OF 3.

Discount Group	11	Surface Treatment	Bright
Material	HSS	Tolerance	Normal
Standard	ISO2284	Type	STF
Packing Unit	All Sizes Packed in 1's, Sets packed in a Handy Plastic Set Box.		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
1/8" x 28 BSP	59.0	15.0	8.0	6.3	9.0	8.8	101 M3 - M12 Adj. 69843101
1/4" x 19 BSP	67.0	19.0	10.0	8.0	11.0	11.8	
3/8 x 19 BSP	75.0	21.0	12.5	10.0	13.0	15.25	102 M5 - M20 Adj. 69843102
1/2" x 14 BSP	87.0	26.0	16.0	12.5	16.0	19.0	103 M9 - M27 Adj. 69843103
5/8x 14 BSP	91.0	26.0	18.0	14.0	18.0	21.0	
3/4 x 14 BSP	96.0	28.0	20.0	16.0	20.0	24.5	
7/8 x 14 BSP	102.0	29.0	22.4	18.0	22.0	28.25	104 M18 - M42 Adj. 69843104
1" x 11 BSP	109.0	33.0	25.0	20.0	24.0	30.75	
1.1/4" x 11 BSP	119.0	36.0	31.5	25.0	28.0	39.5	105 M24 - M60 Adj. 69843105
1.1/2" x 11 BSP	125.0	37.0	35.5	28.0	31.0	45.0	
1.3/4" x 11 BSP	132.0	39.0	35.5	28.0	31.0	51.0	
2" x 11 BSP	140.0	41.0	40.0	31.5	34.0	57.0	
2.1/4" x 11 BSP	142.0	42.0	40.0	31.5	34.0	62.75	
2.1/2" x 11 BSP	153.0	45.0	45.0	35.5	38.0	72.5	

THREADING

60610

HSS Short Machine Tap BSPF (G) Spiral Point ISO 2284



Spiral point Machine tap with straight flutes for working in steel up to 750 N/mm². Swarf is forced forward in the direction of the cut.

Discount Group	11	Surface Treatment	Steam
Material	HSS	Tolerance	Normal
Standard	ISO2284	Type	SpPt
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
1/8" x 28 BSP	59.0	15.0	8.0	6.3	9.0	8.8	101 M3 - M12 Adj. 69843101
1/4" x 19 BSP	67.0	19.0	10.0	8.0	11.0	11.8	
3/8" x 19 BSP	75.0	21.0	12.5	10.0	13.0	15.25	102 M5 - M20 Adj. 69843102
1/2" x 14 BSP	87.0	26.0	16.0	12.5	16.0	19.0	103 M9 - M27 Adj. 69843103
5/8" x 14 BSP	91.0	26.0	18.0	14.0	18.0	21.0	
3/4" x 14 BSP	96.0	28.0	20.0	16.0	20.0	24.5	

60620

HSS Short Machine Tap BSPF(G) Spiral Flute ISO 2284



Machine tap with 40°-spiral flute. Short chamfer permits work on steel up to 750 N/mm². and Aluminium alloys with more than 0.5% Si.

Discount Group	11	Surface Treatment	Bright
Material	HSS	Tolerance	Normal
Standard	ISO2284	Type	SpFI
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
1/8" x 28 BSP	59.0	15.0	8.0	6.3	9.0	8.8	101 M3 - M12 Adj. 69843101
1/4" x 19 BSP	67.0	19.0	10.0	8.0	11.0	11.8	
3/8" x 19 BSP	75.0	21.0	12.5	10.0	13.0	15.25	102 M5 - M20 Adj. 69843102
1/2" x 14 BSP	87.0	26.0	16.0	12.5	16.0	19.0	103 M9 - M27 Adj. 69843103
5/8" x 14 BSP	91.0	26.0	18.0	14.0	18.0	21.0	
3/4" x 14 BSP	96.0	28.0	20.0	16.0	20.0	24.5	

THREADING

60680

HSS Short Machine Tap BSPT (Rc) ISO 2284



Tapered 1:8 Straight Flute Machine Tap with short chamfer (2-3 threads) for through and blind holes in free cutting materials up to 850 N/mm². Order as TAPER (8-10 Thread Lead), SECOND (4-5 Thread Lead), BOTTOM (1.5-2.5 Thread Lead) or SET OF 3. We strongly recommend the use of a reamer for BSPT threads.

Discount Group	11	Surface Treatment	Bright
Material	HSS	Tolerance	Normal
Standard	ISO2284	Type	STF
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
1/8" x 28 BSPT	59.0	15.0	8.0	6.3	9.0	8.4	101 M3 - M12 Adj. 69843101
1/4" x 19 BSPT	67.0	19.0	10.0	8.0	11.0	11.2	
3/8" x 19 BSPT	75.0	21.0	12.5	10.0	13.0	14.75	102 M5 - M20 Adj. 69843102
1/2" x 14 BSPT	87.0	26.0	16.0	12.5	16.0	18.25	103 M9 - M27 Adj. 69843103
3/4" x 14 BSPT	96.0	28.0	20.0	16.0	20.0	23.75	
1" x 11 BSPT	109.0	33.0	25.0	20.0	24.0	30.0	104 M18 - M42 Adj. 69843104
1.1/4" x 11 BSPT	119.0	36.0	31.5	25.0	28.0	38.5	105 M24 - M60 Adj. 69843105
1.1/2" x 11 BSPT	125.0	37.0	35.5	28.0	31.0	44.5	
2" x 11 BSPT	140.0	41.0	40.0	31.5	34.0	56.0	

THREADING

60750

HSS NPT Pipe Tap

ANSI 94.9 1971



Tapered 1:8 Straight Flute Machine Tap with short chamfer (2-3 threads) for through and blind holes in free cutting materials up to 850 N/mm². Order as TAPER (8-10 Thread Lead), SECOND (4-5 Thread Lead), BOTTOM (1.5-2.5 Thread Lead) or SET OF 3. We strongly recommend the use of a reamer for BSPT threads.

Discount Group	11	Surface Treatment	Bright
Material	HSS	Tolerance	Normal
Standard	ANSI 94.9	Type	TP
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
1/16" x 27 NPT	54.0	17.5	7.9248	6.3	9.0	6.3	101 M3 - M12 Adj. 69843101
1/8" x 27 NPT	54.0	19.0	11.0998	9.0	12.0	8.7	102 M5 - M20 Adj. 69843102
1/4" x 18 NPT	62.0	27.0	14.2748	11.2	14.0	11.1	
3/8" x 18 NPT	65.0	27.0	17.78	14.0	18.0	14.5	103 M9 - M27 Adj. 69843103
1/2" x 14 NPT	79.5	35.0	17.4498	14.0	18.0	18.0	
3/4" x 14 NPT	82.5	35.0	23.0124	18.0	22.0	23.25	104 M18 - M42 Adj. 69843104
1" x 11.1/2 NPT	95.0	44.5	28.575	22.4	26.0	29.0	
1.1/4" x 11.1/2 NPT	102.0	44.5	33.3248	25.0	28.0	38.0	105 M24 - M60 Adj. 69843105
1.1/2" x 11.1/2 NPT	108.0	44.5	38.1	31.5	34.0	44.0	
2" x 11.1/2 NPT	114.0	44.5	47.625	40.0	42.0	56.0	

THREADING

60760

HSS NPTF

Dryseal Bottom Pipe Tap

ANSI 94.9 1971



Tapered 1:16 Straight Flute Machine Tap with short chamfer (2-3 threads) for through and blind holes in free cutting materials up to 850 N/mm². Has a tighter tolerance than 60750 for gas seals. Order as BOTTOM (1.5-2.5 Thread Lead) only.

Discount Group	11	Surface Treatment	Bright
Material	HSS	Tolerance	Normal
Standard	ANSI 94.9	Type	TP
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
1/8" x 27 NPTF	54.0	19.0	11.0998	9.0	12.0	8.7	102 M5 - M20 Adj. 69843102
1/4" x 18 NPTF	62.0	27.0	14.2748	11.2	14.0	11.1	
3/8" x 18 NPTF	65.0	27.0	17.78	14.0	18.0	14.5	103 M9 - M27 Adj. 69843103
1/2" x 14 NPTF	79.5	35.0	17.4498	14.0	18.0	18.0	
3/4" x 14 NPTF	82.5	35.0	23.0124	18.0	22.0	23.25	104 M18 - M42 Adj. 69843104
1" x 11.1/2 NPTF	95.0	44.5	28.575	22.4	26.0	29.0	
1.1/4" x 11.1/2 NPTF	102.0	44.5	33.3248	25.0	28.0	38.0	105 M24 - M60 Adj. 69843105

THREADING

69000

HSS Fluteless Roll Tap Metric Coarse ISO529



Fluteless tap with a 2-4 thread lead. For roll tapping in materials with an elasticity of over 10% up to 900 N/mm². Special attention is required to obtain the correct core hole size.

Discount Group	11	Surface Treatment	Bright
Material	HSS	Tolerance	6HX
Standard	ISO529	Type	Form
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M2 x 0.4	41.0	8.0	2.5	2.0	4.0	1.8	Let. X M2 - M6 Bar Type 69823X
M2.50 x 0.45	44.5	9.5	2.8	2.24	5.0	2.3	
M3 x 0.5	48.0	16.0	3.15	2.5	5.0	2.8	101 M3 - M12 Adj. 69843101
M3.50 x 0.6	50.0	19.0	3.55	2.8	5.0	3.2	
M4 x 0.7	53.0	13.0	4.0	3.15	6.0	3.7	
M5 x 0.8	58.0	16.0	5.0	4.0	7.0	4.6	
M6 x 1.0	66.0	19.0	6.3	5.0	8.0	5.6	
M8 x 1.25	72.0	22.0	8.0	6.3	9.0	7.4	
M10 x 1.5	80.0	24.0	10.0	8.0	11.0	9.3	
M12 x 1.75	89.0	29.0	9.0	7.1	10.0	11.2	

THREADING

69010

HSS Fluteless Roll Tap UNC ISO529



Fluteless tap with a 2-4 thread lead. For roll tapping in materials with an elasticity of over 10% up to 900 N/mm². Special attention is required to obtain the correct core hole size.

Discount Group	11	Surface Treatment	Bright
Material	HSS	Tolerance	6HX
Standard	ISO529	Type	Form
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
No.2 UNC	44.5	9.5	2.8	2.24	5.0	1.95	Let. X M2 - M6 Bar Type 69823X
No.4 UNC	48.0	16.0	3.15	2.5	5.0	2.55	101 M3 - M12 Adj. 69843101
No.5 UNC	48.0	16.0	3.15	2.5	5.0	2.85	
No.6 UNC	50.0	19.0	3.55	2.8	5.0	3.1	
No.8 UNC	53.0	13.0	4.5	3.55	6.0	3.8	
No.10 UNC	58.0	16.0	5.0	4.0	7.0	4.3	
1/4" UNC	66.0	19.0	6.3	5.0	8.0	5.8	
5/16" UNC	72.0	22.0	8.0	6.3	9.0	7.3	
3/8" UNC	80.0	24.0	10.0	8.0	11.0	8.8	
1/2" UNC	89.0	29.0	9.0	7.1	10.0	11.9	

THREADING

69030

HSS Fluteless Roll Tap BSW ISO529



Fluteless tap with a 2-4 thread lead. For roll tapping in materials with an elasticity of over 10% up to 900 N/mm². Special attention is required to obtain the correct core hole size.

Discount Group	11	Surface Treatment	Bright
Material	HSS	Tolerance	6HX
Standard	ISO529	Type	Form
Packing Unit	All Sizes Packed in 1's		

Thread Details	O/all Length	Thread Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
1/4" BSW	66.0	19.0	6.3	5.0	8.0	5.7	101 M3 - M12 Adj. 69843101
3/8" BSW	80.0	24.0	10.0	8.0	11.0	8.7	

THREADING

64100

HSS Circular Split Die

M BS1127



Used for cutting external threads (with a 1.5 thread lead) - either by machine, or by hand when used in a die stock. Adjustment is facilitated via the split.

Discount Group	13
Material	HSS
Standard	BS1127(1950)
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Tolerance	6g
Type	SPLIT

Thread Ø x Pitch	Dec Inch Ø
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Outside Ø 13/16" Width 1/4"
DIESTOCK 69403 - 1316

M1.2 x 0.25	0.0472
M1.4 x 0.3	0.0551
M1.6 x 0.35	0.0629
M2 x 0.4	0.0787
M2.2 x 0.45	0.0866
M2.5 x 0.45	0.0984
M3 x 0.5	0.1181
M3.5 x 0.6	0.1377
M4 x 0.7	0.1574
M4.5 x 0.75	0.1771
M5 x 0.8	0.1968
M6 x 1.0	0.2362
M7 x 1.0	0.2755

Outside Ø 1" Width 3/8"
DIESTOCK 694031 -

M6 x 1.0	0.2362
M7 x 1.0	0.2755
M8 x 1.25	0.3149
M9 x 1.25	0.3543
M10 x 1.5	0.3937

Outside Ø 1.5/16" Width 7/16"
DIESTOCK 694031 - 516

M6 x 1.0	0.2362
M7 x 1.0	0.2755
M8 x 1.25	0.3149
M9 x 1.25	0.3543
M10 x 1.5	0.3937
M11 x 1.5	0.4330
M12 x 1.75	0.4724
M14 x 2.0	0.5511

Thread Ø x Pitch	Dec Inch Ø
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Outside Ø 1.1/2" Width 1/2"
DIESTOCK 694031 - 12

M10 x 1.5	0.3937
M11 x 1.5	0.4330
M12 x 1.75	0.4724
M14 x 2.0	0.5511
M16 x 2.0	0.6299
M18 x 2.5	0.7086
M20 x 2.5	0.7874

Outside Ø 2" Width 5/8"
DIESTOCK 694032 -

M12 x 1.75	0.4724
M14 x 2.0	0.5511
M16 x 2.0	0.6299
M18 x 2.5	0.7086
M20 x 2.5	0.7874
M22 x 2.5	0.8661
M24 x 3.0	0.9448

Outside Ø 3" Width 7/8"
DIESTOCK 694033 -

M24 x 3.0	0.9448
M27 x 3.0	1.0000
M33 x 3.5	1.0000
M39 x 4.0	1.0000
M30 x 3.5	1.1811
M36 x 4.0	1.4173

THREADING

64110

HSS Circular Split Die

MF BS1127



Used for cutting external threads (with a 1.5 thread lead) - either by machine, or by hand when used in a die stock. Adjustment is facilitated via the split.

Discount Group	13
Material	HSS
Standard	BS1127(1950)
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Tolerance	6g
Type	SPLIT

Thread Ø x Pitch	Dec Inch Ø
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Outside Ø 13/16" Width 1/4"
DIESTOCK 69403 - 1316

M3 x 0.35	0.1181
M4 x 0.5	0.1574
M4.5 x 0.5	0.1574
M5 x 0.5	0.1968
M6 x 0.75	0.2362

Outside Ø 1" Width 3/8"
DIESTOCK 694031 -

M7 x 0.75	0.2755
M8 x 0.75	0.3149
M8 x 1.0	0.3149
M9 x 1.0	0.3543
M10 x 0.75	0.3937
M10 x 1.0	0.3937
M10 x 1.25	0.3937

Outside Ø 1.5/16" Width 7/16"
DIESTOCK 694031 - 516

M12 x 1.0	0.4724
M12 x 1.25	0.4724
M12 x 1.5	0.4724
M14 x 1.25	0.5511

Thread Ø x Pitch	Dec Inch Ø
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Outside Ø 1.1/2" Width 1/2"
DIESTOCK 694031 - 12

M14 x 1.25	0.5511
M14 x 1.5	0.5511
M16 x 1.0	0.6299
M16 x 1.5	0.6299
M18 x 1.5	0.7086
M20 x 1.0	0.7874
M20 x 2.0	0.7874

Outside Ø 2" Width 5/8"
DIESTOCK 694032 -

M20 x 1.5	0.7874
M22 x 1.5	0.8661
M24 x 1.5	0.9448
M24 x 2.0	0.9448
M25 x 1.5	0.9842

Outside Ø 3" Width 7/8"
DIESTOCK 694033 -

M27 x 2.0	1.0000
M30 x 2.0	1.1811
M32 x 1.5	1.2598

THREADING

64120

HSS Circular Split Die UNC BS1127



Used for cutting external threads (with a 1.5 thread lead) - either by machine, or by hand when used in a die stock. Adjustment is facilitated via the split.

Discount Group	13
Material	HSS
Standard	BS1127(1950)
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Tolerance	2A
Type	SPLIT

Thread Ø x Pitch	Dec Inch Ø
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Outside Ø 13/16" Width 1/4"
DIESTOCK 69403 - 1316

No.1 x 64 UNC	0.0730
No.2 x 56 UNC	0.0860
No.3 x 48 UNC	0.0990
No.4 x 40 UNC	0.1120
No.5 x 40 UNC	0.1250
No.6 x 32 UNC	0.1380
No.8 x 32 UNC	0.1640
No.10 x 24 UNC	0.1900
No.12 x 24 UNC	0.2160
1/4" x 20 UNC	0.2500

Outside Ø 1" Width 3/8"
DIESTOCK 694031 -

1/4" x 20 UNC	0.2500
5/16" x 18 UNC	0.3125
3/8" x 16 UNC	0.3750

Outside Ø 1.5/16" Width 7/16"
DIESTOCK 694031 - 516

1/4" x 20 UNC	0.2500
5/16" x 18 UNC	0.3125
3/8" x 16 UNC	0.3750
7/16" x 14 UNC	0.4375
1/2" x 13 UNC	0.5000
9/16" x 12 UNC	0.5625

Thread Ø x Pitch	Dec Inch Ø
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Outside Ø 1.1/2" Width 1/2"
DIESTOCK 694031 - 12

3/8" x 16 UNC	0.3750
7/16" x 14 UNC	0.4375
1/2" x 13 UNC	0.5000
9/16" x 12 UNC	0.5625
5/8" x 11 UNC	0.6250
3/4" x 10 UNC	0.7500

Outside Ø 2" Width 5/8"
DIESTOCK 694032 -

1/2" x 13 UNC	0.4724
9/16" x 12 UNC	0.5511
5/8" x 11 UNC	0.6299
3/4" x 10 UNC	0.7086
7/8" x 9 UNC	0.7874
1" x 8 UNC	0.8661

Outside Ø 3" Width 7/8"
DIESTOCK 694033 -

1" x 8 UNC	1.0000
1.1/8" x 7 UNC	1.1250
1.1/4" x 7 UNC	1.2500
1.3/8" x 6 UNC	1.3750
1.1/2" x 6 UNC	1.5000

THREADING

64130

HSS Circular Split Die UNF BS1127



Used for cutting external threads (with a 1.5 thread lead) - either by machine, or by hand when used in a die stock. Adjustment is facilitated via the split.

Discount Group	13
Material	HSS
Standard	BS1127(1950)
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Tolerance	2A
Type	SPLIT

Thread Ø x Pitch	Dec Inch Ø
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Outside Ø **13/16"** Width **1/4"**
DIESTOCK 69403 - 1316

No.1 x 64 UNC	0.0730
No.2 x 56 UNC	0.0860
No.3 x 48 UNC	0.0990
No.4 x 40 UNC	0.1120
No.5 x 40 UNC	0.1250
No.6 x 32 UNC	0.1380
No.8 x 32 UNC	0.1640
No.10 x 24 UNC	0.1900
No.12 x 24 UNC	0.2160
1/4" x 20 UNC	0.2500
1/4" x 28 UNF	0.2500

Outside Ø **1"** Width **3/8"**
DIESTOCK 694031 -

1/4" x 28 UNF	0.2500
5/16" x 24 UNF	0.3125
3/8" x 24 UNF	0.3750

Outside Ø **1.5/16"** Width **7/16"**
DIESTOCK 694031 - 516

1/4" x 28 UNF	0.2500
5/16" x 24 UNF	0.3125
3/8" x 24 UNF	0.3750
7/16" x 20 UNF	0.4375
1/2" x 20 UNF	0.5000
9/16" x 18 UNF	0.5625

Thread Ø x Pitch	Dec Inch Ø
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Outside Ø **1.1/2"** Width **1/2"**
DIESTOCK 694031 - 12

3/8" x 24 UNF	0.3750
7/16" x 20 UNF	0.4375
1/2" x 20 UNF	0.5000
9/16" x 18 UNF	0.5625
5/8" x 18 UNF	0.6250
3/4" x 16 UNF	0.7500

Outside Ø **2"** Width **5/8"**
DIESTOCK 694032 -

1/2" x 20 UNF	0.5000
9/16" x 18 UNF	0.5625
5/8" x 18 UNF	0.6250
3/4" x 16 UNF	0.7500
7/8" x 14 UNF	0.8750
1" x 12 UNF	1.0000

Outside Ø **3"** Width **7/8"**
DIESTOCK 694033 -

1" x 12 UNF	1.0000
1.1/8" x 12 UNF	1.1250
1.1/4" x 12 UNF	1.2500
1.3/8" x 12 UNF	1.3750
1.1/2" x 12 UNF	1.5000

THREADING

64140

HSS Circular Split Die BSW BS1127



Used for cutting external threads (with a 1.5 thread lead) - either by machine, or by hand when used in a die stock. Adjustment is facilitated via the split.

Discount Group	13
Material	HSS
Standard	BS1127(1950)
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Tolerance	2A
Type	SPLIT

Thread Ø x Pitch	Dec Inch Ø
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Outside Ø 13/16" Width 1/4"
DIESTOCK 69403 - 1316

1/16" x 60 BSW	0.0625
3/32" x 48 BSW	0.0937
1/8" x 40 BSW	0.1250
5/32" x 32 BSW	0.1562
3/16" x 24 BSW	0.1875
7/32" x 24 BSW	0.2187
1/4" x 20 BSW	0.2500
No.8 x 36 UNF	0.1640
No.10 x 32 UNF	0.1900
No.12 x 28 UNF	0.2160
1/4" x 28 UNF	0.2500

Outside Ø 1" Width 3/8"
DIESTOCK 694031 -

3/16" x 24 BSW	0.1875
1/4" x 20 BSW	0.2500
5/16" x 18 BSW	0.3125
3/8" x 16 BSW	0.3750

Outside Ø 1.5/16" Width 7/16"
DIESTOCK 694031 - 516

1/4" x 20 BSW	0.2500
5/16" x 18 BSW	0.3125
3/8" x 16 BSW	0.3750
7/16" x 14 BSW	0.4375
1/2" x 12 BSW	0.5000
9/16" x 12 BSW	0.5625

Thread Ø x Pitch	Dec Inch Ø
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Outside Ø 1.1/2" Width 1/2"
DIESTOCK 694031 - 12

1/4" x 20 BSW	0.2500
5/16" x 18 BSW	0.3125
3/8" x 16 BSW	0.3750
7/16" x 14 BSW	0.4375
1/2" x 12 BSW	0.5000
9/16" x 12 BSW	0.5625
5/8" x 11 BSW	0.6250
3/4" x 10 BSW	0.7500

Outside Ø 2" Width 5/8"
DIESTOCK 694032 -

1/2" x 12 BSW	0.5000
9/16" x 12 BSW	0.5625
5/8" x 11 BSW	0.6250
11/16" x 11 BSW	0.6875
3/4" x 10 BSW	0.7500
7/8" x 9 BSW	0.8750
1" x 8 BSW	1.0000

Outside Ø 3" Width 7/8"
DIESTOCK 694033 -

1" x 8 BSW	1.0000
1.1/8" x 7 BSW	1.1250
1.1/4" x 7 BSW	1.2500
1.3/8" x 6 BSW	1.3750
1.1/2" x 6 BSW	1.5000

THREADING

64150

HSS Circular Split Die

BSF BS1127



Used for cutting external threads (with a 1.5 thread lead) - either by machine, or by hand when used in a die stock. Adjustment is facilitated via the split.

Discount Group	13
Material	HSS
Standard	BS1127(1950)
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Tolerance	2A
Type	SPLIT

Thread Ø x Pitch	Dec Inch Ø
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Outside Ø 13/16" Width 1/4" DIESTOCK 69403 - 1316

3/16" x 32 BSF	0.1875
1/4" x 26 BSF	0.2500

Outside Ø 1" Width 3/8" DIESTOCK 694031 -

3/16" x 32 BSF	0.1875
1/4" x 26 BSF	0.2500
5/16" x 22 BSF	0.3125
3/8" x 20 BSF	0.3750

Outside Ø 1.5/16" Width 7/16" DIESTOCK 694031 - 516

1/4" x 26 BSF	0.2500
5/16" x 22 BSF	0.3125
3/8" x 20 BSF	0.3750
7/16" x 18 BSF	0.4375
1/2" x 16 BSF	0.5000
9/16" x 16 BSF	0.5625

Thread Ø x Pitch	Dec Inch Ø
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Outside Ø 1.1/2" Width 1/2" DIESTOCK 694031 - 12

5/16" x 22 BSF	0.3125
3/8" x 20 BSF	0.3750
7/16" x 18 BSF	0.4375
1/2" x 16 BSF	0.5000
9/16" x 16 BSF	0.5625
5/8" x 14 BSF	0.6250
3/4" x 12 BSF	0.7500

Outside Ø 2" Width 5/8" DIESTOCK 694032 -

1/2" x 16 BSF	0.5000
9/16" x 16 BSF	0.5625
5/8" x 14 BSF	0.6250
3/4" x 12 BSF	0.7500
7/8" x 11 BSF	0.8750
1" x 10 BSF	1.0000

Outside Ø 3" Width 7/8" DIESTOCK 694033 -

1" x 10 BSF	1.0000
1.1/8" x 9 BSF	1.1250
1.1/4" x 9 BSF	1.2500
1.3/8" x 8 BSF	1.3750
1.1/2" x 8 BSF	1.5000

THREADING

64160

HSS Circular Split Die G(BSPF) BS1127



Used for cutting external threads (with a 1.5 thread lead) - either by machine, or by hand when used in a die stock. Adjustment is facilitated via the split.

Bright	13
2A	HSS
SPLIT	BS1127(1950)
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Tolerance	2A
Type	SPLIT

Thread Ø x Pitch	Dec Inch Ø
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Outside Ø 1" Width 3/8"
DIESTOCK 694031 -

1/8" x 28 BSP	0.3829
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Outside Ø 1.5/16" Width 7/16"
DIESTOCK 694031 - 516

1/8" x 28 BSP	0.3829
1/4" x 19 BSP	0.5179

Outside Ø 1.1/2" Width 1/2"
DIESTOCK 694031 - 12

1/8" x 28 BSP	0.3829
1/4" x 19 BSP	0.5179
3/8" x 19 BSP	0.6559

Outside Ø 2" Width 5/8"
DIESTOCK 694032 -

1/4" x 19 BSP	0.5179
3/8" x 19 BSP	0.6559
1/2" x 14 BSP	0.8250
5/8" x 14 BSP	0.9020
3/4" x 14 BSP	1.0409

Thread Ø x Pitch	Dec Inch Ø
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Outside Ø 2.1/4" Width 11/16"
DIESTOCK 694032 - 14

1/2" x 14 BSP	0.8250
3/4" x 14 BSP	1.0409
7/8" x 14 BSP	1.1890
1" x 11 BSP	1.3090

Outside Ø 3" Width 7/8"
DIESTOCK 694033 -

3/4" x 14 BSP	1.0409
7/8" x 14 BSP	1.1890
1" x 11 BSP	1.3090
1.1/4" x 11 BSP	1.6500

Outside Ø 4" Width 1"
DIESTOCK 694034 -

1" x 11 BSP	1.3090
1.1/4" x 11 BSP	1.6500
1.1/2" x 11 BSP	1.8820
1.3/4" x 11 BSP	2.1159
2" x 11 BSP	2.3470

THREADING

64170

HSS Circular Split Die

BA BS1127



Used for cutting external threads (with a 1.5 thread lead) - either by machine, or by hand when used in a die stock. Adjustment is facilitated via the split.

Discount Group	13
Material	HSS
Standard	BS1127(1950)
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Tolerance	2A
Type	SPLIT

Thread Ø x Pitch	Dec Inch Ø
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Outside Ø 13/16" Width 1/4"
DIESTOCK 69403 - 1316

No.14 x 0.23 BA	0.0393
No.13 x 0.25 BA	0.0472
No.12 x 0.28 BA	0.0511
No.10 x 0.35 BA	0.0669
No.9 x 0.39 BA	0.0748
No.8x 0.43 BA	0.0866
No.7 x 0.48 BA	0.0984
No.6 x 0.53 BA	0.1102
No.5 x 0.59 BA	0.1259
No.4 x 0.66 BA	0.1417
No.3 x 0.73 BA	0.1614
No.2 x 0.81 BA	0.1850
No.1 x 0.90 BA	0.2086
No.0 x 1.00 BA	0.2362

Thread Ø x Pitch	Dec Inch Ø
------------------	------------

Outside Ø 1" Width 3/8"
DIESTOCK 694031 -

No.2 x 0.81 BA	0.1850
No.1 x 0.90 BA	0.2086
No.0 x 1.00 BA	0.2362

THREADING

64190

HSS Circular Split Die NPT



Used for cutting external threads (with a 1.5 thread lead) - either by machine, or by hand when used in a die stock. Adjustment is facilitated via the split.

Discount Group	13
Material	HSS
Standard	BS1127(1950)
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Tolerance	2A
Type	SPLIT

Thread Ø x Pitch	Dec Inch Ø
------------------	------------

Outside Ø 1" Width 3/8" DIESTOCK 694031 -

1/8" x 27 NPT	0.4044
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Outside Ø 1.5/16" Width 7/16" DIESTOCK 694031 - 516

1/8" x 27 NPT	0.4044
---------------	--------

1/4" x 18 NPT	0.5343
---------------	--------

Outside Ø 1.1/2" Width 1/2" DIESTOCK 694031 - 12

1/8" x 27 NPT	0.4044
---------------	--------

1/4" x 18 NPT	0.5343
---------------	--------

3/8" x 18 NPT	0.6714
---------------	--------

Outside Ø 2" Width 13/16" DIESTOCK 694032 -

1/4" x 18 NPT	0.5343
---------------	--------

3/8" x 18 NPT	0.6714
---------------	--------

1/2" x 14 NPT	0.5386
---------------	--------

3/4" x 14 NPT	1.0460
---------------	--------

Thread Ø x Pitch	Dec Inch Ø
------------------	------------

Outside Ø 2.1/4" Width 11/16" DIESTOCK 694032 - 14

1" x 11.1/2 NPT	1.3082
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Outside Ø 3" Width 1.1/4" DIESTOCK 694033 -

1" x 11.1/2 NPT	1.3082
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1.1/4" x 11.1/2 NPT	1.6530
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Outside Ø 4" Width 1.5/16" DIESTOCK 694034 -

1.1/2" x 11.1/2 NPT	1.8919
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2" x 11.1/2 NPT	2.3658
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THREADING

64000

HSS Circular Solid Die

M DIN 223



Used for cutting external threads generally by hand when used in a metric die stock. There is no adjustment.

Discount Group	13
Material	HSS
Standard	DIN223
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Tolerance	6g
Type	SOLID

Thread Ø x Pitch	Dec Inch Ø
------------------	------------

Outside Ø 20mm Width 5.0mm DIESTOCK 6941320.05	
M3 x 0.5	0.1181
M3.5 x 0.6	0.1377
M4 x 0.7	0.1574

Outside Ø 20mm Width 7.0mm DIESTOCK 6941320.07	
M5 x 0.8	0.1968
M6 x 1.0	0.2362

Outside Ø 25mm Width 9.0mm DIESTOCK 6941325.09	
M7 x 1.0	0.2755
M8 x 1.25	0.3149
M9 x 1.25	0.3543

Outside Ø 30mm Width 11.0mm DIESTOCK 6941330.011	
M10 x 1.5	0.3937
M11 x 1.5	0.4330

Thread Ø x Pitch	Dec Inch Ø
------------------	------------

Outside Ø 38mm Width 14.0mm DIESTOCK 6941338.014	
M12 x 1.75	0.4724
M14 x 2.0	0.5511

Outside Ø 45mm Width 18.0mm DIESTOCK 6941345.018	
M16 x 2.0	0.6299
M18 x 2.5	0.7086
M20 x 2.5	0.7874

Outside Ø 55mm Width 22.0mm DIESTOCK 6941355.022	
M22 x 2.5	0.8661
M24 x 3.0	0.9448

THREADING

64010

HSS Circular Solid Die

MF DIN 223



Used for cutting external threads generally by hand when used in a metric die stock. There is no adjustment.

Discount Group	13
Material	HSS
Standard	DIN223
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Tolerance	6g
Type	SOLID

Thread Ø x Pitch	Dec Inch Ø
------------------	------------

A/F 20mm Width 5.0mm
DIESTOCK 6941320.05

M5 x 0.5	0.1968
----------	--------

A/F 20mm Width 7.0mm
DIESTOCK 6941320.07

M6 x 0.75	0.2362
-----------	--------

A/F 25mm Width 9.0mm
DIESTOCK 6941325.09

M8 x 1.0	0.3149
----------	--------

A/F 30mm Width 11.0mm
DIESTOCK 6941330.011

M10 x 1.5	0.3937
M11 x 1.5	0.4330

A/F 38mm Width 10.0mm
DIESTOCK 6941338.010

M12 x 1.0	0.4724
M12 x 1.25	0.4724
M12 x 1.5	0.4724
M14 x 1.0	0.5511
M14 x 1.25	0.5511
M14 x 1.5	0.5511

Thread Ø x Pitch	Dec Inch Ø
------------------	------------

Outside Ø 1.1/2" Width 1/2"
DIESTOCK 694031 - 12

M16 x 1.0	0.6299
M16 x 1.5	0.6299
M18 x 1.0	0.7086
M18 x 1.5	0.7086
M18 x 2.0	0.7086
M20 x 1.0	0.7874
M20 x 1.5	0.7874
M20 x 2.0	0.7874

A/F 55mm Width 16.0mm
DIESTOCK 6941355.016

M22 x 1.5	0.8661
M24 x 1.0	0.9448
M24 x 1.5	0.9448
M24 x 2.0	0.9448

A/F 65mm Width 18.0mm

M27 x 1.5	1.0000
M27 x 2.0	1.0000
M27 x 1.0	1.0629
M30 x 1.0	1.1811
M30 x 1.5	1.1811
M30 x 2.0	1.1811

THREADING

64400

HSS Dienut M BS1127



Used for correcting bruised and damaged external threads by hand.

Discount Group	13
Material	HSS
Standard	BS1127(1950)
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Tolerance	6g
Type	DIENUT

Thread Ø x Pitch	Dec Inch Ø
------------------	------------

A/F 19.0 Width 5.0mm	
M3 x 0.5	0.1181
M4 x 0.7	0.1574
M5 x 0.8	0.1968
M6 x 1.0	0.2362

A/F 22.0 Width 9.0mm	
M7 x 1.0	0.2755
M8 x 1.25	0.3149
M9 x 1.25	0.3543

A/F 27.0 Width 11.0mm	
M10 x 1.5	0.3937
M11 x 1.5	0.4330

A/F 36.0 Width 14.0mm	
M12 x 1.75	0.4724
M14 x 2.0	0.5511

Thread Ø x Pitch	Dec Inch Ø
------------------	------------

A/F 41.0 Width 18.0mm	
M16 x 2.0	0.6299
M18 x 2.5	0.7086
M20 x 2.5	0.7874

A/F 50.0 Width 22.0mm	
M22 x 2.5	0.8661
M24 x 3.0	0.9448

A/F 60.0 Width 25.0mm	
M27 x 3.0	1.0629
M30 x 3.5	1.1811
M33 x 3.5	1.2992
M36 x 4.0	1.4173

A/F 70.0 Width 30.0mm	
M42 x 4.5	1.6535

64410

HSS Dienut

MF BS1127



Used for correcting bruised and damaged external threads by hand.

Discount Group	13
Material	HSS
Standard	BS1127(1950)
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Tolerance	6g
Type	DIENUT

Thread Ø x Pitch	Dec Inch Ø
A/F 19.0 Width 5.0mm	
M3 x 0.35 MF	0.1181
M4 x 0.5 MF	0.1574
M4.5 x 0.5 MF	0.1771
M5 x 0.5 MF	0.1968
M6 x 0.75 MF	0.2362
A/F 22.0 Width 9.0mm	
M7 x 0.75 MF	0.2755
M8 x 1.0 MF	0.3149
A/F 27.0 Width 11.0mm	
M10 x 1.0 MF	0.3937
M10 x 1.25 MF	0.3937
A/F 36.0 Width 10.0mm	
M12 x 1.25 MF	0.4724
M12 x 1.5 MF	0.4724
M14 x 1.25 MF	0.5511
M14 x 1.5 MF	0.5511

Thread Ø x Pitch	Dec Inch Ø
A/F 41.0 Width 14.0mm	
M16 x 1.5 MF	0.6299
M18 x 1.5 MF	0.7086
M20 x 1.5 MF	0.7874
A/F 50.0 Width 16.0mm	
M22 x 1.5 MF	0.8661
M24 x 1.5 MF	0.9448
M24 x 2.0 MF	0.9448
M25 x 1.5 MF	0.9842
A/F 60.0 Width 18.0mm	
M30 x 2.0 MF	1.1811
M32 x 1.5 MF	1.2598
A/F 70.0 Width 20.0mm	
M40 x 1.5 MF	1.5748
M42 x 1.5 MF	1.6535

64420

HSS Dienut UNC BS1127



Used for correcting bruised and damaged external threads by hand.

Discount Group	13
Material	HSS
Standard	BS1127(1950)
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Tolerance	2A
Type	DIENUT

Thread Ø x Pitch	Dec Inch Ø
A/F 19.0 Width 7.0mm	
No.8 x 32 UNC	0.1640
No.10 x 24 UNC	0.1900
No.12 x 24 UNC	0.2160
1/4" x 20 UNC	0.2500
A/F 22.0 Width 9.0mm	
5/16" x 18 UNC	0.3125
A/F 27.0 Width 11.0mm	
3/8" x 16 UNC	0.3750
7/16" x 14 UNC	0.4375
A/F 36.0 Width 14.0mm	
1/2" x 13 UNC	0.5000
9/16" x 12 UNC	0.5625
A/F 41.0 Width 18.0mm	
5/8" x 11 UNC	0.6250
3/4" x 10 UNC	0.7500

Thread Ø x Pitch	Dec Inch Ø
A/F 50.0 Width 22.0mm	
7/8" x 9 UNC	0.8750
1" x 8 UNC	1.0000
A/F 60.0 Width 25.0mm	
1.1/8" x 7 UNC	1.1250
1.1/4" x 7 UNC	1.2500
1.3/8" x 6 UNC	1.3750
A/F 70.0 Width 30.0mm	
1.1/2" x 6 UNC	1.5000
A/F 80.0 Width 30.0mm	
1.3/4" x 5 UNC	1.7500
A/F 85.0 Width 36.0mm	
2" x 4.1/2 UNC	2.0000

THREADING

64430

HSS Dienut UNF BS1127



Used for correcting bruised and damaged external threads by hand.

Discount Group	13
Material	HSS
Standard	BS1127(1950)
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Tolerance	2A
Type	DIENUT

Thread Ø x Pitch	Dec Inch Ø
A/F 19.0 Width 7.0mm	
No.8 x 36 UNF	0.1640
No.10 x 32 UNF	0.1900
No.12 x 28 UNF	0.2160
1/4" x 28 UNF	0.2500
A/F 22.0 Width 9.0mm	
5/16" x 24 UNF	0.3125
A/F 27.0 Width 11.0mm	
3/8" x 24 UNF	0.3750
7/16" x 20 UNF	0.4375
A/F 36.0 Width 10.0mm	
1/2" x 20 UNF	0.5000
9/16" x 18 UNF	0.5625

Thread Ø x Pitch	Dec Inch Ø
A/F 41.0 Width 14.0mm	
5/8" x 18 UNF	0.6250
3/4" x 16 UNF	0.7500
A/F 50.0 Width 16.0mm	
7/8" x 14 UNF	0.8750
1" x 12 UNF	1.0000
A/F 60.0 Width 18.0mm	
1.1/8" x 12 UNF	1.1250
1.1/4" x 12 UNF	1.2500
1.3/8" x 12 UNF	1.3750
A/F 70.0 Width 20.0mm	
1.1/2" x 12 UNF	1.5000

THREADING

64440

HSS Dienut BSW BS1127



Used for correcting bruised and damaged external threads by hand.

Discount Group	13
Material	HSS
Standard	BS1127(1950)
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Tolerance	2A
Type	DIENUT

THREADING

Thread Ø x Pitch	Dec Inch Ø
A/F 19.0 Width 5.0mm	
1/8" x 40 BSW	0.1250
3/16" x 24 BSW	0.1875
A/F 19.0 Width 7.0mm	
7/32" x 24 BSW	0.2187
1/4" x 20 BSW	0.2500
A/F 22.0 Width 9.0mm	
5/16" x 18 BSW	0.3125
A/F 27.0 Width 11.0mm	
3/8" x 16 BSW	0.3750
7/16" x 14 BSW	0.4375
A/F 36.0 Width 14.0mm	
1/2" x 12 BSW	0.5000
9/16" x 12 BSW	0.5625
A/F 41.0 Width 18.0mm	
5/8" x 11 BSW	0.6250
3/4" x 10 BSW	0.7500

Thread Ø x Pitch	Dec Inch Ø
A/F 50.0 Width 22.0mm	
7/8" x 9 BSW	0.8750
1" x 8 BSW	1.0000
A/F 60.0 Width 25.0mm	
1.1/8" x 7 BSW	1.1250
1.1/4" x 7 BSW	1.2500
1.3/8" x 6 BSW	1.3750
A/F 70.0 Width 30.0mm	
1.1/2" x 6 BSW	1.5000
A/F 80.0 Width 30.0mm	
1.3/4" x 5 BSW	1.7500
A/F 85.0 Width 36.0mm	
2" x 4.1/2 BSW	2.0000

64450

HSS Dienut BSF BS1127



Used for correcting bruised and damaged external threads by hand.

Discount Group	13
Material	HSS
Standard	BS1127(1950)
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Tolerance	2A
Type	DIENUT

Thread Ø x Pitch	Dec Inch Ø
A/F 19.0 Width 7.0mm	
3/16" x 32 BSF	0.1875
1/4" x 26 BSF	0.2500
A/F 22.0 Width 9.0mm	
5/16" x 22 BSF	0.3125
A/F 27.0 Width 11.0mm	
3/8" x 20 BSF	0.3750
7/16" x 18 BSF	0.4375
A/F 36.0 Width 10.0mm	
1/2" x 16 BSF	0.5000
9/16" x 16 BSF	0.5625
A/F 41.0 Width 14.0mm	
5/8" x 14 BSF	0.6250
3/4" x 12 BSF	0.7500

Thread Ø x Pitch	Dec Inch Ø
A/F 50.0 Width 16.0mm	
7/8" x 11 BSF	0.8750
1" x 10 BSF	1.0000
A/F 60.0 Width 25.0mm	
1.1/8" x 9 BSF	1.1250
1.1/4" x 9 BSF	1.2500
1.3/8" x 8 BSF	1.3750
A/F 70.0 Width 30.0mm	
1.1/2" x 8 BSF	1.5000
1.5/8" x 8 BSF	1.6250
A/F 80.0 Width 30.0mm	
1.3/4" x 7 BSF	1.7500

THREADING

64460

HSS Dienut G(BSPF) BS1127



Used for correcting bruised and damaged external threads by hand.

Discount Group	13
Material	HSS
Standard	BS1127(1950)
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Tolerance	2A
Type	DIENUT

Thread Ø x Pitch	Dec Inch Ø
A/F 27.0 Width 11.0mm	
1/8" x 28 BSP	0.3829
A/F 36.0 Width 14.0mm	
1/4" x 19 BSP	0.5179
A/F 41.0 Width 14.0mm	
3/8" x 19 BSP	0.6559
1/2" x 14 BSP	0.8250
A/F 50.0 Width 16.0mm	
5/8" x 14 BSP	0.9020
A/F 50.0 Width 22.0mm	
3/4" x 14 BSP	1.0409

Thread Ø x Pitch	Dec Inch Ø
A/F 60.0 Width 18.0mm	
7/8" x 14 BSP	1.1890
A/F 60.0 Width 25.0mm	
1" x 11 BSP	1.3090
A/F 70.0 Width 25.0mm	
1.1/4" x 11 BSP	1.6500
A/F 85.0 Width 28.0mm	
1.1/2" x 11 BSP	1.8820

THREADING

64490

HSS Dienut NPT BS1127



Used for correcting bruised and damaged external threads by hand.

Discount Group	13
Material	HSS
Standard	BS1127(1950)
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Tolerance	2A
Type	DIENUT

Thread Ø x Pitch	Dec Inch Ø
A/F 27.0 Width 11.0mm	
1/8" x 27 NPT	0.4050
A/F 36.0 Width 14.0mm	
1/4" x 18 NPT	0.5400
A/F 41.0 Width 16.0mm	
3/8" x 18 NPT	0.6750
A/F 50.0 Width 19.0mm	
1/2" x 14 NPT	0.8400

Thread Ø x Pitch	Dec Inch Ø
A/F 60.0 Width 20.0mm	
3/4" x 14 NPT	1.0500
1" x 11.1/2 NPT	1.3150
A/F 85.0 Width 25.0mm	
1.1/4" x 11.1/2 NPT	1.6600
1.1/2" x 11.1/2 NPT	1.9000
A/F 100.0 Width 31.0mm	
2" x 11.1/2 NPT	2.3750

THREADING

69600

HSS Tap & Dies Set

Sets contain 2 Straight Flute full size taps of taper and bottom. Used for tapping in free cutting Steel up to 800N/mm². The perfect form thread is generated by a combination of effective pitch diameter, major diameter and chamfer length. Matching sizes of circular split dies and suitable stock(s) and wrench(s) also included.



Set shown 6960038 Set shown 6960009

Discount Group	49	Standard	ISO529 / BS1127 (1950)
Material	HSS	Surface Treatment	Bright

Stock Code	Description	Tolerance	Contents
6960009	1/4" - 1" BSW HSS Tap & Die Set Class 2 / 2A	9.5	1/4", 5/16", 3/8", 7/16", 1/2", 5/8", 3/4", 7/8", 1" Taps & Dies. M3 - M12 Tap Wrench. M11 - M27 Tap Wrench. 1" Circular Diestock. 1.5/16" Circular Diestock. 2" Circular Diestock. Small Screw Driver. Large Screw Driver. M4 Hex Allen Key.
6960014	1/4" - 1" BSF HSS Tap & Die Set Class 2 / 2A	16.0	1/4", 5/16", 3/8", 7/16", 1/2", 5/8", 3/4", 7/8", 1" Taps & Dies. M3 - M12 Tap Wrench. M11 - M27 Tap Wrench. 1" Circular Diestock. 1.5/16" Circular Diestock. 2" Circular Diestock. Small Screw Driver. Large Screw Driver. M4 Hex Allen Key.
6960023	1/4" - 1" UNC HSS Tap & Die Set Class 2B / 2A	16.0	1/4", 5/16", 3/8", 7/16", 1/2", 5/8", 3/4", 7/8", 1" Taps & Dies. M3 - M12 Tap Wrench. M11 - M27 Tap Wrench. 1" Circular Diestock. 1.5/16" Circular Diestock. 2" Circular Diestock. Small Screw Driver. Large Screw Driver. M4 Hex Allen Key.
6960026	1/4" - 1" UNF HSS Tap & Die Set Class 2B / 2A	19.0	1/4", 5/16", 3/8", 7/16", 1/2", 5/8", 3/4", 7/8", 1" Taps & Dies. M3 - M12 Tap Wrench. M11 - M27 Tap Wrench. 1" Circular Diestock. 1.5/16" Circular Diestock. 2" Circular Diestock. Small Screw Driver. Large Screw Driver. M4 Hex Allen Key.
6960038	M3 - M12 HSS Tap & Die Set Class 6H / 6g	13.0	M3, M4, M5, M6, M8, M10, M12 Taps & Dies. M3 - M12 Tap Wrench. 13/16" Circular Diestock. 1" Circular Diestock. 1.5/16" Circular Diestock. Small Screw Driver.
6960042	M6 - M24 HSS Tap & Die Set Class 6H / 6g	16.0	M6, M8, M10, M12, M14, M16, M18, M20, M22, M24 Taps & Dies. M3 - M12 Tap Wrench. M11 - M27 Tap Wrench. 1" Circular Diestock. 1.5/16" Circular Diestock. 2" Circular Diestock. Large Screw Driver. M4 Hex Allen Key.

THREADING


6950060000

HSS DIN338 Drill & ISO 529 Short Machine Tap Set

Set of Straight Flute full size SECOND taps for tapping in free cutting Steel up to 800N/mm². Set includes a tapping drill for each size tap.

Discount Group	49
Material	HSS
Standard	DIN/ISO529

Packing Unit	Sets packed in a Handy Plastic Set Box.
Tolerance	6H / h8
Surface Treatment	Steam Drills / Bright Taps

	Tap Sizes	Tap Drilling Sizes
	M3, M4, M5, M6, M8, M10 & M12	2.5, 3.3, 4.2, 5.0, 6.8, 8.5 & 10.2

THREADING


6950060010

HSS DIN338 Drill & ISO 529 Spiral Point P1 Tap Set

Set of Spiral Point taps with straight flutes for working in steel up to 750 N/mm². Swarf is forced forward in the direction of the cut in through holes. Set includes a tapping drill for each size tap.

Discount Group	49
Material	HSS
Standard	DIN/ISO529

Packing Unit	Sets packed in a Handy Plastic Set Box.
Tolerance	6H / h8
Surface Treatment	Steam Drills / Steam Taps


	Tap Sizes	Tap Drilling Sizes
	M3, M4, M5, M6, M8, M10 & M12	2.5, 3.3, 4.2, 5.0, 6.8, 8.5 & 10.2

6950060020 HSS DIN338 Drill & ISO 529 Spiral Flute Bright Tap Set

Set of Spiral Flute Taps for blind holes. Short chamfer permits work on steel up to 750 N/mm² and Aluminium alloys with more than 0.5% Si. Set includes a tapping drill for each size tap.

Discount Group	49
Material	HSS
Standard	DIN/ISO529

Packing Unit	Sets packed in a Handy Plastic Set Box.
Tolerance	6H / h8
Surface Treatment	Steam Drills / Bright Taps

	Tap Sizes	Tap Drilling Sizes
	M3, M4, M5, M6, M8, M10 & M12	2.5, 3.3, 4.2, 5.0, 6.8, 8.5 & 10.2


THREADING

6950060027 HSS DIN338 Drill & ISO 529 Spiral Flute P1 Tap Set

Set of Spiral Point taps with straight flutes for working in steel up to 750 N/mm². includes a tapping drill for each size tap. Steam Temper promotes wear resistance.

Discount Group	49
Material	HSS
Standard	DIN/ISO529

Packing Unit	Sets packed in a Handy Plastic Set Box.
Tolerance	6H / h8
Surface Treatment	Steam Drills / Steam Taps

	Tap Sizes	Tap Drilling Sizes
	M3, M4, M5, M6, M8, M10 & M12	2.5, 3.3, 4.2, 5.0, 6.8, 8.5 & 10.2


6955560000

HSS TiN Tipped Drill & ISO 529 Short Machine Tap Set

Set of Straight Flute full size SECOND taps for tapping in free cutting Steel up to 800N/mm². Set includes a TiN Tipped tapping drill for each size tap.

Discount Group	49
Material	HSS
Standard	DIN/ISO529

Packing Unit	Sets packed in a Handy Plastic Set Box.
Tolerance	6H / h8
Surface Treatment	TiN Tipped Drills / Bright Taps

	Tap Sizes	Tap Drilling Sizes
	M3, M4, M5, M6, M8, M10 & M12	2.5, 3.3, 4.2, 5.0, 6.8, 8.5 & 10.2

THREADING


6955560010

HSS TiN Tipped Drill & ISO 529 Spiral Point P1 Tap Set

Set of Spiral Point taps with straight flutes for working in steel up to 750 N/mm². Swarf is forced forward in the direction of the cut in through holes. Set includes a TiN Tipped tapping drill for each size tap.

Discount Group	49
Material	HSS
Standard	DIN/ISO529

Packing Unit	Sets packed in a Handy Plastic Set Box.
Tolerance	6H / h8
Surface Treatment	TiN Tipped Drills / Steam Taps

	Tap Sizes	Tap Drilling Sizes
	M3, M4, M5, M6, M8, M10 & M12	2.5, 3.3, 4.2, 5.0, 6.8, 8.5 & 10.2

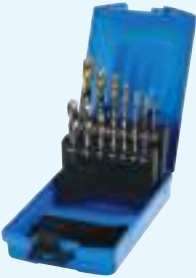
6955560020

HSS TiN Tipped Drill & ISO 529 Spiral Flute Bright Tap Set

Set of Spiral Flute Taps for blind holes. Short chamfer permits work on steel up to 750 N/mm² and Aluminium alloys with more than 0.5% Si. Set includes a TiN Tipped tapping drill for each size tap.

Discount Group	49
Material	HSS
Standard	DIN/ISO529

Packing Unit	Sets packed in a Handy Plastic Set Box.
Tolerance	6H / h8
Surface Treatment	TiN Tipped Drills / Bright Taps

	Tap Sizes	Tap Drilling Sizes
	M3, M4, M5, M6, M8, M10 & M12	2.5, 3.3, 4.2, 5.0, 6.8, 8.5 & 10.2

THREADING


6955560027

HSS TiN Tipped Drill & ISO 529 Spiral Flute P1 Tap Set

Set of Spiral Flute Taps for blind holes. Short chamfer permits work on steel up to 750 N/mm². Set includes a TiN Tipped tapping drill for each size tap. Steam Temper promotes wear resistance.

Discount Group	49
Material	HSS
Standard	DIN/ISO529

Packing Unit	Sets packed in a Handy Plastic Set Box.
Tolerance	6H / h8
Surface Treatment	TiN Tipped Drills / Steam Taps

	Tap Sizes	Tap Drilling Sizes
	M3, M4, M5, M6, M8, M10 & M12	2.5, 3.3, 4.2, 5.0, 6.8, 8.5 & 10.2


6956560000

HSS ELITE PLUS DRILL & ISO 529 SHORT MACHINE TAP SET

Set of Straight Flute full size SECOND taps for tapping in free cutting Steel up to 800N/mm². Set includes a TiN Coated tapping drill for each size tap.

Discount Group	49
Material	HSS
Standard	DIN/ISO529

Packing Unit	Sets packed in a Handy Plastic Set Box.
Tolerance	6H / h8
Surface Treatment	TiN Drills / Bright Taps

Tap Sizes		Tap Drilling Sizes
	M3, M4, M5, M6, M8, M10 & M12	2.5, 3.3, 4.2, 5.0, 6.8, 8.5 & 10.2

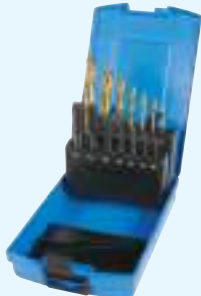
6956560010

HSS Elite Plus Drill & ISO 529 Spiral Point P1 Tap Set

Set of Spiral Point taps with straight flutes for working in steel up to 750 N/mm². Swarf is forced forward in the direction of the cut in through holes. Set includes a TiN Coated tapping drill for each size tap.

Discount Group	49
Material	HSS
Standard	DIN/ISO529

Packing Unit	Sets packed in a Handy Plastic Set Box.
Tolerance	6H / h8
Surface Treatment	TiN Drills / Steam Taps

Tap Sizes		Tap Drilling Sizes
	M3, M4, M5, M6, M8, M10 & M12	2.5, 3.3, 4.2, 5.0, 6.8, 8.5 & 10.2


THREADING

6956560020 HSS ELITE Plus Drill & ISO 529 Spiral Flute Bright Tap Set

Set of Spiral Flute Taps for blind holes. Short chamfer permits work on steel up to 750 N/mm² and Aluminium alloys with more than 0.5% Si. Set includes a TiN Coated tapping drill for each size tap.

Discount Group	49
Material	HSS
Standard	DIN/ISO529

Packing Unit	Sets packed in a Handy Plastic Set Box.
Tolerance	6H / h8
Surface Treatment	TiN Drills / Bright Taps

	Tap Sizes	Tap Drilling Sizes
	M3, M4, M5, M6, M8, M10 & M12	2.5, 3.3, 4.2, 5.0, 6.8, 8.5 & 10.2

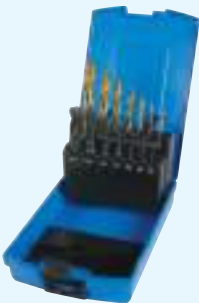
THREADING

6956560027 Hss Elite Plus Drill & ISO 529 Spiral Flute P1 Tap Set

Set of Spiral Flute Taps for blind holes. Short chamfer permits work on steel up to 750 N/mm². Set includes a TiN Coated tapping drill for each size tap. Steam Temper promotes wear resistance.

Discount Group	49
Material	HSS
Standard	DIN/ISO529

Packing Unit	Sets packed in a Handy Plastic Set Box.
Tolerance	6H / h8
Surface Treatment	TiN Drills / Steam Taps

	Tap Sizes	Tap Drilling Sizes
	M3, M4, M5, M6, M8, M10 & M12	2.5, 3.3, 4.2, 5.0, 6.8, 8.5 & 10.2

60702

HSS Metric Coarse DIN 352 N Serial Hand Tap



Available as a Finisher or Set of Hand Taps (3 taps per set) for tapping in free cutting Steel up to 800N/mm². The perfect form thread is generated by a combination of effective pitch diameter, major diameter and chamfer length.

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	Bright
Material	HSS	Tolerance	ISO2/6H
Standard	DIN352	Type	StFI
Packing Unit	All Sizes Packed in 1's, Sets packed in a Handy Plastic Set Box.		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M3 x 0.5	40.0	11.0	3.5	2.8	5.0	2.5	101 M3 - M12 Adj. 69843101
M4 x 0.7	45.0	13.0	4.5	3.55	6.0	3.3	
M5 x 0.8	52.0	16.0	6.0	5.0	8.0	4.5	
M6 x 1.0	56.0	18.0	6.0	5.0	8.0	5.0	
M8 x 1.25	63.0	20.0	6.0	5.0	8.0	6.8	
M10 x 1.5	70.0	22.0	7.0	5.6	8.0	8.5	
M12 x 1.75	80.0	24.0	9.0	7.1	10.0	10.2	102 M5 - M20 Adj. 69843102
M14 x 2.0	80.0	26.0	11.0	9.0	12.0	12.0	
M16 x 2.0	80.0	27.0	12.0	10.0	13.0	14.0	
M18 x 2.5	95.0	30.0	14.0	11.2	14.0	15.5	103 M9 - M27 Adj. 69843103
M20 x 2.5	95.0	32.0	16.0	12.5	16.0	17.5	
M22 x 2.5	100.0	32.0	18.0	14.0	18.0	19.5	
M24 x 3.0	110.0	34.0	18.0	14.0	18.0	21.0	

THREADING

631305

HSSE Metric Coarse DIN 371 N Machine Tap



Straight Flute Machine Tap with short chamfer (2-3 threads) for through and blind holes in free cutting materials up to 850 N/mm².

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	Bright
Material	HSS-E	Tolerance	ISO2/6H
Standard	DIN371	Type	StFl
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomeded Tap Wrench
M3 x 0.5	56.0	10.0	3.5	2.8	5.0	2.5	101 M3 - M12 Adj. 69843101
M3.5 x 0.6	56.0	12.0	4.0	3.15	6.0	2.9	
M4 x 0.7	63.0	12.0	4.5	3.55	6.0	3.3	
M4.5 x 0.75	70.0	14.0	6.0	5.0	8.0	3.7	
M5 x 0.8	70.0	14.0	6.0	5.0	8.0	4.2	
M6 x 1.0	80.0	18.0	6.0	5.0	8.0	5.0	
M8 x 1.25	90.0	20.0	8.0	6.3	9.0	6.8	
M10 x 1.5	100.0	20.0	10.0	8.0	11.0	8.5	

THREADING

631313

HSSE Metric Coarse DIN 371 GG Machine Tap



Straight flute Machine tap with short chamfer. The unique geometry with surface treatment is especially suitable for vertical tapping in grey cast iron.

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12
Material	HSSE PM
Standard	DIN371
Packing Unit	All Sizes Packed in 1's

Surface Treatment	TiCN
Tolerance	6HX
Type	StFI

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M3 x 0.5	56.0	10.0	3.5	2.8	5.0	2.5	101 M3 - M12 Adj. 69843101
M4 x 0.7	63.0	12.0	4.5	3.55	6.0	3.3	
M5 x 0.8	70.0	14.0	6.0	5.0	8.0	4.2	
M6 x 1.0	80.0	18.0	6.0	5.0	8.0	5.0	
M8 x 1.25	90.0	20.0	8.0	6.3	9.0	6.8	
M10 x 1.5	100.0	20.0	10.0	8.0	11.0	8.5	

631319

HSSE 15° SL/SP DIN 371 R15H Machine Tap



Machine tap with 15° slow right hand helix for use in high tensile Steel over 900 N/mm².

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12
Material	HSSE PM
Standard	DIN371
Packing Unit	All Sizes Packed in 1's

Surface Treatment	TiCN
Tolerance	6HX
Type	SpFI

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M3 x 0.5	56.0	10.0	3.5	2.8	5.0	2.5	101 M3 - M12 Adj. 69843101
M4 x 0.7	63.0	12.0	4.5	3.55	6.0	3.3	
M5 x 0.8	70.0	14.0	6.0	5.0	8.0	4.2	
M6 x 1.0	80.0	18.0	6.0	5.0	8.0	5.0	
M8 x 1.25	90.0	20.0	8.0	6.3	9.0	6.8	
M10 x 1.5	100.0	20.0	10.0	8.0	11.0	8.5	

631332

HSSE SP/PT DIN 371 BN Machine Tap



Spiral point Machine tap with straight flutes for working in steel up to 750 N/mm². Swarf is forced forward in the direction of the cut.

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	BRIGHT or TiN
Material	HSS-E	Tolerance	ISO2/6H
Standard	DIN371	Type	SpPt
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M3 x 0.5	56.0	10.0	3.5	2.8	5.0	2.5	101 M3 - M12 Adj. 69843101
M4 x 0.7	63.0	12.0	4.5	3.55	6.0	3.3	
M5 x 0.8	70.0	14.0	6.0	5.0	8.0	4.2	
M6 x 1.0	80.0	18.0	6.0	5.0	8.0	5.0	
M8 x 1.25	90.0	20.0	8.0	6.3	9.0	6.8	
M10 x 1.5	100.0	20.0	10.0	8.0	11.0	8.5	

THREADING

631334

HSSE SP/PT DIN 371 BVA Machine Tap



Spiral point Machine tap with straight flutes for working in steel up to 750 N/mm². Swarf is forced forward in the direction of the cut.

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	Bright
Material	HSS-E	Tolerance	ISO2/6HX
Standard	DIN371	Type	SpPt
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M3 x 0.5	56.0	10.0	3.5	2.8	5.0	2.5	101 M3 - M12 Adj. 69843101
M4 x 0.7	63.0	12.0	4.5	3.55	6.0	3.3	
M5 x 0.8	70.0	14.0	6.0	5.0	8.0	4.2	
M6 x 1.0	80.0	18.0	6.0	5.0	8.0	5.0	
M8 x 1.25	90.0	20.0	8.0	6.3	9.0	6.8	
M10 x 1.5	100.0	20.0	10.0	8.0	11.0	8.5	

631363

HSSE SP/FL DIN 371 R40N Machine Tap



Machine tap with 40° spiral flute. Short chamfer permits work on steel up to 750 N/mm² and Aluminium alloys with more than 0.5% Si.

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	BRIGHT or TiN
Material	HSS-E	Tolerance	ISO2/6H
Standard	DIN371	Type	SpFI
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M3 x 0.5	56.0	10.0	3.5	2.8	5.0	2.5	101 M3 - M12 Adj. 69843101
M4 x 0.7	63.0	12.0	4.5	3.55	6.0	3.3	
M5 x 0.8	70.0	14.0	6.0	5.0	8.0	4.2	
M6 x 1.0	80.0	18.0	6.0	5.0	8.0	5.0	
M8 x 1.25	90.0	20.0	8.0	6.3	9.0	6.8	
M10 x 1.5	100.0	20.0	10.0	8.0	11.0	8.5	

631370

HSSE QS/SP DIN 371 R40VAT Machine Tap



Machine taps with 40° spiral flutes. A special cutting geometry, together with a surface finish makes this tap very suitable for tough and work hardening materials such as stainless steel and heat resistant steels up to 850N/mm². Has the capability to thread up to 2.5 x diameter. Resists tearing of the finished thread on reversal.

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	Bright
Material	HSS-E	Tolerance	ISO2/6H
Standard	DIN371	Type	SpFI
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M3 x 0.5	56.0	5.0	3.5	2.8	5.0	2.5	101 M3 - M12 Adj. 69843101
M4 x 0.7	63.0	7.0	4.5	3.55	6.0	3.3	
M5 x 0.8	70.0	8.0	6.0	5.0	8.0	4.2	
M6 x 1.0	80.0	10.0	6.0	5.0	8.0	5.0	
M8 x 1.25	90.0	13.0	8.0	6.3	9.0	6.8	
M10 x 1.5	100.0	15.0	10.0	8.0	11.0	8.5	

631377

HSSE DIN371 FCS Fluteless Roll Tap



Fluteless tap with a 2-4 thread lead. For roll tapping in materials with an elasticity of over 10% up to 900 N/mm². Special attention is required to obtain the correct core hole size. Available with lubrication grooves for deeper threads over 2.5 x diameter and to produce a more accurate thread form.

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	TiN
Material	HSS-E	Tolerance	6HX
Standard	DIN371	Type	Form
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomeded Tap Wrench
M3 x 0.5	56.0	10.0	3.5	2.8	5.0	2.5	101 M3 - M12 Adj. 69843101
M4 x 0.7	63.0	7.0	4.5	3.55	6.0	3.3	
M5 x 0.8	70.0	8.0	6.0	5.0	8.0	4.2	
M6 x 1.0	80.0	10.0	6.0	5.0	8.0	5.0	
M8 x 1.25	90.0	13.0	8.0	6.3	9.0	6.8	
M10 x 1.5	100.0	15.0	10.0	8.0	11.0	8.5	

THREADING

651346

HSSE DIN371 SP/PT BVAX PMC Machine Tap



Spiral point Machine tap with a surface treatment for tough steels with elasticity >30%. The unique geometry helps to avoid pick up and resists work hardening tendencies in materials such as Stainless Steel.

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	TiCN
Material	HSSE PM	Tolerance	ISO2/6H
Standard	DIN371	Type	SpPt
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M3 X 0.5	56.0	10.0	3.5	2.8	5.0	2.5	101 M3 - M12 Adj. 69843101
M4 X 0.7	63.0	12.0	4.5	3.55	6.0	3.3	
M5 X 0.8	70.0	14.0	6.0	5.0	8.0	4.2	
M6 X 1.0	80.0	18.0	6.0	5.0	8.0	5.0	
M8 X 1.25	90.0	20.0	8.0	6.3	9.0	6.8	
M10 X 1.5	100.0	20.0	10.0	8.0	11.0	8.5	

THREADING

651386

HSSE DIN371 SP/FL R40VAX PMC Machine Tap



Machine taps with 40° spiral flutes. A special cutting geometry, together with a surface finish makes this tap very suitable for tough and work hardening materials such as stainless steel and heat resistant steels up to 850N/mm².

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	TiCN
Material	HSSE PM	Tolerance	ISO2/6H
Standard	DIN371	Type	SpFI
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M3 X 0.5	56.0	5.0	3.5	2.8	5.0	2.5	101 M3 - M12 Adj. 69843101
M4 X 0.7	63.0	7.0	4.5	3.55	6.0	3.3	
M5 X 0.8	70.0	8.0	6.0	5.0	8.0	4.2	
M6 X 1.0	80.0	10.0	6.0	5.0	8.0	5.0	
M8 X 1.25	90.0	13.0	8.0	6.3	9.0	6.8	
M10 X 1.5	100.0	15.0	10.0	8.0	11.0	8.5	

631405

HSSE ST / FL DIN 376

N Machine Tap



Straight Flute Machine Tap with short chamfer (2-3 threads) for through and blind holes in free cutting materials up to 850 N/mm².

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	Bright
Material	HSS-E	Tolerance	ISO2/6H
Standard	DIN376	Type	StFl
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M6 x 1.0	80.0	18.0	4.5	3.55	6.0	5.0	101 M3 - M12 Adj. 69843101
M8 x 1.25	90.0	20.0	6.0	5.0	8.0	6.8	
M10 x 1.5	100.0	20.0	7.0	5.6	8.0	8.5	
M12 x 1.75	110.0	24.0	9.0	7.1	10.0	10.2	
M14 x 2.0	110.0	25.0	11.0	9.0	12.0	12.0	102 M5 - M20 Adj. 69843102
M16 x 2.0	110.0	32.0	12.0	10.0	13.0	14.0	
M18 x 2.5	125.0	32.0	14.0	11.2	14.0	15.5	
M20 x 2.5	140.0	32.0	16.0	12.5	16.0	17.5	103 M9 - M27 Adj. 69843103
M22 x 2.5	140.0	32.0	18.0	14.0	18.0	19.5	
M24 x 3.0	160.0	38.0	18.0	14.0	18.0	21.0	
M27 x 3.0	160.0	38.0	20.0	16.0	20.0	24.0	
M30 x 3.5	180.0	40.0	22.0	18.0	22.0	26.5	104 M18 - M42 Adj. 69843104
M33 x 3.5	180.0	45.0	25.0	20.0	24.0	29.5	
M36 x 4.0	200.0	50.0	28.0	22.4	26.0	32.0	

THREADING

631413

HSSE ST/FL DIN 376 GG Machine Tap



Straight flute Machine tap with short chamfer. The unique geometry with surface treatment is especially suitable for vertical tapping in grey cast iron.

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	TiCN
Material	HSSE PM	Tolerance	6HX
Standard	DIN376	Type	StFl
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M8 x 1.25	90.0	20.0	6.0	5.0	8.0	6.8	101 M3 - M12 Adj. 69843101
M10 x 1.5	100.0	20.0	7.0	5.6	8.0	8.5	
M12 x 1.75	110.0	24.0	9.0	7.1	10.0	10.2	
M14 x 2.0	110.0	25.0	11.0	9.0	12.0	12.0	102 M5 - M20 Adj. 69843102
M16 x 2.0	110.0	32.0	12.0	10.0	13.0	14.0	

THREADING

631419

HSSE 15° SL/SP DIN 376 R15H Machine Tap



Machine tap with 15° slow right hand helix for use in high tensile Steel over 900 N/mm².

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	TiCN
Material	HSSE PM	Tolerance	6HX
Standard	DIN376	Type	SpFI
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M8 x 1.25	90.0	20.0	6.0	5.0	8.0	6.8	101 M3 - M12 Adj. 69843101
M10 x 1.5	100.0	20.0	7.0	5.6	8.0	8.5	
M12 x 1.75	110.0	24.0	9.0	7.1	10.0	10.2	
M14 x 2.0	110.0	25.0	11.0	9.0	12.0	12.0	102 M5 - M20 Adj. 69843102
M16 x 2.0	110.0	32.0	12.0	10.0	13.0	14.0	
M20 x 2.5	140.0	32.0	16.0	12.5	16.0	17.5	103 M9 - M27 Adj. 69843103
M24 x 3.0	160.0	38.0	18.0	14.0	18.0	21.0	

THREADING

631432

HSSE SP/PT DIN 376

BN Machine Tap



Spiral point Machine tap with straight flutes for working in steel up to 750 N/mm². Swarf is forced forward in the direction of the cut.

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	BRIGHT or TiN
Material	HSS-E	Tolerance	ISO2/6H
Standard	DIN376	Type	SpPt
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M8 x 1.25	90.0	20.0	6.0	5.0	8.0	6.8	101 M3 - M12 Adj. 69843101
M10 x 1.5	100.0	20.0	7.0	5.6	8.0	8.5	
M12 x 1.75	110.0	24.0	9.0	7.1	10.0	10.2	
M14 x 2.0	110.0	25.0	11.0	9.0	12.0	12.0	102 M5 - M20 Adj. 69843102
M16 x 2.0	110.0	32.0	12.0	10.0	13.0	14.0	
M18 x 2.5	125.0	32.0	14.0	11.2	14.0	15.5	
M20 x 2.5	140.0	32.0	16.0	12.5	16.0	17.5	103 M9 - M27 Adj. 69843103
M22 x 2.5	140.0	32.0	18.0	14.0	18.0	19.5	
M24 x 3.0	160.0	38.0	18.0	14.0	18.0	21.0	
M27 x 3.0	160.0	38.0	20.0	16.0	20.0	24.0	104 M18 - M42 Adj. 69843104
M30 x 3.5	180.0	40.0	22.0	18.0	22.0	26.5	
M33 x 3.5	180.0	45.0	25.0	20.0	24.0	29.5	
M36 x 4.0	200.0	50.0	28.0	22.4	26.0	32.0	105 M24 - M60 Adj. 69843105
M39 x 4.0	200.0	55.0	32.0	25.0	28.0	35.0	
M42 x 4.5	200.0	60.0	32.0	25.0	28.0	37.5	

THREADING

631434

HSSE SP/PT DIN 376

BVA Machine Tap



Spiral point Machine tap with a surface treatment for tough steels with elasticity >30%. The unique geometry helps to avoid pick up and resists work hardening tendencies in materials such as Stainless Steel.

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	Bright
Material	HSS-E	Tolerance	ISO2/6H
Standard	DIN376	Type	SpPt
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M8 x 1.25	90.0	20.0	6.0	5.0	8.0	6.8	101 M3 - M12 Adj. 69843101
M10 x 1.5	100.0	20.0	7.0	5.6	8.0	8.5	
M12 x 1.75	110.0	24.0	9.0	7.1	10.0	10.2	
M14 x 2.0	110.0	25.0	11.0	9.0	12.0	12.0	102 M5 - M20 Adj. 69843102
M16 x 2.0	110.0	32.0	12.0	10.0	13.0	14.0	
M18 x 2.5	125.0	32.0	14.0	11.2	14.0	15.5	
M20 x 2.5	140.0	32.0	16.0	12.5	16.0	17.5	103 M9 - M27 Adj. 69843103
M22 x 2.5	140.0	32.0	18.0	14.0	18.0	19.5	
M24 x 3.0	160.0	38.0	18.0	14.0	18.0	21.0	

THREADING

631463

HSSE SP/FL DIN 376 R40N Machine Tap



Machine tap with 40° spiral flute. Short chamfer permits work on steel up to 750 N/mm² and Aluminium alloys with more than 0.5% Si.

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	BRIGHT or TiN
Material	HSS-E	Tolerance	ISO2/6H
Standard	DIN376	Type	SpFl
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomeded Tap Wrench
M6 x 1.0	80.0	12.0	4.5	3.55	6.0	5.0	101 M3 - M12 Adj. 69843101
M8 x 1.25	90.0	15.0	6.0	5.0	8.0	6.8	
M10 x 1.5	100.0	17.0	7.0	5.6	8.0	8.5	
M12 x 1.75	110.0	18.0	9.0	7.1	10.0	10.2	
M14 x 2.0	110.0	20.0	11.0	9.0	12.0	12.0	102 M5 - M20 Adj. 69843102
M16 x 2.0	110.0	20.0	12.0	10.0	13.0	14.0	
M18 x 2.5	125.0	25.0	14.0	11.2	14.0	15.5	
M20 x 2.5	140.0	25.0	16.0	12.5	16.0	17.5	103 M9 - M27 Adj. 69843103
M22 x 2.5	140.0	25.0	18.0	14.0	18.0	19.5	
M24 x 3.0	160.0	30.0	18.0	14.0	18.0	21.0	
M27 x 3.0	160.0	30.0	20.0	16.0	20.0	24.0	104 M18 - M42 Adj. 69843104
M30 x 3.5	180.0	35.0	22.0	18.0	22.0	26.5	
M33 x 3.5	180.0	35.0	25.0	20.0	24.0	29.5	
M36 x 4.0	200.0	40.0	28.0	22.4	26.0	32.0	105 M24 - M60 Adj. 69843105
M39 x 4.0	200.0	40.0	32.0	25.0	28.0	35.0	
M42 x 4.5	200.0	45.0	32.0	25.0	28.0	37.5	

THREADING

631470

HSSE QS/SP FL DIN 376

R40VAT Machine Tap



Machine taps with 40° spiral flutes. A special cutting geometry, together with a surface finish makes this tap very suitable for tough and work hardening materials such as stainless steel and heat resistant steels up to 850N/mm². Has the capability to thread up to 2.5 x diameter. Resists tearing of the finished thread on reversal.

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	Bright
Material	HSS-E	Tolerance	ISO2/6H
Standard	DIN376	Type	SpFl
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M8 x 1.25	90.0	15.0	6.0	5.0	8.0	6.8	101 M3 - M12 Adj. 69843101
M10 x 1.5	100.0	17.0	7.0	5.6	8.0	8.5	
M12 x 1.75	110.0	18.0	9.0	7.1	10.0	10.2	
M14 x 2.0	110.0	20.0	11.0	9.0	12.0	12.0	102 M5 - M20 Adj. 69843102
M16 x 2.0	110.0	20.0	12.0	10.0	13.0	14.0	
M18 x 2.5	125.0	25.0	14.0	11.2	14.0	15.5	
M20 x 2.5	140.0	25.0	16.0	12.5	16.0	17.5	103 M9 - M27 Adj. 69843103
M22 x 2.5	140.0	25.0	18.0	14.0	18.0	19.5	
M24 x 3.0	160.0	30.0	18.0	14.0	18.0	21.0	

THREADING

651446

HSSE DIN376 SP/PT BVAX PMC Machine Tap



Spiral point Machine tap with a surface treatment for tough steels with elasticity >30%. The unique geometry helps to avoid pick up and resists work hardening tendencies in materials such as Stainless Steel.

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	TiCN
Material	HSSE PM	Tolerance	ISO2/6H
Standard	DIN376	Type	SpPt
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M12 x 1.75	110.0	24.0	9.0	7.1	10.0	10.2	101 M3 - M12 Adj. 69843101
M14 x 2.0	110.0	25.0	11.0	9.0	12.0	12.0	102 M5 - M20 Adj. 69843102
M16 x 2.0	110.0	32.0	12.0	10.0	13.0	14.0	
M20 x 2.5	140.0	32.0	16.0	12.5	16.0	17.5	103 M9 - M27 Adj. 69843103

651486

HSSE DIN376 SP/FL R40VAX PMC Machine Tap



Machine taps with 40° spiral flutes. A special cutting geometry, together with a surface finish makes this tap very suitable for tough and work hardening materials such as stainless steel and heat resistant steels up to 850N/mm².

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	TiCN
Material	HSSE PM	Tolerance	ISO2/6H
Standard	DIN376	Type	SpFI
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M8 X 1.25	90.0	15.0	6.0	5.0	8.0	6.8	101 M3 - M12 Adj. 69843101
M10 X 1.5	100.0	17.0	7.0	5.6	8.0	8.5	
M12 X 1.75	110.0	18.0	9.0	7.1	10.0	10.2	
M14 X 2.0	110.0	20.0	11.0	9.0	12.0	12.0	102 M5 - M20 Adj. 69843102
M16 X 2.0	110.0	20.0	12.0	10.0	13.0	14.0	
M18 X 2.5	125.0	25.0	14.0	11.2	14.0	15.5	103 M9 - M27 Adj. 69843103
M20 X 2.5	140.0	25.0	16.0	12.5	16.0	17.5	
M22 X 2.5	140.0	25.0	18.0	14.0	18.0	19.5	
M24 X 3.0	160.0	30.0	18.0	14.0	18.0	21.0	

THREADING

632505

HSSE ST/FL M/C DIN 374 N Machine Tap



Straight Flute Machine Tap with short chamfer (2-3 threads) for through and blind holes in free cutting materials up to 850 N/mm².

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	Bright
Material	HSS-E	Tolerance	ISO2/6H
Standard	DIN374	Type	StFl
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M8 x 1.0	90.0	20.0	6.0	5.0	8.0	7.0	101 M3 - M12 Adj. 69843101
M10 x 0.75	90.0	18.0	7.0	5.6	8.0	9.2	
M10 x 1.0	90.0	20.0	7.0	5.6	8.0	9.0	
M10 x 1.25	100.0	20.0	7.0	5.6	8.0	8.8	
M12 x 1.0	100.0	20.0	9.0	7.1	10.0	11.0	102 M5 - M20 Adj. 69843102
M12 x 1.25	100.0	20.0	9.0	7.1	10.0	10.8	
M12 x 1.5	100.0	20.0	9.0	7.1	10.0	10.5	
M14 x 1.25	100.0	20.0	11.0	9.0	12.0	12.8	
M14 x 1.5	100.0	20.0	11.0	9.0	12.0	12.5	103 M9 - M27 Adj. 69843103
M16 x 1.5	100.0	20.0	12.0	10.0	13.0	14.5	
M18 x 1.5	110.0	24.0	14.0	11.2	14.0	16.5	
M18 x 2.0	127.0	27.0	14.0	11.2	14.0	16.0	
M20 x 1.5	125.0	24.0	16.0	12.5	16.0	18.5	103 M9 - M27 Adj. 69843103
M20 x 2.0	140.0	27.0	16.0	12.5	16.0	18.0	
M22 x 1.5	125.0	24.0	18.0	14.0	18.0	20.5	
M22 x 2.0	140.0	27.0	18.0	14.0	18.0	20.0	
M24 x 1.5	140.0	27.0	18.0	14.0	18.0	22.5	103 M9 - M27 Adj. 69843103
M24 x 2.0	140.0	27.0	18.0	14.0	18.0	22.0	
M27 x 1.5	140.0	27.0	20.0	16.0	20.0	25.5	
M27 x 2.0	140.0	27.0	20.0	16.0	20.0	25.0	

THREADING

632532

HSSE SP/PT DIN 374

BN Machine Tap



Spiral point Machine tap with straight flutes for working in steel up to 750 N/mm². Swarf is forced forward in the direction of the cut.

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	Bright
Material	HSS-E	Tolerance	ISO2/6H
Standard	DIN374	Type	SpPt
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
M8 x 1.0	90.0	20.0	6.0	5.0	8.0	7.0	101 M3 - M12 Adj. 69843101
M10 x 0.75	90.0	18.0	7.0	5.6	8.0	9.2	
M10 x 1.0	90.0	20.0	7.0	5.6	8.0	9.0	
M10 x 1.25	100.0	20.0	7.0	5.6	8.0	8.8	
M12 x 1.0	100.0	20.0	9.0	7.1	10.0	11.0	
M12 x 1.25	100.0	20.0	9.0	7.1	10.0	10.8	
M12 x 1.5	100.0	20.0	9.0	7.1	10.0	10.5	102 M5 - M20 Adj. 69843102
M14 x 1.25	100.0	20.0	11.0	9.0	12.0	12.8	
M14 x 1.5	100.0	20.0	11.0	9.0	12.0	12.5	
M16 x 1.5	100.0	20.0	12.0	10.0	13.0	14.5	

THREADING

632563

HSSE SP/FL DIN 374 R40N Machine Tap



Machine tap with 40° spiral flute. Short chamfer permits work on steel up to 750 N/mm² and Aluminium alloys with more than 0.5% Si.

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	BRIGHT or TiN
Material	HSS-E	Tolerance	ISO2/6H
Standard	DIN374	Type	SpFl
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomeded Tap Wrench
M8 x 1.0	90.0	10.0	6.0	5.0	8.0	7.0	101 M3 - M12 Adj. 69843101
M10 x 1.0	90.0	10.0	7.0	5.6	8.0	9.0	
M10 x 1.25	100.0	15.0	7.0	5.6	8.0	8.8	
M12 x 1.0	100.0	10.0	9.0	7.1	10.0	11.0	
M12 x 1.25	100.0	15.0	9.0	7.1	10.0	10.8	102 M5 - M20 Adj. 69843102
M12 x 1.5	100.0	15.0	9.0	7.1	10.0	10.5	
M14 x 1.25	100.0	15.0	11.0	9.0	12.0	12.8	
M14 x 1.5	100.0	15.0	11.0	9.0	12.0	12.5	
M16 x 1.5	100.0	15.0	12.0	10.0	13.0	14.5	103 M9 - M27 Adj. 69843103
M18 x 1.5	110.0	17.0	14.0	11.2	14.0	16.5	
M18 x 2.0	125.0	20.0	14.0	11.2	14.0	16.0	
M20 x 1.5	125.0	17.0	16.0	12.5	16.0	18.5	
M20 x 2.0	140.0	20.0	16.0	12.5	16.0	18.0	
M22 x 1.5	125.0	17.0	18.0	14.0	18.0	20.5	
M22 x 2.0	140.0	20.0	18.0	14.0	18.0	20.0	
M24 x 1.5	140.0	20.0	18.0	14.0	18.0	22.5	
M24 x 2.0	140.0	20.0	18.0	14.0	18.0	22.0	

THREADING

652546

HSSE DIN374 SP/PT BVAX Machine Tap



Spiral point Machine tap with a surface treatment for tough steels with elasticity >30%. The unique geometry helps to avoid pick up and resists work hardening tendencies in materials such as Stainless Steel.

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	Bright
Material	HSS-E	Tolerance	ISO2/6H
Standard	DIN374	Type	SpPt
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomeded Tap Wrench
M8 X 1.0	90.0	20.0	6.0	5.0	8.0	7.0	101 M3 - M12 Adj. 69843101
M10 X 1.0	90.0	20.0	8.0	6.3	9.0	9.0	
M12 X 1.5	100.0	20.0	10.0	8.0	11.0	10.5	
M14 X 1.5	100.0	20.0	12.0	10.0	13.0	12.5	102 M5 - M20 Adj. 69843102
M16 X 1.5	100.0	20.0	12.0	10.0	13.0	14.5	

THREADING

635705

G (BSPF) HSSE ST/FL DIN5156 N Machine Tap



Straight Flute Machine Tap with short chamfer (2-3 threads) for through and blind holes in free cutting materials up to 850 N/mm².

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	Bright
Material	HSS-E	Tolerance	G WHIT
Standard	DIN5156	Type	StFI
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	
1/8" G (BSPF)	90.0	18.0	7.0	5.6	8.0	8.8	101 M3 - M12 Adj. 69843101
1/4" G (BSPF)	100.0	22.0	11.0	9.0	12.0	11.8	102 M5 - M20 Adj. 69843102
3/8" G (BSPF)	100.0	22.0	12.0	10.0	13.0	15.25	
1/2" G (BSPF)	125.0	25.0	16.0	12.5	16.0	19.0	103 M9 - M27 Adj. 69843103
3/4" G (BSPF)	140.0	28.0	20.0	16.0	20.0	24.5	
1" G (BSPF)	160.0	32.0	25.0	20.0	24.0	30.75	104 M18 - M42 Adj. 69843104

635732

G (BSPF) HSSE SP/PT DIN5156 BN Machine Tap



Spiral point Machine tap with straight flutes for working in steel up to 750 N/mm². Swarf is forced forward in the direction of the cut.

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

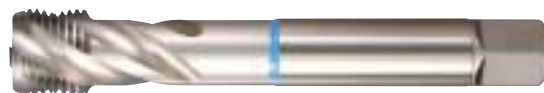
Discount Group	12	Surface Treatment	Bright
Material	HSS-E	Tolerance	G WHIT
Standard	DIN5156	Type	SpPt
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
1/8" G (BSPF)	90.0	18.0	7.0	5.6	8.0	8.8	101 M3 - M12 Adj. 69843101
1/4" G (BSPF)	100.0	22.0	11.0	9.0	12.0	11.8	102 M5 - M20 Adj. 69843102
3/8" G (BSPF)	100.0	22.0	12.0	10.0	13.0	15.25	
1/2" G (BSPF)	125.0	25.0	16.0	12.5	16.0	19.0	103 M9 - M27 Adj. 69843103
3/4" G (BSPF)	140.0	28.0	20.0	16.0	20.0	24.5	
1" G (BSPF)	160.0	32.0	25.0	20.0	24.0	30.75	104 M18 - M42 Adj. 69843104

THREADING

635763

G (BSPF) HSSE SP/FL DIN5156 R40N Machine Tap



Machine tap with 40° spiral flute. Short chamfer permits work on steel up to 750 N/mm² and Aluminium alloys with more than 0.5% Si.

NOTE: Due to the continued development of our coatings, the coating appearance may be subject to change.

Discount Group	12	Surface Treatment	Bright
Material	HSS-E	Tolerance	G WHIT
Standard	DIN5156	Type	SpFl
Packing Unit	All Sizes Packed in 1's		

Thread Ø x Pitch	O/all Length	Cut Length	Shank Ø	Square A/F	Square Length	Tapping Drill Ø	Reccomended Tap Wrench
1/8" G (BSPF)	90.0	10.0	7.0	5.6	8.0	8.8	101 M3 - M12 Adj. 69843101
1/4" G (BSPF)	100.0	14.0	11.0	9.0	12.0	11.8	102 M5 - M20 Adj. 69843102
3/8" G (BSPF)	100.0	15.0	12.0	10.0	13.0	15.25	
1/2" G (BSPF)	125.0	17.0	16.0	12.5	16.0	19.0	103 M9 - M27 Adj. 69843103
3/4" G (BSPF)	140.0	20.0	20.0	16.0	20.0	24.5	
1" G (BSPF)	160.0	24.0	25.0	20.0	24.0	30.75	104 M18 - M42 Adj. 69843104

69823

Tapwrench - Adjustable Bar Type



Letter Size Bar type adjustable tap wrench.

Discount Group 15

No.	Range mm	Range Inch	O/all Length mm
X	M2 - M6	1/16" - 1/4"	100.0
Y	M3 - M12	1/8" - 1/2"	162.0

69833

Tapwrench - Adjustable 'T' Type



T type adjustable ratchet tap wrench.

Discount Group 15

No.	Range mm	Range Inch	O/all Length mm
06-521	M2 - M6	1/8" - 1/4"	101.0
06-522	M6 - M12	1/4" - 1/2"	118.5

69843

Tapwrench - Adjustable American Type



American Bar type adjustable tap wrench.

Discount Group 15

No.	Tap Range mm	Tap Range Inch	Reamer Range mm	Reamer Range Inch	O/all Length mm
No.101	M3 - M12	1/8" - 1/2"	4.75 - 10.6	3/16" - 13/32"	173.0
No.102	M5 - M20	7/32" - 3/4"	4.75 - 15.0	3/16" - 9/16"	374.0
No.103	M9 - M27	7/16" - 1"	7.75 - 21.2	5/16" - 13/16"	482.0
No.104	M18 - M42	3/4" - 1.1/2"	15.0 - 33.5	5/8" - 1.3/16"	890.0
No.105	M24 - M60	1" - 2.1/2"	26.5 - 53.0	1.1/16" - 2"	1180.0

69403

Circular Diestock Split BS1127

Diestock for use with circular split dies.



Discount Group	15
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No.	O/all Length mm
13/16" x 1/4"	180.0
1" x 3/8"	215.0
1.5/16" x 7/16"	265.0
1.1/2" x 1/2"	305.0

No.	O/all Length mm
2" x 5/8"	485.0
2.1/4" x 11/16"	505.0
3" x 7/8"	910.0
4" x 1"	815.0

69413

Circular Diestock Solid DIN223

Diestock for use with circular split dies.



Discount Group	15
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No.	O/all Length mm
M20 x 5	180.0
M20 x 7	185.0
M25 x 9	215.0
M30 x 11	270.0
M38 x 10	315.0

No.	O/all Length mm
M38 x 14	315.0
M45 x 14	485.0
M45 x 18	485.0
M55 x 16	485.0
M55 x 22	485.0








MILLING




230 - 300

PRESTO



BS Normal Series Slot Drills

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	30131	BS 122/4	HSS	Screw	1.5mm - 50.0mm 1/16" - 2"	P0 Bright	235
	30201		HSCo	Plain	1.5mm - 40.0mm 1/16" - 1.1/2"		237
	30206					P6 TiCN	239
	30221		Screw	P0 Bright		241	
	30226			P6 TiCN		243	


BS Long Series Slot Drills

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	31131	BS 122/4	HSS	Screw	2.0mm - 50.0mm 1/16" - 2"	P0 Bright	245
	31301		HSCo	Plain	2.0mm - 32.0mm 1/16" - 1.1/4"		247
	31321						Screw


BS Ball Nose Cutters Normal Series

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	48131	BS 122/4	HSS	Plain	2.0mm - 25.0mm 1/16" - 1"	P0 Bright	251
	48151			Screw	2.0mm - 25.0mm 1/16" - 1.1/2"		252



BS Ball Nose Cutters Long Series

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	48191	BS 122/4	HSS	Screw	3.0mm - 20.0mm 1/16" - 1.1/2"	P0 Bright	253



BS Short Series Tricutters

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	35131	Factory Std	HSCo	Screw	3/8" - 1"	P0 Bright	254




DIN 6527 Throwaway Tri-Cutters Short Series

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	33011	DIN 6527	HSCo	Flatted	1.0mm - 6.0mm 1/16" - 1/4"	P0 Bright	255
	33016					P6 TiCN	256



DIN 6527 Throwaway Tri-Cutters Long Series

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	33111	DIN 6527	HSCo	Flatted	1.5mm - 6.0mm 1/16" - 1/4"	P0 Bright	257
	33116					P6 TiCN	258


BS Normal Series Endmills

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	40131	BS 122/4	HSS	Screw	2.0mm - 50.0mm 1/16" - 2"	P0 Bright	259
	40221		HSCo				
	40226						262


BS Long Series Endmills

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	41131	BS 122/4	HSS	Screw	3.0mm - 50.0mm 3/32" - 2"	P0 Bright	263
	41221		HSCo		3mm - 40mm 1/16" - 1.1/2"		265


Woodruff Cutters

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	48231	Factory Std	HSS	Screw	10.5mm - 45.5mm 1/2" - 1.1/2" #204 - #1212	P0 Bright	266



T-Slot Cutters

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	48331	Factory Std	HSS	Screw	6.0mm - 22.0mm 1/4" - 1"	P0 Bright	268



Dovetail Cutters

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	48431	Factory Std	HSS	Screw	1/2" - 1.1/2" 45°, 55°, 60°	P0 Bright	269



BS Normal Series Endmills

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	48711	Factory Std	HSS	Flatted	R1 - R16	P0 Bright	270
	48721			Screw			271



HSS Screw Shank Cutter Sets

	Series #	Material	Shank Type	Size Range	Surface	Page
	30191	HSS	Screw	6mm - 16mm	P0 Bright	272
	40191					272



ISO Slot Drills Short Series

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	30011	DIN 327	HSCo	Flatted	2mm - 40mm	P0 Bright	273
	30016					P6 TiCN	274



ISO Slot Drills Long Series

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	31211	DIN 327	HSCo	Flatted	3mm - 25mm	P0 Bright	275
	31216					P6 TiCN	276



ISO Ball Nose Slot Drills Short Series

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	48011	DIN 327	HSCo	Flatted	3mm - 25mm	P0 Bright	277
	48016					P6 TiCN	278





ISO Ball Nose Slot Drills Long Series

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	48021	DIN 327	HSCo	Screw	3mm - 20mm	P0 Bright	279
	48026					P6 TiCN	280





ISO Tri-Cutters Short Series

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	36011	DIN 844	HSCo	Flatted	3mm - 25mm	P0 Bright	281
	36016					P6 TiCN	282







ISO Endmills Short Series

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	40011	DIN 844	HSCo	Flatted	2mm - 40mm	P0 Bright	283
	40016					P6 TiCN	284
	40021			Screw	2mm - 36mm	P0 Bright	285
	40026					P6 TiCN	286


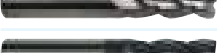
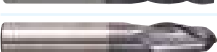
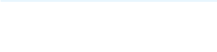
ISO Endmills Long Series

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page	
	41011	DIN 844	HSCo	Flatted	3mm - 40mm	P0 Bright	287	
	41016					P6 TiCN	288	
	41021			Screw		3mm - 40mm	P0 Bright	289
	41026						P6 TiCN	290

ISO Ripping Cutters Short Series

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page	
	46081	DIN 844	HSCo	Flatted	6mm - 40mm Coarse Pitch	P0 Bright	291	
	46088					P6 TiCN	292	
	46091			Screw		6mm - 40mm Coarse Pitch	P0 Bright	293
	46098						P6 TiCN	294
	46481			Flatted		6mm - 25mm Fine Pitch	P0 Bright	295
	46488						P6 TiCN	296

Carbide Cutters

	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	31908	Factory Standard	HRC55	Plain	1mm - 20mm	P8 TiALN	297
	31991					P0 Bright	298
	40848					P8 TiALN	299
	48908				3mm - 20mm	P8 TiALN	300

30131

HSS Screw Shank Normal Series 2 Flute Slot Drill BS122/4



2-fluted Slot Drill for the machining of slots in materials with a tensile strength up to 800 N/mm².

Discount Group	20
Material	HSS
Standard	BS122/4

Surface Treatment	Bright
Tolerance	e8
Shank Type	Screw

Ø mm	O/all Length	Cut Length mm	Shank Ø
1.50	48.0	2.5	6.0
2.00	49.0	3.0	6.0
2.50	51.0	4.5	6.0
3.00	51.0	7.0	6.0
3.50	52.5	7.5	6.0
4.00	52.5	9.5	6.0
4.50	52.5	9.5	6.0
5.00	52.5	9.5	6.0
5.50	55.5	11.0	6.0
6.00	56.5	11.0	6.0
6.50	58.5	11.0	10.0
7.00	58.5	11.0	10.0
7.50	58.5	11.0	10.0
8.00	59.5	12.5	10.0
8.50	60.5	14.5	10.0
9.00	60.5	14.5	10.0
9.50	60.5	14.5	10.0
10.00	60.5	14.5	10.0
10.50	65.0	17.5	12.0
11.00	65.0	17.5	12.0
11.50	65.0	17.5	12.0
12.00	66.5	19.0	12.0
13.00	66.5	19.0	12.0
14.00	68.5	22.0	12.0
15.00	72.0	22.0	16.0
16.00	72.0	22.0	16.0
17.00	74.0	24.0	16.0
18.00	74.0	24.0	16.0
19.00	77.0	25.5	16.0
20.00	77.0	25.5	16.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
21.00	98.0	25.5	25.0
22.00	100.0	25.5	25.0
23.00	101.5	25.5	25.0
24.00	103.0	25.5	25.0
25.00	95.5	27.0	25.0
26.00	95.5	27.0	25.0
27.00	93.5	28.5	25.0
28.00	95.0	30.0	25.0
29.00	93.5	30.0	25.0
30.00	93.50	30.0	25.0
32.00	101.5	38.0	25.0
34.00	101.5	38.0	25.0
35.00	103.0	39.5	25.0
36.00	103.0	39.5	25.0
38.00	106.5	43.0	25.0
40.00	111.0	46.0	25.0
42.00	112.5	47.5	25.0
44.00	116.0	51.0	25.0
45.00	116.0	51.0	25.0
50.00	117.0	54.0	25.0
32.00	101.5	38.0	25.0
34.00	101.5	38.0	25.0
35.00	103.0	39.5	25.0
36.00	103.0	39.5	25.0
38.00	106.5	43.0	25.0
40.00	111.0	46.0	25.0
42.00	112.5	47.5	25.0
44.00	116.0	51.0	25.0
45.00	116.0	51.0	25.0
50.00	117.0	54.0	25.0

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30131

HSS Screw Shank Normal Series 2 Flute Slot Drill BS122/4



2-fluted Slot Drill for the machining of slots in materials with a tensile strength up to 800 N/mm².

Discount Group	20
Material	HSS
Standard	BS122/4

Surface Treatment	Bright
Tolerance	e8
Shank Type	Screw

Ø Inch	O/all Length	Cut Length mm	Shank Ø
1/16"	48.4	2.4	1/4"
3/32"	50.8	4.8	1/4"
1/8"	50.8	7.1	1/4"
5/32"	52.4	9.5	1/4"
3/16"	52.4	9.5	1/4"
7/32"	55.6	11.1	1/4"
1/4"	56.4	11.1	1/4"
17/64"	68.3	11.1	3/8"
9/32"	58.7	11.1	3/8"
19/64"	58.7	12.7	3/8"
5/16"	59.5	12.7	3/8"
21/64"	59.5	14.3	3/8"
11/32"	60.3	14.3	3/8"
23/64"	60.3	14.3	3/8"
3/8"	60.3	14.3	3/8"
25/64"	60.3	15.9	3/8"
13/32"	60.3	15.9	3/8"
27/64"	65.1	17.5	1/2"
7/16"	65.1	17.5	1/2"
29/64"	65.1	17.5	1/2"
15/32"	65.1	17.5	1/2"
31/64"	66.7	19.1	1/2"
1/2"	66.7	19.1	1/2"
17/32"	68.3	22.2	1/2"
9/16"	69.1	21.4	1/2"
19/32"	72.2	22.2	5/8"
5/8"	72.2	22.2	5/8"
21/32"	73.0	23.8	5/8"
11/16"	73.8	23.8	5/8"
23/32"	75.4	25.4	5/8"
3/4"	77.0	25.4	5/8"
25/32"	77.0	25.4	5/8"

Ø Inch	O/all Length	Cut Length mm	Shank Ø
13/16"	98.4	25.4	1"
27/32"	100.0	25.4	1"
7/8"	100.0	25.4	1"
29/32"	101.6	25.4	1"
15/16"	103.2	25.4	1"
1"	95.3	27.0	1"
1.1/16"	93.7	28.6	1"
1.1/8"	95.3	30.2	1"
1.3/16"	93.7	30.2	1"
1.1/4"	101.6	38.1	1"
1.5/16"	101.6	38.1	1"
1.3/8"	103.2	39.7	1"
1.7/16"	103.2	39.7	1"
1.1/2"	106.4	42.9	1"
1.5/8"	112.7	47.6	1"
1.3/4"	115.9	50.8	1"
1.7/8"	119.1	54.0	1"
2"	122.2	57.2	1"
1.1/4"	117.5	34.9	1.1/4"
1.5/16"	119.1	34.9	1.1/4"
1.3/8"	111.1	39.7	1.1/4"
1.7/16"	111.1	39.7	1.1/4"
1.1/2"	114.3	42.9	1.1/4"
1.9/16"	117.5	46.0	1.1/4"
1.5/8"	117.5	47.6	1.1/4"
1.3/4"	119.1	47.6	1.1/4"
1.7/8"	119.1	50.8	1.1/4"
2"	117.5	50.8	1.1/4"

30201

HSCo Plain Shank Normal Series Slot Drill BS122/4



2-fluted Slot Drill for the machining of slots in materials with a tensile strength up to 1000 N/mm².

Discount Group	20
Material	HSCo
Standard	BS122/4

Surface Treatment	Bright
Tolerance	e8
Shank Type	Plain

Ø mm	O/all Length	Cut Length mm	Shank Ø
1.50	48.0	2.5	6.0
2.00	49.0	3.0	6.0
2.50	51.0	4.5	6.0
3.00	51.0	7.0	6.0
3.50	52.5	7.5	6.0
4.00	52.5	9.5	6.0
4.50	52.5	9.5	6.0
5.00	52.5	9.5	6.0
5.50	55.5	11.0	6.0
6.00	56.5	11.0	6.0
6.50	58.5	11.0	10.0
7.00	58.5	11.0	10.0
7.50	58.5	11.0	10.0
8.00	59.5	12.5	10.0
8.50	60.5	14.5	10.0
9.00	60.5	14.5	10.0
9.50	60.5	14.5	10.0
10.00	60.5	14.5	10.0
10.50	65.0	17.5	12.0
11.00	65.0	17.5	12.0
11.50	65.0	17.5	12.0
12.00	66.5	19.0	12.0
13.00	66.5	19.0	12.0
14.00	68.5	22.0	12.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
15.00	72.0	22.0	16.0
16.00	72.0	22.0	16.0
17.00	74.0	24.0	16.0
18.00	74.0	24.0	16.0
19.00	77.0	25.5	16.0
20.00	77.0	25.5	16.0
21.00	98.0	25.5	25.0
22.00	100.0	25.5	25.0
23.00	101.5	25.5	25.0
24.00	103.0	25.5	25.0
25.00	95.5	27.0	25.0
26.00	95.5	27.0	25.0
28.00	95.0	30.0	25.0
30.00	93.5	30.0	25.0
32.00	101.5	38.0	25.0
34.00	101.5	38.0	25.0
35.00	103.0	39.5	25.0
36.00	103.0	39.5	25.0
38.00	106.5	43.0	25.0
40.00	111.0	46.0	25.0

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30201

HSCo Plain Shank Normal
Series Slot Drill BS122/4

2-fluted Slot Drill for the machining of slots in materials with a tensile strength up to 1000 N/mm².

Discount Group	20
Material	HSCo
Standard	BS122/4

Surface Treatment	Bright
Tolerance	e8
Shank Type	Plain

Ø Inch	O/all Length	Cut Length mm	Shank Ø
1/16"	48.4	2.4	1/4"
5/64"	49.2	2.4	1/4"
3/32"	50.8	4.8	1/4"
7/64"	50.8	6.4	1/4"
1/8"	50.8	7.1	1/4"
9/64"	52.4	9.5	1/4"
5/32"	52.4	9.5	1/4"
11/64"	52.4	9.5	1/4"
3/16"	52.4	9.5	1/4"
13/64"	55.6	11.1	1/4"
7/32"	55.6	11.1	1/4"
15/64"	56.4	11.1	1/4"
1/4"	56.4	11.1	1/4"
17/64"	68.3	11.1	3/8"
9/32"	58.7	11.1	3/8"
19/64"	58.7	12.7	3/8"
5/16"	59.5	12.7	3/8"
21/64"	59.5	14.3	3/8"
11/32"	60.3	14.3	3/8"
23/64"	60.3	14.3	3/8"
3/8"	60.3	14.3	3/8"
25/64"	60.3	15.9	3/8"
13/32"	60.3	15.9	3/8"
27/64"	65.1	17.5	1/2"
7/16"	65.1	17.5	1/2"
29/64"	65.1	17.5	1/2"
15/32"	65.1	17.5	1/2"
31/64"	66.7	19.1	1/2"
1/2"	66.7	19.1	1/2"
17/32"	68.3	22.2	1/2"
9/16"	69.1	21.4	1/2"

Ø Inch	O/all Length	Cut Length mm	Shank Ø
19/32"	72.2	22.2	5/8"
5/8"	72.2	22.2	5/8"
21/32"	73.0	23.8	5/8"
11/16"	73.8	23.8	5/8"
23/32"	75.4	25.4	5/8"
3/4"	77.0	25.4	5/8"
25/32"	77.0	25.4	5/8"
13/16"	98.4	25.4	1"
27/32"	100.0	25.4	1"
7/8"	100.0	25.4	1"
29/32"	101.6	25.4	1"
15/16"	103.2	25.4	1"
1"	95.3	27.0	1"
1.1/16"	93.7	28.6	1"
1.1/8"	95.3	30.2	1"
1.3/16"	93.7	30.2	1"
1.1/4"	101.6	38.1	1"
1.5/16"	101.6	38.1	1"
1.3/8"	103.2	39.7	1"
1.7/16"	103.2	39.7	1"
1.1/2"	106.4	42.9	1"

30206

HSCo Plain Shank Normal Series Slot Drill BS122/4 TiCN



Design and application similar to List-No's. 30201.
The coating provides longer tool-life or increased cutting-values.

Discount Group	20
Material	HSCo
Standard	BS122/4

Surface Treatment	TiCN
Tolerance	e8
Shank Type	Plain

Ø mm	O/all Length	Cut Length mm	Shank Ø
1.50	48.0	2.5	6.0
2.00	49.0	3.0	6.0
2.50	51.0	4.5	6.0
3.00	51.0	7.0	6.0
3.50	52.5	7.5	6.0
4.00	52.5	9.5	6.0
4.50	52.5	9.5	6.0
5.00	52.5	9.5	6.0
5.50	55.5	11.0	6.0
6.00	56.5	11.0	6.0
6.50	58.5	11.0	10.0
7.00	58.5	11.0	10.0
7.50	58.5	11.0	10.0
8.00	59.5	12.5	10.0
8.50	60.5	14.5	10.0
9.00	60.5	14.5	10.0
9.50	60.5	14.5	10.0
10.00	60.5	14.5	10.0
10.50	65.0	17.5	12.0
11.00	65.0	17.5	12.0
11.50	65.0	17.5	12.0
12.00	66.5	19.0	12.0
13.00	66.5	19.0	12.0
14.00	68.5	22.0	12.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
15.00	72.0	22.0	16.0
16.00	72.0	22.0	16.0
17.00	74.0	24.0	16.0
18.00	74.0	24.0	16.0
19.00	77.0	25.5	16.0
20.00	77.0	25.5	16.0
21.00	98.0	25.5	25.0
22.00	100.0	25.5	25.0
23.00	101.5	25.5	25.0
24.00	103.0	25.5	25.0
25.00	95.5	27.0	25.0
26.00	95.5	27.0	25.0
28.00	95.0	30.0	25.0
30.00	93.5	30.0	25.0
32.00	101.5	38.0	25.0
34.00	101.5	38.0	25.0
35.00	103.0	39.5	25.0
36.00	103.0	39.5	25.0
38.00	106.5	43.0	25.0
40.00	111.0	46.0	25.0

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30206

HSCo Plain Shank
Normal Series Slot Drill
BS122/4 TiCN



Design and application similar to List-No's. 30201.
The coating provides longer tool-life or increased cutting-values.

Discount Group	20
Material	HSCo
Standard	BS122/4

Surface Treatment	TiCN
Tolerance	e8
Shank Type	Plain

Ø Inch	O/all Length	Cut Length mm	Shank Ø
1/16"	48.4	2.4	1/4"
5/64"	49.2	2.4	1/4"
3/32"	50.8	4.8	1/4"
7/64"	50.8	6.4	1/4"
1/8"	50.8	7.1	1/4"
9/64"	52.4	9.5	1/4"
5/32"	52.4	9.5	1/4"
11/64"	52.4	9.5	1/4"
3/16"	52.4	9.5	1/4"
13/64"	55.6	11.1	1/4"
7/32"	55.6	11.1	1/4"
15/64"	56.4	11.1	1/4"
1/4"	56.4	11.1	1/4"
17/64"	68.3	11.1	3/8"
9/32"	58.7	11.1	3/8"
19/64"	58.7	12.7	3/8"
5/16"	59.5	12.7	3/8"
21/64"	59.5	14.3	3/8"
11/32"	60.3	14.3	3/8"
23/64"	60.3	14.3	3/8"
3/8"	60.3	14.3	3/8"
25/64"	60.3	15.9	3/8"
13/32"	60.3	15.9	3/8"
27/64"	65.1	17.5	1/2"
7/16"	65.1	17.5	1/2"
29/64"	65.1	17.5	1/2"
15/32"	65.1	17.5	1/2"
31/64"	66.7	19.1	1/2"
1/2"	66.7	19.1	1/2"
17/32"	68.3	22.2	1/2"
9/16"	69.1	21.4	1/2"

Ø Inch	O/all Length	Cut Length mm	Shank Ø
19/32"	72.2	22.2	5/8"
5/8"	72.2	22.2	5/8"
21/32"	73.0	23.8	5/8"
11/16"	73.8	23.8	5/8"
23/32"	75.4	25.4	5/8"
3/4"	77.0	25.4	5/8"
25/32"	77.0	25.4	5/8"
13/16"	98.4	25.4	1"
27/32"	100.0	25.4	1"
7/8"	100.0	25.4	1"
29/32"	101.6	25.4	1"
15/16"	103.2	25.4	1"
1"	95.3	27.0	1"
1.1/16"	93.7	28.6	1"
1.1/8"	95.3	30.2	1"
1.3/16"	93.7	30.2	1"
1.1/4"	101.6	38.1	1"
1.5/16"	101.6	38.1	1"
1.3/8"	103.2	39.7	1"
1.7/16"	103.2	39.7	1"
1.1/2"	106.4	42.9	1"

30221

HSCo Screw Shank Normal Series Slot Drill BS122/4



2-fluted Slot Drill for the machining of slots in materials with a tensile strength up to 1000 N/mm².

Discount Group	20
Material	HSCo
Standard	BS122/4

Surface Treatment	Bright
Tolerance	e8
Shank Type	Screw

Ø mm	O/all Length	Cut Length mm	Shank Ø
1.50	48.0	2.5	6.0
2.00	49.0	3.0	6.0
2.50	51.0	4.5	6.0
3.00	51.0	7.0	6.0
3.50	52.5	7.5	6.0
4.00	52.5	9.5	6.0
4.50	52.5	9.5	6.0
5.00	52.5	9.5	6.0
5.50	55.5	11.0	6.0
6.00	56.5	11.0	6.0
6.50	58.5	11.0	10.0
7.00	58.5	11.0	10.0
7.50	58.5	11.0	10.0
8.00	59.5	12.5	10.0
8.50	60.5	14.5	10.0
9.00	60.5	14.5	10.0
9.50	60.5	14.5	10.0
10.00	60.5	14.5	10.0
10.50	65.0	17.5	12.0
11.00	65.0	17.5	12.0
11.50	65.0	17.5	12.0
12.00	66.5	19.0	12.0
13.00	66.5	19.0	12.0
14.00	68.5	22.0	12.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
15.00	72.0	22.0	16.0
16.00	72.0	22.0	16.0
17.00	74.0	24.0	16.0
18.00	74.0	24.0	16.0
19.00	77.0	25.5	16.0
20.00	77.0	25.5	16.0
21.00	98.0	25.5	25.0
22.00	100.0	25.5	25.0
23.00	101.5	25.5	25.0
24.00	103.0	25.5	25.0
25.00	95.0	27.0	25.0
26.00	95.0	27.0	25.0
28.00	95.0	30.0	25.0
30.00	93.5	30.0	25.0
32.00	101.5	38.0	25.0
34.00	101.5	38.0	25.0
35.00	103.0	39.5	25.0
36.00	103.0	39.5	25.0
38.00	106.5	43.0	25.0
40.00	111.0	46.0	25.0

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30221

HSCo Screw Shank Normal Series Slot Drill BS122/4



2-fluted Slot Drill for the machining of slots in materials with a tensile strength up to 1000 N/mm².

Discount Group	20
Material	HSCo
Standard	BS122/4

Surface Treatment	Bright
Tolerance	e8
Shank Type	Plain

Ø Inch	O/all Length	Cut Length mm	Shank Ø
1/16"	48.4	2.4	1/4"
5/64"	49.2	2.4	1/4"
3/32"	50.8	4.8	1/4"
7/64"	50.8	6.4	1/4"
1/8"	50.8	7.1	1/4"
9/64"	52.4	9.5	1/4"
5/32"	52.4	9.5	1/4"
11/64"	52.4	9.5	1/4"
3/16"	52.4	9.5	1/4"
13/64"	55.6	11.1	1/4"
7/32"	55.6	11.1	1/4"
15/64"	56.4	11.1	1/4"
1/4"	56.4	11.1	1/4"
17/64"	68.3	11.1	3/8"
9/32"	58.7	11.1	3/8"
19/64"	58.7	12.7	3/8"
5/16"	59.5	12.7	3/8"
21/64"	59.5	14.3	3/8"
11/32"	60.3	14.3	3/8"
23/64"	60.3	14.3	3/8"
3/8"	60.3	14.3	3/8"
25/64"	60.3	15.9	3/8"
13/32"	60.3	15.9	3/8"
27/64"	65.1	17.5	1/2"
7/16"	65.1	17.5	1/2"
29/64"	65.1	17.5	1/2"
15/32"	65.1	17.5	1/2"
31/64"	66.7	19.1	1/2"
1/2"	66.7	19.1	1/2"
17/32"	68.3	22.2	1/2"
9/16"	69.1	21.4	1/2"

Ø Inch	O/all Length	Cut Length mm	Shank Ø
19/32"	72.2	22.2	5/8"
5/8"	72.2	22.2	5/8"
21/32"	73.0	23.8	5/8"
11/16"	73.8	23.8	5/8"
23/32"	75.4	25.4	5/8"
3/4"	77.0	25.4	5/8"
25/32"	77.0	25.4	5/8"
13/16"	98.4	25.4	1"
27/32"	100.0	25.4	1"
7/8"	100.0	25.4	1"
29/32"	101.6	25.4	1"
15/16"	103.2	25.4	1"
1"	95.3	27.0	1"
1.1/8"	95.3	30.2	1"
1.3/16"	93.7	30.2	1"
1.1/4"	101.6	38.1	1"
1.5/16"	101.6	38.1	1"
1.3/8"	103.2	39.7	1"
1.7/16"	103.2	39.7	1"
1.1/2"	106.4	42.9	1"

30226

HSCo Screw Shank Normal Series Slot Drill BS122/4 TiCN



Design and application similar to List-No's. 30221.
The coating provides longer tool-life or increased cutting-values.

Discount Group	20
Material	HSCo
Standard	BS122/4

Surface Treatment	TiCN
Tolerance	e8
Shank Type	Screw

Ø mm	O/all Length	Cut Length mm	Shank Ø
1.50	48.0	2.5	6.0
2.00	49.0	3.0	6.0
2.50	51.0	4.5	6.0
3.00	51.0	7.0	6.0
3.50	52.5	7.5	6.0
4.00	52.5	9.5	6.0
4.50	52.5	9.5	6.0
5.00	52.5	9.5	6.0
5.50	55.5	11.0	6.0
6.00	56.5	11.0	6.0
6.50	58.5	11.0	10.0
7.00	58.5	11.0	10.0
7.50	58.5	11.0	10.0
8.00	59.5	12.5	10.0
8.50	60.5	14.5	10.0
9.00	60.5	14.5	10.0
9.50	60.5	14.5	10.0
10.00	60.5	14.5	10.0
10.50	65.0	17.5	12.0
11.00	65.0	17.5	12.0
11.50	65.0	17.5	12.0
12.00	66.5	19.0	12.0
13.00	66.5	19.0	12.0
14.00	68.5	22.0	12.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
15.00	72.0	22.0	16.0
16.00	72.0	22.0	16.0
17.00	74.0	24.0	16.0
18.00	74.0	24.0	16.0
19.00	77.0	25.5	16.0
20.00	77.0	25.5	16.0
21.00	98.0	25.5	25.0
22.00	100.0	25.5	25.0
23.00	101.5	25.5	25.0
24.00	103.0	25.5	25.0
25.00	95.0	27.0	25.0
26.00	95.0	27.0	25.0
28.00	95.0	30.0	25.0
30.00	93.5	30.0	25.0
32.00	101.5	38.0	25.0
34.00	101.5	38.0	25.0
35.00	103.0	39.5	25.0
36.00	103.0	39.5	25.0
38.00	106.5	43.0	25.0
40.00	111.0	46.0	25.0

continued on p244

30226

HSCo Screw Shank
Normal Series Slot Drill
BS122/4 TiCN



Design and application similar to List-No's. 30221.
The coating provides longer tool-life or increased cutting-values.

Discount Group	20
Material	HSCo
Standard	BS122/4

Surface Treatment	TiCN
Tolerance	e8
Shank Type	Screw

Ø Inch	O/all Length	Cut Length mm	Shank Ø
1/16"	48.4	2.4	1/4"
5/64"	49.2	2.4	1/4"
3/32"	50.8	4.8	1/4"
7/64"	50.8	6.4	1/4"
1/8"	50.8	7.1	1/4"
9/64"	52.4	9.5	1/4"
5/32"	52.4	9.5	1/4"
11/64"	52.4	9.5	1/4"
3/16"	52.4	9.5	1/4"
13/64"	55.6	11.1	1/4"
7/32"	55.6	11.1	1/4"
15/64"	56.4	11.1	1/4"
1/4"	56.4	11.1	1/4"
17/64"	68.3	11.1	3/8"
9/32"	58.7	11.1	3/8"
19/64"	58.7	12.7	3/8"
5/16"	59.5	12.7	3/8"
21/64"	59.5	14.3	3/8"
11/32"	60.3	14.3	3/8"
23/64"	60.3	14.3	3/8"
3/8"	60.3	14.3	3/8"
25/64"	60.3	15.9	3/8"
13/32"	60.3	15.9	3/8"

Ø Inch	O/all Length	Cut Length mm	Shank Ø
27/64"	65.1	17.5	1/2"
7/16"	65.1	17.5	1/2"
29/64"	65.1	17.5	1/2"
15/32"	65.1	17.5	1/2"
31/64"	66.7	19.1	1/2"
1/2"	66.7	19.1	1/2"
17/32"	68.3	22.2	1/2"
9/16"	69.1	21.4	1/2"
19/32"	72.2	22.2	5/8"
5/8"	72.2	22.2	5/8"
21/32"	73.0	23.8	5/8"
11/16"	73.8	23.8	5/8"
23/32"	75.4	25.4	5/8"
3/4"	77.0	25.4	5/8"
25/32"	77.0	25.4	5/8"
13/16"	98.4	25.4	1"
27/32"	100.0	25.4	1"
7/8"	100.0	25.4	1"
29/32"	101.6	25.4	1"
15/16"	103.2	25.4	1"
1"	95.3	27.0	1"

31131

HSS Screw Shank Long Series Slot Drill BS122/4



2-fluted Slot Drill for the machining of slots in materials with a tensile strength up to 800 N/mm².

Discount Group	20
Material	HSS
Standard	BS122/4

Surface Treatment	Bright
Tolerance	e8
Shank Type	Screw

Ø mm	O/all Length	Cut Length mm	Shank Ø
2.00	51.0	4.0	6.0
2.50	54.0	6.5	6.0
3.00	60.5	11.0	6.0
3.50	66.5	12.5	6.0
4.00	66.5	12.5	6.0
4.50	66.5	12.5	6.0
5.00	70.0	12.5	6.0
5.50	76.0	16.0	6.0
6.00	76.0	16.0	6.0
6.50	76.0	16.0	10.0
7.00	76.0	16.0	10.0
7.50	76.0	16.0	10.0
8.00	79.5	19.0	10.0
8.50	82.5	22.0	10.0
9.00	82.5	22.0	10.0
10.00	82.5	22.0	10.0
10.50	89.0	22.0	12.0
11.00	89.0	22.0	12.0
12.00	95.0	25.5	12.0
13.00	95.0	25.5	12.0
14.00	101.5	28.5	12.0
15.00	108.0	31.5	16.0
16.00	108.0	31.5	16.0
17.00	114.5	35.0	16.0
18.00	114.5	35.0	16.0
19.00	120.5	38.0	16.0
20.00	120.5	38.0	16.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
21.00	139.0	38.0	25.0
22.00	140.0	41.5	25.0
24.00	152.5	41.5	25.0
25.00	159.0	44.5	25.0
26.00	159.0	44.5	25.0
27.00	159.0	44.5	25.0
28.00	159.0	47.5	25.0
30.00	159.0	51.0	25.0
32.00	159.0	51.0	25.0
34.00	159.0	51.0	25.0
35.00	159.0	54.0	25.0
36.00	159.0	54.0	25.0
38.00	159.0	57.0	25.0
40.00	159.0	57.0	25.0
42.00	159.0	57.0	25.0
44.00	159.0	57.0	25.0
45.00	159.0	57.0	25.0
50.00	159.0	57.0	25.0
32.00	159.0	51.0	32.0
34.00	159.0	51.0	32.0
35.00	159.0	54.0	32.0
36.00	159.0	54.0	32.0
38.00	159.0	57.0	32.0
40.00	159.0	63.5	32.0
42.00	159.0	63.5	32.0
45.00	159.0	63.5	32.0
50.00	159.0	63.5	32.0

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31131

HSS Screw Shank Long
Series Slot Drill BS122/4

2-fluted Slot Drill for the machining of slots in materials with a tensile strength up to 800 N/mm².

Discount Group	20
Material	HSCo
Standard	BS122/4

Surface Treatment	Bright
Tolerance	e8
Shank Type	Screw

Ø Inch	O/all Length	Cut Length mm	Shank Ø
1/16"	50.8	4.8	1/4"
3/32"	54.0	6.4	1/4"
1/8"	63.5	11.1	1/4"
5/32"	69.9	12.7	1/4"
3/16"	69.9	12.7	1/4"
7/32"	76.2	15.9	1/4"
1/4"	76.2	15.9	1/4"
17/64"	76.2	15.9	3/8"
9/32"	76.2	15.9	3/8"
19/64"	79.4	19.1	3/8"
5/16"	79.4	19.1	3/8"
21/64"	82.6	22.2	3/8"
11/32"	82.6	22.2	3/8"
23/64"	82.6	22.2	3/8"
3/8"	82.6	22.2	3/8"
25/64"	88.9	22.2	3/8"
13/32"	88.9	22.2	3/8"
27/64"	88.9	22.2	1/2"
7/16"	88.9	22.2	1/2"
29/64"	95.3	25.4	1/2"
15/32"	95.3	25.4	1/2"
31/64"	95.3	25.4	1/2"
1/2"	95.3	25.4	1/2"
17/32"	101.6	28.6	1/2"
9/16"	101.6	28.6	1/2"
19/32"	108.0	31.8	5/8"
5/8"	108.0	31.8	5/8"
21/32"	114.3	34.9	5/8"
11/16"	114.3	34.9	5/8"
3/4"	120.7	38.1	5/8"
25/32"	120.7	38.1	5/8"

Ø Inch	O/all Length	Cut Length mm	Shank Ø
13/16"	139.7	38.1	1"
27/32"	139.7	41.3	1"
7/8"	139.7	41.3	1"
29/32"	152.4	41.3	1"
15/16"	152.4	41.3	1"
1"	158.8	44.5	1"
1.1/16"	158.8	44.5	1"
1.1/8"	158.8	47.6	1"
1.3/16"	158.8	50.8	1"
1.1/4"	158.8	50.8	1"
1.5/16"	158.8	50.8	1"
1.3/8"	158.8	54.0	1"
1.7/16"	158.8	54.0	1"
1.1/2"	158.8	54.0	1"
1.5/8"	158.8	63.5	1"
1.3/4"	158.8	63.5	1"
1.7/8"	158.8	63.5	1"
2"	158.8	63.5	1"
1.1/4"	158.8	50.8	1.1/4"
1.5/16"	158.8	50.8	1.1/4"
1.3/8"	158.8	54.0	1.1/4"
1.7/16"	158.8	54.0	1.1/4"
1.1/2"	158.8	57.2	1.1/4"
1.5/8"	158.8	63.5	1.1/4"
1.3/4"	158.8	63.5	1.1/4"
1.7/8"	158.8	63.5	1.1/4"
2"	158.8	63.5	1.1/4"

31301

HSCo Plain Shank Long Series Slot Drill BS122/4



2-fluted Slot Drill for the machining of slots in materials with a tensile strength up to 1000 N/mm².

Discount Group	20
Material	HSCo
Standard	BS122/4

Surface Treatment	Bright
Tolerance	e8
Shank Type	Plain

Ø mm	O/all Length	Cut Length mm	Shank Ø
2.00	51.0	4.0	6.0
2.50	54.0	6.5	6.0
3.00	60.5	11.0	6.0
3.50	66.5	12.5	6.0
4.00	66.5	12.5	6.0
4.50	66.5	12.5	6.0
5.00	70.0	12.5	6.0
5.50	76.0	16.0	6.0
6.00	76.0	16.0	6.0
6.50	76.0	16.0	10.0
7.00	76.2	15.9	10.0
7.50	76.0	16.0	10.0
8.00	79.5	19.0	10.0
8.50	82.5	22.0	10.0
9.00	82.5	22.0	10.0
10.00	82.5	22.0	10.0
10.50	89.0	22.0	12.0
11.00	88.9	22.2	12.0
12.00	95.0	25.5	12.0
13.00	95.0	25.5	12.0
14.00	101.5	28.5	12.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
15.00	108.0	31.5	16.0
16.00	108.0	31.5	16.0
17.00	114.5	35.0	16.0
18.00	114.5	35.0	16.0
19.00	120.5	38.0	16.0
20.00	120.5	38.0	16.0
21.00	139.0	38.0	25.0
22.00	140.0	41.5	25.0
24.00	152.5	41.5	25.0
25.00	159.0	44.5	25.0
26.00	159.0	44.5	25.0
28.00	159.0	47.5	25.0
30.00	159.0	51.0	25.0
32.00	159.0	51.0	25.0

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31301

HSCo Plain Shank Long
Series Slot Drill BS122/4

2-fluted Slot Drill for the machining of slots in materials with a tensile strength up to 1000 N/mm².

Discount Group	20
Material	HSCo
Standard	BS122/4

Surface Treatment	Bright
Tolerance	e8
Shank Type	Plain

Ø Inch	O/all Length	Cut Length mm	Shank Ø
1/16"	50.8	4.8	1/4"
3/32"	54.0	6.4	1/4"
1/8"	63.5	11.1	1/4"
5/32"	69.9	12.7	1/4"
3/16"	69.9	12.7	1/4"
7/32"	76.2	15.9	1/4"
1/4"	76.2	15.9	1/4"
9/32"	76.2	15.9	3/8"
5/16"	79.4	19.1	3/8"
11/32"	82.6	22.2	3/8"
3/8"	82.6	22.2	3/8"
13/32"	88.9	22.2	3/8"
7/16"	88.9	22.2	1/2"
15/32"	95.3	25.4	1/2"
1/2"	95.3	25.4	1/2"
17/32"	101.6	28.6	1/2"
9/16"	101.6	28.6	1/2"

Ø Inch	O/all Length	Cut Length mm	Shank Ø
19/32"	108.0	31.8	5/8"
5/8"	108.0	31.8	5/8"
21/32"	114.3	34.9	5/8"
11/16"	114.3	34.9	5/8"
3/4"	120.7	38.1	5/8"
25/32"	120.7	38.1	5/8"
13/16"	139.7	38.1	1"
27/32"	139.7	41.3	1"
7/8"	139.7	41.3	1"
29/32"	152.4	41.3	1"
15/16"	152.4	41.3	1"
1"	158.8	44.5	1"
1.1/16"	158.8	44.5	1"
1.1/8"	158.8	47.6	1"
1.3/16"	158.8	50.8	1"
1.1/4"	158.8	50.8	1"

31321

HSCo Screw Shank Long Series Slot Drill BS122/4



2-fluted Slot Drill for the machining of slots in materials with a tensile strength up to 1000 N/mm².

Discount Group	20
Material	HSCo
Standard	BS122/4

Surface Treatment	Bright
Tolerance	e8
Shank Type	Screw

Ø mm	O/all Length	Cut Length mm	Shank Ø
2.00	51.0	4.0	6.0
2.50	54.0	6.5	6.0
3.00	60.5	11.0	6.0
3.50	66.5	12.5	6.0
4.00	66.5	12.5	6.0
4.50	66.5	12.5	6.0
5.00	70.0	12.5	6.0
5.50	76.0	16.0	6.0
6.00	76.0	16.0	6.0
6.50	76.0	16.0	10.0
7.00	76.0	16.0	10.0
7.50	76.0	16.0	10.0
8.00	79.5	19.0	10.0
8.50	82.5	22.0	10.0
9.00	82.5	22.0	10.0
10.00	82.5	22.0	10.0
10.50	89.0	22.0	12.0
11.00	89.0	22.0	12.0
12.00	95.0	25.5	12.0
13.00	95.0	25.5	12.0
14.00	101.5	28.5	12.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
15.00	108.0	31.5	16.0
16.00	108.0	31.5	16.0
17.00	114.5	35.0	16.0
18.00	114.5	35.0	16.0
19.00	120.5	38.0	16.0
20.00	120.5	38.0	16.0
21.00	139.0	38.0	25.0
22.00	140.0	41.5	25.0
24.00	152.5	41.5	25.0
25.00	159.0	44.5	25.0
26.00	159.0	44.5	25.0
28.00	159.0	47.5	25.0
30.00	159.0	51.0	25.0
32.00	159.0	51.0	25.0

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31321

HSCo Screw Shank Long
Series Slot Drill BS122/4

2-fluted Slot Drill for the machining of slots in materials with a tensile strength up to 1000 N/mm².

Discount Group	20
Material	HSCo
Standard	BS122/4

Surface Treatment	Bright
Tolerance	e8
Shank Type	Screw

Ø Inch	O/all Length	Cut Length mm	Shank Ø
1/16"	50.8	4.8	1/4"
3/32"	54.0	6.4	1/4"
1/8"	63.5	11.1	1/4"
5/32"	69.9	12.7	1/4"
3/16"	69.9	12.7	1/4"
7/32"	76.2	15.9	1/4"
1/4"	76.2	15.9	1/4"
9/32"	76.2	15.9	3/8"
5/16"	79.4	19.1	3/8"
11/32"	82.6	22.2	3/8"
3/8"	82.6	22.2	3/8"
13/32"	88.9	22.2	3/8"
7/16"	88.9	22.2	1/2"
15/32"	95.3	25.4	1/2"
1/2"	95.3	25.4	1/2"
17/32"	101.6	28.6	1/2"
9/16"	101.6	28.6	1/2"

Ø Inch	O/all Length	Cut Length mm	Shank Ø
19/32"	108.0	31.8	5/8"
5/8"	108.0	31.8	5/8"
21/32"	114.3	34.9	5/8"
11/16"	114.3	34.9	5/8"
3/4"	120.7	38.1	5/8"
25/32"	120.7	38.1	5/8"
13/16"	139.7	38.1	1"
27/32"	139.7	41.3	1"
7/8"	139.7	41.3	1"
29/32"	152.4	41.3	1"
15/16"	152.4	41.3	1"
1"	158.8	44.5	1"
1.1/16"	158.8	44.5	1"
1.1/8"	158.8	47.6	1"
1.3/16"	158.8	50.8	1"
1.1/4"	158.8	50.8	1"

48131

HSS Plain Shank Ballnose Slot Drill BS122/4



2-fluted Ball-Nose Slot Drill for the machining of slots in materials with a tensile strength up to 1000 N/mm².

Discount Group	20
Material	HSS
Standard	BS122/4

Surface Treatment	Bright
Tolerance	e8
Shank Type	Plain

Ø mm	O/all Length	Cut Length mm	Shank Ø
2.00	49.0	3.0	6.0
3.00	51.5	7.0	6.0
4.00	52.5	9.5	6.0
5.00	52.5	9.5	6.0
6.00	56.5	11.0	6.0
8.00	59.5	12.5	10.0
10.00	60.5	14.5	10.0
12.00	66.5	19.0	12.0
14.00	68.5	22.0	12.0
16.00	72.0	22.0	16.0
18.00	74.0	24.0	16.0
20.00	77.0	25.5	16.0
22.00	100.0	25.5	25.0
24.00	103.0	25.5	25.0
25.00	95.0	27.0	25.0

Ø Inch	O/all Length	Cut Length mm	Shank Ø
1/16"	48.4	2.4	1/4"
3/32"	50.8	4.8	1/4"
1/8"	50.8	7.1	1/4"
5/32"	52.4	9.5	1/4"
3/16"	52.4	9.5	1/4"
7/32"	55.6	11.1	1/4"
1/4"	56.4	11.1	1/4"
9/32"	58.7	11.1	3/8"
5/16"	59.5	12.7	3/8"
11/32"	60.3	14.3	3/8"
3/8"	60.3	14.3	3/8"
13/32"	60.3	15.9	3/8"
7/16"	65.1	17.5	1/2"
15/32"	65.1	17.5	1/2"
1/2"	66.7	19.1	1/2"
9/16"	69.1	21.4	1/2"
5/8"	72.2	22.2	5/8"
11/16"	73.8	23.8	5/8"
3/4"	77.0	25.4	5/8"
7/8"	100.0	25.4	1"
1"	95.3	27.0	1"

48151

HSS Screw Shank
Ballnose Slot Drill BS122/4

2-fluted Ball-Nose Slot Drill for the machining of slots in materials with a tensile strength up to 1000 N/mm².

Discount Group	20
Material	HSS
Standard	BS122/4

Surface Treatment	Bright
Tolerance	e8
Shank Type	Screw

Ø mm	O/all Length	Cut Length mm	Shank Ø
2.00	49.0	3.0	6.0
3.00	51.5	7.0	6.0
4.00	52.5	9.5	6.0
5.00	52.5	9.5	6.0
6.00	56.5	11.0	6.0
8.00	59.5	12.5	10.0
10.00	60.5	14.5	10.0
12.00	66.5	19.0	12.0
13.00	66.5	19.0	12.0
14.00	68.5	22.0	12.0
15.00	72.0	22.0	16.0
16.00	72.0	22.0	16.0
17.00	74.0	24.0	16.0
18.00	74.0	24.0	16.0
19.00	77.0	25.5	16.0
20.00	77.0	25.5	16.0
22.00	100.0	25.5	25.0
24.00	103.0	25.5	25.0
25.00	95.0	27.0	25.0

Ø Inch	O/all Length	Cut Length mm	Shank Ø
1/16"	48.4	2.4	1/4"
3/32"	50.8	4.8	1/4"
1/8"	50.8	7.1	1/4"
5/32"	52.4	9.5	1/4"
3/16"	52.4	9.5	1/4"
7/32"	55.6	11.1	1/4"
1/4"	56.4	11.1	1/4"
9/32"	58.7	11.1	3/8"
5/16"	59.5	12.7	3/8"
11/32"	60.3	14.3	3/8"
3/8"	60.3	14.3	3/8"
13/32"	60.3	15.9	3/8"
7/16"	65.1	17.5	1/2"
15/32"	65.1	17.5	1/2"
1/2"	66.7	19.1	1/2"
9/16"	69.1	21.4	1/2"
5/8"	72.2	22.2	5/8"
11/16"	73.8	23.8	5/8"
3/4"	77.0	25.4	5/8"
7/8"	100.0	25.4	1"
1"	95.3	27.0	1"
1.1/8"	95.3	30.2	1"
1.1/4"	101.6	38.1	1"
1.1/2"	106.4	42.9	1"
1.1/2"	114.3	42.9	1.1/4"

48191

HSS Screw Shank Long Series Ballnose Slot Drill BS122/4



2-fluted Ball-Nose Slot Drill for the machining of slots in materials with a tensile strength up to 1000 N/mm².

Discount Group	20
Material	HSS
Standard	BS122/4

Surface Treatment	Bright
Tolerance	e8
Shank Type	Screw

Ø mm	O/all Length	Cut Length mm	Shank Ø
3.00	60.5	11.0	6.0
4.00	66.5	12.5	6.0
5.00	70.0	12.5	6.0
6.00	76.0	16.0	6.0
7.00	76.0	16.0	10.0
8.00	79.5	19.0	10.0
9.00	82.5	22.0	10.0
10.00	82.5	22.0	10.0
11.00	89.0	22.0	12.0
12.00	95.0	25.5	12.0
13.00	95.0	25.5	12.0
14.00	101.5	28.5	12.0
15.00	108.0	31.5	16.0
16.00	108.0	31.5	16.0
17.00	114.5	35.0	16.0
18.00	114.5	35.0	16.0
20.00	120.5	38.0	16.0

Ø Inch	O/all Length	Cut Length mm	Shank Ø
1/16"	50.8	4.8	1/4"
3/32"	54.0	6.4	1/4"
1/8"	63.5	11.1	1/4"
5/32"	69.9	12.7	1/4"
3/16"	69.9	12.7	1/4"
7/32"	76.2	15.9	1/4"
1/4"	76.2	15.9	1/4"
5/16"	79.4	19.1	3/8"
3/8"	82.6	22.2	3/8"
7/16"	88.9	22.2	1/2"
1/2"	95.3	25.4	1/2"
9/16"	101.6	28.6	1/2"
5/8"	108.0	31.8	5/8"
11/16"	114.3	34.9	5/8"
3/4"	120.7	38.1	5/8"
7/8"	139.7	41.3	1"
1"	158.8	44.5	1"
1.1/8"	158.8	47.6	1"
1.1/4"	158.8	50.8	1"
1.1/4"	158.8	50.5	1.1/4"
1.1/2"	158.8	57.2	1.1/4"

35131

HSCo Screw Shank
Short Series Tricutter

3-fluted End-Mill/Slot Drill for the machining of slots and finishing operations in materials with a tensile strength up to 1000 N/mm².

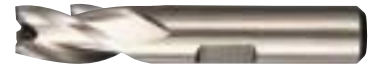
Discount Group	20
Material	HSCo
Standard	PRESTO

Surface Treatment	Bright
Tolerance	e8
Shank Type	Screw

Ø Inch	O/all Length	Cut Length mm	Shank Ø
3/8"	66.7	10.7	3/8"
7/16"	66.7	19.1	1/2"
1/2"	69.9	23.8	1/2"
5/8"	80.2	31.8	5/8"
3/4"	89.7	38.1	5/8"
7/8"	106.4	41.3	1"
1"	108.0	42.9	1"

33011

HSCo Flatted Shank Short Tricut Throwaway End Mill



3-fluted End-Mill/Slot Drill for the machining of slots and finishing operations in materials with a tensile strength up to 1000 N/mm². Replacement costs of these tools are less than that of re-grinding. When the tools become worn out, discard and replace.

Discount Group	21
Material	HSCo
Standard	DIN6527

Surface Treatment	Bright
Tolerance	-.0005"/-.0013"
Shank Type	Flatted

Ø mm	O/all Length	Cut Length mm	Shank Ø
1.00	24.5	2.0	6.0
1.50	24.5	2.5	6.0
1.80	25.5	3.0	6.0
2.00	25.5	3.0	6.0
2.50	26.0	4.0	6.0
2.80	28.0	4.5	6.0
3.00	28.0	4.5	6.0
3.50	30.0	5.5	6.0
3.80	32.5	6.5	6.0
4.00	32.5	6.5	6.0
4.50	36.0	7.5	6.0
4.80	36.0	7.5	6.0
5.00	36.0	7.5	6.0
5.50	36.0	9.5	6.0
5.75	36.0	9.5	6.0
6.00	36.0	9.5	6.0

Ø Inch	O/all Length	Cut Length mm	Shank Ø
1/16"	24.6	2.4	1/4"
3/32"	25.8	4.0	1/4"
1/8"	27.8	4.8	1/4"
5/32"	32.5	6.4	1/4"
3/16"	34.1	7.1	1/4"
7/32"	35.7	7.9	1/4"
1/4"	35.7	9.5	1/4"

33016

HSCo Flatted Shank
Short Tricut
Throwaway End Mill TiCN



Design and application similar to List-No's. 33011.
The coating provides longer tool-life or increased cutting-values.

Discount Group	21
Material	HSCo
Standard	DIN6527

Surface Treatment	TiCN
Tolerance	-.0005"/-.0013"
Shank Type	Flatted

Ø mm	O/all Length	Cut Length mm	Shank Ø
1.00	24.5	2.0	6.0
1.50	24.5	2.5	6.0
1.80	25.5	3.0	6.0
2.00	25.5	3.0	6.0
2.50	26.0	4.0	6.0
2.80	28.0	4.5	6.0
3.00	28.0	4.5	6.0
3.50	30.0	5.5	6.0
3.80	32.5	6.5	6.0
4.00	32.5	6.5	6.0
4.50	36.0	7.5	6.0
4.80	36.0	7.5	6.0
5.00	36.0	7.5	6.0
5.50	36.0	9.5	6.0
6.00	36.0	9.5	6.0

Ø Inch	O/all Length	Cut Length mm	Shank Ø
1/16"	24.6	2.4	1/4"
3/32"	25.8	4.0	1/4"
1/8"	27.8	4.8	1/4"
5/32"	32.5	6.4	1/4"
3/16"	34.1	7.1	1/4"
7/32"	35.7	7.9	1/4"
1/4"	35.7	9.5	1/4"

33111

HSCo Flatted Shank Long Series Tricut Throwaway End Mill



3-fluted End-Mill/Slot Drill for the machining of slots and finishing operations in materials with a tensile strength up to 1000 N/mm². Replacement costs of these tools are less than that of re-grinding. When the tools become worn out, discard and replace.

Discount Group	21
Material	HSCo
Standard	DIN6527

Surface Treatment	Bright
Tolerance	-.0005"/-.0013"
Shank Type	Flatted

Ø mm	O/all Length	Cut Length mm	Shank Ø
1.50	28.0	4.0	6.0
1.80	29.0	4.5	6.0
2.00	29.0	4.5	6.0
2.50	32.0	6.6	6.0
2.80	34.0	7.5	6.0
3.00	34.0	7.5	6.0
3.50	36.5	8.6	6.0
3.80	39.0	9.5	6.0
4.00	39.0	9.5	6.0
4.50	42.0	11.0	6.0
4.80	44.5	12.5	6.0
5.00	44.5	12.5	6.0
5.50	44.5	14.5	6.0
5.75	44.5	16.0	6.0
6.00	44.5	18.0	6.0

Ø Inch	O/all Length	Cut Length mm	Shank Ø
1/16"	27.8	4.0	1/4"
3/32"	31.8	6.4	1/4"
1/8"	34.1	7.9	1/4"
5/32"	38.9	9.5	1/4"
3/16"	42.1	11.1	1/4"
7/32"	44.5	12.7	1/4"
1/4"	44.5	15.9	1/4"

33116

HSCo Flatted Shank Long Series Tricut Throwaway End Mill TiCN



Design and application similar to List-No's. 33111.
The coating provides longer tool-life or increased cutting-values.

Discount Group	21
Material	HSCo
Standard	DIN6527

Surface Treatment	TiCN
Tolerance	-.0005"/-.0013"
Shank Type	Flatted

Ø mm	O/all Length	Cut Length mm	Shank Ø
1.50	28.0	4.0	6.0
1.80	29.0	4.5	6.0
2.00	29.0	4.5	6.0
2.50	32.0	6.6	6.0
2.80	34.0	7.5	6.0
3.00	34.0	7.5	6.0
3.50	36.5	8.6	6.0
3.80	39.0	9.5	6.0
4.00	39.0	9.5	6.0
4.50	42.0	11.0	6.0
4.80	44.5	12.5	6.0
5.00	44.5	12.5	6.0
5.50	44.5	14.5	6.0
6.00	44.5	18.0	6.0

Ø Inch	O/all Length	Cut Length mm	Shank Ø
1/16"	27.8	4.0	1/4"
3/32"	31.8	6.4	1/4"
1/8"	34.1	7.9	1/4"
5/32"	38.9	9.5	1/4"
3/16"	42.1	11.1	1/4"
7/32"	44.5	12.7	1/4"
1/4"	44.5	15.9	1/4"

40131

HSS Screw Shank Normal Series Endmill BS 122/4



Multi-fluted End-Mill for finishing operations in general purpose steels up to 1000 N/mm² with good to medium machineability.

Discount Group	20
Material	HSS
Standard	BS122/4

Surface Treatment	Bright
Tolerance	+0.0025"/+.0005"
Shank Type	Screw

Ø mm	O/all Length	Cut Length mm	Shank Ø
2.00	51.0	6.5	6.0
2.50	51.0	6.5	6.0
3.00	54.0	9.5	6.0
3.50	57.0	12.5	6.0
4.00	57.0	12.5	6.0
4.50	57.0	12.5	6.0
5.00	60.5	16.0	6.0
5.50	60.5	16.0	6.0
6.00	60.5	16.0	6.0
6.50	60.5	16.0	10.0
7.00	60.5	15.0	10.0
7.50	63.5	18.0	10.0
8.00	63.5	18.0	10.0
8.50	66.5	21.0	10.0
9.00	66.5	21.0	10.0
9.50	66.5	21.0	10.0
10.00	66.5	21.0	10.0
10.50	66.5	19.0	12.0
11.00	66.5	19.0	12.0
11.50	70.0	22.5	12.0
12.00	70.0	24.0	12.0
13.00	70.0	24.5	12.0
14.00	73.0	28.5	12.0
15.00	77.0	26.5	16.0
16.00	77.0	26.5	16.0
17.00	80.0	32.0	16.0
18.00	80.0	35.0	16.0
19.00	83.5	38.0	16.0
20.00	83.5	38.0	16.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
21.00	95.0	38.0	25.0
22.00	98.5	41.5	25.0
23.00	98.5	41.5	25.0
24.00	98.5	41.5	25.0
25.00	101.5	44.5	25.0
26.00	101.5	43.0	25.0
27.00	102.0	44.0	25.0
28.00	104.5	46.0	25.0
29.00	105.0	46.0	25.0
30.00	104.5	46.0	25.0
32.00	108.0	49.0	25.0
33.00	108.0	49.0	25.0
34.00	108.0	49.0	25.0
35.00	111.0	52.5	25.0
36.00	111.0	52.5	25.0
38.00	114.5	55.5	25.0
40.00	117.5	57.0	25.0
42.00	117.5	60.5	25.0
44.00	120.5	63.5	25.0
45.00	120.5	63.5	25.0
50.00	127.0	70.0	25.0
32.00	112.5	51.0	32.0
33.00	112.5	51.0	32.0
34.00	112.5	51.0	32.0
35.00	116.0	54.0	32.0
36.00	116.0	54.0	32.0
38.00	116.0	54.0	32.0
40.00	117.5	55.5	32.0
42.00	116.0	54.0	32.0
44.00	119.0	57.0	32.0
45.00	119.0	57.0	32.0
50.00	127.0	65.0	32.0

continued on p260

40131

HSS Screw Shank Normal Series Endmill BS 122/4



Multi-fluted End-Mill for finishing operations in general purpose steels up to 1000 N/mm² with good to medium machineability.

Discount Group	20
Material	HSS
Standard	BS122/4

Surface Treatment	Bright
Tolerance	+0.0025"/+.0005"
Shank Type	Screw

Ø Inch	O/all Length	Cut Length mm	Shank Ø
1/16"	48.4	2.4	1/4"
3/32"	50.8	6.4	1/4"
1/8"	54.0	9.5	1/4"
5/32"	57.2	12.7	1/4"
3/16"	57.2	12.7	1/4"
7/32"	60.3	15.9	1/4"
1/4"	60.3	15.9	1/4"
9/32"	60.3	15.1	3/8"
5/16"	63.5	18.3	3/8"
11/32"	66.7	21.4	3/8"
3/8"	66.7	21.4	3/8"
13/32"	66.7	22.2	3/8"
7/16"	66.7	19.1	1/2"
15/32"	69.9	22.2	1/2"
1/2"	69.9	23.8	1/2"
17/32"	73.0	28.6	1/2"
9/16"	73.0	28.6	1/2"
19/32"	77.0	27.0	5/8"
5/8"	77.0	27.0	5/8"
21/32"	80.2	31.8	5/8"
11/16"	80.2	34.9	5/8"
23/32"	83.3	38.1	5/8"
3/4"	83.3	38.1	5/8"
25/32"	83.3	38.1	5/8"

Ø Inch	O/all Length	Cut Length mm	Shank Ø
13/16"	95.3	38.1	1"
7/8"	98.4	41.3	1"
15/16"	98.4	41.3	1"
1"	101.6	42.9	1"
1.1/16"	101.6	42.9	1"
1.1/8"	104.8	46.0	1"
1.3/16"	104.8	46.0	1"
1.1/4"	108.0	49.2	1"
1.5/16"	108.0	49.2	1"
1.3/8"	111.1	52.4	1"
1.7/16"	111.1	52.4	1"
1.1/2"	114.3	55.6	1"
1.5/8"	117.5	60.3	1"
1.3/4"	120.7	63.5	1"
1.7/8"	123.8	66.7	1"
2"	127.0	69.9	1"
1.1/4"	112.7	50.8	1.1/4"
1.3/8"	115.9	54.0	1.1/4"
1.7/16"	115.9	54.0	1.1/4"
1.1/2"	115.9	54.0	1.1/4"
1.5/8"	115.9	54.0	1.1/4"
1.3/4"	119.1	57.2	1.1/4"
1.7/8"	123.8	61.9	1.1/4"
2"	127.0	65.1	1.1/4"

40221

HSCo Screw Shank Normal Series Endmill BS122/4



Multi-fluted End-Mill for finishing operations in general purpose steels up to 1000 N/mm² with good to medium machineability.

Discount Group	20
Material	HSCo
Standard	BS122/4

Surface Treatment	Bright
Tolerance	+0.0025"/+.0005"
Shank Type	Screw

Ø mm	O/all Length	Cut Length mm	Shank Ø
2.00	51.0	6.5	6.0
2.50	51.0	6.5	6.0
3.00	54.0	9.5	6.0
3.50	57.0	12.5	6.0
4.00	57.0	12.5	6.0
4.50	57.0	12.5	6.0
5.00	60.5	16.0	6.0
5.50	60.5	16.0	6.0
6.00	60.5	16.0	6.0
6.50	60.5	16.0	10.0
7.00	60.5	15.0	10.0
7.50	63.5	18.0	10.0
8.00	63.5	18.0	10.0
8.50	66.5	21.0	10.0
9.00	66.5	21.0	10.0
9.50	66.5	21.0	10.0
10.00	66.5	21.0	10.0
11.00	66.5	19.0	12.0
12.00	70.0	24.0	12.0
13.00	70.0	24.5	12.0
14.00	73.0	28.5	12.0
15.00	77.0	26.5	16.0
16.00	77.0	26.5	16.0
18.00	80.0	35.0	16.0
20.00	83.5	38.0	16.0
22.00	98.5	41.5	25.0
24.00	98.5	41.5	25.0
25.00	101.5	44.5	25.0
26.00	101.5	43.0	25.0
28.00	104.5	46.0	25.0
30.00	104.5	46.0	25.0
32.00	108.0	49.0	25.0
36.00	111.0	52.5	25.0
40.00	117.5	57.0	25.0

Ø Inch	O/all Length	Cut Length mm	Shank Ø
1/16"	48.4	2.4	1/4"
3/32"	50.8	6.4	1/4"
1/8"	54.0	9.5	1/4"
5/32"	57.2	12.7	1/4"
3/16"	57.2	12.7	1/4"
7/32"	60.3	15.9	1/4"
1/4"	60.3	15.9	1/4"
9/32"	60.3	15.1	3/8"
5/16"	63.5	18.3	3/8"
11/32"	66.7	21.4	3/8"
3/8"	66.7	21.4	3/8"
13/32"	66.7	22.2	3/8"
7/16"	66.7	19.1	1/2"
15/32"	69.9	22.2	1/2"
1/2"	69.9	23.8	1/2"
17/32"	73.0	28.6	1/2"
9/16"	73.0	28.6	1/2"
19/32"	77.0	27.0	5/8"
5/8"	77.0	27.0	5/8"
21/32"	80.2	31.8	5/8"
11/16"	80.2	34.9	5/8"
23/32"	83.3	38.1	5/8"
3/4"	83.3	38.1	5/8"
25/32"	83.3	38.1	5/8"
13/16"	95.3	38.1	1"
7/8"	98.4	41.3	1"
15/16"	98.4	41.3	1"
1"	101.6	42.9	1"
1.1/16"	101.6	42.9	1"
1.1/8"	104.8	46.0	1"
1.3/16"	104.8	46.0	1"
1.1/4"	108.0	49.2	1"
1.5/16"	108.0	49.2	1"
1.3/8"	111.1	52.4	1"
1.7/16"	111.1	52.4	1"
1.1/2"	114.3	55.6	1"

MILLING

40226

HSCo Screw Shank Normal Series Endmill BS122/4 TiCN



Design and application similar to List-No's. 40221.
The coating provides longer tool-life or increased cutting-values.

Discount Group	20
Material	HSCo
Standard	BS122/4

Surface Treatment	TiCN
Tolerance	+0.0025"/+.0005"
Shank Type	Screw

Ø mm	O/all Length	Cut Length mm	Shank Ø
2.00	51.0	6.5	6.0
2.50	51.0	6.5	6.0
3.00	54.0	9.5	6.0
3.50	57.0	12.5	6.0
4.00	57.0	12.5	6.0
4.50	57.0	12.5	6.0
5.00	60.5	16.0	6.0
5.50	60.5	16.0	6.0
6.00	60.5	16.0	6.0
6.50	60.5	16.0	10.0
7.00	60.5	15.0	10.0
7.50	63.5	18.0	10.0
8.00	63.5	18.0	10.0
8.50	66.5	21.0	10.0
9.00	66.5	21.0	10.0
9.50	66.5	21.0	10.0
10.00	66.5	21.0	10.0
11.00	66.5	19.0	12.0
12.00	70.0	24.0	12.0
13.00	70.0	24.5	12.0
14.00	73.0	28.5	12.0
15.00	77.0	26.5	16.0
16.00	77.0	26.5	16.0
18.00	80.0	35.0	16.0
20.00	83.5	38.0	16.0
22.00	98.5	41.5	25.0
24.00	98.5	41.5	25.0
25.00	101.5	44.5	25.0
26.00	101.5	43.0	25.0
28.00	104.5	46.0	25.0
30.00	104.5	46.0	25.0
32.00	108.0	49.0	25.0
36.00	111.0	52.5	25.0
40.00	117.5	57.0	25.0

Ø Inch	O/all Length	Cut Length mm	Shank Ø
1/16"	48.4	2.4	1/4"
3/32"	50.8	6.4	1/4"
1/8"	54.0	9.5	1/4"
5/32"	57.2	12.7	1/4"
3/16"	57.2	12.7	1/4"
7/32"	60.3	15.9	1/4"
1/4"	60.3	15.9	1/4"
9/32"	60.3	15.1	3/8"
5/16"	63.5	18.3	3/8"
11/32"	66.7	21.4	3/8"
3/8"	66.7	21.4	3/8"
13/32"	66.7	22.2	3/8"
7/16"	66.7	19.1	1/2"
15/32"	69.9	22.2	1/2"
1/2"	69.9	23.8	1/2"
17/32"	73.0	28.6	1/2"
9/16"	73.0	28.6	1/2"
19/32"	77.0	27.0	5/8"
5/8"	77.0	27.0	5/8"
21/32"	80.2	31.8	5/8"
11/16"	80.2	34.9	5/8"
23/32"	83.3	38.1	5/8"
3/4"	83.3	38.1	5/8"
25/32"	83.3	38.1	5/8"
13/16"	95.3	38.1	1"
7/8"	98.4	41.3	1"
15/16"	98.4	41.3	1"
1"	101.6	42.9	1"
1.1/16"	101.6	42.9	1"
1.1/8"	104.8	46.0	1"
1.3/16"	104.8	46.0	1"
1.1/4"	108.0	49.2	1"
1.5/16"	108.0	49.2	1"
1.3/8"	111.1	52.4	1"
1.7/16"	111.1	52.4	1"
1.1/2"	114.3	55.6	1"

41131

HSS Screw Shank Long Series Endmill BS122/4



Multi-fluted End-Mill for finishing operations in general purpose steels up to 1000 N/mm² with good to medium machineability.

Discount Group	20
Material	HSS
Standard	BS122/4

Surface Treatment	Bright
Tolerance	+0.0025"/+.0005"
Shank Type	Screw

Ø mm	O/all Length	Cut Length mm	Shank Ø
3.00	63.5	19.0	6.0
3.50	70.0	25.5	6.0
4.00	70.0	25.5	6.0
4.50	70.0	25.5	6.0
5.00	76.0	31.5	6.0
5.50	76.0	31.5	6.0
6.00	76.0	31.5	6.0
6.50	79.5	35.0	10.0
7.00	79.5	34.0	10.0
7.50	79.5	34.0	10.0
8.00	79.5	34.0	10.0
8.50	82.5	37.0	10.0
9.00	82.5	37.0	10.0
9.50	82.5	37.0	10.0
10.00	82.5	37.0	10.0
11.00	89.0	41.5	12.0
12.00	95.0	49.5	12.0
13.00	95.0	50.0	12.0
14.00	101.5	57.0	12.0
15.00	108.5	58.5	16.0
16.00	108.5	58.5	16.0
17.00	115.0	67.0	16.0
18.00	115.0	70.0	16.0
19.00	121.5	76.0	16.0
20.00	121.5	76.0	16.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
22.00	143.0	85.5	25.0
23.00	149.0	92.0	25.0
24.00	149.0	92.0	25.0
25.00	157.0	100.0	25.0
26.00	157.0	98.5	25.0
27.00	157.0	98.5	25.0
28.00	157.0	98.5	25.0
29.00	157.0	98.5	25.0
30.00	157.0	98.5	25.0
32.00	159.0	100.0	25.0
34.00	159.0	100.0	25.0
35.00	159.0	100.0	25.0
36.00	159.0	100.0	25.0
38.00	159.0	100.0	25.0
40.00	159.0	101.5	25.0
42.00	159.0	101.5	25.0
44.00	159.0	101.5	25.0
45.00	159.0	101.5	25.0
50.00	159.0	101.5	25.0
32.00	163.5	101.5	32.0
34.00	163.5	101.5	32.0
35.00	163.5	101.5	32.0
36.00	163.5	101.5	32.0
38.00	163.5	101.5	32.0
40.00	163.5	101.5	32.0
42.00	163.5	101.5	32.0
44.00	163.5	101.5	32.0
45.00	163.5	101.5	32.0
50.00	163.5	101.5	32.0

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41131

HSS Screw Shank Long Series Endmill BS122/4



Multi-fluted End-Mill for finishing operations in general purpose steels up to 1000 N/mm² with good to medium machineability.

Discount Group	20
Material	HSS
Standard	BS122/4

Surface Treatment	Bright
Tolerance	+0.0025"/+.0005"
Shank Type	Screw

Ø Inch	O/all Length	Cut Length mm	Shank Ø
3/32"	57.2	9.9	1/4"
1/8"	63.5	19.1	1/4"
5/32"	69.9	25.4	1/4"
3/16"	69.9	25.4	1/4"
7/32"	76.2	31.8	1/4"
1/4"	76.2	31.8	1/4"
9/32"	79.4	34.1	3/8"
5/16"	79.4	34.1	3/8"
11/32"	82.6	37.3	3/8"
3/8"	82.6	37.3	3/8"
13/32"	82.6	38.1	3/8"
7/16"	88.9	41.3	1/2"
15/32"	95.3	47.6	1/2"
1/2"	95.3	49.2	1/2"
17/32"	101.6	57.2	1/2"
9/16"	101.6	57.2	1/2"
5/8"	108.7	58.7	5/8"
11/16"	116.7	69.9	5/8"
3/4"	121.4	76.2	5/8"

Ø Inch	O/all Length	Cut Length mm	Shank Ø
13/16"	136.5	77.8	1"
7/8"	142.9	85.7	1"
15/16"	149.2	92.1	1"
1"	157.2	100.0	1"
1.1/16"	157.2	98.4	1"
1.1/8"	157.2	98.4	1"
1.3/16"	157.2	98.4	1"
1.1/4"	158.8	100.0	1"
1.5/16"	158.8	100.0	1"
1.3/8"	158.8	100.0	1"
1.7/16"	158.8	100.0	1"
1.1/2"	158.8	100.0	1"
1.5/8"	158.8	101.6	1"
1.3/4"	158.8	101.6	1"
1.7/8"	158.8	101.6	1"
2"	158.8	101.6	1"
1.1/4"	163.5	101.6	1.1/4"
1.5/16"	163.5	101.6	1.1/4"
1.3/8"	163.5	101.6	1.1/4"
1.1/2"	163.5	101.6	1.1/4"
1.5/8"	163.5	101.6	1.1/4"
1.3/4"	163.5	101.6	1.1/4"
1.7/8"	163.5	101.6	1.1/4"
2"	163.5	101.6	1.1/4"

41221

HSCo Screw Shank Long Series Endmill BS122/4



Multi-fluted End-Mill for finishing operations in general purpose steels up to 1000 N/mm² with good to medium machineability.

Discount Group	20
Material	HSCo
Standard	BS122/4

Surface Treatment	Bright
Tolerance	+.0025"/+.0005"
Shank Type	Screw

Ø mm	O/all Length	Cut Length mm	Shank Ø
3.00	63.5	19.0	6.0
4.00	70.0	25.5	6.0
5.00	76.0	31.5	6.0
6.00	76.0	31.5	6.0
7.00	79.5	34.0	10.0
8.00	79.5	34.0	10.0
9.00	82.5	37.0	10.0
10.00	82.5	37.0	10.0
11.00	89.0	41.5	12.0
12.00	95.0	49.5	12.0
13.00	95.0	50.0	12.0
14.00	101.5	57.0	12.0
15.00	108.5	58.5	16.0
16.00	108.5	58.5	16.0
18.00	115.0	67.0	16.0
20.00	121.5	76.0	16.0
22.00	143.0	85.5	25.0
24.00	149.0	92.0	25.0
25.00	157.0	100.0	25.0
26.00	157.0	98.5	25.0
28.00	157.0	98.5	25.0
30.00	157.0	98.5	25.0
32.00	159.0	100.0	25.0
36.00	159.0	100.0	25.0
40.00	159.0	101.5	25.0

Ø Inch	O/all Length	Cut Length mm	Shank Ø
1/16"	50.8	4.8	1/4"
3/32"	57.2	9.9	1/4"
1/8"	63.5	19.1	1/4"
5/32"	69.9	25.4	1/4"
3/16"	69.9	25.4	1/4"
7/32"	76.2	31.8	1/4"
1/4"	76.2	31.8	1/4"
9/32"	79.4	34.1	3/8"
5/16"	79.4	34.1	3/8"
11/32"	82.6	37.3	3/8"
3/8"	82.6	37.3	3/8"
13/32"	82.6	38.1	3/8"
7/16"	88.9	41.3	1/2"
15/32"	95.3	47.6	1/2"
1/2"	95.3	49.2	1/2"
17/32"	101.6	57.2	1/2"
9/16"	101.6	57.2	1/2"
5/8"	108.7	58.7	5/8"
11/16"	116.7	69.9	5/8"
3/4"	121.4	76.2	5/8"
13/16"	136.5	77.8	1"
7/8"	142.9	85.7	1"
15/16"	149.2	92.1	1"
1"	157.2	100.0	1"
1.1/16"	157.2	98.4	1"
1.1/8"	157.2	98.4	1"
1.3/16"	157.2	98.4	1"
1.1/4"	158.8	100.0	1"
1.5/16"	158.8	100.0	1"
1.3/8"	158.8	100.0	1"
1.7/16"	158.8	100.0	1"
1.1/2"	158.8	100.0	1"

MILLING

48231

HSS Screw Shank
Woodruff Cutter

For milling of keyseats acc. to DIN 6888 and BSS.

Discount Group	20	Surface Treatment	Bright
Material	HSS	Tolerance	h11, Head Width: e8
Standard	PRESTO	Shank Type	Screw

Cutter Ø	Cut Width	O/all Length mm	Shank Ø	No. of Flutes
10.5	2.0	56.0	12.0	6
10.5	2.5	56.0	12.0	6
10.5	3.0	56.0	12.0	6
13.5	2.0	56.0	12.0	6
13.5	2.5	56.0	12.0	6
13.5	3.0	56.0	12.0	6
13.5	4.0	56.0	12.0	6
16.5	2.5	56.0	12.0	6
16.5	3.0	56.0	12.0	6
16.5	4.0	56.0	12.0	6
16.5	5.0	56.0	12.0	6
19.5	3.0	57.0	12.0	6
19.5	4.0	57.0	12.0	6
19.5	5.0	57.0	12.0	6
19.5	6.0	57.0	12.0	6
22.5	4.0	64.0	12.0	8
22.5	5.0	64.0	12.0	8
22.5	6.0	64.0	12.0	8
22.5	8.0	64.0	12.0	8
25.5	5.0	70.0	12.0	8
25.5	6.0	70.0	12.0	8
25.5	8.0	70.0	12.0	8
28.5	10.0	70.0	12.0	8
28.5	5.0	70.0	12.0	8
28.5	6.0	70.0	12.0	8
28.5	8.0	70.0	12.0	8
32.5	10.0	70.0	12.0	8
32.5	5.0	70.0	12.0	8
32.5	6.0	70.0	12.0	8
32.5	7.0	70.0	12.0	8
32.5	8.0	70.0	12.0	8
35.5	10.0	76.0	12.0	10
35.5	6.0	76.0	12.0	10
35.5	8.0	76.0	12.0	10
38.5	10.0	76.0	12.0	10
38.5	8.0	76.0	12.0	10
45.5	10.0	76.0	12.0	12

48231

HSS Screw Shank Woodruff Cutter



For milling of keyseats acc. to DIN 6888 and BSS.

Discount Group	20	Surface Treatment	Bright
Material	HSS	Tolerance	h11, Head Width: e8
Standard	PRESTO	Shank Type	Screw

Number	Cutter Ø	Cut Width	O/all Length mm	Shank Ø	No. of Flutes
204	1/2"	1/16"	56.5	1/2"	6
304	1/2"	3/32"	56.5	1/2"	6
404	1/2"	1/8"	57.0	1/2"	6
305	5/8"	3/32"	57.0	1/2"	6
405	5/8"	1/8"	57.0	1/2"	6
505	5/8"	5/32"	57.0	1/2"	6
406	3/4"	1/8"	57.0	1/2"	6
506	3/4"	5/32"	57.0	1/2"	6
606	3/4"	3/16"	57.0	1/2"	6
507	7/8"	5/32"	64.0	1/2"	8
607	7/8"	3/16"	64.0	1/2"	8
707	7/8"	7/32"	64.0	1/2"	8
807	7/8"	1/4"	64.0	1/2"	8
608	1"	3/16"	70.0	1/2"	8
708	1"	7/32"	70.0	1/2"	8
808	1"	1/4"	70.0	1/2"	8
1008	1"	5/16"	70.0	1/2"	8
609	1.1/8"	3/16"	70.0	1/2"	8
709	1.1/8"	7/32"	70.0	1/2"	8
809	1.1/8"	1/4"	70.0	1/2"	8
1009	1.1/8"	5/16"	70.0	1/2"	8
610	1.1/4"	3/16"	70.0	1/2"	8
710	1.1/4"	7/32"	70.0	1/2"	8
910	1.1/4"	1/4"	70.0	1/2"	8
1010	1.1/4"	5/16"	70.0	1/2"	8
1210	1.1/4"	3/8"	70.0	1/2"	8
811	1.3/8"	1/4"	76.0	1/2"	10
1011	1.3/8"	5/16"	76.0	1/2"	10
1211	1.3/8"	3/8"	76.0	1/2"	10
0812	1.1/2"	1/4"	76.0	1/2"	10
1012	1.1/2"	5/16"	76.0	1/2"	10
1212	1.1/2"	3/8"	76.0	1/2"	10

48331

HSS Screw Shank
T-Slot Cutter

For milling of 'T' shaped slots in machine beds
in order to receive clamping bolts.

Discount Group	20	Surface Treatment	Bright
Material	HSS	Tolerance	+0.005"/-0.005" Ø & Width
Standard	PRESTO	Shank Type	Screw

Bolt Size mm	Cutter Ø	Cut Width	Neck Ø	O/all Length mm	Shank Ø	No. of Flutes
6	12.5	6.0	5.0	57.0	10.0	6
8	16.0	8.0	7.0	62.0	10.0	6
10	19.0	9.0	8.0	70.0	12.0	6
12	22.0	10.0	10.0	74.0	12.0	6
14	25.0	11.0	12.0	82.0	16.0	6
16	28.0	12.0	13.0	85.0	16.0	6
18	32.0	14.0	15.0	90.0	25.0	8
20	36.0	16.0	17.0	103.0	25.0	8
22	40.0	18.0	19.0	108.0	25.0	8

Bolt Size Inch	Cutter Ø	Cut Width	Neck Ø	O/all Length mm	Shank Ø	No. of Flutes
1/4"	37/64"	1/4"	1/4"	60.3	1/2"	6
5/16"	45/64"	5/16"	9/32"	65.1	1/2"	6
3/8"	53/64"	23/64"	11/32"	68.3	1/2"	6
7/16"	61/64"	27/64"	3/8"	73.0	1/2"	6
1/2"	1.5/64"	15/32"	15/32"	76.2	1/2"	6
5/8"	1.21/64"	37/64"	9/16"	101.6	1"	8
3/4"	1.33/64"	11/16"	11/16"	109.5	1"	8
7/8"	1.45/64"	51/64"	13/16"	117.5	1"	8
1"	1.61/64"	29/32"	15/16"	127.0	1"	8

48431

HSS Screw Shank Dovetail Cutter



Dovetail cutters are designed for cutting dovetails in a wide variety of materials. Dovetail cutters can also be used for chamfering or milling angles on the bottom surface of a part. Dovetail cutters are available in a variety of diameters and in 45° or 60° angles. Cutting diameter is measured at the end of the tool, the largest diameter.

Discount Group	20	Surface Treatment	Bright
Material	HSS	Tolerance	+.010/-0
Standard	PRESTO	Shank Type	Screw

Angle	Cutter Ø	Cut Width	O/all Length mm	Shank Ø	No. of Flutes
45°	5/8"	5/32"	66.7	1/2"	6
45°	3/4"	7/32"	68.3	1/2"	6
45°	7/8"	1/4"	69.1	1/2"	6
45°	1"	5/16"	69.9	1/2"	6
45°	1.1/4"	11/32"	75.0	5/8"	8
45°	1.3/8"	3/8"	77.8	1"	8
45°	1.1/2"	13/32"	79.0	1"	8
55°	1"	3/8"	69.9	1/2"	6
55°	1.1/2"	19/32"	84.1	1"	8
60°	1/2"	5/32"	63.9	1/2"	6
60°	5/8"	7/32"	66.7	1/2"	6
60°	3/4"	9/32"	68.3	1/2"	6
60°	7/8"	3/8"	68.3	1/2"	6
60°	1"	15/32"	69.9	1/2"	6
60°	1.1/8"	1/2"	73.0	5/8"	6
60°	1.1/4"	17/32"	75.0	5/8"	8
60°	1.3/8"	9/16"	82.6	1"	8
60°	1.1/2"	5/8"	84.1	1"	8

MILLING

48711

HSCo Flatted Shank
Corner Rounding Cutter

Multi-Fluted End-Mill for Corner Roundings,
general purpose.

Discount Group	20	Surface Treatment	Bright
Material	HSCo	Tolerance	+0.010/-0
Standard	PRESTO	Shank Type	Flatted

R mm h11	Small Ø	Cut Width	O/all Length mm	Shank Ø	No. of Flutes
R1	6.0	8.0	60.0	10.0	4
R2	6.0	10.0	60.0	10.0	4
R3	6.0	12.0	60.0	12.0	4
R4	6.0	14.0	60.0	12.0	4
R5	6.0	16.0	60.0	12.0	5
R6	8.0	20.0	67.0	16.0	5
R8	8.0	24.0	71.0	16.0	5
R10	8.0	28.0	85.0	25.0	5
R12	10.0	34.0	90.0	25.0	5
R16	16.0	48.0	100.0	25.0	5

48721

HSCo Screw Shank Corner Rounding Cutter



Multi-Fluted End-Mill for Corner Roundings, general purpose.

Discount Group	20	Surface Treatment	Bright
Material	HSCo	Tolerance	+0.010/-0
Standard	PRESTO	Shank Type	Screw

R mm h11	Small Ø	Cut Width	O/all Length mm	Shank Ø	No. of Flutes
R1	6.0	8.0	60.0	10.0	4
R2	6.0	10.0	60.0	10.0	4
R3	6.0	12.0	60.0	12.0	4
R4	6.0	14.0	60.0	12.0	4
R5	6.0	16.0	60.0	12.0	5
R6	8.0	20.0	67.0	16.0	5
R8	8.0	24.0	71.0	16.0	5
R10	8.0	28.0	85.0	25.0	5
R12	10.0	34.0	90.0	25.0	5
R16	16.0	48.0	100.0	25.0	5

30191

HSS Screw Shank Slot Drill Set

A set of 2-fluted Slot Drills for the machining of slots in materials with a tensile strength up to 800 N/mm².



Discount Group	20	Surface Treatment	Bright
Material	HSS	Tolerance	e8
Standard	BS122/4	Shank Type	Screw

Stock Code	Sizes
301916.0-16.0	6mm, 8mm, 10mm, 12mm & 16mm

40191

HSS Screw Shank End Mill Set

A set of Multi-fluted End-Mills for finishing operations in general purpose steels up to 1000 N/mm² with good to medium machineability.



Discount Group	20	Surface Treatment	Bright
Material	HSS	Tolerance	+.0025"/+.0005"
Standard	BS122/4	Shank Type	Screw

Stock Code	Sizes
301916.0-16.0	6mm, 8mm, 10mm, 12mm & 16mm

30011

HSCo Flatted Shank ISO Short Slot Drill DIN 327



2-fluted Slot Drill for the machining of slots in materials with a tensile strength up to 1000 N/mm².

Discount Group	20
Material	HSCo
Standard	DIN327

Surface Treatment	Bright
Tolerance	e8
Shank Type	Flatted

Ø mm	O/all Length	Cut Length mm	Shank Ø
2.00	48.0	4.0	6.0
2.50	49.0	5.0	6.0
3.00	49.0	5.0	6.0
3.50	50.0	6.0	6.0
4.00	51.0	7.0	6.0
4.50	51.0	7.0	6.0
5.00	52.0	8.0	6.0
5.50	52.0	8.0	6.0
6.00	52.0	8.0	6.0
6.50	60.0	10.0	10.0
7.00	60.0	10.0	10.0
7.50	60.0	10.0	10.0
8.00	61.0	11.0	10.0
8.50	61.0	11.0	10.0
9.00	61.0	11.0	10.0
9.50	61.0	11.0	10.0
10.00	63.0	13.0	10.0
10.50	70.0	13.0	12.0
11.00	70.0	13.0	12.0
12.00	73.0	16.0	12.0
12.50	73.0	16.0	12.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
13.00	73.0	16.0	12.0
14.00	73.0	16.0	12.0
15.00	73.0	16.0	12.0
16.00	79.0	19.0	16.0
17.00	79.0	19.0	16.0
18.00	79.0	19.0	16.0
19.00	79.0	19.0	16.0
20.00	88.0	22.0	20.0
21.00	88.0	22.0	20.0
22.00	88.0	22.0	20.0
24.00	102.0	26.0	25.0
25.00	102.0	26.0	25.0
26.00	102.0	26.0	25.0
28.00	102.0	26.0	25.0
30.00	102.0	26.0	25.0
32.00	112.0	32.0	32.0
34.00	112.0	32.0	32.0
36.00	112.0	32.0	32.0
38.00	130.0	38.0	40.0
40.00	130.0	38.0	40.0

30016

HSCo Flatted Shank ISO
Short Slot Drill DIN 327
TiCN



Design and application similar to List-No's. 30011.
The coating provides longer tool-life or increased
cutting-values.

Discount Group	20
Material	HSCo
Standard	DIN327

Surface Treatment	TiCN
Tolerance	e8
Shank Type	Flatted

Ø mm	O/all Length	Cut Length mm	Shank Ø
2.00	48.0	4.0	6.0
2.50	49.0	5.0	6.0
3.00	49.0	5.0	6.0
3.50	50.0	6.0	6.0
4.00	51.0	7.0	6.0
4.50	51.0	7.0	6.0
5.00	52.0	8.0	6.0
5.50	52.0	8.0	6.0
6.00	52.0	8.0	6.0
6.50	60.0	10.0	10.0
7.00	60.0	10.0	10.0
7.50	60.0	10.0	10.0
8.00	61.0	11.0	10.0
8.50	61.0	11.0	10.0
9.00	61.0	11.0	10.0
9.50	61.0	11.0	10.0
10.00	63.0	13.0	10.0
10.50	70.0	13.0	12.0
11.00	70.0	13.0	12.0
12.00	73.0	16.0	12.0
12.50	73.0	16.0	12.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
13.00	73.0	16.0	12.0
14.00	73.0	16.0	12.0
15.00	73.0	16.0	12.0
16.00	79.0	19.0	16.0
17.00	79.0	19.0	16.0
18.00	79.0	19.0	16.0
19.00	79.0	19.0	16.0
20.00	88.0	22.0	20.0
21.00	88.0	22.0	20.0
22.00	88.0	22.0	20.0
24.00	102.0	26.0	25.0
25.00	102.0	26.0	25.0
26.00	102.0	26.0	25.0
28.00	102.0	26.0	25.0
30.00	102.0	26.0	25.0
32.00	112.0	32.0	32.0
34.00	112.0	32.0	32.0
36.00	112.0	32.0	32.0
38.00	130.0	38.0	40.0
40.00	130.0	38.0	40.0

31211

HSCo Flatted Shank ISO Long Series Slot Drill

DIN 327



2-fluted Slot Drill for the machining of slots in materials with a tensile strength up to 1000 N/mm².

Discount Group	20
Material	HSCo
Standard	DIN327

Surface Treatment	Bright
Tolerance	e8
Shank Type	Flatted

Ø mm	O/all Length	Cut Length mm	Shank Ø
3.00	60.0	9.0	6.0
4.00	67.0	13.0	6.0
5.00	71.0	13.0	6.0
6.00	75.0	16.0	6.0
7.00	75.0	16.0	10.0
8.00	80.0	20.0	10.0
9.00	80.0	22.0	10.0
10.00	80.0	22.0	10.0
11.00	90.0	22.0	12.0
12.00	100.0	25.0	12.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
13.00	100.0	25.0	12.0
14.00	100.0	28.0	12.0
15.00	100.0	28.0	12.0
16.00	116.0	32.0	16.0
18.00	118.0	35.0	16.0
20.00	125.0	38.0	16.0
22.00	140.0	40.0	25.0
24.00	150.0	45.0	25.0
25.00	160.0	45.0	25.0

31216

HSCo Flatted Shank ISO Long Series Slot Drill DIN 327 TiCN



Design and application similar to List-No's. 31211.
The coating provides longer tool-life or increased
cutting-values.

Discount Group	20
Material	HSCo
Standard	DIN327

Surface Treatment	TiCN
Tolerance	e8
Shank Type	Flatted

Ø mm	O/all Length	Cut Length mm	Shank Ø
3.00	60.0	9.0	6.0
4.00	67.0	13.0	6.0
5.00	71.0	13.0	6.0
6.00	75.0	16.0	6.0
8.00	80.0	20.0	10.0
10.00	80.0	22.0	10.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
12.00	100.0	25.0	12.0
14.00	100.0	28.0	12.0
16.00	116.0	32.0	16.0

48011

HSCo Flatted Shank ISO Short Ballnose Slot Drill DIN 327



2-fluted Ball-Nose Slot Drill for the machining of slots in materials with a tensile strength up to 1000 N/mm².

Discount Group	20
Material	HSCo
Standard	DIN327

Surface Treatment	Bright
Tolerance	e8
Shank Type	Flatted

Ø mm	O/all Length	Cut Length mm	Shank Ø
3.00	49.0	5.0	6.0
4.00	51.0	7.0	6.0
5.00	52.0	8.0	6.0
6.00	52.0	8.0	6.0
7.00	60.0	10.0	10.0
8.00	61.0	11.0	10.0
9.00	61.0	11.0	10.0
10.00	63.0	13.0	10.0
11.00	70.0	13.0	12.0
12.00	73.0	16.0	12.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
13.00	73.0	16.0	12.0
14.00	73.0	16.0	12.0
15.00	73.0	16.0	12.0
16.00	79.0	19.0	16.0
18.00	79.0	19.0	16.0
20.00	79.0	19.0	16.0
22.00	88.0	22.0	25.0
24.00	102.0	26.0	25.0
25.00	102.0	26.0	25.0

48016

HSCo Flatted Shank ISO
Short Ballnose Slot Drill
DIN 327 TiCN



Design and application similar to List-No's. 48011.
The coating provides longer tool-life or increased
cutting-values.

Discount Group	20
Material	HSCo
Standard	DIN327

Surface Treatment	TiCN
Tolerance	e8
Shank Type	Flatted

Ø mm	O/all Length	Cut Length mm	Shank Ø
3.00	49.0	5.0	6.0
4.00	51.0	7.0	6.0
5.00	52.0	8.0	6.0
6.00	52.0	8.0	6.0
7.00	60.0	10.0	10.0
8.00	61.0	11.0	10.0
9.00	61.0	11.0	10.0
10.00	63.0	13.0	10.0
11.00	70.0	13.0	12.0
12.00	73.0	16.0	12.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
13.00	73.0	16.0	12.0
14.00	73.0	16.0	12.0
15.00	73.0	16.0	12.0
16.00	79.0	19.0	16.0
18.00	79.0	19.0	16.0
20.00	79.0	19.0	16.0
22.00	88.0	22.0	25.0
24.00	102.0	26.0	25.0
25.00	102.0	26.0	25.0

48021

HSCo Screw Shank ISO Short Ballnose Slot Drill DIN 327



2-fluted Ball-Nose Slot Drill for the machining of slots in materials with a tensile strength up to 1000 N/mm².

Discount Group	20
Material	HSCo
Standard	DIN327

Surface Treatment	Bright
Tolerance	e8
Shank Type	Screw

Ø mm	O/all Length	Cut Length mm	Shank Ø
3.00	49.0	5.0	6.0
4.00	51.0	7.0	6.0
5.00	52.0	8.0	6.0
6.00	52.0	8.0	6.0
7.00	60.0	10.0	10.0
8.00	61.0	11.0	10.0
9.00	61.0	11.0	10.0
10.00	63.0	13.0	10.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
11.00	70.0	13.0	12.0
12.00	73.0	16.0	12.0
13.00	73.0	16.0	12.0
14.00	73.0	16.0	12.0
15.00	73.0	16.0	12.0
16.00	79.0	19.0	16.0
18.00	79.0	19.0	16.0
20.00	79.0	19.0	16.0

48026

HSCo Screw Shank
ISO Short Ballnose Slot Drill
DIN 327 TiCN



Design and application similar to List-No's. 48021.
The coating provides longer tool-life or increased cutting-values.

Discount Group	20
Material	HSCo
Standard	DIN327

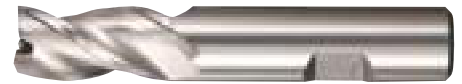
Surface Treatment	TiCN
Tolerance	e8
Shank Type	Screw

Ø mm	O/all Length	Cut Length mm	Shank Ø
3.00	49.0	5.0	6.0
4.00	51.0	7.0	6.0
5.00	52.0	8.0	6.0
6.00	52.0	8.0	6.0
7.00	60.0	10.0	10.0
8.00	61.0	11.0	10.0
9.00	61.0	11.0	10.0
10.00	63.0	13.0	10.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
11.00	70.0	13.0	12.0
12.00	73.0	16.0	12.0
13.00	73.0	16.0	12.0
14.00	73.0	16.0	12.0
15.00	73.0	16.0	12.0
16.00	79.0	19.0	16.0
18.00	79.0	19.0	16.0
20.00	79.0	19.0	16.0

36011

HSCo Flatted Shank ISO Short Tricutter DIN 844



3-fluted End-Mill/Slot Drill for the machining of slots and finishing operations in materials with a tensile strength up to 1000 N/mm².

Discount Group	20
Material	HSCo
Standard	DIN844

Surface Treatment	Bright
Tolerance	e8
Shank Type	Flatted

Ø mm	O/all Length	Cut Length mm	Shank Ø
3.00	52.0	8.0	6.0
3.50	54.0	10.0	6.0
4.00	55.0	11.0	6.0
4.50	55.0	11.0	6.0
5.00	57.0	13.0	6.0
5.50	57.0	13.0	6.0
6.00	57.0	13.0	6.0
6.50	66.0	16.0	10.0
7.00	66.0	16.0	10.0
8.00	69.0	19.0	10.0
9.00	69.0	19.0	10.0
10.00	72.0	22.0	10.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
11.00	79.0	22.0	12.0
12.00	83.0	26.0	12.0
13.00	83.0	26.0	12.0
14.00	83.0	26.0	12.0
15.00	83.0	26.0	12.0
16.00	92.0	32.0	16.0
17.00	92.0	32.0	16.0
18.00	92.0	32.0	16.0
20.00	98.0	38.0	16.0
22.00	106.0	40.0	25.0
24.00	121.0	45.0	25.0
25.00	121.0	45.0	25.0

36016

HSCo Flatted Shank ISO
Short Tricutter DIN 844
TiCN



Design and application Similar to List-No's. 36011.
The coating provides longer tool-life or increased
cutting-values.

Discount Group	20
Material	HSCo
Standard	DIN327

Surface Treatment	TiCN
Tolerance	e8
Shank Type	Flatted

Ø mm	O/all Length	Cut Length mm	Shank Ø
3.00	52.0	8.0	6.0
3.50	54.0	10.0	6.0
4.00	55.0	11.0	6.0
4.50	55.0	11.0	6.0
5.00	57.0	13.0	6.0
5.50	57.0	13.0	6.0
6.00	57.0	13.0	6.0
6.50	66.0	16.0	10.0
7.00	66.0	16.0	10.0
8.00	69.0	19.0	10.0
9.00	69.0	19.0	10.0
10.00	72.0	22.0	10.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
11.00	79.0	22.0	12.0
12.00	83.0	26.0	12.0
13.00	83.0	26.0	12.0
14.00	83.0	26.0	12.0
15.00	83.0	26.0	12.0
16.00	92.0	32.0	16.0
17.00	92.0	32.0	16.0
18.00	92.0	32.0	16.0
20.00	98.0	38.0	16.0
22.00	106.0	40.0	25.0
24.00	121.0	45.0	25.0
25.00	121.0	45.0	25.0

40011

HSCo Flatted Shank ISO Short Endmill DIN 844



Multi-fluted End-Mill for finishing operations in general purpose steels up to 1200 N/mm² with good to medium machineability.

Discount Group	20
Material	HSCo
Standard	DIN844

Surface Treatment	Bright
Tolerance	+0.0025"/+.0005"
Shank Type	Flatted

Ø mm	O/all Length	Cut Length mm	Shank Ø
2.00	51.0	7.0	6.0
2.50	52.0	8.0	6.0
3.00	52.0	8.0	6.0
3.50	54.0	10.0	6.0
4.00	55.0	11.0	6.0
4.50	55.0	11.0	6.0
5.00	57.0	13.0	6.0
5.50	57.0	13.0	6.0
6.00	57.0	13.0	6.0
6.50	66.0	16.0	10.0
7.00	66.0	16.0	10.0
7.50	66.0	16.0	10.0
8.00	69.0	19.0	10.0
8.50	69.0	19.0	10.0
9.00	69.0	19.0	10.0
9.50	69.0	19.0	10.0
10.00	72.0	22.0	10.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
11.00	79.0	22.0	12.0
12.00	83.0	26.0	12.0
13.00	83.0	26.0	12.0
14.00	83.0	26.0	12.0
15.00	83.0	26.0	12.0
16.00	92.0	32.0	16.0
18.00	92.0	32.0	16.0
20.00	104.0	38.0	20.0
22.00	104.0	38.0	20.0
24.00	121.0	45.0	25.0
25.00	121.0	45.0	25.0
26.00	121.0	45.0	25.0
28.00	121.0	45.0	25.0
30.00	121.0	45.0	25.0
32.00	133.0	53.0	32.0
36.00	133.0	53.0	32.0
40.00	155.0	63.0	40.0

MILLING

40016

HSCo Flatted Shank
ISO Short Endmill
DIN 844 TiCN



Design and application similar to List-No's. 40011.
The coating provides longer tool-life or increased cutting-values.

Discount Group	20
Material	HSCo
Standard	DIN844

Surface Treatment	TiCN
Tolerance	+0.0025"/+.0005"
Shank Type	Flatted

Ø mm	O/all Length	Cut Length mm	Shank Ø
2.00	51.0	7.0	6.0
2.50	52.0	8.0	6.0
3.00	52.0	8.0	6.0
3.50	54.0	10.0	6.0
4.00	55.0	11.0	6.0
4.50	55.0	11.0	6.0
5.00	57.0	13.0	6.0
5.50	57.0	13.0	6.0
6.00	57.0	13.0	6.0
6.50	66.0	16.0	10.0
7.00	66.0	16.0	10.0
7.50	66.0	16.0	10.0
8.00	69.0	19.0	10.0
8.50	69.0	19.0	10.0
9.00	69.0	19.0	10.0
9.50	69.0	19.0	10.0
10.00	72.0	22.0	10.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
11.00	79.0	22.0	12.0
12.00	83.0	26.0	12.0
13.00	83.0	26.0	12.0
14.00	83.0	26.0	12.0
15.00	83.0	26.0	12.0
16.00	92.0	32.0	16.0
18.00	92.0	32.0	16.0
20.00	104.0	38.0	20.0
22.00	104.0	38.0	20.0
24.00	121.0	45.0	25.0
25.00	121.0	45.0	25.0
26.00	121.0	45.0	25.0
28.00	121.0	45.0	25.0
30.00	121.0	45.0	25.0
32.00	133.0	53.0	32.0
36.00	133.0	53.0	32.0
40.00	155.0	63.0	40.0

40021

HSCo Screw Shank ISO Short Endmill DIN 844



Multi-fluted End-Mill for finishing operations in general purpose steels up to 1200 N/mm² with good to medium machineability.

Discount Group	20
Material	HSCo
Standard	DIN844

Surface Treatment	Bright
Tolerance	+0.0025"/+.0005"
Shank Type	Screw

Ø mm	O/all Length	Cut Length mm	Shank Ø
2.00	51.0	7.0	6.0
2.50	52.0	8.0	6.0
3.00	52.0	8.0	6.0
3.50	54.0	10.0	6.0
4.00	55.0	11.0	6.0
4.50	55.0	11.0	6.0
5.00	57.0	13.0	6.0
5.50	57.0	13.0	6.0
6.00	57.0	13.0	6.0
6.50	66.0	16.0	10.0
7.00	66.0	16.0	10.0
7.50	66.0	16.0	10.0
8.00	69.0	19.0	10.0
8.50	69.0	19.0	10.0
9.00	69.0	19.0	10.0
9.50	69.0	19.0	10.0
10.0	72.0	22.0	10.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
11.00	72.0	22.0	12.0
12.00	83.0	26.0	12.0
13.00	83.0	26.0	12.0
14.00	83.0	26.0	12.0
15.00	83.0	26.0	12.0
16.00	92.0	32.0	16.0
18.00	92.0	32.0	16.0
20.00	98.0	38.0	16.0
22.00	104.0	38.0	20.0
24.00	121.0	45.0	25.0
25.00	121.0	45.0	25.0
26.00	121.0	45.0	25.0
28.00	121.0	45.0	25.0
30.00	121.0	45.0	25.0
32.00	133.0	53.0	32.0
36.00	133.0	53.0	32.0

MILLING

40026

HSCo Screw Shank
ISO Short Endmill
DIN 844 TiCN



Design and application similar to List-No's. 40021.
The coating provides longer tool-life or increased cutting-values.

Discount Group	20
Material	HSCo
Standard	DIN844

Surface Treatment	TiCN
Tolerance	+0.0025"/+.0005"
Shank Type	Screw

Ø mm	O/all Length	Cut Length mm	Shank Ø
2.00	51.0	7.0	6.0
2.50	52.0	8.0	6.0
3.00	52.0	8.0	6.0
3.50	54.0	10.0	6.0
4.00	55.0	11.0	6.0
4.50	55.0	11.0	6.0
5.00	57.0	13.0	6.0
5.50	57.0	13.0	6.0
6.00	57.0	13.0	6.0
6.50	66.0	16.0	10.0
7.00	66.0	16.0	10.0
7.50	66.0	16.0	10.0
8.00	69.0	19.0	10.0
8.50	69.0	19.0	10.0
9.50	69.0	19.0	10.0
10.00	72.0	22.0	10.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
11.00	72.0	22.0	12.0
12.00	83.0	26.0	12.0
13.00	83.0	26.0	12.0
14.00	83.0	26.0	12.0
15.00	83.0	26.0	12.0
16.00	92.0	32.0	16.0
18.00	92.0	32.0	16.0
20.00	98.0	38.0	16.0
22.00	104.0	38.0	20.0
24.00	121.0	45.0	25.0
25.00	121.0	45.0	25.0
26.00	121.0	45.0	25.0
28.00	121.0	45.0	25.0
30.00	121.0	45.0	25.0
32.00	133.0	53.0	32.0
36.00	133.0	53.0	32.0

41011

HSCo Flatted Shank ISO Long Series Endmill DIN 844



Multi-fluted End-Mill for finishing operations in general purpose materials up to 1200 N/mm² with good to medium machineability.

Discount Group	20
Material	HSCo
Standard	DIN844

Surface Treatment	Bright
Tolerance	+0.0025"/+.0005"
Shank Type	Flatted

Ø mm	O/all Length	Cut Length mm	Shank Ø
3.00	56.0	12.0	6.0
4.00	63.0	19.0	6.0
5.00	68.0	24.0	6.0
6.00	68.0	24.0	6.0
7.00	80.0	30.0	10.0
8.00	88.0	38.0	10.0
10.00	95.0	45.0	10.0
12.00	110.0	53.0	12.0
14.00	110.0	53.0	12.0
16.00	123.0	63.0	16.0
18.00	123.0	63.0	16.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
20.00	141.0	75.0	20.0
22.00	150.0	85.0	25.0
24.00	166.0	90.0	25.0
25.00	166.0	90.0	25.0
26.00	166.0	90.0	25.0
28.00	166.0	90.0	25.0
30.00	166.0	90.0	25.0
32.00	170.0	100.0	32.0
36.00	170.0	100.0	32.0
40.00	170.0	100.0	32.0

41016

HSCo Flatted Shank ISO
Long Series Endmill
DIN 844 TiCN



Design and application similar to List-No's. 41011.
The coating provides longer tool-life or increased
cutting-values.

Discount Group	20
Material	HSCo
Standard	DIN844

Surface Treatment	TiCN
Tolerance	+0.0025"/+.0005"
Shank Type	Flatted

Ø mm	O/all Length	Cut Length mm	Shank Ø
3.00	56.0	12.0	6.0
4.00	63.0	19.0	6.0
5.00	68.0	24.0	6.0
6.00	68.0	24.0	6.0
7.00	80.0	30.0	10.0
8.00	88.0	38.0	10.0
10.00	95.0	45.0	10.0
12.00	110.0	53.0	12.0
14.00	110.0	53.0	12.0
16.00	123.0	63.0	16.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
18.00	123.0	63.0	16.0
20.00	141.0	75.0	20.0
22.00	150.0	85.0	25.0
24.00	166.0	90.0	25.0
25.00	166.0	90.0	25.0
28.00	166.0	90.0	25.0
30.00	166.0	90.0	25.0
32.00	170.0	100.0	32.0
36.00	170.0	100.0	32.0
40.00	170.0	100.0	32.0

41021

HSCo Screw Shank ISO Long Series Endmill DIN 844



Multi-fluted End-Mill for finishing operations in general purpose materials up to 1200 N/mm² with good to medium machineability.

Discount Group	20
Material	HSCo
Standard	DIN844

Surface Treatment	Bright
Tolerance	+0.0025"/+.0005"
Shank Type	Screw

Ø mm	O/all Length	Cut Length mm	Shank Ø
3.00	56.0	12.0	6.0
4.00	63.0	19.0	6.0
5.00	68.0	24.0	6.0
6.00	68.0	24.0	6.0
7.00	80.0	30.0	10.0
8.00	88.0	38.0	10.0
10.00	95.0	45.0	10.0
12.00	110.0	53.0	12.0
14.00	110.0	53.0	12.0
16.00	123.0	63.0	16.0
18.00	123.0	63.0	16.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
20.00	135.0	75.0	16.0
22.00	150.0	85.0	25.0
24.00	166.0	90.0	25.0
25.00	166.0	90.0	25.0
26.00	166.0	90.0	25.0
28.00	166.0	90.0	25.0
30.00	166.0	90.0	25.0
32.00	170.0	100.0	32.0
36.00	170.0	100.0	32.0
40.00	170.0	100.0	32.0

41026

HSCo Screw Shank
ISO Long Series Endmill
DIN 844 TiCN



Design and application similar to List-No's. 41021.
The coating provides longer tool-life or increased cutting-values.

Discount Group	20
Material	HSCo
Standard	DIN844

Surface Treatment	TiCN
Tolerance	+0.0025"/+0.0005"
Shank Type	Screw

Ø mm	O/all Length	Cut Length mm	Shank Ø
3.00	56.0	12.0	6.0
4.00	63.0	19.0	6.0
5.00	68.0	24.0	6.0
6.00	68.0	24.0	6.0
7.00	80.0	30.0	10.0
8.00	88.0	38.0	10.0
10.00	95.0	45.0	10.0
12.00	110.0	53.0	12.0
14.00	110.0	53.0	12.0
16.00	123.0	63.0	16.0
18.00	123.0	63.0	16.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
20.00	135.0	75.0	16.0
22.00	150.0	85.0	25.0
24.00	166.0	90.0	25.0
25.00	166.0	90.0	25.0
26.00	166.0	90.0	25.0
28.00	166.0	90.0	25.0
30.00	166.0	90.0	25.0
32.00	170.0	100.0	32.0
36.00	170.0	100.0	32.0
40.00	170.0	100.0	32.0

46081

HSCo Flatted Shank Ripping Cutter ISO Coarse DIN 844



Multi-fluted End-Mill with coarse pitch for roughing in general purpose materials up to 1000 N/mm² with good to medium machineability.

Discount Group	20
Material	HSCo
Standard	DIN844

Surface Treatment	Bright
Tolerance	+0.005"/-0
Shank Type	Flatted

Ø mm	O/all Length	Cut Length mm	Shank Ø
6.00	57.0	13.0	6.0
7.00	66.0	16.0	10.0
8.00	69.0	19.0	10.0
9.00	69.0	19.0	10.0
10.00	72.0	22.0	10.0
11.00	79.0	22.0	12.0
12.00	83.0	26.0	12.0
13.00	83.0	26.0	12.0
14.00	83.0	26.0	12.0
15.00	83.0	26.0	12.0
16.00	92.0	32.0	16.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
18.00	92.0	32.0	16.0
20.00	104.0	38.0	20.0
22.00	104.0	38.0	20.0
24.00	104.0	38.0	25.0
25.00	121.0	45.0	25.0
28.00	121.0	45.0	25.0
30.00	121.0	45.0	25.0
32.00	133.0	53.0	32.0
36.00	133.0	53.0	32.0
40.00	155.0	63.0	40.0

46088

HSCo Flatted Shank Ripping Cutter ISO Coarse DIN 844 TiALN



Design and application similar to List-No's. 46081.
The coating provides longer tool-life or increased cutting-values.

Discount Group	20
Material	HSCo
Standard	DIN844

Surface Treatment	TiALN
Tolerance	+0.005"/-0
Shank Type	Flatted

Ø mm	O/all Length	Cut Length mm	Shank Ø
6.00	57.0	13.0	6.0
7.00	66.0	16.0	10.0
8.00	69.0	19.0	10.0
9.00	69.0	19.0	10.0
10.00	72.0	22.0	10.0
11.00	79.0	22.0	12.0
12.00	83.0	26.0	12.0
13.00	83.0	26.0	12.0
14.00	83.0	26.0	12.0
15.00	83.0	26.0	12.0
16.00	92.0	32.0	16.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
18.00	92.0	32.0	16.0
20.00	104.0	38.0	20.0
22.00	104.0	38.0	20.0
24.00	104.0	38.0	25.0
25.00	121.0	45.0	25.0
28.00	121.0	45.0	25.0
30.00	121.0	45.0	25.0
32.00	133.0	53.0	32.0
36.00	133.0	53.0	32.0
40.00	155.0	63.0	40.0

46091

HSCo Screw Shank Ripping Cutter

ISO Coarse DIN 844



Multi-fluted End-Mill with coarse pitch for roughing in general purpose materials up to 1000 N/mm² with good to medium machineability.

Discount Group	20
Material	HSCo
Standard	DIN844

Surface Treatment	Bright
Tolerance	+0.005"/-0
Shank Type	Screw

Ø mm	O/all Length	Cut Length mm	Shank Ø
6.00	57.0	13.0	6.0
7.00	66.0	16.0	10.0
8.00	69.0	19.0	10.0
9.00	69.0	19.0	10.0
10.00	72.0	22.0	10.0
11.00	79.0	22.0	12.0
12.00	83.0	26.0	12.0
13.00	83.0	26.0	12.0
14.00	83.0	26.0	12.0
15.00	83.0	26.0	12.0
16.00	92.0	32.0	16.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
18.00	92.0	32.0	16.0
20.00	104.0	38.0	16.0
22.00	104.0	38.0	25.0
24.00	104.0	38.0	25.0
25.00	121.0	45.0	25.0
28.00	121.0	45.0	25.0
30.00	121.0	45.0	25.0
32.00	133.0	53.0	32.0
36.00	133.0	53.0	32.0
40.00	155.0	63.0	32.0

46098

HSCo Screw Shank Ripping Cutter ISO Coarse DIN 844 TiALN



Design and application similar to List-No's. 46091.
The coating provides longer tool-life or increased cutting-values.

Discount Group	20
Material	HSCo
Standard	DIN844

Surface Treatment	TiALN
Tolerance	+0.005"/-0
Shank Type	Screw

Ø mm	O/all Length	Cut Length mm	Shank Ø
6.00	57.0	13.0	6.0
7.00	66.0	16.0	10.0
8.00	69.0	19.0	10.0
9.00	69.0	19.0	10.0
10.00	72.0	22.0	10.0
11.00	79.0	22.0	12.0
12.00	83.0	26.0	12.0
13.00	83.0	26.0	12.0
14.00	83.0	26.0	12.0
15.00	83.0	26.0	12.0
16.00	92.0	32.0	16.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
18.00	92.0	32.0	16.0
20.00	104.0	38.0	16.0
22.00	104.0	38.0	25.0
24.00	104.0	38.0	25.0
25.00	121.0	45.0	25.0
28.00	121.0	45.0	25.0
30.00	121.0	45.0	25.0
32.00	133.0	53.0	32.0
36.00	133.0	53.0	32.0
40.00	155.0	63.0	32.0

46481

HSCo Flatted Shank Ripping Cutter ISO Fine DIN 844



Multi-fluted End-Mill with fine pitch for roughing in materials of higher tensile strength (above 1000 N/mm²), such as stainless steel, tool steel and titanium-alloys.

Discount Group	20
Material	HSCo
Standard	DIN844

Surface Treatment	Bright
Tolerance	+0.005"/-0
Shank Type	Flatted

Ø mm	O/all Length	Cut Length mm	Shank Ø
6.00	57.0	13.0	6.0
8.00	69.0	19.0	10.0
10.00	72.0	22.0	10.0
12.00	83.0	26.0	12.0
14.00	83.0	26.0	12.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
16.00	92.0	32.0	16.0
18.00	92.0	32.0	16.0
20.00	104.0	38.0	20.0
25.00	121.0	45.0	25.0

46488

HSCo Flatted Shank
Ripping Cutter
ISO Fine DIN 844 TiALN



Design and application similar to List-No's. 46481.
The coating provides longer tool-life or increased cutting-values.

Discount Group	20
Material	HSCo
Standard	DIN844

Surface Treatment	TiALN
Tolerance	+0.005"/-0
Shank Type	Flatted

Ø mm	O/all Length	Cut Length mm	Shank Ø
6.00	57.0	13.0	6.0
8.00	69.0	19.0	10.0
10.00	72.0	22.0	10.0
12.00	83.0	26.0	12.0
14.00	83.0	26.0	12.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
16.00	92.0	32.0	16.0
18.00	92.0	32.0	16.0
20.00	104.0	38.0	20.0
25.00	121.0	45.0	25.0

31908

2 Flute Solid Carbide End-Mill TiALN



2 Flute Solid Carbide End-Mill for finishing operations in general purpose steels up to 1300 N/mm² with good to medium machineability. The coating provides longer tool life or increased cutting values.

Discount Group	45
Material	CARBIDE
Standard	Factory Standard

Surface Treatment	TiALN
Tolerance	-
Shank Type	Plain

Ø mm	O/all Length	Cut Length mm	Shank Ø
1.00	50.0	3.0	4.0
2.00	50.0	6.0	4.0
3.00	50.0	8.0	3.0
4.00	50.0	11.0	4.0
5.00	50.0	13.0	5.0
6.00	50.0	15.0	6.0
7.00	60.0	20.0	8.0
8.00	60.0	20.0	8.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
9.00	75.0	20.0	10.0
10.00	75.0	25.0	10.0
12.00	75.0	30.0	12.0
14.00	100.0	45.0	14.0
16.00	100.0	45.0	16.0
18.00	100.0	45.0	18.0
20.00	100.0	45.0	20.0

MILLING

31991

3 Flute Solid Carbide
Aluminum End-Mill

3 Flute Solid Carbide End-Mill for finishing operations in aluminium.

Discount Group	45
Material	CARBIDE
Standard	Factory Standard

Surface Treatment	Bright
Tolerance	-
Shank Type	Plain

Ø mm	O/all Length	Cut Length mm	Shank Ø
1.00	50.0	3.0	4.0
2.00	50.0	6.0	4.0
3.00	50.0	8.0	3.0
4.00	50.0	11.0	4.0
5.00	50.0	13.0	5.0
6.00	50.0	15.0	6.0
7.00	60.0	20.0	8.0
8.00	60.0	20.0	8.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
9.00	75.0	20.0	10.0
10.00	75.0	25.0	10.0
12.00	75.0	30.0	12.0
14.00	75.0	30.0	14.0
16.00	100.0	45.0	16.0
18.00	100.0	45.0	18.0
20.00	100.0	45.0	20.0

40848

4 Flute Solid Carbide End-Mill TiALN



4 Flute Solid Carbide End-Mill for finishing operations in general purpose steels up to 1300 N/mm² with good to medium machineability. The coating provides longer tool life or increased cutting values.

Discount Group	45
Material	CARBIDE
Standard	Factory Standard

Surface Treatment	TiALN
Tolerance	-
Shank Type	Plain

Ø mm	O/all Length	Cut Length mm	Shank Ø
1.00	50.0	3.0	3.0
2.00	50.0	6.0	3.0
3.00	50.0	8.0	3.0
4.00	50.0	11.0	4.0
5.00	50.0	13.0	5.0
6.00	50.0	15.0	6.0
7.00	60.0	20.0	8.0
8.00	60.0	20.0	8.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
9.00	75.0	20.0	10.0
10.00	75.0	25.0	10.0
12.00	75.0	30.0	12.0
14.00	100.0	45.0	14.0
16.00	100.0	45.0	16.0
18.00	100.0	45.0	18.0
20.00	100.0	45.0	20.0

MILLING

48908

2 Flute Ball Nosed
Solid Carbide End-Mill
TiALN

2 Flute Solid Carbide Ball Nose End-Mill for finishing operations in general purpose steels up to 1300 N/mm² with good to medium machineability. The coating provides longer tool life or increased cutting values.

Discount Group	45
Material	CARBIDE
Standard	Factory Standard

Surface Treatment	TiALN
Tolerance	-
Shank Type	Plain

Ø mm	O/all Length	Cut Length mm	Shank Ø
3.00	50.0	8.0	3.0
3.50	50.0	8.0	4.0
4.00	50.0	11.0	4.0
5.00	50.0	13.0	6.0
6.00	50.0	15.0	6.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
8.00	60.0	20.0	8.0
10.00	75.0	25.0	10.0
12.00	70.0	30.0	12.0
16.00	100.0	45.0	16.0
20.00	100.0	45.0	20.0

CARBIDE





302 - 326

PRESTO














Drills

	Series #	Standard	Style	Size Range	Surface	Page
	01217	DIN 338	118° Carbide Tip	3.0 - 20.0mm	3/32" - 1/4"	P0 Bright 305
	20100		118° Solid Carbide	1.0 - 13.0mm		P0 Bright 306
	02188	DIN1897	118° Solid Carbide	Ø8 x 40 - 45mm	P2 Bronze	307

Carbide Cutters










	Series #	Standard	Material	Shank Type	Size Range	Surface	Page
	31908	Factory Standard	HRC55	Plain	1mm - 20mm	P8 TiALN 308	
	31991					P0 Bright 309	
	40848					P8 TiALN 310	
	48908				3mm - 20mm	P8 TiALN 311	

Carbide Burrs

	Series #	Cut	Style	Size Range	Surface	Page
	27400	EXP (Double)	Shape 'A'	Cylindrical	2.38mm (3/32") - 15.88mm (5/8")	312
	27401	SGL (Single)				P0 Bright 312
	27403	ALU (Aluminium)				312
	27410	EXP (Double)	Shape 'B'	Cylindrical With End Cut	2.38mm (3/32") - 15.88mm (5/8")	P0 Bright 313
	27411	SGL (Single)				313
	27420	EXP (Double)	Shape 'C'	Ball Nosed Cylinder	2.38mm (3/32") - 15.88mm (5/8")	314
	27421	SGL (Single)				P0 Bright 314
	27423	ALU (Aluminium)				314
	27430	EXP (Double)	Shape 'D'	Ball	3.00mm (3/16") - 16.00mm (5/8")	315
	27431	SGL (Single)				P0 Bright 315
	27433	ALU (Aluminium)				315
	27440	EXP (Double)	Shape 'E'	Oval	3.00mm (1/4") - 16.00mm (5/8")	316
	27441	SGL (Single)				P0 Bright 316

CARBIDE

Carbide Burrs

	Series #	Cut	Style	Size Range	Surface	Page
	27450	EXP (Double)	Shape 'F'	Ball Nosed Tree	3.00mm (1/4") - 15.88mm (5/8")	PO Bright
	27451	SGL (Single)				
	27453	ALU (Aluminium)				
	27460	EXP (Double)	Shape 'G'	Tree Pointed Nose	3.00mm (1/4") - 15.88mm (5/8")	PO Bright
	27461	SGL (Single)				
	27470	EXP (Double)	Shape 'H'	Flame	3.00mm (5/16") - 15.88mm (5/8")	PO Bright
	27471	SGL (Single)				
	27990	EXP (Double)	Shape 'J'	60° Countersink	12.70mm (1/2") - 15.88mm (5/8")	PO Bright
		SGL (Single)				
	27980	EXP (Double)	Shape 'K'	90° Countersink	6.00mm (1/4") - 15.88mm (5/8")	PO Bright
		SGL (Single)				
	27500	EXP (Double)	Shape 'L'	Ball Nosed Cone	3.00mm (1/4") - 15.88mm (5/8")	PO Bright
	27501	SGL (Single)				
	27510	EXP (Double)	Shape 'M'	Pointed Cone	3.00mm (1/4") - 12.70mm (1/2")	PO Bright
	27511	SGL (Single)				
	27520	EXP (Double)	Shape 'N'	Inverted Cone	6.00mm (1/4") - 15.88mm (5/8")	PO Bright
	27521	SGL (Single)				

Carbide Burr Sets Page



01217

Precision Carbide Tipped Straight Shank DIN338 Jobber Drill



Carbide tipped precision drills are designed for cutting hard and very abrasive materials like hardened steel, cast iron and reinforced plastics.

Discount Group	47
Material	CARBIDE
Standard	DIN338
Depth Of Cut	4 x Ø
Point Angle	120°
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h7

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
2.381	3/32"	0.0937	50.8	25.4
3.00		0.1181	61.0	33.0
3.175	1/8"	0.1250	65.0	36.0
3.50		0.1377	70.0	39.0
3.967	5/32"	0.1562	75.0	43.0
4.00		0.1574	75.0	43.0
4.50		0.1771	80.0	47.0
4.763	3/16"	0.1875	86.0	52.0
5.00		0.1968	86.0	52.0
5.50		0.2165	93.0	57.0
6.00		0.2362	93.0	57.0
6.350	1/4"	0.2500	101.0	63.0
6.50		0.2559	101.0	63.0
7.00		0.2755	109.0	69.0
7.50		0.2952	109.0	69.0
8.00		0.3149	117.0	75.0
8.50		0.3346	117.0	75.0
9.00		0.3543	125.0	81.0
9.50		0.3740	125.0	81.0
10.00		0.3937	133.0	87.0

Ø mm	Ø Inch	Ø Dec Inch	O/all Length mm	Flute Length mm
10.50		0.4133	133.0	87.0
11.00		0.4330	142.0	94.0
11.50		0.4527	142.0	94.0
12.00		0.4724	151.0	101.0
12.50		0.4921	151.0	101.0
13.00		0.5118	151.0	101.0
13.50		0.5314	160.0	108.0
14.00		0.5511	160.0	108.0
14.50		0.5708	169.0	114.0
15.00		0.5905	169.0	114.0
15.50		0.6102	178.0	120.0
16.00		0.6299	178.0	120.0
16.50		0.6496	184.0	125.0
17.00		0.6692	184.0	125.0
17.50		0.6889	191.0	130.0
18.00		0.7086	191.0	130.0
18.50		0.7283	198.0	135.0
19.00		0.7480	198.0	135.0
19.50		0.7677	205.0	140.0
20.00		0.7874	205.0	140.0

CARBIDE

20100

Solid Carbide Straight
Shank DIN338 Drill

General purpose drill intended mainly to drill non-ferrous metals and abrasive plastics, but also useable for general applications. Designed to drill upto 5 times diameter deep.

Discount Group	46
Material	K15
Standard	DIN338
Depth Of Cut	5 x Ø
Point Angle	118°
Packing Unit	All Sizes Packed in 1's

Surface Treatment	Bright
Shank Type	Straight
Helix Group (Din1836)	N
Cutting Direction	RH
Tolerance	h7

Ø mm	Ø Dec Inch	O/all Length mm	Flute Length mm
1.00	0.0393	34.0	12.0
1.50	0.0590	40.0	18.0
2.00	0.0787	49.0	24.0
2.50	0.0984	57.0	30.0
3.00	0.1181	61.0	33.0
3.50	0.1377	70.0	39.0
4.00	0.1574	75.0	43.0
4.50	0.1771	80.0	47.0
5.00	0.1968	86.0	52.0
5.50	0.2165	93.0	57.0
6.00	0.2362	93.0	57.0
6.50	0.2559	101.0	63.0
7.00	0.2755	109.0	69.0

Ø mm	Ø Dec Inch	O/all Length mm	Flute Length mm
7.50	0.2952	109.0	69.0
8.00	0.3149	117.0	75.0
8.50	0.3346	117.0	75.0
9.00	0.3543	125.0	81.0
9.50	0.3740	125.0	81.0
10.00	0.3937	133.0	87.0
10.50	0.4133	133.0	87.0
11.00	0.4330	142.0	94.0
11.50	0.4527	142.0	94.0
12.00	0.4724	151.0	101.0
12.50	0.4921	151.0	101.0
13.00	0.5118	151.0	101.0

02188

Carbide Straight Shank Boron Welda Drill



Special drill designed to cut spot welds on auto body panels made of Boron or other advanced high strength steels. The TiALN coating reduces chip welding and the need for lubrication. The 3 flute design removes more material per revolution and guides straighter into the weld.

Discount Group	46	Surface Treatment	TiALN
Material	CARBIDE	Shank Type	Straight
Standard	PRESTO	Helix Group (Din1836)	N
Depth Of Cut	0.5 x Ø	Cutting Direction	RH
Point Angle	180° Spot Weld	Tolerance	h8
Packing Unit	All Sizes Packed in 1's		

Ø mm	Ø Dec Inch	O/all Length mm	Flute Length mm
8.0 x 40.0	0.3149	40.0	9.0
8.0 x 45.0	0.3149	45.0	9.0

31908

2 Flute Solid Carbide
End-Mill TiALN

2 Flute Solid Carbide End-Mill for finishing operations in general purpose steels up to 1300 N/mm² with good to medium machineability. The coating provides longer tool life or increased cutting values.

Discount Group	45
Material	CARBIDE
Standard	Factory Standard

Surface Treatment	TiALN
Tolerance	-
Shank Type	Plain

Ø mm	O/all Length	Cut Length mm	Shank Ø
1.00	50.0	3.0	4.0
2.00	50.0	6.0	4.0
3.00	50.0	8.0	3.0
4.00	50.0	11.0	4.0
5.00	50.0	13.0	5.0
6.00	50.0	15.0	6.0
7.00	60.0	20.0	8.0
8.00	60.0	20.0	8.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
9.00	75.0	20.0	10.0
10.00	75.0	25.0	10.0
12.00	75.0	30.0	12.0
14.00	100.0	45.0	14.0
16.00	100.0	45.0	16.0
18.00	100.0	45.0	18.0
20.00	100.0	45.0	20.0

31991

3 Flute Solid Carbide Aluminum End-Mill



3 Flute Solid Carbide End-Mill for finishing operations in aluminium.

Discount Group	45
Material	CARBIDE
Standard	Factory Standard

Surface Treatment	Bright
Tolerance	-
Shank Type	Plain

Ø mm	O/all Length	Cut Length mm	Shank Ø
1.00	50.0	3.0	4.0
2.00	50.0	6.0	4.0
3.00	50.0	8.0	3.0
4.00	50.0	11.0	4.0
5.00	50.0	13.0	5.0
6.00	50.0	15.0	6.0
7.00	60.0	20.0	8.0
8.00	60.0	20.0	8.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
9.00	75.0	20.0	10.0
10.00	75.0	25.0	10.0
12.00	75.0	30.0	12.0
14.00	75.0	30.0	14.0
16.00	100.0	45.0	16.0
18.00	100.0	45.0	18.0
20.00	100.0	45.0	20.0

CARBIDE

40848

4 Flute Solid Carbide
End-Mill TiALN

4 Flute Solid Carbide End-Mill for finishing operations in general purpose steels up to 1300 N/mm² with good to medium machineability. The coating provides longer tool life or increased cutting values.

Discount Group	45
Material	CARBIDE
Standard	Factory Standard

Surface Treatment	TiALN
Tolerance	-
Shank Type	Plain

Ø mm	O/all Length	Cut Length mm	Shank Ø
1.00	50.0	3.0	3.0
2.00	50.0	6.0	3.0
3.00	50.0	8.0	3.0
4.00	50.0	11.0	4.0
5.00	50.0	13.0	5.0
6.00	50.0	15.0	6.0
7.00	60.0	20.0	8.0
8.00	60.0	20.0	8.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
9.00	75.0	20.0	10.0
10.00	75.0	25.0	10.0
12.00	75.0	30.0	12.0
14.00	100.0	45.0	14.0
16.00	100.0	45.0	16.0
18.00	100.0	45.0	18.0
20.00	100.0	45.0	20.0

48908

2 Flute Ball Nosed Solid Carbide End-Mill TiALN



2 Flute Solid Carbide Ball Nose End-Mill for finishing operations in general purpose steels up to 1300 N/mm² with good to medium machineability. The coating provides longer tool life or increased cutting values.

Discount Group	45
Material	CARBIDE
Standard	Factory Standard

Surface Treatment	TiALN
Tolerance	-
Shank Type	Plain

Ø mm	O/all Length	Cut Length mm	Shank Ø
3.00	50.0	8.0	3.0
3.50	50.0	8.0	4.0
4.00	50.0	11.0	4.0
5.00	50.0	13.0	6.0
6.00	50.0	15.0	6.0

Ø mm	O/all Length	Cut Length mm	Shank Ø
8.00	60.0	20.0	8.0
10.00	75.0	25.0	10.0
12.00	70.0	30.0	12.0
16.00	100.0	45.0	16.0
20.00	100.0	45.0	20.0

SHAPE 'A'

Cylindrical - No End Cut

Several shapes - to be used for: general purpose in all metallic materials, like steel, castings and seams.



27403
ALUMINIUM CUT



27401
SINGLE CUT



27400
EXPRESS CUT

Discount Group	24
Material	CARBIDE
Standard	Factory Standard
Surface Treatment	Bright

27400 EXPRESS CUT	27401 SINGLE CUT	27403 ALUMINIUM CUT
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Ø Inch	Ø mm	O/all Length	Cut Length mm	Shank Ø	Availability		
3/32"	2.38	38.0	11.0	3.0	•	•	
	3.00	38.0	13.0	3.0	•	•	
5/32"	3.97	38.0	13.0	3.0	•		
	6.00	50.0	16.0	6.0	•	•	
1/4"	6.35	50.0	13.0	3.0	•	•	
5/16"	7.94	65.0	19.0	6.0	•	•	
3/8"	9.53	65.0	19.0	6.0	•	•	•
	10.00	150.0 XL	19.0	6.0		•	
	12.00	150.0 XL	25.0	6.0		•	
1/2"	12.70	65.0	19.0	6.0	•		
1/2"	12.70	70.0	25.0	6.0	•	•	•
5/8"	15.88	70.0	25.0	6.0	•	•	

CARBIDE

SHAPE 'B'

Cylindrical - With End Cut

Several shapes - to be used for: general purpose in all metallic materials, like steel, castings and seams.



27411
SINGLE CUT



27410
EXPRESS CUT

Discount Group	24
Material	CARBIDE
Standard	Factory Standard
Surface Treatment	Bright

Ø Inch	Ø mm	O/all Length	Cut Length mm	Shank Ø	Availability	
					27410 EXPRESS CUT	27411 SINGLE CUT
3/32"	2.38	38.0	11.0	3.0	•	
	3.00	38.0	13.0	3.0	•	•
5/32"	3.97	45.0	13.0	3.0	•	
	6.00	50.0	16.0	6.0	•	•
1/4"	6.35	45.0	13.0	3.0	•	
5/16"	7.94	65.0	19.0	6.0	•	•
3/8"	9.53	65.0	19.0	6.0	•	•
1/2"	12.70	65.0	19.0	6.0	•	
1/2"	12.70	70.0	25.0	6.0	•	•
5/8"	15.88	70.0	25.0	6.0	•	

CARBIDE

SHAPE 'C'

Ball Nosed Cylinder

Several shapes - to be used for: general purpose in all metallic materials, like steel, castings and seams.



27423
ALUMINIUM CUT



27421
SINGLE CUT



27420
EXPRESS CUT

Discount Group	24
Material	CARBIDE
Standard	Factory Standard
Surface Treatment	Bright

27420 EXPRESS CUT	27421 SINGLE CUT	27423 ALUMINIUM CUT
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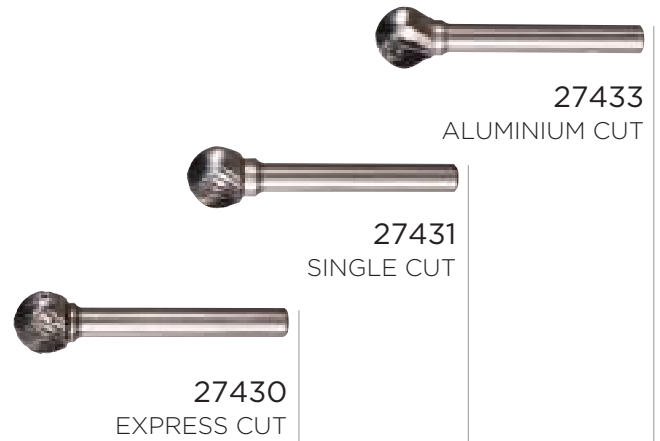
Ø Inch	Ø mm	O/all Length	Cut Length mm	Shank Ø	Availability		
3/32"	2.38	38.0	11.0	3.0	•	•	
	3.00	38.0	13.0	3.0	•	•	
	6.00	50.0	16.0	6.0	•	•	
	6.00	50.0	19.0	6.0			•
1/4"	6.35	50.0	13.0	3.0	•	•	
5/16"	7.94	65.0	19.0	6.0	•	•	
3/8"	9.53	65.0	19.0	6.0	•	•	•
3/8"	9.53	70.0	25.0	6.0	•		
	9.53	169.0 XL	19.0	6.0	•		•
	10.00	169.0 XL	19.0	6.0		•	
7/16"	11.11	70.0	25.0	6.0	•	•	•
1/2"	12.70	65.0	19.0	6.0	•		
1/2"	12.70	70.0	25.0	6.0	•	•	
	13.00	175.0 XL	25.0	6.0		•	
5/8"	15.88	70.0	25.0	6.0	•	•	

CARBIDE

SHAPE 'D'

Ball

Several shapes - to be used for: general purpose in all metallic materials, like steel, castings and seams.



Discount Group	24
Material	CARBIDE
Standard	Factory Standard
Surface Treatment	Bright

27430 EXPRESS CUT	27431 SINGLE CUT	27433 ALUMINIUM CUT
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Ø Inch	Ø mm	O/all Length	Cut Length mm	Shank Ø	Availability		
	3.00	38.0	2.5	3.0	•	•	
3/16"	4.76	38.0	4.2	3.0	•		
3/16"	4.76	43.0	4.2	3.0		•	
	6.00	50.0	5.4	6.0	•	•	•
5/16"	7.94	50.0	6.5	6.0		•	
	8.00	50.0	6.5	6.0	•		•
3/8"	9.53	53.0	7.8	6.0	•	•	•
3/8"	9.53	150.0 XL	7.8	6.0	•		
	10.00	160.0 XL	7.8	6.0		•	
1/2"	12.70	56.0	11.0	6.0	•	•	•
1/2"	12.70	150.0 XL	11.0	6.0		•	
5/8"	15.88	60.0	13.5	6.0		•	
5/8"	15.88	60.0	13.0	8.0	•		
	16.00	60.0	13.5	6.0	•		
	16.00	165.0 XL	13.5	6.0		•	

CARBIDE

SHAPE 'E'

Oval

Several shapes - to be used for: general purpose in all metallic materials, like steel, castings and seams.



27441
SINGLE CUT



27440
EXPRESS CUT

Discount Group	24
Material	CARBIDE
Standard	Factory Standard
Surface Treatment	Bright

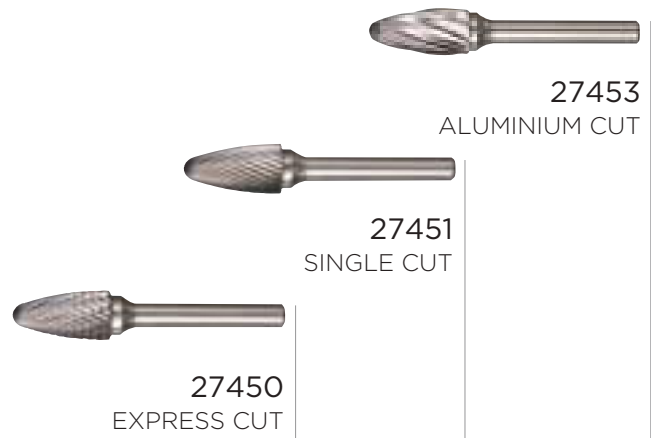
27440 EXPRESS CUT	27441 SINGLE CUT
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Ø Inch	Ø mm	O/all Length	Cut Length mm	Shank Ø	Availability	
	3.00	38.0	6.0	3.0	•	•
	6.00	50.0	9.5	6.0		•
	6.00	55.0	9.5	6.0	•	
1/4"	6.35	47.0	9.5	3.0	•	
3/8"	9.53	60.0	16.0	6.0	•	•
1/2"	12.70	66.0	22.0	6.0	•	•
1/2"	12.70	66.0	22.0	8.0	•	
	16.00	70.0	25.0	6.0	•	

SHAPE 'F'

Ball Nosed Tree

Several shapes - to be used for: general purpose in all metallic materials, like steel, castings and seams.



Discount Group	24
Material	CARBIDE
Standard	Factory Standard
Surface Treatment	Bright

27450 EXPRESS CUT	27451 SINGLE CUT	27453 ALUMINIUM CUT
-------------------------	------------------------	---------------------------

Ø Inch	Ø mm	O/all Length	Cut Length mm	Shank Ø	Availability		
	3.00	38.0	13.0	3.0	•	•	
	6.00	50.0	16.0	6.0	•	•	
1/4"	6.35	50.0	13.0	3.0	•	•	
5/16"	7.94	63.0	19.0	6.0	•		
3/8"	9.53	63.0	19.0	6.0	•	•	•
	10.00	169.0 XL	19.0	6.0		•	
	12.00	175.0 XL	25.0	6.0		•	
1/2"	12.70	70.0	25.0	6.0	•	•	•
1/2"	12.70	70.0	25.0	8.0		•	
5/8"	15.88	70.0	25.0	6.0	•		

CARBIDE

SHAPE 'G'

Tree Pointed Nose

Several shapes - to be used for: general purpose in all metallic materials, like steel, castings and seams.



27461
SINGLE CUT



27460
EXPRESS CUT

Discount Group	24
Material	CARBIDE
Standard	Factory Standard
Surface Treatment	Bright

27460 EXPRESS CUT	27461 SINGLE CUT
-------------------------	------------------------

Ø Inch	Ø mm	O/all Length	Cut Length mm	Shank Ø	Availability	
	3.00	38.0	13.0	3.0	•	•
	6.00	50.0	16.0	6.0	•	•
1/4"	6.35	50.0	13.0	3.0	•	•
5/16"	7.94	65.0	19.0	6.0		•
	8.00	65.0	19.0	6.0	•	
3/8"	9.53	65.0	19.0	6.0	•	•
	10.00	169.0 XL	19.0	6.0		•
	12.00	175.0 XL	19.0	6.0		•
1/2"	12.70	65.0	19.0	6.0	•	•
1/2"	12.70	70.0	25.0	6.0	•	•
5/8"	15.88	70.0	25.0	6.0	•	•

CARBIDE

SHAPE 'H'

Flame

Several shapes - to be used for: general purpose in all metallic materials, like steel, castings and seams.



27471
SINGLE CUT



27470
EXPRESS CUT

Discount Group	24
Material	CARBIDE
Standard	Factory Standard
Surface Treatment	Bright

27460 EXPRESS CUT	27471 SINGLE CUT
-------------------------	------------------------

Ø Inch	Ø mm	O/all Length	Cut Length mm	Shank Ø	Availability	
	3.00	38.0	6.0	3.0	•	•
	6.00	50.0	16.0	6.0	•	
5/16"	7.94	65.0	19.0	6.0	•	•
1/2"	12.70	77.0	32.0	6.0	•	•
5/8"	15.88	81.0	37.0	6.0	•	•

SHAPE 'J'

60° Countersink

Several shapes - to be used for: general purpose in all metallic materials, like steel, castings and seams.



27990
SINGLE CUT



27990
EXPRESS CUT

Discount Group	24
Material	CARBIDE
Standard	Factory Standard
Surface Treatment	Bright

Ø Inch	Ø mm	O/all Length	Cut Length mm	Shank Ø	Availability	
					27990 EXPRESS CUT	27990 SINGLE CUT
1/2"	12.70	60.0	13.0	6.0	•	•
5/8"	15.88	60.0	17.0	6.0	•	•

SHAPE 'K'

90° Countersink

Several shapes - to be used for: general purpose in all metallic materials, like steel, castings and seams.



27980
SINGLE CUT



27980
EXPRESS CUT

Discount Group	24
Material	CARBIDE
Standard	Factory Standard
Surface Treatment	Bright

	27980 EXPRESS CUT	27980 SINGLE CUT
Availability	•	•

Ø Inch	Ø mm	O/all Length	Cut Length mm	Shank Ø	27980 EXPRESS CUT	27980 SINGLE CUT
	6.00	50.0	8.0	6.0	•	•
1/2"	12.70	55.0	9.0	6.0	•	•
5/8"	15.88	57.0	12.0	8.0	•	•

SHAPE 'L'

Ball Nosed Cone

Several shapes - to be used for: general purpose in all metallic materials, like steel, castings and seams.



27501
SINGLE CUT



27500
EXPRESS CUT

Discount Group	24
Material	CARBIDE
Standard	Factory Standard
Surface Treatment	Bright

Ø Inch	Ø mm	O/all Length	Cut Length mm	Shank Ø	Availability	
					27500 EXPRESS CUT	27501 SINGLE CUT
	3.00	38.0	10.0	3.0	•	•
	6.00	50.0	16.0	6.0	•	•
1/4"	6.35	45.0	13.0	6.0	•	
5/16"	7.94	70.0	22.0	6.0		•
	8.00	70.0	22.0	6.0	•	
3/8"	9.53	75.0	27.0	6.0	•	•
	10.00	65.0	19.0	6.0	•	
	10.00	180.0 XL	27.0	6.0		•
1/2"	12.70	76.0	30.0	6.0	•	•
	13.00	150.0 XL	30.0	6.0		•
5/8"	15.88	81.0	33.0	6.0	•	•

CARBIDE

SHAPE 'M'

Pointed Cone

Several shapes - to be used for: general purpose in all metallic materials, like steel, castings and seams.



27511
SINGLE CUT



27510
EXPRESS CUT

Discount Group	24
Material	CARBIDE
Standard	Factory Standard
Surface Treatment	Bright

27510 EXPRESS CUT	27511 SINGLE CUT
-------------------------	------------------------

Ø Inch	Ø mm	O/all Length	Cut Length mm	Shank Ø	Availability	
	3.00	38.0	11.0	3.0	•	•
	6.00	50.0	19.0	6.0	•	•
1/4"	6.35	50.0	16.0	3.0	•	•
3/8"	9.53	65.0	16.0	6.0	•	•
1/2"	12.70	65.0	19.0	6.0	•	•
1/2"	12.70	70.0	22.0	6.0	•	•

SHAPE 'N'

Inverted Cone

Several shapes - to be used for: general purpose in all metallic materials, like steel, castings and seams.



27521
SINGLE CUT



27520
EXPRESS CUT

Discount Group	24
Material	CARBIDE
Standard	Factory Standard
Surface Treatment	Bright

	27520 EXPRESS CUT	27521 STANDARD CUT
Availability		

Ø Inch	Ø mm	O/all Length	Cut Length mm	Shank Ø	27520 EXPRESS CUT	27521 STANDARD CUT
	6.00	55.0	9.0	6.0	•	•
1/2"	12.70	57.0	13.0	6.0	•	•
5/8"	15.88	65.0	19.0	6.0		•

27600

Carbide Burr Sets

Several shapes - to be used for: general purpose in all metallic materials, like steel, castings and seams.



Set shown
27600-12ACFGM

Discount Group	24
Material	CARBIDE
Standard	PRESTO

List no.	Description	Contents
27600-4PC6	4 Piece 6mm Shank Burr Set	9.6mm x 15.8 Oval Double Cut 9.6mm x 19.2 Round Tree Double Cut 12.5mm x 25.4 Bull Nose Single Cut 12.5mm x 25.4 Cylinder End Cut Single Cut
27600-12ACFGM	5 Piece 1/2" Exp Burr Set	A,C,F,G,M
27600-12ACFLM	5 Piece 1/2" Exp Burr Set	A,C,F,L,M
27600-12BCFGM	5 Piece 1/2" Exp Burr Set	B,C,F,G,M
27600-8PC6M	8 Piece 6mm Shank Burr Set 1	9.6mm x 15.8 Oval Double Cut 9.6mm x 19.2 Bull Nose Single Cut 9.6mm x 19.2 Round Tree Double Cut 9.6mm x 30.2 Ball Nose Cone Single Cut 12.5mm x 11.4 Ball Single Cut 12.5mm x 25.4 Bull Nose Single Cut 12.5mm x 25.4 Cylinder Single Cut 12.5mm x 25.4 Tree Single Cut
27600-8PC6S	8 Piece 6Mm Shank Burr Set 2	9.6mm x 5.7 Ball Single Cut 9.6mm x 18.0 Bull Nose Single Cut 9.6mm x 18.0 Cylinder End Cut Single Cut 9.6mm x 18.0 Cylinder Single Cut 12.0mm x 10.0 Oval Single Cut 12.0mm x 18.0 Round Tree Single Cut 12.0mm x 18.0 Tree Single Cut 12.0mm x 20.0 Cone Single Cut

CARBIDE

27600

Carbide Burr Sets

Several shapes - to be used for: general purpose in all metallic materials, like steel, castings and seams.



Set shown
27600-10PC6

Discount Group	24
Material	CARBIDE
Standard	PRESTO

List no.	Description	Contents
27600-10PC3	10 Piece 3mm Shank Burr Set	3.0mm x 12.0 Bull Nose Fine Cut 3.0mm x 12.0 Tree Double Cut 3.0mm x 14.0 Cylinder End Cut Chip Breaker 3.0mm x 14.0 Cylinder Fine Cut 3.0mm x 14.0 Round Tree Double Cut 3.0mm x 14.0 Round Tree Fine Cut 3.0mm x 15.0 Cone Double Cut 3.0mm x 2.7 Ball Fine Cut 3.0mm x 3.0 Countersink 60° Fine Cut 4.0mm x 3.8 Ball Single Cut
27600-10PC6	10 Piece Exp Burr Set - A,C,F,G	3/8"x19x6mm Cyl Burr Express Cut Shape A 3/8"x19x6mm Cyl With Ball End Burr Express Cut Shape C 3/8"x19x6mm Ball Nosed Tree Burr Express Cut Shape F 3/8"x19x6mm Tree Pointed Nose Burr Express Cut Shape G 1/2"x11x6mm Ball Burr Express Cut Shape D 1/2"x22x6mm Pointed Cone Burr Express Cut Shape M 1/2"x25x6mm Ball Nosed Tree Burr Express Cut Shape F 1/2"x25x6mm Cyl Ball End Burr Express Cut Shape C 1/2"x25x6mm Cyl Burr Express Cut Shape A 1/2"x25x6mm Tree Pointed Nose Burr Express Cut Shape G
27600-20PC3	20 Piece 3mm Shank Burr Set	3.0mm x 14.0 Cylinder Double Cut 3.0mm x 14.0 Cylinder End Cut Fine Cut 3.0mm x 14.0 Cylinder Chipbreaker 3.0mm x 12.0 Bull Nose Fine Cut 3.0mm x 12.0 Bull Nose Chipbreaker 3.0mm x 2.7 Ball Fine Cut 3.0mm x 2.7 Ball Double Cut 4.0mm x 3.8 Ball Single Cut 4.0mm x 3.8 Ball Double Cut 3.0mm x 2.7 Ball Double Ended Fine Cut 3.0mm x 5.0 Oval Fine Cut 3.0mm x 5.0 Oval Double Cut 3.0mm x 14.0 Round Tree Double Cut 3.0mm x 14.0 Round Tree Fine Cut 3.0mm x 12.0 Tree Fine Cut 3.0mm x 3.0 Countersink 60° Fine Cut 3.0mm x 14.0 Ball Nose Cone Fine Cut 3.0mm x 14.0 Ball Nose Cone Double Cut 3.0mm x 15.0 Cone Double Cut 3.0mm x 4.0 Inverted Cone Fine Cut




CARBIDE

MISCELLANEOUS








328 - 336

PRESTO

Toolbits

	Series #	Standard	Type	Material	Size Range	Surface	Page
	70000	DIN 4964	Square	HSS	4mm - 20mm (3/16" - 1")	PO Bright	330
	70001			HSCo8	4mm - 25mm (3/16" - 1")		330
	70020		Round	HSS	4mm - 12mm (3/16" - 1")		331
	70021			HSCo8	4mm - 20mm (1/8" - 1")		331
	70040		Flat	HSS	(1/4" x 1/2" - 3/4" x 1")		332
	70041			HSCo8	4 x 6mm - 6 x 12mm (1/4 x 1/2" - 3/4" x 1")		332

Repair Tools

	Series #	Material	Size Range	Surface	Page
	09010	AISI 1095	No.1 - No.9	Grey	333
	09600		Set 1 1 No.1 - No.5 Set 2 1 No.1 - No.6	Grey	334
	96000	HSS	No.1 - No.4	PO Bright	334
	09017		1/8" - 5/8" M2.5 - M16 #3 - #14	P2 Bronze	335
	09607		1/8" NPT - 1/4" NPT 1/8" BSP - 1/4" BSP	Multi	335
	09040	CARBIDE	M3 - M12	PO Bright	336
	09040SET			PO Bright	336

Square Toolbits



M2 high speed steel tool bits are designed for general purpose machining mild steel, alloys, and tool steels. They have good heat and abrasion resistant properties and are best used when making an interrupted cut or where the tool may be subjected to heavy stress.

Cobalt tool bits are designed for machining work hardening alloys and other tough materials. They have increased water resistance and tool life. This improves performance and retention of the cutting edge.

Standard	DIN 4964
Surface Treatment	Bright

HSS Discount Group	18
HSCo Discount Group	19

		70000	70001
A/F mm	O/all mm	HSS	HSCo
4	63.0	•	•
4	80.0		•
5	63.0		•
5	80.0		•
6	100.0	•	•
6	125.0		•
8	100.0	•	•
8	125.0		•
8	160.0	•	•
8	200.0		•
8	80.0		•
10	100.0	•	•
10	125.0		•
10	160.0		•
10	200.0	•	•
12	100.0		•
12	125.0		•
12	160.0	•	•
12	200.0	•	•
14	100.0		•
14	200.0	•	•
16	100.0		•
16	160.0	•	•
16	200.0		•
18	160.0		•
18	200.0		•
20	160.0	•	•
20	200.0	•	•
20	250.0		•
25	160.0		•
25	200.0		•
25	250.0		•

		70000	70001
A/F Inch	O/all Inch	HSS	HSCo
3/16"	3"	•	•
3/16"	4"	•	•
1/4"	2"	•	•
1/4"	2.1/2"	•	•
1/4"	3"	•	•
1/4"	4"	•	•
1/4"	6"	•	•
5/16"	2.1/2"	•	•
5/16"	3"	•	•
5/16"	4"	•	•
5/16"	6"	•	•
3/8"	3"	•	•
3/8"	4"	•	•
3/8"	6"	•	•
1/2"	4"	•	•
1/2"	6"	•	•
1/2"	8"	•	•
5/8"	4"	•	•
5/8"	6"	•	•
3/4"	4"	•	•
3/4"	6"	•	•
3/4"	8"	•	•
1"	6"	•	•
1"	7"	•	•
1"	8"	•	•

MISCELLANEOUS

Round Toolbits



M2 high speed steel tool bits are designed for general purpose machining mild steel, alloys, and tool steels. They have good heat and abrasion resistant properties and are best used when making an interrupted cut or where the tool may be subjected to heavy stress.

Cobalt tool bits are designed for machining work hardening alloys and other tough materials. They have increased water resistance and tool life. This improves performance and retention of the cutting edge. Round toolbits are sometimes used as dowels for making punches or for other applications..

Standard	DIN 4964
Surface Treatment	Bright

HSS Discount Group	18
HSCo Discount Group	19

		70020	70021
Ø mm	O/all mm	HSS	HSCo
4	40.0		•
4	63.0	•	•
5	80.0	•	•
6	100.0	•	•
6	63.0		•
6	80.0		•
8	100.0	•	•
8	125.0		•
8	160.0	•	•
8	40.0		•
8	63.0		•
8	80.0		•
10	100.0	•	•
10	125.0		•
10	160.0		•
10	80.0		•
12	100.0	•	•
12	125.0		•
12	160.0		•
12	200.0	•	•
14	160.0		•
14	200.0		•
16	200.0		•
18	200.0		•
20	160.0		•
20	200.0		•

		70020	70021
Ø Inch	O/all Inch	HSS	HSCo
1/8"	3"		•
3/16"	2"	•	•
3/16"	3"	•	•
3/16"	4"	•	•
1/4"	3"	•	•
1/4"	4"	•	•
1/4"	6"	•	•
5/16"	3"	•	•
5/16"	4"	•	•
5/16"	6"	•	•
3/8"	3"	•	•
3/8"	4"	•	•
3/8"	6"	•	•
7/16"	6"	•	•
1/2"	3"	•	•
1/2"	4"	•	•
1/2"	6"	•	•
5/8"	4"	•	•
5/8"	6"	•	•
1"	6"	•	•
3/4"	8"	•	•

MISCELLANEOUS

Flat Toolbits



M2 high speed steel tool bits are designed for general purpose machining mild steel, alloys, and tool steels. They have good heat and abrasion resistant properties and are best used when making an interrupted cut or where the tool may be subjected to heavy stress.

Cobalt tool bits are designed for machining work hardening alloys and other tough materials. They have increased water resistance and tool life. This improves performance and retention of the cutting edge.

Standard	DIN 4964
Surface Treatment	Bright

HSS Discount Group	18
HSCo Discount Group	19

		70040	70041
A/F mm	O/all mm	HSS	HSCo
6 x 4	100.0		•
10 x 5	100.0		•
10 x 5	160.0		•
10 x 5	200.0		•
10 x 6	100.0		•
12 x 6	100.0		•
12 x 6	160.0		•
12 x 6	200.0		•

		70040	70041
A/F Inch	O/all Inch	HSS	HSCo
1/2" x 1/4"	4"	•	•
1/2" x 1/4"	6"	•	•
1/2" x 5/16"	6"		•
1/2" x 3/8"	4"	•	•
1/2" x 3/8"	6"	•	•
5/8" x 3/8"	4"	•	•
5/8" x 3/8"	6"	•	•
3/4" x 1/4"	4"	•	•
3/4" x 1/4"	6"	•	•
3/4" x 3/8"	4"	•	•
3/4" x 3/8"	6"	•	•
3/4" x 1/2"	4"	•	•
3/4" x 1/2"	5"		•
3/4" x 1/2"	6"	•	
1" x 1/4"	4"	•	•
1" x 1/4"	6"	•	•
1" x 1/2"	4"	•	•
1" x 1/2"	6"	•	•
1" x 3/4"	6"	•	•

09010

Screw Extractors



Used expressly for removing broken or seized screws. They are left-handed, for use on right-handed threads. The screw is first drilled out to the proper diameter for that extractor. The extractor is then inserted into this hole and turned counter-clockwise.

Discount Group	28	Standard	PRESTO
Material	AISI 1095	Surface Treatment	Grey

Size	O/all mm	Body Length mm	Small Ø	Shank Ø	Square A/F	Square Length	Screw or Bolt Size			
No.1	50.0	12.0	1.8	3.29	2.6	4.5	1/8" - 3/16"	M2.5 - M4	#3 - #6	
No.2	60.0	18.0	2.2	4.8	3.8	7.0	1/4"	M5 - M6	#6 - #12	
No.3	68.0	24.0	3.1	6.4	5.0	9.0	5/16" - 3/8"	M7 - M8	#14	
No.4	76.0	33.0	4.8	8.8	6.6	10.0	7/16"	M10	1/8" NPT	1/8" BSP
No.5	85.0	36.0	6.5	11.1	8.3	11.0	1/2" - 5/8"	M12 - M16	1/4" NPT	1/4" BSP
No.6	96.0	43.0	9.5	15.0	12.5	14.0	3/4"	M20	3/8" NPT	3/8" BSP
No.7	102.0	46.0	11.8	19.9	15.6	16.0	7/8" - 1"	M22 - M25	1/2" NPT	1/2" BSP
No.8	112.0	56.0	15.2	26.0	20.5	23.0	1.3/8"	M27 - M36	3/4" NPT	3/4" BSP
No.9	117.8	56.0	23.0	32.3	25.0	25.0	1.3/4"	M36 - M52	1" NPT	1" BSP

09600

Screw Extractor Sets

Used expressly for removing broken or seized screws. They are left-handed, for use on right-handed threads. The screw is first drilled out to the proper diameter for that extractor. The extractor is then inserted into this hole and turned counter-clockwise. For specification and bolt sizes see data sheet 09010.



Discount Group	28
Material	AISI 1095
Surface Treatment	Grey

Description

- SET1 - 1-5 SCREW EXTRACTOR SET
- SET2 - 1-6 SCREW EXTRACTOR SET

96000

Taper Routers



Taper routers are used for cutting, trimming and routing around cowling, door sills and plexi-glass, trimming on wing terminals in bulkheads and ribs on fuselage. The advantages over taper pin reamers and drills are the ability to cut without drilling first easier guiding along the pattern and easier cutting without buildup.

Discount Group	02	Standard	PRESTO
Material	HSS	Surface Treatment	Bright

Size	O/all mm	Body Length mm	Small Ø	Large Ø
No.1	51.0	20.5	2.06	2.49
No.2	57.0	22.0	2.79	3.25
No.3	63.3	27.0	4.20	4.76
No.4	70.0	32.0	5.69	6.35

MISCELLANEOUS

09017

Taper Drill For Screw Extractor



Used expressly for drilling to the proper size for the most popular screw extractors. The driving flats eliminate slippage.

Discount Group	28	Standard	PRESTO
Material	HSS	Surface Treatment	Steam/Bronze

Ø mm	Extractor Size	O/all mm	Body Length mm	Screw or Bolt Size			
4.0	#1	15.0	58.0	1/8" - 3/16"	M2.5 - M4	#3 - #6	
5.0	#2	20.0	63.0	1/4"	M5 - M6	#6 - #12	
5.5	#3	20.0	68.0	5/16" - 3/8"	M7 - M8	#14	
7.5	#4	25.0	80.0	7/16"	M10	1/8" NPT	1/8" BSP
10.0	#5	30.0	88.5	1/2" - 5/8"	M12 - M16	1/4" NPT	1/4" BSP

09607

Stud Extractor Set

Used expressly for removing broken or seized screws. They are left-handed, for use on right-handed threads. The screw is first drilled out to the proper diameter for that extractor. The extractor is then inserted into this hole and turned counter-clockwise.



Discount Group	28
Material	HSS
Standard	PRESTO
Surface Treatment	Multi

Ranges Covered

1/8" - 5/8"	M2.5 - M16	#3 - #14	1/8" NPT - 1/4" NPT	1/8" BSP - 1/4" BSP
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MISCELLANEOUS

09040

Solid Carbide Broken Tap Extractor



Used expressly for removing broken taps. The component is first secured and the centre of the broken tap located using a larger tapping drill. The broken tap is then machined away without using any lubricant at a speed of 1500 - 3500 RPM. Constant pressure should be maintained.

Discount Group	28
Material	CARBIDE
Standard	PRESTO

Ø mm	Extractor Range	O/all mm	Body Length mm
2.0	M3	31.0	10.0
3.0	M4 - M5	40.5	14.0
4.0	M6 - M7	46.0	20.0
5.0	M8 - M10	50.0	24.0
6.0	M10 - M12	60.0	30.0

09040SET

Solid Carbide Broken Tap Extractor Set



Used expressly for removing broken taps. The component is first secured and the centre of the broken tap located using a larger tapping drill. The broken tap is then machined away without using any lubricant at a speed of 1500 - 3500 RPM. Constant pressure should be maintained.

Discount Group	28
Size Range	M3 - M12



TECHNICAL

338 - 371

PRESTO



SURFACE TREATMENTS

Surface treatments and Coatings play an important role in the performance of the product. The correct choice of surface finish for the work piece offers the use the following advantages:

- Reduction of power requirement and the possibility of an increase in cutting parameters.
- Avoidance of built up edges and cold chip welding
- Protection from abrasive and adhesive wear and tear
- Provides a heat barrier to the cutting edge
- Possibility of dry machining or the use of minimal coolant
- Improvement in surface finish of the workpiece and higher productivity

P0 - BRIGHT FINISH



The bright finish is primarily supplied for working on non-ferrous metals, Nickel Chrome steels and soft plastics. This surface finish enables optimum chip flow.

P1 - BLACK FINISH



Tools are tempered in a steam atmosphere. The resultant oxidization of the surface layer provides increased wear resistance, reduces the possibility of cold chip welding and permits a freer flow of lubrication to the workpiece. Steam temper is not recommended for working on Aluminium. This surface treatment is the most common used.

P2 - BRONZE



This is a stress relieving treatment and is the normal surface treatment for drills in Cobalt.

P5 - TiN



A coating of Titanium Nitride of between 1.5 - 3 μm is applied to the surface by a PVD process. This gives a surface hardness of approx 2.300 HV on the treated surface and offers the possibility of us to 400% increase in tool life when used on free cutting steels. This finish also enables increase of up to 60% in cutting speeds with resultant benefits in production capabilities.

P6 - TiCN



The Titanium Carbo-Nitride surface is approx 2 to 3 μm thick and provides a hardness of approx 3000HV. This enables higher cutting speeds to be employed with a resultant considerable increase in productivity.

P8 - TiAlN



The Titanium-Aluminium Nitride finish is a multi nano layer surface finish of TiAlN and TiN. It has a thickness of approx 2 to 5 μm and a hardness of approx 3.300HV. It will withstand higher working temperatures (up to 800°C) and therefore is particularly suitable when using minimal cutting fluid or dry machining. Recommended for use on abrasive materials such as Cast Iron or Al-Si alloys. Good all round coating.

MANUFACTURING TOLERANCES

	ISO Nominal Ø mm								
	Tolerance	<=3		>3 <=6		>6 <=10		>10 <=18	
Cutting Ø of Slot Drills and Tri-Cutters	e8	-0.014	-0.028	-0.020	-0.038	-0.025	-0.047	-0.032	-0.059
Shank Ø Tolerance of ISO Cutters	h6	-0.000	-0.006	-0.000	-0.008	-0.000	-0.009	-0.000	-0.011
Shank Ø Tolerance of Screw Shank Cutters & Cutting Ø of Drills	h8	-0.000	-0.014	-0.000	-0.018	-0.000	-0.022	-0.000	-0.027
Shank Ø Tolerance of ISO Taps	h9	-0.000	-0.025	-0.000	-0.030	-0.000	-0.036	-0.000	-0.043
Square Tolerance on ISO Taps, Shank Tolerance of Jobber Drills	h11	-0.000	-0.060	-0.000	-0.075	-0.000	-0.090	-0.000	-0.110
Driving Square on Hand Reamers	h12	-0.000	-0.100	-0.000	-0.120	-0.000	-0.150	-0.000	-0.180
Tolerance on Toolbits	h13	-0.000	-0.140	-0.000	-0.180	-0.000	-0.220	-0.000	-0.270
Cutting Ø on ISO Endmills	js12	±0.050		±0.060		±0.075		±0.090	
Cutting Ø on Ripping Cutters	js14	±0.125		±0.150		±0.180		±0.215	
Reamer Ø Tolerance (To produce H7)	Special	+0.008	+0.002	+0.010	+0.004	+0.012	+0.004	+0.015	+0.006
Hole Produced by Standard Reamer	H7	+0.010	+0.000	+0.012	+0.000	+0.015	+0.000	+0.018	+0.000
Hole Produced by Standard Twist Drill	H12	+0.100	+0.000	+0.120	+0.000	+0.150	+0.000	+0.180	+0.000
Width of Slot Produced by Metric Slotdrill	p9	-0.006	-0.031	-0.012	-0.042	-0.015	-0.051	-0.018	-0.061

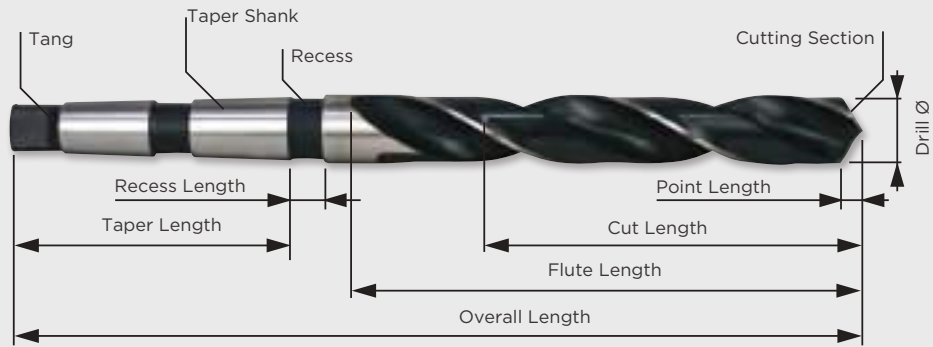
>18 <=30		>30 <=50		>50 =80		>80<=120		>120 <=180	
-0.040	-0.073	-0.050	-0.089	-0.060	-0.106	-0.072	-0.126	-0.085	-0.148
-0.000	-0.013	-0.000	-0.016	-0.000	-0.019	-0.000	-0.022	-0.000	-0.025
-0.000	-0.033	-0.000	-0.039	-0.000	-0.046	-0.000	-0.054	-0.000	-0.063
-0.000	-0.052	-0.000	-0.062	-0.000	-0.074	-0.000	-0.087	-0.000	-0.100
-0.000	-0.130	-0.000	-0.160	-0.000	-0.190	-0.000	-0.220	-0.000	-0.250
-0.000	-0.210	-0.000	-0.250	-0.000	-0.300	-0.000	-0.350	-0.000	-0.400
-0.000	-0.330	-0.000	-0.390	-0.000	-0.460	-0.000	-0.540	-0.000	-0.630
±0.105		±0.125		±0.150		±0.175		±0.200	
±0.260		±0.310		±0.370		±0.435		±0.500	
+0.017	+0.009	+0.021	+0.012						
+0.021	+0.000	+0.025	+0.000	+0.030	+0.000	+0.035	+0.000	+0.040	+0.000
+0.210	+0.000	+0.250	+0.000	+0.300	+0.000	+0.350	+0.000	+0.400	+0.000
-0.022	-0.074	-0.026	-0.088	-0.032	-0.106	-0.037	-0.124	-0.043	-0.143

CUTTING SPEEDS

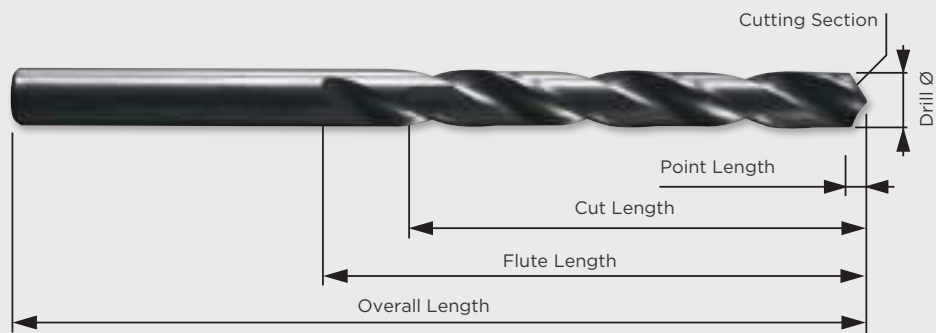
Drill Ø		Peripheral Cutting Speed meters per minute (m/Min)															
		5	7	9	10	12	15	18	20	22	25	28	30	35	40	50	60
mm	inch	Revolutions Per Minute (R.P.M.)															
0.79	1/32	2015	2820	3626	4029	4835	6044	7253	8058	8864	10073	11282	12088	14102	16117	20146	24175
1.00		1592	2228	2865	3183	3820	4775	5730	6366	7003	7958	8913	9549	11141	12732	15915	19099
1.19	3/64	1337	1872	2407	2675	3210	4012	4815	5350	5885	6687	7490	8025	9362	10699	13374	16049
1.50		1061	1485	1910	2122	2546	3183	3820	4244	4669	5305	5942	6366	7427	8488	10610	12732
1.59	1/16	1001	1401	1802	2002	2402	3003	3604	4004	4404	5005	5605	6006	7007	8008	10010	12012
1.98	5/64	804	1125	1447	1608	1929	2411	2894	3215	3537	4019	4501	4823	5627	6431	8038	9646
2.00		796	1114	1432	1592	1910	2387	2865	3183	3501	3979	4456	4775	5570	6366	7958	9549
2.38	3/32	669	936	1204	1337	1605	2006	2407	2675	2942	3344	3745	4012	4681	5350	6687	8025
2.50		637	891	1146	1273	1528	1910	2292	2546	2801	3183	3565	3820	4456	5093	6366	7639
2.78	7/64	572	801	1030	1145	1374	1717	2061	2290	2519	2862	3206	3435	4007	4580	5725	6870
3.00		531	743	955	1061	1273	1592	1910	2122	2334	2653	2971	3183	3714	4244	5305	6366
3.18	1/8	500	701	901	1001	1201	1501	1802	2002	2202	2502	2803	3003	3503	4004	5005	6006
3.50		455	637	819	909	1091	1364	1637	1819	2001	2274	2546	2728	3183	3638	4547	5457
3.57	9/64	446	624	802	892	1070	1337	1605	1783	1962	2229	2497	2675	3121	3566	4458	5350
3.97	5/32	401	561	722	802	962	1203	1443	1604	1764	2004	2245	2405	2806	3207	4009	4811
4.00		398	557	716	796	955	1194	1432	1592	1751	1989	2228	2387	2785	3183	3979	4775
4.37	11/64	364	510	656	728	874	1093	1311	1457	1602	1821	2040	2185	2549	2914	3642	4370
4.50		354	495	637	707	849	1061	1273	1415	1556	1768	1981	2122	2476	2829	3537	4244
4.76	3/16	334	468	602	669	802	1003	1204	1337	1471	1672	1872	2006	2341	2675	3344	4012
5.00		318	446	573	637	764	955	1146	1273	1401	1592	1783	1910	2228	2546	3183	3820
5.56	7/32	286	401	515	572	687	859	1030	1145	1259	1431	1603	1717	2004	2290	2862	3435
6.00		265	371	477	531	637	796	955	1061	1167	1326	1485	1592	1857	2122	2653	3183
6.35	1/4	251	351	451	501	602	752	902	1003	1103	1253	1404	1504	1754	2005	2506	3008
7.00		227	318	409	455	546	682	819	909	1000	1137	1273	1364	1592	1819	2274	2728
7.94	5/16	200	281	361	401	481	601	722	802	882	1002	1123	1203	1403	1604	2004	2405
8.00		199	279	358	398	477	597	716	796	875	995	1114	1194	1393	1592	1989	2387
8.73	11/32	182	255	328	365	438	547	656	729	802	912	1021	1094	1276	1458	1823	2188
9.00		177	248	318	354	424	531	637	707	778	884	990	1061	1238	1415	1768	2122
9.53	3/8	167	234	301	334	401	501	601	668	735	835	935	1002	1169	1336	1670	2004
10.00		159	223	286	318	382	477	573	637	700	796	891	955	1114	1273	1592	1910
11.11	7/16	143	201	258	287	344	430	516	573	630	716	802	860	1003	1146	1433	1719
12.00		133	186	239	265	318	398	477	531	584	663	743	796	928	1061	1326	1592
12.70	1/2	125	175	226	251	301	376	451	501	551	627	702	752	877	1003	1253	1504
14.00		114	159	205	227	273	341	409	455	500	568	637	682	796	909	1137	1364
15.00		106	149	191	212	255	318	382	424	467	531	594	637	743	849	1061	1273
15.88	5/8	100	140	180	200	241	301	361	401	441	501	561	601	702	802	1002	1203
16.00		99	139	179	199	239	298	358	398	438	497	557	597	696	796	995	1194
17.46	11/16	91	128	164	182	219	273	328	365	401	456	510	547	638	729	912	1094
18.00		88	124	159	177	212	265	318	354	389	442	495	531	619	707	884	1061
19.05	3/4	84	117	150	167	201	251	301	334	368	418	468	501	585	668	835	1003
20.00		80	111	143	159	191	239	286	318	350	398	446	477	557	637	796	955
22.23	7/8	72	100	129	143	172	215	258	286	315	358	401	430	501	573	716	859
24.00		66	93	119	133	159	199	239	265	292	332	371	398	464	531	663	796
25.00		64	89	115	127	153	191	229	255	280	318	357	382	446	509	637	764
25.40	1	63	88	113	125	150	188	226	251	276	313	351	376	439	501	627	752
27.00		59	83	106	118	141	177	212	236	259	295	330	354	413	472	589	707
28.57	1 1/8	56	78	100	111	134	167	201	223	245	279	312	334	390	446	557	668
30.00		53	74	95	106	127	159	191	212	233	265	297	318	371	424	531	637
31.75	1 1/4	50	70	90	100	120	150	180	201	221	251	281	301	351	401	501	602
32.00		50	70	90	99	119	149	179	199	219	249	279	298	348	398	497	597
34.93	1 3/8	46	64	82	91	109	137	164	182	200	228	255	273	319	365	456	547
36.00		44	62	80	88	106	133	159	177	195	221	248	265	309	354	442	531
38.10	1 1/2	42	58	75	84	100	125	150	167	184	209	234	251	292	334	418	501
40.00		40	56	72	80	95	119	143	159	175	199	223	239	279	318	398	477
44.45	1 3/4	36	50	64	72	86	107	129	143	158	179	201	215	251	286	358	430
50.00		32	45	57	64	76	95	115	127	140	159	178	191	223	255	318	382

DRILL NOMENCLATURES

MORSE TAPER SHANK



STRAIGHT SHANK



DRILLING SPEED AND FEED CHART

- 1** Excellent
- 2** Suitable
- 3** For unstable rough duty application.
(Hand held, flimsy parts, poor jiggng, machine vibrates)
- 4** Wear resistant.
(A coating will resist wear or P4 on request)
- 5** Thin material application.
(Use a split point, Hi-Nox or Rivbit stub drill)
- 6** Drill stationary. Part revolving.
(Use worm pattern or slow spiral on short holes)
- 7** NOTE: Only if no alternative is available.

Notes :- For stub length in same style, increase speed by 10-15%
For long series in same style, decrease speed by 10-15%
Use 01000 data for centre drills (07000) and sheet metal drills (08).

Please note, these figures are a starting point as materials and machining conditions vary widely.

Main Group	Material Group	N/mm ²	HB	*01000			01001			01002 01150			01065		
				01010	01020	01040	11000	Application	Speed m/min	Feed mm/rev	Application	Speed m/min	Feed mm/rev	Application	Speed m/min
1. Steel	1.1 Magnetic Soft	<400	120	1	34	F	2	30	F	2	34	F	1	42	G
	1.2 Structural	<750	220	1	29	E	2	27	E	1	29	E	1	38	G
	1.3 Plain Carbon Steel	<850	250	1	22	D	2	20	D	1	27	D	1	33	E
	1.4 Low Alloy Engineering	<850	250	1	20	C	2	18	C	1	24	C	1	28	D
	1.5 Alloy Steel	<1000	300	2	10	B				1	12	B	2	18	C
	1.6 Alloy Steel Heat Treated	<1200	350	7	7	B				2	8	B	2	10	C
	1.7 Heat Treated steel	<1450	425												
	1.8 Wear Resistant Steel	<1650	500												
2. Stainless Steel	2.1 Austenitic	<850	250	7	7	E				7	7		2	11	E
	2.2 Ferritic	<1000	300	2	12	D				2	12		2	20	D
	2.3 Duplex	<1000	300	7	9	C				7	9		2	15	C
	2.4 Martensitic			2	12	D				2	12		2	18	E
3. Cast Iron	3.1 Soft Grey Iron	<500	140	1	27	E				1	7	E	1	37	F
	3.2 Grey and Heat Treated Irons	<850	250	1	22	D				1	22	D	1	28	D
	3.3 Spheroidal Graphite	<750	220	2	19	C				2	19	C	2	25	C
4. Titanium	4.1 Pure Titanium	<700	200	2	14	D							2	23	D
	4.2 Titanium Alloy	<1000	300	2	6	A							7	7	C
5. Nickel	5.3 Pure Nickel	<850	250	2	10	D	2	10	D				2	13	E
	5.4 Nickel Alloys	<1200	350	2	5	A	2	5	A				7	6	C
6. Copper & Brasses	6.1 Pure Copper	<350	100				6	33	E				1	50	E
	6.2 Short Chipping Brass	<700	200				1	38	D				1	34	G
	6.3 Long Chipping Brass	<700	200				2	34	D				2	40	F
	6.4 High Strength Bronze	<1350	400				2	21	D				2	30	E
7. Aluminium	7.1 Aluminium	<350	100				2	35	D				1	40	G
	7.2 Aluminium Cast Si<0.5	<500	140				1	30	G				1	37	G
	7.3 Aluminium Cast Si =0.5 -10%	>400	120				1	27	F				1	38	F
	7.4 Aluminium Cast Si>10%	>400	120				2	25	D				2	32	E
8. Plastics	8.1 Thermo Plastics			7	25	F	2	25	F	7	30	F	1	32	G
	8.2 Thermo Setting Plastics			2	16	E	2	16	E	2	25	F	4	35	F
	8.3 Reinforced Plastics			7	12	D	7	12	D	7	12	D	4	35	D

Feed Code	Nominal Drill Diameter mm								
	Ø2.5	Ø4.0	Ø6.3	Ø10.0	Ø16.0	Ø20.0	Ø25.0	Ø40.0	Ø63.0
A	0.025	0.040	0.050	0.080	0.100	0.130	0.160	0.200	0.315
B	0.032	0.050	0.063	0.100	0.125	0.160	0.200	0.250	0.400
C	0.040	0.063	0.080	0.125	0.160	0.200	0.250	0.315	0.500
D	0.050	0.080	0.100	0.160	0.200	0.260	0.315	0.400	0.630
E	0.063	0.100	0.125	0.200	0.250	0.320	0.400	0.500	0.800
F	0.080	0.125	0.160	0.250	0.315	0.400	0.500	0.630	1.000
G	0.100	0.160	0.200	0.315	0.400	0.500	0.630	0.800	1.250
H	0.125	0.200	0.250	0.400	0.500	0.650	0.800	1.000	1.600
I	0.016	0.025	0.040	0.080	0.130	0.160	0.200		

S = Cutting Speed m/min
 N = R.P.M.
 F = mm/Rev
 P = Penetration Rate mm/min

$$S = \frac{\pi \times \text{Ø} \times N}{1000}$$

$$N = \frac{1000 \times S}{\pi \times \text{Ø}}$$

$$P = N \times F$$

01200			01300			01320			01111 01117 11111			01175			01401			01405			01408			01217 20100			11211		
Application	Speed m/min	Feed mm/rev	Application	Speed m/min	Feed mm/rev	Application	Speed m/min	Feed mm/rev	Application	Speed m/min	Feed mm/rev	Application	Speed m/min	Feed mm/rev	Application	Speed m/min	Feed mm/rev	Application	Speed m/min	Feed mm/rev	Application	Speed m/min	Feed mm/rev	Application	Speed m/min	Feed mm/rev	Application	Speed m/min	Feed mm/rev
⑥ 27 E			② 29 E			⑤ 30 F			② 34 F			② 55 F			① 32 G			① 55 G			② 65 G			① 85 I					
⑥ 25 E			② 25 D			⑤ 27 E			② 30 E			② 44 E			① 29 G			① 44 G			① 58 G			① 75 I					
						⑤ 21 D			② 26 D			② 35 D			① 25 F			① 35 F			① 45 F			① 75 I					
									① 23 D			① 33 D			① 23 E			① 34 E			① 48 E			① 70 I					
									① 15 C			① 22 C			① 16 D			① 20 D			① 28 D			① 45 I					
									① 8 C			① 13 C			① 8 B			① 12 B			① 14 B			① 45 I					
									② 5 B			② 7 B			② 4 A			② 6 A			① 6 A			① 30 I			① 8 C		
																							① 30 I			① 5 B			
						① 9 F			② 11 E						① 15 F			① 16 F			① 16 G								
						① 17 D			② 22 D						① 18 D			① 24 D			① 35 E								
						① 12 C			② 15 C						① 25 D			① 17 D			① 22 E								
						① 14 D			② 20 D						① 16 D			① 18 D			① 31 E								
⑥ 25 E									② 35 F			① 42 F			② 34 F			① 42 F			④ 48 F			① 75 B					
⑥ 20 D									② 30 D			① 37 D			② 28 D			① 34 E			④ 38 E			① 55 B					
⑥ 15 C									② 22 C			① 30 C			② 22 C			① 24 C			④ 28 D			① 55 B					
						① 16 E			① 25 E			① 32 E			① 22 E			① 28 E			① 32 E								
						② 7 A			② 12 B			② 16 B			② 8 B			② 10 B			② 11 B								
						① 12 E			① 14 E			① 19 E			① 11 E			① 15 E			① 20 E								
						② 6 D			② 6 C			② 10 C			② 4 C			② 7 C			② 8 C								
			① 35 D												① 38 G			① 50 D			① 50 D								
① 40 G															⑥ 38 G			⑥ 45 F			⑥ 45 D			② 250 F					
① 35 E															⑥ 34 E			⑥ 48 D			⑥ 48 E			② 250 F					
② 20 D															② 20 D			② 27 D			② 35 E								
			① 35 E												① 40 F			① 60 G			① 65 G			① 200 F					
			① 40 F												① 35 F			① 45 G			① 50 G			① 200 F					
			① 33 E												① 33 E			① 38 F			① 40 F			① 110 F					
			② 18 D												② 18 E			② 32 F			④ 40 F			① 60 F					
			① 35 G			② 30 F									② 55 E			② 70 E			① 80 E			② 60 H					
① 30 E						⑦ 16 F																	② 100 F						
② 15 E						⑦ 14 D																							

COMMON REASONS FOR DRILL FAILURE



OVERSIZE HOLE

- a. Lips of unequal length, one lip is doing all the work. Suggest: Re-grinding the drill.
- b. Chisel edge not central. Suggest: Re-grinding the drill.
- c. Machine spindle out of true. Check for damage to chuck or spindle.



UNEQUAL CHIPS

- a. Lips of unequal length as in 1a. Long chip from one side indicates that it is doing all the work. Suggest: Re-grinding the drill.
- b. Drill point angle is off; low on one side and high on the other consequently the chisel edge will be off centre.
- c. Relative lip height; too great a difference.



SPLITTING UP THE WEB

- a. Insufficient lip clearance. Suggest re-grinding drill.
- b. Too high a feed rate. Check recommended conditions.
- c. Striking drill point with hard object.
- d. Ejecting drill onto machine base.
Both c. & d. cause bruising to the chisel edge, which will show up under use as a fracture.
- e. Surface cracks on the flanks can be caused by overheating when grinding and then quenching.



BROKEN TANG

The tang is for ejection purposes only. Allowing the torque to be taken by the tang will result in breakages. Always ensure that the taper socket is free from foreign matter and damage, so that friction alone drives through the taper. The positive helix angle of the drill, will, when opening out an existing hole pull the Morse taper out of contact, which will result in a broken tang. Pilot holes should only be 1.5 times the chisel edge.



BREAKING DOWN OF THE OUTER CORNERS

- a. Peripheral speed too high burning out the corners.
- b. Inadequate lubrication / coolant.
- c. Interrupted feed on work hardening materials.
- d. Work not supported adequately.
- e. Opening out existing holes.



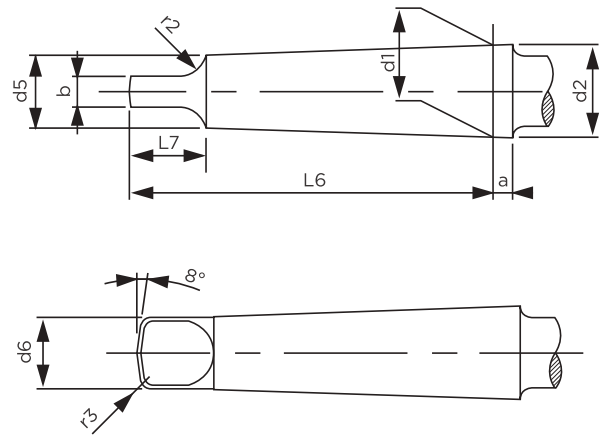
CHIPPING OF LIPS

- a. Lip clearance too great.
- b. Feed rate too high.
- c. Drill surging on break through.
- d. Quenching drill on re-grinding.

BREAKING OF DRILLS

- a. Drill worn or improperly point ground.
- b. Drill slipping in drive.
- c. Drill flutes choking in swarf.
- d. Insufficient lip clearance.
- e. Work not rigid.
- f. Feed rate too high or drill pulling through on breakthrough.

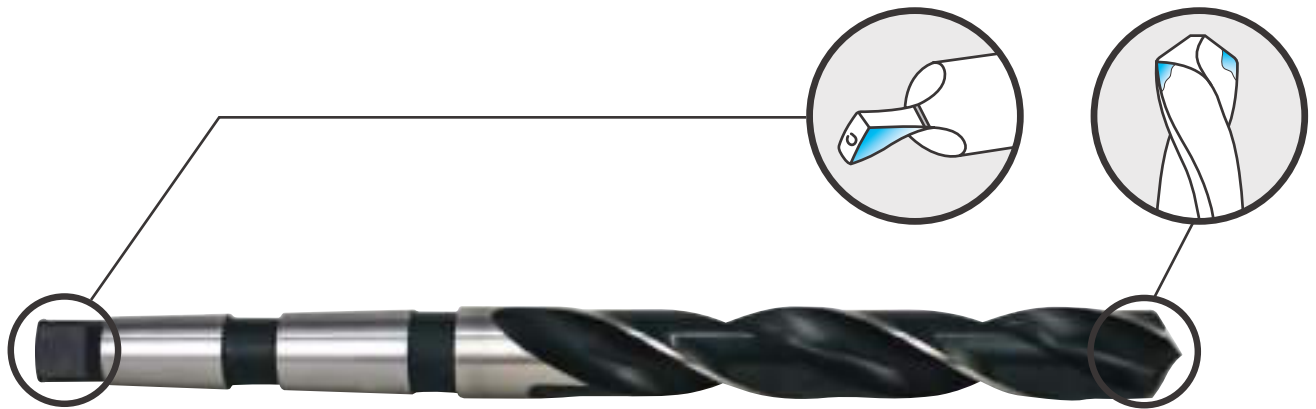
MORSE TAPER SHANKS DIN 228, FORM 'B'



Morse Taper	a	Tol.	b	d1	d2	d5	d6	L6	L7	r2	r3	$\alpha/2$
Form B		of										
Size		a	h13		≈	≈	max	-0.1	max			
MT 0	3	+1.2 +0	3.90	9.045	9.2	6.1	6.0	56.5	10.5	4.0	1.0	1°29'27"
MT 1	3.5	+1.4 +0	5.20	12.065	12.2	9.0	8.7	62.0	13.5	5.0	1.2	1°25'43"
MT 2	5	+1.4 +0	6.30	17.780	18.0	14.0	13.5	75.0	16.0	6.0	1.6	1°25'50"
MT 3	5	+1.7 +0	7.90	23.825	24.1	19.1	18.5	94.0	20.0	7.0	2.0	1°26'16"
MT 4	6.5	+1.9 +0	11.90	31.267	31.6	25.2	24.5	117.5	24.0	8.0	8.0	1°29'15"
MT 5	6.5	+1.9 +0	15.90	44.399	44.7	36.5	35.7	149.5	29.0	10.0	10.0	1°30'26"
MT 6	8	+2.3 +0	19.00	63.348	63.8	52.4	51.0	210.0	40.0	13.0	13.0	1°29'36"

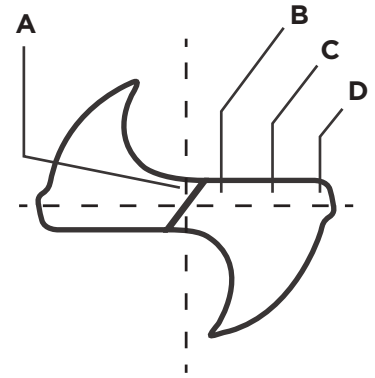
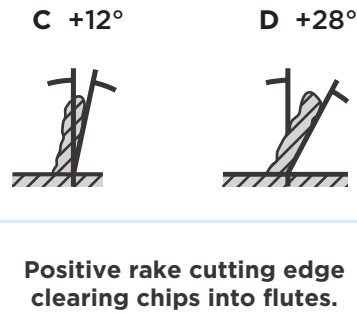
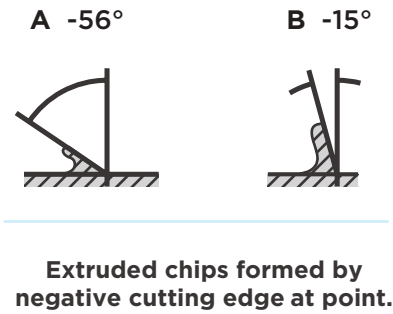
OPENING EXISTING HOLES 'CORING'

The single most common complaint we receive on taper shank twist drills is the loss of the driving tang or chipping of the outer corners of the drill, sometimes combined. This is caused by trying to open up an existing hole with a two flute drill. Drill tangs are for ejection purposes only, the drive required is transmitted through the fit of the Morse taper.



A two-flute twist drill starts to cut with the blunt chisel edge, which creates a hole by extrusion rather than cutting and requires to be forced into the material. After this initial stage the lips of the drill start to cut with a very low rake angle of only 2° - 3° . As the lips come into contact out to the full diameter the rake increases to approximately 30° at the outside edge.

ILLUSTRATION OF RAKE ANGLES



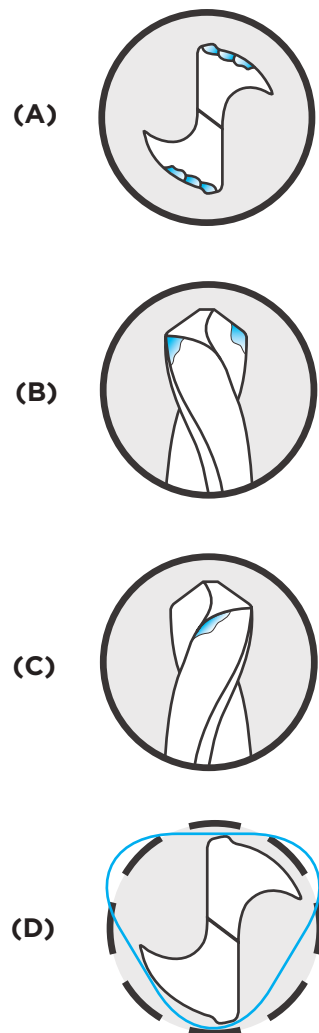
If the user starts to cut an existing hole, it can be seen that the starting rake angle increases further out towards the cutting edge corners, which means that the larger the hole, the greater the self-feed rate of the drill into the workpiece. All “PRESTO” two-flute drills can drill from solid, pilot holes may ease the pressure required when drilling by hand. The pilot hole should not be greater than Point B or 1S times the chisel edge diameter.

Swarf marks usually show on the point of the drill **(A)**, This is because the drill is self-feeding and the action of pulling itself into the hole is controlled by the clearance. More clearance causes the drill to fail quicker i.e. It has a higher feed. Similar feed marks are shown in the flutes where the swarf rubs **(B)**.

The heel of the drill also shows rub marks on the body clearance **(C)**, this is due to the drill following a triangulated path **(D)** which will cause the hole to measure undersize as one lip acts as the fulcrum and the other cutting an arc. As the drill pivots from one cutting lip to another this causes excessive vibration which rapidly breaks down the cutting edges.

There can be two results from this application, one corner chips off and the drill jams in the triangulated hole overpowering the Morse taper drive, or the drill self-feeds into the workpiece pulling the Morse taper out of contact. In both instances the result is that the tang takes up the drive and shears/twists due to the torque requirement being greater than the cross sectional area can drive.

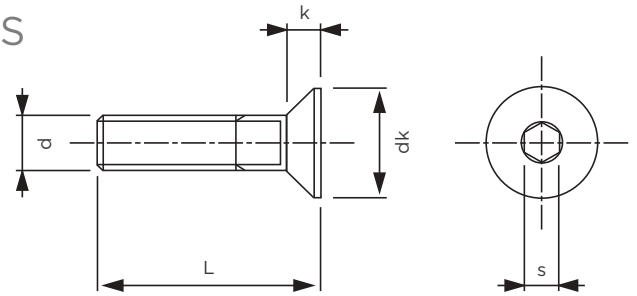
Opening out an existing hole should be performed using a core drill.



HSS COUNTERSINK SPEED DATA

Material	m/Min
Aluminium Alloys	46-76
Brass (Bronze)	23-38
Cast Iron	23-38
Malleable Iron	24-27
Magnesium	38-76
Inconal / Monel	9-15
Plastic	30-76
Mild Steel	21-30
Steel - Annealed	12-15
Steel - Rc 18-24	9-12
Steel - Rc 25-37	8-11
Stainless Steel - Free Machining	9-24
Stainless Steel - Other	5-15
Titanium	15-18

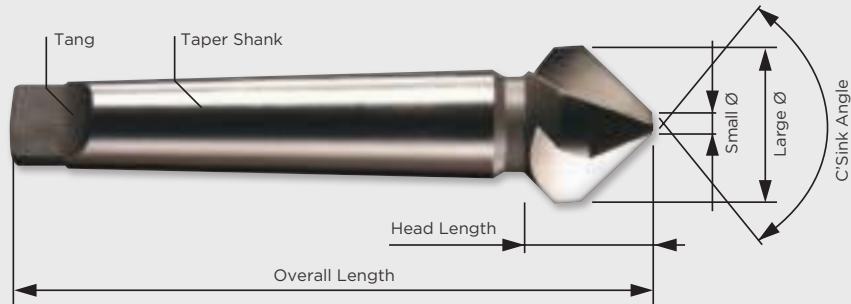
HEX 90° COUNTERSINK HEAD DETAILS



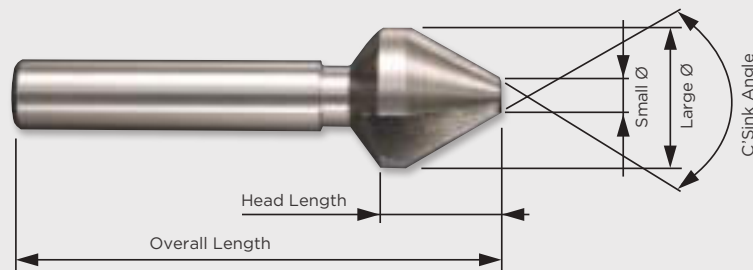
Size d	M3	M4	M5	M6	M8	M10	M12	(M14)	M16	M20
dk	6	8	10	12	16	20	24	27	30	36
k	1.7	2.3	2.8	3.3	4.4	5.5	6.5	8.4	7.5	8.5
S	2	2.5	3	4	5	6	8	10	10	12
L	8-30	8-44	10-50	12-50	16-60	20-70	25-70		35-90	40-100

COUNTERSINK NOMENCLATURES

MORSE TAPER SHANK



STRAIGHT SHANK



REAMING ALLOWANCES

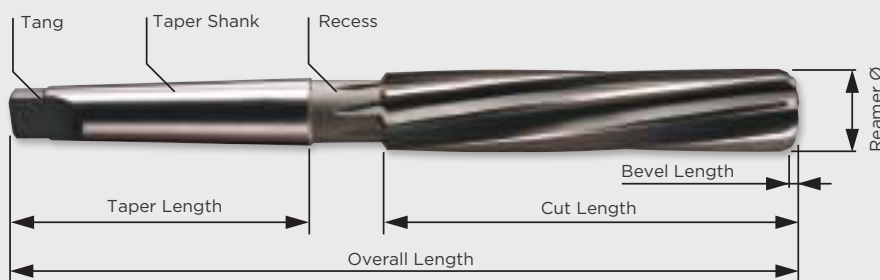
Material	Hole Diameter (mm)				
	3 - 5	6 - 10	11 - 20	21 - 30	> 30
Steels upto 700 N/mm ²	0.1 - 0.2	0.2	0.2 - 0.3	0.3 - 0.4	0.4 - 0.5
Steels over 700 N/mm ²	0.1 - 0.2	0.2	0.2	0.3	0.3
Cast Steel	0.1 - 0.2	0.2	0.2	0.2 - 0.3	0.3 - 0.4
Grey Cast From	0.1 - 0.2	0.2	0.2 - 0.3	0.3 - 0.4	0.4 - 0.5
Malleable Cast From	0.1 - 0.2	0.2	0.3	0.4	0.5
Copper	0.1 - 0.2	0.2 - 0.3	0.2 - 0.4	0.4 - 0.5	0.5
Brass / Bronze	0.1 - 0.2	0.2	0.2 - 0.3	0.3 - 0.4	0.4 - 0.5
Light Metals	0.1 - 0.2	0.2	0.3	0.4	0.5
Hard Plastics	0.1 - 0.2	0.2 - 0.3	0.2 - 0.4	0.4 - 0.5	0.5
Soft Plastics	0.1 - 0.2	0.2	0.2	0.3	0.3 - 0.4

Reaming allowance is dependant on the material being cut. Harder materials will require less allowance and very soft steel may require more as the drill may have torn the bore.

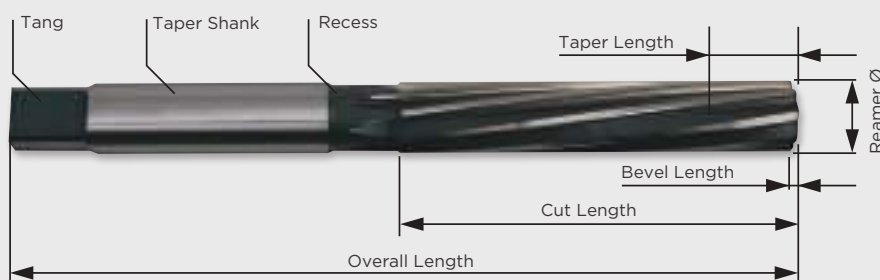
When using adjustable reamers we recommend that the above values be reduced by 30%.

REAMING NOMENCLATURES

MORSE TAPER SHANK

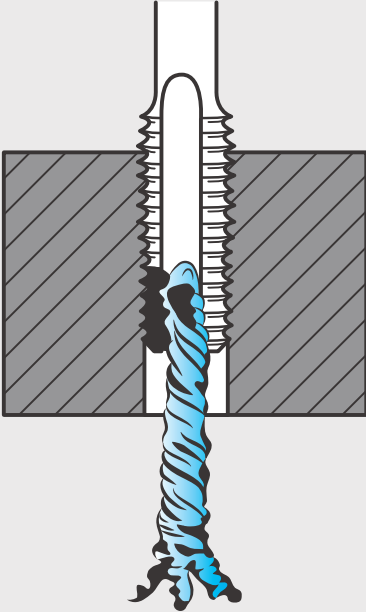


STRAIGHT SHANK HAND REAMER



CHIP EVACUATION

Generally, the core hole diameter is the most important factor in tapping. Other aspects of geometry such as number and direction of flutes, cutting angle and others depend upon the material that is being tapped. The following examples may help in making decisions regarding tap choice.



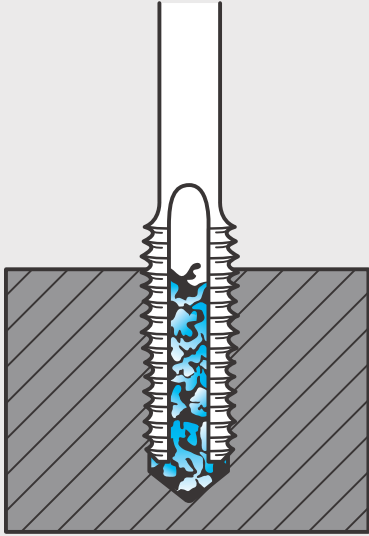
THROUGH HOLES

Taps with spiral point or left hand threads (right hand cutting) force the chips forward in the cutting direction and are particularly recommended for through hole tapping.



BLIND HOLES

Taps with spiral flutes $>15^\circ$ helix (right hand thread with right hand cutting) force the chips back out along the flutes and are recommended for blind holes.



Straight flute taps are all round tools, producing short chips in brittle materials. They produce excellent results in Cast Iron and Brass.

COMMON REASONS FOR TAP FAILURE

Tap Cuts Oversize

- 1 Tap out of alignment with the hole or tap not running true.
- 2 Feed pressure incorrect, producing thin or deformed threads.
- 3 Core hole too small.
- 4 Incorrect tap for the material, e.g.
 - (a) Cutting rake too great;
 - (b) Incorrect thread relief;
 - (c) Chamfer lead too short.
- 5 Incorrect sharpening, e.g. chamfer relief uneven or excessive.

Tap Cutting edges chip

- 6 Tap hitting bottom of blind hole.
- 7 Tap reversed carelessly.
- 8 Lubrication lacking or of the wrong quality
- 9 Material too hard or abrasive for the type of tap.

Rapid Tap Wear

- Items 3, 8, 9
- 10 Speed too fast.

Poor Thread Finish

- Items 3, 4, 8
- 11 Tap requires resharpening.

Tap Breaks

- Items 1, 3, 4c, 5, 6, 7, 8, 9, 10, 11
- 12 Tap flutes blocked with swarf.

SCREW THREAD CHART - TPI

Nominal Ø	Whitworth form threads 55° inc. angle			Unified threads 60° inc. angle		American National form threads 60° inc. angle		
	BSW	BSF	BSP	UNC	UNF	NEF	NS	NPT
1/16"	60						64	
5/64"	56							
3/32"	48						48	
7/64"	48							
1/8"	40		28				40	27
9/64"	40							
5/32"	32						32:36	
11/64"	32							
3/16"	24	32					24:32	
13/64"	24							
7/32"	24	28					24:32	
15/64"	24							
1/4"	20	26	19	20	28	32	24:32	18
9/32"	20	26						
5/16"	18	22		18	24	32	20:32	
3/8"	16	20	19	16	24	32	20	18
7/16"	14	18		14	20	28	24	
1/2"	12	16	14	13	20	28	12:24	14
9/16"	12	16		12	18	24		
5/8"	11	14	14	11	18	24	12	
11/16"	11	14				24	11:16	
3/4"	10	12	14	10	16	20	12	14
13/16"	10	12				20		
7/8"	9	11	14	9	14	20	12	
15/16"	9	11				20		
1"	8	10	11	8	12	20	14	11.1/2
1.1/16"						18		
1.1/8"	7	9		7	12	18		
1.3/16"						18		
1.1/4"	7	9	11	7	12	18		11.1/2
1.5/16"						18		
1.3/8"	6	8		6	12	18		
1.7/16"						18		
1.1/2"	6	8	11	6	12	18		11.1/2
1.9/16"						18		
1.5/8"	5	8				18	5.1/2	
1.11/16"						18		
1.3/4"	5	7	11	5		16		
1.7/8"	4.1/2	7					5	
2"	4.1/2	7	11	4.1/2		16		11.1/2

No.	Nominal Ø	American National & Unified Threads Number Sizes 60° inc. angle					British Association Threads B A 47.5° inc. angle	
		UNC	NC	UNF	NF	NS	Nominal Ø	BA
#0	0.060				80		0.2362	25.4
#1	0.073		64		72	56	0.2087	28.2
#2	0.086		56		64		0.1850	31.4
#3	0.099		48		56		0.1614	34.8
#4	0.112	40	40		48	32:36	0.1417	38.5
#5	0.125		40		44		0.1260	43.0
#6	0.138	32	32		40	36	0.1102	47.9
#7							0.0984	52.9
#8	0.164	32	32		36	40	0.0866	59.1
#9							0.0748	65.1
#10	0.190	24	24	32	32	30	0.0669	72.6
#11							0.0591	81.9
#12	0.216		24		28	32	0.0512	90.9
#13							0.0472	102.0
#14	0.242					20:24	0.0394	109.9
#15							0.0354	120.5
#16							0.0311	133.3

TAP & NUT CLASSES

In BS949 there are three ground thread tap classes for both imperial and metric sizes. There is also an additional cut thread class.

In the respective nut standard BS1580 (unified) and BS3643 (metric) each commonly used nut class has zero minimum clearance for pitch diameter, ie. Minimum size is basic. In the metric series there is also a G tolerance having positive minimum clearance above basic which gives a specified oversize for plating purposes - see fig 2.

The relationship of the tap size and tapping hole size is of a general nature since the accuracy of tapping depends upon external factors other than tap size.

Class 1 Tap

This is closest to basic, having little wear allowance, and is normally specified for 'close' fit threads, e.g. Unified 3B; Metric 4H, 5H.

Class 2 Tap

This is normally specified for 'medium' fit threads. E.g. Unified 2B; Metric 6H, 4G, 5G.

Class 3 Tap

This is the furthest above basic and used for 'free' fit threads, e.g. Unified 1B; Metric 7H, 8H, 6G.

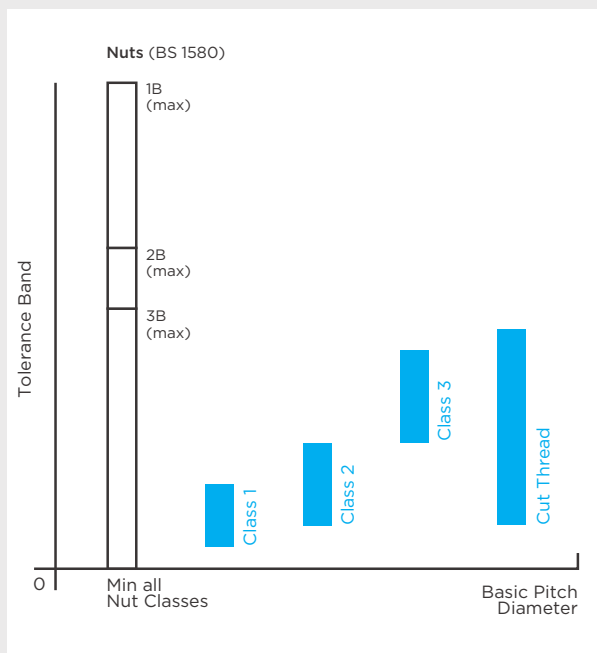
All the above tap classes have a similar close manufacturing tolerance and vary only in their minimum size above basic.

Cut Thread Tap Class (Previously Zone 5)

This class has a much wider manufacturing tolerance and is suitable only for free fit threads.

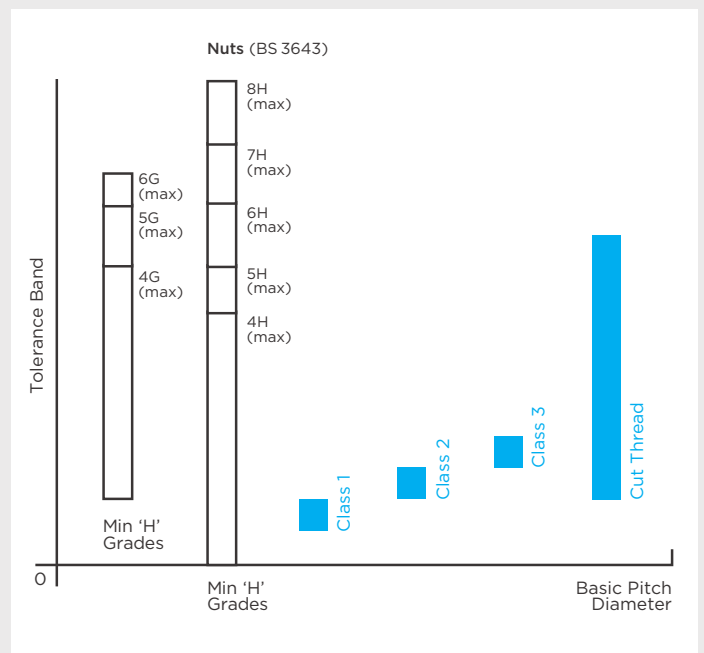
All PRESTO HSS Ground Thread Taps are supplied Class 2 (unless otherwise ordered).

Fig. 1
Tap Classes for Unified Threads



The Classes of fit referred to in this diagram, i.e. 1B, 2B and 3B; are the 3 Classes of Nut Fits laid down in BS 1580.

Fig. 2
Tap Classes for Metric Threads



The Classes of fit referred to in this diagram, i.e. 4H, 8H, 4G-6G; are the Classes of Nut Fits laid down in BS 3643.

STRAIGHT FLUTE TAPS

LEAD TYPES

HSS Taps with straight flutes, supplied with Taper, Second or Bottom Lead.

TAPER (OR FIRST) TAP

The tap has a lead of 8 to 10 threads.



SECOND (OR INTERMEDIATE) TAP

The tap has a lead of 4 to 5 threads.
This tap can finish a through hole.



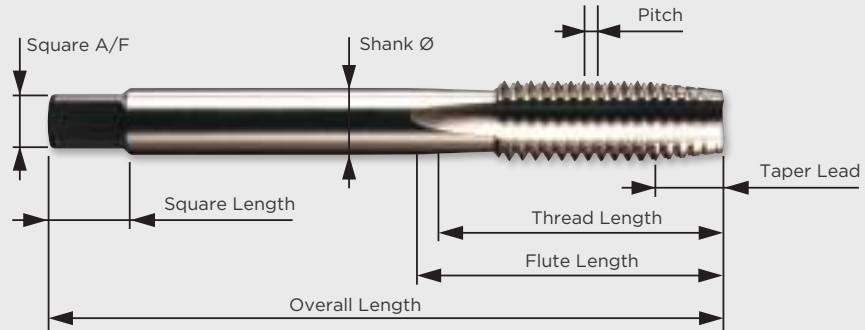
BOTTOM (OR PLUG) TAP

The tap has a lead of 1.1/2 to 2.1/2 threads.
This is the finishing tap.

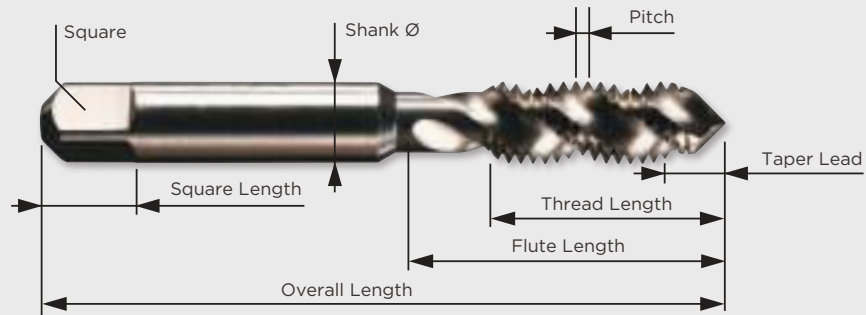


THREADING NOMENCLATURES

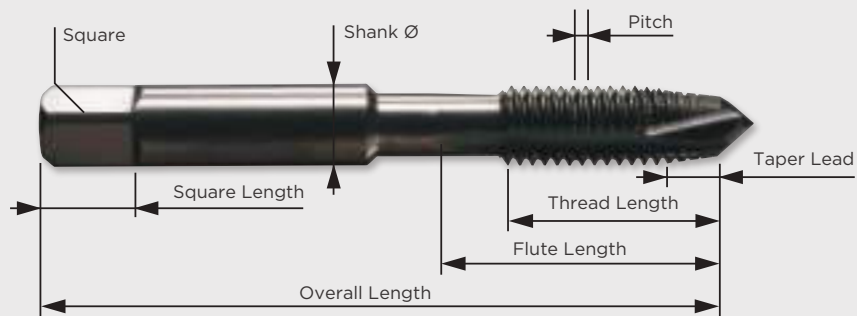
STRAIGHT FLUTE



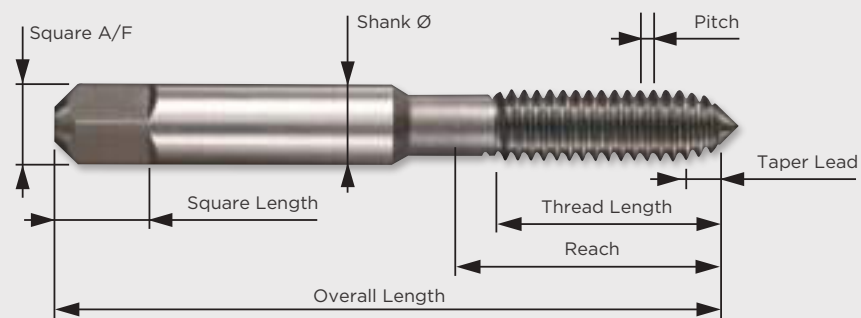
SPIRAL FLUTE



SPIRAL POINT

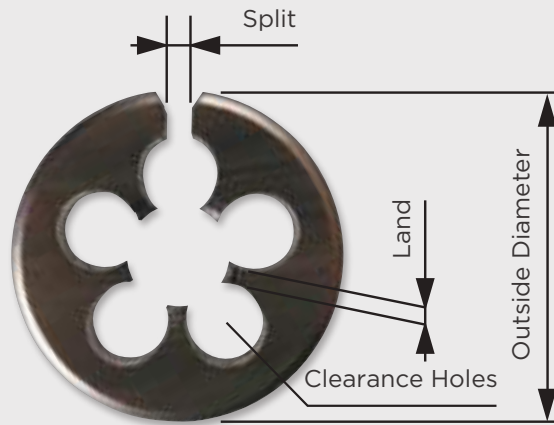


FLUTELESS TAP

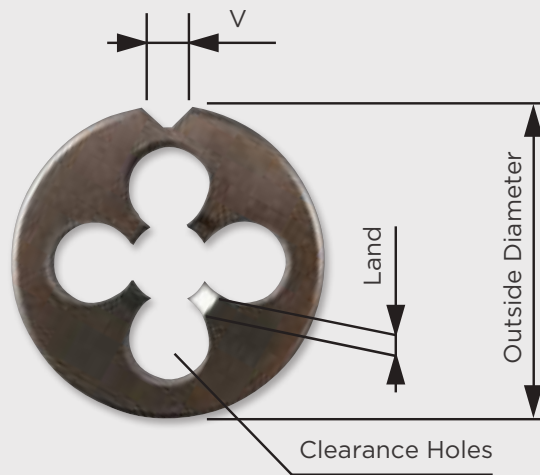


THREADING NOMENCLATURES

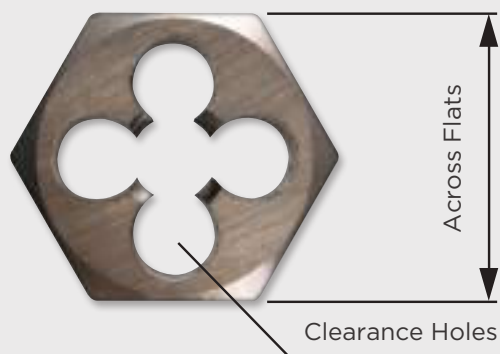
CIRCULAR SPLIT



CIRCULAR SOLID



HEXAGONAL



TAPPING ISO SPEED CHART

- 1 Excellent
- 2 Suitable

Please note, these figures are a starting point as materials and machining conditions vary widely.

HSS		
60000	60005 60085	61000
60080		
60100		
60200		
60300		
60400		
60500		

Main Group	Material Group	N/mm ²	HB	STRAIGHT FLUTE					
				Application	Speed m/min	Application	Speed m/min	Application	Speed m/min
1. Steel	1.1 Magnetic Soft	<400	120	1	12-20	1	18-32	1	12-20
	1.2 Structural	<750	220	1	10-15	1	16-24	1	10-15
	1.3 Plain Carbon Steel	<850	250	1	8-12	1	13-19	1	8-12
	1.4 Low Alloy Engineering	<850	250	1	6-10	1	10-16	1	6-10
	1.5 Alloy Steel	<1000	300	2	3-5			2	3-5
	1.6 Alloy Steel Heat Treated	<1200	350	2	2-5			2	2-5
	1.7 Heat Treated steel	<1450	425						
	1.8 Wear Resistant Steel	<1650	500						
2. Stainless Steel	2.1 Austenitic	<850	250	2	5-9	2	8-14	2	5-9
	2.2 Ferritic	<1000	300	2	4-7	2	6-11	2	4-7
	2.3 Duplex	<1000	300	2	2-5				
	2.4 Martensitic			2	2-5				
3. Cast Iron	3.1 Soft Grey Iron	<500	140	1	9-15	1	14-24	2	9-15
	3.2 Grey and Heat Treated Irons	<850	250	2	6-12	2	10-19	2	6-12
	3.3 Spheroidal Graphite	<750	220	2	6-12	2	10-19	2	6-12
4. Titanium	4.1 Pure Titanium	<700	200	2	6-12		8-14		
	4.2 Titanium Alloy	<1000	300				6-11		
5. Nickel	5.3 Pure Nickel	<850	250	2	5-9				
	5.4 Nickel Alloys	<1200	350						
6. Copper & Brasses	6.1 Pure Copper	<350	100	1	6-12			2	6-12
	6.2 Short Chipping Brass	<700	200	1	24-30			1	24-30
	6.3 Long Chipping Brass	<700	200	1	18-24			2	18-24
	6.4 High Strength Bronze	<1350	400	2	8-16				
7. Aluminium	7.1 Aluminium	<350	100	1	15-25	2	24-40	2	15-25
	7.2 Aluminium Cast Si<0.5	<500	140	1	12-20	2	19-32	2	12-20
	7.3 Aluminium Cast Si =0.5 -10%	>400	120	1	10-15	2	16-24	2	10-15
	7.4 Aluminium Cast Si>10%	>400	120	1	8-12				
8. Plastics	8.1 Thermo Plastics								
	8.2 Thermo Setting Plastics			2	3-15				
	8.3 Reinforced Plastics			2	2				

HSS		HSCo		HSS		HSCo		HSS									
60010 62810 60110 60210 60310 60410 60610	60015	61117	60020 62820 60120 60220 60320 60420 60620	60027	60025	61127	69000 69010 69030	60600 60680 60750 60760									
SPIRAL POINT			SPIRAL FLUTE				FLUTELESS		PIPE								
Application	Speed m/min	Application	Speed m/min	Application	Speed m/min	Application	Speed m/min	Application	Speed m/min								
1	15-28	1	24-45	2	30-56	1	12-24	1	15-28	1	24-45	2	30-56	1	20-40	1	12-20
1	16-24	1	25-38	2	32-48	1	10-18	1	16-24	1	25-38	2	32-48	1	18-35	1	10-15
1	10-16	1	16-26	2	20-32	1	8-12	1	10-16	1	16-26	2	20-32	1	12-25	1	8-12
1	8-12	1	13-19	2	16-24	1	6-10	1	8-12	1	13-19	2	16-24	2	8-16	1	6-10
			2	8-15								2	8-15			2	3-5
			1	6-15												2	2-5
2	8-12		2	16-24	2	5-9	2	8-12	1	8-14	2	16-24	2	10-16	2	5-9	
2	5-9		1	8-14	2	4-7	2	5-9			1	8-14	2	8-14	2	4-7	
2	4-6		2	4-10	2	2-5	2	4-6			2	4-10	2	5-8			
2	4-6		1	4-10	2	2-5	2	4-6	2	4-9	1	4-10					
2	10-16		1	18-30							1	18-30			1	9-15	
2	8-12		1	12-24							1	12-24			1	6-12	
2	8-12		1	12-24							1	12-24			1	6-12	
			1	12-24							1	12-24	2	10-15	2	6-12	
			1	6-12							1	6-12					
			1	10-18							1	10-18	2	15-22	2	5-9	
			1	5-10							1	5-10					
		2	10-18	2	12-24	1	9-15		1	10-18			1	14-20			
		2	38-48	1	48-60												
		2	28-38	2	36-48												
		1	24-40			1	18-30							1	30-50		
		1	18-32			1	16-25							1	25-40		
			2	20-30	2	12-18						2	20-30	2	20-30		
			2	16-24								2	16-24				
		2	5-24	1	6-30						1	6-30					
		1	3														

TAPPING DIN SPEED CHART

- 1 Excellent
- 2 Suitable
- ✋ Manual Process

Please note, these figures are a starting point as materials and machining conditions vary widely.

	HSS	HSSE	HSSE PMC
DIN352	60702		
DIN371		631305	631313
DIN376		631405	631413
DIN374		632505	
DIN5156		635705	

Main Group	Material Group	N/mm ²	HB	STRAIGHT FLUTE					
				Application	Speed m/min	Application	Speed m/min	Application	Speed m/min
1. Steel	1.1 Magnetic Soft	<400	120	2	✋	1	5-20		
	1.2 Structural	<750	220	2	✋	1	5-20		
	1.3 Plain Carbon Steel	<850	250						
	1.4 Low Alloy Engineering	<850	250						
	1.5 Alloy Steel	<1000	300						
	1.6 Alloy Steel Heat Treated	<1200	350						
	1.7 Heat Treated steel	<1450	425						
	1.8 Wear Resistant Steel	<1650	500						
2. Stainless Steel	2.1 Austenitic	<850	250						
	2.2 Ferritic	<1000	300						
	2.3 Duplex	<1000	300						
	2.4 Martensitic								
3. Cast Iron	3.1 Soft Grey Iron	<500	140			2	5-15	1	20-60
	3.2 Grey and Heat Treated Irons	<850	250			2	5-15	1	15-30
	3.3 Spheroidal Graphite	<750	220			2	5-15	1	15-30
4. Titanium	4.1 Pure Titanium	<700	200						
	4.2 Titanium Alloy	<1000	300						
5. Nickel	5.3 Pure Nickel	<850	250						
	5.4 Nickel Alloys	<1200	350						
6. Copper & Brasses	6.1 Pure Copper	<350	100			2	5-20		
	6.2 Short Chipping Brass	<700	200						
	6.3 Long Chipping Brass	<700	200			2	5-20		
	6.4 High Strength Bronze	<1350	400						
7. Aluminium	7.1 Aluminium	<350	100						
	7.2 Aluminium Cast Si<0.5	<500	140			2	10-25		
	7.3 Aluminium Cast Si =0.5 -10%	>400	120			1	10.25		
	7.4 Aluminium Cast Si>10%	>400	120			1	5-20		
8. Plastics	8.1 Thermo Plastics								
	8.2 Thermo Setting Plastics								
	8.3 Reinforced Plastics								

HSSE			HSSE PMC		HSSE			HSSE PMC									
631332	631332	631334	651346	631319	631363	631363	631370	651386	631377								
631432	631432	631434	651446	631419	631463	631463	631470	651486									
632532		652546			632563	632563											
635732					635763												
SPIRAL POINT					SPIRAL FLUTE					FLUTELESS							
Application	Speed m/min	Application	Speed m/min	Application	Speed m/min	Application	Speed m/min	Application	Speed m/min	Application	Speed m/min						
1	5-20	1	10-35			1	5-20	1	10-35	2	10-35	1	10-30				
1	5-20	1	10-35		10-35		1	5-20	1	10-35	2	10-35	1	10-30			
		1	5-20	1	5-20	2	5-20		1	5-20		1	5-20	2	10-25		
		1	5-20	1	5-20	2	5-20		1	5-20		1	5-20	2	10-25		
				1	5-20	2	5-20					1	5-20				
						1	1-5										
		1	5-15	1	5-15	1	5-10	2	5-10		1	5-15	1	5-15	1	10-25	
		1	5-15		1	5-15				1	5-15		1	5-15			
		2	5-15	2	5-10	1	5-10	1	1-8		5-15	2	5-10	1	5-10		
		1	5-15		1	5-15				1	5-15		1	5-15			
2	5-15	1	5-15		2	5-15	2	10-20					2				
2	5-15	1	10-25		1	10-25	2	10-20	2	5-15	1	10-25		1	10-25		
1	5-15	1	10-25		1	10-25	2	10-20	2	5-15	1	10-25		1	10-25		
2	5-20	1	10-30		2	10-30			2	5-20	1	10-30		2	10-30	1	20-40
							2	10-20									
2	5-20	1	10-30		2	10-30			2	5-20	1	10-30		2	10-30	1	20-40
					2	10-30								2	10-30		
																1	20-40
2	10-25	1	10-30		2	10-30								2	10-30	1	20-40
1	10-25	1	10-30		2	10-30								2	10-30		
1	5-20	1	10-30		2	10-30								2	10-30		

MILLING SPEED AND FEED CHART

TiN coating 1.6 times speed only.
 TiCN coating 2.2 times speed and 10% feed increase.
 Long series cutters - use half the Feed Rate.

Normal cut for a slot drill is 50% of diameter in depth (D). Normal cut for an endmill is one diameter in depth with 25% of the diameter in radial cut (R).
 Where greater or less cutting area is used vary the feed in proportion.
 i.e. Full depth of cut on slotdrill, half the feed rate.

Remove cutters for regrinding at regular intervals before edge wear becomes excessive, Running dull cutting tools is expensive.

Please note, these figures are a starting point as materials and machining conditions vary widely.

Main Group	Material Group	N/mm ²	HB	HSS					
				SLOTDRILL		TRICUT		ENDMILL	
				D = 0.5	R = 1.0	D = 0.5	R = 1.0	D = 1.0	R = 0.25
				Speed m/min	Feed/tooth	Speed m/min	Feed/tooth	Speed m/min	Feed/tooth
1. Steel	1.1 Magnetic Soft	<400	120	24	F	24	F	24	E
	1.2 Structural	<750	220	22	F	22	F	22	E
	1.3 Plain Carbon Steel	<850	250	21	E	21	E	21	D
	1.4 Low Alloy Engineering	<850	250	16	E	16	E	16	D
	1.5 Alloy Steel	<1000	300	12	D	12	D	12	C
	1.6 Alloy Steel Heat Treated	<1200	350	7	D	7	D	7	C
	1.7 Heat Treated steel	<1450	425						
	1.8 Wear Resistant Steel	<1650	500						
2. Stainless Steel	2.1 Austenitic	<850	250	7	E	7	E	7	D
	2.2 Ferritic	<1000	300	15	D	15	D	15	C
	2.3 Duplex	<1000	300	6	C	6	C	6	B
	2.4 Martensitic			13	D	13	D	13	C
3. Cast Iron	3.1 Soft Grey Iron	<500	140	24	E	24	E	24	E
	3.2 Grey and Heat Treated Irons	<850	250	21	E	21	E	21	E
	3.3 Spheroidal Graphite	<750	220	15	D	15	D	15	D
4. Titanium	4.1 Pure Titanium	<700	200	13	D	13	D	13	D
	4.2 Titanium Alloy	<1000	300						
5. Nickel	5.3 Pure Nickel	<850	250						
	5.4 Nickel Alloys	<1200	350						
6. Copper & Brasses	6.1 Pure Copper	<350	100	45	C	45	C	45	C
	6.2 Short Chipping Brass	<700	200	48	F	48	F	48	F
	6.3 Long Chipping Brass	<700	200	36	D	36	D	36	D
	6.4 High Strength Bronze	<1350	400	7	C	7	C	7	C
7. Aluminium	7.1 Aluminium	<350	100	48	H	48	H	48	H
	7.2 Aluminium Cast Si<0.5	<500	140	42	H	42	H	42	H
	7.3 Aluminium Cast Si =0.5 -10%	>400	120	36	F	36	F	36	F
	7.4 Aluminium Cast Si>10%	>400	120	24	F	24	F	24	F
8. Plastics	8.1 Thermo Plastics			48	D			48	D
	8.2 Thermo Setting Plastics								
	8.3 Reinforced Plastics								

Feed Code	Nominal Drill Diameter mm										
	Ø1.0	Ø2.0	Ø3.0	Ø5.0	Ø6.0	Ø8.0	Ø10.0	Ø12.0	Ø16.0	Ø25.0	Ø50.0
A		0.002	0.004	0.008	0.012	0.018	0.026	0.035	0.050	0.065	0.070
B		0.002	0.006	0.012	0.015	0.023	0.033	0.040	0.055	0.070	0.080
C	0.001	0.003	0.007	0.015	0.018	0.027	0.037	0.045	0.060	0.080	0.090
D	0.002	0.003	0.009	0.017	0.021	0.032	0.042	0.052	0.068	0.090	0.100
E	0.002	0.003	0.010	0.020	0.025	0.036	0.048	0.060	0.075	0.100	0.110
F	0.002	0.004	0.012	0.024	0.030	0.045	0.060	0.070	0.085	0.110	0.130
G	0.002	0.005	0.014	0.027	0.035	0.055	0.070	0.085	0.100	0.130	0.150
H	0.003	0.005	0.015	0.030	0.040	0.065	0.085	0.100	0.130	0.170	0.180
I	0.001	0.002	0.006	0.012	0.015	0.022	0.030				
J	0.001	0.002	0.007	0.014	0.017	0.025	0.033				
K	0.001	0.003	0.008	0.016	0.020	0.028	0.038				
L	0.001	0.003	0.009	0.019	0.024	0.035	0.050				
M	0.001	0.003	0.011	0.022	0.028	0.040	0.055				

S = Cutting Speed m/min

N = R.P.M.

F = mm/tooth

F/min = mm/min

Z = No. Teeth

$$S = \frac{\pi \times \varnothing \times N}{1000}$$

$$N = \frac{1000 \times S}{\pi \times \varnothing}$$

$$F/min = (N \times Z \times F)$$

CP RIPPER		FP RIPPER		SLOTDRILL		TRICUT		ENDMILL		CP RIPPER		FP RIPPER		T'Way		T'Way	
D = 1.0		D = 1.0		D = 0.5		D = 0.5		D = 1.0		D = 1.0		D = 1.0		Bright		TiCN	
R = 0.25		R = 0.25		R = 1.0		R = 1.0		R = 0.25		R = 0.25		R = 0.25					
HSS				HSCo8								HSCo					
Speed m/min	Feed/tooth	Application	Feed mm/rev	Application	Feed mm/rev	Application	Feed mm/rev	Application	Feed mm/rev	Application	Feed mm/rev	Application	Feed mm/rev	Application	Feed mm/rev	Application	Feed mm/rev
21	H			40	F	40	F	40	E	35	H			40	L	75	L
21	G			37	F	37	F	37	E	35	G						
19	E	19	E	35	E	35	E	35	D	32	E	32	E	21	K	40	K
15	E	15	E	27	E	27	E	27	D	25	E	25	E	16	K	27	K
		11	D	20	D	20	D	20	C			18	D				
		6	D	12	D	12	D	12	C			10	D				
		4	C									7	C				
		2	B									3	B				
		6	E	12	E	12	E	12	D			10	E	15	I	28	I
		13	D	25	D	25	D	25	C			22	D	25	J	47	J
		5	D	10	C	10	C	10	B			8	D				
		12	D	22	D	22	D	22	C			20	D				
21	F			40	E	40	E	40	E	35	F			33	K	62	K
19	F			35	E	35	E	35	E	32	F			30	K	56	K
13	E			25	D	25	D	25	D	22	E			20	K	37	K
		12	E	22	D	22	D	22	D			20	E				
				9	C	9	C	9	C			8	D				
		10	C	18	B	18	B	18	B			16	C				
		3	C	4	A	4	A	4	A			4	C				
				75	C	75	C	75	C					65	I	120	I
				80	F	80	F	80	F					70	L	130	L
				60	D	60	D	60	D					70	L	130	L
		7	D	12	C	12	C	12	C			12	D				
45	H			80	H	80	H	80	H	75	H			80	M	150	M
39	H			70	H	70	H	70	H	65	H			70	M	130	M
33	G			60	F	60	F	60	F	55	G			60	M	115	M
24	G			40	F	40	F	40	F	40	G						
				80	D			80	D								
				60	D			60	D								
				55	B			55	B								

CUTTER MINIMUM SHANK LENGTHS

The minimum shank is a guide for manufacture to prevent swarf from choking up the collet.

BS 122 PART 5 STANDARD

Shank Ø		Min.	Max.
6.0	1/4"	38.5	37.5
10.0	3/8"	39.0	38.0
12.0	1/2"	39.0	38.0
16.0	5/8"	40.0	39.0
25.0	1"	53.5	52.5
32.0	1.1/4"	55.0	54.0

ISO STANDARD

Shank Ø	Min.	Max.
6.0	37.0	36.0
8.0	37.0	36.0
10.0	41.0	40.0
12.0	46.0	45.0
16.0	49.0	48.0
20.0	51.0	50.0
25.0	57.0	56.0
32.0	61.0	60.0
40.0	71.0	70.0

COMMON REASONS FOR CUTTER FAILURE

Tool Breaks	
1	Incorretly mounted.
2	Excessive overhang.
3	Workpiece inadequately clamped.
4	Excessive feed.
5	Cutter chipped or worn.
6	Swarf not clearing.
7	Cutter too light for the job.

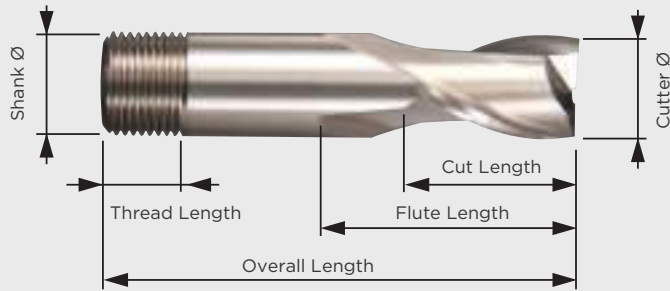
Short Tool Life	
—	Items 1, 2, 3, 4
8	Speed too high (tool burning out).
9	Feed too light (tool rubbing).
10	Inadequate lubrication.

Poor Size	
—	Items 1, 2, 3, 4, 7
11	Machine in poor condition.

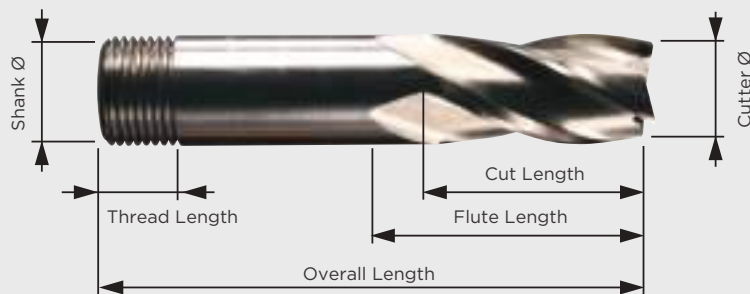
Poor Size	
—	Items 1, 2, 3, 4, 5, 10, 11

MILLING NOMENCLATURES

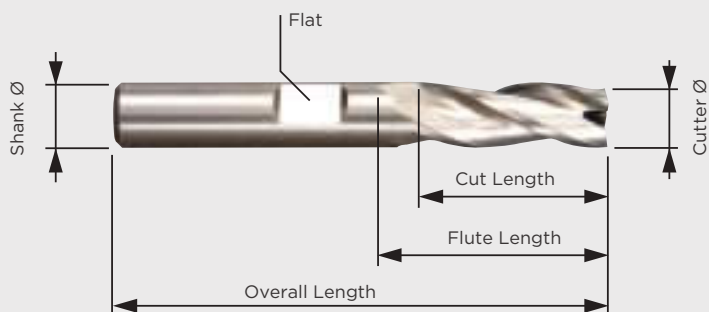
SCREW SHANK SLOTDRILL



SCREW SHANK ENDMILL



FLATTED SHANK THROWAWAY



TOOLBIT INFORMATION

The general term tool bit refers to a non-rotary cutting tool used in lathes, shapers, and planers and is held rigidly in place by a tool holder whilst machining. The cutting edge is ground to suit a particular machining operation and can be reshaped or resharpened as required.



GEOMETRY

Back Rake is to aid in the control the direction of the chip, which naturally curves into the work due to the difference in length from the outer and inner parts of the cut. It also helps counteract the pressure against the tool from the work by pulling the tool into the work.

Side Rake along with back rake controls the chip flow and partly counteracts the resistance of the work to the movement of the cutter and can be optimized to suit the particular material being cut. Brass for example requires a back and side rake of 0 degrees while aluminum uses a back rake of 35 degrees and a side rake of 15 degrees.

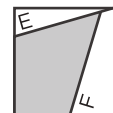
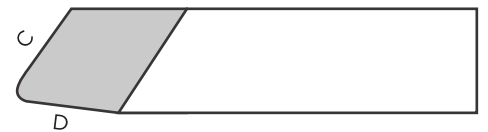
Nose Radius makes the finish of the cut smoother as it can overlap the previous cut and eliminate the peaks and valleys that a pointed tool produces. Having a radius also strengthens the tip, a sharp point being quite fragile.

All the other angles are for clearance in order that no part of the tool besides the actual cutting edge can touch the work. The front clearance angle is usually 8 degrees while the side clearance angle is 10-15 degrees and partly depends on the rate of feed expected.

Minimum angles which do the job required are advisable because the tool gets weaker as the edge gets keener due to the lessening support behind the edge and the reduced ability to absorb heat generated by cutting.

The Rake angles on the top of the tool need not be precise in order to cut but to cut efficiently there will be an optimum angle for back and side rake.

- A** Back Rake Angle
- B** Front Clearance Angle
- C** End Cutting Edge Angle
- D** Side Cutting Edge Angle
- E** Side Rake Angle
- F** Side Clearance Angle

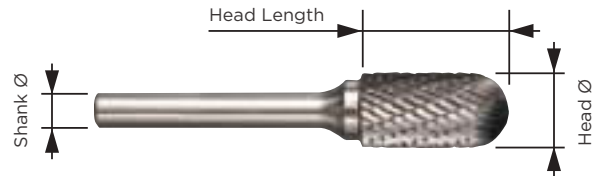


SOLID CARBIDE BURRS

CUTTING STYLES

DOUBLE CUT (EXPRESS CUT)

Allows rapid stock removal and increased production rates. Effectively breaks down the chips as the material is removed, resulting in a smoother running burr. Recommended for working on materials which produce long chips - soft steels, cast iron welds.



SINGLE CUT

General purpose cut for all metallic materials giving fast stock removal together with a good surface finish on stainless steel, hardened steel, cast iron and weld preparation.



ALU CUT

Free and fast cutting action with excellent stock removal on non-ferrous and non-metallic materials, for example, aluminium, soft steels and reinforced plastics. Produces a good finish with minimum tooth loading.

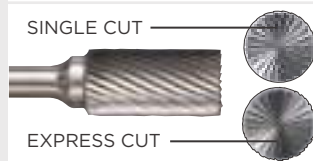


SHAPE GUIDE

A CYLINDRICAL



B CYLINDRICAL WITH END CUT



C CYLINDRICAL WITH BALL END



D BALL



E OVAL



F BALL NOSED TREE



G TREE POINTED NOSE



H FLAME SHAPE



J 60°
K 90° CONE SHAPE



L BALL NOSED CONE 14°



M POINTED CONE



N INVERTED CONE



MATERIALS CHART

Main Group	Material Group	Materials ISO, DIN, BS EN	Materials British Standards	N/ mm ²	HB
1. Steel	1.1 Magnetic Soft	95MnPb28;St33;St37: RFe80	BS590 230M07Pb;En1A leaded	<400	120
	1.2 Structural	35S20 St37-2 St50	BS4360-50C 55C En3A En8 En32	<750	220
	1.3 Plain Carbon Steel	C10;14NiCr14;18CrNi8;16MnCr5	080M46;080A62;En9En43	<850	250
	1.4 Low Alloy Engineering	C35; C45; C60	708M40; En16; 534A99;En31; 4140	<850	250
	1.5 Alloy Steel	110WCrV5; S6-5-2 GS-34CrMo4	EN24T;En25T M2; M42; 4340;D2	<1000	300
	1.6 Alloy Steel Heat Treated	X210Cr12; 55NiCrMoV6, 32CrMo12	826M40; 830M31; S95; En25w	<1200	350
	1.7 Heat Treated steel	CrMo4V; 50Cr4; 36CrNiMo4	Hardox 400	<1450	425
	1.8 Wear Resistant Steel	Weldox 960 ; XAR500	Hardox 450	<1650	500
2. Stainless Steel	2.1 Austenitic	X5CrNi18.10;X6CrNiMoTi17.12.2	316; 304; 321 En58J	<850	250
	2.2 Ferritic	XcrCrAl13; X6CrTi;X1CrMoNb18.2	303; S33: En56 303	<1000	300
	2.3 Duplex	X8CrNiMo2.7.5		<1000	300
	2.4 Martensitic	X20Cr13; G-X10crmo13: X105CrMo17	420S29		
3. Cast Iron	3.1 Soft Grey Iron	GG10...GG40 Meehanite GF-20	Bs1452 Grade 350 / 400	<500	140
	3.2 Grey and Heat Treated Irons	GG20 ...GG40 GTS GTW	Black/Whiteheart Malleable iron	<850	250
	3.3 Spheroidal Graphite	GGG-25...GGG-70	Bs2789Grade699;Bs6681 GradeP70	<750	220
4. Titanium	4.1 Pure Titanium	Ti99.5:Ti99.2		<700	200
	4.2 Titanium Alloy	TiCu2; TiAl6V4; TiAl6Zr5		<1000	300
5. Nickel	5.3 Pure Nickel	Ni99CSi; Monel400; Hastelloy; Inconell600		<850	250
	5.4 Nickel Alloys	Nimonic 80/90; Inconell780; NimocastPk24		<1200	350
6. Copper & Brasses	6.1 Pure Copper	E-Cu57; Se-Cu; CuMn3	Bs2874-C101,c103, c106	<350	100
	6.2 Short Chipping Brass	CuZn40; CuZn39Pb2(Ms58); CuZn40Mn1Pb	Bs2874 -Cz122;CZ128	<700	200
	6.3 Long Chipping Brass	CuZn20; CuZn37; CuSn6	Bs2874 CZ108, CZ106	<700	200
	6.4 High Strength Bronze	Ampco18; Ampco20...26	AB1 type	<1350	400
7. Aluminium	7.1 Aluminium	Al99.9;9Mg05	1050A; 6082; LMO; LM1B	<350	100
	7.2 Aluminium Cast Si<0.5	AlMg3	LM5; LM10; LM12;LM16;	<500	140
	7.3 Aluminium Cast Si =0.5 -10%	G-AlSi8Cu4	LM2; LM4; LM18; LM21;	>400	120
	7.4 Aluminium Cast Si>10%	G-AlSi10NMg	LM6; LM13; LM20; LM28...30	>400	120
8. Plastics	8.1 Thermo Plastics	Ultramit; Merkalo; Polystrol; Degola			
	8.2 Thermo Setting Plastics	Akalite; Pertiax; Ferrozell; Alkbanit			
	8.3 Reinforced Plastics	FK; GFK; AFK	Kevlar Printed circuit board		

HARDNESS AND TENSILE STRENGTH COMPARISONS

Vickers Hardness	Brinell Hardness	Rockwell B Hardness	Rockwell C Hardness Engineering Steels	Rockwell C Hardness High Speed Steels	Tensile Strength	Tensile Strength	Tensile Strength
HV	HB	HRB	HRC	HRC	N/mm ² =Mpa	kg/mm ²	Tons/in ²
1000				69.6			
980				69.0			
960				68.4			
940			68.0	67.8			
920			67.5	67.2			
900			67.0	66.5			
880			66.4	65.7			
860			65.9	65.1			
840			65.3	64.4			
820			64.7	63.6			
800			64.0	62.9			
780			63.3	62.2			
760			62.5	61.4			
740			61.8	60.7			
720			61.0	59.8			
700			60.1	58.9			
680			59.2	58.2			
660			58.3		2220	226	144
640	(608)		57.3		2145	219	139
620	(589)		56.3		2070	211	134
600	(570)		55.2		1995	203	129
580	(551)		54.1		1920	196	124
560	(532)		53.0		1845	188	119
540	(513)		51.7		1775	181	115
520	(494)		50.5		1700	173	110
500	(475)		49.1		1630	166	106
480	(456)		47.7		1555	159	101
460	437		46.1		1485	151	96
440	418		44.5		1420	145	92
420	399		42.7		1350	138	87
400	380		40.8		1290	132	84
380	361		38.8		1220	124	79
360	342		36.6		1155	118	75
340	323		34.4		1095	112	71
320	304		32.2		1030	105	67
300	285		29.8		965	98	62
280	266		27.1		900	92	58
260	247		24.0		835	85	54
240	228	98	20.3		770	79	50
220	209	95			705	72	46
200	190	91.5			640	65	41
180	171	87			575	59	37
160	152	81.5			510	52	33
140	133	75			450	46	29
120	114	67			385	39	25
100	95	56			320	33	21

Note 1: This chart is generally applicable only to unalloyed and low alloy steels.

Note 2: Conversions will not apply to cold worked austenitic grades.

Note 3: Brinell hardness numbers in parenthesis apply only when testing with a carbide ball.

Note 4: Undue reliance should not be placed on conversion charts unless a reliable basis for comparison has been achieved for a specific material.

SCREW EXTRACTORS - RECOMMENDED DRILL SIZE

Screw Extractor Size	Screw or Bolt Sizes				Size of drill to use for medium tensile screws and studs.		Size of drill to use for high tensile strength (75 tons/Sq inch or over) screws and studs.	
1	1/8" - 3/16"	M2.5 - M4	#3-#6		5/64"	2.0mm	5/64"	2.0mm
2	1/4"	M5 - M6	#6 - #12		7/64"	2.8mm	1/8"	3.0mm
3	5/16" - 3/8"	M7 - M8	#14		5/32"	4.0mm	11/64"	4.3mm
4	7/16"	M10	1/8" NPT	1/8" BSP	1/4"	6.4mm		7.0mm
5	1/2" - 5/8"	M12 - M16	1/4" NPT	1/4" BSP	17/64"	6.8mm		7.3mm
6	3/4"	M20	3/8" NPT	3/8" BSP	13/32"	10.4mm	7/16"	11.0mm
7	7/8" - 1"	M22 - M25	1/2" NPT	1/2" BSP	17/32"	13.5mm	9/16"	14.5mm
8	1.3/8"	M27 - M36	3/4" NPT	3/4" BSP	13/16"	20.7mm	27/32"	21.5mm
9	1.3/4"	M36 - M52	1" NPT	1" BSP	1.1/16"	27.0mm	1.3/32"	28.0mm
10		M52 - M68	1.1/4" NPT	1.1/4" BSP	1.5/16"	33.5mm		35.0mm
11		M68-M72			1.9/16"	40.0mm		41.0mm
12		M72-M90			1.15/16"	49.0mm		50.0mm

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TERMS AND CONDITIONS

1. INTERPRETATION

1.1 In these conditions: 'BUYER' means the person, firm or company entering into the Contract to purchase the Goods from the Seller 'CONDITIONS' means these standard terms and conditions of sale and any special terms agreed in writing - 'CONTRACT' means the contract for the purchase and sale of the Goods - 'GOODS' means the goods which the Seller is to supply hereunder - 'SELLER' means PRESTO INTERNATIONAL UK LIMITED.

2. BASIS OF THE SALE

2.1 The Seller shall sell and the Buyer shall purchase the Goods. These Conditions shall govern the Contract to the exclusion of any other terms and conditions subject to which any quotation is purported to be accepted, or any order is purported to be made by the Buyer. No order shall be accepted or deemed to be accepted unless and until confirmed in writing by the Seller. These conditions shall constitute the entire agreement in relation to the sale of the Goods. The Seller shall not be liable for any advice or representation given by the Seller or its employees or agents to the Buyer which is not confirmed in writing.

3. ORDERS AND SPECIFICATIONS

3.1 The quantity, description and any specification for the Goods shall be those set out in the Seller's quotation (if accepted by the Buyer) or the Buyer's order (if accepted by the Seller), but the Seller reserves the right to make changes to the specification of its Goods, which do not materially affect their quality or performance.

3.2 The Buyer shall indemnify the Seller against all loss, damages, costs and expenses in connection with the infringement of any industrial or intellectual property rights resulting from the Seller's use of the Buyer's specification.

4. PRICE OF THE GOODS

4.1 The price of the Goods shall be the Seller's quoted price, or where no price has been quoted or a quoted price is no longer valid, the price listed in the Seller's then current price list. All prices quoted are valid for 30 days. All prices are on an ex works basis and exclusive of any applicable value added tax, which the Buyer shall additionally be liable to pay to the Seller.

4.2 The Seller reserves the right, by giving notice to the Buyer prior to delivery, to increase the price of the Goods to reflect any increase in cost to the Seller due to any factor beyond the Seller's control, any change to the Contract requested by the Buyer, or any delay caused by any instructions of the Buyer or the failure to give such instructions.

5. TERMS OF PAYMENT

5.1 The Seller shall be entitled to invoice the price of the Goods on or at any time after delivery. If the Goods are to be collected by the Buyer or the Buyer wrongfully fails to take delivery, the Seller may invoice the Buyer for the price at any time after the Seller has notified the Buyer that the Goods are ready for collection or has tendered delivery.

5.2 The Buyer shall pay the price of the Goods (without set-off or any other deduction) not later than the end of the month following the month of delivery. The Seller may recover the price, notwithstanding that delivery may not have taken place and the property in the Goods has not passed to the Buyer. The time of payment of the price shall be of the essence of the Contract.

5.3 If the Buyer fails to make any payment on the due date then, the Seller may:

5.3.1 Suspend all or any further deliveries to the Buyer made under this or any other contract with the Buyer without prejudice to the Buyer's obligations to the Seller under this or any other contract, or to cancel this or any other contract with the Buyer and to claim damages from the Buyer; and

5.3.2 Appropriate any payment to such of the Goods (or goods supplied under any other contract between the Buyer and the Seller) as the Seller may think fit; and

5.3.3 Charge the Buyer interest (both before and after any judgment) on the amount unpaid, at the rate of 5% per annum above Barclays Bank Plc base rate from time to time accruing daily, until payment in full is made.

5.4 The Seller may without notice set off any sums owed to the Buyer in or towards the satisfaction of all and any liabilities of the Buyer to the Seller howsoever arising.

6. DELIVERY

6.1 Delivery shall be made by the Buyer collecting the Goods at the Seller's premises at any time after the Seller has notified the Buyer that the Goods are ready for collection or, if some other place for delivery is agreed by the Seller, by the Seller delivering the Goods to that place.

6.2 Delivery dates are approximate only and the time for delivery shall not be of the essence.

6.3 Where the Goods are to be delivered in installments, each delivery shall constitute a separate contract. Failure by the Seller to deliver any one or more of the installments or any claim in respect of any one or more of the installments shall not entitle the Buyer to treat the Contract as a whole as repudiated.

6.4 If the Seller fails to deliver the Goods (or any installment) for any reason other than any cause beyond the Seller's reasonable control or the Buyer's fault, the Seller's liability shall be limited to the excess, if any, of the cost to the Buyer (in the cheapest available market) of similar goods over the price of the Goods.

7. RISK AND PROPERTY

7.1 Risk of damage to or loss of the Goods shall pass to the Buyer, in the case of Goods to be delivered at the Seller's premises, when the Seller notifies the Buyer that the Goods are available for collection, or in the case of Goods to be delivered elsewhere, at the time of delivery or, if the Buyer wrongfully fails to take delivery when the Seller tendered delivery.

7.2 Notwithstanding delivery and the passing of risk, the property in the Goods shall not pass until the Seller has received in cleared funds full payment of the price of the Goods and all other goods sold by the Seller to the Buyer under any other contract.

7.3 Until the property in the Goods passes to the Buyer:

7.3.1 The Buyer shall hold the Goods as the Seller's agent or bailee, and shall keep the Goods separate from all other goods and properly stored protected and insured and identified as the Seller's property. The Buyer shall be entitled to resell or use the Goods in the ordinary course of its business, but shall have a fiduciary duty to the Seller to account for the proceeds of sale or otherwise of the Goods.

7.3.2 The Seller may require the Buyer to deliver up the Goods to the Seller and, if the Buyer fails to do so forthwith, to enter upon any premises where the

Goods are stored and repossess the Goods.

7.4 The Buyer shall not be entitled to charge by way of security any of the Goods which remain the property of the Seller. If the Buyer does so, all moneys owing by the Buyer to the Seller shall, forthwith become due and payable.

8. WARRANTIES AND LIABILITIES

8.1 The Seller warrants that the Goods will correspond with their specification at the time of delivery and will be free from defects in material and workmanship for a period of 12 months from delivery provided that:

8.1.1 The Seller shall be under no liability in respect of any defect in the Goods arising from any drawing, design or specification supplied by the Buyer;

8.1.2 The Seller shall be under no liability in respect of any defect arising from fair wear and tear, willful damage, negligence, abnormal working conditions, failure to follow the Seller's instructions, misuse or alteration or repair of the Goods without the Seller's approval;

8.1.3 If the total price for the Goods has not been paid by the due date for payment, the Seller shall be under no liability, until the total price for the Goods has been;

8.2 Any claim by the Buyer under the warranty in Condition 8.1 shall, be notified to the Seller within 7 days from the date of delivery or, where the defect or failure to paid; correspond with specification was not apparent on reasonable inspection, within a reasonable time after discovery of the defect or failure. If delivery is not refused, and the Buyer does not so notify, the Seller shall have no liability to the Buyer.

8.3 Following notification of any valid claim under the warranty in Condition 8.1, the Seller shall be entitled to replace the Goods (or the part in question) free of charge or, at the Seller's sole discretion, refund to the Buyer the price of the Goods (or a proportionate part of the price) without further liability.

8.4 Except in respect of death or personal injury caused by the Seller's negligence, the Seller shall not be liable to the Buyer by reason of any representation, or any implied warranty, condition or other term, or any duty at common law, or under the express terms of the Contract, for any consequential loss or damage (whether for loss of profit or otherwise), costs expenses or other claims for compensation whatsoever (whether caused by the negligence of the Seller, its employees or agents or otherwise) which arise out of or in connection with the supply of the Goods or their use or resale by the Buyer and the entire liability of the Seller under or in connection with the Contract shall not exceed the price of the Goods, except as expressly provided in these Conditions.

8.5 The Seller shall not be liable to the Buyer or be deemed to be in breach of the Contract by reason of any delay in performing, or any failure to perform, any of the Seller's obligations hereunder due to any cause beyond the Seller's reasonable control.

9. INSOLVENCY OF BUYER

9.1 If the Buyer becomes insolvent or ceases or threatens to cease to carry on business or the Seller reasonably apprehends that any of these events is about to occur, the Seller shall be entitled to cancel the Contract and any other contracts with the Buyer or suspend any further deliveries under the Contract and any other contracts with the Buyer without any liability. If the Goods or any other goods have been delivered, but not paid for, the price shall become immediately due and payable.

10. EXPORT TERMS

10.1 Where the Goods are supplied for export, this clause 10 shall apply notwithstanding any other provisions. Any term or expression which is defined in or given a particular meaning by the provisions of Incoterms shall have the same meaning in these Conditions, but if there is any conflict between the provisions of Incoterms and these Conditions, the latter shall prevail.

10.2 The Buyer shall be responsible for complying with laws governing the importation of the Goods the payment of duties.

10.3 The Goods shall be delivered FOB the air or sea port of shipment. The Seller shall be under no obligation to give notice under section 32(3) of the Sale of Goods Act 1979.

10.4 The Buyer shall be responsible for arranging for testing and inspection of the Goods at the Seller's premises before shipment and the Seller shall have no liability for any defect which would be apparent on inspection.

11. GENERAL

11.1 Neither party shall be entitled to assign the whole or any part of this Contract without the prior written consent of the other.

11.2 Any notice required or permitted to be given hereunder shall be in writing addressed to the other party at its registered office or principal place of business or such other address as may have been notified. A notice shall be deemed to have been received, in the case of a facsimile, upon transmission and, in the case of a letter, forty eight hours after posting.

11.3 If any provision of these Conditions is held to be invalid or unenforceable in whole or in part, the validity of the other provisions and the remainder of the provision in question shall not be affected.

11.4 The Contract shall be governed by the laws of England and the Buyer agrees to submit to the non-exclusive jurisdiction of the English courts.



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