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Welcome to our 2020/21 catalogue.

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This year's catalogue features a whole new look for Cromwell. Simple, easy and modern. That's the spirit of our new brand, and from now on you'll see it wherever you come into contact with us. Online, at our branches and wherever you meet our team face to face.

So why have we changed? Our brand marks out what makes us different, helps us to communicate more clearly and overall makes it easier for you to deal with us.

While a lot has changed about the way we look, you'll still get the best range of high quality products from a single source. You'll still benefit from friendly customer service, expert advice and technical support when you need it.

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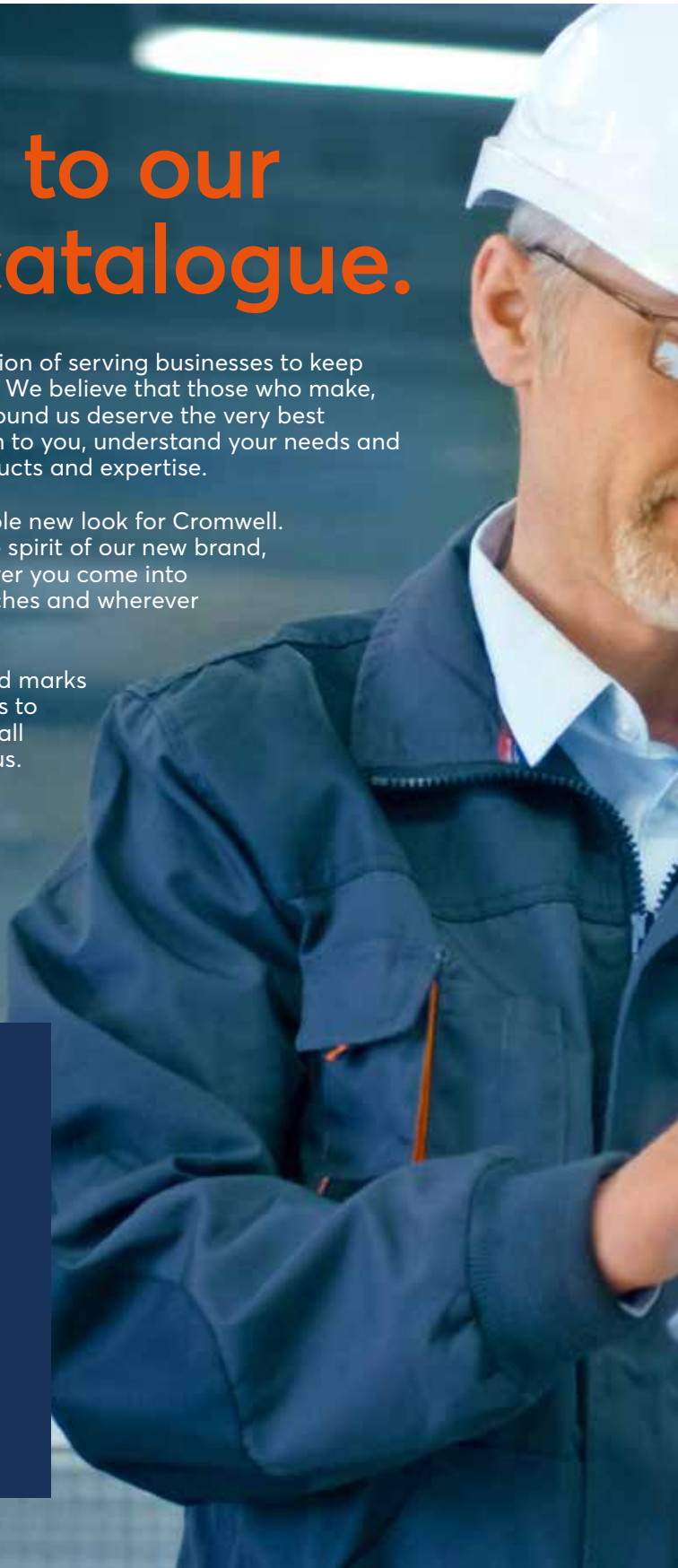
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- Dedicated teams of tender and quotation specialists cover the UK, Europe, Middle East, Asia and Africa.
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What we deliver

- Hand, power and cutting tools.
- Metalworking, construction, laboratory & woodworking equipment.
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- Electrical installation and test equipment.
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Who we work with

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See inside front cover for **contact details**.

Just find the product you need and make a note of the Product Group Code. Add the Item Code, and that completes your Order Code. Now decide the quantity you need and you're all set.

1. Note the **PRODUCT GROUP** code
2. Note the **ITEM** code

Number of pieces	Weight	Order Code ABC-123
6	620g	-4567D

eg. Order code **ABC-123-4567D**
Quantity 1



Keeping Industry Working™



Cancellation & Return Policy

Cancellations

Orders cannot be cancelled once they have been despatched by us or one of our suppliers.

For products requiring special manufacture, cancellation will not generally be allowed once the manufacturing process has commenced.

Returns











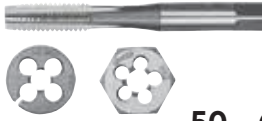
















Products may be returned to us for credit or refund by way of the following procedure;

- 1 A returns number or authorisation should be obtained from us prior to returning goods, advice note or invoice number needs to be quoted.
- 2 Products must always be returned unused in their original packaging and in a condition that is immediately fit for resale.
- 3 Returns must be made within 14 days of the advice note date of delivery unless special authorisation has been agreed.

ALL RETURNS ARE SUBJECT TO 100% INSPECTION BEFORE RE-STOCKING TO ENSURE GOODS ARE FIT FOR RESALE.

Conditions

- (i) A re-stocking charge will generally be applied for products that are no longer required or returned due to customer error.
 - (ii) Certificated/calibrated products may not be eligible for return due to conformity regulations included in our accreditation certification.
 - (iii) We reserve the right to refuse to accept any products or to apply a re-stocking charge that relates to the actual cost of inspection and re-stocking for products returned that do not comply with the terms of this policy.
- This policy excludes software products and/or products supplied under contract where the terms and conditions of the contract will rule. This policy is part of our terms and conditions of sale but does not affect the customer's statutory rights as a consumer. We accept no responsibility for any loss or damage to products in transit.

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Metalworking

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HSS Jobber Drill Sets

Industrial quality. Ground flute, blue finish. Supplied in indexing metal cases. Manufactured to **BS328 : Part 1 DIN 338N & ANSI B94 - 11M.**

25 PIECES



For Dimensions

See Pages 22 - 23



BEST SELLER

x 0.5mm
1.0 ~ 13.0

(mm)	2.5	4.5	6.5	8.5	10.5	12.5
1.0	3.0	5.0	7.0	9.0	11.0	13.0
1.5	3.5	5.5	7.5	9.5	11.5	
2.0	4.0	6.0	8.0	10.0	12.0	

Order Code
SHR-025
-8500K



51 PIECES

x 0.1mm
1.0 ~ 6.0

(mm)	1.6	2.3	3.0	3.7	4.4	5.1	5.8
1.0	1.7	2.4	3.1	3.8	4.5	5.2	5.9
1.1	1.8	2.5	3.2	3.9	4.6	5.3	6.0
1.2	1.9	2.6	3.3	4.0	4.7	5.4	
1.3	2.0	2.7	3.4	4.1	4.8	5.5	
1.4	2.1	2.8	3.5	4.2	4.9	5.6	
1.5	2.2	2.9	3.6	4.3	5.0	5.7	

Order Code
SHR-025
-8380K

HSS Ground Flute Select-A-Drill Set

HSS Ground Flute jobber drills in a 'Dial-a-Drill' style case. With a clear top to view drills. Manufactured to **BS328 DIN 338N & ANSI B94 - 11M.**

19 PIECES



BEST SELLER

x 0.5mm
1.0 ~ 10.0

(mm)	2.0	3.5	5.0	6.5	8.0	9.5
1.0	2.5	4.0	5.5	7.0	8.5	10.0
1.5	3.0	4.5	6.0	7.5	9.0	

Order Code
SHR-025
-9000K



19 PIECES

x 0.5mm
1.0 ~ 10.0

(mm)	2.0	3.5	5.0	6.5	8.0	9.5
1.0	2.5	4.0	5.5	7.0	8.5	10.0
1.5	3.0	4.5	6.0	7.5	9.0	

Order Code
SHR-025
-8460K



41 PIECES

x 0.1mm
6.0 ~ 10.0

(mm)	6.5	7.1	7.7	8.3	8.9	9.5
6.0	6.6	7.2	7.8	8.4	9.0	9.6
6.1	6.7	7.3	7.9	8.5	9.1	9.7
6.2	6.8	7.4	8.0	8.6	9.2	9.8
6.3	6.9	7.5	8.1	8.7	9.3	9.9
6.4	7.0	7.6	8.2	8.8	9.4	10.0

Order Code
SHR-025
-8420K

HSS Ground Flute Tap & Drill Set

HSS

Industrial quality. Ground flute, blue finish. Supplied in indexing metal cases. Manufactured to **BS328 : Part 1 : 1986, DIN 338N & ANSI B94 - 11M.**

28 PIECES

METRIC Taps M3 ~ M12
+ Tapping Drills
2.5 ~ 10.2

28 Piece Tap & Drill Set
Taps (Taper, Second and Bottom)

M3	M5	M8	M12
M4	M6	M10	

Tapping Drills

(mm)	3.3	5.0	8.5
2.5	4.2	6.8	10.2

Order Code
SHR-025
-9960K

24 Piece Tap & Drill Sets

HSS

Industrial Quality Ground flute, blue finish. Supplied in indexing metal cases. Manufactured to **BS328 : Part 1 : 1986, DIN 338N & ANSI B94 - 11M.**

24 PIECES

24 Piece Tap & Drill Sets
Taps (Taper, Second and Bottom)



UNF Taps No10 ~ 1/2"
+ Tapping Drills
4.1 ~ 11.5

No10	1/4"	5/16"	3/8"	7/16"	1/2"
------	------	-------	------	-------	------

Tapping Drills

4.1	5.5	6.9	8.5	9.9	11.5
-----	-----	-----	-----	-----	------

BSW Taps 3/16" ~ 1/2"
+ Tapping Drills
3.7 ~ 10.5

3/16"	1/4"	5/16"	3/8"	7/16"	1/2"
-------	------	-------	------	-------	------

Tapping Drills

3.7	5.1	6.5	7.9	9.3	10.5
-----	-----	-----	-----	-----	------

UNC Taps No8 ~ 1/2"
+ Tapping Drills
3.5 ~ 10.28

No8	No10	1/4"	5/16"	3/8"	1/2"
-----	------	------	-------	------	------

Tapping Drills

3.5	3.9	5.1	6.6	8.0	10.8
-----	-----	-----	-----	-----	------

Type	Order Code
UNC (No.8 - 1/2")	-9970K
UNF (No.10 - 1/2")	-9980K
BSW (3/16" - 1/2")	-9990K



STD - Compound

For sawing, tapping and drilling. Extends tool life and metal removal rates. Reduces heat and improves surface finish. Silicone and CFC-free. A must for all metalworkers and service engineers.

STD Liquid (Poly Bottle)

Packed in a poly bottle with spout to allow controlled flood application. Extreme pressure (E.P.) lubricant. High anti-weld features. Reduces heat and improves surface finish.

STD Non-Drip Compound

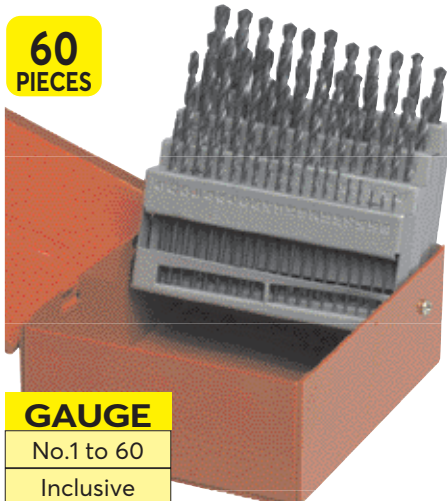
For steels, stainless and ceramics. Can be used on yellow metals without the risk of staining. High anti-weld features. Reduces heat and improves surface finish. Non-drip compound can be applied by brush or by dipping the tap or drill.



Size	Order Code
500ml	-4020K
5ltr	-4060K
500g	-4040K



Group **960**



**60
PIECES**

GAUGE
No.1 to 60
Inclusive

Number of Pieces	Order Code
60	SHR-025 -8880K

HSS Ground Flute Jobber Drill Sets

Industrial quality. Ground flute, blue finish. Supplied in indexing metal cases. Manufactured to **BS328 : Part 1 : 1986, DIN 338N & ANSI B94 - 11M.**

HSS

Metalworking



**29
PIECES**

DIN 338
BS 328

For Dimensions
See Pages 22 - 23

x 1/64"
1/16" ~ 1/2"

1/16"	5/32"	1/4"	11/32"	7/16"
5/64"	11/64"	17/64"	23/64"	29/64"
3/32"	3/16"	9/32"	3/8"	15/32"
7/64"	13/64"	19/64"	25/64"	31/64"
1/8"	7/32"	5/16"	13/32"	1/2"
9/64"	15/64"	21/64"	27/64"	

Number of Pieces	Order Code
29	SHR-025 -8800K



**13
PIECES**

x 1/64"
1/16" ~ 1/4"

1/16"	7/64"	5/32"	13/64"	1/4"
5/64"	1/8"	11/64"	7/32"	
3/32"	9/64"	3/16"	15/64"	

Number of Pieces	Order Code
13	SHR-025 -8680K



**15
PIECES**

x 1/32"
1/16" ~ 1/2"

1/16"	5/32"	1/4"	11/32"	7/16"
3/32"	3/16"	9/32"	3/8"	15/32"
1/8"	7/32"	5/16"	13/32"	1/2"

Number of Pieces	Order Code
15	SHR-025 -8840K

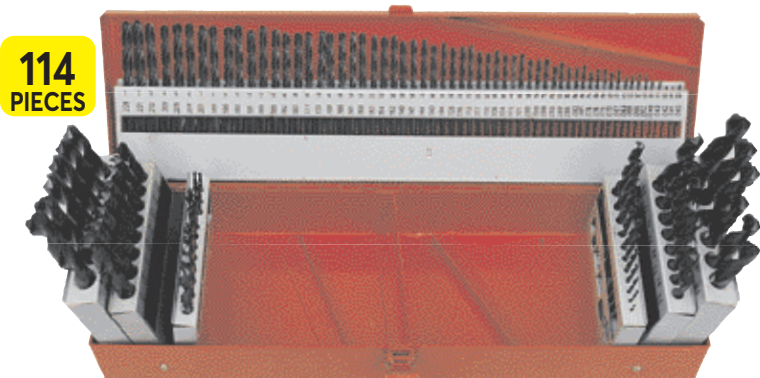


**21
PIECES**

x 1/64"
1/16" ~ 3/8"

1/16"	1/8"	3/16"	1/4"	5/16"	3/8"
5/64"	9/64"	13/64"	17/64"	21/64"	
3/32"	5/32"	7/32"	9/32"	11/32"	
7/64"	11/64"	15/64"	19/64"	23/64"	

Number of Pieces	Order Code
21	SHR-025 -8720K



**114
PIECES**

x 0.5mm
1.0 ~ 13.0

x 1/64"
1/16" ~ 1/2"

GAUGE
No.1 to 60
Inclusive

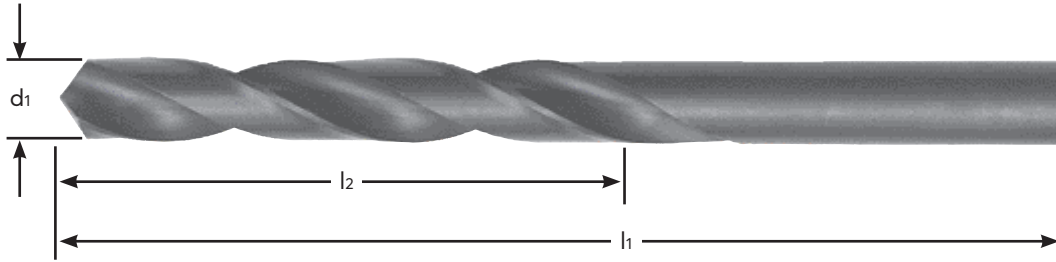
1/16"	5/32"	1/4"	11/32"	7/16"
5/64"	11/64"	17/64"	23/64"	29/64"
3/32"	3/16"	9/32"	3/8"	15/32"
7/64"	13/64"	19/64"	25/64"	31/64"
1/8"	7/32"	5/16"	13/32"	1/2"
9/64"	15/64"	21/64"	27/64"	

(mm)	2.5	4.5	6.5	8.5	10.5	12.5
1.0	3.0	5.0	7.0	9.0	11.0	13.0
1.5	3.5	5.5	7.5	9.5	11.5	
2.0	4.0	6.0	8.0	10.0	12.0	

Number of Pieces	Order Code
114	SHR-025 -8920K

Dimensions - Jobber Drills to BS 328/DIN 338

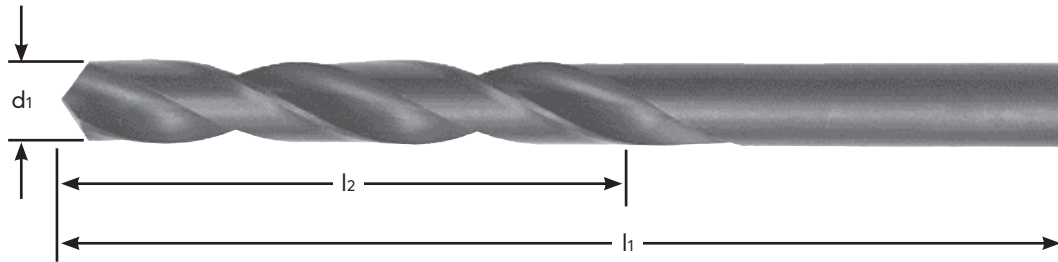
The majority of jobber drills featured in this catalogue comply with the above standards in terms of overall and working dimensions. The tables of sizes below apply to all of these products. In order to save space in the catalogue we are not repeating these dimensions after this page. Any drills which are made to different standards/dimensions will have them listed accordingly in the tables for those products.



d1	No/	Inch	l2	l1	d1	No/	Inch	l2	l1	d1	No/	Inch	l2	l1	d1	No/	Inch	l2	l1
mm	h8	Dec.	mm	mm	mm	h8	Dec.	mm	mm	mm	h8	Dec.	mm	mm	mm	h8	Dec.	mm	mm
0.20		0.0078	2.5	19.0	0.94	63	0.0370	11.0	32.0	2.15		0.0846	27.0	53.0	3.66	27	0.1440	39.0	70.0
0.25		0.0098	3.0	19.0	0.95		0.0374	11.0	32.0	2.18	44	0.0858	27.0	53.0	3.70		0.1456	39.0	70.0
0.30		0.0118	3.0	19.0	0.97	62	0.0381	12.0	34.0	2.20		0.0866	27.0	53.0	3.73	26	0.1468	39.0	70.0
0.32		0.0125	4.0	19.0	0.98		0.0385	12.0	34.0	2.25		0.0885	27.0	53.0	3.75		0.1476	39.0	70.0
0.34	80	0.0133	4.0	19.0	0.99	61	0.0389	12.0	34.0	2.26	43	0.0889	27.0	53.0	3.80		0.1496	43.0	75.0
0.35		0.0137	4.0	19.0	1.00		0.0393	12.0	34.0	2.30		0.0905	27.0	53.0	3.80	25	0.1496	43.0	75.0
0.37	79	0.0145	4.0	19.0	1.02	60	0.0401	12.0	34.0	2.35		0.0925	27.0	53.0	3.86	24	0.1519	43.0	75.0
0.38		0.0149	4.0	19.0	1.04	59	0.0409	12.0	34.0	2.38	3/32	0.0937	30.0	57.0	3.90		0.1535	43.0	75.0
0.40	1/64	0.0157	5.0	20.0	1.05		0.0413	12.0	34.0	2.38	42	0.0937	30.0	57.0	3.91	23	0.1539	43.0	75.0
0.40		0.0157	5.0	20.0	1.07	58	0.0421	14.0	36.0	2.40		0.0944	30.0	57.0	3.97	5/32	0.1562	43.0	75.0
0.41	78	0.0161	5.0	20.0	1.09	57	0.0429	14.0	36.0	2.44	41	0.0960	30.0	57.0	3.99	22	0.157	43.0	75.0
0.42		0.0165	5.0	20.0	1.10		0.0433	14.0	36.0	2.45		0.0964	30.0	57.0	4.00		0.1574	43.0	75.0
0.45		0.0177	5.0	20.0	1.15		0.0452	14.0	36.0	2.49	40	0.098	30.0	57.0	4.04	21	0.1590	43.0	75.0
0.46	77	0.0181	5.0	20.0	1.18	56	0.0464	14.0	36.0	2.50		0.0984	30.0	57.0	4.09	20	0.1610	43.0	75.0
0.48		0.0188	5.0	20.0	1.19	3/64	0.0468	16.0	38.0	2.53	39	0.0996	30.0	57.0	4.10		0.1614	43.0	75.0
0.50		0.0196	6.0	22.0	1.20		0.0472	16.0	38.0	2.55		0.1003	30.0	57.0	4.20		0.1653	43.0	75.0
0.51	76	0.0200	6.0	22.0	1.25		0.0492	16.0	38.0	2.58	38	0.1015	30.0	57.0	4.22	19	0.1661	43.0	75.0
0.52		0.0204	6.0	22.0	1.30		0.0511	16.0	38.0	2.60		0.1023	30.0	57.0	4.25		0.1673	43.0	75.0
0.53	75	0.0208	6.0	22.0	1.32	55	0.0519	16.0	38.0	2.64	37	0.1039	30.0	57.0	4.30		0.1692	47.0	80.0
0.55		0.0216	7.0	24.0	1.35		0.0531	18.0	40.0	2.65		0.1043	30.0	57.0	4.31	18	0.1696	47.0	80.0
0.57	74	0.0224	7.0	24.0	1.40		0.0551	18.0	40.0	2.70		0.1062	33.0	61.0	4.37	11/64	0.172	47.0	80.0
0.58		0.0228	7.0	24.0	1.40	54	0.0551	18.0	40.0	2.71	36	0.1066	33.0	61.0	4.39	17	0.1728	47.0	80.0
0.60		0.0236	7.0	24.0	1.45		0.0570	18.0	40.0	2.75		0.1082	33.0	61.0	4.40		0.1732	47.0	80.0
0.61	73	0.0240	8.0	26.0	1.50		0.0590	18.0	40.0	2.78	7/64	0.1094	33.0	61.0	4.50		0.1771	47.0	80.0
0.62		0.0244	8.0	26.0	1.51	53	0.0594	20.0	43.0	2.79	35	0.1098	33.0	61.0	4.50	16	0.1771	47.0	80.0
0.64	72	0.0251	8.0	26.0	1.55		0.0610	20.0	43.0	2.80		0.1102	33.0	61.0	4.57	15	0.1799	47.0	80.0
0.65		0.0255	8.0	26.0	1.59	1/16	0.0625	20.0	43.0	2.82	34	0.1110	33.0	61.0	4.60		0.1811	47.0	80.0
0.66	71	0.0259	8.0	26.0	1.60		0.0629	20.0	43.0	2.85		0.1122	33.0	61.0	4.62	14	0.1818	47.0	80.0
0.68		0.0267	9.0	28.0	1.61	52	0.0633	20.0	43.0	2.87	33	0.1129	33.0	61.0	4.70		0.1850	47.0	80.0
0.70		0.0275	9.0	28.0	1.65		0.0649	20.0	43.0	2.90		0.1141	33.0	61.0	4.70	13	0.1850	47.0	80.0
0.71	70	0.0279	9.0	28.0	1.70		0.0669	20.0	43.0	2.95		0.1161	33.0	61.0	4.75		0.1870	47.0	80.0
0.72		0.0283	9.0	28.0	1.70	51	0.0669	22.0	46.0	2.95	32	0.1161	33.0	61.0	4.76	3/16	0.1874	52.0	86.0
0.74	69	0.0291	9.0	28.0	1.75		0.0688	22.0	46.0	3.00		0.1181	33.0	61.0	4.80		0.1889	52.0	86.0
0.75		0.0295	9.0	28.0	1.78	50	0.0700	22.0	46.0	3.05	31	0.1200	36.0	65.0	4.80	12	0.1889	52.0	86.0
0.78		0.0307	10.0	30.0	1.80		0.0708	22.0	46.0	3.10		0.1220	36.0	65.0	4.85	11	0.1909	52.0	86.0
0.79	1/32	0.0311	10.0	30.0	1.85		0.0728	22.0	46.0	3.15		0.1240	36.0	65.0	4.90		0.1929	52.0	86.0
0.79	68	0.0311	10.0	30.0	1.85	49	0.0728	22.0	46.0	3.18	1/8	0.1251	36.0	65.0	4.92	10	0.1937	52.0	86.0
0.80		0.0314	10.0	30.0	1.90		0.0748	22.0	46.0	3.20		0.1259	36.0	65.0	4.98	9	0.1960	52.0	86.0
0.81	67	0.0318	10.0	30.0	1.93	48	0.0759	24.0	49.0	3.25		0.1279	36.0	65.0	5.00		0.1968	52.0	86.0
0.82		0.0322	10.0	30.0	1.95		0.0767	24.0	49.0	3.26	30	0.1283	36.0	65.0	5.06	8	0.1992	52.0	86.0
0.84	66	0.0330	10.0	30.0	1.98	5/64	0.0779	24.0	49.0	3.30		0.1299	36.0	65.0	5.10		0.2007	52.0	86.0
0.85		0.0334	10.0	30.0	1.99	47	0.0783	24.0	49.0	3.40		0.1338	39.0	70.0	5.11	7	0.2011	52.0	86.0
0.88		0.0346	11.0	32.0	2.00		0.0787	24.0	49.0	3.45	29	0.1358	39.0	70.0	5.16	13/64	0.2031	52.0	86.0
0.89	65	0.0350	11.0	32.0	2.05		0.0807	24.0	49.0	3.50		0.1377	39.0	70.0	5.18	6	0.2039	52.0	86.0
0.90		0.0354	11.0	32.0	2.06	46	0.0811	24.0	49.0	3.57	9/64	0.1405	39.0	70.0	5.20		0.2047	52.0	86.0
0.91	64	0.0358	11.0	32.0	2.08	45	0.0818	24.0	49.0	3.57	28	0.1405	39.0	70.0	5.22	5	0.2055	52.0	86.0
0.92		0.0362	11.0	32.0	2.10		0.0826	24.0	49.0	3.60		0.1417	39.0	70.0	5.25		0.2066	52.0	86.0

Dimensions - Jobber Drills to BS 328 / DIN 338

The majority of jobber drills featured in this catalogue comply with the above standards in terms of overall and working dimensions. The tables of sizes below apply to all of these products. In order to save space in the catalogue we are not repeating these dimensions after this page. Any drills which are made to different standards/dimensions will have them listed accordingly in the tables for those products.



d1	No/	Inch	l2	l1	d1	No/	Inch	l2	l1	d1	No/	Inch	l2	l1	d1	No/	Inch	l2	l1
mm	hsLetter	Dec.	mm	mm	mm	hsLetter	Dec.	mm	mm	mm	hsLetter	Dec.	mm	mm	mm	hsLetter	Dec.	mm	mm
5.30		0.2086	52.0	86.0	7.49	M	0.2948	69.0	109.0	9.92	²⁵ / ₆₄	0.3905	87.0	133.0	13.00		0.5118	101.0	151.0
5.31	4	0.2090	57.0	93.0	7.50		0.2952	69.0	109.0	10.00		0.3937	87.0	133.0	13.10	³³ / ₆₄	0.5157	101.0	151.0
5.40		0.2125	57.0	93.0	7.54	¹⁹ / ₆₄	0.2968	75.0	117.0	10.08	X	0.3968	87.0	133.0	13.10		0.5157	101.0	151.0
5.41	3	0.2129	57.0	93.0	7.60		0.2992	75.0	117.0	10.10		0.3976	87.0	133.0	13.20		0.5196	101.0	151.0
5.50		0.2165	57.0	93.0	7.67	N	0.3019	75.0	117.0	10.20		0.4015	87.0	133.0	13.25		0.5216	108.0	160.0
5.56	⁷ / ₃₂	0.2188	57.0	93.0	7.70		0.3031	75.0	117.0	10.25		0.4035	87.0	133.0	13.30		0.5236	108.0	160.0
5.60		0.2204	57.0	93.0	7.75		0.3051	75.0	117.0	10.26	Y	0.4039	87.0	133.0	13.40		0.5275	108.0	160.0
5.61	2	0.2208	57.0	93.0	7.80		0.3070	75.0	117.0	10.30		0.4055	87.0	133.0	13.49	¹⁷ / ₃₂	0.5311	108.0	160.0
5.70		0.2244	57.0	93.0	7.90		0.3110	75.0	117.0	10.32	¹³ / ₃₂	0.4062	87.0	133.0	13.50		0.5314	108.0	160.0
5.75		0.2263	57.0	93.0	7.94	⁵ / ₁₆	0.3125	75.0	117.0	10.40		0.4094	87.0	133.0	13.60		0.5354	108.0	160.0
5.79	1	0.2279	57.0	93.0	8.00		0.3149	75.0	117.0	10.49	Z	0.4129	87.0	133.0	13.70		0.5393	108.0	160.0
5.80		0.2283	57.0	93.0	8.03	O	0.3161	75.0	117.0	10.50		0.4133	87.0	133.0	13.75		0.5413	108.0	160.0
5.90		0.2322	57.0	93.0	8.10		0.3188	75.0	117.0	10.60		0.4173	87.0	133.0	13.80		0.5433	108.0	160.0
5.94	A	0.2338	57.0	93.0	8.20		0.3228	75.0	117.0	10.70		0.4212	94.0	142.0	13.89	³⁵ / ₆₄	0.5468	108.0	160.0
5.95	¹⁵ / ₆₄	0.2342	57.0	93.0	8.20	P	0.3228	75.0	117.0	10.72	²⁷ / ₆₄	0.4220	94.0	142.0	13.90		0.5472	108.0	160.0
6.00		0.2362	57.0	93.0	8.25		0.3248	75.0	117.0	10.75		0.4232	94.0	142.0	14.00		0.5511	108.0	160.0
6.00	B	0.2374	63.0	101.0	8.30		0.3267	75.0	117.0	10.80		0.4251	94.0	142.0	14.25		0.5610	114.0	169.0
6.10		0.2401	63.0	101.0	8.33	²¹ / ₆₄	0.3279	75.0	117.0	10.90		0.4291	94.0	142.0	14.29	⁹ / ₁₆	0.5625	114.0	169.0
6.15	C	0.2421	63.0	101.0	8.40		0.3307	75.0	117.0	11.00		0.4330	94.0	142.0	14.50		0.5708	114.0	169.0
6.20		0.2440	63.0	101.0	8.43	Q	0.3318	75.0	117.0	11.10		0.4370	94.0	142.0	14.68	³⁷ / ₆₄	0.5779	114.0	169.0
6.25		0.2460	63.0	101.0	8.50		0.3346	75.0	117.0	11.11	⁷ / ₁₆	0.4374	94.0	142.0	14.75		0.5807	114.0	169.0
6.25	D	0.2460	63.0	101.0	8.60		0.3385	81.0	125.0	11.20		0.4409	94.0	142.0	15.00		0.5905	114.0	169.0
6.30		0.2480	63.0	101.0	8.61	R	0.3389	81.0	125.0	11.25		0.4429	94.0	142.0	15.08	¹⁹ / ₃₂	0.5937	120.0	178.0
6.35	¹ / ₄	0.2500	63.0	101.0	8.70		0.3425	81.0	125.0	11.30		0.4448	94.0	142.0	15.25		0.6003	120.0	178.0
6.35	E	0.2500	63.0	101.0	8.73	¹¹ / ₃₂	0.3437	81.0	125.0	11.40		0.4488	94.0	142.0	15.48	³⁹ / ₆₄	0.6094	120.0	178.0
6.40		0.2519	63.0	101.0	8.75		0.3444	81.0	125.0	11.50		0.4527	94.0	142.0	15.50		0.6102	120.0	178.0
6.50		0.2559	63.0	101.0	8.80		0.3464	81.0	125.0	11.51	²⁹ / ₆₄	0.4531	94.0	142.0	15.75		0.6200	120.0	178.0
6.53	F	0.2570	63.0	101.0	8.84	S	0.3480	81.0	125.0	11.60		0.4566	94.0	142.0	15.88	5/8	0.6251	120.0	178.0
6.60		0.2598	63.0	101.0	8.90		0.3503	81.0	125.0	11.70		0.4606	94.0	142.0	16.00		0.6299	120.0	178.0
6.63	G	0.2610	63.0	101.0	9.00		0.3543	81.0	125.0	11.75		0.4625	94.0	142.0	16.27	⁴¹ / ₆₄	0.6405	125.0	184.0
6.70		0.2637	63.0	101.0	9.09	T	0.3578	81.0	125.0	11.80		0.4645	94.0	142.0	16.50		0.6496	125.0	184.0
6.75	¹⁷ / ₆₄	0.2657	69.0	109.0	9.10		0.3582	81.0	125.0	11.90		0.4685	101.0	151.0	16.67	²¹ / ₃₂	0.6562	125.0	184.0
6.75		0.2657	69.0	109.0	9.13	²³ / ₆₄	0.3594	81.0	125.0	11.91	¹⁵ / ₃₂	0.4688	101.0	151.0	17.00		0.6692	125.0	184.0
6.76	H	0.2661	69.0	109.0	9.20		0.3622	81.0	125.0	12.00		0.4724	101.0	151.0	17.07	⁴³ / ₆₄	0.6720	130.0	191.0
6.80		0.2677	69.0	109.0	9.25		0.3641	81.0	125.0	12.10		0.4763	101.0	151.0	17.46	¹¹ / ₁₆	0.6874	130.0	191.0
6.90		0.2716	69.0	109.0	9.30		0.3661	81.0	125.0	12.20		0.4803	101.0	151.0	17.50		0.6889	130.0	191.0
6.91	I	0.2720	69.0	109.0	9.35	U	0.3681	81.0	125.0	12.25		0.4822	101.0	151.0	18.00		0.7086	130.0	191.0
7.00		0.2755	69.0	109.0	9.40		0.3700	81.0	125.0	12.30		0.4842	101.0	151.0	18.5		0.7283	135.0	198.0
7.04	J	0.2771	69.0	109.0	9.50		0.3740	81.0	125.0	12.30	³¹ / ₆₄	0.4842	101.0	151.0	19.00		0.7480	135.0	198.0
7.10		0.2795	69.0	109.0	9.53	³ / ₈	0.3751	87.0	133.0	12.40		0.4881	101.0	151.0	19.50		0.7677	140.0	205.0
7.14	⁹ / ₃₂	0.2811	69.0	109.0	9.58	V	0.3771	87.0	133.0	12.50		0.4921	101.0	151.0	20.00		0.7874	140.0	205.0
7.14	K	0.2811	69.0	109.0	9.60		0.3779	87.0	133.0	12.60		0.4960	101.0	151.0					
7.20		0.2834	69.0	109.0	9.70		0.3818	87.0	133.0	12.70		0.5000	101.0	151.0					
7.25		0.2854	69.0	109.0	9.75		0.3838	87.0	133.0	12.70	¹ / ₂	0.5000	101.0	151.0					
7.30		0.2874	69.0	109.0	9.80		0.3858	87.0	133.0	12.75		0.5019	101.0	151.0					
7.37	L	0.2901	69.0	109.0	9.80	W	0.3858	87.0	133.0	12.80		0.5039	101.0	151.0					
7.40		0.2913	69.0	109.0	9.90		0.3897	87.0	133.0	12.90		0.5078	101.0	151.0					

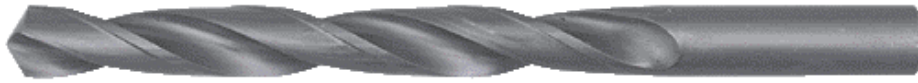


HSS Roll Forged Jobber Drills

For HSS Ground Flute Jobber Drills for industrial applications, please see page 26 onwards



Senator jobber drills are roll forged from HSS, ensuring uninterrupted grain structure. This provides exceptional strength and durability. Tips are ground for effective cutting. Suitable for drilling wood, plastic, carbon and plain steels where the cutting efficiency of ground flute is not required. Manufactured to **BS 328 : Part 1 : 1986 & DIN 338 Type N**.



For Dimensions
See Pages 22 - 23

Metric		PRICED PER 10	PRICED PER 10	PRICED PER 10			
Dia. (mm)	Order Code SEN-025	Dia. (mm)	Order Code SEN-025	Dia. (mm)	Order Code SEN-025	Dia. (inch)	Order Code SEN-025
1.00	-0040N	4.50	-0099C	8.50	-0147E	1/8"	-0001H
1.50	-0050N	4.80	-0103G	9.00	-0153L	3/16"	-0001M
2.00	-0060K	5.00	-0105J	9.50	-0159S	1/4"	-0001R
2.50	-0070W	5.20	-0107L	10.00	-0165N	3/8"	-0002A
2.80	-0076C	5.50	-0111Q	10.20	-0167B	1/2"	-0002J
3.00	-0080G	6.00	-0117X	10.50	-0171F		
3.20	-0083K	6.20	-0119N	11.00	-0177M		
3.30	-0085M	6.50	-0123D	11.50	-0183T		
3.50	-0087P	6.80	-0127H	12.00	-0189A		
3.80	-0091T	7.00	-0129K	12.50	-0195G		
4.00	-0093W	7.50	-0135R	13.00	-0201N		
4.20	-0095Y	8.00	-0141Y	14.00	-0213B		

HSS Roll Forged Jobber Drill Sets

Roll forged from HSS, ensuring uninterrupted grain structure. This provides exceptional strength and durability. Tips are ground for effective cutting. Suitable for drilling wood, plastic, carbon and plain steels where the cutting efficiency of ground flute is not required. Manufactured to **BS 328 : Part 1 : 1986 & DIN 338 Type N**.

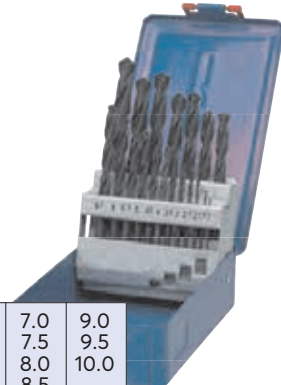
x 0.5mm
1.0 ~ 10.0

19
PIECES

19 Piece Set
Contents (mm):

1.0	3.0	5.0	7.0	9.0
1.5	3.5	5.5	7.5	9.5
2.0	4.0	6.0	8.0	10.0
2.5	4.5	6.5	8.5	

Weight each: 0.65kg
Order Code: SEN-025
-9250K



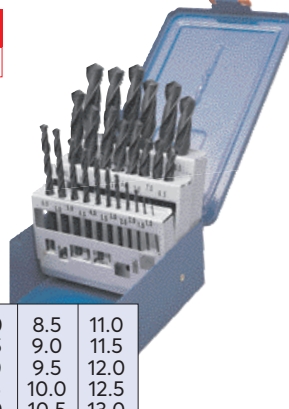
x 0.5mm
1.0 ~ 13.0

25
PIECES

25 Piece Set
Contents (mm):

1.0	3.5	6.0	8.5	11.0
1.5	4.0	6.5	9.0	11.5
2.0	4.5	7.0	9.5	12.0
2.5	5.0	7.5	10.0	12.5
3.0	5.5	8.0	10.5	13.0

Weight each: 1.60kg
Order Code: SEN-025
-9150K



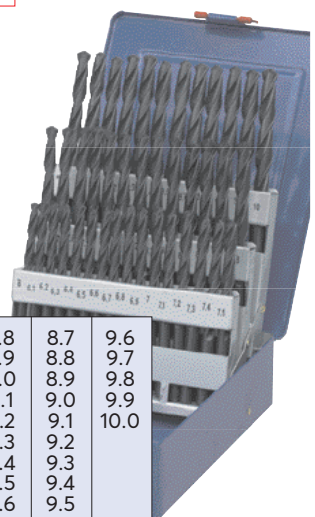
x 0.1mm
6.0 ~ 10.0

41
PIECES

41 Piece Set
Contents (mm):

6.0	6.9	7.8	8.7	9.6
6.1	7.0	7.9	8.8	9.7
6.2	7.1	8.0	8.9	9.8
6.3	7.2	8.1	9.0	9.9
6.4	7.3	8.2	9.1	10.0
6.5	7.4	8.3	9.2	
6.6	7.5	8.4	9.3	
6.7	7.6	8.5	9.4	
6.8	7.7	8.6	9.5	

Weight each: 2.10kg
Order Code: SEN-025
-9110K



HSS Roll Forged Jobber Drill Sets

Roll forged from HSS, ensuring uninterrupted grain structure. This provides exceptional strength and durability. Tips are ground for effective cutting. Suitable for drilling wood, plastic, carbon and plain steels where the cutting efficiency of ground flute is not required. Manufactured to **BS 328 : Part 1 : 1986 & DIN 338 Type N**.

x 0.5mm
1.0 ~ 10.0

170
PIECES

170 Piece Set
Contents (mm):

1.0 x 10	4.5 x 10	8.0 x 10
1.5 x 10	5.0 x 10	8.5 x 5
2.0 x 10	5.5 x 10	9.0 x 5
2.5 x 10	6.0 x 10	9.5 x 5
3.0 x 10	6.5 x 10	10.0 x 5
3.5 x 10	7.0 x 10	
4.0 x 10	7.5 x 10	

Weight each: 3.8kg
Order Code: SEN-025
-9300K



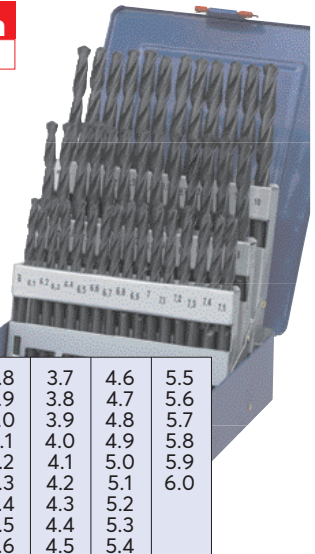
x 0.1mm
1.0 ~ 6.0

51
PIECES

51 Piece Set
Contents (mm):

1.0	1.9	2.8	3.7	4.6	5.5
1.1	2.0	2.9	3.8	4.7	5.6
1.2	2.1	3.0	3.9	4.8	5.7
1.3	2.2	3.1	4.0	4.9	5.8
1.4	2.3	3.2	4.1	5.0	5.9
1.5	2.4	3.3	4.2	5.1	6.0
1.6	2.5	3.4	4.3	5.2	
1.7	2.6	3.5	4.4	5.3	
1.8	2.7	3.6	4.5	5.4	

Weight each: 0.60kg
Order Code: SEN-025
-9060K



Standard Length Drills

SENATOR QUALITY TOOLING HSS Tap & Drill Sets

Industrial quality. Ground flute, blue finish. Supplied in indexing metal case. Manufactured to **BS328 : Part 1: 1986, DIN 338N & ANSI B94 -11M.**

28 Piece Set Contents (mm):

Taps: (taper, second and bottom): M3, M4, M5, M6, M8, M10 and M12.

Drills: 2.5, 3.3, 4.2, 5.0, 6.8, 8.5 and 10.2mm.



x 0.7mm
2.5 ~ 10.2

28
PIECES

DIN 338 For Dimensions
BS 328 See Pages 22 - 23

Order Code
SEN-025
-9960K

HSS
METRIC

Multi-Purpose 'Dial-A-Drill' Set

Designed to satisfy countless tasks around the home and workshop - a drill bit for every job!. Supplied in a robust 'dial a drill' case for easy selection and compact storage.

Contents:

6 x wood drills with 'lip and spur' self centering/self starting points. Suitable for all types of timber.

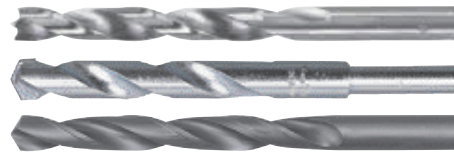
Sizes 3, 4, 5, 6, 8 and 10mm.

6 x masonry drills with TCT drill point. Suitable for tiles, ceramics and all light building materials.

Sizes 3, 4, 5, 6, 8 and 10mm.

6 x HSS drills (Jobber) with roll forged flutes. Suitable for use in portable powertools in all types of materials.

Sizes 3, 4, 5, 6, 8 and 10mm.



Weight
each
452g

Order Code
SEN-025
-9500K



18
PIECES

SHERWOOD QUALITY CUTTING TOOLS HSS Reduced Shank Drills (Blacksmiths)

1/2" parallel shank. General purpose drills for light duty work, for drilling steels, cast iron, nickel brass and graphite. Reduced parallel shank 1/2". Point angle: 118°, helix angle: normal, web thickness: standard, tolerance of diameter: h8, tolerance of shank: 0.01/0.08. Manufactured to works standard.

HSS



Black Oxidised Finish

Metric

Diameter (mm)	Flute Length	Overall Length	Order Code SHR-025
13.00	78.0	150.0	-1805A
13.50	78.0	150.0	-1805B
14.00	78.0	150.0	-1806C
14.50	78.0	150.0	-1806D
15.00	78.0	150.0	-1807E
15.50	78.0	150.0	-1807F
16.00	78.0	150.0	-1808G
16.50	78.0	150.0	-1808H
17.00	78.0	150.0	-1809J
17.50	78.0	150.0	-1809K
18.00	78.0	150.0	-1810L
18.50	78.0	150.0	-1810M
19.00	78.0	150.0	-1811N

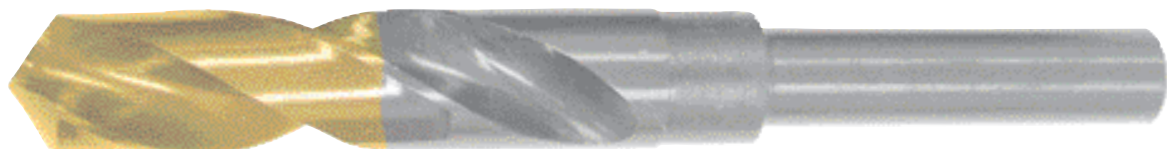
Diameter (mm)	Flute Length	Overall Length	Order Code SHR-025
19.50	85.0	150.0	-1811P
20.00	85.0	150.0	-1812Q
21.00	85.0	150.0	-1813R
22.00	85.0	150.0	-1814S
23.00	85.0	150.0	-1815T
24.00	85.0	150.0	-1816V
25.00	85.0	150.0	-1817W
26.00	85.0	150.0	-1818X
27.00	85.0	150.0	-1819Y
28.00	85.0	150.0	-1820Z
29.00	85.0	150.0	-1821A
30.00	85.0	150.0	-1822B
32.00	85.0	150.0	-1824D



Group **960**

Bright Finish - TiN Tipped

HSS TiN-tip



Diameter (mm)	Flute Length	Overall Length	Order Code SHR-025
14.00	78.0	150.0	-1736C
15.00	78.0	150.0	-1737E
16.00	78.0	150.0	-1738G

Diameter (mm)	Flute Length	Overall Length	Order Code SHR-025
17.00	78.0	150.0	-1739J
18.00	78.0	150.0	-1740L
19.00	78.0	150.0	-1741P

Diameter (mm)	Flute Length	Overall Length	Order Code SHR-025
20.00	85.0	150.0	-1742Q
22.00	85.0	150.0	-1744S
25.00	85.0	150.0	-1747W



HSS Jobber Drills - Metric - Steam Tempered

General purpose drills for steels, cast steel, grey cast iron, malleable cast iron, nickel brass, aluminium alloy and graphite. Point angle: 118°, helix angle: normal, web thickness: standard, relief angle: 10° - 20°, tolerance of diameter: h8, tolerance of shank: f11. Manufactured to **BS 328/DIN338RN**.

HSS

METRIC INCH

Black Finish (W-Finish)

This is the most common surface finish and is the result of a steam tempering operation in which steam is passed over the product during a controlled tempering cycle, producing a black oxide layer. Black tools are generally recommended for ferrous applications where the oxide layer aids chip flow, helps to dissipate heat by retaining some coolant on the tool surface and also helps to prevent the tool from staining.

For Bright Finish Jobber Drills see page 27



For Dimensions

See Pages 22 - 23

Series J100 - Metric **PRICED PER 10**

Dia. (mm)	Order Code
0.25	-0010X
0.30	-0012A
0.35	-0014F
0.40	-0016L
0.42	-0017N
0.45	-0018P
0.50	-0020R
0.55	-0022T
0.58	-0023V
0.60	-0024W
0.65	-0026Y
0.70	-0028A
0.72	-0029B
0.75	-0030C
0.78	-0031D
0.80	-0032E
0.82	-0033F
0.85	-0034G
0.88	-0035H
0.90	-0036J
0.95	-0038L
0.98	-0039M
1.00	-0040N
1.05	-0041P
1.10	-0042Q
1.15	-0043R
1.20	-0044S
1.25	-0045T
1.30	-0046V
1.35	-0047W
1.40	-0048X
1.45	-0049Y
1.50	-0050N
1.55	-0051A
1.60	-0052B
1.65	-0053C
1.70	-0054D
1.75	-0055E
1.80	-0056F
1.85	-0057G
1.90	-0058H
1.95	-0059J
2.00	-0060K
2.05	-0061L
2.10	-0062M
2.15	-0063N
2.20	-0064P
2.25	-0065Q
2.30	-0066R
2.35	-0067S
2.40	-0068T
2.45	-0069V
2.50	-0070W
2.55	-0071X
2.60	-0072Y
2.65	-0073N
2.70	-0074A
2.75	-0075B
2.80	-0076C
2.85	-0077D
2.90	-0078E
2.95	-0079F
3.00	-0080G
3.10	-0081H
3.15	-0082J
3.20	-0083K
3.25	-0084L

PRICED PER 10

Dia. (mm)	Order Code
3.30	-0085M
3.40	-0086N
3.45	-0087D
3.50	-0087P
3.60	-0088Q
3.65	-0089D
3.70	-0089R
3.75	-0090S
3.80	-0091T
3.90	-0092V
4.00	-0093W
4.05	-0094L
4.10	-0094X
4.20	-0095Y
4.25	-0096N
4.30	-0097A
4.40	-0098B
4.50	-0099C
4.60	-0100D
4.70	-0101E
4.75	-0102F
4.80	-0103G
4.85	-0103X
4.90	-0104H
5.00	-0105J
5.10	-0106K
5.20	-0107L
5.25	-0108M
5.30	-0109N
5.40	-0110P
5.50	-0111Q
5.60	-0112R
5.70	-0113S
5.75	-0114T
5.80	-0115V
5.90	-0116W
6.00	-0117X
6.10	-0118Y
6.20	-0119N
6.25	-0120A
6.30	-0121B
6.40	-0122C
6.50	-0123D
6.60	-0124E
6.70	-0125F
6.75	-0126G
6.80	-0127H
6.90	-0128J
7.00	-0129K
7.10	-0130L
7.20	-0131M
7.30	-0133P
7.40	-0134Q
7.50	-0135R
7.60	-0136S
7.70	-0137T
7.80	-0139W
7.90	-0140X
8.00	-0141Y
8.10	-0142N
8.20	-0143A
8.25	-0144B
8.30	-0145C
8.40	-0146D
8.50	-0147E

PRICED PER 10

Dia. (mm)	Order Code
8.60	-0148F
8.70	-0149G
8.75	-0150H
8.80	-0151J
8.90	-0152K
9.00	-0153L
9.10	-0154M
9.20	-0155N
9.30	-0157Q
9.40	-0158R
9.50	-0159S
9.60	-0160T
9.70	-0161V
9.75	-0162W
9.80	-0163X
9.90	-0164Y
10.00	-0165N
10.10	-0166A
10.20	-0167B
10.25	-0168C
10.30	-0169D
10.40	-0170E
10.50	-0171F
10.60	-0172G
10.70	-0173H
10.80	-0175K
10.90	-0176L
11.00	-0177M
11.10	-0178N
11.20	-0179P
11.30	-0181R
11.40	-0182S
11.50	-0183T
11.60	-0184V
11.70	-0185W
11.80	-0187Y
11.90	-0188N
12.00	-0189A
12.10	-0190B
12.20	-0191C
12.25	-0192D
12.30	-0193E
12.40	-0194F
12.50	-0195G
12.60	-0196H
12.70	-0197J
12.80	-0199L
12.90	-0200M
13.00	-0201N
13.10	-0202P
13.20	-0203Q
13.30	-0205S
13.50	-0207V
13.60	-0208W
13.70	-0209X
13.80	-0211N
13.90	-0212A
14.00	-0213B

PRICED PER 1

PRICED PER 1

Series J100 - Inch

PRICED PER 10

Dia. (Inch)	Order Code
1/64"	-0001A
1/32"	-0001B
1/16"	-0001D
5/64"	-0001E
3/32"	-0001F
7/64"	-0001G
1/8"	-0001H
9/64"	-0001J
5/32"	-0001K
11/64"	-0001L
3/16"	-0001M
13/64"	-0001N
7/32"	-0001P
15/64"	-0001Q
1/4"	-0001R
17/64"	-0001S
9/32"	-0001T
19/64"	-0001V
5/16"	-0001W
21/64"	-0001X
11/32"	-0001Y
23/64"	-0001Z
3/8"	-0002A
25/64"	-0002B
13/32"	-0002C
27/64"	-0002D
7/16"	-0002E
29/64"	-0002F
15/32"	-0002G
31/64"	-0002H
1/2"	-0002J



HSS Jobber Drills Metric - Bright Finish

General purpose drills for steels, cast steel, grey cast iron, malleable cast iron, nickel brass, aluminium alloy and graphite. Point angle: 118°, helix angle: normal, web thickness: standard, relief angle: 10° - 20°, tolerance of diameter: h8, tolerance of shank: f11. Manufactured to **BS 328/DIN338RN**.

Bright Finish

Drills with a bright finish are supplied in the as-ground condition and such tools are used generally in the machining of non-ferrous materials.

HSS

METRIC

INCH



For Dimensions

See Pages 22 -23

Metalworking

Series J100 - Metric		PRICED PER 10
Dia. (mm)	Order Code	
1.00	-0231B	
1.10	-0231D	
1.20	-0231F	
1.30	-0231H	
1.40	-0231K	
1.50	-0231M	
1.60	-0231P	
1.70	-0231R	
1.80	-0231T	
1.90	-0231W	
1.95	-0231Y	
2.00	-0232A	
2.10	-0232C	
2.20	-0232E	
2.30	-0232G	
2.40	-0232J	
2.50	-0232L	
2.60	-0232N	
2.70	-0232Q	
2.80	-0232S	
2.90	-0232V	
3.00	-0232X	
3.10	-0232Z	
3.20	-0233B	
3.30	-0233D	
3.40	-0233F	
3.50	-0233H	
3.60	-0233K	
3.70	-0233M	
3.80	-0233P	
3.90	-0233R	
4.00	-0233T	
4.10	-0233W	
4.20	-0233Y	

Series J100 - Metric		PRICED PER 10
Dia. (mm)	Order Code	
4.30	-0234A	
4.40	-0234C	
4.50	-0234E	
4.60	-0234G	
4.70	-0234J	
4.80	-0234L	
4.90	-0234N	
5.00	-0234Q	
5.10	-0234S	
5.20	-0234V	
5.30	-0234X	
5.40	-0234Z	
5.50	-0235B	
5.60	-0235D	
5.70	-0235F	
5.80	-0235H	
5.90	-0235K	
6.00	-0235M	
6.10	-0235P	
6.20	-0235R	
6.30	-0235T	
6.40	-0235W	
6.50	-0235Y	
6.60	-0236A	
6.70	-0236C	
6.80	-0236E	
6.90	-0236G	
7.00	-0236J	
7.10	-0236L	
7.20	-0236N	
7.30	-0236Q	
7.40	-0236S	
7.50	-0236V	
8.00	-0237F	

Series J100 - Metric		PRICED PER 10
Dia. (mm)	Order Code	
8.20	-0237K	
8.30	-0237M	
8.50	-0237R	
8.70	-0237W	
8.80	-0237Y	
9.00	-0238A	
9.10	-0238B	
9.40	-0238H	
9.50	-0238L	
9.60	-0238N	
10.00	-0238X	
10.20	-0239B	
10.50	-0239H	
11.00	-0239T	
11.50	-0239Z	
11.80	-0240C	
12.00	-0240E	
12.30	-0240H	
12.40	-0240J	
12.50	-0240K	
13.00	-0240R	
13.20	-0240T	
14.00	-0241C	
14.50	-0241E	
15.00	-0241G	
16.00	-0241L	
16.50	-0241P	
17.00	-0241R	
17.50	-0241T	
18.00	-0241V	
18.50	-0241X	
19.00	-0241Z	
20.00	-0242D	

Series J100 - Inch		PRICED PER 10
Dia. (inch)	Order Code	
1/32"	-0243B	
1/16"	-0243D	
5/64"	-0243E	
3/32"	-0243F	
7/64"	-0243G	
1/8"	-0243H	
9/64"	-0243J	
5/32"	-0243K	
11/64"	-0243L	
3/16"	-0243M	
1/4"	-0243R	
19/64"	-0243V	
5/16"	-0243W	

HSS Jobber Drill Set - Bright Finish

Industrial quality. Ground flute. Supplied in indexing metal cases. Manufactured to **BS328 : Part 1 : 1986, DIN 338N & ANSI B94 - 11M.**

Bright Finish

HSS

METRIC

25
PIECES

x 0.5mm
1.0 ~ 13.0

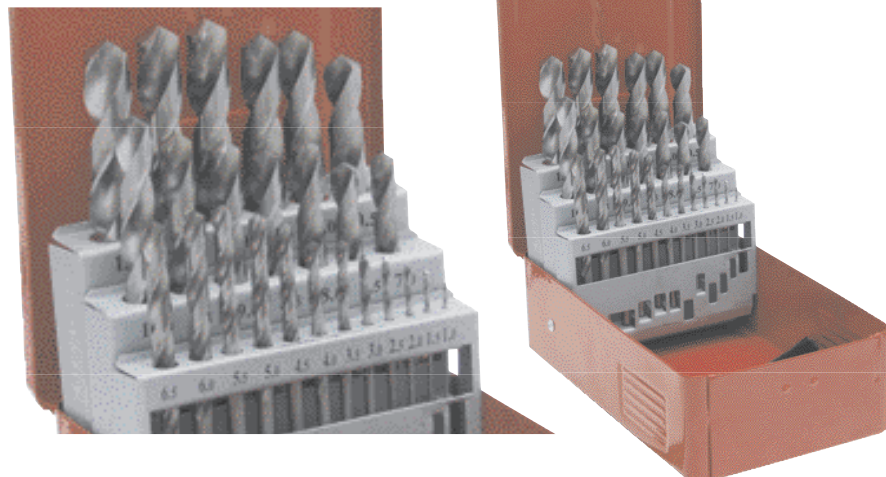
(mm)	2.5	4.5	6.5	8.5	10.5	12.5
1.0	3.0	5.0	7.0	9.0	11.0	13.0
1.5	3.5	5.5	7.5	9.5	11.5	
2.0	4.0	6.0	8.0	10.0	12.0	

No of Pieces

Order Code

25

-8520K



50 Years of Keeping Industry Working

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Standard Length Drills



HSS Straight Shank TiN Tipped Jobber Drills

Bright body with TiN coating on working part. For drilling in steel, cast steel alloyed and non-alloyed, grey cast iron, graphite and malleable cast iron. Point angle: 118°, helix angle: normal, web thickness: standard, relief angle: normal, tolerance of diameter: h8, tolerance of shank: f11. Manufactured to **BS 328, DIN 338**.

HSS TiN-tip



For Dimensions



See Pages 22 - 23

DIN 1412A 118°



Series 1004 - Metric

Dia. (mm)	Order Code
SWT-125	
1.00	-5010A
1.10	-5011A
1.20	-5012A
1.30	-5013A
1.40	-5014A
1.50	-5015A
1.60	-5016A
1.70	-5017A
1.80	-5018A
1.90	-5019A
2.00	-5020A
2.10	-5021A
2.20	-5022A
2.30	-5023A
2.40	-5024A
2.50	-5025A
2.60	-5026A
2.70	-5027A
2.80	-5028A
2.90	-5029A
3.00	-5030A
3.10	-5031A
3.20	-5032A
3.30	-5033A
3.40	-5034A
3.50	-5035A
3.60	-5036A
3.70	-5037A
3.80	-5038A
3.90	-5039A
4.00	-5040A
4.10	-5041A
4.20	-5042A
4.30	-5043A
4.40	-5044A
4.50	-5045A
4.60	-5046A
4.70	-5047A
4.80	-5048A
4.90	-5049A
5.00	-5050A
5.10	-5051A
5.20	-5052A

Dia. (mm)	Order Code
SWT-125	
5.30	-5053A
5.40	-5054A
5.50	-5055A
5.60	-5056A
5.70	-5057A
5.80	-5058A
5.90	-5059A
6.00	-5060A
6.10	-5061A
6.20	-5062A
6.30	-5063A
6.40	-5064A
6.50	-5065A
6.60	-5066A
6.70	-5067A
6.80	-5068A
6.90	-5069A
7.00	-5070A
7.10	-5071A
7.20	-5072A
7.50	-5075A
7.80	-5078A
8.00	-5080A
8.10	-5081A
8.20	-5082A
8.30	-5083A
8.40	-5084A
8.50	-5085A
8.60	-5086A
8.70	-5087A
8.80	-5088A
9.00	-5090A
9.10	-5091A
9.20	-5092A
9.50	-5095A
9.60	-5096A
9.80	-5098A
10.00	-5100A
10.20	-5102A
10.30	-5103A
10.40	-5104A
10.50	-5105A
10.80	-5108A

Dia. (mm)	Order Code
SWT-125	
11.00	-5110A
11.10	-5111A
11.20	-5112A
11.50	-5115A
11.80	-5118A
12.00	-5120A
12.50	-5125A
13.00	-5130A
13.50	-5130F
14.00	-5130L
14.50	-5130R
15.00	-5130X
16.00	-5131H

Inch Sizes

Dia. (inch)	Order Code
SWT-125	
1/16"	-5002A
3/32"	-5002L
1/8"	-5003A
9/64"	-5003L
5/32"	-5004A
3/16"	-5004L
7/32"	-5005A
1/4"	-5005L
3/8"	-5007A
1/2"	-5008A

HSS TiN Tipped Jobber Drill Sets

19 & 25 Piece Metric Sets

x 0.5mm
1.0 ~ 10.0

19
PIECES

x 0.5mm
1.0 ~ 13.0

25
PIECES

Number of Pieces	Order Code
19	-9010A
25	-9020A

HSS TiN Coated Jobber Drills

General purpose drill, to drill steels with a tensile strength up to 1,000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. TiN coating provides longer tool life. Point angle: 118°, helix angle: normal, web thickness: normal, relief angle: normal, tolerance of diameter: h8, tolerance of shank: f11. Manufactured to **DIN 338 RN, DIN 338**.

HSS TiN



For Dimensions



See Pages 22 - 23

DIN 1412A 118°



Series 1001 - Metric

Dia. (mm)	Order Code
SWT-125	
1.00	-0010A
1.50	-0015A
1.60	-0016A
2.00	-0020A
2.50	-0025A
3.00	-0030A
3.10	-0031A
3.20	-0032A
3.30	-0033A
3.50	-0035A
3.90	-0039A

Dia. (mm)	Order Code
SWT-125	
4.00	-0040A
4.20	-0042A
4.50	-0045A
4.80	-0048A
5.00	-0050A
5.30	-0053A
5.50	-0055A
6.00	-0060A
6.10	-0061A
6.20	-0062A
6.50	-0065A

Dia. (mm)	Order Code
SWT-125	
6.80	-0068A
7.00	-0070A
7.50	-0075A
7.80	-0078A
7.90	-0079A
8.00	-0080A
8.50	-0085A
8.90	-0089A
9.00	-0090A
9.50	-0095A
9.90	-0099A

Dia. (mm)	Order Code
SWT-125	
10.00	-0100A
10.50	-0105A
10.90	-0109A
11.00	-0110A
11.40	-0114A
12.00	-0120A
12.50	-0125A
13.00	-0130A

Standard Length Drills

025 Group

KENNEDY HSS-Co Straight Shank Drills

Heavy duty drill made of cobalt material with excellent heat resistance. To drill steels with tensile strength up to 1,400 N/mm², very hard bronze, stainless steels as well as heat and acid resistant steels. Point angle: 135°. Helix angle: normal. Web thickness: strengthened. Relief angle: normal. Tolerance of diameter: h8. Tolerance of shank: f11. Supply unit.

All diameters - 1 pce. Manufacturing to **BS 328, DIN 338B**.



For Dimensions
See Pages 22 - 23

Metalworking

Metric

Dia. (mm)	Order Code KEN-026	Dia. (mm)	Order Code KEN-026
1.00	-0200K	5.30	-1060K
1.10	-0220K	5.50	-1100K
1.20	-0240K	5.60	-1120K
1.40	-0280K	5.80	-1160K
1.50	-0300K	6.00	-1200K
1.60	-0320K	6.20	-1240K
1.70	-0340K	6.30	-1260K
1.80	-0360K	6.50	-1300K
1.90	-0380K	6.60	-1320K
2.00	-0400K	6.70	-1340K
2.10	-0420K	6.80	-1360K
2.20	-0440K	7.00	-1400K
2.30	-0460K	7.20	-1440K
2.40	-0480K	7.40	-1480K
2.50	-0500K	7.50	-1500K
2.60	-0520K	8.00	-1600K
2.80	-0560K	8.50	-1700K
3.00	-0600K	9.00	-1800K
3.10	-0620K	9.50	-1900K
3.20	-0640K	10.00	-2000K
3.30	-0660K	10.20	-2040K
3.40	-0680K	10.50	-2100K
3.50	-0700K	11.00	-2200K
3.60	-0720K	11.50	-2300K
3.70	-0740K	12.00	-2400K
3.80	-0760K	12.50	-2500K
3.90	-0780K	13.00	-2600K
4.00	-0800K		
4.10	-0820K		
4.20	-0840K		
4.30	-0860K		
4.50	-0900K		
4.80	-0960K		
4.90	-0980K		
5.00	-1000K		
5.10	-1020K		
5.20	-1040K		

HSS-Co Straight Shank Drill Sets

Inch & Metric Sets
Straight Shank.
Manufactured to **BS 328, DIN 338B**.



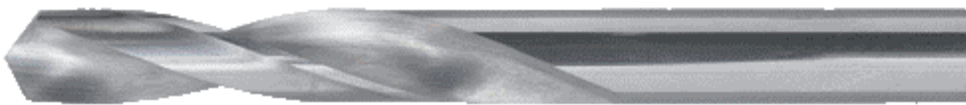
Type	Number of Pieces	Order Code KEN-026
Metric	19	-8460K
Inch	15	-8490K

Inch

Dia. (inch)	Order Code KEN-026	Dia. (inch)	Order Code KEN-026
1/16"	-3040K	3/16"	-3120K
5/64"	-3050K	7/32"	-3140K
3/32"	-3060K	1/4"	-3160K
7/64"	-3070K	11/64"	-3170K
1/8"	-3080K	9/32"	-3180K
9/64"	-3090K	5/16"	-3200K
5/32"	-3100K	3/8"	-3240K
11/64"	-3110K		

SHERWOOD Solid Carbide Jobber Drills

General purpose drills for drilling a wide variety of metallic and non-metallic materials. Point angle: 118°. Tolerance of diameter: h7. Tolerance of shank: h6. Supply unit. All diameters - 1 pce. Manufacturing Standard: **BS 328, DIN 338**.



For Dimensions
See Pages 22 - 23

Series J102 - Metric

Dia. (mm)	Order Code SHR-158	Dia. (mm)	Order Code SHR-158	Dia. (mm)	Order Code SHR-158	Dia. (mm)	Order Code SHR-158
1.00	-5100K	2.80	-5280K	5.00	-5500K	7.00	-5700K
1.10	-5110K	2.90	-5290K	5.10	-5510K	7.20	-5720K
1.20	-5120K	3.00	-5300K	5.20	-5520K	7.50	-5750K
1.30	-5130K	3.10	-5310K	5.30	-5530K	8.00	-5800K
1.40	-5140K	3.20	-5320K	5.40	-5540K	8.20	-5820K
1.50	-5150K	3.30	-5330K	5.50	-5550K	8.30	-5830K
1.60	-5160K	3.40	-5340K	5.60	-5560K	8.50	-5850K
1.70	-5170K	3.50	-5350K	5.70	-5570K	8.60	-5860K
1.80	-5180K	3.60	-5360K	5.80	-5580K	9.00	-5900K
1.90	-5190K	3.70	-5370K	6.00	-5600K	10.00	-6000K
2.00	-5200K	3.80	-5380K	6.10	-5610K	10.20	-6020K
2.10	-5210K	4.00	-5400K	6.20	-5620K	10.50	-6050K
2.20	-5220K	4.10	-5410K	6.30	-5630K	11.00	-6100K
2.30	-5230K	4.20	-5420K	6.40	-5640K	11.50	-6150K
2.40	-5240K	4.40	-5440K	6.50	-5650K	12.00	-6200K
2.50	-5250K	4.50	-5450K	6.60	-5660K		
2.60	-5260K	4.60	-5460K	6.70	-5670K		
2.70	-5270K	4.80	-5480K	6.80	-5680K		

50 Years of Keeping Industry Working
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SWISS+TECH HSS-Co Straight Shank Heavy Duty Drills

The addition of up to 8% cobalt allows higher speeds to be used without reducing the life of the tool, increasing productivity. 28° helix and 135° point.
Manufactured to **DIN 338 RN**.



For Dimensions

HSS-Co

See Pages 22 - 23



DIN 1412C 135°

Series 1020 - Metric

Dia. (mm)	Order Code SWT-125	Dia. (mm)	Order Code SWT-125	Dia. (mm)	Order Code SWT-125	Dia. (mm)	Order Code SWT-125
1.00	-0410A	3.30	-0433A	5.90	-0459A	10.20	-0502A
1.40	-0414A	3.40	-0434A	6.00	-0460A	10.50	-0505A
1.50	-0415A	3.50	-0435A	6.20	-0462A	11.00	-0510A
1.60	-0416A	3.70	-0437A	6.40	-0464A	11.30	-0513A
1.70	-0417A	3.80	-0438A	6.50	-0465A	10.80	-0508A
1.80	-0418A	4.00	-0440A	6.80	-0468A	11.50	-0515A
1.90	-0419A	4.10	-0441A	7.00	-0470A	11.60	-0516A
2.00	-0420A	4.20	-0442A	7.10	-0471A	11.70	-0517A
2.10	-0421A	4.30	-0443A	7.20	-0472A	11.90	-0519A
2.20	-0422A	4.50	-0445A	7.50	-0475A	12.00	-0520A
2.40	-0424A	4.80	-0448A	7.80	-0478A	12.50	-0525A
2.50	-0425A	4.90	-0449A	8.00	-0480A	13.00	-0530A
2.60	-0426A	5.00	-0450A	8.20	-0482A	13.50	-0535A
2.80	-0428A	5.10	-0451A	8.50	-0485A	14.00	-0540A
2.90	-0429A	5.20	-0452A	8.90	-0489A		
3.00	-0430A	5.30	-0453A	9.00	-0490A		
3.10	-0431A	5.50	-0455A	9.50	-0495A		
3.20	-0432A	5.80	-0458A	10.00	-0500A		

HSS-Co Straight Shank Heavy Duty TiN Tipped Drills

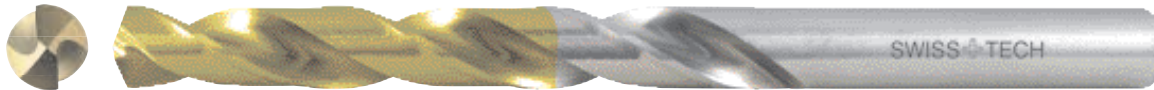
Heavy-duty drill used to drill steels with a tensile strength up to 1,400 N/mm². Stainless steels, heat and acid resistant steels and phosphor bronze. TiN coating provides longer tool life.
Point angle: 135°. Helix angle: normal. Web thickness: strengthened. Relief angle: normal.
Tolerance of diameter: h8. Supply unit. All diameters - 1 pce.
Manufactured to **DIN 338 RN**.

HSS-Co TiN-tip



For Dimensions

See Pages 22 - 23



DIN 1412A 135°

Series 1024 - Metric

Dia. (mm)	Order Code SWT-125	Dia. (mm)	Order Code SWT-125	Dia. (mm)	Order Code SWT-125	Dia. (mm)	Order Code SWT-125
1.00	-1710A	3.50	-1735A	6.50	-1765A	10.50	-1805A
1.50	-1715A	4.00	-1740A	6.80	-1768A	11.00	-1810A
1.60	-1716A	4.20	-1742A	7.00	-1770A	12.00	-1820A
2.00	-1720A	4.50	-1745A	7.50	-1775A	12.50	-1825A
2.50	-1725A	4.90	-1749A	8.00	-1780A	13.00	-1830A
3.00	-1730A	5.00	-1750A	8.50	-1785A		
3.20	-1732A	5.50	-1755A	9.00	-1790A		
3.30	-1733A	6.00	-1760A	10.00	-1800A		

HSS-Co Straight Shank Heavy Duty TiN Coated Drills

Heavy-duty drill used to drill steels with a tensile strength up to 1,400 N/mm². Stainless steels, heat and acid resistant steels and phosphor bronze. TiN coating provides longer tool life. Point angle: 135°. Helix angle: normal. Web thickness: strengthened. Relief angle: normal. Tolerance of diameter: h8. Supply unit. All diameters - 1 pce.
Manufactured to **DIN 338 RN**.

HSS-Co TiN



For Dimensions

See Pages 22 - 23



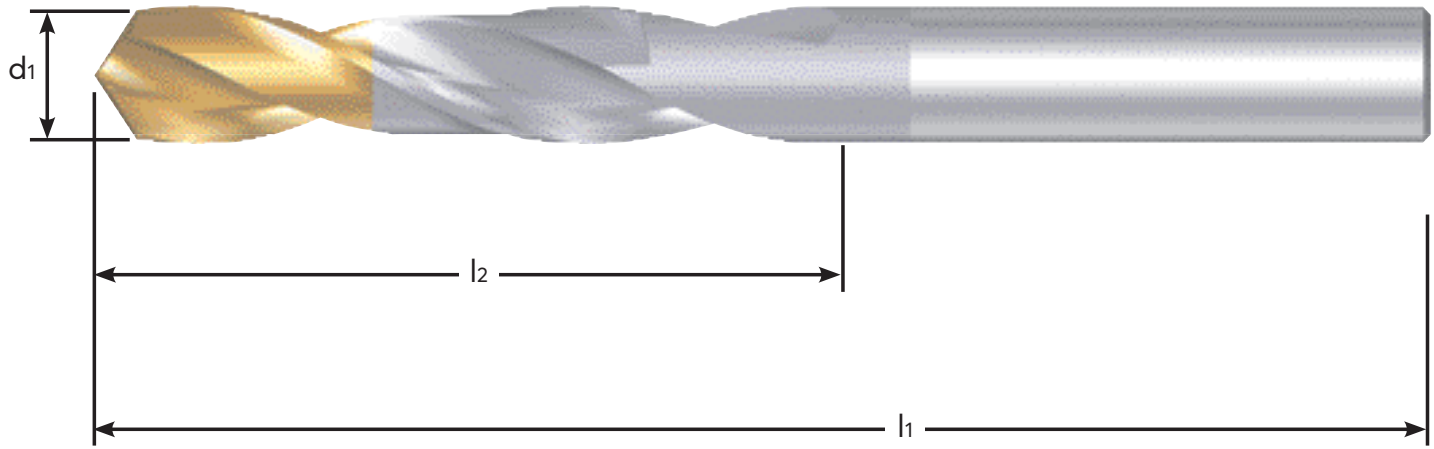
DIN 1412C 135°

Series 1033 - Metric

Dia. (mm)	Order Code SWT-125	Dia. (mm)	Order Code SWT-125	Dia. (mm)	Order Code SWT-125	Dia. (mm)	Order Code SWT-125
1.00	-0610A	3.30	-0633A	6.30	-0663A	12.40	-0724A
1.10	-0611A	3.40	-0634A	6.50	-0665A	12.50	-0725A
1.20	-0612A	3.50	-0635A	6.80	-0668A	12.80	-0728A
1.50	-0615A	4.00	-0640A	6.90	-0669A	13.00	-0730A
1.60	-0616A	4.10	-0641A	7.00	-0670A		
1.70	-0617A	4.20	-0642A	8.00	-0680A		
2.00	-0620A	4.30	-0643A	8.50	-0685A		
2.10	-0621A	4.50	-0645A	8.70	-0687A		
2.30	-0623A	4.80	-0648A	9.00	-0690A		
2.50	-0625A	4.90	-0649A	9.50	-0695A		
2.60	-0626A	5.00	-0650A	10.00	-0700A		
2.70	-0627A	5.10	-0651A	10.20	-0702A		
2.80	-0628A	5.20	-0652A	10.90	-0709A		
3.00	-0630A	5.70	-0657A	11.90	-0719A		
3.20	-0632A	6.00	-0660A	12.00	-0720A		

Dimensions - Stub Drills to BS 328 / DIN 1897

The majority of stub drills feature in this catalogue comply with the above standards in terms of overall and working dimensions. The tables of sizes below apply to all of these products. In order to save space in the catalogue we are not repeating these dimensions after this page. Any drills which are made to different standards/dimensions will have them listed accordingly in the tables for those products.



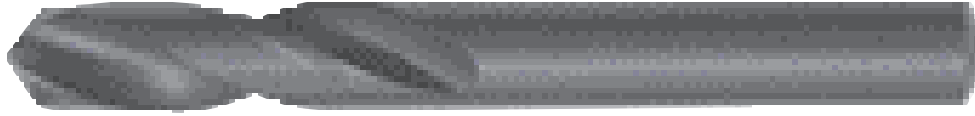
d_1 mm	Inch h ₈	Inch Dec.	l_2 mm	l_1 mm	d_1 mm	Inch h ₈	Inch Dec.	l_2 mm	l_1 mm	d_1 mm	Inch h ₈	Inch Dec.	l_2 mm	l_1 mm	d_1 mm	Inch h ₈	Inch Dec.	l_2 mm	l_1 mm
0.50	0.0196	3.0	20.0	3.80	0.1496	22.0	55.0	7.40	0.2913	34.0	74.0	11.30	0.4448	47.0	95.0				
0.60	0.0236	3.5	21.0	3.90	0.1535	22.0	55.0	7.50	0.2952	34.0	74.0	11.50	0.4527	47.0	95.0				
0.70	0.0275	4.5	23.0	3.97	⁵ / ₃₂ 0.1562	22.0	55.0	7.60	0.2992	37.0	79.0	11.60	0.4566	47.0	95.0				
0.79	¹ / ₃₂ 0.0312	5.0	24.0	4.00	0.1574	22.0	55.0	7.70	0.3031	37.0	79.0	11.70	0.4606	47.0	95.0				
0.80	0.0314	5.0	24.0	4.10	0.1614	22.0	55.0	7.80	0.3070	37.0	79.0	11.80	0.4645	47.0	95.0				
0.90	0.0354	5.5	25.0	4.20	0.1653	22.0	55.0	7.90	0.3110	37.0	79.0	11.90	0.4685	51.0	102.0				
1.00	0.0393	6.0	26.0	4.30	0.1692	24.0	58.0	7.94	⁵ / ₁₆ 0.3125	37.0	79.0	12.00	0.4724	51.0	102.0				
1.10	0.0433	7.0	28.0	4.37	¹¹ / ₆₄ 0.1720	24.0	58.0	8.00	0.3149	37.0	79.0	12.10	0.4763	51.0	102.0				
1.19	³ / ₆₄ 0.0468	8.0	30.0	4.40	0.1732	24.0	58.0	8.10	0.3188	37.0	79.0	12.20	0.4803	51.0	102.0				
1.20	0.0472	8.0	30.0	4.50	0.1771	24.0	58.0	8.20	0.3228	37.0	79.0	12.50	0.4921	51.0	102.0				
1.30	0.0511	8.0	30.0	4.60	0.1811	24.0	58.0	8.30	0.3267	37.0	79.0	12.70	¹ / ₂ 0.5000	51.0	102.0				
1.40	0.0551	9.0	32.0	4.70	0.1850	24.0	58.0	8.40	0.3307	37.0	79.0	13.00	0.5118	51.0	102.0				
1.50	0.0590	9.0	32.0	4.76	³ / ₁₆ 0.1874	26.0	62.0	8.50	0.3346	37.0	79.0	13.50	0.5314	54.0	107.0				
1.59	¹ / ₁₆ 0.0625	10.0	34.0	4.80	0.1889	26.0	62.0	8.60	0.3385	40.0	84.0	14.00	0.5511	54.0	107.0				
1.60	0.0629	10.0	34.0	4.90	0.1929	26.0	62.0	8.70	0.3425	40.0	84.0	14.29	⁹ / ₁₆ 0.5625	56.0	111.0				
1.70	0.0669	10.0	34.0	5.00	0.1968	26.0	62.0	8.73	¹¹ / ₃₂ 0.3437	40.0	84.0	14.50	0.5708	56.0	111.0				
1.80	0.0708	11.0	36.0	5.10	0.2007	26.0	62.0	8.80	0.3464	40.0	84.0	15.00	0.5905	56.0	111.0				
1.90	0.0748	11.0	36.0	5.16	¹³ / ₆₄ 0.2031	26.0	62.0	8.90	0.3503	40.0	84.0	15.50	0.6102	58.0	115.0				
1.98	⁵ / ₆₄ 0.0779	12.0	38.0	5.20	0.2047	26.0	62.0	9.00	0.3543	40.0	84.0	15.88	⁵ / ₈ 0.6251	58.0	115.0				
2.00	0.0787	12.0	38.0	5.30	0.2086	26.0	62.0	9.10	0.3582	40.0	84.0	16.00	0.6299	58.0	115.0				
2.10	0.0826	12.0	38.0	5.40	0.2125	28.0	66.0	9.20	0.3622	40.0	84.0	16.50	0.6496	60.0	119.0				
2.20	0.0866	13.0	40.0	5.50	0.2165	28.0	66.0	9.30	0.3661	40.0	84.0	17.00	0.6692	60.0	119.0				
2.25	0.0885	13.0	40.0	5.56	⁷ / ₃₂ 0.2188	28.0	66.0	9.40	0.3700	40.0	84.0	17.46	¹¹ / ₁₆ 0.6874	62.0	123.0				
2.30	0.0905	13.0	40.0	5.60	0.2204	28.0	66.0	9.50	0.3740	40.0	84.0	17.50	0.6889	62.0	123.0				
2.38	³ / ₃₂ 0.0937	14.0	43.0	5.70	0.2244	28.0	66.0	9.53	³ / ₈ 0.3751	43.0	89.0	18.00	0.7086	62.0	123.0				
2.40	0.0944	14.0	43.0	5.80	0.2283	28.0	66.0	9.60	0.3779	43.0	89.0	18.50	0.7283	64.0	127.0				
2.50	0.0984	14.0	43.0	5.90	0.2322	28.0	66.0	9.70	0.3818	43.0	89.0	19.00	0.7480	64.0	127.0				
2.60	0.1023	14.0	43.0	5.95	¹⁵ / ₆₄ 0.2342	28.0	66.0	9.80	0.3858	43.0	89.0	19.05	³ / ₄ 0.7500	66.0	131.0				
2.65	0.1043	14.0	43.0	6.00	0.2362	28.0	66.0	9.90	0.3897	43.0	89.0	19.50	0.7677	66.0	131.0				
2.70	0.1062	16.0	46.0	6.10	0.2401	31.0	70.0	10.00	0.3937	43.0	89.0	20.00	0.7874	66.0	131.0				
2.78	⁷ / ₆₄ 0.1094	16.0	46.0	6.20	0.2440	31.0	70.0	10.10	0.3976	43.0	89.0	20.50	0.8070	68.0	136.0				
2.80	0.1102	16.0	46.0	6.30	0.2480	31.0	70.0	10.20	0.4015	43.0	89.0	20.64	¹³ / ₁₆ 0.8125	68.0	136.0				
2.90	0.1141	16.0	46.0	6.35	¹ / ₄ 0.2500	31.0	70.0	10.30	0.4055	43.0	89.0	21.00	0.8267	68.0	136.0				
3.00	0.1181	16.0	46.0	6.40	0.2519	31.0	70.0	10.32	¹³ / ₃₂ 0.4062	43.0	89.0	22.00	0.8661	70.0	141.0				
3.10	0.1220	18.0	49.0	6.50	0.2559	31.0	70.0	10.40	0.4094	43.0	89.0	22.23	⁷ / ₈ 0.8751	70.0	141.0				
3.18	¹ / ₈ 0.1251	18.0	49.0	6.60	0.2598	31.0	70.0	10.50	0.4133	43.0	89.0	23.00	0.9055	72.0	146.0				
3.20	0.1259	18.0	49.0	6.70	0.2637	31.0	70.0	10.60	0.4173	43.0	89.0	23.81	¹⁵ / ₁₆ 0.9374	75.0	151.0				
3.25	0.1279	18.0	49.0	6.80	0.2677	34.0	74.0	10.70	0.4212	47.0	95.0	24.00	0.9448	75.0	151.0				
3.30	0.1299	18.0	49.0	6.90	0.2716	34.0	74.0	10.80	0.4251	47.0	95.0	25.00	0.9842	75.0	151.0				
3.40	0.1338	20.0	52.0	7.00	0.2755	34.0	74.0	10.90	0.4291	47.0	95.0	25.40	1" 1.0000	78.0	156.0				
3.50	0.1377	20.0	52.0	7.10	0.2795	34.0	74.0	11.00	0.4330	47.0	95.0	26.99	¹¹ / ₁₆ 1.0625	81.0	162.0				
3.57	⁹ / ₆₄ 0.1405	20.0	52.0	7.14	⁹ / ₃₂ 0.2811	34.0	74.0	11.10	0.4370	47.0	95.0	28.58	¹¹ / ₈ 1.1251	84.0	168.0				
3.60	0.1417	20.0	52.0	7.20	0.2834	34.0	74.0	11.11	⁷ / ₁₆ 0.4374	47.0	95.0	30.16	¹³ / ₁₆ 1.1874	87.0	174.0				
3.70	0.1456	20.0	52.0	7.30	0.2874	34.0	74.0	11.20	0.4409	47.0	95.0	31.75	¹ / ₄ 1.2500	90.0	180.0				



HSS General Purpose Stub Drills

General purpose drills for use on automatics and turret lathes. Suitable for drilling steels, cast iron, alloy steel and malleable cast iron. Point angle: 118°, helix angle: normal, web thickness: standard, relief angle: 10° - 20°, tolerance of diameter: h8, tolerance of shank: f11. Manufactured to **BS 328: Part 1: 1986/DIN 1897**.

Metalworking



DIN 1897 For Dimensions

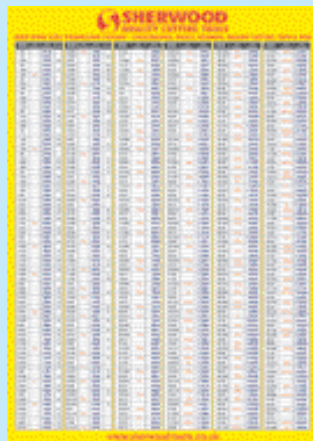
BS 328 See Page 31

Series S100 - Metric		PRICED PER 10			PRICED PER 10			PRICED PER 10			PRICED PER 1
Dia. (mm)	Order Code SHR-025	0	Dia. (mm)	Order Code SHR-025	0	Dia. (mm)	Order Code SHR-025	0	Dia. (mm)	Order Code SHR-025	
1.00	-1227H		4.90	-1276L		8.00	-1307V		13.50	-1359B	
1.50	-1233P		5.00	-1277M		8.10	-1308W		14.00	-1361D	
2.00	-1240X		5.10	-1278N		8.20	-1309X		14.50	-1362E	
2.20	-1243A		5.20	-1279P		8.50	-1312A		15.00	-1363F	
2.50	-1248F		5.30	-1280Q		8.60	-1313B		16.00	-1365H	
2.60	-1250H		5.50	-1282S		9.00	-1317F		16.50	-1366J	
2.70	-1252K		5.90	-1286X		9.20	-1319H		17.00	-1367K	
2.80	-1253L		6.00	-1287Y		9.40	-1321K		18.00	-1369M	
3.00	-1257Q		6.10	-1288N		9.50	-1322L				
3.10	-1258R		6.20	-1289A		9.60	-1323M				
3.20	-1259S		6.30	-1290B		10.00	-1327R				
3.30	-1260T		6.40	-1291C		10.20	-1329T				
3.40	-1261V		6.50	-1292D		10.30	-1330V				
3.50	-1262W		6.70	-1294F		10.50	-1332X				
3.60	-1263X		6.80	-1295G		11.00	-1337C				
4.00	-1267B		6.90	-1296H		11.50	-1342H				
4.10	-1268C		7.00	-1297J		12.00	-1347N				
4.20	-1269D		7.10	-1298K		12.50	-1352T				
4.30	-1270E		7.20	-1299L		13.00	-1357N				
4.40	-1271F		7.30	-1300M							
4.50	-1272G		7.40	-1301N							
4.80	-1275K		7.50	-1302P							

FREE



Metric/Inch Conversion Wall Chart (A2 Size)



CAT-849-0937A

AVAILABLE ON REQUEST

Contact your local branch or representative.

FREE



Tapping Drill Wall Chart (A2 Size)



CAT-849-0938A

AVAILABLE ON REQUEST

Contact your local branch or representative.



Solid Carbide Stub Drills

For drilling into steel, cast steel, cast iron, chilled cast iron, malleable cast iron, non-ferrous materials and abrasive plastic.
 Point angle: 118°, helix angle: 30°,
 tolerance of diameter: h7,
 tolerance of shank: h6.
 Manufactured to **Works Standard**.

CARBIDE

Metalworking



Metric

Dia. (mm)	Flute Length	Overall Length	Order Code SHR-158	Dia. (mm)	Flute Length	Overall Length	Order Code SHR-158	Dia. (mm)	Flute Length	Overall Length	Order Code SHR-158
1.0	11.0	30.0	-3100K	3.0	20.0	45.0	-3300K	6.0	25.0	50.0	-3600K
1.3	13.0	30.0	-3130K	3.2	22.0	50.0	-3320K	6.3	30.0	65.0	-3630K
1.5	13.0	30.0	-3150K	3.3	22.0	50.0	-3330K	6.5	30.0	65.0	-3650K
1.6	17.5	40.0	-3160K	3.5	22.0	50.0	-3350K	6.8	30.0	65.0	-3680K
1.7	17.5	40.0	-3170K	4.0	22.0	50.0	-3400K	7.0	30.0	65.0	-3700K
1.8	17.5	40.0	-3180K	4.2	25.0	50.0	-3420K	8.0	34.0	70.0	-3800K
2.0	17.5	40.0	-3200K	4.5	25.0	50.0	-3450K	8.1	34.0	70.0	-3810K
2.3	17.5	40.0	-3230K	4.8	25.0	50.0	-3480K	10.0	34.0	75.0	-4100K
2.4	17.5	40.0	-3240K	5.0	25.0	50.0	-3500K				
2.5	17.5	40.0	-3250K	5.5	25.0	50.0	-3550K				

Solid Carbide Screw Drills

CARBIDE

Primarily designed for removing broken taps or bolts without damaging the component surface. By drilling the core of a tap it is possible to remove the remaining pieces with a scriber. Screw drills are also suitable for drilling other hard materials including: hardened steels, glass, stellite etc. Select screw drill as per tap diameter. Steady manual feed component and spindle stability are vital. Drills should be running between 1500 and 3500 revs/min. A steady and continuous manual feed should be applied. No cutting fluid required.



Type	Size	Weight each	Order Code KEN-154
SD2	2mm for M3*	10g	-1020K
SD3	3mm for M4 - M5*	10g	-1030K
SD4	4mm for M6 - M7*	20g	-1040K
SD5	5mm for M8 - M10*	30g	-1050K
SD6	6mm for M10 - M12*	30g	-1060K

*or inch equivalent

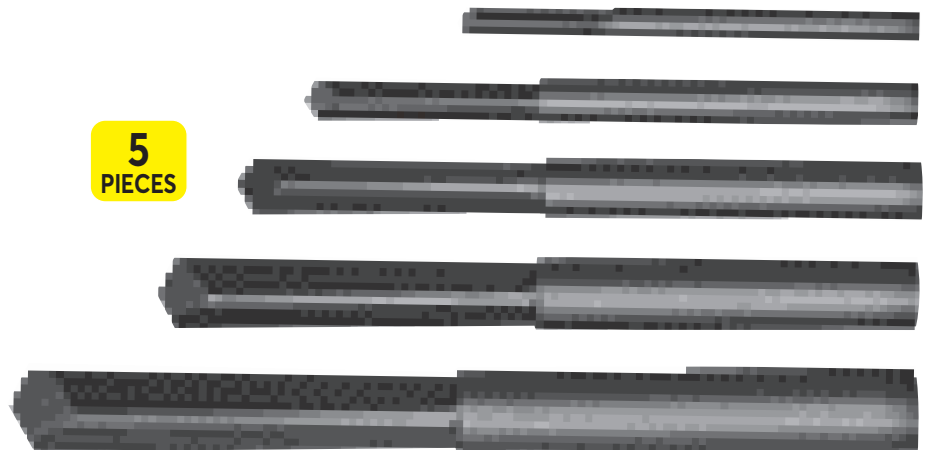


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Solid Carbide Screw Drill Set

Contents:
 SD2, SD3, SD4, SD5
 and SD6.

**5
PIECES**



Weight per set	Order Code
80g	KEN-154 -1100K



HSS Straight Shank Long Series Drills - Steam Tempered

HSS

Metalworking

General purpose drills to drill steels with tensile strength up to 1,000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. Point angle: 118°, helix angle: normal, web thickness: normal, relief angle: 10° - 20°, tolerance of diameter: h8, tolerance of f11. Manufactured to **BS 328; Part 1: 1986, DIN 340 RN, ISO 494.**



Series L100 - Metric

Dia. (mm)	Flute Length	Overall Length	Order Code SHR-025	Dia. (mm)	Flute Length	Overall Length	Order Code SHR-025	Dia. (mm)	Flute Length	Overall Length	Order Code SHR-025
1.00	33.0	56.0	-1420A	4.50	82.0	126.0	-1471F	10.00	121.0	184.0	-1537C
1.10	37.0	60.0	-1421B	4.70	82.0	126.0	-1473H	10.10	121.0	184.0	-1538D
1.20	41.0	65.0	-1422C	4.80	87.0	132.0	-1475K	10.20	121.0	184.0	-1539E
1.30	41.0	65.0	-1423D	4.90	87.0	132.0	-1476L	10.40	121.0	184.0	-1542H
1.40	45.0	70.0	-1424E	5.00	87.0	132.0	-1477M	10.50	121.0	184.0	-1543J
1.50	45.0	70.0	-1425F	5.10	87.0	132.0	-1478N	11.00	128.0	195.0	-1549Q
1.60	50.0	76.0	-1426G	5.20	87.0	132.0	-1479P	11.50	128.0	195.0	-1555X
1.70	50.0	76.0	-1427H	5.30	87.0	132.0	-1481R	11.80	128.0	195.0	-1559B
1.80	53.0	80.0	-1429K	5.40	91.0	139.0	-1482S	12.00	134.0	205.0	-1561D
1.90	53.0	80.0	-1431M	5.50	91.0	139.0	-1483T	12.50	134.0	205.0	-1567K
2.00	56.0	85.0	-1433P	5.90	91.0	139.0	-1488N	13.00	134.0	205.0	-1573R
2.10	56.0	85.0	-1435R	6.00	91.0	139.0	-1489A	14.00	140.0	214.0	-1583C
2.30	59.0	90.0	-1439W	6.10	97.0	148.0	-1490B	15.00	144.0	220.0	-1587G
2.40	62.0	95.0	-1441Y	6.20	97.0	148.0	-1491C	16.00	149.0	227.0	-1591L
2.50	62.0	95.0	-1443A	6.30	97.0	148.0	-1493E	16.50	154.0	235.0	-1593N
2.60	62.0	95.0	-1445C	6.40	97.0	148.0	-1494F	17.00	154.0	235.0	-1595Q
2.80	66.0	100.0	-1449G	6.50	97.0	148.0	-1495G				
2.90	66.0	100.0	-1451J	6.60	97.0	148.0	-1496H				
3.00	66.0	100.0	-1453L	6.70	97.0	148.0	-1497J				
3.10	69.0	106.0	-1454M	6.80	102.0	156.0	-1499L				
3.20	69.0	106.0	-1455N	6.90	102.0	156.0	-1500M				
3.30	69.0	106.0	-1457Q	7.00	102.0	156.0	-1501N				
3.40	73.0	112.0	-1458R	7.20	102.0	156.0	-1503Q				
3.50	73.0	112.0	-1459S	7.50	102.0	156.0	-1507V				
3.60	73.0	112.0	-1460T	7.70	109.0	165.0	-1509X				
3.70	73.0	112.0	-1461V	8.00	109.0	165.0	-1513B				
3.80	78.0	119.0	-1463X	8.20	109.0	165.0	-1515D				
3.90	78.0	119.0	-1464Y	8.30	109.0	165.0	-1517F				
4.00	78.0	119.0	-1465N	8.50	109.0	165.0	-1519H				
4.10	78.0	119.0	-1466A	8.70	115.0	175.0	-1521K				
4.20	78.0	119.0	-1467B	9.00	115.0	175.0	-1525P				
4.30	82.0	126.0	-1469D	9.50	115.0	175.0	-1531W				

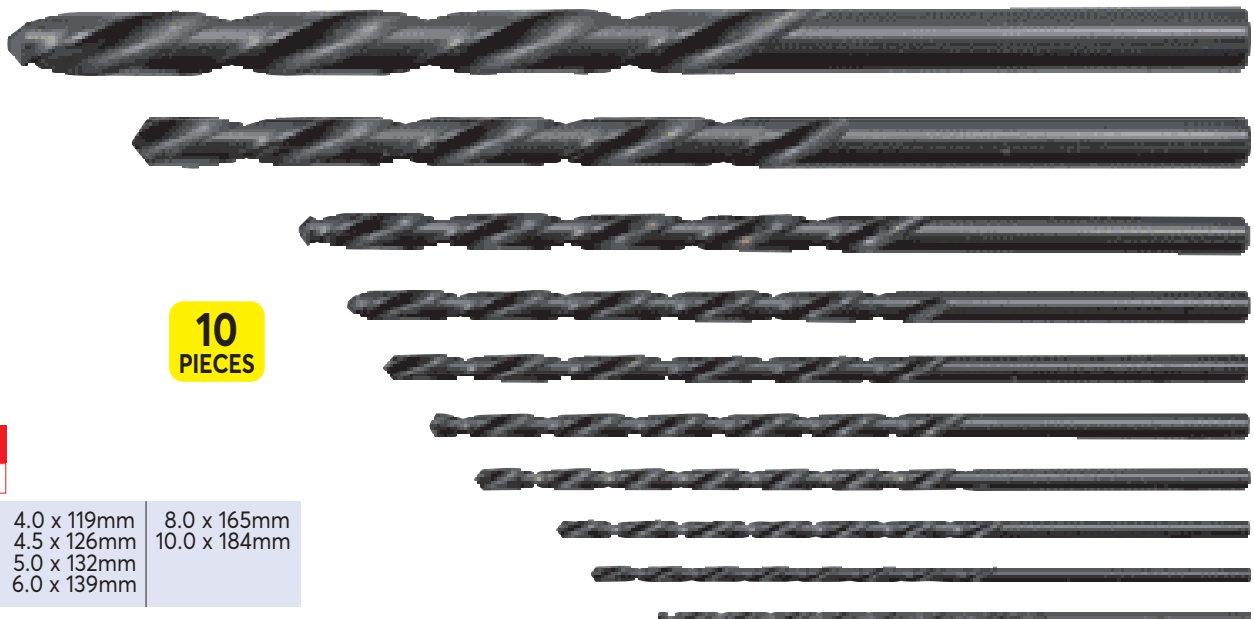


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HSS Long Series Drill Set

Used for deep hole drilling in most materials. (Not suitable for the drilling of holes in crankshafts). Manufactured to **BS 328 : Part 1 : 1986.**

METRIC HSS



10
PIECES

mm

2.0 ~ 10.0

2.0 x 85mm	4.0 x 119mm	8.0 x 165mm
2.5 x 95mm	4.5 x 126mm	10.0 x 184mm
3.0 x 100mm	5.0 x 132mm	
3.5 x 112mm	6.0 x 139mm	

Number of Pieces
10

Order Code
SHR-025
-8540K

50 Years of Keeping Industry Working
© 2020

Long Series Drills



HSS Straight Shank Long Series Drills - Bright Finish

HSS

General purpose drills to drill steels with tensile strength up to 1,000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. Point angle: 118°, helix angle: normal, web thickness: normal, relief angle: 10° - 20°, tolerance of diameter: h8, tolerance of f11. Manufactured to **BS 328; Part 1: 1986, DIN 340 RN, ISO 494**. Drills with a bright finish are supplied in the as-ground condition and such tools are used generally in the machining of non-ferrous materials.

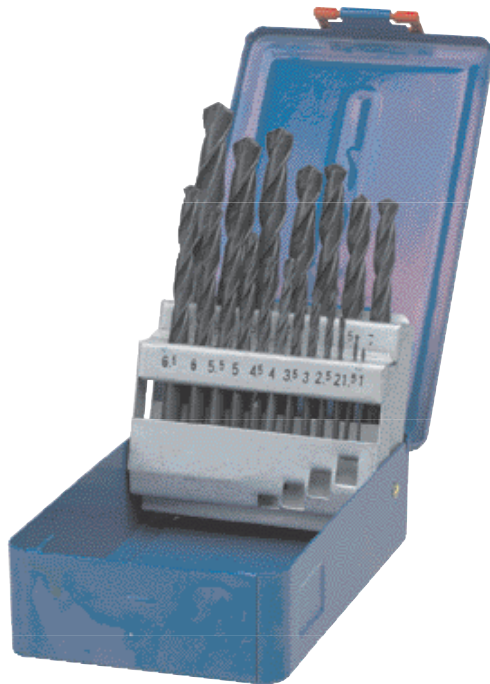


Series L100B - Metric

Dia. (mm)	Flute Length	Overall Length	Order Code SHR-025	Dia. (mm)	Flute Length	Overall Length	Order Code SHR-025	Dia. (mm)	Flute Length	Overall Length	Order Code SHR-025
1.00	33.0	56.0	-1630A	3.30	69.0	106.0	-1631Q	6.50	97.0	148.0	-1633X
1.20	41.0	65.0	-1630E	3.50	73.0	112.0	-1631V	6.80	120.0	156.0	-1634D
1.50	45.0	70.0	-1630J	4.00	78.0	119.0	-1632C	7.00	120.0	156.0	-1634H
2.00	56.0	85.0	-1630Q	4.20	78.0	119.0	-1632F	8.00	109.0	165.0	-1635A
2.50	62.0	95.0	-1630Y	4.50	82.0	126.0	-1632L	8.50	109.0	165.0	-1635L
2.80	66.0	100.0	-1631B	5.00	87.0	132.0	-1632W	10.00	121.0	184.0	-1636N
3.00	66.0	100.0	-1631H	6.00	91.0	139.0	-1633P	12.00	134.0	205.0	-1637P
3.20	69.0	106.0	-1631N	6.30	97.0	148.0	-1633S				

SENATOR QUALITY TOOLING HSS Roll Forged Jobber Drill Sets

Roll forged from HSS, ensuring uninterrupted grain structure. This provides exceptional strength and durability. Tips are ground for effective cutting. Suitable for drilling wood, plastic, carbon and plain steels where the cutting efficiency of ground flute is not required. Manufactured to **BS 328 : Part 1 : 1986 & DIN 338 Type N**.



x 0.5mm
1.0 ~ 10.0

19 Piece Set
Contents (mm):

1.0	3.0	5.0	7.0	9.0
1.5	3.5	5.5	7.5	9.5
2.0	4.0	6.0	8.0	10.0
2.5	4.5	6.5	8.5	

19
PIECES

Weight each
0.65kg

Order Code
SEN-025
-9250K



x 0.5mm
1.0 ~ 13.0

25 Piece Set
Contents (mm):

1.0	3.5	6.0	8.5	11.0
1.5	4.0	6.5	9.0	11.5
2.0	4.5	7.0	9.5	12.0
2.5	5.0	7.5	10.0	12.5
3.0	5.5	8.0	10.5	13.0

25
PIECES

Weight each
1.60kg

Order Code
SEN-025
-9150K



HSS Extra Length Drills - Steam Tempered

HSS

General-purpose drills for steels, cast steel, grey cast iron, malleable cast iron, nickel brass, aluminium alloy and graphite. Point angle: 118°, helix angle: normal, web thickness: standard, relief angle: 10° - 20°, tolerance of diameter: h8, tolerance of shank: f11. Manufactured to **BS 328 : Part 1 : 1986.**



Series E100 - Metric

Dia. (mm)	Flute Length	Overall Length	Order Code SHR-024	Dia. (mm)	Flute Length	Overall Length	Order Code SHR-024	Dia. (mm)	Flute Length	Overall Length	Order Code SHR-024
1.50	80.0	125.0	-2091B	5.00	150.0	200.0	-2116D	9.00	200.0	250.0	-2141F
1.50	100.0	160.0	-2092C	5.00	200.0	250.0	-2117E	9.00	250.0	315.0	-2142G
2.00	100.0	160.0	-2095F	5.00	250.0	315.0	-2118F	9.00	300.0	400.0	-2143H
2.50	80.0	125.0	-2097H	5.00	300.0	400.0	-2119G	9.50	200.0	250.0	-2144J
2.50	100.0	160.0	-2098J	5.50	150.0	200.0	-2120H	9.50	250.0	315.0	-2145K
2.50	150.0	200.0	-2098L	5.50	200.0	250.0	-2121J	10.00	200.0	250.0	-2146L
3.00	100.0	160.0	-2099K	6.00	150.0	200.0	-2123L	10.00	250.0	315.0	-2147M
3.00	150.0	200.0	-2100L	6.00	200.0	250.0	-2124M	10.00	300.0	400.0	-2148N
3.00	200.0	250.0	-2101M	6.00	250.0	315.0	-2125N	10.50	200.0	250.0	-2149P
3.30	100.0	160.0	-2102N	6.00	300.0	400.0	-2126P	10.50	250.0	315.0	-2150Q
3.30	150.0	200.0	-2102Q	6.50	150.0	200.0	-2127Q	11.00	200.0	250.0	-2152S
3.50	100.0	160.0	-2103P	6.50	200.0	250.0	-2128R	11.00	250.0	315.0	-2153T
3.50	200.0	250.0	-2105R	6.50	250.0	315.0	-2129S	11.00	300.0	400.0	-2154V
4.00	100.0	160.0	-2107T	7.00	150.0	200.0	-2130T	12.00	200.0	250.0	-2155W
4.00	150.0	200.0	-2108V	7.00	200.0	250.0	-2131V	12.00	250.0	315.0	-2156X
4.00	200.0	250.0	-2109W	7.00	250.0	315.0	-2132W	12.00	300.0	400.0	-2157Y
4.00	250.0	315.0	-2110X	7.50	250.0	315.0	-2135N	13.00	250.0	315.0	-2158N
4.50	100.0	160.0	-2111Y	8.00	200.0	250.0	-2136A	13.00	300.0	400.0	-2159A
4.50	150.0	200.0	-2112N	8.00	250.0	315.0	-2137B	14.00	250.0	315.0	-2160B
4.50	200.0	250.0	-2113A	8.00	300.0	400.0	-2138C	14.00	300.0	400.0	-2161C
4.50	250.0	315.0	-2114B	8.50	200.0	250.0	-2139D				
5.00	100.0	160.0	-2115C	8.50	250.0	315.0	-2140E				

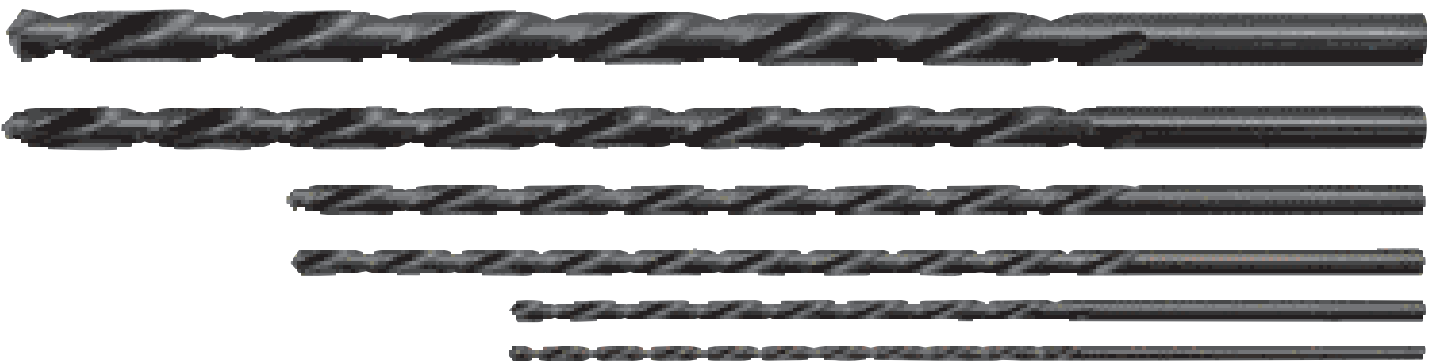
HSS Extra Length Drill Set

Used for deep hole drilling in most materials. (Not suitable for the drilling of holes in crankshafts). Manufactured to **BS 328 : Part 1 : 1986.**

HSS

METRIC

6
PIECES



mm
3.0 ~ 10.0

3.0 x 160mm	6.0 x 200mm
4.0 x 160mm	8.0 x 250mm
5.0 x 200mm	10.0 x 250mm
Number of Pieces	Order Code
6	SHR-025
	-8600K





HSS Taper Shank Drills - Metric

To drill steels with a tensile strength up to 1.000 N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite. Point angle: 118°, helix angle: normal, relief angle: normal, tolerance of diameter: h8. Manufacturing to **DIN 345**.



Metalworking

Series T100 - Metric

Dia. (mm)	Flute Length	Overall Length	Order Code SHR-025
1 Morse Taper			
3.00	33	114	-2634E
3.30	36	117	-2638J
3.50	39	120	-2640L
4.00	43	123	-2646S
4.20	43	123	-2648V
4.50	47	128	-2652N
5.00	52	133	-2658F
5.50	57	138	-2664M
6.00	57	138	-2670T
6.20	57	138	-2672W
6.50	63	144	-2676A
6.60	63	144	-2677B
6.80	69	150	-2680E
7.00	69	150	-2682G
7.50	69	150	-2688N
8.00	75	156	-2694W
8.50	75	156	-2700C
8.70	81	162	-2702E
8.75	81	162	-2703F
9.00	81	162	-2706J
9.50	81	162	-2712Q
10.00	87	168	-2718X
10.20	87	168	-2720N
10.50	87	168	-2724D
11.00	94	175	-2730K
11.20	94	175	-2732M
11.50	94	175	-2736R
12.00	101	182	-2742Y
12.30	101	182	-2746C
12.50	101	182	-2748E
13.00	101	182	-2754L
13.20	101	182	-2756N
13.50	108	189	-2760S
14.00	108	189	-2766N
2 Morse Taper			
14.10	114	212	-2766P
14.20	114	212	-2766S
14.50	114	212	-2768B
15.00	114	212	-2770D
15.25	120	218	-2771E
15.50	120	218	-2772F
16.00	120	218	-2774H
16.20	125	223	-2774T
16.25	125	223	-2775J
16.50	125	223	-2776K
17.00	125	223	-2778M

Dia. (mm)	Flute Length	Overall Length	Order Code SHR-025
17.25	130	228	-2779N
17.50	130	228	-2780P
18.00	130	228	-2782R
18.25	135	233	-2783S
18.50	135	233	-2784T
19.00	135	233	-2786W
19.50	140	238	-2788Y
20.00	140	238	-2790A
20.25	145	243	-2791B
20.50	145	243	-2793D
21.00	145	243	-2795F
21.50	150	248	-2797H
22.00	150	248	-2799K
22.50	150	248	-2801M
23.00	150	248	-2803P
3 Morse Taper			
23.50	150	248	-2805R
24.00	160	281	-2807T
24.50	160	281	-2809W
25.00	160	281	-2811Y
25.50	165	286	-2813A
26.00	165	286	-2815C
26.50	165	286	-2817E
27.00	170	291	-2819G
27.50	170	291	-2821J
28.00	170	291	-2823L
28.50	175	296	-2825N
29.00	175	296	-2827Q
29.50	175	296	-2829S
30.00	175	296	-2831V
31.00	180	301	-2835N
4 Morse Taper			
32.00	185	334	-2839D
33.00	185	334	-2842G
34.00	190	339	-2844J
35.00	190	339	-2846L
36.00	195	344	-2848N
38.00	200	349	-2852S
39.00	200	349	-2854V
39.50	200	349	-2855W
40.00	200	349	-2856X
45.00	210	359	-2866H
48.00	220	369	-2872P
50.00	220	369	-2876T
5 Morse Taper			
65.00	245	432	-2892L

Series T100 - Inch

Dia. (mm)	Flute Length	Overall Length	Order Code SHR-025
1 Morse Taper			
1/8"	1 7/16"	4 5/8"	-2550E
3/16"	2 1/16"	5 1/4"	-2550J
7/32"	2 1/4"	5 7/16"	-2550L
1/4"	2 1/2"	5 11/16"	-2550N
5/16"	2 15/16"	6 1/8"	-2550S
1 1/32"	3 3/16"	6 3/8"	-2550V
3/8"	3 7/16"	6 5/8"	-2550X
13/32"	3 7/16"	6 5/8"	-2550Z
7/16"	3 11/16"	6 7/8"	-2551B
3 1/64"	3 31/32"	7 5/32"	-2551E
1/2"	3 31/32"	7 5/32"	-2551F
17/32"	4 1/4"	7 7/16"	-2551H
2 Morse Taper			
9/16"	4 1/2"	8 3/8"	-2551K
19/32"	4 3/4"	8 5/8"	-2551M
5/8"	4 3/4"	8 5/8"	-2551P
1 1/16"	5 1/8"	9"	-2551T
3/4"	5 1/2"	9 3/8"	-2551Y
25/32"	5 1/2"	9 3/8"	-2552A
5 1/64"	5 3/4"	9 5/8"	-2552B
13/16"	5 3/4"	9 5/8"	-2552C
7/8"	5 7/8"	9 3/4"	-2552G
3 Morse Taper			
59/64"	6 1/8"	10 7/8"	-2552K
3 1/32"	6 1/4"	11"	-2552N
1"	6 1/2"	11 1/4"	-2552Q
1 1/16"	6 5/8"	11 3/8"	-2552V
1 1/8"	6 7/8"	11 5/8"	-2552Z
1 1/4"	7 1/4"	12"	-2553H
4 Morse Taper			
1 5/16"	7 1/4"	13 1/8"	-2553M
1 1/2"	7 7/8"	13 3/4"	-2554A



HSS-Co 5% Taper Shank Drills

High heat resistant drill for drilling alloyed and unalloyed steels and castings with a tensile strength over 800N/mm². Especially suitable for hot and cold rolled steels as well as case hardening and heat treatable steels. Manufactured to Type N **DIN 345**.



Series 345

Dia. (mm)	Flute Length	Overall Length	Order Code SHR-026
1 Morse Taper			
10.00	87.0	168.0	-1824W
10.50	87.0	168.0	-1824X
11.00	94.0	175.0	-1824Y
12.00	101.0	182.0	-1825A
12.50	101.0	182.0	-1825B
13.00	101.0	182.0	-1825C
13.50	108.0	189.0	-1825D
14.00	108.0	189.0	-1825E
14.50	114.0	212.0	-1825F
15.00	114.0	212.0	-1825G
15.50	120.0	218.0	-1825H

Dia. (mm)	Flute Length	Overall Length	Order Code SHR-026
2 Morse Taper			
16.00	120.0	218.0	-1825J
16.50	125.0	223.0	-1825K
17.00	125.0	223.0	-1825L
17.50	130.0	228.0	-1825M
18.00	130.0	228.0	-1825N
18.50	135.0	233.0	-1825P
19.00	135.0	233.0	-1825Q
20.00	140.0	238.0	-1825S
21.00	145.0	243.0	-1825V
22.00	150.0	248.0	-1825X

HSS-Co. 5%

Dia. (mm)	Flute Length	Overall Length	Order Code SHR-026
3 Morse Taper			
24.00	160.0	281.0	-1826B
25.00	160.0	281.0	-1826D
26.00	165.0	286.0	-1826F
28.00	170.0	291.0	-1826K
30.00	175.0	296.0	-1826P
4 Morse Taper			
32.00	185.0	334.0	-1826T

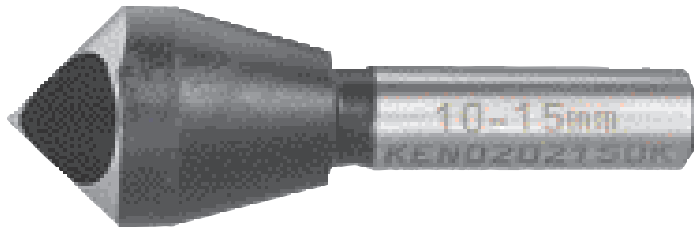
Step Drills & Countersinks



HSS-E Co 5% Countersinks Single Hole

Manufactured from M35 HSS and used for the deburring and chamfering of most metals and plastics. Straight shank. Manufactured to **BS328 : Part 5 : 1983**. Inclusive angle 90°.

HSS-Co. 5%



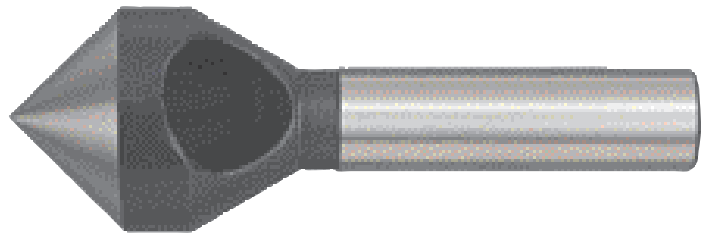
Cutting Range (mm)	Shank Dia. (mm)	Overall Length (mm)	Weight each	Order Code
2 - 5	6	32.0	15g	-2090K
5 - 10	8	30.5	25g	-2100K
10 - 15	10	37.5	25g	-2150K
15 - 20	12	48.0	110g	-2200K
20 - 25	15	56.5	225g	-2250K



HSS-E Co 5% Countersinks Single Hole

Manufactured from HSS-E cobalt for deburring and chamfering. Straight shank. Manufactured to **BS328 : Part 5 : 1983**. Inclusive angle 90°.

HSS-Co. 5%

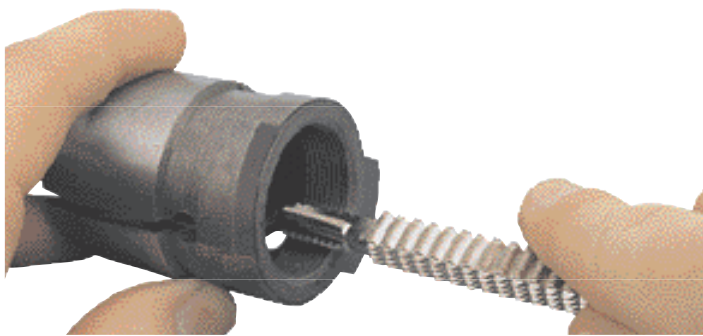


Cutting Range (mm)	Shank Dia. (mm)	Overall Length (mm)	Weight each	Order Code
2 - 5	6	32.0	15g	-2090K
5 - 10	8	30.5	25g	-2100K
10 - 15	10	37.5	25g	-2150K
15 - 20	12	48.0	110g	-2200K
20 - 25	15	56.5	225g	-2250K
25 - 30	15	55.0	315g	-2300K



Thread Restoring Files

Restore internal and external threads by filing, where the use of taps and dies are impractical. The restorer file overlaps several good threads and files the damaged ones. Restore right and left hand, internal and external threads. Long lasting, fast cutting teeth. Thread restoring files are available in ISO, Whit/BSF, UNF/UNC and BSP thread types.



Group **620**



External thread

Thread Type	Range	Weight each	Order Code
ISO	.80 to 3mm	133g	-9020C
Whit/BSF	10 tpi to 24 tpi	132g	-9001A
UNF/UNC	11 tpi to 24 tpi	130g	-9010B
BSP	11 tpi to 28 tpi	127g	-9030D



HSS Multi-Diameter Step Drills

Produce good quality holes in a wide variety of materials, using either a bench drill or light pedestal drilling machine. Each tool cuts parallel holes in a range of specific sizes. For material up to 1/8" (3mm) thick.



HSS

Size	Range (mm)	Number of Steps	Weight each	Order Code
0/5	4 - 12	5	30g	-0500K
0/9	4 - 12	9	30g	-0509K
1	4 - 20	9	70g	-0510K
2	4 - 30	11	200g	-0520K
3	6 - 38	12	299g	-0530K
5	4 - 39	14	320g	-0560K
9	6 - 37	12	310g	-0600K

HSS Sheet Metal Step Drill Set

Sizes include:

4 - 12mm (9 step, 6mm shank), 4 - 20mm (9 step, 8mm shank) and 4 - 30mm (14 step, 10mm shank).

3
PIECES

Number of Pieces	Range (mm)	Weight	Order Code
3	4 - 30	275g	-0260K

HSS-Co 5% Countersink Set

Straight shank, ground flute 90° angle. Sizes: 2 - 5mm, 5 - 10mm, 10 - 15mm, 15 - 20mm and 20 - 25mm and 2

6
PIECES



Weight each	Order Code
1.2kg	-9020B

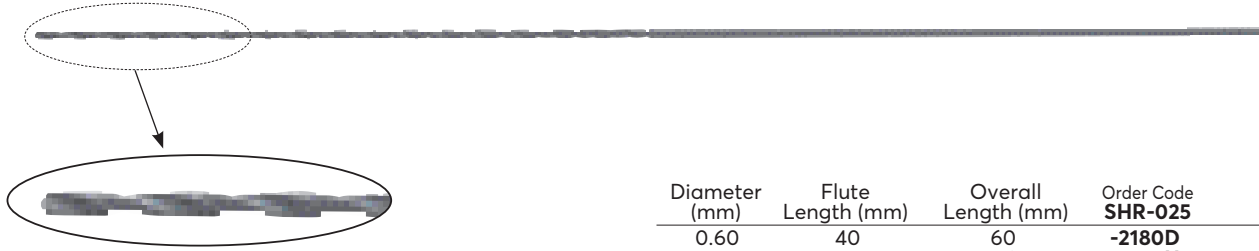


HSS Straight Shank Quick Spiral, Extra Length Vent Drills

QUICK SPIRAL

HSS

Sherwood HSS quick spiral extra length Vent drills are designed for drilling the initial vent hole in aluminium tyre moulds, and are also used in the tyre industry for clean-out work post production where the high helix and extra reach are ideal for the efficient evacuation of waste rubber. Manufactured to works standard. 118° point angle.

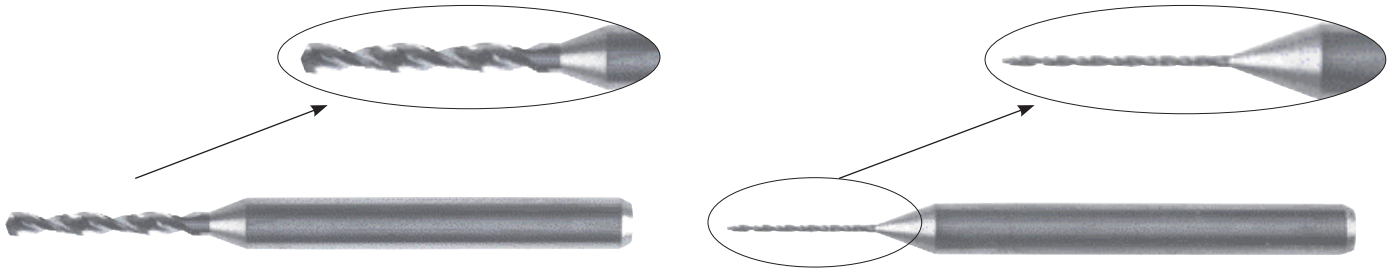


Diameter (mm)	Flute Length (mm)	Overall Length (mm)	Order Code
0.60	40	60	-2180D
0.70	40	76	-2180H

Carbide Printed Circuit Board Drills

Solid carbide printed circuit board drills. Suitable for drilling through printed circuit boards. Shank diameter 3.175mm, 38mm overall length. Manufactured to **DIN 1899**.

CARBIDE



Metric

Diameter (mm)	Flute Length (mm)	Order Code
0.40	5.5	-3004D
0.45	5.5	-3005E
0.50	5.5	-3006F
0.55	7.0	-3007G
0.60	7.0	-3008H
0.70	9.5	-3010K
0.75	9.5	-3011L
0.80	9.5	-3012M
0.85	9.5	-3013N
0.90	9.5	-3014P
0.95	9.5	-3015Q

Metric Continued

Diameter (mm)	Flute Length (mm)	Order Code
1.00	10.5	-3016R
1.05	10.5	-3017S
1.10	10.5	-3018T
1.25	10.5	-3021X
1.30	10.5	-3022Y
1.40	10.5	-3025A
1.50	10.0	-3027C

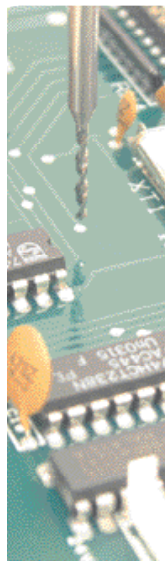
Drilling Stack Height Limits for Drilling PCB Materials

Includes allowance for entry, materials thickness, penetration into backing material, and flute/swarf clearance.

Feed & Speed Guidelines for Drilling PCB Materials

Values listed are for your guidance. Drill parameters should be evaluated for different applications.

Drill Dia. (mm)	Suggested Drilling Stack Height Limits for Carbide PCB Drills		
	1 High	2 High	3 High
0.40	3.3	4.9	-
0.45	3.4	5.0	-
0.50	3.6	5.2	-
0.55	3.7	5.3	-
0.60	3.8	5.4	-
0.65	3.9	5.5	-
0.70	4.1	5.7	7.3
0.75	4.2	5.8	7.4
0.80	4.3	5.9	7.5
0.85	4.4	6.0	7.6
0.90	4.6	6.2	7.8
0.95	4.7	6.3	7.9
1.00	4.8	6.4	8.0
1.05	4.9	6.5	8.1
1.10	5.1	6.7	8.3
1.15	5.2	6.8	8.4
1.20	5.3	6.9	8.5
1.25	5.4	7.0	8.6
1.30	5.6	7.2	8.8
1.35	5.7	7.3	8.9
1.40	5.8	7.4	9.0
1.45	5.9	7.5	9.1
1.50	6.1	7.7	9.3



Drill Dia. (mm)	Cutting Speed 120m/min			Cutting Speed 150m/min			Cutting Speed 180m/min		
	Spindle RPM	Feed mm/rev	m/min	Spindle RPM	Feed mm/rev	m/min	Spindle RPM	Feed mm/rev	m/min
0.40	95.000	0.024	2.3	119.000	0.024	2.9	143.000	0.024	3.4
0.45	85.000	0.027	2.3	106.000	0.027	2.9	127.000	0.027	3.4
0.50	76.000	0.030	2.3	95.000	0.030	2.9	115.000	0.030	3.4
0.55	70.000	0.033	2.3	87.500	0.033	2.9	105.000	0.033	3.4
0.60	64.000	0.036	2.3	80.000	0.036	2.9	95.000	0.036	3.4
0.65	59.500	0.039	2.3	74.000	0.039	2.9	88.500	0.039	3.4
0.70	55.000	0.042	2.3	68.000	0.042	2.9	82.000	0.042	3.4
0.75	51.500	0.045	2.3	64.000	0.045	2.9	77.000	0.045	3.4
0.80	48.000	0.048	2.3	60.000	0.048	2.9	72.000	0.048	3.4
0.85	45.000	0.051	2.3	56.500	0.051	2.9	68.000	0.051	3.4
0.90	42.000	0.054	2.3	53.000	0.054	2.9	64.000	0.054	3.4
0.95	40.000	0.057	2.3	50.500	0.057	2.9	60.500	0.057	3.4
1.00	38.000	0.060	2.3	48.000	0.060	2.9	57.000	0.060	3.4
1.05	36.500	0.063	2.3	45.500	0.063	2.9	54.500	0.063	3.4
1.10	35.000	0.066	2.3	43.000	0.066	2.9	52.000	0.066	3.4
1.15	33.500	0.069	2.3	41.500	0.069	2.9	50.000	0.069	3.4
1.20	32.000	0.072	2.3	40.000	0.072	2.9	48.000	0.072	3.4
1.25	30.500	0.075	2.3	38.500	0.075	2.9	46.000	0.075	3.4
1.30	29.000	0.078	2.3	37.000	0.078	2.9	44.000	0.078	3.4
1.35	28.000	0.081	2.3	35.500	0.081	2.9	42.500	0.081	3.4
1.40	27.000	0.084	2.3	34.000	0.084	2.9	41.000	0.084	3.4
1.45	26.000	0.087	2.3	33.000	0.087	2.9	39.500	0.087	3.4
1.50	25.000	0.090	2.3	32.000	0.090	2.9	38.000	0.090	3.4



HSS

Taper Shank Machine Reamers

Used to produce a close tolerance surface finish by enlarging pre-drilled holes to a finished size. 45° bevelled lead. Manufactured to **BS 328-4**.

Diameter Metric	Tolerances (to H7)		Diameter Inch	Tolerance	
	+	-		+	-
up to 3.00	0.008	0.004	up to 7/64"	0.0003	0.0001
Over 3.00 ~ up to 6.00	0.010	0.005	Over 7/64" ~ up to 15/64"	0.0004	0.0002
Over 6.00 ~ up to 10.00	0.012	0.006	Over 15/64" ~ up to 25/64"	0.0005	0.0002
Over 10.00 ~ up to 18.00	0.015	0.008	Over 25/64" ~ up to 43/64"	0.0006	0.0003
Over 18.00 ~ up to 30.00	0.017	0.009	Over 43/64" ~ up to 1 1/8"	0.0007	0.0004
Over 30.00 ~ up to 50.00	0.021	0.012	Over 1 1/8" ~ up to 1 1/2"	0.0008	0.0004
Over 50.00 ~ up to 80.00	0.025	0.014	Over 1 1/2" ~ up to 2"	0.0010	0.0005
Over 80.00 ~ up to 120.00	0.029	0.016			

Metalworking



Diameter (mm)	Flute Length	Overall Length	Morse Taper	Weight each	Order Code SHR-065
3.00	33.0	112.0	1	52g	-2350A
4.00	38.0	117.0	1	52g	-2352C
5.00	44.0	124.0	1	56g	-2354E
6.00	47.0	127.0	1	58g	-2356G
7.00	54.0	134.0	1	64g	-2358J
8.00	58.0	138.0	1	67g	-2360L
9.00	62.0	142.0	1	72g	-2362N
10.00	66.0	144.0	1	79g	-2364Q
11.00	71.0	151.0	1	88g	-2366S
12.00	76.0	156.0	1	108g	-2368V
12.50	76.0	156.0	1	111g	-2369W
13.00	76.0	156.0	1	122g	-2370X
13.50	81.0	161.0	1	130g	-2371Y
14.00	81.0	163.0	1	126g	-2372Z
15.00	81.0	181.0	2	230g	-2375B
16.00	87.0	187.0	2	262g	-2377D
17.00	87.0	187.0	2	273g	-2379F
17.50	93.0	193.0	2	292g	-2379R

Diameter (mm)	Flute Length	Overall Length	Morse Taper	Weight each	Order Code SHR-065
18.00	93.0	193.0	2	305g	-2380G
19.00	93.0	193.0	2	323g	-2381H
20.00	100.0	200.0	2	350g	-2382J
21.00	100.0	200.0	2	365g	-2383K
22.00	107.0	207.0	2	419g	-2384L
24.00	115.0	242.0	3	686g	-2386N
25.00	115.0	242.0	3	740g	-2387P
26.00	115.0	242.0	3	747g	-2388Q
28.00	124.0	251.0	3	884g	-2390S
30.00	124.0	251.0	3	990g	-2392V
32.00	133.0	293.0	4	1510g	-2394X
35.00	142.0	302.0	4	1751g	-2398A

Taper Shank Extra Length Machine Reamers

Used to produce a close tolerance surface finish in drilled holes to allow the fitting of hardened and ground taper pins in the building of jigs, fixtures and dies. Manufactured to **BS 328-4**.

HSS



Diameter (mm)	Flute Length	Overall Length	Morse Taper	Weight each	Order Code SHR-064
6.00	124.0	203.0	1	80g	-2500A
8.00	124.0	203.0	1	103g	-2502C
10.00	124.0	203.0	1	114g	-2504E
10.00	175.0	254.0	1	129g	-2505F

Straight Shank Hand Taper Pin Reamers

Used to produce a close tolerance surface finish in taper holes to allow the fitting of hardened and ground taper pins in the building of jigs, fixtures and dies. Manufactured to **BS 328-4 and DIN 9A**.

Diameter Metric	Tolerances	
	+	-
Over 1.50 ~ up to 5.00	0.075	0.000
Over 5.00 ~ up to 20.00	0.125	0.000

HSS



Diameter (mm)	Dia. Range min max	Flute Length	Overall Length	Weight each	Order Code SHR-065
3.00	2.9 4.06	58	80	7g	-2803D
4.00	3.9 5.26	38	93	9g	-2804E
5.00	4.9 6.36	73	100	48g	-2805F
6.00	5.9 8.00	105	135	38g	-2806G

Diameter (mm)	Dia. Range min max	Flute Length	Overall Length	Weight each	Order Code SHR-065
8.00	7.9 10.80	145	180	39g	-2807H
10.00	9.9 13.40	175	215	89g	-2808J
12.00	11.8 16.00	210	255	145g	-2809K



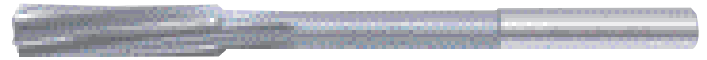
Straight Shank Machine Reamers

Left hand spiral flute, right hand cutting.
Manufactured to **BS 328-4**.

Diameter (mm)	Flute Length	Overall Length	Weight each	Order Code SHR-065
1.50	21.0	44.0	3g	-2219X
2.00	25.0	50.0	3g	-2220A
2.50	29.0	58.0	3g	-2221B
3.00	31.0	62.0	3g	-2222C
3.50	33.0	66.0	4g	-2223D
4.00	38.0	76.0	5g	-2224E
4.50	41.0	81.0	6g	-2225F
5.00	44.0	87.0	8g	-2226G
5.50	47.0	93.0	12g	-2227H
6.00	47.0	93.0	18g	-2228J
7.00	54.0	107.0	17g	-2229K
8.00	58.0	115.0	20g	-2230L
9.00	62.0	124.0	31g	-2231M
10.00	66.0	133.0	55g	-2232N
11.00	71.0	142.0	69g	-2232R
12.00	76.0	152.0	87g	-2233P
13.00	78.0	152.0	97g	-2234Q
14.00	81.0	163.0	184g	-2235R
16.00	87.0	175.0	235g	-2236S

Diameter Metric	Tolerance (to H7)		Diameter Inch	Tolerance	
	High +	Low -		High +	Low -
up to 3.00	0.008	0.004	up to 1/8"	0.0003	0.0001
Over 3.00 ~ up to 6.00	0.010	0.005	Over 1/8" ~ up to 15/64"	0.0004	0.0002
Over 6.00 ~ up to 10.00	0.012	0.006	Over 15/64" ~ up to 3/8"	0.0005	0.0002
Over 10.00 ~ up to 18.00	0.015	0.008	Over 3/8" ~ up to 5/8"	0.0006	0.0003

HSS



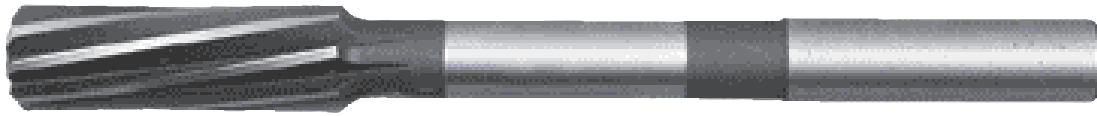
Diameter (Inch)	Flute Length	Overall Length	Weight each	Order Code SHR-065
1/8"	1 5/16"	2 5/8"	4g	-2202C
3/16"	1 3/4"	3 7/16"	13g	-2206G
7/32"	1 7/8"	3 11/16"	19g	-2208J
1/4"	2"	3 15/16"	37g	-2210L
9/32"	2 1/8"	4 3/16"	40g	-2211M
5/16"	2 1/4"	4 1/2"	55g	-2212N
3/8"	2 5/8"	5 1/4"	96g	-2214Q
1/2"	3"	6"	148g	-2217T

Cobalt Straight Shank Chucking Reamers

Manufactured to **DIN 212**.

Diameter Metric	Tolerance (to H7)		Diameter Inch	Tolerance	
	High +	Low -		High +	Low -
up to 5.50	0.004	0.000	up to 7/32"	0.0001	0.0000
Over 5.50	0.005	0.000	Over 7/32"	0.0002	0.0000

HSS-E



Diameter (mm)	Flute Length	Overall Length	Weight each	Order Code SHR-065
2.00	11.0	49.0	3g	-2655K
3.00	15.0	61.0	5g	-2659P
3.50	18.0	70.0	8g	-2661R
4.00	19.0	75.0	9g	-2662S
5.00	23.0	86.0	14g	-2664V
6.00	26.0	93.0	25g	-2665W
8.00	33.0	117.0	41g	-2667Y
10.00	38.0	133.0	73g	-2669A
12.00	44.0	151.0	90g	-2671C

Diameter (Inch)	Flute Length	Overall Length	Weight each	Order Code SHR-065
13.00	44.0	151.0	96g	-2672D
14.00	47.0	160.0	101g	-2673E
15.00	50.0	162.0	111g	-2674F
16.00	52.0	170.0	117g	-2675G
20.00	60.0	195.0	450g	-2679L

Straight Shank Parallel Hand Reamers

Used to produce a close tolerance surface finish by hand in almost any environment i.e. on site or in a workshop.
Manufactured to **BS 328-4 and DIN 206B**.

Diameter Metric	Tolerance		Diameter Inch	Tolerance	
	High +	Low -		High +	Low -
up to 3.00	0.008	0.007	up to 7/64"	0.0003	0.0001
Over 3.00 ~ up to 6.00	0.010	0.005	Over 7/64" ~ up to 15/64"	0.0004	0.0002
Over 6.00 ~ up to 10.00	0.012	0.006	Over 15/64" ~ up to 25/64"	0.0005	0.0002
Over 10.00 ~ up to 18.00	0.015	0.008	Over 25/64" ~ up to 43/64"	0.0006	0.0003
Over 18.00 ~ up to 30.00	0.017	0.009	Over 43/64" ~ up to 1/8"	0.0007	0.0004
Over 30.00 ~ up to 50.00	0.021	0.012	Over 1/8" ~ up to 1/2"	0.0008	0.0004
			Over 1/2" ~ up to 2"	0.0010	0.0005

HSS



Diameter (mm)	Flute Length	Overall Length	Weight each	Order Code SHR-065
1.50	20.0	41.0	2g	-2100A
2.00	25.0	50.0	3g	-2103D
2.50	29.0	58.0	4g	-2105F
3.00	31.0	62.0	5g	-2107H
3.50	35.0	71.0	6g	-2109K
4.00	38.0	76.0	7g	-2110L
5.00	44.0	87.0	10g	-2112N
5.50	47.0	93.0	13g	-2113P
6.00	47.0	93.0	19g	-2114Q
6.50	50.0	100.0	23g	-2115R
7.00	54.0	107.0	26g	-2116S
8.00	58.0	115.0	38g	-2118V
9.00	62.0	124.0	56g	-2120X
10.00	66.0	133.0	69g	-2122Z
10.50	66.0	133.0	78g	-2124A

Diameter (Inch)	Flute Length	Overall Length	Weight each	Order Code SHR-065
11.00	71.0	142.0	91g	-2125B
12.00	76.0	152.0	114g	-2127D
13.00	76.0	152.0	133g	-2129F
14.00	81.0	163.0	163g	-2131H
15.00	81.0	163.0	187g	-2133K
16.00	87.0	175.0	237g	-2134L
18.00	93.0	188.0	319g	-2136N
19.00	93.0	188.0	336g	-2137P
20.00	100.0	201.0	348g	-2138Q
22.00	107.0	215.0	500g	-2140S
24.00	115.0	231.0	729g	-2142V
25.00	115.0	231.0	785g	-2143W
30.00	124.0	247.0	1200g	-2148B
40.00	152.0	305.0	2500g	-2158M

Centre Drills

SWISS+TECH HSS TiN Tipped Centre Drills

Designed with spiral flutes and various lengths and forms to give high quality centre holes that suit most applications. TiN coating on working parts. 60° inclusive angle. Manufactured to **BS 328 : Part 2 : 1986, DIN 333A, ISO 866, ISO 2540, ISO 2541.**

HSS TiN-tip METRIC



Metric

Diameter		Pilot Length		Overall Length	Order Code
Body	Pilot	Min.	Max.		
3.15	1.0	1.3	1.9	31.5	-5142A
4.00	1.60	2.0	2.8	35.5	-5143A
5.00	2.00	2.5	3.3	40.0	-5144A
6.30	2.50	3.1	4.1	45.0	-5145A
8.00	3.15	3.9	4.9	50.0	-5146A
10.00	4.00	5.0	6.2	56.0	-5147A
12.50	5.00	6.3	7.5	63.0	-5148A

HSS 5 Metric Set

60° inclusive angle. Manufactured to **BS 328 : Part 2 : 1986, DIN 333A, ISO 866, ISO 2540, ISO 2541.**

Sizes: 5 x 2mm, 6.3 x 2.5mm, 8 x 3.15mm 10 x 4mm and 12.5 x 5mm.

HSS TiN-tip



5 PIECES

Weight each	Order Code
120g	-5155A

HSS TiN Tipped Centre Drills HSS TiN-tip INCH

Designed with spiral flutes and various lengths and forms to give high quality centre holes that suit most applications. TiN coating on working parts. 60° inclusive angle. Manufactured to **BS 328 : Part 2 : 1986, DIN 333A, ISO 866, ISO 2540, ISO 2541.**



Inch

Size	Diameter		Pilot Length		Overall Length	Order Code
	Body	Pilot	Min.	Max.		
BS1	1/8"	3/64"	1/16"	5/64"	1 1/2"	-5133A
BS2	3/16"	1/4"	5/64"	3/32"	1 3/4"	-5134A
BS3	1/4"	3/32"	1/8"	5/32"	2"	-5135A
BS4	5/16"	1/8"	5/32"	3/16"	2 1/4"	-5136A
BS5	7/16"	3/16"	1/4"	9/32"	2 1/2"	-5137A

HSS TiN Tipped BS Set HSS TiN-tip

Designed with spiral flutes and various lengths and forms to give high quality centre holes. TiN coating on working parts. 60° inclusive angle. Manufactured to **BS 328 : Part 2 : 1986, DIN 333A, ISO 866, ISO 2540, ISO 2541.**

Sizes: BS1, BS2, BS3, BS4 and BS5.

HSS TiN-tip



5 PIECES

Weight each	Order Code
114g	-5140A

SHERWOOD HSS Centre Drills

Designed with spiral flutes and various lengths and forms to give high quality centre holes that suit most applications. 60° inclusive angle. Manufactured to **BS 328 : Part 2 : 1986, DIN 333A, ISO 866, ISO 2540, ISO 2541.**

HSS METRIC



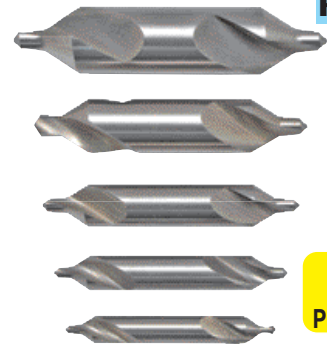
C100 Series - Metric

Diameter		Pilot Length		Overall Length	Weight each	Order Code
Body	Pilot	Min.	Max.			
3.15	0.80	1.1	1.5	31.5	2g	-1843X
3.15	1.00	1.3	1.9	31.5	2g	-1844A
3.15	1.25	1.6	2.2	31.5	3g	-1845B
4.00	1.60	2.0	2.8	35.5	3g	-1846C
5.00	2.00	2.5	3.3	40.0	5g	-1847D
6.30	2.50	3.1	4.1	45.0	9g	-1848E
8.00	3.15	3.9	4.9	50.0	7g	-1849F
10.00	4.00	5.0	6.2	56.0	28g	-1850G
12.50	5.00	6.3	7.5	63.0	45g	-1851H
16.00	6.30	8.0	9.2	71.0	71g	-1852J
20.00	8.00	10.0	11.5	83.0	102g	-1852M
25.00	10.00	12.8	14.2	103.0	197g	-1852N

HSS Metric Set HSS

60° inclusive angle. Manufactured to **BS 328 : Part 2 : 1986, DIN 333A, ISO 866, ISO 2540, ISO 2541.**

Sizes: 5 x 2mm, 6.3 x 2.5mm, 8 x 3.15mm 10 x 4mm and 12.5 x 5mm.



5 PIECES

Weight each	Order Code
120g	-9150K

HSS Centre Drills HSS INCH

Designed with spiral flutes and various lengths and forms to give high quality centre holes that suit most applications. 60° inclusive angle. Manufactured to **BS 328 : Part 2 : 1986, DIN 333A, ISO 866, ISO 2540, ISO 2541.**



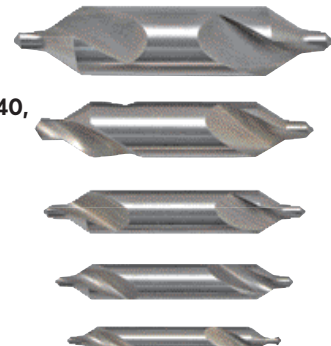
C100 Series - Inch

Size	Diameter		Pilot Length		Overall Length	Order Code
	Body	Pilot	Min.	Max.		
BS00	1/8"	0.025"	0.025"	0.030"	1 1/8"	-1827L
BS0	1/8"	1/32"	3/64"	1/16"	1 1/4"	-1828M
BS1	1/8"	3/64"	1/16"	5/64"	1 1/2"	-1829A
BS2	3/16"	1/16"	5/64"	3/32"	1 3/4"	-1830B
BS3	1/4"	3/32"	1/8"	5/32"	2"	-1831C
BS4	5/16"	1/8"	5/32"	3/16"	2 1/4"	-1832D
BS5	7/16"	3/16"	1/4"	9/32"	2 1/2"	-1833E
BS6	5/8"	1/4"	5/16"	3/8"	3"	-1835G
BS7	3/4"	5/16"	13/32"	15/32"	3 1/2"	-1836H

HSS BS Set HSS

60° inclusive angle. Manufactured to **BS 328 : Part 2 : 1986, DIN 333A, ISO 866, ISO 2540, ISO 2541.**

Sizes: BS1, BS2, BS3, BS4 and BS5.



5 PIECES

Weight each	Order Code
114g	-9160K



HSS Extra Length Centre Drills

HSS

Ground flute, for drilling centre holes on components prior to machining. Extra length drills particularly useful for drilling centre holes in recesses. Manufactured to **BS 328 : Part 1 : 1986, DIN333A : ISO 86, ISO2540, ISO2541.**



Metric

Diameter (mm)		Overall Length	Weight each	Order Code SHR-024
Body	Point			
4.00	1.00	120	19g	-1866H
5.00	1.60	120	25g	-1866K
6.00	2.00	120	31g	-1866N
8.00	2.50	120	49g	-1866R
10.00	3.15	120	69g	-1866W
12.50	5.00	120	86g	-1866X

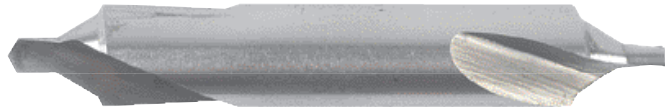
Inch

Size	Diameter		Overall Length	Order Code SHR-024
	Body	Pilot		
BS1	1/8"	3/64"	4"	-1881A
BS2	3/16"	1/16"	4"	-1882B
BS3	1/4"	3/32"	4"	-1883C
BS4	5/16"	1/8"	4"	-1884D
BS5	7/16"	3/16"	4"	-1885E

HSS Bell Type Centre Drills

Manufactured to **BS 328 : Part 2 : 1986, DIN 333, ISO 2540.**

HSS



Metric

Diameter		Overall Length	Order Code SHR-024
Body	Pilot		
4.00	1.00	35.5	-1861K
5.00	1.25	40.0	-1861L
6.30	1.60	45.0	-1861N
8.00	2.00	50.0	-1861P
10.00	2.50	56.0	-1861Q
11.20	3.15	60.0	-1861R
14.00	4.00	67.0	-1861S
18.00	5.00	75.0	-1861T

Inch

Size	Diameter		Overall Length	Order Code SHR-024
	Body	Pilot		
BS1B	1/8"	3/64"	1 1/2"	-1853A
BS2B	3/16"	1/16"	1 3/4"	-1854B
BS3B	1/4"	3/32"	2"	-1855C
BS4B	5/16"	1/8"	2 1/4"	-1856D
BS5B	7/16"	5/32"	2 1/2"	-1858F

Carbide Centre Drills

Used to produce 60° centres in components for subsequent manufacturing operations to be carried out. Tool life is extended and difficult materials may be drilled. 60° included angle. 118° drill point. Manufactured to **BS 328.**

CARBIDE



Carbide Centre Drills

CARBIDE

Used to produce 60° centres in components for subsequent manufacturing operations to be carried out. Tool life is extended and difficult materials may be drilled. 60° included angle. 118° drill point. Manufactured to **BS 328.**

Tolerances
Cutting Diameter +0.0005"
Shank Diameter +0.0010"



Tolerances
Cutting Diameter +0.0005"
Shank Diameter +0.0010"



Inch

Size	Diameter		Overall Length	Weight each	Order Code SHR-158
	Body	Drill			
BS1	1/8"	3/64"	1 1/2"	10g	-8010K
BS2	3/16"	5/64"	1 7/8"	10g	-8020K
BS3	1/4"	7/64"	2"	20g	-8030K
BS4	5/16"	1/8"	2 1/8"	30g	-8040K

Metric

Diameter		Pilot Length		Overall Length	Weight each	Order Code SHR-158
Body	Pilot	Min.	Max.			
5.00	2.00	2.5	3.3	40.0	5g	-8120K
6.30	2.50	3.1	4.1	45.0	9g	-8130K
8.00	3.15	3.9	4.9	50.0	7g	-8140K
10.00	4.00	5.0	6.2	56.0	28g	-8150K
12.50	5.00	6.3	7.5	63.0	45g	-8160K

Inch

Size	Diameter		Overall Length	Weight each	Order Code KEN-158
	Body	Drill			
BS1	1/8"	3/64"	1 1/2"	10g	-9010K
BS2	3/16"	5/64"	1 7/8"	10g	-9020K
BS3	1/4"	7/64"	2"	20g	-9030K
BS4	5/16"	1/8"	2 1/8"	30g	-9040K
BS5	7/16"	3/16"	2 3/4"	70g	-9050K
BS6	1/2"	7/32"	3"	90g	-9060K

Countersinks/Spotting Drills

021|025 Group

Metalworking



HSS Solid Counterbores

HSS

Spiral flute, 3 flute. Medium duty. Used for milling of pre-drilled holes to allow bolt or cap head screws to lie flush with the component surface.

Manufactured to BS328: 5:1983.

Plain Shank



Metric

Bolt Size (mm)	Pilot Dia.	Cutter Dia.	Overall Length	Weight each	Order Code SHR-021
3	3.4	6	65	10g	-3520K
4	4.3	8	65	10g	-3560K
5	5.3	10	70	10g	-3580K
6	6.4	11	76	20g	-3600K
8	8.4	15	87.3	60g	-3620K
10	10.5	18	89	70g	-3640K
12	13.0	20	108	110g	-3660K
16	17.0	26	125	225g	-3700K

HSS Solid Counterbores - Threaded Shank

To suit bolt ISO Metric/Din Standards.

HSS



Metric

Bolt Size	Pilot Dia.	Cutter Dia.	Overall Length	Weight each	Order Code SHR-021
3mm	3.4	6.0	65.0	10g	-3030K
4mm	4.3	8.0	65.0	10g	-3040K
5mm	5.3	10.0	70.0	10g	-3050K
6mm	6.4	11.0	76.0	20g	-3060K
8mm	8.4	15.0	87.3	60g	-3080K
10mm	10.5	18.0	89.0	70g	-3100K
12mm	13.0	20.0	108.0	110g	-3120K
16mm	17.0	26.0	125.0	225g	-3160K



HSS-E Spotting Drills

HSS-E

Special drill for accurate and fast spotting on NC machines, jig drills and other capital-intensive boring machines. For countersinking and chamfering of tapping holes in one operation. Only suitable for shallow depth drilling.

90° Point - Series C520



Metric

Diameter (mm)	Flute Length	Overall Length	Weight per 5	Order Code SHR-025
3	12	46	15g	-2528Y
4	12	46	20g	-2528Z
5	14	62	40g	-2529B
6	16	66	65g	-2529A
8	21	79	135g	-2530B
10	24	89	265g	-2531C
12	30	102	434g	-2532D
14	33	107	625g	-2532N
16	35	115	825g	-2533E
20	40	131	1490g	-2534F

90° Point 5 Piece Set

Contents 4, 6, 8, 10 & 12mm -9200K



HSS TiN Tipped Spotting Drills

HSS TiN-tip

Special drill for accurate and fast spotting on NC machines, jig drills and other capital-intensive boring machines. For countersinking and chamfering of tapping holes in one operation. Only suitable for shallow depth drilling.



Metric

Diameter (mm)	Flute Length	Overall Length	Weight per 5	Order Code SWT-125
4	12	46	20g	-5180A
5	14	62	40g	-5181A
6	16	66	65g	-5182A
8	21	79	135g	-5183A
10	24	89	265g	-5184A
12	30	102	434g	-5185A
16	35	115	175g	-5187A

Plain Shank Set

Manufactured to BS328 : 5 : 1983.

Contents: M3, M4, M5, M6, M8, M10 and M12.

HSS

7
PIECES



Weight each
462g

Order Code
SHR-021
-9010A

120° Point - Series C530

HSS-E



Metric

Diameter (mm)	Flute Length	Overall Length	Weight per 5	Order Code SHR-025
6	20	66	100g	-2535G
8	16	79	155g	-2536H
10	21	89	265g	-2537J
12	30	102	434g	-2538K
16	35	115	175g	-2539L
20	40	131	298g	-2540M

Carbide Spotting Drills

CARBIDE

Designed for close tolerance hole location.

Suitable for continuous production on aluminium, plastics, free cutting steels, cast iron, titanium and some aerospace materials. The stability of carbide makes the tool more rigid and less likely to deflect, maintaining a higher level of accuracy. Operators should note that continuous heavy shock loading may cause the tool to fail due to its brittleness.

90° Point - Metric



Metric

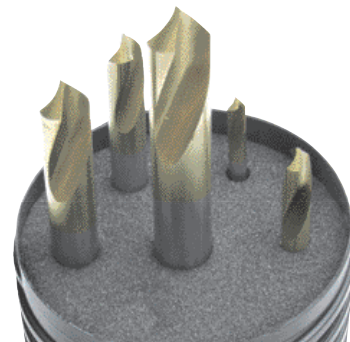
Diameter (mm)	Flute Length (mm)	Overall Length (mm)	Weight per 5	Order Code SHR-158
4	10	40	40g	-8540K
6	16	50	100g	-8560K
8	23	60	155g	-8580K
10	24	70	265g	-8600K
12	25	70	434g	-8620K

90° Point Set

Contents: 4.00, 6.00, 8.00, 10.00 and 12.00

HSS TiN-tip

5
PIECES



Weight each
300g

Order Code
SWT-125
-5190A



HSS-Co 5% 3 Flute Piloted Countersinks

For the production of high precision concentrically centred countersinks in most metals where pilot holes have been pre-drilled.

Shank diameter: 3/16".

HSS-Co. 5%



Product Number	Diameter	Inc. Angle	Body Dia.	Overall Length	Order Code
5802	3/32"	100°	3/16"	2 1/2"	-5050D
5803	3/32"	120°	3/16"	2 1/2"	-5054H
5810	1/8"	100°	1/4"	2 1/2"	-5051E
5812	1/8"	120°	1/4"	2 1/2"	-5055J
5821	5/32"	100°	5/16"	2 1/2"	-5052F
5831	3/16"	100°	3/8"	2 1/2"	-5053G
5832	3/16"	120°	3/8"	2 1/2"	-5056K

Inclined Angles for Countersunk Socket Head Screws			
Thread Series	Standard	Thread Size	Countersink Angle
Metric	BS EN ISO 10642	up to M20	90°
		over M20	60°
UNC/F	ANSI B 18.3	No.0 to 1"	82°
BSW/F	BS 2470	1/8" TO 1"	90°
		8BA TO 0BA	90°

HSS-Co 5% 3 Flute - Straight Shank

HSS-Co. 5%

90° Heavy Duty

Manufactured from HSS-E cobalt steel for deburring and chamfering of most metals and plastics. Manufactured to BS328 : Part 5 : 1983.

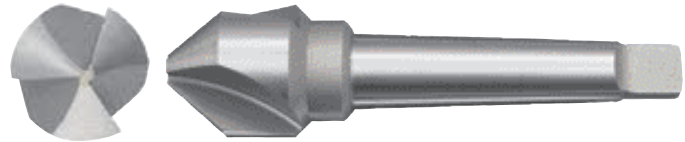


Cutting Diameter	Shank Diameter	Order Code
8.0mm	8mm	-0790K
10.0mm	8mm	-0890K
12.5mm	8mm	-0990K
16.0mm	10mm	-1090K
20.0mm	10mm	-1110K
25.0mm	10mm	-1130K

HSS-Co 5% 3 Flute - Taper Shank

HSS-Co. 5%

90° inclusive angle.



Cutting Diameter	Shank Diameter	Order Code
16.0mm	1MT	-1550K
20.0mm	2MT	-1570K
25.0mm	2MT	-1590K
31.5mm	2MT	-1690K
40.0mm	3MT	-1790K
50.0mm	3MT	-1890K
63.0mm	4MT	-1920K

HSS-Co 5% Multi Flute - Straight Shank

HSS-Co. 5%

Rose Pattern

Inclusive angle 90°.

Overall length: 52mm.



Cutting Diameter	Shank Diameter	Order Code
9.5mm	4.8mm	-2040K
12.7mm	4.8mm	-2060K
15.8mm	6.3mm	-2080K

KENNEDY HSS-Co 5% Multi Flute - Straight Shank

Rose Pattern

Inclusive angle 90°.

Overall length: 52mm.



Cutting Diameter	Shank Diameter	Order Code
9.5mm	4.8mm	-2040K
12.7mm	4.8mm	-2060K
15.8mm	6.3mm	-2080K

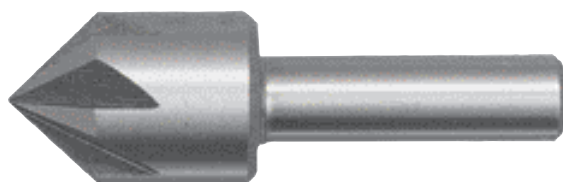
HSS-Co 5% Multi Flute - Straight Shank

HSS-Co. 5%

Heavy Duty

Inclusive angle 90°.

Overall length: 40mm.



Cutting Diameter	Shank Diameter	Order Code
12.7mm	6.3mm	-2000K

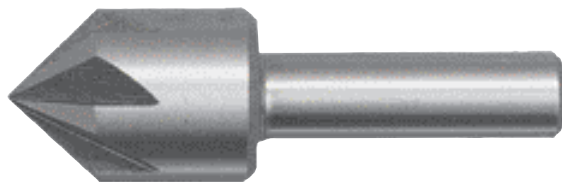
HSS-Co 5% Multi Flute - Straight Shank

HSS-Co. 5%

Heavy Duty

Inclusive angle 90°.

Overall length: 40mm.



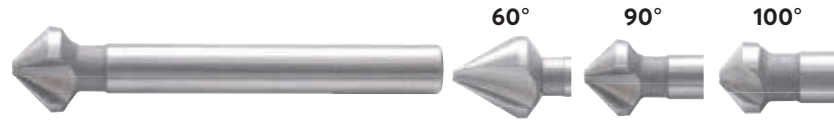
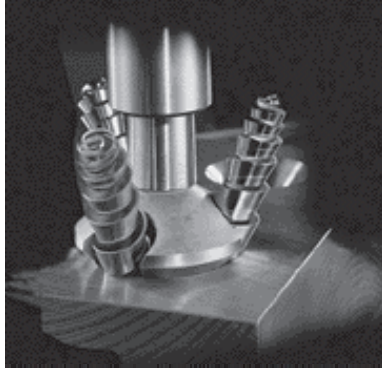
Cutting Diameter	Shank Diameter	Order Code
12.7mm	6.3mm	-2000K



HSS-Co 5% High Performance Countersinks

HSS-Co. 5%

A chatter-free cutter giving an excellent burr-free finish. Capable of deburring and countersinking in one stroke with no 'back-off' of tool. Also free countersinking of aluminium with no secondary bulge. For special applications and exotic materials, a choice of hard coatings is available.



Cutting Diameter	Shank (mm)	Length (mm)	Weight each	Order Code SHR-020		
				60° Countersink	90° Countersink	100° Countersink
6.3mm	5	45		-5950K	-	-5450K
8.3mm	6	46	12g	-6000K	-5000K	-5500K
10.4mm	6	47	13g	-6050K	-5050K	-5550K
12.4mm	8	58	24g	-6100K	-5100K	-5600K
16.5mm	8	60	29g	-6150K	-5150K	-5650K
20.5mm	10	65	48g	-6200K	-5200K	-5700K
25.0mm	10	69	70g	-6300K	-5250K	-5750K

HSS-Co 5% Countersinks

HSS-Co. 5%

3 Flute - Straight Shank

Manufactured from M35 HSS and used for the deburring and chamfering of most metals and plastics.

Manufactured to **BS 328 : Part 5 : 1983**.

Inclusive angle 82°.



Cutting Diameter	Shank Diameter	Order Code SHR-020
8.5mm	8mm	-7090K
10.0mm	8mm	-7100K
12.5mm	8mm	-7120K
16.0mm	10mm	-7160K
20.0mm	10mm	-7200K
25.0mm	10mm	-7250K

HSS-Co 5% 90° Countersinks

HSS-Co. 5%

For all ferrous and non-ferrous metals as well as for hard plastics. General purpose chamfering/deburring and countersinking tool. Bright finish, 3 flute, ground all over.

Made to **DIN 335**.



Cutting Dia.	Shank (mm)	Length (mm)	Order Code SHR-020
6.0mm	5	45	-3060E
6.3mm	5	45	-3063J
8.3mm	6	50	-3083J
13.4mm	8	56	-3134Q
15.0mm	10	60	-3150G
19.0mm	10	63	-3190T
23.0mm	10	67	-3223G
30.0mm	12	71	-3230R

5 Piece Set Contents:
6.30, 8.30, 13.40, 15.00 and 19.00mm.

5
PIECES



Order Code **SHR-020**
-9260K



HSS-Co 5% Countersinks

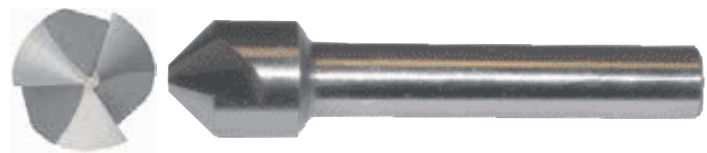
HSS-Co. 5%

3 Flute - Straight Shank

Manufactured from M35 HSS and used for the deburring and chamfering of most metals and plastics.

Manufactured to **BS 328 : Part 5 : 1983**.

Inclusive angle 90°.



Cutting Diameter	Shank Diameter	Order Code KEN-020
8.0mm	8mm	-0790K
10.0mm	8mm	-0890K
12.5mm	8mm	-0990K
16.0mm	10mm	-1090K
20.0mm	10mm	-1110K
25.0mm	10mm	-1130K

HSS-Co 5% Countersink Set 90°

HSS-Co. 5%

6 Piece Set

Manufactured from M35 HSS and used for the deburring and chamfering of most metals and plastics.

Straight shank, ground flute 90 angle.

Manufactured to **BS328 : Part 5 : 1983**.

Sizes: 8, 10, 12.5, 16, 20 and 25mm.

Sizes: 8, 10, 12.5, 16, 20 and 25mm.



6
PIECES

Weight
620g

Order Code **KEN-020**
-1160K

Countersinks



HSS-Co 5% Countersink Set - 90°

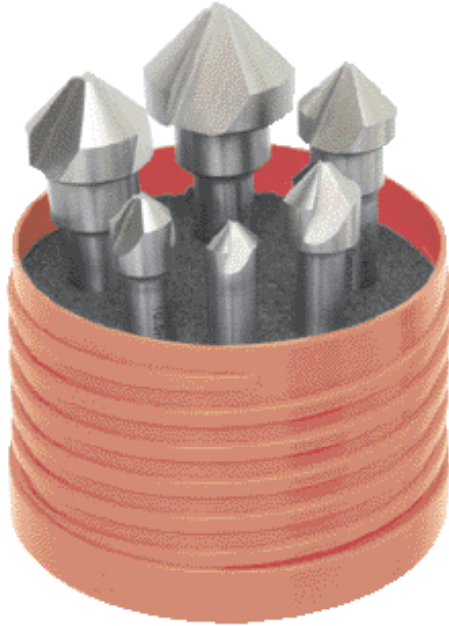
High Performance Multi Flute
Manufactured from HSS-E cobalt for deburring and chamfering. Straight shank, ground flute 90° angle.

Manufactured to **BS328 : Part 5 : 1983**.
Inclusive angle 90°.

Sizes: 6, 8, 10, 12.5, 16, 20 and 25mm.

HSS-Co. 5%

6
PIECES



Inclusive Angle
90°

Order Code
SHR-020
-9010A

HSS-Co 5% TiN Coated Countersink Set - 90°

High Performance Multi Flute
Manufactured from HSS-E cobalt for deburring and chamfering. Straight shank, ground flute 90° angle.

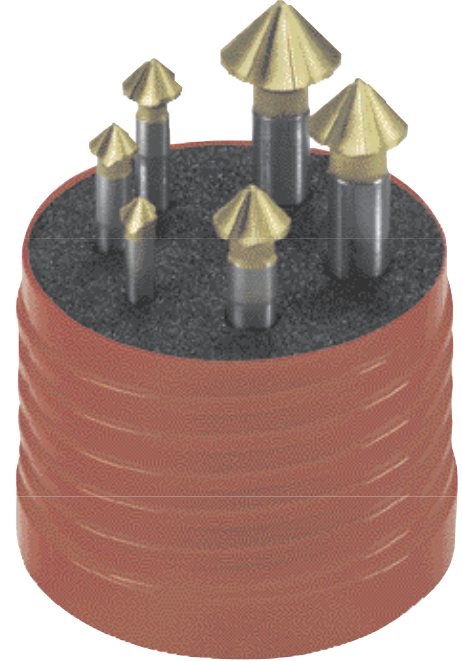
Manufactured to **BS328 : Part 5 : 1983**.
Inclusive angle 90°.

Sizes: 6, 8, 10, 12.5, 16 and 20mm.

HSS-Co. 5%

TiN

6
PIECES



Inclusive Angle
90°

Order Code
SHR-020
-8990Y

HSS-Co 5% Countersink Set - 100°

High Performance Multi Flute
Manufactured from HSS-E cobalt for deburring and chamfering. Straight shank, ground flute 100° angle.

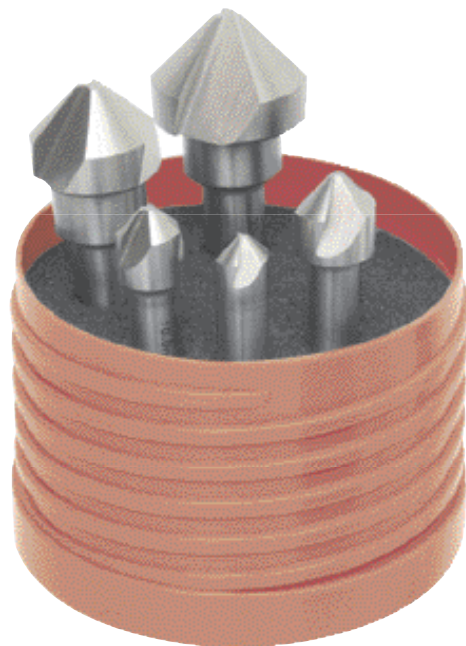
Manufactured to **BS328 : Part 5 : 1983**.

Inclusive angle 100°.

Sizes: 6, 8, 10, 12.5 and 16mm.

HSS-Co. 5%

5
PIECES



Inclusive Angle
100°

Order Code
SHR-020
-9130A

HSS-Co 5% Countersink Set - 60°

High Performance Multi Flute
Manufactured from HSS-E cobalt for deburring and chamfering. Straight shank, ground flute 60° angle.

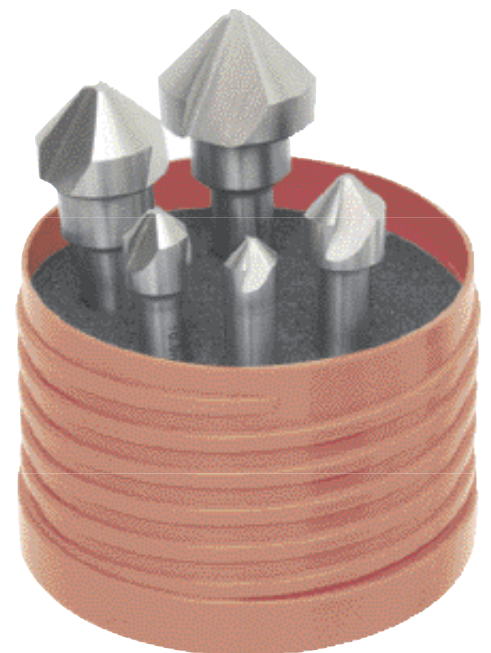
Manufactured to **BS328 : Part 5 : 1983**.

Inclusive angle 60°.

Sizes: 6, 8, 10, 12.5 and 16mm.

HSS-Co. 5%

5
PIECES



Inclusive Angle
60°

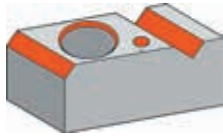
Order Code
SHR-020
-8150A

INDEXA-SEIKI Multi-Pro Spot Drills & Chamfer Mills

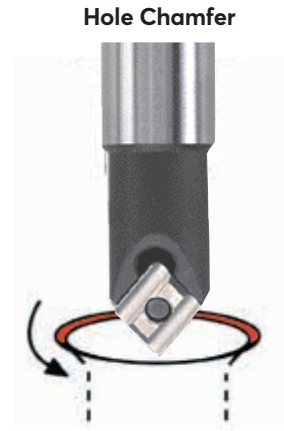
A spotting drill with all the advantages of indexable inserts - reduced tool maintenance time, increased performance, lower inventory cost and no regrinding requirements. The insert clamping method ensures accurate and secure location with quick change-over times. Multi-pro has a unique geometry which allows cutting over the centre line, using carbide, without chipping of the cutting edge. This versatile tool may be used to 'spot' holes prior to drilling, as a means to guide the drill and keep the hole straight, to keep size and accurately position, relative to the datum.

NB. The 118° inclusive tool is recommended for 'spotting' prior to drilling with 118° point drills. Countersinks may be produced prior to drilling to provide a corner break on a drilled hole, a chamfer conforming to drawing specifications, a lead in for a subsequent tapping operation, or a full countersink to accommodate a screw head. Corner chamfers on edges, contours and bores can be machined as light de-burring operations or full depth chamfers. Multi-pro may be used to produce vee grooves for fluid channels, locations for round components and grip pattern or serrations on jaws and clamp pads.

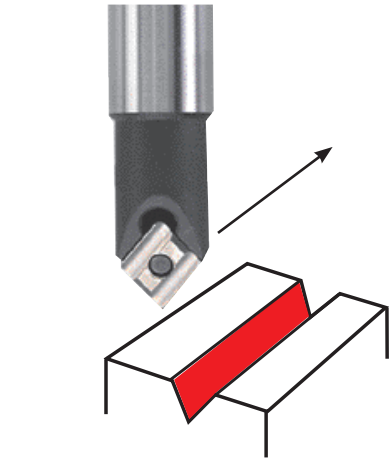
Application Range



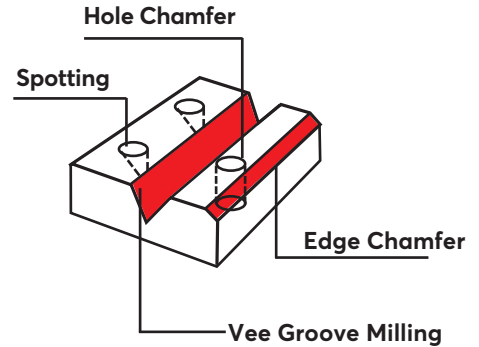
SCM1045C SC1645C SC1630C



Hole Chamfer



Vee Groove Milling



Hole Chamfer

Spotting

Edge Chamfer

Vee Groove Milling

'Multi Pro Mini' - Uses C22 GUX Inserts

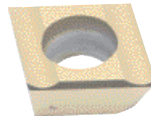
Designation	Cutting Diameter	Overall Length	Included Angle	Shank Diameter	Weight each	Order Code
SCM 1045C	8mm	105mm	90°	10mm	78g	-8050K

'Multi Pro Standard' - Uses C32 GUX Inserts

Designation	Cutting Diameter	Overall Length	Included Angle	Shank Diameter	Weight each	Order Code
SC 1645C	13mm	110mm	90°	16mm	174g	-8545K
SC 1630C	16mm	110mm	118°	16mm	184g	-8530K

Insert Grade Description

QM10 (ISO P10/M10/K10) Tin Coated Multi-purpose grade for general use, can cut the majority of ferrous and non-ferrous materials used in industry.



QS20 (ISO P20) Uncoated Grade for steel and stainless steel application.

QC10 (ISO K10) Uncoated Grade for cast irons, aluminiums, and non-ferrous materials.

Inserts

Designation	Grade	To Suit	Order Code
C22 GUX	QM10	Multi-Pro Mini	-0080N
C32 GUX	QS20	Multi-Pro	-0102P

Spares

Insert Screw	Order Code
To suit SCM1045C	-3249K
To suit SC1645C & SC1630C	-4800K

Speed & Feed Recommendations for Multi-Pro

Group	Materials	Rockwell Hardness HRC	Recommended Grade		Cutting Speed M/min	Type of Operation	Feed/Rev		
							Pro Mini 105mm	Pro Standard 110mm	Pro Mini 165mm
1.1 to 1.3	Alloy Steels and castings	from 36 up to 45	QS20	QM10	80~100	Spot Drilling Chamfer Milling	0.020	0.026	0.013
							0.050	0.070	0.040
1.4 to 1.6	Tool and die steels	from 45 up to 55	QS20	QM10	55~65	Spot Drilling Chamfer Milling	0.012	0.016	0.008
							0.030	0.050	0.020
2.1 to 2.3	Stainless steels	up to 36	QS20	QM10	70~90	Spot Drilling Chamfer Milling	0.020	0.026	0.013
3.1 to 3.4	Cast irons	-	QC10	QM10	100~120	Spot Drilling Chamfer Milling	0.040	0.060	0.030
							0.034	0.045	0.022
6.1 to 6.6	Copper alloys brass and bronze	-	QC10	QM10	120~150	Spot Drilling Chamfer Milling	0.050	0.070	0.040
							0.034	0.045	0.022
7.1 to 7.4	Aluminium alloys	-	QC10	QM10	120~150	Spot Drilling Chamfer Milling	0.034	0.045	0.022
							0.050	0.070	0.040



Carbon Steel Threading Set

Metric coarse and metric fine combined set of machine ground carbon steel taps and dies. For general workshop and maintenance use only. Supplied in a robust plastic case.

Contents: Tap Wrench, 'T' Type Tap Wrench Die Holder, Die Adaptor, Flat Bladed Screwdriver.

Tap & Die Sizes:

Coarse: M6 x 1.00, M8 x 1.25, M10 x 1.50, M12 x 1.75, M14 x 2.00, M16 x 2.00, M18 x 1.50, M18 x 2.50, M20 x 1.50, M20 x 2.50, M22 x 2.50, M24 x 3.00

Fine: M6 x 0.75, M8 x 1.00, M10 x 1.25, M12 x 1.50, M14 x 1.50, M16 x 1.50, M18 x 1.50, M20 x 1.50, M22 x 1.50, M24 x 1.50.

**45
PIECES**



Range	Number of Pieces	Order Code
M6 - M24	45	SEN-086 -9910K

Metric Threading Set

Metric M3 - M12

Machine ground carbon steel taps and dies supplied in a metal box. For general workshop and maintenance use only.

Contents:

O/D Split Dies: M3, M4, M5, M6, M8, M10 and M12.

Ground Thread Taps (1 of each, taper, second and plug lead): M3, M4, M5, M6, M8, M10 and M12.

Bar Type Tap Wrenches: M1 - M12 x 210mm.

Die Stock: 25 x 9 x 210mm.

Metric Thread Pitch Gauge.

Flat Bladed Screwdriver: 6mm.

**32
PIECES**



CARBON STEEL

Range	Number of Pieces	Order Code
M3 - M12	32	SEN-086 -3990K

Metric Threading Set

HSS

Metric M3 - M12

Comprehensive threading set containing machine ground HSS Taps and Dies in a metal box.

Contents:

O/D Split Dies: M3, M4, M5, M6, M8, M10 and M12.

Ground Thread Taps (1 of each, taper, second and plug lead): M3, M4, M5, M6, M8, M10 and M12.

Bar Type Tap Wrench: M1 - M12 x 210mm.

Die Stock: 25 x 9 x 210mm.

Metric Thread Pitch Gauge.

Flat Bladed Screwdriver: 6mm.

**32
PIECES**



Range	Number of Pieces	Order Code
M3 - M12	32	SEN-086 -9980K



UNC Threading Set



No.10 - 3/4" UNC:

HSSGT Straight Flute Taps:

Taper: No. 10 x 24, 1/4" x 20, 5/16" x 18, 3/8" x 16.

Second: 7/16" x 14, 1/2" x 13, 5/8" x 11, 3/4" x 10.

Plug: No. 10 x 24, 1/4" x 20, 5/16" x 18, 3/8" x 16.

Bar Type Tap Wrenches:

1/16" - 1/4" and 1/4" - 3/4".

Tapping Drills to suit:

HSS S/S.

3.90, 5.10, 6.60, 8.00, 9.40, 10.80mm

HSS 1" O/D Dies:

1/4" x 20, 5/16" x 18, 3/8" x 16.

Diestock: 1" O/D.

HSS Die Nuts:

7/16" x 14, 1/2" x 13, 5/8" x 11, 3/4" x 10.

**28
PIECES**



Range	Number of Pieces	Order Code
10 - 3/4" UNC	28	SHR-086 -9994K

BSW Threading Set



3/16" - 3/4" BSW:

HSSGT Straight Flute Taps:

Taper: 3/16" x 24, 1/4" x 20, 5/16" x 18, 3/8" x 16.

Second: 7/16" x 14, 1/2" x 12, 5/8" x 11, 3/4" x 10.

Plug: 3/8" x 16, 5/16" x 18, 1/4" x 20, 3/16" x 24.

Bar Type Tap Wrenches:

1/4" - 3/4" and 1/16" - 1/4".

Tapping Drills to Suit:

HSS S/S: 3.70, 5.10, 6.50, 7.90, 9.30, 10.50mm.

HSS 1" O/D Dies:

1/4" x 2, 5/16" x 18 and 3/8" x 16.

Diestock: 1" O/D.

HSS Die Nuts: 7/16" x 14,

1/2" x 12, 5/8" x 11 and 3/4" x 10.

**28
PIECES**



Range	Number of Pieces	Order Code
3/16" - 3/4" BSW	28	SHR-086 -9992K

Metric Threading Set

METRIC COARSE HSS

M2 - M16:

HSS Ground Thread

Taper and Second Taps: M2 x 0.40, M3 x 0.50, M4 x 0.70, M5 x 0.80, M6 x 1.00, M8 x 1.25, M10 x 1.50 and M12 x .75. Manufactured to **ISO 529**.

Bar Type Tap Wrenches: 1/16" - 1/4" and 3/16" - 1/2".

Tapping Drills to Suit: 1.6, 2.5, 3.3, 4.2, 5.0, 6.8, 8.5 and 10.2mm. Made to **BS 328/DIN 338N**.

13/16" O/D Split Dies: M2 x 0.40, M3 x 0.50, M4 x 0.70, M5 x 0.80 and M6 x 1.00.

1" O/D Split Dies:

M8 x 1.25 and M10 x 1.50. Manufactured to **BS 1127**.

Diestocks:

13/16" O/D and 1" O/D.

HSS Die Nuts:

M12 x 1.75 and M16 x 2.00. Manufactured to **BS 1127**.

**37
PIECES**



Range	Number of Pieces	Order Code
M2 - M16	37	SHR-086 -9990K



Threading Sets

BSF Threading Set

3/16" - 3/4" BSF:

HSSGT Straight Flute Taps:

Taper: 3/16" x 32, 1/4" x 26, 5/16" x 22 and 3/8" x 20.

Second: 3/4" x 12, 7/16" x 18, 5/8" x 14 and 1/2" x 16.

Plug: 3/16" x 32, 1/4" x 26, 5/16" x 22 and 3/8" x 20.

Bar Type Tap Wrenches: 1/16" - 1/4" and 1/4" - 3/4".

Tapping Drills to Suit: HSS S/S.

4.00, 5.30, 6.80, 8.30, 9.70 and 11.10mm.

HSS 1" O/D Split Dies: 1/4" x 26, 5/16" x 22 and 3/8" x 20.

Distock: 1" O/D.

HSS Die Nuts: 7/16" x 18, 1/2" x 16, 5/8" x 14 and 3/4" x 12.

BSF

**28
PIECES**

**28
PIECES**

HSS



BSW Threading Set

3/16" - 3/4" BSW:

HSSGT Straight Flute Taps:

Taper: 3/16" x 24, 1/4" x 20, 5/16" x 18, 3/8" x 16.

Second: 7/16" x 14, 1/2" x 12, 5/8" x 11, 3/4" x 10.

Plug: 3/8" x 16, 5/16" x 18, 1/4" x 20, 3/16" x 24.

Bar Type Tap Wrenches: 1/4" - 3/4" and 1/16" - 1/4".

Tapping Drills to Suit: HSS S/S.

3.70, 5.10, 6.50, 7.90, 9.30, 10.50mm

HSS 1" O/D Dies: 1/4" x 2, 5/16" x 18 and 3/8" x 16.

Distock: 1" O/D.

HSS Die Nuts: 7/16" x 14, 1/2" x 12, 5/8" x 11 and 3/4" x 10.

BSW

Range	Number of Pieces	Order Code SHR-086
3/16" - 3/4" BSF	28	-9991K
3/16" - 3/4" BSW	28	-9992K

BSP(F) Threading Set

HSSGT Straight Flute Taps:

Taper: 1/8" x 28, 1/4" x 19,

3/8" x 19 and 1/2" x 14.

Second: 3/4" x 14.

Plug: 1/8" x 28, 1/4" x 19,

3/8" x 19 and 1/2" x 14.

Outside Diameter HSS Dies BSPF x 1 5/16":

1/8" x 28, 1/4" x 19 and 3/8" x 19.

BSPF HSS Hexagon Die Nuts: 1/2" x 14

and 3/4" x 14.

HSS Straight Shank Jobber Drills:

8.80 and 11.80mm,

Parallel Shank Drills 1/2": 15.25, 19.00

and 24.50mm.

Holder: 1 5/16" outside diameter distock.

Traditional Tap Wrenches: 1/16" - 1/4"

and 1/4" - 3/4".

BSP

**22
PIECES**

Range	Number of Pieces	Order Code SHR-086
1/16" - 3/4" BSPF	22	-9989K

UNC Threading Set

No.10 - 3/4" UNC:

HSSGT Straight Flute Taps:

Taper: No. 10 x 24, 1/4" x 20,

5/16" x 18, 3/8" x 16.

Second: 7/16" x 14, 1/2" x 13, 5/8" x 11,

3/4" x 10.

Plug: No.10 x 24, 1/4" x 20, 5/16" x 18,

3/8" x 16.

Bar Type Tap Wrenches: 1/16" - 1/4" and

1/4" - 3/4".

Tapping Drills to suit: HSS S/S.

3.90, 5.10, 6.60, 8.00, 9.40, 10.80mm

HSS 1" O/D Dies: 1/4" x 20, 5/16" x 18,

3/8" x 16.

Distock: 1" O/D.

HSS Die Nuts: 7/16" x 14, 1/2" x 13, 5/8" x 11, 3/4"

x 10.

UNC

**28
PIECES**

Range	Number of Pieces	Order Code SHR-086
10 - 3/4" UNC	28	-9994K

UNF Threading Set

No.10 - 3/4" UNF:

HSSGT Straight Flute Taps:

Taper: No.10 x 32, 1/4" x 28,

5/16" x 24, and 3/8" x 24.

Second: 3/4" x 16, 7/16" x 20,

5/8" x 18 and 1/2" x 20.

Plug: No.10 x 32, 1/4" x 28, 5/16" x 24

and 3/8" x 24.

Bar Type Tap Wrenches: 1/16" - 1/4"

and 1/4" - 3/4".

Tapping Drills to Suit: HSS S/S.

4.10, 5.50, 6.90, 8.50, 9.50 and 11.50mm.

HSS 1" O/D Dies: 1/4" x 28, 5/16" x 24

and 3/8" x 24.

Distock: 1" O/D.

HSS Die Nuts: 7/16" x 20, 1/2" x 20, 5/8" x 18 and

3/4" x 16.

UNF

**28
PIECES**

Range	Number of Pieces	Order Code SHR-086
10 - 3/4" UNF	28	-9993K

BSP(F) Threading Set

HSSGT Straight Flute Taps:

Taper: 1/8" x 28, 1/4" x 19, 3/8" x 19 and 1/2" x 14.

Second: 3/4" x 14.

Plug: 1/8" x 28, 1/4" x 19, 3/8" x 19 and 1/2" x 14.

Outside Diameter HSS Dies BSPF x 1 5/16":

1/8" x 28, 1/4" x 19 and 3/8" x 19.

BSPF HSS Hexagon

Die Nuts: 1/2" x 14 and 3/4" x 14.

HSS Straight Shank Jobber Drills: 8.80 and 11.80mm,

Parallel Shank Drills 1/2": 15.25, 19.00 and 24.50mm.

Holder: 1 5/16" outside diameter distock.

Traditional Tap Wrenches: 1/16" - 1/4" and 1/4" - 3/4".

**22
PIECES**

BSP HSS



Range	Number of Pieces	Order Code SHR-086
1/16" - 3/4" BSPF	22	-9989K



Metric Coarse HSS Ground Thread Taps

Straight Flute Individual Sizes
ISO 529



METRIC COARSE HSS



Sets of Three
1 each, taper, second and plug lead

(1) Diameter and pitch not mentioned in ISO.

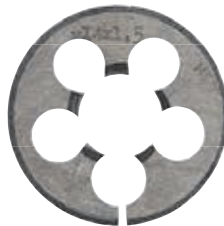
Size - Pitch (mm)	Thread Length	Overall Length	Shank Diameter	Weight each	Taper	Second	Plug
					Order Code SHR-085	Order Code SHR-085	Order Code SHR-085
M1.0 x 0.25	5.5	38.5	2.50	3g	-0100A	-0100B	-0100C
M1.6 x 0.35	8.0	41.0	2.50	3g	-0130A	-0130B	-0130C
M2.0 x 0.40	8.0	41.0	2.50	3g	-0160A	-0160B	-0160C
M2.5 x 0.45	9.5	44.5	2.80	4g	-0200A	-0200B	-0200C
M3.0 x 0.50	11.0	48.0	3.15	4g	-0230A	-0230B	-0230C
M3.0 x 0.60 _n	14.5	48.0	3.15	4g	-0240A	-0240B	-0240C
M3.5 x 0.60	13.0	50.0	3.55	4g	-0260A	-0260B	-0260C
M4.0 x 0.70	13.0	53.0	4.00	6g	-0280A	-0280B	-0280C
M4.0 x 0.75 _n	17.0	53.0	4.00	6g	-0290A	-0290B	-0290C
M5.0 x 0.80	12.0	58.0	5.00	8g	-0330A	-0330B	-0330C
M5.0 x 0.90 _n	12.0	58.0	5.00	6g	-0340A	-0340B	-0340C
M6.0 x 1.00	19.0	66.0	6.30	14g	-0370A	-0370B	-0370C
M7.0 x 1.00	17.0	66.0	7.10	21g	-0390A	-0390B	-0390C
M8.0 x 1.25	22.0	72.0	8.00	23g	-0410A	-0410B	-0410C
M10.0 x 1.50	24.0	80.0	10.00	39g	-0450A	-0450B	-0450C
M12.0 x 1.75	23.0	89.0	9.00	48g	-0480A	-0480B	-0480C
M14.0 x 2.00	25.0	95.0	11.20	76g	-0510A	-0510B	-0510C
M16.0 x 2.00	25.0	102.0	12.50	100g	-0530A	-0530B	-0530C
M18.0 x 2.50	30.0	112.0	14.00	133g	-0550A	-0550B	-0550C
M20.0 x 2.50	30.0	112.0	14.00	144g	-0570A	-0570B	-0570C
M24.0 x 3.00	36.0	130.0	18.00	260g	-0610A	-0610B	-0610C
M27.0 x 3.00	36.0	135.0	20.00	256g	-0640A	-0640B	-0640C
M30.0 x 3.50	42.0	138.0	20.00	380g	-0660A	-0660B	-0660C

Square AF	Tap Drill Size	Set of 3
		Order Code SHR-085
2.00	0.75	-0100D
2.00	1.25	-0130D
2.00	1.60	-0160D
2.24	1.75	-0180D
2.24	2.05	-0200D
2.50	2.40	-0230D
2.50	2.50	-0240D
2.80	2.90	-0260D
3.15	3.30	-0280D
3.15	3.30	-0290D
3.55	3.70	-0310D
4.00	4.20	-0330D
4.00	4.20	-0340D
5.00	5.00	-0370D
6.30	6.80	-0410D
7.10	7.80	-0420D
8.00	8.50	-0450D
6.30	9.50	-0460D
7.10	10.20	-0480D
9.00	12.00	-0510D
10.00	14.00	-0530D
11.20	15.50	-0550D
11.20	17.50	-0570D
14.00	21.00	-0610D
16.00	24.00	-0640D
16.00	26.50	-0660D
20.00	32.00	-0690D
22.40	37.50	-0710D

Metric Coarse HSS Ground Thread Dies

BS 1127

For use in diestocks to produce external screw threads.



Size - Pitch (mm)	Outside Diameter	Thickness	Weight each	Order Code SHR-086
M2.0 x 0.40	13/16"	1/4"	13g	-0110K
M2.5 x 0.45	13/16"	1/4"	12g	-0130K
M3.0 x 0.50	13/16"	1/4"	14g	-0140K
M3.5 x 0.60	13/16"	1/4"	13g	-0150K
M4.0 x 0.70	13/16"	1/4"	13g	-0160K
M4.0 x 0.70	1"	3/8"	25g	-0410K
M5.0 x 0.80	1"	3/8"	24g	-0430K
M5.0 x 0.80	13/16"	1/4"	12g	-0180K
M6.0 x 1.00	13/16"	1/4"	12g	-0200K
M6.0 x 1.00	1"	3/8"	27g	-0440K
M6.0 x 1.00	15/16"	7/16"	54g	-0590K
M7.0 x 1.00	13/16"	1/4"	11g	-0210K
M8.0 x 1.25	1"	3/8"	27g	-0460K
M8.0 x 1.25	15/16"	7/16"	62g	-0610K
M8.0 x 1.25	1 1/2"	1/2"	85g	-0790K
M9.0 x 1.25	1"	3/8"	26g	-0470K
M10.0 x 1.50	1"	3/8"	26g	-0480K
M10.0 x 1.50	15/16"	7/16"	51g	-0630K
M10.0 x 1.50	1 1/2"	1/2"	85g	-0810K
M11.0 x 1.50	15/16"	7/16"	54g	-0640K
M12.0 x 1.75	15/16"	7/16"	54g	-0650K
M12.0 x 1.75	1 1/2"	1/2"	78g	-0830K
M12.0 x 1.75	2"	5/8"	156g	-1020K
M14.0 x 2.00	15/16"	7/16"	50g	-0660K
M14.0 x 2.00	1 1/2"	1/2"	73g	-0840K
M14.0 x 2.00	2"	5/8"	167g	-1030K
M16.0 x 2.00	1 1/2"	1/2"	72g	-0850K
M16.0 x 2.00	2"	5/8"	167g	-1040K
M18.0 x 2.50	1 1/2"	1/2"	96g	-0860K
M20.0 x 2.50	1 1/2"	1/2"	66g	-0870K
M20.0 x 2.50	2"	5/8"	160g	-1060K
M22.0 x 2.50	2"	5/8"	157g	-1070K
M24.0 x 3.00	2"	5/8"	152g	-1080K
M30.0 x 3.50	3"	7/8"	471g	-1220K

Metric Coarse HSS Ground Thread Die Nuts

BS 1127

For use with spanners to clean and repair existing external screw threads.

METRIC COARSE HSS



Size - Pitch (mm)	Outside Diameter	Thickness	Weight each	Order Code SHR-086
M3.0 x 0.50	0.71"	1/4"	11g	-1310K
M4.0 x 0.70	0.71"	1/4"	10g	-1330K
M5.0 x 0.80	0.71"	1/4"	11g	-1350K
M6.0 x 1.00	0.71"	1/4"	10g	-1360K
M7.0 x 1.00	0.82"	5/16"	16g	-1440K
M8.0 x 1.25	0.82"	5/16"	16g	-1450K
M9.0 x 1.25	0.92"	3/8"	25g	-1490K
M10.0 x 1.50	0.92"	3/8"	24g	-1500K
M12.0 x 1.75	1.10"	1/2"	36g	-1570K
M14.0 x 2.00	1.30"	5/8"	45g	-1600K
M16.0 x 2.00	1.30"	5/8"	48g	-1610K
M18.0 x 2.50	1.48"	1 1/16"	106g	-1640K
M20.0 x 2.50	1.48"	1 1/16"	140g	-1650K
M22.0 x 2.50	1.67"	13/16"	147g	-1690K
M24.0 x 3.00	2.05"	15/16"	274g	-1720K
M30.0 x 3.50	2.22"	1 1/16"	330g	-1760K
M36.0 x 4.00	2.76"	1 1/4"	489g	-1790K



Metric Coarse HSS Ground Thread Taps

Spiral Point/Gun Nose

METRIC COARSE HSS



Size - Pitch (mm)	Shank Dia.	A/F Square	Weight Each	Order Code SHR-085
M1.6 x 0.35	2.50	2.00	9g	-0130E
M2.0 x 0.40	2.50	2.00	9g	-0160E
M2.5 x 0.45	2.80	2.24	9g	-0200E
M3.0 x 0.50	3.15	2.50	12g	-0230E
M3.5 x 0.60	3.55	2.80	12g	-0260E
M4.0 x 0.70	4.00	3.15	18g	-0280E
M4.5 x 0.75	4.50	3.55	18g	-0310E
M5.0 x 0.80	5.00	4.00	18g	-0330E
M6.0 x 1.00	6.30	5.00	45g	-0370E
M7.0 x 1.00	7.10	5.60	54g	-0390E
M8.0 x 1.25	8.00	6.30	72g	-0410E
M10.0 x 1.50	10.00	8.00	120g	-0450E
M12.0 x 1.75	9.00	7.10	149g	-0480E
M14.0 x 2.00	11.20	9.00	233g	-0510E
M16.0 x 2.00	12.50	10.00	307g	-0530E
M18.0 x 2.50	14.00	11.20	427g	-0550E
M20.0 x 2.50	14.00	11.20	459g	-0570E
M24.0 x 3.00	18.00	14.00	826g	-0610E

Spiral Flute

METRIC COARSE HSS



Size - Pitch (mm)	Shank Dia.	A/F Square	Weight Each	Order Code SHR-085
2.00 - 0.40	2.50	2.00	9g	-0160F
2.50 - 0.45	2.80	2.24	9g	-0200F
3.00 - 0.50	3.15	2.50	12g	-0230F
3.50 - 0.60	3.55	2.80	12g	-0260F
4.00 - 0.70	4.00	3.15	18g	-0280F
5.00 - 0.80	5.00	4.00	24g	-0330F
6.00 - 1.00	6.30	5.00	33g	-0370F
8.00 - 1.25	8.00	6.30	69g	-0410F
10.00 - 1.50	10.00	8.00	114g	-0450F
12.00 - 1.75	9.00	7.10	147g	-0480F
14.00 - 2.00	11.20	9.00	167g	-0510F
16.00 - 2.00	12.50	10.00	304g	-0530F
18.00 - 2.50	14.00	11.20	420g	-0550F
20.00 - 2.50	14.00	11.20	448g	-0570F
24.00 - 3.00	18.00	14.00	795g	-0610F
30.00 - 3.50	20.00	16.00	953g	-0660F

Fluteless

METRIC COARSE HSS



Size - Pitch (mm)	Shank Dia.	Weight Each	Order Code SHR-085
2.00 - 0.40	2.50	9g	-0160K
2.50 - 0.45	2.80	12g	-0200K
3.00 - 0.50	3.15	12g	-0230K
4.00 - 0.70	4.00	18g	-0280K
5.00 - 0.80	5.00	24g	-0330K
6.00 - 1.00	6.30	33g	-0370K
8.00 - 1.25	8.00	69g	-0410K
10.00 - 1.50	10.00	114g	-0450K
12.00 - 1.75	9.00	147g	-0480K
16.00 - 2.00	12.50	304g	-0530K

Straight Flute Long Series

Also Available in UNC/F and BSW/F Thread Forms

METRIC COARSE HSS



Size - Pitch (mm)	Thread Overall Length	Shank Length	Shank Diameter	Weight Each	Order Code SHR-085		
					Taper	Second	Plug
M3.0 x 0.50	11	66	2.24	5g	-0230G	-0230H	-0230J
M4.0 x 0.70	13	73	3.15	9g	-0280G	-0280H	-0280J
M5.0 x 0.80	16	79	4.00	13g	-0330G	-0330H	-0330J
M6.0 x 1.00	19	89	4.50	16g	-0370G	-0370H	-0370J
M8.0 x 1.25	22	97	6.30	30g	-0410G	-0410H	-0410J
M10.0 x 1.50	24	108	8.00	48g	-0450G	-0450H	-0450J
M12.0 x 1.75	29	119	9.00	68g	-0480G	-0480H	-0480J
M16.0 x 2.00	32	137	12.50	130g	-0530G	-0530H	-0530J

Sets of Three

1 each, taper, second and plug lead.

HSS

LEFT HAND

METRIC COARSE



Square AF	Tap Drill Size	Order Code SHR-087
3.15	3.30	-0280P
4.00	4.20	-0330P
5.00	5.00	-0370P
6.30	6.80	-0410P
8.00	8.50	-0450P
7.10	10.20	-0480P
10.00	14.00	-0530P

Metric HSS Left Hand Dies

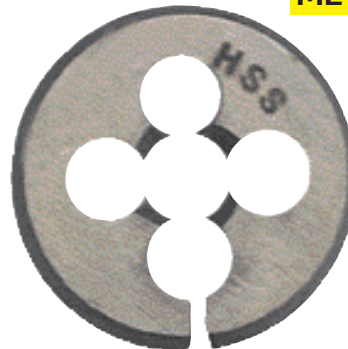
HSS

LEFT HAND

METRIC COARSE

BS 1127

For use in diestocks to produce external screw threads.



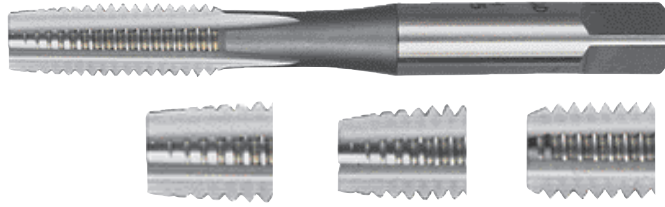
Size - Pitch (mm)	Outside Diameter	Order Code SHR-087
M6.0 x 1.00	1"	-2530K
M8.0 x 1.25	1"	-2550K



Metric Fine HSS Ground Thread Taps

ISO 529
Straight Flute Individual Sizes

(1) Diameter and pitch not mentioned in ISO.



Left Hand Also Available

METRIC FINE

HSS



Sets of Three
1 each, taper, second and plug lead.

Size - Pitch (mm)	Thread Length	Overall Length	Shank Diameter	Weight each	Taper	Second	Plug
					Order Code SHR-085	Order Code SHR-085	Order Code SHR-085
Metric Fine							
M3.5 x 0.35	13.0	50.0	3.55	4g	-0250A	-0250B	-0250C
M4.0 x 0.50	13.0	53.0	4.00	6g	-0270A	-0270B	-0270C
M5.0 x 0.50	16.0	58.0	5.00	9g	-0320A	-0320B	-0320C
M6.0 x 0.75	19.0	66.0	6.30	17g	-0360A	-0360B	-0360C
M8.0 x 1.00 ⁽¹⁾	19.0	72.0	8.00	21g	-0400A	-0400B	-0400C
M10.0 x 1.25 ⁽¹⁾	20.0	80.0	10.00	45g	-0440A	-0440B	-0440C
M12.0 x 1.25	29.0	89.0	9.00	46g	-0470A	-0470B	-0470C
M14.0 x 1.00	30.0	95.0	11.20	71g	-0485A	-0485B	-0485C
M14.0 x 1.50	30.0	95.0	11.20	76g	-0500A	-0500B	-0500C
M16.0 x 1.50	32.0	102.0	12.50	101g	-0520A	-0520B	-0520C
M18.0 x 1.50	45.0	95.0	14.00	132g	-0540A	-0540B	-0540C
M20.0 x 1.50	37.0	112.0	14.00	144g	-0560A	-0560B	-0560C
M22.0 x 1.50	38.0	118.0	16.00	86g	-0580A	-0580B	-0580C
M24.0 x 2.00	45.0	130.0	18.00	250g	-0600A	-0600B	-0600C
M30.0 x 1.50	37.0	127.0	20.00	398g	-0645A	-0645B	-0645C
M30.0 x 2.00	37.0	127.0	20.00	366g	-0650A	-0650B	-0650C
ISO Metric Special Pitch							
M2.0 x 0.45	8.0	41.0	2.50	3g	-0170A	-0170B	-0170C
M6.0 x 0.50	15.0	55.0	6.00	7g	-0355A	-0355B	-0355C
M8.0 x 0.75	19.0	72.0	8.00	22g	-0395A	-0395B	-0395C
M10.0 x 0.75	20.0	80.0	10.00	36g	-0425A	-0425B	-0425C
M10.0 x 1.00 ⁽¹⁾	24.0	80.0	10.00	38g	-0430A	-0430B	-0430C
M12.0 x 1.00	29.0	89.0	9.00	44g	-0465A	-0465B	-0465C
M12.0 x 1.50	29.0	89.0	9.00	48g	-0475A	-0475B	-0475C
M14.0 x 1.25	30.0	95.0	11.20	72g	-0490A	-0490B	-0490C
M16.0 x 1.00	32.0	102.0	12.50	96g	-0515A	-0515B	-0515C
M18.0 x 1.00	37.0	112.0	14.00	130g	-0535A	-0535B	-0535C
M20.0 x 1.00	37.0	112.0	14.00	146g	-0555A	-0555B	-0555C
M24.0 x 1.50	45.0	130.0	18.00	254g	-0595A	-0595B	-0595C
M25.0 x 1.50	45.0	130.0	18.00	260g	-0620A	-0620B	-0620C

Set of 3		
Square AF	Tap Drill Size	Order Code SHR-085
Metric Fine		
2.50	2.65	-0220D
2.80	3.15	-0250D
3.15	3.50	-0270D
4.00	4.50	-0320D
5.00	5.20	-0360D
6.30	7.00	-0400D
8.00	8.80	-0440D
7.10	10.80	-0470D
9.00	13.00	-0485D
9.00	12.50	-0500D
10.00	14.50	-0520D
11.20	16.80	-0540D
11.20	18.50	-0560D
12.50	20.50	-0580D
14.00	22.50	-0600D
16.00	28.50	-0645D
16.00	28.00	-0650D
ISO Metric Special Pitch		
5.00	5.50	-0355D
6.34	7.20	-0395D
8.00	9.20	-0425D
8.00	9.00	-0430D
7.10	11.00	-0465D
7.10	10.50	-0475D
9.00	12.80	-0490D
10.00	15.00	-0515D
11.20	17.00	-0535D
11.20	19.00	-0555D
14.00	22.50	-0595D
14.00	23.50	-0620D
18.00	30.50	-

Metric Fine HSS Ground Thread Dies

BS 1127
For use in diestocks to produce external screw threads.



Size - Pitch (mm)	Outside Diameter	Thickness	Weight each	Order Code SHR-086
Metric Fine				
M4.0 x 0.50	13/16"	1/4"	12g	-1930K
M5.0 x 0.50	13/16"	1/4"	12g	-1950K
M6.0 x 0.50	13/16"	1/4"	12g	-0190K
M6.0 x 0.75	13/16"	1/4"	12g	-1980K
M8.0 x 1.00	1"	3/8"	27g	-2040K
M10.0 x 1.25	1"	3/8"	25g	-2080K
M10.0 x 1.25	1 5/16"	7/16"	53g	-2130K
M12.0 x 1.25	1 5/16"	7/16"	53g	-2150K
M14.0 x 1.00	1 5/16"	7/16"	48g	-0655K
M14.0 x 1.50	1 5/16"	7/16"	49g	-2180K
M16.0 x 1.50	1 1/2"	1/2"	73g	-2220K
M18.0 x 1.50	1 1/2"	1/2"	74g	-2230K
M20.0 x 1.50	1 1/2"	1/2"	66g	-2250K
M20.0 x 1.50	2"	5/8"	154g	-2330K
M22.0 x 1.50	2"	5/8"	178g	-2350K
M24.0 x 2.00	2"	5/8"	153g	-2380K
ISO Metric Special Pitch				
M5.0 x 0.90	13/16"	1/4"	12g	-0185K
M8.0 x 0.75	1"	3/8"	27g	-2030K
M10.0 x 1.00	1"	3/8"	25g	-2070K
M12.0 x 1.00	1 5/16"	7/16"	50g	-2140K
M12.0 x 1.50	1 5/16"	7/16"	53g	-2160K
M14.0 x 1.25	1 5/16"	7/16"	48g	-2170K
M16.0 x 1.00	1 1/2"	1/2"	68g	-2210K
M20.0 x 1.00	1 1/2"	1/2"	64g	-2240K
M24.0 x 1.50	2"	5/8"	145g	-2370K
M25.0 x 1.50	2"	5/8"	145g	-2390K

HSS

METRIC FINE

Metric Fine HSS Ground Thread Die Nuts

BS 1127
For use with spanners to clean and repair existing external screw threads.



Group **582**



Size - Pitch (mm)	Width	Thickness	Weight each	Order Code SHR-086
Metric Fine				
M6.0 x 0.75	0.71"	1/4"	10g	-2550K
M8.0 x 1.00	0.82"	5/16"	16g	-2590K
M10.0 x 1.25	0.92"	3/8"	24g	-2640K
M12.0 x 1.25	1.10"	1/2"	46g	-2660K
M14.0 x 1.50	1.30"	5/8"	77g	-2770K
M16.0 x 1.50	1.30"	5/8"	71g	-2790K
M18.0 x 1.50	1.48"	1 1/16"	102g	-2810K
M20.0 x 1.50	1.48"	1 1/16"	92g	-2830K
M22.0 x 1.50	1.67"	1 3/16"	146g	-2860K
M24.0 x 2.00	2.05"	1 5/16"	249g	-2890K
ISO Metric Special Pitch				
M10.0 x 0.75	0.92"	3/8"	22g	-1495K
M10.0 x 1.00	0.92"	3/8"	22g	-2630K
M12.0 x 1.00	1.10"	1/2"	35g	-2650K
M12.0 x 1.50	1.10"	1/2"	52g	-2670K
M14.0 x 1.25	1.30"	5/8"	70g	-2760K
M24.0 x 1.50	2.05"	1 5/16"	249g	-2880K

METRIC FINE

HSS Taps & Dies



Metric Fine HSS Ground Thread Taps

ISO 529

Spiral Point/Gun Nose

... = Metric Spark Plug
* = Metric Conduit



Size - Pitch (mm)	Shank Diameter	A/F Square	Weight each	Order Code SHR-085
Metric Fine				
M5.0 x 0.50	5.00	4.00	10g	-0320E
M6.0 x 0.75	6.30	5.00	27g	-0360E
M8.0 x 1.00	8.00	6.30	23g	-0400E
M10.0 x 1.25	10.00	8.00	40g	-0440E
M12.0 x 1.25	9.00	7.10	48g	-0470E
M14.0 x 1.50	11.20	9.00	78g	-0500E
M16.0 x 1.50	12.50	10.00	82g	-0520E
M18.0 x 1.50	14.00	11.20	132g	-0540E
M20.0 x 1.50	14.00	11.20	159g	-0560E
M22.0 x 1.50	16.00	12.50	185g	-0580E
ISO Metric Special Pitch				
M10.0 x 1.00	10.00	8.00	40g	-0430E
M12.0 x 1.50	9.00	7.10	40g	-0475E

Spiral Flute

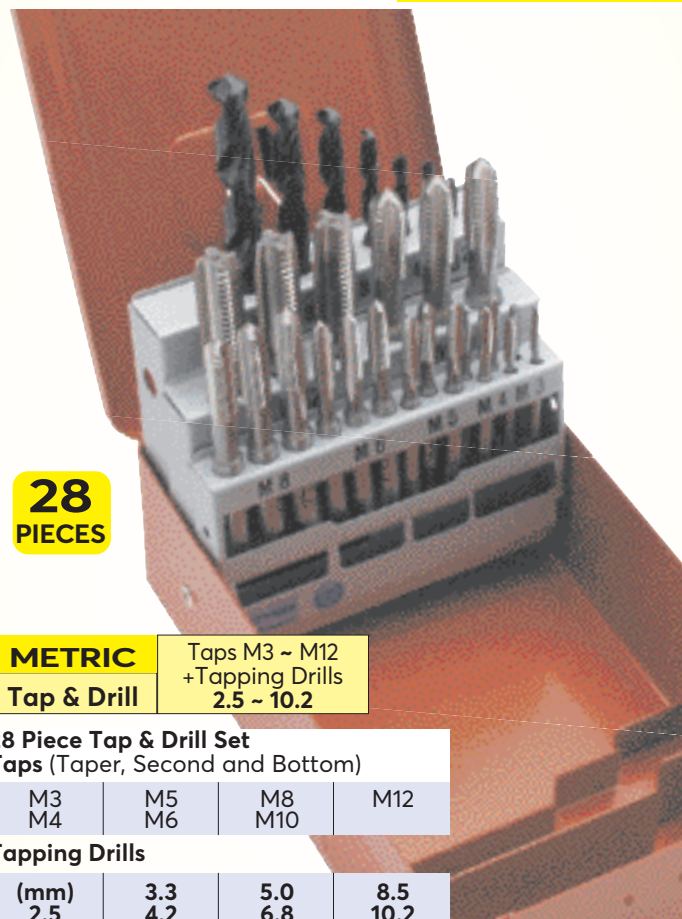
... = Metric Spark Plug
* = Metric Conduit



Size - Pitch (mm)	Shank Diameter	A/F Square	Weight each	Order Code SHR-085
Metric Fine				
M4.0 x 0.50	4.00	3.15	6g	-0270F
M5.0 x 0.50	5.00	4.00	10g	-0320F
M8.0 x 1.00	8.00	6.30	22g	-0400F
M10.0 x 1.25	10.00	8.00	37g	-0440F
M12.0 x 1.25	9.00	7.10	47g	-0470F
M14.0 x 1.50	11.20	9.00	75g	-0500F
M16.0 x 1.50	12.50	10.00	82g	-0520F
M18.0 x 1.50	14.00	11.00	148g	-0540F
M20.0 x 1.50	14.00	11.20	131g	-0560F
ISO Metric Special Pitch				
M10.0 x 1.00	10.00	8.00	38g	-0430F
M12.0 x 1.50	9.00	7.10	48g	-0475F
M14.0 x 1.25	11.20	9.00	75g	-0490F

HSS Ground Flute Tap & Drill Set

Industrial quality. Ground flute, blue finish. Supplied in indexing metal cases. Manufactured to BS328 : Part 1 : 1986, DIN 338N & ANSI B94 -11M.



28
PIECES

METRIC Tap & Drill Taps M3 ~ M12 + Tapping Drills 2.5 ~ 10.2

28 Piece Tap & Drill Set			
Taps (Taper, Second and Bottom)			
M3	M5	M8	M12
M4	M6	M10	
Tapping Drills			
(mm)	3.3	5.0	8.5
2.5	4.2	6.8	10.2
Number of Pieces	Order Code		
28	SHR-025		-9960K

Machine Tapping Speeds

Group	Materials Colour defines similar machineability	Hardness		Tensile Strength N/mm ²	Cutting Speed M/min	Hole Type	Tap Type
		Brinell HB	Rockwell HRC				
Carbon	1.1 Mild Steel	<130	-	<400	15 - 20	Various Through Hole Blind Hole	Straight Flute Spiral Point/ Gun Nose Spiral Flute
	1.2 Case Hardening & Structural Steel	<200	-	<700	15 - 20		
	1.3 Medium Carbon Steel	<260	<26	<850	15 - 20		
Alloy	1.4 Low Alloy Steel	<260	<26	<850	10 - 15	Through Hole Blind Hole	Spiral Point/ Gun Nose Spiral Flute
	1.5 Medium to High Alloy Steel	260 - 340	26 - 36	850 - 1200	6 - 10		
	1.6 Heat Treated Steel	340 - 450	36 - 48	1200 - 1500	4 - 6		
Stainless Steels	2.1 Free Machining Stainless	<230	<20	<800	8 - 10	Through Hole Blind Hole	Spiral Point/ Gun Nose Spiral Flute
	2.2 Medium Strength Austenitic Stainless	<290	<30	<1000	6 - 8		
	2.3 Difficult to Machine, Duplex Stainless	<340	<36	<1200	4 - 6		
Cast Iron	3.1 Grey Cast Iron - Soft	<180	-	-	18 - 25	Blind & Through Hole	Straight Flute
	3.2 Grey Cast Iron - Hard	180 - 300	-	-	15 - 18		
	3.3 Malleable & Nodular Iron	<220	-	-	8 - 12	Through Hole	Spiral Point/ Gun Nose
	3.4 Malleable & Nodular Iron - Hard	200 - 300	-	-	4 - 6		
Aluminium	7.1 Unalloyed Aluminium - Zinc - Magnesium	-	-	<150	20 - 25	Blind & Through Hole	Fluteless
	7.2 Aluminium Alloy less than 5% Si	-	-	150 - 300	17 - 22		
	7.3 Aluminium Alloy 5% to 10% Si	-	-	200 - 500	15 - 20		
	7.4 Aluminium Alloy above 10% Si	-	-	200 - 500	12 - 15		

Power Requirements For Taps

Many factors are involved when considering power requirements for a particular application. Factors such as the choice of tap design, tapping drill size, depth of threaded hole, lubricant and tapping speed all play a part in determining these requirements. To estimate the power requirements for varying percentage thread depths, the following general formula and constants may be used:

$$\text{Tapping Power (KW)} = \frac{C \times D \times p^2 \times N \times K}{10000}$$

$$\text{HP} = \text{KW} \times 1.341$$

Where **D** = Thread Diameter (mm)
P = Pitch (mm)
N = Spindle speed RPM
K = Material Factor Constant
C = A constant based on % thread depth, as follows:

C	% Thread Depth
0.231	60
0.326	75
0.433	80



UNC (Unified Coarse) HSS Ground Thread Taps

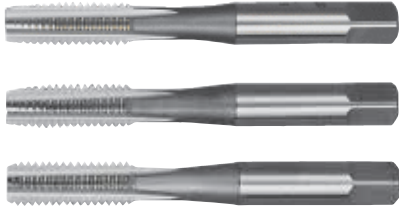
ISO 529

Sets of Three

1 each, taper, second and plug lead.

Left Hand
Also
Available

UNC HSS



Square AF	Tap Drill Size	Order Code SHR-085
2.50	2.35	-0790D
2.80	2.85	-0810D
3.55	3.50	-0820D
4.00	3.90	-0830D
4.50	4.50	-0840D
5.00	5.10	-0850D
6.30	6.60	-0860D
8.00	8.00	-0870D
6.30	9.40	-0880D
7.10	10.80	-0890D
9.00	12.20	-0900D
10.00	13.50	-0910D
11.20	16.50	-0920D
12.50	19.50	-0930D
14.00	22.25	-0940D

UNC (Unified Coarse) HSS Ground Thread Taps

ISO 529

Spiral Flute

UNC HSS



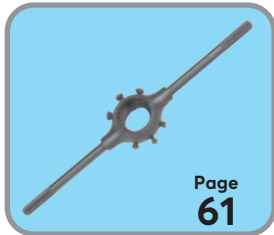
Size - Pitch	Shank Dia.	A/F Square	Weight each	Order Code SHR-085
No.4 x 40	3.15	2.50	1g	-0790F
No.5 x 40	3.15	2.50	2g	-0800F
No.6 x 32	3.55	2.80	3g	-0810F
No.8 x 32	4.50	3.55	4g	-0820F
No.10 x 24	5.00	4.00	5g	-0830F
1/4" x 20	6.30	5.00	11g	-0850F
5/16" x 18	8.00	6.30	19g	-0860F
3/8" x 16	10.00	8.00	31g	-0870F
1/2" x 13	9.00	7.10	41g	-0890F
5/8" x 11	12.50	10.00	89g	-0910F
3/4" x 10	14.00	11.20	123g	-0920F
1" x 8	18.00	14.00	240g	-0940F

UNC (Unified Coarse) HSS Ground Thread Dies

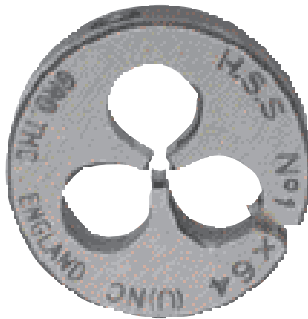
BS 1127

For use in diestocks to produce external screw threads.

UNC HSS



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Size - Pitch	Outside Diameter	Thickness	Weight each	Order Code SHR-086
No.6 x 32	13/16"	1/4"	7g	-3020K
No.8 x 32	13/16"	1/4"	13g	-3030K
No.10 x 24	13/16"	1/4"	17g	-3040K
1/4" x 20	13/16"	3/8"	12g	-3060K
1/4" x 20	1"	3/8"	26g	-3220K
5/16" x 18	1"	3/8"	27g	-3230K
3/8" x 16	1"	3/8"	24g	-3240K
3/8" x 16	1 5/16"	7/16"	62g	-3360K
7/16" x 14	1"	3/8"	27g	-3250K
1/2" x 13	1 5/16"	7/16"	52g	-3380K
1/2" x 13	1 1/2"	7/8"	79g	-3480K
5/8" x 11	1 1/2"	1 1/2"	71g	-3500K
3/4" x 10	1 1/2"	1 1/2"	70g	-3510K

UNC (Unified Coarse) HSS Ground Thread Die Nuts

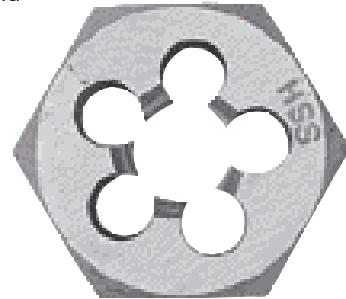
BS 1127

For use with spanners to clean and repair existing external screw threads.

UNC HSS



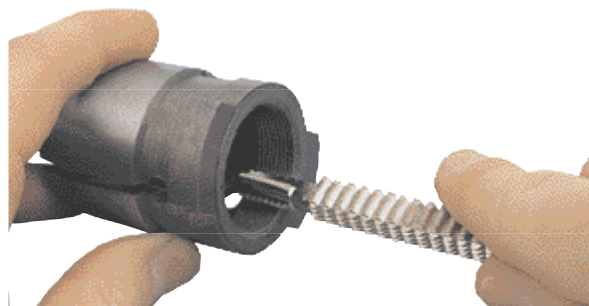
Group
582



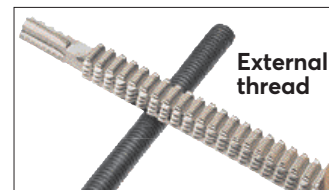
Size - Pitch	Width	Thickness	Weight each	Order Code SHR-086
1/4" x 20	0.71"	1/4"	13g	-3920K
5/16" x 18	0.82"	5/16"	12g	-3950K
3/8" x 16	0.92"	3/8"	11g	-3970K
7/16" x 14	1.01"	7/16"	33g	-3990K
1/2" x 13	1.10"	1/2"	45g	-4010K
5/8" x 11	1.30"	5/8"	72g	-4040K
3/4" x 10	1.48"	1 1/16"	102g	-4070K
1" x 8	2.05"	1 5/16"	269g	-4110K

Thread Restoring Files

Restore internal and external threads by filing, where the use of taps and dies are impractical. The restorer file overlaps several good threads and files the damaged ones. Restore right and left hand, internal and external threads. Long lasting, fast cutting teeth. Thread restoring files are available in ISO, Whit/BSF, UNF/UNC and BSP thread types.



Group
620



External
thread

Thread Type	Range	Weight each	Order Code SHR-017
ISO	.80 to 3mm	133g	-9020C
Whit/BSF	10 tpi to 24 tpi	132g	-9001A
UNF/UNC	11 tpi to 24 tpi	130g	-9010B
BSP	11 tpi to 28 tpi	127g	-9030D



**UNF (Unified Fine)
HSS Ground
Thread Taps**

ISO 529

Sets of Three

1 each, taper, second and plug lead.

Left Hand
Also
Available

UNF HSS



Square AF	Tap Drill Size	Order Code
2.50	2.70	-1060D
3.55	3.50	-1080D
4.00	4.10	-1090D
5.00	5.50	-1110D
6.30	6.90	-1120D
8.00	8.50	-1130D
6.30	9.90	-1140D
7.10	11.50	-1150D
9.00	12.90	-1160D
10.00	14.50	-1170D
11.20	17.50	-1180D

**BSW (British Standard Whitworth)
HSS Ground
Thread Taps**

ISO 529

Sets of Three

1 each, taper, second and plug lead.

Left Hand
Also
Available

**HSS
BSW**



Square AF	Tap Drill Size	Order Code
2.50	2.55	-1320D
4.00	3.70	-1340D
5.00	5.10	-1360D
6.30	6.50	-1370D
8.00	7.90	-1380D
6.30	9.30	-1390D
7.10	10.50	-1400D
10.00	13.50	-1420D
11.20	16.25	-1430D
14.00	22.00	-1450D

**BSF (British Standard Fine)
HSS Ground
Thread Taps**

ISO 529

Sets of Three

1 each, taper, second and plug lead.

Left Hand
Also
Available

BSF HSS



Square AF	Tap Drill Size	Order Code
4.00	4.00	-1600D
5.00	5.30	-1610D
6.30	6.80	-1630D
8.00	8.30	-1640D
6.30	9.70	-1650D
7.10	11.10	-1660D
10.00	14.00	-1680D
11.20	15.50	-1690D

**UNF (Unified Fine)
HSS Ground Thread Taps
Spiral Flute**

UNF HSS



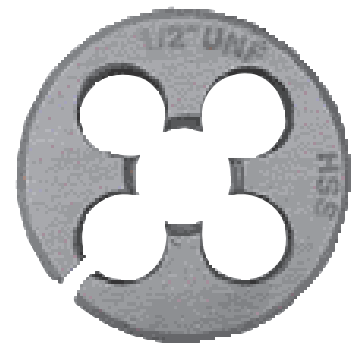
Size - Pitch	Shank Dia.	A/F Square	Weight each	Order Code
No.10 x 32	5.00	4.00	7g	-1090F
1/4" x 28	6.30	5.00	14g	-1110F
5/16" x 24	8.00	6.30	22g	-1120F
3/8" x 24	10.00	8.00	37g	-1130F
7/16" x 20	8.00	6.30	39g	-1140F
1/2" x 20	9.00	7.10	48g	-1150F
9/16" x 18	11.20	9.00	75g	-1160F
5/8" x 18	12.50	10.00	95g	-1170F
3/4" x 16	14.00	11.20	131g	-1180F

**UNF (Unified Fine)
HSS Ground Thread Dies**

UNF HSS

ISO 529

For use in diestocks to produce external screw threads.



UNF (Unified Fine)

Size - Pitch	Outside Diameter	Thickness	Weight each	Order Code
No.10 x 32	13/16"	1/4"	12g	-4300K
1/4" x 28	13/16"	1/4"	12g	-4320K
1/4" x 28	1"	3/8"	28g	-4490K
5/16" x 24	1"	3/8"	42g	-4500K
3/8" x 24	1"	3/8"	42g	-4510K
3/8" x 24	1 1/16"	7/16"	55g	-4640K
7/16" x 20	1"	3/8"	23g	-4520K
7/16" x 20	1 1/16"	7/16"	53g	-4650K
1/2" x 20	1 1/16"	7/16"	51g	-4660K
1/2" x 20	1 1/2"	1/2"	73g	-4780K
9/16" x 18	1 1/16"	7/16"	49g	-4670K
3/4" x 16	2"	5/8"	165g	-4970K
7/8" x 14	2"	5/8"	159g	-4980K
1" x 12	2"	5/8"	156g	-4990K



**BSP(F) (British Standard Pipe Fitting)
HSS Ground Thread Taps**

BSP HSS

ISO 529

Sets of Three

1 each, taper, second and plug lead.



Square AF	Tap Drill Size	Order Code
6.30	8.80	-2010D
8.00	11.80	-2020D
10.00	15.25	-2030D
12.50	19.00	-2040D
14.00	21.00	-2050D
16.00	24.50	-2060D
18.00	28.25	-
20.00	30.75	-2080D

**BSP(F) (British Standard Pipe Fine)
HSS Ground Thread Taps**

BSP HSS

ISO 529

Spiral Point/Gun Nose



Size - Pitch	Shank Dia. (mm)	A/F Square (mm)	Weight each	Order Code
1/8" x 28	8.0	6.3	24g	-2010E
1/4" x 19	10.0	8.0	51g	-2020E
3/8" x 19	12.5	10.0	85g	-2030E
1/2" x 14	16.0	12.5	143g	-2040E
3/4" x 14	20.0	16.0	250g	-2060E

**BSP(F) (British Standard Pipe Fitting)
HSS Ground Thread Taps**

BSP HSS

ISO 529

Spiral Flute



Size - Pitch	Shank Dia. (mm)	A/F Square (mm)	Weight each	Order Code
1/8" x 28	8.0	6.3	24g	-2010F
1/4" x 19	10.0	8.0	51g	-2020F
3/8" x 19	12.5	10.0	85g	-2030F
1/2" x 14	16.0	12.5	143g	-2040F
3/4" x 14	20.0	16.0	250g	-2060F

**BSP(F) (British Standard Pipe Fitting)
HSS Ground Thread Dies**

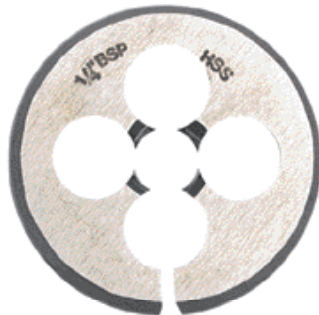
BSP HSS

BS 1127

For use in diestocks to produce external screw threads.



Group **588**



Size - Pitch	Outside Diameter	Thickness	Weight each	Order Code
1/8" x 28	1"	3/8"	26g	-8620K
1/8" x 28	1 5/16"	7/16"	50g	-8640K
1/4" x 19	1 5/16"	7/16"	50g	-8650K
1/4" x 19	1 1/2"	1/2"	76g	-8690K
3/8" x 19	1 1/2"	1/2"	75g	-8700K
1/2" x 14	2"	5/8"	158g	-8760K
3/4" x 14	2"	5/8"	144g	-8780K

**BSP(F) (British Standard Pipe Fitting)
HSS Ground Thread Die Nuts**

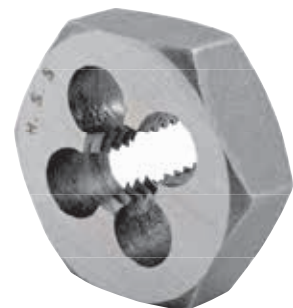
BSP HSS

BS 1127

For use with spanners to clean and repair existing external screw threads.



Page **61**



Size - Pitch	Width	Thickness	Weight each	Order Code
1/8" x 28	0.92"	3/8"	23g	-8940K
1/4" x 19	1.10"	1/2"	43g	-8960K
3/8" x 19	1.30"	5/8"	80g	-8980K
1/2" x 14	1.67"	13/16"	161g	-9000K
3/4" x 14	2.05"	15/16"	247g	-9040K
1" x 11	2.58"	1 1/8"	428g	-9080K

HSS Taps & Dies



BSP(F) Threading Set

HSSGT Straight Flute Taps:

Taper: 1/8" x 28, 1/4" x 19, 3/8" x 19 and 1/2" x 14.

Second: 3/4" x 14.

Plug: 1/8" x 28, 1/4" x 19, 3/8" x 19 and 1/2" x 14.

Outside Diameter HSS Dies BSPF x 1 5/16":

1/8" x 28, 1/4" x 19 and 3/8" x 19.

BSPF HSS Hexagon Die Nuts:

1/2" x 14 and 3/4" x 14.

HSS Straight Shank Jobber Drills: 8.80 and 11.80mm,

Parallel Shank Drills 1/2": 15.25, 19.00 and 24.50mm.

Holders: 1 5/16" outside diameter diestock.

Traditional Tap Wrenches: 1/16" - 1/4" and 1/4" - 3/4".

BSPT (British Standard Pipe Taper) HSS Ground Thread Taps

ISO 529

Straight Flute



R = With Reamer
NR = Without Reamer

Size - Pitch	Thread Length (mm)	Shank Diameter (mm)	Overall Length (mm)	Weight each	Square AF	Tap Drill Size R	Tap Drill Size NR	Order Code SHR-085	Order Code SHR-085	Order Code SHR-085
1/8" x 28	15.0	8.0	59.0	29g	6.30	8.00	8.40	-	-	-2200C
1/4" x 19	19.0	10.0	67.0	50g	8.00	10.80	11.20	-	-	-2210C
3/8" x 19	21.0	12.5	75.0	66g	10.00	14.25	14.75	-	-	-2220C
1/2" x 14	26.0	16.0	87.0	142g	12.50	17.75	18.25	-	-	-2230C
3/4" x 14	28.0	20.0	96.0	241g	16.00	23.00	23.75	-	-	-2240C
1" x 11	33.0	25.0	109.0	267g	20.00	29.00	30.00	-	-	-2250C

BSPT (British Standard Pipe Taper) HSS Ground Thread Dies

ISO 2284

For use in diestocks to produce external screw threads.

Size - Pitch	Outside Diameter	Thickness	Weight each	Order Code SHR-086
1/8" x 28	1"	3/8"	26g	-9150K
1/4" x 19	1 5/16"	7/16"	62g	-9170K
3/8" x 19	1 1/2"	1/2"	75g	-9200K
1/2" x 14	2"	5/8"	175g	-9230K

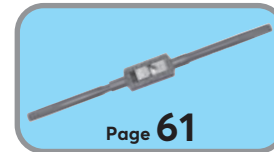


Range	Number of Pieces	Order Code SHR-086
1/16" - 3/4" BSPF	22	-9989K

BSP HSS

22 PIECES

Metalworking



Page 61

BSPT HSS

Left Hand Also Available



Taper Second Plug

NPTF (National Pipe Taper Fuel) HSS Ground Thread Taps

ANSI 94.9

Straight Flute

NPTF HSS

NPT (National Pipe Taper) HSS Ground Thread Taps

ANSI 94.9

Straight Flute

BSPT HSS



Page 61

Left Hand Also Available

CTL0850100C.EPS CTL0850100C.EPS CTL0850100C.EI

CTL0850100C.EPS CTL0850100C.EPS CTL0850100C.EI

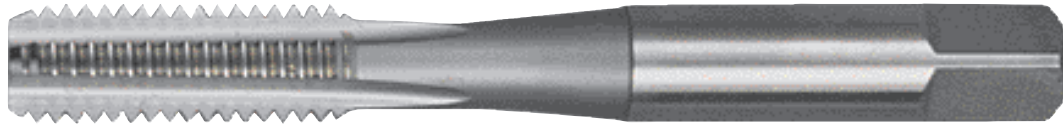
Size - Pitch	Thread Length	Overall Length	Shank Diameter	Weight each	Order Code SHR-085
1/16" x 27	1 1/16"	0.312	2 1/8"	20g	-3010C
1/8" x 27	3/4"	0.437	2 1/8"	50g	-3020C
1/4" x 18	1 1/16"	0.562	2 7/16"	70g	-3030C
3/8" x 18	1 1/16"	0.700	2 9/16"	100g	-3040C
1/2" x 14	1 3/8"	0.687	3 1/8"	180g	-3050C
3/4" x 14	1 3/8"	0.906	3 1/4"	230g	-3060C
1" x 11.5	1 3/4"	1.125	3 3/4"	420g	-3070C



NPT (National Pipe Taper) HSS Ground Thread Taps

**Left Hand
Also
Available**

ANSI 94.9
Straight Flute



Size - Pitch	Thread Length	Overall Length (mm)	Shank Diameter	Weight each	Taper	Second	Plug
					Order Code SHR-085	Order Code SHR-085	Order Code SHR-085
1/16" x 27	1 1/16"	0.312	2 1/8"	20g	-	-	-3010C
1/8" x 27	3/4"	0.437	2 1/8"	50g	-	-	-3020C
1/4" x 18	1 1/16"	0.562	2 7/16"	70g	-	-	-3030C
3/8" x 18	1 1/16"	0.700	2 9/16"	100g	-	-	-3040C
1/2" x 14	1 3/8"	0.687	3 1/8"	180g	-	-	-3050C
3/4" x 14	1 3/8"	0.906	3 1/4"	230g	-	-	-3060C
1" x 11.5	1 3/4"	1.125	3 3/4"	420g	-	-	-3070C

NPT (National Pipe Taper) HSS Ground Thread Dies

NPT HSS

For use in diestocks to produce external screw threads.



Size - Pitch	Outside Diameter	Thickness	Weight each	Order Code SHR-086
1/8" x 27	1"	3/8"	22g	-9390K
1/8" x 27	1 5/16"	7/16"	44g	-9400K
1/4" x 18	1 5/16"	7/16"	69g	-9410K
1/8" x 27	1 1/2"	1/2"	55g	-9420K
1/4" x 18	1 1/2"	1/2"	88g	-9430K
1/2" x 14	2"	5/8"	159g	-9470K

NPTF (National Pipe Taper Fuel) HSS Ground Thread Taps

NPTF HSS

ANSI 94.9
Straight Flute



Size - Pitch	Thread Length	Shank Diameter (mm)	Overall Length	Weight each	Order Code SHR-085
1/16" x 27	1 1/16"	0.312	2 1/8"	20g	-3400C
1/8" x 27	3/4"	0.437	2 1/8"	50g	-3410C
1/4" x 18	1 1/16"	0.562	2 7/16"	91g	-3420C
1/2" x 14	1 3/8"	0.687	3 1/8"	205g	-3440C

HSS Threading Set

Machine ground HSS taps and dies for general workshop and maintenance use. Conforms to ISO529 and BS1127.

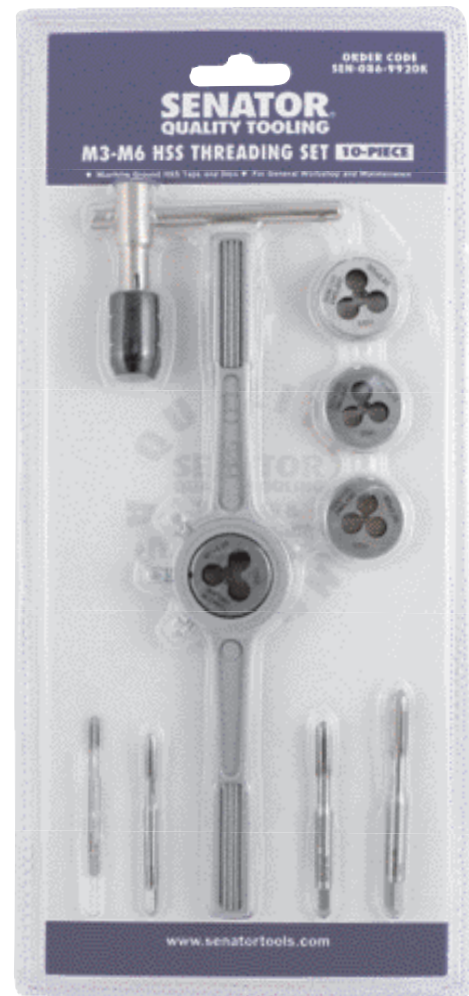
Contents:

Tap & Die Sizes: M3 x 0.50, M4 x 0.70, M5 x 0.80 and M6 x 1.00mm.

'T' Type Tap Wrench (capacity M3 - M6).

Die Holder 1" O/D.

**10
PIECES**

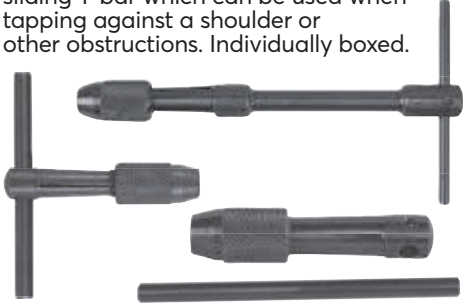


Range	Number of Pieces	Order Code SEN-086
M3 - M6	10	-9920K

KENNEDY Chuck Style Tap Wrenches

English Type

Used in hand tapping operations and provide the reach and leverage needed for accurate tapping in tight spaces. Heavy duty ductile steel body with knurled chuck, four equalising jaws to hold the tap true and sliding T-bar which can be used when tapping against a shoulder or other obstructions. Individually boxed.



Square Size (mm)	Length (mm)	Order Code KEN-518
Standard Length		
2.0 - 2.8	50	-8860K
3.0 - 5.0	65	-8880K
7.0 - 9.4	90	-8900K
Long Reach		
3.0 - 5.0	165	-8920K
7.2 - 9.0	255	-8940K

Chuck Type Tap Wrench Set

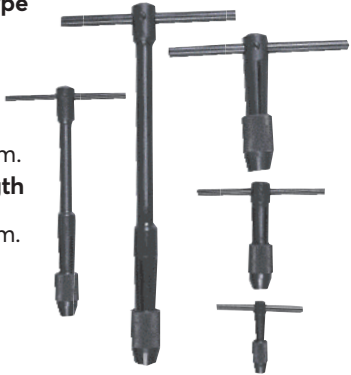
English Type

Contents:
Standard length

2.0 - 2.8,
3.0 - 5.0,
7.0 - 9.4mm.

Extra length

3.0 - 5.0,
7.2 - 9.0mm.

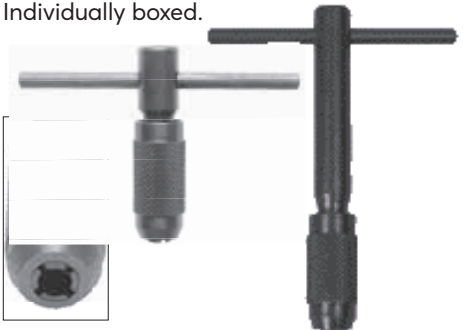


**5
PIECES**

Weight each	Order Code KEN-518
895g	-9000K

Japanese Type

Used in Hand Tapping operations and provide the reach and leverage needed for accurate tapping. Heavy duty ductile steel body with knurled chuck, stepped chuck jaws and four point clamping increase the range of tap sizes which can be used in the wrench fitted with a fixed T-bar. Individually boxed.



Square Size (mm)	Length (mm)	Order Code KEN-518
Slimline		
2.0 - 4.0	55	-8520K
Standard Length		
4.0 - 5.0	60	-8550K
4.0 - 5.5	70	-8580K
Long Reach		
3.0 - 3.9	100	-8620K
5.6 - 6.2	120	-8690K

KENNEDY Engineer's Tap Wrenches

With all steel, hardened and tempered bodies, solid construction, hardened ground jaws and knurled adjustable handles for extra grip. Straight handle design provides greater leverage, especially when using larger diameter taps. Tap sizes to ISO 529.



Square Size (mm)	Order Code KEN-518
2.8 - 5.0	-8320K
4.0 - 10.0	-8350K
4.0 - 12.0	-8390K
5.3 - 17.0	-8470K

Tap Wrench Set

Contents:
Square size: 2.8 - 5mm and 4.0 - 12mm.

**2
PIECES**



Order Code KEN-518
-8480K

Bar Type Tap Wrenches

Ductile steel body with a knurled locking nut ensuring no loss of grip during use.



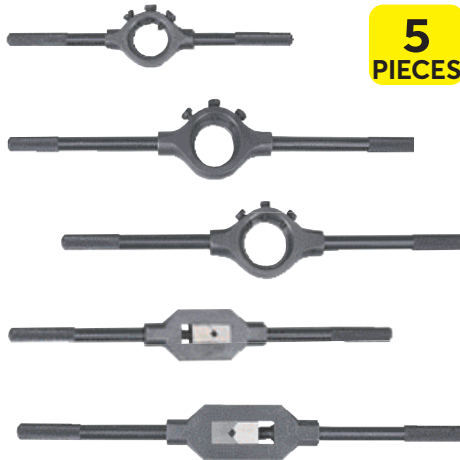
Square Size (mm)	Order Code KEN-518
1.5 - 5.0	-8800K
2.0 - 7.2	-8820K
2.5 - 9.0	-8840K

Tap Wrench & Diestock Set

Contents

Diestocks: 1" x 1³/₁₆", 1" x 1", 1" x 1⁵/₁₆".

Tap wrenches (square size):
1 x 2.8 - 5.0mm and 1 x 4.0 - 10.0mm.

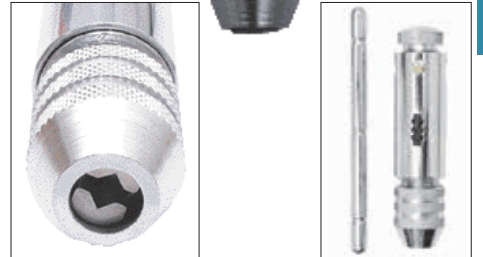


**5
PIECES**

Order Code KEN-518
-8500K

KENNEDY Ratchet Type Tap Wrenches

Manufactured from hardened and tempered steel, with chrome plated high polish finish. Switchable between forward and reverse coupled with the multi-positional sliding T-bar makes this tap wrench ideal for use in confined spaces. Individually boxed.



Square Size (mm)	Length (mm)	Order Code KEN-518
3.0 - 6.0	85	-8720K
6.0 - 8.0	100	-8750K

Replacement Jaws

To Suit	Order Code KEN-567
KEN-518-8720K	-6500K
KEN-518-8750K	-6510K

Die Stocks

All steel drop forged solid construction for long life with knurled handles for extra grip. Designed to hold a range of different sizes of round split-adjustable dies. The three screw design easily locks die into position and maintains alignment for accurate threading resulting in clean, straight threads.



Outside Diameter	Order Code KEN-518
1 ³ / ₁₆ "	-8070K
1"	-8100K
1 ⁵ / ₁₆ "	-8130K
1 ¹ / ₂ "	-8150K
2"	-8200K

Die Stock Set Contents:

1 - 1³/₁₆" x 150mm,
1 - 1" x 210mm,
1 - 1⁵/₁₆" x 280mm.

**3
PIECES**



Order Code KEN-518
-8210K

SWISS+TECH HSS 'Yellow Ring' Taps

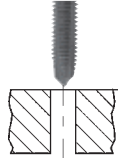


Manufactured to **DIN 371/376**

Suitable for the following Material Groups

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm ²	Tapping Speed M/min
1.1	Mild soft steel & free machining non-alloy low carbon steel	up to 130	up to 400	10 - 20
1.2	Non-alloy case hardening, structural & low to medium carbon steel	up to 200	up to 700	10 - 15
1.3	Non-alloy, plain and medium carbon steel and castings	up to 260	up to 850	5 - 10

Spiral Point/Gun Nose - HSS-EV Oxidised Finish
For through holes.
Taper lead to **DIN form B**.
(3.5 x P to 5.5 x P).
Tapping tolerance to **6H**.



HSS-EV

SPIRAL POINT FOR THROUGH HOLES



ISO Metric Coarse

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code SWT-185
M2.0 x 0.40	45.0	8.0	2.8	2.1	4g	-0003Y
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	-0009Y
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	-0015Y
M5.0 x 0.80	70.0	15.0	6.0	4.9	13g	-0018Y
M6.0 x 1.00	80.0	17.0	6.0	4.9	17g	-0021Y
M8.0 x 1.25	90.0	20.0	8.0	6.0	32g	-0027Y
M10.0 x 1.50	100.0	22.0	10.0	8.0	55g	-0030Y
M12.0 x 1.75	110.0	24.0	9.0	7.0	61g	-0033Y
M16.0 x 2.00	110.0	27.0	12.0	9.0	108g	-0039Y

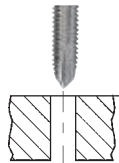
HSS 'Red Ring' Taps

Manufactured to **DIN 371/376**

Suitable for the following Material Groups

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm ²	Tapping Speed M/min
1.4	Generally low to medium alloy steel and castings	up to 260	up to 850	5 - 10
1.5	Medium to high alloy steel tool steel and steel castings	up to 340	up to 1200	4 - 8

Spiral Point/Gun Nose - HSS-Co Bright Finish
For through holes.
Taper lead to **DIN form B**.
(3.5 x P to 5.5 x P).
Tapping tolerance to **6HX**.



HSS-Co

SPIRAL POINT FOR THROUGH HOLES

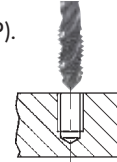


ISO Metric Coarse

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code SWT-185
M2.0 x 0.40	45.0	8.0	2.8	2.1	4g	-1003R
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	-1009R
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	-1015R
M5.0 x 0.80	70.0	15.0	6.0	4.9	13g	-1018R
M6.0 x 1.00	80.0	17.0	6.0	4.9	17g	-1021R
M8.0 x 1.25	90.0	20.0	8.0	6.2	32g	-1027R
M10.0 x 1.50	100.0	22.0	10.0	8.0	58g	-1030R
M12.0 x 1.75	110.0	24.0	9.0	7.0	61g	-1033R
M16.0 x 2.00	110.0	27.0	12.0	9.0	108g	-1039R

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm ²	Tapping Speed M/min
1.4	Generally low to medium alloy steel and castings	up to 260	up to 850	4 - 9
2.1	Soft & generally easy to machine ferritic, martensitic stainless steel & castings	up to 230	up to 880	4 - 6
6.3	Brass (beta - short chip) & soft bronze	-	up to 500	15 - 20

Spiral Flute - HSS-EV Oxidised Finish
For blind holes.
Taper lead to **DIN form C** (3 x P).
Tapping tolerance:
Spiral flute to **6H**.



HSS-EV

SPIRAL FLUTE FOR BLIND HOLES



ISO Metric Coarse

Helix angle 40°. Tapping depth **2.5 x D**.

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code SWT-185
M2.0 x 0.40	45.0	8.0	2.8	2.1	5g	-0503Y
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	-0509Y
M4.0 x 0.70	63.0	7.0	4.5	3.4	8g	-0515Y
M5.0 x 0.80	70.0	8.0	6.0	4.9	13g	-0518Y
M6.0 x 1.00	80.0	10.0	6.0	4.9	16g	-0521Y
M8.0 x 1.25	90.0	13.0	8.0	6.2	30g	-0527Y
M10.0 x 1.50	100.0	15.0	10.0	8.0	45g	-0530Y
M12.0 x 1.75	110.0	18.0	9.0	7.0	56g	-0533Y
M16.0 x 2.00	110.0	20.0	12.0	9.0	95g	-0539Y

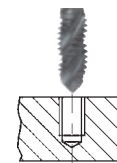
BSP - British Standard Pipe Bright Finish
DIN 5156



Size - Pitch	Overall Length	Thread Length	Shank Dia	Square Size	Weight each	Order Code SWT-185
1/8" x 28	90.0	20.0	7.0	5.5	16g	-0932Y
1/4" x 19	100.0	22.0	11.0	9.0	48g	-0934Y
3/8" x 19	100.0	22.0	12.0	9.0	69g	-0936Y
1/2" x 14	125.0	25.0	16.0	12.0	152g	-0938Y



Spiral Flute - HSS-EV Oxidised Finish
For blind holes.
Taper lead to **DIN form C** (3 x P).
Tapping tolerance:
spiral flute to **6H**.



HSS-EV

SPIRAL FLUTE FOR BLIND HOLES



ISO Metric Coarse

Helix angle 40°. Tapping depth **2.5 x D**.

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code SWT-185
M3.0 x 0.50	56.0	6.0	3.5	2.7	5g	-1509R
M4.0 x 0.70	63.0	7.0	4.5	3.4	8g	-1515R
M5.0 x 0.80	70.0	8.0	6.0	4.9	13g	-1518R
M6.0 x 1.00	80.0	10.0	6.0	4.9	16g	-1521R
M8.0 x 1.25	90.0	13.0	8.0	6.2	30g	-1527R
M10.0 x 1.50	100.0	15.0	10.0	8.0	45g	-1530R
M12.0 x 1.75	110.0	18.0	9.0	7.0	56g	-1533R
M16.0 x 2.00	110.0	20.0	12.0	9.0	95g	-1539R

SWISS+TECH HSS 'Blue Ring' Taps

Manufactured to **DIN 371/376**
Suitable for the following Material Groups

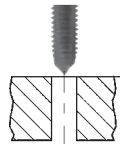
Group	Materials	Brinell Hardness HB	Tensile Strength N/mm ²	Tapping Speed M/min
2.1	Soft and generally easy to machine ferritic & martensitic stainless steel and castings	up to 230	up to 800	4 - 6
2.2	Medium strength & reasonable to machine austenitic stainless steel and castings	up to 290	up to 1000	4 - 6
2.3	Hard & generally difficult to machine ferritic & austenitic stainless steel & castings	up to 340	up to 1200	3 - 6

Note: Fluteless taps may also be used on stainless steel. See 'Green Ring' **FLUTELESS** on page .

Spiral Point/Gun Nose - HSS-EV Oxidised Finish
For through holes.
Taper lead to **DIN form B** (3.5 x P to 5.5 x P).
Tapping tolerance to **6HX**.



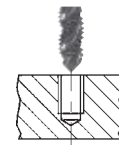
SPIRAL POINT FOR THROUGH HOLES



ISO Metric Coarse

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code SWT-185
M2.0 x 0.40	45.0	8.0	2.8	2.1	4g	-2003B
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	-2009B
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	-2015B
M5.0 x 0.80	70.0	15.0	6.0	4.9	13g	-2018B
M6.0 x 1.00	80.0	17.0	6.0	4.9	17g	-2021B
M8.0 x 1.25	90.0	20.0	8.0	6.0	32g	-2027B
M10.0 x 1.50	100.0	22.0	10.0	8.0	55g	-2030B
M12.0 x 1.75	110.0	24.0	9.0	7.0	61g	-2033B
M16.0 x 2.00	110.0	27.0	12.0	9.0	108g	-2039B

Spiral Flute (BLT) - HSS-EV Oxidised Finish
For deep blind holes.
Taper lead to **DIN form C** (2 x P to 3 x P).
Tapping tolerance to **6H**.



'Biteless Taper' ISO Metric Coarse
Helix angle 45°

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code SWT-185
M2.0 x 0.40	45.0	8.0	2.8	2.1	5g	-2503B
M3.0 x 0.50	56.0	6.0	3.5	2.7	5g	-2509B
M4.0 x 0.70	63.0	7.0	4.5	3.4	8g	-2515B
M5.0 x 0.80	70.0	8.0	6.0	4.9	13g	-2518B
M6.0 x 1.00	80.0	11.0	6.0	4.9	16g	-2521B
M8.0 x 1.25	90.0	13.0	8.0	6.2	30g	-2527B
M10.0 x 1.50	100.0	15.0	10.0	8.0	45g	-2530B
M12.0 x 1.75	110.0	18.0	9.0	7.0	56g	-2533B
M16.0 x 2.00	110.0	20.0	12.0	9.0	95g	-2539B

Spiral Flute (BLF) - HSS-EV Oxidised Finish
For shorter blind holes. Taper lead to **DIN form C** (3 x P).
Tapping tolerance to **6H**.

'Biteless Flat' ISO Metric Coarse
Helix angle 45°

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code SWT-185
M3.0 x 0.50	56.0	6.0	3.5	2.7	5g	-3009B
M4.0 x 0.70	63.0	7.0	4.5	3.4	8g	-3015B
M5.0 x 0.80	70.0	8.0	6.0	4.9	13g	-3018B
M6.0 x 1.00	80.0	11.0	6.0	4.9	16g	-3021B
M8.0 x 1.25	90.0	13.0	8.0	6.2	30g	-3027B
M10.0 x 1.50	100.0	15.0	10.0	8.0	45g	-3030B
M12.0 x 1.75	110.0	18.0	9.0	7.0	56g	-3033B
M16.0 x 2.00	110.0	20.0	12.0	9.0	95g	-3039B

SHERWOOD Sherwood **STD**

400 ml

Fluid Spray
Non-soluble tapping and drilling aerosol spray that penetrates and clings to normally inaccessible areas and moving cutting edges.



Size	Weight per 12	Order Code	Offer
400ml	5.1kg	-4000K	£20.46

Sherwood STD Liquid (Poly Bottle)

Low odour liquid. Coats the cutting edge with a film of EP additives.

Sherwood STD Compound

Low melting point paste maintains a continual lubricant feed to the cutting edge. Hand applied. Suitable for the most severe cutting operations.

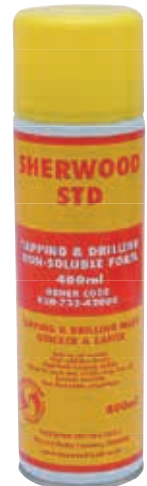


Lubricant Type	Size	Order Code	Offer
Liquid	500ml	-4020K	£22.50
Liquid	5ltr	-4060K	£165.34
Compound	500g	-4040K	£13.16

STD Tapping & Drilling Non-Soluble Foam Lubricant

400 ml

Foam aerosol penetrates and is able to cling to normally inaccessible areas and moving cutting edges. Can be used on yellow metals without the risk of staining.



Size	Order Code	Offer
400ml	-4210K	£12.18

SWISS+TECH HSS 'Purple Ring' Taps

Suitable for the following Material Groups

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm ²	Tapping Speed M/min
4.1	Titanium alloy (also pure nickel)	-		3 - 9

Right Hand Cutting - Left Hand Spiral Flute - HSS-PM Nitride Finish
For through holes. Left hand spiral. Taper lead to **DIN form D** (3.5 x P to 5 x P). Tapping tolerance to **6HX**.

LEFT HAND SPIRAL FLUTE FOR THROUGH HOLES

METRIC COARSE



ISO Metric Coarse Helix angle 15°.

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code SWT-185
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	-4509P
M3.5 x 0.60	56.0	13.0	4.0	3.0	6g	-4512P
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	-4515P
M5.0 x 0.80	70.0	16.0	6.0	4.9	14g	-4518P
M6.0 x 1.00	80.0	19.0	6.0	4.9	17g	-4521P
M8.0 x 1.25	90.0	22.0	8.0	6.2	32g	-4527P
M10.0 x 1.50	100.0	24.0	10.0	8.0	55g	-4530P
M12.0 x 1.75	110.0	29.0	9.0	7.0	63g	-4533P

HSS 'Orange Ring' Taps

Suitable for the following Material Groups

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm ²	Tapping Speed M/min
4.3	Titanium alloys of a hard and very hard to machine nature	-	up to 1250	3 - 6
5.1	Heat resistant super alloys including iron based high temperature alloys	-	up to 500	6 - 6

Spiral Point/Gun Nose - HSS-PM Nitride & Oxide Finish
For through holes. Taper lead to **DIN form B** (3.5 x P to 5.5 x P). Tapping tolerance to **6HX**.

SPIRAL POINT FOR THROUGH HOLES

METRIC COARSE



ISO Metric Coarse

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code SWT-185
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	-5509N
M3.5 x 0.60	56.0	13.0	4.0	3.0	7g	-5512N
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	-5515N
M5.0 x 0.80	70.0	16.0	6.0	4.9	13g	-5518N
M6.0 x 1.00	80.0	19.0	6.0	4.9	17g	-5521N
M8.0 x 1.25	90.0	22.0	8.0	6.2	32g	-5527N
M10.0 x 1.50	100.0	24.0	10.0	8.0	55g	-5530N
M12.0 x 1.75	110.0	29.0	9.0	7.0	61g	-5533N

HSS-PM **DIN 371/6**

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm ²	Tapping Speed M/min
4.2	Titanium alloy medium and hard to machine	-	up to 900	6 - 9
4.3	Titanium alloys of a hard and very hard to machine nature	-	up to 1200	6 - 9

Spiral Flute - HSS-PM Nitride Finish
For blind holes. Taper lead to **DIN form B** (3 x P). Tapping tolerance to **6HX**.

SPIRAL FLUTE FOR BLIND HOLES

METRIC COARSE



ISO Metric Coarse Helix angle 15°. Tapping depth 2.5 x D.

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code SWT-185
M3.0 x 0.50	56.0	5.0	3.5	2.7	5g	-5009P
M3.5 x 0.60	56.0	7.0	4.0	3.0	6g	-5012P
M4.0 x 0.70	63.0	7.0	4.5	3.4	8g	-5015P
M5.0 x 0.80	70.0	9.0	6.0	4.9	14g	-5018P
M6.0 x 1.00	80.0	11.0	6.0	4.9	17g	-5021P
M8.0 x 1.25	90.0	12.0	8.0	6.2	32g	-5027P
M10.0 x 1.50	100.0	13.0	10.0	8.0	55g	-5030P
M12.0 x 1.75	110.0	15.0	9.0	7.0	63g	-5033P

HSS-PM

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm ²	Tapping Speed M/min
5.2	Heat resistant super alloys, cobalt or nickel based medium to hard to machine	-	up to 900	3 - 6
5.3	Heat resistant super alloys, cobalt or nickel based hard to very hard to machine	-	up to 1200	3 - 6

Spiral Flute - HSS-PM Nitride & Oxide Finish
For blind holes. Taper lead to **DIN form C**. This tap has the special chamfer lead of (3 x P). Tapping tolerance: spiral flute to **6H**.

SPIRAL FLUTE FOR BLIND HOLES

METRIC COARSE



ISO Metric Coarse Helix angle 40°. Tapping depth 2.5 x D.

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code SWT-185
M4.0 x 0.70	63.0	7.0	4.5	3.4	9g	-6015N
M5.0 x 0.80	70.0	9.0	6.0	4.9	13g	-6018N
M6.0 x 1.00	80.0	11.0	6.0	4.9	16g	-6021N
M8.0 x 1.25	90.0	12.0	8.0	6.2	30g	-6027N
M10.0 x 1.50	100.0	13.0	10.0	8.0	51g	-6030N
M12.0 x 1.75	110.0	15.0	9.0	7.0	56g	-6033N
M16.0 x 2.00	110.0	18.0	12.0	9.0	95g	-6039N

SWISS+TECH HSS 'Green Ring' Taps



Manufactured to DIN 371/376

Suitable for the following Material Groups



Group	Materials	Brinell Hardness HB	Tensile Strength N/mm ²	Tapping Speed M/min
7.1	Unalloyed aluminium, magnesium and zinc	-	up to 150	20 - 30
7.2	Aluminium alloy less than 5% silicon magnesium & zinc alloys (long chip)	-	up to 1200	20 - 30

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm ²	Tapping Speed M/min
7.3	Aluminium alloy 5% to 10% silicon	-	up to 500	15 - 20
7.4	Aluminium alloy 5% to 10% silicon	-	up to 500	15 - 20

Spiral Point/Gun Nose - HSS-EV Nitride Finish
For through holes. Taper lead to **DIN form B** (3.5 x P to 5.5 x P). Tapping tolerance to **6HX**.

SPIRAL POINT FOR THROUGH HOLES

METRIC COARSE

Spiral Flute - HSS-EV Nitride Finish
For blind holes. Taper lead to **DIN form C** (2 x P to 3 x P). Tapping tolerance to **6H**.

SPIRAL FLUTE FOR BLIND HOLES

METRIC COARSE



ISO Metric Coarse

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code SWT-185
M2.0 x 0.40	45.0	8.0	2.8	2.1	4g	-6503G
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	-6509G
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	-6515G
M5.0 x 0.80	70.0	16.0	6.0	4.9	13g	-6518G
M6.0 x 1.00	80.0	19.0	6.0	4.9	17g	-6521G
M8.0 x 1.25	90.0	22.0	8.0	6.2	32g	-6527G
M10.0 x 1.50	100.0	24.0	10.0	8.0	58g	-6530G
M12.0 x 1.75	110.0	29.0	9.0	7.0	61g	-6533G
M16.0 x 2.00	110.0	32.0	12.0	9.0	108g	-6539G

ISO Metric Coarse Helix angle 45°. Tapping depth 2.5 x D.

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code SWT-185
M2.0 x 0.40	45.0	8.0	2.8	2.1	5g	-7003G
M2.5 x 0.45	50.0	9.0	2.8	2.1	5g	-7006G
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	-7009G
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	-7015G
M5.0 x 0.80	70.0	16.0	6.0	4.9	13g	-7018G
M6.0 x 1.00	80.0	19.0	6.0	4.9	16g	-7021G
M7.0 x 1.00	80.0	19.0	7.0	5.5	19	-7024G
M8.0 x 1.25	90.0	22.0	8.0	6.2	30g	-7027G
M10.0 x 1.50	100.0	24.0	10.0	8.0	45g	-7030G
M12.0 x 1.75	110.0	29.0	9.0	7.0	56g	-7033G

HSS 'Green Ring' Fluteless Taps

Lubrication grooves are a feature of all taps of M3.0 and over. Manufactured to **DIN 371/376**.



Suitable for the following Material Groups

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm ²	Tapping Speed M/min
6.1	Copper	-	up to 500	8 - 12
6.2	Brass (alpha - long chip)	-	up to 800	15 - 20

Fluteless - HSS-EV Bright Finish
For through and blind holes. Taper lead to **DIN form B** (3.5 x P to 5.5 x P). Tapping tolerance to **6H**.

FLUTELESS FOR THROUGH AND BLIND HOLES

METRIC COARSE

Fluteless - HSS-EV (TiN Coated)
For through and blind holes. Taper lead to **DIN form B** (3.5 x P to 5.5 x P). Tapping tolerance to **6H**.

FLUTELESS FOR THROUGH AND BLIND HOLES

METRIC COARSE



ISO Metric Coarse

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code SWT-185
M2.0 x 0.40	45.0	8.0	2.8	2.1	4g	-7503G
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	-7509G
M3.5 x 0.60	56.0	12.0	4.0	3.0	7g	-7512G
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	-7515G
M5.0 x 0.80	70.0	15.0	6.0	4.9	13g	-7518G
M6.0 x 1.00	80.0	17.0	6.0	4.9	17g	-7521G
M8.0 x 1.25	90.0	20.0	8.0	6.2	32g	-7527G

ISO Metric Coarse

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code SWT-185
M2.0 x 0.40	45.0	8.0	2.8	2.1	4g	-8003G
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	-8009G
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	-8015G
M5.0 x 0.80	70.0	15.0	6.0	4.9	13g	-8018G
M6.0 x 1.00	80.0	17.0	6.0	4.9	17g	-8021G
M8.0 x 1.25	90.0	20.0	8.0	6.2	32g	-8027G
M10.0 x 1.50	100.0	22.0	10.0	8.0	58g	-8030G



HSS-E 'Black Ring' Taps



The tool geometry (with up to 138 parameters) has been developed and optimised during long-term tests in co operation with users for the different sections of structural steel, aluminum casting, machining steel, VA steels, heat-resistant steels and tool steels. Selected hard coatings increase the range of applications. The objective of developing Swiss+Tech's 'Black Ring' Taps was the realisation of narrower tolerances and more efficient cutting times for the thread production.

The unique general purpose properties of these taps guarantee high productivity by reducing the amount of time spent changing taps for different materials and at the same time reduces the number of taps required by the machine shop.

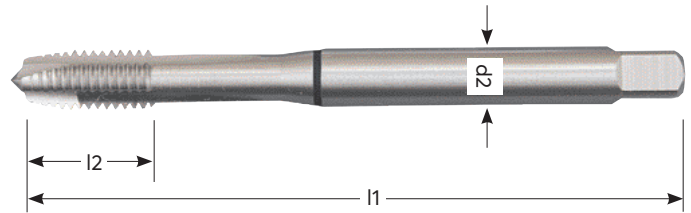
Swiss+Tech 'Black Ring' machine taps with their wide range of applications are the result of years of experience in metal cutting. Responsible for our developments were the following demands from our main customers:

- Increase of a tap's versatility.
- Reducing the confusing type variety.
- Reducing the storage costs for the tools.
- Reducing the tool changing times.

For general tapping applications. For production tapping of specific materials a specialist tap may be more suitable. Manufactured to **DIN 371/376**.

Suitable for the following Material Groups

Group	Materials Colour defines similar machineability	Hardness		Tensile Strength N/mm ²	Tapping Speed M/min
		Brinell HB	Rockwell HRC		
1.1	Mild Steel	<130	-	<400	10 - 15
1.2	Case Hardening & Structural Steel	<200	-	<700	10 - 15
1.3	Medium Carbon Steel	<260	<26	<850	5 - 10
1.4	Low Alloy Steel	<260	<26	<850	4 - 8
2.1	Free Machining Stainless	<230	<20	<800	2 - 5
2.2	Medium Strength Austenitic Stainless	<260	<26	<850	2 - 5
7.1	Unalloyed Aluminium Zinc - Magnesium	-	-	<150	15 - 20
7.2	Aluminium Alloy less than 5% Si	-	-	150 - 300	15 - 20
7.3	Aluminium Alloy 5% to 10% Si	<230	<20	<800	5 - 10



Spiral Point/Gun Nose - HSS-E Bright Finish



For through holes. Taper lead to **DIN form B**. Tapping tolerance to **6H**.



ISO Metric

Size - Pitch (mm)	(d2) Shank Dia.	A/F Square	(l1) Overall Length	(l2) Thread Length	Weight each	Order Code SWT-185
M3 x 0.50	3.5	2.7	56	2.5	5g	-8509X
M4 x 0.70	4.5	3.4	63	3.3	8g	-8515X
M5 x 0.80	6.0	4.9	70	4.2	14g	-8518X
M6 x 1.00	6.0	4.9	80	5.0	18g	-8521X
M8 x 1.25	8.0	6.2	90	6.8	33g	-8527X
M10 x 1.50	10.0	8.0	100	8.5	56g	-8530X
M12 x 1.75	9.0	7.0	110	10.2	61g	-8533X
M16 x 2.00	12.0	9.0	110	14.0	100g	-8539X
M20 x 2.50	16.0	12.0	140	17.5	210g	-8542X

Spiral Flute



For blind holes. Taper lead to **DIN form C**. Tapping tolerance to **6H**.



ISO Metric

Size - Pitch (mm)	(d2) Shank Dia.	A/F Square	(l1) Overall Length	(l2) Thread Length	Weight each	Order Code SWT-185
M3 x 0.50	3.5	2.7	56	2.5	5g	-8559X
M4 x 0.70	4.5	3.4	63	3.3	8g	-8565X
M5 x 0.80	6.0	4.9	70	4.2	14g	-8568X
M6 x 1.00	6.0	4.9	80	5.0	17g	-8571X
M8 x 1.25	8.0	6.2	90	6.8	31g	-8577X
M10 x 1.50	10.0	8.0	100	8.5	53g	-8580X
M12 x 1.75	9.0	7.0	110	10.2	57g	-8583X
M16 x 2.00	12.0	9.0	110	14.0	91g	-8589X
M20 x 2.50	16.0	12.0	140	17.5	195g	-8592X

Spiral Point Long Series



For blind holes. Taper lead to **DIN 13 form B** (with gun nose chamber lead 4/5 thread) Tapping tolerance to **6H**. Thread angle 60°



ISO Metric

Size - Pitch (mm)	(d2) Shank Dia.	A/F Square	(l1) Overall Length	(l2) Thread Length	Weight each	Order Code SWT-185
M6 x 1.00	6.0	4.9	160	17.0	30g	-9806X
M8 x 1.25	6.0	4.9	180	20.0	60g	-9808X
M10 x 1.50	7.0	5.5	200	22.0	100g	-9810X
M12 x 1.75	9.0	7.0	220	24.0	200g	-9812X

HSS-E 'Black Ring' M3 - M8 5 Piece Tap Sets

'Black Ring' machine taps for general tapping applications suitable for steels, low alloy steels, stainless steels and non-ferrous materials.

Manufactured to **DIN371/376**. Tapping tolerance to **6H**.

Spiral Point



M3 - M8 Spiral Point/Gun Nose Spiral Point/Gun Nose - HSS-E Bright Finish For through holes. Taper lead to **DIN form B**.

M3 - M8 Spiral Flute Spiral Flute - HSS-E Bright Finish For blind holes. Taper lead to **DIN form C**.

Spiral Flute



Contents for each set:

Pitch sizes	Thread length
M3 x 0.5mm	2.5mm
M4 x 0.7mm	3.3mm
M5 x 0.8mm	4.2mm
M6 x 1.0mm	5.0mm
M8 x 1.25mm	6.8mm

5 PIECES

Type	Number of Pieces	Order Code SWT-185
Spiral Point	5	-9900X
Spiral Flute	5	-9910X

INDEXA-SEIKI Tapping Head Sets

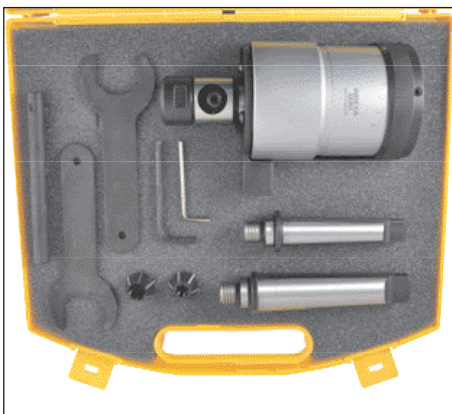
Adjustable torque control protects against tap breakage/ overload. Auto-reverse withdraws the tap without reversing the machine spindle. Each set is supplied complete with two rubber flex collets, two Morse arbors, kick bar and wrenches. Suitable for use with ISO, DIN and ANSI taps. These tapping heads are suitable for light and medium duty applications not for production machining. Range capacity is nominal sizes only and is dependent on tap shank dimensions (ISO or DIN).



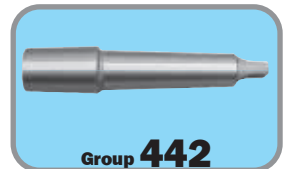
Model JSN-7
IND-144-8040K



Model JSN-12
IND-144-8050K



Model JSN-20
IND-144-8060K

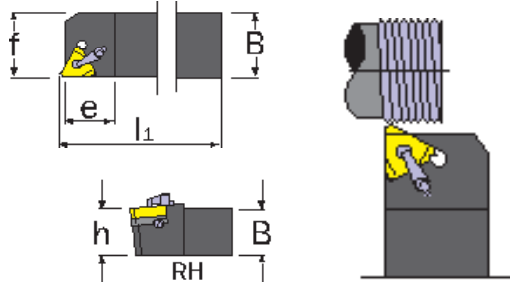


Model Range	Morse Taper	Recommended Max. Speed	Reverse Ratio	Body Diameter	Overall Length	Clockwise Compression	Self Feed*	Clockwise Expansion	Weight each	Order Code
JSN-7	M2-7 1 & 3	1500 RPM	01:01.6	52mm	130mm	5.0mm	3.5mm	10.0mm	2.10kg	-8040K
JSN12	M4-12 3 & 4	1000 RPM	01:01.8	75mm	156mm	5.0mm	4.5mm	14.0mm	4.20kg	-8050K
JSN-20	M8-20 3 & 4	600 RPM	01:01.7	90mm	205mm	6.0mm	6.0mm	14.0mm	7.00kg	-8060K

INDEXA-SEIKI Threading Toolholders - Dual Top Clamp & Screw-on

Example shows **DIR** - Internal, but clamping is identical to **DER/L** - External. Standard Helix is 1.5°.

External Dual DER/L - External.



Suitable Inserts See Next Page
ER = Right Hand **EL** = Left Hand
 Sizes **16** = 16ER/L
22 = 22ER/L

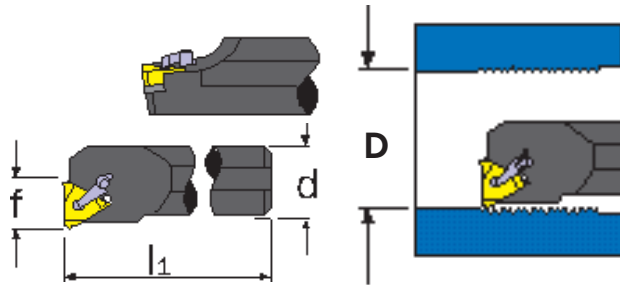


Spares to Suit

Clamp Set	Anvil	Shim Screw	Insert Screw	Torx Key
Order Code IND-107	Order Code IND-107	Order Code IND-107	Order Code IND-107	Order Code IND-107
-0620K	-2930K	-3780K	-3430K	-5150K
-0620K	-2930K	-3780K	-3430K	-5090K
-0620K	-2960K	-3780K	-3430K	-5150K
-0620K	-2930K	-3780K	-3430K	-5090K
-0620K	-2960K	-3780K	-3430K	-5150K
-0630K	-2940K	-3790K	-3440K	-5150K

ISO Designation	Dimensions					Weight each	Order Code IND-106
	h	B	l1	f	e		
DER 1616H 16	16	16	100	16	22	208g	-8100K
DER 2020K 16	20	20	125	20	22	400g	-8000K
DEL 2020K 16	20	20	125	20	22	400g	-8010K
DER 2525M 16	25	25	150	25	22	736g	-8020K
DEL 2525M 16	25	25	150	25	22	735g	-8030K
DER 2525M 22	25	25	150	25	28	745g	-8040K

Internal Dual DIR - Internal.



Suitable Inserts See Next Page
IR = Right Hand
 Sizes **16** = 16IR
22 = 22IR

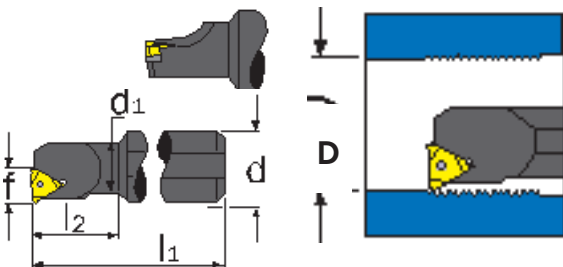


Spares to Suit

Clamp Set	Anvil	Shim Screw	Insert Screw	Torx Key
Order Code IND-107	Order Code IND-107	Order Code IND-107	Order Code IND-107	Order Code IND-107
-0620K	-2960K	-3780K	-3430K	-5090K
-0620K	-2960K	-3780K	-3430K	-5100K

ISO Designation	Dimensions (mm)					Weight each	Order Code IND-106
	d	l1	f	Dmin			
DIR 0020P 16	20	170	13.7	24	699g	-8240K	
DIR 0025R 16	25	200	16.2	29	725g	-8260K	

Screw-on SIR/L - Internal.



Suitable Inserts See Next Page
IR = Right hand **IL** = Left Hand
 Sizes **06** = 06IR/L
08 = 08IR/L
11 = 11IR/L
16 = 16IR/L
22 = 22IR/L



Spares to Suit

Insert Screw	Torx Key
Order Code IND-107	Order Code IND-107
-3420K	-5070K
-3430K	-5150K
-3430K	-5150K
-3430K	-5150K
-3440K	-

ISO Designation	Dimensions						Weight each	Order Code IND-106
	d	d1	l1	l2	f	DMin		
SIR 0010H 11	10	10	100	-	7.4	12.0	160g	-8360K
SIR 0013M 16	16	13	150	32	10.2	16.0	217g	-8400K
SIR 0016P 16	20	16	170	40	11.7	19.0	369g	-8420K
SIL 0016P 16	20	16	170	40	11.7	19.0	364g	-8430K
SIR 0020P 22	20	20	170	-	15.6	24.0	406g	-8440K



ISO Threading Insert Designation

Insert Grade Description

QMA (P20-P40/K20-K30) Coated.
Sintered chip breaker with a multi layer TiAlN PVD coated sub-micrograin grade. Provides high quality threads for most materials including exotic alloys and stainless steels. Best performance is achieved at medium to high cutting speeds.

16 E R 12 UN QMA

L
06
08
11
16
22
27
33

I.C.
5/32"
3/16"
1/4"
3/8"
1/2"
5/8"
3/4"

E=EXTERNAL
I=INTERNAL

R=RIGHT HAND
L=LEFT HAND

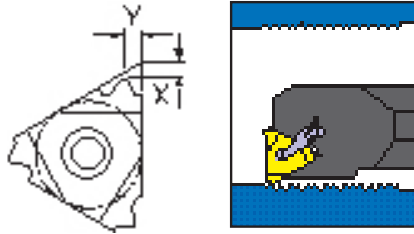
FULL PROFILES:
Pitch in mm: 0.35 - 8
or TPI (Threads per inch) 64 - 4

ISO:
UN
WHIT
NPT
NPTF
BSPT

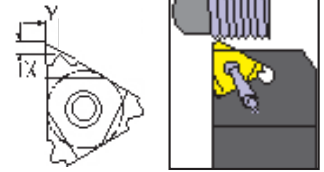
CARBIDE GRADE

PARTIAL PROFILES
A N
G 60°
AG 55°

Partial Profiles Internal Right Hand



Partial Profiles External Right Hand



60°

Insert Designation	Pitch Range mm	TPI	X mm	Y mm	Grade	Weight per 10	Order Code YML-121
16 IR AG60	0.5-3.0	48-8	1.2	1.7	QMA	60g	-0208A

55°

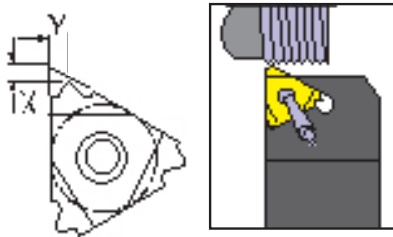
Insert Designation	Pitch Range mm	TPI	X mm	Y mm	Grade	Weight per 10	Order Code YML-121
16 ER AG55	0.5-3.0	48-8	1.2	1.7	QMA	60g	-0542A

60°

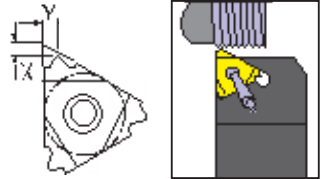
Insert Designation	Pitch Range mm	TPI	X mm	Y mm	Grade	Weight per 10	Order Code YML-121
16 ER A60	0.5-1.5	48-16	0.8	0.9	QMA	60g	-0041Q
16 ER AG60	0.5-3.0	48-8	1.2	1.7	QMA	60g	-0042A

ISO Metric External Right Hand

11 ER available on request.



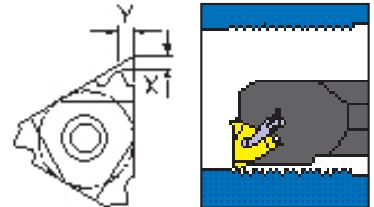
UN External Right Hand



Insert Designation	TPI	X mm	Y mm	Grade	Weight each	Order Code YML-121
16 ER 24 UN	24	0.7	0.8	QMA	7g	-1546Q
16 ER 20 UN	20	0.8	0.9	QMA	7g	-1547W
16 ER 18 UN	18	0.8	1.0	QMA	7g	-1548S
16 ER 14 UN	14	1.0	1.2	QMA	7g	-1549N
16 ER 12 UN	12	1.1	1.4	QMA	7g	-1550J
16 ER 8 UN	8	1.2	1.6	QMA	7g	-1552L

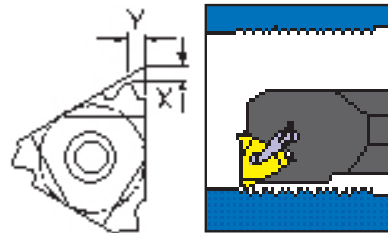
Insert Designation	TPI	X mm	Y mm	Grade	Weight per 10	Order Code YML-121
16 ER 1.00 ISO	1.00	0.7	0.7	QMA	70g	-1044Y
16 ER 1.25 ISO	1.25	0.8	0.9	QMA	70g	-1045J
16 ER 1.50 ISO	1.50	0.8	1.0	QMA	70g	-1045U
16 ER 1.75 ISO	1.75	0.9	1.2	QMA	65g	-1046E
16 ER 2.00 ISO	2.00	1.0	1.3	QMA	60g	-1046Q
16 ER 2.50 ISO	2.50	1.1	1.5	QMA	60g	-1047A
16 ER 3.00 ISO	3.00	1.2	1.6	QMA	60g	-1047L

UN Internal Right Hand



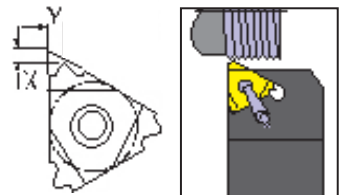
Insert Designation	TPI	X mm	Y mm	Grade	Order Code YML-121
16 IR 12 UN	12	1.1	1.4	QMA	-1750J

ISO Metric Internal Right Hand



Whitworth External Right Hand

A full range of sizes are available on request.



Insert Designation	TPI	X mm	Y mm	Grade	Order Code YML-121
16 ER 14 W	14	1.0	1.2	QMA	-2049N
16 ER 11 W	11	1.1	1.5	QMA	-2051E

Whitworth Internal Right Hand

A full range of sizes are available on request.

Insert Designation	TPI	X mm	Y mm	Grade	Weight per 10	Order Code YML-121
16 IR 1.00 ISO	1.00	0.6	0.7	QMA	70g	-1210Y
16 IR 1.50 ISO	1.50	0.8	1.0	QMA	65g	-1211U
16 IR 2.00 ISO	2.00	1.0	1.3	QMA	65g	-1212Q
16 IR 2.50 ISO	2.50	1.1	1.5	QMA	60g	-1213L
16 IR 3.00 ISO	3.00	1.1	1.5	QMA	60g	-1213W

Insert Designation	TPI	X mm	Y mm	Grade	Order Code YML-121
16 IR 14 W	14	1.0	1.2	QMA	-2215N
16 IR 11 W	11	1.1	1.5	QMA	-2217E

KENNEDY Industrial Quality
QUALITY INDUSTRIAL TOOLING® **Screw Extractors**

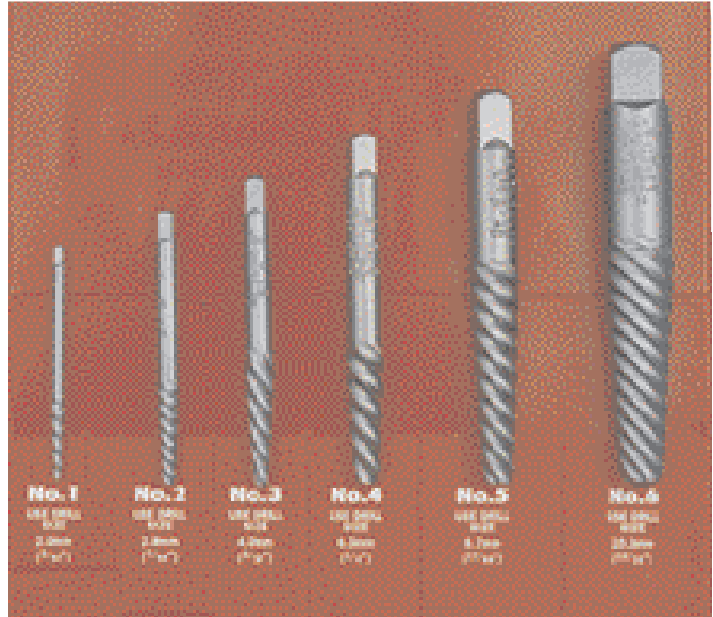
Recommended for simple, low cost removal of broken screws, bolts etc, without damaging the threads of the component.



Screw Extractor Sets

4 Piece Sizes: No. 2, 3, 4 and 5.

6 Piece Sizes: No. 1, 2, 3, 4, 5 and 6.



Extractor Number	Inch diameter for removing screws sized	Weight each	Order Code KEN-075
1	3/32 to 5/32	40g	-1010K
2	5/32 to 7/32	80g	-1020K
3	7/32 to 9/32	160g	-1030K
4	9/32 to 3/8	40g	-1040K
5	3/8 to 5/8	70g	-1050K
6	5/8 to 7/8	130g	-1060K
7	7/8 to 1 1/8	210g	-1070K
8	1 1/8 to 1 3/8	410g	-1080K
9	1 3/8 & above	690g	-1090K

Number of Pieces	Weight each	Order Code KEN-075
4	130g	-1140K
6	250g	-1160K

WALTON 3 & 4 Flute Tap Extractors

To use, remove all chips of broken tap, insert the extractor fingers into the tap flutes, push them gently but firmly into position. Push down until it touches the broken tap, slide the sleeve down until it touches the work. Apply a tap wrench to the holders square end, twist forward and backward to loosen, then back out the broken tap.



3 & 4 Flute Extractors

Tap/Screw Size	3 Flute Number	Order Code WLT-075	4 Flute Number	Order Code WLT-075
No.4/3mm	10043	-2306A	-	-
No.6/3.5mm	10063	-2309D	-	-
No.8/4mm	10083	-2310E	10084	-2410E
No.10 (3/16")/4.5mm	10103	-2312G	10104	-2412G
No.12/5.5mm	10123	-2314J	10124	-2414J
1/4"/6mm	10253	-2316L	10254	-2416L
5/16"/7mm, 8mm	10313	-2320R	10314	-2420T
3/8"/9mm, 10mm	10373	-2324X	10374	-2424X
7/16"/11mm	10433	-	10434	-2430A
1/2"/12mm, 13mm	10503	-2332C	10504	-2432C
9/16"/14mm	10563	-	10564	-2436G
5/8"/16mm	10623	-2340M	10624	-2440M
3/4"/19mm, 20mm	10753	-	10754	-2448W
7/8"/22mm	10873	-	10874	-2456F
1"/24mm, 25mm	11003	-	11004	-2464T

Replacement Fingers 3 Flute Extractors
Supplied Individually.

Product Number	Extractor Size	Order Code WLT-075
12043	No.4	-2506A
12083	No.8	-2510E
10103	No.10	-2512G
12123	No.12	-2514J
12253	1/4"	-2516L
12313	5/16"	-2520R
12373	3/8"	-2524X
12503	1/2"	-2532C
12563	9/16"	-2536G
12623	5/8"	-2540M
13003	1"	-2564T

Replacement Fingers for 4 Flute Extractors
Supplied Individually.

Product Number	Extractor Size	Order Code WLT-075
12084	No.8	-2610E
12104	No.10	-2612G
12124	No.12	-2614J
12254	1/4"	-2616L
12314	5/16"	-2620R
12374	3/8"	-2624X
12504	1/2"	-2632C
12564	9/16"	-2636G
12684	1 1/16"	-2644R
13004	1"	-2664T
13124	1 1/8"	-2672E
132541	1 1/4"	-2680S

SWISS+TECH HSS-Co 8% Weldon Shank Slot Drills 3 Flute

Centre cutting. Weldon shank to **DIN 1835B**.
Cutting diameter to **e8**. Shank diameter to **h6**.

HSS-Co 8% **TiCN** **TiALN**

HSS-Co 8% Uncoated For general production machining.

HSS-Co 8% TiCN Coated Extends cutter tool life and improves work material surface finish.

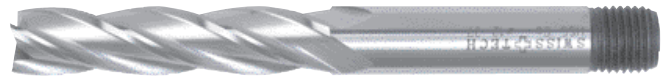
HSS-Co 8% TiALN Coated Dissipates and resists heat, reduces surface friction coupled with high surface hardness.

Series 06 Regular Series Dimensions to DIN 844



Dia. (mm)	Flute Length (mm)	Shank Dia. (mm)	Overall Length (mm)	Weight per 10	SDH-3WR HSS-Co 8%	SDN-3WR TiCN Coated	SDL-3WR TiALN Coated
					Order Code SWT-163	Order Code SWT-163	Order Code SWT-163
3.00	8.0	6.0	52.0	111g	-0603A	-0633A	-0663A
4.00	11.0	6.0	55.0	114g	-0604A	-0634A	-0664A
5.00	13.0	6.0	57.0	129g	-0605A	-0635A	-0665A
6.00	13.0	6.0	57.0	128g	-0606A	-0636A	-0666A
7.00	16.0	10.0	66.0	340g	-	-0637A	-
8.00	19.0	10.0	69.0	368g	-0608A	-0638A	-0668A
9.00	19.0	10.0	69.0	-	-0609A	-0639A	-
10.00	22.0	10.0	72.0	404g	-0610A	-0640A	-0670A
11.00	22.0	12.0	79.0	-	-0611A	-0641A	-
12.00	26.0	12.0	83.0	666g	-0612A	-0642A	-0672A
13.00	26.0	12.0	83.0	-	-0613A	-	-
14.00	26.0	12.0	83.0	710g	-0614A	-0644A	-0674A
16.00	32.0	16.0	92.0	950g	-0616A	-0646A	-0676A
18.00	32.0	16.0	92.0	-	-0618A	-	-
20.00	38.0	20.0	104.0	2114g	-0620A	-0650A	-0680A
25.00	45.0	25.0	121.0	2400g	-0625A	-	-

Series 37 Long Series - EMH-4TL Dimensions to DIN 844

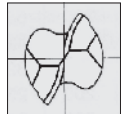


Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No. of Flutes	Weight per 5	Order Code SWT-163
4.00	19.0	6.0	63.0	4	61g	-3704A
5.00	24.0	6.0	68.0	4	67g	-3705A
6.00	24.0	6.0	68.0	4	74g	-3706A
8.00	38.0	10.0	88.0	4	215g	-3708A

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No. of Flutes	Weight per 5	Order Code SWT-163
10.00	45.0	10.0	95.0	4	260g	-3710A
12.00	53.0	12.0	110.0	4	408g	-3712A
16.00	63.0	16.0	123.0	4	806g	-3716A
20.00	75.0	20.0	141.0	4	1433g	-3720A

HSS-Co 8% Threaded Shank Ball Nosed Slot Drills 2 Flute

Centre cutting. Threaded shank to **DIN 1835D**.
Cutting diameter to **e8**. Shank diameter to **h6**.



Series 39 Short Series - SBH-2TS Dimensions to DIN 327

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	Weight per 5	Order Code SWT-163
3.00	5.0	6.0	49.0	54g	-3903A
5.00	8.0	6.0	52.0	58g	-3905A
6.00	8.0	6.0	52.0	60g	-3906A
8.00	11.0	10.0	61.0	170g	-3908A
9.00	13.0	10.0	63.0	184g	-3909A

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	Weight per 5	Order Code SWT-163
10.00	13.0	10.0	63.0	188g	-3910A
12.00	16.0	12.0	73.0	306g	-3912A
16.00	19.0	16.0	79.0	535g	-3916A
20.00	22.0	20.0	88.0	944g	-3920A

HSS-EV Threaded Shank Coarse Pitch Ripper Cutters

Industrial quality for shaping and forming metal components. Four flute ripper cutters. Manufactured from sintered HSS-EV extra vanadium steel. Knuckle form, **h8** tolerance, standard length. Shank to **DIN 1835B**.

HSS-EV
COARSE PITCH

Regular Series



Dia. (mm)	Flute Length	Overall Length	Shank Dia.	Number of Flutes	Weight each	Order Code SHR-061
6.00	13.0	57.0	6.0	4	13g	-2540A
8.00	19.0	69.0	10.0	4	35g	-2541B
10.00	22.0	72.0	10.0	4	37g	-2542C
12.00	26.0	83.0	12.0	4	71g	-2543D
16.00	32.0	92.0	16.0	4	131g	-2544E
20.00	38.0	104.0	20.0	4	228g	-2545F
25.00	45.0	121.0	25.0	4	407g	-2546G

HSS-EV TiCN Coated Screwed Shank Fine Pitch Ripper Cutters

Four flute ripper cutters. Manufactured from sintered HSS-EV extra vanadium steel. Knuckle form, **h8** tolerance. Dimensions to **DIN 844**. Shank to **DIN 1835B**.

HSS-EV **TiCN**
FINE PITCH

Regular Series



Dia. (mm)	Flute Length	Overall Length	Shank Dia.	Number of Flutes	Weight each	Order Code SHR-061
8.00	20.0	70.0	10.0	4	35g	-2801B
10.00	28.0	75.0	10.0	4	37g	-2802C
12.00	33.0	85.0	12.0	4	71g	-2803D
16.00	38.0	90.0	16.0	4	131g	-2804E
20.00	47.0	110.0	20.0	4	228g	-2805F
25.00	52.0	125.0	25.0	4	407g	-2806G

Shank Milling Cutters

SWISS+TECH HSS-Co 8% Weldon Shank Slot Drills 2 Flute

Centre cutting. Weldon shank to **DIN 1835B**.
Cutting diameter to **e8**. Shank diameter to **h6**.

Series 01
Short Series Dimensions to **DIN 327**

HSS-Co 8%

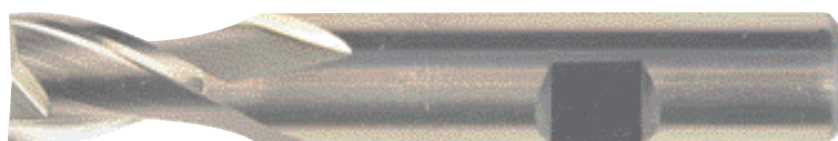
TiCN

TiALN

HSS-Co 8% Uncoated For general production machining.

HSS-Co 8% TiCN Coated Extends cutter tool life and improves work material surface finish.

HSS-Co 8% TiALN Coated Dissipates and resists heat, reduces surface friction coupled with high surface hardness.



Dia. (mm)	Flute Length (mm)	Shank Dia. (mm)	Overall Length (mm)	Weight per 10	SDH-2WS HSS-Co 8%	SDN-2WS TiCN Coated
					Order Code SWT-163	Order Code SWT-163
2.00	4.0	6.0	48.0	104g	-0102A	-
2.50	5.0	6.0	49.0	108g	-0102L	-0132L
3.00	5.0	6.0	49.0	110g	-0103A	-0133A
4.00	7.0	6.0	51.0	112g	-0104A	-0134A
4.50	7.0	6.0	51.0	114g	-0104L	-
5.00	8.0	6.0	52.0	117g	-0105A	-0135A
6.00	8.0	6.0	52.0	121g	-0106A	-0136A
7.00	10.0	10.0	60.0	336g	-0107A	-
8.00	11.0	10.0	61.0	345g	-0108A	-0138A
9.00	11.0	10.0	61.0	355g	-0109A	-
10.00	13.0	13.0	63.0	476g	-0110A	-0140A
11.00	13.0	12.0	70.0	587g	-0111A	-
12.00	16.0	12.0	73.0	613g	-0112A	-0142A
13.00	16.0	12.0	73.0	616g	-0113A	-
14.00	16.0	12.0	73.0	615g	-0114A	-0144A
15.00	16.0	12.0	73.0	654g	-0115A	-0145A
16.00	19.0	16.0	79.0	1025g	-0116A	-0146A
18.00	19.0	16.0	79.0	1086g	-0118A	-
20.00	22.0	20.0	88.0	1423g	-0120A	-
22.00	22.0	20.0	88.0	2004g	-0122A	-
25.00	26.0	25.0	102.0	3366g	-0125A	-0155A



HSS-E Weldon Shank Coarse Pitch Ripper Cutters

Industrial quality for shaping and forming metal components. 4 flute ripper cutters. Manufactured from sintered HSS-E extra vanadium steel. Knuckle form, **h8** tolerance, standard length. Shank to **DIN 1835D**.



HSS-EV Weldon Shank Fine Pitch Ripper Cutters

4 flute ripper cutters. Manufactured from sintered HSS-EV extra vanadium steel. Knuckle form, **h8** tolerance. Standard length. Dimensions to **DIN 844**. Shank to **DIN 1835D**.

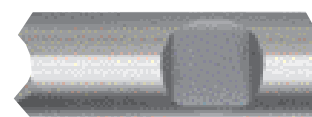
COARSE PITCH

HSS-EV



FINE PITCH

HSS-EV



Regular Series

Dia. (mm)	Flute Length	Overall Length	Shank Dia.	No. of Flutes	Weight each	Order Code SHR-061
6.00	13.0	57.0	6.0	4	13g	-2560A
8.00	19.0	69.0	10.0	4	36g	-2561B
10.00	22.0	72.0	10.0	4	40g	-2562C
12.00	26.0	83.0	12.0	4	71g	-2563D
16.00	32.0	92.0	16.0	4	134g	-2564E
20.00	38.0	104.0	20.0	4	221g	-2565F
25.00	45.0	121.0	25.0	4	427g	-2566G

Regular Series

Dia. (mm)	Flute Length	Overall Length	Shank Dia.	No. of Flutes	Weight each	Order Code SHR-061
6.00	15.0	58.0	6.0	4	16g	-2620A
8.00	20.0	70.0	10.0	4	36g	-2621B
10.00	28.0	75.0	10.0	4	41g	-2622C
12.00	33.0	85.0	12.0	4	74g	-2623D
16.00	38.0	90.0	16.0	4	125g	-2624E
20.00	47.0	110.0	20.0	4	232g	-2625F
25.00	52.0	125.0	25.0	4	402g	-2625G

Shank Milling Cutters



HSS-Co 8% Weldon Shank End Mills 4 & 6 Flute

Centre cutting. Weldon shank to **DIN 1835B**.
Shank cutting diameter
3 - 6mm to +0.04 -0.0.
8 - 20mm to +0.05 -0.0.

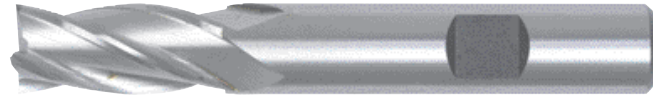
HSS-Co 8%

TiCN TiALN

HSS-Co 8% Uncoated For general production machining.

HSS-Co 8% TiCN Coated Extends cutter tool life and improves work material surface finish.

HSS-Co 8% TiALN Coated Dissipates and resists heat, reduces surface friction coupled with high surface hardness.



Series 09 Regular Series Dimensions to DIN 844

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No. of Flutes	Weight per 10	EMH-4WR HSS-Co 8%	EMN-4WR TiCN Coated	EML-4WR TiALN Coated
						Order Code SWT-163	Order Code SWT-163	Order Code SWT-163
2.00	7.0	6.0	51.0	4	108g	-0902A	-0932A	-0962A
3.00	8.0	6.0	52.0	4	111g	-0903A	-0933A	-0963A
4.00	11.0	6.0	55.0	4	117g	-0904A	-0934A	-0964A
5.00	13.0	6.0	57.0	4	126g	-0905A	-0935A	-0965A
6.00	13.0	6.0	57.0	4	133g	-0906A	-0936A	-0966A
7.00	16.0	10.0	66.0	4	332g	-0907A	-	-
8.00	19.0	10.0	69.0	4	375g	-0908A	-0938A	-0968A
9.00	19.0	10.0	69.0	4	-	-0909A	-	-
10.00	22.0	10.0	72.0	4	423g	-0910A	-0940A	-0970A
11.00	22.0	12.0	79.0	4	-	-0911A	-	-
12.00	26.0	12.0	83.0	4	688g	-0912A	-0942A	-0972A
13.00	26.0	12.0	83.0	4	-	-0913A	-	-
14.00	26.0	12.0	83.0	4	725g	-0914A	-0944A	-0974A
15.00	26.0	12.0	83.0	4	-	-0915A	-	-
16.00	32.0	16.0	92.0	4	1037g	-0916A	-0946A	-0976A
17.00	32.0	16.0	92.0	4	-	-0917A	-	-
18.00	32.0	16.0	92.0	4	1390g	-0918A	-0948A	-0978A
19.00	32.0	16.0	92.0	4	-	-0919A	-	-
20.00	38.0	20.0	104.0	4	2114g	-0920A	-0950A	-0980A
25.00	45.0	25.0	121.0	6	2400g	(1) -0925A	(2) -0955A	(3) -0985A

(1) EMH-6WR HSS-Co 8%

(2) EMN-6WR TiCN Coated

(3) EML-6WR TiALN Coated



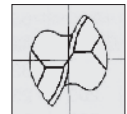
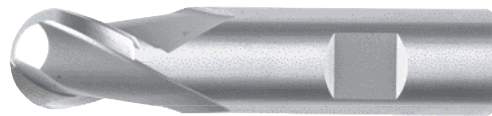
Series 10 Long Series Dimensions to DIN 844

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No. of Flutes	Weight per 5	EMH-4WL HSS-Co 8%	EMN-4WL TiCN Coated	EML-4WL TiALN Coated
						Order Code SWT-163	Order Code SWT-163	Order Code SWT-163
3.00	12.0	6.0	56.0	4	55g	-1003A	-1033A	-1063A
4.00	19.0	6.0	63.0	4	61g	-1004A	-1034A	-1064A
5.00	24.0	6.0	68.0	4	67g	-1005A	-1035A	-1065A
6.00	24.0	6.0	68.0	4	74g	-1006A	-1036A	-1066A
8.00	38.0	10.0	88.0	4	215g	-1008A	-1038A	-1068A
10.00	45.0	10.0	95.0	4	260g	-1010A	-1040A	-1070A
12.00	53.0	12.0	110.0	4	408g	-1012A	-1042A	-1072A
14.00	53.0	12.0	110.0	4	471g	-1014A	-	-1074A
16.00	63.0	16.0	123.0	4	806g	-1016A	-1046A	-1076A
20.00	75.0	20.0	141.0	4	1433g	-1020A	-1050A	-1080A

HSS-Co 8% Weldon Shank Ball Nose Slot Drills 2 Flute

Centre cutting. Weldon shank to **DIN 1835B**.
Cutting diameter to **e8**.
Shank diameter to **h6**.

HSS-Co 8%



Series 11 Short Series Dimensions to DIN 327

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	Weight per 5	Order Code SWT-163
2.00	5.0	6.0	49.0	52g	-1102A
3.00	5.0	6.0	49.0	54g	-1103A
4.00	7.0	6.0	51.0	55g	-1104A
5.00	8.0	6.0	52.0	58g	-1105A
6.00	8.0	6.0	52.0	60g	-1106A
8.00	11.0	10.0	61.0	170g	-1108A
10.00	13.0	10.0	63.0	188g	-1110A
12.00	16.0	12.0	73.0	306g	-1112A
16.00	19.0	16.0	79.0	535g	-1116A
20.00	22.0	20.0	88.0	944g	-1120A

Shank Milling Cutters

CARBIDE



Carbide Micrograin Plain Shank Slot Drills

Long Series - 2 Flute

For optimum performance and maximum swarf removal when plunging, slotting and routing in most materials including brass, aluminium, non-ferrous and other soft materials. Manufactured to **USCTi Standards**.

Diameter Metric	Tolerances		Diameter Inch	Tolerance	
	+	-		+	-
Over 1.00 ~ up to 6.00	0.000	0.050	Over 1/16" ~ up to 1/4"	0.000	0.002
Over 6.00 ~ up to 25.00	0.000	0.080	Over 1/4" ~ up to 1"	0.000	0.003

CARBIDE



Long Series - Metric

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code KEN-161
3.00	20.0	60.0	3.0	15g	-1003K
4.00	20.0	60.0	4.0	20g	-1004K
5.00	25.0	75.0	5.0	30g	-1005K
6.00	30.0	75.0	6.0	35g	-1006K
8.00	30.0	75.0	8.0	40g	-1008K
10.00	40.0	100.0	10.0	100g	-1010K
12.00	45.0	100.0	12.0	130g	-1012K
16.00	65.0	150.0	16.0	230g	-1016K

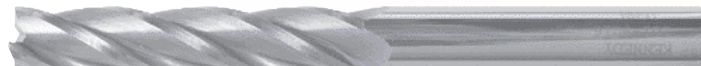
Long Series - 3 Flute



Long Series - Metric

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code KEN-161
3.00	25.0	75.0	3.0	15g	-4003K
4.00	25.0	75.0	4.0	20g	-4004K
5.00	25.0	75.0	6.0	30g	-4005K
6.00	25.0	75.0	6.0	35g	-4006K
8.00	25.0	75.0	8.0	40g	-4008K
10.00	38.0	100.0	10.0	100g	-4010K
12.00	50.0	100.0	12.0	130g	-4012K
16.00	75.0	150.0	16.0	230g	-4016K

CARBIDE



Long Series - Metric

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code KEN-161
3.00	20.0	60.0	3.0	15g	-9203K
4.00	20.0	60.0	4.0	20g	-9204K
5.00	25.0	75.0	5.0	30g	-9205K
6.00	30.0	75.0	6.0	35g	-9206K
8.00	30.0	75.0	8.0	40g	-9208K
10.00	40.0	100.0	10.0	100g	-9210K
12.00	45.0	100.0	12.0	130g	-9212K
16.00	65.0	150.0	16.0	230g	-9216K

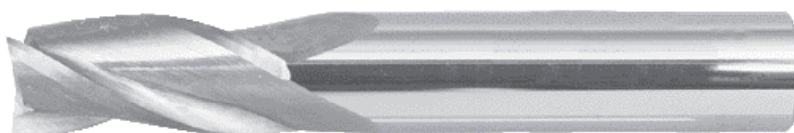


Carbide Micrograin Plain Shank Milling Cutters

CARBIDE

For optimum performance and maximum swarf removal when plunging, slotting and routing in light alloys, brass, aluminium, non-ferrous and other soft materials. Manufactured to **USCTi Standards**.

Two flute for maximum swarf clearance. Four flute for maximum rigidity.
(Three flute a combination of the advantages achieved with two and four flutes.)



Diameter Metric	Tolerances	
	+	-
Over 1.00 ~ up to 6.00	0.000	0.050
Over 6.00 ~ up to 25.00	0.000	0.080



Regular Series

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	2 FLUTE			3 FLUTE			4 FLUTE		
					Order Code SHR-161			Order Code SHR-161			Order Code SHR-161		
1.00	3.0	39.0	3.0		-0020K			-			-		
1.50	5.0	39.0	3.0		-0030K			-			-		
2.00	7.0	39.0	3.0	15g	-0040K			-3040K			-6040K		
2.50	8.0	39.0	3.0		-0050K			-3050K			-6050K		
3.00	10.0	39.0	3.0	15g	-0060K			-3060K			-6060K		
3.50	12.0	51.0	4.0		-0070K			-3070K			-		
4.00	14.0	51.0	4.0	20g	-0080K			-3080K			-6080K		
4.50	14.0	51.0	5.0	25g	-			-3090K			-		
5.00	16.0	51.0	5.0	30g	-0100K			-3100K			-6100K		
5.50	19.0	64.0	6.0		-			-3110K			-		
6.00	19.0	64.0	6.0	35g	-0120K			-3120K			-6120K		
6.50	19.0	70.0	8.0		-			-3130K			-6130K		
7.00	19.0	64.0	8.0	40g	-0140K			-3140K			-6140K		
8.00	21.0	64.0	8.0	40g	-0160K			-3160K			-6160K		
9.00	22.0	70.0	10.0	60g	-0180K			-3180K			-6180K		
10.00	25.0	70.0	10.0	100g	-0200K			-3200K			-6200K		
12.00	25.0	76.0	12.0	130g	-0240K			-3240K			-6240K		
13.00	30.0	89.0	14.0		-			-3260K			-		
14.00	30.0	89.0	14.0	180g	-0280K			-3280K			-6280K		
16.00	32.0	89.0	16.0	230g	-0320K			-3320K			-6320K		
20.00	38.0	100.0	20.0	240g	-0400K			-3400K			-6400K		

SWISS+TECH

The combination of **HSS-E PM** and **TiALN** produces a cutter that is ideally suited to dry and semi dry machining of:

- Materials up to 45 HRC.
- Stainless steels
- Aerospace alloys.

HSS-E PM HSS-E PM is a sintered powder metallurgy HSS that combines the toughness associated with HSS-Co and the hardness benefits of carbide.

- Up to 25% higher cutting speed than HSS/HSS-Co. cutters.
- Up to 125% higher feed rates.
- Up to 100% longer cutter life.
- Reduced manufacturing costs.
- Improved productivity.
- Lower coolant usage and disposal costs.

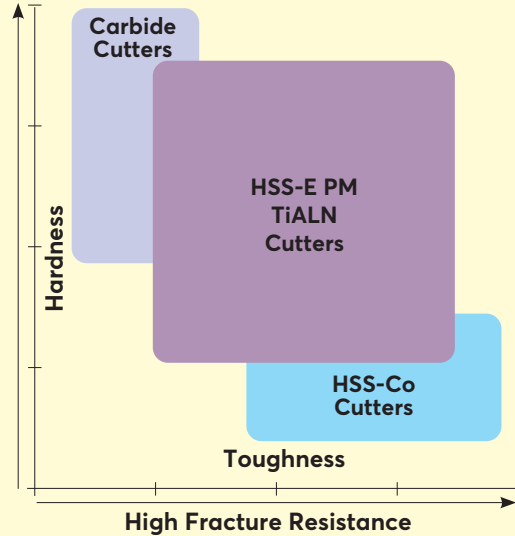
TiALN TiALN is a multi-layer coating capable of operating at higher speed and feed.

- Protects cutting edge under extreme conditions.
- Surface hardness 3000HV.
- Surface coefficient against steel 0.4.
- Thickness of coating 3 - 4µm.
- Maximum working temperature 800°C.
- Re-coating service also available.

HSS-E PM Cutters TiALN Coated

Toughness & Hardness, the Best of Both . . .

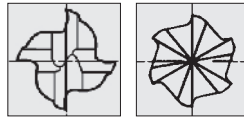
High Wear Resistance - Fast Cutting - Sharper Edges - Improved Finish



Weldon Shank HSS-E PM TiALN Coated 45° High Helix Milling Cutters

Centre cutting. Weldon shank to **DIN 1835B**. Cutting diameter to **k10**. Shank diameter to **h6**.

HSS-E PM TiALN



Series 90 Regular Series Dimensions to DIN 844

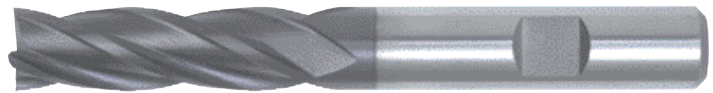
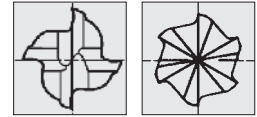
EHP-4WR PM Coated						
Diameter (mm)	Flute Length	Overall Length	Shank Dia.	No. of Flutes	Order Code	SWT-165
6.00	13.0	57.0	6.0	4	-9006A	
8.00	19.0	69.0	10.0	4	-9008A	
10.00	22.0	72.0	10.0	4	-9010A	
16.00	32.0	93.0	16.0	6	-9016A	
20.00	38.0	104.0	20.0	6	-9020A	
25.00	45.0	121.0	25.0	6	(1) -9025A	

(1) RFP-6WR PM Coated

Weldon Shank HSS-E PM TiALN Coated High Helix Cutters

Centre cutting. Weldon shank to **DIN 1835B**. Cutting diameter to **k10**. Shank diameter to **h6**.

HSS-E PM TiALN



Series 92 Long Series Dimensions to DIN 844

EHP-4WL PM Coated						
Diameter (mm)	Flute Length	Overall Length	Shank Dia.	No. of Flutes	Order Code	SWT-165
6.00	24.0	68.0	6.0	4	-9206A	
8.00	38.0	78.0	10.0	4	-9208A	
10.00	45.0	95.0	10.0	4	-9210A	
12.00	53.0	110.0	12.0	4	-9212A	
16.00	45.0	100.0	16.0	6	-9216A	
20.00	58.0	122.0	20.0	6	-9220A	
25.00	90.0	166.0	25.0	6	(1) -9225A	

(1) EHP-6WL PM Coated

Weldon Shank HSS-E PM TiALN Coated Fine Pitch Ripper Cutters

Centre cutting. Shank to **DIN 1835B**. Cutting diameter to **js12**. Shank diameter to **h6**.

HSS-E PM TiALN



Series 96 Long Series Dimensions to DIN 844

RFP-4WL PM Coated						
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Number of Flutes	Order Code	SWT-165
6.00	24.0	68.0	6.0	4	-9606A	
8.00	38.0	88.0	10.0	4	-9608A	
10.00	45.0	95.0	10.0	5	-9610A	
16.00	63.0	123.0	16.0	5	-9616A	
20.00	75.0	141.0	20.0	5	-9620A	
25.00	90.0	166.0	25.0	6	(1) -9625A	

(1) RFP-6WL PM Coated

Shank Milling Cutters - Weldon HSS, Co

SWISS+TECH

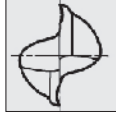
HSS-E PM 2 Flute Slot Drill Peak Power Set

Weldon Shank
Centre cutting.
To **Manufacturers Standards**.
Weldon shank to **DIN 1835B**.
Shank diameter to **h6**.
Dimensions to **DIN 844**.

Contents: 3, 4, 5, 6, 8, 10 and 12mm.

HSS-E PM

PEAK POWER



7
PIECES



Series 91

Number of Pieces	Order Code
7	SWT-165 -9150A

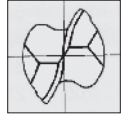
HSS-E PM 2 Flute Ball Nose Slot Drill Peak Power Set

Weldon Shank
Centre cutting.
To **Manufacturers Standards**.
Weldon shank to **DIN 1835B**.
Shank diameter to **h6**.
Dimensions to **DIN 844**.

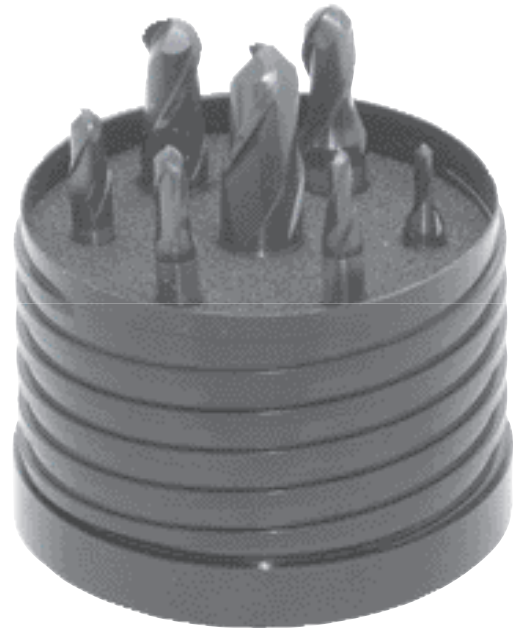
Contents: 3, 4, 5, 6, 8, 10 and 12mm.

HSS-E PM

PEAK POWER



7
PIECES



Series 97

Number of Pieces	Order Code
7	SWT-165 -9750A

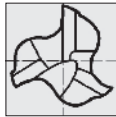
HSS-E PM Fine Pitch Ripper Peak Power Set

Weldon Shank - 5 Piece Set
Centre cutting.
To **Manufacturers Standards**.
Weldon shank to **DIN 1835B**.
Shank diameter to **h6**.
Dimensions to **DIN 844**.

Contents: 6, 8, 10, 12 and 16mm.

HSS-E PM

PEAK POWER

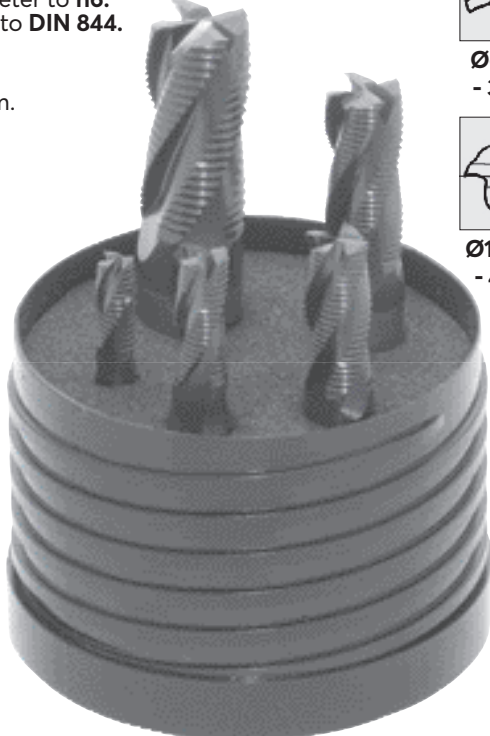


Ø6 & Ø8
- 3 Flute



Ø10 - Ø16
- 4 Flute

5
PIECES



Series 94

Number of Pieces	Order Code
5	SWT-165 -9450A

HSS-E PM High Helix Fine Pitch Ripper Peak Power Set

Weldon Shank
Centre cutting.
To **Manufacturers Standards**.
Weldon shank to **DIN 1835B**.
Shank diameter to **h6**.
Dimensions to **DIN 844**.

Contents: 5, 6, 8, 10, 12 and 16mm.

HSS-E PM

PEAK POWER



6
PIECES



Series 98

Number of Pieces	Order Code
6	SWT-165 -9850A

SWISS+TECH

Carbide Cutters Q-Coat Coated

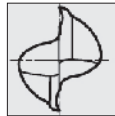
Q-Coat has been specifically developed to give carbide cutters the 'edge' when faced with severe machining conditions.

- Materials up to 66HRC.
 - Dry Cutting.
 - Die and Mould Machining
 - Improved Productivity.
 - Reduced coolant usage and disposal.
 - Up to 100% longer cutter life.
 - Reduced manufacturing costs.
- A multi-layer coating capable of operating at higher speed and feed.
- Excellent oxidation resistance.
 - High speed machining.
 - Surface hardness 3300HV.
 - Surface coefficient against steel 0.25.
 - Thickness of coating 3 - 5µm.
 - Maximum working temperature 850°C.
 - Re-coating service also available.

Carbide Plain Shank Slot Drills 2 Flute

Centre cutting. To **Manufacturers Standards**. Cutting diameter to h10. Shank diameter to h6. **SDQ-2PS Carbide Q-Coat.**

CARBIDE Q-Coat



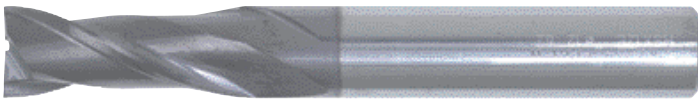
Series 60 Short Series Dimensions to DIN 844

SDQ-2PS Carbide Q-Coat				
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
1.00	2.5	45.0	4.0	-6001A
2.00	6.0	45.0	4.0	-6002A
3.00	8.0	45.0	6.0	-6003A
4.00	11.0	45.0	6.0	-6004A
5.00	13.0	50.0	6.0	-6005A
6.00	13.0	50.0	6.0	-6006A
7.00	16.0	60.0	8.0	-6007A
8.00	19.0	60.0	8.0	-6008A
9.00	19.0	70.0	8.0	-6009A
10.00	22.0	70.0	10.0	-6010A
12.00	26.0	75.0	12.0	-6012A
16.00	32.0	100.0	16.0	-6016A

Carbide Plain Shank Slot Drills 2 Flute

Centre cutting. To **Manufacturers Standards**. Cutting diameter to h10. Shank diameter to h6. **SDQ-2PS Carbide Q-Coat.**

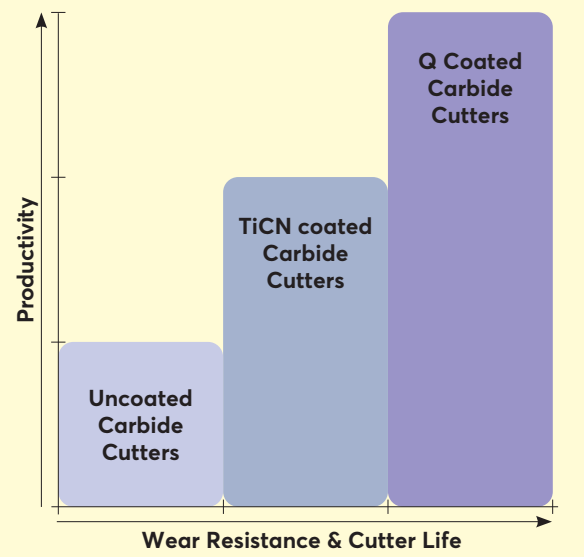
CARBIDE Q-Coat



Series 62 Long Series Dimensions to DIN 844

SDQ-2PL Carbide Q-Coat				
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
3.00	12.0	50.0	6.0	-6203A
4.00	15.0	50.0	6.0	-6204A
6.00	20.0	60.0	6.0	-6206A
8.00	25.0	70.0	8.0	-6208A
10.00	30.0	90.0	10.0	-6210A
12.00	30.0	90.0	12.0	-6212A
20.00	55.0	110.0	20.0	-6220A

A Step Beyond Carbide . . .
For Extreme Conditions - High Cutting Speeds



Carbide Plain Shank End Mills 4 Flute

Centre cutting. To **Manufacturers Standards**. Cutting diameter to h10. Shank diameter to h6. **EMQ-4PS/L Carbide Q-Coat.**

CARBIDE Q-Coat



Series 66 Short Series Dimensions to DIN 844

EMQ-4PS Carbide Q-Coat				
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
2.00	6.0	40.0	4.0	-6602A
3.00	8.0	45.0	6.0	-6603A
4.00	11.0	45.0	6.0	-6604A
5.00	13.0	50.0	6.0	-6605A
6.00	13.0	50.0	6.0	-6606A
7.00	16.0	60.0	8.0	-6607A
8.00	19.0	60.0	8.0	-6608A
9.00	19.0	70.0	10.0	-6609A
10.00	22.0	70.0	10.0	-6610A
11.00	22.0	75.0	12.0	-6611A
12.00	26.0	75.0	12.0	-6612A
14.00	26.0	85.0	14.0	-6614A
16.00	32.0	100.0	16.0	-6616A
18.00	32.0	100.0	18.0	-6618A
20.00	38.0	105.0	20.0	-6620A
25.00	45.0	120.0	25.0	-6625A

Carbide Plain Shank End Mills 4 Flute

Centre cutting. To **Manufacturers Standards**. Cutting diameter to h10. Shank diameter to h6. **EMQ-4PS/L Carbide Q-Coat.**

CARBIDE Q-Coat



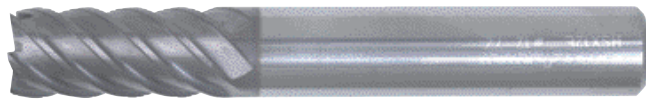
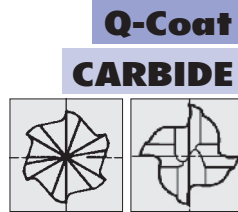
Series 68 Long Series Dimensions to DIN 844

EMQ-4PL Carbide Q-Coat				
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
3.00	12.0	50.0	6.0	-6803A
4.00	15.0	50.0	6.0	-6804A
5.00	20.0	60.0	6.0	-6805A
6.00	20.0	60.0	6.0	-6806A
8.00	25.0	70.0	8.0	-6808A
10.00	30.0	90.0	10.0	-6810A
12.00	30.0	90.0	12.0	-6812A
16.00	50.0	110.0	16.0	-6816A

SWISS + TECH Carbide Plain Shank End Mills High Helix

Centre cutting. To **Manufacturers Standards**.
Cutting diameter to **e8**. Shank diameter to **h6**.
EHQ-6*PR Carbide Q-Coat.

*Number varies according to the number of flutes.



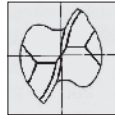
Series 72 Regular Length

EHQ-6PR Carbide Q-Coat					
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	No. of Flutes	Order Code SWT-165
3.00	8.0	57.0	6.0	4.0	-7203A
4.00	11.0	57.0	6.0	4.0	-7204A
5.00	13.0	57.0	6.0	4.0	-7205A
6.00	13.0	57.0	6.0	6.0	-7206A
8.00	19.0	63.0	8.0	6.0	-7208A
10.00	22.0	72.0	10.0	6.0	-7210A
12.00	26.0	83.0	12.0	6.0	-7212A
16.00	32.0	92.0	16.0	6.0	-7216A
20.00	38.0	104.0	20.0	8.0	-7220A

Carbide Plain Shank Slot Drills 2 Flute Ball Nose

Centre cutting.
To **Manufacturers Standards**.
Cutting diameter to **e8**.
Shank diameter to **h6**.
Carbide Q-Coat.

CARBIDE Q-Coat



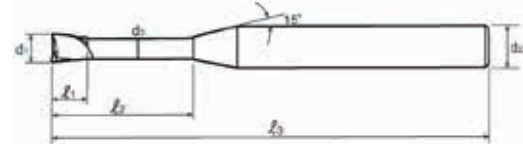
Series 73 Long Reach

Carbide Q-Coat						
Dia. (mm)	Shank Dia	Length of Cut	Length Below Shank	Overall Length	Neck Dia.	Order Code SWT-165
0.60	4.0	0.9	6.0	35.0	0.55	-7302A
0.80	4.0	1.2	8.0	45.0	0.75	-7304A
1.00	4.0	1.5	8.0	45.0	0.95	-7306A
1.00	4.0	1.5	12.0	45.0	0.93	-7308A
1.50	4.0	2.3	20.0	55.0	1.39	-7310A
2.00	4.0	3.0	12.0	50.0	1.93	-7316A
2.00	4.0	3.0	16.0	50.0	1.91	-7318A
2.00	4.0	3.0	20.0	55.0	1.89	-7320A

Carbide Plain Shank Slot Drills 2 Flute

Centre cutting.
To **Manufacturers Standards**.
Cutting diameter to **h10**.
Shank diameter to **h6**.
Carbide Q-Coat.

CARBIDE Q-Coat



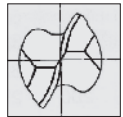
Series 74 Long Reach

Carbide Q-Coat						
Dia. (mm)	Shank Dia. (d2)	Length of Cut (l1)	Length Below Shank (l2)	Overall Length (l3)	Neck Dia. (d3)	Order Code SWT-165
0.50	4.0	0.7	6.0	45.0	0.45	-7402A
0.60	4.0	0.9	4.0	45.0	0.55	-7404A
0.70	4.0	1.0	8.0	45.0	0.65	-7406A
0.80	4.0	1.2	4.0	45.0	0.75	-7408A
1.00	4.0	1.5	8.0	45.0	0.95	-7412A
1.00	4.0	1.5	10.0	45.0	0.95	-7414A
1.20	4.0	1.8	12.0	45.0	1.13	-7416A
1.50	4.0	2.3	16.0	50.0	1.41	-7418A
2.00	4.0	3.0	14.0	50.0	1.93	-7420A
2.00	4.0	3.0	20.0	55.0	1.89	-7422A
2.50	4.0	3.7	20.0	60.0	2.40	-7424A
3.00	6.0	4.5	14.0	50.0	2.85	-7426A
3.00	6.0	4.5	25.0	65.0	2.85	-7428A

Carbide Plain Shank Slot Drills 2 Flute Ball Nose

Centre cutting.
To **Manufacturers Standards**.
Cutting diameter to **h10**.
Shank diameter to **h6**.
Carbide Q-Coat.

CARBIDE Q-Coat



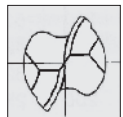
Series 75 Regular Neck

Carbide Q-Coat						
Dia. (mm)	Shank Dia	Length of Cut	Length Below Shank	Overall Length	Neck Dia.	Order Code SWT-165
0.40	4.0	0.6	1.0	45.0	0.36	-7502A
0.50	4.0	0.7	2.0	45.0	0.45	-7504A
0.80	4.0	1.2	2.0	45.0	0.75	-7508A
1.00	4.0	1.5	3.0	45.0	0.97	-7510A
1.50	4.0	2.3	6.0	45.0	1.47	-7514A
2.00	4.0	3.0	4.0	45.0	1.97	-7516A
3.50	6.0	4.5	8.0	50.0	2.85	-7520A

Carbide Plain Shank Slot Drills Ball Nosed 2 Flute

Centre cutting.
To **Manufacturers Standards**.
Cutting diameter to **e8**.
Shank diameter to **h6**.
SBQ-2PR Carbide Q-Coat.

CARBIDE Q-Coat



Series 78 Regular Length

SBQ-2PR Carbide Q-Coat				
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
1.00	2.5	50.0	4.0	-7801A
1.50	4.0	50.0	4.0	-7801L
2.00	5.0	50.0	6.0	-7802A
2.50	6.0	60.0	6.0	-7802L
3.00	8.0	60.0	6.0	-7803A
4.00	8.0	70.0	6.0	-7804A
5.00	10.0	80.0	6.0	-7805A
6.00	12.0	90.0	6.0	-7806A
8.00	14.0	100.0	8.0	-7808A
10.00	18.0	100.0	10.0	-7810A
12.00	22.0	110.0	12.0	-7812A
16.00	30.0	140.0	16.0	-7816A
20.00	38.0	160.0	20.0	-7820A

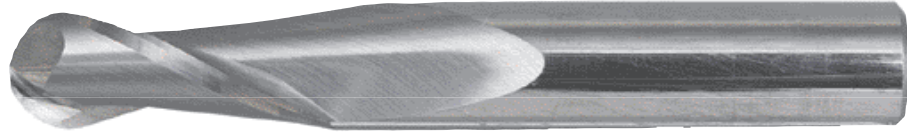
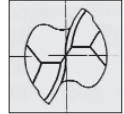


Carbide Micrograin Plain Shank Slot Drills 2 Flute Ball Nosed

CARBIDE

For optimum performance and maximum swarf removal when plunging, slotting and routing in most materials including brass, aluminium, non-ferrous and other soft materials. Manufactured to **USCTi Standards**.

Diameter Metric	Tolerances	
	+	-
Over 1.00 ~ up to 6.00	0.000	0.050
Over 6.00 ~ up to 25.00	0.000	0.080



Regular Series

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code SHR-161
2.00	4.0	38.0	3.0	10g	-1040K
3.00	6.0	38.0	3.0	10g	-1060K
4.00	8.0	50.0	4.0	15g	-1080K
5.00	10.0	50.0	6.0	25g	-1100K
6.00	12.0	50.0	6.0	25g	-1120K

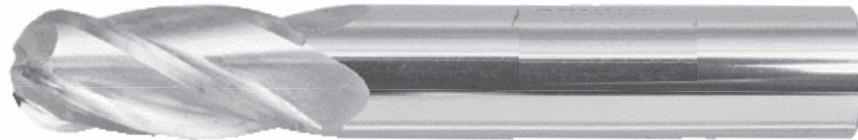
Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code SHR-161
8.00	20.0	63.0	8.0	55g	-1160K
10.00	22.0	75.0	10.0	90g	-1200K
12.00	25.0	75.0	12.0	120g	-1240K
16.00	32.0	89.0	16.0	250g	-1320K

Solid Carbide Micrograin Plain Shank End Mills 4 Flute Ball Nosed

CARBIDE

For maximum strength when milling harder materials where rapid swarf removal is not needed. Four flute milling cutters have one of the strongest tooth structures available in solid cutters. Centre cutting as standard. Manufactured to **ANSI Standards**.

Diameter Metric	Tolerances	
	+	-
Over 1.00 ~ up to 6.00	0.000	0.050
Over 6.00 ~ up to 25.00	0.000	0.080



Regular Series

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code SHR-161
2.00	6.3	38.0	3.0	10g	-7040K
3.00	12.0	38.0	3.0	10g	-7060K
4.00	14.0	50.0	4.0	15g	-7080K
5.00	16.0	50.0	6.0	25g	-7100K
6.00	19.0	50.0	6.0	25g	-7120K

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code SHR-161
8.00	20.0	63.0	8.0	55g	-7160K
10.00	22.0	75.0	10.0	90g	-7200K
12.00	25.0	75.0	12.0	120g	-7240K
16.00	32.0	89.0	16.0	250g	-7320K
20.00	38.0	100.0	20.0	420g	-7400K

SWISS+TECH

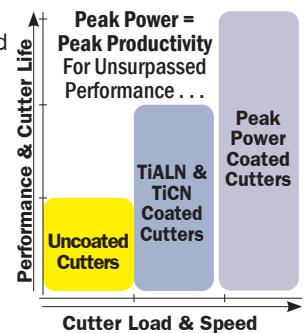
PEAK POWER

The latest addition of the Swiss+Tech range. Manufactured from premium High Speed Steel using the latest in Powdered

these cutters will produce a Powerful Milling performance when cutting difficult materials - even at high speeds.

- **Designed to provide strength and rigidity**
- **Excellent geometry gives optimised cutting and minimises vibration at high speeds**
- **The range is further enhanced by the Peak Power coating**
- **Reduced manufacturing costs**
- **Greater wear resistance and hot-hardness than conventional TiAlN or TiCN coatings**
- **Suited to dry cutting applications**
- **Higher oxidation resistance**

This coating results in the tools withstanding the high thermal loads associated with high speed applications.



HSS-E PM Coated 4 Flute End Mills

HSS-E PM

Centre cutting. Weldon shank to **DIN 1835B**. Shank diameter to **h6**. Dimensions to **DIN 844**.

PEAK POWER



Series 95 Regular

Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
3.00	8.0	52.0	6.0	-9503A
4.00	11.0	55.0	6.0	-9504A
5.00	13.0	57.0	6.0	-9505A
6.00	13.0	57.0	6.0	-9506A
8.00	19.0	69.0	6.0	-9508A
10.00	22.0	72.0	10.0	-9510A
12.00	26.0	83.0	12.0	-9512A
14.00	26.0	83.0	12.0	-9514A
16.00	32.0	92.0	16.0	-9516A
20.00	38.0	104.0	20.0	-9520A

HSS-E PM Coated Fine Pitch Ripper

HSS-E PM

Centre cutting. Weldon shank to **DIN 1835B**. Cutting diameter to **js12**. Shank diameter to **h6**. Dimensions to **DIN 844**.

PEAK POWER



Series 94 Regular

Diameter (mm)	Flute Length	Overall Length	Shank Diameter	No. of Flutes	Order Code SWT-165
6.00	13.0	57.0	6.0	3	-9406A
8.00	19.0	69.0	10.0	3	-9408A
10.00	22.0	72.0	10.0	4	-9410A
12.00	26.0	83.0	12.0	4	-9412A
14.00	26.0	83.0	12.0	4	-9414A
16.00	32.0	94.0	16.0	4	-9416A
18.00	32.0	94.0	16.0	4	-9418A
20.00	38.0	104.0	20.0	4	-9420A
22.00	38.0	104.0	20.0	4	-9422A
25.00	45.0	121.0	25.0	5	-9425A