

Product Grading



Production

High performance industrial tooling designed for continuous use applications on machine tools where repeatability and long tool life are of critical importance.



Professional

Industrial tooling that has enhanced features and benefits demanded by craftsmen and professional users.



Industrial

Designed for regular use in industrial applications. Manufactured to stringent quality levels and international standards.



Workshop

Standard quality tooling for use by tradesmen and generally industrial use.



Maintenance

Products designed for general maintenance of machines, workshops, garages and some household applications.



Home Improver

DIY quality tooling. Designed for home use and light industrial applications.



Product Groups
010 - 144

Cutting Tools

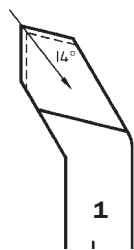
Contents

Description	Group	Page
Brazed Tools	100	114 - 115
Butt Welded Tools	010	20
Chaser Dies	015	21
Countersinks	020	22 - 26
Deburring Tools - Hand	109	126 - 129
Drills - Blanks	025	45
- Centre	025	28 - 29
- Extra Length	025	49
- Long Series	025	47 - 48
- Spotting	025	26
- Standard Length (Jobber)	025	34 - 46
- Stub	025	30 - 33
- Taper Shank	025	50
- Vent & Micro Precision	025	27
Drills - Sets	025	40 - 41
Files - Diamond	033	59
- Engineers	030	51 - 55
- Milled Tooth & Rasps	032	58
- Needle	031	56
- Riffler	031	57
Hacksaw & Powersaw Blades	040	60 - 61

Description	Group	Page
Indexable - Milling Cutters	139	142 - 147
- Threading	121	140 - 141
Inserts - ISO Milling	120	139
- ISO Turning	120	132 - 137
Reamers - Chucking	065	88
- Taper Shank	065	89
Saw Blades	072	90
Shank Milling Cutters	061	62 - 80
- Die & Mould	061	81 - 86
Sheet & Tube Drills	019	21 - 22
Spindle Nose Tooling	144	148 - 152
Tap Extractors	075	90
Tapping Head Sets	144	153
Taps - Production	085	108 - 112
Taps & Dies - HSS	085	91 - 106
Thread Restoring Files	017	21
Throwaway Milling Cutters	062	87
Toolbits & Parting-off Blades	090	113
Toolholders - ISO Boring	106	124 - 125
- ISO External	106	120 - 123

Manufactured from top quality sintered steels. For use on a wide range of applications from roughing to finishing.
 Manufactured to **BS 1296 : Part 3 : 1978**.

Light Turning & Facing



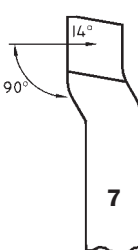
1
Right Hand

Shape No.1RH Rake & Clearance Angles	
Top Rake	14°
Front Clearance	6°
Approach Angle	-2°
Trail Angle	15°
Side Clearance	6°
Corner Radius	-



Shank (mm)	Overall Length	Order Code
12 x 12	100	-0120K
16 x 16	110	-0160K

Knife or Side Cutting



7
Right Hand

Shape No.7RH Rake & Clearance Angles	
Top Rake	14°
Front Clearance	6°
Approach Angle	-2°
Trail Angle	4 - 10°
Side Clearance	6°
Corner Radius	-



Shank (mm)	Overall Length	Order Code
12 x 12	100	-1120K
16 x 16	110	-1160K

External Screw Cutting Right Hand



No Rake
Also available for cutting left hand thread - No.13LH

No.13 RH
 (No.14 LH available on request)

Shape No.13RH Rake & Clearance Angles	
Top Rake	0°
Front Clearance	12°
Approach Angle	30°
Trail Angle	60°
Side Clearance	60°
Corner Radius	-



Shank (mm)	Overall Length	Order Code
12 x 12	100	-2120K
16 x 16	110	-2160K

Parting Off



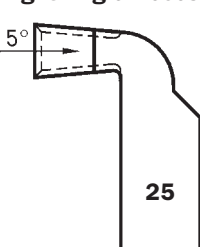
16
Right Hand

Shape No.16RH Rake & Clearance Angles	
Top Rake	5°
Front Clearance	6°
Approach Angle	90°
Trail Angle	0°
Side Clearance	1-2°
Corner Radius	-



Shank (mm)	Overall Length	Order Code
12 x 12	100	-3120K
16 x 16	110	-3160K

Right Angle Recessing



25
Right Hand

Shape No.25RH Rake & Clearance Angles	
Top Rake	5°
Front Clearance	6°
Approach Angle	0°
Trail Angle	2°
Side Clearance	3°
Corner Radius	-



Shank (mm)	Overall Length	Order Code
16 x 16	110	-6160K

Facing



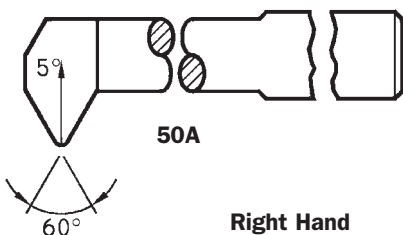
19
Right Hand

Shape No.19RH Rake & Clearance Angles	
Top Rake	14°
Front Clearance	6°
Approach Angle	-30°
Trail Angle	15°
Side Clearance	6°
Corner Radius	3 - 8°



Shank (mm)	Overall Length	Order Code
12 x 12	100	-5120K
16 x 16	110	-5160K

Internal Screw Cutting Tools



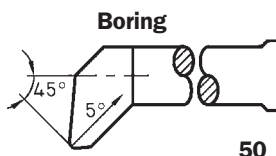
50A
Right Hand

Shape No. 50A Rake & Clearance Angles	
Top Rake	5°
Front Clearance	6°
Approach Angle	0°
Trail Angle	1°
Side Clearance	1°
Corner Radius	-



Shank (mm)	Overall Length	Order Code
20 x 12	160	-8620K

Boring Tools & Through Boring Tools



50

Right Hand

Rake & Clearance Angles		Shape No.
Top Rake	5°	50
Front Clearance	6°	
Approach Angle	-1°	
Trail Angle	4°	
Side Clearance	6°	
Corner Radius	-3°	
Cutting Angle	30°	

Shank (mm)	Overall Length	Order Code
12 x 12	160	-8120K
16 x 16	200	-8160K





HSS Coventry Type Chaser Dies

Cutting takes place only on the throat and the first full tooth; the remaining threads are above centre height and act as a nut, ensuring accurate pitch. Ideal for batch work or continuous production of threaded steel bar. Coventry dies are not interchangeable. An original set of new dies must always be used together. When taken from the diehead the set of dies should be retained in its box until required again.

Throat Angles

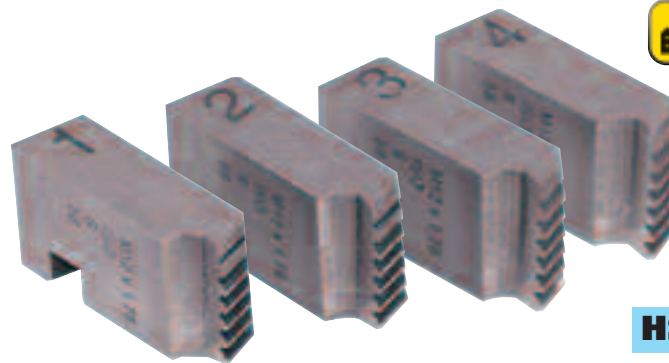
20° for general work and soft steels - supplied as standard.
33° 'B' type for cutting brass, available on request.

Grinding Dies

Only two angles are ground on Coventry dies, the throat angle and the rake angle and in the particular case of Holozone dies only the throat angle is ground. All dies in a set must be ground on the throat at the same time and since they cannot be accurately ground by hand, a die grinding fixture must be used.

Marking & Materials

Each die is marked with: diameter, pitch, type of die and gauge number. Non-standard or special dies are marked with an SD number which should be quoted when re-ordering. When a set of dies has been re-ground several times by grinding the throat angle, the height of the cutting edge rises above centre. This condition must be rectified by grinding the rake angle until the die height is correct according to the number shown on the die.



HSS

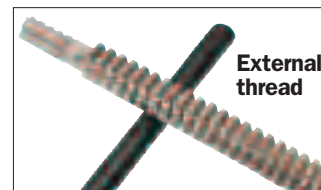
ISO Metric: Throat Angle S20

Size x Pitch	Diehead Size	Weight each	Order Code CTL-015
5 x 0.80	12mm	58g	-1024N
6 x 1.00	12mm	59g	-1030F
8 x 1.25	12mm	55g	-1041S
	20mm	150g	-1043V
10 x 1.50	12mm	52g	-1048A
	20mm	150g	-1050C
12 x 1.75	12mm	50g	-1054G
20 x 2.50	20mm	130g	-1075E
	32mm	355g	-1079J
30 x 3.50	32mm	400g	-1091X



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.



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

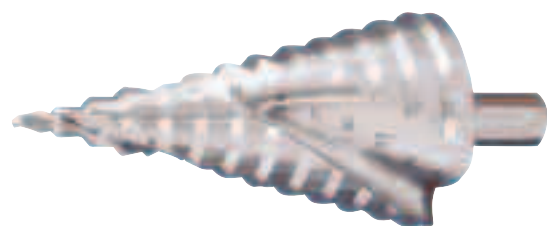


HSS Multi-Diameter Step Drills

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 SHR-019
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

HSS

Manufactured from high speed steel, resulting in long tool life and extra durability. Each step produces specific sized, parallel holes, with the maximum material thickness being determined by the length of step. The drills are capable of producing or enlarging holes in sheet metals without the need for centre punch or pilot holes, and are designed for use with power tools or pedestal drilling machines for an extensive range of industrial applications.

Sizes include:

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



Number of Pieces	Range (mm)	Weight	Order Code SHR-019
3	4 - 30	275g	-0260K

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR



**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



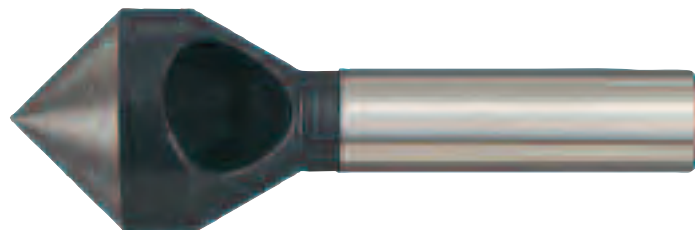
**HSS-E Co 5% Countersinks
Single Hole**



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



HSS Single Flute Countersinks

HSS

A quality range of single flute countersinking bits available in nine individual sizes and as a five piece set for use in the deburring and chamfering of most metals and plastics. Manufactured from high speed steel for durability and performance. Inclusive angle 90°.

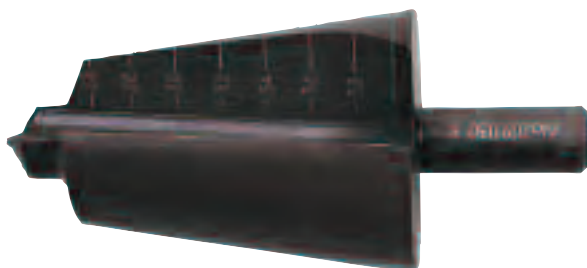
Size	Shank Diameter	Overall Length	Order Code
1/4"	1/4"	1 1/2"	-9150K
5/16"	1/4"	2"	-9160K
3/8"	1/4"	2"	-9170K
1/2"	1/4"	2"	-9180K
5/8"	1/2"	2 1/4"	-9190K
3/4"	1/2"	2 3/4"	-9200K
7/8"	1/2"	2 3/4"	-9210K
1"	1/2"	2 3/4"	-9220K
5 Piece Set: 1/4", 3/8", 1/2", 3/4" & 1"			-9250K



HSS Taper Sheet & Tube Drills

HSS

For producing clean holes in sheet metal and other thin walled materials. Efficient cutting geometry, no pre-drilled pilot hole and the diameter of the finished hole is infinitely variable within the range of each drill, according to depth of feed.



Range (mm)	Shank Dia. (mm)	Overall Length (mm)	Weight each	Order Code
3 - 14	6	57	30g	-1100K
8 - 20	8	66	60g	-1110K
16 - 30	9	74	140g	-1120K
26 - 40	9	85	300g	-1130K

HSS-Co 5% Countersink Set

HSS-Co 5%

Straight shank, ground flute 90° angle. Sizes: 2 - 5mm, 5 - 10mm, 10 - 15mm, 15 - 20mm, 20 - 25mm and 25 - 30mm.

**6
PIECES**



Weight each
1.2kg

Order Code
SHR-020
-9020B



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: $\frac{3}{16}$ ".



Product Number	Diameter	Inc. Angle	Body Dia.	Overall Length	Order Code SHR-020
5802	$\frac{3}{32}$ "	100°	$\frac{3}{16}$ "	2 $\frac{1}{2}$ "	-5050D
5803	$\frac{3}{32}$ "	120°	$\frac{3}{16}$ "	2 $\frac{1}{2}$ "	-5054H
5810	$\frac{1}{8}$ "	100°	$\frac{1}{4}$ "	2 $\frac{1}{2}$ "	-5051E
5812	$\frac{1}{8}$ "	120°	$\frac{1}{4}$ "	2 $\frac{1}{2}$ "	-5055J
5821	$\frac{5}{32}$ "	100°	$\frac{5}{16}$ "	2 $\frac{1}{2}$ "	-5052F
5831	$\frac{3}{16}$ "	100°	$\frac{3}{8}$ "	2 $\frac{1}{2}$ "	-5053G
5832	$\frac{3}{16}$ "	120°	$\frac{3}{8}$ "	2 $\frac{1}{2}$ "	-5056K

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

Diameter	Inc. Angle	Body Dia.	Overall Length	Order Code SHR-020
$\frac{3}{32}$ "	100°	.190	2 $\frac{1}{2}$ "	-5057L
$\frac{1}{8}$ "	100°	.252	2 $\frac{1}{2}$ "	-5058M
$\frac{5}{32}$ "	100°	.340	2 $\frac{1}{2}$ "	-5059N
$\frac{3}{16}$ "	100°	.405	2 $\frac{1}{2}$ "	-5060P
$\frac{1}{4}$ "	100°	.530	2 $\frac{1}{2}$ "	-5061Q

HSS-Co 5% 3 Flute - Straight Shank

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 SHR-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% Multi Flute - Straight Shank

Rose Pattern

Inclusive angle 90°.

Overall length: 52mm.



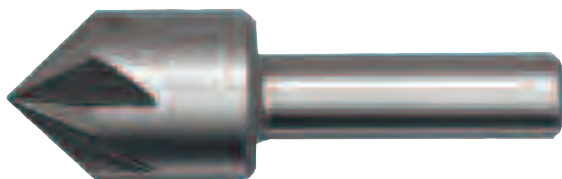
Cutting Diameter	Shank Diameter	Order Code SHR-020
9.5mm	4.8mm	-2040K
12.7mm	4.8mm	-2060K
15.8mm	6.3mm	-2080K

HSS-Co 5% Multi Flute - Straight Shank

Heavy Duty

Inclusive angle 90°.

Overall length: 40mm.



Cutting Diameter	Shank Diameter	Order Code SHR-020
12.7mm	6.3mm	-2000K

HSS-Co 5% 3 Flute - Taper Shank

90° inclusive angle.



Cutting Diameter	Shank Diameter	Order Code SHR-020
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

Rose Pattern

Inclusive angle 90°.

Overall length: 52mm.



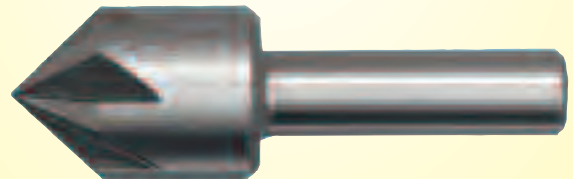
Cutting Diameter	Shank Diameter	Order Code KEN-020
9.5mm	4.8mm	-2040K
12.7mm	4.8mm	-2060K
15.8mm	6.3mm	-2080K

HSS-Co 5% Multi Flute - Straight Shank

Heavy Duty

Inclusive angle 90°.

Overall length: 40mm.



Cutting Diameter	Shank Diameter	Order Code KEN-020
12.7mm	6.3mm	-2000K

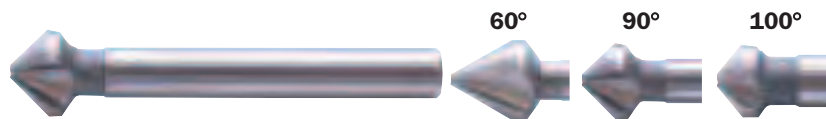
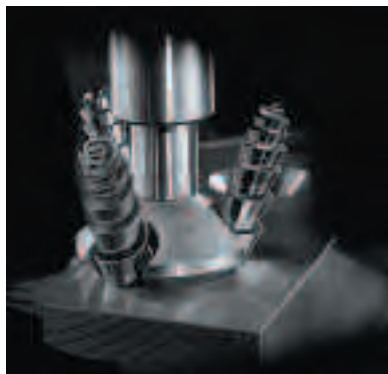
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HSS-Co 5% High Performance Countersinks

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.

HSS-Co 5%



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

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

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%



HSS-Co 5% Countersinks

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°.

HSS-Co 5%



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.



**6
PIECES**

Weight

620g

Order Code
KEN-020

-1160K



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

**6
PIECES**



Inclusive
Angle
90°

Order Code
SHR-020
-9010A

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.

**5
PIECES**



Inclusive
Angle
100°

Order Code
SHR-020
-9130A

HSS-Co 5%

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.

**6
PIECES**



Inclusive
Angle
90°

Order Code
SHR-020
-8990Y

HSS-Co 5%

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.**

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

**5
PIECES**



Inclusive
Angle
60°

Order Code
SHR-020
-8150A



HSS Solid Counterbores

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**.

HSS

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

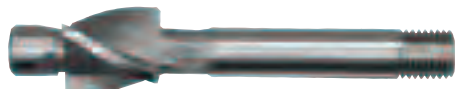
HSS Solid Counterbores - Threaded Shank

To suit bolt ISO Metric/Din Standards.



HSS

new



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 SCD Stub Centring Drills

Stub centering drills designed for sheet metal drilling and spot centering operations with a strong supporting web and a reduced chisel edge to help penetration.



HSS

135° Split Point - Series S510



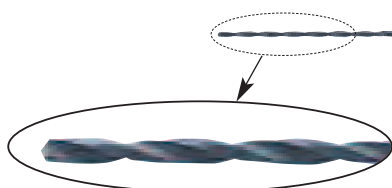
Metric				Inch			
Diameter (mm)	Flute Length (mm)	Overall Length (mm)	Order Code SHR-025	Diameter (Inch)	Flute Length	Overall Length	Order Code SHR-025
2	14	43	-1396A	3/32"	9/16"	1 11/16"	-1400C
3	18	49	-1396C	1/8"	1 1/16"	1 15/16"	-1400F
4	18	55	-1396E	5/32"	1 1/16"	2 5/32"	-1400J
5	18	62	-1396G	3/16"	1 1/16"	2 7/16"	-1400M
6	18	70	-1396J	1/4"	3/4"	2 3/4"	-1400Q

HSS Straight Shank Quick Spiral, Extra Length Vent Drills

QUICK SPIRAL

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.

HSS



Metric				Inch			
Diameter (mm)	Flute Length (mm)	Overall Length (mm)	Order Code SHR-025	Diameter (inch)	Flute Length	Overall Length	Order Code SHR-025
0.60	40	60	-2180D	3/64" (0.0469)	50.0mm	150mm	-2177R
0.70	40	76	-2180H				

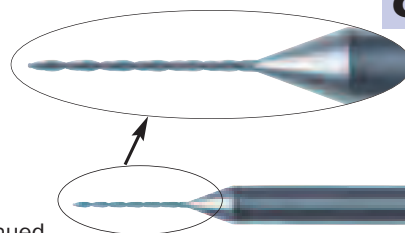
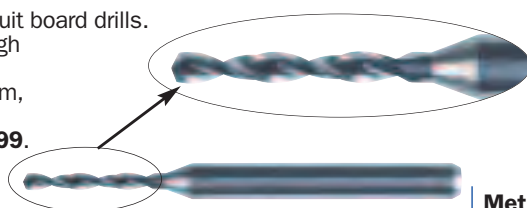
Carbide Printed Circuit Board Drills

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			Metric Continued		
Diameter (mm)	Flute Length (mm)	Order Code SHR-158	Diameter (mm)	Flute Length (mm)	Order Code SHR-158
0.40	5.5	-3004D	1.00	10.5	-3016R
0.45	5.5	-3005E	1.05	10.5	-3017S
0.50	5.5	-3006F	1.10	10.5	-3018T
0.55	7.0	-3007G	1.25	10.5	-3021X
0.60	7.0	-3008H	1.30	10.5	-3022Y
0.70	9.5	-3010K	1.40	10.5	-3025A
0.75	9.5	-3011L	1.50	10.0	-3027C
0.80	9.5	-3012M			
0.85	9.5	-3013N			
0.90	9.5	-3014P			
0.95	9.5	-3015Q			

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	405.000	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

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

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.

HSS

TiN-tip

TiN coating on working parts. 60° inclusive angle.

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

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
120g

Order Code
SWT-125
-5155A

HSS TiN Tipped Centre Drills

HSS

TiN-tip

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



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"	1/16"	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.

5
PIECES

Weight
each
114g

Order Code
SWT-125
-5140A

SHERWOOD
QUALITY CUTTING TOOLSHSS Centre
Drills

Designed with spiral flutes and various lengths and forms to give high quality centre holes that suit most applications. 60° inclusive angle.

HSS

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

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

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

5
PIECES

Weight
each
120g

Order Code
SHR-025
-9150K

HSS Centre Drills

HSS

Designed with spiral flutes and various lengths and forms to give high quality centre holes that suit most applications. 60° inclusive angle.

INCH

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

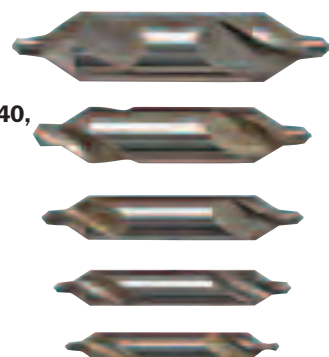
60° inclusive angle.

Manufactured to

BS 328 : Part 2 : 1986, DIN 333A, ISO 866, ISO 2540, ISO 2541.

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

HSS

5
PIECES

Weight
each
114g

Order Code
SHR-025
-9160K



HSS Extra Length Centre Drills

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.**



HSS



Metric

Diameter (mm)		Overall Length	Weight each	Order Code
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
	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
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
	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

Tolerances
Cutting Diameter +0.0005"
Shank Diameter +0.0010"



Inch

Size	Diameter		Overall Length	Weight each	Order Code
	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
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



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

Tolerances
Cutting Diameter +0.0005"
Shank Diameter +0.0010"



Inch

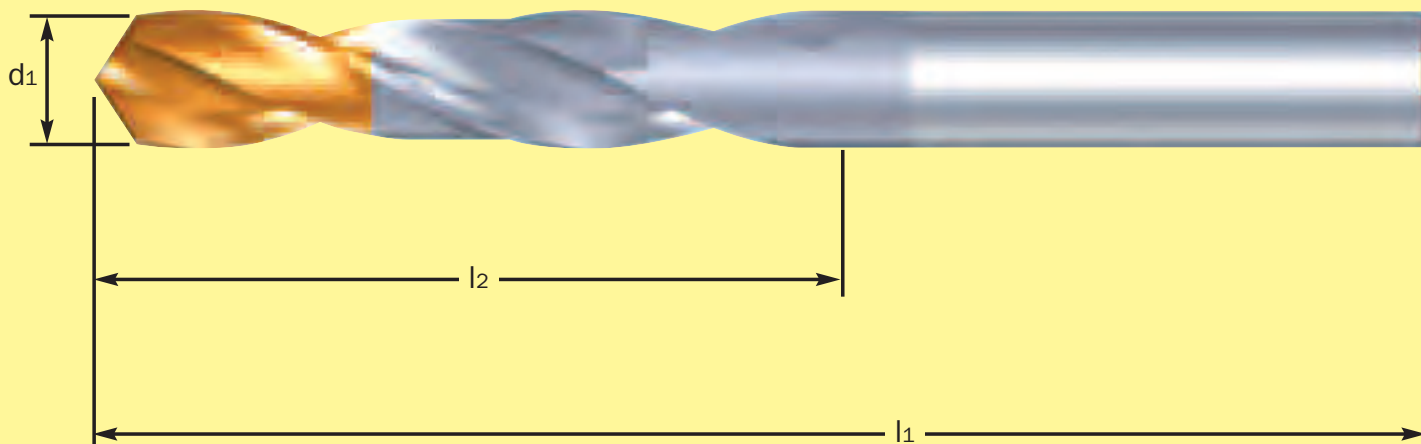
Size	Diameter		Overall Length	Weight each	Order Code
	Body	Drill			
BS1	1/8"	3/64"	1 1/2"	10g	-9010K
BS2	3/16"	5/64"	1 7/8"	10g	-9020K
BS3	1/4"	7/64"	2"	20g	-9030K
BS4	5/16"	1/8"	2 1/8"	30g	-9040K
BS5	7/16"	3/16"	2 3/4"	70g	-9050K
BS6	1/2"	7/32"	3"	90g	-9060K

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

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 h8	Inch Dec.	l_2 mm	l_1 mm
0.50		0.0196	3.0	20.0
0.60		0.0236	3.5	21.0
0.70		0.0275	4.5	23.0
0.79	$\frac{1}{32}$	0.0312	5.0	24.0
0.80		0.0314	5.0	24.0
0.90		0.0354	5.5	25.0
1.00		0.0393	6.0	26.0
1.10		0.0433	7.0	28.0
1.19	$\frac{3}{64}$	0.0468	8.0	30.0
1.20		0.0472	8.0	30.0
1.30		0.0511	8.0	30.0
1.40		0.0551	9.0	32.0
1.50		0.0590	9.0	32.0
1.59	$\frac{1}{16}$	0.0625	10.0	34.0
1.60		0.0629	10.0	34.0
1.70		0.0669	10.0	34.0
1.80		0.0708	11.0	36.0
1.90		0.0748	11.0	36.0
1.98	$\frac{5}{64}$	0.0779	12.0	38.0
2.00		0.0787	12.0	38.0
2.10		0.0826	12.0	38.0
2.20		0.0866	13.0	40.0
2.25		0.0885	13.0	40.0
2.30		0.0905	13.0	40.0
2.38	$\frac{3}{32}$	0.0937	14.0	43.0
2.40		0.0944	14.0	43.0
2.50		0.0984	14.0	43.0
2.60		0.1023	14.0	43.0
2.65		0.1043	14.0	43.0
2.70		0.1062	16.0	46.0
2.78	$\frac{7}{64}$	0.1094	16.0	46.0
2.80		0.1102	16.0	46.0
2.90		0.1141	16.0	46.0
3.00		0.1181	16.0	46.0
3.10		0.1220	18.0	49.0
3.18	$\frac{1}{8}$	0.1251	18.0	49.0
3.20		0.1259	18.0	49.0
3.25		0.1279	18.0	49.0
3.30		0.1299	18.0	49.0
3.40		0.1338	20.0	52.0
3.50		0.1377	20.0	52.0
3.57	$\frac{9}{64}$	0.1405	20.0	52.0
3.60		0.1417	20.0	52.0
3.70		0.1456	20.0	52.0

d_1 mm	Inch h8	Inch Dec.	l_2 mm	l_1 mm
3.80		0.1496	22.0	55.0
3.90		0.1535	22.0	55.0
3.97	$\frac{5}{32}$	0.1562	22.0	55.0
4.00		0.1574	22.0	55.0
4.10		0.1614	22.0	55.0
4.20		0.1653	22.0	55.0
4.30		0.1692	24.0	58.0
4.37	$\frac{11}{64}$	0.1720	24.0	58.0
4.40		0.1732	24.0	58.0
4.50		0.1771	24.0	58.0
4.60		0.1811	24.0	58.0
4.70		0.1850	24.0	58.0
4.76	$\frac{3}{16}$	0.1874	26.0	62.0
4.80		0.1889	26.0	62.0
4.90		0.1929	26.0	62.0
5.00		0.1968	26.0	62.0
5.10		0.2007	26.0	62.0
5.16	$\frac{13}{64}$	0.2031	26.0	62.0
5.20		0.2047	26.0	62.0
5.30		0.2086	26.0	62.0
5.40		0.2125	28.0	66.0
5.50		0.2165	28.0	66.0
5.56	$\frac{7}{32}$	0.2188	28.0	66.0
5.60		0.2204	28.0	66.0
5.70		0.2244	28.0	66.0
5.80		0.2283	28.0	66.0
5.90		0.2322	28.0	66.0
5.95	$\frac{15}{64}$	0.2342	28.0	66.0
6.00		0.2362	28.0	66.0
6.10		0.2401	31.0	70.0
6.20		0.2440	31.0	70.0
6.30		0.2480	31.0	70.0
6.35	$\frac{1}{4}$	0.2500	31.0	70.0
6.40		0.2519	31.0	70.0
6.50		0.2559	31.0	70.0
6.60		0.2598	31.0	70.0
6.70		0.2637	31.0	70.0
6.80		0.2677	34.0	74.0
6.90		0.2716	34.0	74.0
7.00		0.2755	34.0	74.0
7.10		0.2795	34.0	74.0
7.14	$\frac{9}{32}$	0.2811	34.0	74.0
7.20		0.2834	34.0	74.0
7.30		0.2874	34.0	74.0

d_1 mm	Inch h8	Inch Dec.	l_2 mm	l_1 mm
7.40		0.2913	34.0	74.0
7.50		0.2952	34.0	74.0
7.60		0.2992	37.0	79.0
7.70		0.3031	37.0	79.0
7.80		0.3070	37.0	79.0
7.90		0.3110	37.0	79.0
7.94	$\frac{5}{16}$	0.3125	37.0	79.0
8.00		0.3149	37.0	79.0
8.10		0.3188	37.0	79.0
8.20		0.3228	37.0	79.0
8.30		0.3267	37.0	79.0
8.40		0.3307	37.0	79.0
8.50		0.3346	37.0	79.0
8.60		0.3385	40.0	84.0
8.70		0.3425	40.0	84.0
8.73	$\frac{11}{32}$	0.3437	40.0	84.0
8.80		0.3464	40.0	84.0
8.90		0.3503	40.0	84.0
9.00		0.3543	40.0	84.0
9.10		0.3582	40.0	84.0
9.20		0.3622	40.0	84.0
9.30		0.3661	40.0	84.0
9.40		0.3700	40.0	84.0
9.50		0.3740	40.0	84.0
9.53	$\frac{3}{8}$	0.3751	43.0	89.0
9.60		0.3779	43.0	89.0
9.70		0.3818	43.0	89.0
9.80		0.3858	43.0	89.0
9.90		0.3897	43.0	89.0
10.00		0.3937	43.0	89.0
10.10		0.3976	43.0	89.0
10.20		0.4015	43.0	89.0
10.30		0.4055	43.0	89.0
10.32	$\frac{13}{32}$	0.4062	43.0	89.0
10.40		0.4094	43.0	89.0
10.50		0.4133	43.0	89.0
10.60		0.4173	43.0	89.0
10.70		0.4212	47.0	95.0
10.80		0.4251	47.0	95.0
10.90		0.4291	47.0	95.0
11.00		0.4330	47.0	95.0
11.10		0.4370	47.0	95.0
11.11	$\frac{7}{16}$	0.4374	47.0	95.0
11.20		0.4409	47.0	95.0

d_1 mm	Inch h8	Inch Dec.	l_2 mm	l_1 mm
11.30		0.4448	47.0	95.0
11.50		0.4527	47.0	95.0
11.60		0.4566	47.0	95.0
11.70		0.4606	47.0	95.0
11.80		0.4645	47.0	95.0
11.90		0.4685	51.0	102.0
12.00		0.4724	51.0	102.0
12.10		0.4763	51.0	102.0
12.20		0.4803	51.0	102.0
12.50		0.4921	51.0	102.0
12.70	$\frac{1}{2}$	0.5000	51.0	102.0
13.00		0.5118	51.0	102.0
13.50		0.5314	54.0	107.0
14.00		0.5511	54.0	107.0
14.29	$\frac{9}{16}$	0.5625	56.0	111.0
14.50		0.5708	56.0	111.0
15.00		0.5905	56.0	111.0
15.50		0.6102	58.0	115.0
15.88	$\frac{5}{8}$	0.6251	58.0	115.0
16.00		0.6299	58.0	115.0
16.50		0.6496	60.0	119.0
17.00		0.6692	60.0	119.0
17.46	$\frac{11}{16}$	0.6874	62.0	123.0
17.50		0.6889	62.0	123.0
18.00		0.7086	62.0	123.0
18.50		0.7283	64.0	127.0
19.00		0.7480	64.0	127.0
19.05	$\frac{3}{4}$	0.7500	66.0	131.0
19.50		0.7677	66.0	131.0
20.00		0.7874	66.0	131.0
20.50		0.8070	68.0	136.0
20.64	$\frac{13}{16}$	0.8125	68.0	136.0
21.00		0.8267	68.0	136.0
22.00		0.8661	70.0	141.0
22.23	$\frac{7}{8}$	0.8751	70.0	141.0
23.00		0.9055	72.0	146.0
23.81	$\frac{15}{16}$	0.9374	75.0	151.0
24.00		0.9448	75.0	151.0
25.00		0.9842	75.0	151.0
25.40	1"	1.0000	78.0	156.0
26.99	$\frac{11}{16}$	1.0625	81.0	162.0
28.58	$\frac{11}{8}$	1.1251	84.0	168.0
30.16	$\frac{13}{16}$	1.1874	87.0	174.0
31.75	$\frac{11}{4}$	1.2500	90.0	180.0



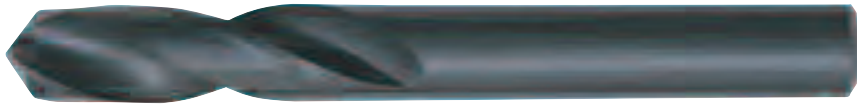
HSS General Purpose Stub Drills

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**.



HSS



For Dimensions

See Page 30

Series S100 - Metric

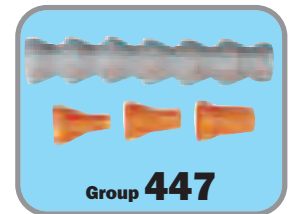
**PRICED
PER 10**
**PRICED
PER 10**
**PRICED
PER 10**
**PRICED
PER 1**

Dia. (mm)	Order Code SHR-025
1.00	-1227H
1.50	-1233P
2.00	-1240X
2.20	-1243A
2.50	-1248F
2.60	-1250H
2.70	-1252K
2.80	-1253L
3.00	-1257Q
3.10	-1258R
3.20	-1259S
3.30	-1260T
3.40	-1261V
3.50	-1262W
3.60	-1263X
4.00	-1267B
4.10	-1268C
4.20	-1269D
4.30	-1270E
4.40	-1271F
4.50	-1272G

Dia. (mm)	Order Code SHR-025
4.80	-1275K
4.90	-1276L
5.00	-1277M
5.10	-1278N
5.20	-1279P
5.30	-1280Q
5.50	-1282S
5.90	-1286X
6.00	-1287Y
6.10	-1288N
6.20	-1289A
6.30	-1290B
6.40	-1291C
6.50	-1292D
6.70	-1294F
6.80	-1295G
6.90	-1296H
7.00	-1297J
7.10	-1298K
7.20	-1299L
7.30	-1300M

Dia. (mm)	Order Code SHR-025
7.40	-1301N
7.50	-1302P
8.00	-1307V
8.10	-1308W
8.20	-1309X
8.50	-1312A
8.60	-1313B
9.00	-1317F
9.20	-1319H
9.40	-1321K
9.50	-1322L
9.60	-1323M
10.00	-1327R
10.20	-1329T
10.30	-1330V
10.50	-1332X
11.00	-1337C
11.50	-1342H
12.00	-1347N
12.50	-1352T
13.00	-1357N

Dia. (mm)	Order Code SHR-025
13.50	-1359B
14.00	-1361D
14.50	-1362E
15.00	-1363F
16.00	-1365H
16.50	-1366J
17.00	-1367K
18.00	-1369M



For Dimensions

See Page 30

Series S100 - Inch

**PRICED
PER 10**
**PRICED
PER 10**
**PRICED
PER 10**
**PRICED
PER 1**

Dia. (inch)	Order Code SHR-025
1/16"	-1194C
3/32"	-1194E
1/8"	-1194G
9/64"	-1194H
5/32"	-1194J

Dia. (inch)	Order Code SHR-025
11/64"	-1194K
3/16"	-1194L
13/64"	-1194M
7/32"	-1194N
1/4"	-1194Q

Dia. (inch)	Order Code SHR-025
5/16"	-1194V
11/32"	-1194X
3/8"	-1194Z
7/16"	-1195D
1/2"	-1195H

Dia. (inch)	Order Code SHR-025
5/8"	-1195R

FREE


Metric/Inch Conversion Wall Chart (A2 Size)

**AVAILABLE
ON REQUEST**
CAT-849-0937A

Contact your local
branch or representative.


FREE


Tapping Drill Wall Chart (A2 Size)

**AVAILABLE
ON REQUEST**
CAT-849-0938A

Contact your local
branch or representative.


PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

General purpose drill for use on automatics and turret lathes. Suitable for drilling steels, cast iron, alloy steel and malleable cast iron. TiN coating provides longer tool life or increased cutting speeds. Point angle: 135°, helix angle: normal, web thickness: normal, tolerance of diameter: h8, tolerance of shank: f11.

Manufactured to **BS 328, DIN 1897 RN**.

HSS TiN



For Dimensions

See Page 30



DIN 1412C 135°

Series 2001 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
2.50	-2025A	4.20	-2042A	8.50	-2085A	13.00	-2130A
3.00	-2030A	5.00	-2050A	8.90	-2089A		
3.20	-2032A	6.50	-2065A	9.00	-2090A		
4.00	-2040A	6.80	-2068A	12.00	-2120A		

HSS-Co Heavy Duty Cobalt Stub Drills

Heavy duty drill made of cobalt material with excellent heat resistance. For drilling steels up to 1,400N/mm², stainless steel, heat resistant steels and bronze. Ideally suited for volume production on automatics. Point angle: 135°, helix angle: normal, web thickness: strengthened, tolerance of diameter: h8, tolerance of shank: f11.

Manufactured to **BS 328, DIN 1897RN**. Point to **DIN 1412C**.

HSS-Co



For Dimensions

See Page 30



DIN 1412C 135°

Series 2010 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	-2210A	2.80	-2228A	4.90	-2249A	9.00	-2290A
1.20	-2212A	2.90	-2229A	5.00	-2250A	9.50	-2295A
1.30	-2213A	3.00	-2230A	5.20	-2252A	10.00	-2300A
1.50	-2215A	3.10	-2231A	5.50	-2255A	10.20	-2302A
1.60	-2216A	3.20	-2232A	6.00	-2260A	10.50	-2305A
1.70	-2217A	3.30	-2233A	6.40	-2264A	10.90	-2309A
1.80	-2218A	3.40	-2234A	6.50	-2265A	11.40	-2314A
1.90	-2219A	3.50	-2235A	6.80	-2268A	11.90	-2319A
2.10	-2221A	4.00	-2240A	7.00	-2270A	12.00	-2320A
2.30	-2223A	4.10	-2241A	8.00	-2280A	12.90	-2329A
2.40	-2224A	4.20	-2242A	8.10	-2281A	13.00	-2330A
2.50	-2225A	4.30	-2243A	8.20	-2282A		
2.60	-2226A	4.50	-2245A	8.50	-2285A		
2.70	-2227A	4.80	-2248A	8.90	-2289A		

HSS-Co TiN Coated Heavy Duty Stub Drills

Heavy duty drill made of cobalt material with excellent heat resistance. For drilling steels up to 1,400N/mm², stainless steel, heat resistant steels and bronze. Ideally suited for volume production on automatics. TiN coating provides longer tool life or increased cutting speeds.

Point angle: 135°, helix angle: normal, web thickness: strengthened, tolerance of diameter: h8, tolerance of shank: f11.

Manufactured to **BS 328, DIN 1897RN**. Point to **DIN 1412C**.

HSS-Co TiN



For Dimensions

See Page 30



DIN 1412C 135°

Series 2020 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
1.50	-2415A	4.40	-2444A	8.50	-2485A	12.00	-2520A
2.00	-2420A	5.00	-2450A	8.90	-2489A	12.40	-2524A
2.40	-2424A	5.10	-2451A	10.00	-2500A	12.60	-2526A
2.50	-2425A	5.20	-2452A	10.20	-2502A	12.90	-2529A
2.60	-2426A	6.00	-2460A	10.40	-2504A	13.00	-2530A
3.00	-2430A	6.20	-2462A	10.70	-2507A		
3.20	-2432A	6.80	-2468A	10.90	-2509A		
3.30	-2433A	7.00	-2470A	11.00	-2510A		
3.40	-2434A	7.10	-2471A	11.30	-2513A		
3.50	-2435A	7.20	-2472A	11.40	-2514A		
4.00	-2440A	7.60	-2476A	11.60	-2516A		
4.10	-2441A	7.90	-2479A	11.70	-2517A		
4.20	-2442A	8.00	-2480A	11.90	-2519A		



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**Metric**

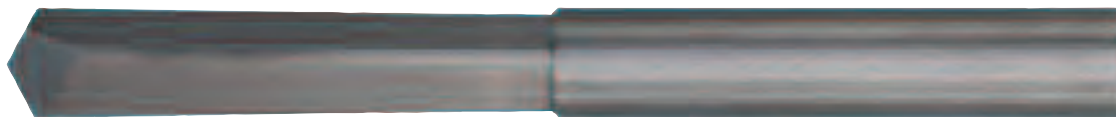
Dia. (mm)	Flute Length	Overall Length	Order Code SHR-158
1.0	11.0	30.0	-3100K
1.3	13.0	30.0	-3130K
1.5	13.0	30.0	-3150K
1.6	17.5	40.0	-3160K
1.7	17.5	40.0	-3170K
1.8	17.5	40.0	-3180K
2.0	17.5	40.0	-3200K
2.3	17.5	40.0	-3230K
2.4	17.5	40.0	-3240K
2.5	17.5	40.0	-3250K

Dia. (mm)	Flute Length	Overall Length	Order Code SHR-158
3.0	20.0	45.0	-3300K
3.2	22.0	50.0	-3320K
3.3	22.0	50.0	-3330K
3.5	22.0	50.0	-3350K
4.0	22.0	50.0	-3400K
4.2	25.0	50.0	-3420K
4.5	25.0	50.0	-3450K
4.8	25.0	50.0	-3480K
5.0	25.0	50.0	-3500K
5.5	25.0	50.0	-3550K

Dia. (mm)	Flute Length	Overall Length	Order Code SHR-158
6.0	25.0	50.0	-3600K
6.3	30.0	65.0	-3630K
6.5	30.0	65.0	-3650K
6.8	30.0	65.0	-3680K
7.0	30.0	65.0	-3700K
8.0	34.0	70.0	-3800K
8.1	34.0	70.0	-3810K
10.0	34.0	75.0	-4100K

Solid Carbide Screw Drills

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 scribe. 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.

CARBIDE

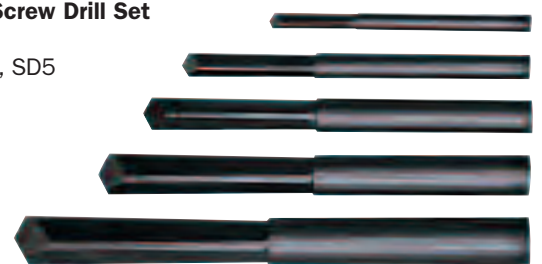
Type	Size	Weight each	*or inch equivalent Order Code KEN-154
SD2	2mm for M3*	10g	-1020K
SD3	3mm for M4 - M5*	10g	-1030K
SD4	4mm for M6 - M7*	20g	-1040K
SD5	5mm for M8 - M10*	30g	-1050K
SD6	6mm for M10 - M12*	30g	-1060K

Solid Carbide Screw Drill Set

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

**5
PIECES**

 Weight
per set
80g

 Order Code
KEN-154
-1100K


TUFFSAFE Particulate Respirator Mask

DRM212
Conforms to **EN149:2001 +A1:2009 FFP2 NR D** standards. Polypropylene (PP) outer layers provide smooth lining. Latex-free synthetic rubber head strap. Contour design ensures the compatibility of glasses/goggles and reduces fogging. Soft close-cell nose foam and adjustable nosepiece ensure custom shape and increase wearer's comfort.


**PACK OF
20**
**FFP2 NR D****NPF = 12****APF = 10**

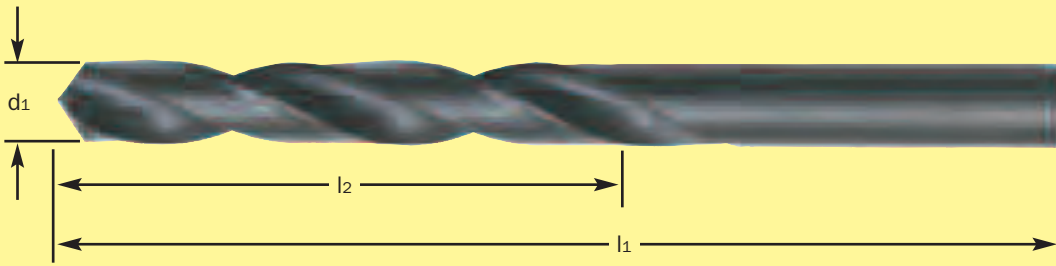
Product Number	Pack Quantity	Weight each	Order Code TFF-959
DRM212	20	10g	-2130K

 Group
732

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

Dimensions - Jobber Drills to BS 328/DIN 338

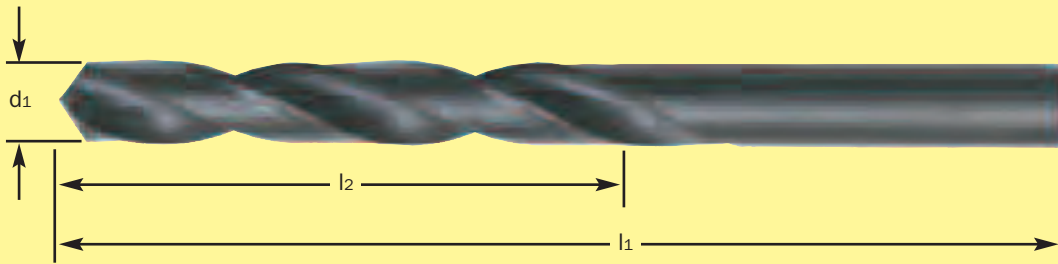
The majority of jobber drills featured in this catalogue comply with the above standards in terms of overall and working dimensions. The tables of sizes below apply to all of these products. In order to save space in the catalogue we are not repeating these dimensions after this page. Any drills which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



d1 mm	No/ h8	Inch Letter	Inch Dec.	l2 mm	l1 mm	d1 mm	No/ h8	Inch Letter	Inch Dec.	l2 mm	l1 mm	d1 mm	No/ h8	Inch Letter	Inch Dec.	l2 mm	l1 mm	d1 mm	No/ h8	Inch Letter	Inch Dec.	l2 mm	l1 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.



d_1 mm h8	No/ Letter	Inch Dec.	l_2 mm	l_1 mm	d_1 mm h8	No/ Letter	Inch Dec.	l_2 mm	l_1 mm	d_1 mm h8	No/ Letter	Inch Dec.	l_2 mm	l_1 mm	d_1 mm h8	No/ Letter	Inch Dec.	l_2 mm	l_1 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					

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

SENATOR
 QUALITY TOOLING

**HSS Roll Forged
 Jobber Drills**

 For HSS Ground Flute Jobber Drills
 for industrial applications, please see page 38 onwards

HSS

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 34 - 35

		PRICED PER 10				PRICED PER 10				PRICED PER 10	
Metric											
Dia. (mm)	Order Code SEN-025	Dia. (mm)	Order Code SEN-025	Dia. (mm)	Order Code SEN-025	Dia. (mm)	Order Code SEN-025	Dia. (inch)	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
SEN-025
 0.65kg **-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
SEN-025
 1.60kg **-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
SEN-025
 2.10kg **-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
SEN-025
 3.8kg **-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
SEN-025
 0.60kg **-9060K**

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.

HSS**METRIC**

x 0.7mm
2.5 ~ 10.2

28
PIECES

DIN
338
BS
328

For Dimensions**See Pages 34 - 35**

Order Code
SEN-025
-9960K

STANDARD LENGTH DRILLS**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 power tools 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.

**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

Inch

Diameter (Inch)	Flute Length	Overall Length	Order Code SHR-025
9/16"	3 1/16"	6"	-1764E
5/8"	3 1/16"	6"	-1768J
41/64"	3 1/16"	6"	-1769K
11/16"	3 1/16"	6"	-1772N
3/4"	3 1/16"	6"	-1776S
13/16"	3 3/8"	6"	-1780X
7/8"	3 3/8"	6"	-1784B
1"	3 3/8"	6"	-1792K

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

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR



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



DIN 338

For Dimensions

BS 328

See Pages 34 - 35

Series J100 - Metric

PRICED
PER 10

Dia. (mm)	Order Code SHR-025
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

PRICED
PER 10

Dia. (mm)	Order Code SHR-025
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

PRICED
PER 10

Dia. (mm)	Order Code SHR-025
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
11.90	-0240D
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 SHR-025
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
PIECESx 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

25

Order Code
SHR-025

-8520K



**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 38

**For Dimensions****See Pages 34 - 35**

Series J100 - Metric		PRICED PER 10			PRICED PER 10			PRICED PER 10			PRICED PER 1
Dia. (mm)	Order Code SHR-025		Dia. (mm)	Order Code SHR-025		Dia. (mm)	Order Code SHR-025		Dia. (mm)	Order Code SHR-025	
0.25	-0010X		3.30	-0085M		8.60	-0148F		14.25	-0214C	
0.30	-0012A		3.40	-0086N		8.70	-0149G		14.50	-0215D	
0.35	-0014F		3.45	-0087D		8.75	-0150H		14.75	-0216E	
0.40	-0016L		3.50	-0087P		8.80	-0151J		15.00	-0217F	
0.45	-0018P		3.60	-0088Q		8.90	-0152K		15.25	-0218G	
0.50	-0020R		3.65	-0089D		9.00	-0153L		15.50	-0219H	
0.55	-0022T		3.70	-0089R		9.10	-0154M		16.00	-0221K	
0.58	-0023V		3.75	-0090S		9.20	-0155N		16.50	-0222L	
0.60	-0024W		3.80	-0091T		9.30	-0157Q		17.00	-0223M	
0.65	-0026Y		3.90	-0092V		9.40	-0158R		17.50	-0224N	
0.70	-0028A		4.00	-0093W		9.50	-0159S		18.00	-0225P	
0.72	-0029B		4.05	-0094L		9.60	-0160T		18.50	-0226Q	
0.75	-0030C		4.10	-0094X		9.70	-0161V		19.00	-0227R	
0.78	-0031D		4.20	-0095Y		9.75	-0162W		19.50	-0228S	
0.80	-0032E		4.25	-0096N		9.80	-0163X		20.00	-0229T	
0.82	-0033F		4.30	-0097A		9.90	-0164Y				
0.85	-0034G		4.40	-0098B		10.00	-0165N				
0.88	-0035H		4.50	-0099C		10.10	-0166A				
0.90	-0036J		4.60	-0100D		10.20	-0167B				
0.95	-0038L		4.70	-0101E		10.25	-0168C				
0.98	-0039M		4.75	-0102F		10.30	-0169D				
1.00	-0040N		4.80	-0103G		10.40	-0170E				
1.05	-0041P		4.85	-0103X		10.50	-0171F				
1.10	-0042Q		4.90	-0104H		10.60	-0172G				
1.15	-0043R		5.00	-0105J		10.70	-0173H				
1.20	-0044S		5.10	-0106K		10.80	-0175K				
1.25	-0045T		5.20	-0107L		10.90	-0176L				
1.30	-0046V		5.25	-0108M		11.00	-0177M				
1.35	-0047W		5.30	-0109N		11.10	-0178N				
1.40	-0048X		5.40	-0110P		11.20	-0179P				
1.45	-0049Y		5.50	-0111Q		11.30	-0181R				
1.50	-0050N		5.60	-0112R		11.40	-0182S				
1.55	-0051A		5.70	-0113S		11.50	-0183T				
1.60	-0052B		5.75	-0114T		11.60	-0184V				
1.65	-0053C		5.80	-0115V		11.70	-0185W				
1.70	-0054D		5.90	-0116W		11.80	-0187Y				
1.75	-0055E		6.00	-0117X		11.90	-0188N				
1.80	-0056F		6.10	-0118Y		12.00	-0189A				
1.85	-0057G		6.20	-0119N		12.10	-0190B				
1.90	-0058H		6.25	-0120A		12.20	-0191C				
1.95	-0059J		6.30	-0121B		12.25	-0192D				
2.00	-0060K		6.40	-0122C		12.30	-0193E				
2.05	-0061L		6.50	-0123D		12.40	-0194F				
2.10	-0062M		6.60	-0124E		12.50	-0195G				
2.15	-0063N		6.70	-0125F		12.60	-0196H				
2.20	-0064P		6.75	-0126G		12.70	-0197J				
2.25	-0065Q		6.80	-0127H		12.80	-0199L				
2.30	-0066R		6.90	-0128J		12.90	-0200M				
2.35	-0067S		7.00	-0129K		13.00	-0201N				
2.40	-0068T		7.10	-0130L							
2.45	-0069V		7.20	-0131M							
2.50	-0070W		7.30	-0133P							
2.55	-0071X		7.40	-0134Q							
2.60	-0072Y		7.50	-0135R							
2.65	-0073N		7.60	-0136S							
2.70	-0074A		7.70	-0137T							
2.75	-0075B		7.80	-0139W							
2.80	-0076C		7.90	-0140X							
2.85	-0077D		8.00	-0141Y							
2.90	-0078E		8.10	-0142N							
2.95	-0079F		8.20	-0143A							
3.00	-0080G		8.25	-0144B							
3.10	-0081H		8.30	-0145C							
3.15	-0082J		8.40	-0146D							
3.20	-0083K		8.50	-0147E							
3.25	-0084L										

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR



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 34 - 35

**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



**32
PIECES**

x 0.5mm
1.0 ~ 10.5
+Tapping sizes
1.9 to 10.2

(mm)	2.5	3.5	5.1	7.5	10.0
1.0	2.6	3.8	5.5	7.9	10.2
1.5	2.9	4.0	6.0	8.0	10.5
1.9	3.0	4.2	6.5	8.5	
2.0	3.2	4.5	6.8	9.0	
2.1	3.3	5.0	7.0	9.5	

Order Code
SHR-025
-8470K

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

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

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

**24
PIECES**



UNF
Tap & Drill

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
Tap & Drill

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
Tap & Drill

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	-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.**



**29
PIECES**



For Dimensions

See Pages 34 - 35

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	-8800K



**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	-8840K



**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	-8920K

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

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DRILL SETS

**GROUP
025**



HSS

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**.



DIN 1412A 118°

Series 1004 - Metric

Dia. (mm)	Order Code SWT-125	Dia. (mm)	Order Code SWT-125
1.00	-5010A	5.30	-5053A
1.10	-5011A	5.40	-5054A
1.20	-5012A	5.50	-5055A
1.30	-5013A	5.60	-5056A
1.40	-5014A	5.70	-5057A
1.50	-5015A	5.80	-5058A
1.60	-5016A	5.90	-5059A
1.70	-5017A	6.00	-5060A
1.80	-5018A	6.10	-5061A
1.90	-5019A	6.20	-5062A
2.00	-5020A	6.30	-5063A
2.10	-5021A	6.40	-5064A
2.20	-5022A	6.50	-5065A
2.30	-5023A	6.60	-5066A
2.40	-5024A	6.70	-5067A
2.50	-5025A	6.80	-5068A
2.60	-5026A	6.90	-5069A
2.70	-5027A	7.00	-5070A
2.80	-5028A	7.10	-5071A
2.90	-5029A	7.20	-5072A
3.00	-5030A	7.50	-5075A
3.10	-5031A	7.80	-5078A
3.20	-5032A	8.00	-5080A
3.30	-5033A	8.10	-5081A
3.40	-5034A	8.20	-5082A
3.50	-5035A	8.30	-5083A
3.60	-5036A	8.40	-5084A
3.70	-5037A	8.50	-5085A
3.80	-5038A	8.60	-5086A
3.90	-5039A	8.70	-5087A
4.00	-5040A	8.80	-5088A
4.10	-5041A	9.00	-5090A
4.20	-5042A	9.10	-5091A
4.30	-5043A	9.20	-5092A
4.40	-5044A	9.50	-5095A
4.50	-5045A	9.60	-5096A
4.60	-5046A	9.80	-5098A
4.70	-5047A	10.00	-5100A
4.80	-5048A	10.20	-5102A
4.90	-5049A	10.30	-5103A
5.00	-5050A	10.40	-5104A
5.10	-5051A	10.50	-5105A
5.20	-5052A	10.80	-5108A

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 SWT-125
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**.



DIN 1412A 118°

Series 1001 - 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	-0010A	4.00	-0040A	6.80	-0068A	10.00	-0100A
1.50	-0015A	4.20	-0042A	7.00	-0070A	10.50	-0105A
1.60	-0016A	4.50	-0045A	7.50	-0075A	10.90	-0109A
2.00	-0020A	4.80	-0048A	7.80	-0078A	11.00	-0110A
2.50	-0025A	5.00	-0050A	7.90	-0079A	11.40	-0114A
3.00	-0030A	5.30	-0053A	8.00	-0080A	12.00	-0120A
3.10	-0031A	5.50	-0055A	8.50	-0085A	12.50	-0125A
3.20	-0032A	6.00	-0060A	8.90	-0089A	13.00	-0130A
3.30	-0033A	6.10	-0061A	9.00	-0090A		
3.50	-0035A	6.20	-0062A	9.50	-0095A		
3.90	-0039A	6.50	-0065A	9.90	-0099A		

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
See Pages 34 - 35
HSS-Co

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 34 - 35

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 34 - 35

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		

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

STANDARD LENGTH DRILLS

SWISS+TECH HSS-Co Straight Shank
High Helix Drills

High helix drills, to drill long-chipping materials like aluminium, aluminium alloys, copper and plastics. Point angle: 130°. Helix angle: high. Web thickness: normal. Relief angle: normal. Tolerance of diameter: h8. Tolerance of shank: f11. Manufactured to **DIN 338 RN**.

**HSS-Co****DIN**
338**For Dimensions****BS**
328**See Pages 34 - 35****DIN 1412C 130°****Series 1012 - 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
2.50	-0225A	4.20	-0242A	7.20	-0272A	11.40	-0314A
2.80	-0228A	4.50	-0245A	7.50	-0275A	12.50	-0325A
3.00	-0230A	5.00	-0250A	7.90	-0279A	13.00	-0330A
3.30	-0233A	6.00	-0260A	8.70	-0287A		
3.50	-0235A	6.50	-0265A	9.50	-0295A		
4.00	-0240A	7.00	-0270A	10.00	-0300A		

HSS-Co Straight Shank TiN Tipped High Helix Drills

Heavy duty drill for stainless steel, heat and acid-resistant steels, short chipping and high strength steels. High heat resistance allows drilling in titanium and titanium alloys. TiN coating provides longer tool life. Point angle: 130°. Helix angle: high. Web thickness: strengthened. Relief angle: normal. Tolerance of diameter: h8. Tolerance of shank: f11. Supply unit. All diameters - 1 pce. Manufactured to **DIN 338RN**.

HSS-Co TiN-tip**DIN**
338**For Dimensions****BS**
328**See Pages 34 - 35****DIN 1412C 130°****Series 1014 - 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
2.00	-1420A	4.00	-1440A	5.50	-1550A	9.00	-1590A
2.50	-1425A	4.20	-1442A	6.00	-1560A	10.00	-1600A
3.00	-1430A	4.50	-1450A	7.00	-1570A	10.50	-1605A
3.30	-1433A	5.00	-1500A	8.00	-1580A	11.00	-1610A
3.50	-1435A	5.20	-1520A	8.50	-1585A	12.00	-1612A

HSS-Co Straight Shank TiN Coated High Helix Drills

Heavy duty drill for stainless steel, heat and acid-resistant steels, short chipping and high strength steels. High heat resistance allows drilling in titanium and titanium alloys. TiN coating provides longer tool life. Point angle: 130°. Helix angle: high. Web thickness: strengthened. Relief angle: normal. Tolerance of diameter: h8. Tolerance of shank: f11. Supply unit. All diameters - 1 pce. Manufactured to **DIN 338RN**.

HSS-Co TiN**DIN**
338**For Dimensions****BS**
328**See Pages 34 - 35****DIN 1412C 130°****Series 1060 - 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
2.00	-1220A	4.20	-1242A	7.20	-1272A	10.50	-1305A
2.50	-1225A	4.50	-1245A	7.25	-1272L	10.60	-1306A
2.90	-1229A	4.80	-1248A	7.30	-1273A	11.00	-1310A
3.00	-1230A	5.00	-1250A	8.00	-1280A	11.30	-1313A
3.30	-1233A	5.50	-1255A	8.50	-1285A	11.40	-1314A
3.40	-1234A	6.00	-1260A	8.90	-1289A	11.60	-1316A
3.50	-1235A	6.10	-1261A	9.00	-1290A	11.70	-1317A
3.60	-1236A	6.50	-1265A	9.30	-1293A		
3.70	-1237A	6.70	-1267A	9.40	-1294A		
4.00	-1240A	7.00	-1270A	10.00	-1300A		

**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**.

**HSS-Co****For Dimensions****See Pages 34 - 35****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**.**19
PIECES****x 0.5mm****1.0 ~ 10.0****x 1/32"****1/16" ~ 1/2"****15
PIECES**

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	17/64"	-3170K
1/8"	-3080K	9/32"	-3180K
9/64"	-3090K	5/16"	-3200K
5/32"	-3100K	3/8"	-3240K
11/64"	-3110K		

**HSS Drill
Blanks****HSS**

Jobber length blank hardened and ground all over. Accurately ground without back taper. Diameter tolerance: h8. Manufactured to **DIN 338**.

**For Dimensions****See Pages 34 - 35****Series J400 - Metric**

Dia. (mm)	Order Code SHR-024	Dia. (mm)	Order Code SHR-024	Dia. (mm)	Order Code SHR-024	Dia. (mm)	Order Code SHR-024
1.00	-2398F	2.60	-2430Q	5.10	-2463B	7.00	-2486B
1.10	-2400H	2.80	-2434V	5.20	-2464C	7.50	-2492H
1.20	-2402K	3.00	-2438N	5.30	-2466E	7.60	-2493J
1.40	-2406P	3.10	-2439A	5.50	-2468G	7.90	-2497N
1.50	-2408R	3.20	-2440B	5.60	-2469H	8.00	-2498P
1.60	-2410T	3.30	-2442D	5.80	-2472L	8.10	-2499Q
1.70	-2412W	3.50	-2444F	6.00	-2474N	8.50	-2504W
1.80	-2414Y	3.80	-2448K	6.10	-2475P	8.80	-2508A
2.00	-2418C	4.00	-2450M	6.20	-2476Q	9.00	-2510C
2.10	-2420E	4.10	-2451N	6.30	-2478S	10.00	-2522Q
2.20	-2422G	4.50	-2456T	6.40	-2479T	12.00	-2526V
2.30	-2424J	4.70	-2458W	6.50	-2480V		
2.40	-2426L	4.90	-2461N	6.60	-2481W		
2.50	-2428N	5.00	-2462A	6.90	-2485A		

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR



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**.


CARBIDE

DIN 338
For Dimensions
BS 328
See Pages 34 - 35

Series J102 - Metric

Dia. (mm)	Order Code	Dia. (mm)	Order Code	Dia. (mm)	Order Code	Dia. (mm)	Order Code
	SHR-158		SHR-158		SHR-158		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		

SWISS+TECH

Dimensions - Production Drills to DIN 6537 (Cylindrical & Shank)

Production drills featured in this catalogue comply with the above standard 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.

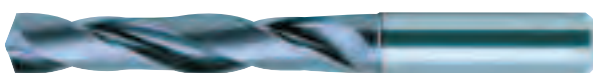
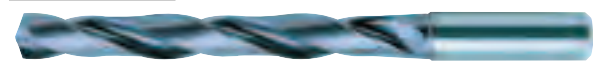
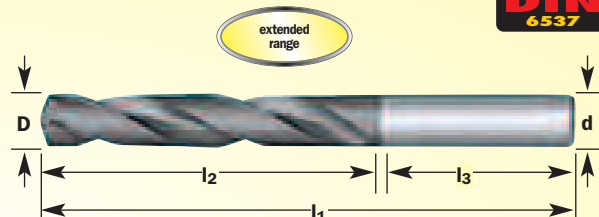
DIN 6537 - Short 3 X D Nominal

Cutting Diameter D mm	Shank Diameter d, mm	Overall Length l1	Flute Length l2	Shank Length l3
3.00 to 3.70	6.0	62.0	20.0	36.0
3.80 to 4.70	6.0	66.0	24.0	36.0
4.76 to 6.00	6.0	66.0	28.0	36.0
6.10 to 7.00	8.0	79.0	34.0	36.0
7.10 to 8.00	8.0	79.0	41.0	36.0
8.10 to 10.00	10.0	89.0	47.0	40.0
10.10 to 12.00	12.0	102.0	55.0	45.0
12.10 to 14.00	14.0	107.0	60.0	45.0
14.10 to 16.00	16.0	115.0	65.0	48.0
16.50 to 18.00	18.0	123.0	73.0	48.0
18.50 to 20.00	20.0	131.0	79.0	50.0

Solid Carbide Q-Coat Drill

For drilling into general steel, cast steel, cast iron, chilled cast iron, malleable cast iron, non-ferrous heavy and light metal, and abrasive plastic, self-centring.

Point angle: 140°,
tolerance of diameter: m7,
tolerance of shank: h6.
Manufactured to **DIN 6537**.

3 X D

5 X D

CARBIDE
Q-Coat
DIN 6537

DIN 6537

DIN 6537 - Long 5 X D Nominal

Cutting Diameter D mm	Shank Diameter d mm	Overall Length l1	Flute Length l2	Shank Length l3
3.00 to 3.70	6.0	66.0	28.0	36.0
3.80 to 4.70	6.0	74.0	36.0	36.0
4.76 to 6.00	6.0	82.0	44.0	36.0
6.10 to 8.00	8.0	91.0	53.0	36.0
8.10 to 10.00	10.0	103.0	61.0	40.0
10.10 to 12.00	12.0	118.0	71.0	45.0
12.10 to 14.00	14.0	124.0	77.0	45.0
14.10 to 16.00	16.0	133.0	83.0	48.0
16.50 to 18.00	18.0	143.0	93.0	48.0
18.50 to 20.00	20.0	153.0	101.0	50.0

Diameter (mm)	Order Code SWT-158 3 x D Solid	Order Code SWT-158 5 x D Solid	Order Code SWT-158 5 x D Through Coolant
3.00	-3530S	-5530S	-
3.20	-3532S	-5532S	-
3.30	-3533S	-5533S	-
3.50	-3535S	-	-
4.00	-3540S	-5540S	-
4.50	-	-5545S	-5045C
5.00	-3550S	-5550S	-
5.50	-3555S	-5555S	-5055C
6.00	-3560S	-5560S	-5060C
6.20	-	-	-5062C
6.50	-3565S	-5565S	-
6.80	-3568S	-	-
7.00	-3570S	-5570S	-
7.50	-3575S	-	-
8.00	-3580S	-5580S	-5080C
8.50	-3585S	-5585S	-5085C
9.00	-3590S	-5590S	-5090C
10.00	-3600S	-5600S	-5100C
10.20	-	-	-5102C
10.50	-3605S	-5605S	-
11.00	-3610S	-5610S	-5110C
12.00	-3620S	-5620S	-5120C
12.50	-	-5625S	-
13.00	-3630S	-5630S	-5130C
13.50	-3635S	-	-
14.00	-3640S	-	-5140C



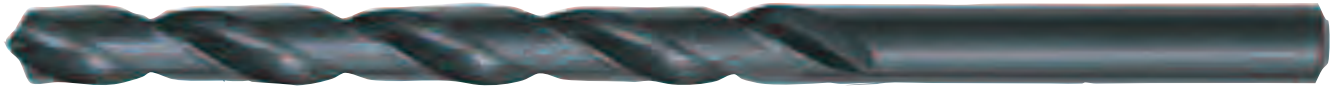
HSS Straight Shank Long Series Drills - Steam Tempered

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.**

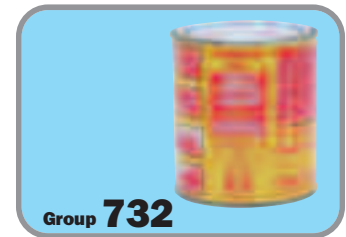


HSS



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				



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	
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

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

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				

**SWISS+TECH HSS-Co Straight Shank
Long Series Drills**

HEAVY DUTY



Heavy-duty drill used for deep holes in steels with a tensile strength up to 1,400 N/mm². Stainless steels, heat and acid-resistant steels and hard bronze. Point angle: 135°. Helix angle: normal. Web thickness: strengthened. Relief angle: normal. Tolerance of diameter: h8. Tolerance of shank: f11. Manufacturing Standard: **DIN 340/BS328**.

HSS-Co

**DIN 1412C 135°****Series 4000 - Metric**

Diameter (mm)	Flute Length	Overall Length	Order Code SWT-125	Diameter (mm)	Flute Length	Overall Length	Order Code SWT-125	Diameter (mm)	Flute Length	Overall Length	Order Code SWT-125
3.00	66.0	100.0	-4030A	5.00	87.0	132.0	-4050A	6.50	97.0	148.0	-4065A
3.20	69.0	106.0	-4032A	5.20	87.0	132.0	-4052A	8.00	109.0	165.0	-4080A
3.50	73.0	112.0	-4035A	5.50	91.0	139.0	-4055A	8.50	109.0	165.0	-4085A
4.00	78.0	119.0	-4040A	6.00	91.0	139.0	-4060A				


**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	

Weight
eachOrder Code
SEN-025

0.65kg

-9250K
19
PIECES

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

Weight
eachOrder Code
SEN-025

1.60kg

-9150K
25
PIECES




HSS Extra Length Drills - 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 : Part 1 : 1986.



HSS



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				

Series E100 - Inch

Dia. (inch)	Flute Length	Overall Length	Order Code SHR-024	Dia. (inch)	Flute Length	Overall Length	Order Code SHR-024	Dia. (inch)	Flute Length	Overall Length	Order Code SHR-024
1/16"	100.0	160.0	-1991B	7/32"	150.0	200.0	-2019G	13/32"	250.0	315.0	-2052S
3/32"	100.0	160.0	-1995F	7/32"	200.0	250.0	-2020H	1/2"	200.0	250.0	-2059A
1/8"	100.0	160.0	-1998J	1/4"	150.0	200.0	-2024M	1/2"	300.0	400.0	-2061C
1/8"	150.0	200.0	-1999K	1/4"	200.0	250.0	-2025N				
1/8"	200.0	250.0	-2000L	1/4"	250.0	315.0	-2026P				
1/8"	250.0	315.0	-2001M	1/4"	300.0	400.0	-2027Q				
5/32"	100.0	160.0	-2004Q	5/16"	150.0	200.0	-2035N				
5/32"	150.0	200.0	-2005R	5/16"	250.0	315.0	-2037B				
3/16"	100.0	160.0	-2011Y	3/8"	150.0	200.0	-2046Y				
3/16"	150.0	200.0	-2012N	3/8"	200.0	250.0	-2047M				
3/16"	200.0	250.0	-2013A	3/8"	250.0	315.0	-2048N				
3/16"	250.0	315.0	-2014B	3/8"	300.0	400.0	-2049P				

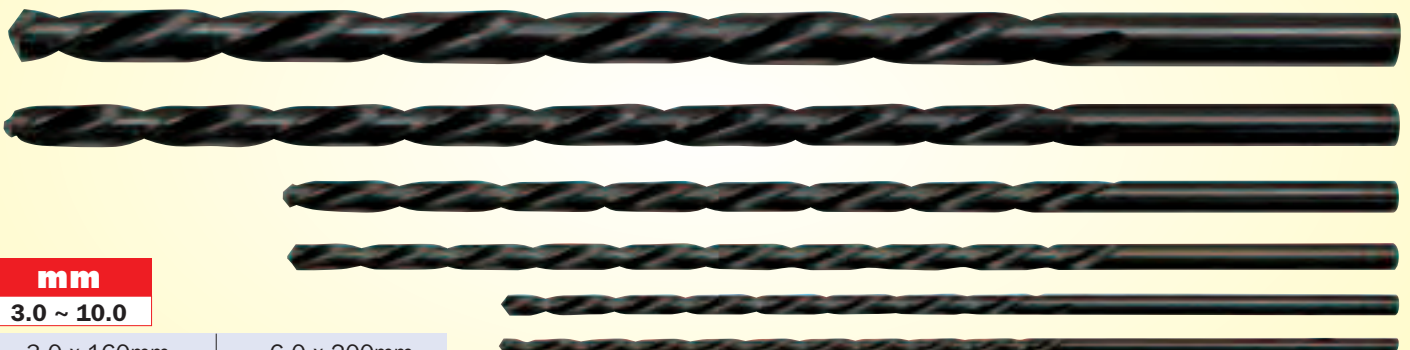


HSS Extra Length Drill Set

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
4.0 x 160mm
5.0 x 200mm

6.0 x 200mm
8.0 x 250mm
10.0 x 250mm

Number
of Pieces
6

Order Code
SHR-025
-8600K

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

TAPER SHANK DRILLS

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.



HSS



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
11/32"	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
31/64"	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
11/16"	5 1/8"	9"	-2551T
3/4"	5 1/2"	9 3/8"	-2551Y
25/32"	5 1/2"	9 3/8"	-2552A
51/64"	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
31/32"	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.



HSS-Co. 5%

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

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

**KENNEDY
PROFESSIONAL** Engineer's Files
with Handles

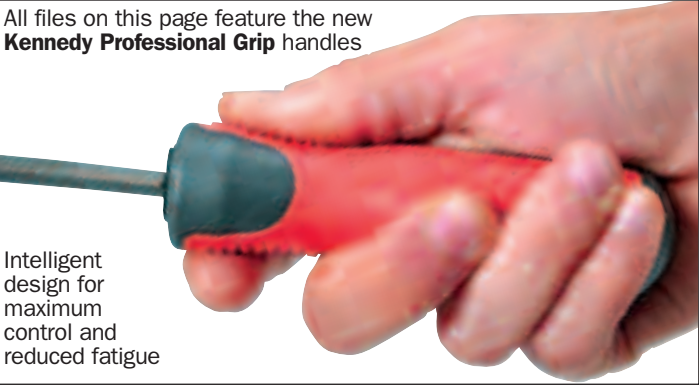
Fitted with ergonomically designed handles for a comfortable improved grip. Files manufactured from T12 CH-Moly alloy tool steel, hardened and tempered. Supplied in a woven wallet for easy storage.

Manufactured to BS498:1990 and American Federal Standard GGG-F325B.



Overall Length	Shape	Smooth	Second	Bastard	
		Order Code KEN-030	Order Code KEN-030	Order Code KEN-030	
150mm (6")	Hand	-2060K	-2070K	-2080K	
	Flat	-2160K	-2170K	-2180K	
	Round	-	-2270K	-	
	Half Round	-	-2370K	-2380K	
200mm (8")	Square	-	-2470K	-2480K	
	Hand	-4060K	-4070K	-4080K	
	Flat	-4160K	-4170K	-4180K	
	Round	-	-4270K	-	
250mm (10")	Half Round	-	-4370K	-4380K	
	Square	-	-4470K	-	
	Hand	-6060K	-6070K	-6080K	
	Flat	-6160K	-6170K	-6180K	
	Round	-	-6270K	-	
	Half Round	-	-6370K	-6380K	
	Square	-	-6470K	-	

All files on this page feature the new
Kennedy Professional Grip handles



Intelligent
design for
maximum
control and
reduced fatigue

**Engineer's
File Sets**

4 Piece Sets

Set contains Hand, Flat, Round and Half Round second engineer's Sets available in 150mm (6"), 200mm (8") and 250mm (10").



**4
PIECES**

Overall Length	No. of Pieces	Cut	Order Code KEN-030
150mm (6")	4	Second	-9740K
200mm (8")			-9760K
250mm (10")			-9780K

"Three-cut" Files with Handles

Unique Design - Three Files in One!

Triangular file, each face with a different cut; smooth cut (cut 1); second cut (cut 2) and bastard cut (Cut 3). Complete with bi-material handle designed for maximum comfort and added grip.

File length: 200mm (8").



Smooth Cut (Cut 1)



Second Cut (Cut 2)



Bastard Cut (Cut 3)

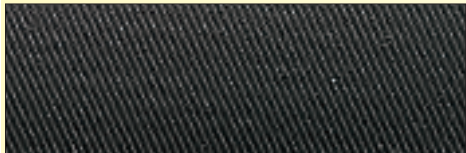
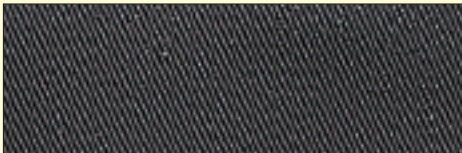


Overall Length	Cut	Shape	Order Code KEN-030
200mm (8")	Smooth Second Bastard	Triangular	-4540K

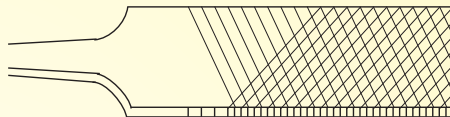
PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

KENNEDY
QUALITY INDUSTRIAL TOOLING**Industrial Quality Engineer's Hand Files**

Available in a comprehensive range of shapes and sizes.

Manufactured to **BS 498 : 1990** and **American Federal Standard GGG-f-325b**.**Bastard Cut****Second Cut****Smooth Cut**

Double Cut - Two sets of diagonal rows of teeth, with the second set of teeth cut in opposite direction and on top of the first. The first set of teeth is known as 'overcut' and the second as 'upcut', upcut being the finer. Double cut files are used with heavier pressure than single cut and remove material faster from the workpiece.



Hand - Parallel edges, one edge uncut. For flat filing, corner filing and deburring. Multi-purpose and for other work where a 'safe' or uncut edge is needed. Double cut.



Flat - Edges taper towards front. Applications as for hand files. Preferred where taper allows access into tight corners and angles. For general work on iron, steel, etc.



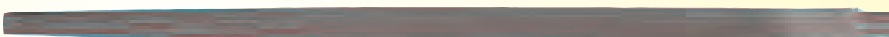
Round - Diameter tapers towards point. Suitable for internal and external concave surfaces.



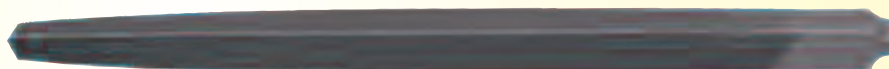
Half-Round - Edges and surfaces taper towards point. Dual application; suitable for concave surfaces and flat filing. For rapid removal of metal.



Square - Parallel edges, surfaces taper towards point. For groove, rectangular hole and internal corner filing. Preferable to a Flat File because of its heavier section.



Three Square - Equilateral section (60° angles). Tapered towards point. For filing acute angles, internal corners and flat filing, clearing out square corners.



Knife - Two equal surfaces, tapered to knife point. For filing and deburring narrow grooves, slits and gear-teeth. Used principally by tool and die makers on work having acute angles.



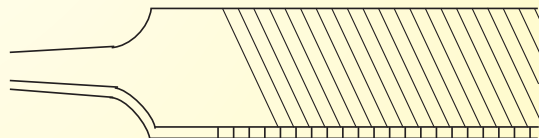
Warding - Parallel surfaces, edges tapered to a point. For narrow grooves, keyways, slots etc. Warding Files are used by locksmiths in repairing or filing ward notches in keys. Also suited for use in narrow spaces. All sides double cut.



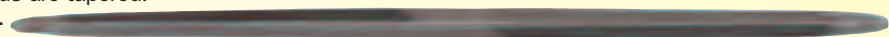
Pillar - Parallel edges, surfaces tapered towards end. Narrow version of hand file. For use where access is restricted. These files are designed for millwrights and mechanics for use in enlarging key-ways, slots, etc., close to the shoulder.



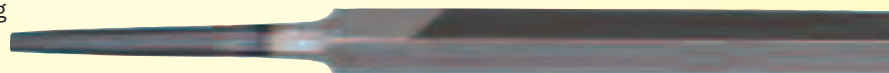
Single Cut - Single set of parallel diagonal rows of teeth. Often used with light pressure to produce a smooth surface finish or put a keen edge on knives, shears and saws.



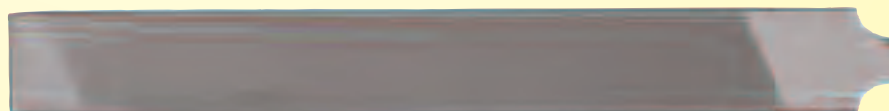
Double Ended Saw - Edges taper towards point. For filing and sharpening saws. Points are left uncut. Instead of having a tang, both ends are tapered. They are used for sharpening saws having a 60° angle. The teeth are cut from each end towards the centre.



Taper Saw - Edges taper towards point. For filing and sharpening hand saws. Points are left uncut. Taper Saw Files are used for filing every type of handsaw which have 60° angle teeth. These files are single cut with edges that are set and cut for filing the gullet between the saw teeth.



Mill Saw - Available with one or two round edges. Parallel edges, both edges cut for filing and sharpening saws.





Engineer's Hand Files

Available in a comprehensive range of shapes and sizes.
Manufactured to **BS 498 : 1990** and **American Federal Standard GGG-f-325b**.



Curved Tooth File Set

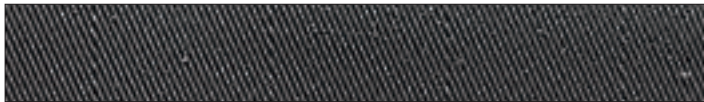
Contents: (1 of each) Flat, 200mm (8"), 255mm (10") and 305mm (12") standard cut.



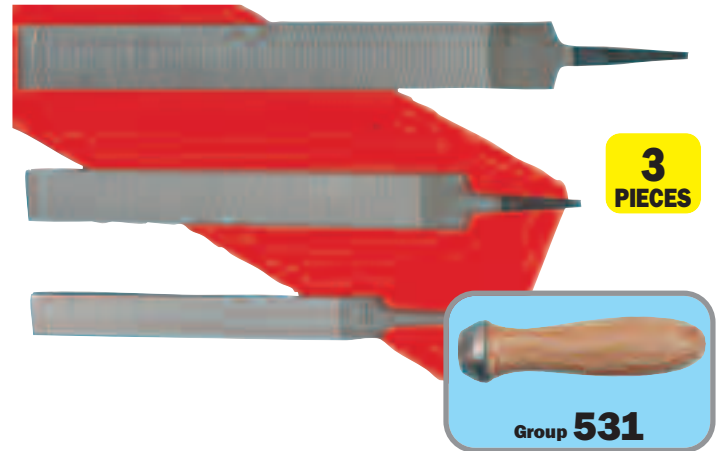
Bastard Cut



Second Cut



Smooth Cut



**3
PIECES**

Group **531**

Number of Pieces	Weight each	Order Code
3	765g	KEN-032 -1830K

Overall Length	Type	Smooth Cut		Second Cut		Bastard Cut	
		Weight per 10	Order Code KEN-030	Weight per 10	Order Code KEN-030	Weight per 10	Order Code KEN-030
100mm (4")	Hand	0.27kg	-0010K	0.27kg	-0020K	0.27kg	-0030K
	Flat	0.27kg	-0110K	0.26kg	-0120K	0.26kg	-0130K
	Round	0.09kg	-0210K	0.09kg	-0220K	0.09kg	-0230K
	Half Round	0.29kg	-0310K	0.29kg	-0320K	0.29kg	-0330K
	Square	0.10kg	-0410K	0.10kg	-0420K	0.12kg	-0430K
	3 Square	0.27kg	-0510K	0.29kg	-0520K	0.31kg	-0530K
150mm (6")	Warding	0.11kg	-0710K	0.12kg	-0720K	0.12kg	-0730K
	Hand	0.73kg	-2010K	0.73kg	-2020K	0.77kg	-2030K
	Flat	0.74kg	-2110K	0.71kg	-2120K	0.71kg	-2130K
	Round	0.35kg	-2210K	0.34kg	-2220K	0.35kg	-2230K
	Half Round	0.72kg	-2310K	0.72kg	-2320K	0.72kg	-2330K
	Square	0.37kg	-2410K	0.40kg	-2420K	0.40kg	-2430K
	3 Square	0.86kg	-2510K	0.82kg	-2520K	0.82kg	-2530K
	Knife	0.59kg	-2610K	0.62kg	-2620K	0.62kg	-2630K
	Warding	0.35kg	-2710K	0.36kg	-2720K	0.36kg	-2730K
	Pillar	0.35kg	-2810K	0.35kg	-2820K	0.36kg	-2830K
175mm (7")	Double Ended	-	-	0.33kg	-2930K	-	-
	Taper Saw	-	-	0.88kg	-2940K	-	-
200mm (8")	Double Ended	-	-	0.34kg	-3930K	-	-
	Hand	1.70kg	-4010K	1.75kg	-4020K	1.60kg	-4030K
	Flat	1.35kg	-4110K	1.35kg	-4120K	1.35kg	-4130K
	Round	0.60kg	-4210K	0.60kg	-4220K	0.60kg	-4230K
	Half Round	1.50kg	-4310K	1.50kg	-4320K	1.55kg	-4330K
	Square	0.81kg	-4410K	0.85kg	-4420K	0.83kg	-4430K
	3 Square	2.00kg	-4510K	1.80kg	-4520K	1.90kg	-4530K
	Knife	1.35kg	-4610K	1.40kg	-4620K	1.30kg	-4630K
	Warding	1.00kg	-4710K	0.90kg	-4720K	0.76kg	-4730K
	Pillar	0.67kg	-4810K	0.85kg	-4820K	0.70kg	-4830K
225mm (9")	Millsaw	-	-	1.90kg	-4920K	-	-
	Double Ended	-	-	0.50kg	-4930K	-	-
	Taper Saw	-	-	0.72kg	-4940K	-	-
	Double Ended	-	-	0.75kg	-5930K	-	-
255mm (10")	Hand	3.00kg	-6010K	3.10kg	-6020K	3.10kg	-6030K
	Flat	2.90kg	-6110K	2.90kg	-6120K	2.70kg	-6130K
	Round	1.30kg	-6210K	1.30kg	-6220K	1.25kg	-6230K
	Half Round	2.55kg	-6310K	2.55kg	-6320K	2.60kg	-6330K
	Square	1.60kg	-6410K	1.70kg	-6420K	1.75kg	-6430K
	3 Square	1.85kg	-6510K	2.70kg	-6520K	3.00kg	-6530K
	Warding	-	-	1.60kg	-6720K	1.50kg	-6730K
	Millsaw	-	-	2.10kg	-6910K	-	-
305mm (12")	Double Ended	-	-	0.97kg	-6930K	-	-
	Hand	4.30kg	-7010K	4.35kg	-7020K	4.40kg	-7030K
	Flat	4.20kg	-7110K	4.30kg	-7120K	4.50kg	-7130K
	Round	2.50kg	-7210K	2.40kg	-7220K	2.45kg	-7230K
	Half Round	4.60kg	-7310K	4.35kg	-7320K	4.40kg	-7330K
	Square	3.20kg	-7410K	3.25kg	-7420K	1.40kg/5	-7430K
	3 Square	4.50kg	-7510K	4.95kg	-7520K	4.55kg	-7530K
	1 Round Edge Mill	-	-	1.20kg/5	-7910K	-	-
	Hand	3.70kg/5	-8010K	3.70kg/5	-8020K	3.40kg/5	-8030K
	Flat	2.23kg/5	-8110K	3.45kg/5	-8120K	3.30kg/5	-8130K
355mm (14")	Round	2.45kg/5	-8210K	2.50kg/5	-8220K	2.55kg/5	-8230K
	Half Round	2.90kg/5	-8310K	3.50kg/5	-8320K	3.55kg/5	-8330K
	Square	-	-	3.00kg/5	-8420K	3.07kg/5	-8430K
	3 Square	-	-	3.35kg/5	-8520K	3.50kg/5	-8530K
	Hand	-	-	-	-	5.30kg/5	-9030K
405mm (16")	Flat	-	-	5.10kg/5	-9120K	5.00kg/5	-9130K
	Half Round	-	-	4.85kg/5	-9320K	4.75kg/5	-9330K
	Square	-	-	-	-	4.45kg/5	-9430K

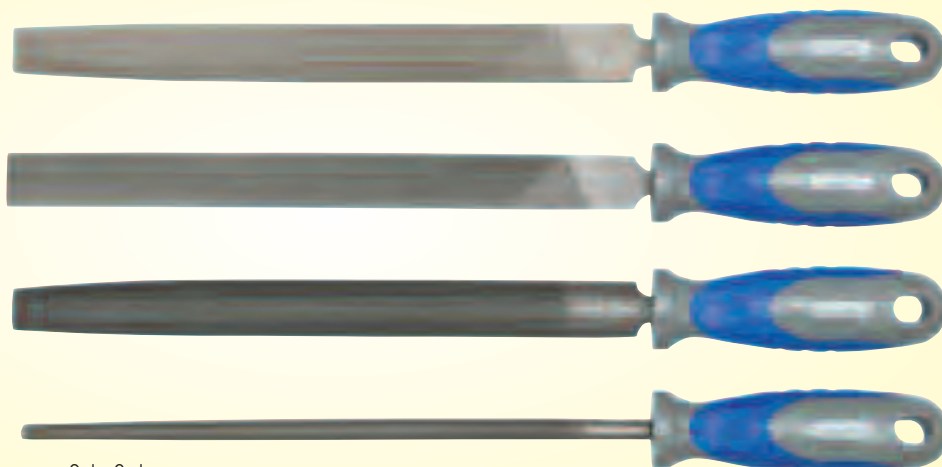
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SENATOR
QUALITY TOOLING**Engineer's
File Sets**

A selection of popular engineer's files suitable for filing and deburring on a wide variety of materials. Double cut teeth for rapid metal removal. Ideal for workshop or garage. Manufactured to **BS498:1990** and American Federal Standard **GGG-F-3256**.

Contents (1 of each):

bastard cut hand, second cut flat,
round and half round.

**4
PIECES**

Number of Pieces	Size	Order Code SEN-030
4	150mm (6")	-9510K
4	200mm (8")	-9520K
4	255mm (10")	-9530K

Engineer's Second Cut File Set

A selection of popular engineer's files suitable for filing and deburring on a wide variety of materials. Ideal for workshop or garage. Double cut teeth for rapid metal removal.

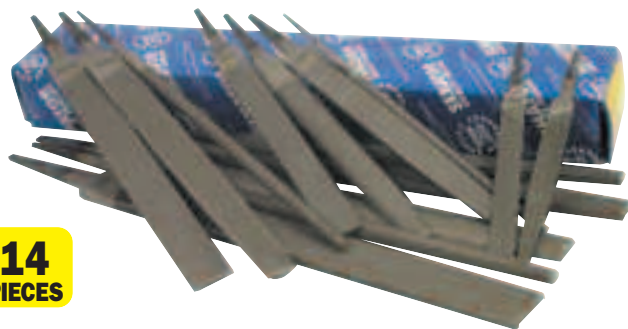
Contents (1 of each) Second Cut:

Hand: 305mm (12"), 255mm (10"), 200mm (8"), 125mm (5").

Flat: 305mm (12"), 255mm (10"), 200mm (8"), 125mm (5").

Round: 305mm (12"), 255mm (10"), 200mm (8").

Half round: 305mm (12"), 255mm (10"), 200mm (8").

**14
PIECES**

Number of Pieces	Order Code SEN-030
14	-9800K

Moulded Plastic File Handles

With contoured grip
and hanging hole.



Handle Length	Size	Suitable File Length	Weight each	Order Code KEN-531
75mm	0	4" - 6"	10g	-5930K
90mm	1	8" - 10"	50g	-5940K
100mm	2	10" - 12"	80g	-5950K

Engineer's File Set

A selection of popular engineer's files suitable for filing and deburring on a wide variety of materials. Ideal for workshop or garage. Double cut teeth for rapid metal removal.

Contents: (1 of each)

150mm (6"):

Hand: smooth, second. **Flat:** smooth, second, bastard.

Half round: second. **Round:** bastard.

200mm (8"):

Hand: second. **Flat:** second. **Half Round:** second. **Round:** second.

255mm (10"):

Hand: second, bastard.

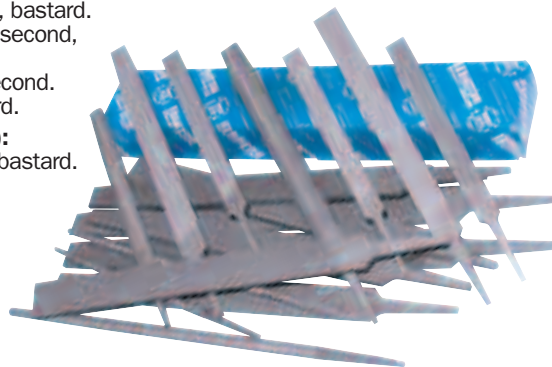
Flat: smooth, second, bastard.

Half round: second.

Round: bastard.

305mm (12"):

Flat: second, bastard.

**20
PIECES**

Number of Pieces	Order Code SEN-030
20	-9840K

Standard Wooden File Handles

Suitable for traditionally tanged engineer's files. With steel ferrule.



Handle Length	Size	Suitable File Length	Weight each	Order Code KEN-531
75mm	-	4" - 6"	20g	-5300K
100mm	-	8"	25g	-5400K
125mm	-	10"	45g	-5500K
150mm	-	12" - 16"	60g	-5600K





Engineer's Second
Cut File Sets

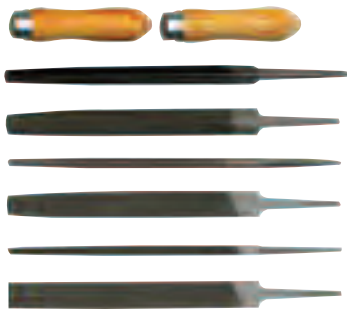
Contents (1 of each):

flat, hand, round, half-round three-square and square. Plus two file handles, supplied in PVC wallet.

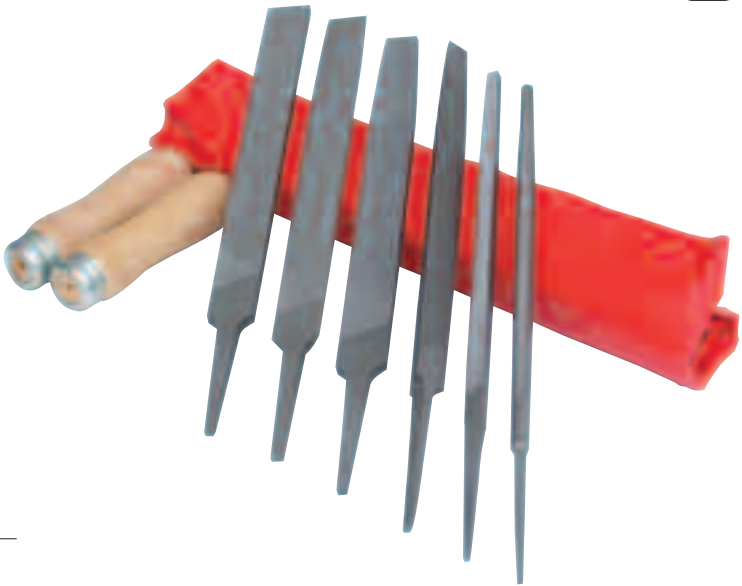
Manufactured to

BS498 : 1990 & US Federal Standards.

8
PIECES



Number of Pieces	Set Size	Handle Size	Weight each	Order Code KEN-030
8	150mm (6")	75mm (3")	0.44kg	-9860K
8	200mm (8")	100mm (4")	0.89kg	-9880K
8	255mm (10")	125mm (5")	1.65kg	-9900K



Engineer's Double Cut File Set

Bastard cut one side and 2nd cut on other.

Contents (1 of each):

three square, half round and round bastard cut files, flat, hand and square 'double cut'. 200mm (8"). Supplied with two file handles in plastic wallet.

8
PIECES



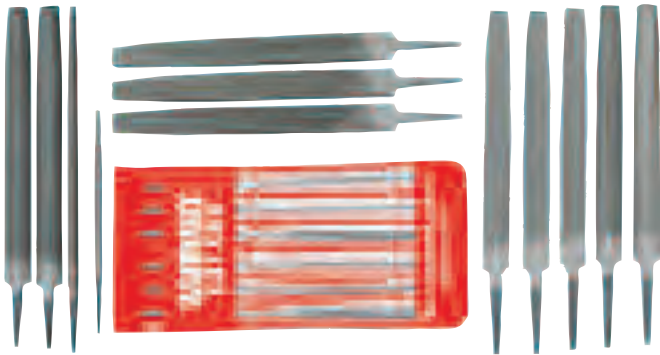
Number of Pieces	Order Code KEN-030
8	-9930K

Second Cut File Set

Contents:

(1 of each) 150mm (6") and 255mm (10") files; (3 of each) flat; (2 of each) half-round; (1 of each) round; 1 of 6 piece 16cm cut 2, needle file set.

18
PIECES

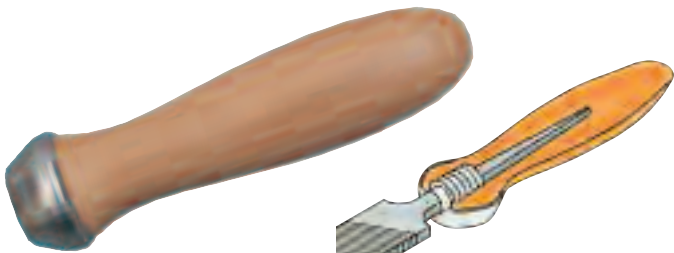


Needle file set in PVC wallet.

Number of Pieces	Order Code KEN-030
18	-9990K

Safety Wooden File Handles

A split file handle can cause a serious industrial accident. Firmly secured inside each handle and covered by a ferrule is a steel spring. This combination absorbs the pressure when the tang of the file is driven into the handle, preventing splitting or cracking. Once properly inserted the tang of the file is held in a vice-like grip that under normal use is virtually impossible to remove, unless the handle is deliberately broken.



Handle Length	Size	Suitable File Length	Weight each	Order Code KEN-531
75mm	0	4"	20g	-5730K
110mm	1	6" - 8"	45g	-5740K
125mm	2	10" - 12"	50g	-5750K
140mm	3	14" - 16"	70g	-5760K



File
Handles



Polypropylene file handles with integral hanging hole and covered with a ribbed rubber grip for increased purchase and added comfort.

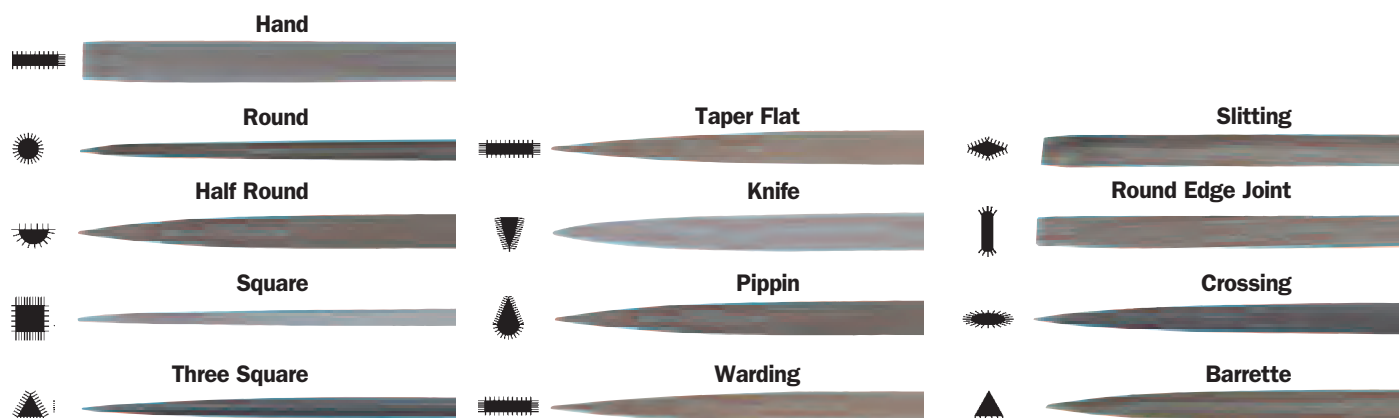
Available in three sizes:

0, 1 and 2.



Size	Suitable File Length (mm)	Order Code KEN-531
No. 0	100 - 150	-5000K
No. 1	200 - 250	-5010K
No. 2	300 - 400	-5020K

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR



Overall Length	Type	Weight per 10	Cut 0	Cut 2	Cut 4
			Order Code KEN-031	Order Code KEN-031	Order Code KEN-031
140mm (5½")	Hand	80g	-5000K	-5020K	-5040K
	Round	75g	-5200K	-5220K	-5240K
	Half Round	75g	-5300K	-5320K	-5340K
	Square	80g	-5400K	-5420K	-5440K
	3 Square	70g	-5500K	-5520K	-5540K
	Taper Flat	70g	-	-5560K	-5570K
	Knife	70g	-5600K	-5620K	-5640K
	Pippin	75g	-	-5660K	-5670K
	Warding	70g	-5700K	-5720K	-5740K
	Slitting	80g	-	-5820K	-
	Crossing	75g	-	-5920K	-
160mm (6½")	Hand	80g	-6000K	-6020K	-6040K
	Round	75g	-6200K	-6220K	-6240K
	Half Round	75g	-6300K	-6320K	-6340K
	Square	80g	-6400K	-6420K	-6440K
	3 Square	70g	-6500K	-6520K	-6540K
	Taper Flat	70g	-	-6560K	-
	Knife	70g	-6600K	-6620K	-6640K
	Warding	70g	-6700K	-6720K	-
	Slitting	80g	-	-6820K	-
	R/Edge Joint	80g	-	-6860K	-
	Crossing	75g	-	-6920K	-
	Barrette	80g	-	-6960K	-

Needle File Sets

Supplied in PVC wallet.
Manufactured to
BS 498:1990. Cut 2.

6 Piece Set (1 of each):

flat, hand,
half round,
round, square,
three square

6
PIECES

12 Piece Set (1 of each):

hand, flat,
knife, round,
half round,
square,
three square,
crossing, round edge joint,
slitting, warding, barrette.

12
PIECES



Number of Pieces	Weight each	Order Code KEN-031
14cm		
6	50g	-5980K
12	120g	-5990K
16cm		
6	70g	-6980K
12	150g	-6990K

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR



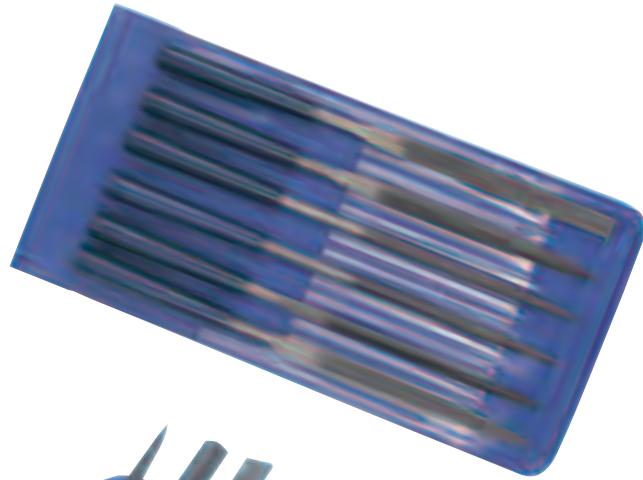
Needle File Sets

Both sets are manufactured to
BS 498:1990. Cut 2.

6 Piece Set (1 of each):

warding, hand,
half round,
round, square,
three square.

**6
PIECES**



12 Piece Set (1 of each):

hand, flat,
knife, round,
half round,
square,
three square,
crossing, round edge joint,
slitting, warding, barrette.

**12
PIECES**



Number of Pieces	Weight each	Order Code SEN-031
16cm		
6	50g	-6980K
12	120g	-6990K



Portable Bench Vice

Lightweight and portable with a swivel base and light duty anvil.
Ideal for model makers, DIY and light industrial use.

Can be fitted to any convenient work surface. Solid cast grey iron body with steel guide rods and main screw.



Opening (mm)	Jaw Width (mm)	Weight each	Order Code SEN-445
70 (2 ³ / ₄ ")	60	2.8kg	-0600K

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

KENNEDY
QUALITY INDUSTRIAL TOOLING**Milled Tooth
Hand Files**

Manufactured from alloy steel and feature undercut teeth that produce a more aggressive cut than conventional files and requires less operator effort. Suitable for use on a wide variety of materials including aluminium, steels, alloys, brass, copper, wood, plastics etc. Available as standard cut in four blade lengths and two tooth forms. Other styles are available on request.

Please note: handles are not supplied as standard and should be ordered separately as required.

Straight Tooth

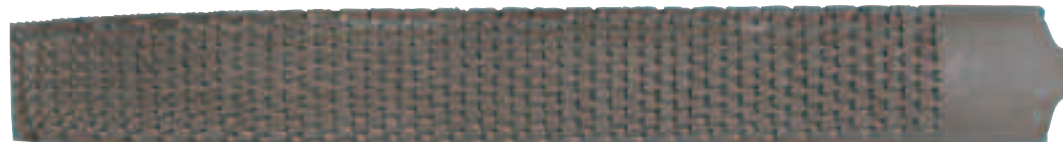
Overall Length	Weight per 10	Order Code KEN-032
200mm (8")	1.30kg	-2080K
255mm (10")	2.10kg	-2100K
305mm (12")	2.90kg	-2120K
355mm (14")	5.30kg	-2140K

**Rasp Cut Files**

Series of individual teeth which are formed by a single pointed tool. Produces a rough cut that is used primarily on wood, hooves, aluminium and lead.

Rasps

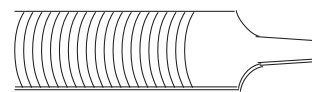
Designed for general use and best suited to softer materials such as wood, plastics, fillers, leather and lead.

Hand**Half Round****Round****Cabinet**

Overall Length	Type	Weight per 10	Smooth	Second	Bastard
			Order Code KEN-032	Order Code KEN-032	Order Code KEN-032
150mm (6")	Hand	0.80kg	-	-	-
	Half Round	0.80kg	-3110K	-3120K	-3130K
	Round	0.80kg	-	-3220K	-
200mm (8")	Hand	1.70kg	-3610K	-3620K	-3630K
	Half Round	1.50kg	-3710K	-3720K	-3730K
	Round	0.90kg	-	-	-3830K
	Cabinet	2.10kg	-	-	-3930K
255mm (10")	Hand	2.75kg	-4210K	-4220K	-4230K
	Half Round	2.65kg	-4310K	-4320K	-4330K
	Round	1.70kg	-4410K	-4420K	-4430K
	Cabinet	3.00kg	-	-4520K	-4530K
305mm (12")	Hand	4.60kg	-4810K	-4820K	-4830K
	Half Round	4.60kg	-	-4920K	-4930K
	Round	2.50kg	-	-5020K	-5030K
	Cabinet	4.00kg	-	-	-5130K

Curved Tooth Files**Curved Cut**

Teeth are arranged in curved contours across the file face. Normally used in automotive body shops for smoothing body panels.



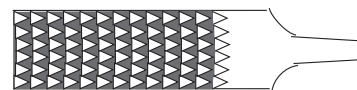
Overall Length	Weight per 10	Order Code KEN-032
200mm (8")	1.30kg	-1080K
255mm (10")	2.00kg	-1100K
305mm (12")	4.00kg	-1120K
355mm (14")	5.90kg	-1140K

Curved Tooth File Set

Contents: (1 of each) Flat, 200mm (8"), 255mm (10") and 305mm (12") standard cut.

**3
PIECES**

Number of Pieces	Weight each	Order Code KEN-032
3	765g	-1830K

**Group 531**



Diamond Riffler & Needle File Set

14cm

Contains the most commonly used shapes, supplied in a vinyl wallet.

Contents:

1x of each needle file: flat, three square and slitting.

1x of each style riffler: 985, 911, 905, 940, 952, 961 and 963.



**10
PIECES**



Number
of Pieces
10

Order Code
SEN-033
-2700K

DIAMOND FILES

Diamond Needle File Set

16cm

150 grain (medium grade). With tapered handles. Supplied in PVC wallet. Suitable for light duty and workshop use.

Contents: hand, half round, three square, round, square and knife.



**6
PIECES**



Number
of Pieces
6

Weight
each
115g

Order Code
SEN-033
-0600K



Industrial Diamond Coated Needle Files

16cm

Available in seven shapes and two grain sizes offering the solution to finishing problems where material hardness makes conventional files ineffective. Plated with finely selected diamond powder, 120 - 150 mesh. Can be used on tungsten carbide, ceramics, carbon, glass, fibreglass and hardened steels such as stainless steel, nimonics, titanium etc.



Hand



Half Round



Three Square



Round



Square



Knife



Flat



Type	Weight per 6	120/140 Grain	325/400 Grain
		Order Code KEN-033	Order Code KEN-033
Hand	70g	-0020K	-0220K
H/Round	60g	-0040K	-0240K
3 Square	60g	-0060K	-0260K
Round	60g	-0080K	-0280K
Square	60g	-0100K	-0300K
Knife	60g	-0120K	-0320K
Flat	60g	-0140K	-0340K

Diamond Needle File Set

16cm

120/140 grain.

DIAMOND

Contents: hand, half round, three square, round, square and knife.

**6
PIECES**



Number
of Pieces
6

Weight
each
60g

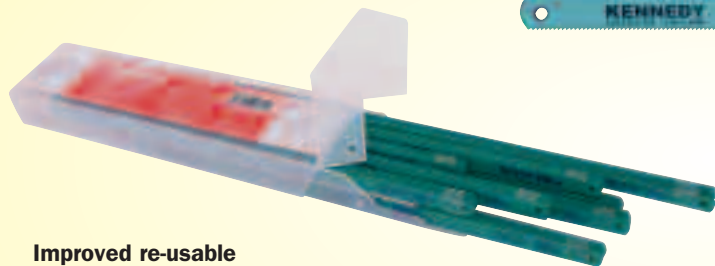
Order Code
KEN-033
-0500K

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR



Flexible Back Bi-metal Hacksaw Blades

The perfect combination of shatter resistant spring steel, used as the backing material, and tough, wear-resistant HSS teeth - Electron-beam welded together. Ideal for interrupted cuts in cramped places or where the blade is subject to stress caused by twisting or bending. Provides optimum tooth strength/life and reduced breakage and fracture when compared to traditional all-hard blades.
Made to BS 1919 : Part 1: 1993.



Improved re-usable
packaging

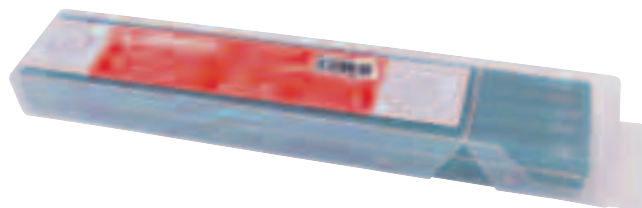
Length	Width	Thickness	TPI	Weight per 100	Order Code KEN-040
10"	1/2"	.025	18T	1.50kg	-2130K
10"	1/2"	.025	24T	1.40kg	-2250K
10"	1/2"	.025	32T	1.40kg	-2320K
12"	1/2"	.025	14T	1.70kg	-2510K
12"	1/2"	.025	18T	1.70kg	-2630K
12"	1/2"	.025	24T	1.70kg	-2750K
12"	1/2"	.025	32T	1.70kg	-2870K

TPI Selection Guide

Group	Materials	Brinell Hardness HB	Rockwell Hardness HRC	Tensile Strength N/mm2	Number of Teeth per Inch Section thickness or diameter		
					Below 2mm	2 - 5 mm	Above 5mm
1.1	Mild steel	<200	-	<700	32	24	18
1.4 to 1.5	Alloy steel & tool steel low to medium	<260	<26	<850	32	24	18 - 24
1.6	High alloy steel	>340	>36	>1200	32	24	24
2.1	Stainless steels	<290	<30	<1000	32	24	28
3.1	Grey cast iron	<300	-	-	24 - 32	18 - 24	18
6.1	Asbestos and copper	-	-	<500	24 - 32	18 - 24	18
6.3	Brass and bronze	-	-	<500	24 - 32	18 - 24	18
7.1	Aluminium	-	-	<500	24 - 32	18 - 24	18
8.1	Hard plastic	-	-	-	24 - 32	18 - 24	18

HSS All Hard Hacksaw Blades

Fully hardened for extra long tooth life and maximum straightness of cut. For use where workpiece is held securely in place.
Made to BS 1919 : Part 1: 1993.



Improved re-usable packaging

Length	Width	Thickness	TPI	Weight per 100	Order Code KEN-040
10"	1/2"	.025	18T	1.40kg	-3130K
10"	1/2"	.025	24T	1.40kg	-3250K
12"	1/2"	.025	14T	1.70kg	-3510K
12"	1/2"	.025	18T	1.70kg	-3630K
12"	1/2"	.025	24T	1.70kg	-3750K
12"	1/2"	.025	32T	1.70kg	-3870K



Group **538**

Coping Saw Blades

For cutting and shaping in wood. Supplied in packs of 10.



Length	TPI	Weight per 100	Order Code KEN-040
150mm (6")	14	250g	-1020K

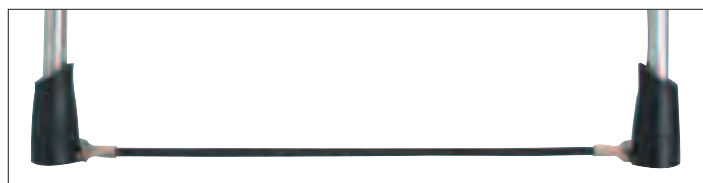
Junior Hand Saw Blades

Designed for use across a wide range of ferrous and non-ferrous materials. Suitable for mini hand saws and junior hacksaws.
Made to BS 6271 : 1990.

Type	Length	TPI	Pack Quantity	Weight per 100	Order Code KEN-040
Metal	150mm (6")	32	10	420g	-0620K
Wood	150mm (6")	14	1	390g	-0640K

Tile Saw Blades

For cutting and shaping ceramic tiles.



Length	Grit Size	Pack Qty	Order Code KEN-040
150mm (6")	Medium	1	-1400K





Industrial Power/ Machine Saw Blades

Designed for use across a wide range of ferrous and non-ferrous materials.

Power Saw Blade Selection

Power Saw Hacksaw Blade Tooth Recommendations

TPI	Suitable for Section Width
18	up to 13mm (up to 1/2")
14	6 to 19mm (1/4" to 3/4")
10	8 to 25mm (5/16" to 1")
6	13 to 38mm (1/2" to 1 1/2")
4	19mm and above (3/4" and above)

Type of Machine	Coolant Required	Unannealed Tool Steel & Hard Metals	Annealed Tool Steel	Machinery Steel & Soft Metal
Light	No	40spm	50 - 60spm	50-60spm
Medium	No	40spm	50 - 60spm	50-60spm
Medium	Yes	60spm	60 - 90spm	100-110spm
Heavy	Yes	60spm	90spm	110-120spm
Ex. Heavy	Yes	60spm	90spm	110-120spm

18 Teeth Per Inch

Recommended for cutting thin cross-sections such as tubing, small bars and light angle iron. Because blades are relatively thin they should be used only on light machines.

10 - 14 Teeth Per Inch

Recommended for cutting small cross sections and hard stock. This is the most popular choice for machine shops that are cutting a wide variety of materials.

4 - 6 Teeth Per Inch

Recommended for cutting large sections of softer ferrous metals, most alloy steels and all non-ferrous metals. The increased gullet clearance is able to handle heavy chips without clogging.

Operating Recommendations

Lower speeds and higher feed give best results. Ensure that the machine lifts the blade slightly on the return stroke. Exact speed and feed for each job can be established only from tests. The table below is to be used for guidance only.

When matching a section thickness against a suitable Blade TPI there are usually a number of blade options - Use coarse pitches (less TPI) for faster cutting and finer pitches (more TPI) for better surface finishes.

HSS All Hard Power Saw Blades

Recommended for cutting thin cross-sections such as tubing, small bars and light angle iron. Because blades are relatively thin they should be used only on light machines.



Length	Width	Thickness	TPI	Weight per 10	Order Code KEN-040
12"	5/8"	.032"	18T	0.36kg	-4630K
12"	1"	.050"	10T	0.78kg	-5030K
12"	1"	.050"	14T	0.79kg	-5040K
14"	1"	.050"	10T	0.93kg	-5130K
14"	1"	.050"	14T	0.80kg	-5140K
14"	1 1/4"	.062"	6T	1.30kg	-5200K
14"	1 1/4"	.062"	10T	1.30kg	-5220K
14"	1 1/4"	.062"	14T	1.30kg	-5230K
16"	1 1/4"	.062"	6T	1.40kg	-5390K
16"	1 1/4"	.062"	10T	0.90kg	-5410K
16"	1 1/4"	.062"	14T	1.60kg	-5420K
16"	1 1/2"	.062"	4T	2.20kg	-5490K
16"	1 1/2"	.062"	6T	2.20kg	-5500K
17"	1 1/4"	.062"	10T	1.80kg	-5530K
18"	1 1/4"	.062"	6T	1.90kg	-5550K
18"	1 1/4"	.062"	10T	1.60kg	-5570K
18"	1 1/2"	.075"	6T	2.55kg	-5650K
19"	1 3/4"	.088"	6T	3.80kg	-5720K
20"	1 1/2"	.075"	6T	3.20kg	-5750K
21"	1 1/2"	.075"	6T	3.00kg	-5770K
21"	1 1/2"	.075"	10T	3.00kg	-5790K
21"	1 3/4"	.088"	6T	5.30kg	-5820K
24"	2"	.100"	6T	6.30kg	-5960K

Speeds & Feeds - Recommended speeds, strokes per minute and TPI.

Group	Materials	Brinell Hardness HB	Rockwell Hardness HRC	Tensile Strength N/mm ²	Cutting Speed m/min	Strokes Per Min	Section Thickness or diameter-Recommended TPI			
							Below 10mm	10-40 mm	40-80 mm	Above 80mm
1.1 to 1.2	General purpose steels mild and structural	<200	-	<700	25 - 35	70 - 90	14	10 - 6	6 - 4	4
1.3	Non-alloy, plain and medium carbon steels and castings	<260	<26	<850	20 - 30	50 - 70	14	10 - 6	6 - 4	4 - 3
1.4	Alloy steels generally low to medium steels and castings	<260	<26	<850	20 - 30	50 - 70	14	10 - 6	6 - 4	4 - 3
1.5	Medium to high alloy steels tool steels and steel castings	>260 <340	>26 <36	>850 <1200	18 - 28	40 - 60	14	10 - 6	6 - 4	4 - 3
1.6	Heat treated high alloy steels and castings	>340 <450	>36 <48	>1200 <1500	15 - 25	30 - 45	14	10 - 6	6 - 4	4 - 3
2.1 to 2.3	Stainless steels free machine and austenitic	<290	<30	<1000	10 - 25	40 - 60	14	10 - 6	6 - 4	4 - 3
3.1 to 3.2	Grey cast iron	<300	-	-	30 - 40	70 - 90	14	10 - 6	6 - 4	4 - 3
3.3 to 3.4	S.G. iron nodular and malleable	<300	-	-	30 - 40	70 - 90	14	10 - 6	6 - 4	4 - 3
6.1 to 6.3	Non ferrous metals brass, copper and bronze	-	-	<800	40 - 60	80 - 115	14	10 - 6	6 - 4	4 - 3
7.1 to 7.4	Aluminium alloys to zinc and magnesium	-	-	<50	40 - 60	80 - 115	14 - 10	10 - 6	6 - 4	4 - 3

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR



HSS Threaded Shank Woodruff Cutters

HSS

12mm/1/2" Shank Ø

Produces closed slots for woodruff keys to **DIN 6888**.
For milling structural, carburising and heat treated steel up to 900N/mm².
Manufactured to **BS 122 : Part 4 : 1980**.
Made to **DIN 850**. Shank to **DIN 1835/D**.



Metric Limits of Tolerances

Diameter	+ 0.000	-0.127
Width		
2 up to 4	- 0.014	-0.028
4 up to 7	- 0.020	-0.038
7mm up	- 0.025	-0.047

Inch Limits of Tolerance

Diameter	+0.015"	-0.100"
Width	+0.000"	-0.001"

HSS Plain Shank Woodruff Cutters

12mm/1/2" Shank Ø

Produces closed slots for woodruff keys to **DIN 6888**.
For milling structural, carburising and heat treated steel up to 900N/mm².
Manufactured to **BS 122 : Part 4 : 1980**.
Made to **DIN 850**.



HSS

Metric Limits of Tolerances

Diameter	+ 0.000	-0.127
Width		
2 up to 4	- 0.014	-0.028
4 up to 7	- 0.020	-0.038
7mm up	- 0.025	-0.047



Metric Sizes

Diameter (mm)	Width (mm)	Overall Length (mm)	Weight each	Order Code
10.5	2.0	57.0	44g	-6500A
13.5	3.0	57.0	45g	-6505F

Metric Sizes

Diameter (mm)	Width (mm)	Overall Length (mm)	Weight each	Order Code
10.5	2.0	57.0	44g	-4500A
10.5	3.0	57.0	44g	-4502C
13.5	3.0	57.0	45g	-4505F
16.5	4.0	57.0	46g	-4509K
16.5	5.0	57.0	46g	-4510L

HSS Threaded Shank T-Slot Cutters

HSS

Used for machining T-slots on slide tables, fixtures etc. to **DIN 650**. For milling structural, carburising and heat treated steel up to 900N/mm². Sizes up to 16mm and 1/2" have six flutes and 18mm and 5/8" upwards have eight flutes.
Made to **DIN 851**. Shank to **DIN 1835/D**.

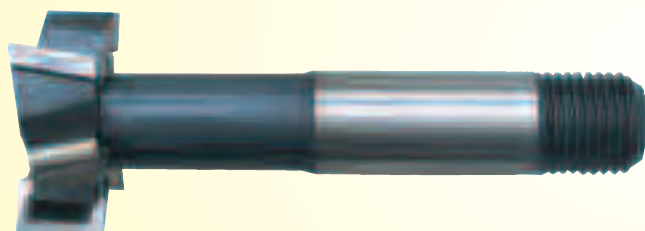
Flute form 12° RH/LH

Metric Limits of Tolerance

Diameter	+0.13 - 0.13
Length	+0.13 - 0.13

Inch Limits of Tolerance

Diameter	+0.005" - 0.005"
Length	+0.005" - 0.005"



Metric Sizes

Bolt Size	Head Depth (mm)	Diameter (mm)	Overall Length (mm)	Weight each	Order Code
		Cutter Shank Neck			SHR-061
M6.0	6.0	12.5 10.0 5.0	57.0	36g	-6550A
M8.0	8.0	16.0 10.0 6.5	62.0	41g	-6551B
M10.0	8.0	18.0 12.0 8.0	65.0	50g	-6552C
M12.0	10.0	22.0 12.0 10.0	74.0	52g	-6553D

HSS Plain Shank T-Slot Cutters

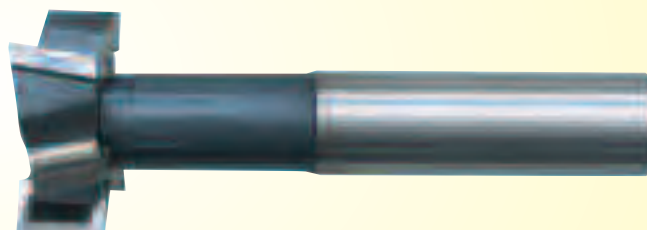
HSS

Used for machining T-slots on slide tables, fixtures etc. to **DIN 650**. For milling structural, carburising and heat treated steel up to 900N/mm². Sizes up to 16mm and 1/2" have six flutes and 18mm and 5/8" upwards have eight flutes.
Made to **DIN 851**.

Flute form 12° RH/LH

Metric Limits of Tolerance

Diameter	+0.13 - 0.13
Length	+0.13 - 0.13



Metric Sizes

Bolt Size	Head Depth (mm)	Diameter (mm)	Overall Length (mm)	Weight each	Order Code
		Cutter Shank Neck			SHR-061
M6.0	6.0	12.5 10.0 5.0	57.0	36g	-4550A
M8.0	8.0	16.0 10.0 6.5	62.0	41g	-4551B
M10.0	8.0	18.0 12.0 8.0	65.0	50g	-4552C
M12.0	10.0	22.0 12.0 10.0	74.0	52g	-4553D
M14.0	11.0	25.0 16.0 12.0	82.0	84g	-4554E
M16.0	12.0	28.0 16.0 13.0	85.0	159g	-4555F



HSS Threaded Shank Dovetail Cutters (Single Angle Cutters)

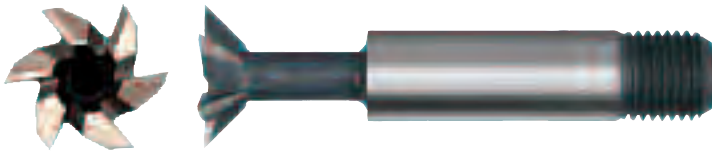
Designed to produce dovetail slideways in machine tool tables, jigs and fixtures. Bright finish, straight helix.
Made to **DIN 1833**. Shank to **DIN 1835D**.



HSS

Metric Limits of Tolerance	Inch Limits of Tolerance
+0.25 - 0.00	+0.010 - 0.000

45° Corner Angle - Metric (Form C)



Diameter (mm)	Cut Length (mm)	Shank Dia. (mm)	Overall Length (mm)	Number of Teeth	Order Code
13.0	3.0	12.0	63.5	6	-6200A
16.0	4.0	12.0	66.5	6	-6201B
19.0	5.5	12.0	66.5	6	-6202C

60° Corner Angle - Metric (Form C)



Diameter (mm)	Cut Length (mm)	Shank Dia. (mm)	Overall Length (mm)	Number of Teeth	Order Code
13.0	4.0	12.0	63.5	6	-6150A
16.0	5.5	12.0	66.5	6	-6151B
19.0	7.0	12.0	66.5	6	-6152C
25.0	12.0	12.0	70.0	8	-6154E

45° Inverted - Metric (Form D)



Diameter (mm)	Cut Length (mm)	Shank Dia. (mm)	Overall Length (mm)	Number of Teeth	Order Code
20.0	6.0	12.0	63.0	6	-6040K
25.0	7.5	12.0	70.0	6	-6041G
32.0	8.5	16.0	74.5	8	-6041V

HSS Threaded Shank Corner Rounding Cutters

Designed to produce convex corner radii. For milling structural, carburizing and heat treated steel up to 900N/mm².
Manufactured to works standards.

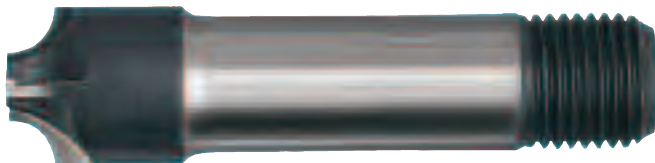
5° RH Flutes.

Bright finish, straight helix.

Radii tolerance: ± 0.005 ".

Shank to **DIN 1835/D**.

HSS



Metric Sizes

Radius (mm)	Head Dia. (mm)	Shank Dia. (mm)	Overall Length (mm)	Number of Teeth	Weight each	Order Code
2.0	12.0	12.0	60.5	4	50g	-6408Z
3.0	12.0	12.0	60.5	4	50g	-6410A
4.0	14.0	12.0	60.5	4	54g	-6411B
5.0	16.0	16.0	60.5	4	86g	-6412C
6.0	22.0	16.0	63.5	4	109g	-6413D
8.0	25.0	25.0	73.0	4	250g	-6414E
10.0	28.0	25.0	79.5	4	272g	-6415F
12.0	35.0	25.0	82.5	4	325g	-6416G

HSS Plain Shank Corner Rounding Cutters

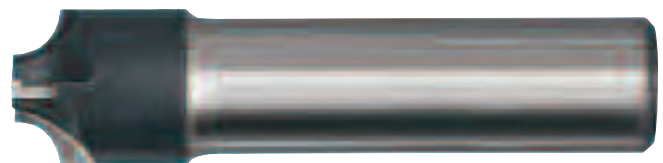
Designed to produce convex corner radii. For milling structural, carburising and heat treated steel up to 900N/mm².
Manufactured to works standards.

5° RH Flutes.

Bright finish, straight helix.

Radii tolerance: ± 0.005 ".

HSS



Metric Sizes

Radius (mm)	Head Dia. (mm)	Shank Dia. (mm)	Overall Length (mm)	Number of Teeth	Weight each	Order Code
2.0	12.0	12.0	60.5	4	50g	-4408Z
3.0	12.0	12.0	60.5	4	50g	-4410A
4.0	14.0	12.0	60.5	4	54g	-4411B
5.0	16.0	16.0	60.5	4	86g	-4412C
6.0	22.0	16.0	63.5	4	109g	-4413D
8.0	25.0	25.0	73.0	4	250g	-4414E

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

Ball Nose 2 Flute End Mills (Slot Drills)



Threaded Shank

Used for diesinking, slot milling and profile milling. Bright finish.
Flute type: 30° helix. Manufactured to **BS 122 : Part 4 : 1980**.
Tolerances as below

Diameter Metric	Tolerances Tolerance		Diameter Inch	Tolerance	
	+	-		+	-
up to 3.00	0.013	0.033	up to 1/2"	0.0005	0.0013
Over 3.00 ~ up to 6.00	0.020	0.038	Over 1/2"	0.0005	0.0015
Over 6.00 ~ up to 10.00	0.025	0.046			
Over 10.00 ~ up to 18.00	0.033	0.058			
Over 18.00 ~ up to 30.00	0.041	0.071			
Over 30.00	0.051	0.089			

Short Series B210T



HSS



Metric

Dia. (mm)	Flute Length	Overall Length	Shank Dia.	Order Code SHR-061
2.00	3.0	49.0	6.0	-5950A
3.00	7.0	51.0	6.0	-5952C
4.00	9.5	52.5	6.0	-5953D
5.00	9.5	52.5	6.0	-5954E
6.00	11.0	56.5	6.0	-5955F
7.00	11.0	58.5	10.0	-5956G
8.00	12.5	58.5	10.0	-5957H
10.00	14.5	60.5	10.0	-5959K
12.00	19.0	66.5	12.0	-5961M
13.00	19.0	66.5	12.0	-5962N
15.00	22.0	72.0	16.0	-5964Q
16.00	22.0	72.0	16.0	-5965R
20.00	25.5	77.0	16.0	-5969W

Inch

Dia. (Inch)	Flute Length	Overall Length	Shank Dia.	Order Code SHR-061
1/16"	3/32"	1 29/32"	1/4"	-5900A
1/8"	9/32"	2"	1/4"	-5902C
3/16"	3/8"	2 1/16"	1/4"	-5904E
1/4"	7/16"	2 7/32"	1/4"	-5906G
9/32"	7/16"	2 5/16"	3/8"	-5907H
3/8"	9/16"	2 3/8"	3/8"	-5910L

Long Series Type B230T

HSS



Dia. (mm)	Flute Length	Overall Length	Shank Dia.	Order Code SHR-061
5.00	12.5	70.0	6.0	-5936B
6.00	16.0	76.0	6.0	-5936N
10.00	22.0	82.5	10.0	-5938Q
12.00	25.5	95.0	12.0	-5939R
20.00	38.0	120.5	16.0	-5943W



Plain Shank Milling Cutters 2 Flute

HSS-Co



Centre cutting, used for profile milling, milling keyways and producing open slots.
Surface treatment: bright finish.
Flute helix 30°. Dimensions to **DIN 844**.
Plain shank to **DIN 1835A**.

Regular Length



Dia. (mm)	Flute Length (mm)	Overall Length (mm)	Shank Dia. (mm)	Order Code SHR-061
3.00	8	52	6	-3803A
4.00	11	55	6	-3804B
5.00	13	57	6	-3805C
6.00	13	57	6	-3806D
8.00	19	69	10	-3808F
10.00	22	72	10	-3810H
12.00	26	83	12	-3812K
14.00	26	83	16	-3814M
16.00	32	92	16	-3816P
20.00	38	104	20	-3820S
25.00	45	121	25	-3825V

Long Series



Dia. (mm)	Flute Length (mm)	Overall Length (mm)	Shank Dia. (mm)	Order Code SHR-061
3.00	12	56	6	-3955C
4.00	19	63	6	-3957E
5.00	24	68	6	-3959G
6.00	24	68	6	-3961J
8.00	38	88	10	-3962K
10.00	45	95	10	-3963L
12.00	53	110	12	-3964M
16.00	63	123	16	-3966P
20.00	75	141	20	-3968R

Plain Shank Milling Cutters 4 Flute

Centre cutting, used for profile milling, milling keyways and producing open slots.
Flute helix 30°. Dimensions to **DIN 844**.
Plain shank to **DIN 1835A**.

HSS-Co



Regular Length



Dia. (mm)	Flute Length (mm)	Overall Length (mm)	Shank Dia. (mm)	Order Code SHR-061
3.00	8	52	6	-3703A
4.00	11	55	6	-3704B
5.00	13	57	6	-3705C
6.00	13	57	6	-3706D
8.00	19	69	10	-3708F
8.50	22	72	10	-3708L
9.00	22	72	10	-3709Q
10.00	22	72	10	-3710G
12.00	26	83	12	-3712H
14.00	26	83	12	-3714J
15.00	32	92	16	-3715K
16.00	32	92	16	-3716L
18.00	32	92	16	-3718M
22.00	38	104	20	-3722P

Long Series



Dia. (mm)	Flute Length (mm)	Overall Length (mm)	Shank Dia. (mm)	Order Code SHR-061
6.00	24	68	6	-3879G
8.00	38	88	10	-3880H
9.00	38	88	10	-3880V
10.00	45	95	10	-3881J
12.00	53	110	12	-3882K
16.00	63	123	16	-3884M
20.00	75	141	20	-3886P



2 Flute End Mills (Slot Drills)

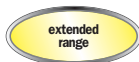
Threaded Shank

Used for milling keyways and slots. Bright finish. Flute type: 30° helix. Manufactured to **BS 122: Part 4: 1980**.

Tolerances as below

Short Series S210T

HSS



Metric

Dia. (mm)	Flute Length	Overall Length	Shank Dia.	Order Code
1.50	3.0	47.0	6.0	-5600A
2.00	4.0	48.0	6.0	-5601B
2.50	5.0	49.0	6.0	-5602C
3.00	5.0	49.0	6.0	-5603D
3.50	6.0	50.0	6.0	-5604E
4.00	7.0	51.0	6.0	-5605F
4.50	7.0	51.0	6.0	-5606G
5.00	8.0	52.0	6.0	-5607H
5.50	8.0	52.0	6.0	-5608J
6.00	8.0	52.0	6.0	-5609K
6.50	10.0	60.0	10.0	-5610L
7.00	10.0	60.0	10.0	-5611M
7.50	10.0	60.0	10.0	-5612N
8.00	11.0	61.0	10.0	-5613P
8.50	11.0	61.0	10.0	-5614Q
9.00	11.0	61.0	10.0	-5615R
9.50	11.0	61.0	10.0	-5616S
10.00	13.0	63.0	10.0	-5617T
10.50	13.0	70.0	12.0	-5618V
11.00	13.0	70.0	12.0	-5619W
11.50	13.0	70.0	12.0	-5620X
12.00	16.0	73.0	12.0	-5621Y
13.00	16.0	73.0	12.0	-5622Z
14.00	16.0	73.0	12.0	-5624A
15.00	16.0	73.0	16.0	-5625B
16.00	19.0	79.0	16.0	-5626C
17.00	19.0	79.0	16.0	-5627D
18.00	19.0	79.0	16.0	-5628E
19.00	19.0	79.0	16.0	-5629F
20.00	22.0	82.0	16.0	-5630G
21.00	22.0	88.0	25.0	-5631H
22.00	22.0	88.0	25.0	-5632J
23.00	22.0	88.0	25.0	-5633K
24.00	26.0	102.0	25.0	-5634L
26.00	26.0	102.0	25.0	-5636N
28.00	26.0	102.0	25.0	-5638Q
30.00	26.0	102.0	25.0	-5640S
32.00	32.0	112.0	25.0	-5641T

Inch

Dia. (Inch)	Flute Length	Overall Length	Shank Dia.	Order Code
1/16"	3/32"	1 29/32"	1/4"	-5500A
3/32"	3/16"	2"	1/4"	-5502C
7/64"	1/4"	2"	1/4"	-5503D
1/8"	9/32"	2"	1/4"	-5504E
5/32"	3/8"	2 1/16"	1/4"	-5506G
3/16"	3/8"	2 1/16"	1/4"	-5508J
13/64"	7/16"	2 3/16"	1/4"	-5509K
7/32"	7/16"	2 3/16"	1/4"	-5510L
1/4"	7/16"	2 7/32"	1/4"	-5512N
5/16"	1/2"	2 11/32"	3/8"	-5516S
21/64"	9/16"	2 11/32"	3/8"	-5517T
11/32"	9/16"	2 3/8"	3/8"	-5518V
3/8"	9/16"	2 3/8"	3/8"	-5520X
13/32"	5/8"	2 3/8"	3/8"	-5522Z
7/16"	1 1/16"	2 9/16"	1/2"	-5525B
1/2"	3/4"	2 5/8"	1/2"	-5529F
17/32"	7/8"	2 11/16"	1/2"	-5530G
9/16"	27/32"	2 23/32"	1/2"	-5531H
5/8"	7/8"	2 27/32"	5/8"	-5533K
11/16"	1 5/16"	2 29/32"	5/8"	-5535M
3/4"	1"	3 1/32"	5/8"	-5537P
7/8"	1"	3 15/16"	1"	-5541T
1"	1 1/16"	3 3/4"	1"	-5544X

Long Series 5230T



Metric

Dia. (mm)	Flute Length	Overall Length	Shank Dia.	Order Code
2.00	3.0	51.0	6.0	-5800A
2.50	6.5	54.0	6.0	-5801B
3.00	11.0	60.5	6.0	-5802C
3.50	12.5	66.5	6.0	-5803D
4.00	12.5	66.5	6.0	-5804E
5.00	12.5	70.0	6.0	-5806G
5.50	16.0	76.0	6.0	-5807H
6.00	16.0	76.0	6.0	-5808J
6.50	16.0	76.0	10.0	-5809K
7.00	16.0	76.0	10.0	-5810L
7.50	16.0	76.0	10.0	-5811M
8.00	19.0	79.5	10.0	-5812N
8.50	22.0	82.5	10.0	-5813P
9.00	22.0	82.5	10.0	-5814Q
10.00	22.0	82.5	10.0	-5815R
11.00	22.0	89.0	12.0	-5816S
12.00	25.5	95.0	12.0	-5817T
13.00	25.5	95.0	12.0	-5818V
14.00	28.5	101.5	12.0	-5819W
15.00	31.5	108.0	16.0	-5820X
16.00	31.5	108.0	16.0	-5821Y
17.00	35.0	114.5	16.0	-5822Z
18.00	35.0	114.5	16.0	-5824A
19.00	38.0	120.5	16.0	-5825B
20.00	38.0	120.5	16.0	-5826C
25.00	44.5	159.0	25.0	-5829F

Inch

Dia. (Inch)	Flute Length	Overall Length	Shank Dia.	Order Code
1/16"	3/16"	2"	1/4"	-5700A
1/8"	7/16"	2 1/2"	1/4"	-5703D
5/32"	1/2"	2 3/4"	1/4"	-5704E
3/16"	1/2"	2 3/4"	1/4"	-5705F
1/4"	5/8"	3"	1/4"	-5707H
5/16"	3/4"	3 1/2"	3/8"	-5709K
3/8"	7/8"	3 1/4"	3/8"	-5711M
7/16"	7/8"	3 1/2"	1/2"	-5713P
1/2"	1"	3 3/4"	1/2"	-5715R
9/16"	1 1/8"	4"	1/2"	-5717T

Multi Flute End Mills

Threaded Shank

Used for diesinking, slot milling and profile milling. Bright finish. Flute type: 30° helix. Manufactured to **BS 122 : Part 4 : 1980**. Tolerances as below

Short Series E410T

HSS



Metric

Dia. (mm)	Flute Length	Overall Length	Shank Dia.	Order Code
2.00	4.0	51.0	6.0	-5100A
2.50	6.5	51.0	6.0	-5101B
3.00	9.5	54.0	6.0	-5102C
3.50	12.5	57.0	6.0	-5103D
4.00	12.5	57.0	6.0	-5104E
4.50	12.5	57.0	6.0	-5105F
5.00	16.0	60.5	6.0	-5106G
5.50	16.0	60.5	6.0	-5107H
6.00	16.0	60.5	6.0	-5108J
6.50	16.0	60.5	10.0	-5109K
7.00	15.0	60.5	10.0	-5110L
8.00	18.0	63.5	10.0	-5112N
8.50	21.0	66.5	10.0	-5113P
9.00	21.0	66.5	10.0	-5114Q
10.00	21.0	66.5	10.0	-5116S
10.50	19.0	66.5	12.0	-5117T
11.00	19.0	66.5	12.0	-5118V
12.00	24.0	70.0	12.0	-5120X
13.00	24.5	70.0	16.0	-5121Y
14.00	28.5	73.5	16.0	-5122Z
15.00	26.5	77.0	16.0	-5123A
16.00	26.5	80.0	16.0	-5124B
17.00	32.0	80.0	16.0	-5125C
18.00	35.0	88.0	16.0	-5126D
19.00	38.0	83.5	16.0	-5127E
20.00	38.0	83.5	16.0	-5128F

SHANK MILLING CUTTERS

Short Series E410T Continued

Metric

Dia. (mm)	Flute Length	Overall Length	Shank Dia.	Order Code
22.00	41.5	98.5	25.0	-5130H
25.00	41.5	101.5	25.0	-5133L
26.00	43.0	101.5	25.0	-5134M
30.00	46.0	104.5	25.0	-5136P
32.00	46.0	108.0	25.0	-5137Q

Inch

Dia. (Inch)	Flute Length	Overall Length	Shank Dia.	Order Code
3/32"	1/4"	1 29/32"	1/4"	-5002B
1/8"	3/8"	2"	1/4"	-5003C
5/32"	1/2"	2 1/8"	1/4"	-5004D
3/16"	1/2"	2 1/4"	1/4"	-5005E
1/4"	5/8"	2 3/8"	1/4"	-5007G
9/32"	19/32"	2 3/8"	3/8"	-5008H
5/16"	23/32"	2 3/8"	3/8"	-5009J
3/8"	27/32"	2 5/8"	3/8"	-5011L
7/16"	3/4"	2 5/8"	1/2"	-5013N
1/2"	15/16"	2 3/4"	1/2"	-5015Q
9/16"	1 1/8"	2 7/8"	1/2"	-5017S
5/8"	1 1/16"	3 1/32"	5/8"	-5019V
11/16"	1 3/8"	3 5/32"	5/8"	-5021X
3/4"	1 1/2"	3 9/32"	5/8"	-5023N

6 Flute

7/8"	1 5/8"	3 7/8"	1"	-5026C
1"	1 11/16"	4"	1"	-5028E

Long Series E430T

HSS



Metric

Dia. (mm)	Flute Length	Overall Length	Shank Dia.	Order Code
3.00	19.0	63.5	6.0	-5401A
3.50	25.5	70.0	6.0	-5402B
4.00	25.5	70.0	6.0	-5403C
4.50	31.5	70.0	6.0	-5404D
5.00	31.5	76.0	6.0	-5405E
5.50	31.5	76.0	6.0	-5406F
6.00	35.0	76.0	6.0	-5407G
6.50	34.0	79.5	10.0	-5408H
7.00	34.0	79.5	10.0	-5409J
7.50	34.0	79.5	10.0	-5410K
8.00	34.0	79.5	10.0	-5411L
8.50	37.0	82.5	10.0	-5412M
9.00	37.0	82.5	10.0	-5413N
10.00	37.0	82.5	10.0	-5414P
11.00	41.5	89.0	12.0	-5415Q
12.00	49.5	95.0	12.0	-5416R
13.00	50.0	95.0	12.0	-5417S
14.00	57.0	101.5	12.0	-5418T
15.00	58.5	108.5	16.0	-5419V
16.00	58.5	108.5	16.0	-5420W
18.00	70.0	115.0	16.0	-5422Y
20.00	76.0	121.5	16.0	-5424A

6 Flute

22.00	85.5	143.0	25.0	-5425B
24.00	92.0	149.0	25.0	-5426C
25.00	100.0	157.0	25.0	-5427D

Inch

Dia. (Inch)	Flute Length	Overall Length	Shank Dia.	Order Code
1/8"	3/4"	2 1/2"	1/4"	-5302C
3/16"	1"	2 3/4"	1/4"	-5304E
7/32"	1 1/4"	3"	1/4"	-5305F
1/4"	1 1/4"	3"	1/4"	-5306G
5/16"	1 11/32"	3 1/8"	3/8"	-5308J
3/8"	1 5/8"	3 1/4"	3/8"	-5310L
7/16"	1 5/8"	3 1/2"	1/2"	-5312N
1/2"	1 15/16"	3 3/4"	1/2"	-5314Q
5/8"	2 5/16"	4 9/32"	5/8"	-5318V
3/4"	3"	4 25/32"	5/8"	-5322N

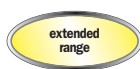
6 Flute

1"	3 15/16"	6 3/16"	1"	-5326D
1 1/2"	3 15/16"	6 1/4"	1"	-5338R

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

**HSS-Co 5% Threaded Shank Slot Drills**

Flute helix 30°.
Manufactured to **BS 122:4**

**HSS-Co 5%****Short Series****Metric**

Dia. (mm)	Flute Length (mm)	Overall Length (mm)	Shank Dia. (mm)	Order Code SHR-061
1.50	2.5	48.5	6.0	-5664A
2.00	3.0	49.0	6.0	-5665B
3.00	7.0	51.0	6.0	-5667D
4.00	9.5	52.5	6.0	-5669F
5.00	9.5	52.5	6.0	-5671H
5.50	11.0	55.5	6.0	-5672J
6.00	11.0	56.5	6.0	-5673K
6.50	11.0	58.5	10.0	-5674A
7.00	11.0	58.5	10.0	-5674L
7.50	11.0	58.5	10.0	-5675B
8.00	12.5	59.5	10.0	-5675M
8.50	14.5	60.5	10.0	-5676C
9.00	14.5	60.5	10.0	-5676N
10.00	14.5	60.5	10.0	-5677P
10.50	17.5	65.0	12.0	-5678E
11.00	17.5	65.0	12.0	-5678Q
12.00	19.0	66.5	12.0	-5679R
13.00	19.0	66.5	12.0	-5680G
14.00	22.0	68.5	12.0	-5680S
15.00	22.0	72.0	16.0	-5681H
16.00	22.0	72.0	16.0	-5681T
17.00	24.0	72.0	16.0	-5682J
18.00	24.0	72.0	16.0	-5682V
19.00	25.5	77.0	16.0	-5683K
20.00	25.5	77.0	16.0	-5683W
22.00	25.5	100.0	25.0	-5684X
25.00	27.0	95.0	25.0	-5686A
30.00	30.0	93.5	25.0	-5688C

Inch

Dia. (Inch)	Flute Length	Overall Length	Shank Dia.	Order Code SHR-061
1/8"	9/32"	2"	1/4"	-5661J
3/16"	3/8"	2 1/16"	1/4"	-5661R
1/4"	7/16"	2 7/32"	1/4"	-5662A
3/8"	9/16"	2 3/8"	3/8"	-5662J
1/2"	3/4"	2 5/8"	1/2"	-5662R
5/8"	7/8"	2 27/32"	5/8"	-5662X
3/4"	1"	3 1/32"	5/8"	-5663C
1"	1 1/16"	3 3/4"	1"	-5663J

Long Series Type S231T

Dia. (mm)	Flute Length (mm)	Overall Length (mm)	Shank Dia. (mm)	Order Code SHR-061
5.00	12.5	70.0	6.0	-5859G
6.00	16.0	76.0	6.0	-5861J
7.00	16.0	76.0	10.0	-5862A
8.00	19.0	79.5	10.0	-5862K
10.00	22.0	82.5	10.0	-5863L
12.00	25.5	95.0	12.0	-5864M
14.00	28.5	101.5	12.0	-5865N
15.00	31.5	108.0	16.0	-5865X
16.00	31.5	108.0	16.0	-5866P
18.00	35.0	114.5	16.0	-5867Q
20.00	38.0	120.5	16.0	-5868R

HSS-Co 5% Threaded Shank Slot Drills 3 Flute

Bright finish. Flute helix 30°.
Manufactured to **BS 122: Part 4: 1980.**

HSS-Co 5%**Regular Series Type 5321T****Metric**

Dia. (mm)	Flute Length (mm)	Overall Length (mm)	Shank Dia. (mm)	Order Code SHR-061
3.00	9.5	54.0	6.0	-6021A
4.00	12.5	57.0	6.0	-6021E
5.00	16.0	60.5	6.0	-6021J
6.00	16.0	60.5	6.0	-6021N
8.00	19.0	63.5	10.0	-6021Q

Regular Series Type 5321T Continued**Metric**

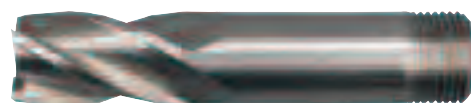
Dia. (mm)	Flute Length (mm)	Overall Length (mm)	Shank Dia. (mm)	Order Code SHR-061
10.00	22.0	66.5	10.0	-6021S
12.00	25.5	71.5	12.0	-6021V
14.00	28.5	74.5	12.0	-6021X
16.00	32.0	80.0	16.0	-6021Z
18.00	35.0	83.5	16.0	-6022B
20.00	38.0	90.0	16.0	-6022D

Inch

Dia. (Inch)	Flute Length	Overall Length	Shank Dia.	Order Code SHR-061
1/8"	3/8"	2 1/8"	1/4"	-6016G
3/16"	5/8"	2 3/8"	1/4"	-6016N
1/4"	5/8"	2 3/8"	1/4"	-6016V
5/16"	3/4"	2 1/2"	3/8"	-6017B
3/8"	7/8"	2 5/8"	3/8"	-6017H
1/2"	1 5/16"	2 13/16"	1/2"	-6017W

HSS-Co 5% Threaded Shank End Mills**HSS-Co 5%**

Used for profile milling and producing open slots.
Bright finish. Flute helix 30°.
Manufactured to **BS 122 : Part 4 : 1980.**

**Regular Series Type E411T**

Dia. (mm)	Flute Length (mm)	Overall Length (mm)	Shank Dia. (mm)	Order Code SHR-061
4 Flute				
3.00	9.5	54.0	6.0	-5187C
4.00	12.5	57.0	6.0	-5189E
5.00	16.0	60.5	6.0	-5191G
6.00	16.0	60.5	6.0	-5193J
6.50	16.0	60.5	10.0	-5193R
7.00	15.0	60.5	10.0	-5193X
8.00	18.0	63.5	10.0	-5194K
8.50	21.0	66.5	10.0	-5194S
9.00	21.0	66.5	10.0	-5194Y
9.50	21.0	66.5	10.0	-5195D
10.00	21.0	66.5	10.0	-5195L
12.00	24.0	70.0	12.0	-5196M
13.00	24.5	70.0	12.0	-5197F
14.00	28.5	73.5	12.0	-5197N
15.00	26.5	77.0	16.0	-5198G
16.00	26.5	80.0	16.0	-5198P
17.00	32.0	80.0	16.0	-5199H
18.00	35.0	88.0	16.0	-5199Q
19.00	38.0	83.5	16.0	-5200J
20.00	38.0	84.5	16.0	-5200R

Dia. (mm)	Flute Length (mm)	Overall Length (mm)	Shank Dia. (mm)	Order Code SHR-061
25.00	41.5	101.5	25.0	-5202T

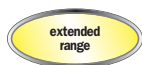
Long Series Type E431T

Dia. (mm)	Flute Length (mm)	Overall Length (mm)	Shank Dia. (mm)	Order Code SHR-061
4 Flute				
3.00	19.0	63.5	6.0	-5473A
4.00	25.5	70.0	6.0	-5475C
5.00	31.5	76.0	6.0	-5477E
6.00	31.5	76.0	6.0	-5479G
8.00	34.0	79.5	10.0	-5480H
10.00	37.0	82.5	10.0	-5481J
12.00	49.5	95.0	12.0	-5482K
14.00	57.0	101.5	12.0	-5483L
16.00	58.5	108.5	16.0	-5484M
18.00	70.0	115.0	16.0	-5485N
20.00	76.0	121.5	16.0	-5486P
6 Flute				
25.00	100.0	157.0	25.0	-5488R

SHANK MILLING CUTTERS

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

For general production machining. Centre cutting. Threaded shank to **DIN 1835D**. Cutting diameter to **e8**. Shank diameter to **h6**.

**Series 28****Short Series - SDH-2TS** Dimensions to **DIN 327**

Diameter (mm)	Flute Length (mm)	Shank Dia. (mm)	Overall Length (mm)	Weight per 10
2.00	4.0	6.0	48.0	102g
2.50	5.0	6.0	49.0	102g
3.00	5.0	6.0	49.0	102g
3.50	6.0	6.0	50.0	102g
4.00	7.0	6.0	51.0	105g
4.50	7.0	6.0	51.0	108g
5.00	8.0	6.0	52.0	110g
5.50	8.0	6.0	52.0	110g
6.00	8.0	6.0	52.0	110g
7.00	10.0	10.0	60.0	380g
8.00	11.0	10.0	61.0	338g
9.00	11.0	10.0	61.0	353g
10.00	13.0	10.0	63.0	369g
11.00	13.0	12.0	70.0	456g
12.00	16.0	12.0	73.0	600g
13.00	16.0	12.0	73.0	608g
14.00	16.0	12.0	73.0	631g
15.00	16.0	16.0	73.0	640g
16.00	19.0	16.0	79.0	1134g
18.00	19.0	16.0	79.0	1200g
20.00	22.0	20.0	88.0	1900g
22.00	22.0	20.0	88.0	1902g

HSS-Co 8% Uncoated

For general production machining.

HSS-Co 8% TiCN Coated

Extends cutter tool life and improves work material surface finish.

**SDH-2TS HSS-Co 8%**Order Code
SWT-163**SDN-2TS TiCN Coated**Order Code
SWT-163**-2802A****-2802L****-2803A****-2803L****-2804A****-2804L****-2805A****-2805L****-2806A****-2807A****-2808A****-2809A****-2810A****-2811A****-2812A****-2813A****-2814A****-2815A****-2816A****-2818A****-2820A****-2822A****-2832A****-2832L****-****-****-2834A****-****-2835A****-****-2836A****-2837A****-2838A****-****-2840A****-2841A****-2842A****-****-2844A****-****-2846A****-2848A****-2850A****-****Series 29****Regular Series** Dimensions to **DIN 844**

Diameter (mm)	Flute Length (mm)	Shank Dia. (mm)	Overall Length (mm)	Weight per 10
2.00	7.0	6.0	51.0	102g
3.00	8.0	6.0	52.0	104g
4.00	11.0	6.0	55.0	107g
5.00	13.0	6.0	57.0	110g
6.00	13.0	6.0	57.0	120g
8.00	19.0	10.0	68.0	132g
10.00	22.0	10.0	72.0	397g
12.00	26.0	12.0	83.0	652g
14.00	26.0	12.0	83.0	707g
16.00	32.0	16.0	92.0	1261g
20.00	38.0	20.0	104.0	2104g
22.00	38.0	20.0	104.0	2280g

**SDH-2TS HSS-Co 8%**Order Code
SWT-163**SDN-2TS TiCN Coated**Order Code
SWT-163**-2902A****-2903A****-2904A****-2905A****-2906A****-2908A****-2910A****-2912A****-2914A****-2916A****-2920A****-2922A****-****-****-****-2935A****-2936A****-2938A****-2940A****-2942A****-2944A****-2946A****-****-2952A****Series 30****Long Series** Dimensions to **DIN 844**

Diameter (mm)	Flute Length (mm)	Shank Dia. (mm)	Overall Length (mm)	Weight per 10
2.00	8.0	6.0	56.0	111g
6.00	13.0	6.0	68.0	128g
8.00	19.0	10.0	88.0	368g
10.00	22.0	10.0	95.0	404g
12.00	26.0	12.0	110.0	666g
16.00	32.0	16.0	123.0	950g
20.00	38.0	20.0	141.0	2114g

**SDH-2TS HSS-Co 8%**Order Code
SWT-163**SDN-2TS TiCN Coated**Order Code
SWT-163**-3002A****-3006A****-3008A****-3010A****-3012A****-3016A****-3020A****-****-****-****-****-****-****-****HSS-Co 8% Threaded Shank Slot Drills 3 Flute**

For general production machining. Centre cutting. Threaded shank to **DIN 1835D**. Cutting diameter to **e8**. Shank diameter to **h6**.

**HSS-Co 8% Uncoated**

For general production machining.

HSS-Co 8% TiCN Coated

Extends cutter tool life and improves work material surface finish.

**Series 32****Short Series - SDH-3TS** Dimensions to **DIN 327**

Dia. (mm)	Flute Length (mm)	Shank Dia. (mm)	Overall Length (mm)	Weight each	Order Code
3.00	5.0	6.0	49.0	10g	-3203A
5.00	8.0	6.0	52.0	10g	-3205A
6.00	8.0	6.0	61.0	11g	-3206A
8.00	11.0	10.0	63.0	34g	-3208A
10.00	13.0	10.0	73.0	37g	-3210A

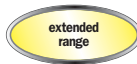
Dia. (mm)	Flute Length (mm)	Shank Dia. (mm)	Overall Length (mm)	Weight each	Order Code
12.00	16.0	12.0	73.0	62g	-3212A
14.00	16.0	12.0	79.0	62g	-3214A
16.00	19.0	16.0	88.0	104g	-3216A
20.00	22.0	20.0	88.0	187g	-3220A
22.00	22.0	20.0	88.0	195g	-3222A

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

SWISS+TECH

HSS-Co 8% Threaded Shank
Slot Drills 3 Flute

For general production machining. Centre cutting. Threaded shank to **DIN 1835D**. 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 33

Regular Series Dimensions to DIN 844

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	Weight each	SDH-3TR HSS-Co 8%	SDN-3TR TiCN Coated	SDL-3TR TiAlN Coated
					Order Code SWT-163	Order Code SWT-163	Order Code SWT-163
3.00	8.0	6.0	52.0	10g	-3303A	-3333A	-
4.00	11.0	6.0	55.0	10g	-3304A	-3334A	-
5.00	13.0	6.0	57.0	10g	-3305A	-3335A	-3365A
6.00	13.0	6.0	57.0	12g	-3306A	-3336A	-3366A
7.00	16.0	10.0	66.0	-	-3307A	-	-
8.00	19.0	10.0	69.0	36g	-3308A	-3338A	-3368A
9.00	19.0	10.0	69.0	-	-3309A	-	-
10.00	22.0	10.0	72.0	40g	-3310A	-3340A	-3370A
11.00	22.0	12.0	79.0	-	-3311A	-	-
12.00	26.0	12.0	83.0	66g	-3312A	-3342A	-3372A
13.00	26.0	12.0	83.0	-	-3313A	-	-
14.00	26.0	12.0	83.0	68g	-3314A	-3344A	-3374A
16.00	32.0	16.0	92.0	121g	-3316A	-3346A	-3376A
20.00	38.0	20.0	104.0	206g	-3320A	-3350A	-3380A
22.00	38.0	20.0	104.0	219g	-3322A	-	-
25.00	45.0	25.0	121.0	364g	-3325A	-	-

HSS-Co 8%

TiCN



Series 34

Long Series Dimensions to DIN 844

Diameter (mm)	Flute Length (mm)	Shank Diameter (mm)	Overall Length (mm)	Weight each	SDH-3TL HSS-Co 8%	SDN-3TL TiCN Coated
					Order Code SWT-163	Order Code SWT-163
4.00	19.0	6.0	63.0	11g	-3404A	-
6.00	24.0	6.0	68.0	14g	-3406A	-
8.00	38.0	10.0	88.0	40g	-3408A	-
10.00	45.0	10.0	95.0	49g	-3410A	-
12.00	53.0	12.0	110.0	79g	-3412A	-
14.00	53.0	12.0	110.0	85g	-3414A	-
16.00	63.0	16.0	123.0	142g	-3416A	-
20.00	75.0	20.0	141.0	259g	-3420A	-
25.00	90.0	25.0	166.0	480g	-3425A	-

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

Centre cutting.

Threaded shank to **DIN 1835D**.

Shank cutting diameter to +0.04 -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.

⁽¹⁾ EMH-6TR HSS-Co 8%

Series 36

Regular Series Dimensions to DIN 844

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No. of Flutes	Weight per 10	EMH-4TR HSS-Co 8%	EMN-4TR TiCN Coated	EML-4TR TiAlN Coated
						Order Code SWT-163	Order Code SWT-163	Order Code SWT-163
3.00	8.0	6.0	52.0	4	111g	-3603A	-	-3663A
4.00	11.0	6.0	55.0	4	114g	-3604A	-3634A	-3664A
5.00	13.0	6.0	57.0	4	126g	-3605A	-	-
6.00	13.0	6.0	57.0	4	133g	-3606A	-3636A	-3666A
7.00	16.0	10.0	66.0	4	340g	-3607A	-	-3667A
8.00	19.0	10.0	69.0	4	375g	-3608A	-3638A	-3668A
10.00	22.0	10.0	72.0	4	423g	-3610A	-3640A	-3670A
12.00	26.0	12.0	83.0	4	688g	-3612A	-3642A	-3672A
14.00	26.0	12.0	83.0	4	728g	-3614A	-3644A	-3674A
16.00	32.0	16.0	92.0	4	1220g	-3616A	-3646A	-3676A
18.00	32.0	16.0	92.0	4	1534g	-3618A	-3648A	-3678A
20.00	38.0	20.0	104.0	4	2114g	-3620A	-3650A	-3680A
25.00	45.0	25.0	121.0	6	2668g	-3625A ⁽¹⁾	-	-

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
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
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
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
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 Fine Pitch Ripper Cutters

Four 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**.



HSS-EV

FINE PITCH



Regular Series

Dia. (mm)	Flute Length	Overall Length	Shank Dia.	Number of Flutes	Weight each	Order Code
6.00	15.0	58.0	6.0	4	13g	-2600A
8.00	20.0	70.0	10.0	4	36g	-2601B
10.00	28.0	75.0	10.0	4	36g	-2602C
12.00	33.0	85.0	12.0	4	71g	-2603D

Dia. (mm)	Flute Length	Overall Length	Shank Dia.	Number of Flutes	Weight each	Order Code
16.00	38.0	90.0	16.0	4	131g	-2604E
20.00	47.0	110.0	20.0	4	228g	-2605F
25.00	52.0	125.0	25.0	4	401g	-2606G

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
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
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

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

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



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 01

Short Series Dimensions to **DIN 327**



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

Series 02

Regular Series Dimensions to **DIN 844**



Coated Diameter (mm)	Flute Length	Shank Diameter	Overall Length	Weight per 10	SDH-2WR HSS-Co 8%	SDN-2WR TiCN Coated	SDL-2WR TiAlN
					Order Code SWT-163	Order Code SWT-163	Order Code SWT-163
2.00	7.0	6.0	51.0	108g	-0202A	-	-0263A
3.00	8.0	6.0	52.0	108g	-0203A	-	-0264A
4.00	11.0	6.0	55.0	114g	-0204A	-0234A	-0265A
5.00	13.0	6.0	57.0	121g	-0205A	-	-0266A
6.00	13.0	6.0	57.0	150g	-0206A	-0236A	-0268A
8.00	19.0	10.0	69.0	361g	-0208A	-0238A	-
10.00	22.0	10.0	72.0	402g	-0210A	-0240A	-0270A
12.00	26.0	12.0	83.0	652g	-0212A	-0242A	-0272A
14.00	26.0	12.0	83.0	710g	-0214A	-	-
16.00	32.0	16.0	92.0	950g	-0216A	-0246A	-0276A
20.00	38.0	20.0	104.0	2114g	-0220A	-0250A	-0280A
22.00	38.0	20.0	104.0	2238g	-0222A	-	-
25.00	45.0	25.0	121.0	2400g	-0225A	-	-0285A

Series 03

Long Series Dimensions to **DIN 844**



Dia. (mm)	Flute Length (mm)	Shank Dia. (mm)	Overall Length (mm)	Weight per 10	SDH-2WL HSS-Co 8%	SDN-2WL TiCN Coated
					Order Code SWT-163	Order Code SWT-163
2.00	7.0	6.0	54.0	110g	-0302A	-
3.00	8.0	6.0	56.0	116g	-0303A	-
4.00	11.0	6.0	63.0	120g	-0304A	-
5.00	13.0	6.0	68.0	136g	-	-0335A
6.00	13.0	6.0	68.0	153g	-0306A	-0336A
8.00	19.0	10.0	88.0	442g	-0308A	-0338A
10.00	22.0	10.0	95.0	528g	-0310A	-0340A
12.00	26.0	12.0	110.0	736g	-0312A	-0342A
16.00	32.0	16.0	123.0	1734g	-0316A	-0346A
20.00	38.0	20.0	141.0	3064g	-0320A	-0350A
25.00	45.0	25.0	166.0	5550g	-	-0355A

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 05****Short Series** Dimensions to **DIN 327**

Dia. (mm)	Flute Length (mm)	Shank Dia. (mm)	Overall Length (mm)	Weight per 10	SDH-3WS HSS-Co 8%	SDN-3WS TiCN Coated	SDL-3WS TiAlN Coated
					Order Code SWT-163	Order Code SWT-163	Order Code SWT-163
2.00	4.0	6.0	48.0	107g	-0502A	-0532A	-0562A
3.00	5.0	6.0	49.0	109g	-0503A	-0533A	-0563A
4.00	7.0	6.0	51.0	112g	-0504A	-0534A	-0564A
5.00	8.0	6.0	52.0	117g	-0505A	-0535A	-0565A
6.00	8.0	6.0	52.0	123g	-0506A	-0536A	-0566A
7.00	10.0	10.0	60.0	339g	-0507A	-0537A	-0567A
8.00	11.0	10.0	61.0	353g	-0508A	-0538A	-0568A
9.00	11.0	10.0	61.0	355g	-0509A	-	-
10.00	13.0	10.0	63.0	382g	-0510A	-0540A	-0570A
12.00	16.0	12.0	73.0	617g	-0512A	-0542A	-0572A
14.00	16.0	12.0	73.0	688g	-0514A	-0544A	-0574A
16.00	19.0	16.0	79.0	1220g	-0516A	-0546A	-0576A
20.00	22.0	20.0	88.0	1894g	-0520A	-0550A	-
25.00	26.0	25.0	102.0	3388g	-0525A	-	-0585A

**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 07****Long Series** Dimensions to **DIN 844**

Dia. (mm)	Flute Length (mm)	Shank Dia. (mm)	Overall Length (mm)	Weight per 10	SDH-3WL HSS-Co 8%	SDN-3WL TiCN Coated	SDL-3WL TiAlN Coated
					Order Code SWT-163	Order Code SWT-163	Order Code SWT-163
3.00	12.0	6.0	56.0	49g	-0703A	-0733A	-0763A
4.00	19.0	6.0	63.0	59g	-0704A	-0734A	-0764A
5.00	24.0	6.0	68.0	69g	-0705A	-	-
6.00	24.0	6.0	68.0	72g	-0706A	-0736A	-0766A
8.00	38.0	10.0	88.0	206g	-0708A	-0738A	-0768A
10.00	45.0	10.0	95.0	245g	-0710A	-0740A	-0770A
12.00	53.0	12.0	110.0	379g	-0712A	-0742A	-0772A
14.00	53.0	12.0	110.0	420g	-0714A	-0744A	-0774A
16.00	63.0	16.0	123.0	746g	-0716A	-0746A	-0776A
20.00	75.0	20.0	141.0	1314g	-0720A	-	-
22.00	75.0	20.0	141.0	1425g	-0722A	-	-
25.00	90.0	25.0	166.0	2415g	-0725A	-	-

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

SHANK MILLING CUTTERS

SWISS+TECH

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	-0925A ⁽¹⁾	-0955A ⁽²⁾	-0985A ⁽³⁾

⁽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

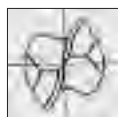
HSS-Co 8% Weldon Shank Ball
Nose Slot Drills 2 Flute

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

SBH-2WS HSS-Co 8%

HSS-Co 8% Weldon Shank 50° High Helix End
Mills 3 Flute

Centre cutting.

Weldon shank to DIN 1835B.

Cutting diameter to e8.

Shank diameter to h6.

HSS-Co 8%

new



Series 13

Regular Series Dimensions to DIN 844

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No of Flutes	Weight per 5	Order Code SWT-163
6.00	13.0	6.0	57.0	3	54g	-1306A
8.00	19.0	10.0	69.0	3	186g	-1308A
10.00	22.0	10.0	72.0	3	225g	-1310A
12.00	26.0	12.0	83.0	3	340g	-1312A
16.00	32.0	16.0	92.0	3	619g	-1316A
20.00	38.0	20.0	104.0	3	1079g	-1320A

EHH-3WR HSS-Co 8%



SWISS+TECH**HSS-Co 8% Weldon Shank
Coarse Pitch Ripper Cutters****HSS-Co 8%****TiCN**

For general production machining. Centre cutting.
Weldon shank to **DIN 1835B**.
Cutting diameter to **js12**.
Shank diameter to **h6**.

**Series 17****Regular Series** Dimensions to **DIN 844**

Dia. (mm)	Flute Length (mm)	Shank Dia. (mm)	Overall Length (mm)	No. of Flutes	Weight Per 5	RCH-4WR HSS-Co 8%	RCN-4WR TiCN Coated
						Order Code SWT-163	Order Code SWT-163
6.00	13.0	6.0	57.0	3	129g	-1706A⁽¹⁾	-1736A⁽²⁾
8.00	19.0	10.0	69.0	3	311g	-1708A⁽¹⁾	-1738A⁽²⁾
10.00	22.0	10.0	72.0	4	337g	-1710A	-1740A
12.00	26.0	12.0	83.0	4	690g	-1712A	-1742A
16.00	32.0	16.0	92.0	4	1280g	-1716A	-1746A
20.00	38.0	20.0	104.0	4	2224g	-1720A	-
25.00	45.0	25.0	121.0	5	4074g	-1725A⁽⁴⁾	-

⁽¹⁾ RCH-3WL HSS-Co 8%**HSS-Co 8% Weldon Shank Coarse Pitch
Ripper Cutters**

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

HSS-Co 8%**TiCN****Series 18****Long Series** Dimensions to **DIN 844**

Dia. (mm)	Flute Length (mm)	Shank Dia. (mm)	Overall Length (mm)	No. of Flutes	Weight Per 5	RCH-4WL HSS-Co 8%	RCN-4WL TiCN Coated
						Order Code SWT-163	Order Code SWT-163
8.00	38.0	10.0	88.0	3	215g	-1808A⁽¹⁾	-1838A⁽²⁾
10.00	45.0	10.0	95.0	4	259g	-1810A	-
12.00	53.0	12.0	110.0	4	401g	-1812A	-
16.00	63.0	16.0	123.0	4	804g	-1816A	-
20.00	75.0	20.0	141.0	4	1132g	-1820A	-
25.00	90.0	25.0	166.0	5	2627g	-1825A⁽⁴⁾	-

⁽¹⁾ RCH-3WL HSS-Co 8%⁽²⁾ RCN-3WL TiCN Coated⁽⁴⁾ RCH-5WL HSS-Co 8%**HSS-Co 8% Weldon Shank Coarse Pitch
37° High Helix for Aluminium
Roughing End Mills 3 Flute**

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

HSS-Co 8%**TiCN****Series 20****Regular Length** Dimensions to **DIN 844**

Dia. (mm)	Flute Length (mm)	Shank Dia. (mm)	Overall Length (mm)	Weight each	RHH-3WR HSS-Co 8%	RHN-3WR TiN
					Order Code SWT-163	Order Code SWT-163
6.00	13.0	6.0	57.0	12g	-2006A	-
8.00	19.0	10.0	69.0	36g	-	-2028A
10.00	22.0	10.0	72.0	40g	-2010A	-2030A
12.00	26.0	12.0	83.0	67g	-2012A	-2032A
16.00	32.0	16.0	93.0	124g	-2016A	-2036A
20.00	38.0	20.0	104.0	215g	-2020A	-2040A

**HSS-Co 8% Weldon Shank
42° High Helix Slot Drills 2 Flute
For Aluminium**

For general production machining. Centre cutting.
Weldon shank to **DIN 1835B**.
Shank cutting diameter to +0.04 -0.0.

HSS-Co 8%**Series 15****Regular Length** Dimensions to **DIN 844**

Dia. (mm)	Flute Length	Shank Diameter	Overall Length	Weight per 5	Order Code SWT-163
3.00	8.0	6.0	52.0	55g	-1503A
4.00	11.0	6.0	55.0	56g	-1504A
5.00	13.0	6.0	57.0	60g	-1505A
6.00	13.0	6.0	57.0	62g	-1506A
8.00	19.0	10.0	69.0	175g	-1508A
10.00	22.0	10.0	72.0	190g	-1510A
12.00	26.0	12.0	83.0	326g	-1512A
16.00	32.0	16.0	92.0	603g	-1516A
20.00	38.0	20.0	104.0	1054g	-1520A

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SWISS+TECH

HSS-Co 8% Weldon Shank
Fine Pitch Ripper Cutters

Centre cutting.
Weldon shank to **DIN 1835B**.
Cutting diameter to **js12**.
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 25

Regular Series Dimensions to DIN 844

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No. of Flutes	Weight per 5	RFH-4WR HSS-Co 8%	RFN-4WR TiCN Coated	RFL-4WR TiAlN Coated
						Order Code SWT-163	Order Code SWT-163	Order Code SWT-163
6.00	13.0	6.0	57.0	3	65g	-2506A ⁽¹⁾	-2536A ⁽²⁾	-2566A ⁽³⁾
8.00	19.0	10.0	69.0	3	186g	-2508A ⁽¹⁾	-2538A ⁽²⁾	-2568A ⁽³⁾
10.00	22.0	10.0	72.0	4	212g	-2510A	-2540A	-2570A
12.00	26.0	12.0	83.0	4	356g	-2512A	-2542A	-2572A
14.00	30.0	14.0	84.0	4	-	-	-2544A	-
16.00	32.0	16.0	92.0	4	642g	-2516A	-2546A	-2576A
20.00	38.0	20.0	104.0	4	1123g	-2520A	-2550A	-2580A
22.00	45.0	22.0	105.0	5	-	-	-2552A	-
25.00	45.0	25.0	121.0	5	1310g	-2525A ⁽⁴⁾	-2555A ⁽⁵⁾	-2585A ⁽⁶⁾

⁽¹⁾ RFH-3WR HSS Co 8%⁽²⁾ RFN-3WR TiCN Coated⁽³⁾ RFL-3WR TiAlN Coated

Series 26

Long Series Dimensions to DIN 844

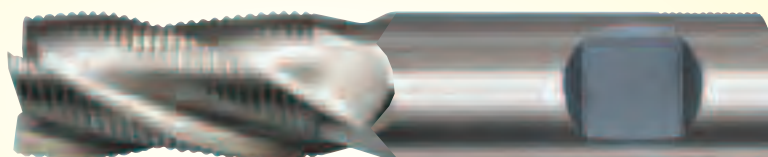
Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No. of Flutes	Weight per 5	RFH-4WL HSS-Co 8%	RFN-4WL TiCN Coated
						Order Code SWT-163	Order Code SWT-163
6.00	24.0	6.0	68.0	3	80g	-2606A ⁽¹⁾	-
8.00	38.0	10.0	88.0	3	212g	-2608A ⁽¹⁾	-2638A ⁽²⁾
10.00	45.0	10.0	95.0	4	264g	-2610A	-2640A
12.00	53.0	12.0	110.0	4	408g	-2612A	-2642A
16.00	63.0	16.0	123.0	4	790g	-2616A	-2646A
20.00	75.0	20.0	141.0	4	1411g	-2620A	-2650A
25.00	90.0	25.0	166.0	5	2954g	-	-2655A ⁽²⁾

⁽¹⁾ RFH-3WL HSS Co 8%⁽²⁾ RFN-3WL TiCN Coated⁽⁵⁾ RFN-5WL TiCN CoatedHSS-EV Weldon Shank Fine
Pitch Ripper Cutters

FINE PITCH

HSS-EV

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**.



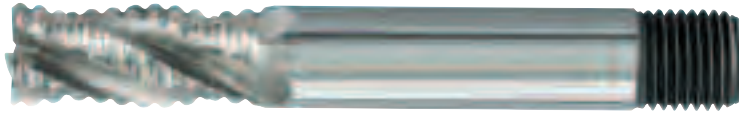
Regular Series

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

new

HSS-Co 8% Threaded Shank Coarse Pitch Roughing End Mills

Centre cutting.

Threaded shank to **DIN 1835D**.Cutting diameter to **js12**.Shank diameter to **h6**.**new****Series 42****Regular Series** Dimensions to **DIN 844**

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No of Flutes	Weight each	RCH-4TR HSS-Co 8%	RCN-4TR TiCN Coated
						Order Code SWT-163	Order Code SWT-163
6.00	13.0	6.0	57.0	3	12g	-4206A ⁽¹⁾	-
8.00	19.0	10.0	69.0	3	36g	-4208A ⁽¹⁾	-
10.00	22.0	10.0	72.0	4	42g	-4210A	-4240A
12.00	26.0	12.0	83.0	4	68g	-4212A	-4242A
16.00	32.0	16.0	92.0	4	128g	-4216A	-4246A
20.00	38.0	20.0	104.0	4	225g	-4220A	-4250A
25.00	45.0	25.0	121.0	5	470g	-4225A ⁽⁴⁾	-

⁽¹⁾ RCH-3TR HSS Co 8% ⁽²⁾ RCN-3TR TiCN Coated ⁽³⁾ RCL-3TR TiAlN Coated ⁽⁴⁾ RCH-5TR HSS Co 8% ⁽⁵⁾ RCN-5TR TiCN Coated ⁽⁶⁾ RCL-5TR TiAlN Coated

new**Series 43****Long Series** Dimensions to **DIN 844**

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No of Flutes	Weight each	RCH-4TL HSS-Co 8%
						Order Code SWT-163
6.00	24.0	6.0	68.0	3	13g	-4306A ⁽¹⁾
10.00	45.0	10.0	95.0	4	53g	-4310A
12.00	53.0	12.0	110.0	4	81g	-4312A
16.00	63.0	16.0	123.0	4	128g	-4316A
20.00	75.0	20.0	141.0	4	280g	-4320A

⁽¹⁾ RMH-3TL HSS Co 8% ⁽²⁾ RMN-3TL TiCN Coated ⁽³⁾ RML-3TL TiAlN Coated ⁽⁴⁾ RMH-5TL HSS Co 8% ⁽⁵⁾ RMN-5TL TiCN Coated ⁽⁶⁾ RML-5TL TiAlN Coated

**HSS-E Weldon Shank Coarse Pitch Ripper Cutters**

lapping 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**.**COARSE 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

Group **960****PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR**



Carbide Micrograin Plain Shank Milling Cutters

CARBIDE



2 Flute

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 **Works 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

Regular Series - Metric

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code KEN-161
1.00	3.0	40.0	4.0	15g	-0020K
1.50	4.0	40.0	4.0	15g	-0030K
2.00	8.0	32.0	2.0	15g	-0040K
2.50	8.0	32.0	2.5	15g	-0050K
3.00	12.0	32.0	3.0	15g	-0060K
3.50	12.0	32.0	3.5	20g	-0070K
4.00	12.0	40.0	4.0	20g	-0080K
4.50	14.0	50.0	4.5	20g	-0090K
5.00	14.0	50.0	5.0	30g	-0100K
6.00	16.0	50.0	6.0	35g	-0120K
7.00	20.0	60.0	7.0	40g	-0140K
8.00	20.0	60.0	8.0	40g	-0160K
9.00	20.0	60.0	9.0	60g	-0180K
10.00	22.0	70.0	10.0	100g	-0200K
11.00	22.0	70.0	11.0	120g	-0220K
12.00	22.0	70.0	12.0	130g	-0240K
14.00	25.0	75.0	14.0	180g	-0280K
16.00	25.0	75.0	16.0	230g	-0320K
18.00	25.0	75.0	18.0	230g	-0360K
20.00	32.0	100.0	20.0	240g	-0400K



Regular Series - Inch

Diameter (Inch)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code KEN-161
1/8"	1/2"	1 1/2"	1/8"	10g	-0580K
3/16"	5/8"	2"	3/16"	20g	-0620K
1/4"	3/4"	2 1/2"	1/4"	30g	-0660K
5/16"	13/16"	2 1/2"	5/16"	45g	-0700K
3/8"	1"	2 1/2"	3/8"	60g	-0740K
1/2"	1"	3"	1/2"	165g	-0820K
3/4"	1 1/2"	4"	1"	640g	-0980K

3 Flute

Centre cutting as standard. Offer a combination of advantages achieved with two and four flutes giving profile and peripheral milling capability in addition to slotting and plunging. Manufactured to **Works Standards**.

CARBIDE



Regular Series - Metric

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code KEN-161
1.00	3.0	40.0	4.0	15g	-3020K
1.50	4.5	40.0	4.0	15g	-3030K
2.00	8.0	32.0	2.0	15g	-3040K
2.50	8.0	32.0	2.5	15g	-3050K
3.00	12.0	32.0	3.0	15g	-3060K
3.50	12.0	32.0	3.5	20g	-3070K
4.00	14.0	40.0	4.0	20g	-3080K
4.50	14.0	50.0	4.5	20g	-3090K
5.00	14.0	50.0	5.0	30g	-3100K
6.00	16.0	50.0	6.0	35g	-3120K
7.00	20.0	60.0	7.0	40g	-3140K

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code KEN-161
8.00	20.0	60.0	8.0	40g	-3160K
9.00	20.0	60.0	10.0	60g	-3180K
10.00	22.0	70.0	10.0	100g	-3200K
11.00	22.0	70.0	11.0	120g	-3220K
12.00	22.0	70.0	12.0	130g	-3240K
14.00	25.0	75.0	14.0	180g	-3280K
16.00	25.0	75.0	16.0	230g	-3320K
18.00	25.0	75.0	18.0	230g	-3360K
20.00	32.0	100.0	20.0	240g	-3400K
25.00	38.0	150.0	25.0	640g	-3500K

4 Flute

Centre cutting as standard. 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. Manufactured to **Works Standards**.

CARBIDE

Regular Series - Metric

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code KEN-161
1.00	3.0	40.0	4.0	15g	-6020K
1.50	4.5	40.0	4.0	15g	-6030K
2.00	8.0	32.0	2.0	15g	-6040K
2.50	9.5	32.0	2.5	15g	-6050K
3.00	12.0	32.0	3.0	15g	-6060K
3.50	12.0	32.0	3.5	20g	-6070K
4.00	14.0	40.0	4.0	20g	-6080K
4.50	14.0	50.0	4.5	20g	-6090K
5.00	14.0	50.0	5.0	30g	-6100K
6.00	16.0	50.0	6.0	35g	-6120K
7.00	20.0	60.0	7.0	40g	-6140K
8.00	20.0	60.0	8.0	40g	-6160K
9.00	20.0	60.0	9.0	60g	-6180K
10.00	22.0	70.0	10.0	100g	-6200K
11.00	22.0	70.0	11.0	120g	-6220K
12.00	22.0	70.0	12.0	130g	-6240K
14.00	25.0	75.0	14.0	180g	-6280K
16.00	25.0	75.0	16.0	230g	-6320K
18.00	25.0	75.0	18.0	230g	-6360K
20.00	32.0	100.0	20.0	240g	-6400K
25.00	38.0	100.0	25.0	640g	-6500K



Regular Series - Inch

Diameter (Inch)	Flute Length	Overall Length	Shank Dia.	Weight Each	Order Code KEN-161
1/16"	3/16"	1 1/2"	1/8"	10g	-6540K
3/32"	3/8"	1 1/2"	1/8"	10g	-6560K
1/8"	1/2"	1 1/2"	1/8"	10g	-6580K
3/16"	5/8"	2"	3/16"	20g	-6620K
7/32"	5/8"	2 1/2"	1/4"	30g	-6640K
1/4"	3/4"	2 1/2"	1/4"	30g	-6660K
5/16"	13/16"	2 1/2"	5/16"	45g	-6700K
3/8"	1"	2 1/2"	3/8"	60g	-6740K
1/2"	1"	3"	1/2"	165g	-6820K

SHANK MILLING CUTTERS

SWISS+TECH

Carbide Plain Shank
Milling Cutters

Centre cutting. To Manufacturers Standards.



Series 45

2 Flute - Short Series Dimensions to DIN 6535 HA

Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Weight each
2.00	8.0	32.0	2.0	3g
2.50	8.0	32.0	2.5	4g
3.00	12.0	32.0	3.0	4g
4.00	12.0	40.0	4.0	7g
5.00	14.0	50.0	5.0	13g
6.00	16.0	50.0	6.0	18g
7.00	20.0	60.0	7.0	37g
8.00	20.0	60.0	8.0	37g
9.00	20.0	60.0	9.0	49g
10.00	22.0	70.0	10.0	68g
12.00	22.0	70.0	12.0	96g
14.00	25.0	75.0	14.0	134g
16.00	25.0	75.0	16.0	172g

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.

SDC-2PS Carbide

SDT-2PS TiCN Coated

Order Code SWT-161	Order Code SWT-161
-4502A	-4532A
-4502L	-
-4503A	-4533A
-4504A	-
-4505A	-4535A
-4506A	-4536A
-4507A	-4537A
-4508A	-4538A
-4509A	-4539A
-4510A	-4540A
-4512A	-4542A
-4514A	-4544A
-4516A	-4546A

Series 48

3 Flute - Short Series



CARBIDE

TiCN

TiAlN



SDC-3PS Carbide

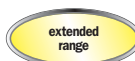
SDT-3PS TiCN Coated

SDL-3PS TiAlN Coated

Order Code SWT-161	Order Code SWT-161	Order Code SWT-161
-4801A	-	-
-4801L	-	-
-4802A	-4832A	-4862A
-4802L	-4832L	-
-4803A	-4833A	-4863A
-4803L	-4833L	-
-4804A	-4834A	-4864A
-4804L	-4834L	-
-4805A	-4835A	-4865A
-4805L	-	-
-4806A	-4836A	-4866A
-4806L	-	-
-4807A	-	-
-4807L	-	-4867L
-4808A	-4838A	-4868A
-4809A	-4839A	-4869A
-4810A	-4840A	-4870A
-	-	-4871A
-4812A	-4842A	-4872A
-	-4844A	-
-4816A	-	-4876A
-4820A	-	-

Series 50

4 Flute - Short Series



CARBIDE

TiCN



EMC-4PS Carbide

EMT-4PS TiCN Coated

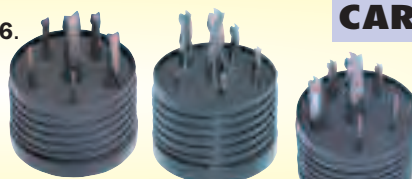
Order Code SWT-161	Order Code SWT-161
-5002A	-5032A
-5002L	-
-5003A	-5033A
-5003L	-
-5004A	-5034A
-5005A	-5035A
-5006A	-5036A
-5006L	-
-5007A	-5037A
-5007L	-
-5008A	-5038A
-5009A	-5039A
-5010A	-5040A
-5011A	-5041A
-5012A	-5042A
-5014A	-5044A
-5016A	-5046A
-5020A	-5050A
-5025A	-5055A

6 Piece Sets

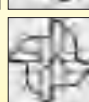
Dimensions to DIN 844. Cutting diameter to js12. Shank diameter to h6.

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

Number of Flutes	Series Number	Order Code SWT-161
2	45	-4526A
3	48	-4890A
4	50	-5028A



CARBIDE

6
PIECES

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

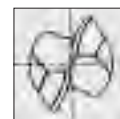


Carbide Micrograin Plain Shank Slot Drills 2 Flute Ball Nosed

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**.

CARBIDE

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

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

CARBIDE

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

Carbide Plain Shank Slot Drills 2 Flute Ball Nosed

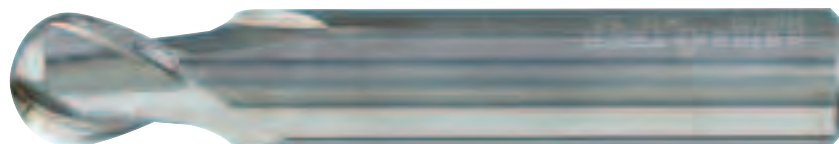
Centre cutting.
To **Manufacturers Standards**.

Carbide Uncoated

For general production machining.

TiCN Coated

Extends cutter tool life and improves work material surface finish.

CARBIDE TiCN

Series 53 Short Series

Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Weight each	SBC-2PS Carbide		SBT-2PS TiCN Coated	
					Order Code SWT-161		Order Code SWT-161	
2.00	4.0	48.0	6.0	17g	-5302A		-	
3.00	4.0	48.0	6.0	18g	-5303A		-5333A	
4.00	6.0	50.0	6.0	19g	-5304A		-5334A	
5.00	7.0	51.0	6.0	20g	-5305A		-	
6.00	7.0	51.0	6.0	20g	-5306A		-5336A	
8.00	9.0	59.0	8.0	40g	-5308A		-5338A	
10.00	10.0	60.0	10.0	63g	-5310A		-5340A	
12.00	14.0	71.0	12.0	103g	-5312A		-5342A	
16.00	16.0	76.0	16.0	186g	-5316A		-	



SHANK MILLING CUTTERS

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 - 3 Flute

CARBIDE



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

Long Series - 4 Flute

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

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 price/1 a combination of the advantages achieved with two and four flutes.)

CARBIDE



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	15g	-0020K		-		-	
1.50	5.0	39.0	3.0		-0030K		-		-	
2.00	7.0	39.0	3.0		-0040K		-		-	
2.50	8.0	39.0	3.0		-0050K		-		-	
3.00	10.0	39.0	3.0	15g	-0060K		-3040K		-6040K	
3.50	12.0	51.0	4.0		-0070K		-3050K		-6050K	
4.00	14.0	51.0	4.0		-0080K		-3060K		-6060K	
4.50	14.0	51.0	5.0		-		-3070K		-	
5.00	16.0	51.0	5.0	30g	-0100K		-3080K		-6080K	
5.50	19.0	64.0	6.0		-		-3090K		-	
6.00	19.0	64.0	6.0		-0120K		-3100K		-6100K	
6.50	19.0	70.0	8.0		-		-3110K		-	
7.00	19.0	64.0	8.0	40g	-0140K		-3120K		-6120K	
8.00	21.0	64.0	8.0		-0160K		-3130K		-6130K	
9.00	22.0	70.0	10.0		-0180K		-3140K		-6140K	
10.00	25.0	70.0	10.0		-0200K		-3160K		-6160K	
12.00	25.0	76.0	12.0	130g	-0240K		-3180K		-6180K	
13.00	30.0	89.0	14.0		-		-3200K		-6200K	
14.00	30.0	89.0	14.0		-0280K		-3240K		-6240K	
16.00	32.0	89.0	16.0		-0320K		-3260K		-	
20.00	38.0	100.0	20.0	240g	-0400K		-3280K		-6280K	
							-3320K		-6320K	
							-3400K		-6400K	

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

Centre cutting. To **Manufacturers Standards**
Cutting diameter to **h10**. Shank diameter to **h6**.



new



Series 56 Short Series

Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Weight each	EBC-4PS Carbide	EBT-4PS TiCN Coated
					Order Code SWT-161	Order Code SWT-161
2.00	4.0	48.0	3.0	17g	-5602A	-5632A
3.00	4.0	48.0	6.0	18g	-5603A	-5633A
4.00	6.0	50.0	6.0	19g	-5604A	-5634A
5.00	7.0	51.0	6.0	20g	-5605A	-5635A
6.00	7.0	51.0	6.0	21g	-5606A	-5636A
8.00	9.0	59.0	8.0	42g	-5608A	-5638A
10.00	10.0	60.0	10.0	65g	-5610A	-5640A
12.00	14.0	71.0	12.0	106g	-	-5642A

Carbide Plain Shank Slot Drills 3 Flute High Helix

Centre cutting.
To **Manufacturers Standards**.



new



Series 58 Regular Series

Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Weight each	SHC-3PR Carbide	SHT-3PR TiCN Coated
					Order Code SWT-161	Order Code SWT-161
6.00	16.0	50.0	6.0	18g	-5806A	-5836A
8.00	19.0	60.0	6.0	37g	-5808A	-5838A
10.00	22.0	60.0	10.0	66g	-5810A	-5840A
12.00	26.0	60.0	10.0	104g	-5812A	-
16.00	25.0	75.0	16.0	361g	-5816A	-

Carbide Micrograin Plain Shank Slot Drills Ball Nosed



4 Flute

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		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



Regular Series - 4 Flute - Metric

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code KEN-161	Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code KEN-161
2.0	6.3	38.0	3.0	10g	-7040K	7.0	19.0	63.0	8.0	45g	-7140K
3.0	12.0	38.0	3.0	10g	-7060K	8.0	20.0	63.0	8.0	55g	-7160K
4.0	14.0	50.0	4.0	15g	-7080K	10.0	22.0	75.0	10.0	90g	-7200K
5.0	16.0	50.0	6.0	25g	-7100K	12.0	25.0	75.0	12.0	120g	-7240K
6.0	19.0	50.0	6.0	25g	-7120K						

SWISS+TECHThe 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.

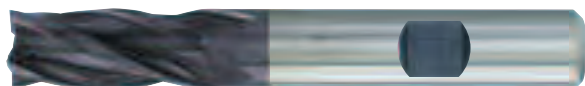
- Up to 25% higher cutting speed than HSS/HSS-Co. cutters.
- Up to 125% higher feed rates.
- Up to 100% longer cutter life.
- Reduced manufacturing costs.
- Improved productivity.
- Lower coolant usage and disposal costs.

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.

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
12.00	26.0	83.0	12.0	4	-9012A
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	-9025A ⁽¹⁾

⁽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	-9225A ⁽¹⁾

⁽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	-9625A ⁽¹⁾

⁽¹⁾ RFP-6WL PM Coated

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

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

CARBIDE Q-Coat

Centre cutting. To **Manufacturers Standards**.

Cutting diameter to **h10**. Shank diameter to **h6**.

SDQ-2PS Carbide Q-Coat.

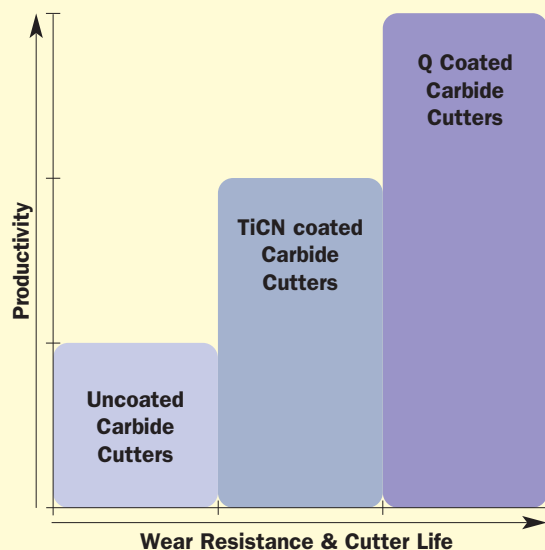


Series 62 Long Series Dimensions to DIN 844

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
16.00	50.0	110.0	16.0	-6216A
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

CARBIDE Q-Coat

Centre cutting. To **Manufacturers Standards**.

Cutting diameter to **h10**. Shank diameter to **h6**.

EMQ-4PS/L 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

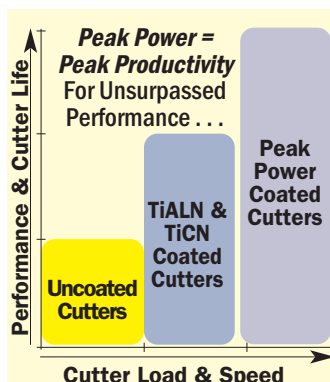
SWISS+TECH

SHANK MILLING CUTTERS - DIE & MOULD
Peak Power Coated Cutters

PEAK POWER The latest addition of the Swiss+Tech range. Manufactured from premium High Speed Steel using the latest in Powdered Metallurgy, 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 3 Flute End Mills** **HSS-E PM**

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

PEAK POWER**Series 93 Regular**

Peak Power Coated				
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
3.00	5.0	49.0	6.0	-9303A
4.00	7.0	51.0	6.0	-9304A
5.00	8.0	52.0	6.0	-9305A
6.00	8.0	52.0	6.0	-9306A
8.00	11.0	61.0	10.0	-9308A
10.00	13.0	63.0	10.0	-9310A
12.00	16.0	73.0	12.0	-9312A
16.00	19.0	79.0	16.0	-9316A
20.00	22.0	88.0	20.0	-9320A

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**

Peak Power Coated				
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 Fine Pitch Ripper Cutters **HSS-E PM**

45° high helix, fine pitch, centre cutting.
Weldon shank to **DIN 1835B**.
Shank diameter to **h6**.
Dimensions to **DIN 844**.

PEAK POWER**Series 98 Regular**

Peak Power Coated				
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
5.00	13.0	57.0	6.0	-9805A
8.00	19.0	69.0	10.0	-9808A
10.00	22.0	72.0	10.0	-9810A
12.00	26.0	83.0	12.0	-9812A
16.00	32.0	92.0	16.0	-9816A

HSS-E PM Coated 2 Flute Slot Drills**HSS-E PM****PEAK POWER**

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

**Series 91 Regular**

Peak Power Coated				
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
2.00	4.0	47.0	6.0	-9102A
4.00	7.0	51.0	6.0	-9104A
5.00	8.0	52.0	6.0	-9105A
6.00	8.0	52.0	6.0	-9106A
10.00	13.0	63.0	10.0	-9110A
12.00	16.0	73.0	12.0	-9112A
14.00	16.0	73.0	12.0	-9114A
16.00	19.0	79.0	16.0	-9116A
20.00	22.0	88.0	20.0	-9120A

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**

Peak Power Coated					
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

HSS-E PM Coated 2 Flute Ball Nosed Slot Drills**HSS-E PM****PEAK POWER**

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

**Series 97 Regular**

Peak Power Coated				
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
3.00	5.0	49.0	6.0	-9703A
4.00	7.0	51.0	6.0	-9704A
5.00	8.0	52.0	6.0	-9705A
6.00	8.0	52.0	6.0	-9706A
8.00	11.0	61.0	10.0	-9708A
12.00	16.0	73.0	12.0	-9712A
16.00	19.0	79.0	16.0	-9716A

HSS-E PM Coated Coarse Pitch Ripper Cutters**HSS-E PM****PEAK POWER**

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

**Series 99 Regular**

Peak Power Coated					
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	No. of Flutes	Order Code SWT-165
8.00	19.0	69.0	10.0	3	-9908A
10.00	22.0	72.0	10.0	4	-9910A
12.00	26.0	83.0	12.0	4	-9912A
16.00	32.0	92.0	16.0	4	-9916A
20.00	38.0	104.0	20.0	4	-9920A

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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 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 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 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

SHANK MILLING CUTTERS - DIE & MOULD

SWISS+TECH

Carbide Plain Shank End Mills
4 Flute

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

CARBIDE Q-Coat

new



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 69 52° Hi-Helix

Carbide Q -Coat

Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
6.00	15.0	60.0	6.0	-6906A
12.00	12.0	100.0	30.0	-6912A
16.00	40.0	110.0	16.0	-6916A

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.

Q-Coat

*Number varies according to the number of flutes.

CARBIDE

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	16.0	50.0	1.91	-7318A
2.00	4.0	3.0	20.0	55.0	1.89	-7320A

Series 74 Long Reach

Dia. (mm)	Shank Dia	Length of Cut	Length Below Shank	Overall Length	Neck Dia.	Order Code Carbide Q-Coat 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

new



Series 75 Regular Neck

Dia. (mm)	Shank Dia	Length of Cut	Length Below Shank	Overall Length	Neck Dia.	Order Code Carbide Q-Coat 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

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Carbide Plain Shank End Mills Ball Nosed 4 Flute

Centre cutting.
To **Manufacturers Standards**.
Cutting diameter to **e8**. Shank diameter to **h6**.
EBQ-4PR Carbide Q-Coat.

**CARBIDE****Q-Coat****Series 80 - Regular Length** Dimensions to **DIN 844**

EBQ-4PR Q-Coat				
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
2.00	5.0	50.0	6.0	-8002A
4.00	8.0	70.0	6.0	-8004A
5.00	10.0	80.0	6.0	-8005A
6.00	12.0	90.0	6.0	-8006A
8.00	14.0	100.0	8.0	-8008A
10.00	18.0	100.0	10.0	-8010A
12.00	22.0	110.0	12.0	-8012A

Carbide Plain Shank Corner Radius Slot Drills 2 Flute

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

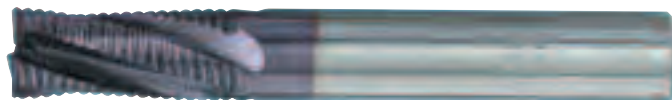
CARBIDE**Q-Coat****Series 85 Regular Series** Dimensions to **DIN 844**

SCQ-2PR Carbide Q-Coat				
Diameter x Corner Radius (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
6.00 x 0.5	20	60	6	-8504K
6.00 x 1.0	20	60	6	-8505K
8.00 x 1.0	25	70	8	-8507K
8.00 x 2.0	25	70	8	-8509K
10.00 x 1.0	30	90	10	-8511K
10.00 x 1.5	30	90	10	-8512K
12.00 x 1.0	30	90	12	-8515K
12.00 x 1.5	30	90	12	-8516K
12.00 x 2.0	30	90	12	-8517K

Carbide Plain Shank Ripper Fine Pitch

Centre cutting. To **Manufacturers Standards**.
Cutting diameter to **e8**. Shank diameter to **h6**.
RFQ-3*PR Carbide Q-Coat.

*Number varies according to the number of flutes.

CARBIDE**Q-Coat****Series 82 - Regular Length** Dimensions to **DIN 844**

RFQ-3PR Q-Coat					
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Number of Flutes	Order Code SWT-165
6.00	16.0	57.0	6.0	3.0	-8206A
8.00	16.0	63.0	8.0	3.0	-8208A
10.00	22.0	72.0	10.0	4.0	-8210A
12.00	26.0	83.0	12.0	4.0	-8212A
16.00	32.0	92.0	16.0	4.0	-8216A
20.00	38.0	104.0	20.0	4.0	-8220A

Carbide Plain Shank Corner Radius End Mills 4 Flute

Centre cutting. To **Manufacturers Standards**.
Cutting diameter to **e8**. Shank diameter to **h6**.
ECQ-4PR Carbide Q-Coat.

CARBIDE**Q-Coat****Series 86 - Regular Length**

ECQ-4PR Q-Coat				
Diameter x Corner Radius (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
6.00 x 0.5	20.0	60.0	6.0	-8604K
6.00 x 1.0	20.0	60.0	6.0	-8605K
8.00 x 0.5	25.0	70.0	8.0	-8606K
8.00 x 1.0	25.0	70.0	8.0	-8607K
8.00 x 1.5	25.0	70.0	8.0	-8608K
8.00 x 2.0	25.0	70.0	8.0	-8609K
10.00 x 0.5	30.0	90.0	10.0	-8610K
10.00 x 1.0	30.0	90.0	10.0	-8611K
10.00 x 1.5	30.0	90.0	10.0	-8612K
10.00 x 2.0	30.0	90.0	10.0	-8613K
12.00 x 0.5	30.0	90.0	12.0	-8614K
12.00 x 1.0	30.0	90.0	12.0	-8615K
12.00 x 1.5	30.0	90.0	12.0	-8616K
12.00 x 2.0	30.0	90.0	12.0	-8617K

THROWAWAY MILLING CUTTERS

HSS-Co 5% KC3 3* Flute Throwaway
Milling Cutters

Suitable for slot drilling and end milling. Cutters are held in adaptors/chucks by the action of a set screw which locates on the shank flat giving quick and easy cutter change.

*Except: 1mm cutters, 2mm and 1/16" ball nose cutters all of which have two flutes.

Diameter Metric	Tolerances	
	+	-
Over 1.00 ~ up to 3.00	0.013	0.033
Over 3.00 ~ up to 6.00	0.020	0.020

Short Series

HSS-Co 5%



Shank Diameter: 1.00 ~ 6.00 = 6.00mm, 7.00 ~ 10.00 = 10.00mm

Diameter (mm)	Flute Length	Overall Length	Chuck Clearance	Weight each	Order Code KEN-062
1.00	2.0	24.5	8.5	10g	-0010K
1.50	2.5	24.5	8.5	10g	-0020K
2.00	3.0	25.5	9.5	10g	-0040K
3.00	4.5	28.0	11.0	10g	-0080K

Diameter (mm)	Flute Length	Overall Length	Chuck Clearance	Weight each	Order Code KEN-062
4.00	6.5	32.5	12.5	10g	-0120K
5.00	7.5	36.0	13.5	10g	-0160K
6.00	9.5	36.0	15.0	10g	-0200K

Long Series

HSS-Co 5%



Diameter (mm)	Flute Length	Overall Length	Chuck Clearance	Weight each	Order Code KEN-062
2.00	4.5	29.0	11.0	10g	-1040K
3.00	7.5	34.0	14.5	10g	-1080K
3.50	8.5	36.5	15.0	10g	-1100K

Diameter (mm)	Flute Length	Overall Length	Chuck Clearance	Weight each	Order Code KEN-062
4.00	9.5	39.0	16.0	10g	-1120K
5.00	12.5	44.5	17.5	10g	-1160K
6.00	16.0	44.5	20.5	10g	-1200K

HSS-Co 5% TiCN-Coated Throwaway Milling Cutters

HSS-Co 5% TiCN

With a micro hardness of 3000HV and a maximum working temperature of 400°C, giving them a better resistance to abrasive wear than TiN coated cutters.



Short Series

Diameter (mm)	Flute Length	Overall Length	Chuck Clearance	Weight each	Order Code KEN-062
1.00	2.0	24.5	8.5	10g	-5010K
1.50	2.5	24.5	8.5	10g	-5020K
2.00	3.0	25.5	9.5	10g	-5040K
2.50	4.0	26.0	10.5	10g	-5060K

Diameter (mm)	Flute Length	Overall Length	Chuck Clearance	Weight each	Order Code KEN-062
3.00	4.5	28.0	11.0	10g	-5080K
4.00	6.5	32.5	12.5	10g	-5120K
5.00	7.5	36.0	13.5	10g	-5160K
6.00	9.5	36.0	15.0	10g	-5200K

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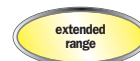


Straight Shank Machine Reamers

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

Tolerances (to H7)					
Diameter Metric	Tolerance High +	Low -	Diameter Inch	Tolerance 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

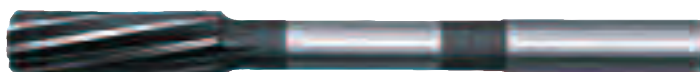
Cobalt Straight Shank Chucking Reamers

Manufactured to **DIN 212**.

Diameter (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
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

Tolerances (to H7)					
Diameter Metric	Tolerance High +	Low -	Diameter Inch	Tolerance 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 (Inch)	Flute Length	Overall Length	Weight each	Order Code SHR-065
1/8"	5/8"	2 9/16"	7g	-2604E
3/16"	2 9/32"	3 3/8"	12g	-2608J
1/4"	1 3/32"	3 31/32"	22g	-2612N

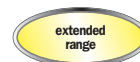
Straight Shank Parallel Hand Reamers

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 (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
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

Tolerances					
Diameter Metric	Tolerance High +	Low -	Diameter Inch	Tolerance 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 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 1 1/2" ~ up to 2"	0.0010	0.0005



HSS



Diameter (Inch)	Flute Length	Overall Length	Weight each	Order Code SHR-065
1/8"	1 5/16"	2 5/8"	6g	-2014E
5/32"	1 1/2"	3"	9g	-2016G
3/16"	1 3/4"	3 7/16"	12g	-2018J
1/4"	2"	3 15/16"	21g	-2022N
17/64"	2 1/8"	4 3/16"	28g	-2023P
9/32"	2 1/8"	4 3/16"	29g	-2024Q
5/16"	2 1/4"	4 1/2"	37g	-2026S
11/32"	2 7/16"	4 7/8"	52g	-2028V
3/8"	2 5/8"	5 1/4"	63g	-2030X
7/16"	2 13/16"	5 5/8"	95g	-2035B
1/2"	3"	6"	123g	-2039F
9/16"	3 3/16"	6 7/16"	175g	-2043K
5/8"	3 7/16"	6 7/8"	235g	-2047P
3/4"	3 15/16"	7 15/16"	393g	-2055Y
7/8"	4 3/16"	8 1/2"	570g	-2060C
1"	4 1/2"	9 1/16"	798g	-2064G



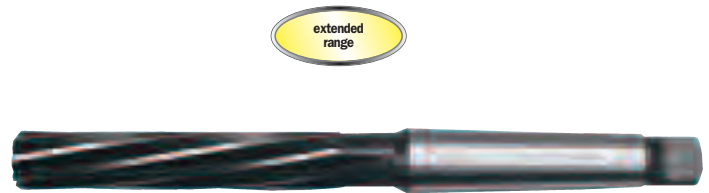
Taper Shank Machine Reamers

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			

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
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



Diameter (Inch)	Flute Length	Overall Length	Morse Taper	Weight each	Order Code SHR-065
3/16"	1 3/4"	4 7/8"	1	56g	-2254E
1/4"	2"	5 1/8"	1	64g	-2258J
5/16"	2 1/4"	5 3/8"	1	72g	-2262N
3/8"	2 5/8"	5 3/4"	1	82g	-2266S
1/2"	3"	6 1/8"	1	112g	-2275B
9/16"	3 3/16"	7 1/8"	2	215g	-2279F
5/8"	3 7/16"	7 3/8"	2	261g	-2283K
3/4"	3 15/16"	7 7/8"	2	339g	-2291T
7/8"	4 3/16"	8 1/8"	2	459g	-2295Y
1"	4 1/2"	9 1/2"	3	741g	-2300C

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**.



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**.

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



Diameter (mm)	Dia. Range		Flute Length	Overall Length	Weight each	Order Code SHR-065
	min	max				
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		Flute Length	Overall Length	Weight each	Order Code SHR-065
	min	max				
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

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR



HSS Slitting Saws
Fine/Coarse

High speed steel slitting saws are hollow ground to give the clearance necessary for deep cutting. Available in coarse and fine teeth, number of teeth specified below. Supplied with keyways as standard. Manufactured to **BS122**.

Metric



Diameter (mm)	Thickness	Bore	Teeth	Order Code SHR-072
25.00	1.00	8.0	48	-6028D
25.00	1.60	8.0	40	-6030F
32.00	0.60	8.0	64	-6045Y
40.00	1.00	10.0	64	-6067X
40.00	1.60	10.0	64	-6069Z
50.00	2.00	13.0	64	-6098E
63.00	0.40	16.0	128	-6112V
63.00	1.00	16.0	100	-6121D
80.00	1.00	22.0	100	-6149K
80.00	2.00	22.0	80	-6155R
80.00	3.00	22.0	80	-6159W
100.00	1.00	22.0	128	-6176N

Inch



Diameter (Inch)	Thickness	Bore	Teeth	Order Code SHR-072
2 1/2"	1/64"	1"	62	-5008Z
2 1/2"	3/64"	1"	62	-5011G
2 1/2"	1/16"	1"	62	-5012H
2 1/2"	3/32"	1"	26	-5014E
3"	1/64"	1"	74	-5020G
3"	1/32"	1"	74	-5020Q
3"	3/64"	1"	74	-5021R
3"	1/16"	1"	30	-5022N
3"	1/16"	1"	74	-5022S
3"	5/64"	1"	74	-5023T
3"	3/32"	1"	74	-5024V
4"	1/64"	1"	100	-5034X
4"	3/64"	1"	100	-5036M
4"	1/16"	1"	100	-5037N
4"	1/8"	1"	36	-5041H
5"	3/32"	1"	40	-5052V



Industrial Quality
Screw Extractors

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



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

Screw Extractor Sets

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

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



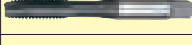
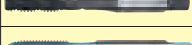
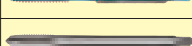
Number of Pieces	Weight each	Order Code KEN-075
4	130g	-1140K
6	250g	-1160K



HSS

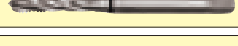
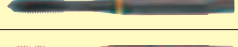
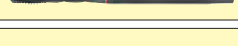
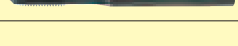
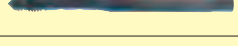
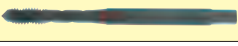
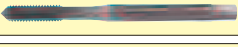
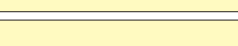


HSS Hand Taps

ISO 529	SHERWOOD		METRIC COARSE	METRIC FINE	UNC	UNF	BSW	BSF	BA	BSP	BSPT	NPT NPTF	NPS NPSF
HSS Ground Thread For Hand & General Use	Taper or Second Plug		Page 92	Page 94	Page 96	Page 98	Page 99	Page 100	Page 101	Page 102	Page 103	Page 104	Page 104
	Sets of Three		Page 92	Page 94	Page 96	Page 98	Page 99	Page 100	Page 101	Page 102	Page 103	Page 104	*
	Spiral Point/ Gun Nose		Page 93	Page 95	Page 97	Page 98	Page 99	Page 100	Page 101	Page 102	*	*	*
	Spiral Flute		Page 93	Page 95	Page 97	Page 98	Page 99	Page 100	Page 101	Page 102	*	*	*
	Fluteless		Page 93	*	Page 97	*	*	*	*	*	*	*	*
	Long Series		Page 93	*	*	*	*	*	*	*	*	*	*
	Dies		Page 92	Page 94	Page 96	Page 98	Page 99	Page 100	*	Page 102	Page 103	Page 104	*
	Die Nuts		Page 92	Page 94	Page 96	Page 98	Page 99	Page 100	*	Page 102	*	*	*
	Left Hand Taps & Dies		Page 93	*	*	*	*	*	*	*	*	*	*

*Where indicated these products are not shown in this catalogue but can be supplied on request. Please contact your local branch for more information.

Production Taps

DIN 371/6	SWISS+TECH		METRIC COARSE	BSP
BLACK RING MULTI APPLICATION	Spiral Point For Through Holes		Page 108	-
	Spiral Flute For Blind Holes		Page 108	-
YELLOW RING FOR STEELS	Spiral Point For Through Holes		Page 109	Page 109
	Spiral Flute For Blind Holes		Page 109	Page 109
BLUE RING FOR STAINLESS	Spiral Point For Through Holes		Page 110	-
	Spiral Flute - BLF For Shorter Blind Holes		Page 110	-
	Spiral Flute - BLT For Deeper Blind Holes		Page 110	-
RED RING FOR ALLOY STEELS	Spiral Point For Through Holes		Page 109	-
	Spiral Flute For Blind Holes		Page 109	-
WHITE RING FOR CAST IRON	Straight Flute For Through Holes		Page 111	-
	Straight Flute For Blind Holes		Page 111	-
PURPLE RING FOR TITANIUM ALLOYS	Left Hand Spiral Flute For Through Holes		Page 111	-
	Spiral Flute For Blind Holes		Page 111	-
ORANGE RING FOR HI-TEMP ALLOYS	Spiral Point For Through Holes		Page 111	-
	Spiral Flute For Blind Holes		Page 111	-
GREEN RING FOR ALUMINIUM ALLOYS	Spiral Point For Through Holes		Page 112	-
	Spiral Flute For Blind Holes		Page 112	-
FOR BRASS/ALUMINIUM	Fluteless For Through & Blind Holes		Page 112	-



CUTTING TOOLS



Group 144



Group 085

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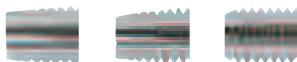


Metric Coarse HSS Ground Thread Taps

Straight Flute Individual Sizes
ISO 529



(1) Diameter and pitch not mentioned in ISO.

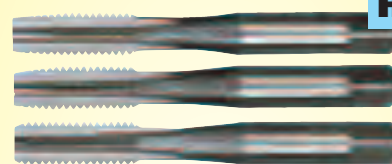


Size - Pitch (mm)	Thread Length	Overall Length	Shank Diameter	Weight each	Taper	Second	Plug
					Order Code SHR-085	Order Code SHR-085	Order Code SHR-085
M1.0 x 0.25	5.5	38.5	2.50	3g	-0100A	-0100B	-0100C
M1.6 x 0.35	8.0	41.0	2.50	3g	-0130A	-0130B	-0130C
M2.0 x 0.40	8.0	41.0	2.50	3g	-0160A	-0160B	-0160C
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 ⁽¹⁾	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 ⁽¹⁾	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 ⁽¹⁾	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

METRIC COARSE



HSS



Sets of Three

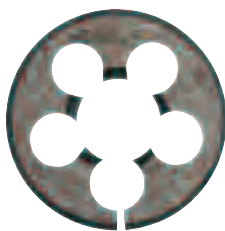
1 each, taper, second and plug lead

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

Straight Flute Long Series

Also Available in UNC/F and BSW/F Thread Forms
METRIC COARSE HSS


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

Metric Coarse Left Hand Straight Flute Ground Thread Taps

ISO 529

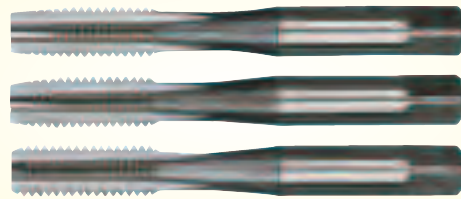
METRIC COARSE


Straight Flute Individual Sizes



Size - Pitch (mm)	Taper Order Code SHR-087	Second Order Code SHR-087	Plug Order Code SHR-087
M5.0 x 0.80	-0330L	-0330M	-0330N
M6.0 x 1.00	-0370L	-0370M	-0370N
M8.0 x 1.25	-0410L	-0410M	-0410N
M10.0 x 1.50	-0450L	-0450M	-0450N
M12.0 x 1.75	-0480L	-0480M	-0480N
M16.0 x 2.00	-0530L	-0530M	-0530N

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

HSS
LEFT HAND
METRIC COARSE


Set of 3 Order Code SHR-087		
Square AF	Tap Drill Size	Order Code
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

BS 1127

For use in diestocks to produce external screw threads.

METRIC COARSE


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

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

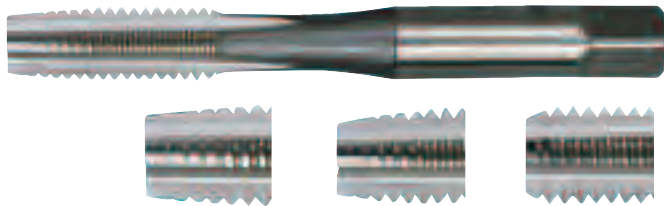


Metric Fine HSS Ground Thread Taps

ISO 529

Straight Flute Individual Sizes

(1) Diameter and pitch not mentioned in ISO.



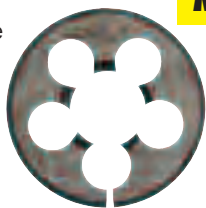
Left Hand
Also
Available

Size - Pitch (mm)	Thread Length	Overall Length	Shank Diameter	Weight each	Taper Order Code SHR-085	Second Order Code SHR-085	Plug 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

Metric Fine HSS Ground Thread Dies

BS 1127

For use in diestocks to produce
external screw threads.



HSS

METRIC FINE

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

Metric Fine HSS Ground Thread Die Nuts

BS 1127

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

HSS

METRIC FINE



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 Ground Thread Taps

HSS

ISO 529

Spiral Point/Gun Nose

METRIC FINE

† = Metric Spark Plug
* = Metric Conduit



Size - Pitch (mm)	Shank Diameter	A/F Square	Weight each	Order Code
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

METRIC FINE HSS



Size - Pitch (mm)	Shank Diameter	A/F Square	Weight each	Order Code
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.



HSS

METRIC COARSE

28
PIECES

METRIC Taps M3 ~ M12
+ Tapping Drills
2.5 ~ 10.2

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

M3 M4	M5 M6	M8 M10	M12
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Tapping Drills

(mm) 2.5	3.3 4.2	5.0 6.8	8.5 10.2
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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	Blind & Through Hole	Straight Flute (for Cast Irons)

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

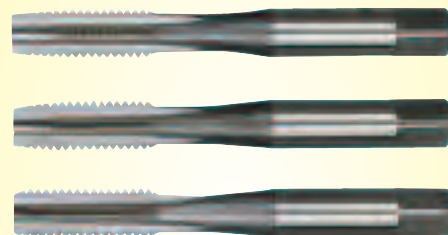
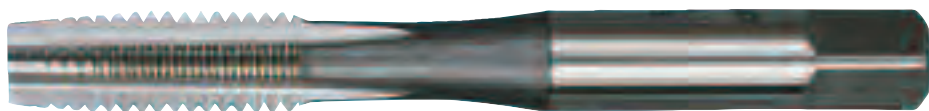
C = A constant based on % thread depth, as follows:

C	% Thread Depth
0.231	60
0.326	75
0.433	80

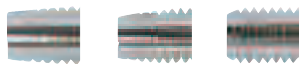
PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR



UNC HSS



Straight Flute Individual Sizes



Size - Pitch	Thread Length	Overall Length	Shank Diameter	Weight each	Taper	Second	Plug
					Order Code SHR-085	Order Code SHR-085	Order Code SHR-085
No.4 x 40	11.0	48.0	3.15	3g	-0790A	-0790B	-0790C
No.6 x 32	13.0	50.0	3.55	4g	-0810A	-0810B	-0810C
No.8 x 32	13.0	53.0	4.50	7g	-0820A	-0820B	-0820C
No.10 x 24	16.0	58.0	5.00	8g	-0830A	-0830B	-0830C
No.12 x 24	17.0	62.0	5.60	11g	-0840A	-0840B	-0840C
1/4" x 20	19.0	66.0	6.30	14g	-0850A	-0850B	-0850C
5/16" x 18	22.0	72.0	8.00	22g	-0860A	-0860B	-0860C
3/8" x 16	24.0	80.0	10.00	38g	-0870A	-0870B	-0870C
7/16" x 14	25.0	85.0	8.00	38g	-0880A	-0880B	-0880C
1/2" x 13	29.0	89.0	9.00	50g	-0890A	-0890B	-0890C
9/16" x 12	30.0	95.0	11.20	75g	-0900A	-0900B	-0900C
5/8" x 11	32.0	102.0	12.50	82g	-0910A	-0910B	-0910C
3/4" x 10	37.0	112.0	14.00	142g	-0920A	-0920B	-0920C
1" x 8	45.0	130.0	18.00	323g	-0940A	-0940B	-0940C

Square AF	Tap Drill Size	Set of 3
		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 Dies

BS 1127

For use in diestocks to produce external screw threads.

UNC HSS

Group
518

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"	1/2"	79g	-3480K
5/8" x 11	1 1/2"	1/2"	71g	-3500K
3/4" x 10	1 1/2"	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



UNC (Unified Coarse) HSS Ground Thread Taps

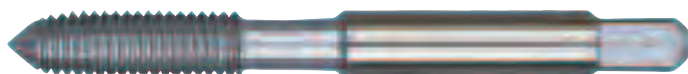
ISO 529

Spiral Point/Gun Nose

UNC **HSS**


Size - Pitch	Shank Dia.	A/F Square	Weight each	Order Code SHR-085
No.3 x 48	2.80	2.24	2g	-0780E
No.4 x 40	3.15	2.50	1g	-0790E
No.6 x 32	3.55	2.80	2g	-0810E
No.8 x 32	4.50	3.55	4g	-0820E
No.10 x 24	5.00	4.00	5g	-0830E
No.12 x 24	5.60	4.50	8g	-0840E
1/4" x 20	6.30	5.00	11g	-0850E
5/16" x 18	8.00	6.30	17g	-0860E
3/8" x 16	10.00	8.00	33g	-0870E
7/16" x 14	8.00	6.30	38g	-0880E
1/2" x 13	9.00	7.10	44g	-0890E
5/8" x 11	12.50	10.00	91g	-0910E
3/4" x 10	14.00	11.20	130g	-0920E
7/8" x 9	16.00	12.20	173g	-0930E
1" x 8	18.00	14.00	294g	-0940E

Fluteless

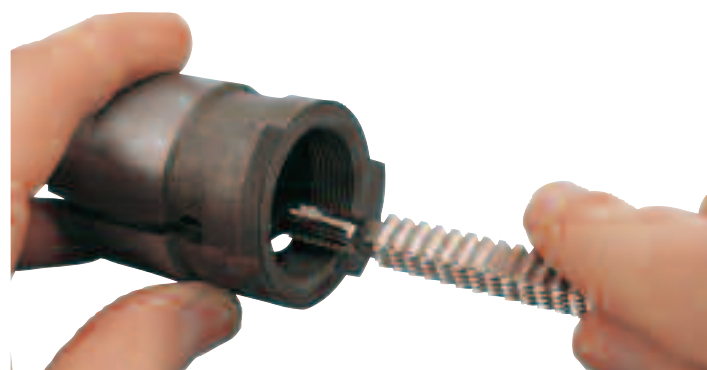
UNC **HSS**


Size-Pitch	Shank Diameter	Weight each	Order Code SHR-085
No.4 x 40	3.15	2g	-0790K
No.8 x 32	4.50	8g	-0820K
1/4" x 20	6.30	11g	-0850K

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.



Spiral Flute

HSS TAPS & DIES

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 Threading Set

UNC **HSS**

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.

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

**28
PIECES**
PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR



UNF (Unified Fine) HSS Ground Thread Taps

ISO 529

**Left Hand
Also
Available**

Sets of Three

1 each, taper, second and plug lead.



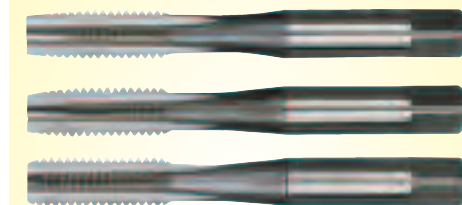
UNF

HSS



Straight Flute Individual Sizes

Size - Pitch	Thread Length	Overall Length	Shank Diameter	Taper Order Code SHR-085	Second Order Code SHR-085	Plug Order Code SHR-085
No.5 x 44	11.0	48.0	3.15	-1060A	-1060B	-
No.8 x 36	13.0	53.0	4.50	-1080A	-1080B	-
No.10 x 32	16.0	58.0	5.00	-1090A	-1090B	-1090C
No.12 x 28	17.0	62.0	5.60	-1100A	-1100B	-1100C
1/4" x 28	19.0	66.0	6.30	-1110A	-1110B	-1110C
5/16" x 24	19.0	69.0	8.00	-1120A	-1120B	-1120C
3/8" x 24	20.0	76.0	10.00	-1130A	-1130B	-1130C
7/16" x 20	25.0	85.0	8.00	-1140A	-1140B	-1140C
1/2" x 20	29.0	89.0	9.00	-1150A	-1150B	-1150C
9/16" x 18	30.0	95.0	11.20	-1160A	-1160B	-1160C
5/8" x 18	32.0	102.0	12.50	-1170A	-1170B	-1170C
3/4" x 16	37.0	112.0	14.00	-1180A	-1180B	-1180C



Square AF	Tap Drill Size	Set of 3 Order Code SHR-085
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

UNF (Unified Fine) HSS Ground Thread Taps

Spiral Point/Gun Nose

UNF HSS



Size - Pitch	Shank Dia.	A/F Square	Weight each	Order Code SHR-085
No.8 x 36	4.50	3.55	7g	-1080E
No.10 x 32	5.00	4.00	7g	-1090E
1/4" x 28	6.30	5.00	15g	-1110E
5/16" x 24	8.00	6.30	23g	-1120E
3/8" x 24	10.00	8.00	37g	-1130E
7/16" x 20	8.00	6.30	33g	-1140E
1/2" x 20	9.00	7.10	52g	-1150E
5/8" x 18	12.50	10.00	100g	-1170E
3/4" x 16	14.00	11.20	156g	-1180E

UNF (Unified Fine) HSS Ground Thread Dies

ISO 529

For use in diestocks to produce external screw threads.

UNF HSS



UNF (Unified Fine)

Size - Pitch	Outside Diameter	Thickness	Weight each	Order Code SHR-086
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 5/16"	7/16"	55g	-4640K
7/16" x 20	1"	3/8"	23g	-4520K
7/16" x 20	1 5/16"	7/16"	53g	-4650K
1/2" x 20	1 5/16"	7/16"	51g	-4660K
1/2" x 20	1 1/2"	1/2"	73g	-4780K
9/16" x 18	1 5/16"	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

Spiral Flute

UNF HSS



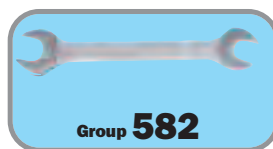
Size - Pitch	Shank Dia.	A/F Square	Weight each	Order Code SHR-085
No.10 x 32	5.00	4.00	7g	-1090F
1/4" x 28	6.30	5.00	14g	-1110F
5/16" x 24	8.00	6.30	22g	-1120F
3/8" x 24	10.00	8.00	37g	-1130F
7/16" x 20	8.00	6.30	39g	-1140F
1/2" x 20	9.00	7.10	48g	-1150F
9/16" x 18	11.20	9.00	75g	-1160F
5/8" x 18	12.50	10.00	95g	-1170F
3/4" x 16	14.00	11.20	131g	-1180F

UNF (Unified Fine) HSS Ground Thread Die Nuts

UNF HSS

BS 1127

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



UNF (Fine)

Size - Pitch	Width	Thickness	Weight each	Order Code SHR-086
1/4" x 28	0.71"	1/4"	10g	-5280K
3/8" x 24	0.92"	3/8"	24g	-5330K
7/16" x 20	1.10"	7/16"	33g	-5350K
1/2" x 20	1.10"	1/2"	44g	-5370K
9/16" x 18	1.30"	5/8"	76g	-5390K
5/8" x 18	1.30"	5/8"	72g	-5400K

BSW (British Standard Whitworth) HSS Ground Thread Taps

ISO 529



Straight Flute Individual Sizes

Size - Pitch	Thread Length	Overall Length	Shank Diameter	Weight each	Taper	Second	Plug
					Order Code SHR-085	Order Code SHR-085	Order Code SHR-085
1/8" x 40	16.0	48.0	3.15	1g	-1320A	-1320B	-1320C
3/16" x 24	16.0	58.0	5.00	8g	-1340A	-1340B	-1340C
1/4" x 20	19.0	66.0	6.30	14g	-1360A	-1360B	-1360C
5/16" x 18	22.0	72.0	8.00	23g	-1370A	-1370B	-1370C
3/8" x 16	24.0	80.0	10.00	38g	-1380A	-1380B	-1380C
7/16" x 14	25.0	85.0	8.00	37g	-1390A	-1390B	-1390C
1/2" x 12	29.0	89.0	9.00	49g	-1400A	-1400B	-1400C
5/8" x 11	32.0	102.0	12.50	98g	-1420A	-1420B	-1420C
3/4" x 10	37.0	112.0	14.00	143g	-1430A	-1430B	-1430C
1" x 8	45.0	130.0	18.00	269g	-1450A	-1450B	-1450C

**Left Hand
Also
Available**

HSS TAPS & DIES

GROUP
085

Sets of Three

1 each, taper, second and plug lead.



HSS

BSW

Square AF	Tap Drill Size	Set of 3
		Order Code SHR-085
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

BSW (British Standard Whitworth) HSS Ground Thread Taps

ISO 529

Spiral Point/Gun Nose



Size - Pitch	Shank Dia.	A/F Square	Weight each	Order Code SHR-085
1/8" x 40	3.15	2.50	3g	-1320E
3/16" x 24	5.00	4.00	8g	-1340E
1/4" x 20	6.30	5.00	15g	-1360E
5/16" x 18	8.00	6.30	23g	-1370E
3/8" x 16	10.00	8.00	38g	-1380E
7/16" x 14	8.00	6.30	25g	-1390E
5/8" x 11	12.50	10.00	62g	-1420E
3/4" x 10	14.00	11.20	85g	-1430E

Spiral Flute



Size - Pitch	Shank Dia.	A/F Square	Weight each	Order Code SHR-085
3/16" x 24	5.00	4.00	6g	-1340F
1/4" x 20	6.30	5.00	14g	-1360F
5/16" x 18	8.00	6.30	26g	-1370F
3/8" x 16	10.00	8.00	37g	-1380F
1/2" x 12	9.00	7.10	46g	-1400F
5/8" x 11	12.50	10.00	60g	-1420F
3/4" x 10	14.00	11.20	75g	-1430F

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.



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

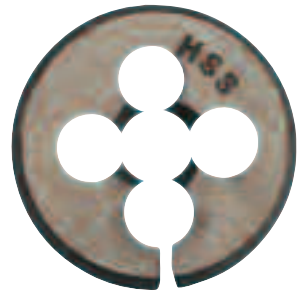
BSW HSS

**28
PIECES**

BSW (British Standard Whitworth) HSS Ground Thread Dies

BS 1127

For use in diestocks to produce external screw threads.



Size - Pitch	Outside Diameter	Thickness	Weight each	Order Code SHR-086
1/8" x 40	13/16"	1/4"	13g	-5600K
3/16" x 24	13/16"	1/4"	12g	-5620K
1/4" x 20	13/16"	1/4"	12g	-5640K
1/4" x 20	1"	3/8"	27g	-5730K
5/16" x 18	1"	3/8"	27g	-5740K
3/8" x 16	1"	3/8"	26g	-5750K
3/8" x 16	1 5/16"	7/16"	54g	-5810K
7/16" x 14	1 5/16"	7/16"	53g	-5820K
1/2" x 12	1 5/16"	7/16"	53g	-5830K
1/2" x 12	1 1/2"	1/2"	52g	-5940K
5/8" x 11	1 1/2"	1/2"	71g	-5960K
3/4" x 10	1 1/2"	1/2"	66g	-5980K

BSW (British Standard Whitworth) HSS Ground Thread Die Nuts

BS 1127

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



Size - Pitch	Width	Thickness	Weight each	Order Code SHR-086
1/4" x 20	0.71"	1/4"	10g	-6490K
5/16" x 18	0.82"	5/16"	16g	-6570K
3/8" x 16	0.92"	3/8"	25g	-6590K
7/16" x 14	1.01"	7/16"	35g	-6610K
1/2" x 12	1.10"	1/2"	44g	-6630K
5/8" x 11	1.30"	5/8"	78g	-6660K
3/4" x 10	1.48"	1 1/16"	102g	-6700K
1" x 8	2.05"	1 5/16"	265g	-6780K

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR



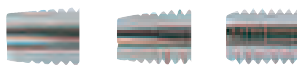
BSF (British Standard Fine) HSS Ground Thread Taps

ISO 529

**Left Hand
Also
Available**

Sets of Three

1 each, taper, second and plug lead.

**BSF****HSS**

Straight Flute Individual Sizes

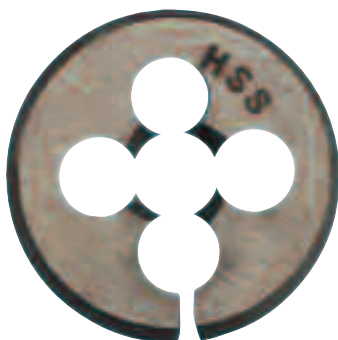
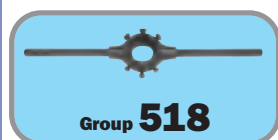
Size - Pitch	Thread Length	Overall Length	Shank Diameter	Weight each	Taper	Second	Plug
					Order Code SHR-085	Order Code SHR-085	Order Code SHR-085
3/16" x 32	16.0	58.0	5.0	8g	-1600A	-1600B	-1600C
1/4" x 26	19.0	66.0	6.3	14g	-1610A	-1610B	-1610C
5/16" x 22	22.0	72.0	8.0	23g	-1630A	-1630B	-1630C
3/8" x 20	24.0	80.0	10.0	38g	-1640A	-1640B	-1640C
7/16" x 18	25.0	85.0	8.0	24g	-1650A	-1650B	-
1/2" x 16	29.0	89.0	9.0	30g	-1660A	-1660B	-1660C
5/8" x 14	32.0	102.0	12.5	60g	-	-1680B	-1680C
3/4" x 12	37.0	112.0	14.0	85g	-1690A	-1690B	-1690C



Set of 3		
Square AF	Tap Drill Size	Order Code SHR-085
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

BSF (British Standard Fine) HSS Ground Thread Dies

BS 1127

For use in diestocks to produce
external screw threads.**BSF****HSS**

Size - Pitch	Outside Diameter	Thickness	Weight each	Order Code SHR-086
3/16" x 32	13/16"	1/4"	12g	-6950K
1/4" x 26	1"	3/8"	27g	-7020K
5/16" x 22	1"	3/8"	27g	-7030K
3/8" x 20	1"	3/8"	26g	-7040K
3/8" x 20	1 5/16"	7/16"	51g	-7100K

BSF (British Standard Fine) HSS Ground Thread Taps

ISO 529

Spiral Point/Gun Nose



Size - Pitch	Shank Dia.	A/F Square	Weight each	Order Code SHR-085
3/8" x 20	10.0	8.0	40g	-1640E
7/16" x 18	8.0	6.3	35g	-1650E
1/2" x 16	9.0	7.1	54g	-1660E

BSF (British Standard Fine) HSS Ground Thread Die Nuts

BS 1127

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

Size - Pitch	Width	Thickness	Weight each	Order Code SHR-086
1/4" x 26	0.71"	1/4"	10g	-7720K
3/8" x 20	0.92"	3/8"	24g	-7780K
1/2" x 16	1.10"	1/2"	48g	-7820K
5/8" x 14	1.30"	5/8"	78g	-7850K
3/4" x 12	1.48"	1 1/16"	108g	-7890K

BSF (British Standard Fine) HSS Ground Thread Taps

ISO 529

Spiral Flute



Size - Pitch	Shank Dia.	A/F Square	Weight each	Order Code SHR-085
1/4" x 26	6.3	5.0	15g	-1610F
3/8" x 20	10.0	8.0	40g	-1640F
1/2" x 16	9.0	7.1	50g	-1660F

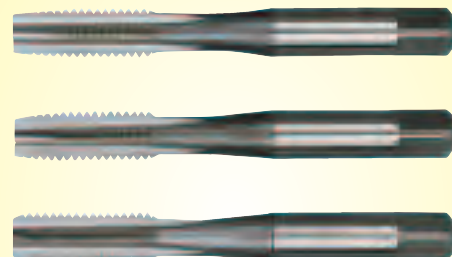


ISO 529 - 1975 (E)		
Nominal Dia. of Tap		Maximum Deviation
Over	Including	on Thread Length
-	5.5mm	+ 0.0 - 2.5
5.5mm	12.0mm	+ 0.0 - 3.2
12.0mm	39.0mm	+ 0.0 - 5.0
39.0mm	-	+ 0.0 - 6.5



Sets of Three

1 each, taper, second and plug lead.



Straight Flute Individual Sizes

Size - Pitch	Shank Diameter	Weight each	Taper	Second	Plug
			Order Code SHR-085	Order Code SHR-085	Order Code SHR-085
No.2 x 0.0319	5.00	8g	-1820A	-1820B	-1820C
No.4 x 0.0260	3.55	4g	-1840A	-1840B	-1840C
No.6 x 0.0209	2.80	3g	-1860A	-1860B	-1860C
No.12 x 0.0110	2.50	3g	-	-	-1920C

Square AF	Tap Drill Size	Set of 3 Order Code SHR-085
5.00	5.10	-1800D
4.00	4.00	-1820D
2.80	3.00	-1840D
2.50	2.65	-1850D
2.24	2.30	-1860D
2.24	1.80	-1880D

Spiral Point/Gun Nose



Size - Pitch	Shank Dia.	A/F Square	Weight each	Order Code SHR-085
No.2 x 0.0319	5.00	4.00	9g	-1820E
No.4 x 0.0260	3.55	2.80	4g	-1840E
No.6 x 0.0209	2.80	2.24	3g	-1860E
No.8 x 0.0169	2.80	2.24	3g	-1880E

Spiral Flute



Size - Pitch	Shank Dia.	A/F Square	Weight each	Order Code SHR-085
No.0 x 0.0394	6.30	5.00	14g	-1800F
No.2 x 0.0319	5.00	4.00	6g	-1820F
No.4 x 0.0260	3.55	2.80	4g	-1840F
No.8 x 0.0169	2.80	2.24	3g	-1880F



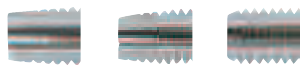
BSP(F) (British Standard Pipe Fitting) HSS Ground Thread Taps

ISO 529

**Left Hand
Also
Available**

Sets of Three

1 each, taper, second and plug lead.

**BSP****HSS**

Straight Flute Individual Sizes

Size - Pitch	Thread Length (mm)	Overall Length (mm)	Shank Diameter (mm)	Weight each	Taper	Second	Plug
					Order Code SHR-085	Order Code SHR-085	Order Code SHR-085
1/8" x 28	15.0	59.0	8.0	26g	-2010A	-2010B	-2010C
1/4" x 19	19.0	67.0	10.0	47g	-2020A	-2020B	-2020C
3/8" x 19	21.0	75.0	12.5	75g	-2030A	-2030B	-2030C
1/2" x 14	26.0	87.0	16.0	137g	-2040A	-2040B	-2040C
3/4" x 14	28.0	96.0	20.0	228g	-2060A	-2060B	-2060C
7/8" x 14	29.0	102.0	22.4	228g	-	-2070B	-
1" x 11	33.0	109.0	25.0	446g	-2080A	-2080B	-2080C

Square AF	Tap Drill Size	Set of 3
		Order Code SHR-085
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

ISO 529

Spiral Point/Gun Nose

BSP**HSS**

Size - Pitch	Shank Dia. (mm)	A/F Square (mm)	Weight each	Order Code SHR-085
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 Dies

BS 1127

For use in diestocks to produce
external screw threads.**BSP****HSS**

Size - Pitch	Outside Diameter	Thickness	Weight each	Order Code SHR-086
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 Taps

ISO 529

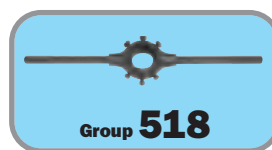
Spiral Flute

BSP**HSS**

Size - Pitch	Shank Dia. (mm)	A/F Square (mm)	Weight each	Order Code SHR-085
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 Die Nuts

BS 1127

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

Size - Pitch	Width	Thickness	Weight each	Order Code SHR-086
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



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":

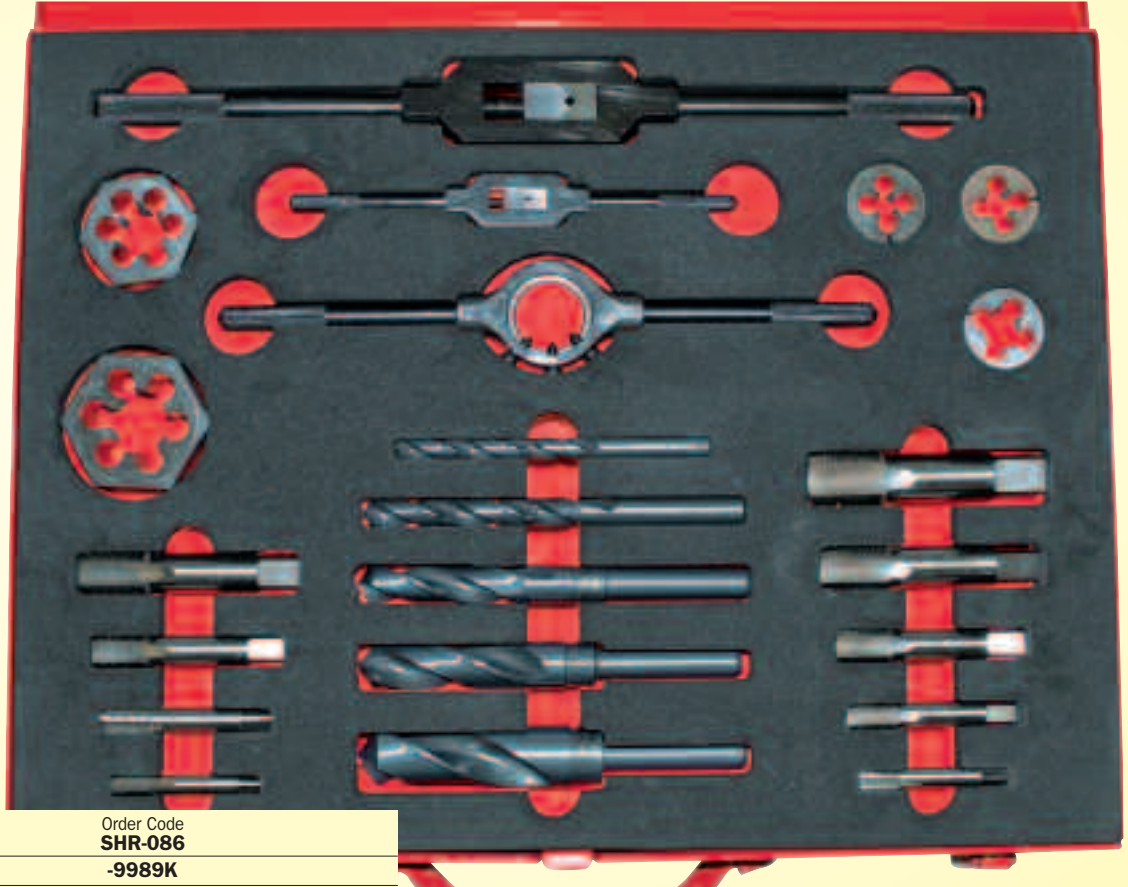
15.25, 19.00 and 24.50mm.

Holders: 1 5/16" outside diameter diestock.

Traditional Tap Wrenches:

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

**22
PIECES**



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

BSPT (British Standard Pipe Taper) HSS Ground Thread Taps

ISO 529

Straight Flute

BSPT HSS

**Left Hand
Also
Available**



R = With Reamer

NR = Without Reamer

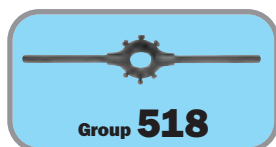
Size - Pitch	Thread Length (mm)	Shank Diameter (mm)	Overall Length (mm)	Weight each	Square AF	Tap Drill Size R	Size (mm) NR	Taper Order Code SHR-085	Second Order Code SHR-085	Plug Order Code SHR-085
1/8" x 28	15.0	8.0	59.0	29g	6.30	8.00	8.40	-	-	-2200C
1/4" x 19	19.0	10.0	67.0	50g	8.00	10.80	11.20	-	-	-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.

BSPT HSS



Size - Pitch	Outside Diameter	Thickness	Weight each	Order Code
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



PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

HSS TAPS & DIES


**NPT (National Pipe Taper)
HSS Ground Thread Taps**

ANSI 94.9

Straight Flute

**Left Hand
Also
Available**

Taper
Order Code
SHR-085

Second
Order Code
SHR-085

Plug
Order Code
SHR-085

Size - Pitch	Thread Length	Overall Length (mm)	Shank Diameter	Weight each	Taper Order Code SHR-085	Second Order Code SHR-085	Plug Order Code SHR-085
1/16" x 27	11/16"	0.312	2 1/8"	20g	-	-	-3010C
1/8" x 27	3/4"	0.437	2 1/8"	50g	-	-	-3020C
1/4" x 18	11/16"	0.562	2 7/16"	70g	-	-	-3030C
3/8" x 18	11/16"	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**

For use in diestocks to produce external screw threads.

NPT HSS


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**

ANSI 94.9

Straight Flute

NPTF HSS


Size - Pitch	Thread Length	Shank Diameter (mm)	Overall Length	Weight each	Order Code SHR-085
1/16" x 27	11/16"	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

SENATOR
QUALITY TOOLING**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

HSS TAPS & DIES**Metric Threading Set****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

SHERWOOD
QUALITY CUTTING TOOLS**Metric
Threading Set****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**.

Diastocks:

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

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR



Threading
Sets

HSS

28
PIECES



BSF Threading Set

$\frac{3}{16}$ " - $\frac{3}{4}$ " BSF:

HSSGT Straight Flute Taps:

Taper: $\frac{3}{16}$ " x 32, $\frac{1}{4}$ " x 26, $\frac{5}{16}$ " x 22 and $\frac{3}{8}$ " x 20.

Second: $\frac{3}{4}$ " x 12, $\frac{7}{16}$ " x 18, $\frac{5}{8}$ " x 14 and $\frac{1}{2}$ " x 16.

Plug: $\frac{3}{16}$ " x 32, $\frac{1}{4}$ " x 26, $\frac{5}{16}$ " x 22 and $\frac{3}{8}$ " x 20.

Bar Type Tap Wrenches: $\frac{1}{16}$ " - $\frac{1}{4}$ " and $\frac{1}{4}$ " - $\frac{3}{4}$ ".

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: $\frac{1}{4}$ " x 26, $\frac{5}{16}$ " x 22 and $\frac{3}{8}$ " x 20.

Diestock: 1" O/D.

HSS Die Nuts: $\frac{7}{16}$ " x 18, $\frac{1}{2}$ " x 16, $\frac{5}{8}$ " x 14 and $\frac{3}{4}$ " x 12.

BSF

28
PIECES



BSW Threading Set

$\frac{3}{16}$ " - $\frac{3}{4}$ " BSW:

HSSGT Straight Flute Taps:

Taper: $\frac{3}{16}$ " x 24, $\frac{1}{4}$ " x 20, $\frac{5}{16}$ " x 18, $\frac{3}{8}$ " x 16.

Second: $\frac{7}{16}$ " x 14, $\frac{1}{2}$ " x 12, $\frac{5}{8}$ " x 11, $\frac{3}{4}$ " x 10.

Plug: $\frac{3}{8}$ " x 16, $\frac{5}{16}$ " x 18, $\frac{1}{4}$ " x 20, $\frac{3}{16}$ " x 24.

Bar Type Tap Wrenches: $\frac{1}{4}$ " - $\frac{3}{4}$ " and $\frac{1}{16}$ " - $\frac{1}{4}$ ".

Tapping Drills to Suit: HSS S/S.

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

HSS 1" O/D Dies: $\frac{1}{4}$ " x 2, $\frac{5}{16}$ " x 18 and $\frac{3}{8}$ " x 16.

Diestock: 1" O/D.

HSS Die Nuts: $\frac{7}{16}$ " x 14, $\frac{1}{2}$ " x 12, $\frac{5}{8}$ " x 11 and $\frac{3}{4}$ " x 10.

BSW

Range	Number of Pieces	Order Code
$\frac{3}{16}$ - $\frac{3}{4}$ " BSF	28	-9991K
$\frac{3}{16}$ - $\frac{3}{4}$ " BSW	28	-9992K

BSP(F) Threading Set

HSSGT Straight Flute Taps:

Taper: $\frac{1}{8}$ " x 28, $\frac{1}{4}$ " x 19,

$\frac{3}{8}$ " x 19 and $\frac{1}{2}$ " x 14.

Second: $\frac{3}{4}$ " x 14.

Plug: $\frac{1}{8}$ " x 28, $\frac{1}{4}$ " x 19,

$\frac{3}{8}$ " x 19 and $\frac{1}{2}$ " x 14.

Outside Diameter HSS Dies BSPF x $1\frac{5}{16}$ ":

$\frac{1}{8}$ " x 28, $\frac{1}{4}$ " x 19 and $\frac{3}{8}$ " x 19.

BSPF HSS Hexagon Die Nuts: $\frac{1}{2}$ " x 14

and $\frac{3}{4}$ " x 14.

HSS Straight Shank Jobber Drills:

8.80 and 11.80mm,

Parallel Shank Drills $\frac{1}{2}$ ": 15.25, 19.00

and 24.50mm.

Holders: $1\frac{5}{16}$ " outside diameter diestock.

Traditional Tap Wrenches: $\frac{1}{16}$ " - $\frac{1}{4}$ "

and $\frac{1}{4}$ " - $\frac{3}{4}$ ".

BSP

22
PIECES

Range	Number of Pieces	Order Code
$\frac{1}{16}$ - $\frac{3}{4}$ " BSPF	22	-9989K

UNC Threading Set

No.10 - $\frac{3}{4}$ " UNC:

HSSGT Straight Flute Taps:

Taper: No. 10 x 24, $\frac{1}{4}$ " x 20,

$\frac{5}{16}$ " x 18, $\frac{3}{8}$ " x 16.

Second: $\frac{7}{16}$ " x 14, $\frac{1}{2}$ " x 13, $\frac{5}{8}$ " x 11,

$\frac{3}{4}$ " x 10.

Plug: No.10 x 24, $\frac{1}{4}$ " x 20, $\frac{5}{16}$ " x 18,

$\frac{3}{8}$ " x 16.

Bar Type Tap Wrenches: $\frac{1}{16}$ " - $\frac{1}{4}$ " and

$\frac{1}{4}$ " - $\frac{3}{4}$ ".

Tapping Drills to suit: HSS S/S.

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

HSS 1" O/D Dies: $\frac{1}{4}$ " x 20, $\frac{5}{16}$ " x 18,

$\frac{3}{8}$ " x 16.

Diestock: 1" O/D.

HSS Die Nuts: $\frac{7}{16}$ " x 14, $\frac{1}{2}$ " x 13, $\frac{5}{8}$ " x 11,

$\frac{3}{4}$ " x 10.

UNC

28
PIECES

Range	Number of Pieces	Order Code
10 - $\frac{3}{4}$ " UNC	28	-9994K

UNF Threading Set

No.10 - $\frac{3}{4}$ " UNF:

HSSGT Straight Flute Taps:

Taper: No.10 x 32, $\frac{1}{4}$ " x 28,

$\frac{5}{16}$ " x 24, and $\frac{3}{8}$ " x 24.

Second: $\frac{3}{4}$ " x 16, $\frac{7}{16}$ " x 20,

$\frac{5}{8}$ " x 18 and $\frac{1}{2}$ " x 20.

Plug: No.10 x 32, $\frac{1}{4}$ " x 28, $\frac{5}{16}$ " x 24

and $\frac{3}{8}$ " x 24.

Bar Type Tap Wrenches: $\frac{1}{16}$ " - $\frac{1}{4}$ "

and $\frac{1}{4}$ " - $\frac{3}{4}$ ".

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: $\frac{1}{4}$ " x 28, $\frac{5}{16}$ " x 24

and $\frac{3}{8}$ " x 24.

Diestock: 1" O/D.

HSS Die Nuts: $\frac{7}{16}$ " x 20, $\frac{1}{2}$ " x 20, $\frac{5}{8}$ " x 18

and $\frac{3}{4}$ " x 16.

UNF

28
PIECES

Range	Number of Pieces	Order Code
10 - $\frac{3}{4}$ " UNF	28	-9993K

Engineers Reference Data Charts

38 pages of engineering data. Each page coated with an anti-glare matt lamination to protect against the dirt and grease.

Contents:

- Basic forms of heat treatment
- Material groups
- Tensile strength and hardness
- Lubricant selection
- Hole and shaft tolerances
- Metric screw and hole sizes
- Thread notation
- Standard thread forms;
- Dimensions of common shank types
- Standards for engineering drawings
- Abbreviations used in engineering drawings
- Common CNC codes
- Axis nomenclature for machine tools
- Trigonometry formulae
- Sines and Cosines and much more

Order Code
CAT-849

-2621A

Pocket Size
164 x 84mm

38 Pages

Pocket Size
164 x 84mm

LAMINATED
EDITION



Engineers Reference Handbook

- Booklet of data charts and tables
- Suitable for the drawing office, toolroom or workshop
- 9 sections

Pocket Size
148 x 100mm

209 PAGES

DESK
EDITION



Order Code
CAT-849

-0356A

SWISS+TECH

High Performance as Standard . . .

...Taking Productivity to New Heights



Cutting Tools For Production Industry
Drills - Milling Cutters - 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**.

Spiral Point/Gun Nose - HSS-E Bright Finish

For through holes.

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

SPIRAL POINT FOR THROUGH HOLES

HSS-E

METRIC



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 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°

SPIRAL FLUTE FOR BLIND HOLES

HSS-E

METRIC



ISO Metric

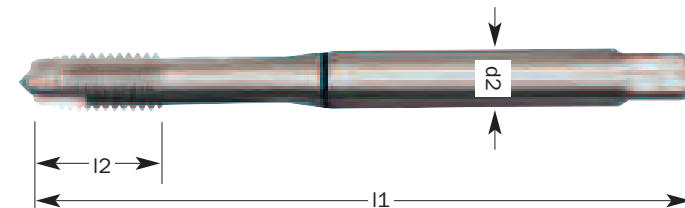
Size - Pitch (mm)	(d2) Shank Dia.	A/F Square	(l1) Overall Length	(l2) Thread Length	Weight each	Order Code SWT-185
M6 x 1.00	6.0	4.9	160	17.0	30g	-9806X
M8 x 1.25	6.0	4.9	180	20.0	60g	-9808X
M10 x 1.50	7.0	5.5	200	22.0	100g	-9810X
M12 x 1.75	9.0	7.0	220	24.0	200g	-9812X

Suitable for the following Material Groups

DIN 371/6



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 Flute

For blind holes.

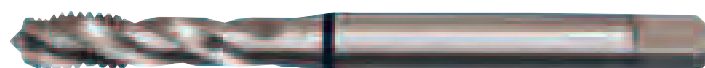
Taper lead to **DIN form C**.

Tapping tolerance to **6H**.

SPIRAL FLUTE FOR BLIND HOLES

HSS-E

METRIC



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

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**.

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 Point



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

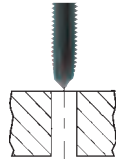
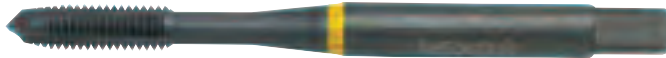
**5
PIECES**

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

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

BSP - British Standard Pipe 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	-0902Y
1/4" x 19	100.0	22.0	11.0	9.0	48g	-0904Y

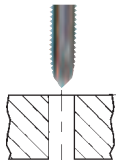
HSS 'Red Ring' Taps

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

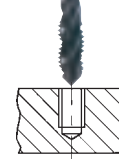
Spiral Point/Gun Nose - HSS-Co Bright Finish
For through holes.
Taper lead to **DIN form B**.
(3.5 x P to 5.5 x P).
Tapping tolerance to **6HX**.


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

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	6.0	3.5	2.7	5g	-0509Y
M3.5 x 0.60	56.0	7.0	4.0	3.0	6g	-0512Y
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

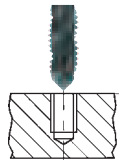
BSP - British Standard Pipe Bright Finish DIN 5156

new

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
M2.0 x 0.40	45.0	3.0	2.8	2.1	5g	-1503R
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'**
TapsManufactured to **DIN 371/376**

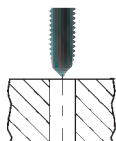
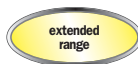
Suitable for the following Material Groups

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 110.

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**.**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	-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

UNC - Unified National Coarse Bright FinishTapping tolerance to **2B**.

Size - Pitch	Overall Length	Thread Length	Shank Dia.	Square Size	Weight each	Order Code SWT-185
No.6 x 32	56.0	13.0	4.0	3.0	9g	-3106B
No.12 x 24	80.0		6.0	5.5	43g	-3109B
1/4" x 20	80.0	17.0	7.0	5.5	21g	-3110B
5/16" x 18	90.0	20.0	8.0	6.2	34g	-3111B
3/8" x 16	90.0	20.0	9.0	7.0	45g	-3112B
1/2" x 13	110.0	24.0	9.0	7.0	79g	-3114B

UNF - Unified National Fine Bright FinishTapping tolerance to **2B**.

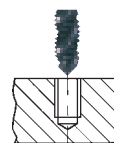
Size - Pitch	Overall Length	Thread Length	Shank Dia.	Square Size	Weight each	Order Code SWT-185
1/4" x 28	80.0	17.0	4.5	3.4	15g	-3210B
5/16" x 24	90.0	22.0	6.0	4.9	27g	-3211B
3/8" x 24	90.0	22.0	7.0	5.5	37g	-3212B
7/16" x 20	90.0	22.0	8.0	6.2	50g	-3213B
1/2" x 20	100.0	24.0	9.0	7.0	71g	-3214B

BSP - British Standard Pipe Bright Finish

Size - Pitch	Overall Length	Thread Length	Shank Dia.	Square Size	Weight each	Order Code SWT-185
1/8" x 28	90.0	22.0	7.0	5.5	16g	-3402B
1/4" x 19	100.0	24.0	11.0	9.0	48g	-3404B
3/8" x 19	100.0	24.0	12.0	9.0	69g	-3406B

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**.**DIN**
371/6**HSS-EV****SPIRAL FLUTE FOR BLIND HOLES****'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 FinishFor 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

UNC - Unified National Coarse Bright FinishTapping tolerance to **2B**.

Size - Pitch	Overall Length	Thread Length	Shank Dia.	Square Size	Weight each	Order Code SWT-185
No.6 x 32	56.0	13.0	4.0	3.0	9g	-3136B
1/4" x 20	80.0	17.0	7.0	5.5	21g	-3141B
3/8" x 16	90.0	20.0	9.0	7.0	45g	-3143B
1/2" x 13	110.0	24.0	9.0	7.0	79g	-3145B

UNF - Unified National Fine Bright FinishTapping tolerance to **2B**.

Size - Pitch	Overall Length	Thread Length	Shank Dia.	Square Size	Weight each	Order Code SWT-185
No.10 x 32	70.0	16.0	3.5	2.7	24g	-3239B
1/4" x 28	80.0	17.0	4.5	3.4	15g	-3241B
7/16" x 20	90.0	20.0	8.0	6.2	50g	-3244B
1/2" x 20	100.0	22.0	9.0	7.0	71g	-3245B

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 'White 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
3.1	Grey cast iron Hardness soft to medium	up to 130	up to 400	8 - 12
3.2	Grey cast iron Hardness medium to hard	up to 200	up to 700	4 - 6

Straight Flute - HSS-EV Nitride Finish

For through holes. Taper lead to

DIN form D (taper) (3.5 x P to 5 x P).

 Tapping tolerance to **6HX**.

STRAIGHT FLUTE 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
M2.0 x 0.40	45.0	8.0	2.8	2.1	14g	-3503W
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	-3509W
M3.5 x 0.60	56.0	13.0	4.0	3.0	7g	-3512W
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	-3515W
M5.0 x 0.80	70.0	16.0	6.0	4.9	13g	-3518W
M6.0 x 1.00	80.0	17.0	6.0	4.9	17g	-3521W
M8.0 x 1.25	90.0	22.0	8.0	6.2	32g	-3527W
M10.0 x 1.50	100.0	24.0	10.0	8.0	55g	-3530W

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

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

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm ²	Tapping Speed M/min
3.3	Malleable and nodular irons Hardness soft to medium	up to 220	up to 850	4 - 6
3.4	Malleable and nodular irons Hardness medium to hard	up to 300	up to 700	4 - 6

Straight Flute - HSS-EV Nitride Finish

For blind holes. Plug/bottoming lead to

DIN form C (2 x P to 3 x P).

 Tapping tolerance to **6HX**.

STRAIGHT 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
M2.5 x 0.45	50.0	9.0	2.8	2.1	4g	-4006W
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	-4009W
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	-4015W
M5.0 x 0.80	70.0	16.0	6.0	4.9	13g	-4018W
M8.0 x 1.25	90.0	22.0	8.0	6.2	32g	-4027W
M10.0 x 1.50	100.0	24.0	10.0	8.0	58g	-4030W
M12.0 x 1.75	110.0	29.0	9.0	7.0	61g	-4033W
M14.0 x 2.00	110.0	30.0	11.0	9.0	78g	-4036W
M16.0 x 2.00	110.0	32.0	12.0	9.0	108g	-4039W

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

Spiral Point/Gun Nose - HSS-EV Nitride FinishFor 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
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

HSS 'Green Ring' Fluteless TapsLubrication 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****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

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 Flute - HSS-EV Nitride FinishFor 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** 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
M3.5 x 0.60	56.0	13.0	4.0	3.0	6g	-7012G
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

Fluteless - HSS-EV (TiN Coated)

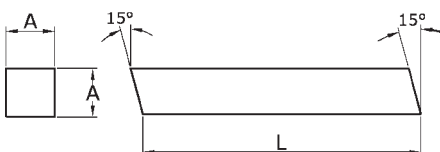
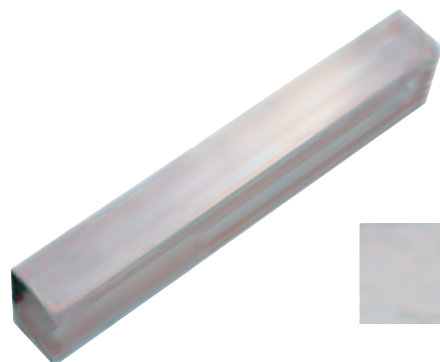
For through and blind holes.

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**

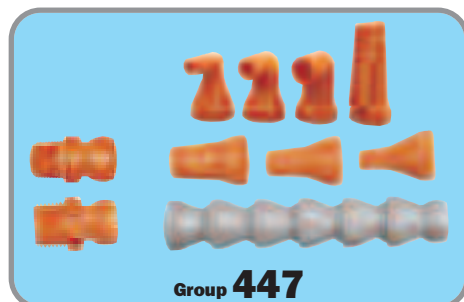
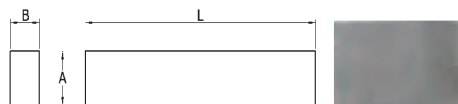
Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code SWT-185
M2.0 x 0.40	45.0	8.0	2.8	2.1	4g	-8003G
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	-8009G
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	-8015G
M5.0 x 0.80	70.0	15.0	6.0	4.9	13g	-8018G
M6.0 x 1.00	80.0	17.0	6.0	4.9	17g	-8021G
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
M12.0 x 1.75	110.0	24.0	9.0	7.0	61g	-8033G


HSS

Cut faster, 'stand up' longer and reduce costs. Square and rectangular toolbits supplied with 15° bevelled ends. Parting-off blades supplied with 2° side taper, 10° bevel (top and bottom).


HSS Square Inch

A	L	Weight each	Order Code KEN-090
3/16"	2 1/2"	12g	-0040K
1/4"	2 1/2"	21g	-0050K
1/4"	3"	25g	-0060K
1/4"	4"	33g	-0070K
5/16"	2 1/2"	32g	-0100K
5/16"	3"	40g	-0110K
5/16"	4"	52g	-0130K
5/16"	6"	80g	-0140K
3/8"	3"	56g	-0160K
3/8"	4"	75g	-0180K
3/8"	6"	112g	-0190K
7/16"	4"	100g	-0220K
1/2"	3"	100g	-0250K
1/2"	4"	130g	-0270K
1/2"	6"	200g	-0280K
5/8"	4"	210g	-0300K
5/8"	6"	310g	-0330K
3/4"	4"	300g	-0350K
3/4"	5"	374g	-0360K
3/4"	6"	450g	-0370K
3/4"	8"	600g	-0380K
1"	6"	800g	-0390K


Group 732

Group 447
TOOLBITS & PARTING-OFF BLADES
GROUP 090
5% Cobalt Rectangular Inch
HSS-Co 5%


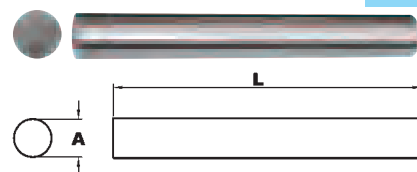
B x A	L	Weight each	Order Code KEN-090
3/16" - 1/2"	6"	72g	-5100K
1/4" - 3/8"	4"	50g	-5110K
1/4" - 1/2"	4"	70g	-5120K
5/16" - 1/2"	6"	120g	-5130K
3/8" - 1/2"	4"	100g	-5140K
3/8" - 1/2"	6"	150g	-5150K
3/8" - 5/8"	4"	125g	-5160K
3/8" - 5/8"	6"	190g	-5170K
3/8" - 3/4"	4"	150g	-5180K
3/8" - 3/4"	6"	230g	-5190K
3/8" - 1"	6"	300g	-5200K
1/2" - 5/8"	6"	240g	-5210K
1/2" - 3/4"	4"	200g	-5220K
1/2" - 3/4"	6"	315g	-5240K
1/2" - 1"	6"	390g	-5250K
5/8" - 3/4"	6"	370g	-5270K
5/8" - 1"	6"	490g	-5290K

5% Cobalt Square Metric
HSS-Co 5%

A (mm)	L (mm)	Weight each	Order Code KEN-090
5.00	80.0	10g	-3500K
6.00	40.0	15g	-3600K
6.00	80.0	22g	-3610K
6.00	100.0	30g	-3620K
6.00	160.0	44g	-3640K
8.00	80.0	50g	-3670K
8.00	100.0	52g	-3680K
8.00	160.0	90g	-3700K
8.00	200.0	110g	-3710K
10.00	80.0	70g	-3730K
10.00	100.0	81g	-3740K
10.00	125.0	110g	-3750K
10.00	160.0	122g	-3760K
12.00	100.0	120g	-3800K
12.00	125.0	152g	-3810K
12.00	160.0	190g	-3820K
14.00	100.0	155g	-3860K
14.00	160.0	240g	-3880K
16.00	100.0	210g	-3920K
16.00	160.0	335g	-3925K
20.00	160.0	440g	-3930K
20.00	200.0	650g	-3940K
25.00	160.0	760g	-3950K
25.00	200.0	1010g	-3960K

5% Cobalt Square Inch
HSS-Co 5%

A	L	Weight each	Order Code KEN-090
3/16"	2 1/2"	12g	-3020K
3/16"	3"	14g	-3030K
3/16"	4"	14g	-3040K
1/4"	2 1/2"	21g	-3050K
1/4"	3"	25g	-3060K
1/4"	4"	33g	-3070K
1/4"	6"	50g	-3080K
5/16"	2 1/2"	32g	-3100K
5/16"	3"	40g	-3110K
5/16"	4"	52g	-3130K
5/16"	6"	80g	-3140K
3/8"	3"	56g	-3160K
3/8"	4"	75g	-3180K
3/8"	6"	112g	-3190K
1/2"	3"	100g	-3250K
1/2"	4"	130g	-3270K
1/2"	6"	200g	-3280K
5/8"	4"	210g	-3300K
5/8"	6"	310g	-3330K
3/4"	4"	300g	-3350K
3/4"	6"	450g	-3370K
1"	6"	800g	-3390K

HSS Round Inch
HSS


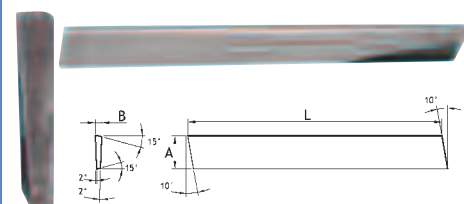
A	L	Weight each	Order Code KEN-090
3/16"	3"	11g	-1100K
1/4"	3"	20g	-1140K
1/4"	4"	27g	-1150K
5/16"	3"	31g	-1170K
5/16"	4"	42g	-1180K
3/8"	3"	45g	-1200K
3/8"	4"	60g	-1210K
1/2"	4"	110g	-1260K
1/2"	6"	160g	-1280K
5/8"	4"	170g	-1290K
5/8"	6"	250g	-1300K
3/4"	4"	240g	-1310K
3/4"	6"	360g	-1320K

5% Cobalt Round Inch
HSS-Co 5%

A	L	Weight each	Order Code KEN-090
1/8"	3"	5g	-4010K
3/16"	3"	11g	-4100K
3/16"	4"	15g	-4110K
1/4"	2 1/2"	17g	-4120K
1/4"	4"	27g	-4150K
5/16"	3"	31g	-4170K
5/16"	4"	42g	-4180K
3/8"	3"	50g	-4200K
3/8"	4"	60g	-4210K
3/8"	6"	80g	-4230K
1/2"	4"	110g	-4260K
1/2"	6"	160g	-4280K
5/8"	4"	170g	-4290K
3/4"	4"	240g	-4310K
3/4"	6"	360g	-4320K
1"	8"	860g	-4380K

5% Cobalt Round Metric
HSS-Co 5%

A (mm)	L (mm)	Weight each	Order Code KEN-090
4.00	80.0	8g	-4510K
5.00	80.0	12g	-4530K
6.00	80.0	18g	-4550K
6.00	100.0	24g	-4570K
8.00	80.0	31g	-4590K
8.00	100.0	40g	-4630K
8.00	125.0	60g	-4610K
8.00	160.0	63g	-4650K
10.00	80.0	50g	-4670K
10.00	100.0	65g	-4690K
10.00	125.0	90g	-4710K
12.00	63.0	65g	-4730K
12.00	80.0	70g	-4750K
12.00	100.0	94g	-4770K
12.00	160.0	141g	-4810K
14.00	125.0	190g	-4830K
16.00	125.0	160g	-4870K
16.00	160.0	250g	-4890K
20.00	100.0	260g	-4930K
20.00	160.0	390g	-4950K

5% Cobalt Parting-Off Inch
HSS-Co 5%


B x A	L	Weight each	Order Code KEN-090
3/32" - 1/2"	4 1/2"	22g	-5410K
3/32" - 5/8"	5"	30g	-5430K
1/8" - 3/4"	6"	60g	-5450K
1/8" - 7/8"	7"	80g	-5470K
3/16" - 1"	8"	160g	-5490K
3/16" - 1 1/8"	9"	200g	-5510K

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR



Brazed Tip Turning & Boring Tools

Manufactured in three standard grades (all sizes are nominal).
Manufactured to **ISO DIN BHMA Standards**.

P40 **P40:** Roughing to heavy roughing of steel and steel castings using heavy feeds and low to medium cutting speeds. Also used under unfavourable conditions, particularly where intermittent cutting is involved. This grade is also suitable for planing operations and for machining manganese steel.

P30 **P30:** Carbide tipped tools are suitable for heavy duty turning and boring on all classes of steel. Suitable also for interrupted cutting and machining at low speeds and heavy feeds.

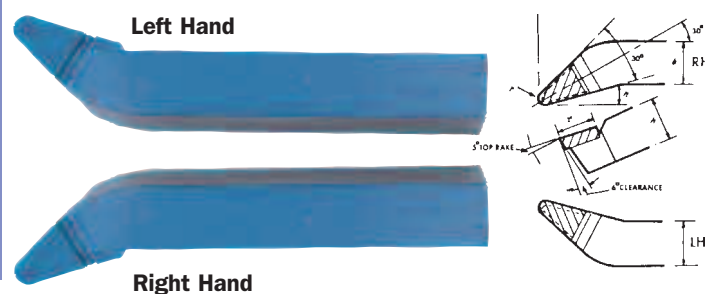
K20 **K20:** General purpose tools for most applications. Ideal for machining cast iron, non-ferrous metals, bakelite etc. Combines wear resistance with toughness when rough turning at moderate cutting speeds. Suitable for high feed rates.

Straight Round Nosed Turning Tools



Tool No.	Cut	Shank Height x Width	Weight each	Order Code KEN-100		
				P40	P30	K20
010	N	3/8" x 3/8"	160g	-	-0100K	-
012	N	1/2" x 1/2"	190g	-	-0140K -0150K	-
016	N	5/8" x 5/8"	240g	-	-0190K -0200K	-
020	N	3/4" x 3/4"	410g	-	-0230K -0240K	-
024	N	1" x 3/4"	520g	-	-0270K	-
026	N	1" x 1"	760g	-	-0310K	-

Cranked Round Nosed Turning Tools



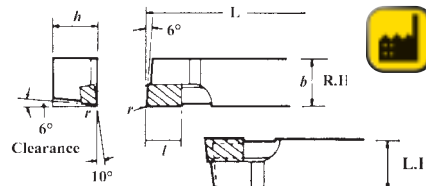
Tool No.	Cut	Shank Height x Width	Weight each	Order Code KEN-100		
				P40	P30	K20
12	RH	1/2" x 1/2"	110g	-	-0510K -0520K	-
13	LH	1/2" x 1/2"	110g	-	-0530K -0540K	-
16	RH	5/8" x 5/8"	240g	-	-0590K -0600K	-
17	LH	5/8" x 5/8"	240g	-	-0610K	-
20	RH	3/4" x 3/4"	410g	-	-0690K -0700K	-
21	LH	3/4" x 3/4"	410g	-	-0710K -0720K	-
26	RH	1" x 1"	720g	-	-0820K	-
27	LH	1" x 1"	720g	-	-0840K	-

Light Turning & Boring Tools



Tool No.	Cut	Shank Height x Width	Weight each	Order Code KEN-100		
				P40	P30	K20
40	N	3/8" x 3/8"	70g	-	-1000K	-
44	N	1/2" x 1/2"	120g	-	-1060K -1070K	-
60	N	3/4" x 3/4"	430g	-	-1660K	-

Bar Turning Tools



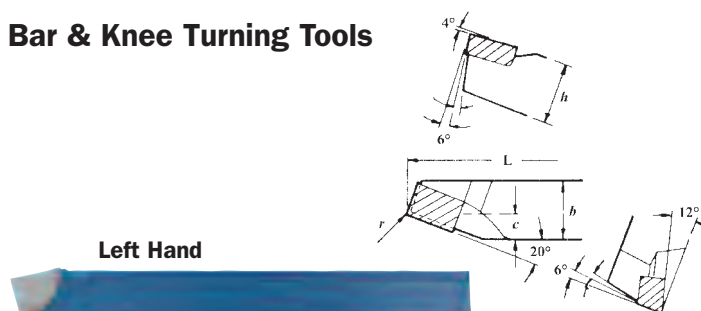
Left Hand



Right Hand

Tool No.	Cut	Shank Height x Width	Weight each	Order Code KEN-100		
				P40	P30	K20
100	RH	3/8" x 3/8"	70g	-	-2010K	-
101	LH	3/8" x 3/8"	70g	-	-2040K	-
102	RH	1/2" x 1/2"	120g	-	-2055K -2060K	-2080K
103	LH	1/2" x 1/2"	120g	-	-2100K	-2110K
106	RH	5/8" x 5/8"	260g	-	-2180K	-
110	RH	3/4" x 3/4"	440g	-	-2280K	-2290K
111	LH	3/4" x 3/4"	440g	-	-2300K	-

Bar & Knee Turning Tools



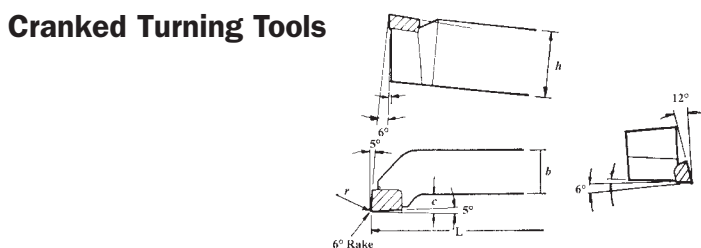
Left Hand



Right Hand

Tool No.	Cut	Shank Height x Width	Weight each	Order Code KEN-100		
				P40	P30	K20
132	RH	1/2" x 1/2"	120g	-	-2550K	-
140	RH	3/4" x 3/4"	430g	-	-2610K	-
141	LH	3/4" x 3/4"	430g	-	-2630K	-

Cranked Turning Tools



Left Hand



Right Hand

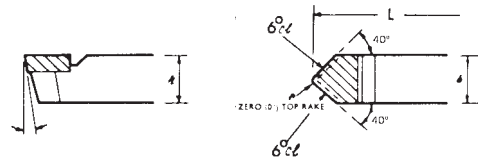
Tool No.	Cut	Shank Height x Width	Weight each	Order Code KEN-100		
				P40	P30	K20
160	RH	3/8" x 3/8"	70g	-	-2780K -2790K	-
161	LH	3/8" x 3/8"	70g	-	-2800K	-
162	RH	1/2" x 1/2"	130g	-	-2830K -2860K	-
163	LH	1/2" x 1/2"	130g	-	-2870K -2880K	-
166	RH	5/8" x 5/8"	270g	-	-2940K	-
167	LH	5/8" x 5/8"	270g	-	-2990K	-
170	RH	3/4" x 3/4"	460g	-	-3040K -3070K	-
171	LH	3/4" x 3/4"	460g	-	-3080K -3090K	-





BRAZED TOOLS

Square Shank Boring Tools Held at 80° in Bar



Tool No.	Cut	Shank H W	Weight each	Order Code KEN-100		
				P40	P30	K20
300	N	1/4" x 1/4"	11g	-	-6580K	-
308	N	3/8" x 3/8"	16g	-	-6750K	-
316	N	1/2" x 1/2"	109g	-	-6920K	-

Light Duty Round Shank Boring Tools Used at 45° in Bar

EXTENDED RANGE

Right Hand



Left Hand



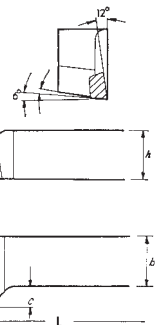
Tool No.	Cut	Shank Dia. x Length	Weight each	Order Code KEN-100		
				P40	P30	K20
375	LH	5/16" x 1 1/2"	13g	-	-8110K	-
376	RH	3/8" x 2 1/2"	30g	-	-8130K	-
377	LH	3/8" x 2 1/2"	30g	-	-8150K	-8160K
380	RH	1/2" x 5"	65g	-	-8220K	-

Cranked Knife Turning Tools

Left Hand

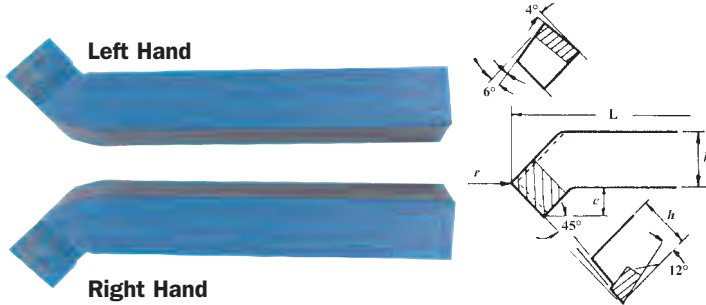


Right Hand



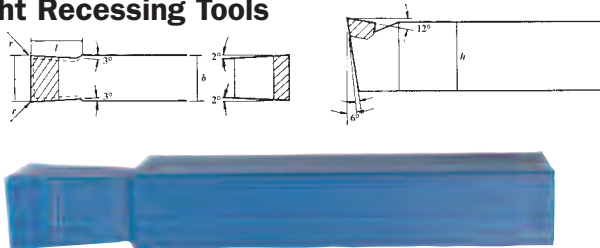
Tool No.	Cut	Shank H W	Weight each	Order Code KEN-100		
				P40	P30	K20
2130	RH	3/8" x 3/8"	70g	-	-8970K	-
2132	RH	1/2" x 1/2"	120g	-	-9010K	-9020K
2133	LH	1/2" x 1/2"	120g	-	-9030K	-
2136	RH	5/8" x 5/8"	260g	-	-9230K	-9250K
2137	LH	5/8" x 5/8"	260g	-	-9260K	-
2140	RH	3/4" x 3/4"	430g	-9380K	-9390K	-9400K
2141	LH	3/4" x 3/4"	430g	-	-9420K	-
2146	RH	1" x 1"	800g	-	-9670K	-

KENNEDY Brazed Tip Cranked Turning & Facing Tools



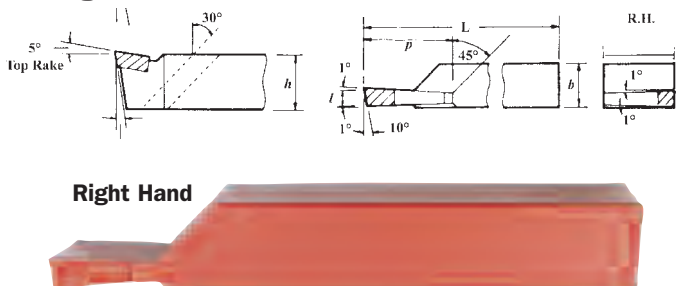
Tool No.	Cut	Shank Height x Width	Weight each	Order Code KEN-100		
				P40	P30	K20
192	RH	1/2" x 1/2"	110g	-	-3410K	-3420K
196	RH	5/8" x 5/8"	260g	-3490K	-3500K	-
197	LH	5/8" x 5/8"	260g	-	-3520K	-
200	RH	3/4" x 3/4"	430g	-3680K	-3690K	-3710K
201	LH	3/4" x 3/4"	430g	-	-3720K	-
206	RH	1" x 1"	790g	-	-	-3850K
207	LH	1" x 1"	790g	-3855K	-	-

Straight Recessing Tools



Tool No.	Cut	Shank Height x Width	Weight each	Order Code KEN-100		
				P40	P30	K20
230	N	3/8" x 3/8"	64g	-	-4370K	-
232	N	1/2" x 1/2"	120g	-	-4460K	-
236	N	5/8" x 5/8"	250g	-	-4620K	-

Parting Off Tools



Tool No.	Tip	Shank Height x Width	Weight each	Order Code KEN-100		
				P40	P30	K20
260	3/32"	5/8" x 3/8"	120g	-5200K	-5210K	-5220K
262	1/8"	3/4" x 1/2"	220g	-5260K	-5270K	-5280K
264	3/16"	1" x 5/8"	390g	-5320K	-5330K	-5350K
265	1/4"	1" x 3/4"	480g	-5420K	-5430K	-
270	3/32"	5/8" x 3/8"	110g	-	-5610K	-
272	1/8"	3/4" x 1/2"	220g	-	-5690K	-5710K
274	3/16"	1" x 5/8"	390g	-	-5750K	-5770K
275	1/4"	1" x 3/4"	460g	-5810K	-5820K	-5840K
276	5/16"	1 1/4" x 3/4"	700g	-	-5880K	-5900K

Square Shank Boring Tools Held at 90° in Bar



Right Hand

Tool No.	Cut	Shank H W	Weight each	Order Code KEN-100		
				P40	P30	K20
280	RH	1/4" x 1/4"	11g	-	-6180K	-
288	RH	1/2" x 1/2"	109g	-	-6340K	-

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

External Toolholders - ISO Designation

1 Clamping System

C	Clamp
D	"One-Double"
M	Clamp & Pin
P	Lever
S	Screw

3 Lead Angle

B 75°	C 90°	D 45°	F 90°
G 90°	J 93°	K 75°	L 95°
N 63°	S 45°	T 60°	U 93°
V 72½°	W 60°		

5 Hand

R	
L	
N	

9 Cutting Edge Length

Expressed in millimetres	
C, D K, V 	S
	T
R 	W

1 2 3 4 5 6 7 8 9
P C K N R 20 20 K 12

2 Insert Shape

C	D	K
R	S	T
V	W	

4 Clearance

B
C
N
P

6 Shank Height

Expressed in millimetres
Single Digit Nos. preceded by '0' e.g. h = 8mm is indicated by 08

7 Shank Width

Expressed in millimetres
Single Digit Nos. preceded by '0' e.g. b = 8mm is indicated by 08

8 Tool Length

Length in millimetres
D 60 M 150
E 70 P 170
F 80 Q 180
H 100 R 200
K 125 S 250

Boring Bars - Additional Designation

1 Bar Type

S	Solid Steel Bar
A	Solid Steel With Through Coolant
C	Carbide Shank
E	Carbide Shank with Through Coolant
T	Anti-Vibration Carbide Reinforced Steel Shank

3 Bar Length

Length in millimetres			
J	110	S	250
K	125	T	300
M	150	U	350
Q	180	V	400
R	200	W	450

Cartridges - Additional Designation

Note:
Cutting Edge Lengths are detailed to the lowest whole number e.g. 12.7mm = 12mm

- 1 Clamping System
- 2 Insert Shape
- 3 Lead Angle
- 4 Clearance
- 5 Hand
- 8 Cutting Edge Length

Note: Details as above see External Toolholders

1 2 3 4 5 6 7 8 9
S 50 W P S K N R 19

1 2 3 4 5 6 7 8
P T F N R 16 CA 16

2 Basic Diameter

Expressed in millimetres
Single Digit Nos. preceded by '0' e.g. b = 8mm is indicated by 08

- 4 Clamping System
- 5 Insert Shape
- 6 Lead Angle
- 7 Clearance
- 8 Hand
- 9 Cutting Edge Length

Note: Details as above see External Toolholders

6 Cutting Edge Height

Expressed in millimetres
Single Digit Nos. preceded by '0' e.g. h ₁ = 8mm is indicated by 08

7 Type of Tool

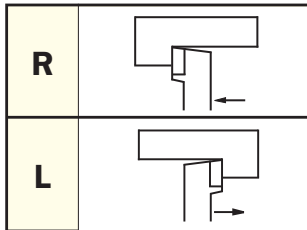
'C' Indicates Cartridge
'A' Indicates that Holder is designed to ISO 5611

THREADING TOOLHOLDERS - ISO DESIGNATION

1 Clamping System

D	Top Clamp + Screw-on
S	Screw-on
C	Top Clamp

3 Hand



6 Tool Length

Length in millimetres			
H	100	S	250
K	125		
M	150		
P	170		
R	200		

7 Cutting Edge length

	l	ic
06	6mm	5/32"
08	8mm	3/16"
11	11mm	1/4"
16	16.5mm	3/8"
22	22mm	1/2"

1 D 2 E 3 R 4 16 5 16 6 H 7 16

2 Type of holder

E	External
I or N	Internal

4 Shank Height

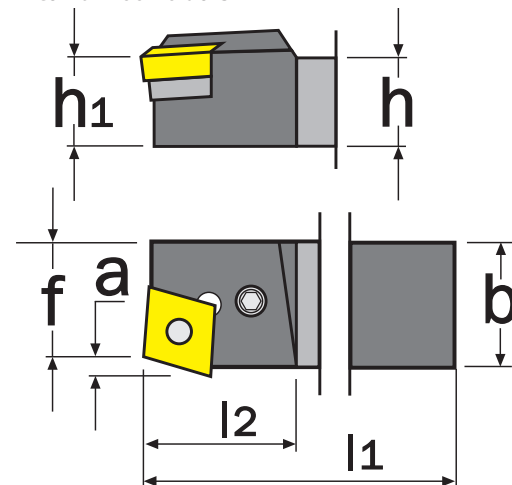
Round Shank (Boring Bars) = 00
For Rectangular Shanks, Height is expressed in mm
Single Digit Nos. preceded by '0'
E.g. h = 8mm is indicated by 08

5 Shank Width

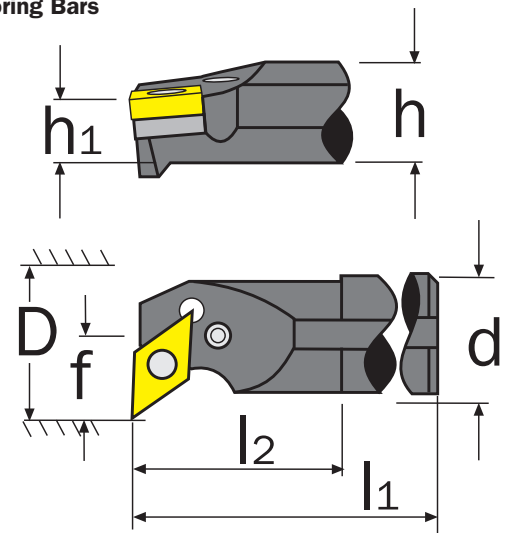
Round Shank (Boring Bars) = Diameter in mm
For Rectangular Shanks, Width is expressed in mm
Single Digit Nos. preceded by '0'
E.g. h = 8mm is indicated by 08

Dimensional Notation

External Toolholders

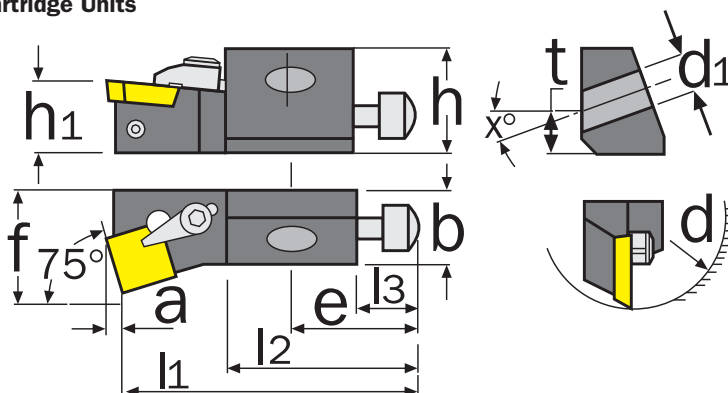


Boring Bars

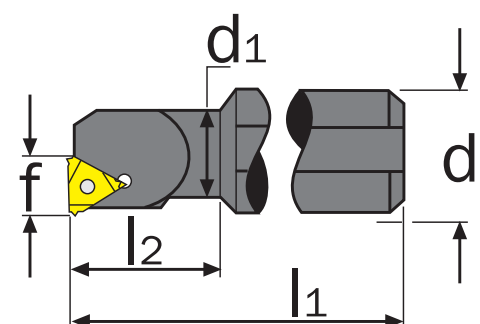


h = Shank Height or A/F Dmin
h₁ = Tip Height
b = Shank Width
d = Shank Diameter
f = Width Offset
a = Insert Approach Length
D = Min. Boring Diameter
l₁ = Overall Length to Tip
l₂ = Neck Length
l₃ = Min. Adjustment Length
d₁ = Clamp Screw Bore Diameter
d₂ = Neck Diameter
x = Clamp Screw Angle
e = Clamp Screw Centre

Cartridge Units



Threading Toolholders



INDEXA-SEIKI™

Indexable Toolholders & Boring Bars

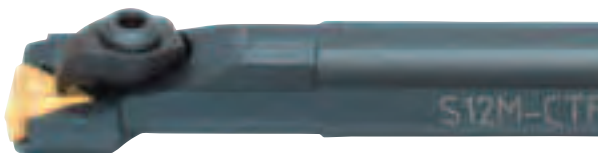
Illustrated are a few basic tool styles from a range that covers the majority of applications in turning. Generally Indexable toolholders use shims made of carbide that lie underneath the inserts in the holder pockets, fixed by means of a pin or screw. They provide clearance and maximum support which is achieved for the insert to absorb the cutting force. In the event of insert fracture, they protect the toolholder from damage.

C-Style Top Clamp

Especially suitable for boring and medium to heavy external turning operations, using positive rakes, various chip breakers and extra side clearance. The clamp is brought down onto the insert by a screw through the clamp. The clamp is designed and positioned so as not to hamper chip flow. When the screw is loosened the clamp lifts and a lug at the back of the clamp keeps it in position. The insert is securely fixed in the two-sided pocket by the positive, direct screw clamp action which gives solid clamping of insert types with no centre hole.



External



Internal

M-Style Combination Clamp & Pin

Suitable for turning and boring operations that require better accessibility than the lever system. The insert is clamped by a top clamp pushing the insert towards a fixed pin. The clamp improves rigidity by wedging the insert against the fixed pin and also clamping the insert down. The insert is held very securely but released through just a slight turn of the screw. The design also provides a clear top face. This design does not provide the same clamping stability as the two sided pocket design of the lever lock type.



External



Internal

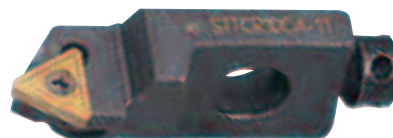
Cartridge Units

Many boring, external and combination operations require a number of cuts to be made in a single feed of the tool. In other operations it is wise to distribute the depth of cut on several cutting edges. For this purpose special tools are designed based on standard cartridge units. Compared to tools with fixed insert seats the use of built-in tools gives the following advantage: Relatively small positional tolerances can be maintained. If the tool has to be changed, due to minor modification of the workpiece, the built-in units can be adjusted rather than the entire tool. An expensive tool is not damaged should there be an accident.

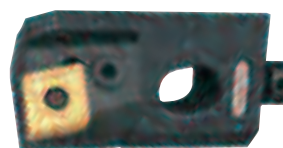
These items are available on request.
Please contact your distributor for further information.



C-Style



S-Style



P-Style

Widest range of styles and sizes. All compatible with ISO inserts.
Complete range of spares in stock. Full technical support services provided.

Performance Tooling
Assured Quality

INDEXA-SEIKI™

Indexable Toolholders & Boring Bars

Illustrated are a few basic tool styles from a range that covers the majority of applications in turning. Generally Indexable toolholders use shims made of carbide that lie underneath the inserts in the holder pockets, fixed by means of a pin or screw. They provide clearance and maximum support which is achieved for the insert to absorb the cutting force. In the event of insert fracture, they protect the toolholder from damage.

P-Style Lever Lock

For external turning and boring of larger diameter holes. Versatile general purpose system for light to heavy machining, utilising a wide range of negative/positive inserts to cover most applications. Inserts are clamped using the centre hole. A pivoted lever tilts by adjustment of the clamping screw. The lever forces the insert backwards into the pocket locating it firmly against two sides giving excellent stability and locating accuracy. This will ensure unobstructed chip flow over the insert top face. Easy to operate for quick indexing.



External



Internal

S-Style Screw-on

For the internal machining of small diameters and for external light roughing to finishing of smaller work pieces. Offers secure insert clamping, excellent repeatability, uninterrupted chip clearance, requires little space and few spares. Suitable for copy turning due to the positive insert being positioned neutrally in the toolholder, giving constant clearance around the periphery and ensuring a clean cut, excellent surface finish and long tool life. The single screw, fits into a hole in the insert pocket holding both insert and shim in place.



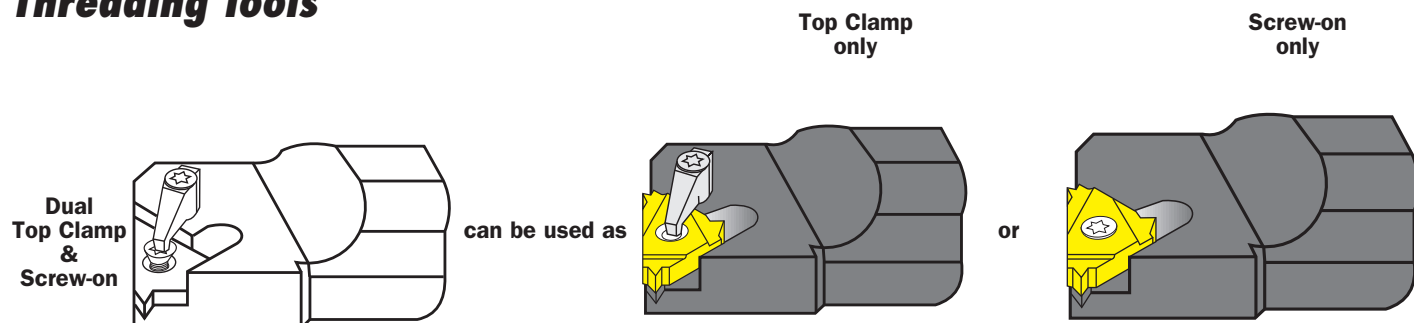
External



Internal

Carbide Shank Boring Bars also available

Threading Tools



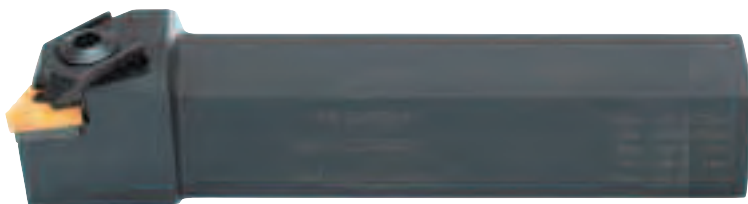
Widest range of styles and sizes. All compatible with ISO inserts. Complete range of spares in stock. Full technical support services provided.

Performance Tooling
Assured Quality

Combination Top Clamp & Pinlock External Toolholders

MTJN R

93° approach for negative triangular inserts.



Designation		Dimensions (mm)					Weight	Order Code
MTJN....	h=h ₁	b	l ₁	l ₂	f		each	IND-106
R 2020K 16	20	20	125	34	25		427g	-1300K
R 2525M 16	25	25	150	34	32		753g	-1320K

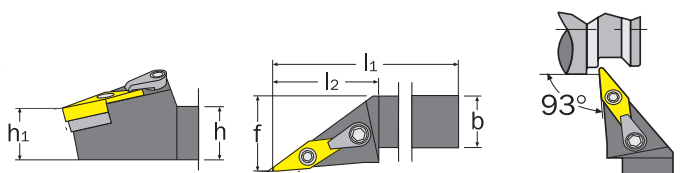
Spares to Suit Contact your local branch for prices

Shim	Lock Pin	Clamp					
Order Code IND-107							
-2087K	-1480K	-0943K	-	-	-	-	-

Inserts See Group 120
Sizes : **16** = 1604

MVJN R/L

93° approach for negative 35° rhombic inserts.



Designation		Dimensions (mm)					Weight	Order Code
MVJN....	h=h ₁	b	l ₁	l ₂	f		each	IND-106
R 2020K 16	20	20	125	37	25		395g	-1500K
L 2020K 16	20	20	125	37	25		398g	-1510K
R 2525M 16	25	25	150	37	32		679g	-1520K
L 2525M 16	25	25	150	37	32		688g	-1530K

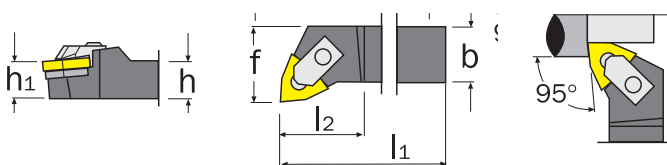
Spares to Suit Contact your local branch for prices

Shim	Lock Pin	Clamp	Clamp Screw			Shim Key	Clamp Key
Order Code IND-107						Order Code KEN-601	
-2100K	-1600K	-0600K	-0900K	-	-	-1200K	-1300K
-2100K	-1600K	-0600K	-0900K	-	-	-1200K	-1300K

Inserts See Group 120
Sizes **16** = 1604__

MWLN R/L

95° approach for negative 80° trigon inserts.



Designation		Dimensions (mm)					Weight	Order Code
MWLN....	h=h ₁	b	l ₁	l ₂	f		each	IND-106
R 2020K 08	20	20	125	34	25		453g	-1680K
L 2020K 08	20	20	125	34	25		465g	-1690K
R 2525M 08	25	25	150	34	32		789g	-1700K
L 2525M 08	25	25	150	34	32		776g	-1710K

Spares to Suit Contact your local branch for prices

Shim	Lock Pin	Clamp	Clamp Screw			Shim Key	Clamp Key
Order Code IND-107						Order Code KEN-601	
-2920K	-1680K	-0940K	-0080K	-	-	-1250K	-1500K
-2920K	-1680K	-0940K	-0080K	-	-	-1250K	-1500K

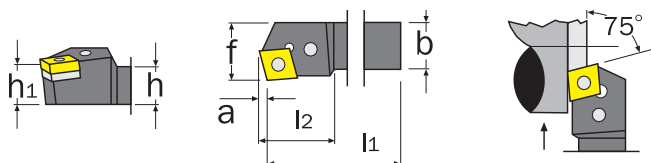
Inserts See Group 120
Sizes **08** = 0804__

INDEXA-SEIKI

Lever Lock External Toolholders Continued

PCKN R/L

75° approach for negative 80° rhombic inserts.



Designation PCKN....	Dimensions (mm)						Weight each	Order Code IND-106
	h=h ₁	b	l ₁	l ₂	f	a		
R 2020K 12	20	20	125	28	25	3.1	408g	-1820K
R 2525M 12	25	25	150	34	22	3.8	760g	-1860K

Spares to Suit Contact your local branch for prices

Shim	Shim Pin	Lever	Lever Screw				Hex Key
Order Code IND-107							Order Code KEN-601
-2150K	-3100K	-1050K	-1400K	-	-	-	-1300K
-2150K	-3100K	-1050K	-1400K	-	-	-	-1300K

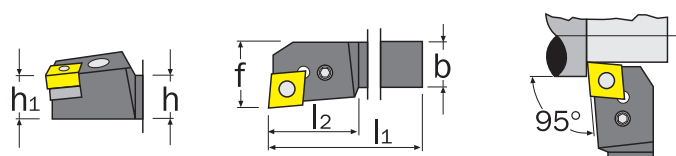
Inserts See Group 120
Sizes **12** = 1204__

CN_A

CN_G

PCLN R/L

95° approach for negative 80° rhombic inserts.



Designation PCLN....	Dimensions (mm)						Weight each	Order Code IND-106
	h=h ₁	b	l ₁	l ₂	f	a		
R 1616H 12	16	16	100	26	20		206g	-1960K
R 2020K 12	20	20	125	28	25		404g	-2000K
L 2020K 12	20	20	125	28	25		404g	-2010K
R 2525M 12	25	25	150	28	32		742g	-2040K
L 2525M 12	25	25	150	28	32		738g	-2050K

Spares to Suit Contact your local branch for prices

Shim	Shim Pin	Lever	Lever Screw				Hex Key
Order Code IND-107							Order Code KEN-601
-2150K	-3100K	-1260K	-1500K	-	-	-	-1300K
-2150K	-3100K	-1050K	-1400K	-	-	-	-1300K
-2150K	-3100K	-1050K	-1400K	-	-	-	-1300K

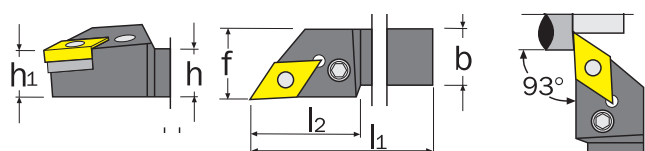
Inserts See Group 120
Sizes **09** = 0903__
Sizes **12** = 1204__
Sizes **16** = 1606__
Sizes **19** = 1906__

CN_A

CN_G

PDJN R/L

93° approach for negative 55° rhombic inserts.



Designation PDJN....	Dimensions (mm)						Weight each	Order Code IND-106
	h=h ₁	b	l ₁	l ₂	f	a		
R 2020K 11	20	20	125	30	25		386g	-2380K
L 2020K 11	20	20	125	30	25		383g	-2390K
R 2020K 15	20	20	125	34	25		383g	-2400K
L 2020K 15	20	20	125	34	25		393g	-2410K

Spares to Suit Contact your local branch for prices

1104 Shim	1506 Shim	1504 Shim	Shim Pin	Lever	Lever Screw		Hex Key
Order Code IND-107							Order Code KEN-601
-2800K	-	-	-3050K	-0950K	-1300K	-	-1250K
-	-2250K	-2270K	-3100K	-1100K	-1410K	-	-1300K

Inserts See Group 120
Sizes **11** = 1104__
Sizes **15** = 1506__
= 1504__ (optional)

DN_A

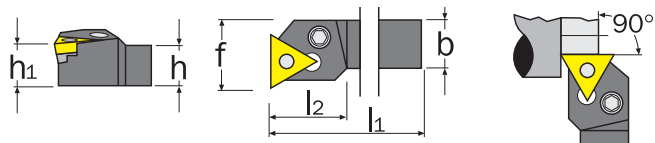
DN_G

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PTFN R/L

90° approach for negative triangular inserts.



Designation	Dimensions (mm)					Order Code
PTFN....	h=h ₁	b	l ₁	l ₂	f	IND-106
R 2020K 16	20	20	125	22	25	-3680K
R 2525M 16	25	25	150	22	32	-3740K

Spares to Suit Contact your local branch for prices

Shim	Shim Pin	Lever	Lever Screw				Hex Key
Order Code IND-107							Order Code KEN-601
-2450K	-3050K	-0950K	-1300K	-	-	-	-1250K
-2450K	-3050K	-0950K	-1300K	-	-	-	-1250K

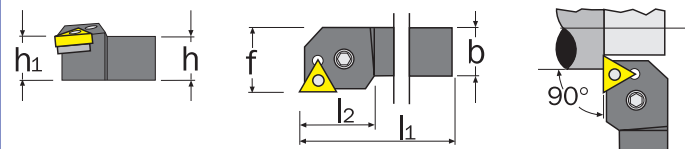
Inserts See Group 120

Sizes 16 = 1604__



PTGN R/L

90° approach for negative triangular inserts.



Designation	Dimensions (mm)					Order Code
PTGN....	h=h ₁	b	l ₁	l ₂	f	IND-106
R 2020K 16	20	20	125	22	25	-3940K
L 2020K 16						-3950K
R 2525M 16	25	25	150	22	32	-3960K
L 2525M 16						-3970K

Spares to Suit Contact your local branch for prices

Shim	Shim Pin	Lever	Clamp Screw				Hex Key
Order Code IND-107							Order Code KEN-601
-2450K	-3050K	-0950K	-1300K	-	-	-	-1250K
-2450K	-3050K	-0950K	-1300K	-	-	-	-1250K

Inserts See Group 120

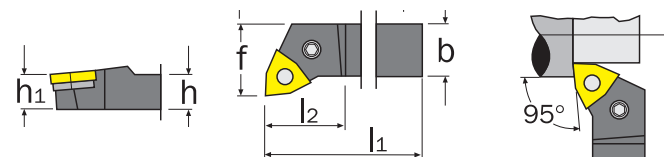
Size 16 = 1604__

Size 22 = 2204__



PWLN R/L

95° approach for negative 80° trigon inserts.



Designation	Dimensions (mm)					Order Code
PWLN....	h=h ₁	b	l ₁	l ₂	f	IND-106
R 1616H 06	16	16	100	21	20	-4080K
R 2020K 06	20	20	125	25	25	-4090K
R 2020K 08	20	20	125	25	25	-4100K
R 2525M 06	25	25	150	34	32	-4114K
R 2525M 08	25	25	150	34	32	-4120K

Spares to Suit Contact your local branch for prices

Shim	Shim Pin	Lever	Clamp Screw				Hex Key
Order Code IND-107							Order Code KEN-601
-2083K	-3050K	-0950K	-1300K	-	-	-	-1250K
-2084K	-3100K	-1050K	-1400K	-	-	-	-1300K
-2083K	-3050K	-0950K	-1300K	-	-	-	-1250K
-2084K	-3100K	-1050K	-1400K	-	-	-	-1300K

Inserts See Group 120

Size 06 = 0604__

Size 08 = 0804__



INDEXA-SEIKI

Screw-On External Toolholders Continued

SCLC R/L

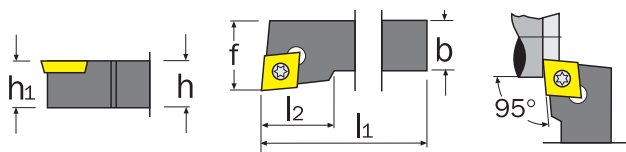
95° approach for 7° positive
80° rhombic inserts.



Inserts See Group 120

Size **06** = 0602____
Size **09** = 09T3____
Size **12** = 1204____

CC_T



Spares to Suit Contact your local branch for prices

Shim	Shim Screw	Insert Screw						Torx Key
Order Code IND-107								
-	-	-3250K	-	-	-	-	-	-5070K
-	-		-	-	-	-	-5150K	
-	-		-	-	-	-	-5150K	
-	-		-	-	-	-	-5150K	

Designation	Dimensions (mm)	Order Code
SCLC....	h=h1 b l1 l2 f	IND-106
R 1010E 06		-4420K
L 1010E 06	10 10 70 10 12	-4430K
R 1212F 09	12 12 80 16 16	-4460K
L 1212F 09		-4470K
R 1616H 09	16 16 100 16 20	-4480K
L 1616H 09		-4490K
R 2020K 09	20 20 125 20.5 25	-4500K
L 2020K 09		-4505K

SDJC R/L

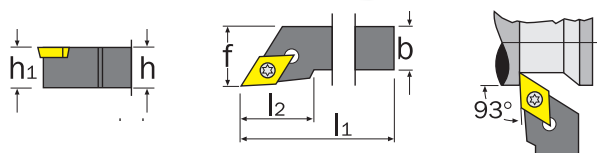
93° approach for 7° positive
55° rhombic inserts.



Inserts See Group 120

Size **07** = 0702____
Size **11** = 11T3____

DC_T



Spares to Suit Contact your local branch for prices

Shim	Shim Screw	Insert Screw						Torx Key
Order Code IND-107								
-	-	-3400K	-	-	-	-	-	-5150K
-2246K	-1570K	-3400K	-	-	-	-	-	-5150K

Designation	Dimensions (mm)	Order Code
SDJC....	h=h1 b l1 l2 f	IND-106
R 1212F 11	12 12 80 18 16	-4580K
L 1212F 11		-4590K
R 2020K 11	20 20 125 22 25	-4640K
R 2525M 11	25 25 150 22 32	-4660K

SSDC N

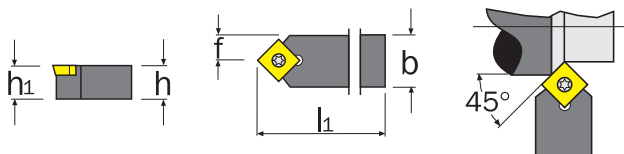
45° approach for
7° positive square
inserts.



Inserts See Group 120

Sizes **09** = 09T3____
Sizes **12** = 1204____

SC_T



Spares to Suit Contact your local branch for prices

Shim	Shim Screw	Insert Screw						Torx Key
Order Code IND-107								
-	-		-	-	-	-	-	-5150K
-	-		-	-	-	-	-	-5150K

Designation	Dimensions (mm)	Order Code
SSDC....	h=h1 b l1 l2 f	IND-106
N 1212F 09	12 12 80 - 6	-5160K
N 1616H 09	16 16 100 - 8	-5180K

SVLB R/L

95° approach for 5° positive
35° rhombic inserts.



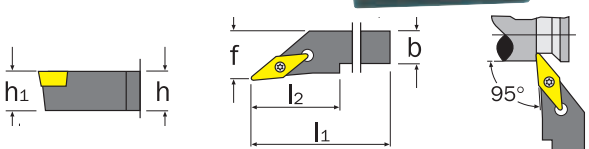
Inserts See Group 120

Size **16** = 1604

VB_T

VB_A

VB_M



Spares to Suit Contact your local branch for prices

Shim	Shim Screw	Insert Screw						Torx Key
Order Code IND-107								
-2910K	-1570K	-3400K	-	-	-	-	-	-5150K
-2910K	-1570K	-3400K	-	-	-	-	-	-5150K

Designation	Dimensions (mm)	Order Code
SVLB....	h=h1 b l1 l2 f	IND-106
R 2020K 16	20 20 125 42 25	-5940K
L 2020K 16		-5950K
R 2525M 16	25 25 150 42 32	-6020K
L 2525M 16		-6030K

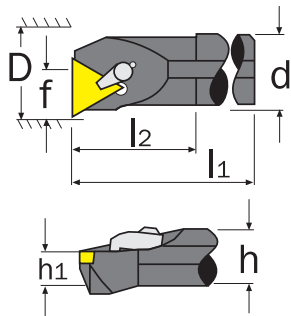
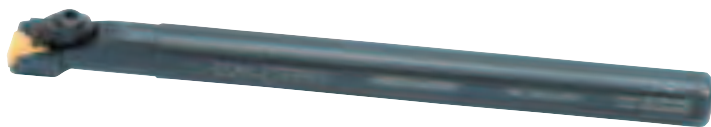
PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

INDEXA-SEIKI

Top Clamp
Boring Bars

CTFP R/L

90° approach for 11° positive triangular inserts.



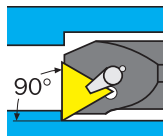
Inserts See Group 120

Sizes **11** = 1103__
Sizes **16** = 1603__

TP_R



TP_N



ISO Designation	dg7	h	h1	l1	l2	f	Dmin	Order Code
S12M CTFPR 11	12	11	5.5	150	25	9	16	-6400K
S16R CTFPR 11	16	15	7.5	200	30	11	20	-6410K
S25T CTFPR 16	25	23	11.5	300	40	17	31	-6460K

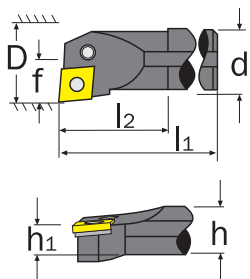
Spares to Suit Contact your local branch for prices

Order Code	IND-107						Order Code
-	-	-4250K	-	-	-	-	KEN-601
-	-	-4210K	-	-	-	-	-1250K
-	-	-4220K	-	-	-	-	-1300K

Lever Lock Boring Bars

PCLN R/L

95° approach for 80° negative rhombic inserts.



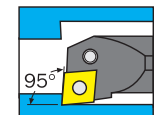
Inserts See Group 120

Sizes **09** = 0903__
Sizes **12** = 1204__
Sizes **16** = 1606__

CN_A



CN_G



ISO Designation	dg7	h	h1	l1	l2	f	Dmin	Order Code
S25T PCLNR 12	25	23	11.5	300	40	17.0	31	-6820K
S32U PCLNR 12	32	30	15.0	350	50	22.0	39	-6840K

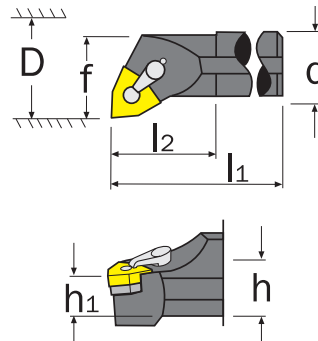
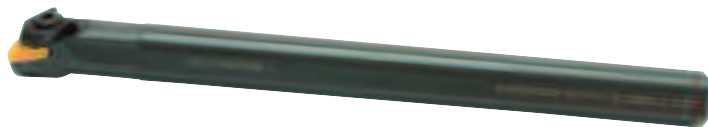
Spares to Suit Contact your local branch for prices

Order Code	IND-107						Order Code
-	-3100K	-1150K	-1450K	-	-	-	KEN-601
-2150K	-3100K	-1260K	-1500K	-	-	-	-1250K
				-	-	-	-1300K

Top Clamp & Pin Lock Boring Bars

MWLN R/L

95° approach for 80° negative trigon inserts.

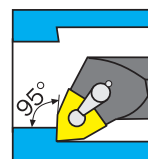


Inserts See Group 120

Sizes **08** = 0804__

WN_A

WN_G



ISO Designation	dg7	h	h1	l1	l2	f	Dmin	Order Code
S40V MWLNR 08	40	37	18.5	400	60	27	48	-6782K

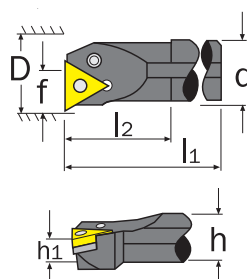
Spares to Suit Contact your local branch for prices

Order Code	IND-107						Order Code	KEN-601
-2920K	-1680K	-0940K	-1880K	-	-	-	-1250K	-1500K

Lever Lock Boring Bars

PTFN R/L

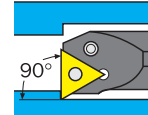
90° approach for negative triangular inserts.



Inserts See Group 120

Sizes **16** = 1604__
Sizes **22** = 2204__

TN_G



ISO Designation	dg7	h	h1	l1	l2	f	Dmin	Order Code
S25T PTFNR 16	25	23	11.5	300	40	17	31	-7200K
S32U PTFNR 16	32	30	15.0	350	50	22	39	-7240K

Spares to Suit Contact your local branch for prices

Order Code	IND-107						Order Code
-	-1000K	-1350K	-	-	-	-	KEN-601
-2450K	-3050K	-0950K	-1300K	-	-	-	-1200K
				-	-	-	-1250K

INDEXA-SEIKI

Lever Lock Boring Bars Continued

PWLN R/L

95° approach for negative 80° Trigon inserts.

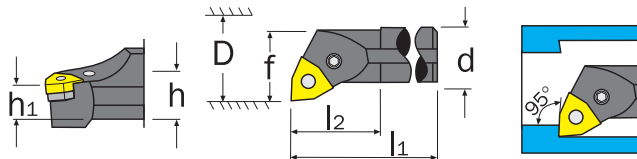


Inserts See Group 120

Sizes **06** = 0604__

Sizes **08** = 0804__

WN_G



Spares to Suit Contact your local branch for prices

Shim	Shim Pin	Lever	Lever Screw				Hex Key
Order Code IND-107							Order Code KEN-601
-	-	-1000K	-1350K	-	-	-	-1250K
-	-	-1000K	-1350K	-	-	-	-1250K

Screw-On Boring Bars

SCLC R/L

95° approach for 7° positive 80° rhombic inserts.

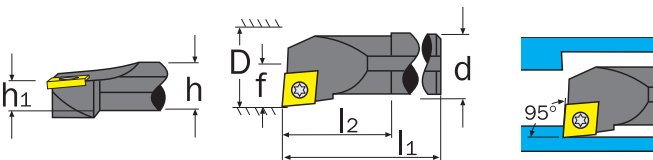


Inserts See Group 120

Sizes **06** = 0602__

Sizes **09** = 09T3__

CC_T



Spares to Suit Contact your local branch for prices

Insert Screw							Torx Key
Order Code IND-107							
-	-3250K	-	-	-	-	-	-5070K
-	-3250K	-	-	-	-	-	-5070K
-	-3250K	-	-	-	-	-	-5070K
-	-3350K	-	-	-	-	-	-5150K
-	-3350K	-	-	-	-	-	-5150K
-	-3350K	-	-	-	-	-	-5150K

Screw-on Boring Bars (Through Coolant)

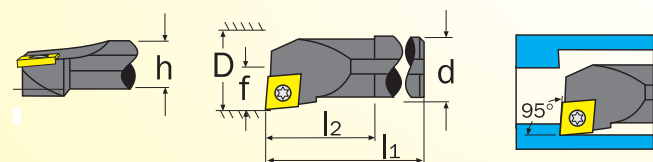
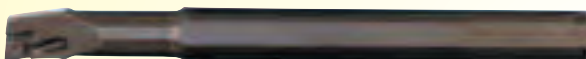
95° approach. Uses CCMT 06 inserts.

**WITH
THROUGH
COOLANT**

Inserts See Group 120

Sizes **06** = 0602__

CC_T



QBC-06 Quad Bore Holder Set – SCLC R

A set featuring 4 SCLCR 95° approach screw-on boring bars in 6, 8, 10 and 12mm diameter, the bars use a CCMT 06 insert. For small diameter bores on manual and CNC lathes.



Spares to Suit Contact your local branch for prices

Insert Screw							Torx Key
Order Code IND-107							
-	-5240K	-	-	-	-	-	-5070K

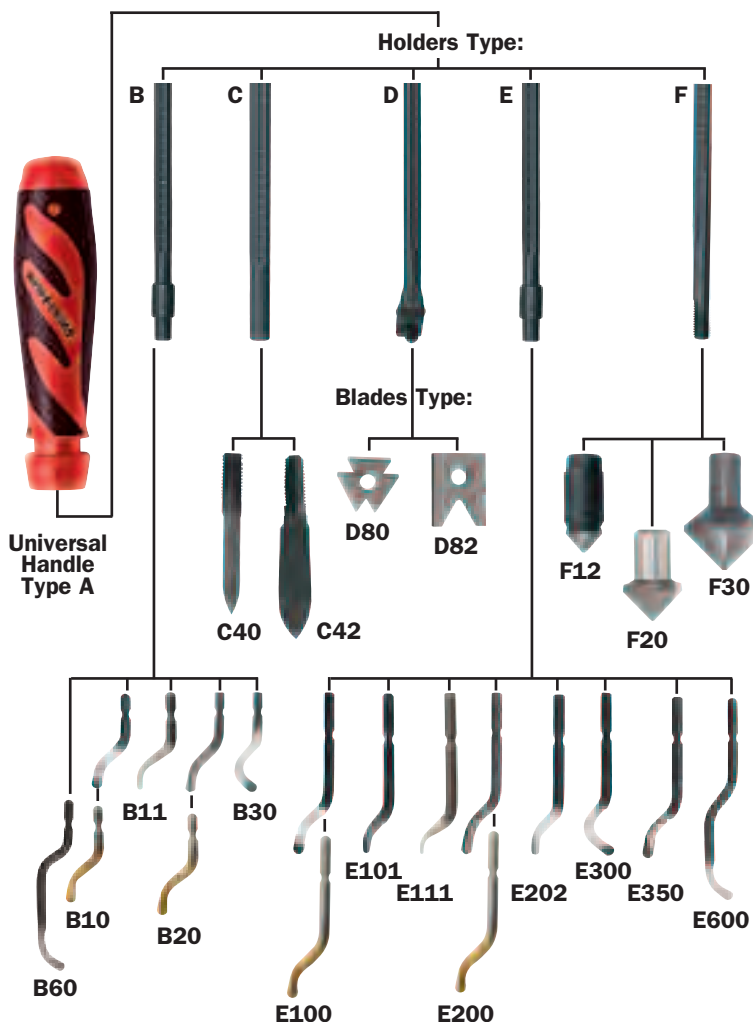
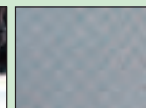
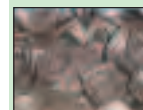
ISO Designation		dg7	h	h1	l1	l2	f	Dmin	Order Code
A0608H SCLC	06	6	7	100	25	4	8		-7530K
A0810J SCLC	06	8	9	110	32	6	12		-7532K
A01012K SCLC	06	10	11	125	38	7	14		-7534K
A01216M SCLCR	06	12	15	150	50	9	18		-7536K

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

SWISS+BURR Modular
Deburring Tools

An interchangeable system of handle, holders and blades designed to cover all hand applications of deburring. Made up of HSS and carbide blades, countersinks and scrapers along with ergonomically designed handles. This is one of the most comprehensive ranges available.

Blades are interchangeable with commonly available brands including Kennedy®, Noga®, Ruko®, Seco®, Snap-Tap® and Stellram®.

Application Range**Straight Edge****Hole Edge****Outer Edge****Cross Hole Both Edges****Hole Back Edge****Hole Inner Surface****Flat Surface****Sheets****Slot/Keyway****Inner Straight Corners****Industry Sectors****Mould & Dies****Construction & Trade****Railways****Automotive****General Engineering****Energy & Power****Aerospace****Agriculture****Oil & Gas****Medical****Material Range****Steel****Aluminium****Copper****Brass****Stainless Steel****Sheet Metal****Hard Metal****Plastics****Cast****Rubber****Universal Ergonomic Handle**

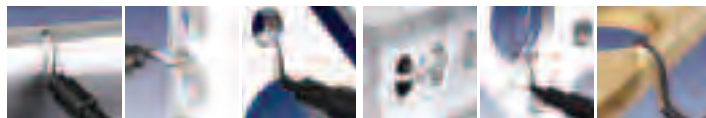
Modern ergonomic handle design, with an easy to use spring release mechanism. Pulling back on the locking head collar releases the telescopic blade holder for optimal length. Works with all **SWISS+BURR** holders and blades.



Type	To Suit	Weight each	Order Code
A	B, C, D, E & F Holders	130g	SWT-109 -1010A

Holders

Type	Suitable For Type	Weight each	Order Code
B	B Blades	50g	-1020B
C	C Scrapers	40g	-1200K
E	E Blades	40g	-1400A
F	F Countersinks	50g	-1600P

**Heavy Duty Slim Grip Handle**
SB2000

SWISS+BURR hand deburring tools are a fast, effective and efficient way of deburring holes, slots and edges. **SWISS+BURR** is a totally modular system of interchangeable handles, holders and blades designed to cover all applications. A choice of HSS or carbide blades, countersinks and scrapers are available to suit your specific application. **SWISS+BURR** blades are also interchangeable with commonly available brands including Kennedy®, Noga®, Ruko®, Seco®, Snap-Tap® and Stellram®.



Product Number	Suitable for Type	Order Code
SB2000	E Blades	SWT-109 -6010A

Application Table (by Material)

Material Blade	Steel	Aluminium	Copper	Brass	Cast Iron	Plastics	Stainless Steel	Hardened Steels
B10	•	•	•			•		
B10 TiN	•	•	•			•	•	
B10 HSSCo	•	•	•			•	•	
B11	•	•	•			•		
B20				•	•	•		
B20 TiN				•	•	•		
B30	•	•	•			•		
B60	•	•	•			•		
C40/C42	•	•	•	•	•	•	•	
D80/D82	•	•	•	•	•	•	•	•
E100/E101	•	•	•			•		
E100 TiN	•	•	•				•	•
E111	•	•	•			•		
E200/E202				•	•	•		
E200 TiN				•	•	•		
E300	•	•	•			•		
E350				•	•			
E600	•	•	•			•		
F12/F20/F30	•	•	•	•	•	•	•	
N80	•	•	•			•	•	
N80K	•	•	•	•	•	•	•	

Light Duty Blades

B10

HSS Blade for straight and hole edge deburring.



B11

B10 geometry with thin nose for small diameter holes down to 2mm.



B20

HSS Blade for straight and hole edge deburring, blade design allows clockwise and anti-clockwise movement.



B30

HSS Blade for Cross-Hole and both edges, blade will simultaneously deburr the inside and outside of the hole. For use on holes up to 4mm thick.



B60

HSS Blade for deburring back edges on holes, will remove burrs from the back edge of holes up to 20mm thick.



Type	Description	Weight each	Order Code SWT-109
B10	Steel & Aluminium	30g/10	-1030C
B10 TiN	Steel & Aluminium	30g/10	-1031B
B10 HSSCo	Steel & Aluminium	30g/10	-1031M
B11	Steel & Aluminium	30g/10	-1032C
B20 TiN	Steel & Aluminium	30g/10	-1041B
B20	Brass & Cast Iron	30g/10	-1040D
B30	Sheet & Tubing, Front & Rear Cut	20g/10	-1050E
B60	Rear Cut - Extra Length	30g/10	-1060F

DEBURRING TOOLS

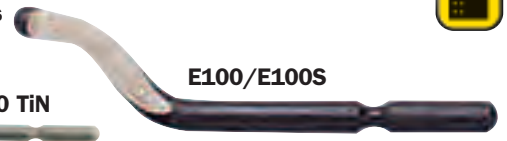
Modular Deburring Tools

Heavy Duty Blades

E100/E100S



E100/E100S



HSS heavy duty blade for use on straight and hole edges, for deburring materials with spiral chips. E100S has additional cobalt content for use on hardened materials.

E101



HSS heavy duty blade for use on straight and hole edges, E style shank with B10 cutting geometry, for use on materials with spiral chips and holes with minimum diameter of 2mm.

E111



HSS heavy duty blade is for straight and hole edge deburring, for use on materials with spiral chips, steel, aluminium, copper and plastic.

E200



HSS heavy duty blade for use on straight and hole edges, blade design allows clockwise and anti-clockwise movement for use on materials with powdery chips.

E202



HSS heavy duty blade for use on straight and hole edges, E style shank with B20 cutting geometry, blade design allows clockwise and anti clockwise movement for use on materials with powdery chips.

E300



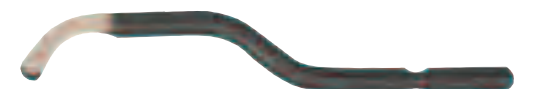
HSS heavy duty blade for use on cross-hole and both edges, blade will simultaneously deburr the inside and outside of the hole up to 6mm thick. For use on materials with spiral chips.

E350



HSS heavy duty blade for use on straight and hole edges, blade design allows clockwise and anti-clockwise movement for use on materials with powdery chips.

E600



Heavy duty blade for removing burrs from the back edges of holes up to 20mm thick.

Type	Description	Weight each	Order Code SWT-109
E100	Steel & Aluminium	40g/10	-1420C
E100 TiN	Steel & Aluminium	40g/10	-1421B
E100S	Steel & Aluminium	40g/10	-1422C
E101	Steel & Aluminium, Extra Fine Point	50g/10	-1430D
E111	Steel & Aluminium	40g/10	-1431B
E200	Brass & Cast Iron	40g/10	-1440E
E200 TiN	Steel & Aluminium	40g/10	-1441B
E202	Brass & Cast Iron, Extra Fine Point	40g/10	-1450F
E300	Sheet & Tubing, Front & Rear Cut	50g/10	-1460G
E350	For Deburring Grooves	40g/10	-1480J
E600	Rear Cut - Extra Length	30g/ 5	-1500L

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SWISS+BURR B4 Hand
Deburring Set

The **SWISS+BURR™** B4 deburring set is a popular choice for deburring holes, slots and edges on metals and plastics.

The B4 set contains: **SWISS+BURR™** 1x universal handle, 1x B-holder, B10 and B20 blades.

**4
PIECES**Number
of PiecesOrder Code
SWT-109

4

-5020B**B & C Standard Duty
Deburring & Scraping Set**

The **SWISS+BURR™** B & C Standard Duty Deburring and Scraping Set is ideal for general deburring and scraping use on holes, slots and edges.

The set contains: **SWISS+BURR™** 1x Type A universal handle, 1x Type B Blade holder, 1x B10, 1x B11, 1x B20 TiN, 1x B30, 1x B60, 1x B70 carbide tipped, 1x Type C scraper and 1x C40 triangular scraper.

**11
PIECES**Number
of PiecesOrder Code
SWT-109

11

-5021B**E & C Heavy Duty Deburring & Scraping Set**

The **SWISS+BURR™** E & C Standard Duty Deburring and Scraping Set is ideal for intense deburring and scraping use on holes, slots and edges.

The set contains: **SWISS+BURR™** 1x Type A universal handle, 1x Type C scraper, 1x C42 triangular scraper, 1x Type E blade holder, 1x E100 TiN blade, 1x E111 blade, 1x E200 blade, 1x E300 two sided blade, 1x E600 rear cutting blade and 1x E700 blade.

**11
PIECES**Number
of PiecesOrder Code
SWT-109

11

-5061B**E5 Heavy Duty Hand Deburring Set**

For holes, slots and edges.

The **SWISS+BURR™** E-Type modular hand deburring system is supplied with high speed steel blades, and scrapers along with an ergonomically designed handle and blade holder.

The E5 set contains: **SWISS+BURR™** 1x universal handle, 1x E-holder, 1x E100 blade, 1x E101 blade, 1x E200 blade.

**5
PIECES**Number
of PiecesOrder Code
SWT-109

5

-5050E**E7 Heavy Duty Hand Deburring Set**

For holes, slots and edges.

Modern ergonomic handle design, with an easy to use spring release mechanism. Pulling back on the locking head collar releases the telescopic blade holder for optimal length.

Works with all **SWISS+BURR™** holders and blades.

The E7 set contains: **SWISS+BURR™** 1x universal handle, 1x E-holder, 1x E100 blade, 1x E101 blade, 1x E200 blade, 1x E202 blade, 1x E300 blade.

**7
PIECES**Number
of PiecesOrder Code
SWT-109

7

-5060F**Diamond Coated Filing & Deburring Set**

The set contains: **SWISS+BURR™**

1x extra close handle, 1x E100S and 1x E400 blades plus five different shaped diamond coated files: rectangular, square, triangular, round and half round.

**8
PIECES**Number
of PiecesOrder Code
SWT-109

8

-1350Z

SWISS+BURR C3 Hand Scraper Set

Three cutting edges which when combined with a telescopic holder allow easy access to deburr small holes etc in difficult positions.

The C3 set contains: SWISS+BURR™ 1x ergonomic handle, 1x C type blade holder, and 1x C42 blade.

**3
PIECES**



Number
of Pieces

3

Order Code
SWT-109

-5030C

Scraper Blades

C40 HSS Small Triangular Scraper (4.00mm)

For precision work on back edge and inner surface of holes and flat surfaces.



C42 HSS Small Triangular Scraper (8.00mm)

For precision work on back edge and inner surface of holes and flat surfaces.



Type	Description	Weight each	Order Code SWT-109
C40	Triangular 4 x 20mm	10g	-1220M
C42	Triangular 8 x 30mm	10g	-1230N

D3 Hand Deburring Set

For scraping surfaces and deburring sheet metal up to 3mm thick.

The D3 set contains: SWISS+BURR™ 1x ergonomic handle, 1x D type blade holder and 1x D80 blade.

**3
PIECES**



Number
of Pieces

3

Order Code
SWT-109

-5040D

Corner Chamfering Blades

D80 Solid Carbide Blade

For sheet metal and flat surfaces, for scraping surfaces and deburring sheet metal up to 3mm thick.

D82 Solid Carbide Heavy Duty Blade

With double edge for deburring sheet metal, for deburring sheet metal up to 9mm thick.



Type	Description	Weight each	Order Code SWT-109
D80	Sheet up to 3mm	5g	-1340V
D82	Sheet up to 8mm	9g	-1350W

DB3 Double Burr Hand Deburring Set

For deburring materials with single or double straight edges up to 14.00mm thick. Blade holder fitted with safety hand guard.

The DB3 set contains: SWISS+BURR™ 1x ergonomic handle, 1x blade holder and 2x N80 blades.

**3
PIECES**



Number
of Pieces

3

Description

DB3 Double Burr
Hand Deburring Set

Order Code
SWT-109

-2400K

DEBURRING TOOLS

F3 Hand Chamfering & Countersinking Set

For hole edges up to 20.00mm.

The F3 set contains:

SWISS+BURR™ 1x ergonomic handle, 1x F type blade holder and 1x F20 countersink.



**3
PIECES**



Number
of Pieces

3

Order Code
SWT-109

-5070G

Countersinks - 90° Included Angle

F12

HSS countersink for hole edges up to 12mm dia.

F20

HSS countersink for hole edges up to 20mm dia.

F30

HSS countersink for hole edges up to 30mm dia.



Type	Description	Weight each	Order Code SWT-109
F12 (C12)	Drilled holes up to 12mm Diameter	30g/1	-1610Q
F20 (C20)	Drilled holes up to 20mm Diameter	30g/1	-1620R
F30 (C30)	Drilled holes up to 30mm Diameter	90g/1	-1630S

Mini Burr Set

Lightweight reinforced plastic handle with easy grip and pocket clip. Handle will hold all E style heavy duty blades, supplied with 1x E100 blade. Removable cap for blade storage.

**2
PIECES**



Number
of Pieces

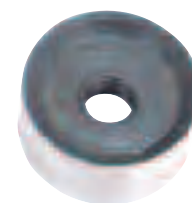
2

Order Code
SWT-109

-2600P

N80 Replacement Blade

HSS double edged round blade for straight edge and sheet metal deburring on materials with spiral chips.



Type	For use with	Weight each	Order Code SWT-109
N80	Type DB3	10g/2	-2080M

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

1 Shape

Symbol	Shape	Nose Angle	Figure
H	Hexagonal	120°	
O	Octagonal	135°	
P	Pentagonal	108°	
S	Square	90°	
T	Triangular	60°	
C	Rhombic	80°	
D		55°	
E		75°	
F		50°	
M		86°	
V		35°	
W	Trigon	80°	
L	Rectangular	90°	
A	Parallelogram	85°	
B		82°	
K		55°	
R	Round	-	

2 Relief Angle

Symbol	Relief Angle
A	3°
B	5°
C	7°
D	15°
E	20°
F	25°
G	30°
N	0
P	11°
O	Others



3 Accuracy

Symbol (class)	Tolerance (mm)		
	Corner Height (m)	Thickness (s) (s)	I.C. Dia. (d)
A	±0.005	±0.025	±0.025
F	±0.005	±0.025	±0.013
C	±0.013	±0.025	±0.025
H	±0.013	±0.025	±0.013
E	±0.025	±0.025	±0.025
G	±0.025	±0.13	±0.025
J	±0.025	±0.13	±0.05 } * ±0.13 }
K	±0.01	±0.025	±0.05 } * ±0.13 }
L	±0.025	±0.025	±0.05 } * ±0.13 }
M	±0.08 } * ±0.18 }	±0.13	±0.05 } * ±0.13 }
N	±0.08 } * ±0.18 }	±0.025	±0.05 } * ±0.13 }
U	±0.13 } * ±0.38 }	±0.13	±0.08 } * ±0.25 }

* Details of accuracy will vary according to shape and size of insert - further details are available on request.

1
T2
N3
M4
G5
16

4 Groove and Hole

Symbol	Shape of Hole	Chipbreaker	Shape
N	Without Hole	Without	
R		Single-sided	
F		Double-sided	
A	Cylindrical Hole	Without	
M		Single-sided	
G		Double-sided	
W	With partly cylindrical hole, double-side 40° - 60°	Without	
T		Single-sided	
Q	With partly cylindrical hole, double-side 40° - 60° Countersink	Without	
U		Double-sided	
B	With partly cylindrical hole, single-side 70° - 90° Countersink	Without	
H		Single-sided	
C	With partly cylindrical hole, single-side 70° - 90° Countersink	Without	
J		Double-sided	
X	Special Type		

5 Cutting Edge Length

																I.C. dia. (mm)
Symbol	Length	Symbol	Length	Symbol	Length	Symbol	Length	Symbol	Length	Symbol	Length	Symbol	Length	Symbol	Length	
03	3.97	03	3.97	03	4.0	02	2.7	06	6.9	04	4.8	-	-	-	-	3.97
-	-	04	4.76	04	4.8	L3	-	08	8.2	05	5.8	-	-	-	-	4.76
05	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.0
-	-	05	5.56	05	5.6	03	3.8	09	9.6	06	6.8	-	-	-	-	5.56
06	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.0
-	-	06	6.35	06	6.5	04	4.3	11	11.0	07	7.8	-	-	-	-	6.35
-	-	07	7.94	08	8.1	05	5.4	13	13.8	09	9.7	-	-	-	-	7.94
08	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.0
09	9.525	09	9.525	09	9.7	06	6.5	16	16.5	11	11.6	16	16.6	16	19.7	9.525
10	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.0
12	12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.0
12	12.7	12	12.7	12	12.9	08	8.7	22	22.0	15	15.5	22	22.1	-	-	12.70
15	15.875	15	15.875	16	16.1	10	10.9	27	27.5	19	19.4	-	-	-	-	15.875
16	16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.0
19	19.05	19	19.05	19	19.3	13	13.0	33	33.0	23	23.3	-	-	-	-	19.05
20	20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.0
-	-	22	22.225	22	22.6	-	-	38	38.5	27	27.1	-	-	-	-	22.225
25	25.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25.0
25	25.4	25	25.4	25	25.8	-	-	44	44.0	31	31.0	-	-	-	-	25.4
31	31.75	31	31.75	32	32.2	-	-	55	55.0	38	38.8	-	-	-	-	31.75
32	32.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32.0

Note: For the insert shape "K", the rule for the relationship between the symbol and the dimension differs from those of other shapes.

Detailed accuracy for **J, K, L, M, N, and U** classes
For inserts whose corner angle is larger than 55°

Inscribed circle	Tolerance on inscribed circle dia. (d)		Tolerance on corner height (m)		Insert Shapes applied
	J, K, L, M, N	U	J, K, L, M, N	U	
6.35	±0.05	±0.08	±0.08	±0.13	H M
9.525					O R
12.70	±0.08	±0.13	±0.13	±0.20	P
15.875	±0.10	±0.18	±0.15	±0.27	S
19.05					T
25.40	±0.13	±0.25	±0.18	±0.38	C E M

For D-type inserts whose corner angles are 55°

Inscribed circle	Tolerance on inscribed circle dia. (d)	Tolerance on corner height (m)	Insert Shapes applied
6.35	±0.05	±0.011	 
9.525			
12.70	±0.08	±0.15	
15.875	±0.10	±0.11	
19.05			

Note: The tolerance for shape V may be increased more than the value above.

7a Edge Preparation (Milling Inserts)

Rake Angle	
A	14°
D	60°
E	75°
F	85°
P	90°
Special	

Relief Angle	
A	3°
B	5°
C	7°
D	15°
E	20°
F	25°
G	30°
N	0°
P	11°
Z	Special

Note on insert thickness

For chipbreaker inserts, the thickness is defined as 'T' (height from the bottom face to the cutting edge) shown in the figure below



6 Thickness

Symbol	Thickness
01	1.59
02	2.38
T2	2.78
03	3.18
T3	3.97
04	4.76
05	5.56
06	6.35
07	7.94
09	9.52

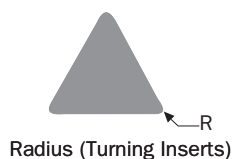


6 **04** **7** **08** **7a** **8** **T** **9** **N** - **10** **XX**

(Optional Symbols)

7 Corner Radius

Symbol	Corner Radius (mm)
00	0.03
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
20	2.0
24	2.4
28	2.8
32	3.2

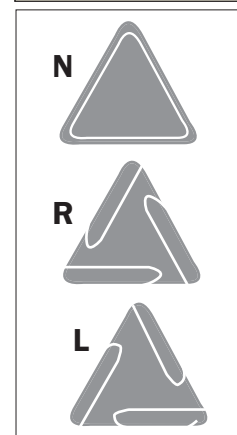


8 Symbols of major cutting edge (Milling Inserts)

Symbol	Condition of Cutting Edge	Shape
F	Sharp Edge	
E	Honed Rounded edge	
T	Chamfered edge	
S	Combination Chamfered & honed edge	

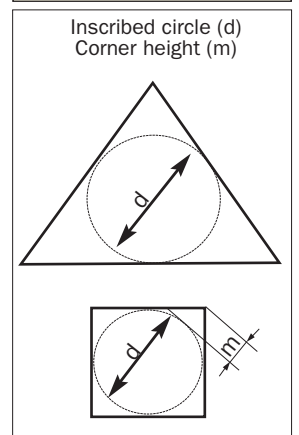
9 Hand of Insert

Symbol	Hand
R	Right
L	Left
N	Neutral



10 Chipbreaker

Chipbreakers are not part of ISO designation. Each manufacturer designates a chipbreaker in their own way.



QX500 (ISO **P10-P25**) Cermet. For high speed finishing and light cutting. Will remain a high class surface finish. Mainly used on steels and can be applied to finish some Stainless steels and Cast Irons.

QX505 (ISO **K05-K15**) Coated. Used for finishing, semi finishing and medium roughing of Cast Irons including Malleable and Nodular Irons, at high speed.

QX510 (ISO **P01-P15 M10-M15 K01-K20**) Coated. Used for finishing on Steels and Stainless Steels, suitable also for turning Cast Irons including Malleable irons at high speeds.

QX5020 (ISO **P10-P35 M10-M30 K10-K30**) CVD Coated. An excellent general purpose grade for medium roughing on Steels, Stainless and Cast Irons.

QX530 (ISO **P25-P35 M15-M25**) Coated. Turning grade for Steels, Cast Steels and Stainless Steels. A good general purpose Steel grade for roughing.

QX5030 (ISO **P20-P40 M20-M30**) CVD Coated. Medium / rough turning and intermediate cutting of steel / stainless steel. Combination of toughest substrate and alumina coating (MT-TiCN + TiC + AL2O3 + TiN) having superior chipping resistance provide wide coverage.

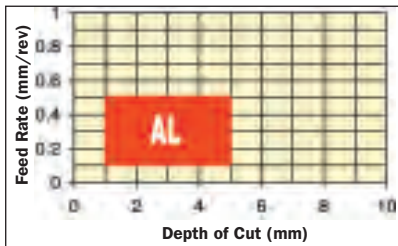
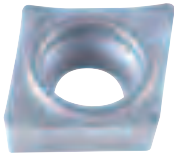
QX535S (ISO **M10-M30**) CVD Coated. For roughing and finishing turning applications on a wide variety of Stainless Steels.

QX8010 (ISO **M10 S10**) Coated. Excellent grade giving superior results on heat resistant super alloys, especially for the aerospace industry. TiAlN based coating ensures high wear resistance on these demanding materials.

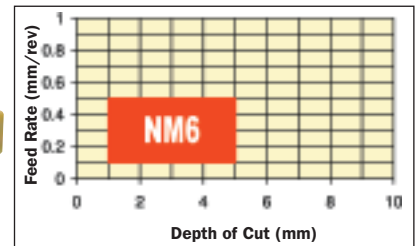
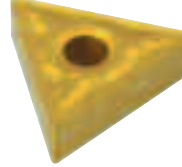
K10 (ISO **K05-K20**) Uncoated. Used in combination with a high rake geometry for matching Aluminiums, Plastics and other soft Non-Ferrous materials.

Material Group	Material Description Like Colour defines similar machineability	Brinell Hardness HB	Rockwell Hardness HRC	Tensile Strength N/mm ²	Speed - m/min									
					QX500	QX505	QX510	QX5020	QX530	QX5030	QX535S	QX8010	K10	
1.1	Mild, soft & free machining non-alloy low carbon steels	-130	-	400	200-270			200-300	180-350	150-200	150-200			
1.2	Non-alloy, case hardening, structural & low to medium carbon steels	-200		700	180-250			200-300	150-320	130-180	130-180			
1.3	Non alloy, plain & medium carbon steels & castings	-260	-26	850	150-220			200-300	130-280	110-150	120-150			
1.4	Generally low to medium alloy steels & castings	-260	-26	850	140-210			170-250	140-210	110-140	120-140			
1.5	Medium to high alloy steels, tool steels & steel	260-340	26-48	850-1200	140-200			140-200	130-200	100-120	100-120			
1.6	Heat treated high alloy steels & castings	340-450	36-48	1200-1500	110-180			90-180	100-170	70-90	70-90			
2.1	Soft, generally easy to machine Ferritic & Martensitic steels & castings	-230	-20	800	90-190				110-220	70-120	170-220	80-120		
2.2	Medium, reasonable to machine Austenitic stainless steels & castings	-290	-30	1000	70-160	100-220		70-140	60-100	70-120	120-170	80-120	30-60	
2.3	Hard, difficult to machine Ferritic & Austenitic (duplex) stainless & castings	-340	-36	1200					50-90	50-90	70-120	80-120	30-70	
3.1	Grey cast iron - soft to medium	-180			175-280	200-420	150-250	190-400						
3.2	Grey cast iron - medium to hard	180-300			160-250	160-340	100-180	150-300						
3.3	Malleable & Nodular iron - soft to medium	-220			175-280	110-300	150-250	120-250						
3.4	Malleable & Nodular irons - medium to hard	220-300			160-250	100-280	100-180	100-200						
4.1	Pure Titanium (also pure Nickel)											30-70		
4.2	Titanium alloys of a medium & hard nature											30-70		
4.3	Titanium alloys of a hard & very hard nature											30-50		
5.1	Heat resistant super alloys including iron based high temperature alloys											30-50		
5.2	Heat resistant super alloys, cobalt or nickel based, medium to hard to machine											30-50		
5.3	Heat resistant super alloys, cobalt or nickel based, hard or very hard to machine											30-50		
6.1	Copper			-500	200-250								200-500	
6.2	Brass (Alpha - long chip)			-800	200-250								200-500	
6.3	Brass (Beta - short chip) & soft Bronze			-800	200-250								100-500	
6.4	High strength Bronze			-1200										
7.1	Unalloyed: Aluminium, Magnesium & Zinc			-150	300-500								400-700	
7.2	Aluminium alloys less than 5% Si Magnesium & Zinc alloys (long chip)			150-300	300-500								400-700	
7.3	Aluminium alloys 5% to 10% Si			200-500	300-500								400-600	
7.4	Aluminium alloys above 10% Si (short chip)			200-500									300-500	
8.1	Thermoplastics												400-700	
8.2	Thermo-setting plastics												400-700	
8.3	Reinforced plastics & composite materials												200-500	

AL - High positive breaker specifically for aluminium alloys.

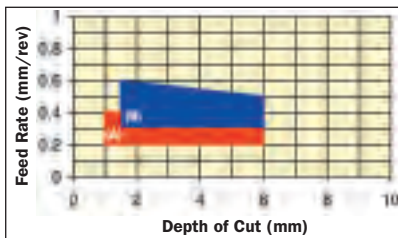


NM6 - General application medium breaker used on negative inserts with tougher grades.

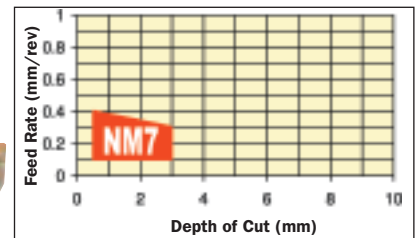


L11 / R11 - General purpose breaker for copy turning.

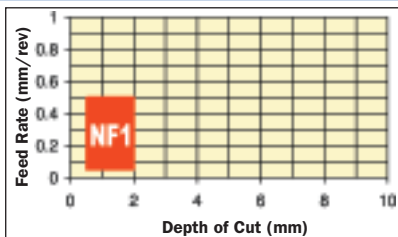
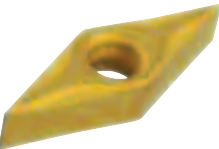
(A): 05 L/R11.
(B): 10 L/R11.



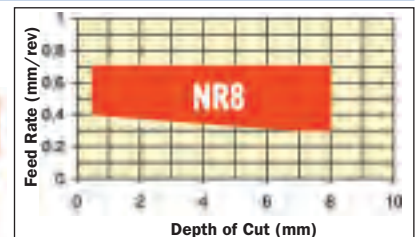
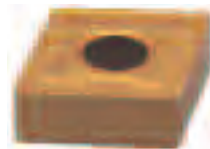
NM7 - A ripple edge breaker ideal for copy turning where cut depth varies and chip control is very important. Use with grade QX520 on steels, stainless and malleable irons.



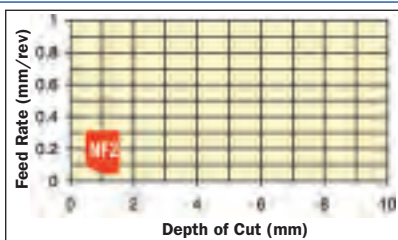
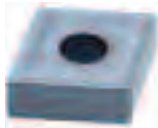
NF1 - Finishing breaker used on small VNMG 12 inserts.



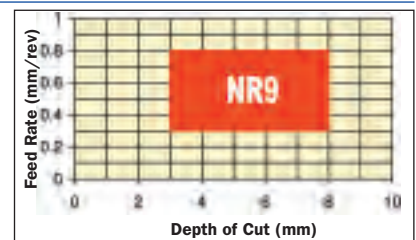
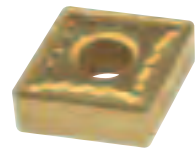
NR8 - Roughing breaker for steels and stainless with grades QX520.



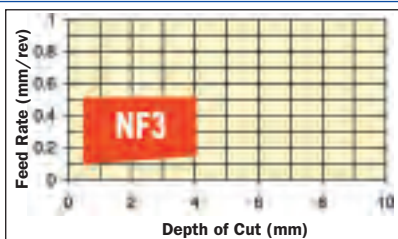
NF2 - A finishing chipbreaker associated with QX500 cermet will provide excellent surface finishes at high speeds on the majority of ferrous materials.



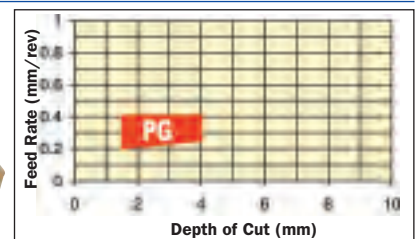
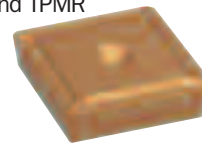
NR9 - General application roughing breaker, suitable for intermittent cuts on negative inserts.



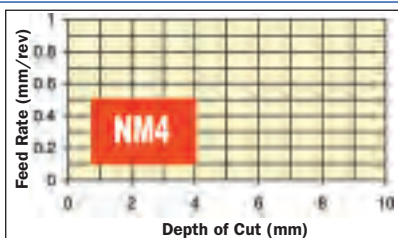
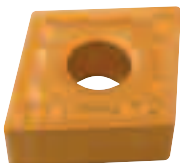
NF3 - Finishing chipbreaker for negative inserts used with QX510 for finishing steel or finish and medium cutting on cast iron.



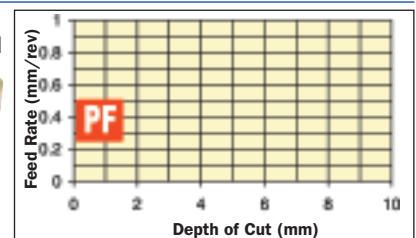
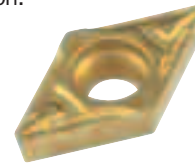
PG - General application finishing and light to medium roughing in conjunction with SPMR and TPMR positive inserts.



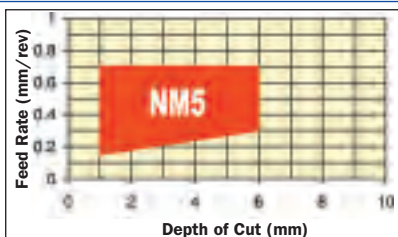
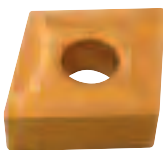
NM4 - Medium breaker used on negative inserts for light to medium roughing.



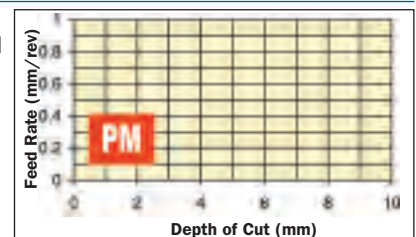
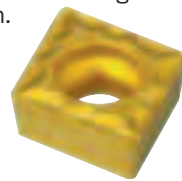
PF - Finishing breaker used on positive inserts for general application.



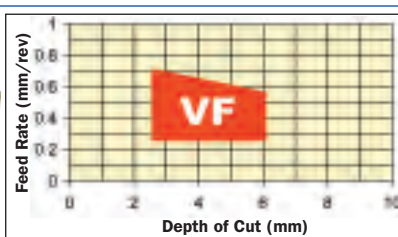
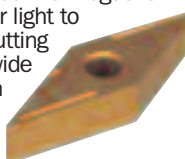
NM5 - General chipbreaker for medium roughing or semi finishing on steels and stainless in combination with grades QX510 and QX520.



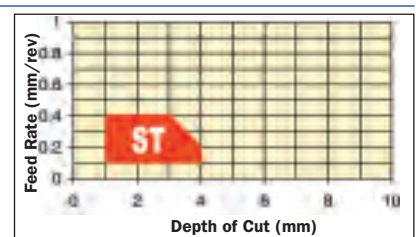
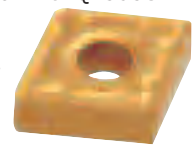
PM - Medium breaker used on positive inserts for general application.



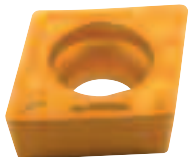
VF - General purpose chipbreaker with a radius groove, used with negative inserts. For light to medium cutting across a wide application band.



ST - Light to medium roughing breaker used in conjunction with QX535S grade for turning stainless steels.



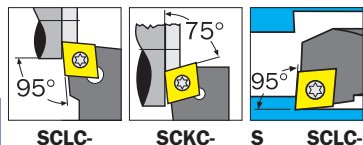
CCGT



P	STEEL
M	STAINLESS STEEL
K	CAST IRON
N	ALUMINIUM
S	SUPER ALLOYS
H	HARDENED STEEL
Chip Breaker	Application
PF	Finish
AL	Med Cut (Alum)

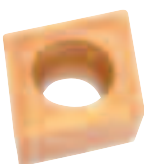
Grade	ISO Designation			P	M	K	N	S	H
K10	-	-	-	05 - 20					✓
QX500	10 - 25	-	-				✓	✓	✓
QX520	10 - 35	10 - 30	10 - 30				✓	✓	✓
QX530	20 - 40	20 - 30	-				✓	✓	

Suitable for External/Internal Toolholders:



Insert Size	Chip-breaker	Grade	Order Code
CCGT			YML-120
060202	AL	K10	-0121N
	PF	QX500	-0223A
060204	PF	QX520	-0223D
	AL	K10	-0131N
09T302	AL	K10	-0151N
	PF	QX500	-0263A
09T304	PF	QX520	-0263D
	AL	K10	-0161N
09T308	AL	K10	-0169N
120402	AL	K10	-0171N
120404	AL	K10	-0181N
120408	AL	K10	-0191N

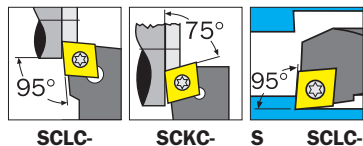
CCMT



Chip Breaker	Application
PM	Med Cut

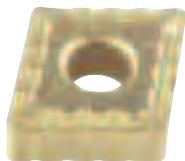
Grade	ISO Designation			P	M	K	N	S	H
K10	-	-	-	05 - 20					✓
QX500	05 - 15	-	-				✓	✓	✓
QX520	10 - 35	10 - 30	10 - 30				✓	✓	✓
QX5020	10 - 35	10 - 30	10 - 30				✓	✓	✓
QX5030	25 - 35	15 - 25	-				✓	✓	

Suitable for External/Internal Toolholders:



Insert Size	Chip-breaker	Grade	Order Code
CCMT			YML-120
060202	PM	QX500	-0351A
	PM	QX5020	-0351G
	PM	QX500	-0355A
060204	PM	QX520	-0355D
	PM	QX5030	-0355H
	PM	QX500	-0403A
09T304	PM	QX520	-0403D
	PM	QX5030	-0403H
	PM	QX500	-0406A
09T308	PM	QX5020	-0406G
120404	PM	QX5020	-0410G

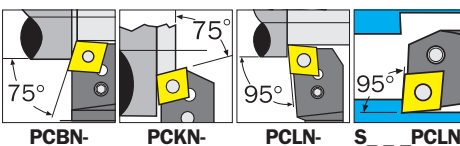
CNMG



Chip Breaker	Application
NF3	Finish
NSA	Light Cut
NM5	Med Cut
NM6	Med Cut
NM7	Med/Rough

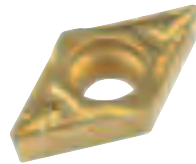
Grade	ISO Designation			P	M	K	N	S	H
QX510	01 - 15	10 - 15	01 - 20				✓	✓	
QX520	10 - 35	10 - 30	10 - 30				✓	✓	✓
QX530	20 - 40	20 - 30	-				✓	✓	
QX5030	25 - 35	15 - 25	-				✓	✓	
QX535S	-	10 - 30	-				✓	✓	
QX8010	10	10	10				✓	✓	✓

Suitable for External/Internal Toolholders:



Insert Size	Chip-breaker	Grade	Order Code
CNMG			YML-120
120404	NM6	QX5030	-0711H
120408	NSA	QX8010	-0724K
	NM6	QX5030	-0716H

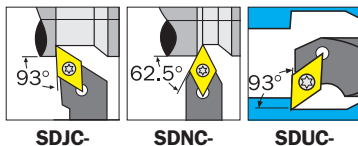
DCGT



Chip Breaker	Application
PF	Finish
AL	Med Cut (Alum)

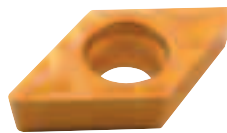
Grade	ISO Designation			P	M	K	N	S	H
K10	-	-	-	05 - 20					✓
QX500	10 - 25	-	-				✓	✓	✓
QX520	10 - 35	10 - 30	10 - 30				✓	✓	✓
QX530	20 - 40	20 - 30	-				✓	✓	

Suitable for Internal/External Toolholders:



Insert Size	Chip-breaker	Grade	Order Code
DCGT			YML-120
070202	AL	K10	-1021N
070204	AL	K10	-1031N
11T302	AL	K10	-1051N
11T304	PF	QX530	-1263E
	AL	K10	-1061N
11T308	AL	K10	-1071N

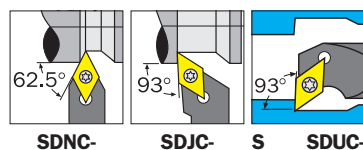
DCMT



Chip Breaker	Application
PM	Med Cut

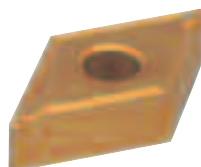
Grade	ISO Designation			P	M	K	N	S	H
QX520	10 - 35	10 - 30	10 - 30				✓	✓	✓
QX5030	25 - 35	15 - 25	-				✓	✓	

Suitable for Internal/External Toolholders:



Insert Size	Chip-breaker	Grade	Order Code
DCMT			YML-120
070204	PM	QX520	-1314D
11T304	PM	QX520	-1328D
	PM	QX5030	-1328H
11T308	PM	QX5020	-1335G
	PM	QX5030	-1335H

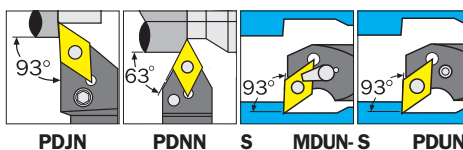
DNMG



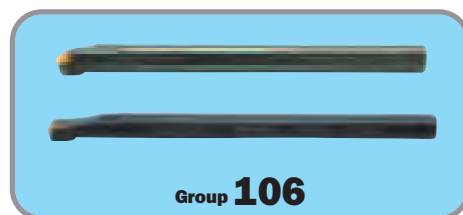
Chip Breaker	Application
NM4	Med Cut
NM5	Med Cut
NM6	Med Cut

Grade	ISO Designation			P	M	K	N	S	H
QX505	-	-	05 - 15				✓	✓	
QX520	10 - 35	10 - 30	10 - 30				✓	✓	✓
QX530	20 - 40	20 - 30	-				✓	✓	
QX5030	25 - 35	15 - 25	-				✓	✓	
QX535S	-	10 - 30	-				✓	✓	
QX8010	10	10	10				✓	✓	✓

Suitable for Internal/External Toolholders:



Insert Size	Chip-breaker	Grade	Order Code
DNMG			YML-120
110404	NM4	QX5020	-1574G
110408	NM4	QX5020	-1575G
150604	NM6	QX530	-1696E
150608	NM6	QX5030	-1716H

Group **106**

YAMALOY
YAMALOY TOOLING - JAPAN

Think *POSITIVE* . . . and *NEGATIVE*

YAMALOY
YAMALOY TOOLING - JAPAN

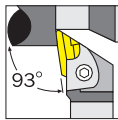
KNUX

Chip Breaker
R11 Application
Rough



Grade	ISO Designation			P	M	K	N	S	H
	P	M	K						
QX520	10 - 35	10 - 30	10 - 30	✓	✓	✓			
QX530	20 - 40	20 - 30	-	✓	✓				

Suitable for External Toolholders:

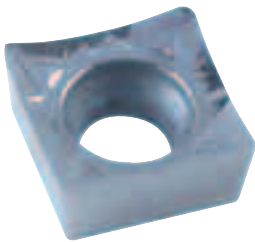


CKJN-

Insert Size	Chip-breaker	Grade	Order Code
160405	R11	QX5030	-2223H
	R11	QX520	-2213D
	R11	QX530	-2213E

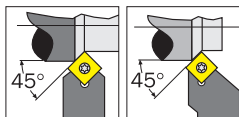
SCGT

Chip Breaker
AL Application
Medium (Alum)



Grade	ISO Designation			P	M	K	N	S	H
	P	M	K						
K10	-	-	05 - 20				✓		

Suitable for External Toolholders:



SSDC-

SSSC-

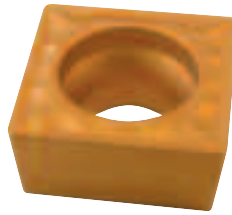
Insert Size	Chip-breaker	Grade	Order Code
09T308	AL	K10	-4169N



Group
445

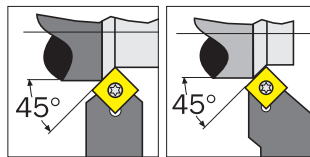
SCMT

Chip Breaker
PM Application
Medium



Grade	ISO Designation			P	M	K	N	S	H
	P	M	K						
QX520	10 - 35	10 - 30	10 - 30	✓	✓	✓			

Suitable for External Toolholders:



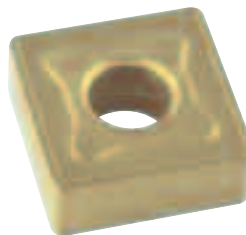
SSDC-

SSSC-

Insert Size	Chip-breaker	Grade	Order Code
09T304	PM	QX520	-0425D

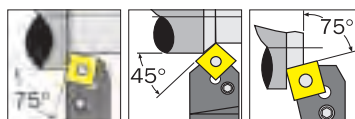
SNMG

Chip Breaker
NM6 Med Cut
NM7 Med/Rough
NR8 Rough



Grade	ISO Designation			P	M	K	N	S	H
	P	M	K						
QX510	01 - 15	10 - 15	01 - 20	✓	✓	✓			
QX520	10 - 35	10 - 30	10 - 30	✓	✓	✓			
QX530	20 - 40	20 - 30	-	✓	✓	✓			
QX5030	25 - 35	15 - 25	-	✓	✓	✓			
QX535S	-	10 - 30	-	✓	✓	✓			

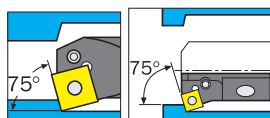
Suitable for Internal/External Toolholders:



PSBN-

PSDN-

PSKN-



S _ _ PSKN-

PSKN-

Insert Size	Chip-breaker	Grade	Order Code
120408	NM6	QX5030	-5336H

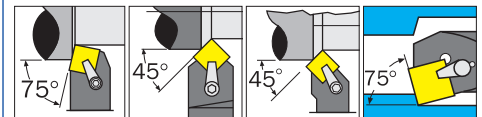
SPMR

Chip Breaker
PG Application
Medium



Grade	ISO Designation			P	M	K	N	S	H
	P	M	K						
QX520	10 - 35	10 - 30	10 - 30	✓	✓	✓			
QX530	20 - 40	20 - 30	-	✓	✓	✓			
QX5020	10 - 35	10 - 30	10 - 30	✓	✓	✓			
QX5030	25 - 35	15 - 25	-	✓	✓	✓			

Suitable for Internal/External Toolholders:



CSBP-

CSDP-

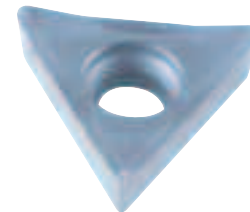
CSSP-

S _ _ CSKP

Insert Size	Chip-breaker	Grade	Order Code
120304	PG	QX520	-6642D
120308	PG	QX5020	-6662G
	PG	QX5030	-6662H

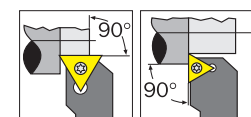
TCGT

Chip Breaker
PF Finish
AL Medium



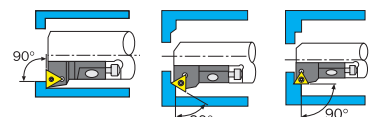
Grade	ISO Designation			P	M	K	N	S	H
	P	M	K						
K10	-	-	05 - 20				✓		
QX520	10 - 35	10 - 30	10 - 30	✓	✓	✓			
QX5020	10 - 35	10 - 30	10 - 30	✓	✓	✓			

Suitable for Internal/External Toolholders:



STFC-

STGC-



STFC-

STTC-

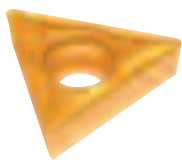
STGC-

Insert Size	Chip-breaker	Grade	Order Code
110202	AL	K10	-6931N
110204	AL	K10	-6941N
16T304	AL	K10	-6971N
16T308	AL	K10	-6981N

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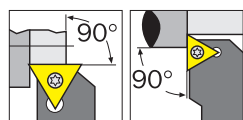
TCMT

Chip Breaker	Application
PM	Med Cut



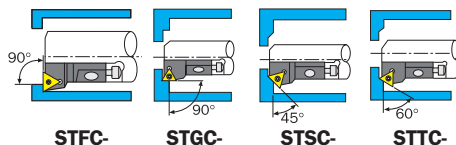
Grade	ISO Designation				P	M	K	N	S	H
QX500	10 - 25	-	-	-	✓	✓	✓	✓	✓	✓
QX520	10 - 35	10 - 30	10 - 30	10 - 30	✓	✓	✓	✓	✓	✓

Suitable for Internal/External Toolholders:



STFC-

STGC-



STFC-

STGC-

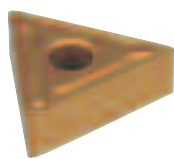
STSC-

STTC-

Insert Size	Chip-breaker	Grade	Order Code
090204	PM	QX5020	-7110G
110204	PM	QX500	-7120A
110204	PM	QX520	-7120D
16T304	PM	QX500	-7140A
16T304	PM	QX5020	-7140G
16T308	PM	QX5020	-7145G

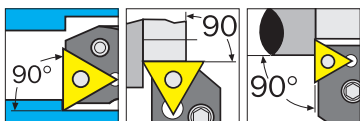
TNMG

Chip Breaker	Application
NF3	Finish
NM5	Med Cut
NM6	Med Cut
NM7	Med Cut
NR8	Rough
NR9	Rough



Grade	ISO Designation				P	M	K	N	S	H
QX500	10 - 25	-	-	-	✓	✓	✓	✓	✓	✓
QX520	10 - 35	10 - 30	10 - 30	10 - 30	✓	✓	✓	✓	✓	✓
QX5030	25 - 35	15 - 25	-	-	✓	✓	✓	✓	✓	✓
QX535S	-	10 - 30	-	-	✓	✓	✓	✓	✓	✓

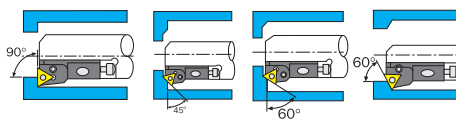
Suitable for Internal/External Toolholders:



S__PTFN-

PTFN-

PTGN-



PTFN

PTSN-

PTTN-

PTWN-

Insert Size	Chip-breaker	Grade	Order Code
160404	NM6	QX5030	-7516H
160408	NM6	QX5030	-7526H

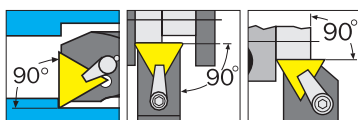
TPMR

Chip Breaker	Application
PG	Med/Cut



Grade	ISO Designation				P	M	K	N	S	H
QX520	10 - 35	10 - 30	10 - 30	10 - 30	✓	✓	✓	✓	✓	✓
QX530	20 - 40	20 - 30	-	-	✓	✓	✓	✓	✓	✓
QX5020	10 - 35	10 - 30	10 - 30	10 - 30	✓	✓	✓	✓	✓	✓
QX5030	25 - 35	15 - 25	-	-	✓	✓	✓	✓	✓	✓

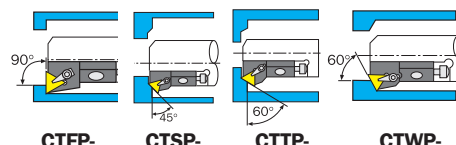
Suitable for Internal/External Toolholders:



S__CTFR-

CTCP-

CTFP-



CTFP-

CTSP-

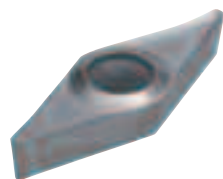
CTTP-

CTWP-

Insert Size	Chip-breaker	Grade	Order Code
110304	PG	QX5020	-8742G
110304	PG	QX5030	-8742H
160304	PG	QX520	-8772D
160308	PG	QX520	-8782D
160308	PG	QX5030	-8782H

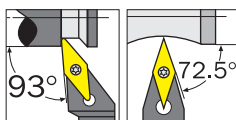
VCGT

Chip Breaker	Application
AL	Med Cut



Grade	ISO Designation				P	M	K	N	S	H
K10	-	-	05 - 20	-	✓	✓	✓	✓	✓	✓

Suitable for External Toolholders:



SVJC-

SVVCN

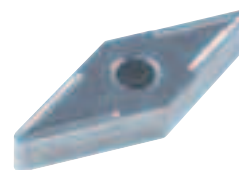
Insert Size	Chip-breaker	Grade	Order Code
110302	AL	K10	-9101N
110304	AL	K10	-9111N
160404	AL	K10	-9141N
160408	AL	K10	-9151N
160412	AL	K10	-9161N

Group 447



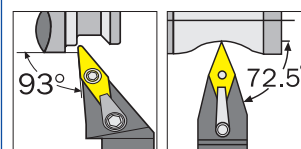
VNMG

Chip Breaker	Application
NFI	Finish
VF	Finish



Grade	ISO Designation				P	M	K	N	S	H
QX500	10 - 25	-	-	-	✓	✓	✓	✓	✓	✓
QX520	10 - 35	10 - 30	10 - 30	10 - 30	✓	✓	✓	✓	✓	✓
QX530	20 - 40	20 - 30	-	-	✓	✓	✓	✓	✓	✓
QX5030	25 - 35	15 - 25	-	-	✓	✓	✓	✓	✓	✓

Suitable for External Toolholders:



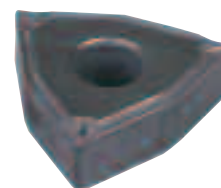
MVJNL-

MVVN-

Insert Size	Chip-breaker	Grade	Order Code
12T302	NFI	QX530	-9402E
12T304	NFI	QX500	-9404A
12T304	NFI	QX530	-9404E
12T308	NFI	QX5030	-9408H

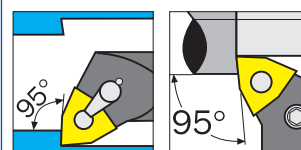
WNMG

Chip Breaker	Application
NSS	Light/Medium
NM4	Med Cut
NM5	Med Cut
NM6	Med Cut



Grade	ISO Designation				P	M	K	N	S	H
QX510	01 - 15	10 - 15	01 - 20	-	✓	✓	✓	✓	✓	✓
QX520	10 - 35	10 - 30	10 - 30	10 - 30	✓	✓	✓	✓	✓	✓
QX5030	25 - 35	15 - 25	-	-	✓	✓	✓	✓	✓	✓
QX535S	-	10 - 30	-	-	✓	✓	✓	✓	✓	✓
QX8010	10	10	10	-	✓	✓	✓	✓	✓	✓

Suitable for Internal/External Toolholders:



S__MWLN-

PWLN-

Insert Size	Chip-breaker	Grade	Order Code
060404	NM4	QX520	-9774D
060408	NSS	QX8010	-9780K
080408	NM6	QX5030	-9836H

Insert Geometry for Finishing & Semi-finishing of Aluminium & Aluminium Alloys

- Optimised edge and radius geometry.
- Improved surface finish.
- Improved chip control.
- 'G' Tolerance for high repeatability.
- First choice for machining pure aluminium.
- 30% longer insert life compared to uncoated grade.

Grade K10C

ISO N05-N15 PVD Coated. Micrograin carbide for machining aluminium and aluminium alloys, 30% higher tool life against uncoated grade. Smooth coating and polished surface gives better chip control.

ALC Geometry

For finishing and semi finishing of aluminium and aluminium alloys. A unique breaker design gives a sharp cutting edge and positive rake angle. Special edge preparation and surface treatment produce better surface quality and greater chip control, reduced friction and vibration. 'G' tolerance inserts for higher repeatability.

Feed Rates

For Machining Pure Aluminium

Ap. DOC = 0.02 ~ 4.80 (mm)
F = 0.05~0.50 (mm/r)

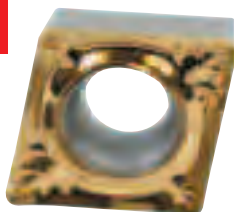
For Machining Aluminium Alloys

Ap. DOC = 0.02 ~ 3.50 (mm)
F = 0.05~0.40 (mm/r)

**30% LONGER
INSERT LIFE
COMPARED TO
UNCOATED GRADE**

CCGX

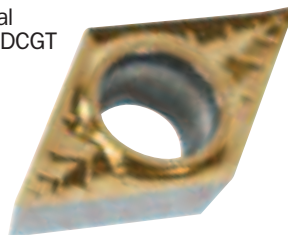
Fits the same Internal/External Toolholders as CCGT



Insert Size	Chip-breaker	Grade	Order Code YML-120
060202	ALC	K10C	-0312N
060204	ALC	K10c	-0314N
09T304	ALC	K10C	-0318N
09T308	ALC	K10C	-0320N
120404	ALC	K10C	-0324N
120408	ALC	K10C	-0326N

DCGX

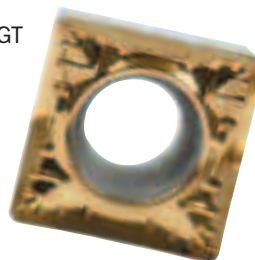
Fits the same Internal/External Toolholders as DCGT



Insert Size	Chip-breaker	Grade	Order Code YML-120
070204	ALC	K10C	-1282N
11T304	ALC	K10C	-1291N

SCGX

Fits the same Internal/External Toolholders as SCGT



Insert Size	Chip-breaker	Grade	Order Code YML-120
120408	ALC	K10C	-4173N

TCGX

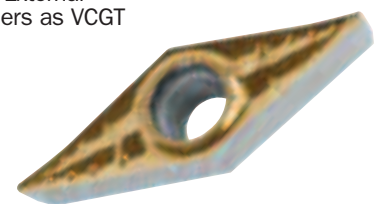
Fits the same Internal/External Toolholders as TCGT



Insert Size	Chip-breaker	Grade	Order Code YML-120
16T308	ALC	K10C	-7096N

VCGX

Fits the same Internal/External Toolholders as VCGT

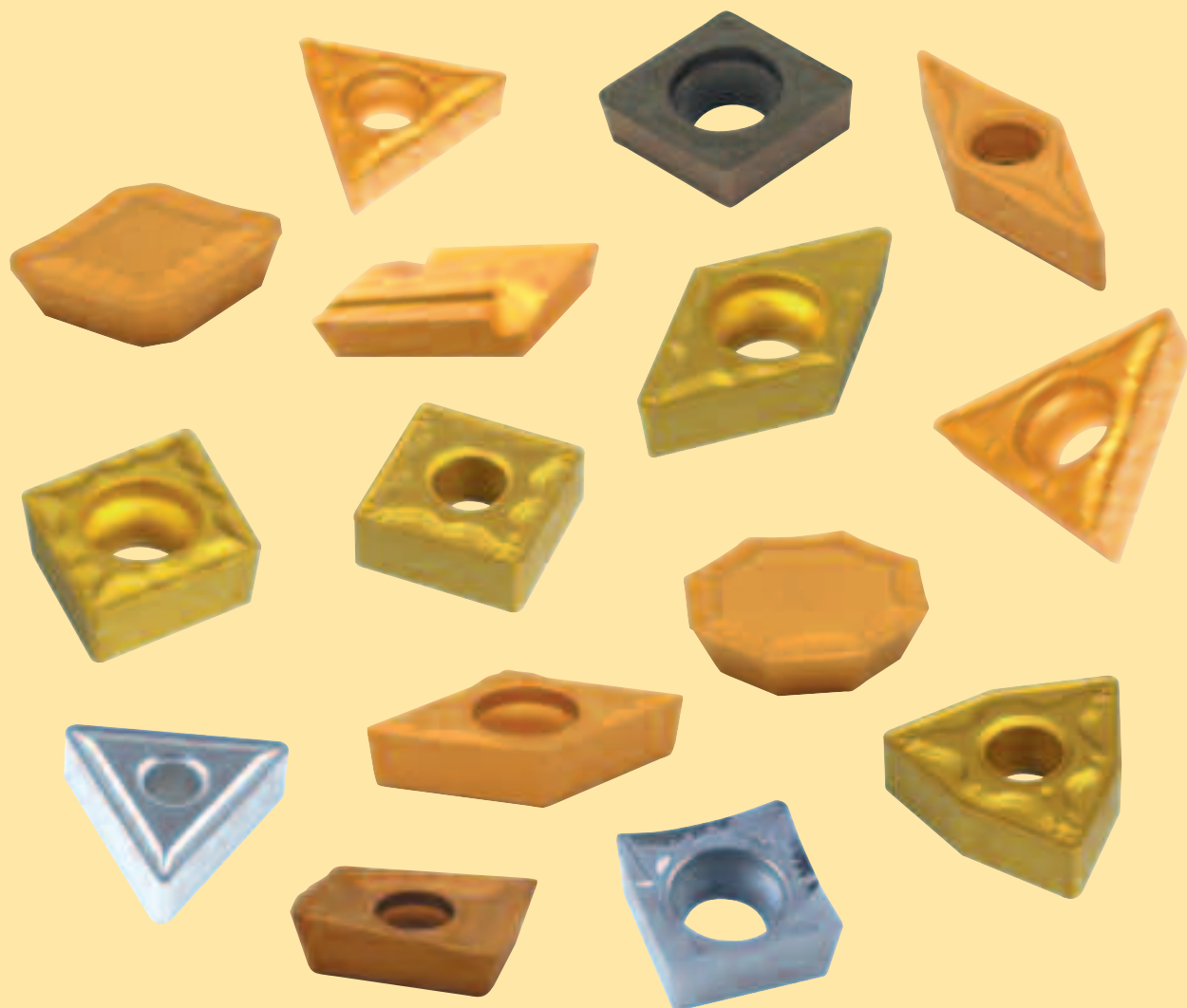


Insert Size	Chip-breaker	Grade	Order Code YML-120
110302	ALC	K10C	-9201N
110304	ALC	K10C	-9203N
160404	ALC	K10C	-9233N

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR

Q-Series

Think Positive!



QX500

P10 - P25

QX505

K05 - K15

QX510

P01-15,M10-15,K01-20

QX520

P10-35,M10-30,K10-30

QX530

P20 - 40, M20 - 30

QX5355

M10 - M30

QC10

K10

QK25C

K15 - K30

QM10

P10 - M10, K10

QP25

P25

QP25C

P10 - P35

QP30P

P10 - P35

QP40

P40

QS20

P20

QX500

P10 - P25

QX520

P10-35,M10-30,K10-30

QX530

P20-40, M20-30

...and Negative!

YAMALLOY
YAMALLOY TOOLING • JAPAN

High Performance Carbide Tooling
Turning - Milling - Boring - Drilling

Insert Grade

K20 **K20** Micrograin uncoated. For cast iron, aluminium alloy, other non-ferrous materials including titanium and nickel alloy.

QK25C **QK25C (K15 - K30)** Coated. For milling cast irons.

QM3535 **QM3535 (P20 - P35)** PVD TiAlN Coated for milling of steel. Comprehensive grade which covers wide application range due to substrate providing optimal wear resistance and toughness.

QP25 **QP25 (P25)** Uncoated. For medium and finish milling of steels.

QP25C **QP25C (P10 - P35)** CVD coated. Milling grade for steel and some stainless steels.

QP30P **QP30P (P10 - P35)** PVD Coated. Milling grade for steel and some stainless steels.

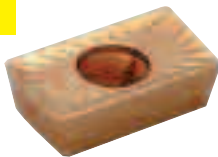
QP30T **QP30T (P10 - P35)** PVD Coated. Milling grade for steel and some stainless steels.

QP40 **QP40 (P40)** Uncoated. For rough medium and finish milling of tough Steels and Stainless Steels including interrupted cutting.

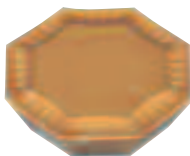
QX530 **QX530 (P20 - P40, M20 - M30)** Coated. A good general purpose steel grade for roughing. Use on steels, cast steel and stainless steel.

Chipbreaker

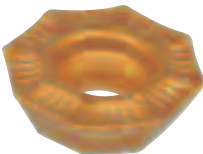
Chip Breaker	Application
AL	Aluminium & non Ferrous (Polished)
EM	Medium
MF	Finish/Light
MM	Medium/Light Roughing

APKT


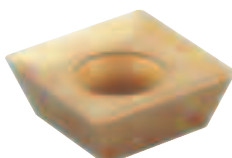
Insert Size	Chip-breaker	Grade	Order Code
APKT			YML-120
1003PDR	EM	QK25C	-0028X
	EM	QP30P	-0028W
1604PDR	AL	K10	-0029K
	-	QP30P	-0030W
1604PDTR	-	QK25C	-0030X
	-	K20	-0031V

OFKR


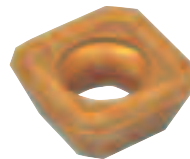
Insert Size	Chip-breaker	Grade	Order Code
OFKR			YML-120
05T308	MF	QP25C	-2388W

OFKT


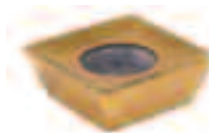
Insert Size	Chip-breaker	Grade	Order Code
OFKT			YML-120
05T308-SN	MM	QP25C	-2384W

SDMT


Insert Size	Chip-breaker	Grade	Order Code
SDMT			YML-120
12T308	-	QX530	-4280E

SEHT


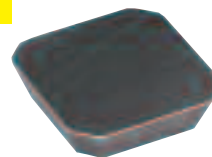
Insert Size	Chip-breaker	Grade	Order Code
SEHT			YML-120
1204AFTN	-	K20	-4430V
1204AFTN	-	QP25C	-4430W

SEHT


Insert Size	Chip-breaker	Grade	Order Code
SEHT			YML-120
120408	-	QP25C	-4432W

SEHW

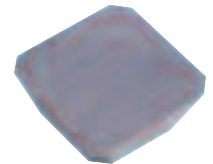

Insert Size	Chip-breaker	Grade	Order Code
SEHW			YML-120
1204AFTN05	-	K20	-4445V
	-	QP25C	-4445W

SEKN


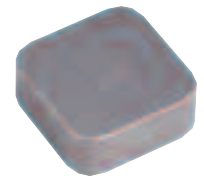
Insert Size	Chip-breaker	Grade	Order Code
SEKN			YML-120
1203AFFN	-	K20	-4517V
1203AFSN	-	QM3535	-4527M
1203AFTN	-	QP25	-4527P
	-	QP40	-4527S

SEKR

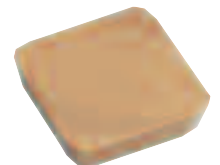

Insert Size	Chip-breaker	Grade	Order Code
SEKR			YML-120
1203AFTN05	-	K20	-4617V
	-	QP25C	-4627W

SEMN


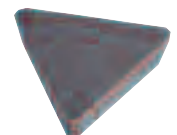
Insert Size	Chip-breaker	Grade	Order Code
SEMN			YML-120
1204-AZ	-	QM3535	-4727M

SNKN


Insert Size	Chip-breaker	Grade	Order Code
SNKN			YML-120
1204-ENN	-	QP25	-5227P

SPKN


Insert Size	Chip-breaker	Grade	Order Code
SPKN			YML-120
1203EDR	-	K20	-6328V
	-	QM3535	-6338M
1203EDTR	-	QP25	-6338P
	-	QP40	-6338S
1504EDTR	-	QP25	-6368P

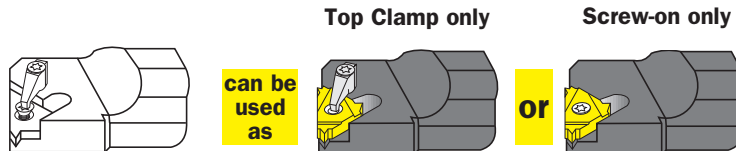
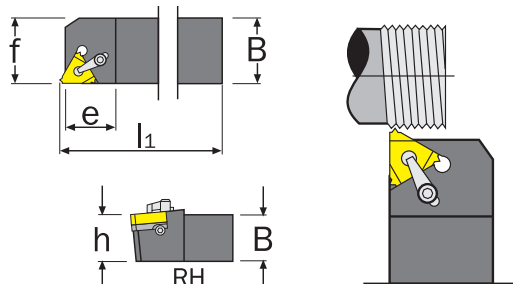
TPKN


Insert Size	Chip-breaker	Grade	Order Code
TPKN			YML-120
1603PPR	-	K20	-8428V
	-	QM3535	-8438M
1603PPTR	-	QP25	-8438P
	-	QP40	-8438S
2204PDR	-	K20	-8458V
2204PDSR	-	QM3535	-8468M
2204PDTR	-	QP25	-8468P
	-	QP40	-8468S

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

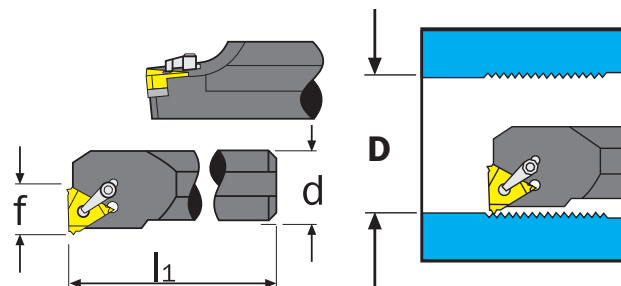


Spares to Suit

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	-2960K	-3780K	-3430K	-5090K
-0620K	-2960K	-3780K	-3430K	-5150K
-0630K	-2940K	-3790K	-3440K	-5150K

Internal

Dual DIR -
Internal.



Suitable Inserts See Next Page

IR = Right Hand

Sizes **16** = 16IR
22 = 22IR

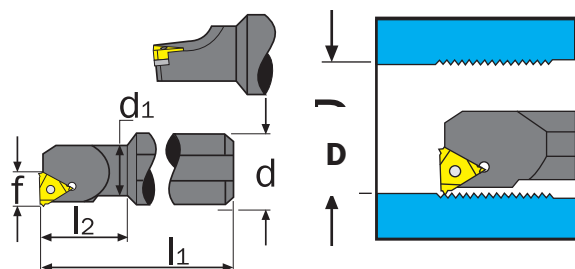


Spares to Suit

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

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	-5100K
-3430K	-5150K
-3430K	-5150K
-3440K	-

ISO Designation	Dimensions							Weight each	Order Code
	d	d1	l1	l2	f	DMin			IND-106
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	

PRODUCTS ARE ONLY AVAILABLE VIA YOUR DISTRIBUTOR





ISO Threading Insert Designation

Insert Grade Description

QMA (P20-P40/K20-K30) Coated.

Sintered chipbreaker 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.

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

16 E R 12 UN QMA

FULL PROFILES:

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

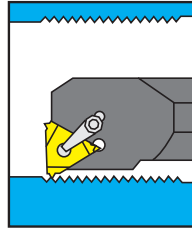
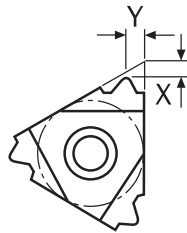
ISO
UN
WHIT
NPT
NPTF
BSPT

CARBIDE
GRADE

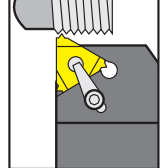
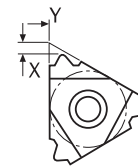
PARTIAL PROFILES

A N
G 60≡
AG 55≡

Partial Profiles Internal Right Hand



Partial Profiles External Right Hand



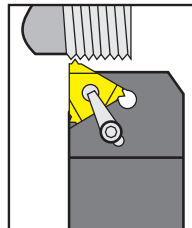
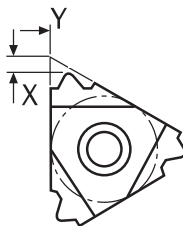
60°

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

ISO Metric

External Right Hand

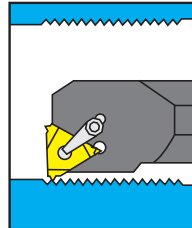
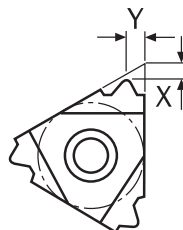
11 ER available on request.



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

ISO Metric

Internal Right Hand



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

55°

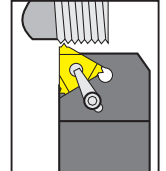
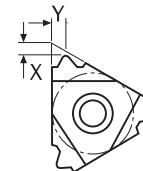
Insert Designation	Pitch Range mm	TPI	X mm	Y mm	Grade	Weight per 10	Order Code YML-121
16 ER AG55	0.5-3.0	48-8	1.2	1.7	QMA	60g	-0542A

60°

Insert Designation	Pitch Range mm	TPI	X mm	Y mm	Grade	Weight per 10	Order Code YML-121
16 ER AG60	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

UN

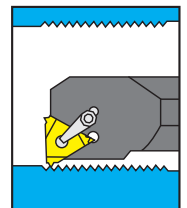
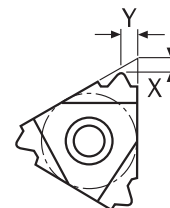
External Right Hand



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

UN

Internal Right Hand

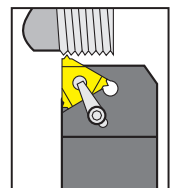
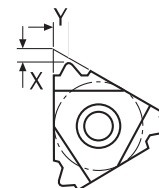


Insert Designation	TPI	X mm	Y mm	Grade	Order Code YML-121
16 IR 12 UN	12	1.1	1.4	QMA	-1750J

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	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

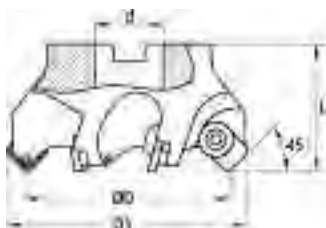
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INDEXA-SEIKI

XP-45C 'Face Hog'
Milling Cutters

Super Positive 45° approach milling cutter, angle decreases cutting forces and allows a quick feed in a limited capacity machine. Clamp style insert pocket with shim seats to protect the body in case of accident. Plasma ion coating offers longer tool life and greater hardness that is more resistant to wear. Through coolant as standard.

XP XTRA PLASMA
COATED BODY

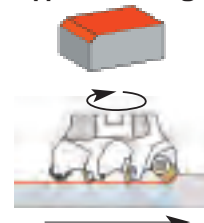


Feed Per Tooth (mm)

0.05 - 0.20

See Page 146 for
Cutting Speed Information

Application Range

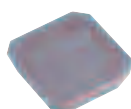


Spares to suit

			
Arbor Screw	Shim	Shim Screw	Clamp Screw
Order Code IND-107			
-5353K			
-5354K			
-5356K	-4960K	-5284K	-5290K

Dia (mm)	D1	d	L	Z	Order Code
63	76	22	50	5	-7600K
80	93	27	50	6	-7620K
100	113	32	50	6	-7640K

YAMALLOY
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Inserts

Designation	Grade	To Suit	Order Code
SEKN 1203 AFTN	K20	Face Hog	-4517V
	QP25		-4527P
	QP40		-4527S
SEKR 1203 AFTN	K20	Face Hog	-4617V
	QP25C		-4627W

Insert Grade Description

K20

(K20) Micrograin uncoated. For cast irons, aluminium alloys, other non-ferrous materials including titaniums and nickel alloys.

QP25

(P25) Uncoated. For medium and finish milling of steels.

QP25C

(P10-P35) CVD coated. Milling grade for steels and some stainless steels.

QP40

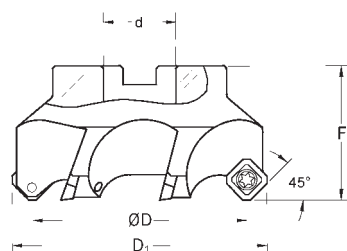
(P40) Uncoated. For rough medium and finish milling of tough steels and stainless steels including interrupted cutting.

INDEXA-SEIKI

XP-45C 'Hi Shear'
Milling Cutters

Super Positive 45° approach milling cutter, angle decreases cutting forces and allows a quick feed in a limited capacity machine. Torx screws allow for good chip evacuation. Plasma ion coating offers longer tool life and greater hardness that is more resistant to wear. Through coolant as standard.

XP XTRA PLASMA
COATED BODY



Feed Per Tooth (mm)

0.05 - 0.20

See Page 146 for
Cutting Speed Information

Application Range



Spares to suit

	
Arbor Screw	Clamp Screw
Order Code IND-107	
-5353K	-5352K
-5354K	

Dia (mm)	D1	d	F	Z	Order Code
63	75	22	50	5	-7400K
80	92	27	50	6	-7420K

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Inserts

Designation	Grade	Order Code
SEHT 1204 AFTN	K20	-4430V
	QP25C	-4430W
SEHW 1204 AFTN-05	K20	-4445V
	QP25C	-4445W

Insert Grade Description

K20

(K20) Micrograin uncoated. For cast irons, aluminium alloys, other non-ferrous materials including titaniums and nickel alloys.

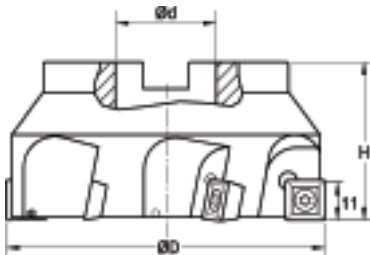
QP25C

(P10-P35) CVD coated. Milling grade for steels and some stainless steels.

INDEXA-SEIKI XP-90C '4 Square' 90° Shell Mills

Positive 90° cutter with an exact angle of 90°, square insert allowing depth passes and high feed per teeth. Torx style insert pocket with shim seats to protect the body in case of accident. Plasma Ion coating offers longer tool life and greater hardness that is more resistant to wear. Through coolant as standard.

XP XTRA PLASMA
COATED BODY



SDMT 12



For Inserts
See Below

XP-90C '4 Square' 90° Shell Mills for SDMT 12 inserts

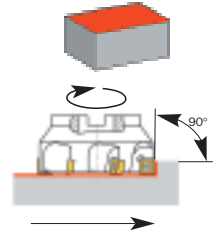
Dia (mm)	d	H	Z	Weight each	Order Code IND-139
63	22	40	5	459g	-7500K
80	27	50	6	999g	-7520K
100	32	50	7	1669g	-7540K

Feed Per Tooth (mm)

0.04 - 0.30

See Page 146 for
Cutting Speed Information

Application Range

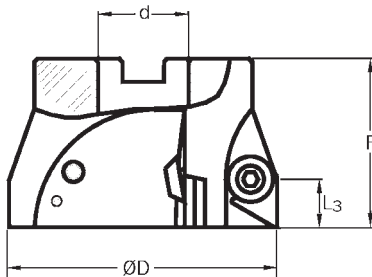


Spares to suit

Arbor Screw	Shim	Shim Pin	Clamp Screw
Order Code IND-107			
-5354K	-2490K	-1570K	-3400K
-5354K			
-5356K			

'Tri Square' 90° Shell Mills

Uses top clamping triangular inserts to produce a 90° shoulder at the edge of a milled face. This is of major benefit when taking a number of cuts across a face as the shoulder produced is without steps.



For TPKN 1603



Dia (mm)	d	F	L3	Z	Weight each	Order Code IND-139
80	32	50	13	5	1200g	-3420K



Application Range



Insert Size	Feed Per Tooth (Fz) mm
TPKN 16	0.05 - 0.20
TPKN 22	0.10 - 0.30

See Page 146 for
Cutting Speed Information

Spares to suit

Arbor Screw	Shim	Shim Pin	Clamp Screw	Clamp Ring
Order Code IND-107				
-5354K	-5360K	-5362K	-0050K	-0440K
-5355K				

Insert Grade Selection

K20 (K20) Micrograin uncoated. For cast irons, aluminium alloys and other non-ferrous materials including titaniums and nickel alloys.

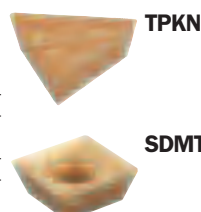
QP25 (P25) Uncoated. For medium and finish milling of steels.

QP40 (P40) Uncoated. For rough medium and finish milling of tough steels and stainless steels including interrupted cutting.

QX530 (P20-P40 M20-M30) Coated. Turning grade for steels, cast steels and stainless steels. A good general purpose steel grade for roughing.

Inserts

Designation	Grade	To Suit	Order Code YML-120
TPKN 1603 PPR	K20	Tri-Sq	-8428V
TPKN 1603 PPTR	QP25	Tri-Sq	-8438P
	QP40		-8438S
TPKN 2204 PDR	K20	Tri-Sq	-8458V
TPKN 2204 PDTR	QP25	Tri-Sq	-8468P
	QP40		-8468S



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XP-90C 'APT'
90° Shell Mills

Positive 90° approach milling cutter, using size 10/16 inserts allowing depth passes and high feed per teeth. Torx screw allows for good chip evacuation. Plasma ion coating offers longer tool life and greater hardness that is more resistant to wear. Through coolant as standard.



For Inserts
See Below

XP XTRA PLASMA
COATED BODY

Insert Size	Feed Per Tooth (Fz) mm
APXT 10	0.05 - 0.20
APXT 16	0.10 - 0.30
See Page 146 for Cutting speed Information	

XP-90C End Mills For AP_T 10 Inserts

D	z	H	C	L	Inserts	Order Code IND-139
16	2	25	16	90	APKT1003	-4860K
20	3	25	20	110		-4900K

XP-90C End Mills For AP_T 16 Inserts

D	z	H	C	L	Inserts	Order Code IND-139
20	1	37	20	115	APKT1604	-5000K
25	2	40	25	117	or	-5020K
32	3	40	25	126	APXT1604	-5040K
40	4	50	32	136		-5060K



Spares	Arbor Screw	Clamp Screw	Flag Torx Key
To Suit		Order Code IND-107	
10-20 Dia (APKT 10)	-	-5240K	-
20-25 Dia (APKT 16)	-	-5270K	-5150K
32-40 Dia (APKT 16)	-	-5270K	-5150K

XP-90C 'APT' 90° Shell Mills

Positive 90° approach milling cutter, using size 16 inserts allowing depth passes and high feed per teeth. Torx screw allows for good chip evacuation. Plasma ion coating offers longer tool life and greater hardness that is more resistant to wear. Through coolant as standard.

XP XTRA PLASMA
COATED BODY

Feed Per Tooth (Fz) mm
0.10 - 0.30
See Page 146 for Cutting speed Information

XP-90C Shell Mills For APKT 16 Inserts

D	z	B	C	L	Inserts	Order Code IND-139
50	4	22	10.4	50	APKT1604	-3920K
63	5	22	10.4	50	or	-3940K
80	6	27	12.7	50	APXT1604	-3960K



Spares	Arbor Screw	Clamp Screw	Flag Torx Key
To Suit	Order Code IND-107	Order Code IND-107	
50 & 63 Dia	-5354K	-5270K	
80 Dia (APKT 16)	-5354K		
100 Dia	-5355K		

Insert Grade Description

K20

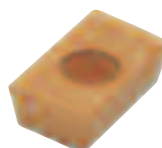
(K20) Micrograin uncoated. For cast irons, aluminium alloys, other non-ferrous materials including titaniums and nickel alloys.

QK25C

(K15-K30) Coated. For milling cast irons.

QP30P

(P10-P35) PVD coated. Milling grade for steels and some stainless steels.



YAMALOY
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Insert Grade Selection

Designation	Grade	To Suit	Weight each	Order Code YML-120
APXT 1604 PDTR	QP30P	Shell Mills	35g	-0028W
APXT 1604 PDTR	K20	Combination	85g	-0031V
	QK25C	End, APT	92g	-0030X



Speed Recommendations for Yamaloy Milling Inserts

Use the following table with the specific feed rates of the cutter used (found on the specific cutter page). Feed rates may vary according to work material and machine conditions but the following can be used as a general guide.

Steel Group	Materials Colour Defines Similar Machineability	Brinell Hardness HB	Rockwell Hardness HRC	Tensile Strength N/mm ²	Speed M/min					
					K20	QK25C	QP25/ QP30P	QP30P	QP40	QX530
1.1	Mild, soft and free machining non-alloy low carbon steels	up to 130	-	up to 400	-	-	140 - 200	180 - 250	80 - 50	150 - 200
1.2	Non-alloy, case hardening, structural and low to medium carbon steels	up to 200	-	up to 700	-	-	130 - 180	150 - 230	75 - 110	130 - 180
1.3	Non-alloy, plain and medium carbon steels and castings	up to 260	up to 26	up to 850	-	-	130 - 160	140 - 210	75 - 95	110 - 150
1.4	Generally low to medium alloy steels and castings	up to 260	up to 26	up to 850	-	-	120 - 160	130 - 200	70 - 90	110 - 140
1.5	Medium to high alloy steels, tool steels and castings	from 260 up to 340	from 26 up to 48	from 850 up to 1200	-	-	110 - 150	120 - 180	65 - 85	100 - 120
1.6	Heat treated alloy steels and castings	up to 230	up to 20	from 1200 up to 1500	-	-	80 - 120	110 - 150	60 - 80	70 - 90
2.1	Soft and generally easy to machine ferritic and martensitic stainless steels and castings	up to 290	up to 30	up to 800	-	-	130 - 180	150 - 200	70 - 100	80 - 120
2.2	Medium strength and easy to machine austenitic stainless steels and castings	up to 340	up to 36	up to 1000	-	-	120 - 170	130 - 180	70 - 100	60 - 100
2.3	Hard and generally difficult to machine ferritic and austenitic (duplex) stainless steels and castings	up to 180	-	up to 1200	-	-	-	40 - 50	25 - 40	50 - 90
3.1	Grey cast iron Hardness - soft to medium	from 180 up to 300	-	-	120 - 150	150 - 250	-	-	-	-
3.2	Grey cast iron Hardness - medium to hard	up to 220	-	-	90 - 130	120 - 200	-	-	-	-
3.3	Malleable and nodular iron - soft to medium	from 220 to 300 max	-	-	80 - 110	150 - 250	-	-	-	-
3.4	Malleable and nodular iron - medium to hard	-	-	-	70 - 100	120 - 200	-	-	-	-
4.1	Pure titanium (also pure nickel)	-	-	up to 700	200 - 300	-	-	-	-	-
4.2	Titanium alloys of a medium and hard nature	-	-	up to 900	50 - 80	-	-	-	-	-
4.3	Titanium alloys of a hard and very hard nature	-	-	from 900 up to 1250	20 - 50	-	-	-	-	-
5.1	Heat resistant super alloys including iron based high temperature alloys	-	-	up to 500	15 - 35	-	-	-	-	-
5.2	Heat resistant super alloys, cobalt or nickel based, of a medium to hard nature to machine	-	-	up to 900	15 - 35	-	-	-	-	-
5.3	Heat resistant super alloys, cobalt or nickel based, of a hard or very hard nature to machine	-	-	from 900 up to 1200	20 - 50	-	-	-	-	-
6.1	Copper	-	-	up to 500	250 - 400	-	-	-	-	-
6.2	Brass (alpha - long chip)	-	-	up to 800	200 - 400	-	-	-	-	-
6.3	Brass (beta - short chip) and soft bronze	-	-	up to 800	200 - 800	-	-	-	-	-
6.4	High strength bronze	-	-	up to 1200	50 - 120	-	-	-	-	-
7.1	Unalloyed: aluminium, magnesium & zinc	-	-	up to 150	500 - 900	-	-	-	-	-
7.2	Aluminium alloys less than 5% Si magnesium and zinc alloys (long chip)	-	-	from 150 up to 300	600 - 900	-	-	-	-	-
7.3	Aluminium alloys 5% to 10% Si	-	-	from 200 up to 500	300 - 600	-	-	-	-	-
7.4	Aluminium alloys above 10% Si (short chip)	-	-	from 200 up to 500	200 - 500	-	-	-	-	-
8.1	Thermoplastics	-	-	-	300 - 700	-	-	-	-	-
8.2	Thermo-setting plastics	-	-	-	300 - 500	-	-	-	-	-
8.3	Reinforced plastics & composite materials	-	-	-	100 - 300	-	-	-	-	-

INDEXA-SEIKI

QMC 06 Quad
Milling Holder Set

Small diameter Indexable End Mills are taking a CCMT 06 insert. Ideal for use on manual and CNC milling machines where reach and clearance are required.



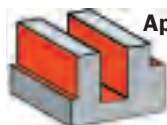
Dia. (mm)	d	L	L1	L2	Order Code IND-139
08	12	120	95	25	-9010K
10	12	120	95	25	
12	12	120	95	25	
16	16	120	95	25	

Spares

Description	To Suit	Order Code IND-107
Insert Screw T8 Torx Key	Quad Mill	-5240K -5080K

Insert Grade Selection

Designation	Grade	To Suit	Order Code YML-120
CCMT060204-PM	QX500 QX520	Quad Mill	-0355A -0355D
CCGT060202-AL	K10	Quad Mill	-0121N
CCGT060204-AL	K10	Quad Mill	-0131N

Application
Range

Uses **CCMT 06/CCGT 06** inserts.

Feed Per Rev (mm)
0.02 - 0.10

Insert Grade Description

QX520 (P10-P35 M10-M30 K10-K30) Coated. An excellent general purpose grade for medium roughing on steels, stainless and cast irons.

K10 (K10) Uncoated. Used in combination with a high rake geometry for machining aluminium, plastics and other soft non-ferrous materials.

QX500 (QX500) (P10-P25 Cermet). For high speed finishing and light roughing. Will maintain a high class surface finish. Mainly used on steels and can be applied to finishing some stainless steels and cast irons.



Speed & Feed Recommendations for Quad Mills

Specific feed rates may vary according to work material and machine conditions but the following can be used as a general guide.

Steel Group	Materials Colour defines similar machineability	Speed-M/Min						
		Brinell Hardness HB	Rockwell Hardness HRC	Tensile Strength N/mm ²	QX500	QX520	QX530	K10
1.1	Mild, soft and free machining non-alloy low carbon steels	up to 130	-	up to 400	200-270	180-350	150-200	
1.2	Non-alloy, case hardening, structural and low to medium carbon steels	up to 200	-	up to 700	180-250	150-320	130-180	
1.3	Non alloy, plain and medium carbon steels and castings	up to 260	up to 26	up to 850	150-220	130-280	110-150	
1.4	Generally low to medium alloy steels and castings	up to 260	up to 26	up to 850	140-210	140-210	110-140	
1.5	Medium to high alloy steels, tool steels and steel castings	from 260 up to 340	from 26 up to 48	from 850 up to 1200	140-200	130-200	100-120	
1.6	Heat treated high alloy steels and castings	from 340 up to 450	from 36 up to 48	from 1200 up to 1500	110-180	100-170	70-90	
2.1	Soft & generally easy to machine Ferritic & Martensitic stainless steels & castings	up to 230	up to 20	up to 800	90-190	110-220		
2.2	Medium strength & reasonable to machine Austenitic stainless steels & castings	up to 290	up to 30	up to 1000	70-160	70-140	60-100	
2.3	Hard & generally difficult to machine Ferritic & Austenitic (duplex) stainless steels & castings	up to 340	up to 36	up to 1200			50-90	
3.1	Grey cast iron Hardness - soft to medium	up to 180	-		175-280	190-400		
3.2	Grey cast iron Hardness - medium to hard	from 180 up to 300	-		160-250	150-300		
3.3	Malleable and Nodular irons - soft to medium	up to 220	-		200-250			
3.4	Malleable and Nodular irons - medium to hard	from 220 up to 300	-		200-250			
6.1	Copper	-	-	up to 500	200-250			100-500
6.2	Brass (Alpha - long chip)	-	-	up to 800	300-500			400-700
6.3	Brass (Beta - short chip) & soft Bronze	-	-	up to 800	300-500			400-700
7.1	Unalloyed: Aluminium, Magnesium & Zinc	-	-	up to 150	300-500			400-600
7.2	Aluminium alloys less than 5% Si Magnesium & Zinc alloys (long chip)	-	-	from 150 up to 300				300-500
7.3	Aluminium alloys 5% to 10% Si	-	-	from 200 up to 500				400-700
7.4	Aluminium alloys above 10% Si (short chip)	-	-	from 200 up to 500				400-700
8.1	Thermoplastics							200-500
8.2	Thermo-setting plastics							
8.3	Reinforced plastics & composite materials							

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

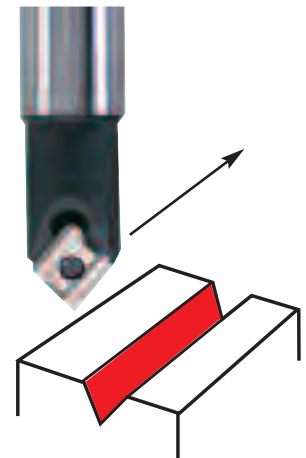
SC1645C

SC1630C

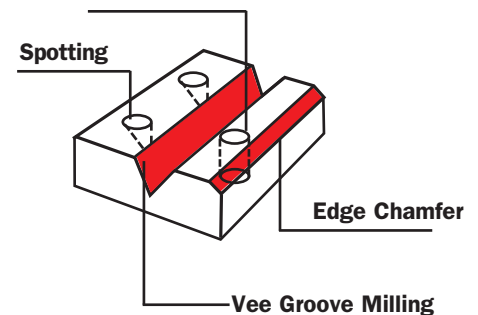
Hole Chamfer



Vee Groove Milling



Hole Chamfer



'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

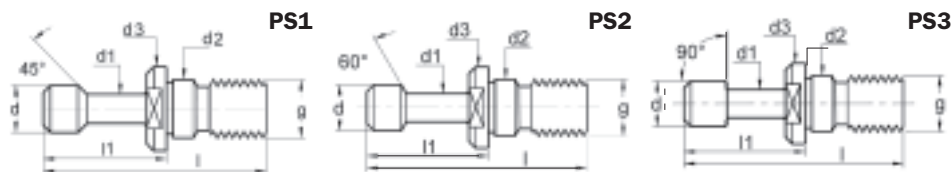
Group	Materials	Rockwell Hardness HRC	Recommended Grade	Cutting Speed M/min	Type of Operation	Feed/Rev		
						Pro Mini 105mm	Pro Standard 110mm	Pro Mini 165mm
1.1 to 1.3	Alloy Steels and castings	from 36 up to 45	QS20 QM10	80~100	Spot Drilling Chamfer Milling	0.020 0.050	0.026 0.070	0.013 0.040
1.4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

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INDEXA-SEIKI

Standard
Pull Studs

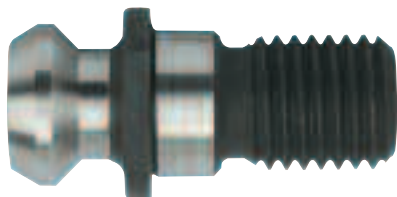
BT-MAS 403



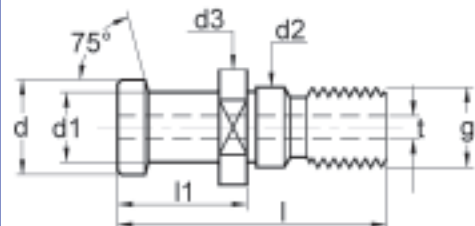
BT-MAS 403

Product Number Taper - Type	Dimensions (mm)							Order Code IND-140
	l	l1	d	d1	d2	d3	g	
BT30 - PS1	43.0	23.0	11.0	7.0	12.5	16.5	M12	-9230K
BT40 - PS1	60.0	35.0	15.0	10.0	17.0	23.0	M16	-9240K
BT40 - PS2	60.0	35.0	15.0	10.0	17.0	23.0	M16	-9242K
BT40 - PS3	60.0	35.0	15.0	10.0	17.0	23.0	M16	-9243K
BT50 - PS1	85.0	45.0	23.0	17.0	25.0	38.0	M24	-9250K
BT50 - PS2	85.0	45.0	23.0	17.0	25.0	38.0	M24	-9252K
BT50 - PS3	85.0	45.0	23.0	17.0	25.0	38.0	M24	-9253K

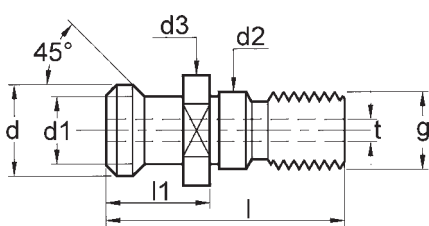
DIN 69871/A



PSA



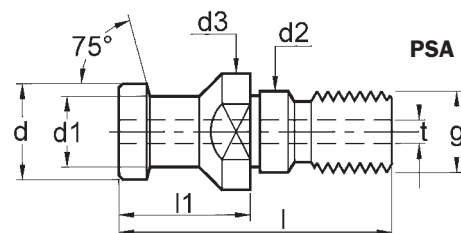
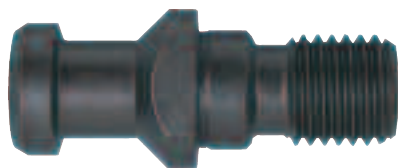
PSB



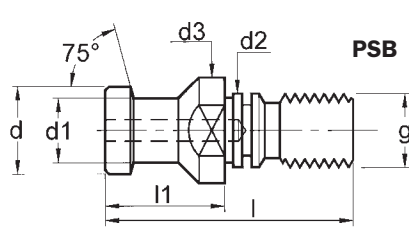
ISO 7388/2 (DIN 69871/A) (SQ = Square Shoulder)

Product Number Taper-Shoulder-Type	Dimensions (mm)							Order Code IND-140
	l	l1	d	d1	d2	d3	t	
DN40-SQ-PSB	44.5	16.4	18.9	12.9	17.0	22.5	7.5	M16 -9142K

DIN 69872



PSA



PSB

DIN 69872 (CH = Chamfered Shoulder)

Product Number Taper-Shoulder-Type	Dimensions (mm)							Order Code IND-140
	l	l1	d	d1	d2	d3	t	
DN40-CH-PSA	54.0	26.0	19.0	14.0	17.0	23.0	7.5	M16 -9040K
DN50-CH-PSA	74.0	34.0	28.0	21.0	25.0	36.0	11.5	M24 -9050K

INDEXA

Tool Locking
Fixtures

Universal

Made from cast aluminium with machined carbon steel fittings, these fixtures are an invaluable asset in your machine shop. Universal in use, suitable for BT, DIN and CAT tool holders. Designed to give maximum protection for your tool holder whilst enabling strong gripping power to be exerted in both horizontal and vertical positions. It is tough but remains light in weight and its compact design makes it ideal for mounting on a work table or tool cart.

Overall dimensions (L x W x H)

Taper size 40: 200 x 155 x 100mm.

Taper size 50: 270 x 210 x 145mm.

Horizontal



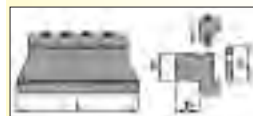
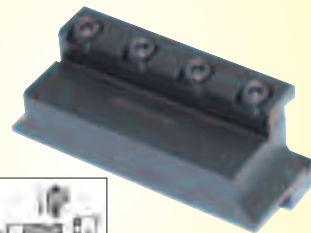
Vertical



Taper Size BT-DIN-CAT	Weight each	Order Code IND-140
30	1.9kg	-6630K
40	1.9kg	-6640K
50	4.2kg	-6650K

Tool Blocks

For use on manual and CNC lathes, this universal style tool block will accurately clamp all parting blades of the corresponding width, 26mm or 32mm. The rigid clamping method allows blades to be set securely for varying depths of cut.



Product Number	h1	L	h & b	Order Code IND-152
DPTS-2620	26	87	20	-1160K
DPTS-2625	26	87	25	-1162K
DPTS-3220	32	100	20	-1170K
DPTS-3225	32	110	25	-1172K
DPTS-3232	32	120	32	-1174K

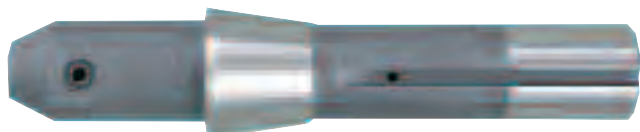
SPINDLE NOSE TOOLING

INDEXA-SEIKI

Shank
Adaptors

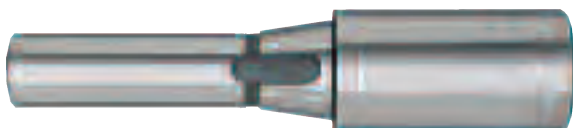
R8 Shank Sidelock Adaptors

For Bridgeport type turret milling machine spindles to accept weldon shank (DIN 1835B) cutters.



Shank	Bore Size	Weight each	Order Code
R8	SL25	1952g	IND-144 -3570K

R8 Shank Morse Adaptors



Shank	Bore Size	Weight each	Order Code
R8	MT1	400g	IND-144 -5592K
R8	MT2	332g	-5594K
R8	MT3	881g	-5596K

FM - Face Mill Adaptors

From an extensive programme of quality spindle nose tooling, used with an extensive range of face and shell mills.

BT = BT-MAS 403 (See main picture)

DN = DIN69871/A.....

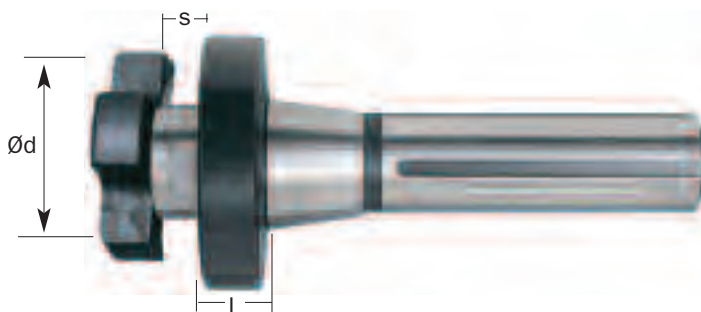
IS = ISO/DIN 2080/

QC = ISO/DIN 2080 Quick Change.....



Shank	Spigot Diameter	L	D	Weight each	Order Code
DN40	FM22	60	50	1554g	-4610K
	FM27	60	50	1602g	-4614K
	FM22	37	40	1125g	-4810K
QC40	FM27	37	48	1275g	-4814K
	FM32	37	58	1558g	-4818K
	FM40	37	70	2025g	-4822K

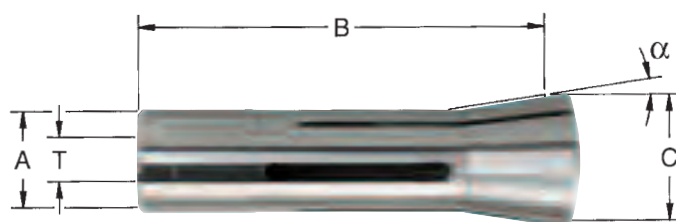
R8 Shank Face Mill Adaptors



Shank	Spigot Size	d	s	Gauge Length (L)	Weight each	Order Code
R8	FM16	16	6	15	512g	-4970K
	FM22	22	10	15	696g	-4972K
	FM27	27	12	15	741g	-4974K
	FM32	32	16	17	938g	-4976K

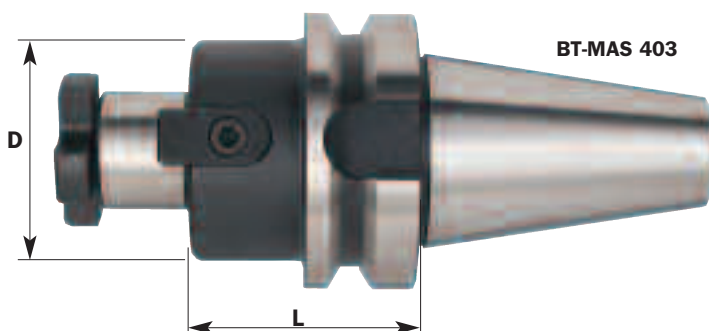
R8 Collets for Bridgeport

Used directly in the machine spindle for general purpose milling and drilling operations, collets have dedicated bores for specific cutter shank sizes.



Dimensions: A = 24.1mm, B = 102.3mm, C = 31.5mm T = 7/16" UNF. Angle: α = 8°25'.

Bore Size	Weight each	Order Code
3.0mm	291g	IND-144 -3622K
6.0mm	298g	-3580K
8.0mm	304g	-3630K
10.0mm	297g	-3582K
11.0mm	299g	-3634K
12.0mm	295g	-3584K
14.0mm	283g	-3638K
16.0mm	275g	-3586K
20.0mm	209g	-3588K



Shank	Spigot Diameter	L	D	Weight each	Order Code
BT40	FM16	52	36	1.2kg	IND-144 -4907K
	FM22	52	50	1.5kg	-4910K
	FM27	52	50	1.5kg	-4914K
	FM32	52	78	2.2kg	-4918K

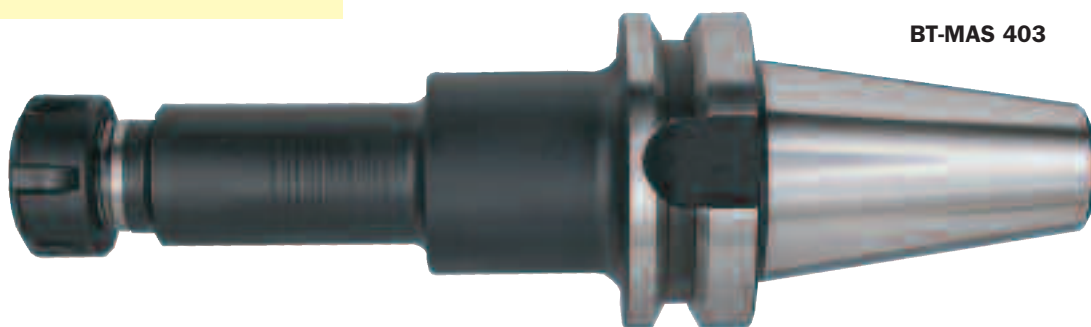
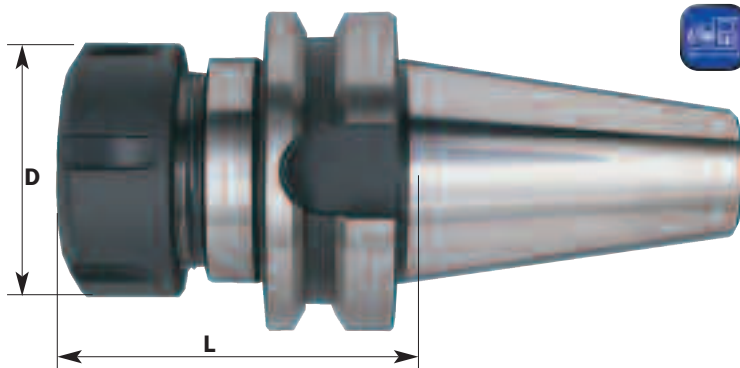
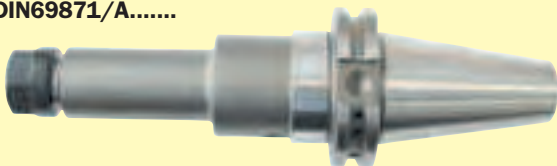
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ER -
Collet Chucks

Europe's most popular collet system. Collapsing collet design can be used for a range of diameters and maintains concentricity for drilling and milling. Long reach options available to give access into deep recesses.

BT = BT-MAS 403.....(See main picture)

DN = DIN69871/A.....



BT-MAS 403

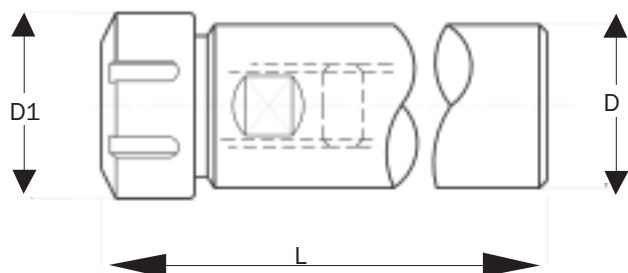
DN = DIN 69871/A

Shank	Collet Diameter	L	D	Weight each	Order Code
DN40	ER16	100	28	929g	-2710K
	ER32	70	50	1253g	-2716K
	ER32	130	50	1744g	-2718K
	ER40	70	63	1293g	-2720K

BT = BT-MAS 403

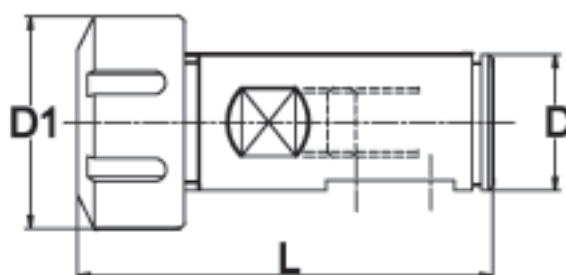
Shank	Collet Diameter	L	D	Weight each	Order Code
BT30	ER16	60	32	539g	-2792K
	ER32	60	50	1100g	-2796K
BT40	ER16	100	28	1240g	-2800K
	ER16	150	28	1240g	-2802K
	ER25	60	42	1155g	-2804K
	ER32	70	50	1299g	-2806K
	ER32	130	50	2177g	-2808K
	ER40	70	63	1334g	-2810K

Straight Shank - Mini Extension



Product Number	Collet Diameter	D ₁	L	D	Weight each	Order Code
SSE20	ER16	22	160	20	305g	-2880K

Straight Shank



Product Number	Collet Diameter	D ₁	L	D	Weight each	Order Code
SS32	ER32	50	098	32	655g	-2850K
SS40	ER32	50	118	40	913g	-2860K

INDEXA-SEIKI

ER Industrial
Hook Wrench

For ER8/ER40 collet nuts.
Adjustable size, drop forged steel.
Single hand adjustment. One spanner will
cover 35 - 105 collet nuts.

To suit collets: ER 8, 16, 25, 32 and 40.
Metric sizes: 35, 50, 60, 70, 80, 90
and 105mm.



Description	Weight each	Order Code IND-140
Adjustable	500g	-8100K

Spanners & Locknuts

Suitable for all collet chucks including
straight shank.



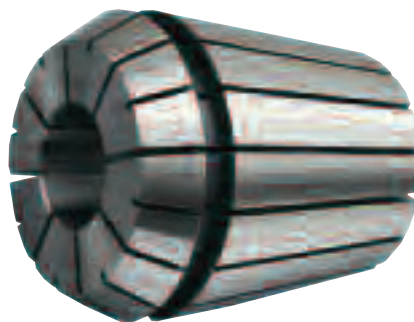
Spanners

Chuck Type	Order Code KEN-580
ER16 Mini	-5160K
ER16	-5300K
ER25	-5400K
ER32	-5450K

Group **061**

ER - Single Angle Collets

Manufactured from hardened and tempered high alloy steel.
Conform to **DIN 6499**.

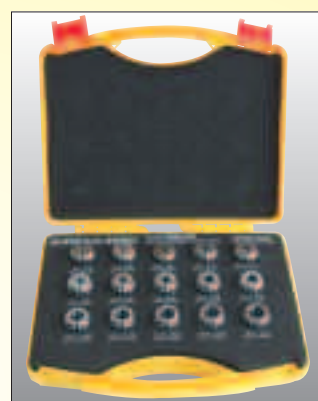


Range mm	Weight each	Order Code IDX-144
ER11		
1.00	4g	-2872K
1.50	5g	-2874K
2.00	6g	-2876K
2.50	7g	-2878K
3.00	8g	-2880K
3.50	10g	-2882K
4.00	12g	-2884K
4.50	15g	-2886K
5.00	19g	-2888K
5.50	25g	-2890K
6.00	28g	-2892K
6.50	30g	-2894K
7.00	35g	-2896K
ER16		
1.0-0.5	26g	-3200K
2.0-1.0	25g	-3210K
3.0-2.0	27g	-3220K
4.0-3.0	28g	-3230K
5.0-4.0	22g	-3240K
6.0-5.0	19g	-3250K
7.0-6.0	19g	-3260K
8.0-7.0	17g	-3270K
9.0-8.0	21g	-3280K
10.0-9.0	15g	-3290K
ER25		
2.0-1.0	74g	-3400K
3.0-2.0	76g	-3410K
4.0-3.0	75g	-3420K

Range mm	Weight each	Order Code IDX-144
ER25 Continued		
5.0-4.0	76g	-3430K
6.0-5.0	75g	-3440K
7.0-6.0	72g	-3450K
8.0-7.0	73g	-3460K
9.0-8.0	71g	-3470K
10.0-9.0	68g	-3480K
11.0-10.0	67g	-3490K
12.0-11.0	65g	-3500K
ER32		
3.0-2.0	140g	-3700K
4.0-3.0	141g	-3710K
5.0-4.0	146g	-3720K
6.0-5.0	147g	-3730K
7.0-6.0	145g	-3740K
8.0-7.0	148g	-3750K
9.0-8.0	145g	-3760K
10.0-9.0	141g	-3770K
11.0-10.0	139g	-3780K
12.0-11.0	134g	-3790K
13.0-12.0	133g	-3800K
14.0-13.0	128g	-3810K
15.0-14.0	123g	-3820K
16.0-15.0	119g	-3830K
17.0-16.0	112g	-3840K
18.0-17.0	103g	-3850K
19.0-18.0	101g	-3860K
20.0-19.0	44g	-3870K

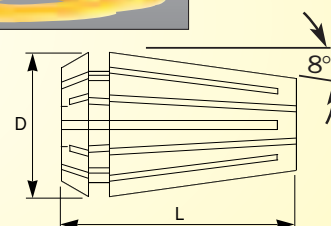
ER - Collet Sets

Manufactured from hardened and tempered high alloy steel.
All supplied in hard wearing bench cases.
Conform to **DIN 6499**.



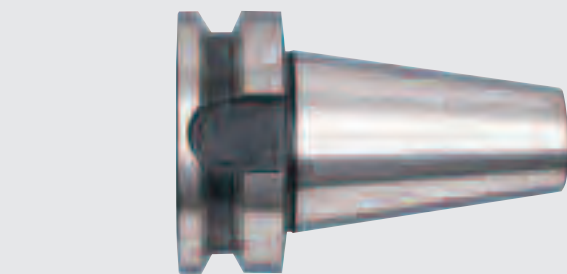
Collet Dimensions (mm)

Type	Capacity	D	L
ER11	1.0-7.0	11.5	18.0
ER16	0.5-10	17.0	27.0
ER20	3.0-13	21.0	31.5
ER25	1.0-16	26.0	35.0
ER32	2.0-20	33.0	40.0
ER40	3.0-26	41.0	46.0

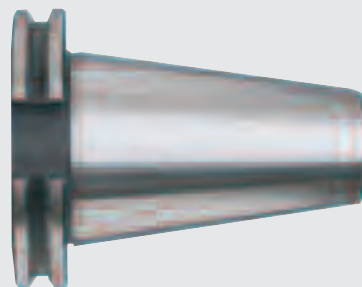


Collet Type	Number of Collets	Range Dia. (mm)	Weight each	Order Code IDX-144
ER11	13	1.0 - 7.0	490g	-2898K
ER16	9	1.0 - 10.0	535g	-9010K
ER20	11	2.0 - 13.0	637g	-9015K
ER25	15	1.0 - 16.0	1207g	-9020K
ER32	18	2.0 - 20.0	4.8kg	-9030K

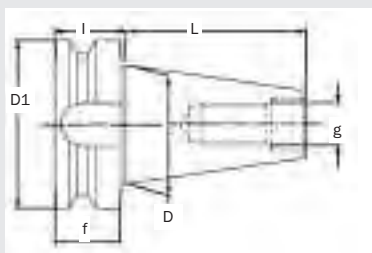
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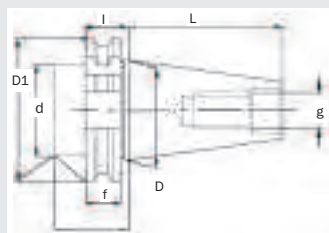
DIN



BT



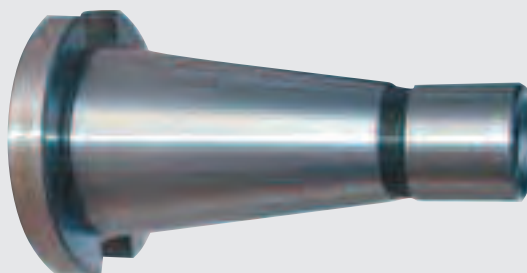
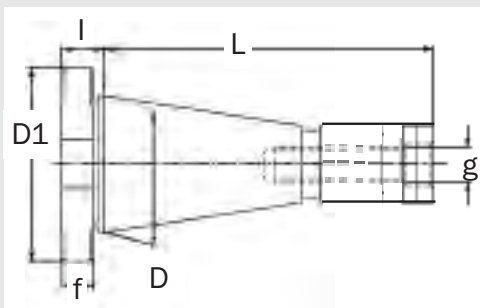
Taper	D	D1	f	g	I	L
30	31.75	46	20	M12	22	48.4
35	38.10	53	22	M12	24	56.5
40	44.45	63	25	M16	27	65.4
45	57.15	85	30	M20	33	82.8
50	69.85	100	35	M24	38	101.8



Taper	D	D1	d max	f	g	L	I	I1min
30	31.75	50	45	15.9	M12	47.8	19.1	35
40	44.45	63.55	50	15.9	M16	68.4	19.1	35
45	57.15	82.55	63	15.9	M20	82.7	19.1	35
50	69.85	97.5	80	15.9	M24	101.75	19.1	35

ISO Including Quick Change.

ISO Standard
ISO R 297-2583 - DIN 2080



ISO

Taper	D	D1	f	g	I	L	L1
30	31.75	50	8	M12	9.61	68.39	-
40	44.45	63	10	M16	11.6	93.40	7
45	57.15	80	12	M20	15.2	106.8	-
50	69.85	97.5	12	M24	15.2	126.8	13

Quick Change

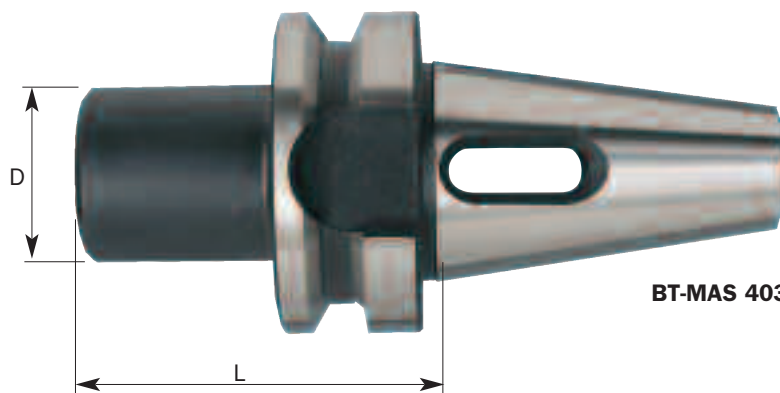
Taper	D	D1	f	I	g
30	31.75	46.0	69	8.76	10.7 M12
40	44.45	63.5	93	7.98	9.9 M16

MT - Morse Taper Adaptors

With internal morse taper socket. For use on drilling machines etc. For drills, core drills, reamers etc. Manufactured to stringent quality standards.

BT = BT-MAS 403.....(See main picture)

QC = ISO/DIN 2080
Quick Change.....



BT-MAS 403

Shank	Morse Taper	L	D	Weight each	Order Code
					IND-144
	2	50	32	882g	-5826K
QC40	3	65	40	1008g	-5830K
	4	95	48	1304g	-5834K

Shank	Morse Taper	L	D	Weight each	Order Code
					IND-144
	2	50	32	1050g	-5926K
BT40	3	70	40	1186g	-5930K
	4	95	48	1394g	-5934K
BT50	3	65	40	3750g	-5974K

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
JSN-12	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

Flexible Rubber Collet Sets

To suit Indexa-Seiki tapping heads.
Supplied as sets of two collets.

Tapping Head	Contact Length	Cone Angle	Outside Diameter	Weight each	Order Code
JSN - 7	12mm	36°	15mm	10g	-9600K
JSN - 12	12mm	36°	22mm	20g	-9610K
JSN - 20	12mm	36°	26mm	40g	-9620K



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