

Countersinks, Counterbores and Hole Type Deburring Cutters

# COUNTERSINKS & COUNTERBORES

HIGH SPEED STEEL



# COUNTERSINKS

## HIGH SPEED STEEL

### 5 FLUTE

The 90° Angle together with the 0° rake angle makes this tool suitable for countersinking ferrous metals, hard plastics and wood.



TOOL NO	HEAD DIAMETER	OVERALL LENGTH MM	SHANK DIAMETER MM	SHANK LENGTH MM
CS5 8	8mm (5/16")	35	5	20.5
CS5 12	12mm (1/2")	39	6.35	20.5
CS5 16	16mm (5/8")	52	8	32
CS5 20	20mm (3/4")	58	10	35

### 3 FLUTE

The positive rake angle means that a quick cutting action together with a chatter-free operation is possible when Countersinking both ferrous and non-ferrous metals, hard and soft plastics.



To DIN 335C.  
90° Angle.  
For use on metal.

TOOL NO	HEAD DIAMETER	NORMAL LENGTH MM	SHANK DIAMETER MM
CS3 6	6.3mm	45	5
CS3 8	8.3mm	50	6
CS3 10	10.4mm	50	6
CS3 12	12.4mm	56	8
CS3 16	16.5mm	60	10
CS3 20	20.5mm	63	10
CS3 25	25mm	67	10
CS3 28	28mm	71	12
CS3 31	31mm	71	12

### HOLE TYPE DEBURRING CUTTERS

The arrangement of the through hole in relation to the precision-ground head results in a clean-cutting chatter-free tool for deburring and chamfering a wide range of materials at acceptable production speeds. Chip clearance is excellent and therefore makes these tools particularly suitable for soft alloys such as aluminium and brass, as well as all ferrous metals. Hole type deburring cutters are relatively simple to resharpen by grinding the cutting face inside the hole.



90° Angle.  
For use on metal.

TOOL NO	RANGE MM	OVERALL LENGTH MM	SHANK DIAMETER MM	SHANK LENGTH MM
DC 25	2 - 5	45	6	32
DC 510	5 - 10	48	8	30.5
DC 1015	10 - 15	65	10	37.5
DC 1520	15 - 20	84	12	48
DC 2025	20 - 25	102	15	56.5
DC 2530	25 - 30	115	15	55
DC 3035	30 - 35	127	15	60.5

### 3 FLUTE | MORSE TAPER SHANK



To DIN 335D.  
90° Angle.  
For use on metal.

TOOL NO	HEAD DIAMETER	NOMINAL LENGTH MM	SHANK
MT CS3 16	16.5 mm	85	No1 MTS
MT CS3 20	20.5 mm	100	No2 MTS
MT CS3 25	25 mm	106	No2 MTS
MT CS3 31	31 mm	112	No2 MTS
MT CS3 40	40 mm	140	No3 MTS



### KIT | PLASTIC BOX

#### 5 FLUTE

KIT REF	CONTAINS TOOLS NUMBERS
CS5 K1	CS5 8, CS5 12, CS5 16, CS5 20



### SETS | METAL CASSETTES

#### 3 FLUTE | 90° ANGLE DIN 335C

SET REF	CONTAINS TOOLS NUMBERS
CS3 S1	CS3 6, CS3 8, CS3 10, CS3 12, CS3 16, CS3 20



### SETS | METAL CASSETTES

#### HOLE TYPE DEBURRING CUTTER

SET REF	CONTAINS TOOLS NUMBERS
DC S1	DC 25, DC 510, DC 1015, DC 1520



Other European sizes of Countersinks are available upon request.

# COUNTERBORES

HIGH SPEED STEEL

## PLAIN SHANK (P)

Solid type with integral pilot,  
Manufactured to BS 328 PART 5/ISO DIN 373 for use in chucks or collets.



TO SUIT CAPSCREWS TOOL REF	NOMINAL CUTTING DIA. MM	NOMINAL PILOT DIA. MM	SHANK DIA. MM	OVERALL LENGTH MM
M3 P	6.0	3.4	5.0	71
M3.5 P	6.5	3.9	5.0	71
M4 P	8.0	4.5	5.0	71
M5 P	10.0	5.5	8.0	80
M6 P	11.0	6.6	8.0	80
M8 P	15.0	9.0	12.5	100
M10 P	18.0	11.0	12.5	100
M12 P	20.0	14.0	12.5	100

## SCREWED SHANK (S)

Solid type with integral pilot. For use in Clarkson type holder.



TO SUIT CAPSCREWS TOOL REF	NOMINAL CUTTING DIA. MM	NOMINAL PILOT DIA. MM	SHANK DIA. MM	OVERALL LENGTH MM
M4 S	8.0	4.5	6.0	65
M5 S	10.0	5.5	6.0	70
M6 S	11.0	6.6	6.0	76
M8 S	15.0	9.0	10.0	87
M10 S	18.0	11.0	10.0	89
M12 S	20.0	14.0	12.0	108



## SETS | METAL CASSETTES

### PLAIN SHANK

SET REF	CONTAINS TOOLS NUMBERS
CB S1	M3P, M4P, M5P, M6P, M8P, M10P

## SETS | METAL CASSETTES

### SCREWED SHANK

SET REF	CONTAINS TOOLS NUMBERS
CB S2	M4S, M5S, M6S, M8S, M10S

## MORSE TAPER SHANKS

For use in Morse taper sockets.  
Detachable pilot type. BS 328 PART 5/ISO DIN375/1868



## MORSE TAPER SHANK (T)

TO SUIT CAPSCREWS TOOL REF	NOMINAL CUTTING DIA. MM	LENGTH MM	MT SHANK NO
M8 T	15	132	2
M10 T	18	140	2
M12 T	20	140	2
M14 T	24	150	2
M16 T	26	180	3
M18 T	30	180	3
M20 T	33	190	3
M22 T	36	190	3
M24 T	40	190	3

Morse Shank Counterbores are supplied complete with Pilot unless specified.

## PILOT - FOR MORSE TAPER SHANK (T)

TO SUIT CAPSCREWS TOOL REF	NOMINAL DIAMETER MM	SHANK DIAMETER MM
M8 T	9	4
M10 T	11	5
M12 T	14	5
M14 T	16	6
M16 T	18	8
M18 T	20	8
M20 T	22	10
M22 T	24	10
M24 T	26	10

# COUNTERSINKS & COUNTERBORES

## RECOMMENDED CUTTING SPEEDS



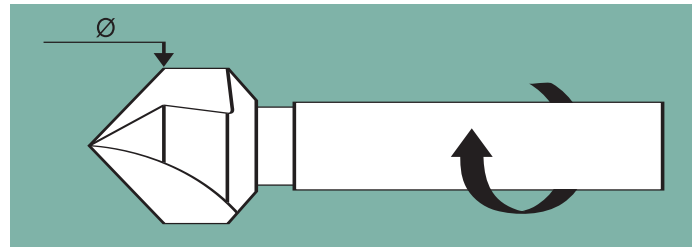
The cutting speeds shown in the table below should be used only as a guide. The specific speeds used will be dependent upon a variety of factors such as component condition, type of lubricant used, the rigidity of the set up etc, etc. The ideal speed therefore is best determined by testing.

Some tough/difficult to machine materials may require speeds lower than those stated but generally it is advised to start testing at the lower end of the range shown and increase until the ideal speed is determined.

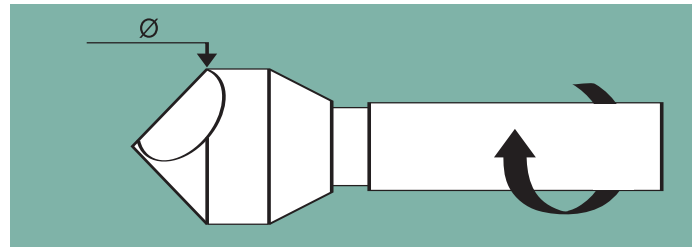
The life and efficiency of all cutting tools used on steels and non ferrous metals will be improved if an appropriate cutting lubricant/coolant is used.

Ø Metric	Ø Imperial	RPM	
		Ferrous	Non-Ferrous
5	3/16"	900-1900	1900-5200
6	1/4"	700-1600	1600-4400
8	5/16"	500-1200	1200-3200
10	3/8"	400-1000	1000-2600
11	7/16"	400-900	900-2400
12	1/2"	300-800	800-2000
14	9/16"	300-700	700-1800
16	5/8"	300-600	600-1600
18	11/16"	200-500	500-1500
20	13/16"	200-500	500-1500
22	7/8"	200-400	400-1200
24	15/16"	150-400	400-1000
26	1"	150-400	400-1000
28	1 1/8"	150-350	350-1000
30	1 3/16"	150-350	350-1000
32	1 1/4"	150-300	300-800
34	1 3/8"	100-300	300-800
36	1 7/16"	100-300	300-700
40	1 5/8"	100-300	300-500

### COUNTERSINKS



### HOLE TYPE DEBURRING CUTTERS



### COUNTERBORES

