



# COUNTERSINKS

• Counterbores • Cross Hole • Single Flute • Three Flute



# Smooth Cutting... Perfect Chamfering

## **Catalogue Code: C107**

This new generation of countersink applies the three most important areas for optimal tool life in its design.

Constant rake angle along the entire cutting face, latest developments in coating and superior tool material.

- De-burring
- Countersinking / Counterboring screw holes
- Chamfering of tapping holes
- For use in machine applications

## **Features**

- 5% Cobalt grade High Speed Steel
- Constant flute rake along entire cutting face
- Axial and radial adjusted relief
- Higher dimensional precision
- Improved and sharper cutting edge

## **Benefits**

- Chatter-free countersinking and de-burring
- Longer lasting
- Excellent chip flow



ISO	VDI	Material Group	Sutton
P	A	Steel	N
M	R	Stainless Steel	VA
K	F	Cast Iron	GG
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al W
S	S	Titaniums & Super Alloys	Ti Ni
H	H	Hard Materials (≥ 45 HRC)	H

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Catalogue Code  
Material  
Surface Finish  
Sutton Designation  
Standard  
Depth of Cut  
Shank Tolerance

C105	C106	C103	C104	C101	C102	C107	C108	C100	C110
HSS		HSS		HSS		HSS Co		HSS Co	VHM
BrT TiN		BrT TiN		BrT TiN		BrT TiAlN		BrT N	TiAlN UNI
N		N		N		N UNI		N	UNI
Sutton Standard		Sutton Standard		Sutton Standard		DIN 335		DIN 373	
-		-		-		-		-	
-		-		-		h9		h6 h8	

ISO	VDI <sup>3323</sup>	Material	Condition	HB	N/mm <sup>2</sup>												
P	1	Steel - Non-alloy, cast & free cutting	- 0.15 %C	A	125	440	●	●	●	●	●	●	●	●	●		
	2			A	190	640	●	●	●	●	●	●	●	●			
	3		- 0.45 %C	QT	250	840	○	●	○	●	○	●	○	●	○		
	4			A	270	910	○	●	○	●	○	●	○	●			
	5			QT	300	1010		○		○	○	○	○	○	○		
	6	A		180	610	●	●	○	●	●	●	●	●	●			
	7	Steel - Low alloy & cast < 5% of alloying elements	QT	275	930	○	●	○	●	○	●	○	●	○			
	8		QT	300	1010		○		○	○	○	○	○	○			
	9		QT	350	1180				○		○		○	○			
	10	Steel - High alloy, cast & tool	A	200	680	○	●	○	●	○	●	○	●	○			
	11		HT	325	1100				○		○		○	○			
12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	240	680				○	○	○	○	○	○			
13		Martensitic	QT	200	810				○	○	○	○	○	○			
M	14.1	Stainless Steel	Austenitic	AH	180	610		●		●		●		○	●		
	14.2		Duplex		250	840		●		●		●		○	●		
	14.3		Precipitation Hardening		250	840		○		○		○		○	○		
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	●	●	●	●	●	●	●	●	●		
	16		Pearlitic		260	880	○	○	○	○	○	○	○	○	○		
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	○	●	○	●	○	●	○	●	○		
	18		Pearlitic		250	840	○	○	○	○	○	○	○	○	○		
	19		Ferritic		130	460	○	●	○	●	○	●	○	●	○		
20	Cast Iron - Malleable	Pearlitic		230	780		○		○		○		○	○			
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	●	○	●	○	●	○	○	○	○		
	22		Heat Treatable	AH	100	360	●	○	●	○	●	○	○	○	○		
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	○	●	○	●	○	●	○	○	○		
	24		Heat Treatable	AH	90	320	○	●	○	●	○	●	○	○	○		
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460					○	○	○	○	○		
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	○	●	○	●	○	●	○	○	○		
	27		Brass (CuZn, CuSnZn)		90	320	○	○	○	○	○	○	○	○	○		
	28		Bronze (CuSn)		100	360	○	○	○	○	○	○	○	○	○		
	29	Non-metallic - Thermosetting & fiber-reinforced plastics									○	○		○	○		
	30	Non-metallic - Hard rubber, wood etc.													○		
S	31	High temp. alloys	Fe based	A	200	680						○	○		○		
	32			AH	280	950							○	○		○	
	33		Ni / Co based	A	250	840							○	○		○	
	34			AH	350	1180								○	○		○
	35			C	320	1080									○		○
	36	Titanium & Ti alloys	CP Titanium		400 MPa							○	○		○		
	37.1		Alpha alloys		860 MPa							○	○		○		
	37.2		Alpha / Beta alloys	A	960 MPa							○	○		○		
	37.3			AH	1170 MPa							○	○		○		
	37.4		Beta alloys	A	830 MPa							○	○		○		
37.5	AH	1400 MPa									○		○				
H	38.1	Hardened steel	HT	45 HRC											○		
	38.2		HT	55 HRC											○		
	39.1		HT	58 HRC											○		
	39.2		HT	62 HRC											○		
	40	Cast Iron	Chilled	C	400	1350	○	○	○	○	○	○	○	○	○	○	
41	HT		55 HRC											○			

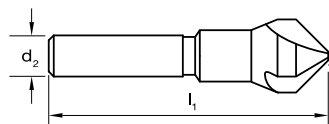
Condition: A (Annealed), AH (Age Hardened), C (Cast), HT (Hardened & Tempered), QT (Quenched & Tempered)

● Optimal ○ Effective

# Countersinks Three Flute, 90°

## sutton®

- Countersinking tool
- For machine use
- For use on most materials including plastics, non-ferrous & ferrous metals



Catalogue Code	<b>C105</b>	<b>C106</b>
Discount Group	<b>A1106</b>	<b>A1108</b>
Material	<b>HSS</b>	<b>HSS</b>
Surface Finish	<b>BrT</b>	<b>TiN</b>
Sutton Designation	<b>N</b>	<b>N</b>
Geometry	-	-
Point Type	90°	90°
Shank Tolerance	-	-

Size Ref.	Range	l <sub>1</sub>	d <sub>2</sub>	Pieces	Item #	Item #
<b>0901</b>	4-10mm	43	6.35 (1/4)		C105 0901	C106 0901
<b>0902</b>	4-14mm	48	10 (3/8)		C105 0902	C106 0902
<b>0903</b>	5-20mm	67	12.7 (1/2)		C105 0903	C106 0903
<b>0904</b>	6-28mm	72	12.7 (1/2)		C105 0904	C106 0904
<b>0905</b>	6-37mm	89	12.7 (1/2)		C105 0905	C106 0905

### Set

<b>STF1</b>	0901, 0902, 0903, 0904	4	C105 STF1	
<b>STF1T</b>	0901, 0902, 0903, 0904	4		C106 STF1T



C105 STF1



C106 STF1T

ISO	P										M			K						N							S							H															
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
<b>C105</b>	●	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
<b>C106</b>	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective





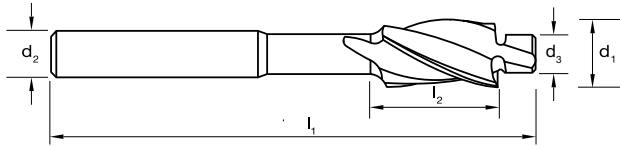


# Countersinks Counterbore



- Solid pilot style
- 3 flute design
- Right-hand cutting
- Nominal size to suit metric socket head cap screws
- Cobalt High Speed Steel enables counterboring in high alloy steels

**DIN 373**



Catalogue Code	<b>C100</b>
Discount Group	B0709
Material	<b>HSS Co</b>
Surface Finish	<b>BrT</b>
Sutton Designation	<b>N</b>
Geometry	-
Point Type	-
Shank Tolerance	h6

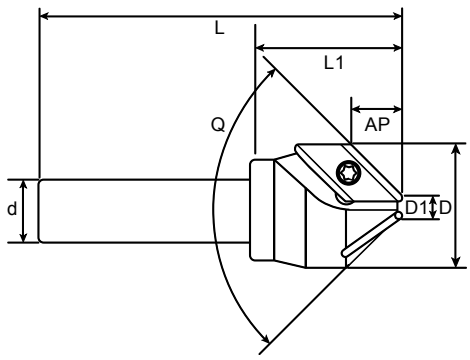
Size Ref.	Size	d <sub>3</sub>	d <sub>1</sub>	l <sub>1</sub>	l <sub>2</sub>	d <sub>2</sub>	Item #
<b>0300</b>	<b>3.0</b>	3.2	6.0	71.0	14.0	5.0	C100 0300
<b>0400</b>	<b>4.0</b>	4.3	8.0	71.0	14.0	5.0	C100 0400
<b>0500</b>	<b>5.0</b>	5.3	10.0	80.0	18.0	8.0	C100 0500
<b>0600</b>	<b>6.0</b>	6.4	11.0	80.0	18.0	8.0	C100 0600
<b>0800</b>	<b>8.0</b>	8.4	15.0	100.0	22.0	12.5	C100 0800
<b>1000</b>	<b>10.0</b>	10.5	18.0	100.0	22.0	12.5	C100 1000
<b>1200</b>	<b>12.0</b>	13.0	20.0	100.0	22.0	12.5	C100 1200

ISO	P										M			K						N						S						H																	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
<b>C100</b>	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○		

P Steel 
 M Stainless Steel 
 K Cast Iron 
 N Non-Ferrous Metals 
 S Titanium & Super Alloys 
 H Hard Materials 
 ● Optimal ○ Effective

# Chamfers Indexable Countersink with Carbide Insert

- Suitable for both hand and machine operations
- 90° Standard Chamfer
- Chatter-free countersinking and de-burring
- Suitable for unstable machining at lower RPMs
- Carbide strip design provides excellent chamfering surface and better tool life



Catalogue Code	<b>C110</b>
Discount Group	A1108
Material	<b>VHM</b>
Surface Finish	<b>TiAlN</b>
Sutton Designation	<b>UNI</b>
Point Type	90°
Shank Tolerance	h8

Size Ref.	D1	D	d	L	AP	L1	Q	Cut	Insert Type	Item #
<b>Holder and Insert</b>										
<b>2290</b>	5.5	22	10	65	8	27	90°	1	Small	C110 2290
<b>3690</b>	15	36	12	78	10	38	90°	1	Large	C110 3690
<b>Replacement Inserts</b>										
<b>2210</b>	Countersink Carbide Inserts SMALL								Small	C110 2210
<b>3610</b>	Countersink Carbide Inserts LARGE								Large	C110 3610

ISO	P										M			K						N						S						H																			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41		
<b>C110</b>	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○		

P Steel 
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