

# SINKERS

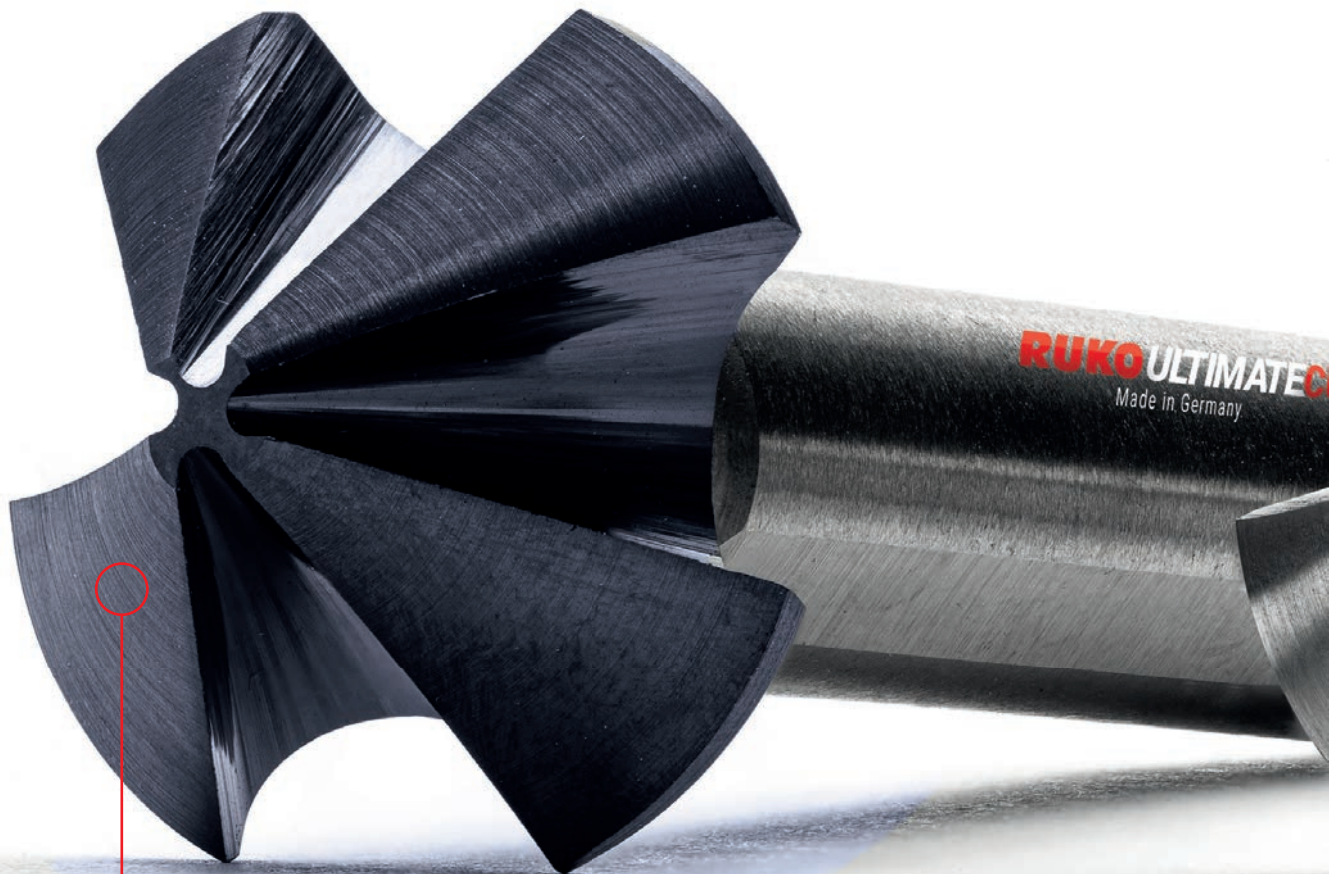
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Fast. Sharp. Powerful. Sensational.

**ULTIMATECUT<sup>®</sup>**

# Countersink 4S – with 4 cutting edges

It lets you lower 3x more.  
It makes you twice as fast.  
It saves you strength.



**RUKO** 4 cutting edges + unequal division

The distribution of the forces acting on the four cutting edges noticeably reduces the axial and radial forces and guarantees extremely smooth and gentle running of the tool thanks to the unequal spacing.



### **Sinking. Rethought.**





































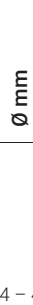


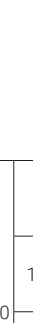


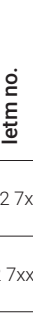


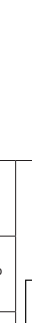


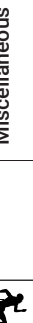


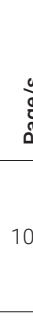





For the first time, the newly developed cutting edge technology can even be used for countersinking with a maximum diameter of 40 mm with hand-held screwing and drilling tools.



### **Incomparable performance**

The HSSE-Co 5 variant extends the range of applications to include high-performance machining of stainless steels and demanding Hardox steels.



































# Type and applications overview

	Material	Surface	DIN	Type	Sinking angle	Cutting edges	Shank	Ø mm	letm no.	Miscellaneous	Page/s
	<b>NEW</b> HSS	Blank	DIN 335	C	90°			10,4 – 40,0	102 7xx		105
	HSS	RUna TEC	DIN 335	C	90°				102 7xx P		
	HSSE Co5	Blank	DIN 335	C	90°				102 7xx E		
	HSSE Co5	RUna TEC	DIN 335	C	90°				102 7xx EP		
	HSS	Blank	DIN 335	C	90°			6,3 – 31,0	102 7xx		107
	HSS	RUna TEC	DIN 335	C	90°				102 7xx P		
	HSSE Co5	Blank	DIN 335	C	90°				102 7xx E		
	HSSE Co5	RUna TEC	DIN 335	C	90°				102 7xx EP		
	HSS	Blank	DIN 335	C	90°			4,3 – 40,0	102 1xx	<b>ALU</b>	108 - 111
	HSS	Blank	DIN 335	C	90°			6,3 – 31,0	102 1xx A		
	HSSE Co5	Blank	DIN 335	C	90°			4,3 – 31,0	102 1xx E		
	HSS	TiN	DIN 335	C	90°			4,3 – 40,0	102 1xx T		
	HSS	TiAlN	DIN 335	C	90°			4,3 – 40,0	102 1xx F		
	TC HM	Blank	DIN 335	C	90°			6,3 – 31,0	102 26x		
	HSS	Blank	DIN 335	C	90°			6,3 – 25,0	102 2xx		112
	HSS	Blank	DIN 335	D	90°			15,0 – 80,0	102 1xx		113
	HSS	Blank	DIN 334	C	60°			6,3 – 25,0	102 201 - 102 207		113
	HSS	Blank	DIN 334	D	60°			16,0 – 80,0	102 208 - 102 215		114
	HSS	Blank		C	75°			6,3 – 25,0	102 221 - 102 227		114
	HSS	Blank		D	75°			16,5 – 40,0	102 228 - 102 232		115
	HSS	Blank		C	120°			6,3 – 25,0	102 241 - 102 247		115
	HSS	Blank		D	120°			16,5 – 40,0	102 2xx		116

05



# Type and applications overview

	Material	Surface	DIN	Type	Sinking angle	Cutting edges	Shank	Ø mm	Item no.	Miscellaneous	Page/s
	HSS	Blank		C	90°			6,0 – 50,0	102 5xx		116
	HSS	Blank	DIN 335	C	82°			1/4 – 1 Inch	102 182 - 102 191	Inch Size	117
	HSS	Blank			90°			6,3 – 20,5	W102 31x		118
	HSS	TiN			90°			6,3 – 20,5	W102 31x T		
	HSS	Blank			90°			6,3 – 20,5	102 31x		119
	HSS	TiN			90°			6,3 – 20,5	102 31x T		
	HSS	Blank			90°			12,4 – 25,0	102 14x	with handle	120
	HSS	Blank			90°			2,0 – 25,0	102 30x		121
	HSSE Co5	Blank			90°			1,0 – 25,0	102 30x E		
	HSS	TiN			90°			2,0 – 25,0	102 30x T		
	HSS	Blank			180°			M3 – M12	102 4xx		122 – 123
	HSS	TiN			180°			M3 – M12	102 4xx T		
	HSS	Blank			180°			M10 – M22	102 4xx		124

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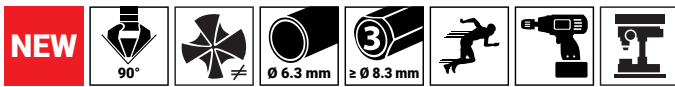
## Application tip

To increase the service life - reduce speed!  
Cooling while countersinking!



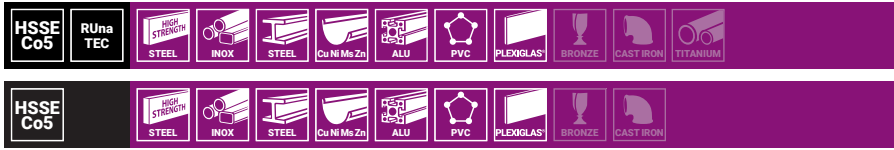
Structural steel < 900 N/mm <sup>2</sup>	Inox <1100 N/mm <sup>2</sup>	High strength steel <1300 N/mm <sup>2</sup>	Brass	Bronze	Cast iron	Aluminium	Plastics
●			●	○	○	●	○
●	●		●	○	●	●	○
●			●	○	○	●	○
●	○		●	○	○		○
●			●	○	○	●	○
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●			●			●	○
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●			●	○	○	●	○





**ULTIMATECUT®**

**ULTIMATECUT countersink 4S  
HSSE-Co 5, similar DIN 335, 90°**



The ULTIMATECUT countersink 4S is a high-performance tool that stands for best performance in all disciplines. The ULTIMATECUT countersink 4S can be optimally used in hand-held applications with the cordless screwdriver or a drill, in pillar drilling machines as well as in CNC-controlled machining centres.



**05**

**!** 4 cutting edges for technical reasons from Ø 10.4 mm, smaller dimensions in versions with 3 cutting edges.

Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	Countersinks as per DIN 74 / BF	HSSE-Co 5 RUnaTEC	HSSE-Co 5
10.4	2.5	50.0	6.0	M 5	102 874 EP	102 874 E
12.4	2.8	56.0	8.0	M 6	102 876 EP	102 876 E
15.0	3.2	60.0	10.0	M 8	102 878 EP	102 878 E
16.5	3.2	60.0	10.0	M 8	102 879 EP	102 879 E
19.0	3.5	63.0	10.0	M 10	102 880 EP	102 880 E
20.5	3.5	63.0	10.0	M 10	102 881 EP	102 881 E
23.0	3.8	67.0	10.0	M 12	102 882 EP	102 882 E
25.0	3.8	67.0	10.0	M 12	102 883 EP	102 883 E
31.0	4.2	71.0	12.0	M 16	102 885 EP	102 885 E
40.0	5.2	80.0	12.0	-	102 894 EP	102 894 E

		HSSE-Co 5 RUnaTEC	HSSE-Co 5
<b>6</b> tfg./pcs.	Countersink set 4S HSSE-Co 5, similar DIN 335, 90° Ø 6.3   8.3   10.4   12.4   16.5   20.5 mm	102 890 EPRO	102 890 ERO
<b>5</b> tfg./pcs.	Countersink set 4S HSSE-Co 5, similar DIN 335, 90° Ø 6.3   10.4   16.5   20.5   25.0 mm	102 891 EPRO	102 891 ERO



102 890 EPRO



**ULTIMATECUT<sup>®</sup>**

## ULTIMATECUT countersink 4S HSS, similar DIN 335, 90°



The ULTIMATECUT countersink 4S is a high-performance tool that stands for best performance in all disciplines. The ULTIMATECUT countersink 4S can be optimally used in hand-held applications with the cordless screwdriver or a drill, in pillar drilling machines as well as in CNC-controlled machining centers.

**!** 4 cutting edges for technical reasons from Ø 10.4 mm, smaller dimensions in versions with 3 cutting edges.



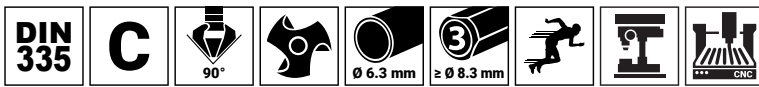
Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	Countersinkings as per DIN 74	HSS RUnaTEC		HSS	
10.4	2.5	50.0	6.0	M 5	102 874 P	1	102 874	1
12.4	2.8	56.0	8.0	M 6	102 876 P	1	102 876	1
15.0	3.2	60.0	10.0	M 8	102 878 P	1	102 878	1
16.5	3.2	60.0	10.0	M 8	102 879 P	1	102 879	1
19.0	3.5	63.0	10.0	M 10	102 880 P	1	102 880	1
20.5	3.5	63.0	10.0	M 10	102 881 P	1	102 881	1
23.0	3.8	67.0	10.0	M 12	102 882 P	1	102 882	1
25.0	3.8	67.0	10.0	M 12	102 883 P	1	102 883	1
31.0	4.2	71.0	12.0	M 16	102 885 P	1	102 885	1
40.0	5.2	80.0	12.0	-	102 894 P	1	102 894	1

		HSS RUnaTEC	HSS
<b>6</b> tlg./pcs.	Countersink set 4S HSS, similar DIN 335, 90° Ø 6.3   8.3   10.4   12.4   16.5   20.5 mm	102 890 PRO	102 890 RO
<b>5</b> tlg./pcs.	Countersink set 4S HSS, similar DIN 335, 90° Ø 6.3   10.4   16.5   20.5   25.0 mm	102 891 PRO	102 891 RO

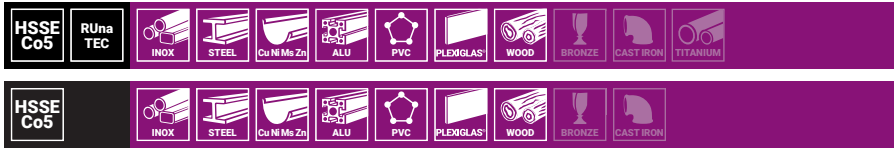


102 891 RO



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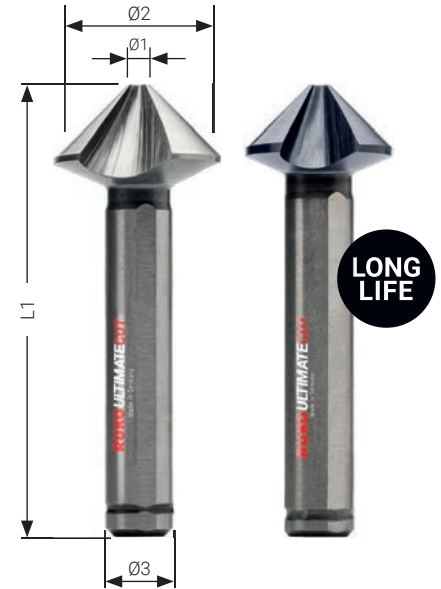
## ULTIMATECUT countersink HSSE-Co 5, DIN 335, type C, 90°



The ULTIMATECUT countersink is a high-performance tool that stands for the best performance: Up to 30% time savings, twice as many countersinks as with standard countersinks and an optimally smooth countersinking result and that in almost all materials.

The RUKO countersink achieves this thanks to its unique cutting edge geometry, with the specially developed variable relief grinding, transition radii and the extra wide flute.

Also ideal for CNC-controlled machining centers.



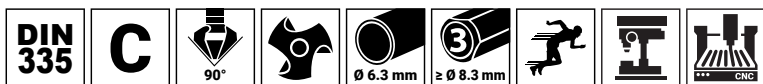
Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	Countersinkings as per DIN 74	HSSE-Co 5 RUnaTEC	HSSE-Co 5
6.3	1.5	45.0	5.0	M 3	102 767 EP	102 767 E
8.3	2.0	50.0	6.0	M 4	102 771 EP	102 771 E
10.4	2.5	50.0	6.0	M 5	102 774 EP	102 774 E
12.4	2.8	56.0	8.0	M 6	102 776 EP	102 776 E
15.0	3.2	60.0	10.0	M 8	102 778 EP	102 778 E
16.5	3.2	60.0	10.0	M 8	102 779 EP	102 779 E
19.0	3.5	63.0	10.0	M 10	102 780 EP	102 780 E
20.5	3.5	63.0	10.0	M 10	102 781 EP	102 781 E
23.0	3.8	67.0	10.0	M 12	102 782 EP	102 782 E
25.0	3.8	67.0	10.0	M 12	102 783 EP	102 783 E
31.0	4.2	71.0	12.0	M 16	102 785 EP	102 785 E

		HSSE-Co 5 RUnaTEC	HSSE-Co 5
<b>6</b> tfg./pcs.	Countersink set HSSE-Co 5 DIN 335 type C 90° Ø 6.3   8.3   10.4   12.4   16.5   20.5 mm	102 790 EPRO	102 790 ERO
<b>5</b> tfg./pcs.	Countersink set HSSE-Co 5 DIN 335 type C 90° Ø 6.3   10.4   16.5   20.5   25.0 mm	102 791 EPRO	102 791 ERO



102 790 EPRO



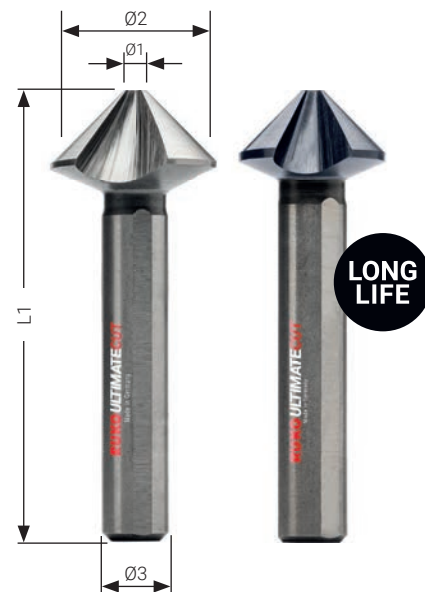
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The RUKO countersink achieves this thanks to its unique cutting edge geometry, with the specially developed variable relief grinding, transition radii and the extra wide flute.



Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	Countersinkings as per DIN 74	HSS RUnaTEC	HSS
6.3	1.5	45.0	5.0	M 3	102 767 P	102 767
8.3	2.0	50.0	6.0	M 4	102 771 P	102 771
10.4	2.5	50.0	6.0	M 5	102 774 P	102 774
12.4	2.8	56.0	8.0	M 6	102 776 P	102 776
15.0	3.2	60.0	10.0	M 8	102 778 P	102 778
16.5	3.2	60.0	10.0	M 8	102 779 P	102 779
19.0	3.5	63.0	10.0	M 10	102 780 P	102 780
20.5	3.5	63.0	10.0	M 10	102 781 P	102 781
23.0	3.8	67.0	10.0	M 12	102 782 P	102 782
25.0	3.8	67.0	10.0	M 12	102 783 P	102 783
31.0	4.2	71.0	12.0	M 16	102 785 P	102 785

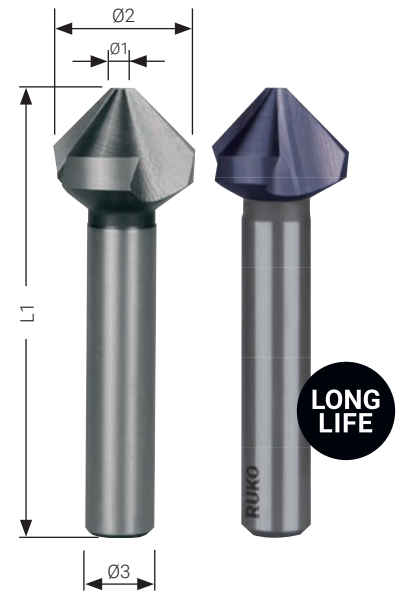
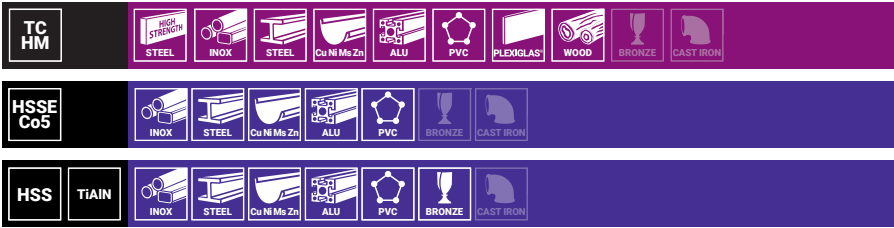
		HSS RUnaTEC	HSS
<b>6</b> tlg./pcs.	Countersink set HSS DIN 335 type C 90° Ø 6.3   8.3   10.4   12.4   16.5   20.5 mm	102 790 PRO	102 790 RO
<b>5</b> tlg./pcs.	Countersink set HSS DIN 335 type C 90° Ø 6.3   10.4   16.5   20.5   25.0 mm	102 791 PRO	102 791 RO



102 791 RO



## Countersink DIN 335 type C 90°



Because of the CBN deep-ground flutes the cutting edges are extremely sharp. Ideal for burr- and chatter-free deburring and countersinking. Best results at low cutting speeds.



Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	Countersinkings DIN 74		HM / TC	HSSE-Co 5	HSS TiAIN	
				AF	BF				
4.3	1.3	40.0	4.0			—	102 101 E	102 101 F	1
4.8	1.5	40.0	4.0			—	—	102 102 F	1
5.0	1.5	40.0	4.0	M 2.5		—	102 103 E	102 103 F	1
5.3	1.5	40.0	4.0			—	102 104 E	102 104 F	1
5.8	1.5	45.0	5.0			—	—	102 105 F	1
6.0	1.5	45.0	5.0	M 3		—	102 106 E	102 106 F	1
6.3	1.5	45.0	5.0		M 3	102 261	102 107 E	102 107 F	1
7.0	1.8	50.0	6.0	M 3.5		—	—	102 108 F	1
7.3	1.8	50.0	6.0			—	—	102 109 F	1
8.0	2.0	50.0	6.0	M 4		—	102 110 E	102 110 F	1
8.3	2.0	50.0	6.0		M 4	102 262	102 111 E	102 111 F	1
9.4	2.2	50.0	6.0			—	—	102 112 F	1
10.0	2.5	50.0	6.0	M 5		—	102 113 E	102 113 F	1
10.4	2.5	50.0	6.0		M 5	102 263	102 114 E	102 114 F	1
11.5	2.8	56.0	8.0	M 6		—	102 115 E	102 115 F	1
12.4	2.8	56.0	8.0		M 6	102 264	102 116 E	102 116 F	1
13.4	2.9	56.0	8.0			—	—	102 117 F	1
15.0	3.2	60.0	10.0	M 8		—	102 118 E	102 118 F	1
16.5	3.2	60.0	8.0		M 8	—	102 119 E	102 119 F	1
16.5	3.2	60.0	10.0		M 8	102 265	102 119-1 E	102 119-1 F	1
19.0	3.5	63.0	10.0	M 10		—	102 120 E	102 120 F	1
20.5	3.5	63.0	10.0		M 10	102 266	102 121 E	102 121 F	1
23.0	3.8	67.0	10.0	M 12		—	102 122 E	102 122 F	1
25.0	3.8	67.0	10.0		M 12	102 267	102 123 E	102 123 F	1
26.0	3.9	71.0	12.0	M 14		—	—	102 171 F	1
28.0	4.0	71.0	12.0		M 14	—	102 124 E	102 124 F	1
30.0	4.1	71.0	12.0	M 16		—	—	102 172 F	1
31.0	4.2	71.0	12.0		M 16	102 268	102 125 E	102 125 F	1
37.0	4.8	90.0	12.0	M 20	M 20	—	—	102 173 F	1
40.0	10.0	80.0	15.0			—	—	102 174 F	1

		HM / TC	HSSE-Co 5	HSS TiAIN
<b>5</b> tfg./pcs.	Countersink set DIN 335 type C 90° Ø 6.3   10.4   16.5   20.5   25.0 mm (Ø 16.5 mm = shank-Ø 10.0 mm)	–	102 154 ERO	102 154 FRO
<b>6</b> tfg./pcs.	Countersink set DIN 335 type C 90° Ø 6.3   8.3   10.4   12.4   16.5   20.5 mm (Ø 16.5 mm = shank-Ø 10.0 mm)	102 152 HMRO	102 152 ERO	102 152 FRO
<b>6</b> tfg./pcs.	Countersink set DIN 335 type C 90° Ø 6.3   10.4   16.5   20.5   25.0 mm (Ø 16.5 mm = shank-Ø 8.0 mm) + 1x cutting paste 40 ml	–	102 142 E	–



102 152 HMRO



102 154 FRO



102 152 ERO



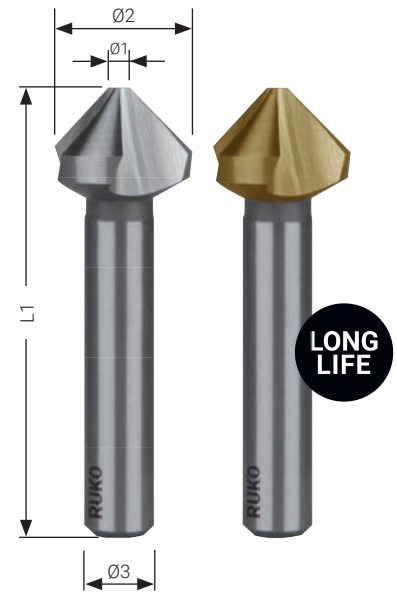
102 142 E



## Countersink DIN 335 type C 90°

<b>HSS</b>	<b>TIN</b>	STEEL	Cu Ni Mo Zn	PVC	INOX	CAST IRON	BRONZE
<b>HSS</b>		STEEL	Cu Ni Mo Zn	ALU	PVC	CAST IRON	BRONZE
<b>HSS</b>	<b>ALU</b>	ALU	Cu Ni Mo Zn	ALU	PVC		

Because of the CBN deep-ground flutes the cutting edges are extremely sharp. Ideal for burr- and chatter-free deburring and countersinking. Best results at low cutting speeds.



Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	Countersinkings DIN 74		<b>HSS TIN</b>	<b>HSS</b>	<b>HSS ALU</b>	
				AF	BF				
4.3	1.3	40.0	4.0			102 101 T	102 101	—	1
4.8	1.5	40.0	4.0			102 102 T	102 102	—	1
5.0	1.5	40.0	4.0	M 2.5		102 103 T	102 103	—	1
5.3	1.5	40.0	4.0			102 104 T	102 104	—	1
5.8	1.5	45.0	5.0			102 105 T	102 105	—	1
6.0	1.5	45.0	5.0	M 3		102 106 T	102 106	—	1
6.3	1.5	45.0	5.0		M 3	102 107 T	102 107	102 107 A	1
7.0	1.8	50.0	6.0	M 3.5		102 108 T	102 108	—	1
7.3	1.8	50.0	6.0			102 109 T	102 109	—	1
8.0	2.0	50.0	6.0	M 4		102 110 T	102 110	—	1
8.3	2.0	50.0	6.0		M 4	102 111 T	102 111	102 111 A	1
9.4	2.2	50.0	6.0			102 112 T	102 112	—	1
10.0	2.5	50.0	6.0	M 5		102 113 T	102 113	—	1
10.4	2.5	50.0	6.0		M 5	102 114 T	102 114	102 114 A	1
11.5	2.8	56.0	8.0	M 6		102 115 T	102 115	—	1
12.4	2.8	56.0	8.0		M 6	102 116 T	102 116	102 116 A	1
13.4	2.9	56.0	8.0			102 117 T	102 117	—	1
15.0	3.2	60.0	10.0	M 8		102 118 T	102 118	—	1
16.5	3.2	60.0	8.0		M 8	102 119 T	102 119	102 119 A	1
16.5	3.2	60.0	10.0		M 8	102 119-1 T	102 119-1	102 119-1 A	1
19.0	3.5	63.0	10.0	M 10		102 120 T	102 120	—	1
20.5	3.5	63.0	10.0		M 10	102 121 T	102 121	102 121 A	1
23.0	3.8	67.0	10.0	M 12		102 122 T	102 122	—	1
25.0	3.8	67.0	10.0		M 12	102 123 T	102 123	102 123 A	1
26.0	3.9	71.0	12.0	M 14		102 171 T	102 171	—	1
28.0	4.0	71.0	12.0		M 14	102 124 T	102 124	—	1
30.0	4.1	71.0	12.0	M 16		102 172 T	102 172	—	1
31.0	4.2	71.0	12.0		M 16	102 125 T	102 125	102 125 A	1
37.0	4.8	90.0	12.0			102 173 T	102 173	—	1
40.0	10.0	80.0	15.0			102 174 T	102 174	—	1

		HSS TiN	HSS	HSS for ALU
<b>5</b> tfg./pcs.	Countersink set DIN 335 type C 90° Ø 6.3   10.4   16.5   20.5   25.0 mm (Ø 16.5 mm = shank-Ø 10.0 mm)	102 154 TRO	102 154 RO	102 154 ARO
<b>6</b> tfg./pcs.	Countersink set DIN 335 type C 90° Ø 6.3   8.3   10.4   12.4   16.5   20.5 mm (Ø 16.5 mm = shank-Ø 10.0 mm)	102 152 TRO	102 152 RO	102 152 ARO
<b>17</b> tfg./pcs.	Countersink set DIN 335 type C 90° Ø 4.3   5.0   6.0   6.3   7.0   8.0   8.3   10.0   10.4   11.5   12.4   15.0   16.5   19.0   20.5   23.0   25.0 mm (Ø 16.5 mm = shank-Ø 10.0 mm)	–	102 155 RO	–
<b>17</b> tfg./pcs.	Countersink set in wooden case DIN 335 type C 90° Ø 4.3   5.0   6.0   6.3   7.0   8.0   8.3   10.0   10.4   11.5   12.4   15.0   16.5   19.0   20.5   23.0   25.0 mm (Ø 16.5 mm = shank-Ø 10.0 mm)	–	102 155	–
<b>6</b> tfg./pcs.	Countersink set DIN 335 type C 90° Ø 6.3   10.4   16.5   20.5   25.0 mm (Ø 16.5 mm = shank-Ø 8.0 mm) + 1x cutting paste 40 ml	102 142 T	102 142	102 142 A

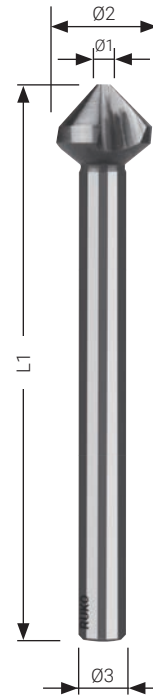




## Countersink DIN 335 type C 90° HSS with long cylindrical shank



Because of the CBN deep-ground flutes the cutting edges are extremely sharp. Ideal for burr- and chatter-free deburring and countersinking. Best results at low cutting speeds.



05

Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	Countersinkings DIN 74		HSS	
				AF	BF		
6.3	1.5	85.0	5.0	-	M 3	102 271	1
8.3	2.0	85.0	6.0	-	M 4	102 272	1
10.4	2.5	88.0	6.0	-	M 5	102 273	1
12.4	2.8	108.0	8.0	-	M 6	102 274	1
15.0	3.2	110.0	10.0	M 8	-	102 275	1
16.5	3.2	112.0	10.0	-	M 8	102 276	1
20.5	3.5	115.0	10.0	-	M 10	102 277	1
25.0	3.8	118.0	10.0	-	M 12	102 278	1

		HSS
<b>6</b> tfg./pcs.	Countersink set DIN 335 type C 90° Ø 6.3   8.3   10.4   12.4   16.5   20.5 mm	102 158 RO





## Countersink DIN 335 type D 90° HSS



Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	Countersinkings DIN 74		HSS	
				AF	BF		
15.0	3.2	85.0	MK 1	M 8	-	102 126	1
16.5	3.2	85.0	MK 1	-	M 8	102 127	1
19.0	3.5	100.0	MK 2	M 10	-	102 128	1
20.5	3.5	100.0	MK 2	-	M 10	102 129	1
23.0	3.8	106.0	MK 2	M 12	-	102 130	1
25.0	3.8	106.0	MK 2	-	M 12	102 131	1
26.0	3.8	106.0	MK 2	M 14	-	102 132	1
28.0	4.0	112.0	MK 2	-	M 14	102 133	1
30.0	4.2	112.0	MK 2	M 16	-	102 134	1
31.0	4.2	112.0	MK 2	-	M 16	102 135	1
34.0	4.5	118.0	MK 2	M 18	M 18	102 136	1
37.0	4.8	118.0	MK 2	M 20	M 20	102 137	1
40.0	10.0	140.0	MK 3	-	-	102 138	1
50.0	14.0	150.0	MK 3	-	-	102 139	1
63.0	16.0	180.0	MK 4	-	-	102 140	1
80.0	22.0	190.0	MK 4	-	-	102 141	1



## Countersink DIN 334 type C 60° HSS



Packaging: plastic tube

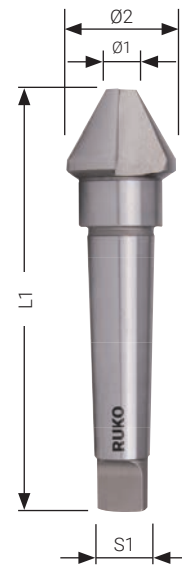
Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	HSS	
6.3	1.6	45.0	5.0	102 201	1
8.0	2.0	50.0	6.0	102 202	1
10.0	2.5	50.0	6.0	102 203	1
12.5	3.2	56.0	8.0	102 204	1
16.0	4.0	63.0	10.0	102 205	1
20.0	5.0	67.0	10.0	102 206	1
25.0	6.3	71.0	10.0	102 207	1



## Countersink DIN 334 type D 60° HSS



Packaging: plastic tube



05

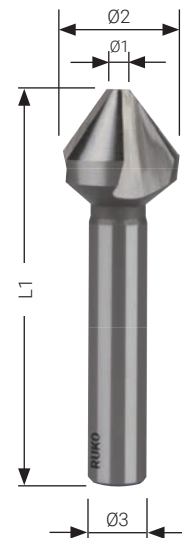
Ø2 mm	Ø1 mm	L1 mm	S1	HSS	
16.0	4.0	90.0	MK 1	102 208	1
20.0	5.0	106.0	MK 2	102 209	1
25.0	6.3	112.0	MK 2	102 210	1
31.5	10.0	118.0	MK 2	102 211	1
40.0	12.5	150.0	MK 3	102 212	1
50.0	16.0	160.0	MK 3	102 213	1
63.0	20.0	190.0	MK 4	102 214	1
80.0	25.0	200.0	MK 4	102 215	1



## Countersink type C 75° HSS



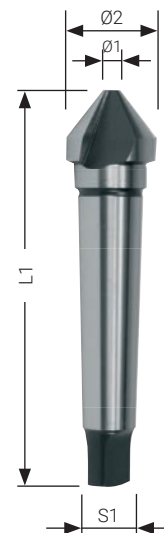
Packaging: plastic tube



Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	HSS	
6.3	1.6	45.0	5.0	102 221	1
8.3	2.0	50.0	6.0	102 222	1
10.4	2.5	50.0	6.0	102 223	1
12.4	3.2	56.0	8.0	102 224	1
16.5	4.0	63.0	10.0	102 225	1
20.5	5.0	67.0	10.0	102 226	1
25.0	6.3	71.0	10.0	102 227	1



## Countersink type D 75° HSS



Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	S1	HSS	
16.5	3.5	87.0	MK 1	102 228	1
20.5	4.5	102.0	MK 2	102 229	1
25.0	5.0	109.0	MK 2	102 230	1
31.0	5.0	116.0	MK 2	102 231	1
40.0	10.0	145.0	MK 3	102 232	1



## Countersink type C 120° HSS

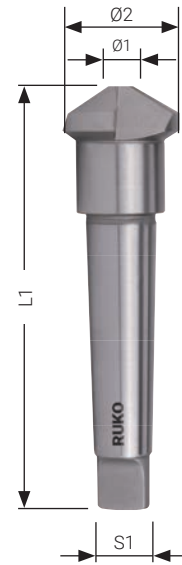


Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 mm	HSS	
6.3	1.5	45.0	5.0	102 241	1
8.3	2.0	50.0	6.0	102 242	1
10.4	2.5	50.0	6.0	102 243	1
12.4	3.0	56.0	8.0	102 244	1
16.5	3.5	63.0	10.0	102 245	1
20.5	4.0	67.0	10.0	102 246	1
25.0	5.0	71.0	10.0	102 247	1



## Countersink type D 120° HSS



Packaging: plastic tube

05

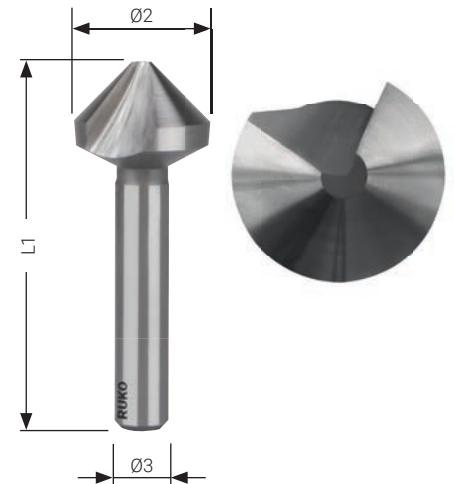
Ø2 mm	Ø1 mm	L1 mm	S1	HSS	
16.5	3.5	87.0	MK 1	102 248	1
20.5	4.5	102.0	MK 2	102 249	1
25.0	5.0	109.0	MK 2	102 250	1
31.0	5.0	116.0	MK 2	102 251	1
40.0	10.0	145.0	MK 3	102 252	1



## Countersink type C 90° HSS



Only countersinking and deburring possible.  
Countersink with a blade not recommended for full countersinking.



Packaging: plastic tube

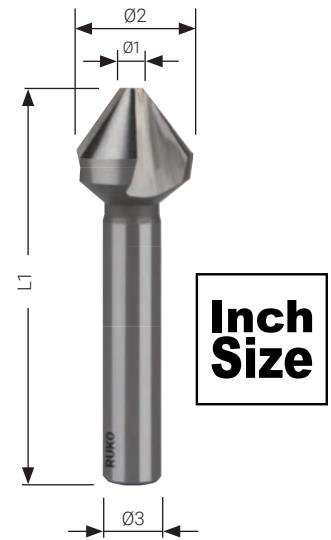
Ø2 mm	L1 mm	Ø3 mm	HSS	
6.0	45.0	5.0	102 521	1
8.0	50.0	6.0	102 522	1
10.0	50.0	6.0	102 523	1
12.0	56.0	8.0	102 524	1
16.0	60.0	10.0	102 525	1
20.0	63.0	10.0	102 526	1
25.0	67.0	10.0	102 527	1
30.0	71.0	12.0	102 528	1
40.0	89.0	15.0	102 529	1
50.0	98.0	15.0	102 530	1



## Countersink type C 82° HSS – inch dimensions



Because of the CBN deep-ground flutes the cutting edges are extremely sharp. Ideal for burr- and chatter-free deburring and countersinking. Best results at low cutting speeds.



Packaging: plastic tube

inch	Ø2 mm	Ø1 inch	inch	Ø3 mm	inch	L1 mm	HSS	
1/4	6.4	3/64	3/16	5.0	1 3/4	45.0	102 182	1
5/16	7.9	4/64	1/4	6.0	2"	50.0	102 183	1
3/8	9.5	5/64	1/4	6.0	2"	50.0	102 184	1
1/2	12.7	6/64	5/16	8.0	2 3/16	56.0	102 186	1
5/8	15.9	7/64	3/8	10.0	2 3/8	60.0	102 188	1
3/4	19.1	8/64	3/8	10.0	2 1/2	63.0	102 189	1
7/8	22.2	9/64	3/8	10.0	2 5/8	67.0	102 190	1
1"	25.4	9/64	3/8	10.0	2 5/8	76.0	102 191	1



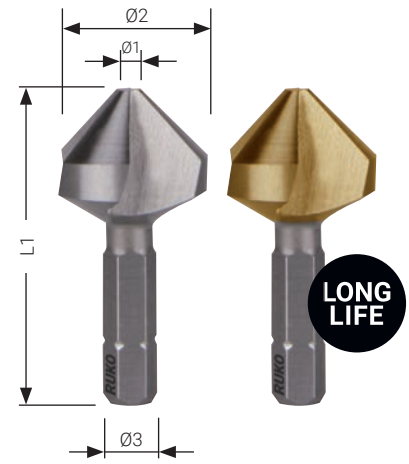
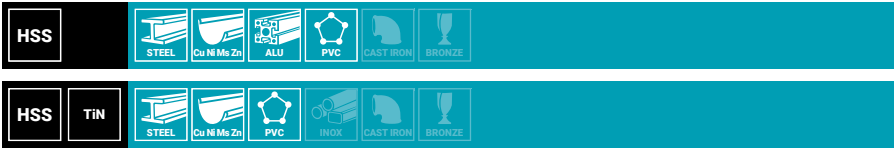
	HSS
<b>5</b> ttp./pcs. Countersink set type C 82° HSS Ø 1/4   3/8   1/2   3/4   1 inch	102 193 RO



102 193 RO



## Countersink Bit 90° HSS – short



Rapid tool-changing thanks to hexagonal bit holder. Ideal for burr- and chatter-free deburring and countersinking. Applicable for steel, cast iron, non-ferrous and light metals. Best results at low cutting speeds.

05

Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 inch	Countersinkings as per DIN 74 / BF	HSS		HSS TiN	
6.3	1.5	31.0	1/4"	M 3	W102 313	1	W102 313 T	1
8.3	2.0	31.0	1/4"	M 4	W102 314	1	W102 314 T	1
10.4	2.5	34.0	1/4"	M 5	W102 315	1	W102 315 T	1
12.4	2.8	35.0	1/4"	M 6	W102 316	1	W102 316 T	1
16.5	3.2	40.0	1/4"	M 8	W102 317	1	W102 317 T	1
20.5	3.5	41.0	1/4"	M 10	W102 318	1	W102 318 T	1

## Countersink Bit 90° HSS – long



Packaging: plastic tube

Ø2 mm	Ø1 mm	L1 mm	Ø3 inch	Countersinkings as per DIN 74 / BF	HSS		HSS TiN	
6.3	1.5	38.0	1/4"	M 3	102 313	1	102 313T	1
8.3	2.0	38.0	1/4"	M 4	102 314	1	102 314T	1
10.4	2.5	41.0	1/4"	M 5	102 315	1	102 315T	1
12.4	2.8	42.0	1/4"	M 6	102 316	1	102 316T	1
16.5	3.2	47.0	1/4"	M 8	102 317	1	102 317T	1
20.5	3.5	48.0	1/4"	M 10	102 318	1	102 318T	1



		HSS	HSS TiN
<b>8</b> tq./pc.	Countersink bit set 90° 6 countersink bits Ø 6.3   8.3   10.4   12.4   16.5   20.5 mm + 1 universal handle with 1/4" hexagon socket + 1 cutting paste, 20 ml	102 319 RO	102 319 TRO



102 319 TRO

## Magnetic bit holder for 1/4" hexagonal shank tools

Packaging: plastic tube

	Magnetic bit holder	270 013	1





## Hand deburrer with countersink



Packaging: plastic tube

	HSS	
Hand deburrer with countersinker Ø 12.4 mm	102 143	1
Hand deburrer with countersinker Ø 15.0 mm	102 144	1
Hand deburrer with countersinker Ø 16.5 mm	102 145	1
Hand deburrer with countersinker Ø 20.5 mm	102 146	1
Hand deburrer with countersinker Ø 25.0 mm	102 147	1



102 143

## without countersink

	HSS	
Universal handle for countersinker with 8,0 mm shank Ø	102 148	1
Universal handle for countersinker with 10,0 mm shank Ø	102 149	1
Universal handle for countersinker with 1/4" hexagon socket	102 320	1

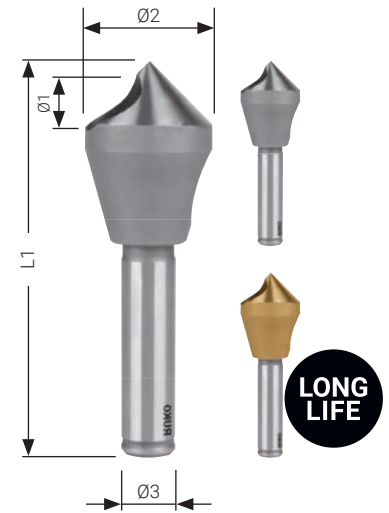


102 148

05



## Cross-hole countersink 90°



Peeling cut. Chip removal through the slot prevents chips from clogging the workpiece. Ideal for burr- and chatter-free deburring and countersinking. Applicable for steel, cast iron, non-ferrous and light metals. Best results at low cutting speeds. Countersink with a blade not recommended for full countersinking.

Packaging: plastic tube



Size no.	Ø1 mm	Ø2 mm	Ø3 mm	L1 mm	HSSE-Co 5		HSS		HSS TIN	
1/4	1.0 - 4.0	6.35	6.35	45.0	102 300 E	1	—	1	—	1
2/5	2.0 - 5.0	10.00	6.00	45.0	102 301 E	1	102 301	1	102 301 T	1
5/10	5.0 - 10.0	14.00	8.00	48.0	102 302 E	1	102 302	1	102 302 T	1
10/15	10.0 - 15.0	21.00	10.00	65.0	102 303 E	1	102 303	1	102 303 T	1
15/20	15.0 - 20.0	28.00	12.00	85.0	102 304 E	1	102 304	1	102 304 T	1
20/25	20.0 - 25.0	35.00	12.00	102.0	102 305 E	1	102 305	1	102 305 T	1



102 312 RO

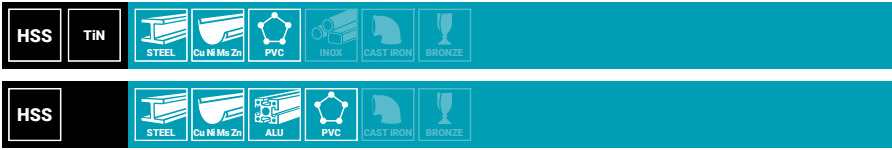


102 312 TRO

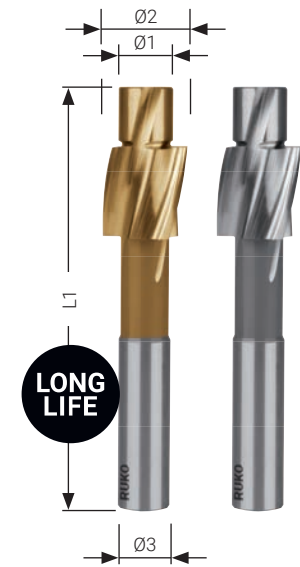
		HSSE-Co 5	HSS	HSS TIN
<b>4</b> tfg./pcs.	Cross-hole countersink set 90° nominal Ø mm: 2/5 - 5/10 - 10/15 - 15/20	102 312 ERO	102 312 RO	102 312 TRO



## Flat countersink DIN 373 HSS with cylindrical shank and fixed guide



For producing countersinkings for cylinderhead screws, thread-cutting screws and thread-furrowing screws. Ideal for burr- and chatter-free deburring and countersinking. Applicable for steel, cast iron, non-ferrous and light metals. Best results at low cutting speeds.



Packaging: plastic tube

05

### Fine grade for through hole

For thread	Ø2 mm	L1 mm	Ø3 mm	L1 mm	HSS TiN		HSS	
M 3	6.0	3.2	5.0	71.0	102 401 T	1	102 401	1
M 4	8.0	4.3	5.0	71.0	102 402 T	1	102 402	1
M 5	10.0	5.3	8.0	80.0	102 403 T	1	102 403	1
M 6	11.0	6.4	8.0	80.0	102 404 T	1	102 404	1
M 8	15.0	8.4	12.5	100.0	102 405 T	1	102 405	1
M 10	18.0	10.5	12.5	100.0	102 406 T	1	102 406	1
M 12	20.0	13.0	12.5	100.0	102 407 T	1	102 407	1

### Medium grade for through hole

For thread	Ø2 mm	L1 mm	Ø3 mm	L1 mm	HSS TiN		HSS	
M 3	6.0	3.4	5.0	71.0	102 408 T	1	102 408	1
M 4	8.0	4.5	5.0	71.0	102 409 T	1	102 409	1
M 5	10.0	5.5	8.0	80.0	102 410 T	1	102 410	1
M 6	11.0	6.6	8.0	80.0	102 411 T	1	102 411	1
M 8	15.0	9.0	12.5	100.0	102 412 T	1	102 412	1
M 10	18.0	11.0	12.5	100.0	102 413 T	1	102 413	1
M 12	20.0	13.5	12.5	100.0	102 414 T	1	102 414	1

### For thread core hole

For thread	Ø2 mm	L1 mm	Ø3 mm	L1 mm	HSS TiN		HSS	
M 3	6.0	2.5	5.0	71.0	102 415 T	1	102 415	1
M 4	8.0	3.3	5.0	71.0	102 416 T	1	102 416	1
M 5	10.0	4.2	8.0	80.0	102 417 T	1	102 417	1
M 6	11.0	5.0	8.0	80.0	102 418 T	1	102 418	1
M 8	15.0	6.8	12.5	100.0	102 419 T	1	102 419	1
M 10	18.0	8.5	12.5	100.0	102 420 T	1	102 420	1
M 12	20.0	10.2	12.5	100.0	102 421 T	1	102 421	1



### Application tip

Flat countersink in particular should be used at the lowest possible cutting speed. For this reason, a low speed is often recommended when using flat countersinks in order to avoid chatter marks.

		HSS TiN	HSS
<b>6</b> tfg./pcs.	Flat countersink set with fixed guide for through hole, fine grade for threads: M 3 - M 4 - M 5 - M 6 - M 8 - M 10	102 450 TRO	102 450 RO
<b>6</b> tfg./pcs.	Flat countersink set with fixed guide for through hole, medium grade for threads: M 3 - M 4 - M 5 - M 6 - M 8 - M 10	102 451 TRO	102 451 RO
<b>6</b> tfg./pcs.	Flat countersink set with fixed guide for thread core hole for threads: M 3 - M 4 - M 5 - M 6 - M 8 - M 10	102 452 TRO	102 452 RO



## Countersinkings as per DIN 74, Sheet 2

### Countersinkings, type H

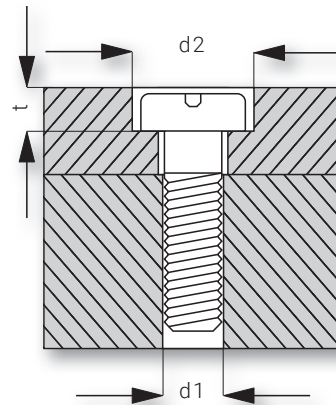
for cylinder-head screws as per DIN 84 and DIN 7984  
for thread-cutting screws as per DIN 7513, Type B  
for thread-furrowing screws as per DIN 7500, Type B

### Countersinkings, type J

for cylinder-head screws as per DIN 6912

### Countersinkings, type K

for cylinder-head screws as per DIN 912



For thread	d1 fine H 12 mm	d1 medium H 13 mm	d1 core hole mm	d2 H 13 mm	t type H mm	t type J mm	t type K mm	Tolerance for t mm
M 3	3,2	3,4	2,5	6,0	2,4	—	3,4	0 +0,1
M 4	4,3	4,5	3,3	8,0	3,2	3,4	4,6	0 +0,4
M 5	5,3	5,5	4,2	10,0	4,0	4,2	5,7	0 +0,4
M 6	6,4	6,6	5,0	11,0	4,7	4,8	6,8	0 +0,4
M 8	8,4	9,0	6,8	15,0	6,0	6,0	6,0	0 +0,4
M 10	10,5	11,0	8,5	18,0	7,0	7,5	11,0	0 +0,4
M 12	13,0	13,5	10,2	20,0	8,0	8,5	13,0	0 +0,4
M 14	15,0	15,5	12,0	24,0	9,0	9,5	15,0	0 +0,4
M 16	17,0	17,5	14,0	26,0	10,5	11,5	17,5	0 +0,4
M 18	19,0	20,0	15,5	30,0	11,5	12,5	19,5	0 +0,4
M 20	21,0	22,0	17,5	33,0	12,5	13,5	21,5	0 +0,4
M 22	23,0	24,0	19,5	36,0	13,5	14,5	23,5	0 +0,4

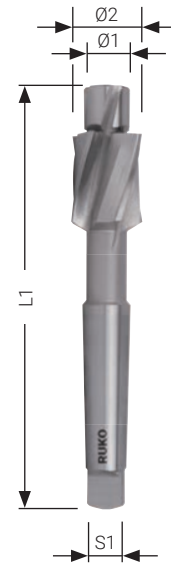


## Flat countersink HSS with morse taper and fixed guide and fixed guide



For producing countersinkings for cylinderhead screws, thread-cutting screws and thread-furrowing screws. Ideal for burr- and chatter-free deburring and countersinking. Applicable for steel, cast iron, non-ferrous and light metals. Best results at low cutting speeds.

Packaging: plastic tube



## Fine grade for through hole

For thread	Ø2 mm	Ø1 mm	S1	L1 mm	HSS	
M 10	18.0	10.5	MK 2	150.0	102 422	1
M 12	20.0	13.0	MK 2	150.0	102 423	1
M 14	24.0	15.0	MK 2	160.0	102 424	1
M 16	26.0	17.0	MK 3	190.0	102 425	1
M 18	30.0	19.0	MK 3	190.0	102 426	1
M 20	33.0	21.0	MK 3	190.0	102 427	1
M 22	36.0	23.0	MK 3	205.0	102 428	1

## Medium grade for through hole

For thread	Ø2 mm	Ø1 mm	S1	L1 mm	HSS	
M 10	18.0	11.0	MK 2	150.0	102 429	1
M 12	20.0	13.5	MK 2	150.0	102 430	1
M 14	24.0	15.5	MK 2	160.0	102 431	1
M 16	26.0	17.5	MK 3	190.0	102 432	1
M 18	30.0	20.0	MK 3	190.0	102 433	1
M 20	33.0	22.0	MK 3	190.0	102 434	1
M 22	36.0	24.0	MK 3	205.0	102 435	1

## For thread core hole

For thread	Ø2 mm	Ø1 mm	S1	L1 mm	HSS	
M 10	18.0	8.5	MK 2	150.0	102 436	1
M 12	20.0	10.2	MK 2	150.0	102 437	1
M 14	24.0	12.0	MK 2	160.0	102 438	1
M 16	26.0	14.0	MK 3	190.0	102 439	1
M 18	30.0	15.5	MK 3	190.0	102 440	1
M 20	33.0	17.5	MK 3	190.0	102 441	1
M 22	36.0	19.5	MK 3	205.0	102 442	1

## Table of recommended cutting speeds for countersinker

Material:	High carbon struc. steel up to 700 N/mm <sup>2</sup>	High carbon struc. steel up to 700 N/mm <sup>2</sup>	Alloyed steel up to 1000 N/mm <sup>2</sup>	Cast iron up to 250 N/mm <sup>2</sup>	Cast iron over 250 N/mm <sup>2</sup>	CuZn alloy brittle	CuZn alloy tough	Aluminium alloy up to 11% Si	Thermo-plastics	Duro-plastics
Vc = m/min	20	15	10	10	8	40	20	20	15	10
Cooling lubricant	Cutting spray	Cutting spray	Cutting spray	Compressed air	Compressed air	Compressed air	Compressed air	Cutting spray	Water	Compressed air
Ø mm	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.	r.p.m.
4.3	1481	1111	741	741	593	2963	1481	1481	1111	741
5.0	1274	955	637	637	510	2548	1274	1274	955	637
5.3	1202	901	601	601	481	2404	1202	1202	901	601
5.8	1098	824	549	549	439	2196	1098	1098	824	549
6.0	1062	796	531	531	425	2123	1062	1062	796	531
6.3	1011	758	506	506	404	2022	1011	1011	758	506
7.0	910	682	455	455	364	1820	910	910	682	455
7.3	873	654	436	436	349	1745	873	873	654	436
8.0	796	597	398	398	318	1592	796	796	597	398
8.3	767	576	384	384	307	1535	767	767	576	384
9.4	678	508	339	339	271	1355	678	678	508	339
10.0	637	478	318	318	255	1274	637	637	478	318
10.4	612	459	306	306	245	1225	612	612	459	306
11.5	554	415	277	277	222	1108	554	554	415	277
12.0	531	398	265	265	212	1062	531	531	398	265
12.4	514	385	257	257	205	1027	514	514	385	257
12.5	510	382	255	255	204	1019	510	510	382	255
13.4	475	356	238	238	190	951	475	475	356	238
15.0	425	318	212	212	170	849	425	425	318	212
16.0	398	299	199	199	159	796	398	398	299	199
16.5	386	290	193	193	154	772	386	386	290	193
19.0	335	251	168	168	134	670	335	335	251	168
20.0	318	239	159	159	127	637	318	318	239	159
20.5	311	233	155	155	124	621	311	311	233	155
23.0	277	208	138	138	111	554	277	277	208	138
25.0	255	191	127	127	102	510	255	255	191	127
26.0	245	184	122	122	98	490	245	245	184	122
28.0	227	171	114	114	91	455	227	227	171	114
30.0	212	159	106	106	85	425	212	212	159	106
31.0	205	154	103	103	82	411	205	205	154	103
31.5	202	152	101	101	81	404	202	202	152	101
34.0	187	141	94	94	75	375	187	187	141	94
37.0	172	129	86	86	69	344	172	172	129	86
40.0	159	119	80	80	64	318	159	159	119	80
50.0	127	96	64	64	51	255	127	127	96	64
63.0	101	76	51	51	40	202	101	101	76	51
80.0	80	60	40	40	32	159	80	80	60	40



## Countersinkings as per DIN 74 for countersunk screws as per DIN

as per DIN 74	
type AF	type BF
DIN 963 / DIN 964 DIN 965 / DIN 966 DIN 7513 F. u. G. DIN 7516 D. u. E.	DIN 7991 (ISO 10642)



Type A for:

- countersunk screws as per DIN 963 and DIN 965,
- raised countersunk head screws as per DIN 964 and DIN 966,
- thread forming screws type F and G as per DIN 7513 and type D and E as per DIN 7516,
- countersunk tapping screws type K, L, M and N as per DIN 7500,
- wood screws as per DIN 97 and DIN 7997
- oval head wood screws as per DIN 95 DIN 7997

Type B for:

- countersunk screws with hexagon socket  
DIN 7991