



Standard programme – Countersinks

EUC-Speed

BECK
MAPAL GROUP

EUC-Speed

Extremely unequally spaced countersinks

The countersinks work with significantly reduced axial forces. Their cutting edges are unevenly spaced. With the selected pitch, the axial force is reduced by more than 50 percent and the radial force by 25 percent, compared to conventional countersinks. The result: significantly less vibration on the tool.

1 Spacing extremely unequal

- Less vibration, better surface, smooth running and long tool life
- Significantly reduced axial and radial force

2 Special coating

- Long tool life, reliable and process-safe even at high cutting speeds

3 Shank form

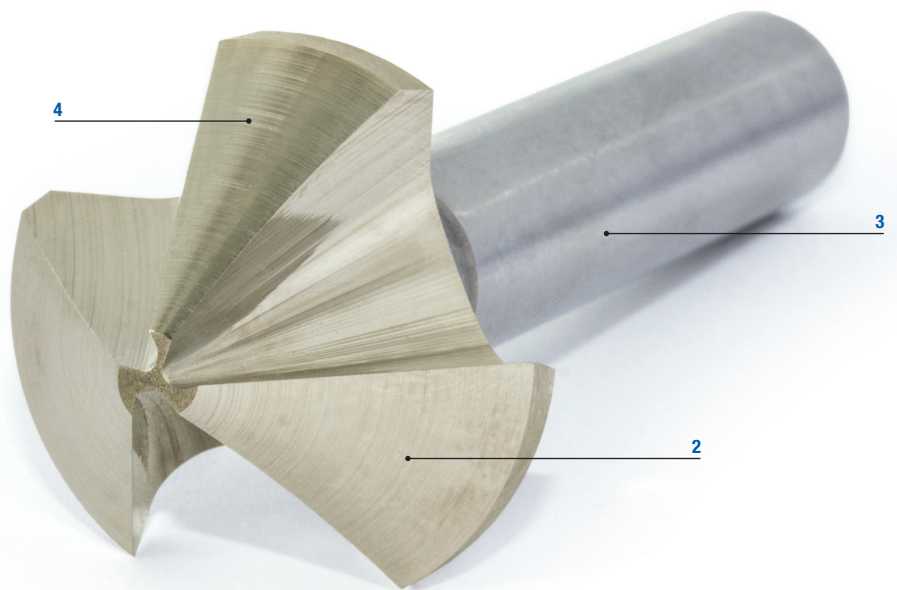
- Also available as long version and with clamping surfaces

4 Countersink angle

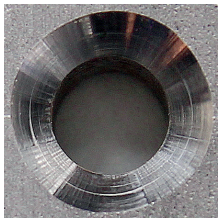
- Available as 60° and 90° versions

Universally applicable

- For the material groups **P M K N S H**



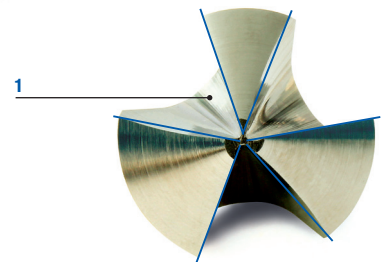
No chatter marks thanks to extremely unequal



Standard countersink



EUC-Speed

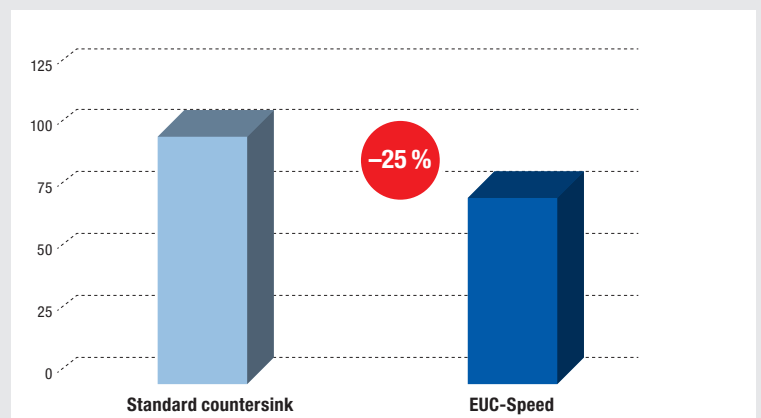


Features

Design:

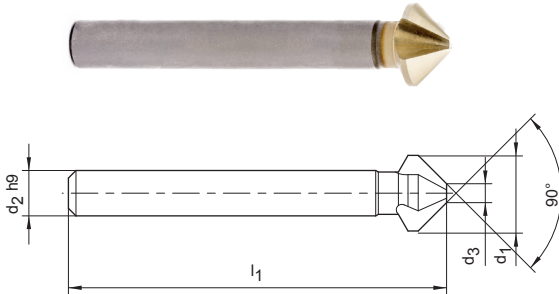
- HSS version coated
- Solid carbide version coated
- Available as long version
- In the diameter range 4.30 to 31.00 mm
- As set with and without surface
- As 60° and 90° version also with clamping surface

Radial force [N]



EUC-Speed 90°

HSS design, coated, extremely unequal spacing
B054210 | B054207



Short design, B054210 / B054207 | Preferred series in stock

Dimensions					90° version		90° version with clamping surface	
d ₁	d ₂ h9	d ₃	l ₁	z	Specification	Order no.	Specification	Order no.
4,30	4	1,3	40	3	B05421004.3z9 EUC-SPEED 90°	30662977	B05420704.3z9 EUC-SPEED 90°FL	30881866
6,00	5	1,5	45	3	B05421006.0z9 EUC-SPEED 90°	30662978	B05420706.0z9 EUC-SPEED 90°FL	30881867
6,30	5	1,5	45	3	B05421006.3z9 EUC-SPEED 90°	30602669	B05420706.3z9 EUC-SPEED 90°FL	30881868
8,00	6	2,0	50	3	B05421008.0z9 EUC-SPEED 90°	30662979	B05420708.0z9 EUC-SPEED 90°FL	30881869
8,30	6	2,0	50	3	B05421008.3z9 EUC-SPEED 90°	30662980	B05420708.3z9 EUC-SPEED 90°FL	30881870
10,00	6	2,5	50	3	B054210010z9 EUC-SPEED 90°	30662982	B054207010.0z9 EUC-SPEED 90°FL	30881871
10,40	6	2,5	50	3	B054210010.4z9 EUC-SPEED 90°	30602672	B054207010.4z9 EUC-SPEED 90°FL	30881872
11,50	8	2,8	56	3	B054210011.5z9 EUC-SPEED 90°	30662984	B054207011.5z9 EUC-SPEED 90°FL	30881873
12,40	8	2,8	56	3	B054210012.4z9 EUC-SPEED 90°	30662985	B054207012.4z9 EUC-SPEED 90°FL	30881874
15,00	10	3,2	60	3	B054210015.0z9 EUC-SPEED 90°	30662986	B054207015.0z9 EUC-SPEED 90°FL	30881875
16,50	10	3,2	60	3	B054210016.5z9 EUC-SPEED 90°	30602673	B054207016.5z9 EUC-SPEED 90°FL	30881876
19,00	10	3,5	63	3	B054210019.0z9 EUC-SPEED 90°	30662987	B054207019.0z9 EUC-SPEED 90°FL	30881877
20,50	10	3,5	63	3	B054210020.5z9 EUC-SPEED 90°	30602674	B054207020.5z9 EUC-SPEED 90°FL	30881878
23,00	10	3,8	67	3	B054210023.0z9 EUC-SPEED 90°	30662988	B054207023.0z9 EUC-SPEED 90°FL	30881879
25,00	10	3,8	67	3	B054210025.0z9 EUC-SPEED 90°	30602675	B054207025.0z9 EUC-SPEED 90°FL	30881880
31,00	12	4,2	71	3	B054210031.0z9 EUC-SPEED 90°	30662989	B054207031.0z9 EUC-SPEED 90°FL	30881881

Long design, B054209 | Preferred series in stock

6,30	5	1,5	104	3	B05420906.3z9 EUC 90° long	31006152
8,30	6	2,0	105	3	B05420908.3z9 EUC 90° long	31006153
10,40	6	2,5	107	3	B054209010.4z9 EUC 90° long	31006154
12,40	8	2,8	108	3	B054209012.4z9 EUC 90° long	31006155
16,50	10	3,2	111	3	B054209016.5z9 EUC 90° long	31006156
20,50	10	3,5	114	3	B054209020.5z9 EUC 90° long	31006157
25,00	10	3,8	118	3	B054209025.0z9 EUC 90° long	31006158
31,00	12	4,2	140	3	B054209031.0z9 EUC 90° long	31006159

Countersink sets, EUC-Speed | B054218 / B054217

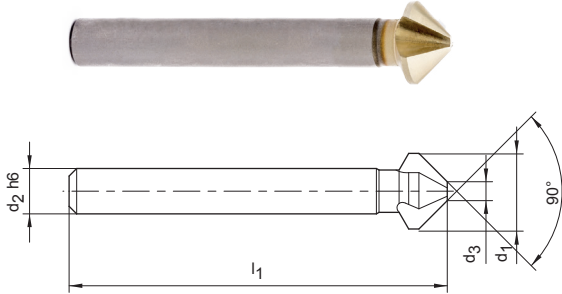
Set	Diameter	HSS, cylindrical shank B054218	HSS, 3 clamping surfaces B054217
		Order no.	Order no.
5-piece	6,30 / 10,40 / 16,50 / 20,50 / 25,00	30602967	30897967



Dimensions in mm.
For recommended cutting values see pages 6/7.

EUC-Speed 90°

Solid carbide design, coated, extremely unequal spacing
B044210



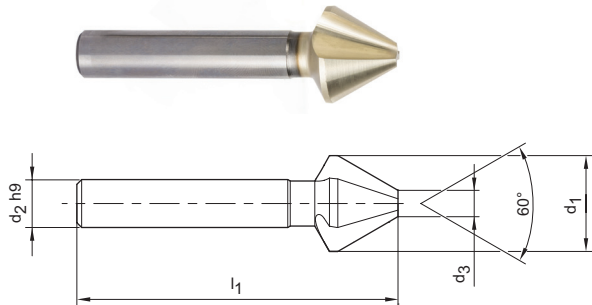
Preferred series in stock

Dimensions					Specification	Order no.
d ₁	d ₂ h6	d ₃	l ₁	z		
6,30	5	1,5	45	3	B044210Ø6.3z9 EUC-SPEED VHM	30729770
8,30	6	2,0	50	3	B044210Ø8.3z9 EUC-SPEED VHM	30729772
10,40	6	2,5	50	3	B044210Ø10.4z9 EUC-SPEED VHM	30729774
12,40	8	2,8	56	3	B044210Ø12.4z9 EUC-SPEED VHM	30729776
16,50	10	3,2	60	3	B044210Ø16.5z9 EUC-SPEED VHM	30729778
20,50	10	3,5	63	3	B044210Ø20.5z9 EUC-SPEED VHM	30729780
25,00	10	3,8	67	3	B044210Ø25.0z9 EUC-SPEED VHM	30729782
31,00	12	4,2	71	3	B044210Ø31.0z9 EUC-SPEED VHM	30729783

Dimensions in mm.
For recommended cutting values see pages 6/7.

EUC-Speed 60°

HSS design, coated, extremely unequal spacing
 B054110 | B054107



B054110 / B054107 | Preferred series in stock

Dimensions					60° version		60° version with clamping surface	
d ₁	d ₂ h9	d ₃	l ₁	z	Specification	Order no.	Specification	Order no.
6,30	5	1,6	45	3	B054110Ø6.3z9 EUC-SPEED 60°	31051748	B054107Ø6.3z9 EUC-SPEED 60° FL	31051765
8,00	6	2,0	50	3	B054110Ø8.0z9 EUC-SPEED 60°	31051749	B054107Ø8.0z9 EUC-SPEED 60° FL	31051766
10,00	6	2,5	50	3	B054110Ø10.0z9 EUC-SPEED 60°	31051760	B054107Ø10.0z9 EUC-SPEED 60° FL	31051767
12,50	8	3,2	56	3	B054110Ø12.5z9 EUC-SPEED 60°	31051761	B054107Ø12.5z9 EUC-SPEED 60° FL	31051768
16,00	10	4,0	63	3	B054110Ø16.0z9 EUC-SPEED 60°	31051762	B054107Ø16.0z9 EUC-SPEED 60° FL	31051769
20,00	10	5,0	67	3	B054110Ø20.0z9 EUC-SPEED 60°	31051763	B054107Ø20.0z9 EUC-SPEED 60° FL	31051770
25,00	10	6,3	71	3	B054110Ø25.0z9 EUC-SPEED 60°	31051764	B054107Ø25.0z9 EUC-SPEED 60° FL	31051771

Explanation

Pictograms

Performance Line:
High-performance tools, broad field of application, high productivity in series production manufacturing

Countersink according to DIN

90° countersinking

60° countersinking

Material suitability

Highly suitable
 Suitable in some situations

E.g. Standard material suitability table

Dimensions in mm.
 For recommended cutting values see pages 6/7.

Cutting data recommendations for countersinks

Countersink with extremely unequal spacing
Feed and cutting speed

EUC-Speed HSS | B054210, B054207, B054209, B054110, B054107

EUC-Speed SC | B044210

MG*		Workpiece material	Strength/hardness [N/mm ²] [HRC]	ø < 5 [mm]			ø > 5 - 8 [mm]			
				v _c [m/min]		f [mm]	v _c [m/min]		f [mm]	
				HSS	SC		HSS	SC		
P	P1	P1.1	Structural, free-cutting, case hardened and heat-treated steels, non-alloy	< 700	40	60	0,06	40	60	0,08
		P1.2	Structural, free-cutting, case hardened and heat-treated steels, non-alloy	< 1.200	30	50	0,04	30	50	0,06
	P2	P2.1	Nitrided, case hardened and heat-treated steels, alloy	< 900	30	50	0,04	30	50	0,06
		P2.2	Nitrided, case hardened and heat-treated steels, alloy	< 1.400	12	40	0,03	12	40	0,04
	P3	P3.1	Tool, bearing, spring and high-speed steels**	< 800	30	50	0,04	30	50	0,06
		P3.2	Tool, bearing, spring and high-speed steels**	< 1.000	30	50	0,04	30	50	0,06
		P3.3	Tool, bearing, spring and high-speed steels**	< 1.500	12	40	0,03	12	40	0,04
	P4	P4.1	Stainless steels, ferritic and martensitic			30	0,04		30	0,05
	P5	P5.1	Cast steel			50	0,04		50	0,06
	P6	P6.1	Stainless cast steel, ferritic and martensitic			30	0,04		30	0,05
M	M1	M1.1	Stainless steels, austenitic	< 700		30	0,04		30	0,05
		M1.2	Stainless steels, ferritic/austenitic (duplex)	< 1.000		25	0,04		25	0,05
	M2	M2.1	Stainless/heat-resistant cast steel, austenitic	< 700		30	0,04		30	0,05
	M3	M3.1	Stainless cast steel, ferritic/austenitic (duplex)	< 1.000		25	0,04		25	0,05
K	K1	K1.1	Cast iron with lamellar graphite (grey cast iron), GJL	< 300	20	50	0,06	20	50	0,10
		K2.1	Cast iron with spheroidal graphite, GJS	< 500	20	45	0,06	20	45	0,10
	K2	K2.2	Cast iron with spheroidal graphite, GJS	≤ 800	20	45	0,06	20	45	0,10
		K2.3	Cast iron with spheroidal graphite, GJS	> 800	20	45	0,06	20	45	0,10
	K3	K3.1	Cast iron with spheroidal graphite, GJV; malleable cast iron, GJM	< 500	20	35	0,06	20	35	0,10
		K3.2	Cast iron with spheroidal graphite, GJV; malleable cast iron, GJM	> 500	20	35	0,06	20	35	0,10
N	N1	N1.1	Aluminium, non-alloy and alloy < 3 % Si			80	0,08		80	0,10
		N1.2	Aluminium, alloy ≤ 7 % Si			80	0,08		80	0,10
		N1.3	Aluminium, alloy > 7-12 % Si			60	0,08		60	0,10
		N1.4	Aluminium, alloy > 12 % Si			60	0,08		60	0,10
	N2	N2.1	Copper, non-alloy and low-alloy	< 300	40	70	0,10	40	70	0,12
		N2.2	Copper, alloy	> 300	40	70	0,10	40	70	0,12
		N2.3	Brass, bronze, gunmetal	< 1.200	40	70	0,10	40	70	0,12
	N3	N3.1	Graphite, > 8 µm			25	0,06		25	0,10
		N3.2	Graphite, ≤ 8 µm			25	0,06		25	0,10
	N4	N4.1	Plastic, thermoplastics			40	0,10		40	0,12
N4.2		Plastic, thermosets			40	0,10		40	0,12	
N4.3		Plastic, foams			40	0,10		40	0,12	
S	S1	S1.1	Titanium, titanium alloys	< 400		15	0,05		15	0,06
		S2.1	Titanium, titanium alloys	< 1.200		15	0,05		15	0,06
	S2	S2.2	Titanium, titanium alloys	> 1.200		15	0,05		15	0,06
		S3.1	Nickel, non-alloy and alloy	< 900		15	0,05		15	0,06
	S3	S3.2	Nickel, non-alloy and alloy	> 900		15	0,05		15	0,06
		S4	S4.1	High-temperature super alloy Ni, Co and Fe-based			15	0,05		15
S5	S5.1	Tungsten and molybdenum alloys			15	0,05		15	0,06	
H	H1	H1.1	Hardened steel / cast steel	< 44		12	0,04		12	0,05
		H1.2	Hardened steel / cast steel	< 55		8	0,04		8	0,05
	H2	H2.1	Hardened steel / cast steel	< 60		8	0,04		8	0,05
		H2.2	Hardened steel / cast steel	< 65		8	0,04		8	0,05
		H2.3	Hardened steel / cast steel	< 68						
	H3	H3.1	Wear-resistant cast/chill casting, GJN			12	0,04		12	0,05

* BECK machining groups

** If the alloy parts Cr, Mo, Ni, V, W in total > 8 %, then select the next highest machining group.

	ø > 8 - 12 [mm]			ø > 12 - 16 [mm]			ø > 16 - 20 [mm]			ø > 20 - 25 [mm]			ø > 25 - 31 [mm]		
	v _c [m/min]		f [mm]	v _c [m/min]		f [mm]	v _c [m/min]		f [mm]	v _c [m/min]		f [mm]	v _c [m/min]		f [mm]
	HSS	SC		HSS	SC		HSS	SC		HSS	SC		HSS	SC	
	40	60	0,10	40	60	0,12	40	60	0,14	40	60	0,18	40	60	0,22
	30	50	0,08	30	50	0,10	30	50	0,12	30	50	0,14	30	50	0,18
	30	50	0,08	30	50	0,10	30	50	0,12	30	50	0,14	30	50	0,18
	12	40	0,05	12	40	0,06	12	40	0,08	12	40	0,10	12	40	0,12
	30	50	0,08	30	50	0,10	30	50	0,12	30	50	0,14	30	50	0,18
	30	50	0,08	30	50	0,10	30	50	0,12	30	50	0,14	30	50	0,18
	12	40	0,05	12	40	0,06	12	40	0,08	12	40	0,10	12	40	0,12
		30	0,06		30	0,07		30	0,08		30	0,09		30	0,12
		50	0,08		50	0,10		50	0,12		50	0,14		50	0,18
		30	0,06		30	0,07		30	0,08		30	0,09		30	0,12
		30	0,06		30	0,07		30	0,08		30	0,09		30	0,12
		25	0,06		25	0,07		25	0,08		25	0,09		25	0,12
		30	0,06		30	0,07		30	0,08		30	0,09		30	0,12
		25	0,06		25	0,07		25	0,08		25	0,09		25	0,12
	20	50	0,12	20	50	0,14	20	50	0,18	20	50	0,20	20	50	0,25
	20	45	0,12	20	45	0,14	20	45	0,18	20	45	0,20	20	45	0,25
	20	45	0,12	20	45	0,14	20	45	0,18	20	45	0,20	20	45	0,25
	20	45	0,12	20	45	0,14	20	45	0,18	20	45	0,20	20	45	0,25
	20	35	0,12	20	35	0,14	20	35	0,18	20	35	0,20	20	35	0,25
	20	35	0,12	20	35	0,14	20	35	0,18	20	35	0,20	20	35	0,25
		80	0,12		80	0,14		80	0,18		80	0,22		80	0,26
		80	0,12		80	0,14		80	0,18		80	0,22		80	0,26
		60	0,12		60	0,14		60	0,18		60	0,22		60	0,26
		60	0,12		60	0,14		60	0,18		60	0,22		60	0,26
	40	70	0,14	40	70	0,18	40	70	0,20	40	70	0,24	40	70	0,30
	40	70	0,14	40	70	0,18	40	70	0,20	40	70	0,24	40	70	0,30
	40	70	0,14	40	70	0,18	40	70	0,20	40	70	0,24	40	70	0,30
		25	0,12		25	0,14		25	0,18		25	0,20		25	0,25
		25	0,12		25	0,14		25	0,18		25	0,20		25	0,25
	40	70	0,14	40	70	0,18	40	70	0,20	40	70	0,24	40	70	0,30
	40	70	0,14	40	70	0,18	40	70	0,20	40	70	0,24	40	70	0,30
	40	70	0,14	40	70	0,18	40	70	0,20	40	70	0,24	40	70	0,30
		15	0,07		15	0,08		15	0,09		15	0,10		15	0,12
		15	0,07		15	0,08		15	0,09		15	0,10		15	0,12
		15	0,07		15	0,08		15	0,09		15	0,10		15	0,12
		15	0,07		15	0,08		15	0,09		15	0,10		15	0,12
		15	0,07		15	0,08		15	0,09		15	0,10		15	0,12
		15	0,07		15	0,08		15	0,09		15	0,10		15	0,12
		15	0,07		15	0,08		15	0,09		15	0,10		15	0,12
		15	0,07		15	0,08		15	0,09		15	0,10		15	0,12
		12	0,06		12	0,08		12	0,08		12	0,10		12	0,12
		8	0,06		8	0,08		8	0,08		8	0,10		8	0,12
		8	0,06		8	0,08		8	0,08		8	0,10		8	0,12
		8	0,06		8	0,08		8	0,08		8	0,10		8	0,12
		12	0,06		12	0,08		12	0,08		12	0,10		12	0,12

The specified cutting values are guide values.
The optimum data for the respective machining task should be determined during the test or machining.

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