

12105 - 12107 Countersink (deburrer)



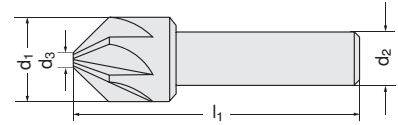
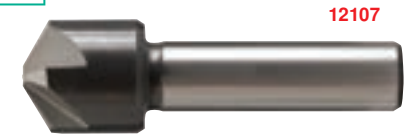
Type
- Multi-flute
- Right-hand cut
- Straight shank (shape A)

Use
For deburring, chamfering and countersinking the edges of holes when machining standard-duty materials such as: Steel, cast iron, non-ferrous and light metal.

Quality
HSS.

12105
Type
DIN 335, countersink angle 90°.

12107
Type
DIN 347, countersink angle 120°.



d ₁ mm	d ₂ h9 mm	l ₁ mm	d ₃ mm	90° 12105	...
8	8	48	1,5		102
10	8	48	1,8		103
12,5	8	48	2,0		104
16	10	56	3,2		105
20	10	60	5,0		106
25	12	70	7,0		107
31,5	16	75	9,0		108

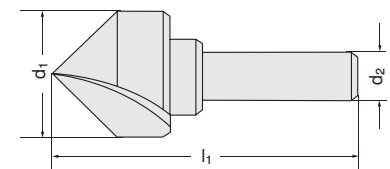
d ₁ mm	d ₂ h9 mm	l ₁ mm	d ₃ mm	120° 12107	...
16	10	53	3,2		101

12115 Countersinks and deburrers



Type
Countersink angle 90°, single flute, right-hand cut, straight shank (shape A).

Quality
HSS-E.



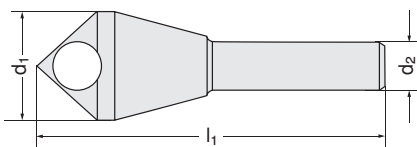
Countersink range mm	d ₁ mm	d ₂ mm	l ₁ mm	HSS-E 12115	...
1 - 8	8	6	50		102
1 - 10	10	6	50		103
2 - 12	12	8	56		104
2 - 16	16	10	60		105
2 - 20	20	10	63		106
2 - 25	25	10	67		107
3 - 30	30	12	70		108
4 - 40	40	15	92		109
5 - 50	50	15	100		110

12205 - 12207 Countersinking and deburring tools



Type
Countersink angle 90°, right-hand cut, straight shank.
Use
For burr-free and chatter-free countersinking and deburring holes for nearly all materials.

12207
Quality
HSS/TiN-coated.



HSS

HSS

HSS
TiN



12205
Quality
HSS.

Countersink range mm	d ₁ mm	d ₂ mm	l ₁ mm	HSS		HSS/TiN	
				12205	...	12207	...
1 - 4	6,35	6,35	45		101		
2 - 5	10	6	46		102		102
5 - 10	14	8	48,5		103		103
10 - 15	21	10	65		104		104
15 - 20	27,5	15	85		105		105
20 - 25	35	15	102		106		

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti	GG(G)	plastics.
12205																	
25-40	10-30	25-80	26-30	25-28	18-25	6-10	5-8	2-5	-	-	-	-	4-10	4-10	4-10	9-15	10-60
12207																	
30-80	30-50	30-100	32-36	30-34	22-30	7-12	6-10	3-6	-	-	-	-	5-12	5-12	5-12	10-25	10-60



Countersinks and deburrers

12240 - 12241 Countersinks and deburrers



Type
 - Countersink angle 60°.
 - 3 flutes
 - Right-hand cut
 - Straight shank (shape C)

Use
 For burr and chatter-free countersinking and deburring of steel, cast iron and non-ferrous metals.

Note:
 Best results at low cutting speed and high feed rate.

12240
Quality
 HSS.

12241
Quality
 HSS/TiN-coated.

HSS

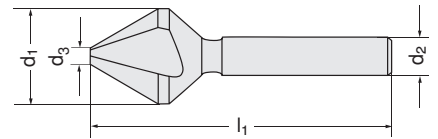


12240

HSS
TiN



12241



d ₁ mm	d ₂ h ₉ mm	l ₁ mm	d ₃ mm	HSS		HSS/TiN	
				12240	...	12241	...
6,3	5	45	1,6	101		101	
8,0	6	50	2,0	102		102	
10,0	6	53	2,5	103		103	
12,5	8	56	3,2	104		104	
16,0	10	63	4,0	105		105	
20,0	10	67	5,0	106		106	
25,0	10	71	6,3	107		107	
31,5	12	76	10,0	108		108	
40,0	15	91	10,0	109			

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti	GG(G)	plastics.
25-40	10-30	25-80	26-30	25-28	18-25	6-10	-	-	-	-	-	-	-	-	-	9-15	10-60

12242 Countersinks and deburrers



Type
 - Countersink angle 75°
 - 3 flutes
 - Right-hand cut
 - Straight shank (shape C)

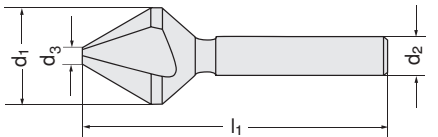
Use
 For burr and chatter-free countersinking and deburring of steel, cast iron and non-ferrous metals.

Quality
 HSS.

HSS



12242



d ₁ mm	d ₂ h ₉ mm	l ₁ mm	d ₃ mm	HSS	
				12242	...
6,3	5	45	1,5	101	
8,3	6	50	2,0	102	
10,4	6	51	2,5	103	
12,4	8	55	3,0	104	
16,5	10	61	3,5	105	
20,5	10	65	4,0	106	
25,0	10	69	5,0	107	

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti	GG(G)	plastics.
25-40	10-30	25-80	26-30	25-28	18-25	6-10	-	-	-	-	-	-	-	-	-	9-15	10-60

Info Countersinks and deburrers DIN 335 C and D

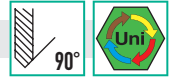
Type
 Countersink angle 90°, with 3 flutes, right-hand cut.

Use
 For burr and chatter-free countersinking, deburring of steel, cast iron and non-ferrous metals.

For countersinking to DIN 74 and 75 page 1, quality grade fine,
 A for countersunk screws DIN 963 and DIN 965, oval head screws DIN 964 and DIN 966, tapping dies DIN 7513 and DIN 7516,
 B for countersunk screws DIN 7991.

Note:
 Best results at low cutting speed and high feed rate.





ATORN®

Use
For counterboring and deburring.

Type
Right-hand cut with straight shank.

contents	quality	set contents	12204	...
4-part	HSS	1 ea. Ø 2,5 / 5-10 / 10-15 / 15-20 mm in plastic cassette		201

contents	quality	set contents	12250	...
6-part	HSS	1 ea. Ø 6,3 / 8,3 / 10,4 / 12,4 / 16,5 / 20,5 mm in plastic cassette		201

contents	quality	set contents	12251	...
6-part	HSS- TiCN + TiN	1 ea. Ø 6,3 / 8,3 / 10,4 / 12,4 / 16,5 / 20,5 mm in metal cassette		101

contents	quality	set contents	12252	...
6-part	HSS extra Long shank	1 ea. Ø 6,3 / 8,3 / 10,4 / 12,4 / 16,5 / 20,5 mm in metal cassette		101

contents	quality	set contents	12254	...
6-part	HSS 1/4 inch Hexagon shank DIN 3126	1 ea. Ø 6,3 / 8,3 / 10,4 / 12,4 / 16,5 / 20,5 mm with adapter, handle, circlip and magnet, drilling paste in plastic cassette		101

contents	quality	set contents	12255	...
6-part	HSS-E	1 ea. Ø 6,3 / 8,3 / 10,4 / 12,4 / 16,5 / 20,5 mm in metal cassette		101

contents	quality	set contents	12259	...
17-part	HSS	1 ea. 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 / 25 mm in metal cassette		101



Countersinks and deburrers | Countersinks for Reversible Cutting Inserts

12265 - 12270 Countersinks and deburrers



Type
Countersink angle 90°, 3 flutes, straight shank (shape C C).

Use
For countersinking to DIN 74 and DIN 75, page 1, quality grade fine.

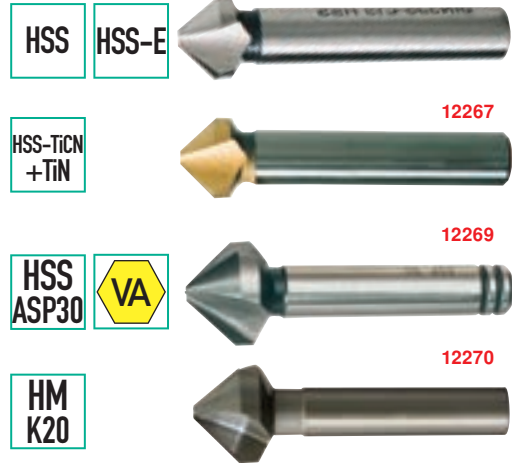
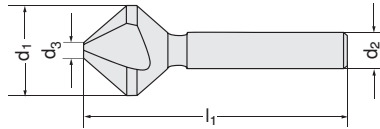
12265
Quality
HSS.

12266
Quality
HSS-E.

12267
Quality
HSS/TiCN + TiN-coated.

12269
Use
For stainless steel.
Quality
HSS powder steel, ASP 30.

12270
Type
6,3 - 8,3 mm solid carbide, above carbide-tipped.
Quality
Carbide quality, K 20.



12265-12269			12270		HSS		HSS-E		HSS/TiCN+TiN				HSS/ASP30		HM/K 20	
d ₁	d ₂	l ₁	d ₃	d ₃	12265	...	12266	...	12267	...	12269	...	12270	...		
mm	mm	mm	mm	mm												
4,3	4	40	1,3	-	101											
5,0	4	40	1,5	-	102					102						
6,0	5	45	1,5	-	103					103						
6,3	5	45	1,5	2,2	104		104		104		104		104	104		
7,0	6	50	1,8	-	105											
7,3	6	50	1,8	-	106					106						
8,0	6	50	2,0	-	107					107						
8,3	6	50	2,0	2,8	108		108		108		108		108	108		
9,4	6	50	2,2	-	109											
10,0	6	50	2,5	-	110					110						
10,4	6	50	2,5	3,5	111		111		111		111		111	111		
11,5	8	56	2,8	-	112					112						
12,4	8	56	2,8	4,0	113		113		113		113		113	113		
15,0	10	60	3,2	-	114		114		114		114		114	114		
16,5	10	60	3,2	5,0	115		115		115		115		115	115		
19,0	10	63	3,5	-	116					116						
20,5	10	63	3,5	7,0	117		117		117		117		117	117		
23,0	10	67	3,8	-	118					118						
25,0	10	67	3,8	9,0	119		119		119		119		119	119		
31,0	12	71	4,2	10,0	120		120		120		120		120	120		
40,0	15	80	10,0	-	121		121		121		121		121	121		

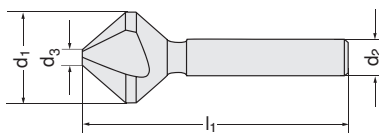
Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti	GG(G)	plastics.
12265 + 12266																	
25-40	10-30	25-80	26-30	25-28	18-25	6-10	5-8	2-5	-	-	-	-	4-10	4-10	4-10	9-15	10-60
12267 + 12269																	
30-80	30-50	30-100	32-36	30-34	22-30	7-12	6-10	3-6	-	-	-	-	5-12	5-12	5-12	10-25	10-60
12270																	
55-180	25-70	60-140	55-75	50-65	40-55	13-22	10-18	8-15	6-14	6-14	-	-	10-22	10-22	10-22	20-45	20-65

12260 Countersinks and deburrers



Type
With extended straight shank (shape C), 100 mm long. 3 cutting blades.

Use
For countersinking to DIN 74 and DIN 75, page 1, quality grade fine.



HSS				HSS			
d ₁	d ₂	l ₁	d ₃	d ₁	d ₂	l ₁	d ₃
mm	mm	mm	mm	mm	mm	mm	mm
6,3	5	100	1,5	16,5	10	115	3,2
8,3	6	112	2,0	20,5	10	119	3,5
10,4	8	112	2,5	25,0	10	122	3,8
12,4	8	113	2,8				

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti	GG(G)	plastics.
25-40	10-30	25-80	26-30	25-28	18-25	6-10	5-8	2-5	-	-	-	-	4-10	4-10	4-10	9-15	10-60

12271 Countersink and deburrer bits

Type
Countersink angle 90°, 3 flutes, ground, countersink head in compliance with DIN 335 C with 1/4 inch hexagon shank, ground, in compliance with DIN 3126.

Quality
HSS.

Nominal Ø mm	overall length mm	for counter sinking	12271	...
6,3	31	M 3		101
8,3	31	M 4		102
10,4	34	M 5		103

Nominal Ø mm	overall length mm	for counter sinking	HSS 12271	...
12,4	35	M 6		104
16,5	40	M 8		105
20,5	41	M 10		106



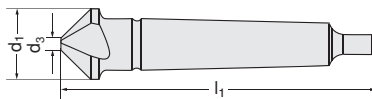
12271

12272 Countersinks and deburrers

ATORN®

Type
- Countersink angle 90°
- With 3 flutes
- Morse taper shank (shape D).

Note:
Further dimensions available on request.



d1 mm	d3 mm	l1 mm	MT mm	HSS 12272	...
15,0	3,2	85	1		101
20,5	3,5	100	2		102
25,0	3,8	106	2		103
30,0	4,2	112	2		104
31,0	4,2	112	2		105
34,0	4,5	118	2		106

d1 mm	d3 mm	l1 mm	MT mm	HSS 12272	...
37,0	4,8	118	2		107
40,0	10,0	140	3		108
50,0	14,0	150	3		109
63,0	16,0	155	4		110
80,0	22,0	190	4		111
100,0	30,0	200	4		112

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti	GG(G)	plastics.
25-40	10-30	25-80	26-30	25-28	18-25	6-10	5-8	2-5	-	-	-	-	4-10	4-10	4-10	9-15	10-60



12272

12274 Countersinks and deburrers

HW

Type
With plastic handle, countersink angle 90°, with 3 flutes, right-hand cut.

Quality
HSS.

Ø mm	HSS 12274	...
12,5		101
15,0		110
16,5		102

Ø mm	HSS 12274	...
20,5		103
25,0		104



12274

12310 - 12313 Countersinks for Reversible Cutting Inserts

KOMET®

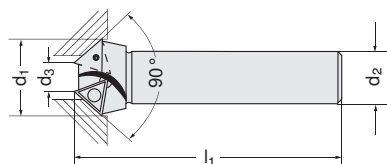
12310
Type
- Countersink angle 90°
- Right-hand cut
- Straight shank
- For mounting 2 carbide reversing tips, each with 3 flutes, clearance angle 8°

12312
Spare Clamping Screws
Use
For countersink for reversible cutting inserts cat.-no. 12310.

Scope of supply:
- Including clamp screws
- Without carbide reversing tips
Use

12313
Carbide reversible cutting inserts
Type
3 cutting blades, clearance angle 8°.
Use
For countersink for reversible cutting inserts cat.-no. 12310.
Quality
PVD coating (P25).

For screw head countersinks (countersinking in compliance with DIN 74 page 1, shape A, fine).



12310



12313

Type	d1 mm	d2 mm	d3 H13 mm	Cutting insert size	Torx Plus screw	Countersink 12310	...	spare screw 12312	...	reversible carbide tip 12313	...
KWS-M 10	19	16	7,0	W30 14660.338425	S/M 2,6 x 6,2 - 8 IP/T8		101		101		101
KWS-M 14	26	16	11,0	W30 14720.048425	S/M 2,6 x 6,2 - 8 IP/T8		103		101		103
KWS-M 16	30	20	12,0	W30 26720.0560	S/M 3,5 x 7,3 - 10 IP/T10		104		102		105
KWS-M 18	34	20	16,0	W30 26720.0560	S/M 3,5 x 7,3 - 10 IP/T10		105		102		105

Countersinks | Counterbores | Spot facing cutters

12405

Countersinks (screw head cutters, spot facing cutters)

DIN 1866



HSS



12405



Type

Countersink angle 90°, right-hand cut, right-hand helix. Straight shank and fixed pilot.

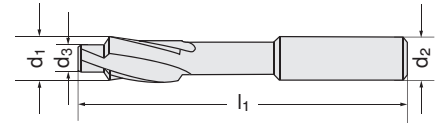
Use

For countersinking in compliance with DIN 74, page 1. For countersinking of countersunk screws DIN 963 and DIN 965, oval head screws DIN 964 and DIN 966, tapping dies F and G in compliance with DIN 7513, tapping dies D and E in compliance with DIN 7516.

Quality HSS.

Note:

Fixed pilot: $D =$ through hole.
Sunk hole: $m =$ quality grade medium,
 $f =$ quality grade fine.



for countersinking		d ₁ z9	d ₃ e8	l ₁	d ₂ h9	HSS	...
Thread	accuracy grade	mm	mm	mm	mm	12405	
M 3	Dm	6,6	3,4	71	5,0	209	
M 3	Df	6,0	3,2	71	5,0	211	
M 4	Dm	9,0	4,5	80	8,0	213	
M 4	Df	8,0	4,3	80	8,0	215	
M 5	Dm	11,0	5,5	80	8,0	217	
M 5	Df	10,0	5,3	80	8,0	219	

for countersinking		d ₁ z9	d ₃ e8	l ₁	d ₂ h9	HSS	...
Thread	accuracy grade	mm	mm	mm	mm	12405	
M 6	Dm	13,0	6,6	100	12,5	221	
M 6	Df	11,5	6,4	80	8,0	223	
M 8	Dm	17,2	9,0	100	12,5	225	
M 8	Df	15,0	8,4	100	12,5	227	
M 10	Dm	21,5	11,0	100	12,5	229	
M 10	Df	19,0	10,5	100	12,5	231	

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti	GG(G)	plastics.
20-30	15-25	15-30	15-20	12-18	8-15	-	-	-	-	-	-	-	-	-	-	10-18	20-30

12410

Sets of Counterbores

HSS



12410



Type

6-part. with 1 ea. countersink for M 3 / M 4 / M 5 / M 6 / M 8 and M 10, in plastic case. Right-hand cut, right-hand helix, straight shank and fixed pilot.

Use

For countersinking in compliance with DIN 74, page 2. Counter bores for cheese head screws DIN 84 and Allen screws DIN 912 and DIN 6912.

Quality HSS.

12410 201

Type KM-6

Use

For core hole.

12410 202

Type DM-6

Use

For through holes, quality grade medium.

12410 203

Type DF-6

Use

For through holes, quality grade fine.

Type	HSS	...
	12410	
KM-6	201	
DM-6	202	
DF-6	203	



12411

Counterbores

HSS



12411



Type

Similar to DIN 373, right-hand cut, right-hand helix, straight shank and fixed pilot.

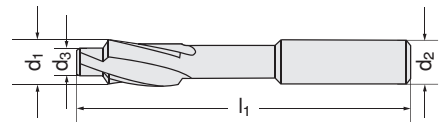
Use

For countersinking in compliance with DIN 74, page 2. Counter bores for cheese head screws DIN 84 and Allen screws DIN 912 and DIN 6912.

Quality HSS.

Note:

Fixed pilot: $D =$ through hole,
 $K =$ core hole
Sunk hole: $m =$ quality grade medium,
 $f =$ quality grade fine.



for countersinking		d ₁ z9	d ₃ e8	l ₁	d ₂ h9	HSS	...
Thread	accuracy grade	mm	mm	mm	mm	12411	
M 3	Dm	6,5	3,4	71	5,0	099	
M 3	Df	6,5	3,2	71	5,0	100	
M 3	Dm	6,a0	3,4	71	5,0	101	
M 3	Df	6,0	3,2	71	5,0	102	
M 3	K	6,0	2,5	71	5,0	103	
M 4	Dm	8,0	4,5	71	5,0	107	
M 4	Df	8,0	4,3	71	5,0	108	
M 4	K	8,0	3,3	71	5,0	109	
M 5	Dm	10,0	5,5	80	8,0	110	
M 5	Df	10,0	5,3	80	8,0	111	
M 5	K	10,0	4,2	80	8,0	112	
M 6	Dm	11,0	6,6	80	8,0	113	

for countersinking		d ₁ z9	d ₃ e8	l ₁	d ₂ h9	HSS	...
Thread	accuracy grade	mm	mm	mm	mm	12411	
M 6	Df	11,0	6,4	80	8,0	114	
M 6	K	11,0	5,0	80	8,0	115	
M 8	Dm	15,0	9,0	100	12,5	116	
M 8	Df	15,0	8,4	100	12,5	117	
M 8	K	15,0	6,8	100	12,5	118	
M 10	Dm	18,0	11,0	100	12,5	119	
M 10	Df	18,0	10,5	100	12,5	120	
M 10	K	18,0	8,5	100	12,5	121	
M 12	Dm	20,0	13,5	100	12,5	122	
M 12	Df	20,0	13,0	100	12,5	123	
M 12	K	20,0	10,2	100	12,5	124	

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti	GG(G)	plastics.
20-30	15-25	15-30	15-20	12-18	8-15	-	-	-	-	-	-	-	-	-	-	10-18	20-30





Type

Similar to DIN 373, right-hand cut, right-hand helix, Morse taper shank and fixed pilot.

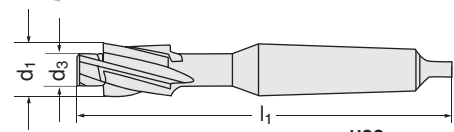
Use

For countersinking in compliance with DIN 74, page 2. Counter bores for cheese head screws DIN 84 and Allen screws DIN 912 and DIN 6912.

Quality HSS.

Note:

Fixed pilot:
D = through hole.
Sunk hole: m = quality grade medium,
f = quality grade fine.



HSS						
for thread	countersinking accuracy grade	d ₁ z9 mm	l ₁ mm	d3 e8 mm	MT	12421 ...
M 10	Dm	18,0	150	11,0	2	101
M 10	Df	18,0	150	10,5	2	102
M 12	Dm	20,0	150	13,5	2	104
M 12	Df	20,0	150	13,0	2	105
M 14	Dm	24,0	160	15,5	2	107
M 14	Df	24,0	160	15,0	2	108

HSS						
for thread	countersinking accuracy grade	d ₁ z9 mm	l ₁ mm	d3 e8 mm	MT	12421 ...
M 16	Dm	26,0	190	17,5	3	110
M 16	Df	26,0	190	17,0	3	111
M 18	Dm	30,0	190	20,0	3	113
M 18	Df	30,0	190	19,0	3	114
M 20	Df	33,0	190	21,0	3	117

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti	GG(G)	plastics.
20-30	15-25	15-30	15-20	12-18	8-15	-	-	-	-	-	-	-	-	-	-	10-18	20-30

12503 - 12504

Spot facing cutters



Type

3-flute, with short-taper fastening for mounting in holder cat.-no. 12540 - 12541, for interchangeable fixed pilots cat.-nr. 12506 - 12507, type A.

Use

For machinery steel, soft grey cast iron, medium-hard non-ferrous metals etc.

Note:

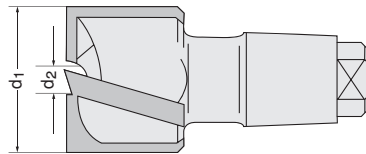
The interchangeable fixed pilots make it possible for the spot facing cutters to be individually assembled. They can therefore be used for countersinking in compliance with DIN 74 and old DIN 75.

12503 Quality HSS.

12504 Quality HM-soldered (K10 - K35).



12503



12504

d ₁ mm	size	d ₂ mm	for holder size	HSS		Carbide quality	
				12503	...	12504	...
5,0	A 00	1,7	H 0	203			
6,0	A 01	2,0	H 0	207			
6,5	A 01	2,0	H 0	210			
7,0	A 02	2,5	H 0	212			
7,4	A 02	2,5	H 0	213			
7,5	A 02	2,5	H 0	214			
8,0	A 02	2,5	H 0	215			
8,5	A 02	2,5	H 0	218			
9,0	A 1	3,0	H, HB 1	219		219	
9,5	A 1	3,0	H, HB 1	221			
10,0	A 1	3,0	H, HB 1	222		222	
10,4	A 1	3,0	H, HB 1	223			
10,5	A 1	3,0	H, HB 1	224		224	
11,0	A 1	3,0	H, HB 1	225		225	
11,5	A 1	3,0	H, HB 1	226		226	
12,0	A 1	3,0	H, HB 1	227		227	
12,5	A 1	3,0	H, HB 1	228		228	
13,0	A 1	3,0	H, HB 1	290		229	
15,0	A 1	3,0	H, HB 1	291		291	
16,0	A 2	4,0	H, HB 2	235		235	
16,5	A 2	4,0	H, HB 2	236			
17,0	A 2	4,0	H, HB 2	237		237	
17,5	A 2	4,0	H, HB 2	238		238	
18,0	A 3	5,0	H, HB 3	239		239	
18,5	A 3	5,0	H, HB 3	240			

d ₁ mm	size	d ₂ mm	for holder size	HSS		Carbide quality	
				12503	...	12504	...
19,0	A 3	5,0	H, HB 3	241		241	
20,0	A 3	5,0	H, HB 3	243		243	
20,5	A 3	5,0	H, HB 3			244	
21,0	A 3	5,0	H, HB 3	245		245	
22,0	A 3	5,0	H, HB 3	247		247	
22,5	A 3	5,0	H, HB 3	248			
23,0	A 4	6,0	H, HB 4	249		249	
24,0	A 4	6,0	H, HB 4	251		251	
25,0	A 4	6,0	H, HB 4	252		252	
26,0	A 4	6,0	H, HB 4	254		254	
27,0	A 4	6,0	H, HB 4	255			
28,0	A 4	6,0	H, HB 4	256		256	
29,0	A 4	6,0	H, HB 4	257			
30,0	A 4	6,0	H, HB 4	259		259	
32,0	A 4	6,0	H, HB 4	261		261	
33,0	A 4	6,0	H, HB 4	262		262	
34,0	A 5	8,0	H, HB 5	263		263	
35,0	A 5	8,0	H, HB 5	264		264	
36,0	A 5	8,0	H, HB 5	265		265	
38,0	A 5	8,0	H, HB 5	267			
40,0	A 5	8,0	H, HB 5	269		269	
41,0	A 5	8,0	H, HB 5			270	
42,0	A 5	8,0	H, HB 5	271		271	
45,0	A 5	8,0	H, HB 5	274		274	

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti	GG(G)	plastics.
70-100	50-70	-	23-27	20-23	17-20	12-17	12-15	8-12	-	-	-	-	12-14	10-12	-	-	-

12503																	
12504																	
100-150	60-110	-	60-90	50-60	30-50	22-30	20-25	15-22	-	-	-	-	30-50	20-40	-	10-18	-



Fixed pilots | Normal holder | Hand reamers

12506 - 12507 Fixed Pilots

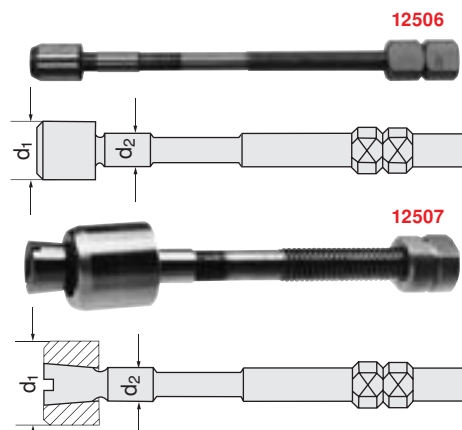


Type
Slides along longitudinal and mounted to allow slight rotation.

Note:
Exchangeable within the same countersink size.
Therefore a large number of combinations is possible. Insert protection washer between the blade and the pilot only when using carbide countersinks.

12506
Type
One-part, assembly with nut and washer (size 00, 01 and 02 non-rotatable, mounted in countersink with lateral screw).

12507
Type
Two-part, guide bushings with locking screw, assembly with nut and washer.



One-part				
d ₁ mm	for countersink size	d ₂ mm	12506	...
2,0	A 00	1,7	301	
2,4	A 01	2,0	305	
2,5	A 01	2,0	308	
3,0	A 00	1,7	319	
3,0	A 01	2,0	320	
3,0	A 02	2,5	321	
3,2	A 01	2,0	322	
3,2	A 1	3,0	324	
3,4	A 01	2,0	325	
4,0	A 02	2,5	337	
4,0	A 2	4,0	336	
4,2	A 2	4,0	339	

One-part				
d ₁ mm	for countersink size	d ₂ mm	12506	...
4,5	A 2	4,0	340	
4,5	A 1	3,0	342	
5,0	A 02	2,5	343	
5,0	A 1	3,0	344	
5,3	A 1	3,0	346	
5,5	A 1	3,0	349	
6,0	A 1	3,0	351	
6,2	A 1	3,0	380	
6,4	A 1	3,0	353	
6,5	A 1	3,0	355	
6,6	A 1	3,0	357	
6,8	A 1	3,0	358	

One-part				
d ₁ mm	for countersink size	d ₂ mm	12506	...
7,0	A 1	3,0	360	
8,0	A 1	3,0	381	
8,5	A 1	3,0	382	
8,5	A 3	5,0	365	
9,0	A 3	5,0	366	
10,0	A 3	5,0	368	
10,5	A 3	5,0	369	
10,5	A 4	6,0	370	
11,0	A 4	6,0	372	
12,0	A 4	6,0	374	
13,0	A 4	6,0	376	

Two-part				
d ₁ mm	for countersink size	d ₂ mm	12507	...
11,0	A 3	5,0	371	
12,0	A 3	5,0	373	
13,0	A 3	5,0	375	
14,0	A 3	5,0	377	
15,0	A 4	6,0	379	

Two-part				
d ₁ mm	for countersink size	d ₂ mm	12507	...
16,0	A 4	6,0	380	
17,0	A 4	6,0	381	
18,0	A 4	6,0	382	
19,0	A 4	6,0	383	
20,0	A 4	6,0	385	

Two-part				
d ₁ mm	for countersink size	d ₂ mm	12507	...
20,0	A 5	8,0	386	
21,0	A 5	8,0	388	
22,0	A 4	6,0	389	
22,0	A 5	8,0	390	
25,0	A 5	8,0	393	

12540 - 12542 Normal holder



12540 - 12541

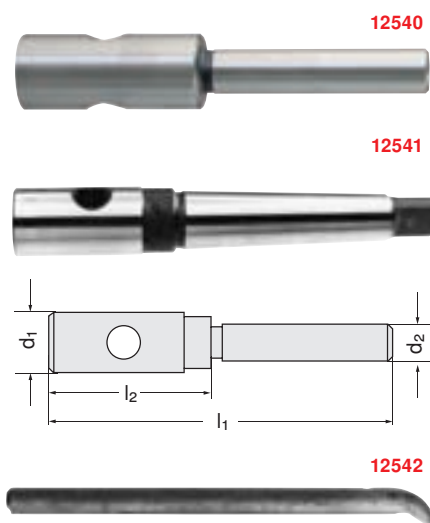
Type
Made of case-hardened steel and polished, short model (can also be used as a grinding pencil holder).

Use
For mounting spot facing cutters cat.-no. 12503 and 12504.

12540
With straight shank.

12541
With Morse taper shank.

12542
Drift key
For cat.-no. 12540 and 12541.



Size	l ₁ mm	l ₂ mm	d ₁ mm	d ₂ mm	shank	Straight	
						12540	...
H 0	59	24	9,0	6	str.	101	
H 1	76	36	12,5	8	str.	102	
H 2	91	41	17,0	10	str.	103	
H 3	109	49	21,0	12	str.	104	
H 4	112	52	28,0	14	str.	105	
H 5	125	65	32,0	16	str.	106	

Size	l ₁ mm	l ₂ mm	d ₁ mm	shank	MK		Drift key	
					12541	...	12542	...
H 1	104	42	12,5	MK 1	202		102	
H 2	109	47	17,0	MK 1	203		103	
H 3	132	57	21,0	MK 2	204		104	
H 4	135	60	28,0	MK 2	205		105	
H 5	168	74	32,0	MK 3	206		106	