

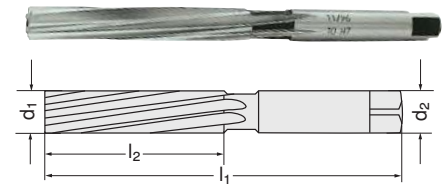
ATORN®**Design**

- With straight shank and square drive
- Right cutting
- Anticlockwise spiral 7–8°
- Cut approx. 1/4 of the cutting length (l_2)
- **H7 accuracy**

Quality
HSS.

Note:
Not suitable for blind holes.

13010



d ₁ mm	l ₂ mm	l ₁ mm	T d ₂ mm	HSS	
				13010	...
2.0	25	50	1.60		201
2.2	27	54	1.80		203
2.5	29	58	2.00		206
3.0	31	62	2.24		211
3.2	33	66	2.50		213
3.5	35	71	2.80		216
4.0	38	76	3.15		221
4.5	41	81	3.55		226
5.0	44	87	4.00		231
5.5	47	93	4.50		236
6.0	47	93	4.50		241
7.0	54	107	5.60		251
8.0	58	115	6.30		261
9.0	62	124	7.10		271
10.0	66	133	8.00		281
11.0	71	142	9.00		282
12.0	76	152	10.00		283
13.0	76	152	10.00		284

d ₁ mm	l ₂ mm	l ₁ mm	T d ₂ mm	HSS	
				13010	...
14.0	81	163	11.20		285
15.0	81	163	11.20		286
16.0	87	175	12.50		287
17.0	87	175	12.50		288
18.0	93	188	14.00		289
19.0	93	188	14.00		290
20.0	100	201	16.00		291
21.0	100	201	16.00		292
22.0	107	215	18.00		293
23.0	107	215	18.00		294
24.0	115	231	20.00		295
25.0	115	231	20.00		296
26.0	115	231	20.00		297
28.0	124	247	22.40		299
30.0	124	247	22.40		301
32.0	133	265	25.00		303
35.0	142	284	28.00		306
40.0	152	305	31.50		311

HHW**Design**

- With straight shank and square drive
- Right cutting
- Anticlockwise spiral 4°
- Slotted
- Diameter 4 and 5 mm, straight grooved

Adjustment range of the nominal diameter:

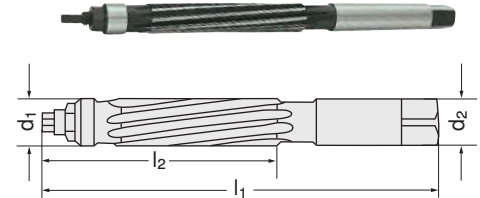
- Diameter 4–5 mm approx. 0.05 mm,
- Diameter 6–10 mm approx. 0.1 mm,
- Diameter 11–15 mm approx. 0.15 mm,
- Diameter 16–20 mm approx. 0.2 mm.

Applications

Can be adjusted to all desired fits and wear can be compensated for.

Quality
HSS.

13033



d ₁ mm	l ₂ mm	l ₁ mm	T d ₂ mm	HSS	
				13033	...
4	38	76	3.15		101
5	44	87	4.00		102
6	47	93	4.50		103
7	54	107	5.60		104
8	58	115	6.30		105
9	62	124	7.10		106
10	66	133	8.00		107
11	71	142	9.00		108

d ₁ mm	l ₂ mm	l ₁ mm	T d ₂ mm	HSS	
				13033	...
12	76	152	10.00		109
13	76	152	10.00		110
14	81	163	11.20		111
15	81	163	11.20		112
16	87	175	12.50		113
18	93	188	14.00		115
19	93	188	14.00		116
20	100	201	16.00		117

13101

Quick-adjust hand reamer sets



Design

- With straight shank and square drive
- Right cutting
- Short, eccentric arch, relief ground blade
- In case

Applications

For reaming and finishing short, simple holes. Only for equalising tasks, minimum chip removal.

Quality

Special steel.

13101 101



Set contents	Adjustment range mm	13101	...
11 pieces	8-31.5		101
13 pieces	8-45.0		102

13102 - 13104

Quick-adjust hand reamers



Design

- With straight shank and square drive
- Right cutting
- Short, eccentric arch, relief ground blade

Applications

For reaming and finishing short, simple holes. Only for equalising tasks, minimum chip removal.

Quality

Special steel.

13103

Spare blade

13103 101-102

Pack = 4 pieces

13103 103-112

Pack = 5 pieces

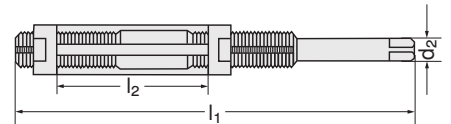
13103 113-116

Pack = 6 pieces

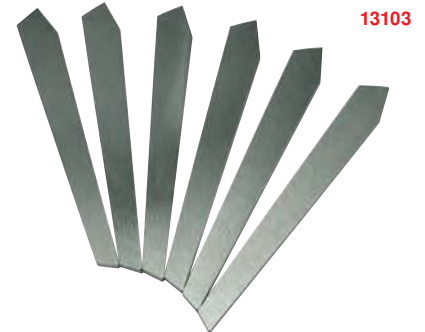
13104

Spare nuts in pairs.

13102



13103



13104



Adjustment range mm	l ₂ mm	l ₁ mm	d ₂ mm	Reamers		Spare blades		Replacement nuts	
				13102	...	13103	...	13104	...
6.4-7.2	32	111	3.0			101		101	101
7.2-8.0	32	111	3.5			102		102	102
8.0-9.0	32	111	4.3			103		103	103
9.0-10.0	32	115	4.3			104		104	104
10.0-11.0	35	120	4.9			105		105	105
11.0-12.0	35	125	6.2			106		106	106
12.0-13.5	42	130	6.2			107		107	107
13.5-15.5	50	145	7.0			108		108	108
15.5-18.0	60	165	8.0			109		109	109
18.0-21.0	65	180	9.0			110		110	110
21.0-24.0	70	190	10.0			111		111	111
24.0-27.5	75	205	11.0			112		112	112
27.5-31.5	80	225	12.0			113		113	113
31.5-37.0	90	240	14.5			114		114	114
37.0-45.0	100	285	16.0			115		115	115
45.0-55.0	109	320	20.0			116		116	116

13420

Taper reamers

HSS 1:10



Design

- Taper 1:10
- With straight shank and square drive
- Right cutting
- Spiral-fluted

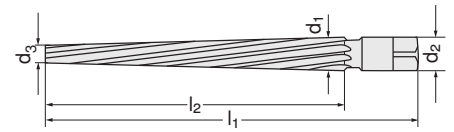
Applications

For holes with and without interruptions.

Quality
HSS.

Note:
Holes must be pre-tapered in a conical shape.
Not suitable for reaming cylindrical holes!

13420



d ₃ mm	d ₁ mm	l ₂ mm	l ₁ mm	T d ₂ mm	HSS 13420 ...
3	10	70	100	8.0	101
5	15	100	140	12.0	102

d ₃ mm	d ₁ mm	l ₂ mm	l ₁ mm	T d ₂ mm	HSS 13420 ...
10	25	150	195	20.0	103
15	35	200	250	30.0	104

13432

Hand taper reamers DIN 9 (pin reamers)

HSS 1:50



Design

- Taper 01:50
- With straight shank and square drive
- Right cutting
- Spiral-fluted

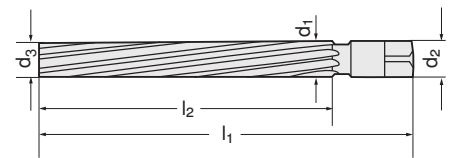
Applications

For finishing tapered holes for taper pins DIN 1.

Quality
HSS.

Note:
Use pin drill art. no. 10899 to pre-drill pin holes!

13432



Nominal diameter mm	d ₃ mm	d ₁ mm	l ₂ mm	l ₁ mm	T d ₂ mm	HSS 13432 ...
3	2.9	4.06	58	80	4.0	206
4	3.9	5.26	68	93	5.0	208
5	4.9	6.36	73	100	6.3	210
6	5.9	8.00	105	135	8.0	212
8	7.9	10.80	145	180	10.0	215

Nominal diameter mm	d ₃ mm	d ₁ mm	l ₂ mm	l ₁ mm	T d ₂ mm	HSS 13432 ...
10	9.9	13.40	175	215	12.5	217
12	11.8	16.00	210	255	14.0	218
16	15.8	20.40	230	280	18.0	221
20	19.8	24.80	250	310	22.4	222
25	24.7	30.70	300	370	28.0	223

13440

High-helix taper pin machine reamers DIN 2179

HSS 1:50



Pin hole taper reamer

Design

- Taper 01:50
- With straight shank and driver
- Right cutting
- Anticlockwise spiral approx. 45°

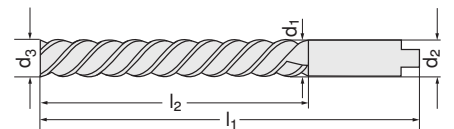
Applications

For finishing tapered holes for taper pins DIN 1.

Quality
HSS.

Note:
Use pin drill art. no. 10899 to pre-drill pin holes!
Improved performance thanks to stripping cut.
Significant chip removal is required! Taper bores free from chatter marks! Only for machine use!
High-helix taper reamers are not suitable for blind holes.

13440



Nominal diameter mm	d ₃ mm	d ₁ mm	l ₂ mm	l ₁ mm	d ₂ mm	HSS 13440 ...
2	1.9	2.86	48	86	3.15	101
3	2.9	4.06	58	100	4.00	103
4	3.9	5.26	68	112	5.00	104
5	4.9	6.36	73	122	6.30	105

Nominal diameter mm	d ₃ mm	d ₁ mm	l ₂ mm	l ₁ mm	d ₂ mm	HSS 13440 ...
6	5.9	8.00	105	160	8.00	106
8	7.9	10.80	145	207	10.00	108
10	9.9	13.40	175	245	12.50	109
12	11.8	16.00	210	290	16.00	110

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 alloy	GG(G)	Plastic
15-20	10-15	10-13	10-12	8-10	8-10	8-10	-	-	-	-	-	-	6-7	5-6	-	6-8	-



13450

Rivet hole reamers in line with DIN 311

HSS



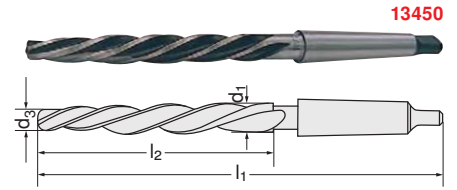
Design

- With Morse taper shank
- Right cutting
- Anticlockwise spiral approx. 25°
- Arched tooth back
- Cutting length 1/3, tapered, 2/3 cylindrical

Applications

For reaming offset holes opposite each other that must be bolted or riveted together.

Quality HSS.



13450

HSS					
d ₁ mm	d ₃ mm	l ₂ mm	l ₁ mm	Shank MT	13450 ...
6.4	4.5	75	151	1	101
7.4	5.2	80	156	1	102
8.4	5.9	85	161	1	103
9.5	6.6	90	166	1	104
10	7.0	95	171	1	105
11	7.7	100	176	1	106
12	8.4	105	199	2	107
13	9.1	105	199	2	108
14	9.8	115	209	2	109
15	10.5	125	219	2	110
16	11.2	135	229	2	111
17	11.9	135	251	3	112

HSS					
d ₁ mm	d ₃ mm	l ₂ mm	l ₁ mm	Shank MT	13450 ...
18	12.6	145	261	3	113
20	14.0	155	271	3	115
21	14.7	155	271	3	116
22	15.4	165	281	3	117
23	16.4	165	281	3	118
24	16.8	180	296	3	119
25	17.5	180	296	3	120
27	18.9	195	311	3	122
28	19.6	195	311	3	123
30	21.0	195	311	3	125
31	21.7	210	326	3	126

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 alloy	GG(G)	Plastic
15-20	10-15	10-13	10-12	8-10	8-10	8-10	-	-	-	-	-	-	6-7	5-6	-	6-8	-

13490

NC machine reamers

HSS-E

H7



Design

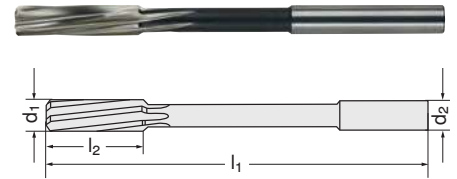
Similar to DIN 212. Straight shank, spiral-fluted, right cutting, H7 accuracy. The small h6 tolerance range of the tool shanks significantly improves the clamping accuracy.

Applications

NC shank for direct use in hydro-expansion and high-precision chucks without adapters or special mounts.

Quality HSS-E.

Note: Intermediate dimensions deliverable on request.



13490

HSS-E				
d ₁ mm	l ₂ mm	l ₁ mm	d ₂ mm	13490 ...
1.0	5.5	34	1	201
1.5	8.0	40	2	205
1.6	9.0	43	2	206
1.7	9.0	43	2	207
1.8	10.0	46	2	208
1.9	10.0	46	2	209
2.0	11.0	49	2	210
2.1	11.0	49	2	211
2.2	12.0	53	3	212
2.3	12.0	53	3	213
2.4	14.0	57	3	214
2.5	14.0	57	3	215
2.6	14.0	57	3	216
2.7	15.0	61	3	217
2.8	15.0	61	3	218
2.9	15.0	61	3	219
3.0	15.0	61	3	220
3.1	16.0	65	4	221
3.2	16.0	65	4	222
3.3	16.0	65	4	223
3.4	18.0	70	4	224
3.5	18.0	70	4	225
3.6	18.0	70	4	226
3.7	18.0	70	4	227
3.8	19.0	75	4	228

HSS-E				
d ₁ mm	l ₂ mm	l ₁ mm	d ₂ mm	13490 ...
3.9	19.0	75	4	229
4.0	19.0	75	4	230
4.1	19.0	75	4	231
4.2	19.0	75	4	232
4.3	21.0	80	5	233
4.4	21.0	80	5	234
4.5	21.0	80	5	235
5.0	23.0	86	5	240
5.5	26.0	93	6	245
6.0	26.0	93	6	250
6.5	28.0	101	6	255
7.0	31.0	109	8	260
7.5	31.0	109	8	265
8.0	33.0	117	8	270
8.5	33.0	117	8	275
9.0	36.0	125	10	280
9.5	36.0	125	10	285
10.0	38.0	133	10	290
11.0	41.0	142	10	292
12.0	44.0	151	10	294
14.0	47.0	160	14	298
15.0	50.0	162	14	300
16.0	52.0	170	14	302
18.0	56.0	182	14	305
20.0	60.0	195	16	307

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 alloy	GG(G)	Plastic
14-20	14-20	14-20	10-15	10-13	8-12	4-6	4-6	-	-	-	-	-	-	-	4-6	4-14	8-14





Quality
HSS-E.

Design

- With straight shank
- Right cutting
- **Manufacturing tolerance +0.003/-0**
- In plastic box

Size	Number of reamers	Contents: 1 reamer each		HSS-E	
		0.01 mm increments		13500	...
2.98-10.02	24	2.98	5.98	102	
		3.00-3.02	6.00-6.02		
		3.98	7.98		
		4.00-4.02	8.00-8.02		
		4.98	9.98		
0.98-5.02	25	5.00-5.02	10.00-10.02	103	
		0.98-1.02	3.98-4.02		
		1.98-2.02	4.98-5.02		
		2.98-3.02			
5.98-10.02	25	5.98-6.02	8.98-9.02	104	
		6.98-7.02	9.98-10.02		
		7.98-8.02			



13500



Design

- Similar to DIN 212
- With straight shank diameters
- Spiral-fluted
- Right cutting
- The small **h6 tolerance range** of the tool shanks significantly improves the clamping accuracy
- **Production tolerance + 0.003/-0**

Applications

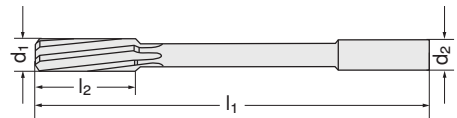
NC shank for direct use in hydro-expansion and high-precision chucks without adapters or special mounts.

Quality
HSS-E.

Note:
Intermediate dimensions deliverable on request.



13503



d ₁	l ₂	l ₁	d ₂ h6	HSS-E	
mm	mm	mm	mm	13503	...
0.98	5.5	34	1.0	101	
0.99	5.5	34	1.0	102	
1.00	5.5	34	1.0	103	
1.01	5.5	34	1.0	104	
1.02	5.5	34	1.0	105	
1.03	5.5	34	1.0	106	
1.48	8.0	40	2.0	107	
1.49	8.0	40	2.0	108	
1.50	8.0	40	2.0	109	
1.51	9.0	43	2.0	110	
1.52	9.0	43	2.0	111	
1.53	9.0	43	2.0	112	
1.98	11.0	49	2.0	113	
1.99	11.0	49	2.0	114	
2.00	11.0	49	2.0	115	
2.01	11.0	49	2.0	116	
2.02	11.0	49	2.0	117	
2.03	11.0	49	2.0	118	
2.48	14.0	57	3.0	119	
2.49	14.0	57	3.0	120	
2.50	14.0	57	3.0	121	
2.51	14.0	57	3.0	122	
2.52	14.0	57	3.0	123	
2.53	14.0	57	3.0	124	
2.97	15.0	61	3.0	125	
2.98	15.0	61	3.0	126	

d ₁	l ₂	l ₁	d ₂ h6	HSS-E	
mm	mm	mm	mm	13503	...
2.99	15.0	61	3.0	127	
3.00	15.0	61	3.0	128	
3.01	16.0	65	4.0	129	
3.02	16.0	65	4.0	130	
3.03	16.0	65	4.0	131	
3.97	19.0	75	4.0	132	
3.98	19.0	75	4.0	133	
3.99	19.0	75	4.0	134	
4.00	19.0	75	4.0	135	
4.01	19.0	75	4.0	136	
4.02	19.0	75	4.0	137	
4.03	19.0	75	4.0	138	
4.97	23.0	86	5.0	139	
4.98	23.0	86	5.0	140	
4.99	23.0	86	5.0	141	
5.00	23.0	86	5.0	142	
5.01	23.0	86	5.0	143	
5.02	23.0	86	5.0	144	
5.03	23.0	86	5.0	145	
5.97	26.0	93	6.0	146	
5.98	26.0	93	6.0	147	
5.99	26.0	93	6.0	148	
6.00	26.0	93	6.0	149	
6.01	28.0	101	6.0	150	
6.02	28.0	101	6.0	151	
6.03	28.0	101	6.0	152	

d ₁	l ₂	l ₁	d ₂ h6	HSS-E	
mm	mm	mm	mm	13503	...
7.97	33.0	117	8.0	153	
7.98	33.0	117	8.0	154	
7.99	33.0	117	8.0	155	
8.00	33.0	117	8.0	156	
8.01	33.0	117	8.0	157	
8.02	33.0	117	8.0	158	
8.03	33.0	117	8.0	159	
8.04	33.0	117	8.0	160	
9.97	38.0	133	10.0	161	
9.98	38.0	133	10.0	162	
9.99	38.0	133	10.0	163	
10.00	38.0	133	10.0	164	
10.01	38.0	133	10.0	165	
10.02	38.0	133	10.0	166	
10.03	38.0	133	10.0	167	
10.04	38.0	133	10.0	168	
10.05	38.0	133	10.0	169	
11.97	44.0	151	10.0	170	
11.98	44.0	151	10.0	171	
11.99	44.0	151	10.0	172	
12.00	44.0	151	10.0	173	
12.01	44.0	151	10.0	174	
12.02	44.0	151	10.0	175	
12.03	44.0	151	10.0	176	
12.04	44.0	151	10.0	177	
12.05	44.0	151	10.0	178	

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 alloy	GG(G)	Plastic
14-20	14-20	14-20	10-15	10-13	8-12	4-6	4-6	-	-	-	-	-	-	-	4-6	4-14	8-14

Machine reamers

13502

Solid carbide NC machine reamers

VHM H7



Design

Similar to DIN 8093. Straight shank, anticlockwise spiral flute, right cutting, **H7 accuracy**. The small **h6 tolerance range** of the tool shanks significantly improves the clamping accuracy.

Applications

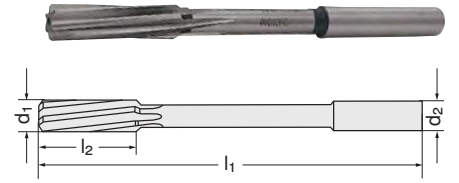
NC shank for **direct use in hydro-expansion and high-precision chucks** without adapters or special mounts.

Quality

Solid carbide, grade K 10. Solid carbide up to diameter 12 mm, with solid-carbide head and steel shaft from 13 mm.

Note:

Intermediate dimensions deliverable on request.



13502

VHM				
d ₁	l ₂	l ₁	d ₂ h6	VHM 13502 ...
mm	mm	mm	mm	
1.0	6	34	1.0	101
1.2	6	34	1.0	105
1.4	8	40	2.0	106
1.5	8	40	2.0	107
1.6	9	43	2.0	111
1.8	10	46	2.0	113
2.0	11	49	2.0	118
2.2	12	53	3.0	123
2.5	14	57	3.0	129
2.8	15	61	3.0	135
3.0	15	61	3.0	140

VHM				
d ₁	l ₂	l ₁	d ₂ h6	VHM 13502 ...
mm	mm	mm	mm	
3.2	16	65	4.0	145
3.5	18	70	4.0	148
4.0	19	75	4.0	156
4.5	21	80	5.0	164
5.0	23	86	5.0	172
5.5	26	93	6.0	180
6.0	26	93	6.0	188
6.5	28	101	6.0	196
7.0	31	109	8.0	201
8.0	33	117	8.0	214
9.0	36	125	10.0	222

VHM				
d ₁	l ₂	l ₁	d ₂ h6	VHM 13502 ...
mm	mm	mm	mm	
10.0	38	133	10.0	243
11.0	41	142	10.0	247
12.0	44	151	10.0	251
13.0	44	151	10.0	252
14.0	47	160	14.0	253
15.0	50	162	14.0	254
16.0	52	170	14.0	255
17.0	54	175	14.0	256
18.0	56	182	14.0	257
19.0	58	189	16.0	258
20.0	60	195	16.0	259

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 alloy	GG(G)	Plastic
30-60	30-60	25-40	15-25	15-20	10-20	8-18	8-12	6-10	-	-	-	-	8-15	6-10	8-12	6-18	10-30

13512

Solid carbide NC machine reamers (1/100 reamers)

VHM 1/100



Design

Similar to DIN 8093. Straight shaft diameters, spiral-fluted, right cutting. The small **h6 tolerance range** of the tool shanks significantly improves the clamping accuracy.

Production tolerance + 0.003/-0.

Applications

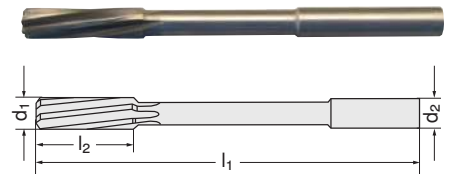
NC shaft for direct use in hydro-expansion and high-precision chucks without adapters or special mounts.

Quality

Solid carbide, grade K 10.

Note:

Intermediate dimensions deliverable on request.



13512

VHM				
d ₁	l ₂	l ₁	d ₂ h6	VHM 13512 ...
mm	mm	mm	mm	
0.98	6.0	34	1.0	101
0.99	6.0	34	1.0	102
1.00	6.0	34	1.0	103
1.01	6.0	34	1.0	104
1.02	6.0	34	1.0	105
1.03	6.0	34	1.0	106
1.48	8.0	40	2.0	107
1.49	8.0	40	2.0	108
1.50	8.0	40	2.0	109
1.51	9.0	43	2.0	110
1.52	9.0	43	2.0	111
1.53	9.0	43	2.0	112
1.98	11.0	49	2.0	113
1.99	11.0	49	2.0	114
2.00	11.0	49	2.0	115
2.01	11.0	49	2.0	116
2.02	11.0	49	2.0	117
2.03	11.0	49	2.0	118
2.48	14.0	57	3.0	119
2.49	14.0	57	3.0	120
2.50	14.0	57	3.0	121
2.51	14.0	57	3.0	122
2.52	14.0	57	3.0	123
2.53	14.0	57	3.0	124
2.97	15.0	61	3.0	125
2.98	15.0	61	3.0	126

VHM				
d ₁	l ₂	l ₁	d ₂ h6	VHM 13512 ...
mm	mm	mm	mm	
2.99	15.0	61	3.0	127
3.00	15.0	61	3.0	128
3.01	15.0	61	3.0	129
3.02	15.0	61	3.0	130
3.03	15.0	61	3.0	131
3.97	19.0	75	4.0	132
3.98	19.0	75	4.0	133
3.99	19.0	75	4.0	134
4.00	19.0	75	4.0	135
4.01	19.0	75	4.0	136
4.02	19.0	75	4.0	137
4.03	19.0	75	4.0	138
4.97	23.0	86	5.0	139
4.98	23.0	86	5.0	140
4.99	23.0	86	5.0	141
5.00	23.0	86	5.0	142
5.01	23.0	86	5.0	143
5.02	23.0	86	5.0	144
5.03	23.0	86	5.0	145
5.97	26.0	93	5.0	146
5.98	26.0	93	6.0	147
5.99	26.0	93	6.0	148
6.00	26.0	93	6.0	149
6.01	28.0	101	6.0	150
6.02	28.0	101	6.0	151
6.03	28.0	101	6.0	152

VHM				
d ₁	l ₂	l ₁	d ₂ h6	VHM 13512 ...
mm	mm	mm	mm	
7.97	33.0	117	8.0	153
7.98	33.0	117	8.0	154
7.99	33.0	117	8.0	155
8.00	33.0	117	8.0	156
8.01	33.0	117	8.0	157
8.02	33.0	117	8.0	158
8.03	33.0	117	8.0	159
8.04	33.0	117	8.0	160
9.97	38.0	133	10.0	161
9.98	38.0	133	10.0	162
9.99	38.0	133	10.0	163
10.00	38.0	133	10.0	164
10.01	38.0	133	10.0	165
10.02	38.0	133	10.0	166
10.03	38.0	133	10.0	167
10.04	38.0	133	10.0	168
10.05	38.0	133	10.0	169
11.97	44.0	151	10.0	170
11.98	44.0	151	10.0	171
11.99	44.0	151	10.0	172
12.00	44.0	151	10.0	173
12.01	44.0	151	10.0	174
12.02	44.0	151	10.0	175
12.03	44.0	151	10.0	176
12.04	44.0	151	10.0	177
12.05	44.0	151	10.0	178

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 alloy	GG(G)	Plastic
30-60	30-60	25-40	15-25	15-20	10-20	8-18	8-12	6-10	-	-	-	-	8-15	6-10	8-12	6-18	10-30



Drilling tools

13515

Solid carbide NC machine reamers

HPC Z4-6 VHM TiAlN H7 65 HRC



Design

- Solid carbide TiAlN-coated
- Cut 45°
- Straight flutes
- Right cutting
- NC shaft with **H6 tolerance**
- **H7 accuracy**

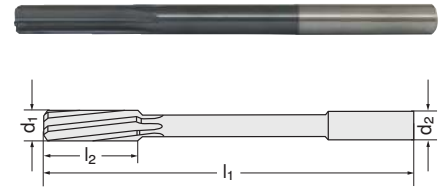
Applications

For blind holes and through-bores.

Note:

NC-compatible version with straight shaft diameter for standardised mounting, especially in hydro-expansion or high-precision chucks.

13515



Solid carbide/TiAlN

Solid carbide/TiAlN

d ₁ mm	l ₂ mm	l ₁ mm	d ₂ h6 mm	Z	13515	...
2	15	60	3	4		103
3	15	75	3	4		108
4	18	75	6	4		113
5	26	100	6	6		118

d ₁ mm	l ₂ mm	l ₁ mm	d ₂ h6 mm	Z	13515	...
6	26	100	6	6		123
8	36	108	8	6		128
10	36	135	10	6		133
12	45	135	12	6		138

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<65HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
-	-	-	-	-	-	-	-	10-15	10-12	8-10	5-8	3-5	-	-	-	-	-

Info

Modular HPC reamer system



Complete range deliverable on request!



NEW

- 1 Holders of different lengths**
- 2 Flat contact surface for rigidity and stability**
- 3 Internal coolant duct outlet**
directly on the blade
- 4 Taper**
Simple and high-precision centring
- 5 Thread**
High precision for easy tool changes
- 6 Spanner flat**
For easy head changes in the machine

Holder range available in short, standard, long and extra-long versions!



Solid carbide reamer heads available for machining blind holes and through holes from 10H7 to 40H7 and in 1-mm increments for machining steel/cast iron or VA.



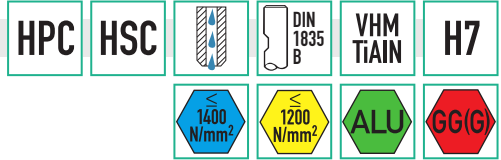
Advantages:

- Tool changes in the machine for easy handling
- High switching accuracy and stability
- Particularly economical in series production
- High cutting speeds are possible
- With internal cooling
- Adapted installation key for optimum screw fittings



RPK reamers | Machine reamers

13535 - 13539 RPK reamers



Design

- Highly stable connection with **polygonal plate seat**
- Cutting plates for **through holes and blind holes**
- Long **service life** and high **precision**
- High concentricity
- Simple blade replacement
- The **internal coolant feed** is routed directly to the first-cut area on the blades via a baffle plate
- Good chip removal even in blind holes

Applications

Reduces processing times thanks to **extremely high cutting speeds, higher feed rates and greater material removal volumes.**

Quality

Solid carbide/TiAlN-coated.

13535

Polygonal shafts

Applications

For reamer heads art no. 13538–13539.

13536

Clamping screws

13537

Baffle plates

13538

Design

Left-hand spiral for through-bores.

Applications

For Steel + VA.

13539

Design

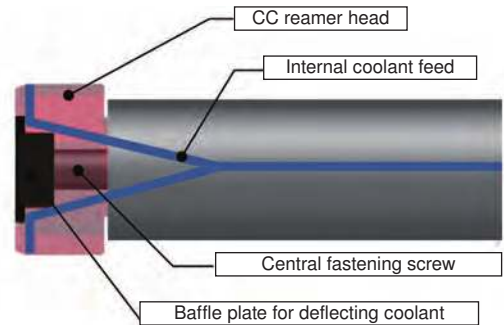
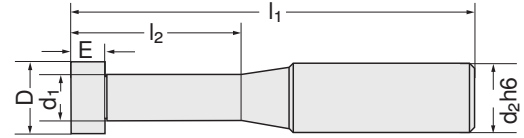
Straight flute for blind holes.

Applications

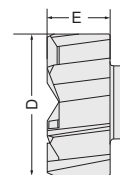
For Steel + VA.



13535



Polygonal shafts				Shaft		Clamping screw		Baffle plate				
Description	Shaft size	Up to drilling depth	D min. - max. mm	d ₂ h6 mm	d ₁ mm	E mm	l ₁ mm	l ₂ mm	13535	13536	13537	...
RPS400J3D6	1	3 x D	12.00 - 16.20	16	11	9	110	38	101	101	101	...
RPS400J5D6	1	5 x D	12.00 - 16.20	16	11	9	140	68	102	101	101	...
RPS400M3D6	2	3 x D	16.21 - 20.20	20	14	9	125	50	103	102	102	...
RPS400M5D6	2	5 x D	16.21 - 20.20	20	14	9	175	100	104	102	102	...



13538 - 13539

Reamer heads				Through holes steel+VA				Blind holes steel+VA			
D mm	for Shaft size	E mm	Blade number	13538	...	13539	...				
12	1	9	6	120		120					
13	1	9	6	130		130					
14	1	9	6	140		140					
15	1	9	6	150		150					
16	1	9	6	160		160					
17	2	9	6	170		170					
18	2	9	6	180		180					
19	2	9	6	190		190					
20	2	9	6	200		200					

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 alloy	GG(G)	Plastic
200-400	200-40	50-250	100-250	100-250	20-50	20-50	20-50	20-50	-	-	-	-	15-40	10-30	-	60-200	-



- Design**
- 7 pieces
 - With straight shank
 - Right cutting
 - **H7 accuracy**

13508 101
Quality
HSS-E.

13508 102
Quality
HSS-E/TiN.

13508 102



Quality	Contents: 1 piece each Ø mm	Version	13508	...
HSS-E	3/4/5/6/8/10/12	in plastic case		101
HSS-E/TiN	3/4/5/6/8/10/12	in plastic case		102

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 alloy	GG(G)	Plastic
13508 101																	
14-20	14-20	14-20	10-15	10-13	8-12	4-6	4-6	-	-	-	-	-	-	-	4-6	4-14	8-14
13508 102																	
14-20	14-20	14-20	10-20	8-15	8-12	4-6	4-6	3-5	-	-	-	-	-	-	4-6	4-14	20-60

13505 - 13507

Machine reamers DIN 212



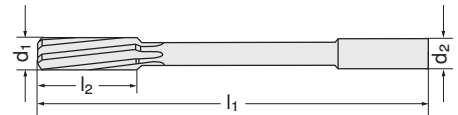
- Design**
- With straight shank (without square drive)
 - Right cutting
 - Spiral-fluted
 - Anticlockwise spiral 9°
 - Short 45° cut
 - **H7 accuracy**
 - For through holes and blind holes
 - Even number of teeth
 - Unequal tooth pitch (prevents chatter marks and hole distortion)

13505
Quality
HSS-E.

13507
Quality
HSS-E/TiN-coated.

13505

13507



Note:
Intermediate dimensions deliverable on request.

d ₁ mm	l ₂ mm	l ₁ mm	d ₂ mm	HSS-E		HSS-E/TiN	
				13505	...	13507	...
1.0	5.5	34	1.0		100		
1.5	8	40	1.5		101		
1.6	9	43	1.6		102		
1.8	10	46	1.8		103		
2.0	11	49	2.0		104		
2.2	12	53	2.2		105		
2.5	14	57	2.5		106		
2.8	15	61	2.8		107		
3.0	15	61	3.0		108		108
3.2	16	65	3.2		109		
3.5	18	70	3.5		110		
4.0	19	75	4.0		111		111
4.5	21	80	4.5		112		
5.0	23	86	5.0		113		113
6.0	26	93	5.6		114		114

d ₁ mm	l ₂ mm	l ₁ mm	d ₂ mm	HSS-E		HSS-E/TiN	
				13505	...	13507	...
7.0	31	109	7.1		115		115
8.0	33	117	8.0		116		116
9.0	36	125	9.0		117		117
10.0	38	133	10.0		118		118
11.0	41	142	10.0		119		119
12.0	44	151	10.0		120		120
13.0	44	151	10.0		121		121
14.0	47	160	12.5		122		122
15.0	50	162	12.5		123		123
16.0	52	170	12.5		124		124
17.0	54	175	14.0		125		125
18.0	56	182	14.0		126		126
19.0	58	189	16.0		127		127
20.0	60	195	16.0		128		128

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 alloy	GG(G)	Plastic
13505																	
14-20	14-20	14-20	10-15	10-13	8-12	4-6	4-6	-	-	-	-	-	-	-	4-6	4-14	8-14
13507																	
14-20	14-20	14-20	10-20	8-15	8-12	4-6	4-6	3-5	-	-	-	-	-	-	4-6	4-14	20-60



Machine reamers | High-helix machine reamers

13482

Extra-long machine reamers similar to DIN 212

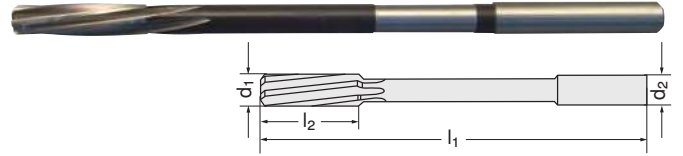
HSS-E H7



Design

- With straight shank
- Right cutting
- Spiral-fluted
- **H7 accuracy**
- Similar to DIN 212

Quality
HSS-E.



13482

d ₁ mm	l ₂ mm	l ₁ mm	d ₂ h9 mm	Max. reamer length mm	Blades	HSS-E 13482	...
2.0	11	65	2.0	45.0	4		101
3.0	15	90	3.0	65.0	6		102
4.0	19	105	4.0	70.0	6		103
5.0	23	115	5.0	80.0	6		104
6.0	26	130	6.0	90.0	6		105
L 6.0	26	250	6.0	210.0	6		106
8.0	33	160	8.0	115.0	6		107
L 8.0	33	250	8.0	205.0	6		108
10.0	38	190	10.0	140.0	6		109
L 10.0	38	250	10.0	200.0	6		110
12.0	44	210	12.0	160.0	6		111

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 alloy	GG(G)	Plastic
15-20	10-15	10-13	10-12	8-10	8-10	8-10	8-10	-	-	-	-	-	6-7	5-6	-	6-10	10-15

13509

High-helix machine reamers DIN 212

HSS-E H7



Design

- With straight shank (without square drive)
- Right cutting
- Anticlockwise spiral approx. 45°
- Cut approx. 1/6 of blade length
- **H7 accuracy**

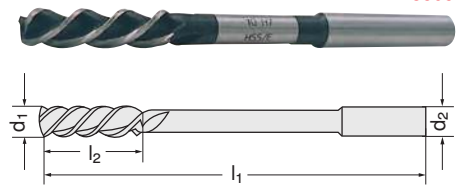
Applications

Ideal for long-chipping materials.

Quality
HSS-E.

Note:

Greater cutting performance and a longer service life than normal reamers thanks to stripping cut and larger chip spaces. Double feed rates and higher cutting speeds achievable. High-helix taper reamers are not suitable for blind holes. Intermediate dimensions deliverable on request.



13509

d ₁ mm	l ₂ mm	l ₁ mm	d ₂ mm	HSS-E 13509	...	d ₁ mm	l ₂ mm	l ₁ mm	d ₂ mm	HSS-E 13509	...
2	11	49	2.0		101	6	26	93	5.6		108
3	15	61	3.0		103	8	33	117	8.0		110
4	19	75	4.0		105	10	38	133	10.0		112
5	23	86	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 alloy	GG(G)	Plastic
14-20	14-20	14-20	10-15	10-13	8-12	4-6	4-6	-	-	-	-	-	-	-	4-6	4-14	8-14

13511

Cemented carbide machine reamers DIN 8093

HM K10 H7



Design

- With straight shank and driver
- Right cutting
- Straight-grooved
- Long cemented-carbide blades
- Similar to DIN 212
- **H7 accuracy**

Applications

For materials that cause serious wear to blades (grey cast iron, plastic). For through holes and blind holes.

Quality
Carbide-tipped blades,
grade K 10.

Note:

Only use on stable machines that run without chatter! Intermediate dimensions deliverable on request.



13511

d ₁ mm	l ₂ mm	l ₁ mm	d ₂ mm	Carbide-tipped 13511	...	d ₁ mm	l ₂ mm	l ₁ mm	d ₂ mm	Carbide-tipped 13511	...
6	30	93	5.6		102	12	45	151	10.0		108
8	30	117	8.0		104	14	45	160	12.5		110
10	45	133	10.0		106	16	45	170	12.5		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 alloy	GG(G)	Plastic
14-20	14-20	14-20	10-20	8-15	8-12	4-6	4-6	3-5	-	-	-	-	-	-	4-6	4-14	20-60



13518

Cemented carbide machine reamers DIN 8051

HM
K10 H7**HHW**

Design

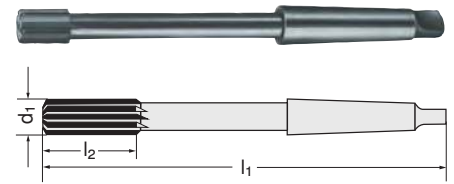
- With Morse taper shank
- Straight-grooved
- Right cutting
- **Short blades**
- **H7 accuracy**

Quality

Carbide-tipped blades, grade K 10.

Note:

d_1 5–7 mm is not standardised.
Intermediate dimensions deliverable on request.



13518

Carbide-tipped

d_1 mm	l_2 mm	l_1 mm	Shank MK	13518	...
5	16	133	1		101
6	16	138	1		102
7	16	150	1		103
8	16	156	1		104
9	19	162	1		105
10	19	168	1		106
11	19	175	1		107
12	19	182	1		108
13	19	182	1		109
14	19	189	1		110
15	19	204	2		111
16	22	210	2		112
17	22	214	2		113
18	22	219	2		114
19	22	223	2		115
20	22	228	2		116
21	25	232	2		117

Carbide-tipped

d_1 mm	l_2 mm	l_1 mm	Shank MK	13518	...
22	25	237	2		118
23	25	241	2		119
24	25	268	3		120
25	25	268	3		121
26	25	273	3		122
27	30	277	3		123
28	30	277	3		124
29	30	281	3		125
30	30	281	3		126
31	30	285	3		127
32	30	317	4		128
34	30	321	4		129
35	30	321	4		130
36	30	325	4		131
38	30	329	4		132
40	30	329	4		133

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 alloy	GG(G)	Plastic
14-20	14-20	14-20	10-20	8-15	8-12	4-6	4-6	3-5	-	-	-	-	-	-	4-6	4-14	20-60

13521

Machine reamers DIN 208

HSS-E H7

ATORN®

Design

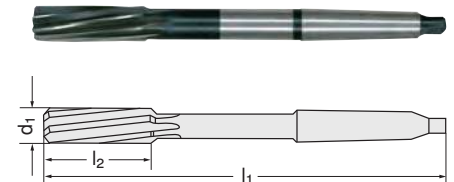
- With Morse taper shank
- Right cutting
- Anticlockwise spiral approx. 7–8°
- **H7 accuracy**

Quality

HSS-E.

Note:

Intermediate dimensions deliverable on request.



13521

Applications

For through holes and blind holes with and without interruptions.

HSS-E

d_1 mm	l_2 mm	l_1 mm	Shank MK	13521	...
5	23	133	1		101
6	26	138	1		102
7	31	150	1		103
8	33	156	1		104
9	36	162	1		105
10	38	168	1		106
11	41	175	1		107
12	44	182	1		108
13	44	182	1		109
14	47	189	1		110
15	50	204	2		111
16	52	210	2		112
17	54	214	2		113
18	56	219	2		114
19	58	223	2		115
20	60	228	2		116
21	62	232	2		117

HSS-E

d_1 mm	l_2 mm	l_1 mm	Shank MK	13521	...
22	64	237	2		118
23	66	241	2		119
24	68	268	3		120
25	68	268	3		121
26	70	273	3		122
27	71	277	3		123
28	71	277	3		124
29	73	281	3		125
30	73	281	3		126
31	75	285	3		127
32	77	317	4		128
35	78	321	4		129
40	81	329	4		130
42	82	333	4		131
45	83	336	4		132
50	86	344	4		134

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 alloy	GG(G)	Plastic
14-20	14-20	14-20	10-15	10-13	8-12	4-6	4-6	-	-	-	-	-	-	-	4-6	4-14	8-14

Shell reamers | Jet reamers

13811 - 13820 Shell reamers DIN 219



Design

- Conical bore 1:30 and transverse flute in line with DIN 138
- Right cutting
- Anticlockwise spiral 7–8°
- Cut 45°
- **H7 accuracy**
- Cylindrical grinding chamfer

Quality

HSS-E.

13820

Arbor

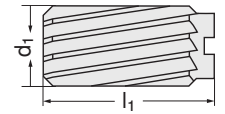
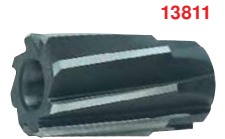
Design

- Morse taper shank and flat tangs in accordance with DIN 228 B
- Mounting taper 1:30
- Includes draw-off nuts, driver ring and key
- Fully hardened and ground

Applications

For mounting shell reamers (art. no. 13811)

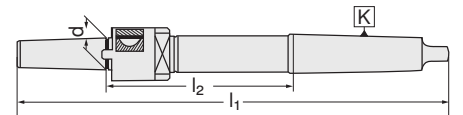
H7 **HSS-E**



Note:

Intermediate dimensions deliverable on request.

d ₁ mm	l ₁ mm	For holder size	Reamers	
			13811	...
25	45	2	108	
26	45	2	109	
27	45	2	110	
28	45	2	111	
30	45	2	113	
32	50	3	115	
34	50	3	117	
35	50	3	118	
36	56	4	119	
38	56	4	121	
40	56	4	122	
42	56	4	123	
44	63	5	124	
45	63	5	125	
48	63	5	128	
50	63	5	129	



Size	d mm	l ₂ mm	l ₁ mm	Shank MK	Arbor	
					13820	...
2	13	111.9	250	3	102	
3	16	117.9	261	3	103	
4	19	125.6	298	4	104	
5	22	132.6	312	4	105	

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 alloy	GG(G)	Plastic
14-20	14-20	14-20	10-20	8-15	8-12	4-6	4-6	3-5	-	-	-	-	-	-	4-6	4-14	20-60

13902 Jet reamer set

Design

Five edges, taper of 1:100, **Set = 12 pieces**, assorted from 0.5–2.0 mm diameter with quick-change holder in plastic sleeve.

Applications

For cleaning nozzles.

Quality

Special steel.

Set contents	13902	...
12 pieces		101

