DiC TOOLS

A Brand by Dedicated Impex Co.



HSS CUTTING TOOLS

DiC TOOLS
A Brand by Dedicated Impex Co.

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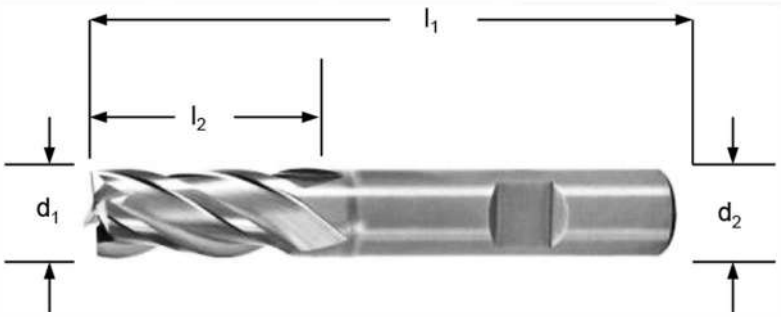
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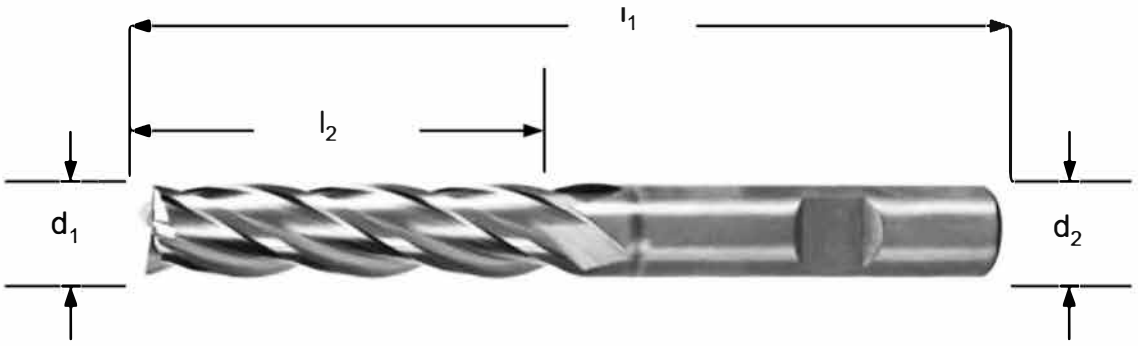
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HSS END MILLS

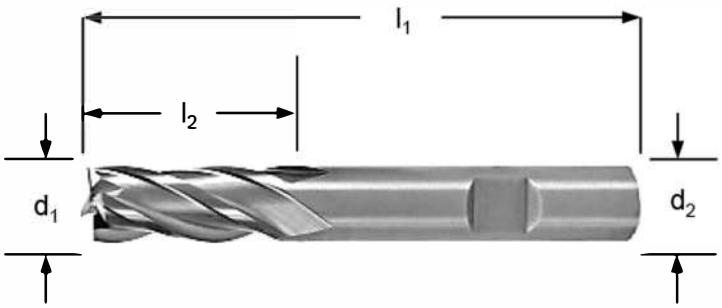


Dimensions [mm]				Edges
d1 (e8)	l2	d2 (h6)	l1	Z
1	3	6	49	4
2	7	6	51	4
3	8	6	52	4
4	11	6	55	4
5	13	6	57	4
6	13	6	57	4
7	16	10	66	4
8	19	10	69	4
9	19	10	69	4
10	22	10	72	4
12	26	12	83	4
14	26	12	83	4
16	32	16	92	4
18	32	16	92	4
20	38	20	104	4
22	38	20	104	4
25	45	25	121	4



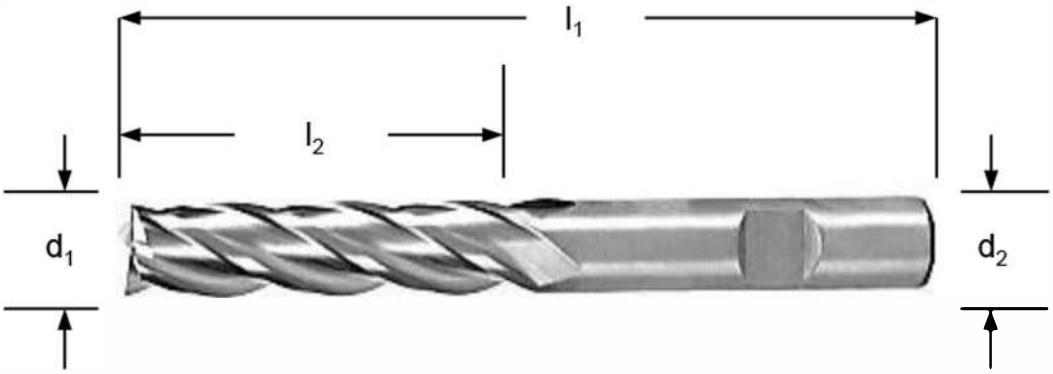
Dimensions [mm]				Edges
d1 (e8)	l2	d2 (h6)	l1	Z
2	10	6	54	4
3	12	6	56	4
4	19	6	63	4
5	24	6	68	4
6	24	6	68	4
7	30	10	80	4
8	38	10	88	4
9	38	10	88	4
10	45	10	95	4
12	53	12	110	4
14	53	12	110	4
16	63	16	123	4
18	63	16	123	4
20	75	20	141	4
22	75	20	141	4
25	90	25	166	4

Square End Mill - Short Length



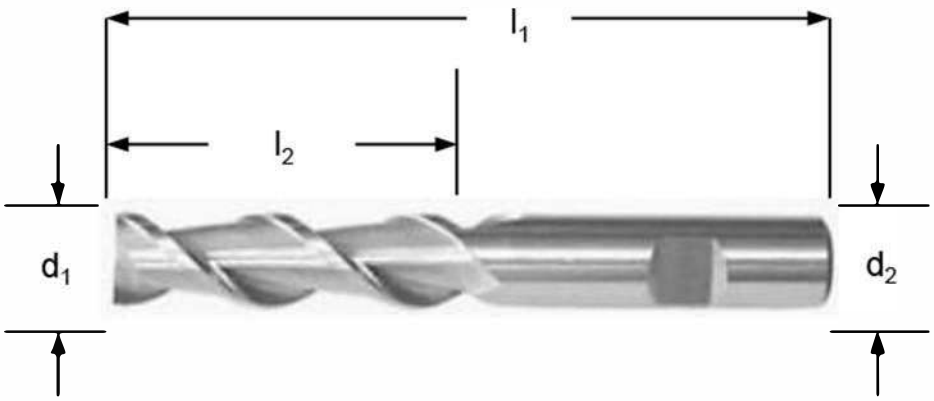
Dimensions [mm]				Edges
d1 (e8	l2	d2 (h6)	l1	Z
2	7	6	51	4
3	8	6	52	4
4	11	6	55	4
5	13	6	57	4
6	13	6	57	4
8	19	10	69	4
10	22	10	72	4
12	26	12	83	4
14	26	12	83	4
16	32	16	92	4
18	32	16	92	4
20	38	20	104	4
22	38	20	104	6
25	45	25	121	6
30	45	25	121	6

Square End Mill - Long Length



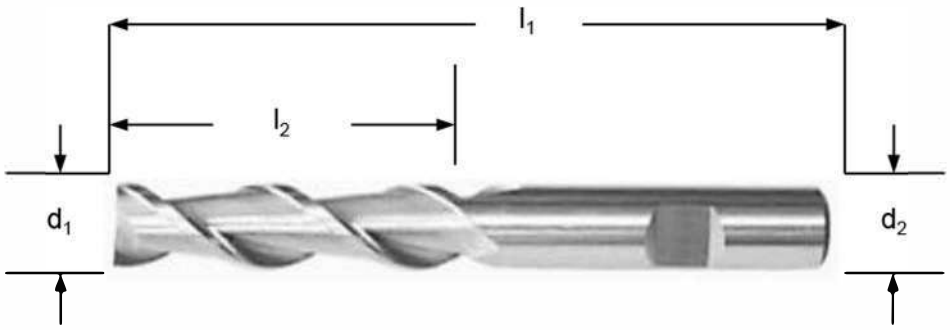
Dimensions [mm]				Edges
d1 (e8)	l2	d2 (h6)	l1	Z
3	12	6	56	4
4	19	6	63	4
5	24	6	68	4
6	24	6	68	4
8	38	10	88	4
10	45	10	88	4
12	53	12	110	4
14	53	12	110	4
16	63	16	123	4
18	63	16	123	4
20	75	20	141	4
22	75	20	141	6
25	90	25	166	6
30	90	25	166	6

Square End Mill for Aluminium - Short Length



Dimensions [mm]				Edges
d1 (e8)	l2	d2 (h6)	l1	Z
2	7	6	51	2
3	8	6	52	2
4	11	6	55	2
5	13	6	57	2
6	13	6	57	2
8	19	10	69	2
10	22	10	72	2
12	26	12	83	2
14	26	12	83	2
16	32	16	92	2
18	32	16	92	2
20	38	20	104	2

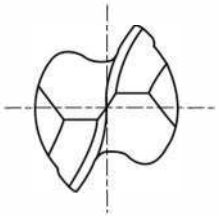
Square End Mill for Aluminium - Long Length



Dimensions [mm]				Edges
d1 (e8)	l2	d2 (h6)	l1	Z
2	10	6	56	2
3	12	6	63	2
4	19	6	63	2
5	24	6	68	2
6	24	6	68	2
8	38	10	88	2
10	45	10	95	2
12	53	12	110	2
14	53	12	110	2
16	63	16	123	2
18	63	16	123	2
20	75	20	141	2

2 Flute Ball Nose End Mill - Short Length





Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
R (±0.02)	e8	h6		
R1.0	**2.0**	6	4	48
R1.25	**2.5**	6	5	49
R1.5	**3.0**	6	5	49
R1.75	**3.5**	6	6	50
R2.0	**4.0**	6	7	51
R2.25	**4.5**	6	7	51
R2.5	**5.0**	6	8	52
R2.75	**5.5**	6	8	52
R3.0	**6.0**	6	8	52
R3.5	**7.0**	10	10	60
R4.0	**8.0**	10	11	61
R4.5	**9.0**	10	11	61
R5.0	**10.0**	10	13	63
R5.5	**11.0**	12	13	70
R6.0	**12.0**	12	16	73
R6.5	**13.0**	12	16	73
R7.0	**14.0**	12	16	73
R7.5	**15.0**	12	16	73
R8.0	**16.0**	16	19	79
R8.5	**17.0**	16	19	79
R9.0	**18.0**	16	19	79
R9.5	**19.0**	16	19	79
R10.0	**20.0**	16	22	82
R10.0	**20.0**	20	22	88
R11.0	**22.0**	20	22	88
R11.0	**22.0**	25	22	98
R12.0	**24.0**	25	26	102
R12.5	**25.0**	25	26	102
R13.0	**26.0**	25	26	102
R14.0	**28.0**	25	26	102
R15.0	**30.0**	25	26	102
R16.0	**32.0**	32	32	112

- Other shank design on your reguest.
- TiN and TiCN Coatings are available on your request.

2 Flute Ball Nose End Mill - Long Length



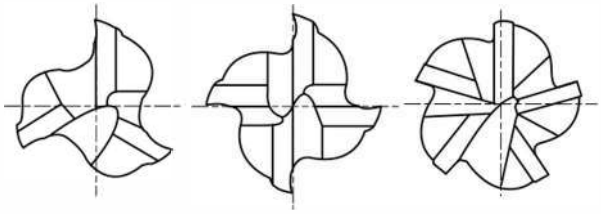
Unit : mm

Radius of Ball Nose R (±0.02)	Mill Diameter e8	Shank Diameter h6	Length of Cut	Overall Length
R1.0	**2.0**	6	7	54
R1.5	**3.0**	6	8	56
R2.0	**4.0**	6	11	63
R2.5	**5.0**	6	13	68
R3.0	**6.0**	6	13	68
R3.5	**7.0**	10	16	80
R4.0	**8.0**	10	19	88
R4.5	**9.0**	10	19	88
R5.0	**10.0**	10	22	95
R5.5	**11.0**	12	22	102
R6.0	**12.0**	12	26	110
R6.5	**13.0**	12	26	110
R7.0	**14.0**	12	26	110
R7.5	**15.0**	12	26	110
R8.0	**16.0**	16	32	123
R8.5	**17.0**	16	32	123
R9.0	**18.0**	16	32	123
R9.5	**19.0**	16	32	123
R10.0	**20.0**	20	38	141
R11.0	**22.0**	20	38	141
R12.0	**24.0**	25	45	166
R12.5	**25.0**	25	45	166
R13.0	**26.0**	25	45	166
R14.0	**28.0**	25	45	166
R15.0	**30.0**	25	45	166

▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.

Multi Flute Short Length Roughing - Extra Fine



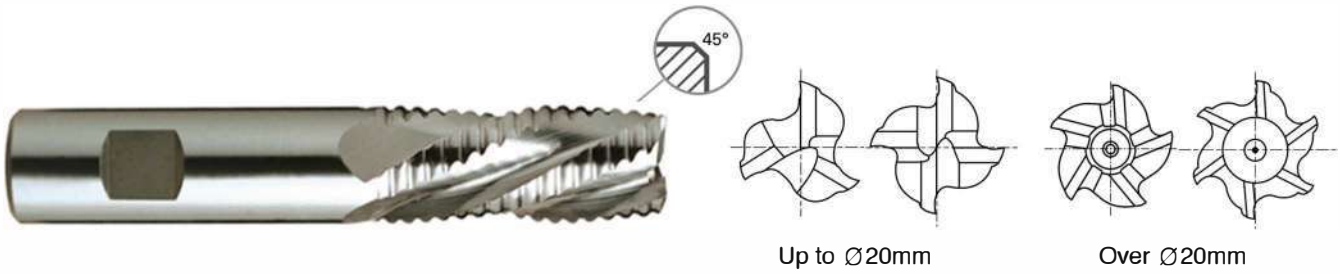


Unit : mm

Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	No. of Flute	Chamfer
6.0	6	13	57	3	0.30
7.0	10	16	66	3	0.30
8.0	10	19	69	3	0.30
9.0	10	19	69	3	0.30
10.0	10	22	72	4	0.30
12.0	12	26	83	4	0.34
14.0	12	26	83	4	0.34
16.0	16	32	92	4	0.34
18.0	16	32	92	4	0.44
20.0	20	38	104	4	0.44
22.0	20	38	104	5	0.44
25.0	25	45	121	5	0.44

- Other shank design on your request.
- TiN and TiCN Coatings are available on your request.

Multi Flute Short Length Roughing End Mill - Fine



Up to Ø20mm

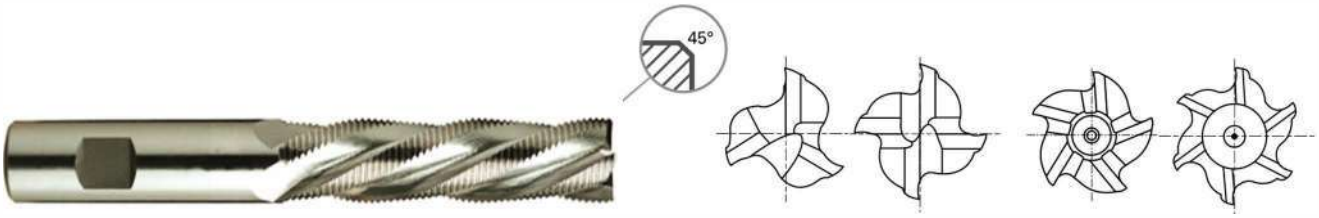
Over Ø20mm

Unit : mm

Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute	Chamfer
js12	h6				
6.0	6	13	57	3	0.18
7.0	10	16	66	3	0.18
8.0	10	19	69	3	0.18
9.0	10	19	69	3	0.18
10.0	10	22	72	4	0.18
11.0	12	22	79	4	0.18
12.0	12	26	83	4	0.18
13.0	12	26	83	4	0.18
14.0	12	26	83	4	0.25
15.0	12	26	83	4	0.25
16.0	16	32	92	4	0.25
18.0	16	32	92	4	0.25
20.0	20	38	104	4	0.25
25.0	25	45	121	5	0.36
28.0	25	45	121	6	0.36
30.0	25	45	121	6	0.36
32.0	32	53	133	6	0.51
35.0	32	53	133	6	0.51
40.0	32	63	155	6	0.56

- Other shank design on your request.
- TiN and TiCN Coatings are available on your request.

Multi Flute Long Length Roughing End Mill - Fine



Up to Ø20mm

Over Ø20mm

Unit : mm

Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	No. of Flute	Chamfer
6.0	6	24	68	3	0.18
7.0	10	30	80	3	0.18
8.0	10	38	88	3	0.18
9.0	10	38	88	3	0.18
10.0	10	45	95	4	0.18
11.0	12	45	102	4	0.18
12.0	12	53	110	4	0.18
13.0	12	53	110	4	0.18
14.0	12	53	110	4	0.25
15.0	12	53	110	4	0.25
16.0	16	63	123	4	0.25
17.0	16	63	123	4	0.25
18.0	16	63	123	4	0.25
19.0	16	63	123	4	0.25
20.0	20	75	141	4	0.25
22.0	20	75	141	5	0.36
24.0	25	90	166	5	0.36
25.0	25	90	166	5	0.36
26.0	25	90	166	6	0.36
28.0	25	90	166	6	0.36
30.0	25	90	166	6	0.36
32.0	32	106	186	6	0.51
35.0	32	106	186	6	0.51
36.0	32	106	186	6	0.56
38.0	32	125	217	6	0.56
40.0	32	125	217	6	0.56
40.0	40	125	217	6	0.56

▶ Other shank design on your request.

▶ TiN and TiCN Coatings are available on your request.

3 Flute Short Length Roughing End Mill - Coarse

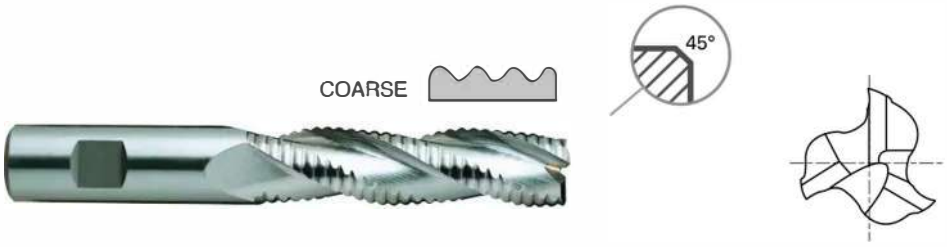


Unit : mm

Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	Chamfer
6.0	6	13	57	0.25
8.0	10	19	69	0.25
10.0	10	22	72	0.34
12.0	12	26	83	0.50
14.0	12	26	83	0.55
16.0	16	32	92	0.55
18.0	16	32	92	0.55
20.0	20	38	104	0.55
22.0	20	38	104	0.55
25.0	25	45	121	0.55
28.0	25	45	121	0.70
30.0	25	45	121	0.70
32.0	32	53	133	0.70
36.0	32	53	133	0.70
40.0	32	63	155	0.88

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

3 Flute Long Length Roughing End Mill - Coarse



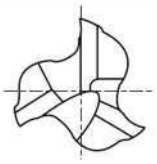
Unit : mm

Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	Chamfer
6.0	6	24	68	0.25
8.0	10	38	88	0.25
10.0	10	45	95	0.34
12.0	12	53	110	0.50
14.0	12	53	110	0.55
16.0	16	63	123	0.55
18.0	16	63	123	0.55
20.0	20	75	141	0.55
22.0	20	75	141	0.55
25.0	25	90	166	0.55
28.0	25	90	166	0.70
30.0	25	90	166	0.70
36.0	32	106	186	0.70
40.0	32	125	217	0.88

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

3 Flute 37° Helix Short Length Roughing for Aluminium





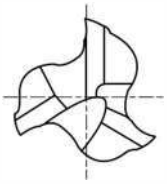
Unit : mm

Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	Chamfer
6.0	6	13	57	0.51
8.0	10	19	69	0.51
10.0	10	22	72	0.60
12.0	12	26	83	0.74
14.0	12	26	83	0.94
16.0	16	32	92	0.94
18.0	16	32	92	0.94
20.0	20	38	104	0.94
22.0	20	38	104	0.94
25.0	25	45	121	0.94
30.0	25	45	121	1.23

- Other shank design on your request.
- TiN and TiCN Coatings are available on your request.

3 Flute 37° Helix Long Length Roughing for Aluminium





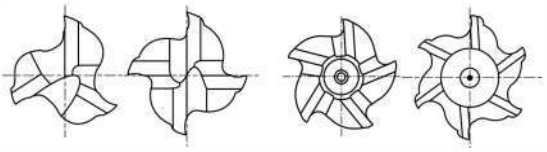
Unit : mm

Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	Chamfer
10.0	10	45	95	0.60
12.0	12	53	110	0.74
14.0	12	53	110	0.76
16.0	16	63	123	0.94
18.0	16	63	123	0.76
20.0	20	75	141	0.94
22.0	20	75	141	0.94
25.0	25	90	166	0.94
30.0	25	90	166	1.23

- Other shank design on your request.
- TiN and TiCN Coatings are available on your request.

Multi Flute Short length Roughing - Coarse





Up to Ø20mm Over Ø20mm

Unit : mm

Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	No.of Flute	Chamfer
6.0	6	13	57	3	0.25
7.0	10	16	66	3	0.25
8.0	10	19	69	3	0.25
9.0	10	19	69	3	0.34
9.5	10	19	69	3	0.34
10.0	10	22	72	4	0.34
11.0	12	22	79	4	0.50
12.0	12	26	83	4	0.50
12.5	12	26	83	4	0.50
13.0	12	26	83	4	0.50
14.0	12	26	83	4	0.55
14.5	12	26	83	4	0.55
15.0	12	26	83	4	0.55
16.0	16	32	92	4	0.55
17.0	16	32	92	4	0.55
18.0	16	32	92	4	0.55
19.0	16	32	92	4	0.55
20.0	20	38	104	4	0.55
20.0	16	38	98	4	0.55
22.0	20	38	104	5	0.55
24.0	25	45	121	5	0.55
25.0	25	45	121	5	0.55
26.0	25	45	121	6	0.55
28.0	25	45	121	6	0.70
30.0	25	45	121	6	0.70

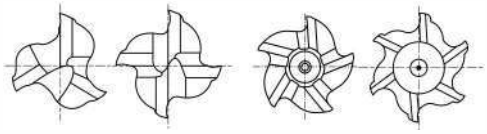
Unit : mm

Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	No.of Flute	Chamfer
32.0	32	53	133	6	0.70
34.0	32	53	133	6	0.70
35.0	32	53	133	6	0.70
36.0	32	53	133	6	0.70
38.0	32	63	155	6	0.70
38.0	40	63	155	6	0.70
40.0	32	63	155	6	0.88
40.0	40	63	155	6	0.88
45.0	32	63	143	6	0.88
50.0	50	75	177	6	0.88

- Other shank design on your request.
- TiN and TiCN Coatings are available on your request.

Multi Flute Long Length Roughing - Coarse





Up to Ø20mm Over Ø20mm

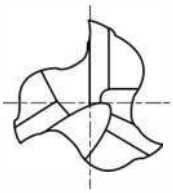
Unit : mm

Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	No.of Flute	Chamfer
6.0	6	24	68	3	0.25
7.0	10	30	80	3	0.25
8.0	10	38	88	3	0.25
9.0	10	38	88	3	0.34
10.0	10	45	95	4	0.34
11.0	12	45	102	4	0.50
12.0	12	53	110	4	0.50
13.0	12	53	110	4	0.50
14.0	12	53	110	4	0.55
15.0	12	53	110	4	0.55
16.0	16	63	123	4	0.55
17.0	16	63	123	4	0.55
18.0	16	63	123	4	0.55
19.0	16	63	123	4	0.55
20.0	20	75	141	4	0.55
20.0	16	75	135	4	0.55
22.0	20	75	141	5	0.55
22.0	25	75	151	5	0.55
24.0	25	90	166	5	0.55
25.0	25	90	166	5	0.55
26.0	25	90	166	6	0.55
28.0	25	90	166	6	0.70
30.0	25	90	166	6	0.70
32.0	32	106	186	6	0.70
35.0	32	106	186	6	0.70
36.0	32	106	186	6	0.70
38.0	32	125	217	6	0.70
38.0	40	125	217	6	0.70
40.0	32	125	217	6	0.88
40.0	40	125	217	6	0.88

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

3 Flute Short Length Roughing & Finishing





Unit : mm

Mill Diameter k10	Shank Diameter h6	Length of Cut	Overall Length
6.0	6	13	57
8.0	10	19	69
10.0	10	22	72
12.0	12	26	83
13.0	12	26	83
14.0	12	26	83
16.0	16	32	92
18.0	16	32	92
20.0	20	38	104
22.0	20	38	104
25.0	25	45	121
28.0	25	45	121
30.0	25	45	121
32.0	32	53	133
36.0	32	53	133
40.0	32	63	155

- Other shank design on your request.
- TiN and TiCN Coatings are available on your request.

3 Flute Long Length Roughing & Finishing



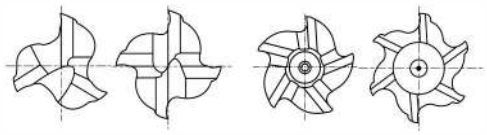
Unit : mm

Mill Diameter k10	Shank Diameter h6	Length of Cut	Overall Length
6.0	6	24	68
8.0	10	38	88
10.0	10	45	95
12.0	12	53	110
14.0	12	53	110
16.0	16	63	123
18.0	16	63	123
20.0	20	75	141
22.0	20	75	141
25.0	25	90	166
28.0	25	90	166
30.0	25	90	166
36.0	32	106	186
40.0	32	125	217

- Other shank design on your request.
- TiN and TiCN Coatings are available on your request.

Multi Flute Short Length Roughing & Finishing





Up to Ø20mm Over Ø20mm

Unit : mm

Mill Diameter k10	Shank Diameter h6	Length of Cut	Overall Length	No.of Flute
6.0	6	13	57	3
7.0	10	16	66	3
8.0	10	19	69	4
9.0	10	19	69	4
10.0	10	22	72	4
11.0	12	22	79	4
12.0	12	26	83	4
13.0	12	26	83	4
14.0	12	26	83	4
15.0	12	26	83	4
16.0	16	32	92	4
18.0	16	32	92	4
20.0	20	38	104	4
22.0	20	38	104	5
25.0	25	45	121	5
28.0	25	45	121	5
30.0	25	45	121	5
32.0	32	53	133	5
36.0	32	53	133	6
40.0	32	63	155	6

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.



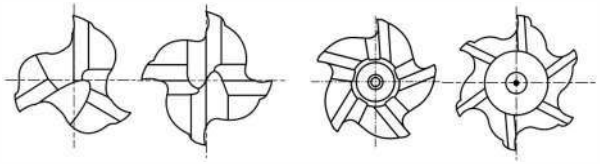
Unit : mm

Mill Diameter	Length of Cut	Overall Length	Morse Taper No.	No.of Flute
16.0	32	117	2	4
18.0	32	117	2	4
20.0	38	123	2	4
22.0	38	123	2	5
24.0	45	147	3	5
25.0	45	147	3	5
26.0	45	147	3	5
28.0	45	147	3	6
30.0	45	147	3	6
32.0	53	178	4	6
35.0	53	178	4	6
36.0	53	178	4	6
38.0	63	188	4	6
40.0	63	188	4	6
45.0	63	188	4	6
50.0	75	233	5	6

- Other shank design on your request.
- TiN and TiCN Coatings are available on your request.

Multi Flute Long Length Roughing & Finishing





Up to Ø20mm Over Ø20mm

Unit : mm

Mill Diameter k10	Shank Diameter h6	Length of Cut	Overall Length	No.of Flute
6.0	6	24	68	3
8.0	10	38	88	4
10.0	10	45	95	4
12.0	12	53	110	4
14.0	12	53	110	4
16.0	16	63	123	4
18.0	16	63	123	4
20.0	20	75	141	4
22.0	20	75	141	5
25.0	25	90	166	5
30.0	25	90	166	5
32.0	32	106	186	5
45.0	40	125	217	6

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.



Fractional Inch + Center Cutting + 6 Flute

↑Milling Dia.	Length of Cut	Overall Length	Shank Dia.	Corner Radius
1-1/4 in	2 in	4-1/2 in	1-1/4 in	0.06 in
1-1/4 in	2 in	4-1/2 in	1-1/4 in	0.12 in
1-1/4 in	3 in	5-1/2 in	1-1/4 in	0.06 in
1-1/4 in	3 in	5-1/2 in	1-1/4 in	0.12 in
1-1/4 in	4 in	6-1/2 in	1-1/4 in	0.12 in
1-1/2 in	2 in	5-1/4 in	1-1/2 in	0.06 in
1-1/2 in	3 in	6-1/4 in	1-1/2 in	0.06 in
1-1/2 in	4 in	7-1/4 in	1-1/2 in	0.06 in
2 in	2 in	5-3/4 in	2 in	0.06 in
2 in	2 in	5-3/4 in	2 in	0.12 in
2 in	3 in	6-3/4 in	2 in	0.06 in
2 in	3 in	6-3/4 in	2 in	0.12 in
2 in	4 in	7-3/4 in	2 in	0.06 in
2 in	4 in	7-3/4 in	2 in	0.12 in
2 in	6 in	9-3/4 in	2 in	0.06 in
2 in	6 in	9-3/4 in	2 in	0.12 in

HSS Tapered End Mills



Tip Dia.	Cutting Length	Shank	OAL	Large Dia.
1/16"	1/2"	3/16"	1 3/4"	0.09742
1/16"	1/2"	3/8"	2 5/8"	0.09742
1/16"	1"	3/16"	2 1/4"	0.13234
1/16"	1"	3/8"	2 7/8"	0.13234
5/64"	1/2"	3/16"	1 3/4"	0.11305
5/64"	1"	3/16"	2 1/4"	0.14797
5/64"	1 1/2"	3/16"	2 11/16"	0.18289
3/32"	1/2"	3/8"	2 1/2"	0.12867
3/32"	3/4"	3/16"	2"	0.14613
3/32"	3/4"	3/8"	2 1/2"	0.14613
3/32"	1 1/4"	3/16"	2 1/2"	0.18105
3/32"	1 1/4"	3/8"	3 1/8"	0.18105
1/8"	1/2"	3/8"	2 1/2"	0.15992
1/8"	3/4"	3/16"	2"	0.17738
1/8"	3/4"	3/8"	2 1/2"	0.17738
1/8"	1"	3/8"	2 7/8"	0.19484
1/8"	1 1/4"	3/8"	3 1/8"	0.21230
1/8"	1 1/2"	3/8"	3 1/4"	0.22976
1/8"	2"	3/8"	3 7/8"	0.26468
1/8"	2 1/2"	3/8"	4 1/2"	0.29960
3/16"	3/4"	3/8"	2 1/2"	0.23988
3/16"	1 1/4"	3/8"	3 1/8"	0.27480

Tip Dia.	Cutting Length	Shank	OAL	Large Dia.
3/16"	2 1/4"	1/2"	4 1/4"	0.34464
3/16"	3 1/4"	1/2"	5 1/2"	0.41448
1/4"	3/4"	3/8"	2 1/2"	0.30238
1/4"	1 1/4"	3/8"	3"	0.33730
1/4"	2 1/4"	1/2"	4 3/8"	0.40714
1/4"	3 1/4"	1/2"	5 1/4"	0.47698
5/16"	1 1/4"	1/2"	3 1/4"	0.39980
3/8"	1 1/4"	1/2"	3 1/4"	0.46230
3/8"	2 1/4"	1/2"	4 1/4"	0.53214
3/8"	3 1/4"	1/2"	5 1/2"	0.60198
3/8"	3 1/4"	5/8"	5 1/2"	0.60198
1/2"	1 1/4"	1/2"	3 1/4"	0.58730
1/2"	2 1/4"	5/8"	4 3/8"	0.65714
1/2"	2 1/4"	1/2"	4 3/8"	0.65714
1/2"	3 1/4"	3/4"	5 1/2"	0.72698
1/2"	3 1/4"	5/8"	5 1/2"	0.72698
5/8"	2 1/4"	3/4"	4 1/2"	0.78214
5/8"	3 1/4"	3/4"	5 1/2"	0.85198
5/8"	4 1/4"	3/4"	6 1/2"	0.92182
3/4"	2 1/4"	3/4"	4 1/2"	0.90714
3/4"	3 1/4"	3/4"	5 3/4"	0.97698
3/4"	5 1/4"	1"	7 3/4"	1.11666
1"	6"	1 1/4"	8 1/2"	1.41904

Parallel Shank End Mils



Diameter js14	Shank dia h8	Length			
		Standard Series		Long Series	
		Cutting Edge Length	Overall Length	Cutting Edge Length	Overall Length
3	4	8	40	12	44
4	4	11	43	19	51
5	5	13	47	24	58
6	6	13	57	24	68
7	8	16	60	30	74
8	8	19	63	38	82
9	10	19	69	38	88
10	10	22	72	45	95
11	12	22	79	45	102
12	12	26	83	53	110
14	12	26	83	53	110
16	16	32	92	63	123
18	16	32	92	63	123
20	20	38	104	75	141
22	20	38	104	75	141
25	25	45	121	90	166
28	25	45	121	90	166
32	32	53	133	106	186
36	32	53	133	106	186
40	40	63	155	125	217
45	40	63	155	125	217
50	50	75	177	150	252
56	50	75	177	150	252
63	50	90	192	180	282
71	63	90	202	180	292

Continue...

Diameter	Shank dia	Cutting Edge Length	Overall Length
1/8	1/4	3/8	1.7/8
5/32	1/4	3/8	1.7/8
3/16	1/4	1/2	2
7/32	1/4	1/2	2
1/4	1/4	5/8	2.1/8
5/16	3/8	3/4	2.1/2
3/8	3/8	7/8	2.5/8
7/16	1/2	7/8	2.5/8
1/2	1/2	1	2.3/4
9/16	1/2	1.1/8	2.7/8
5/8	5/8	1.1/4	3.1/4
11/16	5/8	1.3/8	3.3/8
3/4	5/8	1.1/2	3.1/2
13/16	3/4	1.5/8	3.5/8
7/8	3/4	1.5/8	3.5/8

Diameter	Shank dia	Cutting Edge Length	Overall Length
1	3/4	1.3/4	3.3/4
1.1/8	1	1.7/8	4.1/8
1.1/4	1	2	4.1/4
1.3/8	1	2.1/8	4.5/8
1.1/2	1	2.1/4	4.3/4
1.5/8	1.1/4	2.3/8	4.7/8
1.3/4	1.1/4	2.1/2	5.1/8
1.7/8	1.1/4	2.5/8	5.1/4
2	1.1/2	3	5.1/2
2.1/8	1.1/2	3	5.1/2
2.1/4	1.1/2	3	5.5/8
2.3/8	1.1/2	3.1/4	5.7/8
2.1/2	1.1/2	3.1/2	6.1/8
2.3/4	1.1/2	3.1/2	6.1/2
3	2	3.1/2	6.1/2

Diameter js14	Shank dia	Short Series (K)		Long Series (L)	
		Cutting Edge Length	Overall Length	Cutting Edge Length	Overall Length
3	6	8	52	12	56
4	6	11	55	19	63
5	6	13	57	24	68
6	6	13	57	24	68
7	10	16	66	30	80
8	10	19	69	38	88
10	10	22	72	45	95
12	12	26	83	53	110
14	12	26	83	53	110
16	16	32	92	63	123
18	16	32	92	63	123
20	20	38	104	75	141
22	20	38	104	75	141
25	25	45	121	90	166
28	25	45	121	90	166
32	32	53	133	106	186
36	32	53	133	106	186
40	40	63	155	125	217
45	40	63	155	125	217
50	50	75	177	150	252
56	50	75	177	150	252
63	50	90	192	180	282

End Mill Cutters (Double End)





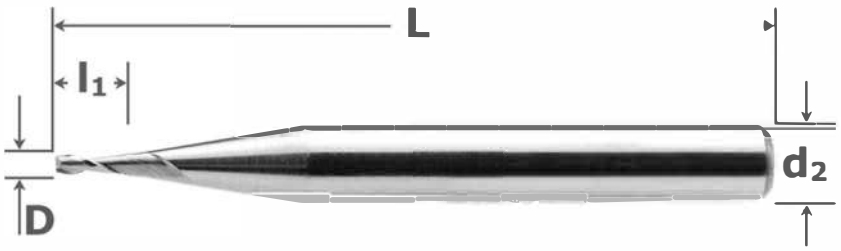
End Mill Cutter - 2 Flutes			
Size	**Shank Dia.**	**Flute length**	**Overall Length**
1/8"	3/8"	3/8"	3-1/16"
5/32"	3/8"	7/16"	3-1/8"
3/16"	3/8"	7/16"	3-1/8"
7/32"	3/8"	1/2"	3-1/8"
1/4"	3/8"	1/2"	3-1/8"
9/32"	3/8"	9/16"	3-1/8"
5/16"	3/8"	9/16"	3-1/8"
11/32"	3/8"	9/16"	3-1/8"
3/8"	3/8"	9/16"	3-1/8"
13/32"	1/2"	13/16"	3-3/4"
7/16"	1/2"	13/16"	3-3/4"
15/32"	1/2"	13/16"	3-3/4"
1/2"	1/2"	13/16"	3-3/4"
9/16"	5/8"	1-1/8"	4-1/2"
5/8"	5/8"	1-1/8"	4-1/2"
11/16"	3/4"	1-5/16"	5"
3/4"	3/4"	1-5/16"	5"
13/16"	7/8"	1-9/16"	5-1/2"
7/8"	7/8"	1-9/16"	5-1/2"
15/16"	1"	1-5/8"	5-7/8"
1"	1"	1-5/8"	5-7/8"

End Mill Cutter - 4 Flutes			
Size	**Shank Dia.**	**Flute length**	**Overall Length**
1/8"	3/8"	3/8"	3-1/16"
5/32"	3/8"	7/16"	3-1/8"
3/16"	3/8"	1/2"	3-1/4"
7/32"	3/8"	9/16"	3-1/4"
1/4"	3/8"	5/8"	3-3/8"
9/32"	3/8"	11/16"	3-3/8"
5/16"	3/8"	3/4"	3-1/2"
11/32"	3/8"	3/4"	3-1/2"
3/8"	3/8"	3/4"	3-1/2"
13/32"	1/2"	1"	4-1/8"
7/16"	1/2"	1"	4-1/8"
15/32"	1/2"	1"	4-1/8"
1/2"	1/2"	1"	4-1/8"
9/16"	5/8"	1-3/8"	5"
5/8"	5/8"	1-3/8"	5"
11/16"	3/4"	1-5/8"	5-5/8"
3/4"	3/4"	1-5/8"	5-5/8"
13/16"	7/8"	1-7/8"	6-1/8"
7/8"	7/8"	1-7/8"	6-1/8"
15/16"	1"	1-7/8"	6-3/8"
1"	1"	1-7/8"	6-3/8"

Corner Rounding End Mills

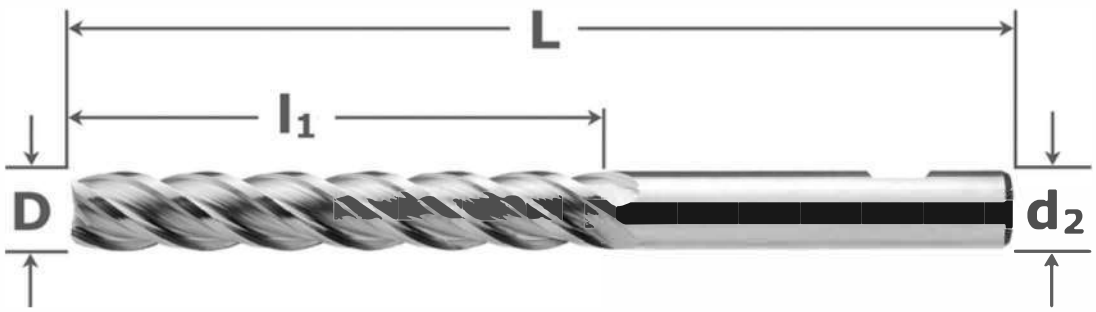


RADIUS DIA.	SHANK DIA.	CUTTER DIA.	OVERALL LENGTH	NO. OF FLUTES
1/16	3/8	7/16	2-1/2	4
3/32	3/8	1/2	2-1/2	4
1/8	1/2	5/8	3	4
5/32	1/2	3/4	3	4
3/16	1/2	7/8	3	4
3/16	3/4	7/8	3-1/8	4
1/4	1/2	1	3	4
1/4	3/4	1	3-1/4	4
9/32	5/8	1	3	4
5/16	1/2	1-1/8	3-1/4	4
5/16	5/8	1-1/8	3-1/2	4
5/16	3/4	1-1/8	3-1/4	4
5/16	7/8	1-1/8	3-1/2	4
3/8	1/2	1-1/4	3-1/2	4
3/8	3/4	1-1/4	3-1/2	4
3/8	7/8	1-1/4	3-3/4	4
7/16	3/4	1-3/8	3-3/4	4
7/16	1	1-3/8	4	4
1/2	3/4	1-1/2	3-7/8	4
1/2	1	1-1/2	4-1/8	4
5/8	3/4	1-5/8	4	4
5/8	1	1-5/8	4	4
3/4	3/4	1-7/8	4	4
3/4	1	1-7/8	4	4



ØD	Ød2 h6	L	l1	z
0,3-0,4	3	37	1	2
0,5-0,6	3	37	1,5	2
0,7-0,8	4	37	2	2
0,9	4	37	2,5	2
1	4	37	3	2
1,1	4	37	3	2
1,2-1,6	4	37	4	2
1,7-1,9	4	37	5	2
2	4	37	5	2
2,1-2,2	4	37	5	2
2,3-2,7	4	40	7	2
2,8-2,9	5	44	8	2
3	5	44	8	2
3,1-3,2	5	44	8	2
3,3-3,7	5	44	10	2
3,8-3,9	6	51	12	2
4	6	51	12	2
4,1-4,7	6	51	12	2
4,8-4,9	6	52	14	2
5	6	52	14	2
5,1-5,7	6	52	14	2

ØD	Ød2 h6	L	l1	z
5,8-5,9	8	60	16	2
6	8	60	16	2
6,1-6,9	8	60	16	2
7	8	60	16	2
7,1-7,7	8	60	16	2
7,8-7,9	8	61	18	2
8	8	61	18	2
8,1-8,9	10	69	18	2
9	10	69	18	2
9,1-9,7	10	69	18	2
9,8-9,9	10	69	20	2
10	10	69	20	2
10,1-10,9	12	70	22	2
11	12	70	22	2
11,1-11,9	12	79	26	2
12	12	79	26	2
12,1-12,9	12	83	26	2
13	12	83	26	2
13,1-13,9	12	83	26	2
14	12	83	26	2



ØD k10	Ød2 h6	L	l1	z
6	6	95	50	4
8	10	110	60	4
10	10	115	65	4
12	12	130	75	4

ØD k10	Ød2 h6	L	l1	z
14	12	135	80	4
16	16	155	95	4
18	16	160	100	4
20	20	175	110	4

HSS MILLING CUTTERS



Concave Milling Cutter



Dimensions In Inches

Dia of Cutter	Dia of Circle	Width of Cutter
2.1/4	1/8"	5/16"
2.1/4	3/16"	3/8"
2.1/4	1.4"	1/2"
2.1/2	5/16"	5/8"
2.1/2	3/8"	3/4"
2.1/2	7/16"	7/8"
2.1/2	1/2"	1"
2.3/4	9/16"	1.3/16"
2.3/4	5/8"	1.3/16"
3	1/8"	5/16"
3	1/4"	1/2"
3	3/8"	3/4"
3	1/2"	1"
3	11/16"	1.3/8"
3	3/4"	1.3/8"
3.1/4	13/16"	1.9/16"
3.1/4	7/8"	1.9/16"
3.1/2	15/16"	1.3/4"
3.1/2	1"	1.3/4"
4	1.1/8"	1.15/16"
4.1/4	1.3/8"	2.5/16"
4.1/4	1.3/8"	2.1/2"

Concave Milling Cutter



Dimension in mm

Diameter	Radius	Width	Bore
50	1.6	8	22
50	2	9	22
56	1.5	6	22
56	1.6	8	22
56	2	8	22
56	2.5	10	22
63	2.5	10	22
63	3	12	22
63	3.2	12	22
63	3.5	14	22
63	4	16	22
63	5	20	22
70	6	24	22
70	7	28	22
80	6	24	27
80	6	24	27
80	8	32	27
90	9	28	27
90	10	36	27
100	10	36	27
100	11	36	27
100	12	40	27
100	12.5	40	27
100	14	40	27
110	16	50	32
125	16	50	32
125	20	60	32



Dimensions in Inches

Dia of Cutter	Dia of Circle
2.1/4	1/8"
2.1/4	3/16"
2.1/4	1/4"
2.1/2	5/16"
2.1/2	3/8"
2.1/2	7/16"
2.1/2	1/2"
2.3/4	9/16"
2.3/4	5/8"
3	1/8"
3	1/4"
3	3/8"
3	1/2"
3	11/16"
3	3/4"
3.1/4	13/16"
3.1/4	7/8"
3.1/2	15/16"
3.1/2	1"
4	1.1/8"
4	1.1/4"
4.1/4	1.3/8"
4.1/4	1.1/2”

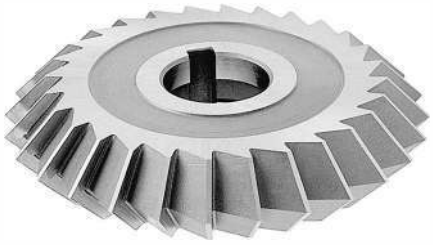
Convex Milling Cutter



Dimension in mm

Diameter	Radius	Width	Bore
50	1.5	3	22
50	1.6	3.2	22
50	2	4	22
56	2.5	5	22
56	3	6	22
63	2.5	5	22
63	3	6	22
63	3.2	6.3	22
63	4	8	22
63	5	10	22
70	6	12	22
70	7	14	22
70	8	16	22
80	6	12	27
80	6.3	12.6	27
80	8	16	27
90	9	18	27
90	10	20	27
90	11	22	27
90	12	24	27
90	12.5	25	27
100	10	20	27
100	12	24	27
100	12.5	25	27
110	16	32	27
110	18	36	32
125	16	32	32
125	20	40	32

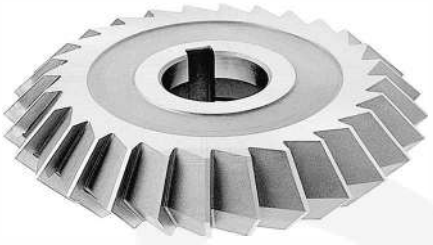
Equal Angle Milling Cutter



High Speed Steel

Double Equal Angle Cutters In Inches

Width	Angle in Degrees	Diameter	
		2.3/4"	3"
5/16	30,40	1428	1527
7/16	30,40	1542	1710
½	45,60,90	1595	1766
5/8	60,90	1812	1998



High Speed Steel

DOUBLE EQUAL ANGLE CUTTERS in mm

Diameter	Width	Bore	Angle in Degree
56	10	16	45
56	12	16	60
56	14	16	90
63	12	22	45
63	16	22	60
63	18	22	90
80	16	22	45
80	20	22	60
80	22	22	90
100	18	27	45
100	25	27	60
100	28	27	90

Unequal Angle Milling Cutter



High Speed Steel

Double Unequal Angle Cutters In Inches

Width	Angle in Degrees	Diameter	
		2.3/4"	3"
5/8	12x48,12x53,12x58,12x63,12x68,12x73	1812	1998
3/4	-do-	1998	2285



High Speed Steel

Double Unequal Angle Cutters In Mm

Dia.	Width	Bore	Small angle in Degrees x Included Angle in Degrees
50	12	16	12x55,15x60,15x65,15x70,15x75,15x80
50	14	16	20x90
50	16	16	25x100
63	18	22	12x55,15x60,15x65,15x70,15x75,15x80
63	20	22	20x90
63	22	22	25x100
80	32	22	15x65,15x70,15x75
100	36	27	15x70,15x75,15x80



High Speed Steel

Single Angle Cutters In Inches

Width	Angle in Degrees	Diameter	
		2.3/4"	3"
5/16	30	1428	1527
7/16	30,40	1542	1710
1/2	40,50,60,70,80	1595	1766
5/8	50,60,70,80	1812	1998



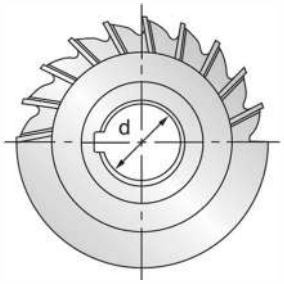
High Speed Steel

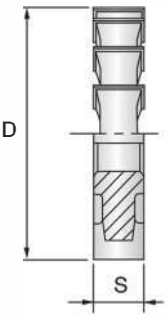
Single Angle Cutters in mm

Diameter	Width	Bore	Angle in Degrees
50	12	16	45,60,65,70,75,80,85
63	18	22	60,65,70,75,80,85
63	28	22	70,75,80
80	32	22	70,75,80
100	36	27	70,75,80

Side & Face Milling Cutter with Straight Teeth







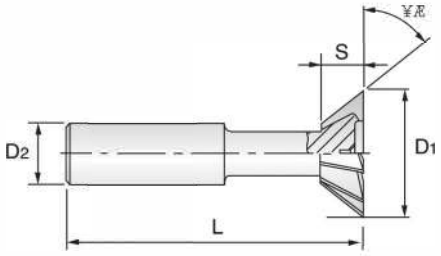
Unit : mm

Cutter Diameter	Width of Face	Internal Diameter	No. of Teeth
D(js14)	S(k11)	d(H7)	Z
50.0	4	16	18
50.0	5	16	18
50.0	6	16	18
50.0	8	16	16
50.0	10	16	16
63.0	5	22	22
63.0	6	22	22
63.0	8	22	20
63.0	10	22	20
63.0	12	22	20
80.0	6	22	24
80.0	8	22	24
80.0	10	22	24
80.0	12	22	20
80.0	6	27	24
80.0	8	27	24
80.0	10	27	24
80.0	12	27	20
100.0	6	27	26
100.0	8	27	26
100.0	10	27	22
100.0	6	32	26
100.0	8	32	26
100.0	10	32	22
100.0	12	32	22
125.0	8	32	30
125.0	10	32	30
125.0	12	32	24

Dovetail Milling Cutter Type "A", "C", "E"





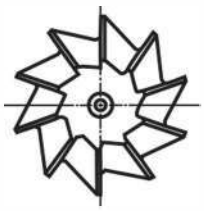


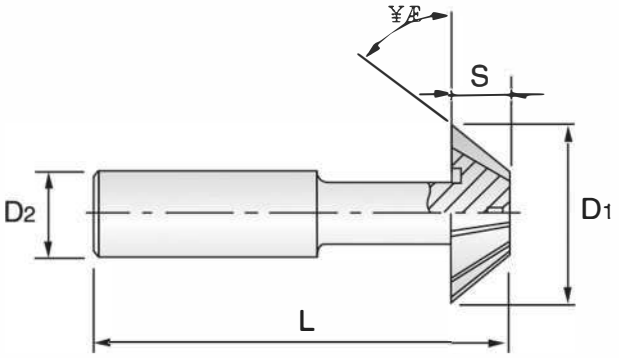
Unit : mm

Cutter Diameter D1(js16)	Width of Face S(js14)	Divergent Taper Angle α(±15′)	Shank Diameter D2(h6)	Overall Length L(js18)	No. of Teeth Z
16.0	4	45°	12	60	6
20.0	5	45°	12	63	6
22.0	6	45°	12	67	6
25.0	6.3	45°	16	67	8
28.0	7.5	45°	16	67	8
32.0	8	45°	16	71	10
38.0	10	45°	16	80	12
16.0	6.3	60°	12	60	6
20.0	8	60°	12	63	6
22.0	9	60°	12	67	6
25.0	10	60°	16	67	8
28.0	11	60°	16	67	8
32.0	12.5	60°	16	71	10
38.0	16	60°	16	80	12
40.0	13	60°	25	85	12
50.0	16	60°	25	100	16

Dovetoil Milling Cutter Type "B" "D" "F"







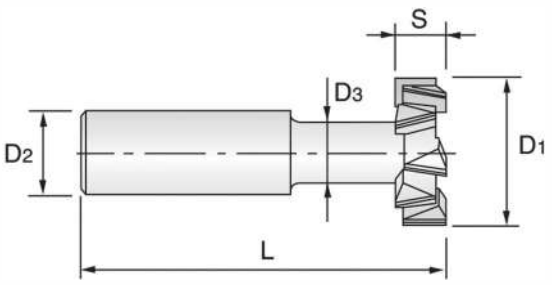
Unit : mm

Cutter Diameter	Width of Face	Convergent Taper Angle	Shank Diameter	Overall Length	No. of Teeth
D1(js16)	S(js14)	α(±15′)	D2(h6)	L(js18)	Z
16.0	4	45°	12	60	6
20.0	5	45°	12	63	6
22.0	6	45°	12	67	6
25.0	6.3	45°	16	67	8
28.0	7.5	45°	16	67	8
32.0	8	45°	16	71	10
38.0	10	45°	16	80	12
16.0	6.3	60°	12	60	6
20.0	8	60°	12	63	6
22.0	9	60°	12	67	6
25.0	10	60°	16	67	8
28.0	11	60°	16	67	8
32.0	12.5	60°	16	71	10
38.0	16	60°	16	80	12

T-Slot Cutter Type "AA", "AB", "AD"





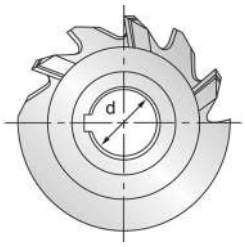


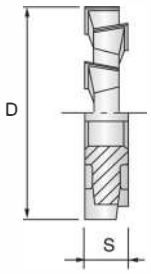
Unit : mm

Cutter Diameter	Width of Face	Shank Diameter	Neck Diameter	Overall Length	No. of Teeth
D_1(d11)	S(d11)	D_2(h6)	D_3(h12)	L(js18)	Z
12.5	6	10	5	57	6
16.0	8	10	6.5	62	6
18.0	8	12	8	70	6
19.0	9	12	8	71	6
21.0	9	12	10	74	6
22.0	10	12	10	75	6
25.0	11	16	12	82	6
28.0	12	16	13	83	6
32.0	14	16	15	90	8
36.0	16	25	17	103	8
40.0	18	25	19	108	8

Side & Face Milling Cutter with Staggered Teeth





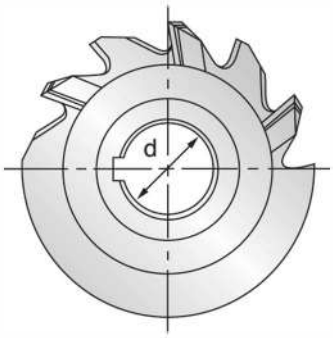


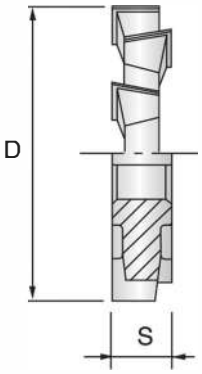
Unit : mm

Cutter Diameter	Width of Face	Internal Diameter	No. of Teeth
D(js14)	S(k11)	d(H7)	Z
50.0	3	16	14
50.0	4	16	14
50.0	5	16	14
50.0	6	16	14
50.0	7	16	14
50.0	8	16	14
50.0	9	16	14
50.0	10	16	14
63.0	3	22	16
63.0	4	22	16
63.0	5	22	16
63.0	6	22	16
63.0	7	22	16
63.0	8	22	16
63.0	9	22	16
63.0	10	22	16
63.0	12	22	16
63.0	14	22	16
63.0	16	22	16
63.0	18	22	16
80.0	3	22	18
80.0	4	22	18
80.0	5	22	18
80.0	6	22	18
80.0	7	22	18
80.0	8	22	18
80.0	9	22	18
80.0	10	22	18

Continue...





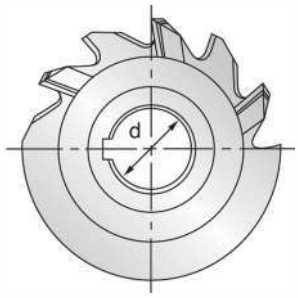


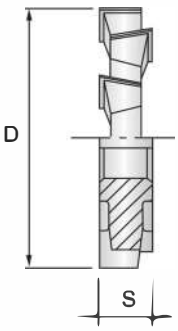
Unit : mm

Cutter Diameter	Width of Face	Internal Diameter	No. of Teeth
D(js14)	S(k11)	d(H7)	Z
80.0	12	22	18
80.0	14	22	18
80.0	16	22	18
80.0	18	22	18
80.0	20	22	18
80.0	4	27	18
80.0	5	27	18
80.0	6	27	18
80.0	7	27	18
80.0	8	27	18
80.0	9	27	18
80.0	10	27	18
80.0	12	27	18
80.0	14	27	18
80.0	16	27	18
80.0	18	27	18
80.0	20	27	18
100.0	3	27	20
100.0	4	27	20
100.0	5	27	20
100.0	6	27	20
100.0	7	27	20
100.0	8	27	20
100.0	9	27	20
100.0	10	27	20
100.0	12	27	20
100.0	14	27	20
100.0	15	27	20

Continue...





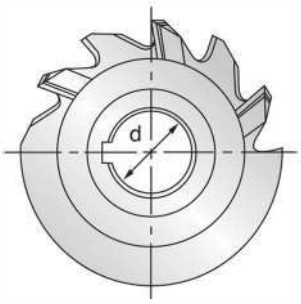


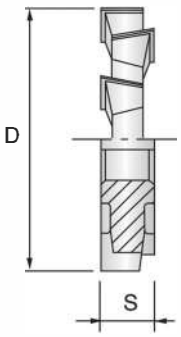
Unit : mm

Cutter Diameter	Width of Face	Internal Diameter	No. of Teeth
D(js14)	S(k11)	d(H7)	Z
100.0	16	27	20
100.0	18	27	20
100.0	20	27	20
100.0	4	32	20
100.0	5	32	20
100.0	6	32	20
100.0	7	32	20
100.0	8	32	20
100.0	9	32	20
100.0	10	32	20
100.0	12	32	20
100.0	14	32	20
100.0	15	32	20
100.0	16	32	20
100.0	18	32	20
100.0	20	32	20
125.0	5	32	22
125.0	6	32	22
125.0	8	32	22
125.0	10	32	22
125.0	12	32	22
125.0	14	32	22
125.0	16	32	22
125.0	18	32	22
125.0	20	32	22
160.0	6	32	26
160.0	8	32	26
160.0	10	32	26

Continue...







Unit : mm

Cutter Diameter	Width of Face	Internal Diameter	No. of Teeth
D(js14)	S(k11)	d(H7)	Z
160.0	12	32	26
160.0	14	32	26
160.0	16	32	26
160.0	18	32	26
160.0	20	32	26
160.0	6	40	26
160.0	8	40	26
160.0	10	40	26
160.0	12	40	26
160.0	14	40	26
160.0	16	40	26
160.0	18	40	26
160.0	20	40	26
200.0	10	40	30
200.0	12	40	30
200.0	14	40	30
200.0	16	40	30
200.0	18	40	30
200.0	20	40	30
200.0	22	40	30
200.0	25	40	30



High Speed Steel
Cylindrical Milling Cutters (MM)

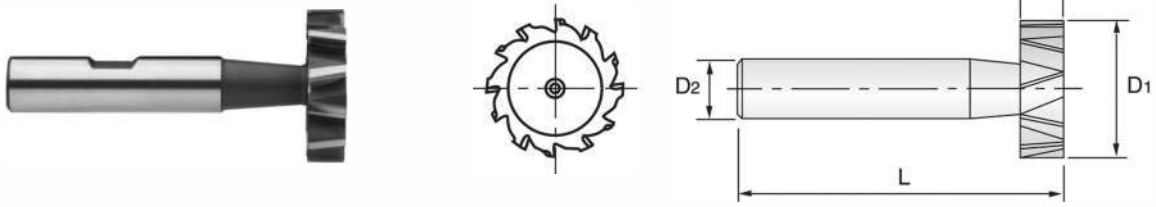
Diameter	Bore	Length
50	22	25
50	22	40
50	22	63
50	22	80
63	27	32
63	27	50
63	27	70
63	27	90
63	27	100
80	32	36
80	32	63
80	32	80
80	32	90
80	32	100
100	40	70
100	40	125
125	50	80
125	50	125
160	60	125



High Speed Steel
High Power Cylindrical Cutters (INCH)

Diameter	Bore	Length
2.1/2	1	1
2.1/2	1	2
2.1/2	1	3
2.1/2	1	4
3	1.1/4	1
3	1.1/4	2
3	1.1/4	3
3	1.1/4	4
3	1.1/4	5
3	1.1/4	6
3.1/2	1.1/4	1
3.1/2	1.1/4	2
3.1/2	1.1/4	3
3.1/2	1.1/4	4
3.1/2	1.1/4	5
3.1/2	1.1/4	6
3.1/2	1.1/4	7
4	1.1/4 or 1.1/2	1
4	1.1/4 or 1.1/2	2
4	1.1/4 or 1.1/2	3
4	1.1/4 or 1.1/2	4
4	1.1/4 or 1.1/2	6

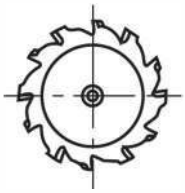
Woodruff Keyseot Cutter Type "B", "D", "F"

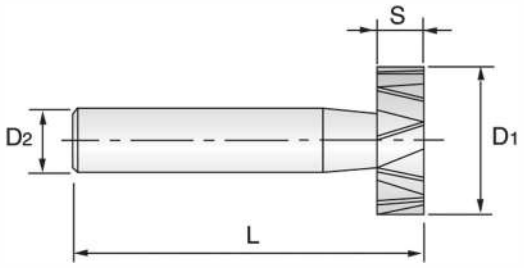


Unit : mm

Cutter Diameter D_1(h11)	Width of Face S(e8)	Shank Diameter D_2(h6)	Overall Length L(js18)	No. of Teeth Z
10.5	2	6	50	8
10.5	2.5	6	50	8
10.5	3	6	50	8
13.5	2	10	56	8
13.5	2.5	10	56	8
13.5	3	10	56	8
13.5	4	10	56	8
16.5	2.5	10	56	8
16.5	3	10	56	8
16.5	4	10	56	8
16.5	5	10	56	8
19.5	3	10	56	8
19.5	4	10	63	8
19.5	5	10	63	8
19.5	6	10	63	8
22.5	4	10	63	10
22.5	5	10	63	10
22.5	6	10	63	10
22.5	8	10	63	10
25.5	5	10	63	10
25.5	6	10	63	10
25.5	7	10	63	10
25.5	8	10	63	10
28.5	5	10	63	10
28.5	6	10	63	10
28.5	7	10	63	10
28.5	8	10	63	10
28.5	10	12	71	10







Unit : mm

Cutter Diameter	Width of Face	Shank Diameter	Overall Length	No. of Teeth
D_1(h11)	S(e8)	D_2(h6)	L(js18)	Z
32.5	5	12	71	12
32.5	6	12	71	12
32.5	7	12	71	12
32.5	8	12	71	12
32.5	10	12	71	12
38.5	7	12	71	12
38.5	8	12	71	12
38.5	9	12	71	12
38.5	10	12	71	12
45.5	10	12	71	14



HSS Roller Chain Sprocket Milling Cutter
Machine Relieved, RH

Pitch (Inches)	Roller DIA (Inches)	Diameter (Inches)	Bore
0.250	0.130	2.3/4"	1"
0.375	0.250	2.3/4"	1"
0.500	0.335	2.3/4"	1"
0.625	0.400	3"	1"
0.750	0.475	3"	1"
1.000	0.625	4"	1"
1.250	0.750	4.1/2"	1.1/4"
1.500	1.000	5"	1.1/4"
1.750	1.100	5.1/2"	1.1/4"
2.000	1.150	6"	1.1/2"
2.500	1.550	7"	1.1/2"
3	1.900	8"	2"

Plain Milling Cutter





Dia.	Width of Face	Hole Size
2 1/4	1/4	7/8
2 1/4	1/2	7/8
2 1/4	1	7/8
2 1/2	3/16	1
2 1/2	1/4	1
2 1/2	5/16	1
2 1/2	3/8	1
2 1/2	7/16	1
2 1/2	1/2	1
2 1/2	5/8	1
2 1/2	3/4	1
2 1/2	1	1
2 1/2	1 1/2	1
2 1/2	2	1
2 1/2	2 1/2	1
2 1/2	3	1
3	3/16	1
3	1/4	1
3	5/16	1
3	3/8	1
3	3/8	1 1/4
3	7/16	1
3	7/16	1 1/4
3	1/2	1
3	1/2	1 1/4

Dia.	Width of Face	Hole Size
3	5/8	1
3	5/8	1 1/4
3	3/4	1 1/4
3	7/8	1 1/4
3	1	1 1/4
3	1 1/4	1 1/4
3	1 1/2	1 1/4
3	2	1 1/4
3	2 1/2	1 1/4
3	3	1 1/4
3	4	1 1/4
4	1/4	1
4	1/4	1 1/4
4	5/16	1
4	5/16	1 1/4
4	3/8	1
4	3/8	1 1/4
4	1/2	1 1/4
4	5/8	1 1/4
4	3/4	1 1/4
4	1	1 1/4
4	1 1/2	1 1/4
4	2	1 1/4
4	3	1 1/4
4	4	1 1/4



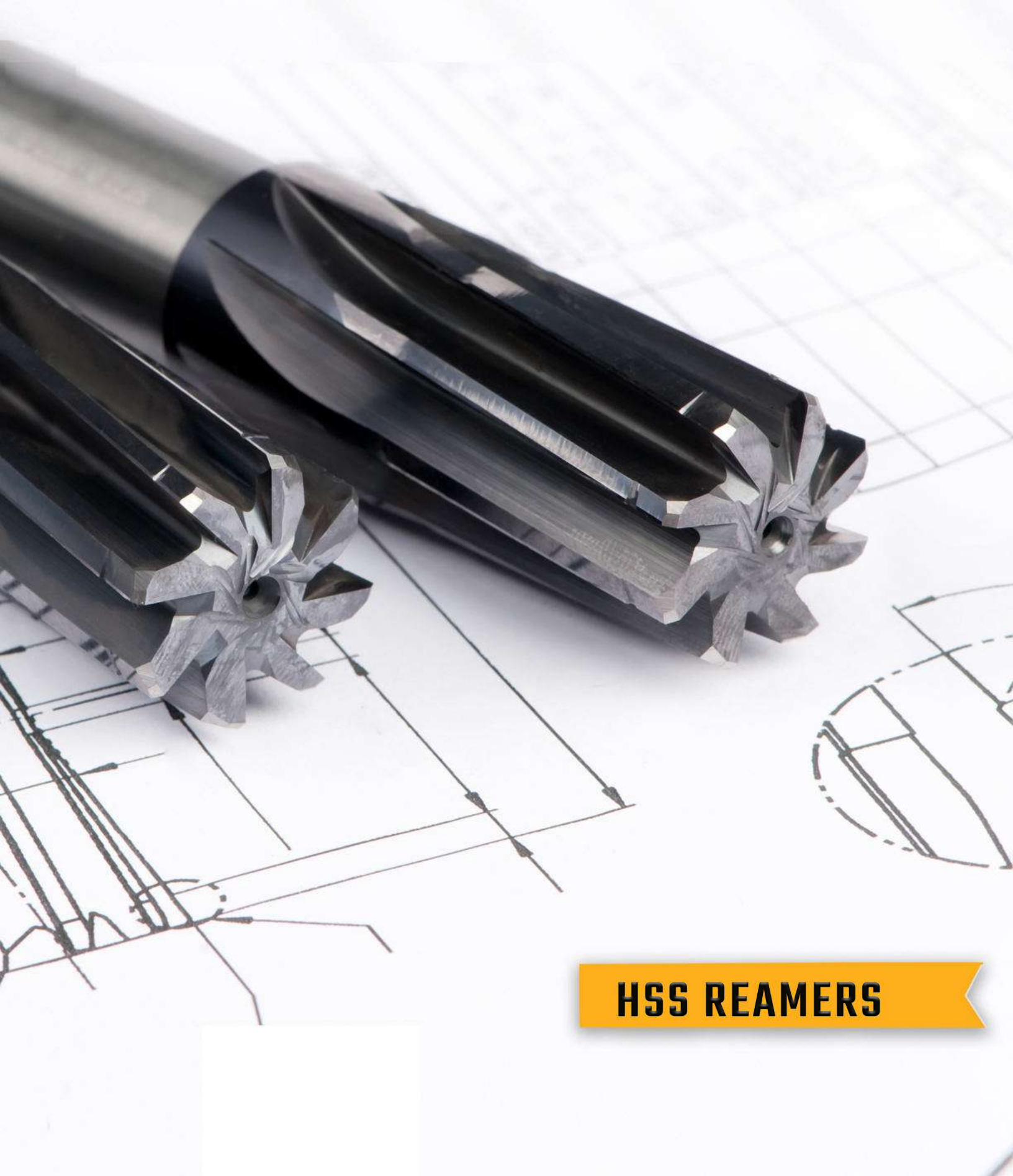
PLAIN MILLING CUTTERS
HEAVY DUTY ~ HIGH SPEED STEEL

Dia.	Width of Face	Hole Size
2 1/2	2	1
2 1/2	4	1
3	1 1/4	1 1/4
3	1 1/2	1 1/4
3	2	1 1/4
3	2 1/2	1 1/4
3	3	1 1/4
3	4	1 1/4
3	6	1 1/4
4	2	1 1/2
4	3	1 1/2
4	4	1 1/2
4	6	1 1/2
4 1/2	6	2
4 1/2	12	2



PLAIN MILLING CUTTERS
HELICAL ~ HIGH SPEED STEEL

Dia.	Width of Face	Hole Size
3	4	1 1/4
3	6	1 1/4
4	3	1 1/2
4	4	1 1/2
4	6	1 1/2
4	8	1 1/2
4	10	1 1/2
4 1/2	6	2
4 1/2	12	2

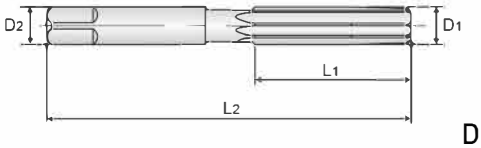


HSS REAMERS

Hand Reamer Straight Flute



- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank Diameter ≒ Nominal Reamer Diameter
- ▶ Straight Flutes / Right Hand Cut
- ▶ Chamfer Angle - tapered
- ▶ Type of center - Up to Ø3.75 : external centers
  - Over Ø3.75 : internal centers



$D_1=D_2$

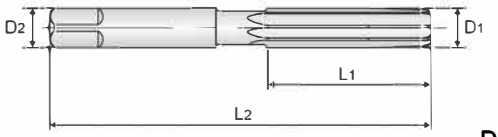
(Unit) : mm

Nominal SIZE	Flute Length	Overall Length	No.of Flutes
D_1	L_1	L_2	
2.0	25	50	4
2.2	27	54	4
2.5	29	58	4
2.8	31	62	4
3.0	31	62	6
3.2	33	66	6
3.5	35	71	6
4.0	38	76	6
4.5	41	81	6
5.0	44	87	6
5.5	47	93	6
6.0	47	93	6
7.0	54	107	6
8.0	58	115	6
9.0	62	124	6
10.0	66	133	6
11.0	71	142	6
12.0	76	152	6
13.0	76	152	6
14.0	81	163	8
15.0	81	163	8
16.0	87	175	8
17.0	87	175	8
18.0	93	188	8
19.0	93	188	8
20.0	100	201	8
22.0	107	215	8
24.0	115	231	8

Continue...



- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank Diameter ≒ Nominal Reamer Diameter
- ▶ Straight Flutes / Right Hand Cut
- ▶ Chamfer Angle - tapered
- ▶ Type of center - Up to ∅3.75 : external centers
  - Over ∅3.75 : internal centers

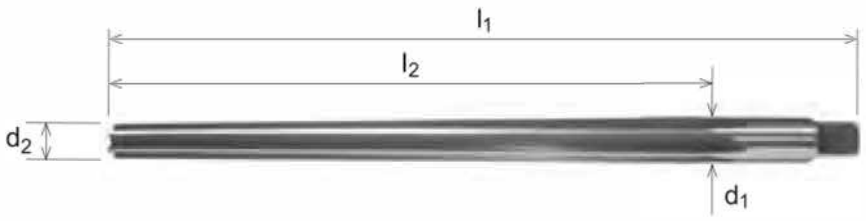


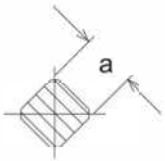
$D_1 = D_2$

(Unit) : mm

Nominal SIZE	Flute Length	Overall Length	No.of Flutes
D_1	L_1	L_2	
25.0	115	231	8
26.0	115	231	8
27.0	124	247	10
28.0	124	247	10
29.0	124	247	10
30.0	124	247	10
31.0	133	265	10
32.0	133	265	10
33.0	133	265	10
34.0	142	284	10
35.0	142	284	10
36.0	142	284	10
37.0	142	284	10
38.0	152	305	10
38.1	152	305	10
39.0	152	305	10
40.0	152	305	10
41.0	152	305	12
42.0	152	305	12
43.0	163	326	12
44.0	163	326	12
45.0	163	326	12
46.0	163	326	12
47.0	163	326	12
48.0	174	347	12
49.0	174	347	12
52.0	174	347	12
60.0	184	367	12

Hand Taper Pin Reamer





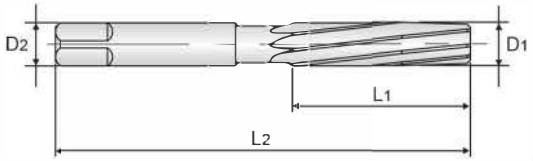
Properties		
INCH	HSS	BS 328
1:48	STRAIGHT FLUTE	

Nominal Diameter	mm Equiv.	a	d_1	d_2	l_2	l_1
5/64	1.984	1.6	2.03	1.5	25.4	50.8
3/32	2.381	2	2.41	1.75	31.8	57.2
7/64	2.778	2.24	2.82	2.03	38.1	63.5
1/8	3.175	2.5	3.23	2.29	44.5	69.9
9/64	3.572	2.8	3.63	2.64	47.6	73.0
5/32	3.969	3.15	4.01	2.95	50.8	76.2
11/64	4.366	3.55	4.42	3.23	52.2	88.9
3/16	4.762	4	4.95	3.5	69.9	101.6
7/32	5.556	4.5	5.59	4.13	69.9	101.6
1/4	6.350	5	6.43	4.64	85.7	117.5
9/32	7.144	5.6	7.42	5.23	104.8	142.9
5/16	7.937	6.3	8.03	5.84	104.8	142.9
11/32	8.731	7.1	8.81	6.43	114.3	152.4
3/8	9.525	8	9.68	7.03	127	165.1
7/16	11.112	9	11.25	8.21	146.1	190.5
1/2	12.700	10	12.85	9.41	165.1	209.6
9/16	14.287	11.2	14.5	10.93	171.5	215.9
5/8	15.875	12.5	16.08	12.11	190.5	235
3/4	19.050	16	19.3	14.67	222.3	273.1
7/8	22.225	18	22.48	17.45	241.3	304.8

Hand Reamer - LH Spiral Flutes



- O.D. Tolerances : DIN 1420, H7
- Shank Diameter ≒ Nominal Reamer Diameter
- LH Spiral Flutes / Right Hand Cut
- Chamfer Angle - tapered
- Type of center - Up to ∅3.75 : external centers
  - Over ∅3.75 : internal centers



$D_1 = D_2$

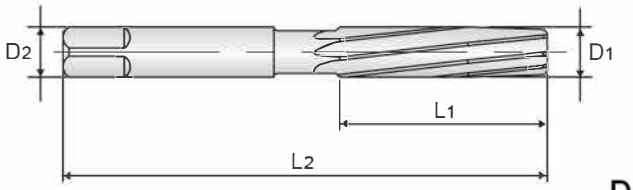
(Unit) : mm

Nominal SIZE D_1	Flute Length L_1	Overall Length L_2	No.of Flutes
2.0	25	50	4
2.2	27	54	4
2.5	29	58	4
2.8	31	62	4
3.0	31	62	6
3.2	33	66	6
3.5	35	71	6
4.0	38	76	6
4.5	41	81	6
5.0	44	87	6
5.5	47	93	6
6.0	47	93	6
7.0	54	107	6
8.0	58	115	6
9.0	62	124	6
10.0	66	133	6
11.0	71	142	6
12.0	76	152	6
13.0	76	152	6
14.0	81	163	8
15.0	81	163	8
16.0	87	175	8
17.0	87	175	8
18.0	93	188	8
19.0	93	188	8
20.0	100	201	8
22.0	107	215	8
24.0	115	231	8

Continue...



- ▶ O.D. Tolerances : DIN 1420, H7
- ▶ Shank Diameter ≒ Nominal Reamer Diameter
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle - tapered
- ▶ Type of center - Up to ∅3.75 : external centers
  - Over ∅3.75 : internal centers



$D_1 = D_2$

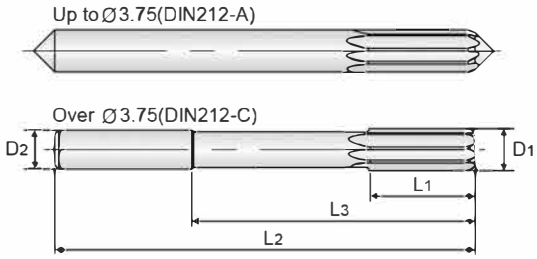
(Unit) : mm

Nominal SIZE D_1	Flute Length L_1	Overall Length L_2	No.of Flutes
25.0	115	231	8
26.0	115	231	8
27.0	124	247	10
28.0	124	247	10
29.0	124	247	10
30.0	124	247	10
31.0	133	265	10
32.0	133	265	10
33.0	133	265	10
34.0	142	284	10
35.0	142	284	10
36.0	142	284	10
37.0	142	284	10
38.0	152	305	10
38.1	152	305	10
39.0	152	305	10
40.0	152	305	10
41.0	152	305	12
42.0	152	305	12
43.0	163	326	12
44.0	163	326	12
45.0	163	326	12
46.0	163	326	12
47.0	163	326	12
48.0	174	347	12
49.0	174	347	12
52.0	174	347	12
60.0	184	367	12

Straight Shank Chucking Reamer - Straight Flutes



- O.D. Tolerances : DIN 1420 for H7
- Shank Diameter Tolerances : h8
- Straight Flute / Right Hand Cut
- Chamfer Angle - Up to Ø3.75 : 15°
  - Over Ø3.75 : 45°

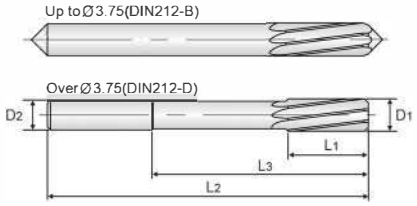


Nominal SIZE	Shank Diameter	Cutting Length	Neck Length	Overall Length	No.of Flutes
D1	D2	L1	L3	L2	
2.0	2	11	-	49	4
2.2	2.2	12	-	53	4
2.5	2.5	14	-	57	4
2.6	2.6	14	-	57	4
2.8	2.8	15	-	61	4
3.0	3	15	-	61	6
3.1	3.1	16	-	65	6
3.2	3.2	16	-	65	6
3.5	3.5	18	-	70	6
3.6	3.6	18	-	70	6
3.7	3.7	18	-	70	6
4.0	4	19	42	75	6
4.3	4.5	21	46	80	6
4.5	4.5	21	46	80	6
4.6	4.5	21	46	80	6
5.0	5	23	51	86	6
5.5	5.6	26	56	93	6
5.6	5.6	26	56	93	6
6.0	5.6	26	56	93	6
6.5	6.3	28	62	101	6
7.0	7.1	31	68	109	6
7.2	7.1	31	68	109	6
8.0	8	33	74	117	6
8.3	8	33	74	117	6
8.5	8	33	74	117	6
9.0	9	36	80	125	6
9.5	9	36	80	125	6
10.0	10	38	86	133	6
10.5	10	38	86	133	6
11.0	10	41	95	142	6
12.0	10	44	104	151	6
13.0	10	44	104	151	6
14.0	12.5	47	108	160	8
15.0	12.5	50	110	162	8
16.0	12.5	52	118	170	8
17.0	14	54	121	175	8
18.0	14	56	128	182	8
19.0	16	58	129	189	8
20.0	16	60	135	195	8

Straight Shank Chucking Reamer - LH Spiral Flutes



- O.D. Tolerances : DIN 1420 for H7
- Shank Diameter Tolerances : h8
- LH Spiral Flutes / Right Hand Cut
- Chamfer Angle - Up to Ø3.75 : 15°
  - Over Ø3.75 : 45°

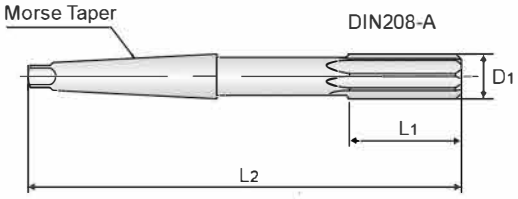


(Unit) : mm

Nominal SIZE D1	Shank Diameter D2	Cutting Length L1	Neck Length L3	Overall Length L2	No.of Flutes
2.0	2	11	-	49	4
2.2	2.2	12	-	53	4
2.5	2.5	14	-	57	4
2.6	2.6	14	-	57	4
2.8	2.8	15	-	61	4
3.0	3	15	-	61	6
3.1	3.1	16	-	65	6
3.2	3.2	16	-	65	6
3.5	3.5	18	-	70	6
3.6	3.6	18	-	70	6
3.7	3.7	18	-	70	6
4.0	4	19	42	75	6
4.3	4.5	21	46	80	6
4.5	4.5	21	46	80	6
4.6	4.5	21	46	80	6
5.0	5	23	51	86	6
5.5	5.6	26	56	93	6
5.6	5.6	26	56	93	6
6.0	5.6	26	56	93	6
6.5	6.3	28	62	101	6
7.0	7.1	31	68	109	6
7.2	7.1	31	68	109	6
8.0	8	33	74	117	6
8.3	8	33	74	117	6
8.5	8	33	74	117	6
9.0	9	36	80	125	6
9.5	9	36	80	125	6
10.0	10	38	86	133	6
10.5	10	38	86	133	6
11.0	10	41	95	142	6
12.0	10	44	104	151	6
13.0	10	44	104	151	6
14.0	12.5	47	108	160	8
15.0	12.5	50	110	162	8
16.0	12.5	52	118	170	8
17.0	14	54	121	175	8
18.0	14	56	128	182	8
19.0	16	58	129	189	8
20.0	16	60	135	195	8

Morse Taper Shank Chucking Reamer - Straight Flutes





- O.D. Tolerances : DIN 1420 for H7
- Straight Flute / Right Hand Cut
- Chamfer Angle : 45°

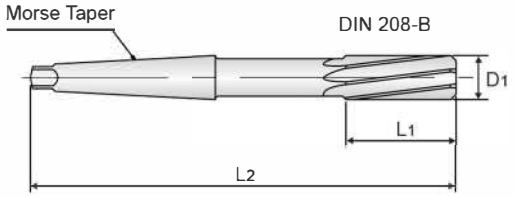
(Unit) : mm

Nominal SIZE D1	No. of Morse Taper	Cutting Length L1	Overall Length L2	No.of Flutes
10.0	1	38	168	6
11.0	1	41	175	6
12.0	1	44	182	6
13.0	1	44	182	6
14.0	1	47	189	8
15.0	2	50	204	8
16.0	2	52	210	8
17.0	2	54	214	8
18.0	2	56	219	8
19.0	2	58	223	8
20.0	2	60	228	8
21.0	2	62	232	8
22.0	2	64	237	8
23.0	2	66	241	8
24.0	3	68	268	8
25.0	3	68	268	8
26.0	3	70	273	8
27.0	3	71	277	10
28.0	3	71	277	10
29.0	3	73	281	10
30.0	3	73	281	10
31.0	3	75	285	10
32.0	4	77	317	10
34.0	4	78	321	10
35.0	4	78	321	10
36.0	4	79	325	10
38.0	4	81	329	10
40.0	4	81	329	10
41.0	4	82	333	12
42.0	4	82	333	12
43.0	4	83	336	12
44.0	4	83	336	12
45.0	4	83	336	12
46.0	4	84	340	12
47.0	4	84	340	12
48.0	4	86	344	12
50.0	4	86	344	12

Morse Taper Shank Chucking Reamer - LH Spiral Flutes



- O.D. Tolerances : DIN 1420 for H7
- LH Spiral Flutes / Right Hand Cut
- Chamfer Angle : 45°



(Unit) : mm

Nominal SIZE D_1	No. of Morse Taper	Cutting Length L_1	Overall Length L_2	No.of Flutes
10.0	1	38	168	6
11.0	1	41	175	6
12.0	1	44	182	6
13.0	1	44	182	6
14.0	1	47	189	8
15.0	2	50	204	8
16.0	2	52	210	8
17.0	2	54	214	8
18.0	2	56	219	8
19.0	2	58	223	8
20.0	2	60	228	8
21.0	2	62	232	8
22.0	2	64	237	8
23.0	2	66	241	8
24.0	3	68	268	8
25.0	3	68	268	8
26.0	3	70	273	8
27.0	3	71	277	10
28.0	3	71	277	10
29.0	3	73	281	10
30.0	3	73	281	10
31.0	3	75	285	10
32.0	4	77	317	10
34.0	4	78	321	10
35.0	4	78	321	10
36.0	4	79	325	10
38.0	4	81	329	10
40.0	4	81	329	10
41.0	4	82	333	12
42.0	4	82	333	12
43.0	4	83	336	12
44.0	4	83	336	12
45.0	4	83	336	12
46.0	4	84	340	12
47.0	4	84	340	12
48.0	4	86	344	12
50.0	4	86	344	12

Parallel Machine Reamer

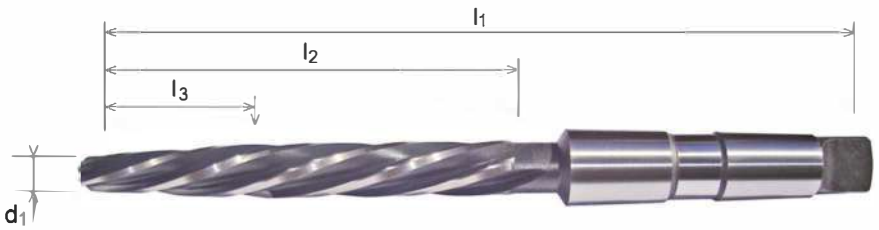


d		l2	l1
mm	inch		
No. 1 Morse Taper Shank			
6		45	127
8		58	138
8.5		58	138
9		62	142
9.5		62	142
9.525	**3/8**	66	146
10		66	146
10.5		66	146
11		71	151
11.112	**7/16**	71	151
No. 2 Morse Taper Shank			
14.287	**9/16**	81	181
14.5		81	181
15		81	181
15.5		87	187
15.875	**5/8**	87	187
16		87	187
16.5		87	187
16.668	**21/32**	87	187
17		87	187
17.462	**11/16**	93	193
17.5		93	193
18		93	193
18.256	**23/32**	93	193
18.5		93	193

d		l2	l1
mm	inch		
11.5		71	151
11.906	**15/32**	76	156
12		76	156
12.5		76	156
12.700	**1/2**	76	156
13		76	156
13.494	**17/32**	81	161
13.5		81	161
14		81	161
19		93	193
19.050	**3/4**	100	200
19.5		100	200
19.844	**25/32**	100	200
20		100	200
20.5		100	200
20.637	**13/16**	100	200
21		100	200
21.5		107	207
22		107	207
22.225	**7/8**	107	207
22.5		107	207
23		107	207

d		l_2	l_1
mm	inch		
No. 3 Morse Taper Shank			
23.812	**15/16**	115	242
24		115	242
25		115	242
25.400	**1"**	115	242
25.5		115	242
26		115	242
26.5		115	242
26.987	**1.1/16**	124	251
27		124	251
28		124	251
28.5		124	251
28.575	**1.1/8**	124	251
29		124	251
29.5		124	251
30		124	251
30.162	**1.3/16**	133	260
31		133	260
31.750	**1.1/4**	133	260
No. 4 Morse Taper Shank			
32		133	293
33		133	293
33.337	**1.5/16**	133	293
34		142	302
34.925	**1.3/8**	142	302
35		142	302
36		142	302
37		142	302
38		152	312
38.100	**1.1/2**	152	312
39		152	312
40		152	312
41		152	312
41.275	**1.5/8**	152	312
42		152	312
43		163	323
44		163	323
44.450	**1.3/4**	163	323
45		163	323
46		163	323
47		163	323
47.625	**1.7/8**	174	334
48		174	334
49		174	334
50		174	334

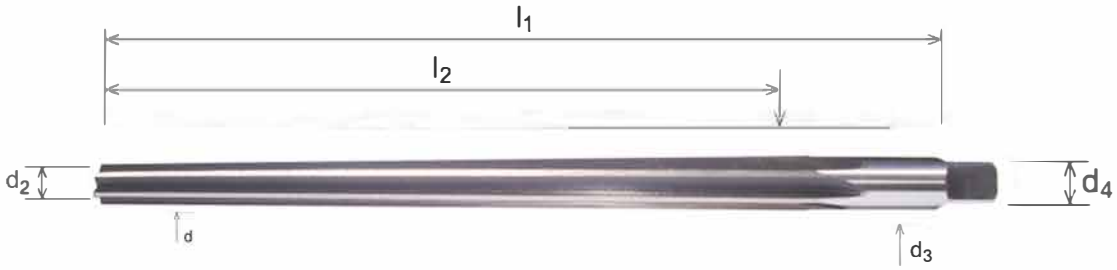
Taper Bridge Machine Reamer



d	d_1	l_2	l_1	l_3
		No. 2 Morse Taper Shank		
13	8.8	105	199	42
14	9.4	115	209	46
16	10.6	135	229	54
		No. 3 Morse Taper Shank		
17	11.6	135	251	54
18	12.2	145	261	58
20	13.8	155	271	62
21	14.8	155	271	62
22	15.4	165	281	66
23	16.4	165	281	66
24	16.8	180	296	72
25	17.8	180	296	72
26	18.8	180	296	72
28	20.2	195	311	78
30	22.2	195	311	78
		No. 4 Morse Taper Shank		
32	23.6	210	354	84
34	25.2	220	364	88
38	28.8	230	374	92

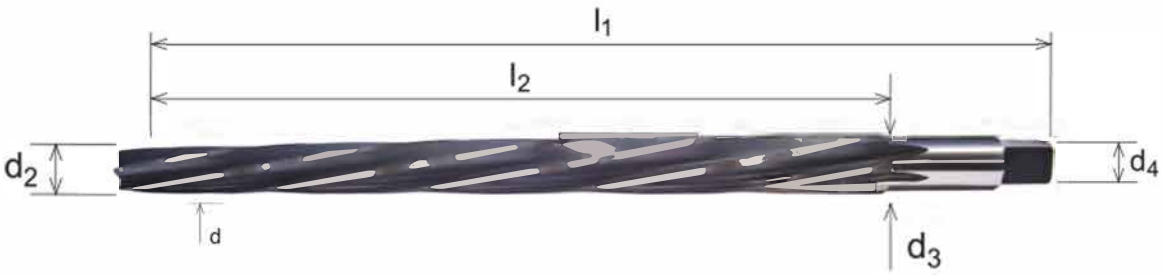
Hand Taper Pin Reamer

Properties		
M	HSS	DIN 9
1:50	STRAIGHT FLUTE	



d	d_2	d_3	d_4	l_2	a	l_1
2	1.9	2.86	3.15	48	2.5	68
2.5	2.4	3.36	3.15	48	2.5	68
3	2.9	4.06	4.0	58	3.15	80
4	3.9	5.26	5.0	68	4	93
5	4.9	6.36	6.3	73	5	100
6	5.9	8.0	8.0	105	6.3	135
8	7.9	10.8	10.0	145	8	180
10	9.9	13.4	12.5	175	10	215
12	11.8	16.0	14.0	210	11.2	255
(13)	12.8	17.0	15.0	210	11.2	255
(14)	13.8	18.0	16.0	210	12.5	255
16	15.8	20.4	18.0	230	14	280
20	19.8	24.8	22.4	250	18	310
25	24.7	30.7	28.0	300	22.4	370

Hand Taper Pin Reamer



Properties		
M	HSS	DIN 9
1:50	10°	RH
SPIRAL FLUTE		

d	d_2	d_3	d_4	l_2	a	l_1
4	3.9	5.26	5.0	68	4	93
5	4.9	6.36	6.3	73	5	100
6	5.9	8.0	8.0	105	6.3	135
8	7.9	10.8	10.0	145	8	180
10	9.9	13.4	12.5	175	10	215
12	11.8	16.0	14.0	210	11.2	255
(13)	12.8	17.0	15.0	210	11.2	255
(14)	13.8	18.0	16.0	210	12.5	255
16	15.8	20.4	18.0	230	14	280
20	19.8	24.8	22.4	250	16	310
25	24.7	30.7	28.0	300	22.4	370



ADJUSTABLE HAND REAMERS

Size	No. of Blade	Reaming Range	Flute Length	Overall Length
8A	4	1/4" to 9/32"	1-5/8"	3-1/2"
7A	4	9/32" to 5/16"	1-5/8"	3-3/4"
6A	4	5/16" to 11/32"	1-5/8"	4"
5A	4	11/32" to 3/8"	1-7/8"	4-1/4"
4A	4	3/8" to 13/32"	1-7/8"	4-1/2"
3A	6	13/32" to 7/16"	1-7/8"	4-3/4"
2A	6	7/16" to 15/16"	1-7/8"	5"
A	6	15/16" to 17/32"	2"	5-1/4"
B	6	17/32" to 19/32"	2"	5-3/4"
C	7	19/32" to 21/32"	2-1/4"	6-1/4"
D	7	21/32" to 23/32"	2-1/4"	6-3/4"

Size	No. of Blade	Reaming Range	Flute Length	Overall Length
E	7	23/32" to 25/32"	2-1/2"	7-1/4"
F	7	25/32" to 27/32"	2-1/2"	7-3/4"
G	7	27/32" to 15/16"	3"	8-1/4"
H	7	15/16" to 1-1/16"	3"	8-3/4"
I	7	1-1/16" to 1-3/16"	3-1/2"	10"
J	7	1-3/16" to 1-11/32"	3-1/2"	11"
K	7	1-11/32" to 1-1/2"	4"	12"
L	7	1-1/2" to 1-13/16"	4"	13"
M	7	1-13/16" to 2-7/32"	5-1/4"	15"
N	7	2-7/32" to 2-3/4"	5-3/4"	17"
O	7	2-3/4" to 3-11/32"	6-1/2"	19"

ADJUSTABLE HAND REAMERS

Shank Diameter	No. of Blade	Reaming Range	Flute Length	Overall Length
4	5	6.5 – 7	35	85
4	5	7 – 7.75	35	90
4.8	5	7.75 – 8.5	38	100
4.8	5	8.5 – 9.25	38	105
5.6	6	9.25 – 10	38	115
5.6	6	10 – 10.75	38	125
6.3	6	10.75 – 11.75	38	130
7.1	6	11.75 – 12.75	44	135
7.1	6	12.75 – 13.75	48	145
8	6	13.75 – 15.25	52	150
9	6	15.25 – 17	55	165
10	6	17 – 19	60	170

Shank Diameter	No. of Blade	Reaming Range	Flute Length	Overall Length
11.2	6	19 – 21	60	180
14	6	21 – 23	65	195
14	6	23 – 26	72	215
18	6	26 – 29.5	80	240
19.8	6	29.5 – 33.5	85	270
19.8	6	33.5 – 38	95	310
25	6	38 – 44	105	350
31.5	6	44 – 54	120	400
40	6	54 – 63	120	460
50	6	63 – 84	135	530
63	8	84 – 100	140	570

Morse Taper Reamer



High Speed Steel, Square Shank, Hand Use



Size	Overall Length	Flute Length	Small End Diameter	Large End Diameter
MT0	3-3/4"	2-1/4"	0.2503	0.3674
MT1	5"	3"	0.3674	0.517
MT2	6"	3-1/2"	0.5696	0.7444
MT3	7-1/4"	4-1/4"	0.7748	0.9881
MT4	8-1/2"	5-1/4"	1.0167	1.2893
MT5	9-3/4"	6-1/4"	1.4717	1.8005

Size	Overall Length	Flute Length	Small End Diameter	Large End Diameter
MT0	93	61	6.547	9.722
MT1	102	66	9.571	12.863
MT2	121	79	14.733	18.679
MT3	146	96	20.01	24.829
MT4	179	119	26.229	32.41
MT5	222	150	37.873	45.767
MT6	300	208	54.171	65.016

Taper Pipe Reamer



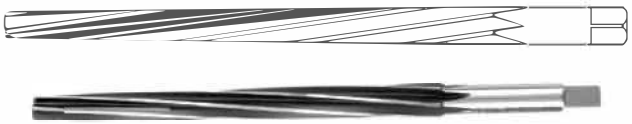
High Speed Steel, Square Shank, Spiral & Straight Flute. Taper 3/4" per foot.

NPT Size	Large End Diameter	Small End Diameter	Flute Length	Overall Length
1/8"	0.362"	0.316"	3/4"	2-1/8"
1/4"	0.472"	0.406"	1-1/16"	2-7/16"
3/8"	0.606"	0.540"	1-1/16"	2-9/16"
1/2"	0.751"	0.665"	1-3/8"	3-1/8"
3/4"	0.962"	0.876"	1-3/8/"	3-1/4"

NPT Size	Large End Diameter	Small End Diameter	Flute Length	Overall Length
1"	1.212"	1.103"	1-3/4"	3-3/4"
1-1/4"	1.553"	1.444"	1-3/4"	4"
1-1/2"	1.793"	1.684"	1-3/4"	4-1/4"
2"	2.268"	2.159"	1-3/4"	4-1/2"
2-1/2"	2.722"	2.561"	2-9/16"	5-1/2"

Taper Pin Reamer





High Speed Steel, Square Shank, Spiral & Straight Flute. Right Hand Cutting. Taper 1/4" per foot.

Size	Small End Diameter	Large End Diameter	Flute Length	Overall Length
7/0	0.0497"	0.0666"	13/16"	1-13/16"
6/0	0.0611"	0.0806"	15/16"	1-15/16"
5/0	0.0719"	0.0966"	1-3/16"	2-3/16"
4/0	0.0869"	0.1142"	1-5/16"	2-5/16"
3/0	0.1029"	0.1302"	1-9/16"	2-5/16"
2/0	0.1137"	0.1462"	1-9/16"	2-9/16"
0	0.1287"	0.1638"	1-11/16"	2-15/16"
1	0.1447"	0.1798"	1-11/16"	2-15/16"
2	0.1605"	0.2008"	1-15/16"	3-3/16"
3	0.1813"	0.2294"	2-5/16"	3-11/16"
4	0.2071"	0.2604"	2-9/16"	4-1/16"

Size	Small End Diameter	Large End Diameter	Flute Length	Overall Length
5	0.2409"	0.2994"	2-13/16"	4-5/16"
6	0.2773"	0.3540"	3-11/16"	5-7/16"
7	0.3297"	0.4220"	4-7/16"	6-5/16"
8	0.3971"	0.5050"	5-3/16"	7-3/16"
9	0.4805"	0.6066"	6-1/16"	8-5/16"
10	0.5799"	0.7216"	6-13/16"	9-5/16"
11	0.7060"	0.8780"	8-1/4"	11-1/4"
12	0.8420"	1.0500"	10"	13-5/8"
13	1.0090"	1.2590"	12"	16"
14	1.2500"	1.5420"	14"	18-1/4"

Taper Pin Reamer





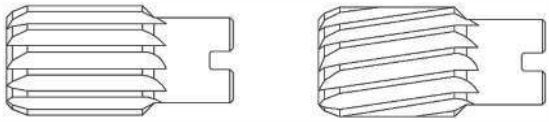
Size	Small End Diameter	Large End Diameter	Flute Length	Overall Length
1.5	1.4	2.14	37	57
2	1.9	2.86	48	68
2.5	2.4	3.36	48	68
3	2.9	4.06	58	80
4	3.9	5.26	68	93
5	4.9	6.36	73	100
6	5.9	8	105	135
6.5	6.4	8.6	110	140

Size	Small End Diameter	Large End Diameter	Flute Length	Overall Length
7	6.9	9.4	125	160
8	7.9	10.8	145	180
9	8.9	12.1	160	195
10	9.9	13.4	175	215
12	11.8	16	210	255
13	12.8	17	210	255
16	15.8	20.4	230	280
20	19.8	24.8	250	310

High Speed Steel, Straight Shank, Spiral & Straight Flute. Right Hand Cutting.

STRAIGHT & HELICAL FLUTE





Size	Overall Length	Arbor Diameter	Fitting Arbor No.
3/4"	2-1/4"	3/8"	4
13/16"	2-1/2"	1/2"	5
7/8"	2-1/2"	1/2"	5
15/16"	2-1/2"	1/2"	5
1"	2-1/2"	1/2"	5
1-1/16"	2-3/4"	5/8"	6
1-1/8"	2-3/4"	5/8"	6
1-3/16"	2-3/4"	5/8"	6
1-1/4"	2-3/4"	5/8"	6
1-5/16"	3"	3/4"	7
1-3/8"	3"	3/4"	7
1-7/16"	3"	3/4"	7
1-1/2"	3"	3/4"	7

Size	Overall Length	Arbor Diameter	Fitting Arbor No.
1-9/16"	3"	3/4"	7
1-5/8"	3"	3/4"	7
1-11/16"	3-1/2"	1"	8
1-3/4"	3-1/2"	1"	8
1-13/16"	3-1/2"	1"	8
1-7/8"	3-1/2"	1"	8
1-15/16"	3-1/2"	1"	8
2"	3-1/2"	1"	8
2-1/16"	3-3/4"	1-1/4"	9
2-1/8"	3-3/4"	1-1/4"	9
2-3/16"	3-3/4"	1-1/4"	9
2-1/4"	3-3/4"	1-1/4"	9
2-5/16"	3-3/4"	1-1/4"	9

Size	Overall Length	Arbor Diameter	Fitting Arbor No.
2-3/8"	3-3/4"	1-1/4"	9
2-7/16"	3-3/4"	1-1/4"	9
2-1/2"	3-3/4"	1-1/4"	9
2-9/16"	4"	1-1/2"	10
2-5/8"	4"	1-1/2"	10
2-11/16"	4"	1-1/2"	10
2-3/4"	4"	1-1/2"	10
2-13/16"	4"	1-1/2"	10
2-7/8"	4"	1-1/2"	10
2-15/16"	4"	1-1/2"	10
3"	4"	1-1/2"	10

SHELL REAMERS

Size	Overall Length	Arbor Diameter	Fitting Arbor No.
20	40	10	A, C
21	40	10	A, C
22	40	10	A, C
23	40	10	A, C
24	45	13	B, D
25	45	13	B, D
26	45	13	B, D
27	45	13	B, D

Size	Overall Length	Arbor Diameter	Fitting Arbor No.
28	45	13	B, D
29	45	13	B, D
30	45	13	B, D
32	50	16	E
35	50	16	E
36	56	19	F, G
38	56	19	F, G
40	56	19	F, G

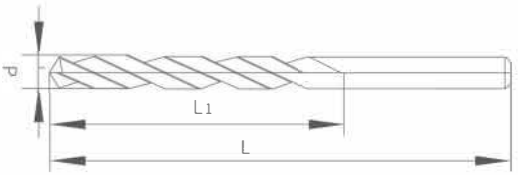
Size	Overall Length	Arbor Diameter	Fitting Arbor No.
42	56	19	F, G
45	63	22	H
48	63	22	H
50	63	22	H
52	71	27	I
55	71	27	I
60	71	27	I

HSS DRILLS



Straight Shank Twist Drill - DIN338





HSS
Material

(DIN338)

Unit: mm

Size:d (h8)	L	L1
0.50	30	10
0.82		
0.85		
0.88	32	11
0.90		
0.92		
0.95		
0.98	34	12
1.00		
1.05		
1.10	36	14
1.15		
1.20	38	16
1.25		
1.30		
1.35	40	18
1.40		
1.45		
1.50		
1.55	43	20
1.60		
1.65		
1.70		
1.75	46	22
1.80		
1.85		
1.90		
1.95	49	24
2.00		
2.10		
2.15	53	27
2.20		
2.25		
2.30		
2.35		

Size:d (h8)	L	L1
2.40	57	30
2.45		
2.50		
2.55		
2.60		
2.65		
2.70	61	33
2.75		
2.80		
2.85		
2.90		
2.95		
3.0		
3.1	65	36
3.2		
3.3		
3.4	70	39
3.5		
3.6		
3.7		
3.8	75	43
3.9		
4.0		
4.1		
4.2		
4.3	80	47
4.4		
4.5		
4.6		
4.7		
4.8	86	52
4.9		
5.0		
5.1		
5.2		

Continue...

Size:d (h8)	L	L1
5.3	86	52
5.4	93	57
5.5		
5.6		
5.7		
5.8		
5.9		
6.0		
6.1	101	63
6.2		
6.3		
6.4		
6.5		
6.6		
6.7		
6.8	109	69
6.9		
7.0		
7.1		
7.2		
7.3		
7.4		
7.5		
7.6	117	75
7.7		
7.8		
7.9		
8.0		
8.1		
8.2		
8.3		
8.4		
8.5		
8.6	125	81
8.7		
8.8		
8.9		
9.0		
9.1		
9.2		
9.3	125	81
9.4		
9.5		
9.6	133	87
9.7		

Size:d (h8)	L	L1
9.8	133	87
9.9		
10.0		
10.1		
10.2		
10.3		
10.4		
10.5		
10.6		
10.7	142	94
10.8		
10.9		
11.0		
11.1		
11.2		
11.3		
11.4		
11.5		
11.6		
11.7		
11.8		
11.9	151	101
12.0		
12.1		
12.2		
12.3		
12.4		
12.5		
12.6		
12.7		
12.8		
12.9		
13.0		
13.1	151	101
13.2		
13.3	160	108
13.4		
13.5		
13.6		
13.7		
13.8		
13.9		
14.0		
14.1-14.4	169	114
14.5		

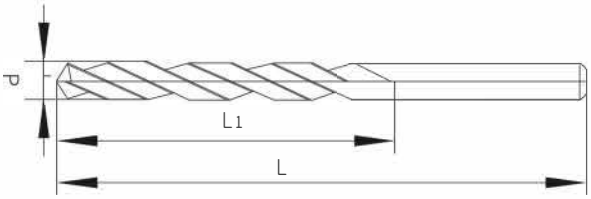
Continue...

Size:d (h8)	L	L1
14.6-14.9	169	114
15.0		
15.1-15.4	178	120
15.5		
15.6-15.9		
16.0		
16.1-16.5	184	125

Size:d (h8)	L	L1
16.6-17.0	184	125
17.1-17.5	191	130
17.6-18.0		
18.1-18.5	198	135
18.6-19.0		
19.1-19.5	205	140
19.6-20.0		

Straight Shank Twist Drill - DIN1897





HSS
Material

(DIN1897)

Unit: mm

Size:d (h8)	L	L1
1. 0	26	6
1. 1	28	7
1. 2	30	8
1. 3		
1. 4	32	9
1. 5		
1. 6	34	10
1. 7		
1. 8	36	11
1. 9		
2	38	12
2. 1		
2. 2	40	13
2. 3		
2. 4	43	14
2. 5		
2. 6		
2. 7	46	16
2. 8		
2. 9		
3		
3. 1	49	18
3. 2		
3. 3		
3. 4	52	20
3. 5		
3. 6		
3. 7		
3. 8	55	22
3. 9		
4		
4. 1		
4. 2		
4. 3	58	24
4. 4		

Size:d (h8)	L	L1
4. 5	58	24
4. 6		
4. 7		
4. 8	62	26
4. 9		
5		
5. 1		
5. 2		
5. 3		
5. 4	66	28
5. 5		
5. 6		
5. 7		
5. 8		
5. 9		
6		
6. 1	70	31
6. 2		
6. 3		
6. 4		
6. 5		
6. 6		
6. 7		
6. 8	74	34
6. 9		
7		
7. 1		
7. 2		
7. 3		
7. 4		
7. 5		
7. 6	79	37
7. 7		
7. 8		
7. 9		

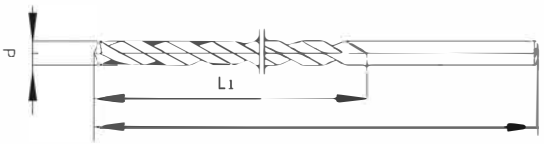
Continue...

Size:d (h8)	L	L1
8	79	37
8. 1		
8. 2		
8. 3		
8. 4		
8. 5		
8. 6	84	40
8. 7		
8. 8		
8. 9		
9		
9. 1		
9. 2		
9. 3		
9. 4		
9. 5		
9. 6	89	43
9. 7		
9. 8		
9. 9		
10		
10. 1		
10. 2		
10. 3		
10. 4		
10. 5		
10. 6		
10. 7	95	47
10. 8		
10. 9		
11		
11. 1		
11. 2		
11. 3		
11. 4		
11. 5		
11. 6		
11. 7		
11. 8		
11. 9	102	51
12		
12. 1		
12. 2		

Size:d (h8)	L	L1
12. 3	102	51
12. 4		
12. 5		
12. 6		
12. 7		
12. 8		
12. 9		
13		
13. 1		
13. 2		
13. 3	107	54
13. 4		
13. 5		
13. 6		
13. 7		
13. 8		
13. 9		
14		
14. 25	111	56
14. 5		
14. 75		
15		
15. 25	115	58
15. 5		
15. 75		
16		
16. 25	119	60
16. 5		
16. 75		
17		
17. 25	123	62
17. 5		
17. 75		
18		
18. 25	127	64
18. 5		
18. 75		
19		
19. 25	131	66
19. 5		
19. 75		
20		

Straight Shank Long Twist Drill - DIN 340





HSS
Material

(DIN340)

Unit: mm

Size:d (h8)	L	L1
1.5	70	45
1.6	76	50
1.7		
1.8	80	53
1.9		
2.0	85	56
2.1		
2.2	90	59
2.3		
2.4	95	62
2.5		
2.6		
2.7	100	66
2.8		
2.9		
3.0		
3.1	106	69
3.2		
3.3		
3.4	112	73
3.5		
3.6		
3.7		
3.8	119	78
3.9		
4.0		
4.1		
4.2		
4.3	126	82
4.4		
4.5		
4.6		
4.7		
4.8	132	87
4.9		

Size:d (h8)	L	L1
5.0	132	87
5.1		
5.2		
5.3		
5.4	139	91
5.5		
5.6		
5.7		
5.8		
5.9		
6.0		
6.1	148	97
6.2		
6.3		
6.4		
6.5		
6.6		
6.7		
6.8	156	102
6.9		
7.0		
7.1		
7.2		
7.3		
7.4		
7.5		
7.6	165	109
7.7		
7.8		
7.9		
8.0		
8.1		
8.2		
8.3		
8.4		

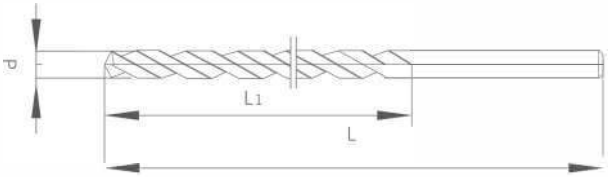
Continue...

Size:d (h8)	L	L1
8.5	165	109
8.6	175	115
8.7		
8.8		
8.9		
9.0		
9.1		
9.2		
9.3		
9.4		
9.5		
9.6	184	121
9.7		
9.8		
9.9		
10.0		
10.1		
10.2		
10.3		
10.4		
10.5		
10.6		
10.7	195	128
10.8		
10.9		
11.0		
11.1		
11.2		
11.3		
11.4		
11.5		
11.6		
11.7		
11.8		
11.9	205	134
12.0		
12.1		
12.2		
12.3		
12.4		
12.5		
12.6		
12.7		

Size:d (h8)	L	L1
12.8	205	134
12.9		
13.0		
13.1		
13.2		
13.3	214	140
13.4		
13.5		
13.6		
13.7		
13.8		
13.9		
14.0		

Straight Shank Extra Long Twist Drill





HSS
Material

How to Order: ELSD + Size

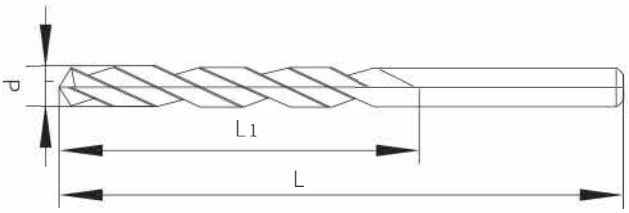
Unit: mm

(h8)	L	L1
1.2-2.3	100	50
	150	75
	160	100
	200	100
2.4-4	150	75
	160	100
	200	150
	250	125
	250	200
	300	150
	300	240
4.1-5	160	100
	200	150
	250	200
	300	240
	350	285
	400	300
	450	350
5.1-6	160	100
	200	150
	250	200
	300	240
	350	285
	400	300
	450	350
6.1-7	160	100
	200	150
	250	200
	300	240
	350	285
	400	300
	450	350
7.1-8	160	100
	200	150

(h8)	L	L1
7.1-8	250	200
	300	240
	350	285
	400	300
	450	350
8.1-9	160	100
	200	150
	250	200
	300	240
	350	285
	400	300
	450	350
9.1-10	200	150
	250	200
	300	240
	350	285
	400	300
	450	350
10.1-11	200	150
	250	200
	300	240
	350	285
	400	300
	450	350
11.1-12	250	200
	300	240
	350	285
	400	300
	450	350
12.1-13	250	200
	300	240
	350	285
	400	300
	450	350

Straight Shank Twist Drill for Stainless - DIN 338





HSS
Material

(DIN338)

Unit: mm

Size:d (h8)	L	L1
0.50	22	6
0.82	30	10
0.85		
0.88	32	11
0.90		
0.92		
0.95		
0.98	34	12
1.00		
1.05		
1.10	36	14
1.15		
1.20	38	16
1.25		
1.30		
1.35	40	18
1.40		
1.45		
1.50		
1.55	43	20
1.60		
1.65		
1.70		
1.75	46	22
1.80		
1.85		
1.90		
1.95	49	24
2.00		
2.05		
2.10	53	27
2.15		
2.20		

Size:d (h8)	L	L1
2.25	53	27
2.30		
2.35		
2.40	57	30
2.45		
2.50		
2.55		
2.60		
2.65		
2.70	61	33
2.75		
2.80		
2.85		
2.90		
2.95		
3.0		
3.1	65	36
3.2		
3.3		
3.4	70	39
3.5		
3.6		
3.7		
3.8	75	43
3.9		
4.0		
4.1		
4.2		
4.3	80	47
4.4		
4.5		
4.6		
4.7		

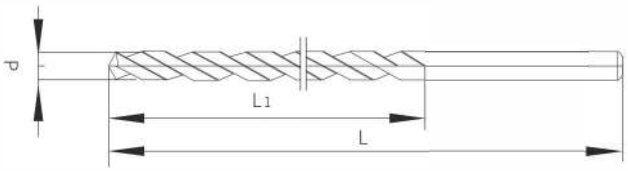
Continue...

Size:d (h8)	L	L1
4.8	86	52
4.9		
5.0		
5.1		
5.2		
5.3		
5.4	93	57
5.5		
5.6		
5.7		
5.8		
5.9		
6.0		
6.1	101	63
6.2		
6.3		
6.4		
6.5		
6.6		
6.7		
6.8	109	69
6.9		
7.0		
7.1		
7.2		
7.3		
7.4		
7.5		
7.6	117	75
7.7		
7.8		
7.9		
8.0		
8.1		
8.2		
8.3		
8.4		
8.5		
8.6	125	81
8.7		
8.8		
8.9		
9.0		

Size:d (h8)	L	L1
9.1	125	81
9.2		
9.3		
9.4		
9.5		
9.6	133	87
9.7		
9.8		
9.9		
10.0		
10.1		
10.2		
10.3		
10.4		
10.5		
10.6		
10.7	142	94
10.8		
10.9		
11.0		
11.1		
11.2		
11.3		
11.4		
11.5		
11.6		
11.7		
11.8		
11.9	151	101
12.0		
12.1		
12.2		
12.3		
12.4		
12.5		
12.6		
12.7		
12.8		
12.9		
13.0		
-	-	-

Straight Shank Long Twist Drill for Stainless Steel - DIN 340





HSS
Material

(DIN340)

Unit: mm

Size:d (h8)	L	L1
1.5	70	45
1.6	76	50
1.7		
1.8	80	53
1.9		
2.0	85	56
2.1		
2.2	90	59
2.3		
2.4	95	62
2.5		
2.6		
2.7	100	66
2.8		
2.9		
3.0		
3.1	106	69
3.2		
3.3		
3.4	112	73
3.5		
3.6		
3.7		
3.8	119	78
3.9		
4.0		
4.1		
4.2		
4.3	126	82
4.4		
4.5		
4.6		
4.7		

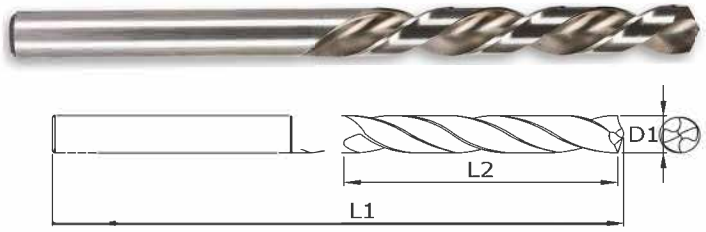
Size:d (h8)	L	L1
4.8	132	87
4.9		
5.0		
5.1		
5.2		
5.3		
5.4	139	91
5.5		
5.6		
5.7		
5.8		
5.9		
6.0		
6.1	148	97
6.2		
6.3		
6.4		
6.5		
6.6		
6.7		
6.8	156	102
6.9		
7.0		
7.1		
7.2		
7.3		
7.4		
7.5		
7.6	165	109
7.7		
7.8		
7.9		
8.0		

Continue...

Size:d (h8)	L	L1
8.1	165	109
8.2		
8.3		
8.4		
8.5		
8.6	175	115
8.7		
8.8		
8.9		
9.0		
9.1		
9.2		
93		
9.4		
9.5		
9.6	184	121
9.7		
9.8		
9.9		
10.0		
10.1		
10.2		
10.3		
10.4		
10.5		
10.6		
10.7	195	128
10.8		
10.9		
11.0		
11.1		
11.2		

Size:d (h8)	L	L1
11.3	195	128
11.4		
11.5		
11.6		
11.7		
11.8		
11.9	205	134
12.0		
12.1		
12.2		
12.3		
12.4		
12.5		
12.6		
12.7		
12.8		
12.9		
13.0		
13.1		
13.2		
13.3	214	140
13.4		
13.5		
13.6		
13.7		
13.8		
13.9		
14.0		
-	-	-

Parallel Shank Jobber Drill



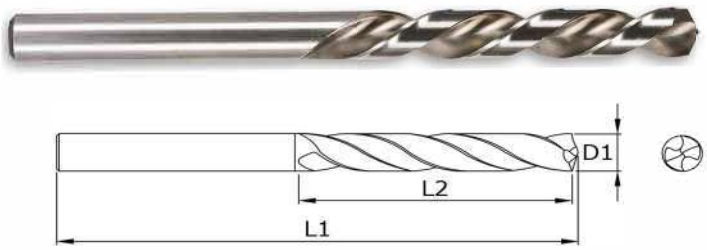
HSS
Material

Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
1.0		12	34
1.1		14	36
1.2		16	38
1.3		16	38
1.4		18	40
1.59	1/16”	20	43
1.5		18	40
1.6		20	43
1.7		20	43
1.8		22	46
1.9		22	46
1.98	5/64”	24	49
2.0		24	49
2.1		24	49
2.2		27	53
2.3		27	53
2.38	3/32”	30	57
2.4		30	57
2.5		30	57
2.6		30	57
2.7		33	61
2.78	7/64”	33	61
2.8		33	61
2.9		33	61
3.0		33	61

Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
3.1		36	65
3.17	1/8”	36	65
3.2		36	65
3.3		36	65
3.4		39	70
3.5		39	70
3.57	9/64”	39	70
3.6		39	70
3.7		39	70
3.8		43	75
3.9		43	75
3.97	5/32”	43	75
4.0		43	75
4.1		43	75
4.2		43	75
4.3		47	80
4.37	11/64”	47	80
4.4		47	80
4.5		47	80
4.6		47	80
4.7		47	80
4.76	3/16”	52	86
4.8		52	86
4.9		52	86
5.0		52	86

Unit : mm

Continue..



HSS
Material

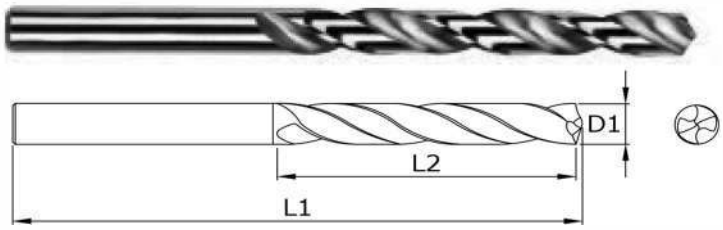
Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
5.1		52	86
5.16	13/64”	52	86
5.2		52	86
5.3		52	86
5.4		57	93
5.5		57	93
5.56	7/32”	57	93
5.6		57	93
5.7		57	93
5.8		57	93
5.9		57	93
5.95	15/64”	57	93
6.0		57	93
6.1		63	101
6.2		63	101
6.3		63	101
6.35	1/4”	63	101
6.4		63	101
6.5		63	101
6.6		63	101
6.7		63	101
6.75	17/64”	69	109
6.8		69	109

Unit : mm

Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
6.9		69	109
7.0		69	109
7.1		69	109
7.14	9/32”	69	109
7.2		69	109
7.3		69	109
7.4		69	109
7.5		69	109
7.54	19/64”	75	117
7.6		75	117
7.7		75	117
7.8		75	117
7.9		75	117
7.94	5/16”	75	117
8.0		75	117
8.1		75	117
8.2		75	117
8.3		75	117
8.33	21/64”	75	117
8.4		75	117
8.5		75	117
8.6		81	125
8.7		81	125

Unit : mm

Continue..



HSS
Material

Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
8.73	11/32”	81	125
8.8		81	125
8.9		81	125
9.0		81	125
9.1		81	125
9.13	23/64”	81	125
9.2		81	125
9.3		81	125
9.4		81	125
9.5		81	125
9.52	3/8”	87	133
9.6		87	133
9.7		87	133
9.8		87	133
9.9		87	133
9.92	25/64”	87	133
10.0		87	133
10.1		87	133
10.2		87	133
10.3		87	133
10.32	13/32”	87	133
10.4		87	133
10.5		87	133

Unit : mm

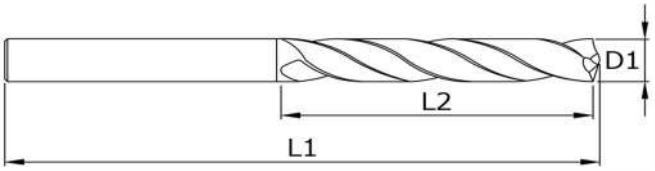
Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
10.6		87	133
10.7		94	142
10.72	27/64”	94	142
10.8		94	142
10.9		94	142
11.0		94	142
11.1		94	142
11.11	7/16”	94	142
11.2		94	142
11.3		94	142
11.4		94	142
11.5		94	142
11.51	29/64”	94	142
11.6		94	142
11.7		94	142
11.8		94	142
11.9		101	151
11.91	15/32”	101	151
12.0		101	151
12.1		101	151
12.2		101	151
12.3		101	151
12.30	31/64”	101	151

Unit : mm

DiC

Continue..





HSS
Material

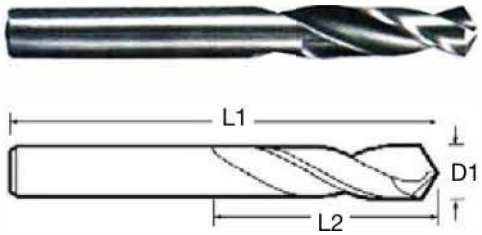
Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
12.4		101	151
12.5		101	151
12.6		101	151
12.7		101	151
12.7	1/2”	101	151
12.8		101	151
12.9		101	151
13.0		101	151
13.1	33/64”	101	151
13.5		108	160
13.49	17/32”	108	160
13.89	35/64”	108	160
14.0		108	160
14.29	9/16”	114	169
14.50		114	169
14.68	37/64”	114	169
15.0		114	169
15.08	19/32”	120	178
15.48	39/64”	120	178
15.5		120	178
15.87	5/8”	120	178
16.0		120	178

Unit : mm

Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
16.50		125	184
16.67	21/32”	125	184
17.0		125	184
17.46	11/16”	125	184
17.50		130	191
18.0		130	191
18.26	23/32”	130	191
18.50		135	198
19.0		135	198
19.05	3/4”	135	198
19.50		140	205
18.84	25/32”	140	205
20.00		140	205
20.64	13/16”	140	205

Unit : mm

Parallel Shank Stub Drill



HSS
Material

Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
1.0		6	26
1.1		7	18
1.19	3/64"	8	30
1.2		8	30
1.3		8	30
1.4		9	32
1.5		9	32
1.59	1/16"	10	34
1.6		10	34
1.7		10	34
1.8		11	36
1.9		12	36
1.98	5/64"	12	38
2.0		12	38
2.1		12	38
2.2		13	40
2.3		13	40
2.38	3/32"	14	43
2.4		14	43
2.5		14	43
2.6		14	43

Unit : mm

Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
2.7		16	46
2.78	7/64"	16	46
2.8		16	46
2.9		16	46
3.0		16	46
3.1		18	49
3.17	1/8"	18	49
3.2		18	49
3.3		18	49
3.4		20	52
3.5		20	52
3.57	9/64"	20	52
3.6		20	52
3.7		20	52
3.8		22	55
3.9		22	55
3.97	5/32"	22	55
4.0		22	55
4.1		22	55
4.2		22	55
4.3		24	58

Unit : mm

Continue...

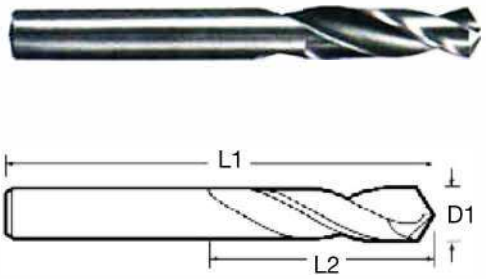
Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
4.37	11/64"	24	58
4.4		24	58
4.5		24	58
4.6		24	58
4.7		24	58
4.76	3/16"	26	62
4.8		26	62
4.9		26	62
5.0		26	62
5.1		26	62
5.16	13/64"	26	62
5.2		26	62
5.3		26	62
5.4		28	66
5.5		28	66
5.56	7/32"	28	66
5.6		28	66
5.7		28	66
5.8		28	66
5.95	15/64"	28	66
5.9		28	66
6.0		28	66

Unit : mm

Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
6.1		31	70
6.35	1/4"	31	70
6.2		31	70
6.3		31	70
6.4		31	70
6.5		31	70
6.6		31	70
6.7		34	74
6.75	17/64"	34	74
6.8		34	74
6.9		34	74
7.0		34	74
7.1		34	74
7.14	9/32"	34	74
7.2		34	74
7.3		34	74
7.4		34	74
7.5		34	74
7.54	19/64"	37	79
7.6		37	79
7.7		37	79
7.8		37	79

Unit : mm

Continue...



HSS
Material

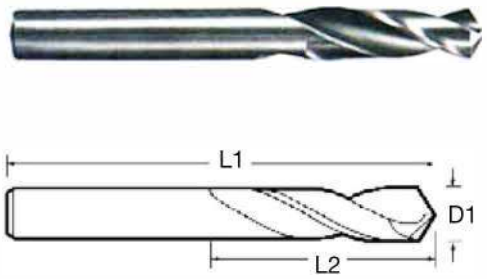
Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
7.9		37	79
7.94	5/16"	37	79
8.0		37	79
8.1		37	79
8.2		37	79
8.3		37	79
8.33	21/64"	37	79
8.4		37	79
8.5		37	79
8.6		40	84
8.7		40	84
8.73	11/32"	40	84
8.8		40	84
8.9		40	84
9.0		40	84
9.1		40	84
9.13	23/64"	40	84
9.2		40	84
9.3		40	84
9.4		40	84
9.5		40	84
9.52	3/8"	43	89

Unit : mm

Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
9.6		43	89
9.7		43	89
9.8		43	89
9.9		43	89
9.92	25/64	43	89
10.0		43	89
10.1		43	89
10.2		43	89
10.3		43	89
10.32	13/32"	43	89
10.4		43	89
10.5		43	89
10.72	27/64"	47	95
10.6		47	95
10.7		47	95
10.8		47	95
10.9		47	95
11.0		47	95
11.1		47	95
11.11	7/16"	47	95
11.2		47	95
11.3		47	95

Unit : mm

Continue...



HSS
Material

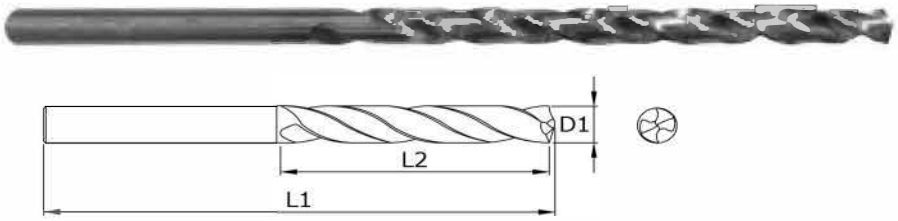
Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
11.4		47	95
11.5		47	95
11.51	29/64"	47	95
11.6		51	102
11.7		51	102
11.8		51	102
11.9		51	102
11.91	15/32"	51	102
12.0		51	102
12.1		51	102
12.2		51	102
12.3		51	102
12.4		51	102
12.5		51	102
12.6		51	102
12.7	1/2"	51	102
12.8		51	102
12.9		51	102

Unit : mm

Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
13.0		51	102
13.5		54	107
14.0		54	107
14.28	9/16"	56	111
14.5		56	111
15.0		56	111
15.5		58	115
16.0		58	115
16.5		60	119
17.0		60	119
17.5		62	123
18.0		62	123
18.5		64	127
19.0		64	127
19.5		66	131
20.0		66	131

Unit : mm

Parallel Shank Long Drill



HSS
Material

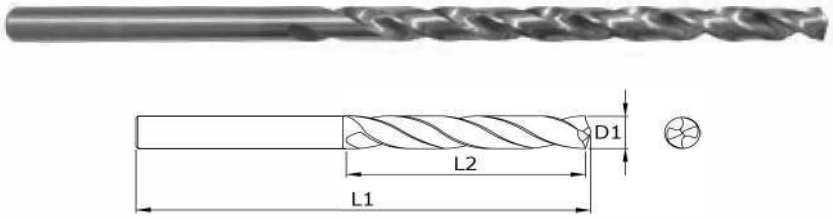
Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
1.0	-	33	56
1.1	-	37	60
1.19	3/64"	41	65
1.2	-	41	65
1.3	-	41	65
1.4		45	70
1.5	-	45	70
1.59	1/16"	50	76
1.6	-	50	76
1.8	-	53	80
1.9	-	53	80
1.98	5/64"	56	85
2.0	-	56	85
2.1	-	56	85
2.2	-	59	90
2.3	-	59	90
2.38	3/32"	62	95
2.4	-	62	95
2.5	-	62	95
2.6	-	62	95
2.7	-	66	100
2.78	7/64"	66	100
2.8	-	66	100
2.9	-	66	100
3.0	-	66	100

Unit : mm

Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
3.1	-	69	106
3.17	1/8"	69	106
3.2	-	69	106
3.3	-	69	106
3.4	-	73	112
3.5	-	73	112
3.6	-	73	112
3.7	-	73	112
3.8		78	119
3.9	-	78	119
3.97	5/32"	78	119
4.0	-	78	119
4.1	-	78	119
4.2	-	78	119
4.3		82	126
4.37	11/64"	82	126
4.4	-	82	126
4.5		82	126
4.6	-	82	126
4.7		82	126
4.76	5/16"	87	132
4.8		87	132
4.9	-	87	132
5.0	-	87	132
5.1	-	87	132

Unit : mm

Continue...



HSS
Material

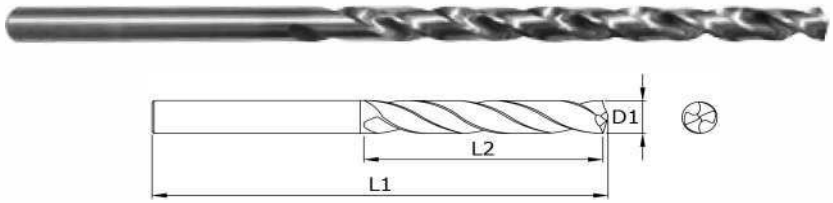
Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
5.16	13/64	87	132
5.2	-	87	132
5.3	-	87	132
5.4	-	91	139
5.5	-	91	139
5.56	7/32"	91	139
5.6	-	91	139
5.7	-	91	139
5.8	-	91	139
5.9	-	91	139
5.95	15/64"	91	139
6.0	-	91	139
6.1	-	97	148
6.2	-	97	148
6.3	-	97	148
6.35	1/4"	97	148
6.4	-	97	148
6.5	-	97	148
6.6	-	97	148
6.7	-	97	148
6.75	17/64"	102	156
6.8	-	102	156
6.9	-	102	156
7.0	-	102	156
7.1	-	102	156

Unit : mm

Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
7.14	9/32"	102	156
7.2	-	102	156
7.3	-	102	156
7.4	-	102	156
7.5	-	102	156
7.54	19/64"	109	165
7.6	-	109	165
7.7	-	109	165
7.8	-	109	165
7.9	-	109	165
7.94	5/16"	109	165
8.0	-	109	165
8.1	-	109	165
8.2	-	109	165
8.3	-	109	165
8.33	21/64"	109	165
8.4	-	109	165
8.5	-	109	165
8.6	-	115	175
8.7	-	115	175
8.73	11/32"	115	175
8.8	-	115	175
8.9	-	115	175
9.0	-	115	175
9.1	-	115	175

Unit : mm

Continue...



HSS
Material

Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
9.13	23/64”	115	175
9.2	-	115	175
9.3	-	115	175
9.4	-	115	175
9.5	-	115	175
9.52	3/8"	121	184
9.6	-	121	184
9.7	-	121	184
9.8	-	121	184
9.9	-	121	184
9.92	25/64”	121	184
10.0	-	121	184
10.1	-	121	184
10.2	-	121	184
10.3	-	121	184
10.32	13/32”	121	184
10.4	-	121	184
10.5	-	121	184
10.6	-	121	184
10.7	-	128	195
10.72	27/64	128	195
10.8		128	195
10.9		128	195

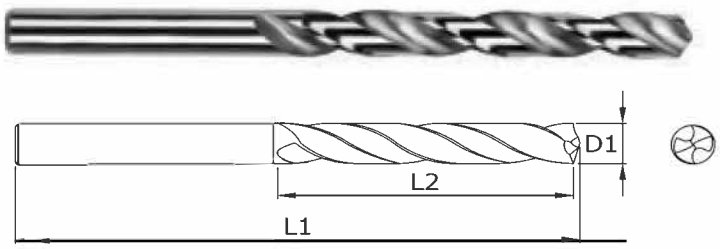
Unit : mm

Diameter Ø D1		Flute Length	Overall Length
mm	inch	L2	L1
11.0		128	195
11.11	7/16"	128	195
11.2		128	195
11.3	-	128	195
11.4	-	128	195
11.5	-	128	195
11.51	29/64”	128	195
11.6	-	128	195
11.7	-	128	195
11.8	-	128	195
11.9	-	134	205
11.91	15/32”	134	205
12.0	-	134	205
12.1	-	134	205
12.2	-	134	205
12.3	31/64”	134	205
12.4	-	134	205
12.5	-	134	205
12.6	-	134	205
12.7	1/2"	134	205
12.8	-	134	205
12.9	-	134	205
13.0	-	134	205

Unit : mm

DiC

Parallel Shank Jobber Drill



HSS
Material

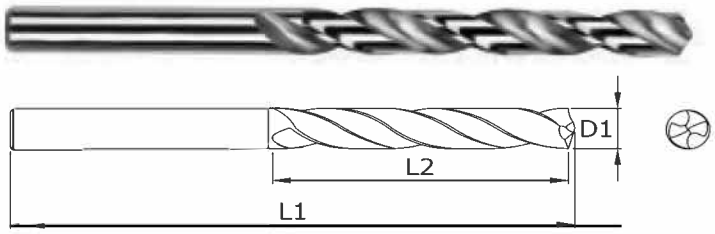
Diameter	Flute Length	Overall Length
Ø D1	L2	L1
1.0	12	34
1.1	14	36
1.2	16	38
1.3	16	38
1.4	18	40
1.5	18	40
1.6	20	43
1.7	20	43
1.8	22	46
1.9	22	46
2.0	24	49
2.1	24	49
2.2	27	53
2.3	27	53
2.4	30	57
2.5	30	57
2.6	30	57
2.7	33	61
2.8	33	61
2.9	33	61
3.0	33	61
3.1	36	65
3.2	36	65
3.3	36	65
3.4	39	70

Unit : mm

Diameter	Flute Length	Overall Length
Ø D1	L2	L1
3.5	39	70
3.6	39	70
3.7	39	70
3.8	43	75
3.9	43	75
4.0	43	75
4.1	43	75
4.2	43	75
4.3	47	80
4.4	47	80
4.5	47	80
4.6	47	80
4.7	47	80
4.8	52	86
4.9	52	86
5.0	52	86
5.1	52	86
5.2	52	86
5.3	52	86
5.4	57	93
5.5	57	93
5.6	57	93
5.7	57	93
5.8	57	93
5.9	57	93

Unit : mm

Continue...



HSS
Material

Diameter	Flute Length	Overall Length
Ø D1	L2	L1
6.0	57	93
6.1	63	101
6.2	63	101
6.3	63	101
6.4	63	101
6.5	63	101
6.6	63	101
6.7	63	101
6.8	69	109
6.9	69	109
7.0	69	109
7.1	69	109
7.2	69	109
7.3	69	109
7.4	69	109
7.5	69	109
7.6	75	117
7.7	75	117
7.8	75	117
7.9	75	117
8.0	75	117
8.1	75	117
8.2	75	117
8.3	75	117
8.4	75	117

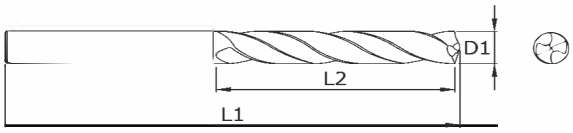
Unit : mm

Diameter	Flute Length	Overall Length
Ø D1	L2	L1
8.5	75	117
8.6	81	125
8.7	81	125
8.8	81	125
8.9	81	125
9.0	81	125
9.1	81	125
9.2	81	125
9.3	81	125
9.4	81	125
9.5	81	125
9.6	87	133
9.7	87	133
9.8	87	133
9.9	87	133
10.0	87	133
10.1	87	133
10.2	87	133
10.3	87	133
10.4	87	133
10.5	87	133
10.6	87	133
10.7	94	142
10.8	94	142
10.9	94	142

Unit : mm

Continue...





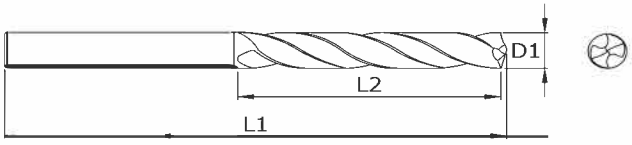
HSS
Material

Diameter	Flute Length	Overall Length
Ø D1	L2	L1
11.0	94	142
11.1	94	142
11.2	94	142
11.3	94	142
11.4	94	142
11.5	94	142
11.6	94	142
11.7	94	142
11.8	94	142
11.9	101	151
12.0	101	151
12.1	101	151
12.2	101	151
12.3	101	151
12.4	101	151
12.5	101	151
12.6	101	151
12.7	101	151
12.8	101	151
12.9	101	151
13.0	101	151

Unit : mm

Continue...





HSS
Material

Diameter	Flute Length	Overall Length
Ø D1	L2	L1
1.0	12	34
1.1	14	36
1.2	16	38
1.3	16	38
1.4	18	40
1.5	18	40
1.6	20	43
1.7	20	43
1.8	22	46
1.9	22	46
2	24	49
2.1	24	49
2.2	27	53
2.3	27	53
2.4	30	57
2.5	30	57
2.6	30	57
2.7	33	61
2.8	33	61
2.9	33	61
3	33	61
3.1	36	65
3.2	36	65
3.3	36	65
3.4	39	70

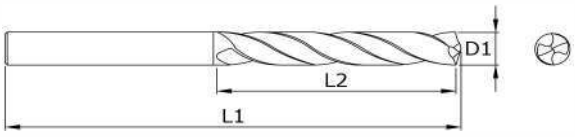
Unit : mm

Diameter	Flute Length	Overall Length
Ø D1	L2	L1
3.5	39	70
3.6	39	70
3.7	39	70
3.8	43	75
3.9	43	75
4.0	43	75
4.1	43	75
4.2	43	75
4.3	47	80
4.4	47	80
4.5	47	80
4.6	47	80
4.7	47	80
4.8	52	86
4.9	52	86
5	52	86
5.1	52	86
5.2	52	86
5.3	52	86
5.4	57	93
5.5	57	93
5.6	57	93
5.7	57	93
5.8	57	93
5.9	57	93

Unit : mm

Continue...





HSS
Material

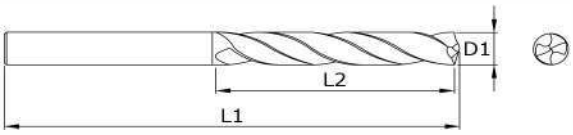
Diameter	Flute Length	Overall Length
Ø D1	L2	L1
6	57	93
6.1	63	101
6.2	63	101
6.3	63	101
6.4	63	101
6.5	63	101
6.6	63	101
6.7	63	101
6.8	69	109
6.9	69	109
7.0	69	109
7.1	69	109
7.2	69	109
7.3	69	109
7.4	69	109
7.5	69	109
7.6	75	117
7.7	75	117
7.8	75	117
7.9	75	117
8	75	117
8.1	75	117
8.2	75	117
8.3	75	117
8.4	75	117

Unit : mm

Diameter	Flute Length	Overall Length
Ø D1	L2	L1
8.5	75	117
8.6	81	125
8.7	81	125
8.8	81	125
8.9	81	125
9	81	125
9.1	81	125
9.2	81	125
9.3	81	125
9.4	81	125
9.5	81	125
9.6	87	133
9.7	87	133
9.8	87	133
9.9	87	133
10.0	87	133
10.1	87	133
10.2	87	133
10.3	87	133
10.4	87	133
10.5	87	133
10.6	87	133
10.7	94	142
10.8	94	142
10.9	94	142

Unit : mm





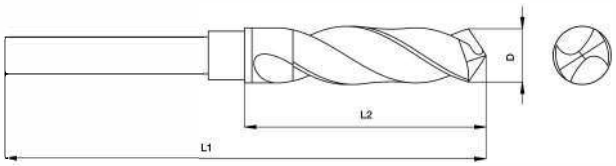
HSS
Material

Diameter	Flute Length	Overall Length
Ø D1	L2	L1
11	94	142
11.1	94	142
11.2	94	142
11.3	94	142
11.4	94	142
11.5	94	142
11.6	94	142
11.7	94	142
11.8	94	142
11.9	101	151
12	101	151
12.1	101	151
12.2	101	151
12.3	101	151
12.4	101	151
12.5	101	151
12.6	101	151
12.7	101	151
12.8	101	151
12.9	101	151
13.0	101	151

Unit : mm

Reduced Shank Drill





HSS
Material

Diameter	Flute Length	Overall Length	Shank Diameter
Ø D1	L2	L1	
13.5	76	152	1/2"
14	76	152	1/2"
14.5	76	152	1/2"
15	76	152	1/2"
15.5	76	152	1/2"
16	76	152	1/2"
16.5	76	152	1/2"
17	76	152	1/2"
17.5	76	152	1/2"
18	76	152	1/2"
18.5	76	152	1/2"
19	76	152	1/2"
19.5	76	152	1/2"
20	76	152	1/2"
20.5	76	152	1/2"
21	76	152	1/2"
21.5	76	152	1/2"

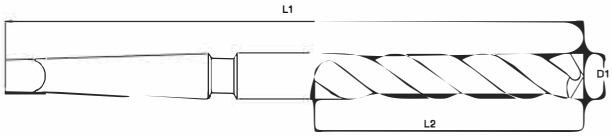
Unit : mm

Diameter	Flute Length	Overall Length	Shank Diameter
Ø D1	L2	L1	
22	76	152	1/2"
22.5	76	152	1/2"
23	76	152	1/2"
23.5	76	152	1/2"
24	76	152	1/2"
24.5	76	152	1/2"
25	76	152	1/2"
25.5	76	152	1/2"
26	76	152	1/2"
26.5	76	152	1/2"
27	76	152	1/2"
27.5	76	152	1/2"
28	76	152	1/2"
28.5	76	152	1/2"
29	76	152	1/2"
29.5	76	152	1/2"
30	76	152	1/2"

Unit : mm

Morse Taper Shank Drill





HSS
Material

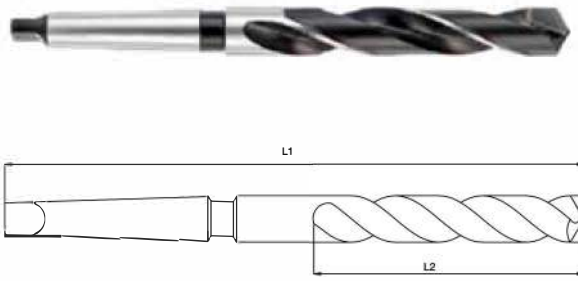
Diameter	Flute Length	Overall Length	Morse Taper Shank Number
Ø D1	L2	L1	
8	75	156	MT-1
8.5	75	156	MT-1
9	81	162	MT-1
9.5	81	162	MT-1
10	87	168	MT-1
10.5	87	168	MT-1
11	94	175	MT-2
11.5	94	175	MT-2
12	101	182	MT-2
12.5	101	182	MT-2
13	101	182	MT-2
13.5	108	189	MT-2
14	108	189	MT-2
14.5	114	212	MT-2
15	114	212	MT-2
15.5	120	218	MT-2
16	120	218	MT-2

Unit : mm

Diameter	Flute Length	Overall Length	Morse Taper Shank Number
Ø D1	L2	L1	
16.5	125	223	MT-2
17	125	223	MT-2
17.5	130	228	MT-2
18	130	228	MT-2
18.5	135	233	MT-2
19	135	233	MT-2
19.50	140	238	MT-2
20	140	238	MT-2
20.5	145	243	MT-2
21	145	243	MT-2
21.5	150	248	MT-2
22	150	248	MT-2
22.5	155	253	MT-2
23	155	253	MT-2
23.5	155	276	MT-2
24	160	281	MT-2
24.5	160	281	MT-2

Unit : mm

Continue...



HSS
Material

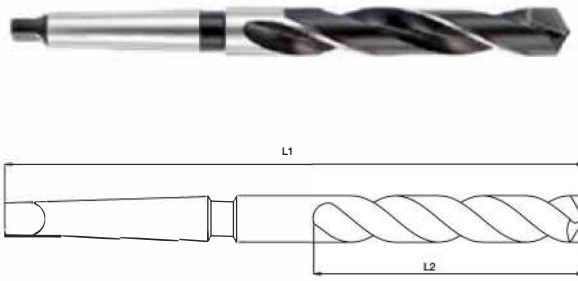
Diameter	Flute Length	Overall Length	Morse Taper Shank Number
Ø D1	L2	L1	
25	160	281	MT-2
25.5	165	286	MT-2
26	165	286	MT-2
26.5	165	286	MT-3
27	170	291	MT-3
27.5	170	291	MT-3
28	170	291	MT-3
28.5	175	296	MT-3
29	175	296	MT-3
29.5	175	296	MT-3
30	175	296	MT-3
30.5	180	301	MT-3
31	180	301	MT-3
31.5	180	301	MT-3
32	185	334	MT-3
32.5	185	334	MT-3
33	185	334	MT-3
33.5	185	334	MT-3

Unit : mm

Diameter	Flute Length	Overall Length	Morse Taper Shank Number
Ø D1	L2	L1	
34	190	339	MT-3
34.5	190	339	MT-3
35	190	339	MT-3
35.5	190	339	MT-3
36	195	344	MT-3
36.5	195	344	MT-3
37	195	344	MT-3
37.5	195	344	MT-3
38	200	349	MT-3
38.5	200	349	MT-3
39	200	349	MT-3
39.5	200	349	MT-3
40	200	349	MT-3
40.5	205	354	MT-3
41	205	354	MT-3
41.5	205	354	MT-3
42	205	354	MT-3
43	210	359	MT-3

Unit : mm

Continue...



HSS
Material

Diameter	Flute Length	Overall Length	Morse Taper Shank Number
Ø D1	L2	L1	
44	210	359	MT-3
45	210	359	MT-3
46	215	364	MT-3
47	215	364	MT-3
48	220	369	MT-3
49	220	369	MT-3
50	220	369	MT-4
51	225	412	MT-5
52	225	412	MT-5
53	225	412	MT-5
54	230	417	MT-5
55	230	417	MT-5
56	230	417	MT-5
57	235	422	MT-5
58	235	422	MT-5
59	235	422	MT-5

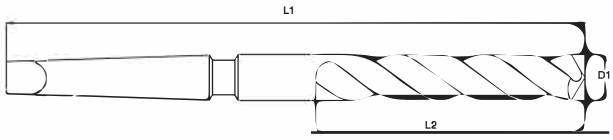
Unit : mm

Diameter	Flute Length	Overall Length	Morse Taper Shank Number
Ø D1	L2	L1	
60	235	422	MT-5
61	240	427	MT-5
62	240	427	MT-5
63	240	427	MT-5
64	245	432	MT-5
65	245	432	MT-5
66	245	432	MT-5
67	245	432	MT-5
68	250	437	MT-5
69	250	437	MT-5
70	250	437	MT-5
71	250	437	MT-5
72	255	442	MT-5
73	255	442	MT-5
74	255	442	MT-5
75	255	442	MT-5

Unit : mm

Continue...





HSS
Material

Diameter	Flute Length	Overall Length	Morse Taper Shank Number
Ø D1	L2	L1	
3/8"	87	168	MT-1
25/64"	87	168	MT-1
13/32"	87	168	MT-1
27/64	94	175	MT-2
7/16"	94	175	MT-2
15/32	101	182	MT-2
1/2"	101	182	MT-2
17/32"	108	189	MT-2
35/64"	108	189	MT-2
9/16"	114	212	MT-2
5/8"	120	218	MT-2
11/16"	130	228	MT-2

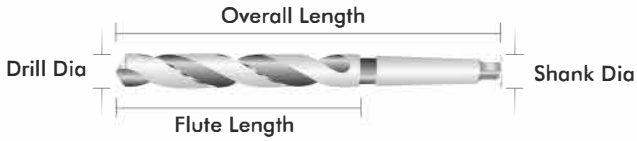
Unit : mm

Diameter	Flute Length	Overall Length	Morse Taper Shank Number
Ø D1	L2	L1	
3/4"	140	238	MT-2
13/16"	145	243	MT-2
7/8"	150	248	MT-2
1"	165	286	MT-2
1.1/8"	175	296	MT-3
1-1/4"	185	306	MT-3
1-3/8"	190	339	MT-4
1-7/16"	195	344	MT-4
1-1/2"	200	349	MT-4
1-5/8"	205	354	MT-4
1-3/4"	210	359	MT-4
2"	225	374	MT-4

Unit : mm

Taper Shank Twist Drills



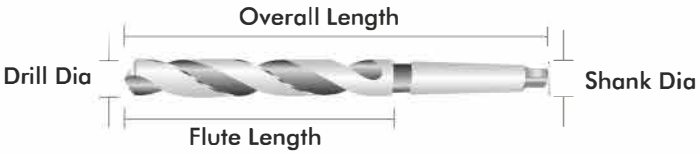


Size-Diameter		Length mm	
mm	inch	flute	overall
MT1			
3.00		33	114
3.17	1/8	36	117
3.20		36	117
3.50		39	120
3.57	9/64	39	120
3.80		43	124
3.97	5/32	43	124
4.00		43	124
4.20		43	124
4.37	11/64	47	128
4.50		47	128
4.76	3/16	52	133
4.80		52	133
5.00		52	133
5.16	13/64	52	133
5.20		52	133
5.50		57	138
5.56	7/32	57	138
5.80		57	138
5.95	15/64	57	138
6.00		57	138
6.20		63	144
6.35	1/4	63	144
6.50		63	144
6.75	17/64	69	150
6.80		69	150
7.00		69	150
7.14	9/32	69	150
7.20		69	150
7.50		69	150
7.54	19/64	75	156
7.80		75	156
7.94	5/16	75	156
8.00		75	156
8.20		75	156
8.33	21/64	75	156
8.50		75	156

Size-Diameter		Length mm	
mm	inch	flute	overall
8.73	11/32	81	162
8.80		81	162
9.00		81	162
9.13	23/64	81	162
9.20		81	162
9.50		81	162
9.52	3/8	87	168
9.80		87	168
9.92	25/64	87	168
10.00		87	168
10.20		87	168
10.32	13/32	87	168
10.50		87	168
10.72	27/64	94	175
10.80		94	175
11.00		94	175
11.11	7/16	94	175
11.20		94	175
11.50		94	175
11.51	29/64	94	175
11.80		94	175
11.91	15/32	101	182
12.00		101	182
12.20		101	182
12.30	31/64	101	182
12.50		101	182
12.70	1/2	101	182
12.80		101	182
13.00		101	182
13.10	33/64	101	182
13.20		101	182
13.49	17/32	108	189
13.50		108	189
13.80		108	189
13.89	35/64	108	189
14.00		108	189
MT2			
14.25		114	212

Continue...



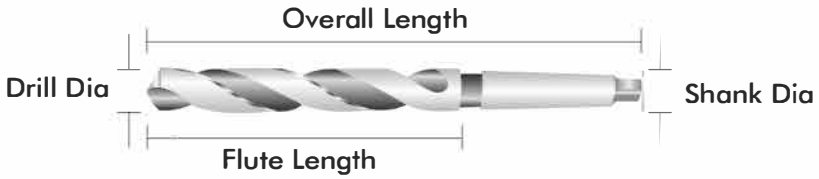


Size-Diameter		Length mm	
mm	inch	flute	overall
14.29	9/16	114	212
14.50		114	212
14.68	37/64	114	212
14.75		114	212
15.00		114	212
15.08	19/32	120	218
15.25		120	218
15.48	39/64	120	218
15.50		120	218
15.75		120	218
15.87	5/8	120	218
16.00		120	218
16.25		125	223
16.27	41/64	125	223
16.50		125	223
16.67	21/32	125	223
16.75		125	223
17.00		125	223
17.07	43/64	130	228
17.25		130	228
17.46	11/16	130	228
17.50		130	228
17.75		130	228
17.86	45/64	130	228
18.00		130	228
18.25		135	233
18.26	23/32	135	233
18.50		135	233
18.65	47/64	135	233
18.75		135	233
19.00		135	233
19.05	3/4	140	238
19.25		140	238
19.45	49/64	140	238
19.50		140	238
19.75		140	238
19.84	25/32	140	238
20.00		140	238

Size-Diameter		Length mm	
mm	inch	flute	overall
20.24	51/64	145	243
20.25		145	243
20.50		145	243
20.64	13/16	145	243
20.75		145	243
21.00		145	243
21.03	53/64	145	243
21.25		150	248
21.43	27/32	150	248
21.50		150	248
21.75		150	248
21.83	55/64	150	248
22.00		150	248
22.22	7/8	150	248
22.25		150	248
22.50		155	253
22.62	57/64	155	253
22.75		155	253
23.00		155	253
23.02	29/32	155	253
MT3			
23.25		155	276
23.42	59/64	155	276
23.50		155	276
23.75		160	281
23.81	15/16	160	281
24.00		160	281
24.21	61/64	160	281
24.25		160	281
24.50		160	281
24.61	31/32	160	281
24.75		160	281
25.00	63/64	160	281
25.25		165	286
25.40	1	165	286
25.50		165	286
25.75		165	286
25.80	1.1/64	165	286

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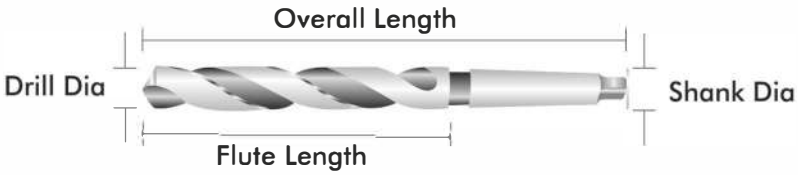


Size-Diameter		Length mm	
mm	inch	flute	overall
26.00		165	286
26.19	1.1/32	165	286
26.25		165	286
26.50		165	286
26.59	1.3/64	170	291
26.75		170	291
26.99	1.1/16	170	291
27.00		170	291
27.25		170	291
27.38	1.5/64	170	291
27.50		170	291
27.75		170	291
27.78	1.3/32	170	291
28.00		170	291
28.18	1.7/64	175	296
28.25		175	296
28.50		175	296
28.57	1.1/8	175	296
28.75		175	296
28.97	1.9/64	175	296
29.00		175	296
29.25		175	296
29.37	1.5/32	175	296
29.50		175	296
29.75		175	296
29.77	1.11/64	175	296
30.00		175	296
30.16	1.3/16	180	301
30.25		180	301
30.50		180	301
30.56	1.13/64	180	301
30.75		180	301
30.96	1.7/32	180	301
31.00		180	301
31.25		180	301
31.35	1.15/64	180	301
31.50		180	301
31.75	1.1/4	185	306

Size-Diameter		Length mm	
mm	inch	flute	overall
MT4			
32.00		185	334
32.15	1.17/64	185	334
32.50		185	334
32.54	1.9/32	185	334
32.94	1.19/64	185	334
33.00		185	334
33.34	1.5/16	185	334
33.50		185	334
33.73	1.21/64	190	339
34.00		190	339
34.13	1.11/32	190	339
34.50		190	339
34.53	1.23/64	190	339
34.92	1.3/8	190	339
35.00		190	339
35.32	1.25/64	190	339
35.50		190	339
35.72	1.13/32	195	344
36.00		195	344
36.12	1.27/64	195	344
36.50		195	344
36.51	1.7/16	195	344
36.91	1.29/64	195	344
37.00		195	344
37.31	1.15/32	195	344
37.50		195	344
37.70	1.31/64	200	349
38.00		200	349
38.10	1.1/2	200	349
38.50	1.33/64	200	349
38.89	1.17/32	200	349
39.00		200	349
39.29	1.35/64	200	349
39.50		200	349
39.69	1.9/16	200	349
40.00		200	349
40.08	1.37/64	205	354

Continue...





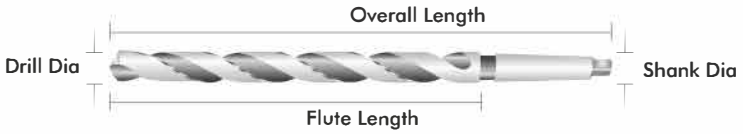
Size-Diameter		Length mm	
mm	inch	flute	overall
40.48	1.19/32	205	354
40.50		205	354
40.88	1.39/64	205	354
41.00		205	354
41.27	1.5/8	205	354
41.50		205	354
41.67	1.41/64	205	354
42.00		205	354
42.07	1.21/32	205	354
42.47	1.43/64	205	354
42.50		205	354
42.86	1.11/16	210	359
43.00		210	359
43.26	1.45/64	210	359
43.50		210	359
43.66	1.23/32	210	359
44.00		210	359
44.05	1.47/64	210	359
44.45	1.3/4	210	359
44.50		210	359
44.85	1.49/64	210	359
45.00		210	359
45.24	1.25/32	215	364
45.50		215	364
45.64	1.51/64	215	364
46.00		215	364
46.04	1.13/16	215	364
46.43	1.53/64	215	364
46.50		215	364
46.83	1.27/32	215	364
47.00		215	364
47.23	1.55/64	215	364
47.50		215	364
47.62	1.7/8	220	369
48.00		220	369
48.02	1.57/64	220	369
48.42	1.29/32	220	369
48.50		220	369

Size-Diameter		Length mm	
mm	inch	flute	overall
48.82	1.59/64	220	369
49.00		220	369
49.21	1.15/16	220	369
49.50		220	369
49.61	1.61/64	220	369
50.00		220	369
50.01	1.31/32	225	374
50.40	1.63/64	225	374
50.50		225	374
50.80	2	225	374
MT5			
51.00		225	412
51.50		225	412
51.59	2.1/32	225	412
52.00		225	412
52.39	2.1/16	225	412
52.50		225	412
53.00		225	412
53.18	2.3/32	230	417
53.50		230	417
53.97	2.1/8	230	417
54.00		230	417
54.50		230	417
54.77	2.5/32	230	417
55.00		230	417
55.50		230	417
55.56	2.3/16	230	417
56.00		230	417
56.36	2.7/32	230	417
56.50		230	417
57.00		235	422
57.15	2.1/4	235	422
57.50		235	422
57.94	2.9/32	235	422
58.00		235	422
58.50		235	422
58.74	2.5/16	235	422
59.00		235	422
59.50		235	422
59.53	2.11/32	235	422
60.00		235	422

SIZE RANGE		MT NO.	INSTEAD OF MT NO.
MM	INCH		
11.8 to 14.0	15/32 to 35/64	2	1
18.0 to 23.0	23/32 to 29/32	3	2
26.5 to 31.75	1.3/64 to 1.1/4	4	3
40.0 to 50.80	1.37/64 to 2	5	4
63.0 to 66.67	2.1/2 to 2.5/8	6	5

Taper Shank Twist Drills (Long Series)



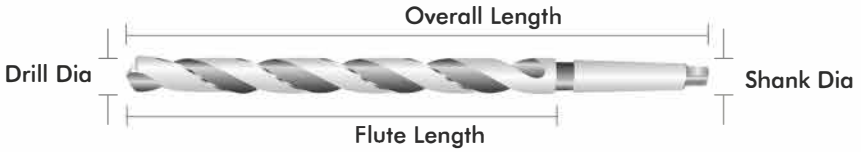


Size-Diameter		Length mm	
mm	inch	flute	overall
MT1			
5.00		74	155
5.16	13/64	74	155
5.20		74	155
5.50		80	161
5.56	7/32	80	161
5.80		80	161
5.95	15/64	80	161
6.00		80	161
6.20		86	167
6.35	1/4	86	167
6.50		86	167
6.75	17/64	93	174
6.80		93	174
7.00		93	174
7.14	9/32	93	174
7.20		93	174
7.50		93	174
7.54	19/64	100	181
7.80		100	181
7.94	5/16	100	181
8.00		100	181
8.20		100	181
8.33	21/64	100	181
8.50		100	181
8.73	11/32	107	188
8.80		107	188
9.00		107	188
9.13	23/64	107	188
9.20		107	188
9.50		107	188
9.52	3/8	116	197
9.80		116	197
9.92	25/64	116	197
10.00		116	197
10.20		116	197
10.32	13/32	116	197
10.50		116	197

Size-Diameter		Length mm	
mm	inch	flute	overall
10.72	27/64	125	206
10.80		125	206
11.00		125	206
11.11	7/16	125	206
11.20		125	206
11.50		125	206
11.51	29/64	125	206
11.80		125	206
11.91	15/32	134	215
12.00		134	215
12.20		134	215
12.30	31/64	134	215
12.50		134	215
12.70	1/2	134	215
12.80		134	215
13.00		134	215
13.10	33/64	134	215
13.20		134	215
13.49	17/32	142	223
13.50		142	223
13.80		142	223
13.89	35/64	142	223
14.00		142	223
MT2			
14.25		147	245
14.29	9/16	147	245
14.50		147	245
14.68	37/64	147	245
14.75		147	245
15.00		147	245
15.08	19/32	153	251
15.25		153	251
15.48	39/64	153	251
15.50		153	251
15.75		153	251
15.87	5/8	153	251
16.00		153	251
16.25		159	257

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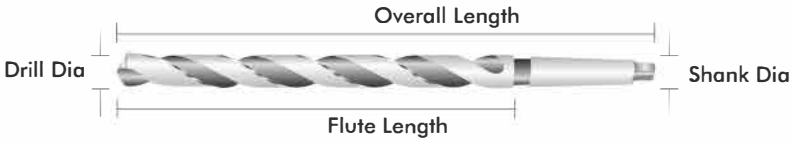


Size-Diameter		Length mm	
mm	inch	flute	overall
16.27	41/64	159	257
16.50		159	257
16.67	21/32	159	257
16.75		159	257
17.00		159	257
17.07	43/64	165	263
17.25		165	263
17.46	11/16	165	263
17.50		165	263
17.75		165	263
17.86	45/64	165	263
18.00		165	263
18.25		171	263
18.26	23/32	171	269
18.50		171	269
18.65	47/64	171	269
18.75		171	269
19.00		171	269
19.05	3/4	177	275
19.25		177	275
19.45	49/64	177	275
19.50		177	275
19.75		177	275
19.84	25/32	177	275
20.00		177	275
20.24	51/64	184	282
20.25		184	282
20.50		184	282
20.64	13/16	184	282
20.75		184	282
21.00		184	282
21.03	53/64	184	282
21.25		191	289
21.43	27/32	191	289
21.50		191	289
21.75		191	289
21.83	55/64	191	289
22.00		191	289

Size-Diameter		Length mm	
mm	inch	flute	overall
22.22	7/8	191	289
22.25		191	289
22.50		198	296
22.62	57/64	198	296
22.75		198	296
23.00		198	296
23.02	29/32	198	296
MT3			
23.25		198	319
23.42	59/64	198	319
23.50		198	319
23.75		206	327
23.81	15/16	206	327
24.00		206	327
24.21	61/64	206	327
24.25		206	327
24.50		206	327
24.61	31/32	206	327
24.75		206	327
25.00	63/64	206	327
25.25		214	335
25.40	1	214	335
25.50		214	335
25.75		214	335
26.00		214	335
26.19	1.1/32	214	335
26.25		214	335
26.50		214	335
26.75		222	343
26.99	1.1/16	222	343
27.00		222	343
27.25		222	343
27.50		222	343
27.75		222	343
27.78	1.3/32	222	343
28.00		222	343
28.25		230	351
28.50		230	351

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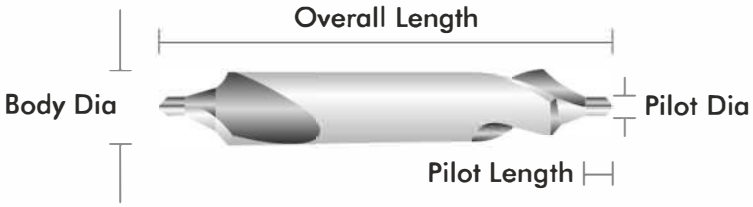


Size-Diameter		Length mm	
mm	inch	flute	overall
28.57	1.1/8	230	351
28.75		230	351
29.00		230	351
29.25		230	351
29.37	1.5/32	230	351
29.50		230	351
29.75		230	351
30.00		230	351
30.16	1.3/16	239	360
30.25		239	360
30.50		239	360
30.75		239	360
30.96	1.7/32	239	360
31.00		239	360
31.25		239	360
31.50		239	360
31.75	1.1/4	248	369
MT4			
32.00		248	397
32.50		248	397
32.54	1.9/32	248	397
33.00		248	369
33.34	1.5/16	348	369
33.50		248	369
34.00		257	406
34.13	1.11/32	257	406
34.50		257	406
34.92	1.3/8	257	406
35.00		257	406
35.50		257	406
35.72	1.13/32	267	416
36.00		267	416
36.50		267	416
36.51	1.7/16	267	416
37.00		267	416
37.31	1.15/32	267	416
37.50		267	416
38.00		277	426

Size-Diameter		Length mm	
mm	inch	flute	overall
38.10	1.1/2	277	426
38.50		277	426
38.89	1.17/32	277	426
39.00		277	426
39.50		277	426
39.69	1.9/16	277	426
40.00		277	426
40.48	1.19/32	287	436
40.50		287	436
41.00		287	436
41.27	1.5/8	287	436
41.50		287	436
42.00		287	436
42.07	1.21/32	287	436
42.50		287	436
42.86	1.11/16	298	447
43.00		298	447
43.50		298	447
43.66	1.23/32	298	447
44.00		298	447
44.45	1.3/4	298	447
44.50		298	447
45.00		298	447
45.24	1.25/32	310	459
45.50		310	459
46.00		310	459
46.04	1.13/16	310	459
46.50		310	459
46.83	1.27/32	310	459
47.00		310	459
47.50		310	459
47.62	1.7/8	321	470
48.00		321	470
48.42	1.29/32	321	470
48.50		321	470
49.00		321	470
49.21	1.15/16	321	470
49.50		321	470
50.00		321	470

HSS Center Drill





TYPE 'A'

Pilot Dia mm k 12	Body Dia mm h9	Overall Length mm		Pilot Length mm	
		Max.	Min.	Max.	Min.
1.00	3.15	33.5	29.5	1.9	1.3
1.25	3.15	33.5	29.5	2.2	1.6
1.60	4.00	37.5	33.5	2.8	2.0
2.00	5.00	42.0	38.0	3.3	2.5
2.50	6.30	47.0	43.0	4.1	3.1
3.15	8.00	52.0	48.0	4.9	3.9
4.00	10.00	59.0	53.0	6.2	5.0
5.00	12.50	66.0	60.0	7.5	6.3

TYPE 'B'

Pilot Dia mm k 12	Body Dia mm h9	Overall Length mm		Pilot Length mm	
		Max.	Min.	Max.	Min.
1.60	6.30	47	43	2.8	2.0
2.00	8.00	52	48	3.3	2.5
2.50	10.00	59	53	4.1	3.1
3.15	11.20	63	57	4.9	3.9
4.00	14.00	70	64	6.2	5.0

(PART 2)

Size	Pilot Dia Inch	Body Dia Inch	Pilot Length Inch		OAL Inch	Tolerance on Overall Length
			Max.	Min.		
BS 1	3/64	1/8	5/64	1/16	1.1/2	± 1/32
BS 2	1/16	3/16	3/32	5/64	1.3/4	± 1/33
BS 3	3/32	1/4	5/32	1/8	2	± 1/16
BS 4	1/8	5/16	3/16	5/32	2.1/4	± 1/16
BS 5	3/16	7/16	9/32	1/4	2.1/2	± 3/32
BS 6	1/4	5/8	0.375	0.312	3.093	2.906

Taper Shank Core Drill - Inch



ANSI/ASME B94.11M-1993

Size	Flute Length	Overall Length	Morse Taper
1/2"	4-3/8"	8-1/4"	2
17/32"	4-5/8"	8-1/2"	2
9/16"	4-7/8"	8-3/4"	2
19/32"	4-7/8"	8-3/4"	2
5/8"	4-7/8"	8-3/4"	2
21/32"	5-1/8"	9"	2
11/16"	5-3/8"	9-1/4"	2
23/32"	5-5/8"	9-1/2"	2
3/4"	5-7/8"	9-3/4"	2
25/32"	6"	9-7/8"	3
13/16"	6-1/8"	10-3/4"	3
27/32"	6-1/8"	10-3/4"	3
7/8"	6-1/8"	10-3/4"	3
29/32"	6-1/8"	10-3/4"	3
15/16"	6-1/8"	10-3/4"	3
31/32"	6-3/8"	11"	3
1"	6-3/8"	11"	3
1-1/32"	6-1/2"	11-1/8"	3
1-1/16"	6-5/8"	11-1/4"	3

Size	Flute Length	Overall Length	Morse Taper
1-3/32"	6-7/8"	12-1/4"	4
1-1/8"	7-1/8"	12-3/4"	4
1-5/32"	7-1/4"	12-7/8"	4
1-3/16"	7-3/8"	13"	4
1-7/32"	7-1/2"	13-1/8"	4
1-1/4"	7-7/8"	13-1/2"	4
1-9/32"	8-1/2"	14-1/8"	4
1-5/16"	8-5/8"	14-1/4"	4
1-11/32"	8-3/4"	14-3/8"	4
1-3/8"	8-7/8"	14-1/2"	4
1-13/32"	9"	14-5/8"	4
1-7/16"	9-1/8"	14-3/4"	4
1-15/32"	9-1/4"	14-7/8"	4
1-1/2"	9-3/8"	15"	4
1-17/32"	9-3/8"	16-3/8"	5
1-9/16"	9-5/8"	16-5/8"	5
1-19/32"	9-7/8"	16-7/8"	5
1-5/8"	10"	17"	5
1-21/32"	10-1/8"	17-1/8"	5

Size	Flute Length	Overall Length	Morse Taper
1-11/16"	10-1/8"	17-1/8"	5
1-23/32"	10-1/8"	17-1/8"	5
1-3/4"	10-1/8"	17-1/8"	5
1-25/32"	10-1/8"	17-1/8"	5
1-13/16"	10-1/8"	17-1/8"	5
1-27/32"	10-1/8"	17-1/8"	5
1-7/8"	10-3/8"	17-3/8"	5
1-29/32"	10-3/8"	17-3/8"	5
1-15/16"	10-3/8"	17-3/8"	5
1-31/32"	10-3/8"	17-3/8"	5
2"	10-3/8"	17-3/8"	5
2-1/8"	10-1/4"	17-3/8"	5
2-1/4"	10-1/8"	17-3/8"	5
2-3/8"	10-1/8"	18-3/4"	5
2-1/2"	11-1/4"	19-1/2"	5
2-5/8"	11-7/8"	19-1/2"	5
2-3/4"	12-3/4"	20-3/8"	5
2-7/8"	13-3/8"	21-1/8"	5
3"	14"	21-3/4"	5

Taper Shank Core Drill - Metric



DIN343, H8

Size	Flute Length	Overall Length	Morse Taper
8	75	156	1
9	81	162	1
10	87	168	1
11	94	175	1
12	101	182	1
13	101	182	1
14	108	189	1
15	114	212	2
16	120	218	2
17	125	223	2
18	130	228	2

Size	Flute Length	Overall Length	Morse Taper
19	135	233	2
20	140	238	2
21	145	243	2
22	150	248	2
23	155	253	2
24	160	281	3
25	160	281	3
26	165	286	3
28	170	291	3
30	175	296	3
32	185	334	4

Size	Flute Length	Overall Length	Morse Taper
34	190	339	4
35	190	339	4
36	195	344	4
38	200	349	4
40	200	349	4
42	205	354	4
44	210	359	4
45	210	359	4
46	215	364	4
48	220	369	4
50	220	369	4

Counterbore

COUNTERBORE, DIN373

3-Flute, Material: HSS, HSS-E.



(DIN 373)

Screw Size	Cutting Diameter	Pilot Diameter	Shank Diameter	Total Length	Flute Number
1	2.2	0.75	2.2	45	2
1.2	2.5	0.95	2.5	45	2
1.4	2.8	1.1	2.8	45	2
1.6	3.3	1.25	3.3	56	2
1.8	3.8	1.45	3.8	56	2
2	4.3	1.6	4.3	56	2
2.5	5	2.05	5	56	2
3	6	2.5	5	71	3
3.5	6.5	2.9	5	71	3
4	8	3.3	5	71	3
4.5	9	3.7	8	80	3
5	10	4.2	8	80	3
6	11	5	8	80	3
7	13	6	12.5	100	3
8	15	6.8	12.5	100	3
9	16	7.8	12.5	100	3
10	18	8.5	12.5	100	3
12	20	10.2	12.5	100	3

Step Drill

Material: HSS.
Bright Finishing or Tin-coated.



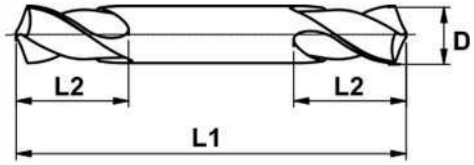
STC001A, INCH SIZES STEPS DRILL

No. of Holes	Description	Shank Diameter	Step Thickness
13	1/8" - 1/2" by 1/32" increase	1/4"	1/8"
6	3/16" - 1/2" by 1/16" increase	1/4"	3/8"
9	1/4" - 3/4" by 1/16" increase	3/8"	1/8"
12	3/16" - 7/8" by 1/16" increase	3/8"	1/8"
10	1/4" - 1.3/8" by 1/8" increase	1/2"	1/8"

STC001A, INCH SIZES STEPS DRILL

No. of Holes	Description	Shank Diameter
9	4 - 12mm by 1mm Increase	6/6.5mm
5	4 - 12mm by 2mm Increase	6/6.5mm
7	6 - 18mm by 2mm Increase	10mm
8	6 - 20mm by 2mm Increase	8mm
12	6 - 30mm by 2/3mm Increase	10mm
9	4 - 20mm by 2mm Increase	10mm
10	4 - 22mm by 2mm Increase	10mm
14	4 - 30mm by 2 mm increase	14mm
13	5 - 35mm by 2/3mm Increase	13mm

HSS Double End Drill Bit, Ground, Split Point | 304





D Ø mm	L2 mm	L1 mm	
3,00	10	46	10
3,10	10	46	10
3,20	10	49	10
3,30	10	49	10
3,50	13	52	10
4,00	13	55	10
4,10	13	55	10
4,20	13	55	10
4,50	16	58	10
4,80	16	58	10
5,00	16	62	10
5,10	16	62	10
5,20	16	62	10

Parallel Shank Slot Drill



Diameter e8	Shank Dia h8	Cutting Edge Length	Overall Length
3	4	5	37
4	4	7	39
5	5	8	42
6	6	8	52
7	8	10	54
8	8	11	55
9	10	11	61
10	10	13	63
11	12	13	70
12	12	16	73
14	12	16	73
16	16	19	79
18	16	19	79

Diameter e8	Shank Dia h8	Cutting Edge Length	Overall Length
20	20	22	88
22	20	22	88
25	25	26	102
28	25	26	102
32	32	32	112
36	32	32	112
40	40	38	130
45	40	38	130
50	50	45	147
56	50	45	147
63	50	53	155
71	63	53	165

Diameter e8	Shank Dia	Cutting Edge Length	Overall Length
3	6	5	49
4	6	7	51
5	6	8	52
6	6	8	52
7	10	10	60
8	10	11	61
10	10	13	63
12	12	16	73
14	12	16	73
16	16	19	79
18	16	19	79
20	20	22	88

Diameter e8	Shank Dia	Cutting Edge Length	Overall Length
22	20	22	88
24	25	26	102
25	25	26	102
28	25	26	102
32	32	32	112
36	32	32	112
40	40	38	130
45	40	38	130
50	50	45	147
56	50	45	147
63	50	53	155

Parallel Shank Slot Drill

Diameter	Cutting Edge Length	Overall Length	Dia of Shank
1/8	3/8	1.7/8	1/4
5/32	3/8	1.7/8	1/4
3/16	1/2	2	1/4
7/32	1/2	2	1/4
1/4	5/8	2.1/8	1/4
5/16	3/4	2.1/2	3/8
3/8	7/8	2.5/8	3/8
7/16	7/8	2.5/8	1/2
1/2	1	2.3/4	1/2

Diameter	Cutting Edge Length	Overall Length	Dia of Shank
9/16	1.1/8	2.7/8	1/2
5/8	1.1/4	3.1/4	5/8
11/16	1.3/8	3.3/8	5/8
3/4	1.1/2	3.1/2	5/8
7/8	1.5/8	3.5/8	3/4
1	1.3/4	3.3/4	3/4
1.1/8	1.7/8	4.1/8	1
1.1/4	2	4.1/4	1
1.3/8	2.1/8	4.5/8	1
1.1/2	2.1/4	4.3/4	1



Taper Shank Slot Milling Cutters with Tanged End

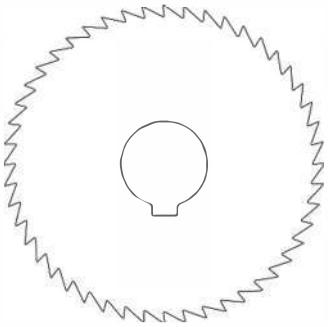
Diameter d9	Cutting Edge Length	Overall Length	Morse Taper No.
3	6	80	1
4	6	80	1
5	8	82	1
6	8	82	1
7	10	84	1
8	10	84	1
9	10	84	1
10	16	90	1
11	16	90	1
12	16	90	1
14	16	90	1
15	18	110	2
16	18	110	2
18	18	110	2
20	20	114	2

Diameter d9	Cutting Edge Length	Overall Length	Morse Taper No.
21	20	114	2
22	22	118	2
23	22	118	2
24	25	143	3
25	25	143	3
26	25	143	3
28	25	143	3
30	28	148	3
32	28	148	3
34	32	179	4
35	32	179	4
36	32	179	4
38	36	186	4
40	36	186	4



HSS SLITTING SAW

HSS Slitting Saw



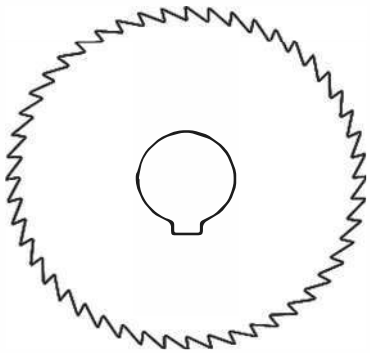


Cutter Dia.	Width of Face	Hole Size	No. of Teeth
1-3/4"	1/32"	1/2"	28
	1/16"		
	1/8"		
2"	1/16"	1/2"	28
	1/8"		
2-1/2"	3/64"	3/8"	28
	1/32"	7/8"	
	3/64"		
	1/16"		
	3/32"		
	1/8"		
3"	1/64"	1"	30
	1/32"		
	3/64"		
	1/16"		
	5/64"		
	3/32"		
	7/64"		
	1/8"		
	9/64"		
	5/32"		
3-1/2"	1/32"	1"	30
	3/64"		
	1/16"		
	5/64"		
	3/32"		
	7/64"		
	1/8"		
	9/64"		
	5/32"		
	3/16"		
4"	1/64"	1"	36
	1/32"		
	3/64"		
	1/16"		
	5/64"		
	3/32"		
	7/64"		
	1/8"		
	9/64"		
	5/32"		
	3/16"		
4-1/2"	1/32"	1"	36

Cutter Dia.	Width of Face	Hole Size	No. of Teeth
4-1/2"	3/64"	1"	36
	1/16"		
	3/32"		
	1/8"		
5"	3/64"	1"	40
	1/16"		
	5/64"		
	3/32"		
	7/64"		
	1/8"		
	9/64"		
	5/32"		
	3/16"		
	1/16"	1-1/4"	
	3/32"		
	1/8"		
	5/32"		
	3/16"		
6"	3/64"	1"	42
6"	1/16"	1"	42
	5/64"		
	3/32"		
	7/64"		
	1/8"		
	9/64"		
	5/32"		
	3/16"		
	1/16"	1-1/4"	
	3/32"		
	1/8"		
	5/32"		
	3/16"		
8"	3/32"	1"	48
	1/8"		
	3/16"		
	3/32"	1-1/4"	
	1/8"		
	3/16"		
	1/4"		
10"	3/32"	1-1/4"	56
	1/8"		
	3/16"		
	1/4"		62

HSS Slitting Saw - Fine Teeth





DIN1838B

Cutter Dia.	Width of Face	Hole Size	No. of Teeth
20	5	0.2	80
		0.25	
		0.3	64
		0.4	
		0.5	
		0.6	48
		0.8	
		1	
		1.2	40
		1.6	
		2	
		2.5	32
		3	
		4	
		5	24
		6	
25	8	0.2	
		0.25	80
		0.3	
		0.4	
		0.5	64
		0.6	
		0.8	
		1	48
		1.2	
		1.6	
		2	40
		2.5	
		3	
		4	32
		5	
		2.5	24
32	8	0.2	100
		0.25	
		0.3	
		0.4	80
		0.5	
		0.6	
		0.8	64
		1	
		1.2	
		1.6	48
		2	
		2.5	
		3	40
		4	
		5	
		6	32
40	10	0.2	128
		0.25	
		0.3	100
		0.4	

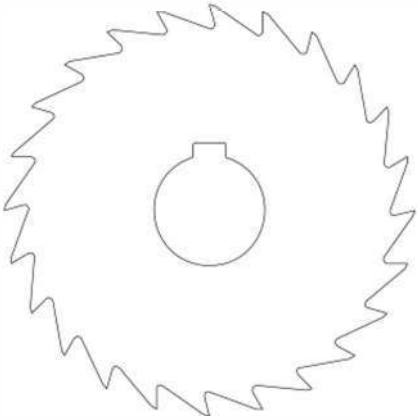
Cutter Dia.	Width of Face	Hole Size	No. of Teeth
40	10	0.5	
		0.6	80
		0.8	
		1	
		1.2	64
40	10	1.6	64
		2	
		2.5	48
		3	
		4	
		5	40
		6	
50	13	0.2	
		0.25	128
		0.3	
		0.4	
		0.5	100
		0.6	
		0.8	
		1	80
		1.2	
		1.6	
		2	64
		2.5	
		3	
		4	48
		5	
		6	40
63	16	0.25	160
		0.3	
		0.4	128
		0.5	
		0.6	
		0.8	100
		1	
		1.2	
		1.6	80
		2	
		2.5	
		3	64
		4	
		5	
		6	48
80	22	0.3	160
		0.4	
		0.5	
		0.6	128
		0.8	
		1	
		1.2	100
		1.6	
		2	80

DIN1837A

Cutter Dia.	Width of Face	Hole Size	No. of Teeth
80	22	2.5	80
		3	
		4	
		5	64
		6	
100		0.5	160
		0.6	
		0.8	
		1	128
		1.2	
100	22	1.6	
		2	100
		2.5	
		3	
		4	80
		5	
		6	64
125	22	0.6	
		0.8	160
		1	
		1.2	
		1.6	128
		2	
		2.5	
		3	100
		4	
		5	
		6	80
160	32	1	
		1.2	160

Cutter Dia.	Width of Face	Hole Size	No. of Teeth
160	32	1.6	160
		2	
		2.5	128
		3	
		4	
		5	100
		6	
200	32	1	
		1.2	200
		1.6	
		2	160
		2.5	
		3	
		4	128
		5	
		6	100
250	32	1.6	
		2	200
		2.5	
		3	160
		4	
		5	
		6	128
315	40	2	
		2.5	200
		3	
		4	
		5	160
		6	

DIN1838B





Cutter Dia.	Width of Face	Hole Size	No. of Teeth
50	13	0.5	48
		0.6	
		0.8	40
		1	
		1.2	
		1.6	32
		2	
		2.5	
		3	24
		4	
		5	
		6	20
63	16	0.5	64
		0.6	48
		0.8	
		1	
		1.2	40
		1.6	
		2	
		2.5	32
		3	
		4	
		5	24
		6	
80	22	0.6	64
		0.8	
		1	48
		1.2	
		1.6	
		2	40
		2.5	
		3	
80	22	4	32
		5	
		6	
100	22	0.6	80
		0.8	64
		1	
		1.2	
		1.6	48
		2	
		2.5	
		3	40
		4	
		5	
		6	32

Cutter Dia.	Width of Face	Hole Size	No. of Teeth
125		0.8	80
		1	
		1.2	64
		1.6	
		2	
		2.5	48
		3	
		4	
		5	40
		6	
160	32	1	80
		1.2	
		1.6	
		2	64
		2.5	
		3	
		4	48
		5	
160	32	6	48
200	32	1.2	100
		1.6	80
		2	
		2.5	
		3	64
		4	
		5	
		6	48
250	32	1.6	100
		2	
		2.5	80
		3	
		4	
		5	64
		6	
315	40	2	100
		2.5	
		3	
		4	80
		5	
		6	





TIN Coating

COATING WITH A TITANIUM BASE 3 MICRONS THICK. THE HARDNESS OF THE COATED LAYER REACHES 2480 VICKERS. IT IS A COATING SUITABLE FOR CUTTING LOW ALLOY STEEL AND SHOULD ALWAYS BE USED WITH PLENTY OF LUBRICATION. IT IS NOT SUITABLE FOR CUTTING COPPER, BRASS OR BRONZE.



TIALN Coating

MULTILAYER COATING 3 MICRONS THICK. THE PLASMA IS OBTAINED FROM THE FUSION OF A TITANIUM/ALUMINIUM CATHODE. AN EXCELLENT COATING THAT GUARANTEE HIGH THERMAL RESISTANCE. IT HAS AN OXIDATION TEMPERATURE OF 800°C RESULTING IN A SURFACE HARDNESS OF 3400 VICKERS.



Steam Treated

A STEAM TREATED SAW BLADE HAS A FERRIC OXIDE SURFACE COATING FOR A LONGER BLADE LIFE THAN THE BRIGHT SAW BLADE. IT IS MAINLY USED FOR CUTTING STEEL ON MANUAL AND SEMI-AUTOMATIC SAWING MACHINES.



TICN Coating

COATING 2,5 MICRONS THICK. IT IS MADE BY MEANS OF A PLASMA OF TITANIUM AND CARBON THAT INCREASES THE HARDNESS TO 3000 VICKERS. THE FRICTION COEFFICIENT (0,22) IS VERY LOW DUE TO THE HIGH CARBON CONTENT.

Continue...

Diameter (mm)	Thickness (mm)	Inner Diameter (mm)	Outer Diameter (mm)	Number of Teeth (Tooth Pitch) and Tooth Form														
-	-	-	-	T1.5	T2.5	T3	T4	T4.5	T5	T5.5	T6	T7	T8	T9	T10	T12	T14	T16	T18
-	-	-	-	A	A	BW	BW	BW	BW	BW	C	C	C	C	C	C	C	C	C
175	1.2, 1.5	32	7.5	360	220	180	140	120	110	100	90	80	70	60	-	-	-	-	-
175	2.0	32	7.5	360	220	180	140	120	110	100	90	80	70	60	-	-	-	-	-
200	1.0, 1.2	32	100	420	250	200	160	140	130	120	100	90	80	70	60	-	-	-	-
200	1.6, 1.8	32	90	420	250	200	160	140	130	120	100	90	80	70	60	-	-	-	-
200	2.0	25.4/32	90	420	250	200	160	140	130	120	100	90	80	70	60	-	-	-	-
200	2.5	32	90	420	250	200	160	140	130	120	100	90	80	70	60	-	-	-	-
225	1.2	32	100	470	280	220	160	160	140	128	120	100	90	80	70	60	-	-	-
225	1.5, 1.6	32	90	470	280	220	160	160	140	128	120	100	90	80	70	60	-	-	-
225	1.8, 1.9	32/40	90	470	280	220	160	160	140	128	120	100	90	80	70	60	-	-	-
225	2.0	32/40	90	470	280	220	160	160	140	128	120	100	90	80	70	60	-	-	-
225	2.5, 3.0	32	90	470	280	220	160	160	140	128	120	100	90	80	70	60	-	-	-
250	1.0 ,1.2	32	100	520	320	250	200	180	160	140	128	110	100	90	80	66	-	-	-
250	1.5 ,1.6	32	100	520	320	250	200	180	160	140	128	110	100	90	80	66	-	-	-
250	2.0, 2.5	25.4/ 32/40	100	520	320	250	200	180	160	140	128	110	100	90	80	66	-	-	-
250	3.0	25.4/ 32/40	100	520	320	250	200	180	180	140	128	110	100	90	80	66	-	-	-
275	1.2, 1.6	32/40	100	-	350	280	220	200	180	160	140	120	110	96	90	70	60	-	-
275	2.0, 2.5	32/40	100	-	350	280	220	200	180	160	140	120	110	96	90	70	60	-	-
300	1.2, 1.6	32/40	100	-	380	300	220	210	180	170	160	140	120	104	90	80	68	-	-
300	2.0, 2.5	32/40	100	-	380	300	220	210	180	170	160	140	120	104	90	80	68	-	-

Continue...

Diameter (mm)	Thickness (mm)	Inner Diameter (mm)	Outer Diameter (mm)	Number of Teeth (Tooth Pitch) and Tooth Form															
300	3.0	32/40	100	-	380	300	220	210	180	170	160	140	120	104	90	80	68	-	-
315	1.6 ,2.0	32/40	100	-	400	300	240	220	200	180	160	140	120	110	100	80	70	60	-
315	2.5, 3.5	32/40	100	-	400	300	240	220	200	180	160	140	120	110	100	80	70	60	-
315	3.0	32/40	100	-	400	300	240	220	200	180	160	140	120	110	100	80	70	60	-
325	2.0, 2.5	32/40	120	-	410	320	250	220	200	190	170	150	128	110	100	80	72	64	-
325	3.0	32/40	120	-	410	320	250	220	200	190	170	150	128	110	100	80	72	64	-
350	1.8, 2.0	32/40/50	120	-	440	350	280	240	220	200	180	160	140	120	110	90	80	70	60
350	2.5, 3.0	32/40/50	120	-	440	350	280	240	220	200	180	160	140	120	110	90	80	70	60
350	3.5	32/40/50	120	-	440	350	280	240	220	200	180	160	140	120	110	90	80	70	60
370	2.5, 3.0	32/40/50	120	-	-	380	280	260	220	210	190	160	140	120	110	96	80	70	64
375	2.0, 2.5	32/40/50	120	-	-	380	280	260	220	220	190	160	140	130	110	96	80	70	64
375	3.0	32/40/50	120	-	-	380	280	260	220	220	190	160	140	130	110	96	80	70	64
400	2.5, 3.0	32/40/50	120	-	-	-	310	280	250	230	200	180	160	140	120	100	90	80	70
400	3.5, 4.0	32/40/50	120	-	-	-	310	280	250	230	200	180	160	140	120	100	90	80	70
425	2.5, 3.0	32/40/50	120	-	-	-	320	300	260	240	200	190	160	150	130	110	90	84	70
425	3.5, 4.0	32/40/50	120	-	-	-	320	300	260	240	200	190	160	150	130	110	90	84	70
450	2.5	40/50	140	-	-	-	350	320	280	260	230	200	180	160	140	120	100	90	80
450	3.0	40/50	130	-	-	-	350	320	280	260	230	200	180	160	140	120	100	90	80
500	3.0, 3.5	40/50	130	-	-	-	380	350	310	280	260	220	200	170	160	130	110	100	90
525	3.5, 4.0	50	140	-	-	-	410	360	330	300	270	230	200	180	164	130	110	104	90
550	3.0, 3.5	50	140	-	-	-	430	380	340	310	290	250	220	190	170	140	120	110	90
550	4.0	50	140	-	-	-	430	420	340	310	290	250	220	190	170	140	120	110	90
600	3.5, 4.0	50	140	-	-	-	460	420	380	340	320	270	240	210	190	160	130	120	100

continue...

STANDARD PINHOLES

CENTRAL BORE	PINHOLES
ø 32	2-8-45 + 2-9-50 + 2-11-63
ø 32	SLOTS
ø 40	2-8-55 + 4-12-64
ø 50	4-15-80 + 4-14-85



A SHAPE

NORMALLY USED ON FINE TOOTHING FOR APPLICATIONS SUCH AS BRASS ALLOY CUTTING, JEWELLERY AND SCREW SLOTTING.



B SHAPE

NORMALLY USED FOR THIN-WALLED PIPES AND THE CUTTING OF STRUCTURAL SHAPES, ESPECIALLY WHERE CHIP REMOVAL IS NOT AN ISSUE.



AW SHAPE

UNLIKE TYPE A, IS ALTERNATELY BEVELLED, THUS OPTIMIZING CHIP SHREDDING. IT IS PARTICULARLY SUITABLE FOR PRECISION CUTTING.



BW SHAPE

MOSTLY USED FOR CUTTING PIPES AND SECTIONS. THE TOOTH IS ALTERNATELY BEVELLED AT 45°, BREAKS THE CHIP IN TWO AND GUARANTEES GOOD CHIP EVACUATION.



C SHAPE

USED FOR SOLID SECTIONS OR VERY THICK PIPES. THE CHIP IS SHREDDED INTO THREE PARTS DUE TO THE PRESENCE OF BOTH A FINISHING TOOTH WITHOUT CHAMFER AND A PRE-CUTTING TOOTH.



BR SHAPE

HAS BEEN SUCCESSFULLY INTRODUCED FOR CUTTING PIPES. IT HAS DOUBLE THE NUMBER OF CUTTING EDGES AND GUARANTEES A HIGHER NUMBER OF CUTS AND A BETTER FINISH TO THE SECTION.



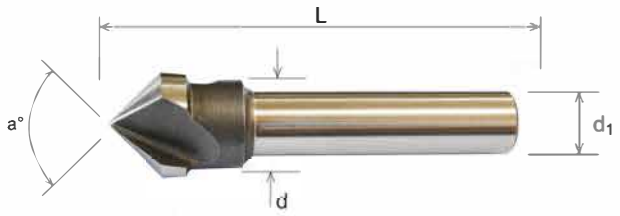
BW SHAPE

VARIABLE PITCH, IS USED TO CUT VERY IRREGULAR SECTIONS WHICH CAUSE SEVERE VIBRATION AND NOISE. IT GUARANTEES SOFTER CONTACT AND OFFERS A GOOD COMPROMISE BETWEEN CUT DURATION AND REDUCED VIBRATION.



HSS COUNTERBORE & COUNTERSINK

Parallel Shank Countersink



d	d_1	a° = 60°		a° = 90°
		L	Code	L
6.3	5	45	7610630	45
8	6	50	7610800	50
10	6	50	7611000	50
12.5	8	56	7611250	56
16	10	63	7611600	60
20	10	67	7612000	63
25	10	71	7612500	67

Properties		
M	HSS Co5	60° & 90°
DIN 334C 60°	DIN 335C 90°	

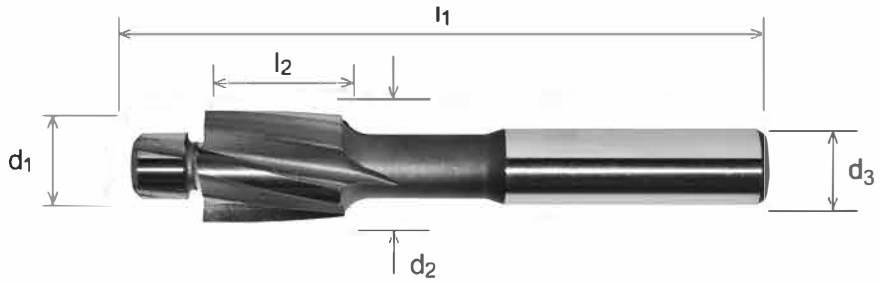
Countersink



d	Morse Taper	a° = 60°		a° = 90°	
		d_2	L	d_2	L
16	1	4	90	3.2	85
20	2	5	106	3.5	100
25	2	6.3	112	3.8	106
31.5	2	10	118	4.2	112
40	3	12.5	150	10	140
50	3	16	160	14	150
63	4	20	190	16	180
80	4	25	200	22	190

Properties		
M	HSS Co5	60° & 90°
DIN 334D 60°	DIN 335D 90°	MT 1 - 4

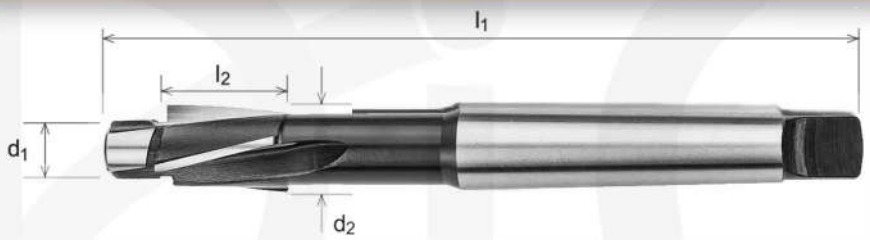
Parellel Shank Counterbore



To Suit Capscrew	d2	d1		d3	l2	l1
		Medium	Fine			
M3	6	3.4	3.2	5	14	71
M3.5	6.5	3.9	3.7	5	14	71
M4	8	4.5	4.3	5	14	71
M5	10	5.5	5.3	8	18	80
M6	11	6.6	6.4	8	18	80
M8	15	9	8.4	12.5	22	100
M10	18	11	10.5	12.5	22	100
M12	20	14	13	12.5	22	100

Properties		
M	HSS	BS 328 ISO 4206 DIN 373

Counterbore



To Suit Capscrew	d2	d1		l2	Morse Taper	l1
		Medium	Fine			
M8	15	9	8.4	22	2	132
M10	18	11	10.5	25	2	140
M12	20	14	13	25	2	140
M14	24	16	15	30	2	150
M16	26	18	17	35	3	180
M18	30	20	19	35	3	180
M20	33	22	21	40	3	190
M22	36	24	23	40	3	190
M24	40	26	25	40	3	190

Properties		
M	HSS	ISO 4207 DIN 375
MT 2 - 3		

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DiC TOOLS

A Brand by Dedicated Impex Co.