ZETOOL

HSS DRILLS

ZETOOL

MATERIAL

HSS — HSS-High speed steel M2

HSCo — HSCo-High speed steel M35 Co content 5%

HSE — HSCo-High speed steel M42 Co content 8%

HSP — HSP-High speed steel ASP30

HSV — HSV-High speed steel KV

CARBIDE — Carbide

COATING

TiN — TiN Coating

TiCN — TiCN Coating

TiAlN — TiAlN Coating

AlCrN — AlCrN Coating

TCON — TCON Coating

OX — Steam Oxide

TOLERANCE

h8 — Drill outside diameter tolerance h8

POINT ANGLE

118° Point Angle

90° Point Angle

120° Point Angle

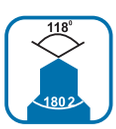
125° Point Angle

130° Point Angle

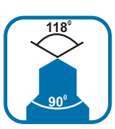
135° Point Angle

140° Point Angle

160°+100° Point Angle



100.2°+118° Point Angle

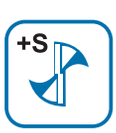


90°+118° Point Angle

FLUTE EDGE

X Thinning

R Thinning

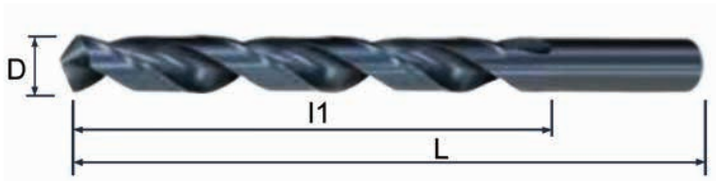


Flat+S Thinning

Flat+Xr Thinning

4.101

HSS | OX | 118° | h8



- Suitable for drilling General Steels. Alloy Steels with hardness under HRC 30. Cast Iron and Cast Steel, etc.
- Suitable for drilling operations on drilling machines, lathes and bench lathes.

D mm	L mm	l1 mm
0.2	19	3
0.3	20	3.5
0.4	24	5.5
0.5	27	7.5
0.6	30	8.5
0.7	32	10
0.8	34	11
0.85	36	13
0.9	36	13
0.95	40	18
1.0	40	18
1.05	42	20
1.1	42	20
1.15	42	20
1.2	42	20
1.25	45	22
1.3	45	22
1.35	48	23
1.4	48	23
1.45	48	23
1.5	48	23
1.55	50	25
1.6	50	25
1.65	50	25
1.7	50	25
1.75	52	28
1.8	52	28
1.85	52	28
1.9	52	28
1.95	52	28
2.0	55	29
2.05	55	29
2.1	55	29
2.2	58	33
2.3	58	33
2.4	61	35
2.5	61	35
2.55	64	37
2.6	64	37
2.7	64	37

D mm	L mm	l1 mm
2.8	67	39
2.9	71	42
3.0	71	42
3.05	71	42
3.1	71	42
3.2	71	42
3.3	73	45
3.4	73	45
3.5	73	45
3.55	76	48
3.6	76	48
3.7	76	48
3.8	76	48
3.9	79	51
4.0	83	54
4.1	83	54
4.2	83	54
4.3	83	54
4.4	86	56
4.5	86	56
4.55	86	56
4.6	86	56
4.7	89	59
4.8	89	59
4.9	92	62
5.0	92	62
5.05	92	62
5.1	92	62
5.2	95	64
5.3	95	64
5.4	95	64
5.5	95	64
5.6	98	67
5.7	98	67
5.8	98	67
5.9	98	67
6.0	102	70
6.1	102	70
6.2	102	70
6.3	102	70

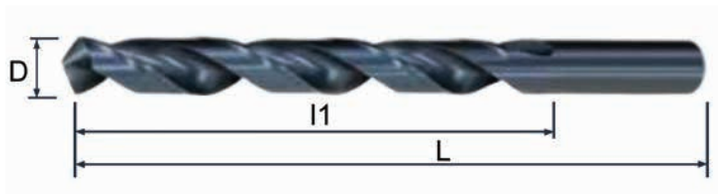
D mm	L mm	l1 mm
6.4	105	73
6.5	105	73
6.6	105	73
6.7	105	73
6.8	105	73
6.9	105	73
7.0	105	73
7.1	108	75
7.2	108	75
7.3	108	75
7.4	111	78
7.5	111	78
7.6	111	78
7.7	114	81
7.8	1 14	81
7.9	114	81
8.0	114	81
8.1	117	84
8.2	117	84
8.3	117	84
8.4	121	87
8.5	121	87
8.6	121	87
8.7	121	87
8.8	124	89
8.9	124	89
9.0	124	89
9.1	124	89
9.2	127	92
9.3	127	92
9.4	127	92
9.5	127	92
9.6	130	95
9.7	130	95
9.8	130	95
9.9	130	95
10.0	130	95
10.1	133	98
10.2	133	98
10.3	133	98

Cutting data P...

D mm	L mm	l1 mm
10.4	133	98
10.5	137	100
10.6	137	100
10.7	137	100
10.8	140	103
10.9	140	103
11.0	140	103
11.1	140	103
11.2	143	106
11.3	143	106
11.4	143	106
11.5	143	106
11.6	146	109
11.7	146	109
11.8	146	109
11.9	146	109
12.0	149	111
12.1	149	111
12.2	149	111
12.3	149	111
12.4	152	114
12.5	152	114
12.6	152	1 14
12.7	152	1 14
12.8	152	1 14
12.9	152	1 14
13.0	152	114
13.5	160	108
14.0	160	108
14.5	169	114
15.0	169	114
15.5	178	120
16.0	178	120
16.5	184	125
17.0	184	125
17.5	191	130
18.0	191	130
18.5	198	135
19.0	198	135
19.5	205	140
20.0	205	140

4.101

HSS | OX | 118° | h8



- Suitable for drilling General Steels. Alloy Steels with hardness under HRC 30. Cast Iron and Cast Steel, etc.
- Suitable for drilling operations on drilling machines, lathes and bench lathes.

D mm	L mm	l1 mm
1/16	48	23
5/64	52	28
3/32	58	33
7/64	67	39
1/8	71	42
9/64	73	45
5/32	79	51
11/64	83	54
3/16	89	59
13/64	92	62

D mm	L mm	l1 mm
7/32	95	64
15/64	98	67
1/4	102	70
17/64	105	73
9/32	108	75
19/64	111	78
5/16	114	81
21/64	117	84
11/32	121	87
23/64	124	89

D mm	L mm	l1 mm
3/8	127	92
25/64	130	95
13/32	133	98
27/64	137	100
7/16	140	103
29/64	143	106
15/32	146	109
31/64	149	111
1/2	152	114

Cutting data P...

Sets Of Straight Shank Twist Drills & Drill Blanks

Drill Sets Including:
Straight Shank Twist Drills. Cobalt Drills For Stainless Steel. TiN Coated Drills, Straight Shank Twist Drills For Aluminum. Conical Fluted Straight Shank Twist Drills.

Pieces Set	Standard	Package
25 Pieces Set	1.0 - 13.0 mm (10.5mm/0.5mm increment)	Steel Case
29 Pieces Set	1 /16" - 1 /7 (1 /64"/ 1 /64' increment)	Steel Case
100 Pieces Set	1.0- 10.0 (0.1 mm/0.1 mm increment) 10.5 10.9 11.0 11.5 11.9 12.0 12.5 12.9 13.0mm	Plastic Case
121 Pieces Set	1.0 ~ 13.0mm (0.1 mm/0.1 mm increment)	Acrylic Case

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HSS h8

- Suitable for drilling General Steels. Alloy Steels with hardness under HRC 30. Cast Iron and Cast Steel, etc.
- Suitable for drilling operations on drilling machines, lathes and bench lathes.

D mm	L mm
0.2	19
0.3	20
0.4	24
0.5	27
0.6	30
0.7	32
0.8	34
0.9	36
1.0	40
1.1	42
1.2	42
1.3	45
1.4	48
1.5	48
1.6	48
1.7	50
1.8	52
1.9	52
2.0	55
2.1	55
2.2	58
2.3	58
2.4	61
2.5	61
2.6	64
2.7	64
2.8	67
2.9	71
3.0	71
3.1	71
3.2	71
3.3	73
3.4	73
3.5	73
3.6	76
3.7	76
3.8	76
3.9	79
4.0	83
4.1	83
4.2	83

D mm	L mm
4.3	83
4.4	86
4.5	86
4.6	86
4.7	89
4.8	89
4.9	92
5.0	92
5.1	92
5.2	95
5.3	95
5.4	95
5.5	95
5.6	98
5.7	98
5.8	98
5.9	98
6.0	102
6.1	102
6.2	102
6.3	102
6.4	105
6.5	105
6.6	105
6.7	105
6.8	105
6.9	105
7.0	105
7.1	108
7.2	108
7.3	108
7.4	111
7.5	111
7.6	111
7.7	114
7.8	1 14
7.9	114
8.0	114
8.1	117
8.2	117
8.3	1 17

D mm	L mm
8.4	121
8.5	121
8.6	121
8.7	121
8.8	124
8.9	124
9.0	124
9.1	124
9.2	127
9.3	127
9.4	127
9.5	127
9.6	130
9.7	130
9.8	130
9.9	130
10.0	130
10.1	133
10.2	133
10.3	133
10.4	133
10.5	137
10.6	137
10.7	137
10.8	140
10.9	140
11.0	140
11.1	140
11.2	143
11.3	143
11.4	143
11.5	143
11.6	146
11.7	146
11.8	146
11.9	146
12.0	149
12.1	149
12.2	149
12.3	149
12.4	152

D mm	L mm
12.5	152
12.6	152
12.7	152
12.8	152
12.9	152
13.0	152
13.5	150
14.0	150
14.5	150
15.0	150
15.5	150
16.0	150
16.5	150
17.0	150
17.5	150
18.0	150
18.5	150
19.0	150
19.5	150
20.0	150
20.5	150
21.0	150
21.5	150
22.0	150
22.5	150
23.0	150
23.5	150
24.0	150
24.5	150
25.0	150
25.5	150
26.0	150
26.5	150
27.0	150
27.5	150
28.0	150
28.5	150
29.0	150
29.5	150
30.0	150

Cutting data P...

4.103

HSS | OX | 118° | h8

- Moss Drill, suitable for general work material, is simple and economic in drilling.
- The V-slot of shank, which combines with the clutches of chuck, slot the drill during operation.
- Moss Drill can be used on drilling machines, and the drilling diameter could reach 35mm even larger.
- It's convenient and efficient to operate at the building sites.
- For protection of the chuck, the shank is packed with a plastic ring. During operation, the drill will be clamping well to get a more precise hole. The performance and the tool life will also be improved.

D mm	L mm	l1 mm	ds mm
13.0	140	82	12.7
13.1			
13.2			
13.3			
13.4			
13.5			
13.6			
13.7			
13.8			
13.9			
14.0			
14.1			
14.2			
14.3			
14.4			
14.5			
14.6			
14.7			
14.8			
14.9			
15.0			
15.1			
15.2			
15.3			
15.4			
15.5			
15.6			
15.7			
15.8			
15.9			
16.0			
16.1			
16.2			
16.3			
16.4			
16.5			

D mm	L mm	l1 mm	ds mm
16.6	140	82	12.7
16.7			
16.8			
16.9			
17.0			
17.1			
17.2			
17.3			
17.4			
17.5			
17.6			
17.7			
17.8			
17.9			
18.0			
18.1			
18.2			
18.3			
18.4			
18.5			
18.6			
18.7			
18.8			
18.9			
19.0			
19.1			
19.2			
19.3			
19.4			
19.5			
19.6			
19.7			
19.8			
19.9			
20.0			
20.1			

D mm	L mm	l1 mm	ds mm
20.2	140	82	12.7
20.3			
20.4			
20.5			
20.6			
20.7			
20.8			
20.9			
21.0			
21.1			
21.2			
21.3			
21.4			
21.5			
21.6			
21.7			
21.8			
21.9			
22.0			
22.1			
22.2			
22.3			
22.4			
22.5			
22.6			
22.7			
22.8			
22.9			
23.0			
23.1			
23.2			
23.3			
23.4			
23.5			
23.6			
23.7			

D mm	L mm	l1 mm	ds mm
23.8	140	82	12.7
23.9			
24.0			
24.1			
24.2			
24.3			
24.4			
24.5			
24.6			
24.7			
24.8			
24.9			
25.0			
25.5			
26.0			
26.5			
27.0			
27.5			
28.0			
28.5			
29.0			
29.5			
30.0			
30.5			
31.0			
31.5			
32.0			
32.5			
33.0			
33.5			
34.0			
34.5			
35.0			
35.5			
36.0			

Cutting data P...

4.103

HSS | OX | 118° | h8

- Moss Drill, suitable for general work material, is simple and economic in drilling.
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- Moss Drill can be used on drilling machines, and the drilling diameter could reach 35mm even larger.
- It's convenient and efficient to operate at the building sites.
- For protection of the chuck, the shank is packed with a plastic ring. During operation, the drill will be clamping well to get a more precise hole. The performance and the tool life will also be improved.

D mm	L mm	l1 mm	ds mm
1/2	140	82	12.7
17/32			
9/16			
19/32			
5/8			
21/32			
11/16			
23/32			
3/4			
25/32			
13/16			
27/32			
7/8			
29/32			
15/16			
31/32			
31/32			

D mm	L mm	l1 mm	ds mm
1"	140	82	12.7
*1-1/32			
*1-1/16			
* 1-3/32			
*1-1/8			
*1-5/32			
*1-3/16			
*1-7/32			
•*1-9/32			
*1-5/16			
*1-11/32			
*1-3/8			
*1-7/16			
*1-1/2			

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HSS | OX | 118° | h8

- Suitable for drilling General Steels, Alloy Steels with hardness under HRC 30, Cast Iron and Cast Steel, etc
- Morse taper shank can be fitted into sleeve.

D mm	L mm	l1 mm	MT.NO.
5.0	140	60	1
5.5	145	65	1
6.0	148	68	1
6.5	152	72	1
7.0	155	75	1
7.5	158	78	1
8.0	162	82	1
8.5	168	85	1
9.0	172	88	1
9.5	175	92	1
10.0	178	95	1
10.5	182	98	1
11.0	185	102	1
11.5	188	105	1
12.0	192 ^	108	1
12.5	195	112	1
13.0	198	115	1
13.5	202	118	1
14.0	205	122	1
14.5	222	122	2
15.0	225	125	2
15.5	228	128	2
16.0	230	130	2
16.5	232	132	2
17.0	235	135	2
17.5	240	140	2
18.0	240	140	2
18.5	245	145	2

D mm	L mm	l1 mm	ds mm
19.0	245	145	2
19.5	250	150	2
20.0	250	150	2
20.5	255	155	2
21.0	255	155	2
21.5	260	160	2
22.0	260	160	2
22.5	265	165	2
23.0	265	165	2
23.5	285	165	3
24.0	285	165	3
24.5	285	165	3
25.0	285	165	3
25.5	285	165	3
26.0	285	165	3
26.5	290	170	3
27.0	290	170	3
27.5	295	175	3
28.0	295	175	3
28.5	300	180	3
29.0	300	180	3
29.5	305	185	3
30.0	305	185	3
30.5	310	190	3
31.0	310	190	3
31.5	315	195	3
32.0	315	195	3
32.5	345	200	4

D mm	L mm	l1 mm	ds mm
33.0	345	200	4
33.5	350	205	4
34.0	350	205	4
34.5	350	205	4
35.0	350	205	4
35.5	355	210	4
36.0	355	210	4
36.5	355	210	4
37.0	355	210	4
37.5	360	210	4
38.0	360	210	4
38.5	360	210	4
39.0	360	210	4
39.5	365	215	4
40.0	365	215	4
41.0	365	215	4
42.0	370	220	4
43.0	370	220	4
44.0	375	225	4
45.0	375	225	4
46.0	380	230	4
47.0	380	230	4
48.0	385	235	4
49.0	385	235	4
50.0	390	240	4

Cutting data P...

In case of no stock of desired items, production should be based on minimum quantity as specified.

4.104

HSS | OX | 118° | h8

- Suitable for drilling General Steels, Alloy Steels with hardness under HRC 30, Cast Iron and Cast Steel, etc
- Morse taper shank can be fitted into sleeve.

D mm	L mm	l1 mm	MT.NO.
*1 /2	198	115	1
*17/32	202	118	1
*9/16	222	122	2
*19/32	228	128	2
5/8	230	130	2
*21/32	235	135	2
*11/16	240	140	2
23/32	245	145	2
3/4	250	150	2
25/32	250	150	2
13/16	255	155	2
27/32	260	160	2
*7/8	265	165	2
29/32	285	165	3
5/16	285	165	3
31/32	285	165	3
1"	285	165	3
1-1/32	290	170	3
1-1/16	290	170	3
1-3/32	295	175	3
M-1/8	300	180	3
1-5/32	305	185	3
1-3/16	310	190	3

D mm	L mm	l1 mm	ds mm
10.1	182	98	1
10.2	182	98	1
10.3	182	98	1
10.4	182	98	1
10.6	185	102	1
10.7	185	102	1
10.8	185	102	1
10.9	185	102	1
11.1	188	105	1
11.2	188	105	1
11.3	188	105	1
11.4	188	105	1
11.6	192	108	1
11.7	192	108	1
11.8	192	108	1
11.9	192	108	1
12.1	195	112	1
12.2	195	112	1
12.3	195	112	1
12.4	195	112	1
12.6	198	115	1
12.7	198	115	1
12.8	198	115	1
12.9	198	115	1
13.1	202	118	1
13.2	202	118	1
13.3	202	118	1
13.4	202	118	1

D mm	L mm	l1 mm	ds mm
13.6	205	122	1
13.7	205	122	1
13.8	205	122	1
13.9	205	122	1
14.1	222	122	2
14.2	222	122	2
14.3	222	122	2
14.4	222	122	2
14.6	225	125	2
14.7	225	125	2
14.8	225	125	2
14.9	225	125	2
15.1	228	128	2
15.2	228	128	2
15.3	228	128	2
15.4	228	128	2
15.6	230	130	2
15.7	230	130	2
15.8	230	130	2
15.9	230	130	2
16.1	232	132	2
16.2	232	132	2
16.3	232	132	2
16.4	232	132	2
16.6	235	135	2
16.7	235	135	2
16.8	235	135	2
16.9	235	135	2

Cutting data P...

In case of no stock of desired items, production should be based on minimum quantity as specified.

4.104

HSS | OX | 118° | h8

- Suitable for drilling General Steels, Alloy Steels with hardness under HRC 30, Cast Iron and Cast Steel, etc
- Morse taper shank can be fitted into sleeve.

D mm	L mm	l1 mm	MT.NO.
17.1	240	140	2
17.2	240	140	2
17.3	240	140	2
17.4	240	140	2
17.6	240	140	2
17.7	240	140	2
17.8	240	140	2
17.9	240	140	2
18.1	245	145	2
18.2	245	145	2
18.3	245	145	2
18.4	245	145	2
18.6	245	145	2
18.7	245	145	2
18.8	245	145	2
18.9	245	145	2
19.1	250	150	2
19.2	250	150	2
19.3	250	150	2
19.4	250	150	2
19.6	250	150	2
19.7	250	150	2
19.8	250	150	2
19.9	250	150	2
20.1	255	155	2
20.2	255	155	2
20.3	255	155	2
20.4	255	155	2
20.6	255	155	2
20.7	255	155	2

D mm	L mm	l1 mm	ds mm
20.8	255	155	2
20.9	255	155	2
21.1	260	160	2
21.2	260	160	2
21.3	260	160	2
21.4	260	160	2
21.6	260	160	2
21.7	260	160	2
21.8	260	160	2
21.9	260	160	2
22.1	265	165	2
22.2	265	165	2
22.3	265	165	2
22.4	265	165	2
22.6	265	165	2
22.7	265	165	2
22.8	265	165	2
22.9	265	165	2
23.1	285	165	3
23.2	285	165	3
23.3	285	165	3
23.4	285	165	3
23.6	285	165	3
23.7	285	165	3
23.8	285	165	3
23.9	285	165	3
24.1	285	165	3
24.2	285	165	3
24.3	285	165	3
24.4	285	165	3

D mm	L mm	l1 mm	ds mm
24.6	285	165	3
24.7	285	165	3
24.8	285	165	3
24.9	285	165	3
25.1	285	165	3
25.2	285	165	3
25.3	285	165	3
25.4	285	165	3

Cutting data P...

4.121

HSS | OX | 118° | h8

- Suitable fa drilling General Steels, Alloy Steels with hardness under HRC 30, Cast Iron and Cast Steel, etc.
- Suitable for drilling operations on drilling machines lathes and bench lathes.

D mm	L mm	l1 mm
1.0	100	50
1.0	150	75
1.1	100	50
1.1	150	75
1.2	100	50
1.2	150	75
1.3	100	50
1.3	150	75
1.4	100	50
1.4	150	75
1.5	100	50
1.5	150	75
1.6	100	50
1.6	150	75
1.7	100	50
1.7	150	75
1.8	100	50
1.8	150	75
1.9	100	50
1.9	150	75
2.0	100	50
2.0	150	75
2.1	100	50
2.1	150	75
2.2	100	50
2.2	150	75
2.3	100	50
2.3	150	75
2.4	100	50
2.4	150	75

D mm	L mm	l1 mm
2.5	1100	50
2.5	150	75
2.6	100	50
2.6	150	75
2.7	100	50
2.7	150	75
2.8	100	50
2.8	150	75
2.9	100	50
2.9	150	75
3.0	100	50
3.0	150	75
3.0	200	100
3.1	100	50
3.1	150	75
3.1	200	100
3.2	100	50
3.2	150	75
3.2	200	100
3.3	100	50
3.3	150	75
3.3	200	100
3.4	100	50
3.4	150	75
3.4	200	100
3.5	100	50
3.5	150	75
3.5	200	100
3.6	100	50
3.6	150	75

D mm	L mm	l1 mm
3.6	200	100
3.7	100	50
3.7	150	75
3.7	200	100
3.8	100	50
3.8	150	75
3.8	200	100
3.9	100	50
3.9	150	75
3.9	200	100
4.0	100	50
4.0	150	75
4.0	200	100
4.1	100	50
4.1	150	75
4.1	200	100
4.2	100	50
4.2	150	75
4.2	200	100
4.3	100	50
4.3	150	75
4.3	200	100
4.4	100	50
4.4	150	75
4.4	200	100
4.5	100	50
4.5	150	75
4.5	200	100
4.6	100	50
4.6	150	75

D mm	L mm	l1 mm
4.6	200	100
4.7	100	50
4.7	150	75
4.7	200	100
4.8	100	50
4.8	150	75
4.8	200	100
4.9	100	50
4.9	150	75
4.9	200	100
*5.0	100	50
5.0	150	75
5.0	200	100
5.0	250	125
5.1	100	50
5.1	150	90
5.1	200	100
5.2	100	50
5.2	150	90
5.2	200	100
5.3	100	50
5.3	150	90
5.3	200	100
5.4	100	50
5.4	150	90
5.4	200	100
5.5	100	50
5.5	150	90
5.5	200	100
5.5	250	125

Cutting data P...

In case of no stock of desired items, production should be based on minimum quantity as specified.

4.121

HSS OX 118° h8

- Suitable fa drilling General Steels, Alloy Steels with hardness under HRC 30, Cast Iron and Cast Steel, etc.
- Suitable for drilling operations on drilling machines lathes and bench lathes.

D mm	L mm	l1 mm
5.6	150	90
5.6	200	100
5.7	150	90
5.7	200	100
5.8	150	90
5.8	200	100
5.9	150	90
5.9	200	100
6.0	150	90
6.0	200	100
6.0	250	125
6.1	150	90
6.1	200	100
6.2	150	90
6.2	200	100
6.3	150	90
6.3	200	100
6.4	150	90
6.4	200	100
6.5	150	90
6.5	200	100
6.5	250	125
6.6	150	90
6.6	200	100
6.7	150	90
6.7	200	100
6.8	150	90
6.8	200	100
6.9	150	90
6.9	200	100

D mm	L mm	l1 mm
7.0	150	90
7.0	200	100
7.0	250	125
7.0	300	150
7.1	150	90
7.1	200	100
7.1	250	125
7.1	300	150
7.2	150	90
7.2	200	100
7.2	250	125
7.2	300	150
7.3	150	90
7.3	200	100
7.3	250	125
7.3	300	150
7.4	150	90
7.4	200	100
7.4	250	125
7.4	300	150
7.5	150	90
7.5	200	100
7.5	250	125
7.5	300	150
7.6	150	90
7.6	200	125
7.6	250	150
7.6	300	175
7.7	150	90
7.7	200	125

D mm	L mm	l1 mm
7.7	250	150
7.7	300	175
7.8	150	90
7.8	200	125
7.8	250	150
7.8	300	175
7.9	150	90
7.9	200	125
7.9	250	150
7.9	300	175
8.0	150	90
8.0	200	125
8.0	250	150
8.0	300	175
8.1	150	90
8.1	200	125
8.1	250	150
8.1	300	175
8.2	150	90
8.2	200	125
8.2	250	150
8.2	300	175
8.3	150	90
8.3	200	125
8.3	250	150
8.3	300	175
8.4	150	90
8.4	200	125
8.4	250	150
8.4	300	175

D mm	L mm	l1 mm
8.5	150	90
8.5	200	125
8.5	250	150
8.5	300	175
8.6	200	125
8.6	250	150
8.6	300	175
8.7	200	125
8.7	250	150
8.7	300	175
8.8	200	125
8.8	250	150
8.8	300	175
8.9	200	125
8.9	250	150
8.9	300	175
9.0	200	125
9.0	250	150
9.0	300	175
9.1	200	125
9.1	250	150
9.1	300	175
9.2	200	125
9.2	250	150
9.2	300	175
9.3	200	125
9.3	250	150
9.3	300	175
9.4	200	125
9.4	250	150

Cutting data P...

In case of no stock of desired items, production should be based on minimum quantity as specified.

4.121

HSS | OX | 118° | h8

- Suitable fa drilling General Steels, Alloy Steels with hardness under HRC 30, Cast Iron and Cast Steel, etc.
- Suitable for drilling operations on drilling machines lathes and bench lathes.

D mm	L mm	l1 mm
9.4	300	175
9.5	200	125
9.5	250	150
9.5	300	175
9.6	200	125
9.6	250	150
9.6	300	175
9.7	200	125
9.7	250	150
9.7	300	175
9.8	200	125
9.8	250	150
9.8	300	175
9.9	200	125
9.9	250	150
9.9	300	175
10.0	200	125
10.0	250	150
10.0	300	175
I0.1	200	125
*10.1	250	150
10.1	300	175
*10.2	200	125
10.2	250	150
10.2	300	175
10.3	200	125
10.3	250	150
10.3	300	175
*10.4	200	125
10.4	250	150

D mm	L mm	l1 mm
*10.4	300	175
10.5	200	125
10.5	250	150
10.5	300	175
*10.6	200	125
*10.6	250	150
*10.6	300	175
*10.7	200	125
10.7	250	150
10.7	300	175
*10.8	200	125
*10.8	250	150
*10.8	300	175
*10.9	200	125
10.9	250	150
10.9	300	175
11.0	200	125
11.0	250	150
11.0	300	175
*11.1	200	125
*11.1	250	150
*11.1	300	175
*11.2	200	125
11.2	250	150
*1 1.2	300	175
*11.3	200	125
11.3	250	150
11.3	300	175
11.4	200	125
11.4	250	150

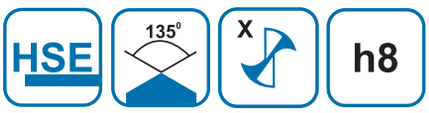
D mm	L mm	l1 mm
*11.4	300	175
11.5	200	125
11.5	250	150
11.5	300	175
11.6 ’	200	125
*11.6	250	150
*11.6	300	175
11.7	200	125
11.7	250	150
*11.7	300	175
*11.8	200	125
*11.8	250	150
* 1.8	300	175
11.9	200	125
11.9	250	150
*11.9	300	175
12.0	200	125
12.0	250	150
12.0	300	175
*12.1	200	125
*12.1	250	150
*12.1	300	175
*12.2	200	125
*12.2	250	150
*12.2	300	175
12.3	200	125
*12.3	250	150
*12.3	300	175
12.4	200	125
*12.4	250	150

D mm	L mm	l1 mm
*12.4	300	175
12.5	200	125
12.5	250	150
12.5	300	175
*12.6	200	125
12.6	250	150
*12.6	300	175
12.7	200	125
*12.7	250	150
12.7	300	175
*12.8	200	125
*12.8	250	150
*12.8	300	175
12.9	200	125
*12.9	250	150
*12.9	300	175
13.0	200	125
13.0	250	150
13.0	300	175

Cutting data P...

In case of no stock of desired items, production should be based on minimum quantity as specified.

4.105



- Basic on HSE feartures heat and wear resistance .
- Special shapes of helical flutes combined with "X" thinning provide low thrust force and excellent chip removal.
- Suitable for drilling General Steels, Stainless Steel. Aluminum Alloy and Cast Iron, etc.

D mm	L mm	l1 mm
1.0	38	12
1.1	38	12
1.2	38	12
1.3	38	12
1.4	38	12
1.5	38	12
1.6	38	12
1.7	38	12
1.8	38	12
1.9	38	12
2.0	38	12
2.1	38	12
2.2	40	13
2.3	40	13
2.4	43	14
2.5	43	14
2.6	43	14
2.7	46	16
2.8	46	16
2.9	46	16
3.0	46	16
3.1	49	18
3.2	49	18
3.3	49	18
3.4	52	20
3.5	52	20
3.6	52	20
3.7	52	20
3.8	55	22
3.9	55	22
4.0	55	22

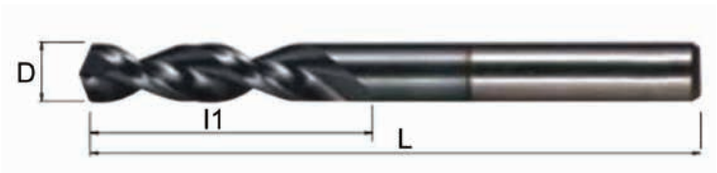
D mm	L mm	l1 mm
4.1	55	22
4.2	55	22
4.3	58	24
4.4	58	24
4.5	58	24
4.6	58	24
4.7	58	24
4.8	62	26
4.9	62	26
5.0	62	26
5.1	62	26
5.2	62	26
5.3	62	26
5.4	66	28
5.5	66	28
5.6	66	28
5.7	66	28
5.8	66	28
5.9	66	28
6.0	66	28
6.1	70	31
6.2	70	31
6.3	70	31
6.4	70	31
6.5	70	31
6.6	70	31
6.7	70	31
6.8	74	34
6.9	74	34
7.0	74	34
7.1	74	34

D mm	L mm	l1 mm
7.2	74	34
7.3	74	34
7.4	74	34
7.5	74	34
7.6	79	37
7.7	79	37
7.8	79	37
7.9	79	37
8.0	79	37
8.1	79	37
8.2	79	37
8.3	79	37
8.4	79	37
8.5	79	37
8.6	84	40
8.7	84	40
8.8	84	40
8.9	84	40
9.0	84	40
9.1	84	40
9.2	84	40
9.3	84	40
9.4	84	40
9.5	84	40
9.6	89	43
9.7	89	43
9.8	89	43
9.9	89	43
10.0	89	43
10.1	89	43
10.2	89	43

D mm	L mm	l1 mm
10.3	89	43
10.4	89	43
10.5	89	43
10.6	89	43
10.7	95	47
10.8	95	47
10.9	95	47
11.0	95	47
11.1	95	47
11.2	95	47
11.3	95	47
11.4	95	47
11.5	95	47
11.6	95	47
1 1.7	95	47
11.8	95	47
11.9	95	47
12.0	102	51
12.1	102	51
12.2	102	51
12.3	102	51
12.4	102	51
12.5	102	51
12.6	102	51
12.7	102	51
12.8	102	51
12.9	102	51
13.0	102	51

Cutting data P...

4.106



- Basic on HSE feartures heat and wear resistance.
- Surface is coated with TiAlN HV 3000. The drills are ideal fa high speed and high feed rate drilling to reduce machining time.
- Special shapes of helical flutes combined with T thinning provide low thrust force and excellent chip removal.
- Suitable for drilling General Steels, Cast Iron, Alloy Steel, Stainless Steel, etc.

D mm	L mm	l1 mm
1.0	38	12
1.1	38	12
1.2	38	12
1.3	38	12
1.4	38	12
1.5	38	12
1.6	38	12
1.7	38	12
1.8	38	12
1.9	38	12
2.0	38	12
2.1	38	12
2.2	40	13
2.3	40	13
2.4	43	14
2.5	43	14
2.6	43	14
2.7	46	16
2.8	46	16
2.9	46	16
3.0	46	16
3.1	49	18
3.2	49	18
3.3	49	18
3.4	52	20
3.5	52	20
3.6	52	20
3.7	52	20
3.8	55	22
3.9	55	22
4.0	55	22

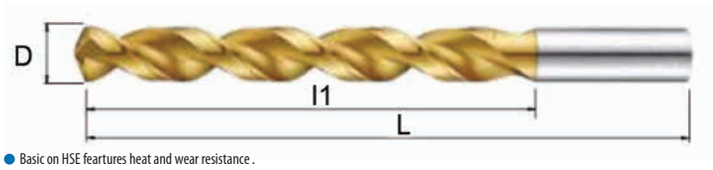
D mm	L mm	l1 mm
4.1	55	22
4.2	55	22
4.3	58	24
4.4	58	24
4.5	58	24
4.6	58	24
4.7	58	24
4.8	62	26
4.9	62	26
5.0	62	26
5.1	62	26
5.2	62	26
5.3	62	26
5.4	66	28
5.5	66	28
5.6	66	28
5.7	66	28
5.8	66	28
5.9	66	28
6.0	66	28
6.1	70	31
6.2	70	31
6.3	70	31
6.4	70	31
6.5	70	31
6.6	70	31
6.7	70	31
6.8	74	34
6.9	74	34
7.0	74	34
7.1	74	34

D mm	L mm	l1 mm
7.2	74	34
7.3	74	34
7.4	74	34
7.5	74	34
7.6	79	37
7.7	79	37
7.8	79	37
7.9	79	37
8.0	79	37
8.1	79	37
8.2	79	37
8.3	79	37
8.4	79	37
8.5	79	37
8.6	84	40
8.7	84	40
8.8	84	40
8.9	84	40
9.0	84	40
9.1	84	40
9.2	84	40
9.3	84	40
9.4	84	40
9.5	84	40
9.6	89	43
9.7	89	43
9.8	89	43
9.9	89	43
10.0	89	43
10.1	89	43
10.2	89	43

D mm	L mm	l1 mm
10.3	89	43
10.4	89	43
10.5	89	43
10.6	89	43
10.7	95	47
10.8	95	47
10.9	95	47
11.0	95	47
11.1	95	47
11.2	95	47
11.3	95	47
11.4	95	47
11.5	95	47
11.6	95	47
11.7	95	47
11.8	95	47
11.9	95	47
12.0	102	51
12.1	102	51
12.2	102	51
12.3	102	51
12.4	102	51
12.5	102	51
12.6	102	51
12.7	102	51
12.8	102	51
12.9	102	51
13.0	102	51

Cutting data P...

4.112



- Basic on HSE feartures heat and wear resistance .
- Surface is coated with TiN HV2000. featuring low friction coefficient, anti-adhere and superior cutting performance.
- Thick web design provides high rigidity, superior bending-resistance and minimum vibration.
- Special shapes of helical flutes ensure excellent chip removal. "X" thinning reduces length of chisel edge and thrust load. The drills are ideal for deep hole drilling with depth over 3 times of drill diameter.
- Suitable for drilling General Steels. Alloy Steel and Cast Iron, etc.

D mm	L mm	l1 mm
1.0	39	17
1.1	41	19
1.2	41	19
1.3	44	21
1.4	47	22
1.5	47	22
1.6	49	24
1.7	49	24
1.8	51	27
1.9	51	27
2.0	53	27
2.1	53	27
2.2	56	31
2.3	56	31
2.4	59	33
2.5	59	33
2.6	62	35
2.7	62	35
2.8	65	37
2.9	69	40
3.0	69	40
3.1	69	40
3.2	69	40
3.3	71	43
3.4	71	43
3.5	71	43
3.6	74	46
3.7	74	46
3.8	74	46
3.9	77	49
4.0	81	52
4.1	81	52
4.2	81	52
4.3	81	52
4.4	84	54

D mm	L mm	l1 mm
4.5	84	54
4.6	84	54
4.7	87	57
4.8	87	57
4.9	90	60
5.0	90	60
5.1	90	60
5.2	92	61
5.3	92	61
5.4	92	61
5.5	92	61
5.6	95	64
5.7	95	64
5.8	95	64
5.9	95	64
6.0	99	67
6.1	99	67
6.2	99	67
6.3	99	67
6.4	102	70
6.5	102	70
6.6	102	70
6.7	102	70
6.8	102	70
6.9	102	70
7.0	102	70
7.1	105	72
7.2	105	72
7.3	105	72
7.4	108	75
7.5	108	75
7.6	108	75
7.7	111	78
7.8	111	78
7.9	111	78

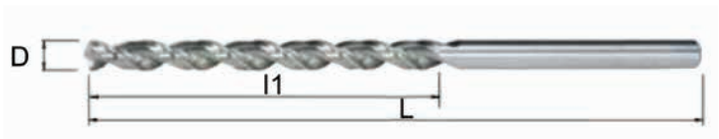
D mm	L mm	l1 mm
8.0	111	78
8.1	115	82
8.2	115	82
8.3	115	82
8.4	119	85
8.5	119	85
8.6	1 19	85
8.7	119	85
8.8	122	87
8.9	122	87
9.0	122	87
9.1	122	87
9.2	124	89
9.3	124	89
9.4	124	89
9.5	124	89
9.6	127	92
9.7	127	92
9.8	127	92
9.9	127	92
10.0	127	92
10.1	131	96
10.2	131	96
10.3	131	96
10.4	131	96
10.5	135	98
10.6	135	98
10.7	135	98
10.8	138	101
10.9	138	101
11.0	138	101
11.1	138	101
11.2	141	104
11.3	141	104
11.4	141	104

D mm	L mm	l1 mm
11.5	141	104
11.6	144	107
1 1.7	144	107
11.8	144	107
1 1.9	144	107
12.0	146	108
12.1	146	108
12.2	146	108
12.3	146	108
12.4	149	111
12.5	149	111
12.6	149	111
12.7	149	111
12.8	149	111
12.9	149	111
13.0	149	111
*1/16	49	24
3/32	56	31
*1/8	69	40
5/32	77	49
3/16	87	57
7/32	92	61
1/4	99	67
9/32	105	72
5/16	111	78
11/32	119	85
* 3/8	124	89
13/32	131	96
7/16	138	101
15/32	144	107
* 1/2	149	111

Cutting data P...

In cose of no stock of desired items, production should
29 be based on minimum quantity as specified.

4.131



- Basic on HSE feartures heat and wear resistance.
- Surface is coated with TiAlN HV 3000. The drills are ideal fa high speed and high feed rate drilling to reduce machining time.
- Special shapes of helical flutes combined with T thinning provide low thrust force and excellent chip removal.
- Suitable for drilling General Steels, Cast Iron, Alloy Steel, Stainless Steel, etc.

D mm	L mm	l1 mm
1.0	100	50
1.1	100	50
1.2	100	50
1.3	100	50
1.4	100	50
1.5	100	50
1.6	100	50
1.7	100	50
1.8	100	50
1.9	100	50
2.0	100	50
2.1	100	50
2.2	100	50
2.3	100	50
2.4	100	50
2.5	100	50
2.6	100	50
2.7	100	50
2.8	100	50
2.9	100	50
3.0	100	50
3.0	150	75
3.0	200	100
3.1	150	75
3.1	200	100
3.2	150	75
3.2	200	100
3.3	150	75
3.3	200	100
3.4	150	75
3.4	200	100
3.5	150	75
3.5	200	100
3.6	150	75
3.6	200	100
3.7	150	75

D mm	L mm	l1 mm
3.7	200	100
3.8	150	75
3.8	200	100
3.9	150	75
3.9	200	100
4.0	150	75
4.0	200	100
4.1	150	75
4.1	200	100
4.2	150	75
4.2	200	100
4.3	150	75
4.3	200	100
4.4	150	75
4.4	200	100
4.5	150	75
4.5	200	100
4.6	150	75
4.6	200	100
4.7	150	75
4.7	200	100
4.8	150	75
4.8	200	100
4.9	150	75
4.9	200	100
5.0	150	90
5.0	200	100
5.0	250	125
5.1	150	90
5.1	200	100
5.1	250	125
5.2	150	90
5.2	200	100
5.2	250	125
5.3	150	90
5.3	200	100

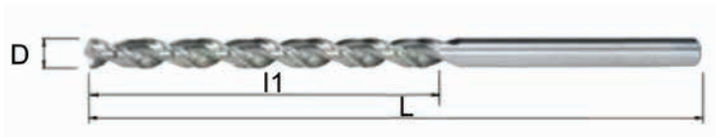
D mm	L mm	l1 mm
5.3	250	125
5.4	150	90
5.4	200	100
5.4	250	125
5.5	150	90
5.5	200	100
5.5	250	125
5.6	150	90
5.6	200	100
5.6	250	125
5.7	150	90
5.7	200	100
5.7	250	125
5.8	150	90
5.8	200	100
5.8	250	125
5.9	150	90
5.9	200	100
5.9	250	125
6.0	150	90
6.0	200	125
6.0	250	150
6.1	150	90
6.1	200	125
6.1	250	150
6.2	150	90
6.2	200	125
6.2	250	150
6.3	150	90
6.3	200	125
6.3	250	150
6.4	150	90
6.4	200	125
6.4	250	150
6.5	150	90
6.5	200	125

D mm	L mm	l1 mm
6.5	250	150
6.6	150	90
6.6	200	125
6.6	250	150
6.7	150	90
6.7	200	125
6.7	250	150
6.8	150	90
6.8	200	125
6.8	250	150
6.9	150	90
6.9	200	125
6.9	250	150
7.0	150	90
7.0	200	125
7.0	250	150
7.0	300	200
7.1	150	90
7.1	200	125
7.1	250	150
7.1	300	200
7.2	150	90
7.2	200	125
7.2	250	150
7.2	300	200
7.3	150	90
7.3	200	125
7.3	250	150
7.3	300	200
7.4	150	90
7.4	200	125
7.4	250	150
7.4	300	200
7.5	150	90
7.5	200	125
7.5	250	150

Cutting data P...

In case of no stock ofdesired items, production should be based on minimum quantify as specified.

4.131



- Basic on HSE feartures heat and wear resistance.
- Surface is coated with TiAlN HV 3000. The drills are ideal fa high speed and high feed rate drilling to reduce machining time.
- Special shapes of helical flutes combined with T thinning provide low thrust force and excellent chip removal.
- Suitable for drilling General Steels, Cast Iron, Alloy Steel, Stainless Steel, etc.

D mm	L mm	l1 mm
7.5	300	200
7.6	150	90
7.6	200	125
7.6	250	150
7.6	300	200
7.7	150	90
7.7	200	125
7.7	250	150
7.7	300	200
7.8	150	90
7.8	200	125
7.8	250	150
7.8	300	200
7.9	150	90
7.9	200	125
7.9	250	150
7.9	300	200
8.0	150	90
8.0	200	125
8.0	250	150
8.0	300	200
8.1	200	125
8.1	250	150
8.1	300	200
8.2	200	125
8.2	250	150
8.2	300	200
8.3	200	125
8.3	250	150
8.3	300	200
8.4	200	125
8.4	250	150
8.4	300	200
8.5	200	125
8.5	250	150
8.5	300	200
8.6	200	125
8.6	250	150
8.8	300	200
8.7	200	125

D mm	L mm	l1 mm
8.7	250	150
8.7	300	200
8.8	200	125
8.8	250	150
8.8	300	200
8.9	200	125
8.9	250	150
8.9	300	200
9.0	200	125
9.0	250	150
9.0	300	200
9.1	200	125
9.1	250	150
9.1	300	200
9.2	200	125
9.2	250	150
9.2	300	200
9.3	200	125
9.3	250	150
9.3	300	200
9.4	200	125
9.4	250	150
9.4	300	200
9.5	200	125
9.5	250	150
9.5	300	200
*9.6	200	125
9.6	250	150
*9.6	300	200
9.7	250	150
*9.7	300	200
9.8	200	125
9.8	250	150
9.8	300	200
9.9	250	150
9.9	300	200
10.0	200	125
10.0	250	150
10.0	300	200
10.1	250	150

D mm	L mm	l1 mm
10.1	300	200
10.2	200	125
10.2	250	150
10.2	300	200
10.3	250	150
10.3	300	200
*10.4	200	125
10.4	250	150
10.4	300	200
10.5	200	125
10.5	250	150
10.5	300	200
10.6	200	125
10.6	250	150
10.6	300	200
10.7	250	150
10.7	300	200
10.8	200	125
10.8	250	150
10.8	300	200
10.9	250	150
10.9	300	200
11.0	200	125
11.0	250	150
11.0	300	200
11.1	250	150
*11.1	300	200
11.2	200	125
11.2	250	150
11.2	300	200
11.3	250	150
11.3	300	200
11.4	200	125
11.4	250	150
11.4	300	200
11.5	200	125
11.5	250	150
11.5	300	200
*11.6	200	125
11.6	250	150

D mm	L mm	l1 mm
11.6	300	200
11.7	250	150
11.7	300	200
11.8	200	125
11.8	250	150
11.8	300	200
*11.9	250	150
11.9	300	200
12.0	200	125
12.0	250	150
12.0	300	200
12.1	250	150
*12.1	300	200
12.2	200	125
12.2	250	150
12.2	300	200
12.3	250	150
12.3	300	200
12.4	200	125
12.4	250	150
12.4	300	200
12.5	200	125
12.5	250	150
12.5	300	200
12.6	200	125
12.6	250	150
12.6	300	200
12.7	200	125
*12.7	250	150
12.7	300	200
12.8	200	125
12.8	250	150
12.8	300	200
12.9	250	150
12.9	300	200
13.0	200	125
13.0	250	150
13.0	300	200

Cutting data P...

In case of no stock ofdesired items, production should be based on minimum quantify as specified.

4.111

- Basic on HSE feartures heat and wear resistance.
- Surface is coated with TiAlN HV 3000. The drills are ideal fa high speed and high feed rate drilling to reduce machining time.
- Special shapes of helical flutes combined with T thinning provide low thrust force and excellent chip removal.
- Suitable for drilling General Steels, Cast Iron, Alloy Steel, Stainless Steel, etc.

D mm	L mm	l1 mm
0.8	33	10
0.85	35	12
0.9	35	12
0.95	39	14
0.98	39	14
1.0	39	14
1.05	41	15
1.1	41	15
1.15	41	15
1.18	41	15
1.2	41	15
1.25	44	16
1.3	44	16
1.35	47	18
1.4	47	18
1.45	47	18
1.5	47	18
1.55	49	19
1.6	49	19
1.65	49	19
1.7	49	19
1.75	51	20
1.8	51	20
1.85	51	20
1.9	51	20
1.95	53	22
2.0	53	22
2.1	53	22
2.2	56	23
2.3	56	23
2.4	59	25
2.5	59	25
2.6	62	27
2.7	62	27
2.8	65	28
2.9	69	34
3.0	69	34
3.1	69	34
3.2	69	34
3.3	71	35
3.4	71	35

D mm	L mm	l1 mm
3.5	71	35
3.6	74	36
3.7	74	36
3.8	74	36
3.9	77	38
4.0	81	42
4.1	81	42
4.2	81	42
4.3	81	42
4.4	84	44
4.5	84	44
4.6	84	44
4.7	87	45
4.8	87	45
4.9	90	49
5.0	90	49
5.1	90	49
5.2	92	49
5.3	92	49
5.4	92	49
5.5	92	49
5.6	95	51
5.7	95	51
5.8	95	51
5.9	95	51
6.0	99	54
6.1	99	54
6.2	99	54
6.3	99	54
6.4	102	56
6.5	102	56
6.6	102	56
6.7	102	56
6.8	102	56
6.9	102	56
7.0	102	56
7.1	105	59
7.2	105	59
7.3	105	59
7.4	108	61
7.5	108	61

D mm	L mm	l1 mm
7.6	108	61
7.7	111	63
7.8	111	63
7.9	111	63
8.0	111	63
8.1	115	65
8.2	115	65
8.3	115	65
8.4	119	68
8.5	119	68
8.6	119	68
8.7	119	68
8.8	122	70
8.9	122	70
9.0	122	70
9.1	122	70
9.2	124	70
9.3	124	70
9.4	124	70
9.5	124	70
9.6	127	72
9.7	127	72
9.8	127	72
9.9	127	72
10.0	127	72
10.1	131	77
10.2	131	77
10.3	131	77
10.4	131	77
10.5	135	81
10.6	135	81
10.7	135	81
10.8	138	83
10.9	138	83
1 1.0	138	83
11.1	138	83
1 1.2	141	85
11.3	141	85
1 1.4	141	85
11.5	141	85
11.6	144	85

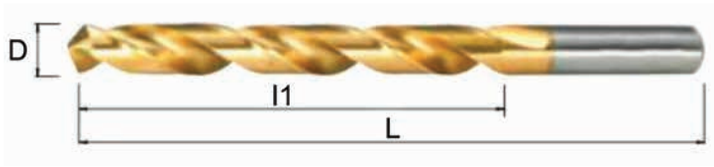
D mm	L mm	l1 mm
11.7	144	85
11.8	144	85
11.9	144	85
12.0	146	87
12.1	146	87
12.2	146	87
12.3	146	87
12.4	149	89
12.5	149	89
12.6	149	89
12.7	149	89
12.8	149	89
12.9	149	89
13.0	149	89
1/16	49	19
5/64	53	22
3/32	56	23
7/64	65	28
1/8	69	34
9/64	74	36
5/32	77	38
11/64	84	44
3/16	87	45
13/64	92	49
7/32	92	49
15/64	99	54
1/4	99	54
17/64	102	56
9/32	105	59
5/16	111	63
11/32	119	68
3/8	124	70
13/32	131	77
7/16	138	83
15/32	144	87
1/2	149	89

Cutting data P...

In case of no stock ofdesired items, production should be based on minimum quantify as specified.

4.113

HSE | 118° | h8 | TiN



- Surface is coated with TiN HV2000. featuring maximum wear-resistance. low friction-coefficient, anti-adhere, superior cutting performance and service life extended to 3 times.
- Cutting speed is increased by 30% at a constant feed rate.
- Suitable for drilling General Steels, Alloy Steel, Tempered Steel, and Cast Iron, etc.

D mm	L mm	l1 mm
1.0	40	18
1.1	42	20
1.2	42	20
1.3	45	22
1.4	48	23
1.5	48	23
1.6	50	25
1.7	50	25
1.8	52	28
1.9	52	28
2.0	55	29
2.1	55	29
2.2	58	33
2.3	58	33
2.4	61	35
2.5	61	35
2.6	64	37
2.7	64	37
2.8	67	39
2.9	71	42
3.0	71	42
3.1	71	42
3.2	71	42
3.3	73	45
3.4	73	45
3.5	73	45
3.6	76	48
3.7	76	48
3.8	76	48
3.9	79	51
4.0	83	54
4.1	83	54
4.2	83	54
4.3	83	54
4.4	86	56
4.5	86	56
4.6	86	56
4.7	89	59
4.8	89	59
4.9	92	62
5.0	92	62
5.1	92	62
5.2	95	64
5.3	95	64
5.4	95	64

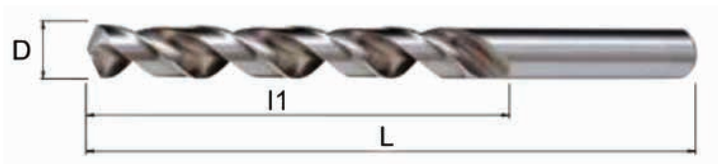
D mm	L mm	l1 mm
5.5	95	64
5.6	98	67
5.7	98	67
5.8	98	67
5.9	98	67
6.0	102	70
6.1	102	70
6.2	102	70
6.3	102	70
6.4	105	73
6.5	105	73
6.6	105	73
6.7	105	73
6.8	105	73
6.9	105	73
7.0	105	73
7.1	108	75
7.2	108	75
7.3	108	75
7.4	111	78
7.5	111	78
7.6	111	78
7.7	114	81
7.8	114	81
7.9	114	81
8.0	114	81
8.1	117	84
8.2	117	84
8.3	117	84
8.4	121	87
8.5	121	87
8.6	121	87
8.7	121	87
8.8	124	89
8.9	124	89
9.0	124	89
9.1	124	89
9.2	127	92
9.3	127	92
9.4	127	92
9.5	127	92
9.6	130	95
9.7	130	95
9.8	130	95
9.9	130	95

D mm	L mm	l1 mm
10.0	130	95
10.1	133	98
10.2	133	98
10.3	133	98
10.4	133	98
10.5	137	100
10.6	137	100
10.7	137	100
10.8	140	103
10.9	140	103
11.0	140	103
11.1	140	103
11.2	143	106
11.3	143	106
11.4	143	106
11.5	143	106
11.6	146	109
11.7	146	109
11.8	146	109
11.9	146	109
12.0	146	111
12.1	149	111
12.2	149	111
12.3	149	111
12.4	152	114
12.5	152	114
12.6	152	114
12.7	152	114
12.8	152	114
12.9	152	114
13.0	152	114

D mm	L mm	l1 mm
3/64	42	20
1/16	48	23
5/64	52	28
3/32	58	33
7/64	67	39
• 1/8	71	42
9/64	73	45
5/32	79	51
11/64	83	54
3/16	89	59
13/64	92	62
7/32	95	64
15/64	98	67
1/4	102	70
17/64	105	73
9/32	108	75
19/64	111	78
5/16	114	81
21/64	117	84
11/32	121	87
23/64	124	89
3/8	127	92
25/64	130	95
13/32	133	98
27/64	137	100
7/16	140	103
29/64	143	106
15/32	146	109
31/64	149	111
> 1/2	152	114

Cutting data P...
In case of no stock ofdesired items, production should be based on minimum quantify as specified.

4.114



- 40e helix angle makes the drills ideal for drilling workpieces with low tensile strength, soft, long chips and easy to adhere on cutting edges.
- Suitable for drilling Aluminum, Aluminum Alloy, Zinc and Refined Bronze, etc.

D mm	L mm	l1 mm
0.9	32	11
1.0	34	12
1.1	36	14
1.2	38	16
1.3	38	16
1.4	40	18
1.5	40	18
1.6	43	20
1.7	43	20
1.8	46	22
1.9	46	22
2.0	49	24
2.1	49	24
2.2	53	27
2.3	53	27
2.4	57	30
2.5	57	30
2.6	57	30
2.7	61	33
2.8	61	33
2.9	61	33
3.0	61	33
3.1	65	36
3.2	65	36
3.3	65	36
3.4	70	39
3.5	70	39
3.6	70	39
3.7	70	39
3.8	75	43

D mm	L mm	l1 mm
3.9	75	43
4.0	75	43
4.1	75	43
4.2	75	43
4.3	80	47
4.4	80	47
4.5	80	47
4.6	80	47
4.7	80	47
4.8	86	52
4.9	86	52
5.0	86	52
5.1	86	52
5.2	86	52
5.3	86	52
5.4	93	57
5.5	93	57
5.6	93	57
5.7	93	57
5.8	93	57
5.9	93	57
6.0	93	57
6.1	101	63
6.2	101	63
6.3	101	63
6.4	101	63
6.5	101	63
6.6	101	63
6.7	101	63
6.8	109	69

D mm	L mm	l1 mm
6.9	109	69
7.0	109	69
7.1	109	69
7.2	109	69
7.3	109	69
7.4	109	69
7.5	109	69
7.6	117	75
7.7	117	75
7.8	117	75
7.9	117	75
8.0	117	75
8.1	117	75
8.2	117	75
8.3	117	75
8.4	117	75
8.5	117	75
8.6	125	81
8.7	125	81
8.8	125	81
8.9	125	81
9.0	125	81
9.1	125	81
9.2	125	81
9.3	125	81
9.4	125	81
9.5	125	81
9.6	133	87
9.7	133	87
9.8	133	87

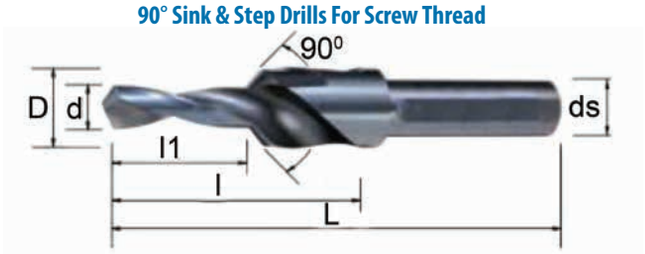
D mm	L mm	l1 mm
9.9	133	87
10.0	133	87
10.5	133	87
11.0	142	94
11.5	142	94
12.0	151	101
12.5	151	101
13.0	151	101

Cutting data P...
In case of no stock ofdesired items, production should be based on minimum quantify as specified.

4.118

HSS OX h8 118° 90°

90° Sink & Step Drills For Screw Thread



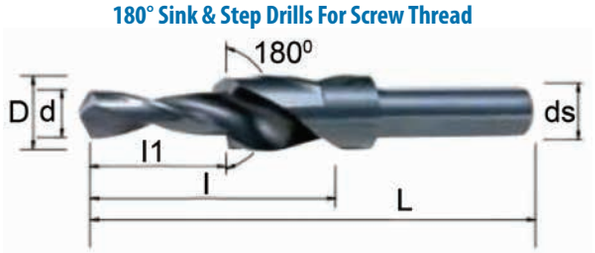
- Specially designed drills that are suitable for drilling cone holes for general screws and hexagonal head screws.
- Allow for two machining processes accomplished by one process, and provide superior concentricity.

	D mm	d mm	L mm	l mm	l1 mm	ds mm
M3	3.4	6.4	65	35	13	6.4
M4	4.5	8.4	75	42	18	8.4
M5	5.5	10.4	85	50	22	10.4
M6	6.6	12.5	90	51	25	12.0
M8	9.0	16.5	95	53	28	12.0

4.119

HSS OX h8 118° 100°

180° Sink & Step Drills For Screw Thread



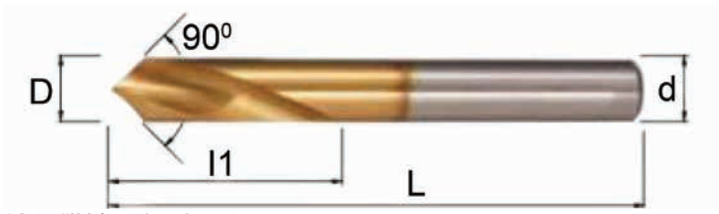
- Specially designed drills that are suitable for drilling cone holes for general screws and hexagonal head screws.
- Allow for two machining processes accomplished by one process, and provide superior concentricity.

	D mm	d mm	L mm	l mm	l1 mm	ds mm
M3	3.4	6.5	65	35	13	6.5
M4	4.5	8.0	75	42	18	8.0
M5	5.5	9.5	85	50	22	9.5
M6	6.6	11.0	90	53	25	11.0
M8	9.0	14.0	95	53	28	12.0
M10	11.0	17.5	105	63	30	12.0
M12	14.0	20.0	110	68	32	12.0
1/4	6.9	11.0	90	53	25	11.0
5/16	8.9	14.0	95	53	28	12.0
3/8	10.5	15.0	105	63	30	12.0
1/2	14.7	20.0	110	68	32	12.0

4.115

HSCo | TiN | h8 | 90°

90° NC Spotting Drills



- Basic on HSS-Co feartures heat and wear resistance.
- Surface is coated with TiN HV2000, teaturing maximum wear-resistance, low friction-coefficient, anti-adhere, superior cutting performance and long service life.
- Precise position and chamfer are accomplished at one time to improve machining quality.
- Suitable for drilling General Steels, Alloy Steel, Tempered Steel, Cast Iron and Aluminum Alloy, etc.

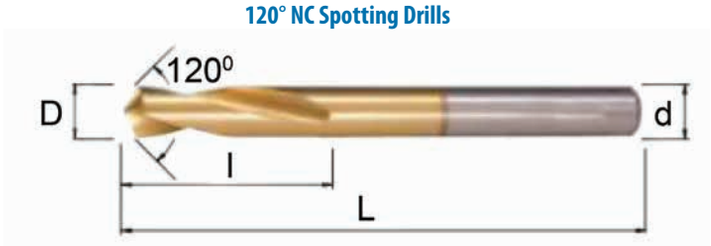
D mm	L mm	l mm
3.0	50	17
4.0	55	20
5.0	60	23
6.0	65	25
8.0	80	30

D mm	L mm	l mm
10.0	90	90
12.0	100	100
16.0	115	115
20.0	130	130
25.0	150	150

4.116

HSCo | TiN | h8 | 120°

120° NC Spotting Drills



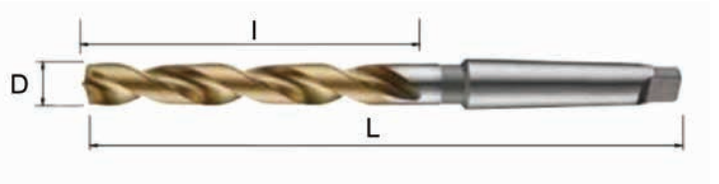
- Basic on HSS-Co feartures heat and wear resistance.
- Surface is coated with TiN HV2000, teaturing maximum wear-resistance, low friction-coefficient, anti-adhere, superior cutting performance and long service life.
- Precise position and chamfer are accomplished at one time to improve machining quality.
- Suitable for drilling General Steels, Alloy Steel, Tempered Steel, Cast Iron and Aluminum Alloy, etc.

D mm	L mm	l mm
3.0	50	17
4.0	55	20
5.0	60	23
6.0	65	25
8.0	80	30

D mm	L mm	l mm
10.0	90	90
12.0	100	100
16.0	115	115
20.0	130	130
25.0	150	150

4.152

HSS | TiN | h8 | 100° / 160°



- 35°helix angle combined with 160°+ 100° point angle design reduces axial thrust while upgrading machining accuracy without burrs on hole edge.
- Surface is coated with TiN HV2000. featuring maximum wear-resistance, low friction-coefficient, anti-adhere, superior cutting performance and long service life.
- Especially ideal for drilling holes on H Beam Structural Steel.

D mm	L mm	l mm	MT.NO.
17.5	260	140	3
18.0	260	140	3
18.5	265	145	3
19.0	265	145	3
19.5	270	150	3
20.0	270	150	3
20.5	275	155	3
21.0	275	155	3
21.5	280	160	3
22.0	280	160	3
22.5	285	165	3
23.0	285	165	3
23.5	285	165	3
24.0	285	165	3
24.5	285	165	3

D mm	L mm	l mm	MT.NO.
25.0	285	165	3
25.5	285	165	3
26.0	285	165	3
26.5	285	165	3
27.0	285	165	3
27.5	285	165	3
28.0	285	165	3
28.5	285	165	3
29.0	285	165	3
29.5	285	165	3
30.0	285	165	3
30.5	285	165	3
31.0	285	165	3
31.5	285	165	3
32.0	285	165	3

For over 26.5mm the point angle is 130

Cutting data P...

4.171

HSCo | 125° | h8

- Basic on HSS-Co feartures heat and wear resistance.
- Suitable for drilling tough materials, such as Heat-Resistant Steel, Stainless Steel, Alloy Steel and Steel with hardness over HRC 28.

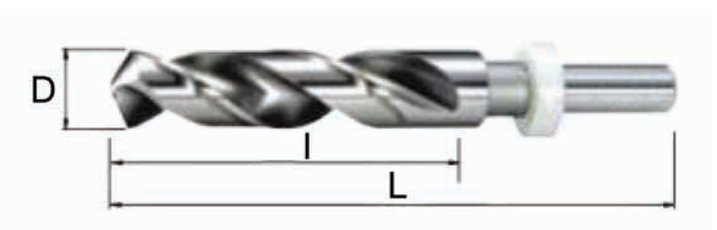
D mm	L mm	l mm	MT.NO.
13.5	202	118	1
14.0	205	122	1
14.5	222	122	2
15.0	225	125	2
15.5	228	128	2
16.0	230	130	2
16.5	232	132	2
17.0	235	135	2
17.5	240	140	2
18.0	240	140	2
18.5	245	145	2
19.0	245	145	2

D mm	L mm	l mm	MT.NO.
19.5	250	150	2
20.0	250	150	2
20.5	255	155	2
21.0	255	155	2
21.5	260	160	2
22.0	260	160	2
23.0	265	165	2
24.0	285	165	3
25.0	285	165	3
26.0	285	165	3
27.0	290	170	3
28.0	295	175	3

Cutting data P...

Noss HSS Cobalt Drills
4.471

HSCo | 125° | h8



- Basic on HSS-Co feartures heat and wear resistance.
- Surface is coated with TiN HV2000, teaturing maximum wear-resistance, low friction-coefficient, anti-adhere, superior cutting performance and long service life.
- Precise position and chamfer are accomplished at one time to improve machining quality.
- Suitable for drilling General Steels, Alloy Steel, Tempered Steel, Cast Iron and Aluminum Alloy, etc.

D mm	L mm	l mm	
13.5	140	82	12.7
14.0			
14.5			
15.0			
15.5			
16.0			
16.5			
17.0			

D mm	L mm	l mm	
17.5	140	82	12.7
18.0			
18.5			
19.0			
19.5			
20.0			
20.5			
21.0			

D mm	L mm	l mm	
21.5	140	82	12.7
22.0			
22.5			
23.0			
23.5			
24.0			
25.5			
26.0			

4.154

HSE 130° h8

Stub Flute

- Basic on HSE feartures heat and wear resistance
- Suitable for drilling various steels with tensile strength up to 1000 N/mm (HRC 32), Stainless Steel and Cast Iron, etc.

D mm	L mm	l mm
1.80	36	11
1.82	36	11
2.30	40	13
2.40	43	14
2 55	43	14
2.75	46	16
2.78	46	16
3.15	49	18
3.16	49	18
3.17	49	18
3.18	49	18
3.65	52	20
3.68	52	20
3.8-4.0	55	22
4.1-4.2	55	22
4.3-4.5	58	24
4.6-4.7	58	24
4.8-5.0	62	26
5.05-5.3	62	26
5.4-5.6	66	28

Wide chip space and high helix angle help coolant fluids reach to the cutting edge, reduce heat and built-up edge, and prevent deformation.

Suitable for steel which tensile strength approx. 1000N/mm*, Stainless Steel and Cast Iron.

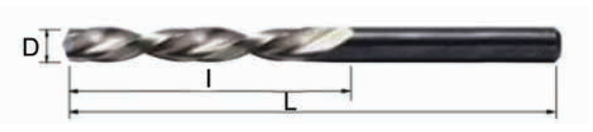
Suitable for drilling depth up to 3 x D.

Not recommend to be used on Nickel-Chrome Steel and similar materials.

4.155

HSE 130° h8

Long Flute



- Basic on HSE feartures heat and wear resistance
- Suitable for drilling various steels with tensile strength up to 1000 N/mm (HRC 32), Stainless Steel and Cast Iron, etc.

D mm	L mm	l mm
1.80	46	22
1.82	46	22
2.30	53	27
2.40	57	30
2.55	57	30
2.75	61	33
2.78	61	33
3.15	65	36
3.16	65	36
3.17	65	36
3.18	65	36
3.65	70	39
3.68	70	39
3.8-4.0	75	43
4.1-4.2	75	43
4.3-4.5	80	47
4.6-4.7	80	47
4.8-5.0	86	52
5.05-5.3	86	52
5.4-5.6	93	57

Means made to order
None in stock, please