



QUALITY CUTTING TOOLS

An ISO 9001:2015 Certified Company

BY PROFESSIONALS
TO PROFESSIONALS

CARBIDE CATALOGUE 2019

DRILLS
ENDMILLS
REAMERS
CHAMFERS
CENTRE DRILLS
CUSTOM MADE TOOLS
SPOTTING DRILLS
ENGRAVER CUTTER



Tooling Solutions for Industries :



AUTOMOTIVE



AEROSPACE



DIE & MOULD



GENERAL ENGG.

www.trucut-tool.com



Certificate of Registration



TruCut Precision Tools Pvt Ltd

W-17, 18th Industrial Estate, 17th Avenue, Hombalapur,
Chennai - 600042, Tamil Nadu, India

has been assessed and Certified by Otago Certification Pvt. Ltd.
in accordance with the requirements of

ISO 9001:2015
Quality Management System

For the following scope of activities:

**Manufacture & Supply of Cutting Tools for
HSS, Carbide, PCD, TBM**

Turning, Drilling, Reaming, Tapping & Bore Milling

Scope No: 1
Date of Certification: 08 September 2019
Re-Certification Due: 08 September 2021

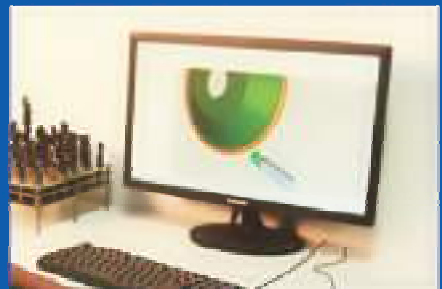
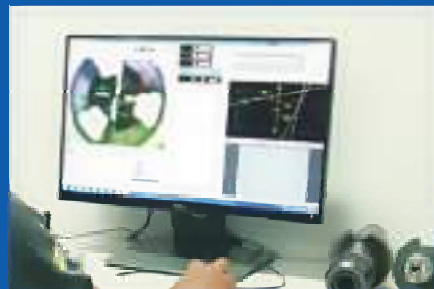
Revision No: 1
Date of Amendment: 08 November 2017
Re-Certification Due: 08 November 2019

Certificate No: **1900120410**

To verify the Certificate please visit www.otagoindia.com



www.otagoindia.com
17th Avenue, Hombalapur, Chennai - 600042, Tamil Nadu, India
Phone: +91 44 42000000
Email: info@otagopvt.com Website: www.otagoindia.com





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At Trucut Tool, we take great pride to introduce the Domestic and International market, a comprehensive range of Solid Carbide Rotating Tools.

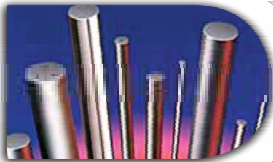
We at Trucut believe that in this fierce competitive world where top notch quality will be an ultimate goal, we use High Grade Microfine and Ultra Fine Grade carbide rods imported from Europe.

All Tools are produced on latest 5 Axis CNC Tool Grinding Machine and inspected on CNC Inspection to ensure that tool manufactured at Trucut reaches the end users with consistent quality and tight tolerance.

We are extremely proud and confident that our quality and product line will meet all your requirements and end users will enjoy using our Quality products as we enjoy producing it...

Company Profile

Manufacturing Facilities



Microfine and Ultrafine Carbide Raw Materials and Hss-Co are imported from Europe to ensure consistent quality



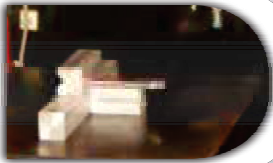
In-house forming section from un-ground carbide blanks



CNC 5 Axis and 7 Axis Grinding Machines for consistent tool performance



Non contact 5 Axis CMM Tool Inspection Machine for consistent Geometry and Dimension



Laser marking for permanent identification



High quality Single Piece packing used for best Tools protection

OFFICE





HYPERLine

- ▶ For High Feed & Speed Machining
- ▶ For machining Alloy Steel & Super Alloys like Stainless Steel, Inconel etc.
- ▶ Made From Ultra-Fine Carbide
- ▶ Smooth Coat For Better Wear Resistance & Chip Flow

PAGES 08-32



HARDLine

- ▶ High Speed Machining Application
- ▶ For Machining of High Hardened Material Upto 62 HRC
- ▶ Wide Range & Series to Suit Die & Mould Industry
- ▶ Made From Submicron Grade Carbide with High Cobalt
- ▶ Hard Coat For Better Wear Resistance at High Speed Finishing Application

PAGES 34-52



TRULine

- ▶ Wide Machining Application at Moderate Cutting Condition
- ▶ For Machining Steel / Cast Iron / Alloy Steel Upto 40 HRC
- ▶ Made From Ultra Fine carbide
- ▶ Smooth Coat for Better Wear Resistance & Chip Flow

PAGES 55-80

CUTTING PARAMETERS

Feed/Chip Size

Flute Depth



30-40 HRC: Feed/depth – 10% of tool diameter

40-60 HRC: Feed/depth – 5% of tool diameter

50-60 HRC: Feed/depth – 4% of tool diameter

PAGES 84-93



HYPERLine



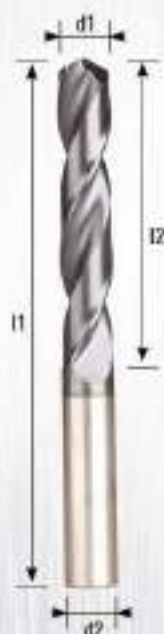
- ▶ For High Feed & Speed Machining
- ▶ For machining Alloy Steel & Super Alloys like Stainless Steel, Inconel etc
- ▶ Made From Ultra - Fine Carbide
- ▶ Smooth Coat For Better Wear Resistance & Chip Flow

PAGES **08-32**



Tool Image	Series	Helix Angle	No. of Flute	Recommendation						Refer Page No
				Steel 15-30 HRC	Steel 30-40 HRC	Hard 62 HRC	Stainless Steel	Cast Iron	Aluminum / Copper	
	203	30°	Z-2	●	●			●		9
	206	30°	Z-2	●	●			●		12
	207	30°	Z-2	●	●			●		15
	203TC	28°-32°	Z-2	●			●	●		16
	205TC	28°-32°	Z-2	●			●	●		19
	207TC	28°-32°	Z-2	●			●	●		22
	240	20°	Z-2						●	27
	124RCS	30°	Z-4	●	●		●	●		23
	124RFS	46°	Z-4	●			●			23
	124WHS	35/38°	Z-4	●	●		●	●		24
	124TS	46°	Z-4	●	●			●		24
	123HHS	46°	Z-3	●		●	●	●		25
	123HHL	46°	Z-3	●		●	●	●		25
	124HHS	46°	Z-4	●		●	●	●		26
	124HHL	46°	Z-4	●		●	●	●		26
	101ALL	46°	Z-1						●	30
	101ALS	46°	Z-1						●	30
	122ALL	46°	Z-2						●	31
	122ALS	46°	Z-2						●	31
	123ALL	46°	Z-3						●	32
	123ALS	46°	Z-3						●	32

Recommended ● Partly Recommended ○


Application :

- Rigid Flute and Shank
- Self Centering
- Specially Designed for Hi-feed rate

d1 Flute Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Item Code
3	6	20	62	203-0300
3.1	6	20	62	203-0310
3.2	6	20	62	203-0320
3.3	6	20	62	203-0330
3.4	6	20	62	203-0340
3.5	6	20	62	203-0350
3.6	6	20	62	203-0360
3.7	6	24	66	203-0370
3.8	6	24	66	203-0380
3.9	6	24	66	203-0390
4	6	24	66	203-0400
4.1	6	24	66	203-0410
4.2	6	24	66	203-0420
4.3	6	24	66	203-0430
4.4	6	24	66	203-0440
4.5	6	24	66	203-0450
4.6	6	24	66	203-0460
4.7	6	28	66	203-0470
4.8	6	28	66	203-0480
4.9	6	28	66	203-0490
5	6	28	66	203-0500
5.1	6	28	66	203-0510
5.2	6	28	66	203-0520
5.3	6	28	66	203-0530
5.4	6	28	66	203-0540
5.5	6	28	66	203-0550
5.6	6	28	66	203-0560
5.7	6	28	66	203-0570
5.8	6	28	66	203-0580
5.9	6	28	66	203-0590
6	6	28	66	203-0600
6.1	8	34	79	203-0610
6.2	8	34	79	203-0620
6.3	8	34	79	203-0630
6.4	8	34	79	203-0640
6.5	8	34	79	203-0650
6.6	8	34	79	203-0660
6.7	8	34	79	203-0670
6.8	8	34	79	203-0680
6.9	8	34	79	203-0690

Series : 203
High Performance - 3 L/D



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Item Code
7	8	34	70	203-0700
7.1	8	41	70	203-0710
7.2	8	41	70	203-0720
7.3	8	41	70	203-0730
7.4	8	41	70	203-0740
7.5	8	41	70	203-0750
7.6	8	41	70	203-0760
7.7	8	41	70	203-0770
7.8	8	41	70	203-0780
7.9	8	41	70	203-0790
8	8	41	70	203-0800
8.1	10	47	80	203-0810
8.2	10	47	80	203-0820
8.3	10	47	80	203-0830
8.4	10	47	80	203-0840
8.5	10	47	80	203-0850
8.6	10	47	80	203-0860
8.7	10	47	80	203-0870
8.8	10	47	80	203-0880
8.9	10	47	80	203-0890
9	10	47	80	203-0900
9.1	10	47	80	203-0910
9.2	10	47	80	203-0920
9.3	10	47	80	203-0930
9.4	10	47	80	203-0940
9.5	10	47	80	203-0950
9.6	10	47	80	203-0960
9.7	10	47	80	203-0970
9.8	10	47	80	203-0980
9.9	10	47	80	203-0990
10	10	47	80	203-1000
10.1	12	55	102	203-1010
10.2	12	55	102	203-1020
10.3	12	55	102	203-1030
10.4	12	55	102	203-1040
10.5	12	55	102	203-1050
10.6	12	55	102	203-1060
10.7	12	55	102	203-1070
10.8	12	55	102	203-1080
10.9	12	55	102	203-1090

Application :

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d1 Flute Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Item Code
11	12	55	102	203-1100
11.1	12	55	102	203-1110
11.2	12	55	102	203-1120
11.3	12	55	102	203-1130
11.4	12	55	102	203-1140
11.5	12	55	102	203-1150
11.6	12	55	102	203-1160
11.7	12	55	102	203-1170
11.8	12	55	102	203-1180
11.9	12	55	102	203-1190
12	12	55	102	203-1200
12.1	14	60	107	203-1210
12.2	14	60	107	203-1220
12.3	14	60	107	203-1230
12.4	14	60	107	203-1240
12.5	14	60	107	203-1250
12.6	14	60	107	203-1260
12.7	14	60	107	203-1270
12.8	14	60	107	203-1280
12.9	14	60	107	203-1290
13	14	60	107	203-1300
13.2	14	60	107	203-1320
13.5	14	60	107	203-1350
13.8	14	60	107	203-1380
14.0	14	60	107	203-1400
14.2	16	65	115	203-1420
14.5	16	65	115	203-1450
14.8	16	65	115	203-1480
15	16	65	115	203-1500
15.2	16	65	115	203-1520
15.5	16	65	115	203-1550
15.8	16	65	115	203-1580
16	16	65	115	203-1600
16.5	18	73	123	203-1650
17	18	73	123	203-1700
17.5	18	73	123	203-1750
18	18	73	123	203-1800
18.5	20	79	131	203-1850
19	20	79	131	203-1900
19.5	20	79	131	203-1950
20	20	79	131	203-2000

Series : 205
High Performance - 5 L/D



d1	d2	l2	l1	Item Code
Tool Diameter	Shank Diameter	Length of Cut	Overall Length	
3	8	29	86	205-0300
3.1	8	29	86	205-0310
3.2	8	29	86	205-0320
3.3	8	29	86	205-0330
3.4	8	29	86	205-0340
3.5	8	29	86	205-0350
3.6	8	29	86	205-0360
3.7	8	35	74	205-0370
3.8	8	35	74	205-0380
3.9	8	35	74	205-0390
4	8	35	74	205-0400
4.1	8	35	74	205-0410
4.2	8	35	74	205-0420
4.3	8	35	74	205-0430
4.4	8	35	74	205-0440
4.5	8	35	74	205-0450
4.6	8	35	74	205-0460
4.7	8	41	82	205-0470
4.8	8	41	82	205-0480
4.9	8	41	82	205-0490
5	8	41	82	205-0500
5.1	8	41	82	205-0510
5.2	8	41	82	205-0520
5.3	8	41	82	205-0530
5.4	8	41	82	205-0540
5.5	8	41	82	205-0550
5.6	8	41	82	205-0560
5.7	8	41	82	205-0570
5.8	8	41	82	205-0580
5.9	8	41	82	205-0590
6	8	41	82	205-0600
6.1	8	53	91	205-0610
6.2	8	53	91	205-0620
6.3	8	53	91	205-0630
6.4	8	53	91	205-0640
6.5	8	53	91	205-0650
6.6	8	53	91	205-0660
6.7	8	53	91	205-0670
6.8	8	53	91	205-0680
6.9	8	53	91	205-0690

Application :

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d1 Flute Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Item Code
7	8	53	91	205-0700
7.1	8	53	91	205-0710
7.2	8	53	91	205-0720
7.3	8	53	91	205-0730
7.4	8	53	91	205-0740
7.5	8	53	91	205-0750
7.6	8	53	91	205-0760
7.7	8	53	91	205-0770
7.8	8	53	91	205-0780
7.9	8	53	91	205-0790
8	8	53	91	205-0800
8.1	10	61	103	205-0810
8.2	10	61	103	205-0820
8.3	10	61	103	205-0830
8.4	10	61	103	205-0840
8.5	10	61	103	205-0850
8.6	10	61	103	205-0860
8.7	10	61	103	205-0870
8.8	10	61	103	205-0880
8.9	10	61	103	205-0890
9	10	61	103	205-0900
9.1	10	61	103	205-0910
9.2	10	61	103	205-0920
9.3	10	61	103	205-0930
9.4	10	61	103	205-0940
9.5	10	61	103	205-0950
9.6	10	61	103	205-0960
9.7	10	61	103	205-0970
9.8	10	61	103	205-0980
9.9	10	61	103	205-0990
10	10	61	103	205-1000
10.1	12	71	116	205-1010
10.2	12	71	116	205-1020
10.3	12	71	116	205-1030
10.4	12	71	116	205-1040
10.5	12	71	116	205-1050
10.6	12	71	116	205-1060
10.7	12	71	116	205-1070
10.8	12	71	116	205-1080
10.9	12	71	116	205-1090

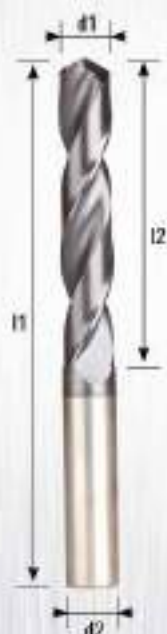
Series : 205
High Performance - 5 L/D



d1	d2	l2	l1	Item Code
Tool Diameter	Shank Diameter	Length of Cut	Overall Length	
11	12	71	118	205-1100
11.1	12	71	118	205-1110
11.2	12	71	118	205-1120
11.3	12	71	118	205-1130
11.4	12	71	118	205-1140
11.5	12	71	118	205-1150
11.6	12	71	118	205-1160
11.7	12	71	118	205-1170
11.8	12	71	118	205-1180
11.9	12	71	118	205-1190
12	12	71	118	205-1200
12.1	14	77	124	205-1210
12.2	14	77	124	205-1220
12.3	14	77	124	205-1230
12.4	14	77	124	205-1240
12.5	14	77	124	205-1250
12.6	14	77	124	205-1260
12.7	14	77	124	205-1270
12.8	14	77	124	205-1280
12.9	14	77	124	205-1290
13	14	77	124	205-1300
13.2	14	77	124	205-1320
13.5	14	77	124	205-1350
13.8	14	77	124	205-1380
14	14	77	124	205-1400
14.2	16	83	133	205-1420
14.5	16	83	133	205-1450
14.8	16	83	133	205-1480
15	16	83	133	205-1500
15.2	16	83	133	205-1520
15.5	16	83	133	205-1550
15.8	16	83	133	205-1580
16	16	83	133	205-1600
16.5	18	89	143	205-1650
17	18	89	143	205-1700
17.5	18	89	143	205-1750
18	18	89	143	205-1800
18.5	20	101	153	205-1850
19	20	101	153	205-1900
19.5	20	101	153	205-1950
20	20	101	153	205-2000

Application :

- Rigid Flute and Shank
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Application :

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d1 Flute Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Item Code
5	8	50	90	207-0500
5.1	8	50	90	207-0510
5.5	8	50	90	207-0550
6	8	50	90	207-0600
6.35	8	66	106	207-0635
6.5	8	66	106	207-0650
6.8	8	66	106	207-0680
6.9	8	66	106	207-0690
7	8	66	106	207-0700
7.5	8	76	116	207-0750
7.8	8	76	116	207-0780
8	8	76	116	207-0800
8.5	10	67	131	207-0850
8.6	10	67	131	207-0860
9	10	67	131	207-0900
9.5	10	95	139	207-0950
10	10	95	139	207-1000
10.2	12	106	155	207-1020
10.3	12	106	155	207-1030
10.5	12	106	155	207-1050
11	12	106	155	207-1100
11.5	12	114	163	207-1150
12	12	114	163	207-1200
12.1	14	133	182	207-1210
12.5	14	133	182	207-1250
12.7	14	133	182	207-1270
13	14	133	182	207-1300
13.5	14	133	182	207-1350
14	14	133	182	207-1400
14.2	16	152	204	207-1420
14.5	16	152	204	207-1450
14.8	16	152	204	207-1480
15	16	152	204	207-1500
15.5	16	152	204	207-1550
16	16	152	204	207-1600
16.5	18	171	223	207-1650
17	18	171	223	207-1700
17.5	18	171	223	207-1750
18	18	171	223	207-1800
18.5	20	190	244	207-1850
19	20	190	244	207-1900
19.5	20	190	244	207-1950
20	20	190	244	207-2000

Series : 203TC Through Coolant Hole Drill-3 L/D



d1 Tool Diameter	d2 Shaft Diameter	l2 Length of Cut	l1 Overall Length	Item Code
3	6	20	62	203 TC-0300
3.1	6	20	62	203 TC-0310
3.2	6	20	62	203 TC-0320
3.3	6	20	62	203 TC-0330
3.4	6	20	62	203 TC-0340
3.5	6	20	62	203 TC-0350
3.6	6	20	62	203 TC-0360
3.7	6	24	66	203 TC-0370
3.8	6	24	66	203 TC-0380
3.9	6	24	66	203 TC-0390
4	6	24	66	203 TC-0400
4.1	6	24	66	203 TC-0410
4.2	6	24	66	203 TC-0420
4.3	6	24	66	203 TC-0430
4.4	6	24	66	203 TC-0440
4.5	6	24	66	203 TC-0450
4.6	6	24	66	203 TC-0460
4.7	6	28	69	203 TC-0470
4.8	6	28	69	203 TC-0480
4.9	6	28	69	203 TC-0490
5	6	28	69	203 TC-0500
5.1	6	28	69	203 TC-0510
5.2	6	28	69	203 TC-0520
5.3	6	28	69	203 TC-0530
5.4	6	28	69	203 TC-0540
5.5	6	28	69	203 TC-0550
5.6	6	28	69	203 TC-0560
5.7	6	28	69	203 TC-0570
5.8	6	28	69	203 TC-0580
5.9	6	28	69	203 TC-0590
6	6	34	79	203 TC-0600
6.1	6	34	79	203 TC-0610
6.2	6	34	79	203 TC-0620
6.3	6	34	79	203 TC-0630
6.4	6	34	79	203 TC-0640
6.5	6	34	79	203 TC-0650
6.6	6	34	79	203 TC-0660
6.7	6	34	79	203 TC-0670
6.8	6	34	79	203 TC-0680
6.9	6	34	79	203 TC-0690

Application :

- Self Centering
- Specially Designed for Hi-feed rate
- Suitable for Long Chip Material


Application :

- Self Centering
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- Suitable for Long Chip Material

d1 Tool Diameter	d2 Shank Diameter	L2 Length of Cut	L1 Overall Length	Item Code
7	8	34	70	203 TC-0700
7.1	8	41	70	203 TC-0710
7.2	8	41	70	203 TC-0720
7.3	8	41	70	203 TC-0730
7.4	8	41	70	203 TC-0740
7.5	8	41	70	203 TC-0750
7.6	8	41	70	203 TC-0760
7.7	8	41	70	203 TC-0770
7.8	8	41	70	203 TC-0780
7.9	8	41	70	203 TC-0790
8	8	41	70	203 TC-0800
8.1	10	47	80	203 TC-0810
8.2	10	47	80	203 TC-0820
8.3	10	47	80	203 TC-0830
8.4	10	47	80	203 TC-0840
8.5	10	47	80	203 TC-0850
8.6	10	47	80	203 TC-0860
8.7	10	47	80	203 TC-0870
8.8	10	47	80	203 TC-0880
8.9	10	47	80	203 TC-0890
9	10	47	80	203 TC-0900
9.1	10	47	80	203 TC-0910
9.2	10	47	80	203 TC-0920
9.3	10	47	80	203 TC-0930
9.4	10	47	80	203 TC-0940
9.5	10	47	80	203 TC-0950
9.6	10	47	80	203 TC-0960
9.7	10	47	80	203 TC-0970
9.8	10	47	80	203 TC-0980
9.9	10	47	80	203 TC-0990
10	10	47	80	203 TC-1000
10.1	12	55	102	203 TC-1010
10.2	12	55	102	203 TC-1020
10.3	12	55	102	203 TC-1030
10.4	12	55	102	203 TC-1040
10.5	12	55	102	203 TC-1050
10.6	12	55	102	203 TC-1060
10.7	12	55	102	203 TC-1070
10.8	12	55	102	203 TC-1080
10.9	12	55	102	203 TC-1090

Series : 203TC Through Coolant Hole Drill-3 L/D



d1 Tool Diameter	d2 Shaft Diameter	l2 Length of Cut	l1 Overall Length	Item Code
11	12	55	102	203 TC-1100
11.1	12	55	102	203 TC-1110
11.2	12	55	102	203 TC-1120
11.3	12	55	102	203 TC-1130
11.4	12	55	102	203 TC-1140
11.5	12	55	102	203 TC-1150
11.6	12	55	102	203 TC-1160
11.7	12	55	102	203 TC-1170
11.8	12	55	102	203 TC-1180
11.9	12	55	102	203 TC-1190
12	12	55	102	203 TC-1200
12.1	14	60	107	203 TC-1210
12.2	14	60	107	203 TC-1220
12.3	14	60	107	203 TC-1230
12.4	14	60	107	203 TC-1240
12.5	14	60	107	203 TC-1250
12.6	14	60	107	203 TC-1260
12.7	14	60	107	203 TC-1270
12.8	14	60	107	203 TC-1280
12.9	14	60	107	203 TC-1290
13	14	60	107	203 TC-1300
13.2	14	60	107	203 TC-1320
13.5	14	60	107	203 TC-1350
13.8	14	60	107	203 TC-1380
14	14	60	107	203 TC-1400
14.2	16	65	115	203 TC-1420
14.5	16	65	115	203 TC-1450
14.8	16	65	115	203 TC-1480
15	16	65	115	203 TC-1500
15.2	16	65	115	203 TC-1520
15.5	16	65	115	203 TC-1550
15.8	16	65	115	203 TC-1580
16	16	65	115	203 TC-1600
16.5	18	73	123	203 TC-1650
17	18	73	123	203 TC-1700
17.5	18	73	123	203 TC-1750
18	18	73	123	203 TC-1800
18.5	20	79	131	203 TC-1850
19	20	79	131	203 TC-1900
19.5	20	79	131	203 TC-1950
20	20	79	131	203 TC-2000

Application :

- Self Centering
- Specially Designed for Hi-feed rate
- Suitable for Long Chip Material


Application :

- Self Centering
- Specially Designed for Hi-feed rate
- Suitable for Long Chip Material

d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Item Code
3	8	28	65	205 TC-0300
3.1	8	28	65	205 TC-0310
3.2	8	28	65	205 TC-0320
3.3	8	28	65	205 TC-0330
3.4	8	28	65	205 TC-0340
3.5	8	28	65	205 TC-0350
3.6	8	28	65	205 TC-0360
3.7	8	36	74	205 TC-0370
3.8	8	36	74	205 TC-0380
3.9	8	36	74	205 TC-0390
4	8	36	74	205 TC-0400
4.1	8	36	74	205 TC-0410
4.2	8	36	74	205 TC-0420
4.3	8	36	74	205 TC-0430
4.4	8	36	74	205 TC-0440
4.5	8	36	74	205 TC-0450
4.6	8	36	74	205 TC-0460
4.7	8	44	82	205 TC-0470
4.8	8	44	82	205 TC-0480
4.9	8	44	82	205 TC-0490
5	8	44	82	205 TC-0500
5.1	8	44	82	205 TC-0510
5.2	8	44	82	205 TC-0520
5.3	8	44	82	205 TC-0530
5.4	8	44	82	205 TC-0540
5.5	8	44	82	205 TC-0550
5.6	8	44	82	205 TC-0560
5.7	8	44	82	205 TC-0570
5.8	8	44	82	205 TC-0580
5.9	8	44	82	205 TC-0590
6	8	44	82	205 TC-0600
6.1	8	53	91	205 TC-0610
6.2	8	53	91	205 TC-0620
6.3	8	53	91	205 TC-0630
6.4	8	53	91	205 TC-0640
6.5	8	53	91	205 TC-0650
6.6	8	53	91	205 TC-0660
6.7	8	53	91	205 TC-0670
6.8	8	53	91	205 TC-0680
6.9	8	53	91	205 TC-0690

Series : 205TC Through Coolant Hole Drill-5 L/D



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Item Code
7	8	53	91	205 TC-0700
7.1	8	53	91	205 TC-0710
7.2	8	53	91	205 TC-0720
7.3	8	53	91	205 TC-0730
7.4	8	53	91	205 TC-0740
7.5	8	53	91	205 TC-0750
7.6	8	53	91	205 TC-0760
7.7	8	53	91	205 TC-0770
7.8	8	53	91	205 TC-0780
7.9	8	53	91	205 TC-0790
8	8	53	91	205 TC-0800
8.1	10	61	103	205 TC-0810
8.2	10	61	103	205 TC-0820
8.3	10	61	103	205 TC-0830
8.4	10	61	103	205 TC-0840
8.5	10	61	103	205 TC-0850
8.6	10	61	103	205 TC-0860
8.7	10	61	103	205 TC-0870
8.8	10	61	103	205 TC-0880
8.9	10	61	103	205 TC-0890
9	10	61	103	205 TC-0900
9.1	10	61	103	205 TC-0910
9.2	10	61	103	205 TC-0920
9.3	10	61	103	205 TC-0930
9.4	10	61	103	205 TC-0940
9.5	10	61	103	205 TC-0950
9.6	10	61	103	205 TC-0960
9.7	10	61	103	205 TC-0970
9.8	10	61	103	205 TC-0980
9.9	10	61	103	205 TC-0990
10	10	61	103	205 TC-1000
10.1	12	71	118	205 TC-1010
10.2	12	71	118	205 TC-1020
10.3	12	71	118	205 TC-1030
10.4	12	71	118	205 TC-1040
10.5	12	71	118	205 TC-1050
10.6	12	71	118	205 TC-1060
10.7	12	71	118	205 TC-1070
10.8	12	71	118	205 TC-1080
10.9	12	71	118	205 TC-1090

Application :

- Self Centering
- Specially Designed for Hi-feed rate
- Suitable for Long Chip Material


Application :

- Self Centering
- Specially Designed for Hi-feed rate
- Suitable for Long Chip Material

d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Item Code
11	12	71	118	205 TC-1100
11.1	12	71	118	205 TC-1110
11.2	12	71	118	205 TC-1120
11.3	12	71	118	205 TC-1130
11.4	12	71	118	205 TC-1140
11.5	12	71	118	205 TC-1150
11.6	12	71	118	205 TC-1160
11.7	12	71	118	205 TC-1170
11.8	12	71	118	205 TC-1180
11.9	12	71	118	205 TC-1190
12	12	71	118	205 TC-1200
12.1	14	77	124	205 TC-1210
12.2	14	77	124	205 TC-1220
12.3	14	77	124	205 TC-1230
12.4	14	77	124	205 TC-1240
12.5	14	77	124	205 TC-1250
12.6	14	77	124	205 TC-1260
12.7	14	77	124	205 TC-1270
12.8	14	77	124	205 TC-1280
12.9	14	77	124	205 TC-1290
13	14	77	124	205 TC-1300
13.2	14	77	124	205 TC-1320
13.5	14	77	124	205 TC-1350
13.8	14	77	124	205 TC-1380
14	14	77	124	205 TC-1400
14.2	16	83	133	205 TC-1420
14.5	16	83	133	205 TC-1450
14.8	16	83	133	205 TC-1480
15	16	83	133	205 TC-1500
15.2	16	83	133	205 TC-1520
15.5	16	83	133	205 TC-1550
15.8	16	83	133	205 TC-1580
16	16	83	133	205 TC-1600
16.5	18	93	143	205 TC-1650
17	18	93	143	205 TC-1700
17.5	18	93	143	205 TC-1750
18	18	93	143	205 TC-1800
18.5	20	101	153	205 TC-1850
19	20	101	153	205 TC-1900
19.5	20	101	153	205 TC-1950
20	20	101	153	205 TC-2000

Series : 207TC Through Coolant Hole Drill-7 L/D

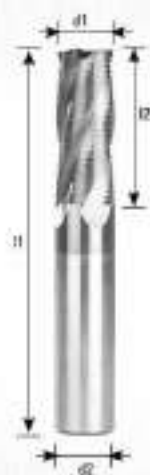


d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Item Code
5	6	50	90	207 TC-0500
5.1	6	50	90	207 TC-0510
5.5	6	50	90	207 TC-0550
6	6	50	90	207 TC-0600
6.35	6	60	106	207 TC-0635
6.5	6	60	106	207 TC-0650
6.8	6	65	106	207 TC-0680
6.9	6	65	106	207 TC-0690
7	6	60	100	207 TC-0700
7.5	6	70	116	207 TC-0750
7.8	6	70	116	207 TC-0780
8	6	70	116	207 TC-0800
8.5	10	87	131	207 TC-0850
8.6	10	87	131	207 TC-0860
9	10	87	131	207 TC-0900
9.5	10	95	139	207 TC-0950
10	10	95	139	207 TC-1000
10.2	12	106	155	207 TC-1020
10.3	12	100	155	207 TC-1030
10.5	12	100	155	207 TC-1050
11	12	106	155	207 TC-1100
11.5	12	114	163	207 TC-1150
12	12	114	163	207 TC-1200
12.1	14	133	182	207 TC-1210
12.5	14	133	182	207 TC-1250
12.7	14	133	182	207 TC-1270
13	14	133	182	207 TC-1300
13.5	14	133	182	207 TC-1350
14	14	133	182	207 TC-1400
14.2	16	152	204	207 TC-1420
14.5	16	152	204	207 TC-1450
14.8	16	152	204	207 TC-1480
15	16	152	204	207 TC-1500
15.5	16	152	204	207 TC-1550
16	16	152	204	207 TC-1600
16.5	18	171	223	207 TC-1650
17	18	171	223	207 TC-1700
17.5	18	171	223	207 TC-1750
18	18	171	223	207 TC-1800
18.5	20	190	244	207 TC-1850
19	20	190	244	207 TC-1900
19.5	20	190	244	207 TC-1950
20	20	190	244	207 TC-2000

Application :

- Self Centering
- Specially Designed for Hi-feed rate
- Suitable for Long Chip Material

Series : 124RCS Roughing Course Pitch-Std Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No. of Flute	Item Code
6	6	18	60	4	124RCS-0600
8	8	20	60	4	124RCS-0800
10	10	25	75	4	124RCS-1000
12	12	30	75	4	124RCS-1200
16	16	40	100	4	124RCS-1600
20	20	45	100	4	124RCS-2000

Application :

- For Dry and Wet Milling
- Very High Stock Removal
- Alloy Steel and Cast Iron

Series : 124RFS Roughing Fine Pitch-Std Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No. of Flute	Item Code
3	6	7	57	3	124RFS-0300
4	6	14	57	4	124RFS-0400
5	6	14	57	4	124RFS-0500
6	6	18	57	4	124RFS-0600
8	8	21	83	4	124RFS-0800
10	10	22	72	4	124RFS-1000
12	12	28	83	4	124RFS-1200
16	16	32	82	5	124RFS-1600
20	20	38	104	6	124RFS-2000

Application :

- For Dry and Wet Milling
- Very High Stock Removal
- Steel upto 30 HRC

Series : 124VHS

Variable Helix - Standard Length



d1 Tool Diameter	d2 Shank Diameter	L2 Length of Cut	L1 Overall Length	No. of Flute	Item Code
6	6	19	57	4	124VHS-0600
8	8	21	63	4	124VHS-0800
10	10	22	72	4	124VHS-1000
12	12	26	83	4	124VHS-1200
16	16	32	92	4	124VHS-1600
20	20	38	104	4	124VHS-2000

Application :

- Designed for High Feed Rate
- Side Milling

Series : 124TS

Turbo Keyway - Standard Length



d1 Tool Diameter	d2 Shank Diameter	L2 Length of Cut	L1 Overall Length	No. of Flute	Item Code
6	6	19	57	4	124TS-0600
8	8	21	63	4	124TS-0800
10	10	22	72	4	124TS-1000
12	12	26	83	4	124TS-1200
16	16	32	92	4	124TS-1600
20	20	38	104	4	124TS-2000

Application :

- Designed for Keyway Milling
- Direct Plugging upto 0.5 / d1 Possible

Series : 123HHS High Helix - Standard Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	H No. of Flute	Item Code
8	8	19	57	3	123HHS-0800
8	8	21	60	3	123HHS-0800
10	10	22	72	3	123HHS-1000
12	12	26	85	3	123HHS-1200
16	16	32	92	3	123HHS-1600
20	20	38	104	3	123HHS-2000

Application :

- Specially Designed for Semi-Finish
- Suitable for Stainless Steel Machining
- Excellent Surface Finish

Series : 123HHL High Helix - Long Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	H No. of Flute	Item Code
8	8	30	80	3	123HHL-0800
8	8	40	100	3	123HHL-0800
10	10	50	100	3	123HHL-1000
12	12	50	100	3	123HHL-1200
16	16	60	120	3	123HHL-1600
20	20	60	120	3	123HHL-2000

Application :

- Specially Designed for Semi-Finish
- Suitable for Stainless Steel Machining
- Excellent Surface Finish

Series : 124HHS High Helix - Standard Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No of Flute	Item Code
6	6	19	67	4	124HHS-0600
8	8	21	69	4	124HHS-0800
10	10	22	72	4	124HHS-1000
12	12	26	83	4	124HHS-1200
16	16	32	92	4	124HHS-1600
20	20	38	104	4	124HHS-2000

Application :

- Specially Designed for Finishing
- Excellent Surface Finish
- Side Milling

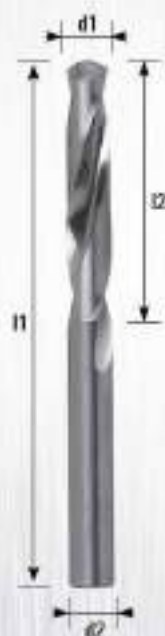
Series : 124HHL High Helix - Long Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No of Flute	Item Code
6	6	30	89	4	124HHL-0600
8	8	40	100	4	124HHL-0800
10	10	50	100	4	124HHL-1000
12	12	50	100	4	124HHL-1200
16	16	60	120	4	124HHL-1600
20	20	60	120	4	124HHL-2000

Application :

- Specially Designed for Finishing
- Excellent Surface Finish
- Side Milling


Application :

- Self Centering
- Specialty Designed for Aluminium and Non Ferrous Drilling

d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Item Code
3.0	3	25	99	240-0300
3.1	4	27	85	240-0310
3.2	4	27	85	240-0320
3.3	4	27	85	240-0330
3.4	4	30	85	240-0340
3.5	4	30	85	240-0350
3.6	4	30	85	240-0360
3.7	4	30	85	240-0370
3.8	4	33	85	240-0380
3.9	4	33	85	240-0390
4.0	4	33	85	240-0400
4.1	5	33	73	240-0410
4.2	5	33	73	240-0420
4.3	5	36	73	240-0430
4.4	5	36	73	240-0440
4.5	5	36	73	240-0450
4.6	5	36	73	240-0460
4.7	5	36	73	240-0470
4.8	5	39	73	240-0480
4.9	5	39	73	240-0490
5.0	5	39	73	240-0500
5.1	6	39	83	240-0510
5.2	6	39	83	240-0520
5.3	6	39	83	240-0530
5.4	6	43	83	240-0540
5.5	6	43	83	240-0550
5.6	6	43	83	240-0560
5.7	6	43	83	240-0570
5.8	6	43	83	240-0580
5.9	6	43	83	240-0590
6.0	6	43	83	240-0600
6.1	7	47	90	240-0610
6.2	7	47	90	240-0620
6.3	7	47	90	240-0630

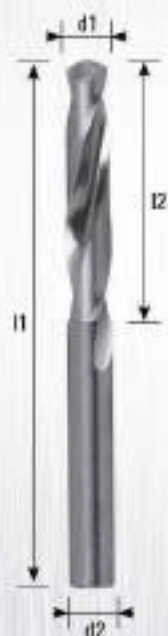
Series : 240 Drills for Aluminium



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Item Code
6.4	7	47	90	240-0640
6.5	7	47	90	240-0650
6.6	7	47	90	240-0660
6.7	7	47	90	240-0670
6.8	7	50	90	240-0680
6.9	7	50	90	240-0690
7.0	7	50	90	240-0700
7.1	8	52	96	240-0710
7.2	8	52	96	240-0720
7.3	8	52	96	240-0730
7.4	8	52	96	240-0740
7.5	8	52	96	240-0750
7.6	8	50	96	240-0760
7.7	8	55	96	240-0770
7.8	8	55	96	240-0780
7.9	8	55	96	240-0790
8.0	8	55	96	240-0800
8.1	8	55	101	240-0810
8.2	9	55	101	240-0820
8.3	9	55	101	240-0830
8.4	9	55	101	240-0840
8.5	9	55	101	240-0850
8.6	9	61	101	240-0860
8.7	9	61	101	240-0870
8.8	9	61	101	240-0880
8.9	9	61	101	240-0890
9.0	9	61	101	240-0900
9.1	10	61	109	240-0910
9.2	10	61	109	240-0920
9.3	10	61	109	240-0930
9.4	10	61	109	240-0940
9.5	10	61	109	240-0950
9.6	10	65	109	240-0960
9.7	10	65	109	240-0970

Application :

- Self Centering
- Specially Designed for Aluminium and Non ferrous Drilling


Application :

- Self Centering
- Specialty Designed for Aluminium and Non Ferrous Drilling

d1 Flute Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Item Code
9.8	10	65	109	240-0900
9.9	10	65	109	240-0900
10.0	10	65	109	240-1000
10.1	11	65	115	240-1010
10.2	11	65	115	240-1020
10.3	11	65	115	240-1030
10.4	11	65	115	240-1040
10.5	11	65	115	240-1050
10.6	11	65	115	240-1060
10.7	11	71	115	240-1070
10.8	11	71	115	240-1080
10.9	11	71	115	240-1090
11.0	11	71	115	240-1100
11.1	12	71	126	240-1110
11.2	12	71	126	240-1120
11.3	12	71	126	240-1130
11.4	12	71	126	240-1140
11.5	12	71	126	240-1150
11.6	12	71	126	240-1160
11.7	12	71	126	240-1170
11.8	12	71	126	240-1180
11.9	12	76	126	240-1190
12.0	12	76	126	240-1200
12.1	13	76	126	240-1210
12.2	13	76	126	240-1220
12.3	13	76	126	240-1230
12.4	13	76	126	240-1240
12.5	13	76	126	240-1250
12.6	13	76	126	240-1260
12.7	13	76	126	240-1270
12.8	13	76	126	240-1280
12.9	13	76	126	240-1290
13.0	13	76	126	240-1300

Series : 101ALL End Mill - Short Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No of Flute	Item Code
3	3	14	40	1	101ALL-0300
4	4	15	50	1	101ALL-0400
5	5	18	50	1	101ALL-0500
6	6	18	57	1	101ALL-0600
8	8	20	63	1	101ALL-0800
10	10	22	72	1	101ALL-1000
12	12	26	83	1	101ALL-1200

Application :

- Aluminum Machining
- Plastic Machining

Series : 101ALS End Mill - Standard Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No of Flute	Item Code
3	3	16	65	1	101ALS-0300
4	4	18	65	1	101ALS-0400
5	5	20	65	1	101ALS-0500
6	6	24	68	1	101ALS-0600
8	8	30	68	1	101ALS-0800
10	10	45	100	1	101ALS-1000
12	12	53	110	1	101ALS-1200

Application :

- Aluminium Machining
- Plastic Machining

Series : 122ALL End Mill - Short Length



Application :

- Designed for Aluminum Machining
- High Feed Rate
- Heavy Stock Removal

d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	n No of Flute	Item Code
5	6	8	54	2	122ALL-0600
6	6	7	54	2	122ALL-0800
8	8	9	58	2	122ALL-0800
10	10	11	65	2	122ALL-1000
12	12	12	73	2	122ALL-1200
14	14	14	75	2	122ALL-1400
16	16	16	82	2	122ALL-1600
18	18	18	84	2	122ALL-1800
20	20	20	92	2	122ALL-2000

A

Series : 122ALS End Mill - Standard Length



Application :

- Designed for Aluminum Machining
- High Feed Rate
- Heavy Stock Removal

d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	n No of Flute	Item Code
6	6	18	67	2	122ALS-0800
8	8	21	83	2	122ALS-0800
10	10	22	72	2	122ALS-1000
12	12	28	83	2	122ALS-1200
16	16	32	82	2	122ALS-1600
20	20	38	104	2	122ALS-2000

Series : 123ALL Endmill - Aluminium Short Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No of Flute	Item Code
5	8	8	54	3	123ALL-0500
6	8	7	54	3	123ALL-0600
8	8	8	58	3	123ALL-0800
10	10	11	68	3	123ALL-1000
12	12	12	73	3	123ALL-1200
14	14	14	75	3	123ALL-1400
16	16	16	82	3	123ALL-1600
18	18	18	84	3	123ALL-1800
20	20	20	82	3	123ALL-2000

Application :

- Designed for Aluminium Machining
- High Feed Rate

Series : 123ALS End Mill Aluminium Std. Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No of Flute	Item Code
6	8	19	57	3	123ALS-0600
8	8	21	63	3	123ALS-0800
10	10	22	72	3	123ALS-1000
12	12	25	83	3	123ALS-1200
16	16	32	82	3	123ALS-1600
20	20	35	104	3	123ALS-2000

Application :

- Designed for Aluminium Machining
- High Feed Rate

HARDLine

- ▶ High Speed Machining Application
- ▶ For Machining of High Hardened Material Upto 62 HRC
- ▶ Wide Range & Series to Suit Die & Mould Industry
- ▶ Made From Submicron Grade Carbide with High Cobalt
- ▶ Hard Coat For Better Wear Resistance at High Speed Finishing Application

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Tool Image	Series	Helix Angle	No. of Flute	Recommendation						Refer Page No
				Steel 15-30 HRC	Steel 45-55 HRC	Hard 55-62Hrc	Stainless Steel	Cast Iron	Aluminum / Copper	
	212	12	2			●				37
	122SB	35°	2	●	●	●		●		38
	122LB	35°	2	●	●	●		●		38
	122ELB	35°	2	●	●	●		●		38
	122XLB	35°	2	●	●	●		●		39
	124CRS	35°	4	●	●	●		●		40
	124CRL	35°	4	●	●	●		●		40
	124CREL	35°	4	●	●	●		●		40
	124CRXL	35°	4	●	●	●		●		41
	124SF	35°	4	●	●	●		●		42
	124LF	35°	4	●	●	●		●		42
	124ELF	35°	4	●	●	●		●		42
	124XLF	35°	4	●	●	●		●		43
	112SB	35°	2		●	●				44
	112LB	35°	2		●	●				44
	112ELB	35°	2		●	●				44
	112XLB	35°	2		●	●				45
	112SF	35°	2		●	●				45

Recommended ● Partly Recommended ○

Tool Image	Series	Helix Angle	No. of Flute	Recommendation						Refer Page No
				Steel 15-30 HRC	Steel 45-55 HRC	Hard 55-62Hrc	Stainless Steel	Cast Iron	Aluminum / Copper	
	114SF	35°	4		●	●				46
	114LF	35°	4		●	●				46
	114ELF	35°	4		●	●				46
	112CRS	35°	2		●	●				47
	114CRS	35°	4		●	●				47
	112FRN	35°	2		●	●				48
	112BRN	35°	2	●	●	●				49
	132SB	35°	2	●	●	●				50
	132CR	35°	2	●	●	●				50
	116SF	45°	6	●	●	●				51
	116LF	45°	6	●	●	●				51
	122TEM	35°	2	●	●	●				52



Solid Tooling Solution For Machining Die & Mold - Roughing (to) Finishing

Ghasing

Helical Ball Ghasing for better Strength & Shearing Action

Hard Coat

New Hard Coat Now has Higher Hardness Properties Combined with Improved Toughness and smooth chip flow for low Friction with Hardened Material upto 50 HRC

Premium Carbide

Untrafine Substract material used for its Properties of Wear Resistance & Toughness

Series 122 & 124

Upto
50
HRC

Rigid Flute

Appropriate Designed Rack Angle Determines the Size & Shape of Chip as well Pressure and Temperature on Tool for Advance Hi speed Productivity



Upto
62
HRC

Series 112 & 114

Rigid Flute

Appropriate Designed Rack Angle Determines the Size & Shape of Chip as well Pressure and Temperature on Tool for Advance Hi speed Productivity

Ghasing

Helical Ball Ghasing for better Strength & Shearing Action

TiSiN Coat

New TiSiN Coating Now has Higher Hardness Properties Combined with Improved Toughness and smooth chip flow for low Friction with Hardened Material upto 62 HRC

Premium Carbide

Untrafine Substract material used for its Properties of Wear Resistance & Toughness





d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Item Code
3.00	3.00	22	48	212-0300
3.50	4.00	24	49	212-0350
4.00	4.00	27	54	212-0400
4.50	5.00	29	58	212-0450
5.00	5.00	30	57	212-0500
5.50	6.00	32	60	212-0550
6.00	6.00	33	62	212-0600
6.50	7.00	35	64	212-0650
7.00	7.00	38	68	212-0700
7.50	8.00	40	70	212-0750
8.00	8.00	41	71	212-0800
8.50	9.00	43	78	212-0850
9.00	9.00	44	78	212-0900
9.50	10.00	46	79	212-0950
10.00	10.00	48	83	212-1000
10.50	11.00	51	88	212-1050
11.00	11.00	52	87	212-1100
11.50	12.00	54	90	212-1150
12.00	12.00	54	92	212-1200

Application :

- Self Centering
- Specially Designed for
Hi-hard Material upto 85 HRC

Series : 122SB (Milling upto 30 HRC)
Ball End Mill - Standard Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
1	3	2	50	0.5	2	122SB-0100
2	3	4	50	1	2	122SB-0200
3	3	6	50	1.5	2	122SB-0300
4	4	6	50	2	2	122SB-0400
6	6	12	50	3	2	122SB-0600
8	8	18	60	4	2	122SB-0800
10	10	20	75	5	2	122SB-1000
12	12	24	75	6	2	122SB-1200
16	16	32	100	8	2	122SB-1600

Series : 122LB / 122ELB
Ball End Mill - Long & Extra Long



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
3	3	6	75	1.5	2	122LB-0300
4	4	6	75	2	2	122LB-0400
6	6	12	75	3	2	122LB-0600
4	4	6	100	2	2	122ELB-0400
6	6	12	100	3	2	122ELB-0600
8	8	18	100	4	2	122ELB-0800
10	10	20	100	5	2	122ELB-1000
12	12	24	100	6	2	122ELB-1200

Series : 122XLB (Milling upto 50 HRC)
Ball End Mill - Extended Length



d_1 Tool Diameter	d_2 Shank Diameter	l_2 Length of Cut	l_1 Overall Length	Radius	No. of Flute	Item Code
6	6	12	150	3	2	122XLB-0600
8	8	16	150	4	2	122XLB-0800
10	10	20	150	5	2	122XLB-1000
12	12	24	150	6	2	122XLB-1200

B

Series : 124CRS (Milling upto 50 HRC)
Corner Radius End Mill - Std Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
3	3	8	50	0.5	4	124CRS-0305
3	3	8	50	1	4	124CRS-0310
4	4	11	50	0.5	4	124CRS-0405
4	4	11	50	1	4	124CRS-0410
5	5	13	50	0.5	4	124CRS-0505
5	5	13	50	1	4	124CRS-0510
6	6	16	50	0.5	4	124CRS-0605
6	6	16	50	1	4	124CRS-0610
8	8	20	75	1	4	124CRS-0810
10	10	25	75	1	4	124CRS-1010
12	12	30	75	1	4	124CRS-1210
12	12	30	75	2	4	124CRS-1220

Series : 124CRXL (Milling upto 50 HRC)
Corner Radius End Mill
- Extended Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
3	3	8	75	1	4	124CRL-0310
4	4	11	75	1	4	124CRL-0410
6	6	16	75	1	4	124CRL-0610
4	4	11	100	1	4	124CREL-0410
6	6	16	100	1	4	124CREL-0610
8	8	20	100	1	4	124CREL-0810
10	10	25	100	1	4	124CREL-1010
12	12	30	100	1	4	124CREL-1210
12	12	30	100	2	4	124CREL-1220
16	16	32	100	1	4	124CREL-1610
16	16	32	100	2	4	124CREL-1620

Series : 124CRXL (Milling upto 50 HRC)
Corner Radius End Mill
- Extended Length



d_1 Tool Diameter	d_2 Shank Diameter	l_2 Length of Cut	l_1 Overall Length	Flutes	No. of Flute	Item Code
6	6	16	150	1	4	124CRXL-0610
8	8	20	150	1	4	124CRXL-0810
10	10	25	150	1	4	124CRXL-1010
12	12	30	150	1	4	124CRXL-1210
12	12	30	150	2	4	124CRXL-1220
16	16	32	150	1	4	124CRXL-1610
16	16	32	150	2	4	124CRXL-1620

B

Series : 124SF (Milling upto 50 HRC)
Flat - Standard Length



d1 Tool Diameter	d2 Shank Diameter	L2 Length of Cut	L1 Overall Length	Radius	No of Flute	Item Code
1	3	3	50	-	4	124SF-0100
2	3	6	50	-	4	124SF-0200
3	3	8	50	-	4	124SF-0300
4	4	11	50	-	4	124SF-0400
6	6	18	50	-	4	124SF-0600
8	8	20	60	-	4	124SF-0800
10	10	25	75	-	4	124SF-1000
12	12	30	75	-	4	124SF-1200
16	16	40	100	-	4	124SF-1600

Series : 124LF & ELF
Flat End Mill - Long & Extra Long



d1 Tool Diameter	d2 Shank Diameter	L2 Length of Cut	L1 Overall Length	Radius	No of Flute	Item Code
3	3	8	75	-	4	124LF-0300
4	4	11	75	-	4	124LF-0400
6	6	18	75	-	4	124LF-0600
4	4	11	100	-	4	124ELF-0400
6	6	18	100	-	4	124ELF-0600
8	8	20	100	-	4	124ELF-0800
10	10	25	100	-	4	124ELF-1000
12	12	30	100	-	4	124ELF-1200

Series: 124XLF (Milling upto 50 HRC)
 Flat End Mill - Extended Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
8	8	18	150		4	124XLF-0800
8	8	20	150		4	124XLF-0820
10	10	25	160		4	124XLF-1000
12	12	30	150		4	124XLF-1200

B

Series : 112SB

Ball End Mill - Standard Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
1.00	4.00	2	50	0.50	2	112SB-0100
1.50	4.00	3	50	0.75	2	112SB-0150
2.00	4.00	4	50	1.00	2	112SB-0200
2.50	4.00	5	50	1.25	2	112SB-0250
3.00	4.00	6	50	1.50	2	112SB-0300
4.00	4.00	8	50	2.00	2	112SB-0400
5.00	6.00	10	50	2.50	2	112SB-0500
6.00	6.00	12	50	3.00	2	112SB-0600
8.00	6.00	16	50	4.00	2	112SB-0800
10.00	10.00	20	75	5.00	2	112SB-1000
12.00	12.00	24	75	6.00	2	112SB-1200
18.00	18.00	32	100	8.00	2	112SB-1800

Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining

Series : 112LB & 112ELB

Ball End Mill - Long & Extra-Long



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
1.00	4.00	2	75	0.50	2	112LB-0100
1.50	4.00	3	75	0.75	2	112LB-0150
2.00	4.00	4	75	1.00	2	112LB-0200
2.00	4.00	4	100	1.00	2	112ELB-0200
2.50	4.00	5	75	1.25	2	112LB-0250
3.00	4.00	6	75	1.50	2	112LB-0300
3.00	4.00	6	100	1.50	2	112ELB-0300
4.00	4.00	8	75	2.00	2	112LB-0400
4.00	4.00	8	100	2.00	2	112ELB-0400
5.00	6.00	10	75	2.50	2	112LB-0500
6.00	6.00	12	75	3.00	2	112LB-0600
6.00	6.00	12	100	3.00	2	112ELB-0600
8.00	6.00	16	100	4.00	2	112ELB-0800
10.00	10.00	20	100	5.00	2	112ELB-1000
12.00	12.00	24	100	6.00	2	112ELB-1200

Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining

Series : 112XLB Ball End Mill - Extended Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	R Radius	No. of Flute	Item Code
6.00	6.00	12	150	3.00	2	112XLB-0600
8.00	8.00	18	150	4.00	2	112XLB-0800
10.00	10.00	20	150	5.00	2	112XLB-1000
12.00	12.00	24	150	6.00	2	112XLB-1200

Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining

B


Series : 112SF Flat End Mill - Standard Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	R Radius	No. of Flute	Item Code
1.00	4.00	4	50		2	112SF-0100
1.50	4.00	4	50		2	112SF-0150
2.00	4.00	8	50		2	112SF-0200
3.00	4.00	8	50		2	112SF-0300
4.00	4.00	11	50		2	112SF-0400
5.00	6.00	13	50		2	112SF-0500
6.00	6.00	16	50		2	112SF-0600
8.00	8.00	20	60		2	112SF-0800
10.00	10.00	25	75		2	112SF-1000
12.00	12.00	30	75		2	112SF-1200
16.00	16.00	40	100		2	112SF-1600

Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining

Series : 114SF

Flat End Mill - Standard Length



Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining

d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No. of Flute	Item Code
1.00	4.00	3	50		4	114SF-0100
1.50	4.00	4	50		4	114SF-0150
2.00	4.00	6	50		4	114SF-0200
3.00	4.00	8	50		4	114SF-0300
4.00	4.00	11	50		4	114SF-0400
5.00	6.00	13	50		4	114SF-0500
6.00	6.00	18	50		4	114SF-0600
8.00	8.00	20	90		4	114SF-0800
10.00	10.00	25	75		4	114SF-1000
12.00	12.00	30	75		4	114SF-1200
15.00	18.00	40	100		4	114SF-1500
20.00	20.00	45	100		4	114SF-2000
25.00	25.00	45	100		4	114SF-2500

Series : 114LF & 114ELF

Flat End Mill - Long & Extra Long



Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining

d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No. of Flute	Item Code
6.00	6.00	10	75		4	114LF-0600
6.00	6.00	18	100		4	114ELF-0600
8.00	8.00	20	100		4	114LF-0800
8.00	8.00	20	150		4	114ELF-0800
10.00	10.00	25	100		4	114LF-1000
10.00	10.00	25	150		4	114ELF-1000
12.00	12.00	30	100		4	114LF-1200
12.00	12.00	30	150		4	114ELF-1200

Series : 112CRS
 Corner Radius - Standard Length

Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining

d1	d2	l2	l1	Radius	No. of Flute	Item Code
Tool Diameter	Shank Diameter	Length of Cut	Overall Length			
3.00	3.00	6	50	0.20	2	112CRS-0302
3.00	3.00	6	50	0.50	2	112CRS-0305
4.00	4.00	6	50	0.20	2	112CRS-0402
4.00	4.00	6	50	0.50	2	112CRS-0405
6.00	6.00	12	50	0.50	2	112CRS-0605
6.00	6.00	12	50	1.00	2	112CRS-0610
6.00	6.00	12	50	1.50	2	112CRS-0615
8.00	8.00	16	60	0.50	2	112CRS-0805
8.00	8.00	16	60	1.00	2	112CRS-0810
8.00	8.00	16	60	1.50	2	112CRS-0815
10.00	10.00	20	75	1.00	2	112CRS-1010
10.00	10.00	20	75	1.50	2	112CRS-1015
10.00	10.00	20	75	2.00	2	112CRS-1020
12.00	12.00	24	75	1.00	2	112CRS-1210
12.00	12.00	24	75	1.50	2	112CRS-1215
12.00	12.00	24	75	2.00	2	112CRS-1220

B

Series : 114CRS
 Corner Radius - Standard Length

Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining

d1	d2	l2	l1	Radius	No. of Flute	Item Code
Tool Diameter	Shank Diameter	Length of Cut	Overall Length			
6.00	6.00	12	50	0.50	4	114CRS-0605
6.00	6.00	12	50	1.00	4	114CRS-0610
6.00	6.00	12	50	1.50	4	114CRS-0615
8.00	8.00	16	60	0.50	4	114CRS-0805
8.00	8.00	16	60	1.00	4	114CRS-0810
8.00	8.00	16	60	1.50	4	114CRS-0815
10.00	10.00	20	75	1.00	4	114CRS-1010
10.00	10.00	20	75	1.50	4	114CRS-1015
10.00	10.00	20	75	2.00	4	114CRS-1020
12.00	12.00	24	75	1.00	4	114CRS-1210
12.00	12.00	24	75	1.50	4	114CRS-1215
12.00	12.00	24	75	2.00	4	114CRS-1220

Series : 112FRN Flat - Long Neck Cutter



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	l3 Neck Length	No. of Flute	Item Code
1.00	4.00	1.5	50	8	2	112FRN-010B
1.00	4.00	1.5	50	8	2	112FRN-010B
1.00	4.00	1.5	50	10	2	112FRN-0110
1.50	4.00	2.0	50	8	2	112FRN-150B
1.50	4.00	2.0	50	12	2	112FRN-1512
1.50	4.00	2.0	50	16	2	112FRN-1516
2.00	4.00	3.0	50	8	2	112FRN-020B
2.00	4.00	3.0	50	8	2	112FRN-020B
2.00	4.00	3.0	50	10	2	112FRN-0210
2.00	4.00	3.0	50	12	2	112FRN-0212
2.00	4.00	3.0	50	16	2	112FRN-0216
2.00	4.00	3.0	50	20	2	112FRN-0220
2.50	4.00	4.0	50	8	2	112FRN-250B
2.50	4.00	4.0	50	12	2	112FRN-2512
2.50	4.00	4.0	50	16	2	112FRN-2516
2.50	4.00	4.0	50	20	2	112FRN-2520
3.00	8.00	4.5	60	10	2	112FRN-0310
3.00	8.00	4.5	60	16	2	112FRN-0316
3.00	8.00	4.5	60	20	2	112FRN-0320
4.00	8.00	6.0	60	10	2	112FRN-0410
4.00	8.00	6.0	60	16	2	112FRN-0416
4.00	8.00	6.0	60	20	2	112FRN-0420
5.00	8.00	8.0	60	16	2	112FRN-0516
5.00	8.00	8.0	60	25	2	112FRN-0525

Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	l3 Neck Length	No. of Flute	Item Code
1.00	4.00	1.5	50	8	2	112BRN-0108
1.00	4.00	1.5	50	8	2	112BRN-0108
1.00	4.00	1.5	50	10	2	112BRN-0110
1.50	4.00	2.0	50	8	2	112BRN-1508
1.50	4.00	2.0	50	12	2	112BRN-1512
1.50	4.00	2.0	50	16	2	112BRN-1516
2.00	4.00	3.0	50	8	2	112BRN-0208
2.00	4.00	3.0	50	8	2	112BRN-0208
2.00	4.00	3.0	50	10	2	112BRN-0210
2.00	4.00	3.0	50	12	2	112BRN-0212
2.00	4.00	3.0	50	16	2	112BRN-0216
2.00	4.00	3.0	50	20	2	112BRN-0220
2.50	4.00	4.0	50	8	2	112BRN-2508
2.50	4.00	4.0	50	12	2	112BRN-2512
2.50	4.00	4.0	50	16	2	112BRN-2516
2.50	4.00	4.0	50	20	2	112BRN-2520
3.00	5.00	4.5	60	10	2	112BRN-0310
3.00	5.00	4.5	60	16	2	112BRN-0316
3.00	5.00	4.5	60	20	2	112BRN-0320
4.00	5.00	6.0	60	10	2	112BRN-0410
4.00	5.00	6.0	60	16	2	112BRN-0416
4.00	5.00	6.0	60	20	2	112BRN-0420
5.00	5.00	8.0	60	16	2	112BRN-0516
5.00	5.00	8.0	60	25	2	112BRN-0525

Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining

Series : 132SB Ball Taper Neck



Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining

d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	Neck Taper Angle	Item Code
3.00	8.00	8	70	1.50	3	132SB-0200
3.00	8.00	8	80	1.50	1.3	132SB-0313
4.00	8.00	8	70	2.00	3	132SB-0430
4.00	8.00	8	80	2.00	1.3	132SB-0413
5.00	8.00	10	80	2.50	3	132SB-0530
5.00	8.00	10	110	2.50	1.3	132SB-0513
6.00	8.00	12	90	3.00	3	132SB-0630
6.00	8.00	12	110	3.00	1.3	132SB-0613
8.00	10.00	14	100	4.00	3	132SB-0830
8.00	10.00	14	120	4.00	1.3	132SB-0813
10.00	12.00	18	110	5.00	3	132SB-1030
10.00	12.00	18	130	5.00	1.3	132SB-1013
12.00	16.00	22	140	6.00	3	132SB-1230
12.00	16.00	22	160	6.00	1.3	132SB-1213

Series : 132CR Corner Radius - Taper Neck



Application :

- Hi-Tensile Steel upto 62 HRC
- Hi-Speed Machining
- Specially Designed for Die and Mould Machining

d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	Neck Taper Angle	Item Code
3.00	8.00	8	70	0.30	3	132CR-0330
3.00	8.00	8	90	0.30	1.3	132CR-0313
4.00	8.00	8	70	0.30	3	132CR-0430
4.00	8.00	8	80	0.30	1.3	132CR-0413
5.00	8.00	10	80	0.50	3	132CR-0530
5.00	8.00	10	110	0.50	1.3	132CR-0513
6.00	8.00	12	80	0.50	3	132CR-0630
6.00	8.00	12	110	0.50	1.3	132CR-0613
8.00	10.00	14	100	0.50	3	132CR-0830
8.00	10.00	14	120	0.50	1.3	132CR-0813
10.00	12.00	18	110	0.50	3	132CR-1030
10.00	12.00	18	130	1.00	1.3	132CR-1013
12.00	16.00	22	140	1.00	3	132CR-1230
12.00	16.00	22	160	1.00	1.3	132CR-1213

Series : 116SF Flat - Standard Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
6.00	6.00	16	50	-	8	116SF-0600
8.00	8.00	20	60	-	8	116SF-0800
10.00	10.00	25	75	-	8	116SF-1000
12.00	12.00	30	75	-	8	116SF-1200
16.00	16.00	40	100	-	8	116SF-1600

Application :

- Designed for High Hard Material upto 62 HRC
- Super Finishing Application

B


Series : 116LF Flat - Long Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No of Flute	Item Code
6.00	6.00	25	65	-	8	116LF-0600
8.00	8.00	30	70	-	8	116LF-0800
10.00	10.00	35	75	-	8	116LF-1000
12.00	12.00	50	100	-	8	116LF-1200
16.00	16.00	60	100	-	8	116LF-1600

Application :

- Designed for High Hard Material upto 62 HRC
- Super Finishing Application

Series : 122TEM Taper End Mills



Application :

- Designed for Aluminum Extrusion Die Machining

d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Taper Angle	No of Flute	Item Code
2.00	8.00	40	78	1°30'	2	122TEM-0208-1.3
3.00	8.00	40	78	1°30'	2	122TEM-0308-1.3
4.00	8.00	40	78	1°30'	2	122TEM-0408-1.3
5.00	8.00	40	78	1°30'	2	122TEM-0508-1.3
2.50	8.00	40	78	2°	2	122TEM-2508-2
3.00	8.00	40	78	2°	2	122TEM-0308-2
3.50	8.00	40	78	2°	2	122TEM-3508-2
2.00	8.00	40	78	3°	2	122TEM-0208-3
2.50	8.00	40	78	3°	2	122TEM-2508-3
3.00	8.00	40	78	3°	2	122TEM-0308-3
3.00	10.00	50	82	3°	2	122TEM-0310-3
3.50	8.00	40	78	3°	2	122TEM-3508-3
3.50	10.00	50	82	3°	2	122TEM-3510-3
4.00	10.00	50	82	3°	2	122TEM-0410-3
4.50	10.00	50	82	3°	2	122TEM-4510-3
2.00	10.00	40	83	5°	2	122TEM-0210-5
2.50	8.00	40	78	5°	2	122TEM-2508-5
2.50	10.00	40	83	5°	2	122TEM-2510-5
3.00	10.00	40	83	5°	2	122TEM-0310-5
3.00	12.00	50	82	5°	2	122TEM-0312-5
3.50	12.00	40	82	5°	2	122TEM-3512-5
4.00	10.00	35	83	5°	2	122TEM-0410-5
4.00	12.00	40	82	5°	2	122TEM-0412-5
4.00	14.00	50	104	5°	2	122TEM-0414-5
5.00	12.00	40	82	5°	2	122TEM-0512-5
5.00	14.00	50	104	5°	2	122TEM-0514-5
5.00	18.00	80	130	5°	2	122TEM-0518-5
6.00	14.00	40	104	5°	2	122TEM-0614-5
6.00	18.00	80	130	5°	2	122TEM-0618-5

TRULine

- ▶ Wide Machining Application at Moderate Cutting Condition
- ▶ For Machining Steel / Cast Iron / Alloy Steel Upto 40 HRC
- ▶ Made From Ultra Fine carbide
- ▶ Smooth Coat for Better Wear Resistance & Chip Flow

PAGES 55-80



Let us put your **Used Tool** **Back to Work**

with same tool performance



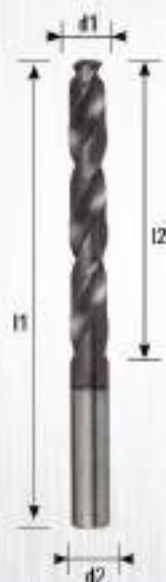
TruCut Now Offers **Professional Tool Re-Grinding & Coating Service**

- DRILLS
- END MILLS
- REAMERS
- TAPS
- COUNTER SINKS
- FORM TOOLS ETC

Tool Image	Series	Helix Angle	No. of Flute	Recommendation						Refer Page No
				Steel 15-30 HRC	Steel 30-40 HRC	Hard 62 HRC	Stainless Steel	Cast Iron	Aluminum / Copper	
	230	30°	2-2	●				●		57
	231	30°	2-2	●				●		60
	102SF	30°	2-2	●	●		●	●		63
	102LF	30°	2-2	●	●		●	●		64
	102ELF	30°	2-2	●	●		●	●		64
	102XLF	30°	2-2	●	●		●	●		64
	102XXLF	30°	2-2	●	●		●	●		64
	102GRS	30°	2-2	●	●		●	●		65
	102CRL	30°	2-2	●	●		●	●		66
	102SB	30°	2-2	●	●		●	●		67
	102LB	30°	2-2	●	●		●	●		68
	102ELB	30°	2-2	●	●		●	●		68
	102XLB	30°	2-2	●	●		●	●		68
	102XXLB	30°	2-2	●	●		●	●		68
	103SF	30°	2-3	●	●		●	●		69
	103SB	30°	2-3	●	●		●	●		70
	104SF	30°	2-4	●	●		●	●		71
	104LF	30°	2-4	●	●		●	●		72
	104ELF	30°	2-4	●	●		●	●		72

Recommended ● Partly Recommended ○

Tool Image	Series	Helix Angle	No. of Flute	Recommendation						Refer Page No
				Steel 15-30 HRC	Steel 30-40 HRC	Hard 52 HRC	Stainless Steel	Cast Iron	Aluminium / Copper	
	104XLF	30°	Z-4	●	●		●	●		72
	104XXLF	30°	Z-4	●	●		●	●		72
	104SB	30°	Z-4	●	●		●	●		73
	104LB	30°	Z-4	●	●		●	●		74
	104ELB	30°	Z-4	●	●		●	●		74
	104XLB	30°	Z-4	●	●		●	●		74
	104XXLB	30°	Z-4	●	●		●	●		74
	104SF-6SH	30°	Z-4	●	●		●	●		75
	104SB-6SH	30°	Z-4	●	●		●	●		75
	300	0°	Z-4/6/8			●		●		76
	301	7°	Z-4/6/8	●	●		●	●	●	76
	500	0°	Z-4-6	●	●	●	●	●	●	77
	501	0°	Z-4-6	●	●		●	●	●	77
	400	0°	Z-2	●	●		●	●		78
	401	0°	Z-2	●	●		●	●		78
	402	30°	Z-2	●	●		●	●		79
	403	30°	Z-2	●	●		●	●		79
	600	0°	Z-1	●						80
	601	0°	Z-1	●						80



d1 Tool Diameter	d2 Shank Diameter	L2 Length of Cut	L1 Overall Length	Item Code
3.00	3.00	18	46	230-0300
3.10	3.10	18	49	230-0310
3.20	3.20	18	49	230-0320
3.30	3.30	18	49	230-0330
3.40	3.40	20	52	230-0340
3.50	3.50	20	52	230-0350
3.60	3.60	20	52	230-0360
3.70	3.70	20	52	230-0370
3.80	3.80	22	55	230-0380
3.90	3.90	22	55	230-0390
4.00	4.00	22	55	230-0400
4.10	4.10	22	55	230-0410
4.20	4.20	22	55	230-0420
4.30	4.30	24	58	230-0430
4.40	4.40	24	58	230-0440
4.50	4.50	24	58	230-0450
4.60	4.60	24	58	230-0460
4.70	4.70	24	58	230-0470
4.80	4.80	26	62	230-0480
4.90	4.90	26	62	230-0490
5.00	5.00	26	62	230-0500
5.10	5.10	28	67	230-0510
5.20	5.20	28	67	230-0520
5.30	5.30	28	67	230-0530
5.40	5.40	28	69	230-0540
5.50	5.50	28	69	230-0550
5.60	5.60	28	69	230-0560
5.70	5.70	28	69	230-0570
5.80	5.80	28	69	230-0580
5.90	5.90	28	69	230-0590
6.00	6.00	28	69	230-0600
6.10	6.10	31	70	230-0610
6.20	6.20	31	70	230-0620
6.30	6.30	31	70	230-0630
6.40	6.40	31	70	230-0640
6.50	6.50	31	70	230-0650
6.60	6.60	31	70	230-0660
6.70	6.70	31	70	230-0670

Application :

- Self Centering
- Parallel Shank Designed for General Application at Normal Cutting Parameters

Series : 230

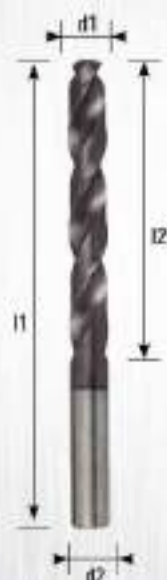
General Application -Short Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Item Code
6.80	6.80	34	74	230-0680
6.90	6.90	34	74	230-0690
7.00	7.00	34	74	230-0700
7.10	7.10	34	74	230-0710
7.20	7.20	34	74	230-0720
7.30	7.30	34	74	230-0730
7.40	7.40	34	74	230-0740
7.50	7.50	34	74	230-0750
7.60	7.60	37	79	230-0760
7.70	7.70	37	79	230-0770
7.80	7.80	37	79	230-0780
7.90	7.90	37	79	230-0790
8.00	8.00	37	79	230-0800
8.10	8.10	37	79	230-0810
8.20	8.20	37	79	230-0820
8.30	8.30	37	79	230-0830
8.40	8.40	37	79	230-0840
8.50	8.50	37	79	230-0850
8.60	8.60	37	79	230-0860
8.70	8.70	37	79	230-0870
8.80	8.80	40	84	230-0880
8.90	8.90	40	84	230-0890
9.00	9.00	40	84	230-0900
9.10	9.10	40	84	230-0910
9.20	9.20	40	84	230-0920
9.30	9.30	40	84	230-0930
9.40	9.40	40	84	230-0940
9.50	9.50	40	84	230-0950
9.60	9.60	43	89	230-0960
9.70	9.70	43	89	230-0970
9.80	9.80	43	89	230-0980
9.90	9.90	43	89	230-0990
10.00	10.00	43	89	230-1000
10.10	10.10	43	89	230-1010
10.20	10.20	43	89	230-1020

Application :

- Self Centering
- Parallel Shank Designed for General Application at Normal Cutting Parameters



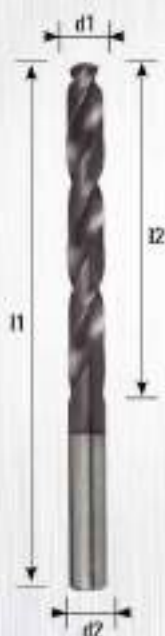
d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Over all Length	Item Code
10.20	10.20	43	89	230-1020
10.40	10.40	43	89	230-1040
10.50	10.50	43	89	230-1050
10.60	10.60	43	89	230-1060
10.70	10.70	47	95	230-1070
10.80	10.80	47	95	230-1080
10.90	10.90	47	95	230-1090
11.00	11.00	47	95	230-1100
11.10	11.10	47	95	230-1110
11.20	11.20	47	95	230-1120
11.30	11.30	47	95	230-1130
11.40	11.40	47	95	230-1140
11.50	11.50	47	95	230-1150
11.60	11.60	47	95	230-1160
11.70	11.70	47	95	230-1170
11.80	11.80	47	95	230-1180
11.90	11.90	47	95	230-1190
12.00	12.00	51	102	230-1200
12.50	12.50	51	102	230-1250
13.00	13.00	51	102	230-1300
13.50	13.50	54	107	230-1350
14.00	14.00	54	107	230-1400
14.50	14.50	58	111	230-1450
15.00	15.00	58	111	230-1500
15.50	15.50	58	115	230-1550
16.00	16.00	56	115	230-1600
16.50	16.50	60	119	230-1650
17.00	17.00	60	119	230-1700
17.50	17.50	62	123	230-1750
18.00	18.00	62	123	230-1800
18.50	18.50	64	127	230-1850
19.00	19.00	64	127	230-1900
19.50	19.50	66	131	230-1950
20.00	20.00	66	131	230-2000

Application :

- Self Centering
- Parallel Shank Designed for General Application at Normal Cutting Parameters

Series : 231

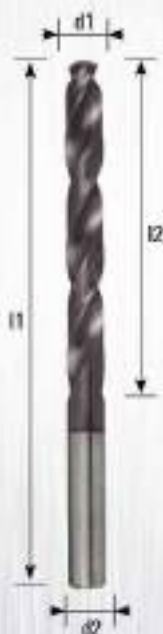
General Application -Std Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Item Code
3.00	3.00	33	81	231-0300
3.10	3.10	36	85	231-0310
3.20	3.20	36	85	231-0320
3.30	3.30	36	85	231-0330
3.40	3.40	39	70	231-0340
3.50	3.50	39	70	231-0350
3.60	3.60	39	70	231-0360
3.70	3.70	39	70	231-0370
3.80	3.80	43	75	231-0380
3.90	3.90	43	75	231-0390
4.00	4.00	43	75	231-0400
4.10	4.10	43	75	231-0410
4.20	4.20	43	75	231-0420
4.30	4.30	47	80	231-0430
4.40	4.40	47	80	231-0440
4.50	4.50	47	80	231-0450
4.60	4.60	47	80	231-0460
4.70	4.70	47	80	231-0470
4.80	4.80	52	86	231-0480
4.90	4.90	52	86	231-0490
5.00	5.00	52	86	231-0500
5.10	5.10	52	86	231-0510
5.20	5.20	52	86	231-0520
5.30	5.30	52	86	231-0530
5.40	5.40	57	93	231-0540
5.50	5.50	57	93	231-0550
5.60	5.60	57	93	231-0560
5.70	5.70	57	93	231-0570
5.80	5.80	57	93	231-0580
5.90	5.90	57	93	231-0590
6.00	6.00	57	93	231-0600
6.10	6.10	63	101	231-0610
6.20	6.20	63	101	231-0620
6.30	6.30	63	101	231-0630
6.40	6.40	63	101	231-0640
6.50	6.50	63	101	231-0650
6.60	6.60	63	101	231-0660

Application :

- Self Centering
- Parallel Shank Designed for General Application at Normal Cutting Parameters

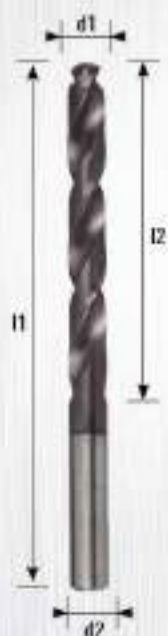

Application :

- Self Centering
- Parallel Shank Designed for General Application at Normal Cutting Parameters

d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Item Code
6.70	6.70	83	101	231-0670
6.80	6.80	89	109	231-0680
6.90	6.90	89	109	231-0690
7.00	7.00	89	109	231-0700
7.10	7.10	89	109	231-0710
7.20	7.20	89	109	231-0720
7.30	7.30	89	109	231-0730
7.40	7.40	89	109	231-0740
7.50	7.50	89	109	231-0750
7.60	7.60	75	117	231-0760
7.70	7.70	75	117	231-0770
7.80	7.80	75	117	231-0780
7.90	7.90	75	117	231-0790
8.00	8.00	75	117	231-0800
8.10	8.10	75	117	231-0810
8.20	8.20	75	117	231-0820
8.30	8.30	75	117	231-0830
8.40	8.40	75	117	231-0840
8.50	8.50	75	117	231-0850
8.60	8.60	81	125	231-0860
8.70	8.70	81	125	231-0870
8.80	8.80	81	125	231-0880
8.90	8.90	81	125	231-0890
9.00	9.00	81	125	231-0900
9.10	9.10	81	125	231-0910
9.20	9.20	81	125	231-0920
9.30	9.30	81	125	231-0930
9.40	9.40	81	125	231-0940
9.50	9.50	81	125	231-0950
9.60	9.60	87	133	231-0960
9.70	9.70	87	133	231-0970
9.80	9.80	87	133	231-0980
9.90	9.90	87	133	231-0990
10.00	10.00	87	133	231-1000
10.10	10.10	87	133	231-1010
10.20	10.20	87	133	231-1020
10.30	10.30	87	133	231-1030

Series : 231

General Application -Std Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Item Code
10.40	10.40	87	133	231-1040
10.50	10.50	87	133	231-1050
10.60	10.60	87	133	231-1060
10.70	10.70	94	142	231-1070
10.80	10.80	94	142	231-1080
10.90	10.90	94	142	231-1090
11.00	11.00	94	142	231-1100
11.10	11.10	94	142	231-1110
11.20	11.20	94	142	231-1120
11.30	11.30	94	142	231-1130
11.40	11.40	94	142	231-1140
11.50	11.50	94	142	231-1150
11.60	11.60	94	142	231-1160
11.70	11.70	94	142	231-1170
11.80	11.80	94	142	231-1180
11.90	11.90	94	142	231-1190
12.00	12.00	101	151	231-1200
12.50	12.50	101	151	231-1250
13.00	13.00	101	151	231-1300
13.50	13.50	108	160	231-1350
14.00	14.00	108	160	231-1400
14.50	14.50	114	169	231-1450
15.00	15.00	114	169	231-1500
15.50	15.50	120	178	231-1550
16.00	16.00	120	178	231-1600
16.50	16.50	125	184	231-1650
17.00	17.00	125	184	231-1700
17.50	17.50	130	191	231-1750
18.00	18.00	130	191	231-1800
18.50	18.50	135	198	231-1850
19.00	19.00	135	198	231-1900
19.50	19.50	140	205	231-1950
20.00	20.00	140	205	231-2000

Application :

- Self Centering
- Parallel Shank Designed for General Application at Normal Cutting Parameters


Application :

- Universal Purpose for Hi-Tensile Steel Upto 30 HRC
- Also Suitable for Aluminium and Non-Ferrous

d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No. of Flute	Item Code
1.0	3.0	4.0	36.0	2	102SF-0100
1.5	3.0	4.5	36.0	2	102SF-0150
2.0	3.0	6.3	36.0	2	102SF-0200
2.5	3.0	8.5	36.0	2	102SF-0250
3.0	3.0	12.0	36.0	2	102SF-0300
3.5	4.0	14.0	50.0	2	102SF-0350
4.0	4.0	14.0	50.0	2	102SF-0400
4.5	5.0	16.0	50.0	2	102SF-0450
5.0	5.0	16.0	50.0	2	102SF-0500
5.5	6.0	18.0	50.0	2	102SF-0550
6.0	6.0	18.0	50.0	2	102SF-0600
6.5	8.0	19.0	63.0	2	102SF-0650
7.0	8.0	19.0	63.0	2	102SF-0700
7.5	8.0	20.0	63.0	2	102SF-0750
8.0	8.0	20.0	63.0	2	102SF-0800
8.5	10.0	22.0	75.0	2	102SF-0850
9.0	10.0	22.0	75.0	2	102SF-0900
9.5	10.0	22.0	75.0	2	102SF-0950
10.0	10.0	22.0	75.0	2	102SF-1000
10.5	12.0	25.0	75.0	2	102SF-1050
11.0	12.0	25.0	75.0	2	102SF-1100
11.5	12.0	25.0	75.0	2	102SF-1150
12.0	12.0	25.0	75.0	2	102SF-1200
14.0	14.0	32.0	99.0	2	102SF-1400
16.0	16.0	32.0	99.0	2	102SF-1600
18.0	18.0	36.0	100.0	2	102SF-1800
20.0	20.0	36.0	100.0	2	102SF-2000
25.0	25.0	36.0	100.0	2	102SF-2500

Series : 102LF & 102ELF Flat - Long & Extra Long Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No of Flute	Item Code
3.0	3.0	19.0	57.0	2	102LF-0300
3.0	3.0	25.0	75.0	2	102ELF-0300
4.0	4.0	19.0	57.0	2	102LF-0400
4.0	4.0	25.0	75.0	2	102ELF-0400
5.0	5.0	25.0	63.0	2	102LF-0500
5.0	5.0	25.0	75.0	2	102ELF-0500
6.0	6.0	28.0	76.0	2	102LF-0600
6.0	6.0	38.0	100.0	2	102ELF-0600
8.0	8.0	29.0	76.0	2	102LF-0800
8.0	8.0	38.0	100.0	2	102ELF-0800
10.0	10.0	32.0	76.0	2	102LF-1000
10.0	10.0	38.0	100.0	2	102ELF-1000
12.0	12.0	51.0	102.0	2	102LF-1200
12.0	12.0	75.0	150.0	2	102ELF-1200
16.0	16.0	57.0	127.0	2	102LF-1600
16.0	16.0	76.0	150.0	2	102ELF-1600
20.0	20.0	57.0	127.0	2	102LF-2000
20.0	20.0	76.0	150.0	2	102ELF-2000
25.0	25.0	75.0	150.0	2	102ELF-2500

Application :

- Universal Purpose for Hi-Tensile Steel Upto 30 HRC
- Also Suitable for Aluminum and Non-Ferrous

Series : 102XLF & 102XXLF Flat - Extended Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No of Flute	Item Code
6.0	6.0	30.0	105.0	2	102XLF-0600
6.0	6.0	40.0	150.0	2	102XXLF-0600
8.0	8.0	30.0	105.0	2	102XLF-0800
8.0	8.0	40.0	150.0	2	102XXLF-0800
10.0	10.0	30.0	105.0	2	102XLF-1000
10.0	10.0	40.0	150.0	2	102XXLF-1000
12.0	12.0	40.0	150.0	2	102XLF-1200
12.0	12.0	50.0	200.0	2	102XXLF-1200
16.0	16.0	40.0	150.0	2	102XLF-1600
16.0	16.0	50.0	200.0	2	102XXLF-1600

Application :

- Universal Purpose for Hi-Tensile Steel Upto 30 HRC
- For Pattern Work and Deep Milling

Series : 102CRS
 Corner Radius - Standard Length

Application :

- Universal Purpose for Hi-Tensile Steel Upto 30 HRC
- Also Suitable for Aluminum and Non-Ferrous

d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Radius	No. of Flute	Item Code
3.0	3.0	12.0	38.0	0.2	2	102CRS-0302
3.0	3.0	12.0	38.0	0.5	2	102CRS-0305
3.0	3.0	12.0	38.0	1.0	2	102CRS-0310
4.0	4.0	12.0	50.0	0.2	2	102CRS-0402
4.0	4.0	12.0	50.0	0.5	2	102CRS-0405
4.0	4.0	12.0	50.0	1.0	2	102CRS-0410
5.0	5.0	16.0	50.0	0.2	2	102CRS-0502
5.0	5.0	16.0	50.0	0.5	2	102CRS-0505
5.0	5.0	16.0	50.0	1.0	2	102CRS-0510
6.0	6.0	16.0	50.0	0.2	2	102CRS-0602
6.0	6.0	16.0	50.0	0.5	2	102CRS-0605
6.0	6.0	16.0	50.0	1.0	2	102CRS-0610
8.0	8.0	20.0	63.0	0.5	2	102CRS-0805
8.0	8.0	20.0	63.0	1.0	2	102CRS-0810
8.0	8.0	20.0	63.0	1.5	2	102CRS-0815
10.0	10.0	22.0	75.0	0.5	2	102CRS-1005
10.0	10.0	22.0	75.0	1.0	2	102CRS-1010
10.0	10.0	22.0	75.0	1.5	2	102CRS-1015
12.0	12.0	25.0	75.0	0.5	2	102CRS-1205
12.0	12.0	25.0	75.0	1.0	2	102CRS-1210
12.0	12.0	25.0	75.0	1.5	2	102CRS-1215

Series : 102CRL

Corner Radius - Long Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length at Cut	l1 Overall Length	Radius	No. of Flute	Item Code
3.0	3.0	25.0	75.0	0.2	2	102CRL-0302
3.0	3.0	25.0	75.0	0.5	2	102CRL-0305
3.0	3.0	25.0	75.0	1.0	2	102CRL-0310
4.0	4.0	25.0	75.0	0.2	2	102CRL-0402
4.0	4.0	25.0	75.0	0.5	2	102CRL-0405
4.0	4.0	25.0	75.0	1.0	2	102CRL-0410
5.0	5.0	25.0	75.0	0.2	2	102CRL-0502
5.0	5.0	25.0	75.0	0.5	2	102CRL-0505
5.0	5.0	25.0	75.0	1.0	2	102CRL-0510
8.0	8.0	38.0	100.0	0.2	2	102CRL-0802
8.0	8.0	38.0	100.0	0.5	2	102CRL-0805
8.0	8.0	38.0	100.0	1.0	2	102CRL-0810
8.0	8.0	38.0	100.0	0.5	2	102CRL-0805
8.0	8.0	38.0	100.0	1.5	2	102CRL-0815
10.0	10.0	38.0	100.0	0.5	2	102CRL-1005
10.0	10.0	38.0	100.0	1.0	2	102CRL-1010
10.0	10.0	38.0	100.0	1.5	2	102CRL-1015
12.0	12.0	38.0	100.0	0.5	2	102CRL-1205
12.0	12.0	38.0	100.0	1.0	2	102CRL-1210
12.0	12.0	38.0	100.0	1.5	2	102CRL-1215

Application :

- Universal Purpose for Hi-Tensile Steel Upto 30 HRC
- Also Suitable for Aluminium and Non-Ferrous


Application :

- Universal Purpose for Hi-Tensile Steel Upto 30 HRC
- Also Suitable for Aluminum and Non-Ferrous

d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No. of Flute	Item Code
1.0	3.0	4.0	36.0	2	102SB-0100
1.5	3.0	4.5	36.0	2	102SB-0150
2.0	3.0	6.3	36.0	2	102SB-0200
2.5	3.0	8.5	36.0	2	102SB-0250
3.0	3.0	12.0	36.0	2	102SB-0300
3.5	4.0	14.0	50.0	2	102SB-0350
4.0	4.0	14.0	50.0	2	102SB-0400
4.5	5.0	16.0	50.0	2	102SB-0450
5.0	5.0	16.0	50.0	2	102SB-0500
5.5	6.0	16.0	50.0	2	102SB-0550
6.0	6.0	16.0	50.0	2	102SB-0600
6.5	8.0	19.0	63.0	2	102SB-0650
7.0	8.0	19.0	63.0	2	102SB-0700
7.5	8.0	20.0	63.0	2	102SB-0750
8.0	8.0	20.0	63.0	2	102SB-0800
8.5	10.0	22.0	75.0	2	102SB-0850
9.0	10.0	22.0	75.0	2	102SB-0900
9.5	10.0	22.0	75.0	2	102SB-0950
10.0	10.0	22.0	75.0	2	102SB-1000
10.5	12.0	25.0	75.0	2	102SB-1050
11.0	12.0	25.0	75.0	2	102SB-1100
11.5	12.0	25.0	75.0	2	102SB-1150
12.0	12.0	25.0	75.0	2	102SB-1200
14.0	14.0	32.0	99.0	2	102SB-1400
16.0	16.0	32.0	99.0	2	102SB-1600
18.0	18.0	36.0	100.0	2	102SB-1800
20.0	20.0	36.0	100.0	2	102SB-2000
25.0	25.0	36.0	100.0	2	102SB-2500

Series : 102LB & 102ELB Ball - Long & Extra Long Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No of Flute	Item Code
3.0	3.0	19.0	57.0	2	102LB-0300
3.0	3.0	25.0	75.0	2	102ELB-0300
4.0	4.0	19.0	57.0	2	102LB-0400
4.0	4.0	25.0	75.0	2	102ELB-0400
5.0	5.0	25.0	83.0	2	102LB-0500
5.0	5.0	25.0	75.0	2	102ELB-0500
6.0	6.0	28.0	76.0	2	102LB-0600
6.0	6.0	38.0	100.0	2	102ELB-0600
8.0	8.0	29.0	76.0	2	102LB-0800
8.0	8.0	38.0	100.0	2	102ELB-0800
10.0	10.0	32.0	76.0	2	102LB-1000
10.0	10.0	38.0	100.0	2	102ELB-1000
12.0	12.0	51.0	102.0	2	102LB-1200
12.0	12.0	75.0	150.0	2	102ELB-1200
16.0	16.0	57.0	127.0	2	102LB-1600
16.0	16.0	75.0	150.0	2	102ELB-1600
20.0	20.0	57.0	127.0	2	102LB-2000
20.0	20.0	75.0	150.0	2	102ELB-2000
25.0	25.0	75.0	150.0	2	102ELB-2500

Application :

- Universal Purpose for Hi-Tensile Steel Up to 30 HRC
- Also Suitable for Aluminium and Non-Ferrous

Series : 102XLB & 102XXLB Ball - Extended Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No of Flute	Item Code
6.0	6.0	30.0	105.0	2	102XLB-0600
6.0	6.0	40.0	150.0	2	102XXLB-0600
8.0	8.0	30.0	105.0	2	102XLB-0800
8.0	8.0	40.0	150.0	2	102XXLB-0800
10.0	10.0	30.0	105.0	2	102XLB-1000
10.0	10.0	40.0	150.0	2	102XXLB-1000
12.0	12.0	40.0	150.0	2	102XLB-1200
12.0	12.0	50.0	200.0	2	102XXLB-1200
16.0	16.0	40.0	150.0	2	102XLB-1600
16.0	16.0	50.0	200.0	2	102XXLB-1600

Application :

- Universal Purpose for Hi-Tensile Steel Up to 30 HRC
- For Pattern Work and Deep Milling


Application :

- Universal Purpose for Hi-Tensile Steel (upto 30 HRC)
- Also Suitable for Aluminium and Non-Ferrous

d1	d2	l2	l1	No. of Flute	Item Code
Tool Diameter	Shank Diameter	Length of Cut	Overall Length		
1.0	3.0	4.0	38.0	3	103SF-0100
1.5	3.0	4.5	38.0	3	103SF-0150
2.0	3.0	6.3	38.0	3	103SF-0200
2.5	3.0	8.5	38.0	3	103SF-0250
3.0	3.0	12.0	38.0	3	103SF-0300
3.5	4.0	14.0	50.0	3	103SF-0350
4.0	4.0	14.0	50.0	3	103SF-0400
4.5	5.0	16.0	50.0	3	103SF-0450
5.0	5.0	16.0	50.0	3	103SF-0500
5.5	8.0	18.0	50.0	3	103SF-0550
6.0	8.0	18.0	50.0	3	103SF-0600
6.5	8.0	19.0	63.0	3	103SF-0650
7.0	8.0	19.0	63.0	3	103SF-0700
7.5	8.0	20.0	63.0	3	103SF-0750
8.0	8.0	20.0	63.0	3	103SF-0800
8.5	10.0	22.0	75.0	3	103SF-0850
9.0	10.0	22.0	75.0	3	103SF-0900
9.5	10.0	22.0	75.0	3	103SF-0950
10.0	10.0	22.0	75.0	3	103SF-1000
10.5	12.0	25.0	75.0	3	103SF-1050
11.0	12.0	25.0	75.0	3	103SF-1100
11.5	12.0	25.0	75.0	3	103SF-1150
12.0	12.0	25.0	75.0	3	103SF-1200
14.0	14.0	32.0	89.0	3	103SF-1400
16.0	16.0	32.0	90.0	3	103SF-1600
18.0	18.0	38.0	100.0	3	103SF-1800
20.0	20.0	38.0	100.0	3	103SF-2000
25.0	25.0	38.0	100.0	3	103SF-2500

Series : 103SB

Ball End Mill - Standard Length



d1 Tool Diameter	d2 Shaft Diameter	l2 Length of Cut	l1 Overall Length	No of Flute	Item Code
1.0	3.0	4.0	38.0	3	103SB-0100
1.5	3.0	4.5	38.0	3	103SB-0150
2.0	3.0	6.3	38.0	3	103SB-0200
2.5	3.0	9.5	38.0	3	103SB-0250
3.0	3.0	12.0	38.0	3	103SB-0300
3.5	4.0	14.0	50.0	3	103SB-0350
4.0	4.0	14.0	50.0	3	103SB-0400
4.5	5.0	16.0	50.0	3	103SB-0450
5.0	5.0	16.0	50.0	3	103SB-0500
5.5	8.0	18.0	50.0	3	103SB-0550
6.0	8.0	18.0	50.0	3	103SB-0600
6.5	8.0	19.0	63.0	3	103SB-0650
7.0	8.0	19.0	63.0	3	103SB-0700
7.5	8.0	20.0	63.0	3	103SB-0750
8.0	8.0	20.0	63.0	3	103SB-0800
8.5	10.0	22.0	75.0	3	103SB-0850
9.0	10.0	22.0	75.0	3	103SB-0900
9.5	10.0	22.0	75.0	3	103SB-0950
10.0	10.0	22.0	75.0	3	103SB-1000
10.5	12.0	25.0	75.0	3	103SB-1050
11.0	12.0	25.0	75.0	3	103SB-1100
11.5	12.0	25.0	75.0	3	103SB-1150
12.0	12.0	25.0	75.0	3	103SB-1200
14.0	14.0	32.0	89.0	3	103SB-1400
16.0	16.0	32.0	89.0	3	103SB-1600
18.0	18.0	38.0	100.0	3	103SB-1800
20.0	20.0	38.0	100.0	3	103SB-2000
25.0	25.0	38.0	100.0	3	103SB-2500

Application :

- Universal Purpose for Hi-Tensile Steel Upto 30 HRC
- Also Suitable for Aluminium and Non-Ferrous


Application :

- Universal Purpose for Hi-Tensile Steel Upto 30 HRC
- Also Suitable for Aluminum and Non-Ferrous

d1 Tool Diameter	d2 Shank Diameter	L2 Length of Cut	L1 Overall Length	Ns of Flute	Item Code
1.0	3.0	4.0	38.0	4	104SF-0100
1.5	3.0	4.5	38.0	4	104SF-0150
2.0	3.0	6.3	38.0	4	104SF-0200
2.5	3.0	9.5	38.0	4	104SF-0250
3.0	3.0	12.0	38.0	4	104SF-0300
3.5	4.0	14.0	50.0	4	104SF-0350
4.0	4.0	14.0	50.0	4	104SF-0400
4.5	5.0	16.0	50.0	4	104SF-0450
5.0	5.0	16.0	50.0	4	104SF-0500
5.5	6.0	18.0	50.0	4	104SF-0550
6.0	6.0	16.0	50.0	4	104SF-0600
6.5	6.0	19.0	63.0	4	104SF-0650
7.0	8.0	18.0	63.0	4	104SF-0700
7.5	8.0	20.0	63.0	4	104SF-0750
8.0	8.0	20.0	63.0	4	104SF-0800
8.5	10.0	22.0	75.0	4	104SF-0850
9.0	10.0	22.0	75.0	4	104SF-0900
9.5	10.0	22.0	75.0	4	104SF-0950
10.0	10.0	22.0	75.0	4	104SF-1000
10.5	12.0	25.0	75.0	4	104SF-1050
11.0	12.0	25.0	75.0	4	104SF-1100
11.5	12.0	25.0	75.0	4	104SF-1150
12.0	12.0	25.0	75.0	4	104SF-1200
14.0	14.0	32.0	88.0	4	104SF-1400
16.0	16.0	32.0	88.0	4	104SF-1600
18.0	18.0	38.0	100.0	4	104SF-1800
20.0	20.0	38.0	100.0	4	104SF-2000
25.0	25.0	38.0	100.0	4	104SF-2500

Series : 104LF & 104ELF

Flat - Long & Extra Long Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No of Flute	Item Code
3.0	3.0	19.0	57.0	4	104LF-0300
3.0	3.0	25.0	75.0	4	104ELF-0300
4.0	4.0	19.0	57.0	4	104LF-0400
4.0	4.0	25.0	75.0	4	104ELF-0400
5.0	5.0	25.0	83.0	4	104LF-0500
5.0	5.0	25.0	75.0	4	104ELF-0500
6.0	6.0	28.0	78.0	4	104LF-0600
6.0	6.0	38.0	100.0	4	104ELF-0600
8.0	8.0	29.0	76.0	4	104LF-0800
8.0	8.0	38.0	100.0	4	104ELF-0800
10.0	10.0	32.0	76.0	4	104LF-1000
10.0	10.0	38.0	100.0	4	104ELF-1000
12.0	12.0	51.0	102.0	4	104LF-1200
12.0	12.0	75.0	150.0	4	104ELF-1200
16.0	16.0	57.0	127.0	4	104LF-1600
16.0	16.0	75.0	150.0	4	104ELF-1600
20.0	20.0	57.0	127.0	4	104LF-2000
20.0	20.0	75.0	150.0	4	104ELF-2000
25.0	25.0	75.0	150.0	4	104ELF-2500

Application :

- Universal Purpose for Hi-Tensile Steel Upto 30 HRC
- Also Suitable for Aluminium and Non-Ferrous

Series : 104XLF & 104XXLF

Flat - Extended Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No of Flute	Item Code
6.0	6.0	30.0	105.0	4	104XLF-0600
6.0	6.0	40.0	150.0	4	104XXLF-0600
8.0	8.0	30.0	105.0	4	104XLF-0800
8.0	8.0	40.0	150.0	4	104XXLF-0800
10.0	10.0	30.0	105.0	4	104XLF-1000
10.0	10.0	40.0	150.0	4	104XXLF-1000
12.0	12.0	40.0	150.0	4	104XLF-1200
12.0	12.0	50.0	200.0	4	104XXLF-1200
16.0	16.0	40.0	150.0	4	104XLF-1600
16.0	16.0	50.0	200.0	4	104XXLF-1600

Application :

- Universal Purpose for Hi-Tensile Steel Upto 30 HRC
- For Pattern Work and Deep Milling


Application :

- Universal Purpose for Hi-Tensile Steel Upto 30 HRC
- Also Suitable for Aluminum and Non-ferrous

d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	n No. of Flute	Item Code
1.0	3.0	4.0	38.0	4	104SB-0100
1.5	3.0	4.5	38.0	4	104SB-0150
2.0	3.0	6.3	38.0	4	104SB-0200
2.5	3.0	8.5	38.0	4	104SB-0250
3.0	3.0	12.0	38.0	4	104SB-0300
3.5	4.0	14.0	50.0	4	104SB-0350
4.0	4.0	14.0	50.0	4	104SB-0400
4.5	5.0	16.0	50.0	4	104SB-0450
5.0	5.0	16.0	50.0	4	104SB-0500
5.5	8.0	18.0	50.0	4	104SB-0550
6.0	8.0	18.0	50.0	4	104SB-0600
6.5	8.0	19.0	63.0	4	104SB-0650
7.0	8.0	19.0	63.0	4	104SB-0700
7.5	8.0	20.0	63.0	4	104SB-0750
8.0	8.0	20.0	63.0	4	104SB-0800
8.5	10.0	22.0	75.0	4	104SB-0850
9.0	10.0	22.0	75.0	4	104SB-0900
9.5	10.0	22.0	75.0	4	104SB-0950
10.0	10.0	22.0	75.0	4	104SB-1000
10.5	12.0	25.0	75.0	4	104SB-1050
11.0	12.0	25.0	75.0	4	104SB-1100
11.5	12.0	25.0	75.0	4	104SB-1150
12.0	12.0	25.0	75.0	4	104SB-1200
14.0	14.0	32.0	89.0	4	104SB-1400
16.0	16.0	32.0	99.0	4	104SB-1600
18.0	18.0	38.0	100.0	4	104SB-1800
20.0	20.0	38.0	100.0	4	104SB-2000
25.0	25.0	38.0	100.0	4	104SB-2500

Series : 104LB & 104ELB Ball - Long & Extra Long length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No of Flute	Item Code
3.0	3.0	19.0	57.0	4	104LB-0300
3.0	3.0	25.0	75.0	4	104ELB-0300
4.0	4.0	19.0	57.0	4	104LB-0400
4.0	4.0	25.0	75.0	4	104ELB-0400
5.0	5.0	25.0	83.0	4	104LB-0500
5.0	5.0	25.0	75.0	4	104ELB-0500
6.0	6.0	28.0	76.0	4	104LB-0600
6.0	6.0	38.0	100.0	4	104ELB-0600
8.0	8.0	29.0	76.0	4	104LB-0800
8.0	8.0	38.0	100.0	4	104ELB-0800
10.0	10.0	32.0	76.0	4	104LB-1000
10.0	10.0	38.0	100.0	4	104ELB-1000
12.0	12.0	51.0	102.0	4	104LB-1200
12.0	12.0	75.0	150.0	4	104ELB-1200
16.0	16.0	57.0	127.0	4	104LB-1600
16.0	16.0	75.0	150.0	4	104ELB-1600
20.0	20.0	57.0	127.0	4	104LB-2000
20.0	20.0	75.0	150.0	4	104ELB-2000
25.0	25.0	75.0	150.0	4	104ELB-2500

Application :

- Universal Purpose for Hi-Tensile Steel Upto 30 HRC
- Also Suitable for Aluminium and Non-Ferrous

Series : 104XLB & 104XXLB Ball - Extended Length



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No of Flute	Item Code
6.0	6.0	30.0	105.0	4	104XLB-0600
6.0	6.0	40.0	150.0	4	104XXLB-0600
8.0	8.0	30.0	105.0	4	104XLB-0800
8.0	8.0	40.0	150.0	4	104XXLB-0800
10.0	10.0	30.0	105.0	4	104XLB-1000
10.0	10.0	40.0	150.0	4	104XXLB-1000
12.0	12.0	40.0	150.0	4	104XLB-1200
12.0	12.0	50.0	200.0	4	104XXLB-1200
16.0	16.0	40.0	150.0	4	104XLB-1600
16.0	16.0	50.0	200.0	4	104XXLB-1600

Application :

- Universal Purpose for Hi-Tensile Steel Upto 30 HRC
- For Pattern Work and Deep Milling

Series : 104SF-6SH
 Flat - Over Size Shank


d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No of Flute	Item Code
2.0	6.0	8.0	50.0	4	104SF-0200-6SH
2.5	6.0	8.0	50.0	4	104SF-0250-6SH
3.0	6.0	8.0	50.0	4	104SF-0300-6SH
4.0	6.0	10.0	50.0	4	104SF-0400-6SH
5.0	6.0	13.0	50.0	4	104SF-0500-6SH

Application :

- Universal Purpose for H-Tensile Steel Upto 30 HRC
- Also Suitable for Aluminum and Non-Ferrous

C

Series : 104SB-6SH
 Ball - Over Size Shank


d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No of Flute	Item Code
2.0	6.0	8.0	50.0	4	104SB-0200-6SH
2.5	6.0	8.0	50.0	4	104SB-0250-6SH
3.0	6.0	8.0	50.0	4	104SB-0300-6SH
4.0	6.0	10.0	50.0	4	104SB-0400-6SH
5.0	6.0	13.0	50.0	4	104SB-0500-6SH

Application :

- Universal Purpose for H-Tensile Steel Upto 30 HRC
- Also Suitable for Aluminum and Non-ferrous

Series : 300 Straight Flute Reamers



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No. of Flute	Item Code
3.00	3.00	15	81	4	300-0300
4.00	4.00	18	75	4	300-0400
5.00	5.00	23	88	4	300-0500
6.00	6.00	26	93	4	300-0600
7.00	7.00	31	108	6	300-0700
8.00	8.00	33	117	6	300-0800
9.00	9.00	36	125	6	300-0900
10.00	10.00	38	133	6	300-1000
11.00	11.00	41	142	6	300-1100
12.00	12.00	44	151	6	300-1200
13.00	13.00	44	151	6	300-1300
14.00	14.00	47	160	6	300-1400
15.00	15.00	50	162	6	300-1500
16.00	16.00	52	170	6	300-1600

Series : 301 Left Hand Flute Reamers



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No. of Flute	Item Code
3.00	3.00	15	81	4	301-0300
4.00	4.00	18	75	4	301-0400
5.00	5.00	23	88	4	301-0500
6.00	6.00	26	93	4	301-0600
7.00	7.00	31	108	6	301-0700
8.00	8.00	33	117	6	301-0800
9.00	9.00	36	125	6	301-0900
10.00	10.00	38	133	6	301-1000
11.00	11.00	41	142	6	301-1100
12.00	12.00	44	151	6	301-1200
13.00	13.00	44	151	6	301-1300
14.00	14.00	47	160	6	301-1400
15.00	15.00	50	162	6	301-1500
16.00	16.00	52	170	6	301-1600


Series : 500
Chamfer Cutter 60°


d1	d2	l2	l1	No. of Flute	Item Code
Tool Diameter	Shank Diameter	Flute Length	Overall Length		
4.00	4.00	8	54.00	4	500-0400
6.00	6.00	8	57.00	4	500-0600
8.00	8.00	12	63.00	5	500-0800
10.00	10.00	15	72.00	6	500-1000
12.00	12.00	18	83.00	6	500-1200
16.00	16.00	24	92.00	6	500-1600
20.00	20.00	30	104.00	6	500-2000

C


Series : 501
Chamfer Cutter 90°


d1	d2	l2	l1	No. of Flute	Item Code
Tool Diameter	Shank Diameter	Flute Length	Overall Length		
4.00	4.00	8	54.00	4	501-0400
6.00	6.00	8	57.00	4	501-0600
8.00	8.00	12	63.00	4	501-0800
10.00	10.00	15	72.00	4	501-1000
12.00	12.00	18	83.00	4	501-1200
16.00	16.00	24	92.00	4	501-1600
20.00	20.00	30	104.00	4	501-2000

Series : 400 Center Drill Metric



d1 Tool Diameter	d2 Shank Diameter	l2 Pilot Length	l1 Overall Length	Item Code
1.00	3.00	1.3	38.00	400-0100
1.25	3.00	1.6	38.00	400-0125
1.00	4.00	2.0	50.00	400-0160
2.00	5.00	2.5	50.00	400-0200
2.50	6.00	3.1	63.00	400-0250
3.15	8.00	3.0	63.00	400-0315
4.00	10.00	5.0	83.00	400-0400
5.00	12.00	6.3	83.00	400-0500
6.30	16.00	8.0	76.00	400-0630
8.00	20.00	10.1	80.00	400-0800

Series : 401 Center Drill Inch



d1 Tool Diameter	d2 Shank Diameter	l2 Pilot Length	l1 Overall Length	Item Code
3/64"	1/8"	5/64"	1-1/2"	401-0118
1/16"	3/16"	3/32"	1-3/4"	401-0158
3/32"	1/4"	5/32"	2"	401-0238
1/8"	5/16"	3/16"	2-1/4"	401-0317
3/16"	7/16"	9/32"	2-1/2"	401-0478
1/4"	5/8"	3/8"	3"	401-0535
5/16"	3/4"	15/32"	3-1/2"	401-0783

Series : 402
 NC Spotting - 60 Degree


d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Item Code
3.00	3.00	8.00	35.00	402-0300
4.00	4.00	10.00	40.00	402-0400
5.00	5.00	13.00	50.00	402-0500
6.00	6.00	13.00	50.00	402-0600
8.00	8.00	18.00	63.00	402-0800
10.00	10.00	20.00	70.00	402-1000
12.00	12.00	22.00	73.00	402-1200
16.00	16.00	24.00	80.00	402-1600
20.00	20.00	30.00	100.00	402-2000

C

Series : 403
 NC Spotting - 90 Degree


d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	Item Code
3.00	3.00	8.00	35.00	403-0300
4.00	4.00	10.00	40.00	403-0400
5.00	5.00	13.00	50.00	403-0500
6.00	6.00	13.00	50.00	403-0600
8.00	8.00	18.00	63.00	403-0800
10.00	10.00	20.00	70.00	403-1000
12.00	12.00	22.00	73.00	403-1200
16.00	16.00	24.00	80.00	403-1600
20.00	20.00	30.00	100.00	403-2000

Series : 600 Engraver Cutter 60°



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No. of Flute	Item Code
3.00	3	8	38.00	1	600-0300
4.00	4	8	50.00	1	600-0400
5.00	5	8	50.00	1	600-0500
6.00	6	10	50.00	1	600-0600
8.00	8	14	60.00	1	600-0800
10.00	10	16	70.00	1	600-1000
12.00	12	18	70.00	1	600-1200

Series : 601 Engraver Cutter 90°



d1 Tool Diameter	d2 Shank Diameter	l2 Length of Cut	l1 Overall Length	No. of Flute	Item Code
3.00	3	8	38.00	1	601-0300
4.00	4	8	50.00	1	601-0400
5.00	5	8	50.00	1	601-0500
6.00	6	10	50.00	1	601-0600
8.00	8	14	60.00	1	601-0800
10.00	10	16	70.00	1	601-1000
12.00	12	18	70.00	1	601-1200

Test Report for DRILLING

Company Name:	Phone:	Date :
<input type="text"/>	<input type="text"/>	<input type="text"/>
Contact Person:	Fax:	Trucut tool dealer
<input type="text"/>	<input type="text"/>	<input type="text"/>
Address:	Email:	
<input type="text"/>	<input type="text"/>	
<input type="text"/>	Customer number:	
<input type="text"/>	<input type="text"/>	

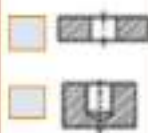
All dimensions are in mm

 Work Piece material:

 Work Piece hardness:

 Drilling depth:

Hole type:



Coolant:

 internal

 external

 dry

Shank acc to DIN6535

  HE

  HB

  HE

	Competitor	Tru cut
Tool Description*		
Brand Name / Made IN *		
Tool Dia *		
Shank Dia*		
Flute Length*		
Over All Length*		
No. of Flutes*		
Cutting Data		
Cutting Speed Vc (M/MIN)		
Spindle Speed - RPM*		
Feed (MM / REV)*		
Feed (MM / MIN)*		
Coolant: OIL / MIST / DRY		
Tool Life:		
Average Tool Life		
% Increase / Productivity		
Tool Condition		
Tool Cost		
Monthly Consumption		

Test Report for MILLING

Company Name: <input type="text"/>	Phone: <input type="text"/>	Date: <input type="text"/>
Contact Person: <input type="text"/>	Fax: <input type="text"/>	Trucut tool dealer <input type="text"/>
Address: <input type="text"/>	Email: <input type="text"/>	
<input type="text"/>	Customer number: <input type="text"/>	

Material hardness: (N/mm ² or HRC) <input type="text"/>	<input type="checkbox"/> Carbon steel	<input type="checkbox"/> Grey cast iron	<input type="checkbox"/> Roughing	Helix angle <input type="checkbox"/> 30° <input type="checkbox"/> 38° <input type="checkbox"/> 45°
ae: <input type="text"/>	<input type="checkbox"/> Alloy steel	<input type="checkbox"/> Nodular cast iron	<input type="checkbox"/> Semi roughing	
ap: <input type="text"/>	<input type="checkbox"/> Pre-hardened steel	<input type="checkbox"/> Titanium alloy	<input type="checkbox"/> Finishing	
No of passes: <input type="text"/>	<input type="checkbox"/> Hardened steel	<input type="checkbox"/> Heat Resistant alloy		
	<input type="checkbox"/> Stainless steel	<input type="checkbox"/> Copper/Aluminium		

End mill main group <input type="checkbox"/> Tru - line <input type="checkbox"/> Hard - line <input type="checkbox"/> Hyper line	Type of Shank <input type="checkbox"/> HE <input type="checkbox"/> HB <input type="checkbox"/> HE	Coating <input type="checkbox"/> TiN <input type="checkbox"/> TiAlN <input type="checkbox"/> Uncoated	Flat <input type="checkbox"/>  Chamfer <input type="checkbox"/> 	Corner radius <input type="checkbox"/>  Ball nose <input type="checkbox"/> 	No of flutes <input type="text"/>
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	Competitor	Tru cut
Tool Description*		
Brand Name / Made IN *		
Tool Dia *		
Shank Dia*		
Flute Length*		
Over All Length*		
No. of Flutes*		
Cutting Data		
Cutting Speed Vc (M/MIN)		
Spindle Speed - RPM*		
Feed [MM / REV]*		
Feed [MM / MIN]*		
Coolant: OIL / MIST / DRY		
Tool Life:		
Average Tool Life		
% Increase / Productivity		
Tool Condition		
Tool Cost		
Monthly Consumption		

CUTTING PARAMETERS

Fluted Key Groove



Fluted Groove



30-40 HRC Fluted depth – 10% of tool diameter

40-50 HRC Fluted depth – 15% of tool diameter

50-60 HRC Fluted depth – 4% of tool diameter

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Material	Speed m / Min	Feed/Tooth		
		Dia < - 6mm	Dia < - 12mm	Dia < - 25mm
Carbon & Alloy Steel Up to 30 HRC	50 ~ 100	0.005 - 0.040	0.025 - 0.076	0.076 - 0.170
Carbon & Alloy Steel < 30 ~ 40 HRC	20 ~ 60	0.005 - 0.013	0.005 - 0.025	0.025 - 0.076
Die Steel Up to 40 HRC	20 ~ 80	0.005 - 0.025	0.025 - 0.060	0.050 - 0.152
Stainless Steels - 300 Series	40 ~ 80	0.005 - 0.025	0.025 - 0.060	0.050 - 0.152
Stainless Steels - 400 Series	30 ~ 60	0.005 - 0.013	0.013 - 0.025	0.025 - 0.130
Grey Cast Iron	50 ~ 180	0.005 - 0.040	0.040 - 0.076	0.076 - 0.203
Ductile Cast Iron	30 ~ 120	0.005 - 0.025	0.025 - 0.060	0.050 - 0.152
Malleable Cast Iron	40 ~ 150	0.005 - 0.025	0.025 - 0.076	0.076 - 0.176
Nickel Based Alloys	5 ~ 40	0.008 - 0.020	0.020 - 0.025	0.025 - 0.050
Titanium Alloys	10 ~ 60	0.005 - 0.020	0.020 - 0.060	0.050 - 0.102
Cobalt Based Alloys	5 ~ 30	0.005 - 0.020	0.020 - 0.025	0.025 - 0.050
Aluminium	180 ~ 400	0.005 - 0.050	0.050 - 0.102	0.102 - 0.203
Magnesium	300 ~ 400	0.013 - 0.050	0.050 - 0.102	0.102 - 0.254
Copper / Brass	80 ~ 280	0.013 - 0.050	0.050 - 0.076	0.076 - 0.152
Plastic	180 ~ 400	0.015 - 0.076	0.076 - 0.152	0.152 - 0.381
Fibreglass	90 ~ 240	0.015 - 0.076	0.076 - 0.102	0.102 - 0.254
Graphite	180 ~ 300	0.076 - 0.130	0.130 - 0.203	0.203 - 0.254
Wood*	15,000 - 25,000 RPM*	0.038 - 0.076	0.076 - 0.130	0.130 - 0.170

CONVERSION FORMULAS

Cutting Speed: FPM (Fol) M/Min (3.14 X Tool Dia X RPM/1000)

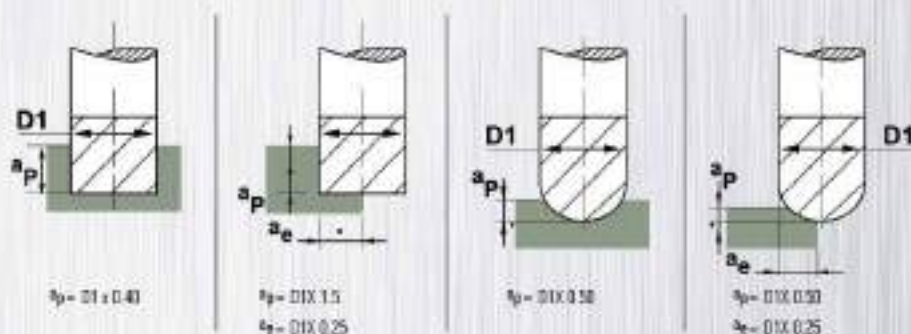
Cutting Speed: M/Min (Fol RPM /1000 X M/Min / (3.14 X Tool Dia)

Feed: RPM X No. of Teeth

D1 = Cutter Dia

a_p = Axial Depth of Cut

a_e = Radial Depth of Cut



All suggested parameter should be considered as starting point with possible variations to achieve optimum results.

Cutting Speed Vc (m / min)

Feed Rate f (mm / rev) with Drill Ø

Material	Cutting Speed Vc (m / min)		Feed Rate f (mm / rev) with Drill Ø			
	Without coolant Hole 203, 205, 207	With Coolant Hole 203TC, 205TC, 207TC	Ø 3 - 5	Ø 6 - 8	Ø 10 - 12	Ø 16 - 20
Carbon & Alloy Steel < Upto 30 HRC	110 ~ 140	140 ~ 180	0.100-0.100	0.200-0.240	0.260-0.300	0.450-0.500
Carbon & Alloy Steel < 38 ~ 40 HRC	70 ~ 110	90 ~ 140	0.100-0.100	0.200-0.240	0.220-0.240	0.440-0.500
Alloyed Steel < 48 < 55 HRC	20 ~ 30	40 ~ 50	0.060-0.070	0.080-0.120	0.070-0.090	0.090-0.100
Stainless Steels - 300 & 400 Series	60 ~ 80	70 ~ 100	0.060-0.010	0.080-0.150	0.070-0.150	0.090-0.150
Cast Iron and Malleable Cast Iron	100 ~ 180	140 ~ 220	0.200-0.240	0.280-0.300	0.300-0.320	0.500-0.600
Titanium Alloys	70 ~ 90	90 ~ 110	0.080-0.120	0.180-0.200	0.240-0.260	0.400-0.500
Copper / Brass	140 ~ 220	180 ~ 270	0.180-0.200	0.300-0.400	0.580-0.600	0.500-0.800

These Data May Be Adjusted According To Your Individual Requirement.

The Above Mentioned Recommended Data Vc (Cutting Speed) Are Valid For Drilling Depth 3 X D. For Other Drilling Depths, Please multiply with Specific Correction Factor

Drilling Depth Without Internal Coolant 1 X D | 3 X D | 5 X D
VCX1.2 | VC X 1.0 | VCX0.7

Drilling Depth With Internal Coolant 1 X D | 3 X D | 5 X D | 12 X D
VCX1.2 | VC X 1.0 | VCX0.8 | VC X 0.5

D

Series: 230 & 231

Cutter Diameter	Plain Steel		Low Alloy Steel		Malleable Cast Iron		Grey Cast Iron	
	Rpm	Feed/rev.	Rpm	Feed/rev.	Rpm	Feed/rev.	Rpm	Feed/rev.
3.0 - 6.0	3819-5093	0.060-0.140	2548-3820	0.080-0.140	2548-4458	0.090-0.150	3820-5730	0.150-0.250
6.0 - 9.0	2367-3183	0.110-0.180	1592-2367	0.110-0.180	1592-2758	0.150-0.200	2367-3581	0.250-0.380
9.0 - 12.0	1581-2122	0.150-0.230	1081-1582	0.150-0.230	1081-1857	0.200-0.250	1582-2367	0.300-0.360
12.0 - 16.0	1364-1819	0.180-0.280	909-1364	0.180-0.280	909-1592	0.230-0.330	1364-2048	0.300-0.400
16.0 - 20.0	1081-1415	0.200-0.340	707-1081	0.200-0.340	707-1236	0.300-0.380	1081-1582	0.360-0.500

Series : 212

Cutter Diameter	Steels 50-55HRC		Steels 55-60HRC		Steels 60-70HRC	
	Rpm	Feed/rev.	Rpm	Feed/rev.	Rpm	Feed/rev.
3.0	1405-2334	0.030-0.040	1031-1693	0.030-0.040	849-1379	0.030-0.040
4.0	1114-1751	0.030-0.040	796-1273	0.030-0.040	637-1035	0.030-0.040
5.0	891-1401	0.030-0.040	637-1019	0.030-0.040	509-828	0.030-0.040
6.0	743-1167	0.030-0.040	531-846	0.030-0.040	424-680	0.030-0.040
8.0	567-875	0.030-0.040	399-637	0.030-0.040	319-517	0.030-0.040
10.0	448-700	0.030-0.040	318-500	0.030-0.040	255-414	0.030-0.040
12.0	371-584	0.030-0.040	265-424	0.030-0.040	212-345	0.030-0.040

Series : 240

Cutter Diameter	Aluminum/Aluminum Alloys		Aluminum Alloyed - Si > 10%		Brass		Copper/Copper Alloys	
	Rpm	Feed/rev.	Rpm	Feed/rev.	Rpm	Feed/rev.	Rpm	Feed/rev.
3.0 - 5.0	5820-8730	0.053-0.076	2910-5820	0.035-0.051	3880-5820	0.036-0.051	2910-5820	0.053-0.076
6.0 - 8.0	4160-6240	0.124-0.178	2080-4160	0.107-0.152	2770-4160	0.053-0.076	2080-4160	0.107-0.152
8.0 - 10.0	3910-6370	0.213-0.290	3300-3710	0.148-0.200	3300-3710	0.065-0.085	1860-3210	0.168-0.224
10.0 - 13.0	2910-4370	0.295-0.305	1400-2910	0.178-0.254	1840-2910	0.071-0.102	1400-2910	0.178-0.254

Series : 112SF

Cutter Diameter	Steels 30HRC		Steels 30 - 35 HRC		Steels 35 - 40HRC		Steels 40 - 45HRC		Steels 45 - 65HRC	
	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth
1.0	6120-9400	0.013-0.018	4736-6820	0.012-0.019	4448-5580	0.011-0.016	4160-6200	0.011-0.015	3360-4200	0.013-0.018
2.0	4736-6820	0.021-0.040	4448-5580	0.016-0.023	4096-6120	0.016-0.023	3696-4480	0.016-0.028	2680-3360	0.016-0.028
3.0	3640-4900	0.032-0.046	3520-4480	0.032-0.046	3136-3920	0.032-0.046	2880-3900	0.031-0.044	2496-3120	0.022-0.032
4.0	3640-4900	0.040-0.068	3136-3920	0.048-0.068	2880-3900	0.037-0.052	2720-3400	0.031-0.044	2240-2880	0.034-0.049
5.0	3200-4000	0.070-0.100	3040-3900	0.063-0.080	2848-3580	0.051-0.073	2400-3120	0.036-0.051	1700-2200	0.038-0.054
6.0	3200-4000	0.070-0.100	2880-3600	0.064-0.092	2624-3280	0.051-0.073	2432-3040	0.044-0.062	1800-2000	0.039-0.055
8.0	2580-2900	0.118-0.168	1820-2400	0.105-0.150	1440-1800	0.117-0.168	1280-1600	0.105-0.150	900-1000	0.091-0.130
10.0	1216-1520	0.175-0.250	860-1200	0.175-0.250	800-1000	0.154-0.220	640-800	0.158-0.225	512-640	0.109-0.158
12.0	1024-1280	0.197-0.261	804-1080	0.278-0.278	800-1000	0.168-0.240	640-800	0.175-0.250	384-480	0.131-0.187
16.0	900-1100	0.210-0.300	750-980	0.209-0.210	700-900	0.178-0.290	600-700	0.180-275	325-450	0.157-0.190

Cutter Diameter	Steels 30HRc		Steels 50HRc		Steels 50HRc	
	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth
1.0	11040-13800	0.006-0.008	8540-10675	0.006-0.008	8451-8064	0.006-0.009
1.5	10308-12960	0.008-0.011	7920-9900	0.008-0.011	8144-7880	0.008-0.011
2.0	1009-11398	0.008-0.012	7964-8930	0.008-0.011	8530-8012	0.010-0.013
3.0	7373-8218	0.013-0.018	6964-8580	0.012-0.016	4782-5950	0.011-0.016
4.0	8672-8340	0.017-0.024	6096-7620	0.016-0.022	4301-5376	0.014-0.020
5.0	8144-7880	0.019-0.026	6616-7020	0.016-0.025	4136-5172	0.015-0.021
6.0	5852-7440	0.021-0.030	5664-7050	0.019-0.027	3744-4680	0.017-0.025
8.0	5408-4320	0.037-0.052	2765-3456	0.049-0.069	1744-2220	0.044-0.064
10.0	2784-3480	0.084-0.121	1440-1800	0.068-0.125	1056-1320	0.060-0.086
12.0	2352-2940	0.071-0.102	879-1224	0.072-0.103	758-948	0.047-0.066
16.0	1344-1680	0.075-0.107	543-804	0.078-0.130	470-588	0.061-0.086
20.0	883-1104	0.105-0.149	422-526	0.064-0.119	288-372	0.068-0.099
25.0	740-836	0.080-0.128	305-450	0.076-0.108	269-336	0.075-0.107

Cutter Diameter	Steels 30HRc		Steels 30 - 35 HRc		Steels 35 - 40HRc		Steels 40 - 45HRc		Steels 45 - 50HRc	
	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth
6.0	4000-5000	0.035-0.050	3600-4500	0.032-0.045	3280-4100	0.026-0.036	3040-3800	0.022-0.031	2000-2500	0.019-0.027
8.0	2800-3250	0.060-0.084	2400-3000	0.067-0.093	1800-2250	0.067-0.093	1800-2000	0.080-0.075	1000-1250	0.052-0.065
10.0	1520-1900	0.100-0.125	1200-1500	0.100-0.125	1000-1250	0.086-0.110	900-1000	0.090-0.113	640-800	0.063-0.078
12.0	1280-1600	0.113-0.145	1080-1350	0.111-0.138	1000-1250	0.096-0.120	900-1000	0.100-0.125	480-600	0.075-0.094

Cutter Diameter	Steels 30-50HRc		Steels 50-55HRc	
	Rpm	Feed/Tooth	Rpm	Feed/Tooth
6.0	8650-8320	0.041-0.050	3328-4180	0.038-0.054
8.0	3712-4640	0.080-0.086	1920-2400	0.066-0.094
10.0	2668-3360	0.082-0.132	1900-2000	0.079-0.113
12.0	1064-2480	0.108-0.151	1216-1520	0.086-0.123
16.0	1152-1440	0.137-0.105	864-1060	0.091-0.130

Series: 112CRS

Cutter Diameter	Steels 30Hrc		Steels 50Hrc		Steels 60Hrc	
	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth
0302	5000-6370	0.040-0.090	3942-4802	0.043-0.091	2940-3675	0.023-0.033
0305	5096-6370	0.054-0.077	3942-4802	0.054-0.075	2940-3675	0.023-0.033
0402	4900-6125	0.056-0.080	3546-4557	0.040-0.056	2986-3332	0.026-0.037
0405	4900-6125	0.056-0.080	3546-4557	0.040-0.057	2986-3332	0.026-0.037
0605	4508-5635	0.081-0.130	3450-4312	0.080-0.114	1803-2254	0.067-0.082
0610	5184-6480	0.081-0.130	3967-4859	0.080-0.114	2074-2582	0.067-0.082
0615	5410-6762	0.081-0.130	4139-5174	0.080-0.114	2164-2705	0.067-0.082
0805	3391-4239	0.138-0.197	2098-2622	0.111-0.159	1510-1867	0.075-0.107
0810	3900-4875	0.138-0.197	2412-3015	0.111-0.159	1739-2170	0.075-0.108
0815	4068-5096	0.138-0.197	2517-3146	0.111-0.159	1811-2264	0.075-0.106
1010	2479-3099	0.177-0.252	1442-1803	0.120-0.172	744-930	0.123-0.170
1015	2587-3234	0.178-0.254	1506-1882	0.120-0.172	770-970	0.123-0.170
1020	2803-3504	0.178-0.254	1630-2038	0.120-0.172	841-1051	0.123-0.170
1210	2007-2621	0.218-0.311	902-1240	0.197-0.281	588-733	0.143-0.204
1215	2167-2734	0.218-0.311	1036-1294	0.161-0.216	611-764	0.143-0.204
1220	2370-2982	0.218-0.311	1121-1401	0.161-0.216	662-828	0.143-0.204

Series: 114CRS

Cutter Diameter	Steels 30Hrc		Steels 50Hrc		Steels 60Hrc	
	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth
0805	5152-6440	0.046-0.095	3942-4828	0.040-0.057	2081-2576	0.029-0.041
0610	5825-7406	0.046-0.095	4534-5667	0.040-0.057	2370-2962	0.029-0.041
0615	6182-7728	0.046-0.095	4731-5914	0.040-0.057	2473-3081	0.029-0.041
0805	3876-4844	0.089-0.090	2397-2996	0.056-0.079	1729-2158	0.037-0.053
0810	4457-5571	0.089-0.090	2757-3446	0.056-0.079	1984-2489	0.037-0.053
0815	4680-5813	0.089-0.090	2878-3595	0.056-0.079	2070-2587	0.037-0.053
1010	2833-3541	0.089-0.127	1613-2016	0.060-0.080	850-1060	0.062-0.088
1015	2957-3696	0.089-0.127	1720-2150	0.060-0.080	887-1109	0.062-0.088
1020	3203-4004	0.089-0.127	1864-2330	0.060-0.080	961-1201	0.062-0.088
1210	2396-2995	0.109-0.158	1134-1417	0.076-0.106	670-837	0.071-0.102
1215	2500-3125	0.109-0.158	1182-1478	0.076-0.106	699-874	0.071-0.102
1220	2708-3385	0.109-0.158	1282-1602	0.076-0.106	757-946	0.071-0.102

Cutter Diameter	Steels 30-40HRc		Steels 40-50HRc		Steels 50-60HRc	
	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth
1.0	20000-40000	0.020-0.024	20000-40000	0.016-0.020	20000-40000	0.012-0.016
1.5	20000-40000	0.030-0.036	20000-40000	0.024-0.030	20000-39600	0.018-0.024
2.0	20000-38100	0.040-0.048	20000-38100	0.032-0.040	19400-28800	0.024-0.032
3.0	18100-25400	0.060-0.072	19300-25400	0.048-0.060	12900-19300	0.036-0.048
4.0	12100-19100	0.080-0.096	14500-19100	0.064-0.080	9700-14500	0.048-0.064
5.0	9800-15300	0.100-0.120	11800-15300	0.080-0.100	7800-11800	0.060-0.080
6.0	8000-12700	0.120-0.144	8700-12700	0.096-0.120	6500-9600	0.072-0.096
8.0	6000-9500	0.160-0.192	7200-9500	0.128-0.160	4800-7200	0.096-0.128
10.0	4800-7800	0.200-0.240	5800-7800	0.160-0.200	3800-5800	0.120-0.160
12.0	4000-6400	0.240-0.288	4800-6400	0.192-0.240	3200-4800	0.144-0.192
16.0	3500-5700	0.280-0.336	3500-5700	0.220-0.260	3000-4200	0.180-0.220

D

Cutter Diameter	Steels 30-40HRc		Steels 40-50HRc		Steels 50-60HRc	
	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth
1.0	20000-40000	0.020-0.024	20000-40000	0.016-0.020	20000-40000	0.012-0.016
1.5	20000-40000	0.030-0.036	20000-40000	0.024-0.030	20000-39600	0.018-0.024
2.0	20000-38100	0.040-0.048	20000-38100	0.032-0.040	19400-28800	0.024-0.032
3.0	18100-25400	0.060-0.072	19300-25400	0.048-0.060	12900-19300	0.036-0.048
4.0	12100-19100	0.080-0.096	14500-19100	0.064-0.080	9700-14500	0.048-0.064
5.0	9800-15300	0.100-0.120	11800-15300	0.080-0.100	7800-11800	0.060-0.080
6.0	8000-12700	0.120-0.144	8700-12700	0.096-0.120	6500-9600	0.072-0.096
8.0	6000-9500	0.160-0.192	7200-9500	0.128-0.160	4800-7200	0.096-0.128
10.0	4800-7800	0.200-0.240	5800-7800	0.160-0.200	3800-5800	0.120-0.160
12.0	4000-6400	0.240-0.288	4800-6400	0.192-0.240	3200-4800	0.144-0.192
16.0	3500-5700	0.280-0.336	3500-5700	0.220-0.260	3000-4200	0.180-0.220

Radial Step Over



30-40 HRc: Axial depth - 10% of tool diameter.
 40-50 HRc: Axial depth - 5% of tool diameter.
 50-60 HRc: Axial depth - 4% of tool diameter.

Axial Depth



Series: 112BRN&112FRN

Cutter Diameter	Steels 45-52HRC		Steels 52-62HRC	
	Rpm	Feed/Tooth	Rpm	Feed/Tooth
1.0	7040-8800	0.010-0.014	6330-7020	0.010-0.014
1.5	5520-6900	0.010-0.013	3980-4050	0.012-0.017
2.0	4480-5600	0.026-0.037	4032-5040	0.025-0.037
2.5	3840-4800	0.031-0.044	3450-4320	0.031-0.043
3.0	5700-7200	0.018-0.026	5184-6480	0.018-0.026
4.0	5700-7200	0.018-0.026	5184-6480	0.018-0.026
5.0	7937-8984	0.045-0.064	5632-7040	0.033-0.054

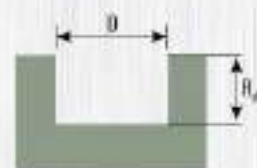
Series: 132SB & 132CR

Cutter Diameter	Steels 45-52HRC		Steels 52-62HRC	
	Rpm	Feed/Tooth	Rpm	Feed/Tooth
3.0	5700-7200	0.018-0.026	5184-6480	0.018-0.026
4.0	5700-7200	0.018-0.026	5184-6480	0.018-0.026
5.0	7937-8984	0.045-0.064	5632-7040	0.033-0.054
8.0	7782-8728	0.043-0.062	5120-6400	0.039-0.055
8.0	4036-5120	0.105-0.150	2580-3200	0.091-0.130
10.0	2048-2500	0.158-0.225	1638-2048	0.109-0.156
12.0	1800-2250	0.175-0.250	1584-1980	0.119-0.170

Series: 123HHS & 123HHL

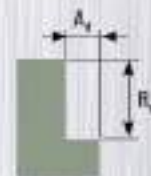
Cutter Diameter	Carbon Steels		Alloy Steels		Stainless Steels		Prehardened Steels	
	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth
6.0	3840-4800	0.050-0.083	1600-2000	0.050-0.067	1440-1800	0.022-0.058	2400-3000	0.030-0.067
8.0	2880-3600	0.070-0.092	1280-1600	0.062-0.083	1120-1400	0.028-0.085	1760-2200	0.050-0.091
10.0	2400-3000	0.089-0.100	1040-1300	0.051-0.090	880-1100	0.030-0.070	1360-1700	0.038-0.078
12.0	2080-2600	0.095-0.108	880-1100	0.054-0.103	730-900	0.037-0.078	1200-1500	0.040-0.078
16.0	1976-2470	0.072-0.103	850-1050	0.069-0.098	685-855	0.052-0.074	1135-1420	0.050-0.072
20.0	1890-2350	0.089-0.098	735-905	0.065-0.093	650-810	0.049-0.070	1080-1350	0.048-0.068

SLOTTING



R_d - Ø6mm to 12mm - 1.00
 R_d - Ø16mm to 20mm - 1.20

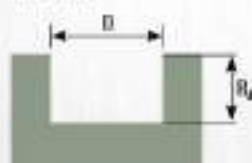
SIDE MILLING



A_d - 0.30
 R_d - 1.50

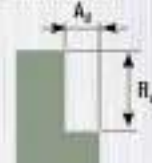
Cutter Diameter	Steels 30HRc		Steels 30-45HRc		Stainless Steels		Steels 45-50HRc		Steels 50-60HRc	
	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth
6.0	2000-2500	0.009-0.018	1800-2000	0.008-0.018	1200-1600	0.008-0.018	1040-1300	0.007-0.013	800-1000	0.005-0.010
8.0	1520-1800	0.013-0.026	1200-1500	0.012-0.023	860-1200	0.011-0.023	800-1000	0.008-0.018	640-800	0.006-0.013
10.0	1280-1600	0.016-0.032	1040-1300	0.013-0.027	760-950	0.014-0.029	690-800	0.011-0.022	520-660	0.008-0.016
12.0	1040-1300	0.017-0.035	880-1100	0.015-0.032	640-800	0.017-0.034	536-670	0.013-0.026	424-530	0.009-0.018
16.0	800-1000	0.015-0.030	656-820	0.015-0.030	480-600	0.016-0.033	400-500	0.015-0.025	320-400	0.009-0.018
20.0	640-800	0.014-0.030	520-660	0.013-0.029	384-480	0.018-0.033	320-400	0.012-0.025	250-320	0.009-0.020

SLOTTING



$R_c = 06\text{mm to }12\text{mm} - 0.20$
 $R_c = 016\text{mm to }20\text{mm} - 0.150$

SIDE MILLING

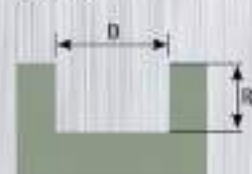


$A_s = 0.50$
 $R_c = 2.00$

D

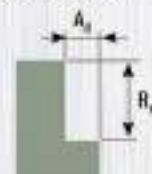
Cutter Diameter	Steels 30HRc		Steels 30-35HRc		Steels 35-45HRc		Steels 45-50HRc	
	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth
3.0	8500-9800	0.006-0.012	5200-6500	0.006-0.014	4400-5000	0.005-0.010	4200-4800	0.003-0.005
4.0	7500-8700	0.012-0.020	4500-5300	0.010-0.018	3900-4400	0.008-0.013	3200-4000	0.004-0.006
5.0	6400-7600	0.017-0.024	3800-4500	0.015-0.021	3200-3800	0.012-0.017	1900-3200	0.005-0.008
6.0	5300-6400	0.021-0.029	3200-3700	0.016-0.026	2700-3200	0.016-0.022	1800-2700	0.007-0.010
8.0	4000-4800	0.026-0.040	2400-2800	0.026-0.037	2000-2400	0.025-0.035	1200-2000	0.012-0.017
10.0	3200-3800	0.036-0.051	1900-2200	0.033-0.048	1600-1900	0.031-0.045	1000-1600	0.016-0.023
12.0	2700-3200	0.043-0.062	1600-1900	0.039-0.055	1300-1600	0.035-0.050	800-1300	0.020-0.028
16.0	2000-2400	0.056-0.080	1200-1400	0.046-0.069	1000-1200	0.044-0.062	600-1000	0.026-0.037
20.0	1600-1900	0.070-0.100	1000-1100	0.058-0.084	800-1000	0.053-0.075	500-800	0.031-0.043

SLOTTING



$R_c \text{ Min} = 0.80$
 $R_c \text{ Max} = 10\text{mm}$

SIDE MILLING

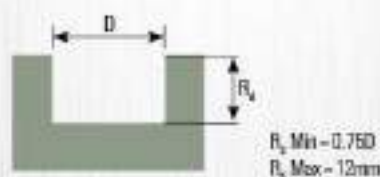


$A_s = 0.50$
 $R_c = 1.50$

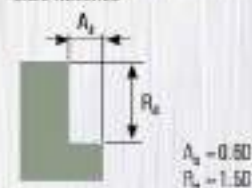
Series: 124RCS

Cutter Diameter	Cast Iron		Mild Steel		Steels 30HRc		Steels 30 - 38HRc		Steels 38-45HRc	
	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth
6.0	5300-6350	0.030-0.040	4500-5300	0.021-0.030	3700-4500	0.014-0.020	2900-3450	0.014-0.020	2400-2950	0.014-0.020
8.0	4000-4750	0.040-0.053	3400-4000	0.028-0.040	2800-3400	0.021-0.030	2200-2600	0.021-0.029	1800-2000	0.021-0.029
10.0	3200-3800	0.050-0.066	2700-3200	0.035-0.050	2250-2700	0.026-0.040	1750-2050	0.026-0.040	1450-1600	0.026-0.040
12.0	2650-3200	0.060-0.081	2250-2650	0.042-0.060	1850-2250	0.035-0.050	1450-1700	0.035-0.050	1200-1350	0.035-0.050
16.0	2000-2400	0.080-0.107	1700-2000	0.050-0.068	1400-1700	0.049-0.071	1100-1300	0.049-0.069	900-1000	0.049-0.069
20.0	1600-1900	0.100-0.133	1350-1600	0.067-0.095	1100-1350	0.061-0.087	900-1050	0.058-0.083	700-800	0.057-0.083

SLOTTING



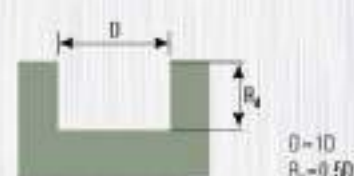
SIDE MILLING



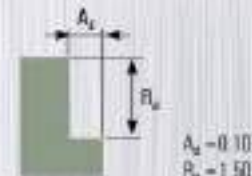
Series: 123ALS & 123ALL

Cutter Diameter	Aluminum Alloy		Aluminum Alloy casting < Si 13%		Copper Alloy C1100	
	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth
5.0	1000-12500	0.020-0.029	1000-12500	0.020-0.029	3600-4750	0.019-0.028
6.0	8400-10500	0.029-0.038	8400-10500	0.029-0.038	3160-3950	0.024-0.034
8.0	6300-7950	0.038-0.055	6300-7950	0.038-0.055	2380-2950	0.030-0.051
10.0	5080-6350	0.051-0.078	5080-6350	0.051-0.078	1880-2350	0.048-0.068
12.0	4240-5300	0.065-0.092	4240-5300	0.065-0.092	1560-1950	0.061-0.087
14.0	3850-4800	0.075-0.110	3850-4800	0.075-0.110	1230-1575	0.072-0.105
16.0	3160-3950	0.087-0.120	3160-3950	0.087-0.120	1160-1460	0.082-0.117
18.0	3010-3780	0.097-0.130	3010-3780	0.097-0.130	1075-1375	0.095-0.120
20.0	2620-3150	0.109-0.134	2620-3150	0.109-0.134	920-1150	0.103-0.148

SLOTTING



SIDE MILLING



Series: 122ALS & 122ALL

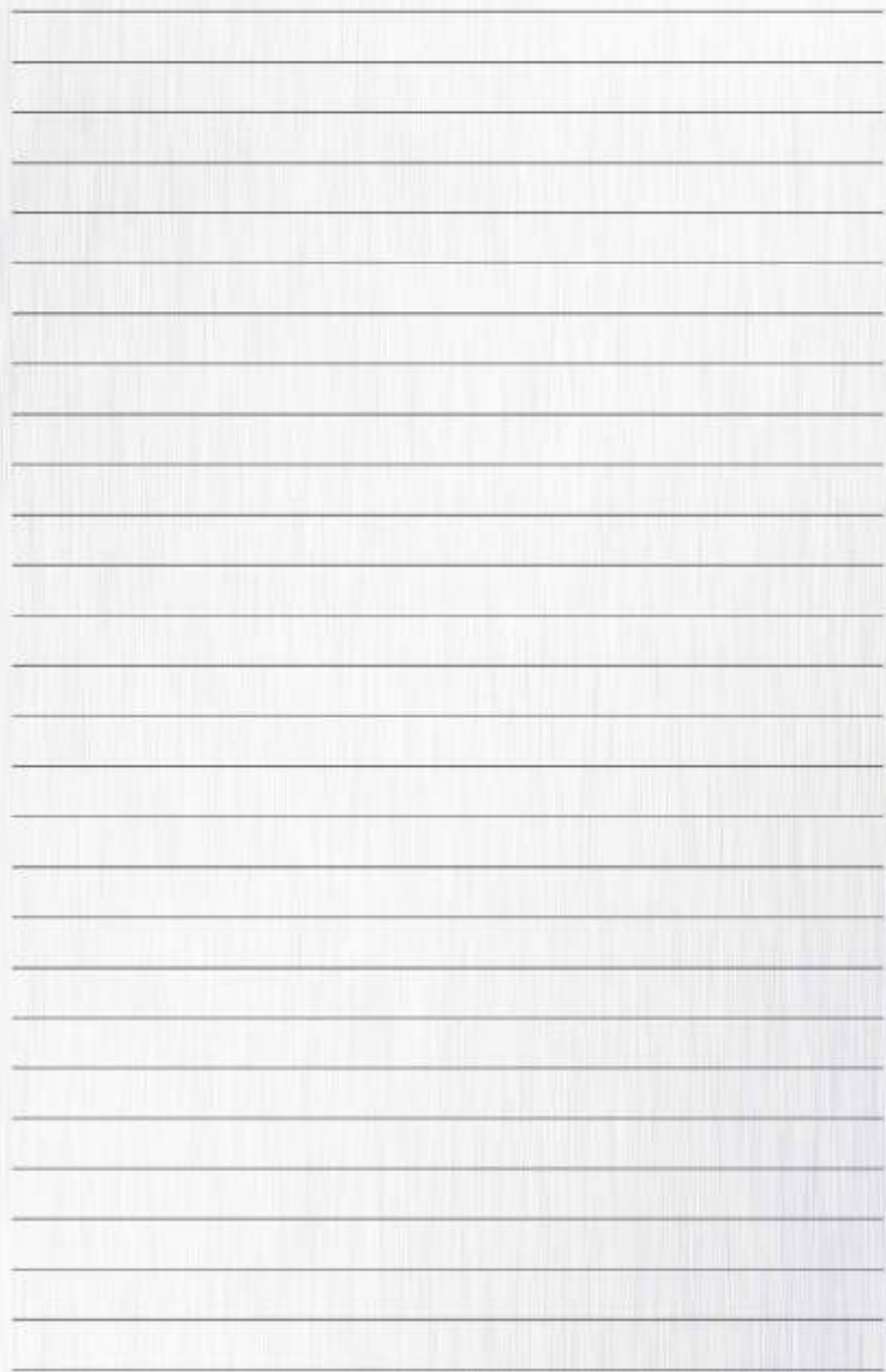
Cutter Diameter	Aluminum Alloys		Plastics		Copper Alloys		Brass	
	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth
5.0	31190-58930	0.056-0.080	232340-31200	0.112-0.100	15800-23240	0.056-0.080	15800-23970	0.056-0.080
6.0	25680-32360	0.063-0.090	18360-25690	0.126-0.180	12980-18360	0.083-0.090	12980-24140	0.083-0.090
8.0	19500-24270	0.106-0.160	14620-19500	0.182-0.260	9750-14620	0.105-0.150	9750-18100	0.105-0.150
10.0	15600-19420	0.133-0.180	11820-15600	0.217-0.310	7800-11820	0.112-0.180	7800-14480	0.105-0.150
12.0	12980-18180	0.140-0.200	9880-12980	0.273-0.350	6500-9880	0.140-0.200	6500-12070	0.140-0.200
14.0	11140-13870	0.154-0.220	8300-11140	0.308-0.440	5570-8300	0.154-0.220	5570-10350	0.154-0.220
16.0	9750-12140	0.181-0.230	7200-9750	0.329-0.470	4870-7200	0.181-0.230	4870-8850	0.181-0.230
18.0	8800-10150	0.170-0.250	6300-8800	0.350-0.520	4150-6500	0.170-0.250	4150-7500	0.075-0.290
20.0	7800-9710	0.188-0.280	5870-7800	0.399-0.570	3900-6810	0.188-0.280	3900-7240	0.188-0.280

Series: 124VHS & 124TS

Cutter Diameter	Unalloyed Steel Over 23 N/mm ²		Alloyed Steel Over 38 N/mm ²		Stainless Steel To 22 N/mm ²		Titanium - Alloyed To 44 N/mm ²	
	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth
5.0	8276-12732	0.015-0.025	5083-7003	0.015-0.025	5730-7003	0.020-0.025	2548-4456	0.015-0.025
6.0	6897-10810	0.025-0.035	4244-5836	0.025-0.035	4775-5836	0.032-0.035	2122-3714	0.025-0.035
8.0	5173-7966	0.030-0.070	3183-4377	0.030-0.070	3681-4377	0.040-0.070	1582-2785	0.030-0.070
10.0	4138-6388	0.038-0.080	2548-3501	0.038-0.080	2886-3501	0.050-0.080	1273-2228	0.038-0.080
12.0	3448-5385	0.048-0.100	2122-2918	0.048-0.100	2387-2918	0.065-0.100	1081-1857	0.048-0.100
16.0	2586-3979	0.052-0.110	1582-2188	0.052-0.110	1788-2188	0.073-0.110	789-1383	0.052-0.110
20.0	2068-3183	0.060-0.120	1273-1751	0.060-0.120	1432-1751	0.081-0.120	627-1114	0.060-0.120

Series: 122TEM

Cutter Diameter	Aluminum 6061		Copper, Brass		Copper Alloys, Bronze		Graphite	
	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth	Rpm	Feed/Tooth
Ø 2.0 - 3.0	18628-23284	0.009-0.012	2784-3482	0.006-0.008	3106-3880	0.006-0.008	2484-3104	0.004-0.005
Ø 3.5 - 4.5	11642-14563	0.018-0.025	1746-2182	0.007-0.010	1940-2425	0.007-0.010	1552-1840	0.005-0.008
Ø 5.0 - 6.0	8467-10584	0.023-0.035	1270-1587	0.008-0.013	1417-1784	0.012-0.018	1129-1411	0.007-0.010





TruCut Precision Tools Pvt Ltd

DP-19, Sidco Industrial Estate-WIP

Thirumullaivoyal, Katoor, Chennai - 600 062 (India)

☎ +91-44-26350520 / 26350521

✉ sales@trucut-tool.com

💻 www.trucut-tool.com



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QUALITY CUTTING TOOLS