



OSG's SOMTA Brand Lineup

Vol 1

SOMTA

Value Tooling for Drilling, Threading, and Milling



Icon Descriptions

Tool Materials

 CBN	 PCD	 HSS-Co5
 HSSE High Vanadium HSS	 HSS-Co Cobalt HSS	 HSSE V3 HSS V3
 CARBIDE Tungsten Carbide	 HSS HSS	 VC10 Powder Metallurgy HSS
 CERMET CERMET	 HSS-Co8 HSS-Co8	 XPM High Grade Powder Metallurgy HSS

Surface Treatment

 BR Bright	 N Nitride Coating	 DLC DLC Coating
 EXO' Multi-Layer TiAlN Coating	 TiCN TiCN Coating	 WD1 WD1 Coating
 TiAlN TiAlN Coating	 WXS WXS® Coating	 HR HR Coating
 WXL WXL® Coating	 V OSG Special Multi-Layer TiCN Coating	 EgiAs EgiAs Coating
 S/O Steam Oxide Coating	 DIA OSG Patented Diamond Coating	 DUR Duarise Coating
 SS Super Smooth	 N S/O Nitride/Steam Oxide Coating	
 CrN CrN Coating	 TiN TiN Coating	

Tool Dimensions

 EXTRA LONG Extra Long Length	 STUB Stub Length	 Coolant-Through
 LONG Long Length	 Center Cutting	 Straight Shank
 JOBBERS Jobbers Length	 Non-Center Cutting	 Taper Shank
 MED Medium Length	 Radius Tolerance	 Helix Angle
 REG Regular Length	 Milling Diameter Tolerance	

Types

 TYPE W For Soft Materials	 TYPE VA For Steels and Stainless Steels	 TYPE GG For Cast Iron	 TYPE N Standard
 TYPE H For Hard Materials	 TYPE UNI For Universal Use	 TYPE FS Parabolic Flute	

Other Icons

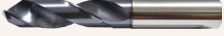
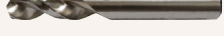
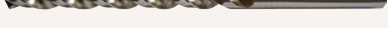
 SPEED FEED Speeds & Feeds	 SHRINK FIT Shrink Fit	 NEW New	 NEW SIZES New Sizes
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DRILLING

List	Product	Inch/Metric	Material	Coating	Size Range	Features	Product Page
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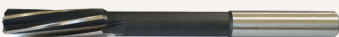
DRILLS

0CS-SO		"Inch/ Metric"	Carbide	TiAIN	6mm ~ 14mm	Coolant-Through, Stub Length	8
0CJ-SO		"Inch/ Metric"	Carbide	TiAIN	6mm ~ 14mm	Coolant-Through, Jobbers Length	9
01S-SO		"Inch/ Metric"	Carbide	TiAIN	1mm ~ 14mm	Stub Length	10
01J-SO		"Inch/ Metric"	Carbide	TiAIN	1mm ~ 14mm	Jobbers Length	11
163-SO		"Inch/ Metric"	HSS-Co5	Bright / TiAIN	1mm ~ 14mm	UDL, Stub Length	12-16
164-SO		"Inch/ Metric"	HSS-Co5	Bright / TiAIN	1mm ~ 15.88mm	UDL, Jobbers Length	17-21
110-SO		"Inch/ Metric"	HSS-Co5	Bright	1mm ~ 12.7mm	UDL, Long Length	22-25
1R5-SO		"Inch/ Metric"	HSS-Co5	TiAIN	1mm ~ 13mm	RED BAND, UDS, Jobbers Length	26-28
1BB-SO		"Inch/ Metric"	HSS-Co5	TiAIN	1mm ~ 13mm	BLUE BAND, RF, Jobbers Length	29-31
1AQ-SO		"Inch/ Metric"	HSS	Bright	0.9mm ~ 13mm	YELLOW BAND, Quick Spiral Jobbers Length	32-35
1W6-SO		"Inch/ Metric"	HSS-Co5	TiAIN	1.98mm ~ 12.7mm	WHITE BAND, UDC, Jobbers Length	36-37
1G7-SO		"Inch/ Metric"	HSS-Co5	Tin	1mm ~ 13mm	GREEN BAND, NDX, Jobbers Length	38-40
101-SO, 102-SO		"Inch/ Metric"	HSS	S/O	0.3mm ~ 20mm	Straight Shank, Jobbers Length	41-45
1X6-SO		"Inch/ Metric"	HSS	TiN	1mm ~ 15.88mm	X-Ratio Split Point, Straight Shank, Jobbers Length	46-48

CENTER DRILLS

1NA-SO		"Inch/ Metric"	HSS	Bright	1.19mm ~ 6.35mm	Center Drills	49
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REAMERS

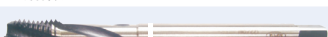
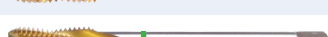
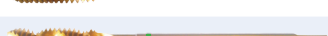
751-SO, 752-SO		"Inch/ Metric"	HSS-Co5	Bright	2mm ~ 20mm	Parallel Shank Machine Chucking Reamers	50-51
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Threading Index

THREADING

List	Product	Inch/Metric	Material	Coating	Size Range	Features	Product Page
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SPIRAL FLUTED TAPS

5BA-SO, 5BL-SO		Inch	HSSE V3	TiAlN	No. 4 ~ 1, 1/4	RED BAND, Modified Bottom (2P-3P)	60-61
5EA-SO, 5EL-SO		Metric	HSSE V3	TiAlN	M3 ~ M24	RED BAND, Modified Bottom (2P-3P)	62
5BB-SO, 5BM-SO		Inch	HSSE V3	TiAlN	No. 4 ~ 1, 1/4	BLUE BAND, Modified Bottom (2P-3P)	63-64
5EB-SO, 5EM-SO		Metric	HSSE V3	TiAlN	M3 ~ M24	BLUE BAND, Modified Bottom (2P-3P)	65
5BC-SO, 5BN-SO		Inch	HSSE V3	Bright	No. 4 ~ 1, 1/4	YELLOW BAND, Modified Bottom (2P-3P)	66-67
5EC-SO, 5EN-SO		Metric	HSSE V3	Bright	M3 ~ M24	YELLOW BAND, Modified Bottom (2P-3P)	68
5BD-SO, 5BP-SO		Inch	HSSE V3	TiAlN	No. 4 ~ 1, 1/4	WHITE BAND, Modified Bottom (2P-3P)	69-70
5ED-SO, 5EP-SO		Metric	HSSE V3	TiAlN	M3 ~ M24	WHITE BAND, Modified Bottom (2P-3P)	71
5BE-SO, 5BK-SO		Inch	HSSE V3	TiN	No. 4 ~ 1, 1/4	GREEN BAND, Modified Bottom (2P-3P)	72-73
5EV-SO		Metric	HSSE V3	TiN	M3 ~ M24	GREEN BAND, 15° Helix, Modified Bottom (2P-3P)	74
5EW-SO		Metric	HSSE V3	TiN	M3 ~ M24	GREEN BAND, 35° Helix, Modified Bottom (2P-3P)	75

SPIRAL POINTED TAPS

5BF-SO, 5BS-SO		Inch	HSSE V3	TiAlN	No. 4 ~ 1, 1/4	RED BAND, Plug (4P-5P)	76-77
5EF-SO, 5ES-SO		Metric	HSSE V3	TiAlN	M3 ~ M24	RED BAND, Plug (4P-5P)	78
5BG-SO, 5BT-SO		Inch	HSSE V3	TiAlN	No. 4 ~ 1, 1/4	BLUE BAND, Plug (4P-5P)	79-80
5EG-SO, 5ET-SO		Metric	HSSE V3	TiAlN	M3 ~ M24	BLUE BAND, Plug (4P-5P)	81
5BH-SO, 5BU-SO		Inch	HSSE V3	Bright	No. 4 ~ 1, 1/4	YELLOW BAND, Plug (4P-5P)	82-83
5EH-SO, 5EU-SO		Metric	HSSE V3	Bright	M3 ~ M24	YELLOW BAND, Plug (4P-5P)	84
5BJ-SO, 5BV-SO		Inch	HSSE V3	TiN	No. 4 ~ 1, 1/4	GREEN BAND, Plug (4P-5P)	85-86
5EX-SO		Metric	HSSE V3	TiN	M3 ~ M24	GREEN BAND, Plug (4P-5P)	87

MILLING

List	Product	Inch/ Metric	No. of Flutes	Length of Cut	Material	Coating	Size Range	Features	Product Page
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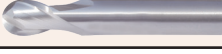
VARICUT

04V-SO		Inch/ Metric	4	Stub	Carbide	TiAlN	3/16 ~ 3/4, 5mm~20mm	Varicut	90-91
03V-SO		Inch/ Metric	4	Regular	Carbide	TiAlN	1/4 ~ 1, 5mm~20mm	Varicut	92-93
05V-SO		Inch/ Metric	5	Regular	Carbide	TiAlN	3/16 ~ 3/4, 5mm ~ 20mm	Varicut	94-95

CARBIDE

03A-SO		Metric	2	Regular	Carbide	TiAlN	1mm ~ 20mm	Square	96
03K-SO		Metric	4	Regular	Carbide	TiAlN	1mm ~ 20mm	Square	97
03M-SO		Metric	2	Regular	Carbide	TiAlN	1mm ~ 20mm	Ball Nose	98
03P-SO		Metric	4	Regular	Carbide	TiAlN	1mm ~ 20mm	Ball Nose	99
03E-SO		Metric	4	Regular	Carbide	TiAlN	6mm ~ 20mm	Rougher	100
03F-SO		Metric	4	Regular	Carbide	TiAlN	6mm ~ 20mm	Rougher	101

HSS CO

310-SO		Metric	2	Regular	HSS Co8	TiAlN	2mm ~ 25mm	Square	102
314-SO		Metric	4, 6	Regular	HSS Co8	TiAlN	3mm ~ 25mm	Square	103
312-SO		Metric	2	Regular	HSS Co8	TiAlN	2mm ~ 25mm	Ball Nose	104



List	Item	Brand	Inch/ Metric	Material	Coating	Size Range	Features	Product Page	Tech Page
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DRILLS

0CS-SO		SOMTA	"Inch/ Metric"	Carbide	TiAlN	6mm ~ 14mm	Coolant-Through, Stub Length	8	52
0CJ-SO		SOMTA	"Inch/ Metric"	Carbide	TiAlN	6mm ~ 14mm	Coolant-Through, Jobbers Length	9	52
01S-SO		SOMTA	"Inch/ Metric"	Carbide	TiAlN	1mm ~ 14mm	Stub Length	10	52
01J-SO		SOMTA	"Inch/ Metric"	Carbide	TiAlN	1mm ~ 14mm	Jobbers Length	11	52
163-SO		SOMTA	"Inch/ Metric"	HSS-Co5	Bright / TiAlN	1mm ~ 14mm	UDL, Stub Length	12-16	53
164-SO		SOMTA	"Inch/ Metric"	HSS-Co5	Bright / TiAlN	1mm ~ 15.88mm	UDL, Jobbers Length	17-21	53
110-SO		SOMTA	"Inch/ Metric"	HSS-Co5	Bright	1mm ~ 12.7mm	UDL, Long Length	22-25	53
1R5-SO		SOMTA	"Inch/ Metric"	HSS-Co5	TiAlN	1mm ~ 13mm	Red Band UDS, Jobbers Length	26-28	54
1BB-SO		SOMTA	"Inch/ Metric"	HSS-Co5	TiAlN	1mm ~ 13mm	Blue Band RF, Jobbers Length	29-31	54
1AQ-SO		SOMTA	"Inch/ Metric"	HSS	Bright	0.9mm ~ 13mm	Yellow Band, Quick Spiral Jobbers Length	32-35	54
1W6-SO		SOMTA	"Inch/ Metric"	HSS-Co5	TiAlN	1.98mm ~ 12.7mm	White Band UDC, Jobbers Length	36-37	54
1G7-SO		SOMTA	"Inch/ Metric"	HSS-Co5	Tin	1mm ~ 13mm	Green Band NDX, Jobbers Length	38-40	54
101-SO, 102-SO		SOMTA	"Inch/ Metric"	HSS	S/O	0.3mm ~ 20mm	Straight Shank, Jobbers Length	41-45	55
1X6-SO		SOMTA	"Inch/ Metric"	HSS	TiN	1mm ~ 15.88mm	X-Ratio Split Point, Straight Shank, Jobbers Length	46-48	55

CENTER DRILLS

1NA-SO		SOMTA	"Inch/ Metric"	HSS	Bright	1.19mm ~ 6.35mm	Center Drills	49	56
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REAMERS

751-SO, 752-SO		SOMTA	"Inch/ Metric"	HSS-Co5	Bright	2mm ~ 20mm	Parallel Shank Machine Chucking Reamers	50-51	57
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	P				M			K	N		S		H				
List No.	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC

DRILLS

0CS-SO	☐	☐	☐	☐			☐	☐	☐	☐	☐	☐	☐	☐	☐		
0CJ-SO	☐	☐	☐	☐			☐	☐	☐	☐	☐	☐	☐	☐	☐		
01S-SO	☐	☐	☐	☐			☐	☐	☐	☐	☐	☐	☐	☐	☐		
01J-SO	☐	☐	☐	☐			☐	☐	☐	☐	☐	☐	☐	☐	☐		
163-SO	☒	☒	☒	☒		☐	☐	☐	☐	☒		☐	☐	☒			
164-SO	☒	☒	☒	☒		☐	☐	☐	☐	☒		☐	☐	☒			
110-SO	☒	☒	☒	☒		☐	☐	☐	☐	☒		☐	☐	☒			
1R5-SO	☐	☐		☒									☐	☐	☐		
1BB-SO						☒	☒	☒				☐	☐				
1AQ-SO	☐									☒	☐						
1W6-SO									☒								
1G7-SO	☒	☒		☐													
101-SO, 102-SO	☐	☐	☐	☐	☐	☐	☐		☐	☐	☐	☐	☐				
1X6-SO	☐	☐	☐	☐	☐	☐	☐		☐	☐	☐	☐	☐				

CENTER DRILLS

1NA-SO	☐	☐	☐	☐		☐	☐		☐	☐	☐	☐	☐				
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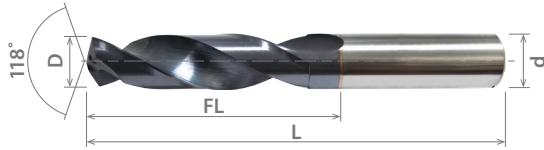
REAMERS

751-SO, 752-SO	☐	☐	☐		☐	☐	☐		☐	☐		☐	☐				
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☐ good ☒ best

List 0CS-SO

Coolant-Through, Stub Length Drills



NEW	SPEED FEED P52	CARBIDE	TYPE N	TiAlN	STUB		
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤14	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
0CS0600F-SO	-	-	-	6.00	0.2362	28	66	6
0CS0630F-SO	-	-	-	6.30	0.2480	34	79	8
0CS0650F-SO	-	-	-	6.50	0.2559			
0CS0680F-SO	-	-	-	6.80	0.2677			
0CS0700F-SO	-	-	-	7.00	0.2756			
0CS0750F-SO	-	-	-	7.50	0.2953	41	89	10
0CS0800F-SO	-	-	-	8.00	0.3150			
0CS0850F-SO	-	-	-	8.50	0.3346			
0CS0900F-SO	-	-	-	9.00	0.3543			
0CS0950F-SO	-	-	-	9.50	0.3740	47	102	12
0CS1000F-SO	-	-	-	10.00	0.3937			
0CS1020F-SO	-	-	-	10.20	0.4016			
0CS1050F-SO	-	-	-	10.50	0.4134			
0CS1100F-SO	-	-	-	11.00	0.4331	55	107	14
0CS1150F-SO	-	-	-	11.50	0.4528			
0CS1200F-SO	-	-	-	12.00	0.4724			
0CS1250F-SO	-	-	-	12.50	0.4921			
0CS1270F-SO	1/2	-	-	12.70	0.5000	60	107	14
0CS1300F-SO	-	-	-	13.00	0.5118			
0CS1350F-SO	-	-	-	13.50	0.5315			
0CS1400F-SO	-	-	-	14.00	0.5512			

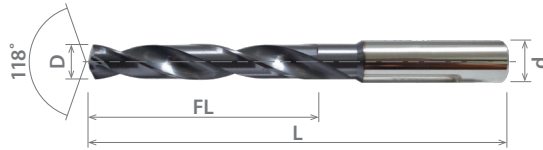
 Packed: 1 pc.
 Available TiAlN coating only.


Work Material																	
List No.	P				M			K	N		S		H				
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065														
0CS-S0	☐	☐	☐	☐			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

☐ good ☒ best


List 0CJ-SO

Coolant-Through, Jobber Length Drills



NEW	SPEED FEED P52	CARBIDE	TYPE N	TiAlN	JOBBER		
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤14	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
0CJ0600F-SO	-	-	-	6.00	0.2362	44	82	6
0CJ0630F-SO	-	-	-	6.30	0.2480	53	91	8
0CJ0650F-SO	-	-	-	6.50	0.2559			
0CJ0680F-SO	-	-	-	6.80	0.2677			
0CJ0700F-SO	-	-	-	7.00	0.2756			
0CJ0750F-SO	-	-	-	7.50	0.2953			
0CJ0800F-SO	-	-	-	8.00	0.3150	61	103	10
0CJ0850F-SO	-	-	-	8.50	0.3346			
0CJ0900F-SO	-	-	-	9.00	0.3543			
0CJ0950F-SO	-	-	-	9.50	0.3740			
0CJ1000F-SO	-	-	-	10.00	0.3937			
0CJ1020F-SO	-	-	-	10.20	0.4016	71	118	12
0CJ1050F-SO	-	-	-	10.50	0.4134			
0CJ1100F-SO	-	-	-	11.00	0.4330			
0CJ1150F-SO	-	-	-	11.50	0.4528			
0CJ1200F-SO	-	-	-	12.00	0.4724			
0CJ1250F-SO	-	-	-	12.50	0.4921	77	124	14
0CJ1270F-SO	1/2	-	-	12.70	0.5000			
0CJ1300F-SO	-	-	-	13.00	0.5118			
0CJ1350F-SO	-	-	-	13.50	0.5315			
0CJ1400F-SO	-	-	-	14.00	0.5512			

Packed: 1 pc.
Available TiAlN coating only.

SOM

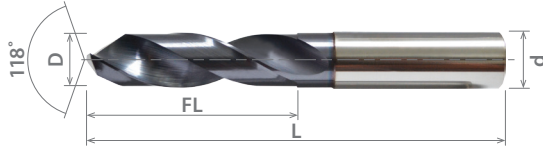
Work Material																	
List No.	P				M			K	N		S		H				
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V	~35	35-45	45-50	50-70
	1010	1035	1065			4140	4340	7075				(30 HRC)	HRC	HRC	HRC	HRC	
OCJ-S0	☐	☐	☐	☐			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

☐ good ☒ best



List 01S-SO

Stub Length Drills



NEW	SPEED FEED P52	CARBIDE	TYPE N	TiAlN	STUB	30°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
1≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤14	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
01S0100F-SO	-	-	-	1.00	0.0394	6	26	1.0
01S0150F-SO	-	-	-	1.50	0.0591	9	32	1.5
01S0200F-SO	-	-	-	2.00	0.0787	12	38	2.0
01S0250F-SO	-	-	-	2.50	0.0984	14	43	2.5
01S0300F-SO	-	-	-	3.00	0.1181	20	62	6.0
01S0330F-SO	-	-	-	3.30	0.1299			
01S0350F-SO	-	-	-	3.50	0.1378			
01S0400F-SO	-	-	-	4.00	0.1575	24	66	
01S0420F-SO	-	-	-	4.20	0.1654			
01S0450F-SO	-	16	-	4.50	0.1772	28		
01S0500F-SO	-	-	-	5.00	0.1969			
01S0550F-SO	-	-	-	5.50	0.2165			
01S0600F-SO	-	-	-	6.00	0.2362	34	79	
01S0630F-SO	-	-	-	6.30	0.2480			
01S0650F-SO	-	-	-	6.50	0.2559			
01S0680F-SO	-	-	-	6.80	0.2677	41		
01S0700F-SO	-	-	-	7.00	0.2756			
01S0750F-SO	-	-	-	7.50	0.2953			
01S0800F-SO	-	-	-	8.00	0.3150	47	89	
01S0850F-SO	-	-	-	8.50	0.3346			
01S0900F-SO	-	-	-	9.00	0.3543			
01S0950F-SO	-	-	-	9.50	0.3740	55	102	
01S1000F-SO	-	-	-	10.00	0.3937			
01S1020F-SO	-	-	-	10.20	0.4016			
01S1050F-SO	-	-	-	10.50	0.4134			
01S1100F-SO	-	-	-	11.00	0.4331			
01S1150F-SO	-	-	-	11.50	0.4528			
01S1200F-SO	-	-	-	12.00	0.4724	60	107	
01S1250F-SO	-	-	-	12.50	0.4921			
01S1270F-SO	1/2	-	-	12.70	0.5000			
01S1300F-SO	-	-	-	13.00	0.5118			
01S1350F-SO	-	-	-	13.50	0.5315			
01S1400F-SO	-	-	-	14.00	0.5512			

Packed: 1 pc.
Available TiAlN coating only.



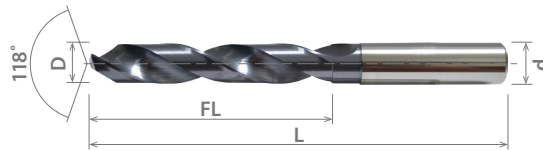
Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065			4140 4340											
01S-S0	☐	☐	☐	☐			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

☐ good ☒ best



List 01J-SO

Jobber Length Drills



NEW	SPEED FEED P52	CARBIDE	TYPE N	TiAlN	JOBBERS	30°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
1≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤14	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
01J0100F-SO	-	-	-	1.00	0.0394	8	55	4
01J0150F-SO	-	-	-	1.50	0.0591	12		
01J0200F-SO	-	-	-	2.00	0.0787	21		
01J0250F-SO	-	-	-	2.50	0.0984	28	66	6
01J0300F-SO	-	-	-	3.00	0.1181			
01J0330F-SO	-	-	-	3.30	0.1299			
01J0350F-SO	-	-	-	3.50	0.1378	36	74	6
01J0400F-SO	-	-	-	4.00	0.1575			
01J0420F-SO	-	-	-	4.20	0.1654			
01J0450F-SO	-	16	-	4.50	0.1772	44	82	6
01J0500F-SO	-	-	-	5.00	0.1969			
01J0550F-SO	-	-	-	5.50	0.2165			
01J0600F-SO	-	-	-	6.00	0.2362	53	91	8
01J0630F-SO	-	-	-	6.30	0.2480			
01J0650F-SO	-	-	-	6.50	0.2559			
01J0680F-SO	-	-	-	6.80	0.2677	61	103	10
01J0700F-SO	-	-	-	7.00	0.2756			
01J0750F-SO	-	-	-	7.50	0.2953			
01J0800F-SO	-	-	-	8.00	0.3150	71	118	12
01J0850F-SO	-	-	-	8.50	0.3346			
01J0900F-SO	-	-	-	9.00	0.3543			
01J0950F-SO	-	-	-	9.50	0.3740	77	124	14
01J1000F-SO	-	-	-	10.00	0.3937			
01J1020F-SO	-	-	-	10.20	0.4016			
01J1050F-SO	-	-	-	10.50	0.4134	77	124	14
01J1100F-SO	-	-	-	11.00	0.4331			
01J1150F-SO	-	-	-	11.50	0.4528			
01J1200F-SO	-	-	-	12.00	0.4724	77	124	14
01J1250F-SO	-	-	-	12.50	0.4921			
01J1270F-SO	1/2	-	-	12.70	0.5000			
01J1300F-SO	-	-	-	13.00	0.5118	77	124	14
01J1350F-SO	-	-	-	13.50	0.5315			
01J1400F-SO	-	-	-	14.00	0.5512			

Packed: 1 pc.
Available TiAlN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010	1035	1065			4140	4340	300		400	17-4 PH	6061	7075	30 HRC	30 HRC	30 HRC	30 HRC
01J-SO	☐	☐	☐	☐			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

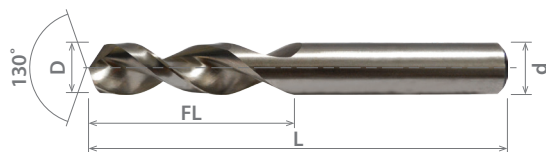
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List 163-SO

UDL Stub Drills



NEW	SPEED FEED P53	HSS-Co5	TYPE FS	BR	TiAIN	STUB	40°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
1≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤14	+0 / -0.027	+0 / -0.0011

Bright EDP Number	TiAlN EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch			
1630100-SO	1630100A-SO	-	-	-	1.00	0.0394	6	26	1.00
1630102-SO	1630102A-SO	-	60	-	1.02	0.0402			1.02
1630104-SO	1630104A-SO	-	59	-	1.04	0.0409			1.04
1630107-SO	1630107A-SO	-	58	-	1.07	0.0421	7	28	1.07
1630109-SO	1630109A-SO	-	57	-	1.09	0.0429			1.09
1630110-SO	1630110A-SO	-	-	-	1.10	0.0433			1.10
-	1630115A-SO	-	-	-	1.15	0.0453	8	30	1.15
1630118-SO	1630118A-SO	-	56	-	1.18	0.0465			1.18
1630119-SO	1630119A-SO	3/64	-	-	1.19	0.0469			1.19
1630120-SO	1630120A-SO	-	-	-	1.20	0.0472	9	32	1.20
1630125-SO	-	-	-	-	1.25	0.0492			1.25
1630130-SO	1630130A-SO	-	-	-	1.30	0.0512			1.30
1630132-SO	1630132A-SO	-	55	-	1.32	0.0520	10	34	1.32
1630135-SO	1630135A-SO	-	-	-	1.35	0.0531			1.35
1630139-SO	1630139A-SO	-	54	-	1.40	0.0551			1.40
1630140-SO	1630140A-SO	-	-	-	1.45	0.0571	11	36	1.45
1630145-SO	1630145A-SO	-	-	-	1.50	0.0591			1.50
1630150-SO	1630150A-SO	-	-	-	1.51	0.0594			1.51
1630152-SO	1630152A-SO	-	53	-	1.55	0.0610	12	38	1.55
1630155-SO	1630155A-SO	-	-	-	1.59	0.0626			1.59
1630159-SO	1630159A-SO	1/16	-	-	1.60	0.0630			1.60
1630160-SO	1630160A-SO	-	-	-	1.61	0.0634	13	40	1.61
1630161-SO	1630161A-SO	-	52	-	1.65	0.0650			1.65
1630165-SO	1630165A-SO	-	-	-	1.67	0.0657			1.67
1630167-SO	1630167A-SO	-	-	-	1.70	0.0669	14	43	1.70
1630169-SO	1630169A-SO	-	51	-	1.75	0.0689			1.75
1630170-SO	1630170A-SO	-	-	-	1.78	0.0701			1.78
1630175-SO	1630175A-SO	-	-	-	1.80	0.0709	15	44	1.80
1630178-SO	1630178A-SO	-	50	-	1.85	0.0728			1.85
1630180-SO	1630180A-SO	-	-	-	1.90	0.0748			1.90
1630185-SO	1630185A-SO	-	49	-	1.93	0.0760	16	45	1.93
1630190-SO	1630190A-SO	-	-	-	1.95	0.0768			1.95
1630193-SO	1630193A-SO	-	48	-	1.98	0.0780			1.98
1630195-SO	1630195A-SO	-	-	-	1.99	0.0783	17	46	1.99
1630198-SO	1630198A-SO	5/64	-	-	2.00	0.0787			2.00
1630199-SO	1630199A-SO	-	47	-	2.05	0.0807			2.05
1630200-SO	1630200A-SO	-	-	-	2.06	0.0811	18	47	2.06
1630205-SO	1630205A-SO	-	-	-	2.08	0.0819			2.08
1630206-SO	1630206A-SO	-	46	-	2.10	0.0827			2.10
1630208-SO	1630208A-SO	-	45	-	2.15	0.0846	19	48	2.15
1630210-SO	1630210A-SO	-	-	-	2.18	0.0858			2.18
1630215-SO	1630215A-SO	-	-	-	2.20	0.0866			2.20
1630218-SO	1630218A-SO	-	44	-	2.25	0.0886	20	49	2.25
1630220-SO	1630220A-SO	-	-	-	2.26	0.0890			2.26
1630225-SO	1630225A-SO	-	-	-	2.30	0.0906			2.30
1630226-SO	1630226A-SO	-	43	-	2.35	0.0925	21	50	2.35
1630230-SO	1630230A-SO	-	-	-	2.37	0.0933			2.37
1630235-SO	-	-	-	-	2.38	0.0937			2.38
1630237-SO	1630237A-SO	-	42	-	2.40	0.0945	22	51	2.40
1630238-SO	1630238A-SO	3/32	-	-	2.44	0.0961			2.44
1630240-SO	1630240A-SO	-	-	-	2.45	0.0965			2.45
1630244-SO	1630244A-SO	-	41	-	2.48	0.0976	23	52	2.48
1630245-SO	1630245A-SO	-	-	-	2.49	0.0980			2.49
-	1630248A-SO	-	-	-	2.50	0.0984			2.50
1630249-SO	1630249A-SO	-	40	-	2.53	0.0996	24	53	2.53
1630250-SO	1630250A-SO	-	-	-	2.55	0.1004			2.55
1630253-SO	1630253A-SO	-	39	-					
1630255-SO	-	-	-	-					

Packed: 1 pc.
EDP's listed above are stocked standard, other coatings available upon request.
Specify treatment at time of order.



List 163-SO (Continued)

UDL Stub Drills

NEW	SPEED FEED P53	HSS-Co5	TYPE FS	BR	TiAIN	STUB	40°
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Bright EDP Number	TiAIN EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1630258-SO	1630258A-SO	-	38	-	2.58	0.1016	14	43	2.58
1630260-SO	1630260A-SO	-	-	-	2.60	0.1024			2.60
1630264-SO	1630264A-SO	-	37	-	2.64	0.1039			2.64
1630270-SO	1630270A-SO	-	-	-	2.70	0.1063			2.70
1630271-SO	1630271A-SO	-	36	-	2.71	0.1067	16	46	2.71
1630275-SO	1630275A-SO	-	-	-	2.75	0.1083			2.75
1630278-SO	1630278A-SO	7/64	-	-	2.78	0.1094			2.78
1630279-SO	1630279A-SO	-	35	-	2.79	0.1098			2.79
1630280-SO	1630280A-SO	-	-	-	2.80	0.1102			2.80
1630282-SO	1630282A-SO	-	34	-	2.82	0.1110			2.82
1630285-SO	1630285A-SO	-	-	-	2.85	0.1122			2.85
1630287-SO	1630287A-SO	-	33	-	2.87	0.1130			2.87
1630290-SO	1630290A-SO	-	-	-	2.90	0.1142			2.90
1630295-SO	1630295A-SO	-	32	-	2.95	0.1161			2.95
1630300-SO	1630300A-SO	-	-	-	3.00	0.1181			3.00
1630305-SO	1630305A-SO	-	31	-	3.05	0.1201	18	49	3.05
1630310-SO	1630310A-SO	-	-	-	3.10	0.1220			3.10
1630315-SO	1630315A-SO	-	-	-	3.15	0.1240			3.15
1630318-SO	1630318A-SO	1/8	-	-	3.18	0.1252			3.18
1630320-SO	1630320A-SO	-	-	-	3.20	0.1260			3.20
1630322-SO	1630322A-SO	-	-	-	3.22	0.1268			3.22
1630323-SO	1630323A-SO	-	-	-	3.23	0.1272			3.23
1630325-SO	1630325A-SO	-	-	-	3.25	0.1280			3.25
1630326-SO	1630326A-SO	-	30	-	3.26	0.1283			3.26
1630330-SO	1630330A-SO	-	-	-	3.30	0.1299			3.30
1630335-SO	1630335A-SO	-	-	-	3.35	0.1319			3.35
1630340-SO	1630340A-SO	-	-	-	3.40	0.1339	20	52	3.40
1630345-SO	1630345A-SO	-	29	-	3.45	0.1358			3.45
1630350-SO	1630350A-SO	-	-	-	3.50	0.1378			3.50
1630357-SO	1630357A-SO	9/64	-	-	3.57	0.1406			3.57
1630360-SO	1630360A-SO	-	-	-	3.60	0.1417			3.60
1630366-SO	1630366A-SO	-	27	-	3.66	0.1441			3.66
1630370-SO	1630370A-SO	-	-	-	3.70	0.1457			3.70
1630373-SO	1630373A-SO	-	26	-	3.73	0.1469			3.73
1630379-SO	1630379A-SO	-	25	-	3.80	0.1496	22	55	3.80
1630380-SO	1630380A-SO	-	-	-	3.86	0.1520			3.86
1630386-SO	1630386A-SO	-	24	-	3.90	0.1535			3.90
1630390-SO	1630390A-SO	-	-	-	3.91	0.1539			3.91
1630397-SO	1630397A-SO	5/32	-	-	3.97	0.1563			3.97
1630399-SO	1630399A-SO	-	22	-	3.99	0.1571			3.99
1630400-SO	1630400A-SO	-	-	-	4.00	0.1575			4.00
1630404-SO	1630404A-SO	-	21	-	4.04	0.1591			4.04
1630409-SO	1630409A-SO	-	20	-	4.09	0.1610			4.09
1630410-SO	1630410A-SO	-	-	-	4.10	0.1614			4.10
1630420-SO	1630420A-SO	-	-	-	4.20	0.1654			4.20
1630422-SO	1630422A-SO	-	19	-	4.22	0.1661	24	58	4.22
1630425-SO	1630425A-SO	-	-	-	4.25	0.1673			4.25
1630430-SO	1630430A-SO	-	-	-	4.30	0.1693			4.30
1630431-SO	1630431A-SO	-	18	-	4.31	0.1697			4.31
1630437-SO	1630437A-SO	11/64	-	-	4.37	0.1720			4.37
1630439-SO	1630439A-SO	-	17	-	4.39	0.1728			4.39
1630440-SO	1630440A-SO	-	-	-	4.40	0.1732			4.40
-	1630445A-SO	-	-	-	4.45	0.1752			4.45
1630449-SO	1630449A-SO	-	16	-	4.50	0.1772			4.50

Packed: 1 pc.
EDP's listed above are stocked standard, other coatings available upon request.
Specify treatment at time of order.

continued on next page 

Work Material																		
List No.	P					M			K	N		S		H				
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels				
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V	~35	35-45	45-50	50-70	
	1010	1035	1065			4140				7075			(30 HRC)	HRC	HRC	HRC	HRC	
163-SO	☒	☒	☒	☒		☐	☐	☐	☐	☒		☐	☐	☒				

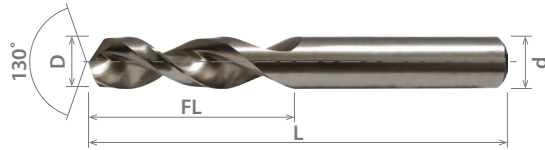
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List 163-SO (Continued)

UDL Stub Drills



NEW	SPEED FEED	HSS-Co5	TYPE FS	BR	TiAIN	STUB	40°
	P53						

Cutting Diameter Tolerance (h8)		
Size	mm	inch
1≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤14	+0 / -0.027	+0 / -0.0011

Bright EDP Number	TiAIN EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
		Fractional Size	Wire Gage	Letter Size	mm	Inch			
1630450-SO	1630450A-SO	-	-	-	4.50	0.1772	24	58	4.50
1630457-SO	1630457A-SO	-	15	-	4.57	0.1799			4.57
1630460-SO	1630460A-SO	-	-	-	4.60	0.1811			4.60
-	1630462A-SO	-	14	-	4.62	0.1819			4.62
1630469-SO	1630469A-SO	-	13	-	4.69	0.1846			4.69
1630475-SO	1630475A-SO	-	-	-	4.75	0.1870			4.75
1630476-SO	1630476A-SO	3/16	-	-	4.76	0.1874	26	62	4.76
1630479-SO	1630479A-SO	-	12	-	4.80	0.1890			4.80
1630480-SO	1630480A-SO	-	-	-	4.86	0.1913			4.86
1630485-SO	1630485A-SO	-	11	-	4.90	0.1929			4.90
1630490-SO	1630490A-SO	-	-	-	4.92	0.1937			4.92
1630492-SO	1630492A-SO	-	10	-	4.98	0.1961			4.98
1630498-SO	1630498A-SO	-	9	-	5.00	0.1969			5.00
1630500-SO	1630500A-SO	-	-	-	5.05	0.1988			5.05
1630506-SO	1630506A-SO	-	8	-	5.10	0.2008			5.10
1630510-SO	1630510A-SO	-	-	-	5.11	0.2012			5.11
1630511-SO	1630511A-SO	-	7	-	5.16	0.2031			5.16
1630516-SO	1630516A-SO	13/64	-	-	5.18	0.2039			5.18
1630518-SO	1630518A-SO	-	6	-	5.20	0.2047			5.20
1630520-SO	1630520A-SO	-	-	-	5.22	0.2055			5.22
1630522-SO	1630522A-SO	-	5	-	5.30	0.2087	28	66	5.30
1630530-SO	1630530A-SO	-	-	-	5.31	0.2091			5.31
1630532-SO	1630532A-SO	-	4	-	5.40	0.2126			5.40
1630540-SO	1630540A-SO	-	-	-	5.41	0.2130			5.41
1630541-SO	1630541A-SO	-	3	-	5.50	0.2165			5.50
1630550-SO	1630550A-SO	-	-	-	5.56	0.2189			5.56
1630556-SO	1630556A-SO	7/32	-	-	5.60	0.2205			5.60
1630560-SO	1630560A-SO	-	-	-	5.61	0.2209			5.61
1630561-SO	1630561A-SO	-	2	-	5.70	0.2244			5.70
1630570-SO	1630570A-SO	-	-	-	5.75	0.2264			5.75
1630575-SO	1630575A-SO	-	-	-	5.79	0.2280			5.79
1630579-SO	1630579A-SO	-	1	-	5.80	0.2283			5.80
1630580-SO	1630580A-SO	-	-	-	5.90	0.2323			5.90
1630590-SO	1630590A-SO	-	-	-	5.94	0.2339	31	70	5.94
1630594-SO	1630594A-SO	-	-	A	5.95	0.2343			5.95
1630595-SO	1630595A-SO	15/64	-	-	6.00	0.2362			6.00
1630600-SO	1630600A-SO	-	-	-	6.05	0.2382			6.05
1630605-SO	1630605A-SO	-	-	B	6.10	0.2402			6.10
1630610-SO	1630610A-SO	-	-	-	6.15	0.2421			6.15
1630615-SO	1630615A-SO	-	-	C	6.20	0.2441			6.20
1630620-SO	1630620A-SO	-	-	-	6.25	0.2461			6.25
1630625-SO	1630625A-SO	-	-	D	6.30	0.2480			6.30
1630630-SO	1630630A-SO	-	-	-	6.35	0.2500			6.35
1630634-SO	1630634A-SO	-	-	E	6.40	0.2520			6.40
1630635-SO	1630635A-SO	1/4	-	-	6.50	0.2559			6.50
1630640-SO	1630640A-SO	-	-	-	6.53	0.2571			6.53
1630650-SO	1630650A-SO	-	-	-	6.60	0.2598			6.60
1630653-SO	1630653A-SO	-	-	F	6.63	0.2610	34	74	6.63
1630660-SO	1630660A-SO	-	-	-	6.70	0.2638			6.70
1630663-SO	1630663A-SO	-	-	G	6.76	0.2661			6.76
1630670-SO	1630670A-SO	-	-	-	6.75	0.2657			6.75
1630676-SO	1630676A-SO	-	-	H	6.80	0.2677			6.80
1630677-SO	1630677A-SO	17/64	-	-	6.90	0.2717			6.90
1630680-SO	1630680A-SO	-	-	-	6.90	0.2717			6.90
1630690-SO	1630690A-SO	-	-	-	7.00	0.2756			7.00
1630691-SO	1630691A-SO	-	-	I	7.04	0.2772			7.04
1630700-SO	1630700A-SO	-	-	-					
1630704-SO	1630704A-SO	-	-	J					

Packed: 1 pc.
EDP's listed above are stocked standard, other coatings available upon request.
Specify treatment at time of order.



List 163-SO (Continued)

UDL Stub Drills

NEW	SPEED FEED PS3	HSS-Co5	TYPE FS	BR	TiAIN	STUB	40°
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Bright EDP Number	TiAIN EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1630710-SO	1630710A-SO	-	-	-	7.10	0.2795	34	74	7.10
1630713-SO	1630713A-SO	-	-	K	7.14	0.2811			7.14
1630714-SO	1630714A-SO	9/32	-	-	7.20	0.2835			7.20
1630720-SO	1630720A-SO	-	-	-	7.25	0.2854			7.25
-	1630725A-SO	-	-	-	7.30	0.2874			7.30
1630730-SO	1630730A-SO	-	-	-	7.37	0.2902			7.37
1630737-SO	1630737A-SO	-	-	L	7.40	0.2913			7.40
1630740-SO	1630740A-SO	-	-	-	7.49	0.2949			7.49
1630749-SO	1630749A-SO	-	-	M	7.50	0.2953			7.50
1630750-SO	1630750A-SO	-	-	-	7.54	0.2969	37	79	7.54
1630754-SO	1630754A-SO	19/64	-	-	7.60	0.2992			7.60
1630760-SO	1630760A-SO	-	-	-	7.67	0.3020			7.67
1630767-SO	1630767A-SO	-	-	N	7.70	0.3031			7.70
1630770-SO	1630770A-SO	-	-	-	7.80	0.3071			7.80
1630780-SO	1630780A-SO	-	-	-	7.90	0.3110			7.90
1630790-SO	1630790A-SO	-	-	-	7.94	0.3126			7.94
1630794-SO	1630794A-SO	5/16	-	-	8.00	0.3150			8.00
1630800-SO	1630800A-SO	-	-	-	8.03	0.3161			8.03
1630803-SO	1630803A-SO	-	-	O	8.10	0.3189			8.10
1630810-SO	1630810A-SO	-	-	-	8.20	0.3228	40	84	8.20
1630820-SO	1630820A-SO	-	-	-	8.30	0.3268			8.30
1630821-SO	1630821A-SO	-	-	P	8.33	0.3280			8.33
1630830-SO	1630830A-SO	-	-	-	8.40	0.3307			8.40
1630833-SO	1630833A-SO	21/64	-	-	8.43	0.3319			8.43
1630840-SO	1630840A-SO	-	-	-	8.50	0.3346			8.50
1630843-SO	1630843A-SO	-	-	Q	8.60	0.3386			8.60
1630850-SO	1630850A-SO	-	-	-	8.61	0.3390			8.61
1630860-SO	1630860A-SO	-	-	-	8.70	0.3425			8.70
1630861-SO	1630861A-SO	-	-	R	8.73	0.3437			8.73
1630870-SO	1630870A-SO	-	-	-	8.80	0.3465	43	89	8.80
1630873-SO	1630873A-SO	11/32	-	-	8.84	0.3480			8.84
1630880-SO	1630880A-SO	-	-	-	8.90	0.3504			8.90
1630884-SO	1630884A-SO	-	-	S	9.00	0.3543			9.00
1630890-SO	1630890A-SO	-	-	-	9.09	0.3579			9.09
1630900-SO	1630900A-SO	-	-	-	9.10	0.3583			9.10
1630909-SO	1630909A-SO	-	-	T	9.13	0.3594			9.13
1630910-SO	1630910A-SO	-	-	-	9.20	0.3622			9.20
1630913-SO	1630913A-SO	23/64	-	-	9.30	0.3661			9.30
1630920-SO	1630920A-SO	-	-	-	9.35	0.3681			9.35
1630930-SO	1630930A-SO	-	-	-	9.40	0.3701	43	89	9.40
1630935-SO	1630935A-SO	-	-	U	9.50	0.3740			9.50
1630940-SO	1630940A-SO	-	-	-	9.53	0.3752			9.53
1630950-SO	1630950A-SO	-	-	-	9.58	0.3772			9.58
1630953-SO	1630953A-SO	3/8	-	-	9.60	0.3780			9.60
1630958-SO	1630958A-SO	-	-	V	9.70	0.3819			9.70
1630960-SO	1630960A-SO	-	-	-	9.80	0.3858			9.80
1630970-SO	1630970A-SO	-	-	-	9.90	0.3898			9.90
1630980-SO	1630980A-SO	-	-	-	9.92	0.3906			9.92
1630981-SO	1630981A-SO	-	-	W	10.00	0.3937			10.00
1630990-SO	1630990A-SO	-	-	-	10.08	0.3969	43	89	10.08
1630992-SO	1630992A-SO	25/64	-	-	10.20	0.4016			10.20
1631000-SO	1631000A-SO	-	-	-					
1631008-SO	1631008A-SO	-	-	X					
1631020-SO	1631020A-SO	-	-	-					

Packed: 1 pc.
EDP's listed above are stocked standard, other coatings available upon request.
Specify treatment at time of order.

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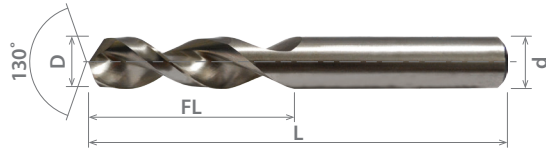
Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V	~35	35-45	45-50	50-70
	1010	1035	1065			4140	4340	7075				30 HRC	HRC	HRC	HRC		
163-S0	☒	☒	☒	☒		☐	☐	☐	☐	☒		☐	☐	☒			

☐ good ☒ best



List 163-SO (Continued)

UDL Stub Drills



NEW	SPEED FEED P53	HSS-Co5	TYPE FS	BR	TiAIN	STUB	40°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
1≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤14	+0 / -0.027	+0 / -0.0011

Bright EDP Number	TiAIN EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch			
1631026-SO	1631026A-SO	-	-	Y	10.26	0.4039	43	89	10.26
1631032-SO	1631032A-SO	13/32	-	-	10.32	0.4063			10.32
1631049-SO	1631049A-SO	-	-	Z	10.49	0.4130			10.49
1631050-SO	1631050A-SO	-	-	-	10.50	0.4134			10.50
1631072-SO	1631072A-SO	27/64	-	-	10.72	0.4220	47	95	10.72
1631080-SO	1631080A-SO	-	-	-	10.80	0.4252			10.80
1631100-SO	1631100A-SO	-	-	-	11.00	0.4331			11.00
1631111-SO	1631111A-SO	7/16	-	-	11.11	0.4374			11.11
1631120-SO	1631120A-SO	-	-	-	11.20	0.4409			11.20
1631150-SO	1631150A-SO	-	-	-	11.50	0.4528			11.50
1631151-SO	1631151A-SO	29/64	-	-	11.51	0.4531			11.51
-	1631191A-SO	15/32	-	-	11.91	0.4689			11.91
1631200-SO	1631200A-SO	-	-	-	12.00	0.4724	51	102	12.00
1631229-SO	1631229A-SO	31/64	-	-	12.30	0.4843			12.30
1631250-SO	1631250A-SO	-	-	-	12.50	0.4921			12.50
1631269-SO	1631269A-SO	1/2	-	-	12.70	0.5000			12.70
1631300-SO	1631300A-SO	-	-	-	13.00	0.5118			13.00
1631310-SO	1631310A-SO	33/64	-	-	13.10	0.5157			13.10
1631349-SO	-	17/32	-	-	13.49	0.5311	54	107	13.49
1631389-SO	1631389A-SO	35/64	-	-	13.89	0.5469			13.89
1631400-SO	-	-	-	-	14.00	0.5512			14.00

Packed: 1 pc.

EDP's listed above are stocked standard, other coatings available upon request.

Specify treatment at time of order.



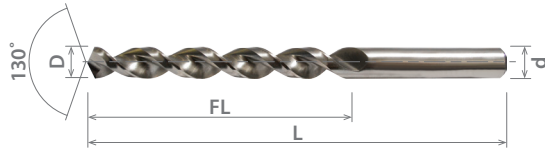
Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V	~35	35-45	45-50	50-70
	1010	1035	1065			4140	4340	7075					(30 HRC)	HRC	HRC	HRC	HRC
163-SO	☐	☐	☐	☐		☐	☐	☐	☐	☐		☐	☐	☐			

☐ good ☒ best



List 164-SO

UDL Jobber Drills



NEW	SPEED FEED PS3	HSS-Co5	TYPE FS	BR	TiAIN	JOBBERS	40°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
1≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤16	+0 / -0.027	+0 / -0.0011

Bright EDP Number	TiAIN EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch			
1640100-SO	1640100A-SO	-	-	-	1.00	0.0394	12	34	1.00
1640102-SO	1640102A-SO	-	60	-	1.02	0.0402			1.02
1640104-SO	1640104A-SO	-	59	-	1.04	0.0409			1.04
1640107-SO	1640107A-SO	-	58	-	1.07	0.0421	14	36	1.07
1640109-SO	1640109A-SO	-	57	-	1.09	0.0429			1.09
1640110-SO	1640110A-SO	-	-	-	1.10	0.0433			1.10
1640115-SO	1640115A-SO	-	-	-	1.15	0.0453	16	38	1.15
1640118-SO	1640118A-SO	-	56	-	1.18	0.0465			1.18
1640119-SO	1640119A-SO	3/64	-	-	1.19	0.0469			1.19
1640120-SO	1640120A-SO	-	-	-	1.20	0.0472	18	40	1.20
-	1640125A-SO	-	-	-	1.25	0.0492			1.25
1640130-SO	1640130A-SO	-	-	-	1.30	0.0512			1.30
1640132-SO	1640132A-SO	-	55	-	1.32	0.0520	20	43	1.32
1640139-SO	1640139A-SO	-	54	-	1.40	0.0551			1.40
1640140-SO	1640140A-SO	-	-	-	1.45	0.0571			1.45
1640145-SO	1640145A-SO	-	-	-	1.50	0.0591	22	46	1.50
1640150-SO	1640150A-SO	-	-	-	1.51	0.0594			1.51
1640152-SO	1640152A-SO	-	53	-	1.55	0.0610			1.55
1640155-SO	1640155A-SO	-	-	-	1.59	0.0626	24	49	1.59
1640159-SO	1640159A-SO	1/16	-	-	1.60	0.0630			1.60
1640160-SO	1640160A-SO	-	-	-	1.61	0.0634			1.61
1640161-SO	1640161A-SO	-	52	-	1.62	0.0638	27	53	1.62
1640162-SO	-	-	-	-	1.65	0.0650			1.65
1640165-SO	1640165A-SO	-	-	-	1.67	0.0657			1.67
1640167-SO	-	-	-	-	1.70	0.0669	30	57	1.70
1640169-SO	1640169A-SO	-	51	-	1.75	0.0689			1.75
1640170-SO	1640170A-SO	-	-	-	1.78	0.0701			1.78
-	1640175A-SO	-	-	-	1.80	0.0709	32	59	1.80
1640178-SO	1640178A-SO	-	50	-	1.85	0.0728			1.85
1640180-SO	1640180A-SO	-	-	-	1.90	0.0748			1.90
1640185-SO	1640185A-SO	-	49	-	1.93	0.0760	34	61	1.93
1640190-SO	1640190A-SO	-	-	-	1.98	0.0780			1.98
1640193-SO	1640193A-SO	-	48	-	1.99	0.0783			1.99
1640198-SO	1640198A-SO	5/64	-	-	2.00	0.0787	36	63	2.00
1640199-SO	1640199A-SO	-	47	-	2.05	0.0807			2.05
1640200-SO	1640200A-SO	-	-	-	2.06	0.0811			2.06
1640205-SO	-	-	-	-	2.08	0.0819	38	65	2.08
1640206-SO	1640206A-SO	-	46	-	2.10	0.0827			2.10
1640208-SO	1640208A-SO	-	45	-	2.15	0.0846			2.15
1640210-SO	1640210A-SO	-	-	-	2.18	0.0858	40	67	2.18
1640215-SO	1640215A-SO	-	-	-	2.20	0.0866			2.20
1640218-SO	1640218A-SO	-	44	-	2.26	0.0890			2.26
1640220-SO	1640220A-SO	-	-	-	2.30	0.0906	42	69	2.30
1640226-SO	1640226A-SO	-	43	-	2.35	0.0925			2.35
1640230-SO	1640230A-SO	-	-	-	2.37	0.0933			2.37
1640235-SO	1640235A-SO	-	-	-	2.38	0.0937	44	71	2.38
1640237-SO	1640237A-SO	-	42	-					
1640238-SO	1640238A-SO	3/32	-	-					

Packed: 1 pc.

EDP's listed above are stocked standard, other coatings available upon request.

Specify treatment at time of order.

continued on next page



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V	~35	35-45	45-50	50-70
	1010 1018	1035 1045	1065			4140 4340					7075			(30 HRC)	HRC	HRC	HRC
164-S0	☐	☐	☐	☐		☐	☐	☐	☐	☐		☐	☐	☐			

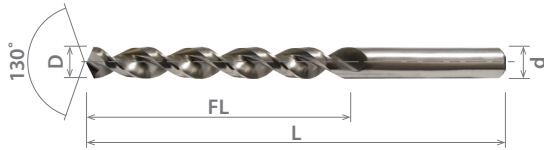
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List 164-SO (Continued)

UDL Jobber Drills



NEW	SPEED FEED	HSS-Co5	TYPE FS	BR	TiAIN	JOBBERS	40°
	PS3						

Cutting Diameter Tolerance (h8)		
Size	mm	inch
1≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤16	+0 / -0.027	+0 / -0.0011

Bright EDP Number	TiAIN EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch			
1640240-SO	1640240A-SO	-	-	-	2.40	0.0945	30	57	2.40
1640244-SO	1640244A-SO	-	41	-	2.44	0.0961			2.44
1640245-SO	1640245A-SO	-	-	-	2.45	0.0965			2.45
1640249-SO	1640249A-SO	-	40	-	2.49	0.0980			2.49
1640250-SO	1640250A-SO	-	-	-	2.50	0.0984			2.50
1640253-SO	1640253A-SO	-	39	-	2.53	0.0996			2.53
1640258-SO	1640258A-SO	-	38	-	2.58	0.1016			2.58
1640260-SO	1640260A-SO	-	-	-	2.60	0.1024			2.60
1640264-SO	1640264A-SO	-	37	-	2.64	0.1039			2.64
1640270-SO	1640270A-SO	-	-	-	2.70	0.1063			2.70
1640271-SO	1640271A-SO	-	36	-	2.71	0.1067	33	61	2.71
-	1640275A-SO	-	-	-	2.75	0.1083			2.75
1640278-SO	1640278A-SO	7/64	-	-	2.78	0.1094			2.78
1640279-SO	1640279A-SO	-	35	-	2.79	0.1098			2.79
1640280-SO	1640280A-SO	-	-	-	2.80	0.1102			2.80
1640282-SO	1640282A-SO	-	34	-	2.82	0.1110			2.82
1640287-SO	1640287A-SO	-	33	-	2.87	0.1130			2.87
1640290-SO	1640290A-SO	-	-	-	2.90	0.1142			2.90
1640295-SO	1640295A-SO	-	32	-	2.95	0.1161			2.95
1640300-SO	1640300A-SO	-	-	-	3.00	0.1181			3.00
1640305-SO	1640305A-SO	-	31	-	3.05	0.1201	36	65	3.05
1640310-SO	1640310A-SO	-	-	-	3.10	0.1220			3.10
1640315-SO	1640315A-SO	-	-	-	3.15	0.1240			3.15
1640318-SO	1640318A-SO	1/8	-	-	3.18	0.1252			3.18
1640320-SO	1640320A-SO	-	-	-	3.20	0.1260			3.20
1640326-SO	1640326A-SO	-	30	-	3.26	0.1283			3.26
1640330-SO	1640330A-SO	-	-	-	3.30	0.1299			3.30
1640335-SO	1640335A-SO	-	-	-	3.35	0.1319			3.35
1640340-SO	1640340A-SO	-	-	-	3.40	0.1339			3.40
1640345-SO	1640345A-SO	-	29	-	3.45	0.1358			3.45
1640350-SO	1640350A-SO	-	-	-	3.50	0.1378	39	70	3.50
1640357-SO	1640357A-SO	9/64	-	-	3.57	0.1406			3.57
1640360-SO	-	-	-	-	3.60	0.1417			3.60
1640366-SO	1640366A-SO	-	27	-	3.66	0.1441			3.66
1640370-SO	1640370A-SO	-	-	-	3.70	0.1457			3.70
1640373-SO	1640373A-SO	-	26	-	3.73	0.1469			3.73
1640379-SO	1640379A-SO	-	25	-	3.80	0.1496	43	75	3.80
1640380-SO	1640380A-SO	-	-	-	3.86	0.1520			3.86
1640386-SO	1640386A-SO	-	24	-	3.90	0.1535			3.90
1640390-SO	1640390A-SO	-	-	-	3.91	0.1539			3.91
1640397-SO	1640397A-SO	5/32	-	-	3.97	0.1563			3.97
1640399-SO	1640399A-SO	-	22	-	3.99	0.1571			3.99
1640400-SO	1640400A-SO	-	-	-	4.00	0.1575			4.00
1640404-SO	1640404A-SO	-	21	-	4.04	0.1591			4.04
1640409-SO	1640409A-SO	-	20	-	4.09	0.1610			4.09
1640410-SO	1640410A-SO	-	-	-	4.10	0.1614			4.10
1640420-SO	1640420A-SO	-	-	-	4.20	0.1654	47	80	4.20
1640422-SO	1640422A-SO	-	19	-	4.22	0.1661			4.22
1640430-SO	1640430A-SO	-	-	-	4.30	0.1693			4.30
1640431-SO	1640431A-SO	-	18	-	4.31	0.1697			4.31
1640437-SO	1640437A-SO	11/64	-	-	4.37	0.1720			4.37
1640439-SO	1640439A-SO	-	17	-	4.39	0.1728			4.39
1640440-SO	1640440A-SO	-	-	-	4.40	0.1732			4.40
1640445-SO	-	-	-	-	4.45	0.1752			4.45
1640449-SO	1640449A-SO	-	16	-	4.50	0.1772			4.50
1640450-SO	1640450A-SO	-	-	-	4.50	0.1772			4.50
1640457-SO	1640457A-SO	-	15	-	4.57	0.1799			4.57

Packed: 1 pc.
EDP's listed above are stocked standard, other coatings available upon request.
Specify treatment at time of order.



List 164-SO (Continued)

UDL Jobber Drills

NEW	SPEED FEED PS3	HSS-Co5	TYPE FS	BR	TiAIN	JOBBERS	40°
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Bright EDP Number	TiAIN EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
-	1640460A-SO	-	-	-	4.60	0.1811	47	80	4.60
1640462-SO	1640462A-SO	-	14	-	4.62	0.1819			4.62
1640469-SO	1640469A-SO	-	13	-	4.69	0.1846			4.69
1640476-SO	1640476A-SO	3/16	-	-	4.76	0.1874			4.76
1640479-SO	1640479A-SO	-	12	-	4.80	0.1890	52	86	4.80
1640480-SO	1640480A-SO	-	-	-	4.86	0.1913			4.86
1640485-SO	1640485A-SO	-	11	-	4.90	0.1929			4.90
1640490-SO	1640490A-SO	-	-	-	4.92	0.1937			4.92
1640492-SO	1640492A-SO	-	10	-	4.98	0.1961			4.98
1640498-SO	1640498A-SO	-	9	-	5.00	0.1969			5.00
1640500-SO	1640500A-SO	-	-	-	5.05	0.1988			5.05
1640506-SO	1640506A-SO	-	8	-	5.10	0.2008			5.10
1640510-SO	1640510A-SO	-	-	-	5.11	0.2012			5.11
1640511-SO	1640511A-SO	-	7	-	5.16	0.2031			5.16
1640516-SO	1640516A-SO	13/64	-	-	5.18	0.2039			5.18
1640518-SO	1640518A-SO	-	6	-	5.20	0.2047			5.20
1640520-SO	1640520A-SO	-	-	-	5.22	0.2055			5.22
1640522-SO	1640522A-SO	-	5	-	5.30	0.2087			5.30
1640530-SO	1640530A-SO	-	-	-	5.31	0.2091			5.31
1640532-SO	1640532A-SO	-	4	-	5.40	0.2126	57	93	5.40
1640540-SO	1640540A-SO	-	-	-	5.41	0.2130			5.41
1640541-SO	1640541A-SO	-	3	-	5.50	0.2165			5.50
1640550-SO	1640550A-SO	-	-	-	5.56	0.2189			5.56
1640556-SO	1640556A-SO	7/32	-	-	5.60	0.2205			5.60
1640560-SO	1640560A-SO	-	-	-	5.61	0.2209			5.61
1640561-SO	1640561A-SO	-	2	-	5.70	0.2244			5.70
1640570-SO	1640570A-SO	-	-	-	5.75	0.2264			5.75
1640575-SO	1640575A-SO	-	-	-	5.79	0.2280			5.79
1640579-SO	1640579A-SO	-	1	-	5.80	0.2283			5.80
1640580-SO	1640580A-SO	-	-	-	5.90	0.2323			5.90
1640590-SO	1640590A-SO	-	-	-	5.94	0.2339			5.94
1640594-SO	1640594A-SO	-	-	A	5.95	0.2343			5.95
1640595-SO	1640595A-SO	15/64	-	-	6.00	0.2362			6.00
1640600-SO	1640600A-SO	-	-	-	6.05	0.2382	63	101	6.05
1640605-SO	1640605A-SO	-	-	B	6.10	0.2402			6.10
1640610-SO	1640610A-SO	-	-	-	6.15	0.2421			6.15
1640615-SO	1640615A-SO	-	-	C	6.20	0.2441			6.20
1640620-SO	1640620A-SO	-	-	-	6.25	0.2461			6.25
1640625-SO	1640625A-SO	-	-	D	6.30	0.2480			6.30
1640630-SO	1640630A-SO	-	-	-	6.35	0.2500			6.35
1640634-SO	1640634A-SO	-	-	E	6.40	0.2520			6.40
1640635-SO	1640635A-SO	1/4	-	-	6.50	0.2559			6.50
1640640-SO	1640640A-SO	-	-	-	6.53	0.2571			6.53
1640650-SO	1640650A-SO	-	-	-	6.60	0.2598			6.60
1640653-SO	1640653A-SO	-	-	F	6.63	0.2610			6.63
1640660-SO	1640660A-SO	-	-	-	6.70	0.2638			6.70
1640663-SO	1640663A-SO	-	-	G	6.76	0.2661	69	109	6.76
1640670-SO	1640670A-SO	-	-	-	6.75	0.2657			6.75
1640676-SO	1640676A-SO	-	-	H	6.80	0.2677			6.80
1640677-SO	1640677A-SO	17/64	-	-	6.90	0.2717			6.90
1640680-SO	1640680A-SO	-	-	-	7.00	0.2756			7.00
1640690-SO	1640690A-SO	-	-	-	7.04	0.2772			7.04
1640691-SO	1640691A-SO	-	-	I					
1640700-SO	1640700A-SO	-	-	-					
1640704-SO	1640704A-SO	-	-	J					

Packed: 1 pc.
EDP's listed above are stocked standard, other coatings available upon request.
Specify treatment at time of order.

continued on next page 

Work Material																			
List No.	P				Die Steels	M			K	N		S		H					
	Carbon Steels			Alloy Steels		Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels					
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065			4140 4340													
164-50	☒	☒	☒	☒		☐	☐	☐	☐	☒		☐	☐	☒					

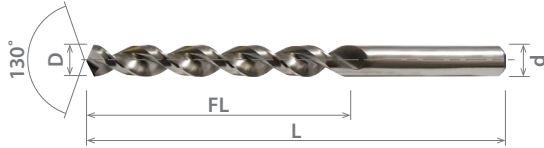
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List 164-SO (Continued)

UDL Jobber Drills



NEW	SPEED FEED PS3	HSS-Co5	TYPE FS	BR	TiAIN	JOBBERS	40°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
1≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤16	+0 / -0.027	+0 / -0.0011

Bright EDP Number	TiAIN EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
		Fractional Size	Wire Gage	Letter Size	mm	Inch			
1640710-SO	1640710A-SO	-	-	-	7.10	0.2795	69	109	7.10
1640713-SO	1640713A-SO	-	-	K	7.14	0.2811			7.14
1640714-SO	1640714A-SO	9/32	-	-	7.20	0.2835			7.20
1640720-SO	1640720A-SO	-	-	-	7.25	0.2854			7.25
1640725-SO	1640725A-SO	-	-	-	7.30	0.2874			7.30
1640730-SO	1640730A-SO	-	-	-	7.37	0.2902			7.37
1640737-SO	1640737A-SO	-	-	L	7.40	0.2913			7.40
1640740-SO	1640740A-SO	-	-	-	7.49	0.2949			7.49
1640749-SO	1640749A-SO	-	-	M	7.50	0.2953			7.50
1640750-SO	1640750A-SO	-	-	-	7.54	0.2969			7.54
1640754-SO	1640754A-SO	19/64	-	-	7.60	0.2992	75	117	7.60
1640760-SO	1640760A-SO	-	-	-	7.67	0.3020			7.67
1640767-SO	1640767A-SO	-	-	N	7.70	0.3031			7.70
1640770-SO	1640770A-SO	-	-	-	7.80	0.3071			7.80
1640780-SO	1640780A-SO	-	-	-	7.90	0.3110			7.90
1640790-SO	1640790A-SO	-	-	-	7.94	0.3126			7.94
1640794-SO	1640794A-SO	5/16	-	-	8.00	0.3150			8.00
1640800-SO	1640800A-SO	-	-	-	8.03	0.3161			8.03
1640803-SO	1640803A-SO	-	-	O	8.10	0.3189			8.10
1640810-SO	1640810A-SO	-	-	-	8.21	0.3232			8.21
1640821-SO	1640821A-SO	-	-	P	8.33	0.3280	81	125	8.33
1640833-SO	-	21/64	-	-	8.43	0.3319			8.43
1640843-SO	1640843A-SO	-	-	Q	8.50	0.3346			8.50
1640850-SO	1640850A-SO	-	-	-	8.61	0.3390			8.61
-	1640861A-SO	-	-	R	8.70	0.3425			8.70
1640870-SO	-	-	-	-	8.73	0.3437			8.73
1640873-SO	1640873A-SO	11/32	-	-	8.80	0.3465			8.80
1640880-SO	-	-	-	-	8.84	0.3480			8.84
1640884-SO	1640884A-SO	-	-	S	9.00	0.3543			9.00
1640900-SO	1640900A-SO	-	-	-	9.13	0.3594			9.13
1640913-SO	1640913A-SO	23/64	-	-	9.20	0.3622	87	133	9.20
1640920-SO	1640920A-SO	-	-	-	9.30	0.3661			9.30
-	1640930A-SO	-	-	-	9.35	0.3681			9.35
1640935-SO	1640935A-SO	-	-	U	9.50	0.3740			9.50
1640950-SO	1640950A-SO	-	-	-	9.53	0.3752			9.53
1640953-SO	1640953A-SO	3/8	-	-	9.58	0.3772			9.58
1640958-SO	1640958A-SO	-	-	V	9.60	0.3780			9.60
1640960-SO	1640960A-SO	-	-	-	9.70	0.3819			9.70
1640970-SO	1640970A-SO	-	-	-	9.81	0.3862			9.81
1640981-SO	1640981A-SO	-	-	W	9.92	0.3906			9.92
1640992-SO	1640992A-SO	25/64	-	-	10.00	0.3937	94	142	10.00
1641000-SO	1641000A-SO	-	-	-	10.26	0.4039			10.26
-	1641026A-SO	-	-	Y	10.32	0.4063			10.32
1641032-SO	1641032A-SO	13/32	-	-	10.49	0.4130			10.49
-	1641049A-SO	-	-	Z	10.50	0.4134			10.50
1641050-SO	1641050A-SO	-	-	-	10.72	0.4220			10.72
1641072-SO	1641072A-SO	27/64	-	-	11.00	0.4331			11.00
1641100-SO	1641100A-SO	-	-	-	11.11	0.4374			11.11
1641111-SO	1641111A-SO	7/16	-	-	11.50	0.4528			11.50
1641150-SO	1641150A-SO	-	-	-	11.51	0.4531	101	151	11.51
1641151-SO	-	29/64	-	-	11.91	0.4689			11.91
1641191-SO	-	15/32	-	-	12.00	0.4724			12.00
1641200-SO	1641200A-SO	-	-	-	12.29	0.4839			12.29
1641229-SO	1641229A-SO	31/64	-	-	12.50	0.4921			12.50
1641250-SO	1641250A-SO	-	-	-	12.70	0.5000			12.70
1641269-SO	1641269A-SO	1/2	-	-	13.00	0.5118			13.00
1641300-SO	1641300A-SO	-	-	-	13.10	0.5157			13.10
1641310-SO	-	33/64	-	-					

Packed: 1 pc.
EDP's listed above are stocked standard, other coatings available upon request.
Specify treatment at time of order.



List 164-SO (Continued)

UDL Jobber Drills

NEW	SPEED FEED P53	HSS-Co5	TYPE FS	BR	TiAIN	JOBBERS	40°
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Bright EDP Number	TiAIN EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
		Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1641349-SO	1641349A-SO	17/32	-	-	13.49	0.5311	108	160	13.49
1641389-SO	-	35/64	-	-	13.89	0.5469			13.89
-	1641400A-SO	-	-	-	14.00	0.5512			14.00
1641429-SO	1641429A-SO	9/16	-	-	14.29	0.5626	114	169	14.29
1641450-SO	-	-	-	-	14.50	0.5709			14.50
1641468-SO	-	37/64	-	-	14.68	0.5780			14.68
-	1641508A-SO	19/32	-	-	15.08	0.5937	120	178	15.08
1641548-SO	-	39/64	-	-	15.48	0.6094			15.48
1641588-SO	-	5/8	-	-	15.88	0.6252			15.88

Packed: 1 pc.
EDP's listed above are stocked standard, other coatings available upon request.
Specify treatment at time of order.



List 164-SO (SET)

SET, UDL Jobber Drills

NEW	SPEED FEED P53	HSS-Co5	TYPE FS	BR	JOBBERS	40°
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Drill Set EDP	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1640025-SO	-	-	-	1.00	0.0394	12	34	1.0
	-	-	-	1.50	0.0591	18	40	1.5
	-	-	-	2.00	0.0787	24	49	2.0
	-	-	-	2.50	0.0984	30	57	2.5
	-	-	-	3.00	0.1181	33	61	3.0
	-	-	-	3.50	0.1378	39	70	3.5
	-	-	-	4.00	0.1575	43	75	4.0
	-	16	-	4.50	0.1772	47	80	4.5
	-	-	-	5.00	0.1969	52	86	5.0
	-	-	-	5.50	0.2165	57	93	5.5
	-	-	-	6.00	0.2362			6.0
	-	-	-	6.50	0.2559	63	101	6.5
	-	-	-	7.00	0.2756	69	109	7.0
	-	-	-	7.50	0.2953			7.5
	-	-	-	8.00	0.3150	75	117	8.0
	-	-	-	8.50	0.3346			8.5
	-	-	-	9.00	0.3543	81	125	9.0
	-	-	-	9.50	0.3740			9.5
	-	-	-	10.00	0.3937	87	133	10.0
	-	-	-	10.50	0.4134			10.5
	-	-	-	11.00	0.4331	94	142	11.0
	-	-	-	11.50	0.4528			11.5
	-	-	-	12.00	0.4724	101	151	12.0
	-	-	-	12.50	0.4921			12.5
	-	-	-	13.00	0.5118			13.0

Packed: 25 pcs. as 1 set.
Available Bright finish only



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting			35-45 HRC	45-50 HRC	50-70 HRC	
	1010 1018	1035 1045	1065			4140 4340	300	400		17-4 PH	6061 7075				Inconel	6Al4V (30 HRC)	~35 HRC
164-S0	☐	☐	☐	☐		☐	☐	☐	☐	☐		☐	☐	☐			

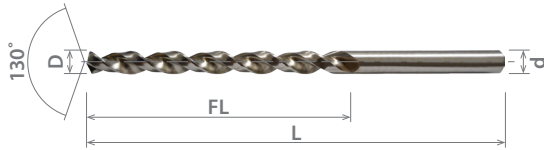
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List 110-SO

UDL Long Series Drills



NEW	SPEED FEED P53	HSS-Co5	TYPE FS	BR	LONG	40°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
1≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤13	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
1100100-SO	-	-	-	1.00	0.0394	33	56	1.00
1100102-SO	-	60	-	1.02	0.0402			1.02
1100104-SO	-	59	-	1.04	0.0409			1.04
1100107-SO	-	58	-	1.07	0.0421	37	60	1.07
1100109-SO	-	57	-	1.09	0.0429			1.09
1100110-SO	-	-	-	1.10	0.0433			1.10
1100118-SO	-	56	-	1.18	0.0465	41	65	1.18
1100120-SO	-	-	-	1.20	0.0472			1.20
1100130-SO	-	-	-	1.30	0.0512			1.30
1100132-SO	-	55	-	1.32	0.0520	45	70	1.32
1100139-SO	-	54	-	1.39	0.0547			1.39
1100140-SO	-	-	-	1.40	0.0551			1.40
1100150-SO	-	-	-	1.50	0.0591	50	76	1.50
1100152-SO	-	53	-	1.52	0.0598			1.52
1100159-SO	1/16	-	-	1.59	0.0626			1.59
1100160-SO	-	-	-	1.60	0.0630	53	80	1.60
1100161-SO	-	52	-	1.61	0.0634			1.61
1100169-SO	-	51	-	1.70	0.0669			1.70
1100170-SO	-	-	-	1.78	0.0701	56	85	1.78
1100178-SO	-	50	-	1.80	0.0709			1.80
1100180-SO	-	-	-	1.85	0.0728			1.85
1100185-SO	-	49	-	1.90	0.0748	59	90	1.90
1100190-SO	-	-	-	1.93	0.0760			1.93
1100193-SO	-	48	-	1.98	0.0780			1.98
1100198-SO	5/64	-	-	1.99	0.0783	62	95	1.99
1100199-SO	-	47	-	2.00	0.0787			2.00
1100200-SO	-	-	-	2.06	0.0811			2.06
1100206-SO	-	46	-	2.08	0.0819	66	100	2.08
1100208-SO	-	45	-	2.10	0.0827			2.10
1100210-SO	-	-	-	2.18	0.0858			2.18
1100218-SO	-	44	-	2.20	0.0866	69	106	2.20
1100220-SO	-	-	-	2.26	0.0890			2.26
1100226-SO	-	43	-	2.30	0.0906			2.30
1100230-SO	-	-	-	2.37	0.0933	66	100	2.37
1100237-SO	-	42	-	2.38	0.0937			2.38
1100238-SO	3/32	-	-	2.40	0.0945			2.40
1100240-SO	-	-	-	2.44	0.0961	69	106	2.44
1100244-SO	-	41	-	2.49	0.0980			2.49
1100249-SO	-	40	-	2.50	0.0984			2.50
1100250-SO	-	-	-	2.53	0.0996	66	100	2.53
1100253-SO	-	39	-	2.58	0.1016			2.58
1100258-SO	-	38	-	2.60	0.1024			2.60
1100260-SO	-	-	-	2.64	0.1039	69	106	2.64
1100264-SO	-	37	-	2.70	0.1063			2.70
1100270-SO	-	-	-	2.71	0.1067			2.71
1100271-SO	-	36	-	2.78	0.1094	66	100	2.78
1100278-SO	7/64	-	-	2.79	0.1098			2.79
1100279-SO	-	35	-	2.80	0.1102			2.80
1100280-SO	-	-	-	2.82	0.1110	69	106	2.82
1100282-SO	-	34	-	2.87	0.1130			2.87
1100287-SO	-	33	-	2.90	0.1142			2.90
1100290-SO	-	-	-	2.95	0.1161	66	100	2.95
1100295-SO	-	-	-	3.00	0.1181			3.00
1100300-SO	-	-	-	3.05	0.1201			3.05
1100305-SO	-	31	-	3.10	0.1220	69	106	3.10
1100310-SO	-	-	-	3.18	0.1252			3.18
1100318-SO	1/8	-	-	3.20	0.1260			3.20
1100320-SO	-	-	-					

Packed: 1 pc.
EDP's listed above are stocked standard, other coatings available upon request.
Specify treatment at time of order.



List 110-SO (Continued)

UDL Long Series Drills

NEW	SPEED FEED P53	HSS-Co5	TYPE FS	BR	LONG	40°
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EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1100326-SO	-	30	-	3.26	0.1283	69	106	3.26
1100330-SO	-	-	-	3.30	0.1299			3.30
1100340-SO	-	-	-	3.40	0.1339			3.40
1100345-SO	-	29	-	3.45	0.1358			3.45
1100350-SO	-	-	-	3.50	0.1378			3.50
1100356-SO	-	28	-	3.56	0.1402			3.56
1100357-SO	9/64	-	-	3.57	0.1406	73	112	3.57
1100360-SO	-	-	-	3.60	0.1417			3.60
1100366-SO	-	27	-	3.66	0.1441			3.66
1100370-SO	-	-	-	3.70	0.1457			3.70
1100373-SO	-	26	-	3.73	0.1469			3.73
1100379-SO	-	25	-	3.79	0.1492			3.79
1100380-SO	-	-	-	3.80	0.1496			3.80
1100386-SO	-	24	-	3.86	0.1520			3.86
1100390-SO	-	-	-	3.90	0.1535			3.90
1100391-SO	-	23	-	3.91	0.1539			3.91
1100397-SO	5/32	-	-	3.97	0.1563			3.97
1100399-SO	-	22	-	3.99	0.1571	78	119	3.99
1100400-SO	-	-	-	4.00	0.1575			4.00
1100404-SO	-	21	-	4.04	0.1591			4.04
1100409-SO	-	20	-	4.09	0.1610			4.09
1100410-SO	-	-	-	4.10	0.1614			4.10
1100420-SO	-	-	-	4.20	0.1654			4.20
1100422-SO	-	19	-	4.22	0.1661			4.22
1100430-SO	-	-	-	4.30	0.1693			4.30
1100431-SO	-	18	-	4.31	0.1697			4.31
1100437-SO	11/64	-	-	4.37	0.1720			4.37
1100439-SO	-	17	-	4.39	0.1728			4.39
1100440-SO	-	-	-	4.40	0.1732			4.40
1100449-SO	-	16	-	4.49	0.1768			4.49
1100450-SO	-	-	-	4.50	0.1772	82	126	4.50
1100457-SO	-	15	-	4.57	0.1799			4.57
1100460-SO	-	-	-	4.60	0.1811			4.60
1100462-SO	-	14	-	4.62	0.1819			4.62
1100469-SO	-	13	-	4.69	0.1846			4.69
1100470-SO	-	-	-	4.70	0.1850			4.70
1100476-SO	3/16	-	-	4.76	0.1874			4.76
1100480-SO	-	-	-	4.80	0.1890			4.80
1100479-SO	-	12	-	4.79	0.1886			4.79
1100485-SO	-	11	-	4.85	0.1909			4.85
1100490-SO	-	-	-	4.90	0.1929			4.90
1100492-SO	-	10	-	4.92	0.1937			4.92
1100498-SO	-	9	-	4.98	0.1961			4.98
1100500-SO	-	-	-	5.00	0.1969	87	132	5.00
1100506-SO	-	8	-	5.06	0.1992			5.06
1100510-SO	-	-	-	5.10	0.2008			5.10
1100511-SO	-	7	-	5.11	0.2012			5.11
1100516-SO	13/64	-	-	5.16	0.2031			5.16
1100518-SO	-	6	-	5.18	0.2039			5.18
1100520-SO	-	-	-	5.20	0.2047			5.20
1100522-SO	-	5	-	5.22	0.2055			5.22
1100530-SO	-	-	-	5.30	0.2087			5.30
1100532-SO	-	4	-	5.32	0.2094			5.32
1100540-SO	-	-	-	5.40	0.2126	91	139	5.40
1100541-SO	-	3	-	5.41	0.2130			5.41

Packed: 1 pc.
EDP's listed above are stocked standard, other coatings available upon request.
Specify treatment at time of order.

continued on next page 

Work Material																	
List No.	P				Die Steels	M			K Cast Iron	N		S		H			
	Carbon Steels			Alloy Steels 4140 4340		Stainless Steels 300 400 17-4 PH				Aluminum 6061 7075 Casting		Nickel Alloy Inconel	Titanium 6Al4V (30 HRC)	Hardened Steels ~35 HRC 35-45 HRC 45-50 HRC 50-70 HRC			
	Low	Med.	High														
	1010 1018	1035 1045	1065														
110-S0	☒	☒	☒	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☐		

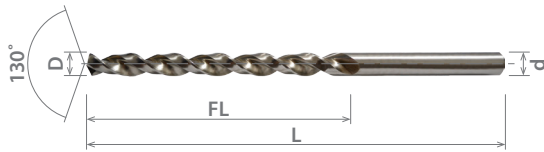
☐ good ☒ best





List 110-SO (Continued)

UDL Long Series Drills



NEW	SPEED FEED P53	HSS-Co5	TYPE FS	BR	LONG	40°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
1≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤13	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1100550-SO	-	-	-	5.50	0.2165	91	139	5.50
1100556-SO	7/32	-	-	5.56	0.2189			5.56
1100560-SO	-	-	-	5.60	0.2205			5.60
1100561-SO	-	2	-	5.61	0.2209			5.61
1100570-SO	-	-	-	5.70	0.2244			5.70
1100579-SO	-	1	-	5.79	0.2280			5.79
1100580-SO	-	-	-	5.80	0.2283			5.80
1100590-SO	-	-	-	5.90	0.2323			5.90
1100595-SO	15/64	-	-	5.95	0.2343			5.95
1100600-SO	-	-	-	6.00	0.2362			6.00
1100610-SO	-	-	-	6.10	0.2402	97	148	6.10
1100620-SO	-	-	-	6.20	0.2441			6.20
1100630-SO	-	-	-	6.30	0.2480			6.30
1100635-SO	1/4	-	E	6.35	0.2500			6.35
1100640-SO	-	-	-	6.40	0.2520			6.40
1100650-SO	-	-	-	6.50	0.2559			6.50
1100660-SO	-	-	-	6.60	0.2598			6.60
1100670-SO	-	-	-	6.70	0.2638			6.70
1100677-SO	17/64	-	-	6.75	0.2665			6.75
1100680-SO	-	-	-	6.80	0.2677	102	156	6.80
1100690-SO	-	-	-	6.90	0.2717			6.90
1100700-SO	-	-	-	7.00	0.2756			7.00
1100710-SO	-	-	-	7.10	0.2795			7.10
1100714-SO	9/32	-	-	7.14	0.2811			7.14
1100720-SO	-	-	-	7.20	0.2835			7.20
1100730-SO	-	-	-	7.30	0.2874			7.30
1100740-SO	-	-	-	7.40	0.2913			7.40
1100750-SO	-	-	-	7.50	0.2953			7.50
1100754-SO	19/64	-	-	7.54	0.2969	109	165	7.54
1100760-SO	-	-	-	7.60	0.2992			7.60
1100770-SO	-	-	-	7.70	0.3031			7.70
1100780-SO	-	-	-	7.80	0.3071			7.80
1100790-SO	-	-	-	7.90	0.3110			7.90
1100794-SO	5/16	-	-	7.94	0.3126			7.94
1100800-SO	-	-	-	8.00	0.3150			8.00
1100810-SO	-	-	-	8.10	0.3189			8.10
1100820-SO	-	-	-	8.20	0.3228			8.20
1100830-SO	-	-	-	8.30	0.3268			8.30
1100833-SO	21/64	-	-	8.33	0.3280	115	175	8.33
1100840-SO	-	-	-	8.40	0.3307			8.40
1100850-SO	-	-	-	8.50	0.3346			8.50
1100860-SO	-	-	-	8.60	0.3386			8.60
1100870-SO	-	-	-	8.70	0.3425			8.70
1100873-SO	11/32	-	-	8.73	0.3437			8.73
1100880-SO	-	-	-	8.80	0.3465			8.80
1100890-SO	-	-	-	8.90	0.3504			8.90
1100900-SO	-	-	-	9.00	0.3543			9.00
1100910-SO	-	-	-	9.10	0.3583			9.10
1100913-SO	-	-	-	9.13	0.3594	121	184	9.13
1100920-SO	-	-	-	9.20	0.3622			9.20
1100930-SO	-	-	-	9.30	0.3661			9.30
1100940-SO	-	-	-	9.40	0.3701			9.40
1100950-SO	-	-	-	9.50	0.3740			9.50
1100953-SO	3/8	-	-	9.53	0.3752			9.53
1100960-SO	-	-	-	9.60	0.3780			9.60
1100970-SO	-	-	-	9.70	0.3819			9.70
1100980-SO	-	-	-	9.80	0.3858			9.80
1100990-SO	-	-	-	9.90	0.3898			9.90

Packed: 1 pc.

EDP's listed above are stocked standard, other coatings available upon request.

Specify treatment at time of order.



List 110-SO (Continued)

UDL Long Series Drills

NEW	SPEED FEED P53	HSS-Co5	TYPE FS	BR	LONG	40°
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EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1100992-SO	25/64	-	-	9.92	0.3906	121	184	9.92
1101000-SO	-	-	-	10.00	0.3937			10.00
1101032-SO	13/32	-	-	10.32	0.4063			10.32
1101072-SO	27/64	-	-	10.72	0.4220	128	195	10.72
1101111-SO	7/16	-	-	11.11	0.4374			11.11
1101151-SO	29/64	-	-	11.51	0.4531			11.51
1101191-SO	15/32	-	-	11.91	0.4689	134	205	11.91
1101230-SO	31/64	-	-	12.30	0.4843			12.30
1101270-SO	1/2	-	-	12.70	0.5000			12.70

Packed: 1 pc.
EDP's listed above are stocked standard, other coatings available upon request.
Specify treatment at time of order.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High														
	1010 1018	1035 1045	1065			4140 4340	300	400		17-4 PH	6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC
110-SO	☐	☐	☐	☐		☐	☐	☐	☐	☐		☐	☐	☐			

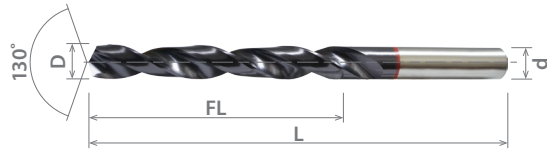
☐ good ☒ best





List 1R5-SO

RED BAND, UDS Jobber Drills



NEW	RED BAND TAPS P60-61, 76-77	SPEED FEED P54	HSS-Co5	TYPE H	TYPE FS	TiAIN	JOBBERS	30°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
1≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤13	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1R50100-SO	-	-	-	1.00	0.0394	12	34	1.00
1R50150-SO	-	-	-	1.50	0.0591	18	40	1.50
1R50160-SO	-	-	-	1.60	0.0630	20	43	1.60
1R50198-SO	5/64	-	-	1.98	0.0780	24	49	1.98
1R50199-SO	-	47	-	1.99	0.0783			1.99
1R50200-SO	-	-	-	2.00	0.0787			2.00
1R50206-SO	-	46	-	2.06	0.0811			2.06
1R50208-SO	-	45	-	2.08	0.0819			2.08
1R50210-SO	-	-	-	2.10	0.0827	27	53	2.10
1R50218-SO	-	44	-	2.18	0.0858			2.18
1R50226-SO	-	43	-	2.26	0.0890			2.26
1R50237-SO	-	42	-	2.37	0.0933	30	57	2.37
1R50238-SO	3/32	-	-	2.38	0.0937			2.38
1R50244-SO	-	41	-	2.44	0.0961			2.44
1R50249-SO	-	40	-	2.49	0.0980			2.49
1R50250-SO	-	-	-	2.50	0.0984			2.50
1R50253-SO	-	39	-	2.53	0.0996	33	61	2.53
1R50258-SO	-	38	-	2.58	0.1016			2.58
1R50264-SO	-	37	-	2.64	0.1039			2.64
1R50271-SO	-	36	-	2.71	0.1067			2.71
1R50278-SO	7/64	-	-	2.78	0.1094	36	65	2.78
1R50279-SO	-	35	-	2.79	0.1098			2.79
1R50282-SO	-	34	-	2.82	0.1110			2.82
1R50287-SO	-	33	-	2.87	0.1130			2.87
1R50290-SO	-	-	-	2.90	0.1142			2.90
1R50295-SO	-	32	-	2.95	0.1161	39	70	2.95
1R50300-SO	-	-	-	3.00	0.1181			3.00
1R50305-SO	-	31	-	3.05	0.1201			3.05
1R50318-SO	1/8	-	-	3.18	0.1252			3.18
1R50326-SO	-	30	-	3.26	0.1283	43	75	3.26
1R50330-SO	-	-	-	3.30	0.1299			3.30
1R50345-SO	-	29	-	3.45	0.1358			3.45
1R50350-SO	-	-	-	3.50	0.1378			3.50
1R50356-SO	-	28	-	3.57	0.1406	47	80	3.57
1R50357-SO	9/64	-	-	3.66	0.1441			3.66
1R50366-SO	-	27	-	3.70	0.1457			3.70
1R50370-SO	-	-	-	3.73	0.1469			3.73
1R50373-SO	-	26	-	3.80	0.1496	52	86	3.80
1R50379-SO	-	25	-	3.86	0.1520			3.86
1R50386-SO	-	24	-	3.91	0.1539			3.91
1R50391-SO	-	23	-	3.97	0.1563			3.97
1R50397-SO	5/32	-	-	3.99	0.1571			3.99
1R50399-SO	-	22	-	4.00	0.1575	52	86	4.00
1R50400-SO	-	-	-	4.04	0.1591			4.04
1R50404-SO	-	21	-	4.09	0.1610			4.09
1R50409-SO	-	20	-	4.20	0.1654			4.20
1R50420-SO	-	-	-	4.22	0.1661	52	86	4.22
1R50422-SO	-	19	-	4.31	0.1697			4.31
1R50431-SO	-	18	-	4.37	0.1720			4.37
1R50437-SO	11/64	-	-	4.39	0.1728			4.39
1R50439-SO	-	17	-	4.50	0.1772			4.50
1R50449-SO	-	16	-	4.57	0.1799	52	86	4.57
1R50450-SO	-	-	-	4.62	0.1819			4.62
1R50457-SO	-	15	-	4.70	0.1850			4.70
1R50462-SO	-	14	-	4.76	0.1874			4.76
1R50469-SO	-	13	-	4.80	0.1890			4.80
1R50476-SO	3/16	-	-					
1R50479-SO	-	12	-					

Packed: 1 pc.
Available TiAIN coating only.



List 1R5-SO (Continued)

RED BAND, UDS Jobber Drills

NEW	RED BAND TAPS P60-61 76-77	SPEED FEED P54	HSS-Co5	TYPE H	TYPE FS	TiAIN	JOBBERS	30°
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EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1R50485-SO	-	11	-	4.86	0.1913	52	86	4.86
1R50492-SO	-	10	-	4.92	0.1937			4.92
1R50498-SO	-	9	-	4.98	0.1961			4.98
1R50500-SO	-	-	-	5.00	0.1969			5.00
1R50506-SO	-	8	-	5.05	0.1988			5.05
1R50511-SO	-	7	-	5.11	0.2012			5.11
1R50516-SO	13/64	-	-	5.16	0.2031			5.16
1R50518-SO	-	6	-	5.18	0.2039			5.18
1R50522-SO	-	5	-	5.22	0.2055			5.22
1R50532-SO	-	4	-	5.31	0.2091			5.31
1R50541-SO	-	3	-	5.41	0.2130	57	93	5.41
1R50550-SO	-	-	-	5.50	0.2165			5.50
1R50556-SO	7/32	-	-	5.56	0.2189			5.56
1R50561-SO	-	2	-	5.61	0.2209			5.61
1R50579-SO	-	1	-	5.79	0.2280			5.79
1R50595-SO	15/64	-	-	5.95	0.2343			5.95
1R50600-SO	-	-	-	6.00	0.2362			6.00
1R50635-SO	1/4	-	-	6.35	0.2500			6.35
1R50650-SO	-	-	-	6.50	0.2559	63	101	6.50
1R50653-SO	-	-	F	6.53	0.2571			6.53
1R50675-SO	17/64	-	-	6.75	0.2657	69	109	6.75
1R50680-SO	-	-	-	6.80	0.2677			6.80
1R50691-SO	-	-	I	6.90	0.2717			6.90
1R50700-SO	-	-	-	7.00	0.2756			7.00
1R50714-SO	9/32	-	-	7.14	0.2811			7.14
1R50750-SO	-	-	-	7.50	0.2953			7.50
1R50754-SO	19/64	-	-	7.54	0.2969			7.54
1R50794-SO	5/16	-	-	7.94	0.3126			7.94
1R50800-SO	-	-	-	8.00	0.3150	75	117	8.00
1R50833-SO	21/64	-	-	8.33	0.3280			8.33
1R50843-SO	-	-	Q	8.43	0.3319			8.43
1R50850-SO	-	-	-	8.50	0.3346			8.50
1R50873-SO	11/32	-	-	8.73	0.3437	81	125	8.73
1R50900-SO	-	-	-	9.00	0.3543			9.00
1R50913-SO	23/64	-	-	9.13	0.3594			9.13
1R50950-SO	-	-	-	9.50	0.3740			9.50
1R50953-SO	3/8	-	-	9.53	0.3752	87	133	9.53
1R50992-SO	25/64	-	-	9.92	0.3906			9.92
1R51000-SO	-	-	-	10.00	0.3937			10.00
1R51020-SO	-	-	-	10.20	0.4016			10.20
1R51032-SO	13/32	-	-	10.32	0.4063			10.32
1R51050-SO	-	-	-	10.50	0.4134			10.50
1R51072-SO	27/64	-	-	10.72	0.4220	94	142	10.72
1R51100-SO	-	-	-	11.00	0.4331			11.00
1R51111-SO	7/16	-	-	11.11	0.4374			11.11
1R51150-SO	-	-	-	11.50	0.4528			11.50

Packed: 1 pc.
Available TiAIN coating only.



continued on next page

Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V	~35	35-45	45-50	50-70
	1010 1018	1035 1045	1065			4140 4340					7075			(30 HRC)	HRC	HRC	HRC
1R5-S0	☐	☐		☒									☐	☐	☐		

☐ good ☒ best





List 1R5-SO (Continued)

RED BAND, UDS Jobber Drills



NEW	RED BAND TAPS P60-61, 76-77	SPEED FEED P54	HSS-Co5	TYPE H	TYPE FS	TiAlN	JOBBER	30°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
1≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤13	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1R51200-SO	-	-	-	12.00	0.4724	101	151	12.00
1R51250-SO	-	-	-	12.50	0.4921			12.50
1R51269-SO	1/2	-	-	12.70	0.5000			12.70
1R51300-SO	-	-	-	13.00	0.5118			13.00

Packed: 1 pc.
Available TiAlN coating only.



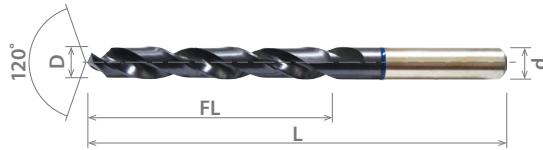
Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High														
	1010 1018	1035 1045	1065			4140 4340	300	400		17-4 PH	6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC
1R5-S0	☐	☐		☒									☐	☐	☐		

☐ good ☒ best



List 1BB-SO

BLUE BAND, RF Jobber Drills



NEW	BLUE BAND TAPS P63-65, 79-81	SPEED FEED P54	HSS-Co5	TYPE VA	TiAIN	JOBBERS	35°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
1≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤13	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1BB0100-SO	-	-	-	1.00	0.0394	12	34	1.00
1BB0150-SO	-	-	-	1.50	0.0591	18	40	1.50
1BB0160-SO	-	-	-	1.60	0.0630	20	43	1.60
1BB0198-SO	5/64	-	-	1.98	0.0780	24	49	1.98
1BB0199-SO	-	47	-	1.99	0.0783			1.99
1BB0200-SO	-	-	-	2.00	0.0787			2.00
1BB0206-SO	-	46	-	2.06	0.0811			2.06
1BB0208-SO	-	45	-	2.08	0.0818			2.08
1BB0210-SO	-	-	-	2.10	0.0827	27	53	2.10
1BB0218-SO	-	44	-	2.18	0.0858			2.18
1BB0226-SO	-	43	-	2.26	0.0890			2.26
1BB0237-SO	-	42	-	2.37	0.0933	30	57	2.37
1BB0238-SO	3/32	-	-	2.38	0.0937			2.38
1BB0244-SO	-	41	-	2.44	0.0961			2.44
1BB0249-SO	-	40	-	2.49	0.0980			2.49
1BB0250-SO	-	-	-	2.50	0.0984			2.50
1BB0253-SO	-	39	-	2.53	0.0996			2.53
1BB0258-SO	-	38	-	2.58	0.1016			2.58
1BB0264-SO	-	37	-	2.64	0.1039			2.64
1BB0270-SO	-	-	-	2.70	0.1063			2.70
1BB0271-SO	-	36	-	2.71	0.1067	33	61	2.71
1BB0278-SO	7/64	-	-	2.78	0.1094			2.78
1BB0279-SO	-	35	-	2.79	0.1098			2.79
1BB0282-SO	-	34	-	2.82	0.1110			2.82
1BB0287-SO	-	33	-	2.87	0.1130			2.87
1BB0290-SO	-	-	-	2.90	0.1142			2.90
1BB0295-SO	-	32	-	2.95	0.1161			2.95
1BB0300-SO	-	-	-	3.00	0.1181	36	65	3.00
1BB0305-SO	-	31	-	3.05	0.1201			3.05
1BB0318-SO	1/8	-	-	3.18	0.1252			3.18
1BB0326-SO	-	30	-	3.26	0.1283			3.26
1BB0330-SO	-	-	-	3.30	0.1299	39	70	3.30
1BB0345-SO	-	29	-	3.45	0.1358			3.45
1BB0350-SO	-	-	-	3.50	0.1378			3.50
1BB0356-SO	-	28	-	3.57	0.1406			3.57
1BB0357-SO	9/64	-	-	3.66	0.1441			3.66
1BB0366-SO	-	27	-	3.70	0.1457			3.70
1BB0370-SO	-	-	-	3.73	0.1469	43	75	3.73
1BB0373-SO	-	26	-	3.80	0.1496			3.80
1BB0379-SO	-	25	-	3.86	0.1520			3.86
1BB0386-SO	-	24	-	3.91	0.1539			3.91
1BB0391-SO	-	23	-	3.97	0.1563			3.97
1BB0397-SO	5/32	-	-	3.99	0.1571			3.99
1BB0399-SO	-	22	-	4.00	0.1575			4.00
1BB0400-SO	-	-	-	4.04	0.1591			4.04
1BB0404-SO	-	21	-	4.09	0.1610			4.09
1BB0409-SO	-	20	-	4.20	0.1654			4.20
1BB0420-SO	-	-	-					

Packed: 1 pc.
Available TiAIN coating only.

continued on next page

Work Material																		
List No.	P					M			K	N		S		H				
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels				
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC	
	1010	1035	1065			4140	4340	300		400	17-4 PH	6061	7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC
1BB-SO						☐	☐	☐				☐	☐					

☐ good ☒ best



List 1BB-SO (Continued)

BLUE BAND, RF Jobber Drills



NEW	BLUE BAND TAPS P63-65, 79-81	SPEED FEED P54	HSS-Co5	TYPE VA	TiAIN	JOBBERS	35°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
1≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤13	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1BB0422-SO	-	19	-	4.22	0.1661	43	75	4.22
1BB0431-SO	-	18	-	4.31	0.1697	47	80	4.31
1BB0437-SO	11/64	-	-	4.37	0.1720			4.37
1BB0439-SO	-	17	-	4.39	0.1728			4.39
1BB0449-SO	-	16	-	4.50	0.1772			4.50
1BB0450-SO	-	-	-	-	-			-
1BB0457-SO	-	15	-	4.57	0.1799	52	86	4.57
1BB0462-SO	-	14	-	4.62	0.1819			4.62
1BB0469-SO	-	13	-	4.70	0.1850			4.70
1BB0476-SO	3/16	-	-	4.76	0.1874			4.76
1BB0479-SO	-	12	-	4.80	0.1890			4.80
1BB0485-SO	-	11	-	4.86	0.1913			4.86
1BB0492-SO	-	10	-	4.92	0.1937			4.92
1BB0498-SO	-	9	-	4.98	0.1961			4.98
1BB0500-SO	-	-	-	5.00	0.1969			5.00
1BB0506-SO	-	8	-	5.05	0.1988			5.05
1BB0511-SO	-	7	-	5.11	0.2012			5.11
1BB0516-SO	13/64	-	-	5.16	0.2031			5.16
1BB0518-SO	-	6	-	5.18	0.2039			5.18
1BB0522-SO	-	5	-	5.22	0.2055			5.22
1BB0530-SO	-	-	-	5.30	0.2087	57	93	5.30
1BB0532-SO	-	4	-	5.31	0.2091			5.31
1BB0541-SO	-	3	-	5.41	0.2130			5.41
1BB0550-SO	-	-	-	5.50	0.2165			5.50
1BB0556-SO	7/32	-	-	5.56	0.2189			5.56
1BB0561-SO	-	2	-	5.61	0.2209	63	101	5.61
1BB0579-SO	-	1	-	5.79	0.2280			5.79
1BB0595-SO	15/64	-	-	5.95	0.2343			5.95
1BB0600-SO	-	-	-	6.00	0.2362			6.00
1BB0634-SO	1/4	-	-	6.35	0.2500	69	109	6.35
1BB0650-SO	-	-	-	6.50	0.2559			6.50
1BB0653-SO	-	-	F	6.53	0.2571			6.53
1BB0675-SO	17/64	-	-	6.75	0.2657			6.75
1BB0680-SO	-	-	-	6.80	0.2677	75	117	6.80
1BB0691-SO	-	-	I	6.90	0.2717			6.90
1BB0700-SO	-	-	-	7.00	0.2756			7.00
1BB0714-SO	9/32	-	-	7.14	0.2811			7.14
1BB0730-SO	-	-	-	7.30	0.2874	81	125	7.30
1BB0750-SO	-	-	-	7.50	0.2953			7.50
1BB0754-SO	19/64	-	-	7.54	0.2969			7.54
1BB0780-SO	-	-	-	7.80	0.3071			7.80
1BB0794-SO	5/16	-	-	7.94	0.3126	87	133	7.94
1BB0800-SO	-	-	-	8.00	0.3150			8.00
1BB0833-SO	21/64	-	-	8.33	0.3280			8.33
1BB0843-SO	-	-	Q	8.43	0.3319			8.43
1BB0850-SO	-	-	-	8.50	0.3346	87	133	8.50
1BB0873-SO	11/32	-	-	8.73	0.3437			8.73
1BB0880-SO	-	-	-	8.80	0.3465			8.80
1BB0900-SO	-	-	-	9.00	0.3543			9.00
1BB0913-SO	23/64	-	-	9.13	0.3594	87	133	9.13
1BB0950-SO	-	-	-	9.50	0.3740			9.50
1BB0953-SO	3/8	-	-	9.53	0.3752			9.53
1BB0992-SO	25/64	-	-	9.92	0.3906			9.92
1BB1000-SO	-	-	-	10.00	0.3937	87	133	10.00
1BB1020-SO	-	-	-	10.20	0.4016			10.20
1BB1032-SO	13/32	-	-	10.32	0.4063			10.32
1BB1050-SO	-	-	-	10.50	0.4134			10.50

Packed: 1 pc.
Available TiAIN coating only.



List 1BB-SO (Continued)

BLUE BAND, RF Jobber Drills

NEW	BLUE BAND TAPS P63-65, 79-81	SPEED FEED P54	HSS-Co5	TYPE VA	TiAIN	JOBBERS	35°
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EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1BB1072-SO	27/64	-	-	10.72	0.4220	94	142	10.72
1BB1080-SO	-	-	-	10.80	0.4252			10.80
1BB1100-SO	-	-	-	11.00	0.4331			11.00
1BB1111-SO	7/16	-	-	11.11	0.4374			11.11
1BB1150-SO	-	-	-	11.50	0.4528			11.50
1BB1151-SO	29/64	-	-	11.51	0.4531			11.51
1BB1191-SO	15/32	-	-	11.91	0.4689	101	151	11.91
1BB1200-SO	-	-	-	12.00	0.4724			12.00
1BB1229-SO	31/64	-	-	12.30	0.4843			12.30
1BB1250-SO	-	-	-	12.50	0.4921			12.50
1BB1269-SO	1/2	-	-	12.70	0.5000			12.70
1BB1300-SO	-	-	-	13.00	0.5118			13.00

Packed: 1 pc.
Available TiAIN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065			4140 4340											
1BB-SO						☐	☐	☐				☐	☐				

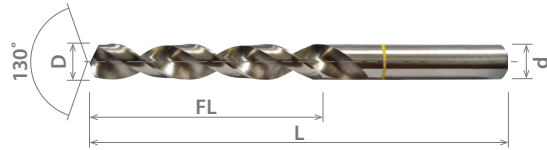
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List 1AQ-SO

YELLOW BAND, Quick Spiral Jobber Drills



NEW	YELLOW BAND TAPS P66-68, 82-84	SPEED FEED P54	HSS	TYPE W	BR	JOBBERS	40°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
0.9≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤13	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1AQ0090-SO	-	-	-	0.90	0.0354	11	32	0.90
1AQ0100-SO	-	-	-	1.00	0.0394	12	34	1.00
1AQ0110-SO	-	-	-	1.10	0.0433	14	36	1.10
1AQ0120-SO	-	-	-	1.20	0.0472	16	38	1.20
1AQ0130-SO	-	-	-	1.30	0.0512			1.30
1AQ0140-SO	-	-	-	1.40	0.0551	18	40	1.40
1AQ0150-SO	-	-	-	1.50	0.0591			1.50
1AQ0160-SO	-	-	-	1.60	0.0630	20	43	1.60
1AQ0170-SO	-	-	-	1.70	0.0669			1.70
1AQ0175-SO	-	-	-	1.75	0.0689	22	46	1.75
1AQ0180-SO	-	-	-	1.80	0.0709			1.80
1AQ0190-SO	-	-	-	1.90	0.0748			1.90
1AQ0198-SO	5/64	-	-	1.98	0.0780	24	49	1.98
1AQ0199-SO	-	47	-	1.99	0.0783			1.99
1AQ0200-SO	-	-	-	2.00	0.0787			2.00
1AQ0206-SO	-	46	-	2.06	0.0811			2.06
1AQ0208-SO	-	45	-	2.08	0.0819	27	53	2.08
1AQ0210-SO	-	-	-	2.10	0.0827			2.10
1AQ0218-SO	-	44	-	2.18	0.0858			2.18
1AQ0220-SO	-	-	-	2.20	0.0866			2.20
1AQ0225-SO	-	-	-	2.25	0.0886	30	57	2.25
1AQ0226-SO	-	43	-	2.26	0.0890			2.26
1AQ0230-SO	-	-	-	2.30	0.0906			2.30
1AQ0237-SO	-	42	-	2.37	0.0933			2.37
1AQ0238-SO	3/32	-	-	2.38	0.0937	33	61	2.38
1AQ0240-SO	-	-	-	2.40	0.0945			2.40
1AQ0244-SO	-	41	-	2.44	0.0961			2.44
1AQ0249-SO	-	40	-	2.49	0.0980			2.49
1AQ0250-SO	-	-	-	2.50	0.0984	36	65	2.50
1AQ0253-SO	-	39	-	2.53	0.0996			2.53
1AQ0258-SO	-	38	-	2.58	0.1016			2.58
1AQ0260-SO	-	-	-	2.60	0.1024			2.60
1AQ0264-SO	-	37	-	2.64	0.1039	39	70	2.64
1AQ0270-SO	-	-	-	2.70	0.1063			2.70
1AQ0271-SO	-	36	-	2.71	0.1067			2.71
1AQ0275-SO	-	-	-	2.75	0.1083			2.75
1AQ0278-SO	7/64	-	-	2.78	0.1094	36	65	2.78
1AQ0279-SO	-	35	-	2.79	0.1098			2.79
1AQ0280-SO	-	-	-	2.80	0.1102			2.80
1AQ0282-SO	-	34	-	2.82	0.1110			2.82
1AQ0287-SO	-	33	-	2.87	0.1130	39	70	2.87
1AQ0290-SO	-	-	-	2.90	0.1142			2.90
1AQ0295-SO	-	32	-	2.95	0.1161			2.95
1AQ0300-SO	-	-	-	3.00	0.1181			3.00
1AQ0305-SO	-	31	-	3.05	0.1201	36	65	3.05
1AQ0310-SO	-	-	-	3.10	0.1220			3.10
1AQ0318-SO	1/8	-	-	3.18	0.1252			3.18
1AQ0320-SO	-	-	-	3.20	0.1260			3.20
1AQ0326-SO	-	30	-	3.26	0.1283	39	70	3.26
1AQ0330-SO	-	-	-	3.30	0.1299			3.30
1AQ0340-SO	-	-	-	3.40	0.1339			3.40
1AQ0345-SO	-	29	-	3.45	0.1358			3.45
1AQ0350-SO	-	-	-	3.50	0.1378	39	70	3.50
1AQ0356-SO	-	28	-	3.57	0.1406			3.57
1AQ0357-SO	9/64	-	-	3.57	0.1406			3.57
1AQ0360-SO	-	-	-	3.60	0.1417			3.60
1AQ0366-SO	-	27	-	3.66	0.1441	39	70	3.66
1AQ0370-SO	-	-	-	3.70	0.1457			3.70

Packed: 1 pc.
EDP's listed above are stocked standard, other coatings available upon request.
Specify treatment at time of order.



List 1AQ-SO (Continued)

YELLOW BAND, Quick Spiral Jobber Drills

NEW	YELLOW BAND TAPS P66-68, 82-84	SPEED FEED P54	HSS	TYPE W	BR	JOBBERS	40°
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EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1AQ0373-SO	-	26	-	3.73	0.1469	39	70	3.73
1AQ0379-SO	-	25	-	3.80	0.1496	43	75	3.80
1AQ0380-SO	-	-	-	3.86	0.1520			3.86
1AQ0386-SO	-	24	-	3.90	0.1535			3.90
1AQ0390-SO	-	-	-	3.91	0.1539			3.91
1AQ0391-SO	-	23	-	3.97	0.1563			3.97
1AQ0397-SO	5/32	-	-	3.99	0.1571			3.99
1AQ0399-SO	-	22	-	4.00	0.1575			4.00
1AQ0400-SO	-	-	-	4.04	0.1591			4.04
1AQ0404-SO	-	21	-	4.09	0.1610			4.09
1AQ0409-SO	-	20	-	4.10	0.1614			4.10
1AQ0410-SO	-	-	-	4.20	0.1654			4.20
1AQ0420-SO	-	-	-	4.22	0.1661			4.22
1AQ0422-SO	-	19	-	4.30	0.1693			4.30
1AQ0430-SO	-	-	-	4.31	0.1697	47	80	4.31
1AQ0431-SO	-	18	-	4.37	0.1720			4.37
1AQ0437-SO	11/64	-	-	4.39	0.1728			4.39
1AQ0439-SO	-	17	-	4.40	0.1732			4.40
1AQ0440-SO	-	-	-	4.50	0.1772			4.50
1AQ0449-SO	-	16	-	4.57	0.1799			4.57
1AQ0450-SO	-	-	-	4.60	0.1811			4.60
1AQ0457-SO	-	15	-	4.62	0.1819			4.62
1AQ0460-SO	-	-	-	4.70	0.1850			4.70
1AQ0462-SO	-	14	-	4.76	0.1874	52	86	4.76
1AQ0469-SO	-	13	-	4.80	0.1890			4.80
1AQ0470-SO	-	-	-	4.86	0.1913			4.86
1AQ0476-SO	3/16	-	-	4.90	0.1929			4.90
1AQ0479-SO	-	12	-	4.92	0.1937			4.92
1AQ0480-SO	-	-	-	4.98	0.1961			4.98
1AQ0485-SO	-	11	-	5.00	0.1969			5.00
1AQ0490-SO	-	-	-	5.05	0.1988			5.05
1AQ0492-SO	-	10	-	5.10	0.2008			5.10
1AQ0498-SO	-	9	-	5.11	0.2012			5.11
1AQ0500-SO	-	-	-	5.16	0.2031			5.16
1AQ0506-SO	-	8	-	5.18	0.2039			5.18
1AQ0510-SO	-	-	-	5.20	0.2047	57	93	5.20
1AQ0511-SO	-	7	-	5.22	0.2055			5.22
1AQ0516-SO	13/64	-	-	5.30	0.2087			5.30
1AQ0518-SO	-	6	-	5.31	0.2091			5.31
1AQ0520-SO	-	-	-	5.40	0.2126			5.40
1AQ0522-SO	-	5	-	5.41	0.2130			5.41
1AQ0530-SO	-	-	-	5.50	0.2165			5.50
1AQ0532-SO	-	4	-	5.56	0.2189			5.56
1AQ0540-SO	-	-	-	5.60	0.2205			5.60
1AQ0541-SO	-	3	-	5.61	0.2209			5.61
1AQ0550-SO	-	-	-	5.70	0.2244			5.70
1AQ0556-SO	7/32	-	-	5.79	0.2280			5.79
1AQ0560-SO	-	-	-	5.80	0.2283			5.80
1AQ0561-SO	-	2	-	5.90	0.2323	57	93	5.90
1AQ0570-SO	-	-	-	5.95	0.2343			5.95
1AQ0579-SO	-	1	-	6.00	0.2362			6.00
1AQ0580-SO	-	-	-					
1AQ0590-SO	-	-	-					
1AQ0595-SO	15/64	-	-					
1AQ0600-SO	-	-	-					

Packed: 1 pc.
EDP's listed above are stocked standard, other coatings available upon request.
Specify treatment at time of order.

continued on next page



Work Material																		
List No.	P					M			K	N		S		H				
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels				
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC	
	1010	1035	1065			4140	4340	7075					(30 HRC)					
1AQ-SO	☐									☒	☐							

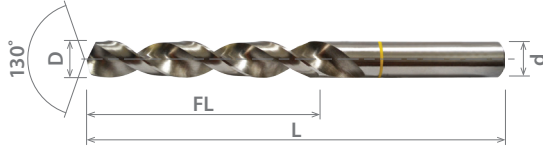
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List 1AQ-SO (Continued)

YELLOW BAND, Quick Spiral Jobber Drills



NEW	YELLOW BAND TAPS P66-68, 82-84	SPEED FEED P54	HSS	TYPE W	BR	JOBBERS	40°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
0.9≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤13	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1AQ0610-SO	-	-	-	6.10	0.2402	63	101	6.10
1AQ0620-SO	-	-	-	6.20	0.2441			6.20
1AQ0630-SO	-	-	-	6.30	0.2480			6.30
1AQ0635-SO	1/4	-	-	6.35	0.2500			6.35
1AQ0640-SO	-	-	-	6.40	0.2520			6.40
1AQ0650-SO	-	-	-	6.50	0.2559			6.50
1AQ0653-SO	-	-	F	6.53	0.2571			6.53
1AQ0660-SO	-	-	-	6.60	0.2598			6.60
1AQ0670-SO	-	-	-	6.70	0.2638			6.70
1AQ0675-SO	17/64	-	-	6.75	0.2657			6.75
1AQ0680-SO	-	-	-	6.80	0.2677	69	109	6.80
1AQ0690-SO	-	-	-	6.90	0.2717			6.90
1AQ0691-SO	-	-	I	6.91	0.2720			6.91
1AQ0700-SO	-	-	-	7.00	0.2756			7.00
1AQ0710-SO	-	-	-	7.10	0.2795			7.10
1AQ0714-SO	9/32	-	-	7.14	0.2811			7.14
1AQ0720-SO	-	-	-	7.20	0.2835			7.20
1AQ0730-SO	-	-	-	7.30	0.2874			7.30
1AQ0740-SO	-	-	-	7.40	0.2913			7.40
1AQ0750-SO	-	-	-	7.50	0.2953			7.50
1AQ0754-SO	19/64	-	-	7.54	0.2969	75	117	7.54
1AQ0760-SO	-	-	-	7.60	0.2992			7.60
1AQ0770-SO	-	-	-	7.70	0.3031			7.70
1AQ0780-SO	-	-	-	7.80	0.3071			7.80
1AQ0790-SO	-	-	-	7.90	0.3110			7.90
1AQ0794-SO	5/16	-	-	7.94	0.3126			7.94
1AQ0800-SO	-	-	-	8.00	0.3150			8.00
1AQ0810-SO	-	-	-	8.10	0.3189			8.10
1AQ0820-SO	-	-	-	8.20	0.3228			8.20
1AQ0830-SO	-	-	-	8.30	0.3268			8.30
1AQ0833-SO	21/64	-	-	8.33	0.3280	81	125	8.33
1AQ0840-SO	-	-	-	8.40	0.3307			8.40
1AQ0843-SO	-	-	Q	8.43	0.3319			8.43
1AQ0850-SO	-	-	-	8.50	0.3346			8.50
1AQ0860-SO	-	-	-	8.60	0.3386			8.60
1AQ0870-SO	-	-	-	8.70	0.3425			8.70
1AQ0873-SO	11/32	-	-	8.73	0.3437			8.73
1AQ0880-SO	-	-	-	8.80	0.3465			8.80
1AQ0890-SO	-	-	-	8.90	0.3504			8.90
1AQ0900-SO	-	-	-	9.00	0.3543			9.00
1AQ0910-SO	-	-	-	9.10	0.3583	87	133	9.10
1AQ0913-SO	23/64	-	-	9.13	0.3594			9.13
1AQ0920-SO	-	-	-	9.20	0.3622			9.20
1AQ0930-SO	-	-	-	9.30	0.3661			9.30
1AQ0940-SO	-	-	-	9.40	0.3701			9.40
1AQ0950-SO	-	-	-	9.50	0.3740			9.50
1AQ0953-SO	3/8	-	-	9.53	0.3752			9.53
1AQ0960-SO	-	-	-	9.60	0.3780			9.60
1AQ0970-SO	-	-	-	9.70	0.3819			9.70
1AQ0980-SO	-	-	-	9.80	0.3858			9.80
1AQ0990-SO	-	-	-	9.90	0.3898	87	133	9.90
1AQ0992-SO	25/64	-	-	9.92	0.3906			9.92
1AQ1000-SO	-	-	-	10.00	0.3937			10.00
1AQ1020-SO	-	-	-	10.20	0.4016			10.20
1AQ1032-SO	13/32	-	-	10.32	0.4063			10.32
1AQ1050-SO	-	-	-	10.50	0.4134			10.50

Packed: 1 pc.
EDP's listed above are stocked standard, other coatings available upon request.
Specify treatment at time of order.



List 1AQ-SO (Continued)

YELLOW BAND, Quick Spiral Jobber Drills

NEW	YELLOW BAND TAPS P66-68, 82-84	SPEED FEED P54	HSS	TYPE W	BR	JOBBERS	40°
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EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1AQ1072-SO	27/64	-	-	10.72	0.4220	94	142	10.72
1AQ1100-SO	-	-	-	11.00	0.4331			11.00
1AQ1111-SO	7/16	-	-	11.11	0.4374			11.11
1AQ1150-SO	-	-	-	11.50	0.4528			11.50
1AQ1200-SO	-	-	-	12.00	0.4724	101	151	12.00
1AQ1229-SO	31/64	-	-	12.30	0.4843			12.30
1AQ1250-SO	-	-	-	12.50	0.4921			12.50
1AQ1269-SO	1/2	-	-	12.70	0.5000			12.70
1AQ1270-SO	-	-	-	12.70	0.5000			12.70
1AQ1300-SO	-	-	-	13.00	0.5118			13.00

Packed: 1 pc.

EDP's listed above are stocked standard, other coatings available upon request.
Specify treatment at time of order.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065			4140 4340											
1AQ-SO	☐									☒	☐						

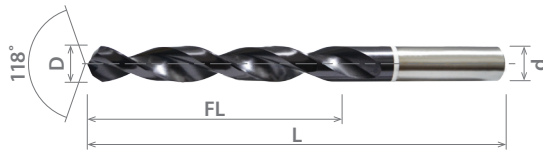
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List 1W6-SO

WHITE BAND, UDC Jobber Drills



NEW	WHITE BAND TAPS P69-71	SPEED FEED P54	HSS-Co5	TYPE FS	TYPE GG	TiAIN	JOBBERS	30°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
1.98≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤13	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1W60198-SO	5/64	-	-	1.98	0.0780	24	49	1.98
1W60199-SO	-	47	-	1.99	0.0783			1.99
1W60206-SO	-	46	-	2.06	0.0811			2.06
1W60208-SO	-	45	-	2.08	0.0819			2.08
1W60218-SO	-	44	-	2.18	0.0858	27	53	2.18
1W60226-SO	-	43	-	2.26	0.0890			2.26
1W60237-SO	-	42	-	2.37	0.0933	30	57	2.37
1W60238-SO	3/32	-	-	2.38	0.0937			2.38
1W60244-SO	-	41	-	2.44	0.0961			2.44
1W60249-SO	-	40	-	2.49	0.0980			2.49
1W60250-SO	-	-	-	2.50	0.0984			2.50
1W60253-SO	-	39	-	2.53	0.0996			2.53
1W60258-SO	-	38	-	2.58	0.1016			2.58
1W60264-SO	-	37	-	2.64	0.1039			2.64
1W60271-SO	-	36	-	2.71	0.1067	33	61	2.71
1W60278-SO	7/64	-	-	2.78	0.1094			2.78
1W60279-SO	-	35	-	2.79	0.1098			2.79
1W60282-SO	-	34	-	2.82	0.1110			2.82
1W60287-SO	-	33	-	2.87	0.1130			2.87
1W60295-SO	-	32	-	2.95	0.1161	36	65	2.95
1W60305-SO	-	31	-	3.05	0.1201			3.05
1W60318-SO	1/8	-	-	3.18	0.1252			3.18
1W60326-SO	-	30	-	3.26	0.1283			3.26
1W60330-SO	-	-	-	3.30	0.1299	39	70	3.30
1W60345-SO	-	29	-	3.45	0.1358			3.45
1W60356-SO	-	28	-	3.57	0.1406			3.57
1W60357-SO	9/64	-	-	3.66	0.1441			3.66
1W60366-SO	-	27	-	3.73	0.1469	43	75	3.73
1W60373-SO	-	26	-	3.80	0.1496			3.80
1W60379-SO	-	25	-	3.86	0.1520			3.86
1W60386-SO	-	24	-	3.91	0.1539			3.91
1W60391-SO	-	23	-	3.97	0.1563			3.97
1W60397-SO	5/32	-	-	3.99	0.1571	47	80	3.99
1W60399-SO	-	22	-	4.00	0.1575			4.00
1W60400-SO	-	-	-	4.04	0.1591			4.04
1W60404-SO	-	21	-	4.09	0.1610			4.09
1W60409-SO	-	20	-	4.20	0.1654			4.20
1W60420-SO	-	-	-	4.22	0.1661			4.22
1W60422-SO	-	19	-	4.31	0.1697			4.31
1W60431-SO	-	18	-	4.37	0.1720			4.37
1W60437-SO	11/64	-	-	4.39	0.1728	52	86	4.39
1W60439-SO	-	17	-	4.50	0.1772			4.50
1W60449-SO	-	16	-	4.57	0.1799			4.57
1W60450-SO	-	-	-	4.62	0.1819			4.62
1W60457-SO	-	15	-	4.70	0.1850			4.70
1W60462-SO	-	14	-	4.76	0.1874			4.76
1W60469-SO	-	13	-	4.80	0.1890			4.80
1W60476-SO	3/16	-	-	4.86	0.1913			4.86
1W60479-SO	-	12	-	4.92	0.1937	52	86	4.92
1W60485-SO	-	11	-	4.98	0.1961			4.98
1W60492-SO	-	10	-	5.00	0.1969			5.00
1W60498-SO	-	9	-	5.05	0.1988			5.05
1W60500-SO	-	-	-	5.11	0.2012			5.11
1W60506-SO	-	8	-	5.16	0.2031			5.16
1W60511-SO	-	7	-	5.18	0.2039			5.18
1W60516-SO	13/64	-	-	5.22	0.2055			5.22
1W60518-SO	-	6	-					
1W60522-SO	-	5	-					

Packed: 1 pc.
Available TiAIN coating only.



List 1W6-SO (Continued)

WHITE BAND, UDC Jobber Drills

NEW	WHITE BAND TAPS P69-71	SPEED FEED P54	HSS-Co5	TYPE FS	TYPE GG	TiAIN	JOBBERS	30°
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EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1W60532-SO	-	4	-	5.31	0.2091	57	93	5.31
1W60541-SO	-	3	-	5.41	0.2130			5.41
1W60550-SO	-	-	-	5.50	0.2165			5.50
1W60556-SO	7/32	-	-	5.56	0.2189			5.56
1W60561-SO	-	2	-	5.61	0.2209			5.61
1W60579-SO	-	1	-	5.79	0.2280			5.79
1W60595-SO	15/64	-	-	5.95	0.2343			5.95
1W60600-SO	-	-	-	6.00	0.2362			6.00
1W60634-SO	1/4	-	-	6.35	0.2500	63	101	6.35
1W60650-SO	-	-	-	6.50	0.2559			6.50
1W60653-SO	-	-	F	6.53	0.2571			6.53
1W60675-SO	17/64	-	-	6.75	0.2657	69	109	6.75
1W60680-SO	-	-	-	6.80	0.2677			6.80
1W60691-SO	-	-	I	6.90	0.2717			6.90
1W60700-SO	-	-	-	7.00	0.2756			7.00
1W60714-SO	9/32	-	-	7.14	0.2811			7.14
1W60750-SO	-	-	-	7.50	0.2953			7.50
1W60754-SO	19/64	-	-	7.54	0.2969			7.54
1W60794-SO	5/16	-	-	7.94	0.3126	75	117	7.94
1W60800-SO	-	-	-	8.00	0.3150			8.00
1W60833-SO	21/64	-	-	8.33	0.3280			8.33
1W60843-SO	-	-	Q	8.43	0.3319			8.43
1W60850-SO	-	-	-	8.50	0.3346			8.50
1W60873-SO	11/32	-	-	8.73	0.3437	81	125	8.73
1W60900-SO	-	-	-	9.00	0.3543			9.00
1W60913-SO	23/64	-	-	9.13	0.3594			9.13
1W60950-SO	-	-	-	9.50	0.3740			9.50
1W60953-SO	3/8	-	-	9.53	0.3752	87	133	9.53
1W60992-SO	25/64	-	-	9.92	0.3906			9.92
1W61000-SO	-	-	-	10.00	0.3937			10.00
1W61020-SO	-	-	-	10.20	0.4016			10.20
1W61030-SO	13/32	-	-	10.32	0.4063			10.32
1W61050-SO	-	-	-	10.50	0.4134			10.50
1W61072-SO	27/64	-	-	10.72	0.4220	94	142	10.72
1W61100-SO	-	-	-	11.00	0.4331			11.00
1W61111-SO	7/16	-	-	11.11	0.4374			11.11
1W61191-SO	15/32	-	-	11.91	0.4689	101	151	11.91
1W61200-SO	-	-	-	12.00	0.4724			12.00
1W61269-SO	1/2	-	-	12.70	0.5000			12.70

Packed: 1 pc.
Available TiAIN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High														
	1010 1018	1035 1045	1065			4140 4340	300	400		17-4 PH	6061 7075			Casting	Inconel	6Al4V (30 HRC)	~35 HRC
1W6-S0																	

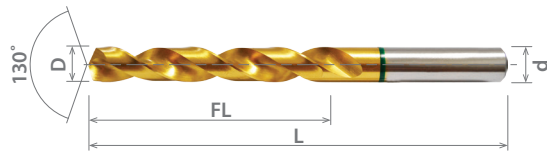
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List 1G7-SO

GREEN BAND, NDX Jobber Drills



NEW	GREEN BAND TAPS P72-75, 85-87	SPEED FEED P54	HSS-Co5	TYPE UNI	TiN	JOBBERS	33°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
1≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤13	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1G70100-SO	-	-	-	1.00	0.0394	12	34	1.00
1G70150-SO	-	-	-	1.50	0.0591	18	40	1.50
1G70160-SO	-	-	-	1.60	0.0630	20	43	1.60
1G70170-SO	-	-	-	1.70	0.0669			1.70
1G70190-SO	-	-	-	1.90	0.0748	22	46	1.90
1G70198-SO	5/64	-	-	1.98	0.0780	24	49	1.98
1G70199-SO	-	47	-	1.99	0.0783			1.99
1G70200-SO	-	-	-	2.00	0.0787			2.00
1G70206-SO	-	46	-	2.06	0.0811			2.06
1G70208-SO	-	45	-	2.08	0.0819			2.08
1G70210-SO	-	-	-	2.10	0.0827	27	53	2.10
1G70218-SO	-	44	-	2.18	0.0858			2.18
1G70226-SO	-	43	-	2.26	0.0890	30	57	2.26
1G70237-SO	-	42	-	2.37	0.0933			2.37
1G70238-SO	3/32	-	-	2.38	0.0937			2.38
1G70244-SO	-	41	-	2.44	0.0961			2.44
1G70249-SO	-	40	-	2.49	0.0980			2.49
1G70250-SO	-	-	-	2.50	0.0984			2.50
1G70253-SO	-	39	-	2.53	0.0996			2.53
1G70258-SO	-	38	-	2.58	0.1016			2.58
1G70260-SO	-	-	-	2.60	0.1024			2.60
1G70264-SO	-	37	-	2.64	0.1039			2.64
1G70270-SO	-	-	-	2.70	0.1063	33	61	2.70
1G70271-SO	-	36	-	2.71	0.1067			2.71
1G70278-SO	7/64	-	-	2.78	0.1094			2.78
1G70279-SO	-	35	-	2.79	0.1098			2.79
1G70280-SO	-	-	-	2.80	0.1102			2.80
1G70282-SO	-	34	-	2.82	0.1110			2.82
1G70287-SO	-	33	-	2.87	0.1130			2.87
1G70290-SO	-	-	-	2.90	0.1142			2.90
1G70295-SO	-	32	-	2.95	0.1161			2.95
1G70300-SO	-	-	-	3.00	0.1181	36	65	3.00
1G70305-SO	-	31	-	3.05	0.1201			3.05
1G70310-SO	-	-	-	3.10	0.1220			3.10
1G70318-SO	1/8	-	-	3.18	0.1252			3.18
1G70320-SO	-	-	-	3.20	0.1260			3.20
1G70326-SO	-	30	-	3.26	0.1283			3.26
1G70330-SO	-	-	-	3.30	0.1299			3.30
1G70340-SO	-	-	-	3.40	0.1339			3.40
1G70345-SO	-	29	-	3.45	0.1358			3.45
1G70350-SO	-	-	-	3.50	0.1378	39	70	3.50
1G70356-SO	-	28	-	3.57	0.1406			3.57
1G70357-SO	9/64	-	-	3.60	0.1417			3.60
1G70360-SO	-	-	-	3.60	0.1417			3.60
1G70366-SO	-	27	-	3.66	0.1441			3.66
1G70370-SO	-	-	-	3.70	0.1457			3.70
1G70373-SO	-	26	-	3.73	0.1469			3.73
1G70379-SO	-	25	-	3.80	0.1496	43	75	3.80
1G70380-SO	-	-	-	3.86	0.1520			3.86
1G70386-SO	-	24	-	3.90	0.1535			3.90
1G70390-SO	-	-	-	3.90	0.1535			3.90
1G70391-SO	-	23	-	3.91	0.1539			3.91
1G70397-SO	5/32	-	-	3.97	0.1563			3.97
1G70399-SO	-	22	-	3.99	0.1571			3.99
1G70400-SO	-	-	-	4.00	0.1575			4.00
1G70404-SO	-	21	-	4.04	0.1591			4.04
1G70409-SO	-	20	-	4.09	0.1610			4.09
1G70410-SO	-	-	-	4.10	0.1614			4.10

Packed: 1 pc.
Available TiN coating only.



List 1G7-SO (Continued)

GREEN BAND, NDX Jobber Drills

NEW	GREEN BAND TAPS P72-75, 85-87	SPEED FEED P54	HSS-Co5	TYPE UNI	TiN	JOBBERS	33°
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EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1G70420-SO	-	-	-	4.20	0.1654	43	75	4.20
1G70422-SO	-	19	-	4.22	0.1661			4.22
1G70430-SO	-	-	-	4.30	0.1693			4.30
1G70431-SO	-	18	-	4.31	0.1697			4.31
1G70437-SO	11/64	-	-	4.37	0.1720	47	80	4.37
1G70439-SO	-	17	-	4.39	0.1728			4.39
1G70449-SO	-	16	-	4.50	0.1772			4.50
1G70450-SO	-	-	-	-	-			-
1G70457-SO	-	15	-	4.57	0.1799			4.57
1G70462-SO	-	14	-	4.62	0.1819			4.62
1G70469-SO	-	13	-	4.70	0.1850			4.70
1G70476-SO	3/16	-	-	4.76	0.1874			4.76
1G70479-SO	-	12	-	4.80	0.1890	52	86	4.80
1G70480-SO	-	-	-	-	-			-
1G70485-SO	-	11	-	4.86	0.1913			4.86
1G70492-SO	-	10	-	4.92	0.1937			4.92
1G70498-SO	-	9	-	4.98	0.1961			4.98
1G70500-SO	-	-	-	5.00	0.1969			5.00
1G70506-SO	-	8	-	5.05	0.1988			5.05
1G70510-SO	-	-	-	5.10	0.2008			5.10
1G70511-SO	-	7	-	5.11	0.2012			5.11
1G70516-SO	13/64	-	-	5.16	0.2031			5.16
1G70518-SO	-	6	-	5.18	0.2039			5.18
1G70520-SO	-	-	-	5.20	0.2047			5.20
1G70522-SO	-	5	-	5.22	0.2055			5.22
1G70530-SO	-	-	-	5.30	0.2087			5.30
1G70532-SO	-	4	-	5.31	0.2091	57	93	5.31
1G70541-SO	-	3	-	5.41	0.2130			5.41
1G70550-SO	-	-	-	5.50	0.2165			5.50
1G70556-SO	7/32	-	-	5.56	0.2189			5.56
1G70561-SO	-	2	-	5.61	0.2209			5.61
1G70579-SO	-	1	-	5.79	0.2280			5.79
1G70580-SO	-	-	-	5.80	0.2283			5.80
1G70590-SO	-	-	-	5.90	0.2323			5.90
1G70595-SO	15/64	-	-	5.95	0.2343			5.95
1G70600-SO	-	-	-	6.00	0.2362			6.00
1G70610-SO	-	-	-	6.10	0.2402	63	101	6.10
1G70620-SO	-	-	-	6.20	0.2441			6.20
1G70630-SO	-	-	-	6.30	0.2480			6.30
1G70635-SO	1/4	-	-	6.35	0.2500			6.35
1G70640-SO	-	-	-	6.40	0.2520			6.40
1G70650-SO	-	-	-	6.50	0.2559			6.50
1G70653-SO	-	-	F	6.53	0.2571			6.53
1G70675-SO	17/64	-	-	6.75	0.2657	69	109	6.75
1G70680-SO	-	-	-	6.80	0.2677			6.80
1G70690-SO	-	-	-	-	-			-
1G70691-SO	-	-	I	6.90	0.2717			6.90
1G70700-SO	-	-	-	7.00	0.2756			7.00
1G70714-SO	9/32	-	-	7.14	0.2811			7.14
1G70730-SO	-	-	-	7.30	0.2874			7.30
1G70750-SO	-	-	-	7.50	0.2953			7.50
1G70754-SO	19/64	-	-	7.54	0.2969	75	117	7.54
1G70770-SO	-	-	-	7.70	0.3031			7.70

Packed: 1 pc.
Available TiN coating only.

continued on next page



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V	~35	35-45	45-50	50-70
	1010	1035	1065			4140	4340					7075			(30 HRC)	HRC	HRC
167-S0	☐	☐		☐													

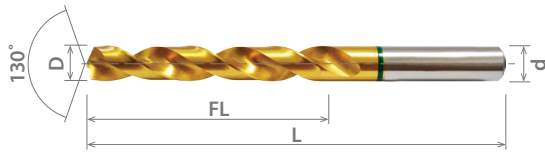
☐ good ☐ best





List 1G7-SO (Continued)

GREEN BAND, NDX Jobber Drills



NEW	GREEN BAND TAPS P72-75, 85-87	SPEED FEED P54	HSS-Co5	TYPE UNI	TiN	JOBBERS	33°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
1≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤13	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1G70780-SO	-	-	-	7.80	0.3071	75	117	7.80
1G70790-SO	-	-	-	7.90	0.3110			7.90
1G70794-SO	5/16	-	-	7.94	0.3126			7.94
1G70800-SO	-	-	-	8.00	0.3150			8.00
1G70810-SO	-	-	-	8.10	0.3189			8.10
1G70820-SO	-	-	-	8.20	0.3228			8.20
1G70833-SO	21/64	-	-	8.33	0.3280			8.33
1G70840-SO	-	-	-	8.40	0.3307			8.40
1G70843-SO	-	-	Q	8.43	0.3319			8.43
1G70850-SO	-	-	-	8.50	0.3346			8.50
1G70870-SO	-	-	-	8.70	0.3425	81	125	8.70
1G70873-SO	11/32	-	-	8.73	0.3437			8.73
1G70880-SO	-	-	-	8.80	0.3465			8.80
1G70890-SO	-	-	-	8.90	0.3504			8.90
1G70900-SO	-	-	-	9.00	0.3543			9.00
1G70913-SO	23/64	-	-	9.13	0.3594			9.13
1G70930-SO	-	-	-	9.30	0.3661			9.30
1G70950-SO	-	-	-	9.50	0.3740			9.50
1G70953-SO	3/8	-	-	9.53	0.3752			9.53
1G70960-SO	-	-	-	9.60	0.3780	87	133	9.60
1G70992-SO	25/64	-	-	9.92	0.3906			9.92
1G71000-SO	-	-	-	10.00	0.3937			10.00
1G71010-SO	-	-	-	10.10	0.3976			10.10
1G71020-SO	-	-	-	10.20	0.4016			10.20
1G71030-SO	-	-	-	10.30	0.4055			10.30
1G71032-SO	13/32	-	-	10.32	0.4063			10.32
1G71050-SO	-	-	-	10.50	0.4134			10.50
1G71060-SO	-	-	-	10.60	0.4173			10.60
1G71070-SO	-	-	-	10.70	0.4213	94	142	10.70
1G71072-SO	27/64	-	-	10.72	0.4220			10.72
1G71080-SO	-	-	-	10.80	0.4252			10.80
1G71100-SO	-	-	-	11.00	0.4331			11.00
1G71111-SO	7/16	-	-	11.11	0.4374			11.11
1G71130-SO	-	-	-	11.30	0.4449			11.30
1G71150-SO	-	-	-	11.50	0.4528			11.50
1G71170-SO	-	-	-	11.70	0.4606			11.70
1G71180-SO	-	-	-	11.80	0.4646			11.80
1G71200-SO	-	-	-	12.00	0.4724	101	151	12.00
1G71250-SO	-	-	-	12.50	0.4921			12.50
1G71269-SO	1/2	-	-	12.70	0.5000			12.70
1G71270-SO	-	-	-	12.80	0.5039			12.80
1G71280-SO	-	-	-	12.90	0.5079			12.90
1G71290-SO	-	-	-	13.00	0.5118			13.00
1G71300-SO	-	-	-	13.00	0.5118			13.00

Packed: 1 pc.

Available TiN coating only.



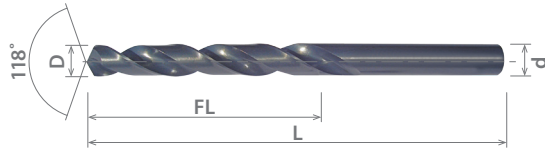
Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V	~35	35-45	45-50	50-70
	1010	1035	1065			4140	4340	7075				30 HRC	HRC	HRC	HRC		
1G7-SO	☐	☐		☐													

☐ good ☒ best



List 101-SO, 102-SO

Straight Shank Jobber Drills



NEW	SPEED FEED PSS	HSS	TYPE N	S/O	JOBBERS	30°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
0.3≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤18	+0 / -0.027	+0 / -0.0011
18<D≤20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1010030-SO	-	-	-	0.30	0.0118	3	19	0.30
1010035-SO	-	-	-	0.35	0.0138	4		0.35
1020040-SO	1/64	-	-	0.40	0.0157	5	20	0.40
1010040-SO	-	-	-	0.45	0.0177			0.45
1010045-SO	-	-	-	0.50	0.0197	6	22	0.50
1010050-SO	-	-	-	0.55	0.0217	7	24	0.55
1010055-SO	-	-	-	0.60	0.0236			0.60
1010060-SO	-	-	-	0.70	0.0276	9	28	0.70
1010070-SO	-	-	-	0.75	0.0295			0.75
1010075-SO	1/32	-	-	0.79	0.0311	10	30	0.79
1020079-SO	-	-	-	0.80	0.0315			0.80
1010080-SO	-	-	-	0.90	0.0354	11	32	0.90
1010090-SO	-	-	-	1.00	0.0394	12	34	1.00
1010100-SO	-	-	-	1.05	0.0413			1.05
1010105-SO	-	-	-	1.10	0.0433	14	36	1.10
1010110-SO	-	-	-	1.15	0.0453			1.15
1010115-SO	3/64	-	-	1.19	0.0469	16	38	1.19
1020119-SO	-	-	-	1.20	0.0472			1.20
1010120-SO	-	-	-	1.25	0.0492			1.25
1010125-SO	-	-	-	1.30	0.0512			1.30
1010130-SO	-	-	-	1.35	0.0531	18	40	1.35
1010135-SO	-	-	-	1.40	0.0551			1.40
1010140-SO	-	-	-	1.45	0.0571			1.45
1010145-SO	-	-	-	1.50	0.0591			1.50
1010150-SO	-	-	-	1.55	0.0610	20	43	1.55
1010155-SO	1/16	-	-	1.59	0.0626			1.59
1020159-SO	-	-	-	1.60	0.0630			1.60
1010160-SO	-	-	-	1.65	0.0650			1.65
1010165-SO	-	-	-	1.70	0.0669	22	46	1.70
1010170-SO	-	-	-	1.75	0.0689			1.75
1010175-SO	-	-	-	1.80	0.0709			1.80
1010180-SO	-	-	-	1.85	0.0728			1.85
1010185-SO	-	-	-	1.90	0.0748	24	49	1.90
1010190-SO	-	-	-	1.95	0.0768			1.95
1010195-SO	5/64	-	-	1.98	0.0780			1.98
1020198-SO	-	-	-	2.00	0.0787			2.00
1010200-SO	-	-	-	2.05	0.0807	27	53	2.05
1010205-SO	-	-	-	2.10	0.0827			2.10
1010210-SO	-	-	-	2.15	0.0846			2.15
1010215-SO	-	-	-	2.20	0.0866			2.20
1010220-SO	-	-	-	2.25	0.0886	30	57	2.25
1010225-SO	-	-	-	2.30	0.0906			2.30
1010230-SO	-	-	-	2.35	0.0925			2.35
1010235-SO	3/32	-	-	2.38	0.0937			2.38
1020238-SO	-	-	-	2.40	0.0945	30	57	2.40
1010240-SO	-	-	-	2.45	0.0965			2.45
1010245-SO	-	-	-					

Packed: 1 pc.
Available Steam Oxide coating only.

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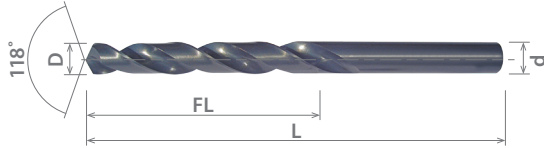
Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065			4140 4340											
101-SO, 102-SO	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐				

☐ good ☒ best



List 101-SO, 102-SO (Continued)

Straight Shank Jobber Drills



NEW	SPEED FEED P55	HSS	TYPE N	S/O	JOBBERS	30°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
0.3≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤18	+0 / -0.027	+0 / -0.0011
18<D≤20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
1010250-SO	-	-	-	2.50	0.0984	30	57	2.50
1010255-SO	-	-	-	2.55	0.1004			2.55
1010260-SO	-	-	-	2.60	0.1024			2.60
1010265-SO	-	-	-	2.65	0.1043			2.65
1010270-SO	-	-	-	2.70	0.1063			2.70
1010275-SO	-	-	-	2.75	0.1083	33	61	2.75
1020278-SO	7/64	-	-	2.78	0.1094			2.78
1010280-SO	-	-	-	2.80	0.1102			2.80
1010285-SO	-	-	-	2.85	0.1122			2.85
1010290-SO	-	-	-	2.90	0.1142			2.90
1010295-SO	-	-	-	2.95	0.1161	36	65	2.95
1010300-SO	-	-	-	3.00	0.1181			3.00
1010310-SO	-	-	-	3.10	0.1220			3.10
1020318-SO	1/8	-	-	3.18	0.1252			3.18
1010320-SO	-	-	-	3.20	0.1260			3.20
1010325-SO	-	-	-	3.25	0.1280	39	70	3.25
1010330-SO	-	-	-	3.30	0.1299			3.30
1010340-SO	-	-	-	3.40	0.1339			3.40
1010350-SO	-	-	-	3.50	0.1378			3.50
1020357-SO	9/64	-	-	3.57	0.1406			3.57
1010360-SO	-	-	-	3.60	0.1417	43	75	3.60
1010370-SO	-	-	-	3.70	0.1457			3.70
1010380-SO	-	-	-	3.80	0.1496			3.80
1010390-SO	-	-	-	3.90	0.1535			3.90
1020397-SO	5/32	-	-	3.97	0.1563			3.97
1010400-SO	-	-	-	4.00	0.1575	47	80	4.00
1010410-SO	-	-	-	4.10	0.1614			4.10
1010420-SO	-	-	-	4.20	0.1654			4.20
1010425-SO	-	-	-	4.25	0.1673			4.25
1010430-SO	-	-	-	4.30	0.1693			4.30
1020437-SO	11/64	-	-	4.37	0.1720	52	86	4.37
1010440-SO	-	-	-	4.40	0.1732			4.40
1010450-SO	-	-	-	4.50	0.1772			4.50
1010460-SO	-	-	-	4.60	0.1811			4.60
1010470-SO	-	-	-	4.70	0.1850			4.70
1020476-SO	3/16	-	-	4.76	0.1874	57	93	4.76
1010480-SO	-	-	-	4.80	0.1890			4.80
1010490-SO	-	-	-	4.90	0.1929			4.90
1010500-SO	-	-	-	5.00	0.1969			5.00
1010510-SO	-	-	-	5.10	0.2008			5.10
1020516-SO	13/64	-	-	5.16	0.2031	63	101	5.16
1010520-SO	-	-	-	5.20	0.2047			5.20
1010525-SO	-	-	-	5.25	0.2067			5.25
1010530-SO	-	-	-	5.30	0.2087			5.30
1010540-SO	-	-	-	5.40	0.2126			5.40
1010550-SO	-	-	-	5.50	0.2165	63	101	5.50
1020556-SO	7/32	-	-	5.56	0.2189			5.56
1010560-SO	-	-	-	5.60	0.2205			5.60
1010570-SO	-	-	-	5.70	0.2244			5.70
1010575-SO	-	-	-	5.75	0.2264			5.75
1010580-SO	-	-	-	5.80	0.2283	63	101	5.80
1010590-SO	-	-	-	5.90	0.2323			5.90
1020595-SO	15/64	-	-	5.95	0.2343			5.95
1010600-SO	-	-	-	6.00	0.2362			6.00
1010610-SO	-	-	-	6.10	0.2402			6.10
1010620-SO	-	-	-	6.20	0.2441	63	101	6.20
1010625-SO	-	-	-	6.25	0.2461			6.25
1010630-SO	-	-	-	6.30	0.2480			6.30

Packed: 1 pc.
Available Steam Oxide coating only.



List 101-SO, 102-SO (Continued)

Straight Shank Jobber Drills

NEW	SPEED FEED P55	HSS	TYPE N	S/O	JOBBERS	30°
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EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1020635-SO	1/4	-	-	6.35	0.2500	63	101	6.35
1010640-SO	-	-	-	6.40	0.2520			6.40
1010650-SO	-	-	-	6.50	0.2559			6.50
1010660-SO	-	-	-	6.60	0.2598			6.60
1010670-SO	-	-	-	6.70	0.2638			6.70
1020675-SO	17/64	-	-	6.75	0.2657	69	109	6.75
1010675-SO	-	-	-	6.80	0.2677			6.80
1010680-SO	-	-	-	6.90	0.2717			6.90
1010690-SO	-	-	-	7.00	0.2756			7.00
1010700-SO	-	-	-	7.10	0.2795			7.10
1020714-SO	9/32	-	-	7.14	0.2811			7.14
1010720-SO	-	-	-	7.20	0.2835			7.20
1010730-SO	-	-	-	7.30	0.2874			7.30
1010740-SO	-	-	-	7.40	0.2913			7.40
1010750-SO	-	-	-	7.50	0.2953			7.50
1020754-SO	19/64	-	-	7.54	0.2969	75	117	7.54
1010760-SO	-	-	-	7.60	0.2992			7.60
1010770-SO	-	-	-	7.70	0.3031			7.70
1010780-SO	-	-	-	7.80	0.3071			7.80
1010790-SO	-	-	-	7.90	0.3110			7.90
1020794-SO	5/16	-	-	7.94	0.3126			7.94
1010800-SO	-	-	-	8.00	0.3150			8.00
1010810-SO	-	-	-	8.10	0.3189			8.10
1010820-SO	-	-	-	8.20	0.3228			8.20
1010825-SO	-	-	-	8.25	0.3248			8.25
1010830-SO	-	-	-	8.30	0.3268			8.30
1020833-SO	21/64	-	-	8.33	0.3280			8.33
1010840-SO	-	-	-	8.40	0.3307			8.40
1010850-SO	-	-	-	8.50	0.3346			8.50
1010860-SO	-	-	-	8.60	0.3386	81	125	8.60
1010870-SO	-	-	-	8.70	0.3425			8.70
1020873-SO	11/32	-	-	8.73	0.3437			8.73
1010875-SO	-	-	-	8.75	0.3445			8.75
1010880-SO	-	-	-	8.80	0.3465			8.80
1010890-SO	-	-	-	8.90	0.3504			8.90
1010900-SO	-	-	-	9.00	0.3543			9.00
1010910-SO	-	-	-	9.10	0.3583			9.10
1020913-SO	23/64	-	-	9.13	0.3594			9.13
1010920-SO	-	-	-	9.20	0.3622			9.20
1010925-SO	-	-	-	9.25	0.3642			9.25
1010930-SO	-	-	-	9.30	0.3661			9.30
1010940-SO	-	-	-	9.40	0.3701			9.40
1010950-SO	-	-	-	9.50	0.3740			9.50
1020953-SO	3/8	-	-	9.53	0.3752	87	133	9.53
1010960-SO	-	-	-	9.60	0.3780			9.60
1010970-SO	-	-	-	9.70	0.3819			9.70
1010975-SO	-	-	-	9.75	0.3839			9.75
1010980-SO	-	-	-	9.80	0.3858			9.80
1010990-SO	-	-	-	9.90	0.3898			9.90
1020992-SO	25/64	-	-	9.92	0.3906			9.92
1011000-SO	-	-	-	10.00	0.3937			10.00
1011010-SO	-	-	-	10.10	0.3976			10.10

Packed: 1 pc.
Available Steam Oxide coating only.

continued on next page 

Work Material																		
List No.	P					M			K	N		S		H				
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels				
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V	30 HRC	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010	1035	1065			4140	4340	300		400	17-4 PH	6061	7075	6061	7075	6061	7075	6061
101-SO, 102-SO	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

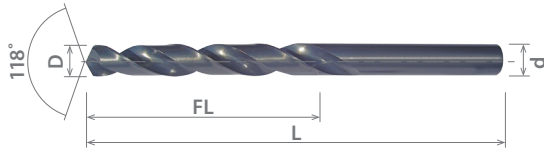
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List 101-SO, 102-SO (Continued)

Straight Shank Jobber Drills



NEW	SPEED FEED	HSS	TYPE N	S/O	JOBBERS	30°
	P55					

Cutting Diameter Tolerance (h8)		
Size	mm	inch
0.3≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤18	+0 / -0.027	+0 / -0.0011
18<D≤20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
1011020-SO	-	-	-	10.20	0.4016	87	133	10.20
1011025-SO	-	-	-	10.25	0.4035			10.25
1011030-SO	-	-	-	10.30	0.4055			10.30
1021032-SO	13/32	-	-	10.32	0.4063			10.32
1011040-SO	-	-	-	10.40	0.4094			10.40
1011050-SO	-	-	-	10.50	0.4134			10.50
1011060-SO	-	-	-	10.60	0.4173	94	142	10.60
1011070-SO	-	-	-	10.70	0.4213			10.70
1021072-SO	27/64	-	-	10.72	0.4220			10.72
1011075-SO	-	-	-	10.75	0.4232			10.75
1011080-SO	-	-	-	10.80	0.4252			10.80
1011090-SO	-	-	-	10.90	0.4291			10.90
1011100-SO	-	-	-	11.00	0.4331			11.00
1011110-SO	-	-	-	11.10	0.4370			11.10
1021111-SO	7/16	-	-	11.11	0.4374			11.11
1011120-SO	-	-	-	11.20	0.4409			11.20
1011130-SO	-	-	-	11.30	0.4449			11.30
1011140-SO	-	-	-	11.40	0.4488			11.40
1011150-SO	-	-	-	11.50	0.4528			11.50
1021151-SO	29/64	-	-	11.51	0.4531			11.51
1011160-SO	-	-	-	11.60	0.4567			11.60
1011170-SO	-	-	-	11.70	0.4606			11.70
1011180-SO	-	-	-	11.80	0.4646			11.80
1011190-SO	-	-	-	11.90	0.4685	101	151	11.90
1021191-SO	15/32	-	-	11.91	0.4689			11.91
1011200-SO	-	-	-	12.00	0.4724			12.00
1011210-SO	-	-	-	12.10	0.4764			12.10
1011220-SO	-	-	-	12.20	0.4803			12.20
1011225-SO	-	-	-	12.25	0.4823			12.25
1011230-SO	-	-	-	12.30	0.4843			12.30
1021230-SO	31/64	-	-	12.40	0.4882			12.40
1011240-SO	-	-	-	12.40	0.4882			12.40
1011250-SO	-	-	-	12.50	0.4921			12.50
1011260-SO	-	-	-	12.60	0.4961			12.60
1021270-SO	1/2	-	-	12.70	0.5000			12.70
1011270-SO	-	-	-	12.70	0.5000			12.70
1011275-SO	-	-	-	12.75	0.5020			12.75
1011280-SO	-	-	-	12.80	0.5039			12.80
1011290-SO	-	-	-	12.90	0.5079			12.90
1011300-SO	-	-	-	13.00	0.5118	108	160	13.00
1021310-SO	33/64	-	-	13.10	0.5157			13.10
1011310-SO	-	-	-	13.10	0.5157			13.10
1011320-SO	-	-	-	13.20	0.5197			13.20
1011325-SO	-	-	-	13.25	0.5217			13.25
1011330-SO	-	-	-	13.30	0.5236			13.30
1011340-SO	-	-	-	13.40	0.5276			13.40
1021349-SO	17/32	-	-	13.49	0.5311			13.49
1011350-SO	-	-	-	13.50	0.5315			13.50
1011360-SO	-	-	-	13.60	0.5354			13.60
1011370-SO	-	-	-	13.70	0.5394	114	169	13.70
1011380-SO	-	-	-	13.80	0.5433			13.80
1021389-SO	35/64	-	-	13.89	0.5469			13.89
1011400-SO	-	-	-	14.00	0.5512			14.00
1011425-SO	-	-	-	14.25	0.5610			14.25
1021429-SO	9/16	-	-	14.29	0.5626			14.29
1011450-SO	-	-	-	14.50	0.5709			14.50
1021468-SO	37/64	-	-	14.68	0.5780			14.68
1011475-SO	-	-	-	14.75	0.5807			14.75

Packed: 1 pc.
Available Steam Oxide coating only.



List 101-SO, 102-SO (Continued)

Straight Shank Jobber Drills

NEW	SPEED FEED P55	HSS	TYPE N	S/O	JOBBERS	30°
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EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1011500-SO	-	-	-	15.00	0.5906	114	169	15.00
1011525-SO	-	-	-	15.25	0.6004	120	178	15.25
1011550-SO	-	-	-	15.50	0.6102			15.50
1011575-SO	-	-	-	15.75	0.6201			15.75
1021588-SO	5/8	-	-	15.88	0.6252			15.88
1011600-SO	-	-	-	16.00	0.6299			16.00
1011650-SO	-	-	-	16.50	0.6496	125	184	16.50
1011700-SO	-	-	-	17.00	0.6693	130	191	17.00
1011750-SO	-	-	-	17.50	0.6890			17.50
1011800-SO	-	-	-	18.00	0.7087			18.00
1011850-SO	-	-	-	18.50	0.7283	135	198	18.50
1011900-SO	-	-	-	19.00	0.7480			19.00
1011950-SO	-	-	-	19.50	0.7677			19.50
1012000-SO	-	-	-	20.00	0.7874	140	205	20.00

Packed: 1 pc.
Available Steam Oxide coating only.



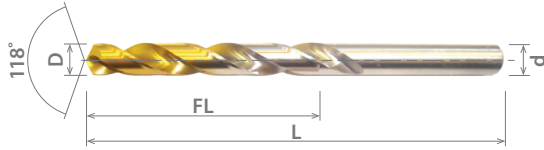
Work Material																			
List No.	P					M			K	N		S		H					
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels					
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065			4140 4340	300	400		17-4 PH	6061 7075			Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC
101-SO, 102-SO	☐	☐	☐	☐	☐	☐	☐		☐	☐	☐	☐							

☐ good ☒ best



List 1X6-SO

X-Ratio Split Point Straight Shank Jobber Drills



NEW	SPEED FEED P55	HSS	TYPE N	TiN	JOBBERS	30°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
1≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤16	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1X60318-SO	1/8	-	-	3.18	0.1252	36	65	3.18
1X60357-SO	9/64	-	-	3.57	0.1406	39	70	3.57
1X60397-SO	5/32	-	-	3.97	0.1563	43	75	3.97
1X60437-SO	11/64	-	-	4.37	0.1720	47	80	4.37
1X60476-SO	3/16	-	-	4.76	0.1874	52	86	4.76
1X60516-SO	13/64	-	-	5.16	0.2031	57	93	5.16
1X60556-SO	7/32	-	-	5.56	0.2189	63	101	5.56
1X60595-SO	15/64	-	-	5.95	0.2343	69	109	5.95
1X60635-SO	1/4	-	-	6.35	0.2500	75	117	6.35
1X60675-SO	17/64	-	-	6.75	0.2657	81	125	6.75
1X60714-SO	9/32	-	-	7.14	0.2811	87	133	7.14
1X60754-SO	19/64	-	-	7.54	0.2969	94	142	7.54
1X60794-SO	5/16	-	-	7.94	0.3126	101	151	7.94
1X60833-SO	21/64	-	-	8.33	0.3280	108	160	8.33
1X60873-SO	11/32	-	-	8.73	0.3437	114	169	8.73
1X60913-SO	23/64	-	-	9.13	0.3594	120	178	9.13
1X60953-SO	3/8	-	-	9.53	0.3752			9.53
1X60992-SO	25/64	-	-	9.92	0.3906			9.92
1X61032-SO	13/32	-	-	10.32	0.4063			10.32
1X61072-SO	27/64	-	-	10.72	0.4220			10.72
1X61111-SO	7/16	-	-	11.11	0.4374			11.11
1X61151-SO	29/64	-	-	11.51	0.4531			11.51
1X61191-SO	15/32	-	-	11.91	0.4689			11.91
1X61229-SO	31/64	-	-	12.30	0.4843			12.30
1X61269-SO	1/2	-	-	12.70	0.5000			12.70
1X61309-SO	33/64	-	-	13.10	0.5157			13.10
1X61349-SO	17/32	-	-	13.49	0.5311			13.49
1X61389-SO	35/64	-	-	13.89	0.5469			13.89
1X61429-SO	9/16	-	-	14.29	0.5626			14.29
1X61468-SO	37/64	-	-	14.68	0.5780			14.68
1X61588-SO	5/8	-	-	15.88	0.6252			15.88

Packed: 1 pc.
Available TiN coating only.



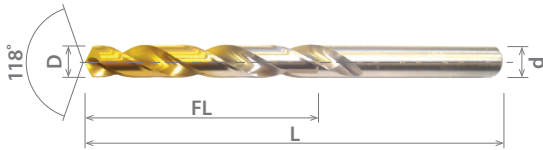
Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065			4140 4340	300	400		17-4 PH	6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC
1X6-S0	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

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List 1X6-SO (SET) (Continued)

INCH SET., X-Ratio Split Point Straight Shank Jobber Drills



NEW	SPEED FEED P55	HSS	TYPE N	TiN	JOBBERS	30°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
1≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤16	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1X60030-SO	1/16	-	-	1.59	0.0625	20	43	1.59
	5/64	-	-	1.98	0.0781	24	49	1.98
	3/32	-	-	2.38	0.0938	30	57	2.38
	7/64	-	-	2.78	0.1094	33	61	2.78
	1/8	-	-	3.18	0.1250	36	65	3.18
	9/64	-	-	3.57	0.1406	39	70	3.57
	5/32	-	-	3.97	0.1562	43	75	3.97
	11/64	-	-	4.37	0.1719	47	80	4.37
	3/16	-	-	4.76	0.1875	52	86	4.76
	13/64	-	-	5.16	0.2031			5.16
	7/32	-	-	5.56	0.2188			5.56
	15/64	-	-	5.95	0.2344	57	93	5.95
	1/4	-	-	6.35	0.2500	63	101	6.35
	17/64	-	-	6.75	0.2656			6.75
	9/32	-	-	7.14	0.2812	69	109	7.14
	19/64	-	-	7.54	0.2969			7.54
	5/16	-	-	7.94	0.3125	75	117	7.94
	21/64	-	-	8.33	0.3281			8.33
	11/32	-	-	8.73	0.3438	81	125	8.73
	23/64	-	-	9.13	0.3594			9.13
	3/8	-	-	9.53	0.3750			9.53
	25/64	-	-	9.92	0.3906	87	133	9.92
	13/32	-	-	10.32	0.4062			10.32
	27/64	-	-	10.72	0.4219			10.72
	7/16	-	-	11.11	0.4375	94	142	11.11
	29/64	-	-	11.51	0.4531			11.51
	15/32	-	-	11.91	0.4688			11.91
	31/64	-	-	12.30	0.4844	101	151	12.30
	1/2	-	-	12.70	0.5000			12.70

Packed: 1 pc.
Available TiN coating only.

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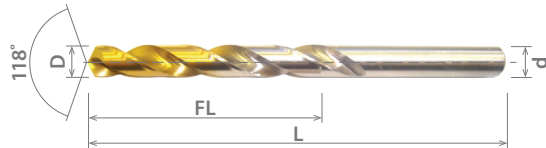
Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010	1035	1065			4140	4340	7075				(30 HRC)					
1X6-SO	☐	☐	☐	☐	☐	☐	☐		☐	☐	☐	☐	☐				

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List 1X6-SO (SET) (Continued)

METRIC SET, X-Ratio Split Point Straight Shank Jobber Drills



NEW	SPEED FEED P55	HSS	TYPE N	TiN	JOBBERS	30°
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
1≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤16	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
1X60040-SO	-	-	-	1.00	0.0394	12	34	1.0
	-	-	-	1.50	0.0591	18	40	1.5
	-	-	-	2.00	0.0787	24	49	2.0
	-	-	-	2.50	0.0984	30	57	2.5
	-	-	-	3.00	0.1181	33	61	3.0
	-	-	-	3.50	0.1378	39	70	3.5
	-	-	-	4.00	0.1575	43	75	4.0
	-	16	-	4.50	0.1772	47	80	4.5
	-	-	-	5.00	0.1969	52	86	5.0
	-	-	-	5.50	0.2165	57	93	5.5
	-	-	-	6.00	0.2362			6.0
	-	-	-	6.50	0.2559	63	101	6.5
	-	-	-	7.00	0.2756	69	109	7.0
	-	-	-	7.50	0.2953			7.5
	-	-	-	8.00	0.3150	75	117	8.0
	-	-	-	8.50	0.3346			8.5
	-	-	-	9.00	0.3543	81	125	9.0
	-	-	-	9.50	0.3740			9.5
	-	-	-	10.00	0.3937	87	133	10.0
	-	-	-	10.50	0.4134			10.5
	-	-	-	11.00	0.4331	94	142	11.0
	-	-	-	11.50	0.4528			11.5
	-	-	-	12.00	0.4724	101	151	12.0
	-	-	-	12.50	0.4921			12.5
	-	-	-	13.00	0.5118			13.0

Packed: 1 pc.
Available TiN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V	~35	35-45	45-50	50-70
	1010 1018	1035 1045	1065			4140 4340	300	400		17-4 PH	6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC
1X6-S0	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

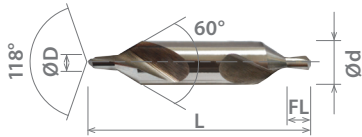
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List 1NA-SO

Center Drills

NEW	SPEED FEED P56	HSS	BR
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EDP Number	Diameter	Tool Number	Flute Length	Overall Length	Shank Diameter
			FL	L	d
1NA0001-SO	3/64	1	0.047	1.260	0.125
1NA0002-SO	5/64	2	0.078	1.890	0.187
1NA0003-SO	7/64	3	0.110	2.008	0.250
1NA0004-SO	1/8	4	0.126	2.126	0.313
1NA0005-SO	3/16	5	0.189	2.756	0.437
1NA0006-SO	7/32	6	0.217	2.992	0.500
1NA0007-SO	1/4	7	0.252	3.268	0.625

Packed: 1 pc.
EDP's listed above are stocked standard, other coatings available upon request.
Specify treatment at time of order.



Work Material																		
List No.	P				M			K	N		S		H					
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels				
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V	30 HRC	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010	1035	1065			4140	4340	300		400	17-4 PH	6061	7075	Casting	Inconel	6Al4V	30 HRC	~35 HRC
1NA-SO	☐	☐	☐	☐		☐	☐		☐	☐	☐	☐	☐					

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List 751-SO, 752-SO

Parallel Shank Machine Chucking Reamers



NEW	SPEED FEED P57	HSS-Co5	BR	10°
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Cutting Diameter Tolerance (h7)		
Size	mm	inch
2≤D≤3	+0 / -0.01	+0 / -0.0003
3<D≤6	+0 / -0.012	+0 / -0.0004
6<D≤10	+0 / -0.015	+0 / -0.0005
10<D≤18	+0 / -0.018	+0 / -0.0007
18<D≤20	+0 / -0.021	+0 / -0.0008

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
7510200-SO	-	-	-	2.00	0.0787	11	49	2.0
7510240-SO	-	-	-	2.40	0.0945	14	57	2.4
7510250-SO	-	-	-	2.50	0.0984			2.5
7510260-SO	-	-	-	2.60	0.1024			2.6
7510270-SO	-	-	-	2.70	0.1063	15	61	2.7
7510280-SO	-	-	-	2.80	0.1102			2.8
7510300-SO	-	-	-	3.00	0.1181			3.0
7510310-SO	-	-	-	3.10	0.1220	16	65	3.1
7520318-SO	1/8	-	-	3.18	0.1252			3.2
7510320-SO	-	-	-	3.20	0.1260			18
7510340-SO	-	-	-	3.40	0.1339	3.5		
7510350-SO	-	-	-	3.50	0.1378	3.6		
7510360-SO	-	-	-	3.60	0.1417	19	75	4.0
7510380-SO	-	-	-	3.80	0.1496			
7510400-SO	-	-	-	4.00	0.1575			
7510410-SO	-	-	-	4.10	0.1614	21	80	4.5
7510420-SO	-	-	-	4.20	0.1654			
7510430-SO	-	-	-	4.30	0.1693			
7510440-SO	-	-	-	4.40	0.1732	23	86	5.0
7510450-SO	-	-	-	4.50	0.1772			
7520476-SO	3/16	-	-	4.76	0.1874			
7510480-SO	-	-	-	4.80	0.1890	26	93	5.6
7510490-SO	-	-	-	4.90	0.1929			
7510500-SO	-	-	-	5.00	0.1969			
7510510-SO	-	-	-	5.10	0.2008	28	101	6.3
7510520-SO	-	-	-	5.20	0.2047			
7510530-SO	-	-	-	5.30	0.2087			
7510540-SO	-	-	-	5.40	0.2126	31	109	7.1
7510550-SO	-	-	-	5.50	0.2165			
7510560-SO	-	-	-	5.60	0.2205			
7510570-SO	-	-	-	5.70	0.2244	33	117	8.0
7510580-SO	-	-	-	5.80	0.2283			
7510600-SO	-	-	-	6.00	0.2362			
7510610-SO	-	-	-	6.10	0.2402	36	125	9.0
7510620-SO	-	-	-	6.20	0.2441			
7510630-SO	-	-	-	6.30	0.2480			
7520635-SO	1/4	-	-	6.35	0.2500	33	117	8.0
7510640-SO	-	-	-	6.40	0.2520			
7510650-SO	-	-	-	6.50	0.2559			
7510660-SO	-	-	-	6.60	0.2598	31	109	7.1
7510670-SO	-	-	-	6.70	0.2638			
7510680-SO	-	-	-	6.80	0.2677			
7510700-SO	-	-	-	7.00	0.2756	33	117	8.0
7510710-SO	-	-	-	7.10	0.2795			
7510720-SO	-	-	-	7.20	0.2835			
7510730-SO	-	-	-	7.30	0.2874	36	125	9.0
7510750-SO	-	-	-	7.50	0.2953			
7510780-SO	-	-	-	7.80	0.3071			
7510790-SO	-	-	-	7.90	0.3110	33	117	8.0
7520794-SO	5/16	-	-	7.94	0.3126			
7510800-SO	-	-	-	8.00	0.3150			
7510810-SO	-	-	-	8.10	0.3189	36	125	9.0
7510820-SO	-	-	-	8.20	0.3228			
7510830-SO	-	-	-	8.30	0.3268			
7510840-SO	-	-	-	8.40	0.3307	36	125	9.0
7510850-SO	-	-	-	8.50	0.3346			
7510860-SO	-	-	-	8.60	0.3386			
7510880-SO	-	-	-	8.80	0.3465			

Packed: 1 pc.
EDP's listed above are stocked standard, other coatings available upon request.
Specify treatment at time of order.
The body is steam oxide. The shank and land with are bright.



List 751-SO, 752-SO (Continued)

Parallel Shank Machine Chucking Reamers

NEW	SPEED FEED P57	HSS-Co5	BR	10°
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EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch	FL	L	d
7510890-SO	-	-	-	8.90	0.3504	36	125	9.0
7510900-SO	-	-	-	9.00	0.3543			
7510910-SO	-	-	-	9.10	0.3583			
7510950-SO	-	-	-	9.50	0.3740	38	133	10.0
7520953-SO	3/8	-	-	9.53	0.3752			
7510960-SO	-	-	-	9.60	0.3780			
7510970-SO	-	-	-	9.70	0.3819			
7510980-SO	-	-	-	9.80	0.3858			
7510990-SO	-	-	-	9.90	0.3898			
7511000-SO	-	-	-	10.00	0.3937			
7511010-SO	-	-	-	10.10	0.3976			
7511020-SO	-	-	-	10.20	0.4016			
7511030-SO	-	-	-	10.30	0.4055			
7511050-SO	-	-	-	10.50	0.4134			
7511060-SO	-	-	-	10.60	0.4173			
7511070-SO	-	-	-	10.70	0.4213			
7511080-SO	-	-	-	10.80	0.4252			
7511090-SO	-	-	-	10.90	0.4291			
7511100-SO	-	-	-	11.00	0.4331	41	142	10.0
7511110-SO	-	-	-	11.10	0.4370			
7521111-SO	7/16	-	-	11.11	0.4374			
7511150-SO	-	-	-	11.50	0.4528	44	151	12.5
7511170-SO	-	-	-	11.70	0.4606			
7511180-SO	-	-	-	11.80	0.4646			
7511190-SO	-	-	-	11.90	0.4685			
7511200-SO	-	-	-	12.00	0.4724			
7511210-SO	-	-	-	12.10	0.4764			
7511220-SO	-	-	-	12.20	0.4803			
7511230-SO	-	-	-	12.30	0.4843			
7511240-SO	-	-	-	12.40	0.4882			
7511250-SO	-	-	-	12.50	0.4921			
7511260-SO	-	-	-	12.60	0.4961			
7511270-SO	-	-	-	12.70	0.5000			
7521270-SO	1/2	-	-	12.70	0.5000			
7511280-SO	-	-	-	12.80	0.5039			
7511290-SO	-	-	-	12.90	0.5079			
7511300-SO	-	-	-	13.00	0.5118	47	160	12.5
7511350-SO	-	-	-	13.50	0.5315			
7511400-SO	-	-	-	14.00	0.5512			
7521429-SO	9/16	-	-	14.29	0.5626	50	162	14.0
7511450-SO	-	-	-	14.50	0.5709			
7511500-SO	-	-	-	15.00	0.5906			
7511550-SO	-	-	-	15.50	0.6102	52	170	14.0
7521588-SO	5/8	-	-	15.88	0.6252			
7511600-SO	-	-	-	16.00	0.6299			
7511700-SO	-	-	-	17.00	0.6693	54	175	14.0
7511800-SO	-	-	-	18.00	0.7087	56	182	
7521905-SO	3/4	-	-	19.05	0.7500	60	195	16.0
7512000-SO	-	-	-	20.00	0.7874			

Packed: 1 pc.
EDP's listed above are stocked standard, other coatings available upon request.
Specify treatment at time of order.
The body is steam oxide. The shank and land with are bright.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels 4140 4340	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010	1035	1065			7075				(30 HRC)							
751-S0, 752-S0	☐	☐	☐		☐	☐			☐	☐		☐	☐				

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List 0CS-SO
List 0CJ-SO
List 01S-SO
List 01J-SO

Work Material		Carbon Steels Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Stainless Steels 300, 400, 17-4PH		Cast Iron		Ductile Cast Iron	
Drilling Speed		395-500 SFM		165-400 SFM		130-295 SFM		245-495 SFM		245-495 SFM	
Drill Dia.		Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed
mm	Inch	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR
1	-	42,970	0.0010-0.0012	27,058	0.0007-0.0008	20,692	0.0007-0.0008	35,813	0.0008-0.0010	35,813	0.0008-0.0010
2	-	21,485	0.0020-0.0024	13,529	0.0014-0.0016	10,346	0.0014-0.0016	17,906	0.0016-0.0020	17,906	0.0016-0.0020
-	3/32	18,045	0.0023-0.0028	11,363	0.0017-0.0019	8,689	0.0017-0.0019	15,039	0.0019-0.0023	15,039	0.0019-0.0023
3	-	14,323	0.0030-0.0035	9,019	0.0021-0.0024	6,897	0.0021-0.0024	11,938	0.0024-0.0030	11,938	0.0024-0.0030
-	1/8	13,534	0.0031-0.0038	8,522	0.0023-0.0025	6,517	0.0023-0.0025	11,280	0.0025-0.0031	11,280	0.0025-0.0031
4	-	10,743	0.0039-0.0047	6,765	0.0029-0.0031	5,173	0.0029-0.0031	8,953	0.0031-0.0039	8,953	0.0031-0.0039
-	3/16	9,023	0.0047-0.0056	5,682	0.0034-0.0038	4,345	0.0034-0.0038	7,520	0.0038-0.0047	7,520	0.0038-0.0047
6	-	7,162	0.0059-0.0071	4,510	0.0043-0.0047	3,449	0.0043-0.0047	5,969	0.0047-0.0059	5,969	0.0047-0.0059
-	1/4	6,767	0.0063-0.0075	4,261	0.0045-0.0050	3,259	0.0045-0.0050	5,640	0.0050-0.0063	5,640	0.0050-0.0063
8	-	5,371	0.0079-0.0094	3,382	0.0057-0.0063	2,586	0.0057-0.0063	4,477	0.0063-0.0079	4,477	0.0063-0.0079
-	3/8	4,511	0.0094-0.0113	2,841	0.0068-0.0075	2,172	0.0068-0.0075	3,760	0.0075-0.0094	3,760	0.0075-0.0094
10	-	4,297	0.0098-0.0118	2,706	0.0071-0.0079	2,069	0.0071-0.0079	3,581	0.0079-0.0098	3,581	0.0079-0.0098
-	7/16	3,867	0.0109-0.0131	2,435	0.0079-0.0088	1,862	0.0079-0.0088	3,223	0.0088-0.0109	3,223	0.0088-0.0109
12	-	3,581	0.0118-0.0142	2,255	0.0086-0.0094	1,724	0.0086-0.0094	2,984	0.0094-0.0118	2,984	0.0094-0.0118
-	1/2	3,383	0.0125-0.0150	2,131	0.0091-0.0100	1,629	0.0091-0.0100	2,820	0.0100-0.0125	2,820	0.0100-0.0125
14	-	3,069	0.0138-0.0165	1,933	0.0100-0.0110	1,478	0.0100-0.0110	2,558	0.0110-0.0138	2,558	0.0110-0.0138

Work Material		Aluminum				Copper		Synthetics		High Heat Material			
		Alloy		Casting						Ti-Alloy, Ti-6Al-4V		Ni-Base Material, Inconel	
Drilling Speed		495-655 SFM		150-490 SFM		165-260 SFM		325-985 SFM		65-200 SFM		65-230 SFM	
Drill Dia.		Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed
mm	Inch	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR
1	-	55,708	0.0010-0.0012	31,038	0.0010-0.0012	20,692	0.0010-0.0012	63,667	0.0012-0.0018	12,733	0.0007-0.0008	14,325	0.0007-0.0008
2	-	27,854	0.0020-0.0024	15,519	0.0020-0.0024	10,346	0.0020-0.0024	31,833	0.0025-0.0033	6,367	0.0014-0.0016	7,163	0.0014-0.0016
-	3/32	23,395	0.0023-0.0028	13,034	0.0023-0.0028	8,689	0.0023-0.0028	26,737	0.0034-0.0039	5,347	0.0017-0.0019	6,016	0.0017-0.0019
3	-	18,569	0.0030-0.0035	10,346	0.0030-0.0035	6,897	0.0030-0.0035	21,222	0.0044-0.0050	4,244	0.0021-0.0024	4,775	0.0021-0.0024
-	1/8	17,546	0.0031-0.0038	9,776	0.0031-0.0038	6,517	0.0031-0.0038	20,052	0.0044-0.0050	4,010	0.0023-0.0025	4,512	0.0023-0.0025
4	-	13,927	0.0039-0.0047	7,759	0.0039-0.0047	5,173	0.0039-0.0047	15,917	0.0060-0.0065	3,183	0.0029-0.0031	3,581	0.0029-0.0031
-	3/16	11,697	0.0047-0.0056	6,517	0.0047-0.0056	4,345	0.0047-0.0056	13,368	0.0070-0.0075	2,674	0.0034-0.0038	3,008	0.0034-0.0038
6	-	9,285	0.0059-0.0071	5,173	0.0059-0.0071	3,449	0.0059-0.0071	10,611	0.0090-0.0095	2,122	0.0043-0.0047	2,388	0.0043-0.0047
-	1/4	8,773	0.0063-0.0075	4,888	0.0063-0.0075	3,259	0.0063-0.0075	10,026	0.0093-0.0100	2,005	0.0045-0.0050	2,256	0.0045-0.0050
8	-	6,964	0.0079-0.0094	3,880	0.0079-0.0094	2,586	0.0079-0.0094	7,958	0.0120-0.0126	1,592	0.0057-0.0063	1,791	0.0057-0.0063
-	3/8	5,849	0.0094-0.0113	3,259	0.0094-0.0113	2,172	0.0094-0.0113	6,684	0.0145-0.0150	1,337	0.0068-0.0075	1,504	0.0068-0.0075
10	-	5,571	0.0098-0.0118	3,104	0.0098-0.0118	2,069	0.0098-0.0118	6,367	0.0154-0.0157	1,273	0.0071-0.0079	1,433	0.0071-0.0079
-	7/16	5,013	0.0109-0.0131	2,793	0.0109-0.0131	1,862	0.0109-0.0131	5,729	0.0169-0.0175	1,146	0.0079-0.0088	1,289	0.0079-0.0088
12	-	4,642	0.0118-0.0142	2,586	0.0118-0.0142	1,724	0.0118-0.0142	5,306	0.0184-0.0189	1,061	0.0086-0.0094	1,194	0.0086-0.0094
-	1/2	4,386	0.0125-0.0150	2,444	0.0125-0.0150	1,629	0.0125-0.0150	5,013	0.0195-0.0200	1,003	0.0091-0.0100	1,128	0.0091-0.0100
14	-	3,979	0.0138-0.0165	2,217	0.0138-0.0165	1,478	0.0138-0.0165	4,548	0.0210-0.0220	910	0.0100-0.0110	1,023	0.0100-0.0110



List 163-SO

List 164-SO

List 110-SO

Work Material		Carbon Steels Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Stainless Steels 300, 400, 17-4PH		Cast Iron		Ductile Cast Iron	
Drilling Speed		80-230 SFM		66-130 SFM		25-105 SFM		80-180 SFM		40-115 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch										
1	-	15,119	0.0008-0.0010	9,550	0.0004-0.0007	6,367	0.0004-0.0012	12,733	0.0006-0.0007	7,481	0.0004-0.0006
2	-	7,559	0.0016-0.0020	4,775	0.0009-0.0014	3,183	0.0008-0.0024	6,367	0.0012-0.0014	3,740	0.0009-0.0012
-	3/32	6,349	0.0019-0.0023	4,010	0.0010-0.0017	2,674	0.0010-0.0029	5,347	0.0014-0.0017	3,142	0.0010-0.0014
3	-	5,040	0.0024-0.0030	3,183	0.0013-0.0021	2,122	0.0012-0.0036	4,244	0.0018-0.0021	2,494	0.0013-0.0018
-	1/8	4,762	0.0025-0.0031	3,008	0.0014-0.0023	2,005	0.0013-0.0038	4,010	0.0019-0.0023	2,356	0.0014-0.0019
4	-	3,780	0.0031-0.0039	2,388	0.0017-0.0028	1,592	0.0017-0.0048	3,183	0.0024-0.0028	1,870	0.0017-0.0024
-	3/16	3,175	0.0038-0.0047	2,005	0.0021-0.0034	1,337	0.0020-0.0058	2,674	0.0028-0.0034	1,571	0.0021-0.0028
6	-	2,520	0.0047-0.0059	1,592	0.0026-0.0043	1,061	0.0025-0.0073	2,122	0.0035-0.0043	1,247	0.0026-0.0035
-	1/4	2,381	0.0050-0.0063	1,504	0.0028-0.0045	1,003	0.0027-0.0077	2,005	0.0038-0.0045	1,178	0.0028-0.0038
8	-	1,890	0.0063-0.0079	1,194	0.0035-0.0057	796	0.0034-0.0097	1,592	0.0047-0.0057	935	0.0035-0.0047
-	3/8	1,587	0.0075-0.0094	1,003	0.0041-0.0068	668	0.0041-0.0116	1,337	0.0056-0.0068	785	0.0041-0.0056
10	-	1,512	0.0079-0.0098	955	0.0043-0.0071	637	0.0043-0.0122	1,273	0.0059-0.0071	748	0.0043-0.0059
-	7/16	1,361	0.0088-0.0109	859	0.0048-0.0079	573	0.0048-0.0135	1,146	0.0066-0.0079	673	0.0048-0.0066
12	-	1,260	0.0094-0.0118	796	0.0052-0.0085	531	0.0051-0.0146	1,061	0.0071-0.0085	623	0.0052-0.0071
-	1/2	1,190	0.0100-0.0125	752	0.0055-0.0090	501	0.0055-0.0155	1,003	0.0075-0.0090	589	0.0055-0.0075
14	-	1,080	0.0110-0.0138	682	0.0061-0.0099	455	0.0060-0.0170	910	0.0083-0.0099	534	0.0061-0.0083
-	19/32	1,002	0.1190-0.0148	633	0.0065-0.0107	422	0.0065-0.0184	844	0.0089-0.0106	496	0.0065-0.0089
16	-	945	0.0126-0.0157	597	0.0069-0.0113	398	0.0069-0.0195	796	0.0094-0.0113	468	0.0069-0.0094

Work Material		Aluminum				Copper		Synthetics		High Heat Material			
		Alloy		Casting						Ti-Alloy, Ti-6Al-4V		Ni-Base Material, Inconel	
Drilling Speed		245-410 SFM		90-380 SFM		90-350 SFM		50-410 SFM		15-115 SFM		15-80 SFM	
Drill Dia.		Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed
mm	Inch	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR
1	-	31,833	0.0009-0.0018	22,602	0.0009-0.0018	21,010	0.0009-0.0018	22,283	0.0007-0.0018	6,367	0.0003-0.0004	4,775	0.0003-0.0007
2	-	15,917	0.0018-0.0035	11,301	0.0017-0.0035	10,505	0.0017-0.0035	11,142	0.0015-0.0035	3,183	0.0005-0.0009	2,388	0.0005-0.0014
-	3/32	13,368	0.0022-0.0042	9,492	0.0021-0.0042	8,823	0.0021-0.0042	9,358	0.0018-0.0042	2,674	0.0006-0.0010	2,005	0.0006-0.0017
3	-	10,611	0.0027-0.0053	7,534	0.0026-0.0053	7,003	0.0026-0.0053	7,428	0.0022-0.0053	2,122	0.0008-0.0013	1,592	0.0008-0.0021
-	1/8	10,026	0.0029-0.0056	7,119	0.0028-0.0056	6,617	0.0028-0.0056	7,018	0.0024-0.0056	2,005	0.0008-0.0014	1,504	0.0008-0.0023
4	-	7,958	0.0036-0.0071	5,650	0.0035-0.0071	5,253	0.0035-0.0071	5,571	0.0030-0.0071	1,592	0.0010-0.0017	1,194	0.0010-0.0028
-	3/16	6,684	0.0043-0.0084	4,746	0.0041-0.0084	4,412	0.0041-0.0084	4,679	0.0036-0.0084	1,337	0.0012-0.0021	1,003	0.0012-0.0034
6	-	5,306	0.0054-0.0106	3,767	0.0052-0.0106	3,502	0.0052-0.0106	3,714	0.0045-0.0106	1,061	0.0015-0.0026	796	0.0015-0.0043
-	1/4	5,013	0.0058-0.0113	3,559	0.0055-0.0113	3,309	0.0055-0.0113	3,509	0.0048-0.0113	1,003	0.0016-0.0028	752	0.0016-0.0045
8	-	3,979	0.0072-0.0142	2,825	0.0069-0.0142	2,626	0.0069-0.0142	2,785	0.0060-0.0142	796	0.0020-0.0035	597	0.0020-0.0057
-	3/8	3,342	0.0086-0.0169	2,373	0.0083-0.0169	2,206	0.0083-0.0169	2,339	0.0071-0.0169	668	0.0024-0.0041	501	0.0024-0.0068
10	-	3,183	0.0091-0.0177	2,260	0.0087-0.0177	2,101	0.0087-0.0177	2,228	0.0075-0.0177	637	0.0026-0.0043	478	0.0026-0.0071
-	7/16	2,865	0.0101-0.0197	2,034	0.0096-0.0197	1,891	0.0096-0.0197	2,005	0.0083-0.0197	573	0.0028-0.0048	430	0.0028-0.0079
12	-	2,653	0.0109-0.0213	1,883	0.0104-0.0213	1,751	0.0104-0.0213	1,857	0.0090-0.0213	531	0.0031-0.0052	398	0.0031-0.0085
-	1/2	2,507	0.0115-0.0225	1,780	0.0110-0.0225	1,654	0.0110-0.0225	1,755	0.0095-0.0225	501	0.0033-0.0055	376	0.0033-0.0090
14	-	2,274	0.0127-0.0248	1,614	0.0121-0.0248	1,501	0.0121-0.0248	1,592	0.0105-0.0248	455	0.0036-0.0061	341	0.0036-0.0099
-	19/32	2,110	0.0136-0.0267	1,500	0.0136-0.0267	1,390	0.0130-0.0267	1,480	0.0112-0.0267	420	0.0038-0.0065	320	0.0038-0.0106
16	-	1,990	0.0144-0.0283	1,410	0.0144-0.0283	1,310	0.0138-0.0283	1,390	0.0119-0.0283	400	0.0040-0.0069	300	0.0040-0.0113



List 1R5-SO
List 1BB-SO
List 1AQ-SO
List 1W6-SO
List 1G7-SO

Work Material		Carbon Steels Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Stainless Steels 300, 400, 17-4PH		Cast Iron		Ductile Cast Iron	
Drilling Speed		80-165 SFM		30-100 SFM		30-75 SFM		115-150 SFM		50-115 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch										
1	-	11,936	0.0004-0.0016	6,367	0.0004-0.0008	5,093	0.0004-0.0011	12,733	0.0007-0.0016	7,958	0.0004-0.0008
2	-	5,968	0.0008-0.0031	3,183	0.0008-0.0016	2,547	0.0008-0.0022	6,367	0.0014-0.0031	3,979	0.0008-0.0016
-	3/32	5,012	0.0010-0.0038	2,674	0.0010-0.0019	2,139	0.0010-0.0027	5,347	0.0017-0.0038	3,342	0.0010-0.0019
3	-	3,979	0.0012-0.0047	2,122	0.0012-0.0024	1,698	0.0012-0.0033	4,244	0.0021-0.0047	2,653	0.0012-0.0024
-	1/8	3,759	0.0013-0.0050	2,005	0.0013-0.0026	1,604	0.0013-0.0035	4,010	0.0023-0.0050	2,507	0.0013-0.0026
4	-	2,984	0.0017-0.0063	1,592	0.0017-0.0033	1,273	0.0017-0.0045	3,183	0.0028-0.0063	1,990	0.0017-0.0033
-	3/16	2,506	0.0020-0.0075	1,337	0.0020-0.0039	1,069	0.0020-0.0053	2,674	0.0034-0.0075	1,671	0.0020-0.0039
6	-	1,989	0.0025-0.0094	1,061	0.0025-0.0049	849	0.0025-0.0067	2,122	0.0043-0.0094	1,326	0.0025-0.0049
-	1/4	1,880	0.0026-0.0100	1,003	0.0026-0.0052	802	0.0026-0.0071	2,005	0.0045-0.0100	1,253	0.0026-0.0052
8	-	1,492	0.0033-0.0126	796	0.0033-0.0065	637	0.0033-0.0089	1,592	0.0057-0.0126	995	0.0033-0.0065
-	3/8	1,253	0.0039-0.0150	668	0.0039-0.0078	535	0.0039-0.0106	1,337	0.0068-0.0150	836	0.0039-0.0078
10	-	1,194	0.0041-0.0157	637	0.0041-0.0081	509	0.0041-0.0112	1,273	0.0071-0.0157	796	0.0041-0.0081
-	7/16	1,074	0.0046-0.0175	573	0.0046-0.0090	458	0.0046-0.0124	1,146	0.0079-0.0175	716	0.0046-0.0090
12	-	995	0.0050-0.0189	531	0.0050-0.0098	424	0.0050-0.0134	1,061	0.0085-0.0189	663	0.0050-0.0098
-	1/2	940	0.0053-0.0200	501	0.0053-0.0103	401	0.0053-0.0142	1,003	0.0090-0.0200	627	0.0053-0.0103
13	-	918	0.0054-0.0205	490	0.0054-0.0106	392	0.0054-0.0145	979	0.0092-0.0205	612	0.0054-0.0106

Work Material		Aluminum				Copper		High Heat Material			
		6061, 7075		Casting				Ti-Alloy, Ti-6Al-4V		Ni-Base Material, Inconel	
Drilling Speed		115-200 SFM		75-130 SFM		50-90 SFM		20-105 SFM		15-50 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch										
1	-	15,121	0.0006-0.0016	10,028	0.0006-0.0011	6,844	0.0004-0.0008	6,048	0.0004-0.0008	3,024	0.0003-0.0011
2	-	7,560	0.0011-0.0031	5,014	0.0011-0.0022	3,422	0.0008-0.0016	3,024	0.0008-0.0016	1,512	0.0006-0.0022
-	3/32	6,350	0.0013-0.0038	4,211	0.0013-0.0027	2,874	0.0010-0.0019	2,540	0.0010-0.0019	1,270	0.0008-0.0027
3	-	5,040	0.0017-0.0047	3,343	0.0017-0.0033	2,281	0.0012-0.0024	2,016	0.0012-0.0024	1,008	0.0009-0.0033
-	1/8	4,762	0.0018-0.0050	3,158	0.0018-0.0035	2,156	0.00130-0.0026	1,905	0.0013-0.0026	952	0.0010-0.0035
4	-	3,780	0.0022-0.0063	2,507	0.0022-0.0045	1,711	0.0017-0.0033	1,512	0.0017-0.0033	756	0.0013-0.0045
-	3/16	3,175	0.0026-0.0075	2,106	0.0026-0.0053	1,437	0.0020-0.0039	1,270	0.0020-0.0039	635	0.0015-0.0053
6	-	2,520	0.0033-0.0094	1,671	0.0033-0.0067	1,141	0.0025-0.0049	1,008	0.0025-0.0049	504	0.0019-0.0067
-	1/4	2,381	0.0035-0.0100	1,579	0.0035-0.0071	1,078	0.0026-0.0052	952	0.0026-0.0052	476	0.0020-0.0071
8	-	1,890	0.0044-0.0126	1,253	0.0044-0.0089	856	0.0033-0.0065	756	0.0033-0.0065	378	0.0025-0.0089
-	3/8	1,587	0.0053-0.0150	1,053	0.0053-0.0106	719	0.0039-0.0078	635	0.0039-0.0078	317	0.0030-0.0106
10	-	1,512	0.0055-0.0157	1,003	0.0055-0.0112	684	0.0041-0.0081	605	0.0041-0.0081	302	0.0031-0.0112
-	7/16	1,361	0.0061-0.0175	902	0.0061-0.0124	616	0.0046-0.0090	544	0.0046-0.0090	272	0.0035-0.0124
12	-	1,260	0.0066-0.0189	836	0.0066-0.0134	570	0.0050-0.0098	504	0.0050-0.0098	252	0.0038-0.0134
-	1/2	1,191	0.0070-0.0200	790	0.0070-0.0142	539	0.0053-0.0103	476	0.0053-0.0103	238	0.0040-0.0142
13	-	1,163	0.0072-0.0205	771	0.0072-0.0145	526	0.0054-0.0106	465	0.0054-0.0106	233	0.0041-0.0145



List 101-SO, 102-SO List 1X6-SO

Work Material		Carbon Steels Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Stainless Steels 300, 400, 17-4PH		Cast Iron		Ductile Cast Iron	
Drilling Speed		30-100 SFM		30-100 SFM		30-50 SFM		80-115 SFM		50-100 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch										
1	-	6,366	0.0003-0.0010	4,457	0.0004-0.0008	3,502	0.0002-0.0007	9,550	0.0004-0.0008	7,163	0.0004-0.0008
2	-	3,183	0.0005-0.0020	2,228	0.0009-0.0016	1,751	0.0005-0.0014	4,775	0.0009-0.0016	3,581	0.0009-0.0016
-	3/32	2,673	0.0006-0.0023	1,872	0.0010-0.0019	1,471	0.0006-0.0017	4,010	0.0010-0.0019	3,008	0.0010-0.0019
3	-	2,122	0.0008-0.0030	1,486	0.0013-0.0024	1,167	0.0007-0.0021	3,183	0.0013-0.0024	2,388	0.0013-0.0024
-	1/8	2,005	0.0008-0.0031	1,404	0.0014-0.0026	1,103	0.0008-0.0023	3,008	0.0014-0.0026	2,256	0.0014-0.0026
4	-	1,591	0.0010-0.0039	1,114	0.0017-0.0033	875	0.0009-0.0028	2,388	0.0017-0.0033	1,791	0.0017-0.0033
-	3/16	1,337	0.0012-0.0047	936	0.0021-0.0039	735	0.0011-0.0034	2,005	0.0021-0.0039	1,504	0.0021-0.0039
6	-	1,061	0.0015-0.0059	743	0.0026-0.0049	584	0.0014-0.0043	1,592	0.0026-0.0049	1,194	0.0026-0.0049
-	1/4	1,002	0.0016-0.0063	702	0.0028-0.0052	551	0.0015-0.0045	1,504	0.0028-0.0052	1,128	0.0028-0.0052
8	-	796	0.0020-0.0079	557	0.0035-0.0065	438	0.0019-0.0057	1,194	0.0035-0.0065	895	0.0035-0.0065
-	3/8	668	0.0024-0.0094	468	0.0041-0.0078	368	0.0023-0.0068	1,003	0.0041-0.0078	752	0.0041-0.0078
10	-	637	0.0026-0.0098	446	0.0043-0.0081	350	0.0024-0.0071	955	0.0043-0.0081	716	0.0043-0.0081
-	7/16	573	0.0028-0.0109	401	0.0048-0.0090	315	0.0026-0.0079	859	0.0048-0.0090	645	0.0048-0.0090
12	-	530	0.0031-0.0118	371	0.0052-0.0098	292	0.0028-0.0085	796	0.0052-0.0098	597	0.0052-0.0098
-	1/2	501	0.0033-0.0125	351	0.0055-0.0103	276	0.0030-0.0090	752	0.0055-0.0103	564	0.0055-0.0103
14	-	455	0.0036-0.0138	318	0.0061-0.0114	250	0.0033-0.0099	682	0.0061-0.0114	512	0.0061-0.0114
-	9/16	446	0.0036-0.0140	312	0.0061-0.0116	245	0.0033-0.0101	668	0.0078-0.0116	501	0.0065-0.0118
16	-	398	0.0040-0.0157	279	0.0069-0.0130	219	0.0037-0.0113	597	0.0081-0.0132	448	0.0072-0.0132
18	-	354	0.0046-0.0177	248	0.0077-0.0146	195	0.0042-0.0127	531	0.0085-0.0148	398	0.0078-0.0148
20	-	318	0.0051-0.0197	223	0.0087-0.0163	175	0.0047-0.0142	478	0.0087-0.0163	358	0.0087-0.0163

Work Material		Aluminum				Copper		High Heat Material			
		6061, 7075		Casting				Ti-Alloy, Ti-6Al-4V		Ni-Base Material, Inconel	
Drilling Speed		30-100 SFM		100-330 SFM		50-165 SFM		25-80 SFM		15-35 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch										
1	-	11,938	0.0010-0.0013	20,692	0.0010-0.0013	10,346	0.0010-0.0013	5,093	0.0003-0.0006	2,388	0.0001-0.0004
2	-	5,969	0.0020-0.0025	10,346	0.0020-0.0025	5,173	0.0020-0.0025	2,547	0.0005-0.0011	1,194	0.0005-0.0009
-	3/32	5,013	0.0023-0.0030	8,689	0.0023-0.0030	4,345	0.0023-0.0030	2,139	0.0006-0.0013	1,003	0.0005-0.0010
3	-	3,979	0.0030-0.0038	6,897	0.0030-0.0038	3,449	0.0030-0.0038	1,698	0.0008-0.0017	796	0.0010-0.0013
-	1/8	3,760	0.0031-0.0040	6,517	0.0031-0.0040	3,259	0.0031-0.0040	1,604	0.0008-0.0018	752	0.0010-0.0014
4	-	2,984	0.0039-0.0050	5,173	0.0039-0.0050	2,586	0.0039-0.0050	1,273	0.0010-0.0022	597	0.0014-0.0017
-	3/16	2,507	0.0047-0.0060	4,345	0.0047-0.0060	2,172	0.0047-0.0060	1,069	0.0012-0.0026	501	0.0018-0.0021
6	-	1,990	0.0059-0.0076	3,449	0.0059-0.0076	1,724	0.0059-0.0076	849	0.0015-0.0033	398	0.0020-0.0026
-	1/4	1,880	0.0063-0.0080	3,259	0.0063-0.0080	1,629	0.0063-0.0080	802	0.0016-0.0035	376	0.0024-0.0028
8	-	1,492	0.0079-0.0101	2,586	0.0079-0.0101	1,293	0.0079-0.0101	637	0.0020-0.0044	298	0.0030-0.0035
-	3/8	1,253	0.0094-0.0120	2,172	0.0094-0.0120	1,086	0.0094-0.0120	535	0.0024-0.0053	251	0.0037-0.0041
10	-	1,194	0.0098-0.0126	2,069	0.0098-0.0126	1,035	0.0098-0.0126	509	0.0026-0.0055	239	0.0039-0.0043
-	7/16	1,074	0.0109-0.0140	1,862	0.0109-0.0140	931	0.0109-0.0140	458	0.0028-0.0061	215	0.0044-0.0048
12	-	995	0.0118-0.0151	1,724	0.0118-0.0151	862	0.0118-0.0151	424	0.0031-0.0066	199	0.0047-0.0052
-	1/2	940	0.0125-0.0160	1,629	0.0125-0.0160	815	0.0125-0.0160	401	0.0033-0.0070	188	0.0050-0.0055
14	-	853	0.0138-0.0176	1,478	0.0138-0.0176	739	0.0138-0.0176	364	0.0036-0.0077	171	0.0055-0.0061
-	9/16	836	0.0140-0.0180	1,448	0.0140-0.0182	724	0.0140-0.0180	356	0.0036-0.0078	167	0.0061-0.0065
16	-	746	0.0157-0.0187	1,293	0.0157-0.0191	647	0.0157-0.0201	318	0.0040-0.0088	149	0.0065-0.0077
18	-	663	0.0177-0.0195	1,150	0.0177-0.0187	575	0.0177-0.0226	283	0.0046-0.0099	133	0.0077-0.0081
20	-	597	0.0197-0.0252	1,035	0.0197-0.0252	517	0.0197-0.0252	255	0.0051-0.0110	119	0.0081-0.0087



List 1NA-SO

Work Material		Carbon Steels Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Stainless Steels 300, 400, 17-4PH		Cast Iron		Ductile Cast Iron	
Drilling Speed		30-100 SFM		15-80 SFM		20-50 SFM		50-115 SFM		50-100 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch										
1.19	No. 1	5,349	0.0014-0.0035	3,745	0.0014-0.0035	2,943	0.0014-0.0035	8,025	0.0014-0.0035	6,019	0.0014-0.0035
1.98	No. 2	3,215	0.0023-0.0058	2,251	0.0023-0.0058	1,769	0.0023-0.0058	4,823	0.0023-0.0058	3,617	0.0023-0.0058
2.78	No. 3	2,290	0.0033-0.0082	1,603	0.0033-0.0082	1,260	0.0033-0.0082	3,435	0.0033-0.0082	2,576	0.0033-0.0082
3.18	No. 4	2,002	0.0063-0.0225	1,401	0.0063-0.0225	1,101	0.0063-0.0225	3,003	0.0063-0.0225	2,252	0.0063-0.0225
4.76	No. 5	1,337	0.0094-0.0337	936	0.0094-0.0337	736	0.0094-0.0337	2,006	0.0094-0.0337	1,505	0.0094-0.0337
5.56	No. 6	1,145	0.0219-0.0613	802	0.0219-0.0613	630	0.0219-0.0613	1,718	0.0219-0.0613	1,288	0.0219-0.0613
6.35	No. 7	1,002	0.0250-0.0700	702	0.0250-0.0700	551	0.0250-0.0700	1,504	0.0250-0.0700	1,128	0.0250-0.0700

Work Material		Aluminum				Copper		High Heat Material			
		6061, 7075		Casting				Ti-Alloy, Ti-6Al-4V		Ni-Base Material, Inconel	
Drilling Speed		30-100 SFM		100-330 SFM		50-165 SFM		25-80 SFM		15-20 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch										
1.19	No. 1	10,032	0.0014-0.0035	17,388	0.0014-0.0035	8,694	0.0014-0.0035	4,280	0.0014-0.0035	1,338	0.0014-0.0035
1.98	No. 2	6,029	0.0023-0.0058	10,450	0.0023-0.0058	5,225	0.0023-0.0058	2,572	0.0023-0.0058	804	0.0023-0.0058
2.78	No. 3	4,294	0.0033-0.0082	7,443	0.0033-0.0082	3,722	0.0033-0.0082	1,832	0.0033-0.0082	573	0.0033-0.0082
3.18	No. 4	3,754	0.0063-0.0225	6,507	0.0063-0.0225	3,253	0.0063-0.0225	1,602	0.0063-0.0225	501	0.0063-0.0225
4.76	No. 5	2,508	0.0094-0.0337	4,347	0.0094-0.0337	2,173	0.0094-0.0337	1,070	0.0094-0.0337	334	0.0094-0.0337
5.56	No. 6	2,147	0.0219-0.0613	3,722	0.0219-0.0613	1,861	0.0219-0.0613	916	0.0219-0.0613	286	0.0219-0.0613
6.35	No. 7	1,880	0.0250-0.0700	3,259	0.0250-0.0700	1,629	0.0250-0.0700	802	0.0250-0.0700	251	0.0250-0.0700



List 751-SO

List 752-SO

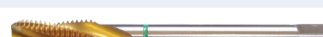
Work Material		Carbon Steels Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Tool Steel		Stainless Steels 300, 400, 17-4PH	
Drilling Speed		80-230 SFM		66-130 SFM		25-35 SFM		5-25 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch								
2	-	3,155	0.003-0.004	1,575	0.002-0.004	970	0.002-0.003	1,455	0.002-0.004
-	3/32	2,650	0.003-0.005	1,325	0.003-0.004	815	0.002-0.003	1,220	0.003-0.005
3	-	2,100	0.004-0.007	1,505	0.003-0.005	645	0.002-0.004	970	0.003-0.007
-	1/8	1,985	0.005-0.008	995	0.004-0.006	610	0.003-0.004	915	0.004-0.008
4	-	1,575	0.005-0.008	790	0.004-0.007	485	0.003-0.005	730	0.004-0.008
-	3/16	1,325	0.005-0.009	660	0.004-0.007	405	0.003-0.005	610	0.004-0.009
6	-	1,050	0.006-0.010	525	0.005-0.008	325	0.004-0.006	485	0.005-0.010
-	1/4	995	0.006-0.010	495	0.005-0.008	305	0.004-0.007	460	0.005-0.010
8	-	790	0.006-0.011	395	0.005-0.009	245	0.004-0.007	365	0.005-0.011
-	3/8	660	0.007-0.012	330	0.006-0.010	205	0.005-0.008	305	0.006-0.012
10	-	630	0.008-0.013	315	0.006-0.010	195	0.005-0.008	290	0.006-0.013
-	7/16	570	0.008-0.013	285	0.007-0.011	175	0.005-0.009	260	0.007-0.013
12	-	525	0.008-0.014	265	0.007-0.012	160	0.005-0.009	245	0.007-0.014
-	1/2	495	0.009-0.015	250	0.008-0.013	155	0.006-0.010	230	0.008-0.015
14	-	450	0.010-0.016	225	0.008-0.013	140	0.006-0.010	210	0.008-0.016
-	3/4	330	0.010-0.016	165	0.008-0.014	100	0.006-0.011	155	0.008-0.016
20	-	315	0.012-0.019	160	0.009-0.015	95	0.007-0.012	145	0.009-0.019

Work Material		Cast Iron		Ductile Cast Iron		High Heat Material			
						Ti-Alloy, Ti-6Al-4V		Ni-Base Material, Inconel	
Drilling Speed		80-115 SFM		50-100 SFM		5-35 SFM		5-15 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch								
2	-	2,425	0.003-0.007	1,940	0.003-0.004	1,215	0.002-0.004	485	0.003-0.005
-	3/32	2,035	0.004-0.008	1,630	0.003-0.005	1,020	0.003-0.005	405	0.003-0.007
3	-	1,615	0.005-0.009	1,295	0.004-0.007	810	0.003-0.007	325	0.004-0.008
-	1/8	1,530	0.005-0.011	1,220	0.005-0.008	765	0.004-0.008	305	0.005-0.009
4	-	1,215	0.006-0.011	970	0.005-0.008	605	0.004-0.008	245	0.005-0.009
-	3/16	1,020	0.006-0.012	815	0.005-0.009	510	0.004-0.009	205	0.005-0.010
6	-	810	0.007-0.015	645	0.006-0.010	405	0.005-0.010	160	0.006-0.012
-	1/4	765	0.007-0.016	610	0.006-0.010	380	0.005-0.010	155	0.006-0.012
8	-	605	0.008-0.017	485	0.006-0.011	305	0.005-0.011	120	0.006-0.013
-	3/8	510	0.009-0.018	405	0.007-0.012	255	0.006-0.012	100	0.007-0.015
10	-	485	0.009-0.019	390	0.008-0.013	245	0.006-0.013	95	0.008-0.016
-	7/16	435	0.010-0.020	350	0.008-0.013	220	0.007-0.013	85	0.008-0.017
12	-	405	0.011-0.021	325	0.008-0.014	200	0.007-0.014	80	0.008-0.018
-	1/2	380	0.011-0.023	305	0.009-0.015	190	0.008-0.015	75	0.009-0.019
14	-	345	0.012-0.024	275	0.010-0.016	175	0.008-0.016	70	0.010-0.020
-	3/4	255	0.012-0.025	205	0.010-0.016	125	0.008-0.016	50	0.010-0.020
20	-	245	0.014-0.026	195	0.012-0.019	120	0.009-0.019	50	0.012-0.023

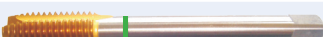


List	Item	Inch/Metric	Material	Coating	Size Range	Features	Product Page
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SPIRAL FLUTED TAPS

5BA-SO, 5BL-SO		Inch	HSSE V3	TiAIN	No. 4 ~ 1, 1/4	RED BAND, Modified Bottom (2P-3P)	60-61
5EA-SO, 5EL-SO		Metric	HSSE V3	TiAIN	M3 ~ M24	RED BAND, Modified Bottom (2P-3P)	62
5BB-SO, 5BM-SO		Inch	HSSE V3	TiAIN	No. 4 ~ 1, 1/4	BLUE BAND, Modified Bottom (2P-3P)	63-64
5EB-SO, 5EM-SO		Metric	HSSE V3	TiAIN	M3 ~ M24	BLUE BAND, Modified Bottom (2P-3P)	65
5BC-SO, 5BN-SO		Inch	HSSE V3	Bright	No. 4 ~ 1, 1/4	YELLOW BAND, Modified Bottom (2P-3P)	66-67
5EC-SO, 5EN-SO		Metric	HSSE V3	Bright	M3 ~ M24	YELLOW BAND, Modified Bottom (2P-3P)	68
5BD-SO, 5BP-SO		Inch	HSSE V3	TiAIN	No. 4 ~ 1, 1/4	WHITE BAND, Modified Bottom (2P-3P)	69-70
5ED-SO, 5EP-SO		Metric	HSSE V3	TiAIN	M3 ~ M24	WHITE BAND, Modified Bottom (2P-3P)	71
5BE-SO, 5BK-SO		Inch	HSSE V3	TiN	No. 4 ~ 1, 1/4	GREEN BAND, Modified Bottom (2P-3P)	72-73
5EV-SO		Metric	HSSE V3	TiN	M3 ~ M24	GREEN BAND, 15° Helix, Modified Bottom (2P-3P)	74
5EW-SO		Metric	HSSE V3	TiN	M3 ~ M24	GREEN BAND, 35° Helix, Modified Bottom (2P-3P)	75

SPIRAL POINTED TAPS

5BF-SO, 5BS-SO		Inch	HSSE V3	TiAIN	No. 4 ~ 1, 1/4	RED BAND, Plug (4P-5P)	76-77
5EF-SO, 5ES-SO		Metric	HSSE V3	TiAIN	M3 ~ M24	RED BAND, Plug (4P-5P)	78
5BG-SO, 5BT-SO		Inch	HSSE V3	TiAIN	No. 4 ~ 1, 1/4	BLUE BAND, Plug (4P-5P)	79-80
5EG-SO, 5ET-SO		Metric	HSSE V3	TiAIN	M3 ~ M24	BLUE BAND, Plug (4P-5P)	81
5BH-SO, 5BU-SO		Inch	HSSE V3	Bright	No. 4 ~ 1, 1/4	YELLOW BAND, Plug (4P-5P)	82-83
5EH-SO, 5EU-SO		Metric	HSSE V3	Bright	M3 ~ M24	YELLOW BAND, Plug (4P-5P)	84
5BJ-SO, 5BV-SO		Inch	HSSE V3	TiN	No. 4 ~ 1, 1/4	GREEN BAND, Plug (4P-5P)	85-86
5EX-SO		Metric	HSSE V3	TiN	M3 ~ M24	GREEN BAND, Plug (4P-5P)	87



	P				M			K	N		S		H				
List No.	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC

SPIRAL FLUTED TAPS

5BA-SO, 5BL-SO	☐	☐	☐	☒	☒				☐	☐		☒	☐	☒	☒		
5EZ-SO, 5EL-SO	☐	☐	☐	☒	☒				☐	☐		☒	☐	☒	☒		
5BB-SO, 5BM-SO						☒	☒	☐					☒				
5EB-SO, 5EM-SO						☒	☒	☐					☒				
5BC-SO, 5BN-SO	☒	☒	☐							☒	☒						
5EC-SO, 5EN-SO	☒	☒	☐							☒	☒						
5BD-SO, 5BP-SO									☒								
5ED-SO, 5EP-SO									☒								
5BE-SO, 5BK-SO	☒	☒	☐			☐			☐	☐	☐	☐					
5EV-SO	☒	☒	☐			☐			☐	☐	☐	☐					
5EW-SO	☒	☒	☐			☐			☐	☐	☐	☐					

SPIRAL POINTED TAPS

5BF-SO, 5BS-SO	☐	☐	☐	☒	☒				☐	☐		☒	☐	☒	☒		
5EF-SO, 5ES-SO	☐	☐	☐	☒	☒				☐	☐		☒	☐	☒	☒		
5BG-SO, 5BT-SO						☒	☒	☐					☒				
5EG-SO, 5ET-SO						☒	☒	☐					☒				
5BH-SO, 5BU-SO	☒	☒	☐							☒	☒						
5EH-SO, 5EU-SO	☒	☒	☐							☒	☒						
5BJ-SO, 5BV-SO	☒	☒	☐			☐			☐	☐	☐	☐					
5EX-SO	☒	☒	☐			☐			☐	☐	☐	☐					

☐ good ☒ best



List 5BA-SO, 5BL-SO

RED BAND, Spiral Flute, Modified Bottom (2P-3P)

NEW	RED BAND DRILLS P26-28	HSSE V3	TYPE H	TiAIN	15°
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length	Thread Length	Shank Dia.	Square Width	Square Length																				
			Mod Bottom (2P-3P)																									
			TIAIN																									
4 - 40 UNC	H3	3	5BA0280-SO	1.890	0.236	0.141	0.110	0.197																				
	H5		5BA0290-SO																									
4 - 48 UNF	H3		5BL0280-SO																									
	H5		5BL0290-SO																									
5 - 40 UNC	H3		5BA0320-SO																									
	H5		5BA0330-SO																									
5 - 44 UNF	H3		5BL0320-SO																									
	H5		5BL0330-SO																									
6 - 32 UNC	H3		5BA0350-SO	1.969	0.315																							
	H5		5BA0360-SO																									
6 - 40 UNF	H3		5BL0350-SO																									
	H5		5BL0360-SO																									
8 - 32 UNC	H3		5BA0420-SO	2.087		0.168	0.131	0.256																				
	H5		5BA0430-SO																									
8 - 36 UNF	H3		5BL0420-SO																									
	H5		5BL0430-SO																									
10 - 24 UNC	H3		5BA0480-SO	2.303	0.194				0.152																			
	H5		5BA0490-SO																									
10 - 32 UNF	H3		5BL0480-SO							2.402	0.394																	
	H5		5BL0490-SO																									
12 - 24 UNC	H3		5BA0550-SO	2.402								0.220	0.165	0.276														
	H5		5BA0560-SO																									
12 - 28 UNF	H3		5BL0550-SO							2.559					0.472	0.255	0.191	0.315										
	H5		5BL0560-SO																									
1/4 - 20 UNC	H3		5BA0640-SO	2.756		0.551	0.318	0.238											0.374									
	H5		5BA0650-SO																									
1/4 - 28 UNF	H3		5BL0640-SO							3.031										0.630	0.381	0.286	0.433					
	H5		5BL0650-SO																									
5/16 - 18 UNC	H3		5BA0790-SO	3.228	0.709				0.323															0.242	0.413			
	H5		5BA0800-SO																									
5/16 - 24 UNF	H3		5BL0790-SO							3.425	0.827															0.367	0.275	0.433
	H5		5BL0800-SO																									
3/8 - 16 UNC	H3	5BA0950-SO	3.661	0.866								0.429	0.322	0.492														
	H5	5BA0960-SO																										
3/8 - 24 UNF	H3	5BL0950-SO								3.878					0.906	0.480	0.360	0.571										
	H5	5BL0960-SO																										
7/16 - 14 UNC	H3	5BA1110-SO	4.252			0.984	0.590	0.442											0.689									
	H5	5BA1120-SO																										
7/16 - 20 UNF	H3	5BL1110-SO								5BA1270-SO										0.906	0.480	0.360	0.571					
	H5	5BL1120-SO																										
1/2 - 13 UNC	H3	5BA1270-SO	3.425		0.827				0.367															0.275	0.433			
	H5	5BA1280-SO																										
1/2 - 20 UNF	H3	5BL1270-SO								3.661	0.866															0.429	0.322	0.492
	H5	5BL1280-SO																										
9/16 - 12 UNC	H3	5BA1430-SO	3.878	0.906								0.480	0.360	0.571														
	H5	5BA1440-SO																										
9/16 - 18 UNF	H3	5BL1430-SO								4.252					0.984	0.590	0.442	0.689										
	H5	5BL1440-SO																										
5/8 - 11 UNC	H3	5BA1590-SO	3.878			0.906	0.480	0.360											0.571									
	H5	5BA1600-SO																										
5/8 - 18 UNF	H3	5BL1590-SO								4.252										0.984	0.590	0.442	0.689					
	H5	5BL1600-SO																										
3/4 - 10 UNC	H3	5BA1910-SO	4.252		0.984				0.590															0.442	0.689			
	H5	5BA1920-SO																										
3/4 - 16 UNF	H3	5BL1910-SO								5BA1910-SO	0.984															0.590	0.442	0.689
	H5	5BL1920-SO																										

Packed: 1 pc.
Available TiAIN only.



List 5BA-SO, 5BL-SO (Continued)

RED BAND, Spiral Flute, Modified Bottom (2P-3P)

NEW	RED BAND DRILLS P26-28	HSSE V3	TYPE H	TiAIN	15°
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length	Thread Length	Shank Dia.	Square Width	Square Length	
			Mod Bottom (2P-3P)						
			TiAIN						
7/8 - 9 UNC	H3	4	5BA2220-SO	4.685	1.102	0.697	0.523	0.748	
	H5		5BA2230-SO						
7/8 - 14 UNF	H3		5BL2220-SO						
	H5		5BL2230-SO						
1 - 8 UNC	H3		5BA2540-SO	5.118	1.260	0.800	0.600	0.807	
	H5		5BA2550-SO						
1 - 12 UNF	H3		5BL2540-SO						
	H5		5BL2550-SO						
1,1/8 - 7 UNC	H3		5BA2860-SO	5.433	1.417	0.896	0.672	0.866	
	H5		5BA2870-SO						
1,1/8 - 12 UNF	H3		5BL2860-SO						
	H5		5BL2870-SO						
1,1/4 - 7 UNC	H3		5BA3180-SO	5.748		1.417	1.021	0.766	1.004
	H5		5BA3190-SO						
1,1/4 - 12 UNF	H3		5BL3180-SO						
	H5		5BL3190-SO						

Packed: 1 pc.
Available TiAIN only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065														
5BA-SO, 5BL-SO	☐	☐	☐	☒	☒				☐	☐		☒	☐	☒	☒		
SFM	59-89	59-89	59-89	59-79	59-79				59-88	78-118		16-36	20-40	30-50	30-50		

☐ good ☒ best





List 5EA-SO, 5EL-SO

RED BAND, Spiral Flute, Modified Bottom (2P-3P)

NEW	RED BAND DRILLS P26-28	HSSE V3	TYPE H	TiAlN	15°
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length	Thread Length	Shank Dia.	Square Width	Square Length
			Mod Bottom (2P-3P)					
			TiAlN					
M3 x 0.5	D4	3	5EA0300-SO	48.00	6.00	3.58	2.79	5.00
M3.5 x 0.6			5EA0350-SO	50.00	8.00			
M4 x 0.7			5EA0400-SO	53.00		10.00	4.27	3.33
M5 x 0.8			5EA0500-SO	58.50	4.93	4.93		
M6 x 1.0			5EA0600-SO	65.00	12.00	6.48	4.85	8.00
M6 x 0.75			5EL0600-SO					
M7 x 1.0			5EA0700-SO	69.00	8.08	6.05	9.50	
M8 x 1.25			5EA0800-SO	70.00				
M8 x 1.0			5EL0800-SO	77.00	16.00	9.68	7.26	11.00
M10 x 1.5			5EA1000-SO					
M10 x 1.25			5EL1010-SO	87.00	18.00	9.32	9.32	
M12 x 1.75	D6	5EA1200-SO						
M12 x 1.5	D4	5EA1214-SO	93.00	22.00	10.90	10.90	13.00	
M12 x 1.25		5EL1200-SO						
M14 x 2.0	D6	5EL1190-SO	98.50	23.00	12.19	12.19	14.00	
M14 x 1.5	D4	5EA1400-SO						
M16 x 2.0	D6	5EA1414-SO	108.00	25.00	13.76	13.76	15.88	
	D4	5EL1400-SO						
	D6	5EL1414-SO						
M16 x 1.5	D4	5EA1600-SO	114.00	28.00	17.70	13.28	19.05	
	D6	5EA1614-SO						
	D4	5EL1600-SO						
M18 x 2.5	D6	5EL1614-SO	119.00	30.00	19.30	14.48		
	D4	5EA1800-SO						
	D6	5EA1814-SO						
M18 x 1.5	D4	5EL1800-SO	125.00					
	D6	5EL1814-SO						
	D4	5EA2000-SO						
M20 x 2.5	D4	5EL2000-SO	119.00	28.00	17.70	13.28		
M20 x 1.5		5EA2200-SO						
M22 x 2.5		5EL2200-SO	125.00	30.00	19.30	14.48		
M22 x 1.5		5EA2400-SO						
M24 x 3.0		5EL2400-SO						

Packed: 1 pc.
Available TiAlN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting			35	35-45	45-50	50-70
	1010	1035	1065			4140	4340							30 HRC	40 HRC	50 HRC	60 HRC
SEA-SO, SEL-SO	☐	☐	☐	☒	☒				☐	☐		☒	☐	☒	☒		
SFM	59-89	59-89	59-89	59-79	59-79				59-88	78-118		16-36	20-40	30-50	30-50		

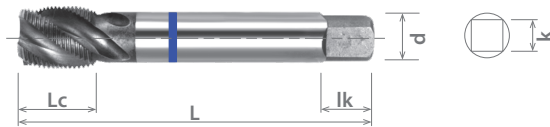
○ good ○ best



List 5BB-SO, 5BM-SO

BLUE BAND, Spiral Flute, Modified Bottom (2P-3P)

NEW	BLUE BAND DRILLS P29-31	HSSE V3	TYPE VA	TiAIN	40°
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length	Thread Length	Shank Dia.	Square Width	Square Length
			Mod Bottom (2P-3P)					
			TiAIN					
4 - 40 UNC	H3	3	5BB0284-SO	1.890	0.236	0.141	0.110	0.197
	H5		5BB0294-SO					
4 - 48 UNF	H3		5BM0284-SO					
	H5		5BM0294-SO					
5 - 40 UNC	H3		5BB0324-SO					
	H5		5BB0334-SO					
5 - 44 UNF	H3		5BM0324-SO					
	H5		5BM0334-SO					
6 - 32 UNC	H3		5BB0354-SO					
	H5		5BB0364-SO					
6 - 40 UNF	H3		5BM0354-SO					
	H5		5BM0364-SO					
8 - 32 UNC	H3		5BB0424-SO					
	H5		5BB0434-SO					
8 - 36 UNF	H3		5BM0424-SO					
	H5		5BM0434-SO					
10 - 24 UNC	H3		5BB0484-SO					
	H5		5BB0494-SO					
10 - 32 UNF	H3		5BM0484-SO					
	H5		5BM0494-SO					
12 - 24 UNC	H3		5BB0554-SO					
	H5		5BB0564-SO					
12 - 28 UNF	H3		5BM0554-SO					
	H5		5BM0564-SO					
1/4 - 20 UNC	H3		5BB0644-SO					
	H5		5BB0654-SO					
1/4 - 28 UNF	H3		5BM0644-SO					
	H5		5BM0654-SO					
5/16 - 18 UNC	H3		5BB0794-SO					
	H5		5BB0804-SO					
5/16 - 24 UNF	H3		5BM0794-SO					
	H5		5BM0804-SO					
3/8 - 16 UNC	H3		5BB0954-SO					
	H5		5BB0964-SO					
3/8 - 24 UNF	H3		5BM0954-SO					
	H5		5BM0964-SO					
7/16 - 14 UNC	H3		5BB1114-SO					
	H5		5BB1124-SO					
7/16 - 20 UNF	H3		5BM1114-SO					
	H5		5BM1124-SO					
1/2 - 13 UNC	H3		5BB1274-SO					
	H5		5BB1284-SO					
1/2 - 20 UNF	H3		5BM1274-SO					
	H5		5BM1284-SO					

Packed: 1 pc.
Available TiAIN coating only.

continued on next page



Work Material																				
List No.	P				Die Steels	M			K	N		S		H						
	Carbon Steels			Alloy Steels		Stainless Steels				Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels					
	Low	Med.	High			300	400	17-4 PH			6061 7075	Casting			Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065			4140 4340														
5BB-SO, 5BM-SO																				
SFM						29-49	26-49	25-45												

□ good □ best

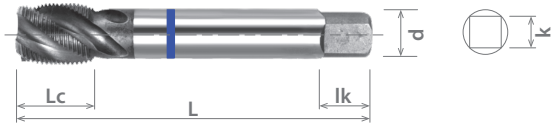




List 5BB-SO, 5BM-SO (Continued)

BLUE BAND, Spiral Flute, Modified Bottom (2P-3P)

NEW	BLUE BAND DRILLS P29-31	HSSE V3	TYPE VA	TiAIN	40°
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length L	Thread Length Lc	Shank Dia. d	Square Width k	Square Length lk
			Mod Bottom (2P-3P)					
			TiAIN					
9/16 - 12 UNC	H3	3	5BB1434-SO	3.661	0.866	0.429	0.322	0.492
	H5		5BB1444-SO					
9/16 - 18 UNF	H3		5BM1434-SO					
	H5		5BM1444-SO					
5/8 - 11 UNC	H3		5BB1594-SO	3.878	0.906	0.480	0.360	0.571
	H5		5BB1604-SO					
5/8 - 18 UNF	H3		5BM1594-SO					
	H5		5BM1604-SO					
3/4 - 10 UNC	H3		5BB1914-SO	4.252	0.984	0.590	0.442	0.689
	H5		5BB1924-SO					
3/4 - 16 UNF	H3		5BM1914-SO					
	H5		5BM1924-SO					
7/8 - 9 UNC	H3	4	5BB2224-SO	4.685	1.102	0.697	0.523	0.748
	H5		5BB2234-SO					
7/8 - 14 UNF	H3		5BM2224-SO					
	H5		5BM2234-SO					
1 - 8 UNC	H3		5BB2544-SO	5.118	1.260	0.800	0.600	0.807
	H5		5BB2554-SO					
1 - 12 UNF	H3		5BM2544-SO					
	H5		5BM2554-SO					
1,1/8 - 7 UNC	H3		5BB2864-SO	5.433	1.417	0.896	0.672	0.866
	H5		5BB2874-SO					
1,1/8 - 12 UNF	H3		5BM2864-SO					
	H5		5BM2874-SO					
1,1/4 - 7 UNC	H3		5BB3184-SO	5.748		1.021	0.766	1.004
	H5		5BB3194-SO					
1,1/4 - 12 UNF	H3		5BM3184-SO					
	H5		5BM3194-SO					

Packed: 1 pc.
Available TiAIN coating only.



Work Material																	
List No.	P				M			K	N		S		H				
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065			4140 4340											
5BB-SO, 5BM-SO																	
SFM						29-49	26-49	25-45					20-60				

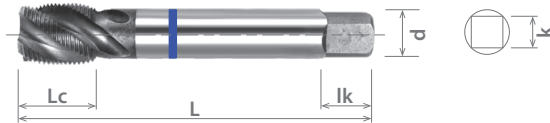
☐ good ☒ best



List 5EB-SO, 5EM-SO

BLUE BAND, Spiral Flute, Modified Bottom (2P-3P)

NEW	BLUE BAND DRILLS P29-31	HSSE V3	TYPE VA	TiAIN	40°
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length	Thread Length	Shank Dia.	Square Width	Square Length		
			Mod Bottom (2P-3P)							
			TiAIN						L	Lc
M3 x 0.5	D4	3	5EB0304-SO	48.00	6.00	3.58	2.79	5.00		
M3.5 x 0.6			5EB0354-SO	50.00	8.00				4.27	3.33
M4 x 0.7			5EB0404-SO	53.00						
M5 x 0.8			5EB0504-SO	58.50	65.00	12.00	6.48	4.85	8.00	
M6 x 1.0	5EB0604-SO		5EB0614-SO							
M6 x 0.75	5EM0604-SO		5EB0704-SO	69.00						
M7 x 1.0	5EB0714-SO		5EB0804-SO							
M8 x 1.25	D4		5EB0814-SO	70.00	14.00	8.08	6.05	9.50		
	D6		5EM0804-SO						5EM0814-SO	
M8 x 1.0	D4		5EB1004-SO						77.00	16.00
M10 x 1.5	D6		5EB1014-SO							
M10 x 1.25	D4		5EM1014-SO	5EM1004-SO						
M10 x 1			5EB1204-SO	5EB1214-SO	87.00	18.00	9.32	6.99		
M12 x 1.75	D6		5EM1204-SO	5EM1194-SO						
M12 x 1.5	D4		5EB1404-SO	5EB1414-SO					93.00	22.00
M12 x 1.25			D4	5EM1404-SO	5EM1414-SO					
M14 x 2.0	D6		5EB1604-SO	98.50	23.00	12.19	9.14	14.00		
M14 x 1.5	D4		5EB1614-SO						5EM1604-SO	5EM1614-SO
	D6		5EB1804-SO						5EB1814-SO	108.00
M16 x 2.0	D4		5EM1804-SO	5EM1814-SO						
M16 x 1.5	D6		5EB2004-SO	5EM2004-SO	114.00	28.00	17.70	13.28	19.05	
	D4		5EB2204-SO	5EM2204-SO						
M18 x 2.5	D6		5EB2404-SO	125.00						30.00
M18 x 1.5	D4									
M20 x 2.5	D4		4							
M20 x 1.5										
M22 x 2.5										
M22 x 1.5										
M24 x 3.0										

Packed: 1 pc.
Available TiAIN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065			4140 4340											
5EB-SO, 5EM-SO																	
SFM						29-49	26-49	25-45					20-60				

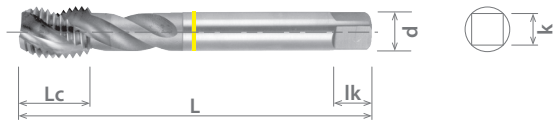
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List 5BC-SO, 5BN-SO

YELLOW BAND, Spiral Flute, Modified Bottom (2P-3P)



Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length	Thread Length	Shank Dia.	Square Width	Square Length
			Mod Bottom (2P-3P)					
			Bright					
				L	Lc	d	k	lk
4 - 40 UNC	H3	2	5BC0280-SO	1.890	0.236	0.141	0.110	0.197
	H5		5BC0290-SO					
4 - 48 UNF	H3		5BN0280-SO					
	H5		5BN0290-SO					
5 - 40 UNC	H3		5BC0320-SO					
	H5		5BC0330-SO					
5 - 44 UNF	H3		5BN0320-SO	1.969	0.315	0.168	0.131	0.256
	H5		5BN0330-SO					
6 - 32 UNC	H3		5BC0350-SO					
	H5		5BC0360-SO					
6 - 40 UNF	H3		5BN0350-SO	2.087	0.394	0.194	0.152	0.276
	H5		5BN0360-SO					
8 - 32 UNC	H3		5BC0420-SO					
	H5		5BC0430-SO					
8 - 36 UNF	H3		5BN0420-SO	2.303	0.394	0.220	0.165	0.276
	H5		5BN0430-SO					
10 - 24 UNC	H3		5BC0480-SO					
	H5		5BC0490-SO					
10 - 32 UNF	H3		5BN0480-SO	2.402	0.394	0.220	0.165	0.276
	H5		5BN0490-SO					
12 - 24 UNC	H3		5BC0550-SO					
	H5		5BC0560-SO					
12 - 28 UNF	H3		5BN0550-SO	2.559	0.472	0.255	0.191	0.315
	H5		5BN0560-SO					
1/4 - 20 UNC	H3		5BC0640-SO					
	H5		5BC0650-SO					
1/4 - 28 UNF	H3		5BN0640-SO	2.756	0.551	0.318	0.238	0.374
	H5		5BN0650-SO					
5/16 - 18 UNC	H3		5BC0790-SO					
	H5		5BC0800-SO					
5/16 - 24 UNF	H3		5BN0790-SO	3.031	0.630	0.381	0.286	0.433
	H5		5BN0800-SO					
3/8 - 16 UNC	H3	3	5BC0950-SO					
	H5		5BC0960-SO					
3/8 - 24 UNF	H3		5BN0950-SO	3.228	0.709	0.323	0.242	0.413
	H5		5BN0960-SO					
7/16 - 14 UNC	H3		5BC1110-SO					
	H5		5BC1120-SO					
7/16 - 20 UNF	H3		5BN1110-SO	3.425	0.827	0.367	0.275	0.433
	H5		5BN1120-SO					
1/2 - 13 UNC	H3		5BC1270-SO					
	H5		5BC1280-SO					
1/2 - 20 UNF	H3		5BN1270-SO	3.661	0.866	0.429	0.322	0.492
	H5		5BN1280-SO					
9/16 - 12 UNC	H3		5BC1430-SO					
	H5		5BC1440-SO					
9/16 - 18 UNF	H3		5BN1430-SO	3.878	0.906	0.480	0.360	0.571
	H5		5BN1440-SO					
5/8 - 11 UNC	H3		5BC1590-SO					
	H5		5BC1600-SO					
5/8 - 18 UNF	H3		5BN1590-SO	4.252	0.984	0.590	0.442	0.689
	H5		5BN1600-SO					
3/4 - 10 UNC	H3		5BC1910-SO					
	H5		5BC1920-SO					
3/4 - 16 UNF	H3		5BN1910-SO					
	H5		5BN1920-SO					

Packed: 1 pc.
EDPs listed above are stock standard, other coatings available upon request.
Specify treatment at the time of order.



List 5BC-SO, 5BN-SO (Continued)

YELLOW BAND, Spiral Flute, Modified Bottom (2P-3P)

NEW	YELLOW BAND DRILLS P32-35	HSSE V3	TYPE W	BR	40°
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length L	Thread Length Lc	Shank Dia. d	Square Width k	Square Length lk
			Mod Bottom (2P-3P)					
			Bright					
7/8 - 9 UNC	H3	3	5BC2220-SO	4.685	1.102	0.697	0.523	0.748
	H5		5BC2230-SO					
7/8 - 14 UNF	H3		5BN2220-SO					
	H5		5BN2230-SO					
1 - 8 UNC	H3		5BC2540-SO	5.118	1.260	0.800	0.600	0.807
	H5		5BC2550-SO					
1 - 12 UNF	H3		5BN2540-SO					
	H5		5BN2550-SO					
1,1/8 - 7 UNC	H3		5BC2860-SO	5.433	1.417	0.896	0.672	0.866
	H5		5BC2870-SO					
1,1/8 - 12 UNF	H3		5BN2860-SO					
	H5		5BN2870-SO					
1,1/4 - 7 UNC	H3		5BC3180-SO	5.748		1.021	0.766	1.004
	H5		5BC3190-SO					
1,1/4 - 12 UNF	H3		5BN3180-SO					
	H5		5BN3190-SO					

Packed: 1 pc.
EDPs listed above are stock standard, other coatings available upon request.
Specify treatment at the time of order.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065														
5BC-SO,5BN-SO	☐	☐	☐							☐	☐						
SFM	58-88	58-88	58-88							78-170	40-65						

☐ good ☐ best

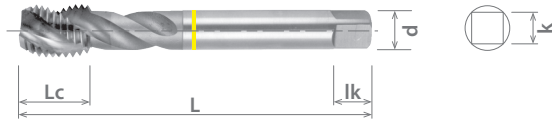




List 5EC-SO, 5EN-SO

YELLOW BAND, Spiral Flute, Modified Bottom (2P-3P)

NEW	YELLOW BAND DRILLS P32-35	HSSE V3	TYPE W	BR	40°
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length	Thread Length	Shank Dia.	Square Width	Square Length
			Mod Bottom (2P-3P)					
			Bright					
M3 x 0.5	D4	2	5EC0300-SO	48.00	6.00	3.58	2.79	5.00
M4 x 0.7			5EC0400-SO	53.00	8.00	4.27	3.33	6.50
M5 x 0.8			5EC0500-SO	58.50	10.00	4.93	3.86	
M6 x 1.0	D6		5EC0514-SO	65.00	12.00	6.48	4.85	8.00
M6 x 0.75	D4		5EC0600-SO					
M7 x 1.0	D6		5EC0614-SO					
M8 x 1.25	D4		5EN0600-SO	70.00	14.00	8.08	6.05	9.50
M8 x 1.0	D6		5EC0700-SO					
	D4		5EC0800-SO					
	D6		5EC0814-SO	77.00	16.00	9.68	7.26	11.00
M10 x 1.5	D4	3	5EN0800-SO					
M10 x 1.25	D6		5EN0814-SO					
M10 x 1.0	D4		5EC1000-SO	87.00	18.00	9.32	6.99	13.00
M12 x 1.75	D6		5EC1014-SO					
M12 x 1.5	D4		5EN1010-SO					
M14 x 2.0	D6		5EN1000-SO	93.00	22.00	10.90	8.18	14.00
M14 x 1.5	D4		5EN1014-SO					
M16 x 2.0	D6		5EC1200-SO					
M16 x 1.5	D4		5EN1200-SO	98.50	23.00	12.19	9.14	15.88
M18 x 2.5	D6		5EN1214-SO					
M18 x 1.5	D4		5EC1400-SO					
M20 x 2.5	D6		5EN1400-SO	108.00	25.00	13.76	10.30	17.50
M20 x 1.5	D4		5EC1600-SO					
M22 x 2.5	D6		5EC1800-SO					
M22 x 1.5	D4		5EN1600-SO	114.00	28.00	16.56	12.42	19.05
M24 x 3.0	D6		5EC1800-SO					
	D4		5EN1800-SO					
	D6		5EC2000-SO	119.00	30.00	17.70	13.28	14.48
	D4		5EN2000-SO					
	D6		5EC2200-SO					
	D4		5EN2200-SO	125.00	30.00	19.30	14.48	
	D6		5EC2400-SO					
	D4		5EN2400-SO					

Packed: 1 pc.
EDPs listed above are stock standard, other coatings available upon request.
Specify treatment at the time of order.



Work Material																	
List No.	P				M			K Cast Iron	N		S		H				
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Aluminum		Nickel Alloy Inconel	Titanium 6Al4V (30 HRC)	Hardened Steels				
	Low	Med.	High														
	1010 1018	1035 1045	1065			4140 4340	300		400	17-4 PH			6061 7075	Casting			
5EC-SO, 5EN-SO																	
SFM	58-88	58-88	58-88						78-170	40-65							

☐ good ☒ best



List 5BD-SO, 5BP-SO

WHITE BAND, Spiral Flute, Modified Bottom (2P-3P)

NEW	WHITE BAND DRILLS P36-37	HSSE V3	TYPE GG	TiAIN	15°
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length	Thread Length	Shank Dia.	Square Width	Square Length
			Mod Bottom (2P-3P)					
			TiAIN					
4 - 40 UNC	H3	3	5BD0285-SO	1.890	0.236	0.141	0.110	0.197
	H5		5BD0295-SO					
4 - 48 UNF	H3		5BP0285-SO					
	H5		5BP0295-SO					
5 - 40 UNC	H3		5BD0325-SO					
	H5		5BD0335-SO					
5 - 44 UNF	H3		5BP0325-SO					
	H5		5BP0335-SO					
6 - 32 UNC	H3		5BD0355-SO	1.969	0.315	0.168	0.131	0.256
	H5		5BD0365-SO					
6 - 40 UNF	H3		5BP0355-SO					
	H5		5BP0365-SO					
8 - 32 UNC	H3		5BD0425-SO	2.087	0.394	0.194	0.152	0.276
	H5		5BD0435-SO					
8 - 36 UNF	H3		5BP0425-SO					
	H5		5BP0435-SO					
10 - 24 UNC	H3		5BD0485-SO	2.303	0.394	0.220	0.165	0.315
	H5		5BD0495-SO					
10 - 32 UNF	H3		5BP0485-SO					
	H5		5BP0495-SO					
12 - 24 UNC	H3		5BD0555-SO	2.402	0.472	0.255	0.191	0.374
	H5		5BD0565-SO					
12 - 28 UNF	H3		5BP0555-SO					
	H5		5BP0565-SO					
1/4 - 20 UNC	H3	5BD0645-SO	2.559	0.551	0.318	0.238	0.374	
	H5	5BD0655-SO						
1/4 - 28 UNF	H3	5BP0645-SO						
	H5	5BP0655-SO						
5/16 - 18 UNC	H3	5BD0795-SO	2.756	0.630	0.381	0.286	0.433	
	H5	5BD0805-SO						
5/16 - 24 UNF	H3	5BP0795-SO						
	H5	5BP0805-SO						
3/8 - 16 UNC	H3	5BD0955-SO	3.031	0.709	0.323	0.242	0.413	
	H5	5BD0965-SO						
3/8 - 24 UNF	H3	5BP0955-SO						
	H5	5BP0965-SO						
7/16 - 14 UNC	H3	5BD1115-SO	3.228	0.827	0.367	0.275	0.433	
	H5	5BD1125-SO						
7/16 - 20 UNF	H3	5BP1115-SO						
	H5	5BP1125-SO						
1/2 - 13 UNC	H3	5BD1275-SO	3.425	0.827	0.367	0.275	0.433	
	H5	5BD1285-SO						
1/2 - 20 UNF	H3	5BP1275-SO						
	H5	5BP1285-SO						

Packed: 1 pc.
Available TiAIN coating only.

continued on next page



Work Material																	
List No.	P				M			K	N		S		H				
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting			35-45 HRC	45-50 HRC	50-70 HRC	
	1010 1018	1035 1045	1065			4140 4340	6061 7075			Inconel	6Al4V (30 HRC)						
5BD-SO, 5BP-SO								☐									
SFM								30-85									

□ good □ best





List 5BD-SO, 5BP-SO (Continued)

WHITE BAND, Spiral Flute, Modified Bottom (2P-3P)

NEW	WHITE BAND DRILLS P36-37	HSSE V3	TYPE GG	TiAIN	15°
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length	Thread Length	Shank Dia.	Square Width	Square Length
			Mod Bottom (2P-3P)					
			TiAIN					
9/16 - 12 UNC	H3	4	5BD1435-SO	3.661	0.866	0.429	0.322	0.492
	H5		5BD1445-SO					
9/16 - 18 UNF	H3		5BP1435-SO					
	H5		5BP1445-SO					
5/8 - 11 UNC	H3		5BD1595-SO	3.878	0.906	0.480	0.360	0.571
	H5		5BD1605-SO					
5/8 - 18 UNF	H3		5BP1595-SO					
	H5		5BP1605-SO					
3/4 - 10 UNC	H3		5BD1915-SO	4.252	0.984	0.590	0.442	0.689
	H5		5BD1925-SO					
3/4 - 16 UNF	H3		5BP1915-SO					
	H5		5BP1925-SO					
7/8 - 9 UNC	H3		5BD2225-SO	4.685	1.102	0.697	0.523	0.748
	H5		5BD2235-SO					
7/8 - 14 UNF	H3		5BP2225-SO					
	H5		5BP2235-SO					
1 - 8 UNC	H3		5BD2545-SO	5.118	1.260	0.800	0.600	0.807
	H5		5BD2555-SO					
1 - 12 UNF	H3		5BP2545-SO					
	H5		5BP2555-SO					
1,1/8 - 7 UNC	H3		5BD2865-SO	5.433	1.417	0.896	0.672	0.866
	H5		5BD2875-SO					
1,1/8 - 12 UNF	H3		5BP2865-SO					
	H5		5BP2875-SO					
1,1/4 - 7 UNC	H3		5BD3185-SO	5.748		1.021	0.766	1.004
	H5		5BD3195-SO					
1,1/4 - 12 UNF	H3		5BP3185-SO					
	H5		5BP3195-SO					

Packed: 1 pc.
Available TiAIN coating only.



Work Material																	
List No.	P				M			K	N		S		H				
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High														
	1010 1018	1035 1045	1065			4140 4340	300	400		17-4 PH	6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC
5BD-SO, 5BP-SO									☐								
SFM									30-85								

☐ good ☒ best



List 5ED-SO, 5EP-SO

WHITE BAND, Spiral Flute, Modified Bottom (2P-3P)

NEW	WHITE BAND DRILLS P36-37	HSSE V3	TYPE GG	TiAIN	15°
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length	Thread Length	Shank Dia.	Square Width	Square Length		
			Mod Bottom (2P-3P)							
			TiAIN						L	Lc
M3 x 0.5	D4	3	5ED0305-SO	48.00	6.00	3.58	2.79	5.00		
M3.5 X 6			5ED0355-SO	50.00	8.00					
M4 x 0.7			5ED0405-SO	53.00		4.27	3.33	6.50		
M5 x 0.8			5ED0505-SO	58.00	10.00	4.93	3.86			
M6 x 1.0			5ED0605-SO	65.00	12.00	6.48	4.85	8.00		
M6 x 0.75			5EP0605-SO							
M7 x 1.0			5ED0705-SO	69.00	14.00	8.08	6.05	9.50		
M7 x 0.75			5EP0705-SO							
M8 x 1.25			5ED0805-SO	70.00	16.00	9.68	7.26	11.00		
M8 x 1.0			5EP0805-SO							
M10 x 1.5			D4	4	5ED1005-SO	77.00	16.00	9.32	6.99	13.00
M10 x 1.25					5EP0995-SO					
M10 x 1.0	5EP1005-SO	87.00			18.00	10.90	8.18	13.00		
M12 x 1.75	5EP1015-SO									
M12 x 1.5	5ED1205-SO	93.00			22.00	12.19	9.14	13.00		
M12 x 1.25	5EP1214-SO									
M14 x 2.0	5EP1235-SO	98.50			23.00	13.76	10.30	14.00		
M14 x 1.5	5ED1405-SO									
M16 x 2.0	5EP1405-SO	108.00			25.00	16.56	12.42	17.50		
M16 x 1.5	5ED1605-SO									
M18 x 2.5	5EP1605-SO	114.00			28.00	17.70	13.28	19.05		
M18 x 1.5	5ED1805-SO									
M20 x 2.5	5EP1805-SO	119.00			30.00	19.30	14.48			
M20 x 1.5	5ED2005-SO									
M22 x 2.5	5EP2005-SO	125.00			30.00	19.30	14.48			
M22 x 1.5	5ED2205-SO									
M24 x 3.0	5EP2205-SO									
			5ED2405-SO							

Packed: 1 pc.
Available TiAIN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065														
5ED-SO, 5EP-SO									☐								
SFM									30-85								

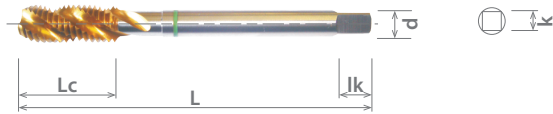
☐ good ☐ best





List 5BE-SO, 5BK-SO

GREEN BAND, Spiral Flute, Modified Bottom (2P-3P)



Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length L	Thread Length Lc	Shank Dia. d	Square Width k	Square Length lk
			Mod Bottom (2P-3P)					
			TiN					
4 - 40 UNC	H3	3	5BE0280-SO	1.890	0.236	0.141	0.110	0.197
	H5		5BE0290-SO					
4 - 48 UNF	H3		5BK0280-SO					
	H5		5BK0290-SO					
5 - 40 UNC	H3		5BE0320-SO					
	H5		5BE0330-SO					
5 - 44 UNF	H3		5BK0320-SO	1.969	0.315	0.168	0.131	0.256
	H5		5BK0330-SO					
6 - 32 UNC	H3		5BE0350-SO					
	H5		5BE0360-SO	2.087	0.394	0.194	0.152	0.276
6 - 40 UNF	H3		5BK0350-SO					
	H5		5BK0360-SO					
8 - 32 UNC	H3		5BE0420-SO	2.303	0.472	0.255	0.191	0.315
	H5		5BE0430-SO					
8 - 36 UNF	H3		5BK0420-SO					
	H5		5BK0430-SO	2.402	0.551	0.318	0.238	0.374
10 - 24 UNC	H3		5BE0480-SO					
	H5		5BE0490-SO					
10 - 32 UNF	H3		5BK0480-SO	2.559	0.630	0.381	0.286	0.433
	H5		5BK0490-SO					
12 - 24 UNC	H3		5BE0550-SO					
	H5		5BE0560-SO	3.031	0.709	0.429	0.322	0.492
12 - 28 UNF	H3		5BK0550-SO					
	H5		5BK0560-SO					
1/4 - 20 UNC	H3		5BE0640-SO	3.228	0.827	0.480	0.360	0.571
	H5		5BE0650-SO					
1/4 - 28 UNF	H3		5BK0640-SO					
	H5		5BK0650-SO	3.425	0.906	0.590	0.442	0.689
5/16 - 18 UNC	H3		5BE0790-SO					
	H5		5BE0800-SO	3.661	0.984	0.590	0.442	0.689
5/16 - 24 UNF	H3		5BK0790-SO					
	H5		5BK0800-SO					
3/8 - 16 UNC	H3		5BE0950-SO	3.878	0.906	0.480	0.360	0.571
	H5		5BE0960-SO					
3/8 - 24 UNF	H3		5BK0950-SO					
	H5		5BK0960-SO	4.252	0.984	0.590	0.442	0.689
7/16 - 14 UNC	H3	4	5BE1110-SO					
	H5		5BE1120-SO					
7/16 - 20 UNF	H3		5BK1110-SO					
	H5		5BK1120-SO	3.425	0.827	0.367	0.275	0.433
1/2 - 13 UNC	H3		5BE1270-SO					
	H5		5BE1280-SO					
1/2 - 20 UNF	H3		5BK1270-SO					
	H5		5BK1280-SO	3.661	0.866	0.429	0.322	0.492
9/16 - 12 UNC	H3		5BE1430-SO					
	H5		5BE1440-SO					
9/16 - 18 UNF	H3		5BK1430-SO					
	H5		5BK1440-SO	3.878	0.906	0.480	0.360	0.571
5/8 - 11 UNC	H3		5BE1590-SO					
	H5		5BE1600-SO					
5/8 - 18 UNF	H3		5BK1590-SO	4.252	0.984	0.590	0.442	0.689
	H5		5BK1600-SO					
3/4 - 10 UNC	H3		5BE1910-SO					
	H5		5BE1920-SO	4.252	0.984	0.590	0.442	0.689
3/4 - 16 UNF	H3		5BK1910-SO					
	H5		5BK1920-SO					

Packed: 1 pc.
Available TiN coating only.



List 5BE-SO, 5BK-SO (Continued)

GREEN BAND, Spiral Flute, Modified Bottom (2P-3P)

NEW	GREEN BAND DRILLS P38-40	HSSE V3	TYPE UNI	TiN	35°
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length	Thread Length	Shank Dia.	Square Width	Square Length
			Mod Bottom (2P-3P)					
			TiN					
7/8 - 9 UNC	H3	4	5BE2220-SO	4.685	1.102	0.697	0.523	0.748
	H5		5BE2230-SO					
7/8 - 14 UNF	H3		5BK2220-SO					
	H5		5BK2230-SO					
1 - 8 UNC	H3		5BE2540-SO	5.118	1.260	0.800	0.600	0.807
	H5		5BE2550-SO					
1 - 12 UNF	H3		5BK2540-SO					
	H5		5BK2550-SO					
1,1/8 - 7 UNC	H3		5BE2860-SO	5.433	1.417	0.896	0.672	0.807
	H5		5BE2870-SO					
1,1/8 - 12 UNF	H3		5BK2860-SO					
	H5		5BK2870-SO					
1,1/4 - 7 UNC	H3		5BE3180-SO	5.748		1.021	0.766	1.004
	H5		5BE3190-SO					
1,1/4 - 12 UNF	H3		5BK3180-SO					
	H5		5BK3190-SO					

Packed: 1 pc.
Available TiN coating only.



Work Material																	
List No.	P				Die Steels	M			K Cast Iron	N		S		H			
	Carbon Steels			Alloy Steels		Stainless Steels				Aluminum		Nickel Alloy Inconel	Titanium 6Al4V (30 HRC)	Hardened Steels			
	Low	Med.	High														
	1010 1018	1035 1045	1065			4140 4340	300	400		17-4 PH	6061 7075			Casting	35-45 HRC	45-50 HRC	50-70 HRC
5BE-SO, 5BK-SO	☒	☒	☒			☐			☐	☐	☐						
SFM	59-88	59-88	59-79			59-79			30-85	78-170	30-80	19-39					

☐ good ☒ best





List 5EV-SO

GREEN BAND, Spiral Flute, Modified Bottom (2P-3P)



Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length	Thread Length	Shank Dia.	Square Width	Square Length
			Mod Bottom (2P-3P)					
			TiN	L	Lc	d	k	lk
M3 x 0.5	D4	3	5EV0300-SO	48.00	6.00	3.58	2.79	5.00
M4 x 0.7			5EV0400-SO	53.00	8.00	4.27	3.33	6.50
M5 x 0.8			5EV0500-SO	58.50	10.00	4.93	3.86	
M6 x 1.0			5EV0600-SO	65.00	12.00	6.48	4.85	8.00
M8 x 1.25			5EV0800-SO	70.00	14.00	8.08	6.05	9.50
M10 x 1.5	D6		5EV1000-SO	77.00	16.00	9.68	7.26	11.00
M12 x 1.75			5EV1200-SO	87.00	18.00	9.32	6.99	
M14 x 2.0			5EV1400-SO	93.00	22.00	10.90	8.18	13.00
M16 x 2.0			5EV1600-SO	98.50	23.00	12.19	9.14	14.00
M18 x 2.5			D4	4	5EV1800-SO	108.00	25.00	13.76
M20 x 2.5	5EV2000-SO	114.00			16.56	12.42		17.50
M22 x 2.5	5EV2200-SO	119.00			17.70	13.28	19.05	
M24 x 3.0	5EV2400-SO	125.00			30.00	19.30		14.48

Packed: 1 pc.
Available TiN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065														
5EV-SO	☐	☐	☐			☐			☐	☐	☐	☐					
SFM	59-88	59-88	59-79			59-79			30-85	78-170	30-80	19-39					

☐ good ☐ best



List 5EW-SO

GREEN BAND, Spiral Flute, Modified Bottom (2P-3P)

NEW	GREEN BAND DRILLS P38-40	HSSE V3	TYPE UNI	TiN	35°
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length	Thread Length	Shank Dia.	Square Width	Square Length
			Mod Bottom (2P-3P)					
			TiN	L	Lc	d	k	lk
M3 x 0.5	D4	3	5EW0300-SO	48.00	6.00	3.58	2.79	5.00
M4 x 0.7			5EW0400-SO	53.00	8.00	4.27	3.33	6.50
M5 x 0.8			5EW0500-SO	58.50	10.00	4.93	3.86	
M6 x 1.0			5EW0600-SO	65.00	12.00	6.48	4.85	8.00
M8 x 1.25			5EW0800-SO	70.00	14.00	8.08	6.05	9.50
M10 x 1.5	D6		5EW1000-SO	77.00	16.00	9.68	7.26	11.00
M12 x 1.75			5EW1200-SO	87.00	18.00	9.32	6.99	
M14 x 2.0			5EW1400-SO	93.00	22.00	10.90	8.18	13.00
M16 x 2.0			5EW1600-SO	98.50	23.00	12.19	9.14	14.00
M18 x 2.5			D4	4	5EW1800-SO	108.00	25.00	13.76
M20 x 2.5	5EW2000-SO	114.00			16.56	12.42		17.50
M22 x 2.5	5EW2200-SO	119.00			17.70	13.28	19.05	
M24 x 3.0	5EW2400-SO	125.00			30.00	19.30		14.48

Packed: 1 pc.
Available TiN coating only.



Work Material																			
List No.	P					M			K	N		S		H					
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels					
	Low	Med.	High			300	400	17-4 PH		6061	Casting			Inconel	6Al4V	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010	1035	1065			4140	4340							7075		(30 HRC)			
5EW-SO	☐	☐	☐			☐			☐	☐	☐	☐							
SFM	59-88	59-88	59-79			59-79			30-85	78-170	30-80	19-39							

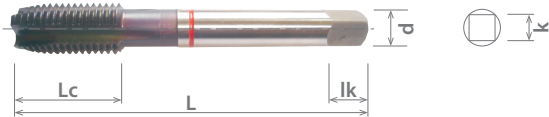
☐ good ☐ best



List 5BF-SO, 5BS-SO

RED BAND, Spiral Point, Plug (4P-5P)

NEW	RED BAND DRILLS P26-28	HSSE V3	TYPE H	TiAIN
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length	Thread Length	Shank Dia.	Square Width	Square Length
			Plug (4P-5P)					
			TIAIN					
4 - 40 UNC	H3	3	5BF0280-SO	1.890	0.433	0.141	0.110	0.197
	H5		5BF0290-SO					
4 - 48 UNF	H3		5BS0280-SO					
	H5		5BS0290-SO					
5 - 40 UNC	H3		5BF0320-SO					
	H5		5BF0330-SO					
5 - 44 UNF	H3		5BS0320-SO					
	H5		5BS0330-SO					
6 - 32 UNC	H3		5BF0350-SO					
	H5		5BF0360-SO					
6 - 40 UNF	H3		5BS0350-SO					
	H5		5BS0360-SO					
8 - 32 UNC	H3		5BF0420-SO					
	H5		5BF0430-SO					
8 - 36 UNF	H3		5BS0420-SO					
	H5		5BS0430-SO					
10 - 24 UNC	H3		5BF0480-SO					
	H5		5BF0490-SO					
10 - 32 UNF	H3		5BS0480-SO					
	H5		5BS0490-SO					
12 - 24 UNC	H3	5BF0550-SO						
	H5	5BF0560-SO						
12 - 28 UNF	H3	5BS0550-SO						
	H5	5BS0560-SO						
1/4 - 20 UNC	H3	5BF0640-SO						
	H5	5BF0650-SO						
1/4 - 28 UNF	H3	5BS0640-SO						
	H5	5BS0650-SO						
5/16 - 18 UNC	H3	5BF0790-SO						
	H5	5BF0800-SO						
5/16 - 24 UNF	H3	5BS0790-SO						
	H5	5BS0800-SO						
3/8 - 16 UNC	H3	5BF0950-SO						
	H5	5BF0960-SO						
3/8 - 24 UNF	H3	5BS0950-SO						
	H5	5BS0960-SO						
7/16 - 14 UNC	H3	5BF1110-SO						
	H5	5BF1120-SO						
7/16 - 20 UNF	H3	5BS1110-SO						
	H5	5BS1120-SO						
1/2 - 13 UNC	H3	5BF1270-SO						
	H5	5BF1280-SO						
1/2 - 20 UNF	H3	5BS1270-SO						
	H5	5BS1280-SO						
9/16 - 12 UNC	H3	5BF1430-SO						
	H5	5BF1440-SO						
9/16 - 18 UNF	H3	5BS1430-SO						
	H5	5BS1440-SO						
5/8 - 11 UNC	H3	5BF1590-SO						
	H5	5BF1600-SO						
5/8 - 18 UNF	H3	5BS1590-SO						
	H5	5BS1600-SO						
3/4 - 10 UNC	H3	5BF1910-SO						
	H5	5BF1920-SO						
3/4 - 16 UNF	H3	5BS1910-SO						
	H5	5BS1920-SO						

Packed: 1 pc.
Available TiAIN coating only.



List 5BF-SO, 5BS-SO (Continued)

RED BAND, Spiral Point, Plug (4P-5P)

NEW	RED BAND DRILLS P26-28	HSSE V3	TYPE H	TiAIN
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length L	Thread Length Lc	Shank Dia. d	Square Width k	Square Length lk
			Plug (4P-5P)					
			TiAIN					
7/8 - 9 UNC	H3	4	5BF2220-SO	4.685	1.339	0.697	0.523	0.748
	H5		5BF2230-SO					
7/8 - 14 UNF	H3		5BS2220-SO					
	H5		5BS2230-SO					
1 - 8 UNC	H3		5BF2540-SO	5.118	1.772	0.800	0.600	0.807
	H5		5BF2550-SO					
1 - 12 UNF	H3		5BS2540-SO					
	H5		5BS2550-SO					
1,1/8 - 7 UNC	H3		5BF2860-SO	5.433	1.890	0.896	0.672	0.866
	H5		5BF2870-SO					
1,1/8 - 12 UNF	H3		5BS2860-SO					
	H5		5BS2870-SO					
1,1/4 - 7 UNC	H3		5BF3180-SO	5.748	2.008	1.021	0.766	1.004
	H5		5BF3190-SO					
1,1/4 - 12 UNF	H3		5BS3180-SO					
	H5		5BS3190-SO					

Packed: 1 pc.
Available TiAIN coating only.



Work Material																			
List No.	P					M			K	N		S		H					
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels					
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065			4140 4340													
5BF-SO, 5BS-SO	☐	☐	☐	☒	☒				☐	☐		☒	☐	☒	☒				
SFM	59-89	59-89	59-89	59-79	59-79				59-88	78-118		16-36	20-40	30-50	30-50				

☐ good ☒ best

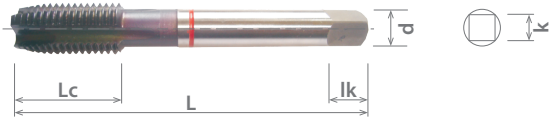




List 5EF-SO, 5ES-SO

RED BAND, Spiral Point, Plug (4P-5P)

NEW	RED BAND DRILLS P26-28	HSSE V3	TYPE H	TiAIN
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length	Thread Length	Shank Dia.	Square Width	Square Length
			Plug (4P-5P)					
			TiAIN					
M3 x 0.5	D4	3	5EF0300-SO	48.00	11.00	3.58	2.79	5.00
M3.5 x 0.6			5EF0350-SO	50.00	13.00			
M4 x 0.7			5EF0400-SO	53.00		4.27	3.33	6.50
M4.5 X 0.75			5EF0450-SO	58.50	16.00	4.93	3.86	
M5 x 0.8			5EF0500-SO					
M6 x 1.0			5EF0600-SO	65.00	19.00	6.48	4.85	8.00
M6 x 0.75			5ES0600-SO					
M7 x 1.0			5EF0700-SO	69.00	8.08	6.05	9.50	
M8 x 1.25			5EF0800-SO	70.00				
M8 x 1.0			5ES0800-SO					
M10 x 1.5	D6	5	5EF1000-SO	77.00	24.00	9.68	7.26	11.00
M10 x 1.25			5ES1010-SO					
M10 x 1	D4	4	5ES1000-SO	87.00	29.00	9.32	6.99	
M12 x 1.75			5EF1200-SO					
M12 x 1.5	5ES1200-SO		93.00	30.00	10.90	8.18	13.00	
M12 x 1.25	5ES1210-SO							
M14 x 2.0	D4		5EF1400-SO	98.50	32.00	12.19	9.14	14.00
	D6		5EF1410-SO					
M14 x 1.5	D4		5ES1400-SO	108.00	37.00	13.76	10.31	15.88
	D6		5ES1410-SO					
M16 x 2.0	D4		5EF1600-SO	114.00	34.00	16.56	12.42	17.50
	D6		5EF1610-SO					
M16 x 1.5	D4		5ES1600-SO	119.00	45.00	17.70	13.28	19.05
	D6		5ES1610-SO					
M18 x 2.5	D4		5EF1800-SO	125.00	45.00	19.30	14.48	
	D6		5EF1810-SO					
M18 x 1.5	D4	5ES1800-SO						
	D6	5ES1810-SO						
M20 x 2.5	D4		5EF2000-SO	114.00	34.00	16.56	12.42	17.50
M20 x 1.5			5ES2000-SO					
M22 x 2.5			5EF2200-SO	119.00	45.00	17.70	13.28	19.05
M22 x 1.5			5ES2200-SO					
M24 x 3.0			5EF2400-SO	125.00	45.00	19.30	14.48	

Packed: 1 pc.
Available TiAIN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065														
5EF-SO, 5ES-SO	☐	☐	☐	☒	☒				☐	☐		☒	☐	☒	☒		
SFM	59-89	59-89	59-89	59-79	59-79				59-88	78-118		16-36	20-40	30-50	30-50		

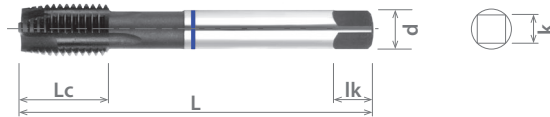
☐ good ☒ best



List 5BG-SO, 5BT-SO

BLUE BAND, Spiral Point, Plug (4P-5P)

NEW	BLUE BAND DRILLS P29-31	HSSE V3	TYPE VA	TiAIN
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length	Thread Length	Shank Dia.	Square Width	Square Length	
			Plug (4P-5P)						
			TiAIN						
4 - 40 UNC	H3	3	5BG0284-SO	1.890	0.433	0.141	0.110	0.197	
	H5		5BG0294-SO						
4 - 48 UNF	H3		5BT0284-SO						
	H5		5BT0294-SO						
5 - 40 UNC	H3		5BG0324-SO						
	H5		5BG0334-SO						
5 - 44 UNF	H3		5BT0324-SO	1.969	0.512	0.168	0.131	0.256	
	H5		5BT0334-SO						
6 - 32 UNC	H3		5BG0354-SO						
	H5		5BG0364-SO						
6 - 40 UNF	H3		5BT0354-SO						
	H5		5BT0364-SO						
8 - 32 UNC	H3		5BG0424-SO	2.087	0.630	0.194	0.152	0.276	
	H5		5BG0434-SO						
8 - 36 UNF	H3		5BT0424-SO						
	H5		5BT0434-SO						
10 - 24 UNC	H3		5BG0484-SO	2.303		0.630	0.220	0.165	0.433
	H5		5BG0494-SO						
10 - 32 UNF	H3		5BT0484-SO						
	H5		5BT0494-SO						
12 - 24 UNC	H3		5BG0554-SO	2.402		0.748	0.318	0.238	0.374
	H5		5BG0564-SO						
12 - 28 UNF	H3		5BT0554-SO						
	H5		5BT0564-SO						
1/4 - 20 UNC	H3		5BG0644-SO	2.559	0.945	0.381	0.286	0.413	
	H5		5BG0654-SO						
1/4 - 28 UNF	H3		5BT0644-SO						
	H5		5BT0654-SO						
5/16 - 18 UNC	H3		5BG0794-SO	2.756	0.984	0.367	0.275	0.433	
	H5		5BG0804-SO						
5/16 - 24 UNF	H3		5BT0794-SO						
	H5		5BT0804-SO						
3/8 - 16 UNC	H3		5BG0954-SO	3.031	1.142	0.367	0.275	0.433	
	H5		5BG0964-SO						
3/8 - 24 UNF	H3		5BT0954-SO						
	H5		5BT0964-SO						
7/16 - 14 UNC	H3		5BG1114-SO	3.228	1.142	0.367	0.275	0.433	
	H5		5BG1124-SO						
7/16 - 20 UNF	H3		5BT1114-SO						
	H5		5BT1124-SO						
1/2 - 13 UNC	H3		5BG1274-SO	3.425	1.142	0.367	0.275	0.433	
	H5		5BG1284-SO						
1/2 - 20 UNF	H3		5BT1274-SO						
	H5		5BT1284-SO						

Packed: 1 pc.
Available TiAIN coating only.

continued on next page



Work Material																	
List No.	P				M			K	N		S		H				
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V	~35	35-45	45-50	50-70
	1010	1035	1065			4140	4340	7075					(30 HRC)	HRC	HRC	HRC	HRC
5BG-SO, 5BT-SO																	
SFM						29-49	26-49	25-45					20-60				

□ good □ best





List 5BG-SO, 5BT-SO (Continued)

BLUE BAND, Spiral Point, Plug (4P-5P)

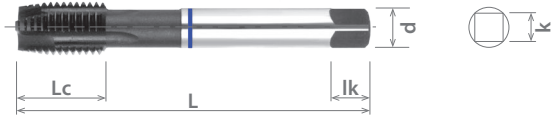
NEW

BLUE BAND
DRILLS
P29-31

HSSE V3

TYPE VA

TiAIN



Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length L	Thread Length Lc	Shank Dia. d	Square Width k	Square Length lk
			Plug (4P-5P)					
			TiAIN					
9/16 - 12 UNC	H3	3	5BG1434-SO	3.661	1.181	0.429	0.322	0.492
	H5		5BG1444-SO					
9/16 - 18 UNF	H3		5BT1434-SO					
	H5		5BT1444-SO					
5/8 - 11 UNC	H3		5BG1594-SO	3.878	1.260	0.480	0.360	0.571
	H5		5BG1604-SO					
5/8 - 18 UNF	H3		5BT1594-SO					
	H5		5BT1604-SO					
3/4 - 10 UNC	H3	4	5BG1914-SO	4.252	1.457	0.590	0.442	0.689
	H5		5BG1924-SO					
3/4 - 16 UNF	H3		5BT1914-SO					
	H5		5BT1924-SO					
7/8 - 9 UNC	H3		5BG2224-SO	4.685	1.339	0.697	0.523	0.748
	H5		5BG2234-SO					
7/8 - 14 UNF	H3		5BT2224-SO					
	H5		5BT2234-SO					
1 - 8 UNC	H3		5BG2544-SO	5.118	1.772	0.800	0.600	0.807
	H5		5BG2554-SO					
1 - 12 UNF	H3		5BT2544-SO					
	H5		5BT2554-SO					
1,1/8 - 7 UNC	H3		5BG2864-SO	5.433	1.890	0.896	0.672	0.866
	H5		5BG2874-SO					
1,1/8 - 12 UNF	H3		5BT2864-SO					
	H5		5BT2874-SO					
1,1/4 - 7 UNC	H3		5BG3184-SO	5.748	2.008	1.021	0.766	1.004
	H5		5BG3194-SO					
1,1/4 - 12 UNF	H3		5BT3184-SO					
	H5		5BT3194-SO					

Packed: 1 pc.
Available TiAIN coating only.

SOM

Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065			4140 4340	300	400		17-4 PH	6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC
5BG-SO, 5BT-SO						☒	☒	☐					☒				
SFM						29-49	26-49	25-45					20-60				

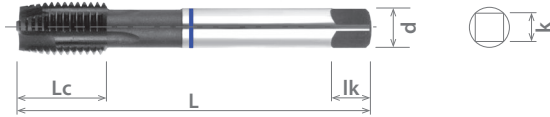
☐ good ☒ best



List 5EG-SO, 5ET-SO

BLUE BAND, Spiral Point, Plug (4P-5P)

NEW	BLUE BAND DRILLS P29-31	HSSE V3	TYPE VA	TiAIN
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length	Thread Length	Shank Dia.	Square Width	Square Length					
			Plug (4P-5P)										
			TiAIN						L	Lc	d	k	lk
M3 x 0.5	D4	3	5EG0304-SO	48.00	11.00	3.58	2.79	5.00					
M3.5 x 0.6	D6		5EG0354-SO	50.00	13.00				4.27	3.33			
M4 x 0.7	D4		5EG0404-SO	53.00							16.00	4.93	3.86
M4.5 X 0.75			5EG0454-SO	58.50	65.00	6.48	4.85						
M5 x 0.8			5EG0504-SO					69.00	8.08	6.05			
M6 x 1.0			D6										
M6 x 0.75	D4		5EG0614-SO	77.00	24.00	9.68	7.26						
M7 x 1.0	D6		5ET0604-SO					87.00	29.00	9.32	6.99		
M8 x 1.25	D4		5EG0704-SO									93.00	30.00
	D6		5EG0714-SO	98.50	32.00	12.19	9.14						
M8 x 1.0	D4		5EG0804-SO					108.00	37.00	13.76	10.31		
	D6		5EG0814-SO									114.00	34.00
M10 x 1.5	D4		5ET0804-SO	119.00	45.00	19.30	14.48						
	D6		5ET0814-SO					125.00	45.00	19.30	14.48		
M10 x 1.25	D4		5EG1004-SO									114.00	34.00
M10 x 1			5EG1014-SO	119.00	45.00	19.30	14.48						
M12 x 1.75			5ET1004-SO					125.00	45.00	19.30	14.48		
			D6									5EG1204-SO	125.00
M12 x 1.5	D4		5EG1214-SO	114.00	34.00	16.56	12.42						
M12 x 1.25			5ET1204-SO					119.00	45.00	19.30	14.48		
M14 x 2.0			5ET1194-SO									125.00	45.00
			D6	5EG1404-SO	125.00	45.00	19.30						
M14 x 1.5	D4		5EG1414-SO	114.00				34.00	16.56	12.42			
	D6		5ET1404-SO								119.00	45.00	19.30
M16 x 2.0	D4		5ET1414-SO		125.00	45.00	19.30						
	D6		5EG1604-SO	125.00				45.00	19.30	14.48			
M16 x 1.5	D4		5EG1614-SO								114.00	34.00	16.56
	D6		5ET1604-SO		119.00	45.00	19.30						
M18 x 2.5	D4		5ET1614-SO	125.00				45.00	19.30	14.48			
		5EG1804-SO	125.00								45.00	19.30	14.48
D6		5EG1814-SO			125.00	45.00	19.30						
M18 x 1.5		D4		5ET1804-SO				125.00	45.00	19.30			
	D6	5ET1814-SO	125.00	45.00							19.30	14.48	
M20 x 2.5	D4	5EG2004-SO			125.00	45.00	19.30						14.48
M20 x 1.5		5ET2004-SO						125.00	45.00	19.30			
M22 x 2.5		5EG2204-SO	125.00	45.00							19.30	14.48	
M22 x 1.5		5ET2204-SO			125.00	45.00	19.30						14.48
M24 x 3.0		5EG2404-SO						125.00	45.00	19.30			

Packed: 1 pc.
Available TiAIN coating only.



Work Material																	
List No.	P					M			K Cast Iron	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels				Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065			4140 4340											
5EG-SO, 5ET-SO																	
SFM						29-49	26-49	25-45					20-60				

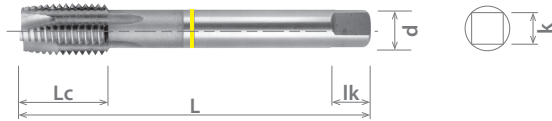
☐ good ☒ best





List 5BH-SO, 5BU-SO

YELLOW BAND, Spiral Point, Plug (4P-5P)



Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length	Thread Length	Shank Dia.	Square Width	Square Length
			Plug (4P-5P)					
			Bright	L	Lc	d	k	lk
4 - 40 UNC	H3	2	5BH0280-SO	1.890	0.433	0.141	0.110	0.197
	H5		5BH0290-SO					
4 - 48 UNF	H3		5BU0280-SO					
	H5		5BU0290-SO					
5 - 40 UNC	H3		5BH0320-SO					
	H5		5BH0330-SO					
5 - 44 UNF	H3		5BU0320-SO	1.969	0.512	0.168	0.131	0.256
	H5		5BU0330-SO					
6 - 32 UNC	H3		5BH0350-SO					
	H5		5BH0360-SO	2.087	0.630	0.194	0.152	0.276
6 - 40 UNF	H3		5BU0350-SO					
	H5		5BU0360-SO					
8 - 32 UNC	H3		5BH0420-SO	2.303	0.748	0.255	0.191	0.315
	H5		5BH0430-SO					
8 - 36 UNF	H3		5BU0420-SO					
	H5		5BU0430-SO	2.402	0.866	0.318	0.238	0.374
10 - 24 UNC	H3		5BH0480-SO					
	H5		5BH0490-SO	2.559	0.945	0.381	0.286	0.433
10 - 32 UNF	H3		5BU0480-SO					
	H5		5BU0490-SO	2.756	0.984	0.323	0.242	0.413
12 - 24 UNC	H3	3	5BH0550-SO					
	H5		5BH0560-SO	2.402	0.630	0.220	0.165	0.276
12 - 28 UNF	H3		5BU0550-SO					
	H5		5BU0560-SO	2.559	0.748	0.255	0.191	0.315
1/4 - 20 UNC	H3		5BH0640-SO					
	H5		5BH0650-SO	2.756	0.866	0.318	0.238	0.374
1/4 - 28 UNF	H3		5BU0640-SO					
	H5		5BU0650-SO	3.031	0.945	0.381	0.286	0.433
5/16 - 18 UNC	H3		5BH0790-SO					
	H5		5BH0800-SO	3.228	0.984	0.323	0.242	0.413
5/16 - 24 UNF	H3		5BU0790-SO					
	H5		5BU0800-SO	3.425	1.142	0.367	0.275	0.433
3/8 - 16 UNC	H3		5BH0950-SO					
	H5		5BH0960-SO	3.661	1.181	0.429	0.322	0.492
3/8 - 24 UNF	H3		5BU0950-SO					
	H5		5BU0960-SO	3.878	1.260	0.480	0.360	0.571
7/16 - 14 UNC	H3		5BH1110-SO					
	H5		5BH1120-SO	4.252	1.457	0.590	0.442	0.689
7/16 - 20 UNF	H3		5BU1110-SO					
	H5		5BU1120-SO	3.425	1.142	0.367	0.275	0.433
1/2 - 13 UNC	H3		5BH1270-SO					
	H5		5BH1280-SO	3.661	1.181	0.429	0.322	0.492
1/2 - 20 UNF	H3		5BU1270-SO					
	H5		5BU1280-SO	3.878	1.260	0.480	0.360	0.571
9/16 - 12 UNC	H3		5BH1430-SO					
	H5		5BH1440-SO	4.252	1.457	0.590	0.442	0.689
9/16 - 18 UNF	H3		5BU1430-SO					
	H5		5BU1440-SO	3.878	1.260	0.480	0.360	0.571
5/8 - 11 UNC	H3		5BH1590-SO					
	H5		5BH1600-SO	4.252	1.457	0.590	0.442	0.689
5/8 - 18 UNF	H3		5BU1590-SO					
	H5		5BU1600-SO	3.878	1.260	0.480	0.360	0.571
3/4 - 10 UNC	H3		5BH1910-SO					
	H5		5BH1920-SO	4.252	1.457	0.590	0.442	0.689
3/4 - 16 UNF	H3		5BU1910-SO					
	H5		5BU1920-SO					

Packed: 1 pc.
EDPs listed above are stock standard, other coatings available upon request.
Specify treatment at the time of order.



List 5BH-SO, 5BU-SO (Continued)

YELLOW BAND, Spiral Point, Plug (4P-5P)

NEW	YELLOW BAND DRILLS P32-35	HSSE V3	TYPE W	BR
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length L	Thread Length Lc	Shank Dia. d	Square Width k	Square Length lk
			Plug (4P-5P)					
			Bright					
7/8 - 9 UNC	H3	3	5BH2220-SO	4.685	1.339	0.697	0.523	0.748
	H5		5BH2230-SO					
7/8 - 14 UNF	H3		5BU2220-SO					
	H5		5BU2230-SO					
1 - 8 UNC	H3		5BH2540-SO	5.118	1.772	0.800	0.600	0.807
	H5		5BH2541-SO					
1 - 12 UNF	H3		5BU2540-SO					
	H5		5BU2550-SO					
1,1/8 - 7 UNC	H3		5BH2860-SO	5.433	1.890	0.896	0.672	0.866
	H5		5BH2870-SO					
1,1/8 - 12 UNF	H3		5BU2860-SO					
	H5		5BU2870-SO					
1,1/4 - 7 UNC	H3		5BH3180-SO	5.748	2.008	1.021	0.766	1.004
	H5		5BH3190-SO					
1,1/4 - 12 UNF	H3		5BU3180-SO					
	H5		5BU3190-SO					

Packed: 1 pc.
EDPs listed above are stock standard, other coatings available upon request.
Specify treatment at the time of order.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V	~35	35-45	45-50	50-70
	1010	1035	1065			4140	4340	7075		7075	7075	7075	7075	7075	7075	7075	7075
5BH-SO, 5BU-SO	☒	☒	☒							☒	☒						
SFM	58-88	58-88	58-88							78-170	40-65						

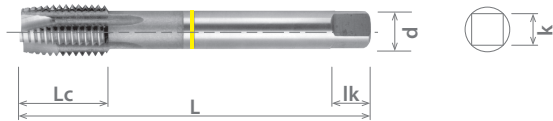
☐ good ☒ best



List 5EH-SO, 5EU-SO

YELLOW BAND, Spiral Point, Plug (4P-5P)

NEW	YELLOW BAND DRILLS P32-35	HSSE V3	TYPE W	BR
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length	Thread Length	Shank Dia.	Square Width	Square Length		
			Plug (4P-5P)							
			Bright	L	Lc	d	k	lk		
M3 x 0.5	D4	2	5EH0300-SO	48.00	11.00	3.58	2.79	5.00		
M4 x 0.7			5EH0400-SO	53.00	13.00	4.27	3.33	6.50		
M5 x 0.8			5EH0500-SO	58.50	16.00	4.93	3.86			
M6 x 1.0	D6		5EH0600-SO	65.00	19.00	6.48	4.85	8.00		
M6 x 0.75			5EH0610-SO							
M7 x 1.0	D4		5EU0600-SO	69.00	8.08	6.05	9.50			
M8 x 1.25	5EH0700-SO									
M8 x 1.0	D6		5EH0800-SO	70.00	22.00					
	D4		5EH0810-SO							
	D6		5EU0800-SO							
M10 x 1.5	D4		5EU0810-SO	77.00	24.00	9.68	7.26	11.00		
M10 x 1	D6	5EH1000-SO								
	D4	5EH1010-SO								
M12 x 1.75	D4	5EU1000-SO	87.00	29.00	9.32	6.99				
	D6	5EH1200-SO								
	D4	5EH1210-SO								
M12 x 1.5	D6	5EU1200-SO	93.00	30.00	10.90	8.18	13.00			
M14 x 2.0	5EU1210-SO									
M14 x 1.5	5EH1400-SO									
M16 x 2.0	D4	3	5EU1400-SO	98.50	32.00	12.19	9.14	14.00		
M16 x 1.5			5EH1600-SO							
M18 x 2.5			5EU1600-SO							
M18 x 1.5			5EH1800-SO	108.00	37.00	13.76	10.31	15.88		
M20 x 2.5			5EU1800-SO							
M20 x 1.5			5EH2000-SO							
M22 x 2.5			5EU2000-SO	114.00	34.00	16.56	12.42	17.50		
M22 x 1.5			5EH2200-SO							
M24 x 3.0			5EU2200-SO							
					5EH2400-SO	125.00	45.00	19.30	14.48	19.05

Packed: 1 pc.
 EDPs listed above are stock standard, other coatings available upon request.
 Specify treatment at the time of order.



Work Material																	
List No.	P					M			K	N		S	H				
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010	1035	1065			4140 4340											
5EH-SO, 5EU-SO	☐	☐	☐							☐	☐						
SFM	58-88	58-88	58-88							78-170	40-65						

☐ good ☒ best



List 5BJ-SO, 5BV-SO

GREEN BAND, Spiral Point, Plug (4P-5P)

NEW	GREEN BAND DRILLS P38-40	HSSE V3	TYPE UNI	TiN
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length	Thread Length	Shank Dia.	Square Width	Square Length
			Plug (4P-5P)					
			TiN					
4 - 40 UNC	H3	3	5BJ0280-SO	1.890	0.433	0.141	0.110	0.197
	H5		5BJ0290-SO					
4 - 48 UNF	H3		5BV0280-SO					
	H5		5BV0290-SO					
5 - 40 UNC	H3		5BJ0320-SO					
	H5		5BJ0330-SO					
5 - 44 UNF	H3		5BV0320-SO					
	H5		5BV0330-SO					
6 - 32 UNC	H3		5BJ0350-SO	1.969	0.512	0.168	0.131	0.256
	H5		5BJ0360-SO					
6 - 40 UNF	H3		5BV0350-SO					
	H5		5BV0360-SO					
8 - 32 UNC	H3		5BJ0420-SO	2.087	0.512	0.168	0.131	0.256
	H5		5BJ0430-SO					
8 - 36 UNF	H3		5BV0420-SO					
	H5		5BV0430-SO					
10 - 24 UNC	H3		5BJ0480-SO	2.303	0.630	0.194	0.152	0.276
	H5		5BJ0490-SO					
10 - 32 UNF	H3		5BV0480-SO					
	H5		5BV0490-SO					
12 - 24 UNC	H3		5BJ0550-SO	2.402	0.630	0.220	0.165	0.276
	H5		5BJ0560-SO					
12 - 28 UNF	H3		5BV0550-SO					
	H5		5BV0560-SO					
1/4 - 20 UNC	H3		5BJ0640-SO	2.559	0.748	0.255	0.191	0.315
	H5		5BJ0650-SO					
1/4 - 28 UNF	H3		5BV0640-SO					
	H5		5BV0650-SO					
5/16 - 18 UNC	H3		5BJ0790-SO	2.756	0.866	0.318	0.238	0.374
	H5		5BJ0800-SO					
5/16 - 24 UNF	H3		5BV0790-SO					
	H5		5BV0800-SO					
3/8 - 16 UNC	H3		5BJ0950-SO	3.031	0.945	0.381	0.286	0.433
	H5		5BJ0960-SO					
3/8 - 24 UNF	H3		5BV0950-SO					
	H5		5BV0960-SO					
7/16 - 14 UNC	H3		5BJ1110-SO	3.228	0.984	0.323	0.242	0.413
	H5		5BJ1120-SO					
7/16 - 20 UNF	H3		5BV1110-SO					
	H5		5BV1120-SO					
1/2 - 13 UNC	H3		5BJ1270-SO	3.425	1.142	0.367	0.275	0.433
	H5		5BJ1280-SO					
1/2 - 20 UNF	H3		5BV1270-SO					
	H5		5BV1280-SO					

Packed: 1 pc.
Available TiN coating only.

continued on next page

Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC
	1010 1018	1035 1045	1065			4140 4340	300	400		17-4 PH	6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC
5BJ-SO, 5BV-SO	☒	☒	☒			☐			☐	☐	☐	☐					
SFM	59-88	59-88	59-79			59-79			30-85	78-170	30-80	19-39					

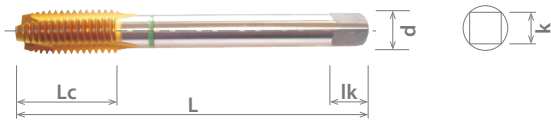
☐ good ☒ best



List 5BJ-SO, 5BV-SO (Continued)

GREEN BAND, Spiral Point, Plug (4P-5P)

NEW	GREEN BAND DRILLS P38-40	HSSE V3	TYPE UNI	TiN
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length L	Thread Length Lc	Shank Dia. d	Square Width k	Square Length lk
			Plug (4P-5P)					
			TiN					
9/16 - 12 UNC	H3	3	5BJ1430-SO	3.661	1.181	0.429	0.322	0.492
	H5		5BJ1440-SO					
9/16 - 18 UNF	H3		5BV1430-SO					
	H5	4	5BV1440-SO	3.878	1.260	0.480	0.360	0.571
5/8 - 11 UNC	H3		5BJ1590-SO					
	H5		5BJ1600-SO					
5/8 - 18 UNF	H3		5BV1590-SO	4.252	1.457	0.590	0.442	0.689
	H5		5BV1600-SO					
3/4 - 10 UNC	H3		5BJ1910-SO					
	H5		5BJ1920-SO	4.685	1.339	0.697	0.523	0.748
3/4 - 16 UNF	H3		5BV1910-SO					
	H5		5BV1920-SO					
7/8 - 9 UNC	H3		5BJ2220-SO	5.118	1.772	0.800	0.600	0.807
	H5		5BJ2230-SO					
7/8 - 14 UNF	H3		5BV2220-SO					
	H5		5BV2230-SO	5.433	1.890	0.896	0.672	0.866
1 - 8 UNC	H3		5BJ2540-SO					
	H5		5BJ2550-SO					
1 - 12 UNF	H3		5BV2540-SO	5.748	2.008	1.021	0.766	1.004
	H5		5BV2550-SO					
1,1/8 - 7 UNC	H3		5BJ2860-SO					
	H5		5BJ2870-SO					
1,1/8 - 12 UNF	H3		5BV2860-SO	5.748	2.008	1.021	0.766	1.004
	H5		5BV2870-SO					
1,1/4 - 7 UNC	H3		5BJ3180-SO					
	H5		5BJ3190-SO					
1,1/4 - 12 UNF	H3		5BV3180-SO					
	H5		5BV3190-SO					

Packed: 1 pc.
Available TiN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V	~35	35-45	45-50	50-70
	1018	1045	1065			4340					7075			(30 HRC)	HRC	HRC	HRC
5BJ-SO, 5BV-SO	☒	☒	☒			☐			☐	☐	☐						
SFM	59-88	59-88	59-79			59-79			30-85	78-170	30-80	19-39					

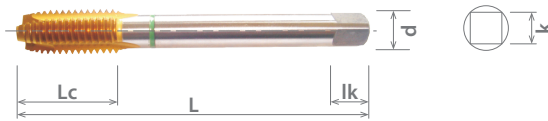
☐ good ☒ best



List 5EX-SO

GREEN BAND, Spiral Point, Plug (4P-5P)

NEW	GREEN BAND DRILLS P38-40	HSSE V3	TYPE UNI	TiN
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Tap Size	Thread Limit	No. of Flutes	EDP Number	Overall Length L	Thread Length Lc	Shank Dia. d	Square Width k	Square Length lk
			Plug (4P-5P)					
			TiN					
M3 x 0.5	D4	3	5EX0300-SO	48.00	11.00	3.58	2.79	5.00
M4 x 0.7			5EX0400-SO	53.00	13.00	4.27	3.33	6.50
M5 x 0.8			5EX0500-SO	58.50	16.00	4.93	3.86	
M6 x 1.0			5EX0600-SO	65.00	19.00	6.48	4.85	8.00
M8 x 1.25			5EX0800-SO	70.00	22.00	8.08	6.05	9.50
M10 x 1.5			5EX1000-SO	77.00	24.00	9.68	7.26	11.00
M12 x 1.75	D6	4	5EX1200-SO	87.00	29.00	9.32	6.99	
M14 x 2.0			5EX1400-SO	93.00	30.00	10.90	8.18	
M16 x 2.0			5EX1600-SO	98.50	32.00	12.18	9.14	14.00
M18 x 2.5			5EX1800-SO	108.00	37.00	13.76	10.31	15.88
M20 x 2.5			5EX2000-SO	114.00	34.00	16.56	12.42	17.50
M22 x 2.5			5EX2200-SO	119.00		17.70	13.28	19.05
M24 x 3.0			5EX2400-SO	125.00		19.30	14.48	

Packed: 1 pc.
Available TiN coating only.

SOM

Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010	1035	1065			4140	4340										
5EX-SO	☒	☒	☒			☐			☐	☐	☐	☐					
SFM	59-88	59-88	59-79			59-79			30-85	78-170	30-80	19-39					

☐ good ☒ best



List	Item	Inch/ Metric	No. of Flutes	Length of Cut	Material	Coating	Size Range	Features	Product Page	Tech Page
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VARICUT

04V-SO		"Inch/ Metric"	4	Stub	Carbide	TiAlN	3/16 ~ 3/4, 5mm~20mm	Varicut	90-91	105- 106
03V-SO		"Inch/ Metric"	4	Regular	Carbide	TiAlN	1/4 ~ 1, 5mm~20mm	Varicut	92-93	105- 106
05V-SO		"Inch/ Metric"	5	Regular	Carbide	TiAlN	3/16 ~ 3/4, 5mm ~ 20mm	Varicut	94-95	107- 108

CARBIDE

03A-SO		Metric	2	Regular	Carbide	TiAlN	1mm ~ 20mm	Square	96	109
03K-SO		Metric	4	Regular	Carbide	TiAlN	1mm ~ 20mm	Square	97	110
03M-SO		Metric	2	Regular	Carbide	TiAlN	1mm ~ 20mm	Ball Nose	98	109
03P-SO		Metric	4	Regular	Carbide	TiAlN	1mm ~ 20mm	Ball Nose	99	110
03E-SO		Metric	4	Regular	Carbide	TiAlN	6mm ~ 20mm	Rougher	100	111
03F-SO		Metric	4	Regular	Carbide	TiAlN	6mm ~ 20mm	Rougher	101	112

HSS-CO

310-SO		Metric	2	Regular	HSS Co8	TiAlN	2mm ~ 25mm	Square	102	113
314-SO		Metric	4, 6	Regular	HSS Co8	TiAlN	3mm ~ 25mm	Square	103	114- 115
312-SO		Metric	2	Regular	HSS Co8	TiAlN	2mm ~ 25mm	Ball Nose	104	113

	P					M			K	N		S		H			
List No.	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High														
	1010 1018	1035 1045	1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC

VARICUT

04V-SO	☒	☒	☒	☒	☒	☒	☒	☒	☒			☒	☒	☐			
03V-SO	☒	☒	☒	☒	☒	☒	☒	☒	☒			☒	☒	☐			
05V-SO	☒	☒	☒	☒	☒	☒	☒	☒	☒			☒	☒	☐			

CARBIDE

03A-SO	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐			
03K-SO	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐			
03M-SO	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐			
03P-SO	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐			
03E-SO	☒	☒	☒	☒	☒	☒	☒	☒	☒				☒	☐			
03F-SO	☒	☒	☒	☒	☒	☒	☒	☒	☒			☒	☒				

HSS-CO

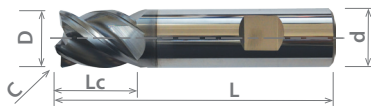
310-SO	☒	☒	☒	☒		☐	☐	☐	☐	☐	☐		☐				
314-SO	☒	☒	☒	☒		☐	☐	☐	☐	☐	☐		☐				
312-SO	☒	☒	☒	☒		☐	☐	☐	☐	☐	☐		☐				

☐ good ☒ best

List 04V-SO

INCH, 4 Flute, Varicut, Corner Chamfer, Stub Length

NEW	SPEED FEED P105	CARBIDE	TiAIN	TYPE UNI		STUB	40°	SHANK h6
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EDP Number	Mill Diameter	Chamfer Width	Overall Length	Length of Cut	Shank Diameter
	D	C	L	Lc	d
04V0474X-SO	3/16	0.016x45°	2 - 1/8	3/8	1/4
04V0633X-SO	1/4	0.016x45°	2 - 1/8	3/8	1/4
04V0792X-SO	5/16	0.020x45°	2 - 1/4	1/2	5/16
04V0951X-SO	3/8	0.020x45°	2 - 1/2	9/16	3/8
04V1268X-SO	1/2	0.020x45°	2 - 7/8	5/8	1/2
04V1586X-SO	5/8	0.020x45°	3 - 1/4	7/8	5/8
04V1903X-SO	3/4	0.020x45°	3 - 1/2	1	3/4

Packed: 1 pc.
Available TiAIN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels 4140 4340	Die Steels	Stainless Steels ≤200HB			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065														
04V-SO	☒	☒	☒	☒	☒	☒	☒	☒	☒			☒	☒	☐			

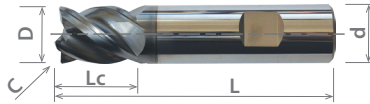
☐ good ☒ best



List 04V-SO

METRIC, 4 Flute, Varicut, Corner Chamfer, Stub Length Length

NEW	SPEED FEED P106	CARBIDE	TiAIN	TYPE UNI		STUB	40°	SHANK h6
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EDP Number	Mill Diameter D	Chamfer Width C	Overall Length L	Length of Cut Lc	Shank Diameter d
04V0500X-SO	5	0.4x45°	54	9	6
04V0600X-SO	6	0.4x45°	54	10	6
04V0800X-SO	8	0.5x45°	58	12	8
04V1000X-SO	10	0.5x45°	66	14	10
04V1200X-SO	12	0.5x45°	73	16	12
04V1600X-SO	16	0.5x45°	82	22	16
04V2000X-SO	20	0.5x45°	92	26	20

Packed: 1 pc.
Available TiAIN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels ≤200HB			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065			4140 4340	300	400		17-4 PH	6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC
04V-SO	☒	☒	☒	☒	☒	☒	☒	☒	☒			☒	☒	☐			

☐ good ☒ best

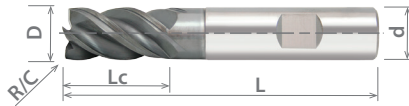




List 03V-SO

INCH, 4 Flute, Varicut, Reg Length, C Radius/ C Chamfer

NEW	SPEED FEED P105	CARBIDE	TiAlN	TYPE UNI	REG	40°	SHANK h6
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EDP Number	EDP Number w/ Weldon Flat	Mill Diameter	Corner Radius	Chamfer Width	Overall Length	Length of Cut	Shank Diameter
		D	R	C	L	Lc	d
03V0633X-SO	03V0635X-SO	1/4	-	0.016x45°	2 - 1/2	1/2	1/4
03V0634X-SO	03V0636X-SO	1/4	0.015	-	2 - 1/2	1/2	1/4
03V0951X-SO	03V0953X-SO	3/8	-	0.020x45°	2 - 1/2	7/8	3/8
03V0952X-SO	03V0954X-SO	3/8	0.015	-	2 - 1/2	7/8	3/8
03V1268X-SO	03V1270X-SO	1/2	-	0.020x45°	3	1	1/2
03V1269X-SO	03V1271X-SO	1/2	0.03	-	3	1	1/2
03V1586X-SO	03V1588X-SO	5/8	-	0.020x45°	3 - 1/2	1 - 1/4	5/8
03V1587X-SO	03V1589X-SO	5/8	0.03	-	3 - 1/2	1 - 1/4	5/8
03V1903X-SO	03V1905X-SO	3/4	-	0.020x45°	4	1 - 1/2	3/4
03V1904X-SO	03V1906X-SO	3/4	0.03	-	4	1 - 1/2	3/4
03V2502X-SO	03V2504X-SO	1	-	0.020x45°	4	1 - 1/2	1
03V2503X-SO	03V2505X-SO	1	0.03	-	4	1 - 1/2	1

Packed: 1 pc.
Available TiAlN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels 4140 4340	Die Steels	Stainless Steels ≤200HB			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065														
03V-SO	☐	☐	☐	☐	☐	☐	☐	☐	☐			☐	☐	☐			

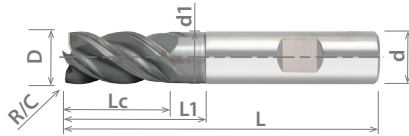
☐ good ☒ best



List 03V-SO

METRIC, 4 Flute, Varicut, Reg Length, Reduced Neck, C Radius/C Chamfer

NEW	SPEED FEED P106	CARBIDE	TiAIN	TYPE UNI	REG	40°	SHANK h6
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EDP Number	EDP Number w/ Weldon Flat	Mill Diameter D	Corner Radius R	Chamfer Width C	Overall Length L	Length of Cut Lc	Neck Length L1	Neck Diameter d1	Shank Diameter d
-	03V0500X-SO	5	-	0.2x45°	57	13	18	4.8	6
03V0545X-SO	-	5	-	0.4x45°	57	13	-	-	6
03V0505X-SO	-	5	0.5	-	57	13	25	4.8	6
03V0510X-SO	-	5	1.0	-	57	13	25	4.8	6
-	03V0600X-SO	6	-	0.2x45°	57	13	18	5.8	6
03V0645X-SO	-	6	-	0.4x45°	57	13	-	-	6
03V0605X-SO	-	6	0.5	-	57	13	25	5.8	6
03V0610X-SO	-	6	1.0	-	57	13	25	5.8	6
-	03V0800X-SO	8	-	0.25x45°	63	19	24	7.7	8
03V0845X-SO	-	8	-	0.5x45°	63	19	-	-	8
03V0805X-SO	-	8	0.5	-	63	19	31	7.8	8
03V0810X-SO	-	8	1.0	-	63	19	31	7.8	8
-	03V1000X-SO	10	-	0.25x45°	72	22	32	9.7	10
03V1045X-SO	-	10	-	0.5x45°	72	22	-	-	10
03V1005X-SO	-	10	0.5	-	72	22	34	9.8	10
03V1010X-SO	-	10	1.0	-	72	22	34	9.8	10
-	03V1200X-SO	12	-	0.3x45°	83	26	36	11.6	12
03V1245X-SO	-	12	-	0.75x45°	83	26	-	-	12
03V1205X-SO	-	12	0.5	-	83	26	38	11.8	12
03V1210X-SO	-	12	1.0	-	83	26	38	11.8	12
-	03V1600X-SO	16	-	0.4x45°	92	32	42	15.5	16
03V1645X-SO	-	16	-	0.75x45°	92	32	-	-	16
03V1610X-SO	-	16	1	-	92	32	44	15.8	16
03V1620X-SO	-	16	2	-	92	32	44	15.8	16
-	03V2000X-SO	20	-	0.4x45°	104	38	48	19.5	20
03V2045X-SO	-	20	-	0.75x45°	104	38	-	-	20
03V2010X-SO	-	20	1	-	104	38	50	19.8	20
03V2020X-SO	-	20	2	-	104	38	50	19.8	20

Packed: 1 pc.
Available TiAIN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels 4140 4340	Die Steels	Stainless Steels ≤200HB			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065														
03V-SO	☐	☐	☐	☐	☐	☐	☐	☐	☐			☐	☐	☐			

☐ good ☐ best

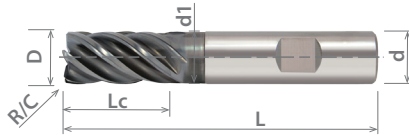




List 05V-SO

INCH, Varicut, Reg Length, Reduced Neck, C Radius/C Chamfer

NEW	SPEED FEED P107	CARBIDE	TiAIN	TYPE UNI	REG	40°	SHANK h6
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EDP Number	Mill Diameter	Corner Radius	Overall Length	Length of Cut	Neck Length	Neck Diameter	Shank Diameter
	D	R	L	Lc	L1	d1	d
05V0476X-SO	3/16	0.015	2 - 1/4	1/2	1	0.180	1/4
05V0477X-SO	3/16	0.030	2 - 1/4	1/2	1	0.180	1/4
05V0636X-SO	1/4	0.015	2 - 1/4	1/2	1	0.242	1/4
05V0634X-SO	1/4	0.030	2 - 1/4	1/2	1	0.242	1/4
05V0632X-SO	1/4	0.060	2 - 1/4	1/2	1	0.242	1/4
05V0795X-SO	5/16	0.015	2 - 1/2	3/4	1 - 1/4	0.305	5/16
05V0793X-SO	5/16	0.030	2 - 1/2	3/4	1 - 1/4	0.305	5/16
05V0791X-SO	5/16	0.060	2 - 1/2	3/4	1 - 1/4	0.305	5/16
05V0954X-SO	3/8	0.015	2 - 1/2	7/8	1 - 1/2	0.367	3/8
05V0952X-SO	3/8	0.030	2 - 7/8	7/8	1 - 1/2	0.367	3/8
05V0950X-SO	3/8	0.060	2 - 1/2	7/8	1 - 1/2	0.367	3/8
05V1271X-SO	1/2	0.015	3	1	1 - 1/2	0.484	1/2
05V1269X-SO	1/2	0.030	3 - 1/4	1	1 - 1/2	0.484	1/2
05V1267X-SO	1/2	0.060	3 - 1/4	1	1 - 1/2	0.484	1/2
05V1265X-SO	1/2	0.090	3 - 1/4	1	1 - 1/2	0.484	1/2
05V1263X-SO	1/2	0.120	3	1	1 - 1/2	0.484	1/2
05V1589X-SO	5/8	0.030	3 - 1/2	1 - 1/4	1 - 3/4	0.609	5/8
05V1587X-SO	5/8	0.060	3 - 1/2	1 - 1/4	1 - 3/4	0.609	5/8
05V1585X-SO	5/8	0.090	3 - 1/2	1 - 1/4	1 - 3/4	0.609	5/8
05V1906X-SO	3/4	0.030	4	1 - 1/2	2	0.734	3/4
05V1904X-SO	3/4	0.060	4	1 - 1/2	2	0.734	3/4
05V1902X-SO	3/4	0.090	4	1 - 1/2	2	0.734	3/4
05V1900X-SO	3/4	0.120	4	1 - 1/2	2	0.734	3/4

Packed: 1 pc.
Available TiAIN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels ≤200HB			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065														
	1010 1018	1035 1045	1065														
05V-SO	☒	☒	☒	☒	☒	☒	☒	☒	☒			☒	☒	☐			

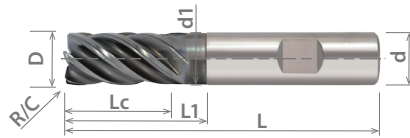
☐ good ☒ best



List 05V-SO

METRIC, Varicut, Reg Length, Reduced Neck, C Radius/C Chamfer

NEW	SPEED FEED P108	CARBIDE	TiAlN	TYPE UNI		REG	40°	SHANK h6
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EDP Number	EDP Number w/ Weldon Flat	Mill Diameter D	Corner Radius R	Chamfer Width C	Overall Length L	Length of Cut Lc	Neck Length L1	Neck Diameter d1	Shank Diameter d
-	05V0500X-SO	5	-	0.2x45°	57	13	18	4.8	6
05V0545X-SO	-	5	-	0.4x45°	57	13	-	-	6
05V0505X-SO	-	5	0.5	-	57	13	25	4.8	6
05V0510X-SO	-	5	1	-	57	13	25	4.8	6
-	05V0600X-SO	6	-	0.2x45°	57	13	18	5.8	6
05V0645X-SO	-	6	-	0.4x45°	57	13	-	-	6
05V0605X-SO	-	6	0.5	-	57	13	25	5.8	6
05V0610X-SO	-	6	1	-	57	13	25	5.8	6
-	05V0800X-SO	8	-	0.25x45°	63	19	24	7.7	8
05V0845X-SO	-	8	-	0.5x45°	63	19	-	-	8
05V0805X-SO	-	8	0.5	-	63	19	31	7.8	8
05V0810X-SO	-	8	1	-	63	19	31	7.8	8
-	05V1000X-SO	10	-	0.25x45°	72	22	32	9.7	10
05V1045X-SO	-	10	-	0.5x45°	72	22	-	-	10
05V1005X-SO	-	10	0.5	-	72	22	34	9.8	10
05V1010X-SO	-	10	1	-	72	22	34	9.8	10
-	05V1200X-SO	12	-	0.3x45°	83	26	36	11.6	12
05V1245X-SO	-	12	-	0.75x45°	83	26	-	-	12
05V1205X-SO	-	12	0.5	-	83	26	38	11.8	12
05V1210X-SO	-	12	1	-	83	26	38	11.8	12
-	05V1600X-SO	16	-	0.4x45°	92	32	42	15.5	16
05V1645X-SO	-	16	-	0.75x45°	92	32	-	-	16
05V1610X-SO	-	16	1	-	92	32	44	15.8	16
05V1620X-SO	-	16	2	-	92	32	44	15.8	16
-	05V2000X-SO	20	-	0.4x45°	104	38	48	19.5	20
05V2045X-SO	-	20	-	0.75x45°	104	38	-	-	20
05V2010X-SO	-	20	1	-	104	38	50	19.8	20
05V2020X-SO	-	20	2	-	104	38	50	19.8	20

Packed: 1 pc.
Available TiAlN coating only.



Work Material																		
List No.	P					M			K	N		S		H				
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels ≤200HB			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels				
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC	
	1010 1018	1035 1045	1065	4140 4340														
	05V-SO	☒	☒	☒	☒	☒	☒	☒	☒	☒			☒	☒	☐			

☐ good ☒ best

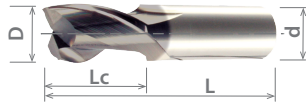




List 03A-SO

2 Flute, Regular Length

NEW	SPEED FEED P109	CARBIDE	TiAlN	TYPE N		REG	30°	SHANK h6
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EDP Number	Mill Diameter	Overall Length	Length of Cut	Shank Diameter
	D	L	Lc	d
03A0100X-SO	1.0	39	3	3
03A0150X-SO	1.5	39	5	3
03A0200X-SO	2.0	39	7	3
03A0250X-SO	2.5	39	7	3
03A0300X-SO	3.0	39	8	3
03A0400X-SO	4.0	57	8	6
03A0500X-SO	5.0	57	10	6
03A0600X-SO	6.0	57	10	6
03A0800X-SO	8.0	63	16	8
03A1000X-SO	10.0	72	19	10
03A1200X-SO	12.0	83	22	12
03A1400X-SO	14.0	83	22	14
03A1600X-SO	16.0	92	26	16
03A1800X-SO	18.0	96	26	18
03A2000X-SO	20.0	104	32	20

Packed: 1 pc.
Available TiAlN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels ≤200HB			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065	4140 4340													
	03A-SO	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		

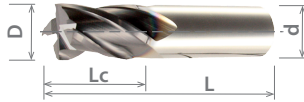
☐ good ☒ best



List 03K-SO

4 Flute, Regular Length

NEW	SPEED FEED P110	CARBIDE	TiAIN	TYPE N	REG	30°	SHANK h6
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EDP Number	Mill Diameter	Overall Length	Length of Cut	Shank Diameter
	D	L	Lc	d
03K0100X-SO	1.0	39	3	3
03K0150X-SO	1.5	39	5	3
03K0200X-SO	2.0	39	7	3
03K0250X-SO	2.5	39	7	3
03K0300X-SO	3.0	39	9	3
03K0400X-SO	4.0	57	11	6
03K0500X-SO	5.0	57	13	6
03K0600X-SO	6.0	57	13	6
03K0800X-SO	8.0	63	19	8
03K1000X-SO	10.0	72	22	10
03K1200X-SO	12.0	83	26	12
03K1400X-SO	14.0	83	26	14
03K1600X-SO	16.0	92	32	16
03K1800X-SO	18.0	96	32	18
03K2000X-SO	20.0	104	38	20

Packed: 1 pc.
Available TiAIN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels ≤200HB			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065			4140 4340	300	400		17-4 PH	6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC
03K-SO	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

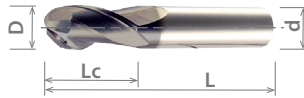
☐ good ☒ best



List 03M-SO

2 Flute, Ball Nose, Regular Length

NEW	SPEED FEED P109	CARBIDE	TiAlN	TYPE N		REG		30°	SHANK h6
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EDP Number	Mill Diameter	Overall Length	Length of Cut	Shank Diameter
	D	L	Lc	d
03M0100X-SO	1.0	39	3	3
03M0150X-SO	1.5	39	5	3
03M0200X-SO	2.0	39	7	3
03M0250X-SO	2.5	39	7	3
03M0300X-SO	3.0	39	8	3
03M0400X-SO	4.0	57	8	6
03M0500X-SO	5.0	57	10	6
03M0600X-SO	6.0	57	10	6
03M0800X-SO	8.0	63	16	8
03M1000X-SO	10.0	72	19	10
03M1200X-SO	12.0	83	22	12
03M1400X-SO	14.0	83	22	14
03M1600X-SO	16.0	92	26	16
03M1800X-SO	18.0	96	26	18
03M2000X-SO	20.0	104	32	20

Packed: 1 pc.
Available TiAlN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels ≤200HB			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065	4140 4340													
	03M-SO	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

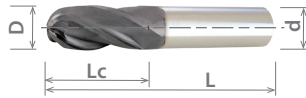
☐ good ☒ best



List 03P-SO

4 Flute, Ball Nose, Regular Length

NEW	SPEED FEED P110	CARBIDE	TiAlN	TYPE N	REG	30°	SHANK h6
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EDP Number	Mill Diameter	Overall Length	Length of Cut	Shank Diameter
	D	L	Lc	d
03P0100X-SO	1.0	39	3	3
03P0150X-SO	1.5	39	5	3
03P0200X-SO	2.0	39	7	3
03P0250X-SO	2.5	39	7	3
03P0300X-SO	3.0	39	9	3
03P0400X-SO	4.0	57	11	6
03P0500X-SO	5.0	57	13	6
03P0600X-SO	6.0	57	13	6
03P0800X-SO	8.0	63	19	8
03P1000X-SO	10.0	72	22	10
03P1200X-SO	12.0	83	26	12
03P1400X-SO	14.0	83	26	14
03P1600X-SO	16.0	92	32	16
03P1800X-SO	18.0	96	32	18
03P2000X-SO	20.0	104	38	20

Packed: 1 pc.
Available TiAlN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels ≤200HB			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065	4140 4340													
03P-SO	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐			

☐ good ☒ best





List 03E-SO

4 Flute, Rougher, Fine Pitch Knuckle, Regular Length

NEW	SPEED FEED P111	CARBIDE	TiAlN	TYPE UNI	REG	30°	SHANK h6
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EDP Number	Mill Diameter	Overall Length	Length of Cut	Shank Diameter
	D	L	Lc	d
03E0600X-SO	6	57	13	6
03E0800X-SO	8	63	16	8
03E1000X-SO	10	72	22	10
03E1200X-SO	12	83	26	12
03E1600X-SO	16	92	32	16
03E2000X-SO	20	104	38	20

Packed: 1 pc.
Available TiAlN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels ≤200HB			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065	4140 4340													
	03E-SO	☒	☒	☒	☒	☒	☒	☒	☒	☒				☒	☐		

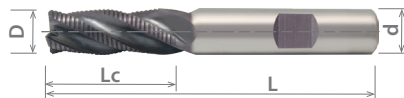
☐ good ☒ best



List 03F-SO

4 Flute, Rougher, Fine Pitch Flat Crest, Regular Length

NEW	SPEED FEED P112	CARBIDE	TiAlN	TYPE UNI	REG	30°	SHANK h6
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EDP Number	Mill Diameter	Overall Length	Length of Cut	Shank Diameter
	D	L	Lc	d
03F0600X-SO	6	57	13	6
03F0800X-SO	8	63	16	8
03F1000X-SO	10	72	22	10
03F1200X-SO	12	83	26	12
03F1600X-SO	16	92	32	16
03F2000X-SO	20	104	38	20

Packed: 1 pc.
Available TiAlN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels ≤200HB			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065			4140 4340	300	400		17-4 PH	6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC
03F-SO	☐	☐	☐	☐	☐	☐	☐	☐	☐				☐				

☐ good ☒ best

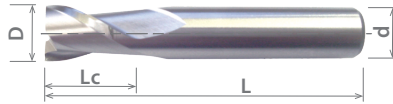




List 310-SO

2 Flute, Regular Length

NEW	SPEED FEED P113	HSS-Co8	TiAlN	TYPE N	REG	30°	SHANK h7
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EDP Number	Mill Diameter	Overall Length	Length of Cut	Shank Diameter
	D	L	Lc	d
3100200A-SO	2.0	48	4	6
3100250A-SO	2.5	49	5	6
3100300A-SO	3.0	49	5	6
3100350A-SO	3.5	50	6	6
3100400A-SO	4.0	51	7	6
3100450A-SO	4.5	51	7	6
3100500A-SO	5.0	52	8	6
3100550A-SO	5.5	52	8	6
3100600A-SO	6.0	52	8	6
3100650A-SO	6.5	60	10	10
3100700A-SO	7.0	60	10	10
3100750A-SO	7.5	60	10	10
3100800A-SO	8.0	61	11	10
3100850A-SO	8.5	61	11	10
3100900A-SO	9.0	61	11	10
3100950A-SO	9.5	61	11	10
3101000A-SO	10.0	63	13	10
3101100A-SO	11.0	70	13	12
3101200A-SO	12.0	73	16	12
3101300A-SO	13.0	73	16	12
3101400A-SO	14.0	73	16	12
3101500A-SO	15.0	73	16	12
3101600A-SO	16.0	79	19	16
3101700A-SO	17.0	79	19	16
3101800A-SO	18.0	79	19	16
3101900A-SO	19.0	79	19	16
3102000A-SO	20.0	88	22	20
3102200A-SO	22.0	88	22	20
3102400A-SO	24.0	102	26	25
3102500A-SO	25.0	102	26	25

Packed: 1 pc.
Available TiAlN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels ≤200HB			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065			4140 4340											
310-SO	☐	☐	☐	☐		☐	☐	☐	☐	☐	☐		☐				

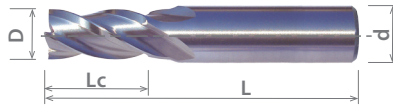
☐ good ☐ best



List 314-SO

4 & 6 Flute, Regular Length

NEW	SPEED FEED P114-115	HSS-Co8	TiAlN	TYPE N			REG	30°	SHANK h7
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EDP Number	Mill Diameter	Overall Length	Length of Cut	Shank Diameter	Number of Flutes
	D	L	Lc	d	
3140300A-SO	3	52	8	6	4
3140400A-SO	4	55	11	6	4
3140500A-SO	5	57	13	6	4
3140600A-SO	6	57	13	6	4
3140700A-SO	7	66	16	10	4
3140800A-SO	8	69	19	10	4
3140900A-SO	9	69	19	10	4
3141000A-SO	10	72	22	10	4
3141100A-SO	11	79	22	12	4
3141200A-SO	12	83	26	12	4
3141300A-SO	13	83	26	12	4
3141400A-SO	14	83	26	12	4
3141500A-SO	15	83	26	12	4
3141600A-SO	16	92	32	16	4
3141800A-SO	18	92	32	16	4
3141900A-SO	19	92	32	16	4
3142000A-SO	20	104	38	20	4
3142200A-SO	22	104	38	20	6
3142500A-SO	25	121	45	25	6

Packed: 1 pc.
Available TiAlN coating only.
Note: Center cutting in sizes 20mm and smaller.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels ≤200HB			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065														
314-SO	☐	☐	☐	☐		☐	☐	☐	☐	☐	☐		☐				

☐ good ☒ best

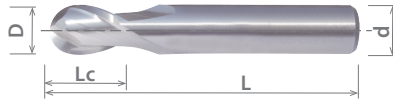




List 312-SO

2 Flute, Ball Nose, Regular Length

NEW	SPEED FEED P113	HSS-Co8	TiAlN	TYPE N		REG		SHANK h7
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EDP Number	Mill Diameter	Overall Length	Length of Cut	Shank Diameter
	D	L	Lc	d
3120200A-SO	2	48	4	6
3120300A-SO	3	49	5	6
3120400A-SO	4	51	7	6
3120500A-SO	5	52	8	6
3120600A-SO	6	52	8	6
3120700A-SO	7	60	10	10
3120800A-SO	8	61	11	10
3120900A-SO	9	61	11	10
3121000A-SO	10	63	13	10
3121100A-SO	11	70	13	12
3121200A-SO	12	73	16	12
3121300A-SO	13	73	16	12
3121400A-SO	14	73	16	12
3121500A-SO	15	73	16	12
3121600A-SO	16	79	19	16
3121800A-SO	18	79	19	16
3122000A-SO	20	88	22	20
3122200A-SO	22	88	22	20
3122400A-SO	24	102	26	25
3122500A-SO	25	102	26	25

Packed: 1 pc.
Available TiAlN coating only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels ≤200HB			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
	1010 1018	1035 1045	1065														
312-SO	☐	☐	☐	☐		☐	☐	☐	☐	☐	☐		☐				

☐ good ☒ best

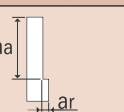




List 04V-SO

List 03V-SO

Side Milling

Hardness	Up to 25 HRC		25 to 30 HRC		30 to 35 HRC		35 to 45 HRC		45 to 50 HRC		< 35 HRC		< 35 HRC		
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys		High Temp. Alloys Inconel Hastelloy		
Cutting Speed	295-655 SFM		165-330 SFM		195-375 SFM		145-280 SFM		260-460 SFM		165-195 SFM		80-165 SFM		
Depth of Cut	Aa=1.5D Ar=0.5D 													Aa=1.5D Ar=0.3D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	
3/16	9,677	50.3	5,042	16.7	5,806	27.4	4,329	14.3	7,334	31.2	3,667	12.1	2,496	6.7	
1/4	7,258	45.7	3,782	14.9	4,355	24.7	3,247	12.8	5,501	28.6	2,750	10.8	1,872	5.9	
5/16	5,806	50.3	3,025	16.2	3,484	26.9	2,598	13.9	4,401	31.2	2,200	11.8	1,497	6.6	
3/8	4,839	49.5	2,521	16.3	2,903	27.0	2,165	14.0	3,667	31.2	1,834	11.8	1,248	6.5	
1/2	3,629	42.3	1,891	14.0	2,177	23.0	1,624	12.0	2,750	26.9	1,375	10.2	936	5.6	
5/8	2,903	42.1	1,513	13.8	1,742	22.8	1,299	11.9	2,200	26.3	1,100	10.0	749	5.5	
3/4	2,419	39.6	1,261	12.9	1,452	21.5	1,082	11.1	1,834	24.8	917	9.4	624	5.2	
1	1,815	32.3	945	10.6	1,089	17.5	812	9.1	1,375	20.1	688	7.7	468	4.3	

Slotting

Hardness	Up to 25 HRC		25 to 30 HRC		30 to 35 HRC		35 to 45 HRC		45 to 50 HRC		< 35 HRC		< 35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys		High Temp. Alloys Inconel Hastelloy	
Cutting Speed	295-655 SFM		165-330 SFM		195-375 SFM		145-280 SFM		260-460 SFM		165-195 SFM		80-165 SFM	
Depth of Cut	Aa=1.5D		Aa=0.75D-1D		Aa=1.25D		Aa=1D		Aa=0.75D		Aa=1D		Aa=0.3D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
3/16	9,677	45.3	5,042	15.0	5,806	24.7	4,329	12.9	7,334	28.1	3,667	10.9	2,496	6.0
1/4	7,258	41.1	3,782	13.4	4,355	22.2	3,247	11.5	5,501	25.7	2,750	9.7	1,872	5.3
5/16	5,806	45.3	3,025	14.6	3,484	24.2	2,598	12.5	4,401	28.1	2,200	10.6	1,497	5.9
3/8	4,839	44.6	2,521	14.7	2,903	24.3	2,165	12.6	3,667	28.1	1,834	10.7	1,248	5.8
1/2	3,629	38.1	1,891	12.6	2,177	20.7	1,624	10.8	2,750	24.2	1,375	9.2	936	5.0
5/8	2,903	37.9	1,513	12.4	1,742	20.5	1,299	10.7	2,200	23.7	1,100	9.0	749	5.0
3/4	2,419	35.7	1,261	11.6	1,452	19.3	1,082	10.0	1,834	22.3	917	8.4	624	4.7
1	1,815	29.1	945	9.5	1,089	15.7	812	8.2	1,375	18.1	688	6.9	468	3.8

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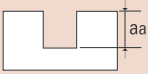
List 04V-SO (Continued)

List 03V-SO (Continued)

Side Milling

Hardness	Up to 25 HRC		25 to 30 HRC		30 to 35 HRC		35 to 45 HRC		45 to 50 HRC		< 35 HRC		< 35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys		High Temp. Alloys Inconel Hastelloy	
Cutting Speed	295-655 SFM		165-330 SFM		195-375 SFM		145-280 SFM		260-460 SFM		165-195 SFM		80-165 SFM	
Depth of Cut	Aa=1.5D Ar=0.5D 												Aa=1.5D Ar=0.3D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
5	9,218	47.9	4,803	15.9	5,531	26.1	4,124	13.6	6,986	29.7	3,493	11.6	2,377	6.4
6	7,681	48.4	4,002	15.8	4,609	26.1	3,436	13.5	5,822	30.3	2,911	11.5	1,981	6.2
8	5,761	49.9	3,002	16.1	3,457	26.7	2,577	13.8	4,366	30.9	2,183	11.7	1,486	6.6
10	4,609	47.2	2,401	15.5	2,765	25.7	2,062	13.3	3,493	29.7	1,747	11.3	1,189	6.2
12	3,841	44.8	2,001	14.8	2,304	24.3	1,718	12.7	2,911	28.4	1,455	10.8	990	5.9
16	2,881	41.7	1,501	13.7	1,728	22.6	1,289	11.8	2,183	26.1	1,092	10.0	743	5.5
20	2,304	37.7	1,201	12.3	1,383	20.5	1,031	10.6	1,747	23.7	873	8.9	594	5.0

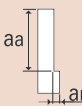
Slotting

Hardness	Up to 25 HRC		25 to 30 HRC		30 to 35 HRC		35 to 45 HRC		45 to 50 HRC		< 35 HRC		< 35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys		High Temp. Alloys Inconel Hastelloy	
Cutting Speed	295-655 SFM		165-330 SFM		195-375 SFM		145-280 SFM		260-460 SFM		165-195 SFM		80-165 SFM	
Depth of Cut	 Aa=1.5D		Aa=0.75D-1D		Aa=1.25D		Aa=1D		Aa=0.75D		Aa=1D		Aa=0.3D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
5	9,218	43.1	4,803	14.3	5,531	23.5	4,124	12.3	6,986	26.7	3,493	10.4	2,377	5.7
6	7,681	43.5	4,002	14.2	4,609	23.5	3,436	12.2	5,822	27.2	2,911	10.3	1,981	5.6
8	5,761	44.9	3,002	14.5	3,457	24.0	2,577	12.4	4,366	27.8	2,183	10.5	1,486	5.9
10	4,609	42.5	2,401	14.0	2,765	23.1	2,062	12.0	3,493	26.7	1,747	10.1	1,189	5.6
12	3,841	40.3	2,001	13.3	2,304	21.9	1,718	11.4	2,911	25.6	1,455	9.7	990	5.3
16	2,881	37.6	1,501	12.3	1,728	20.3	1,289	10.6	2,183	23.5	1,092	9.0	743	4.9
20	2,304	34.0	1,201	11.1	1,383	18.4	1,031	9.5	1,747	21.3	873	8.0	594	4.5

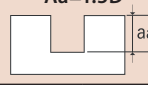


05V-SO

Side Milling

Hardness	Up to 25 HRC		25 to 30 HRC		30 to 35 HRC		35 to 45 HRC		45 to 50 HRC		< 35 HRC		< 35 HRC		
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys		High Temp. Alloys Inconel Hastelloy		
Cutting Speed	295-655 SFM		165-330 SFM		195-375 SFM		145-280 SFM		260-460 SFM		165-195 SFM		80-165 SFM		
Depth of Cut	Aa=1.5D Ar=0.5D 													Aa=1.5D Ar=0.3D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	
3/16	9,677	62.9	5,042	20.8	5,806	34.3	4,329	17.9	7,334	39.0	3,667	15.2	2,496	8.4	
1/4	7,258	57.1	3,782	18.6	4,355	30.9	3,247	16.0	5,501	35.7	2,750	13.5	1,872	7.4	
5/16	5,806	62.9	3,025	20.2	3,484	33.6	2,598	17.4	4,401	39.0	2,200	14.7	1,497	8.3	
3/8	4,839	61.9	2,521	20.3	2,903	33.7	2,165	17.5	3,667	39.0	1,834	14.8	1,248	8.1	
1/2	3,629	52.9	1,891	17.5	2,177	28.7	1,624	15.0	2,750	33.6	1,375	12.7	936	7.0	
5/8	2,903	52.6	1,513	17.3	1,742	28.5	1,299	14.8	2,200	32.9	1,100	12.6	749	6.9	
3/4	2,419	49.5	1,261	16.1	1,452	26.9	1,082	13.8	1,834	31.0	917	11.7	624	6.5	
1	1,815	40.4	945	13.2	1,089	21.9	812	11.3	1,375	25.2	688	9.6	468	5.3	

Slotting

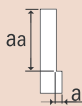
Hardness	Up to 25 HRC		25 to 30 HRC		30 to 35 HRC		35 to 45 HRC		45 to 50 HRC		< 35 HRC		< 35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys		High Temp. Alloys Inconel Hastelloy	
Cutting Speed	295-655 SFM		165-330 SFM		195-375 SFM		145-280 SFM		260-460 SFM		165-195 SFM		80-165 SFM	
Depth of Cut	Aa=1.5D 		Aa=0.75D-1D		Aa=1.25D		Aa=1D		Aa=0.75D		Aa=1D		Aa=0.3D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
3/16	9,677	56.6	5,042	18.8	5,806	30.9	4,329	16.1	7,334	35.1	3,667	13.6	2,496	7.5
1/4	7,258	51.4	3,782	16.8	4,355	27.8	3,247	14.4	5,501	32.2	2,750	12.2	1,872	6.6
5/16	5,806	56.6	3,025	18.2	3,484	30.2	2,598	15.6	4,401	35.1	2,200	13.3	1,497	7.4
3/8	4,839	55.7	2,521	18.3	2,903	30.3	2,165	15.7	3,667	35.1	1,834	13.3	1,248	7.3
1/2	3,629	47.6	1,891	15.7	2,177	25.8	1,624	13.5	2,750	30.2	1,375	11.5	936	6.3
5/8	2,903	47.3	1,513	15.5	1,742	25.6	1,299	13.3	2,200	29.6	1,100	11.3	749	6.2
3/4	2,419	44.6	1,261	14.5	1,452	24.2	1,082	12.5	1,834	27.9	917	10.6	624	5.9
1	1,815	36.3	945	11.9	1,089	19.7	812	10.2	1,375	22.7	688	8.6	468	4.8

continued on next page

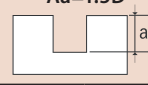


05V-SO (Continued)

Side Milling

Hardness	Up to 25 HRC		25 to 30 HRC		30 to 35 HRC		35 to 45 HRC		45 to 50 HRC		< 35 HRC		< 35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys		High Temp. Alloys Inconel Hastelloy	
Cutting Speed	295-655 SFM		165-330 SFM		195-375 SFM		145-280 SFM		260-460 SFM		165-195 SFM		80-165 SFM	
Depth of Cut	Aa=1.5D Ar=0.5D 												Aa=1.5D Ar=0.3D	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
5	9,218	59.9	4,803	19.9	5,531	32.7	4,124	17.0	6,986	37.1	3,493	14.4	2,377	8.0
6	7,681	60.5	4,002	19.7	4,609	32.7	3,436	16.9	5,822	37.8	2,911	14.3	1,981	7.8
8	5,761	62.4	3,002	20.1	3,457	33.3	2,577	17.2	4,366	38.7	2,183	14.6	1,486	8.2
10	4,609	59.0	2,401	19.4	2,765	32.1	2,062	16.6	3,493	37.1	1,747	14.1	1,189	7.7
12	3,841	55.9	2,001	18.5	2,304	30.4	1,718	15.9	2,911	35.5	1,455	13.5	990	7.4
16	2,881	52.2	1,501	17.1	1,728	28.2	1,289	14.7	2,183	32.7	1,092	12.5	743	6.9
20	2,304	47.2	1,201	15.4	1,383	25.6	1,031	13.2	1,747	29.6	873	11.2	594	6.2

Slotting

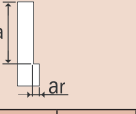
Hardness	Up to 25 HRC		25 to 30 HRC		30 to 35 HRC		35 to 45 HRC		45 to 50 HRC		< 35 HRC		< 35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys		High Temp. Alloys Inconel Hastelloy	
Cutting Speed	295-655 SFM		165-330 SFM		195-375 SFM		145-280 SFM		260-460 SFM		165-195 SFM		80-165 SFM	
Depth of Cut	$Aa=1.5D$ 		$Aa=0.75D-1D$		$Aa=1.25D$		$Aa=1D$		$Aa=0.75D$		$Aa=1D$		$Aa=0.3D$	
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
5	9,218	53.9	4,803	17.9	5,531	29.4	4,124	15.3	6,986	33.4	3,493	13.0	2,377	7.2
6	7,681	54.4	4,002	17.7	4,609	29.4	3,436	15.2	5,822	34.0	2,911	12.9	1,981	7.0
8	5,761	56.1	3,002	18.1	3,457	30.0	2,577	15.5	4,366	34.8	2,183	13.2	1,486	7.4
10	4,609	53.1	2,401	17.4	2,765	28.9	2,062	15.0	3,493	33.4	1,747	12.7	1,189	6.9
12	3,841	50.4	2,001	16.7	2,304	27.4	1,718	14.3	2,911	32.0	1,455	12.1	990	6.7
16	2,881	47.0	1,501	15.4	1,728	25.4	1,289	13.2	2,183	29.4	1,092	11.2	743	6.2
20	2,304	42.5	1,201	13.8	1,383	23.0	1,031	11.9	1,747	26.6	873	10.1	594	5.6



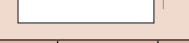


List 03A-SO List 03M-SO

Side Milling

Hardness	Up to 25 HRC		25 to 30 HRC		30 to 35 HRC		35 to 45 HRC		45 to 50 HRC		< 35 HRC		< 35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys		High Temp. Alloys Inconel Hastelloy	
Cutting Speed	260-655 SFM		115-195 SFM		130-230 SFM		95-170 SFM		95-165 SFM		80-130 SFM		50-65 SFM	
Depth of Cut	Aa=0.5D Ar=1D 													
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1	44,390	104.9	15,039	4.7	17,465	82.5	12,856	4.0	12,614	39.7	10,188	32.1	5,579	6.6
2	22,195	87.4	7,520	3.6	8,733	55.0	6,428	3.0	6,307	24.8	5,094	20.1	2,790	4.4
4	11,098	43.7	3,760	2.1	4,366	3.4	3,214	1.8	3,153	12.4	2,547	10.0	1,395	2.2
6	7,398	35.0	2,507	2.0	2,911	3.4	2,143	1.7	2,102	8.3	1,698	6.7	930	2.2
8	5,549	35.0	1,880	2.2	2,183	3.4	1,607	1.9	1,577	6.2	1,273	5.0	697	1.6
10	4,439	28.0	1,504	2.4	1,747	4.1	1,286	2.0	1,261	6.0	1,019	4.8	558	1.8
12	3,699	29.1	1,253	3.0	1,455	4.6	1,071	2.5	1,051	5.0	849	4.0	465	1.8
16	2,774	21.8	940	3.0	1,092	4.3	804	2.5	788	4.3	637	3.5	349	1.4
18	2,466	19.4	836	3.0	970	4.6	714	2.5	701	4.4	566	3.6	310	1.5
20	2,220	17.5	752	3.0	873	4.8	643	2.5	631	4.0	509	3.2	279	1.3

Slotting

Hardness	Up to 25 HRC		25 to 30 HRC		30 to 35 HRC		35 to 45 HRC		45 to 50 HRC		< 35 HRC		< 35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys		High Temp. Alloys Inconel Hastelloy	
Cutting Speed	260-655 SFM		115-195 SFM		130-230 SFM		95-170 SFM		95-165 SFM		80-130 SFM		50-65 SFM	
Depth of Cut	Aa=1.25D													
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1	44,390	94.4	15,039	4.3	17,465	74.3	12,856	3.6	12,614	35.8	10,188	28.9	5,579	5.9
2	22,195	78.6	7,520	3.2	8,733	49.5	6,428	2.7	6,307	22.3	5,094	18.0	2,790	4.0
4	11,098	39.3	3,760	1.9	4,366	3.1	3,214	1.6	3,153	11.2	2,547	9.0	1,395	2.0
6	7,398	31.5	2,507	1.8	2,911	3.1	2,143	1.5	2,102	7.4	1,698	6.0	930	2.0
8	5,549	31.5	1,880	2.0	2,183	3.1	1,607	1.7	1,577	5.6	1,273	4.5	697	1.5
10	4,439	25.2	1,504	2.1	1,747	3.7	1,286	1.8	1,261	5.4	1,019	4.3	558	1.6
12	3,699	26.2	1,253	2.7	1,455	4.1	1,071	2.3	1,051	4.5	849	3.6	465	1.6
16	2,774	19.7	940	2.7	1,092	3.9	804	2.3	788	3.9	637	3.2	349	1.2
18	2,466	17.5	836	2.7	970	4.1	714	2.3	701	4.0	566	3.2	310	1.3
20	2,220	15.7	752	2.7	873	4.3	643	2.3	631	3.6	509	2.9	279	1.2

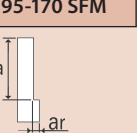




List 03K-SO

List 03P-SO

Side Milling

Hardness	Up to 25 HRC		25 to 30 HRC		30 to 35 HRC		35 to 45 HRC		45 to 50 HRC		< 35 HRC		< 35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys		High Temp. Alloys Inconel Hastelloy	
Cutting Speed	260-655 SFM		115-195 SFM		130-230 SFM		95-170 SFM		95-165 SFM		80-130 SFM		50-65 SFM	
Depth of Cut	Aa=0.5D Ar=1D 													
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1	44,390	209.7	15,039	9.5	17,465	165.0	12,856	8.1	12,614	79.5	10,188	64.2	5,579	13.2
2	22,195	174.8	7,520	7.1	8,733	110.0	6,428	6.1	6,307	49.7	5,094	40.1	2,790	8.8
4	11,098	87.4	3,760	4.1	4,366	6.9	3,214	3.5	3,153	24.8	2,547	20.1	1,395	4.4
6	7,398	69.9	2,507	3.9	2,911	6.9	2,143	3.4	2,102	16.6	1,698	13.4	930	4.4
8	5,549	69.9	1,880	4.4	2,183	6.9	1,607	3.8	1,577	12.4	1,273	10.0	697	3.3
10	4,439	55.9	1,504	4.7	1,747	8.3	1,286	4.0	1,261	11.9	1,019	9.6	558	3.5
12	3,699	58.3	1,253	5.9	1,455	9.2	1,071	5.1	1,051	9.9	849	8.0	465	3.7
16	2,774	43.7	940	5.9	1,092	8.6	804	5.1	788	8.7	637	7.0	349	2.7
18	2,466	38.8	836	5.9	970	9.2	714	5.1	701	8.8	566	7.1	310	2.9
20	2,220	35.0	752	5.9	873	9.6	643	5.1	631	7.9	509	6.4	279	2.6

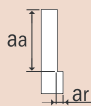
Slotting

Hardness	Up to 25 HRC		25 to 30 HRC		30 to 35 HRC		35 to 45 HRC		45 to 50 HRC		< 35 HRC		< 35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys		High Temp. Alloys Inconel Hastelloy	
Cutting Speed	260-655 SFM		115-195 SFM		130-230 SFM		95-170 SFM		95-165 SFM		80-130 SFM		50-65 SFM	
Depth of Cut	Aa=0.5D													
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
1	44,390	188.7	15,039	8.5	17,465	148.5	12,856	7.3	12,614	71.5	10,188	57.8	5,579	11.9
2	22,195	157.3	7,520	6.4	8,733	99.0	6,428	5.5	6,307	44.7	5,094	36.1	2,790	7.9
4	11,098	78.6	3,760	3.7	4,366	6.2	3,214	3.2	3,153	22.3	2,547	18.0	1,395	4.0
6	7,398	62.9	2,507	3.6	2,911	6.2	2,143	3.0	2,102	14.9	1,698	12.0	930	4.0
8	5,549	62.9	1,880	4.0	2,183	6.2	1,607	3.4	1,577	11.2	1,273	9.0	697	3.0
10	4,439	50.3	1,504	4.3	1,747	7.4	1,286	3.6	1,261	10.7	1,019	8.7	558	3.2
12	3,699	52.4	1,253	5.3	1,455	8.3	1,071	4.6	1,051	8.9	849	7.2	465	3.3
16	2,774	39.3	940	5.3	1,092	7.7	804	4.6	788	7.8	637	6.3	349	2.5
18	2,466	35.0	836	5.3	970	8.3	714	4.6	701	7.9	566	6.4	310	2.6
20	2,220	31.5	752	5.3	873	8.7	643	4.6	631	7.2	509	5.8	279	2.4



List 03E-SO

Side Milling

Hardness	Up to 25 HRC		25 to 30 HRC		30 to 35 HRC		35 to 45 HRC		45 to 50 HRC		< 35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys	
Cutting Speed	390-655 SFM		195-330 SFM		260-330 SFM		195-250 SFM		260-460 SFM		145-215 SFM	
Depth of Cut	Aa=1D Ar=0.5D 											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
6	8,450	43.9	4,245	16.0	4,771	22.5	3,598	13.6	5,822	24.8	2,911	11.0
8	6,337	44.9	3,184	16.5	3,578	23.1	2,699	14.0	4,366	25.4	2,183	11.3
10	5,070	43.1	2,547	15.6	2,862	22.1	2,159	13.3	3,493	24.2	1,747	10.7
12	4,225	43.9	2,122	16.4	2,385	22.9	1,799	13.9	2,911	24.8	1,455	11.2
16	3,169	40.4	1,592	15.0	1,789	21.1	1,349	12.7	2,183	22.7	1,092	10.3
20	2,535	36.7	1,273	14.0	1,431	19.6	1,079	11.9	1,747	20.9	873	9.6

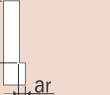
Slotting

Hardness	Up to 25 HRC		25 to 30 HRC		30 to 35 HRC		35 to 45 HRC		45 to 50 HRC		< 35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys	
Cutting Speed	390-655 SFM		195-330 SFM		260-330 SFM		195-250 SFM		260-460 SFM		145-215 SFM	
Depth of Cut	Aa=0.75D											
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
6	8,450	39.5	4,245	14.4	4,771	20.3	3,598	12.2	5,822	22.3	2,911	9.9
8	6,337	40.4	3,184	14.9	3,578	20.8	2,699	12.6	4,366	22.9	2,183	10.2
10	5,070	38.8	2,547	14.1	2,862	19.9	2,159	11.9	3,493	21.8	1,747	9.7
12	4,225	39.5	2,122	14.7	2,385	20.6	1,799	12.5	2,911	22.3	1,455	10.1
16	3,169	36.4	1,592	13.5	1,789	19.0	1,349	11.5	2,183	20.4	1,092	9.3
20	2,535	33.1	1,273	12.6	1,431	17.6	1,079	10.7	1,747	18.8	873	8.7

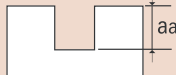


List 03F-SO

Side Milling

Hardness	Up to 25 HRC		25 to 30 HRC		30 to 35 HRC		35 to 45 HRC		45 to 50 HRC		< 35 HRC		< 35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys		High Temp. Alloys Inconel Hastelloy	
Cutting Speed	390-655 SFM		195-330 SFM		260-330 SFM		195-250 SFM		330-460 SFM		145-215 SFM		65-130 SFM	
Depth of Cut	Aa=1D Ar=0.5D 													
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
6	8,450	53.2	4,245	19.4	4,771	27.0	3,598	16.4	6,388	33.2	2,911	11.9	1,577	4.7
8	6,337	54.9	3,184	20.1	3,578	28.2	2,699	17.0	4,791	34.0	2,183	12.7	1,183	4.8
10	5,070	52.7	2,547	19.3	2,862	27.5	2,159	16.3	3,833	32.6	1,747	12.4	946	4.8
12	4,225	51.2	2,122	18.7	2,385	26.3	1,799	15.9	3,194	31.2	1,455	11.9	788	4.6
16	3,169	46.9	1,592	17.5	1,789	24.5	1,349	14.9	2,395	29.0	1,092	11.0	591	4.3
20	2,535	43.1	1,273	16.2	1,431	22.8	1,079	13.8	1,916	26.6	873	10.2	473	4.0

Slotting

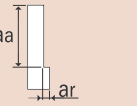
Hardness	Up to 25 HRC		25 to 30 HRC		30 to 35 HRC		35 to 45 HRC		45 to 50 HRC		< 35 HRC		< 35 HRC	
Work Material	Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys		High Temp. Alloys Inconel Hastelloy	
Cutting Speed	390-655 SFM		195-330 SFM		260-330 SFM		195-250 SFM		330-460 SFM		145-215 SFM		65-130 SFM	
Depth of Cut	Aa=0.75D													
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
6	8,450	47.9	4,245	17.4	4,771	24.3	3,598	14.8	6,388	29.9	2,911	10.7	1,577	4.2
8	6,337	49.4	3,184	18.0	3,578	25.4	2,699	15.3	4,791	30.6	2,183	11.4	1,183	4.4
10	5,070	47.4	2,547	17.3	2,862	24.7	2,159	14.7	3,833	29.3	1,747	11.1	946	4.3
12	4,225	46.1	2,122	16.8	2,385	23.7	1,799	14.3	3,194	28.1	1,455	10.7	788	4.1
16	3,169	42.2	1,592	15.8	1,789	22.1	1,349	13.4	2,395	26.1	1,092	9.9	591	3.9
20	2,535	38.8	1,273	14.6	1,431	20.5	1,079	12.4	1,916	23.9	873	9.2	473	3.6



List 310-SO

List 312-SO

Side Milling

Hardness	-		Up to 25 HRC		25 to 30 HRC		30 to 35 HRC		35 to 45 HRC		45 to 50 HRC		< 35 HRC	
Work Material	Aluminum		Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys	
Cutting Speed	325-820 SFM		50-130 SFM		15-30 SFM		15-30 SFM		10-23 SFM		50-80 SFM		20-40 SFM	
Depth of Cut	Aa=1D Ar=0.5D 													
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
2	27,774	28.4	4,366	3.4	1,092	0.9	1,092	0.9	800	0.6	3,153	2.5	1,455	1.1
4	13,887	20.8	2,183	2.6	546	0.6	546	0.6	400	0.5	1,577	1.9	728	0.8
6	9,258	20.4	1,455	2.5	364	0.6	364	0.6	267	0.5	1,051	1.8	485	0.8
8	6,944	21.3	1,092	2.6	273	0.6	273	0.6	200	0.5	788	1.9	364	0.8
10	5,555	20.1	873	2.5	218	0.6	218	0.6	160	0.5	631	1.8	291	0.7
12	4,629	20.8	728	2.5	182	0.6	182	0.6	133	0.5	526	1.8	243	0.8
14	3,968	20.6	624	2.5	156	0.6	156	0.6	114	0.5	450	1.8	208	0.8
16	3,472	20.5	546	2.5	136	0.6	136	0.6	100	0.5	394	1.8	182	0.7
18	3,086	20.7	485	2.5	121	0.6	121	0.6	89	0.5	350	1.8	162	0.7
20	2,777	20.1	437	2.5	109	0.6	109	0.6	80	0.5	315	1.8	146	0.8
22	2,525	20.7	397	2.5	99	0.6	99	0.6	73	0.5	287	1.8	132	0.8
24	2,315	20.0	364	2.4	91	0.6	91	0.6	67	0.4	263	1.8	121	0.7
25	2,222	20.5	349	2.5	87	0.6	87	0.6	64	0.5	252	1.8	116	0.7

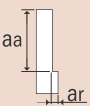
Slotting

Hardness	-		Up to 25 HRC		25 to 30 HRC		30 to 35 HRC		35 to 45 HRC		45 to 50 HRC		< 35 HRC	
Work Material	Aluminum		Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys	
Cutting Speed	325-820 SFM		390-655 SFM		195-330 SFM		260-330 SFM		195-250 SFM		260-460 SFM		145-215 SFM	
Depth of Cut	Aa=0.5D 													
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
2	27,774	25.6	4,366	3.1	1,092	0.8	1,092	0.8	800	0.6	3,153	2.2	1,455	1.0
4	13,887	18.7	2,183	2.3	546	0.6	546	0.6	400	0.4	1,577	1.7	728	0.7
6	9,258	18.4	1,455	2.3	364	0.6	364	0.6	267	0.4	1,051	1.6	485	0.7
8	6,944	19.2	1,092	2.3	273	0.6	273	0.6	200	0.4	788	1.7	364	0.7
10	5,555	18.1	873	2.2	218	0.6	218	0.6	160	0.4	631	1.6	291	0.7
12	4,629	18.7	728	2.3	182	0.6	182	0.6	133	0.4	526	1.6	243	0.7
14	3,968	18.6	624	2.3	156	0.6	156	0.6	114	0.4	450	1.6	208	0.7
16	3,472	18.5	546	2.2	136	0.6	136	0.6	100	0.4	394	1.6	182	0.7
18	3,086	18.6	485	2.2	121	0.6	121	0.6	89	0.4	350	1.6	162	0.7
20	2,777	18.1	437	2.3	109	0.6	109	0.6	80	0.4	315	1.6	146	0.7
22	2,525	18.6	397	2.3	99	0.6	99	0.6	73	0.4	287	1.6	132	0.7
24	2,315	18.0	364	2.2	91	0.5	91	0.5	67	0.4	263	1.6	121	0.6
25	2,222	18.4	349	2.2	87	0.6	87	0.6	64	0.4	252	1.6	116	0.7



List 314-SO

Side Milling

Hardness	-		Up to 25 HRC		25 to 30 HRC		30 to 35 HRC		35 to 45 HRC		45 to 50 HRC		< 35 HRC	
Work Material	Aluminum		Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys	
Cutting Speed	325-820 SFM		50-130 SFM		15-30 SFM		15-30 SFM		10-23 SFM		50-80 SFM		20-40 SFM	
Depth of Cut	Aa=1D Ar=0.5D 								Aa=1D Ar=0.1D					
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
2	27,774	56.9	4,366	6.9	1,092	1.7	1,092	1.7	800	1.3	3,153	5.0	1,455	2.3
4	13,887	41.6	2,183	5.2	546	1.3	546	1.3	400	0.9	1,577	3.7	728	1.5
6	9,258	40.8	1,455	5.0	364	1.3	364	1.3	267	0.9	1,051	3.6	485	1.5
8	6,944	42.6	1,092	5.2	273	1.3	273	1.3	200	0.9	788	3.7	364	1.5
10	5,555	40.2	873	5.0	218	1.2	218	1.2	160	0.9	631	3.6	291	1.5
12	4,629	41.6	728	5.0	182	1.3	182	1.3	133	0.9	526	3.6	243	1.5
14	3,968	41.2	624	5.0	156	1.3	156	1.3	114	0.9	450	3.6	208	1.5
16	3,472	41.0	546	5.0	136	1.2	136	1.2	100	0.9	394	3.6	182	1.5
18	3,086	41.3	485	5.0	121	1.2	121	1.2	89	0.9	350	3.6	162	1.5
20	2,777	40.2	437	5.0	109	1.3	109	1.3	80	0.9	315	3.6	146	1.5
22	2,525	62.0	397	7.5	99	1.9	99	1.9	73	1.4	287	5.4	132	2.3
24	2,315	60.1	364	7.3	91	1.8	91	1.8	67	1.3	263	5.3	121	2.2
25	2,222	61.4	349	7.4	87	1.9	87	1.9	64	1.4	252	5.4	116	2.2



Slotting

Hardness	-		Up to 25 HRC		25 to 30 HRC		30 to 35 HRC		35 to 45 HRC		45 to 50 HRC		< 35 HRC	
Work Material	Aluminum		Mild Steels Carbon Steels Cast Iron		400 Stainless Steels Alloy Steels Tool Steels		300 Stainless Steels Hardened Steels Pre-hardened Steels		PH Stainless Steels Hardened Steels		Hardened Steels		Titanium Alloys	
Cutting Speed	325-820 SFM		390-655 SFM		195-330 SFM		260-330 SFM		195-250 SFM		260-460 SFM		145-215 SFM	
Depth of Cut	Aa=0.5D													
Mill Dia.	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min	Speed RPM	Feed in/min
2	27,774	51.2	4,366	6.2	1,092	1.5	1,092	1.5	800	1.1	3,153	4.5	1,455	2.0
4	13,887	37.4	2,183	4.6	546	1.2	546	1.2	400	0.9	1,577	3.4	728	1.4
6	9,258	36.7	1,455	4.5	364	1.1	364	1.1	267	0.8	1,051	3.3	485	1.3
8	6,944	38.4	1,092	4.6	273	1.2	273	1.2	200	0.9	788	3.4	364	1.4
10	5,555	36.2	873	4.5	218	1.1	218	1.1	160	0.8	631	3.2	291	1.3
12	4,629	37.4	728	4.5	182	1.1	182	1.1	133	0.8	526	3.3	243	1.3
14	3,968	37.1	624	4.5	156	1.1	156	1.1	114	0.8	450	3.3	208	1.3
16	3,472	36.9	546	4.5	136	1.1	136	1.1	100	0.8	394	3.2	182	1.3
18	3,086	37.2	485	4.5	121	1.1	121	1.1	89	0.8	350	3.2	162	1.3
20	2,777	36.2	437	4.5	109	1.1	109	1.1	80	0.8	315	3.3	146	1.3
22	2,525	55.8	397	6.8	99	1.7	99	1.7	73	1.2	287	4.9	132	2.0
24	2,315	54.1	364	6.6	91	1.6	91	1.6	67	1.2	263	4.7	121	1.9
25	2,222	55.3	349	6.7	87	1.7	87	1.7	64	1.2	252	4.8	116	2.0



shaping your dreams

 Safe use of cutting tools

- Use safety cover, safety glasses and safety shoes during operation.
- Do not touch cutting edges with bare hands.
- Do not touch cutting chips with bare hands. Chips will be hot after cutting.
- Stop cutting when the tool becomes dull.
- Stop cutting operation immediately if you hear any abnormal cutting sounds.
- Do not modify tools.
- Please use appropriate tools for the operation. Check dimensions to ensure proper selection.

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