L9814 **Metric Size**
L9815 **Fractional Size**

List #	EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	L1	Shank Dia.	Stock
		Dc		ℓ	L	L1	Ds	
L9814	0720533	10.7	0.4213	72	138	73	11	•
L9814	0720540	10.8	0.4252					•
L9814	0720556	10.9	0.4291					•
L9814	0720562	11.0	0.4331	73				•
L9814	0720579	11.1	0.4370	74	146	77	12	•
L9815	1489902	7/16	0.4375					•
L9814	0720585	11.2	0.4409					•
L9814	0720591	11.3	0.4449					•
L9814	0720607	11.4	0.4488	76		78		•
L9814	0720613	11.5	0.4528					•
L9815	1489919	29/64	0.4531			79		•
L9814	0720620	11.6	0.4567					•
L9814	0720636	11.7	0.4606	78				•
L9814	0720642	11.8	0.4646					•

* Package Qty: 1 per Tube Size

List #	EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	L1	Shank Dia.	Stock
		Dc		ℓ	L	L1	Ds	
L9814	0720659	11.9	0.4685	78	146	79	12	•
L9815	1489925	15/32	0.4688					•
L9814	0720665	12.0	0.4724					•
L9814	0720671	12.5	0.4921	82	153	84	13	•
L9815	1489931	1/2	0.5000	85		86		•
L9814	0720688	13.0	0.5118	86		86		•
L9814	0720694	13.5	0.5315	89	162	91	14	•
L9814	0720700	14.0	0.5512	91		92		•
L9815	1489948	9/16	0.5625	93	169	97	15	•
L9814	0720716	14.5	0.5709	95		97		•
L9814	0720722	15.0	0.5906	98		98		•
L9814	0720739	15.5	0.6102	102	178	104	16	•
L9815	1489954	5/8	0.6250	104		105		•
L9814	0720745	16.0	0.6299	104		105		•

⚠ **WARNING:** Cancer - www.P65Warnings.ca.gov

Standard Drilling Conditions

LIST 9814, 9815

Work Material / Speed (SFM)		Cast Irons / Carbon Steels		Alloy Steels (20-30 HRC)		Mold Steels (30-35 HRC)		Hardened Steels (40-50 HRC)		Ductile Cast Irons		Stainless Steel (300-Series Stainless)		Nickel Alloys, Titanium Alloys, PH Stainless		Aluminum Alloys		Aluminum Casting	
Drill Diameter		115 - 140 SFM		90 - 115 SFM		65 - 80 SFM		55 - 70 SFM		90 - 115 SFM		65 - 95 SFM		70 - 80 SFM		180 - 200 SFM		160 - 185 SFM	
Metric mm	Decimal	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)
1	0.039	11130	0.0003	8890	0.0002	6685	0.0002	5572	0.0002	8890	0.0002	6685	0.0001	6850	0.0006	18400	0.0008	15610	0.0004
1.5	0.059	7420	0.0005	5943	0.0004	4459	0.0003	3724	0.0003	5943	0.0003	4459	0.0001	4600	0.0009	12300	0.0012	10430	0.0006
2	0.079	6685	0.0007	5572	0.0005	3899	0.0004	3353	0.0004	5572	0.0004	4459	0.0002	3900	0.0012	9200	0.0014	8890	0.0007
Speed (SFM)		295 - 395 SFM		245 - 330 SFM		225 - 245 SFM		145 - 165 SFM		245 - 330 SFM		185 - 195 SFM		80 - 95 SFM		450 - 550 SFM		360 - 455 SFM	
2.5	0.098	11500	0.002	9600	0.001	9500	0.001	5750	0.001	9560	0.001	7500	0.001	3300	0.002	19400	0.004	14000	0.002
3	0.118	12700	0.003	10600	0.002	7400	0.002	5350	0.002	10600	0.002	6000	0.003	3000	0.002	16200	0.005	14800	0.004
4	0.157	9000	0.004	7500	0.003	5200	0.002	3800	0.002	7900	0.002	4200	0.003	2200	0.002	12100	0.006	11100	0.005
5	0.197	7200	0.005	5900	0.004	4200	0.003	3000	0.003	6300	0.003	3400	0.004	1800	0.003	9700	0.008	8900	0.006
6	0.236	5900	0.006	5000	0.005	3500	0.003	2500	0.003	5300	0.004	2800	0.005	1500	0.004	8100	0.010	7400	0.007
8	0.315	4500	0.008	3700	0.006	2600	0.005	1900	0.005	3950	0.005	2100	0.007	1100	0.005	6050	0.011	5570	0.009
10	0.394	3600	0.010	2900	0.008	2100	0.006	1500	0.006	3150	0.006	1700	0.009	900	0.006	4850	0.013	4460	0.012
12	0.472	3000	0.012	2500	0.009	1700	0.007	1200	0.007	2650	0.007	1400	0.010	700	0.007	4050	0.016	3710	0.014
16	0.630	2200	0.016	1800	0.013	1300	0.009	900	0.010	1990	0.009	1000	0.014	500	0.009	3050	0.018	2790	0.019

Note : 1) Adjust drilling conditions according to the rigidity of machine or work clamp state.
2) Use the table values for drilling depths upto 5xD. Adjust cutting conditions per table based on "degree angle to be drilled."
3) Above table values are for drilling water soluble cutting fluid. For non-water soluble cutting fluid reduce the RPM and feed rates by 20%
4) Center Drill or Guide hole required. (1: Use AG Starting drill or Aqua Ex Flat drill 2: For drilling guide holes in Stainless use AQUA EX Flat OH3D)

Formulas : $RPM = \frac{SFM \times 3.82}{\text{Drill dia.}}$ Feed Rate (in/min) : RPM×IPR

Drilling Conditions for Angled Surfaces					
Reduction % to above table values					
Degree Angle		Reduction %		Reduction % (Multiplier)	
		RPM	Feed	RPM	Feed
0°	5°	100%	100%	Table Value	Table Value
6°	20°	50%	50%	(Table Value)x0.5	(Table Value)x0.5
21°	35°	70%	40%	(Table Value)x0.3	(Table Value)x0.6
36°	60°	70%	40%	(Table Value)x0.3	(Table Value)x0.6
61°		70%	30%	(Table Value)x0.3	(Table Value)x0.7