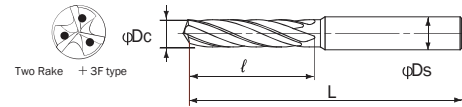


# HIGH PERFORMANCE DRILLS

## Aqua Drill EX Oil Hole 3 Flute 5D



### LIST 9820

• U.S. stock item

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
0724247	3.0	0.1181	28	78	3	•
0729089	3.1	0.1220				•
0729095	3.2	0.1260				•
0729100	3.3	0.1299	32			•
0724253	3.4	0.1339				•
0724260	3.5	0.1378		86	4	•
0729117	3.6	0.1417				•
0729123	3.7	0.1457				•
0729130	3.8	0.1496	36			•
0729146	3.9	0.1535				•
0724276	4.0	0.1575				•
0729152	4.1	0.1614				•
0729169	4.2	0.1654				•
0724282	4.3	0.1693	40	98	5	•
0729175	4.4	0.1732				•
0724299	4.5	0.1772				•
0729181	4.6	0.1811				•
0729198	4.7	0.1850				•
0729203	4.8	0.1890		98	5	•
0729210	4.9	0.1929				•
0724304	5.0	0.1969	44			•
0724310	5.1	0.2008				•
0729226	5.2	0.2047				•
0729232	5.3	0.2087				•
0729249	5.4	0.2126				•
0724327	5.5	0.2165		100	6	•
0729255	5.6	0.2205				•
0729261	5.7	0.2244				•
0729278	5.8	0.2283	48			•
0729284	5.9	0.2323				•
0724333	6.0	0.2362				•
0729290	6.1	0.2402				•
0729306	6.2	0.2441				•
0729312	6.3	0.2480	52			•
0729329	6.4	0.2520				•
0724340	6.5	0.2559		109	7	•
0729335	6.6	0.2598				•
0729341	6.7	0.2638				•
0724356	6.8	0.2677	56			•
0724362	6.9	0.2717				•
0724379	7.0	0.2756				•
0729358	7.1	0.2795				•
0729364	7.2	0.2835				•
0729370	7.3	0.2874	60			•
0729387	7.4	0.2913				•
0724385	7.5	0.2953				•
0729393	7.6	0.2992		118	8	•
0729409	7.7	0.3031				•
0729415	7.8	0.3071	64			•
0729421	7.9	0.3110				•
0724391	8.0	0.3150				•

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
0729438	8.1	0.3189				•
0729444	8.2	0.3228				•
0729450	8.3	0.3268	68			•
0729467	8.4	0.3307				•
0724407	8.5	0.3346				•
0724413	8.6	0.3386		127	9	•
0729473	8.7	0.3425				•
0729480	8.8	0.3465	72			•
0729496	8.9	0.3504				•
0724420	9.0	0.3543				•
0729501	9.1	0.3583				•
0729518	9.2	0.3622				•
0729524	9.3	0.3661	76			•
0729530	9.4	0.3701				•
0724436	9.5	0.3740				•
0729547	9.6	0.3780		136	10	•
0729553	9.7	0.3819				•
0729560	9.8	0.3858	80			•
0729576	9.9	0.3898				•
0724442	10.0	0.3937				•
0729582	10.1	0.3976				•
0729599	10.2	0.4016				•
0724459	10.3	0.4055	84			•
0729604	10.4	0.4094				•
0724465	10.5	0.4134		149	11	•
0729610	10.6	0.4173				•
0729627	10.7	0.4213				•
0729633	10.8	0.4252	88			•
0729640	10.9	0.4291				•
0724471	11.0	0.4331				•
0729656	11.1	0.4370				•
0729662	11.2	0.4409				•
0729679	11.3	0.4449	92			•
0729685	11.4	0.4488				•
0724488	11.5	0.4528		158	12	•
0729691	11.6	0.4567				•
0729707	11.7	0.4606				•
0729713	11.8	0.4646	96			•
0729720	11.9	0.4685				•
0724494	12.0	0.4724				•
0724500	12.1	0.4764				•
0724516	12.5	0.4921	100	167	13	•
0724522	13.0	0.5118	104			•
0724539	13.5	0.5315	108			•
0724545	14.0	0.5512	112	176	14	•
0724551	14.1	0.5551				•
0724568	14.5	0.5709	116	185	15	•
0724574	15.0	0.5906	120			•
0724580	15.5	0.6102	124			•
0724597	15.6	0.6142		194	16	•
0724602	16.0	0.6299	128			•

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

### Standard Drilling Conditions

#### LIST 9826, 9820

Work Material	Cast Irons/Carbon Steel		Alloy Steels/Pre-Hardened (20-30 HRC)		Mold Steels/Hardened Steels (30-40 HRC)		Hardened Steels (40-50 HRC)		Cast Irons		Stainless Steel (300-Series Stainless)		Cast Aluminum			
	Speed (SFM)	Drilling Diameter	325-330 SFM	260-265 SFM	225-230 SFM	170-175 SFM	260-265 SFM	160-165 SFM	260-450 SFM							
	Metric	Decimal	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)	RPM	Feed (IPR)		
Drill Dia. (mm/Inches)	3	0.118	10,700	0.005	8,500	0.005	7,450	0.004	5,600	0.005	8,500	0.005	5,300	0.004	14,800	0.007
	4	0.157	8,000	0.006	6,400	0.006	5,600	0.005	4,200	0.007	6,400	0.006	4,000	0.006	11,200	0.009
	6	0.236	5,300	0.010	4,250	0.009	3,750	0.008	2,800	0.011	4,250	0.009	2,650	0.008	7,400	0.010
	8	0.315	4,000	0.013	3,200	0.013	2,800	0.011	2,100	0.015	3,200	0.013	2,000	0.011	5,600	0.013
	10	0.394	3,200	0.016	2,550	0.016	2,250	0.014	1,700	0.018	2,550	0.016	1,600	0.014	4,500	0.016
	12	0.472	2,650	0.019	2,100	0.019	1,850	0.017	1,400	0.022	2,100	0.019	1,350	0.016	3,700	0.019
	14	0.551	2,250	0.020	1,800	0.020	1,600	0.016	1,200	0.022	1,800	0.019	1,150	0.016	3,200	0.022
	16	0.630	2,000	0.022	1,600	0.022	1,400	0.019	1,050	0.025	1,600	0.022	1,000	0.019	2,200	0.032

**Note:**

- 1) Adjust drilling conditions according to the rigidity of machine or work clamp state.
- 2) Use the table values as starting parameters. Adjust per your machine & set up as required.
- 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) Use Internal Coolant. If drilling more than 3xD or 5xD use peck drill cycle (G83).
- 5) Peck Depth interval = 1xD

**Formulas:** RPM =  $\frac{SFM \times 3.82}{\text{Drill Dia.}}$

Feed rate(in/min): RPM x IPR