

New USA Stock Item

NACHI

AQUA DRILL EX CARBIDE DRILL SERIES

AQDEXS | AQDEXR | AQDEXOH3D | AQDEXOH5D | AQDEXOH8D



Designed for consistent high performance drilling in stainless steels to high temperature alloys.

AQUA EX SERIES

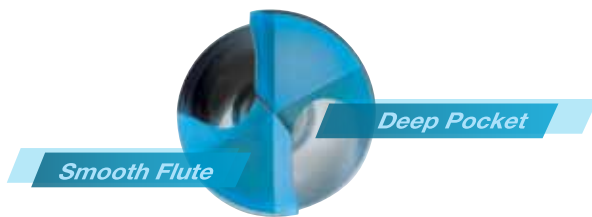
AQUA DRILL EX CARBIDE DRILL SERIES

AQDEXS | AQDEXR | AQDEXOH3D | AQDEXOH5D | AQDEXOH8D



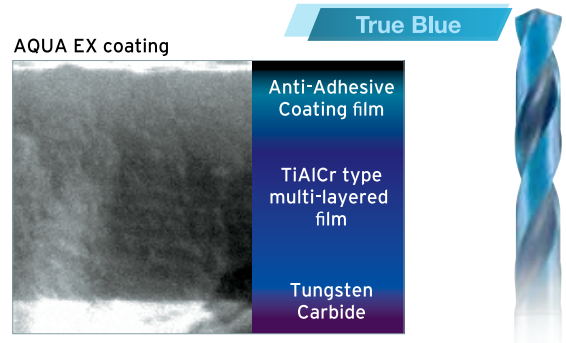
Features of Aqua EX Drill Series Fluting

- Unique J-shape flute design helps to generate easy chip break up.
- Smooth flute polishing facilitates fluid chip evacuation.
- Deep pockets ensure minimal chip packing.



Features of Aqua EX Drill Series Coating

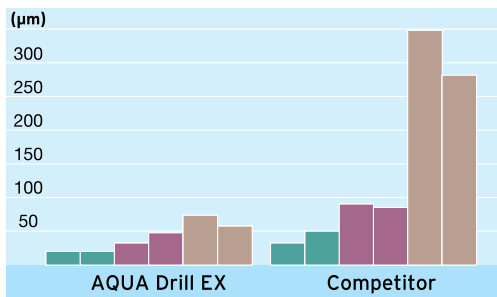
- Aqua EX coating is designed for superior performance in both dry and wet conditions.
- EX = Exotic materials, extreme conditions.
- Engineering to withstand heavy wear and maintain consistent performance.



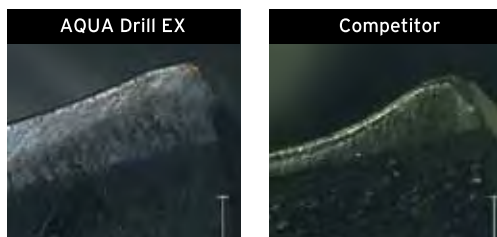
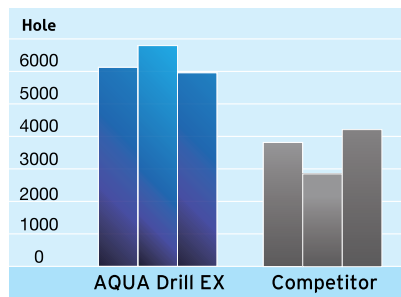
Long Tool Life

Cutting resistance is low

Durability comparison



Durability comparison (Service Life)



Cutting conditions	
Tool	: AQDEXR6.0 (L9602)
Speed	: 100m/min (RPM=5300)
Feed	: 0.18mm/rev (960mm/min)
Feed	: 0.007 IPR / 21.0 IPM
Work Material	: S50C (Carbon Steel)
Cutting Fluid	: Water Soluble

Fine Chips with AQUA DRILL EX



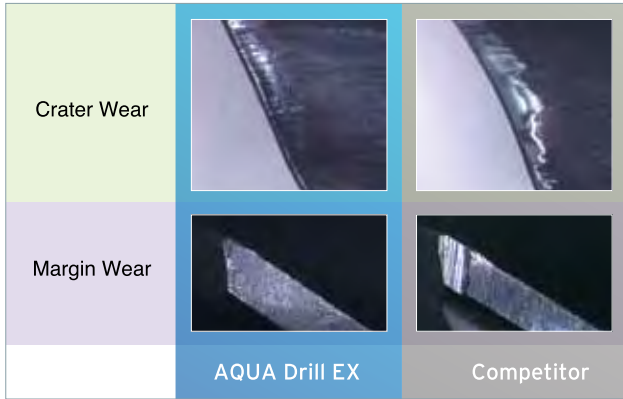
TOOL LIFE DETAILS PART 2

Delicate Cut

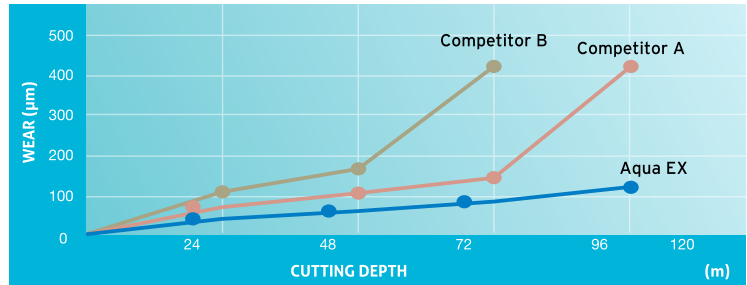
Tough Heart



Comparison of wear after 625 Holes in 304 SS



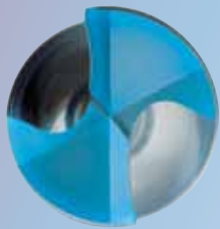
Comparison of wear on 304 SS



Cutting conditions		
Tool : Ø9.0 5D	Feed : 640mm/min (IPR = 0.008 / IPM = 25)	Work Material : 304 Stainless
Speed : 90m/min (RPM = 3,200)	Depth : 40mm (1.57")	Cutting Fluid : Water Soluble

NEW AQUA DRILL EX DESIGN V/S AQUA DRILL

AQUA Drill EX (New Design)



- Engineered to handle the full range of applications.
- Aqua EX coating stands up to the highest temperatures.
- Optimal design for hard materials like Nickel / Titanium alloys.
- From start to finish designed with optimum chip evacuation in mind.

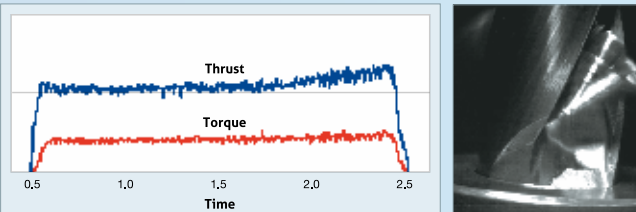
AQUA Drill (Old Design)



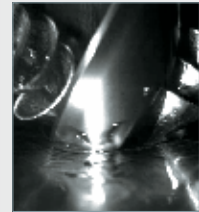
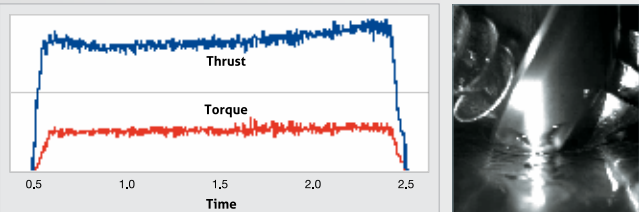
- Special cutting edge shape has superior wear resistance.
- High web thickness to increase tool rigidity
- Innovative AQUA coating was the first of it's kind.
- Not suitable for Stainless Steel

TORQUE / THRUST COMPARISON

AQUA Drill EX



Competitor

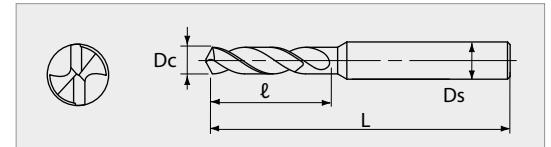
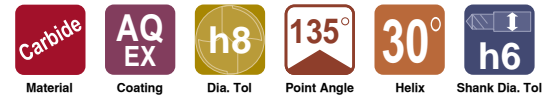


Consistent Thrust & Torque with Aqua Drill EX

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
0701832	13.2	0.5197	50	105	14	•
0701849	13.3	0.5236	50	105	14	•
0701855	13.4	0.5276	50	105	14	•
0701861	13.5	0.5315	50	105	14	•
0701878	13.6	0.5354	52	105	14	•
0701884	13.7	0.5394	52	105	14	•
0701890	13.8	0.5433	52	105	14	•
0701906	13.9	0.5472	52	105	14	•
0701912	14.0	0.5512	52	105	14	•
0701929	14.1	0.5551	52	108	15	•
0701935	14.2	0.5591	52	108	15	•
0701941	14.3	0.5630	52	108	15	•
0701958	14.4	0.5669	52	108	15	•
0701964	14.5	0.5709	52	108	15	•
0701970	14.6	0.5748	53	108	15	•

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
0701987	14.7	0.5787	53	108	15	•
0701993	14.8	0.5827	53	108	15	•
0702008	14.9	0.5866	53	108	15	•
0702014	15.0	0.5906	53	108	15	•
0702020	15.1	0.5945	53	112	16	•
0702037	15.2	0.5984	53	112	16	•
0702043	15.3	0.6024	53	112	16	•
0702050	15.4	0.6063	53	112	16	•
0702066	15.5	0.6102	53	112	16	•
0702072	15.6	0.6142	55	112	16	•
0702089	15.7	0.6181	55	112	16	•
0702095	15.8	0.6220	55	112	16	•
0702100	15.9	0.6260	55	112	16	•
0702117	16.0	0.6299	55	112	16	•

* Package Quantity: 1 per tube.



L9601 Fractional Sizes Non-coolant Thru

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
1481500	1/8	0.1250	54	19	4	•
1481517	9/64	0.1406	54	21	4	•
1481523	5/32	0.1563	54	21	4	•
1482267	# 21 Wire	0.1590	61	23	5	•
1482273	#20 Wire	0.1610	61	23	5	•
1481530	11/64	0.1719	61	23	5	•
1481546	3/16	0.1875	61	25	5	•
1482280	#7 Wire	0.2010	65	25	6	•
1481552	13/64	0.2031	65	25	6	•
1482296	#3 Wire	0.2130	65	27	6	•
1481569	7/32	0.2188	65	27	6	•
1482301	#2 Wire	0.2210	65	27	6	•
1481575	15/64	0.2344	65	27	6	•
1481581	1/4	0.2500	73	31	7	•
1482318	Ltr. F	0.2570	73	33	7	•
1481598	17/64	0.2656	73	33	7	•
1482324	Ltr. I	0.2720	78	33	8	•
1482330	Ltr. J	0.2770	78	33	8	•
1481603	9/32	0.2813	78	33	8	•
1481610	19/64	0.2969	78	36	8	•
1481626	5/16	0.3125	78	36	8	•
1482347	Ltr. P	0.3230	82	36	9	•

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
1481632	21/64	0.3281	82	36	9	•
1482353	Ltr. Q	0.3320	82	38	9	•
1481649	11/32	0.3438	82	38	9	•
1481655	23/64	0.3594	87	38	10	•
1482360	Ltr. U	0.3680	87	41	10	•
1481661	3/8	0.3750	87	41	10	•
1481678	25/64	0.3906	87	41	10	•
1481684	13/32	0.4063	93	41	11	•
1481690	27/64	0.4219	93	45	11	•
1481706	7/16	0.4375	100	45	12	•
1481712	29/64	0.4531	100	47	12	•
1481729	15/32	0.4688	100	47	12	•
1481735	31/64	0.4844	100	47	13	•
1481741	1/2	0.5000	100	49	13	•
1481758	33/64	0.5156	105	50	14	•
1481764	17/32	0.5313	105	50	14	•
1481770	35/64	0.5469	105	52	14	•
1481787	9/16	0.5625	108	52	15	•
1481793	37/64	0.5781	108	53	15	•
1481809	19/32	0.5938	112	53	16	•
1481815	39/64	0.6094	112	53	16	•
1481821	5/8	0.6250	112	55	16	•

* Package Quantity: 1 per tube.

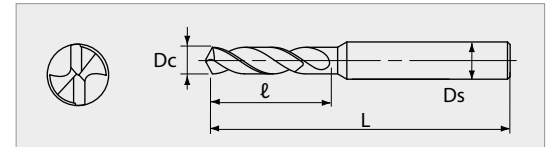
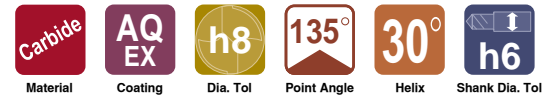
EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
0703245	13.2	0.5197	84	147	14	•
0703251	13.3	0.5236	84	147	14	•
0703268	13.4	0.5276	84	147	14	•
0703274	13.5	0.5315	84	147	14	•
0703280	13.6	0.5354	86	147	14	•
0703297	13.7	0.5394	86	147	14	•
0703302	13.8	0.5433	86	147	14	•
0703319	13.9	0.5472	86	147	14	•
0703325	14.0	0.5512	86	147	14	•
0703331	14.1	0.5551	89	153	15	•
0703348	14.2	0.5591	89	153	15	•
0703354	14.3	0.5630	89	153	15	•
0703360	14.4	0.5669	89	153	15	•
0703377	14.5	0.5709	89	153	15	•
0703383	14.6	0.5748	91	153	15	•

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
0703390	14.7	0.5787	91	153	15	•
0703405	14.8	0.5827	91	153	15	•
0703411	14.9	0.5866	91	153	15	•
0703428	15.0	0.5906	91	153	15	•
0703434	15.1	0.5945	94	160	16	•
0703440	15.2	0.5984	94	160	16	•
0703457	15.3	0.6024	94	160	16	•
0703463	15.4	0.6063	94	160	16	•
0703470	15.5	0.6102	94	160	16	•
0703486	15.6	0.6142	96	160	16	•
0703492	15.7	0.6181	96	160	16	•
0703508	15.8	0.6220	96	160	16	•
0703514	15.9	0.6260	96	160	16	•
0703520	16.0	0.6299	96	160	16	•

* Package Quantity: 1 per tube.

AQDEXR

AQUA DRILL EX JOBBER LENGTH



L9603 Fractional Sizes Non-coolant Thru

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
1481838	1/8	0.1250	60	24	4	•
1481844	9/64	0.1406	60	27	4	•
1481850	5/32	0.1563	60	27	4	•
1482376	# 21 Wire	0.1590	76	31	5	•
1482382	#20 Wire	0.1610	76	31	5	•
1481867	11/64	0.1719	76	31	5	•
1481873	3/16	0.1875	76	38	5	•
1482399	#7 Wire	0.2010	81	39	6	•
1481880	13/64	0.2031	81	39	6	•
1482404	#3 Wire	0.2130	81	41	6	•
1481896	7/32	0.2188	81	41	6	•
1482410	#2 Wire	0.2210	81	41	6	•
1481901	15/64	0.2344	81	41	6	•
1481918	1/4	0.2500	83	42	7	•
1482427	Ltr. F	0.2570	83	43	7	•
1481924	17/64	0.2656	83	43	7	•
1482433	Ltr. I	0.2720	90	45	8	•
1482440	Ltr. J	0.2770	90	45	8	•
1481930	9/32	0.2813	90	45	8	•
1481947	19/64	0.2969	90	48	8	•
1481953	5/16	0.3125	90	48	8	•
1482456	Ltr. P	0.3230	98	53	9	•

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
1481960	21/64	0.3281	98	53	9	•
1482462	Ltr. Q	0.3320	98	55	9	•
1481976	11/32	0.3438	98	55	9	•
1481982	23/64	0.3594	105	58	10	•
1482479	Ltr. U	0.3680	105	60	10	•
1481999	3/8	0.3750	105	60	10	•
1482003	25/64	0.3906	105	60	10	•
1482010	13/32	0.4063	114	66	11	•
1482026	27/64	0.4219	114	68	11	•
1482032	7/16	0.4375	121	71	12	•
1482049	29/64	0.4531	121	73	12	•
1482055	15/32	0.4688	121	73	12	•
1480780	31/64	0.4844	137	76	13	•
1480797	1/2	0.5000	137	78	13	•
1480802	33/64	0.5156	147	84	14	•
1480819	17/32	0.5313	147	84	14	•
1480825	35/64	0.5469	153	89	14	•
1480831	9/16	0.5625	153	89	15	•
1480848	37/64	0.5781	153	89	15	•
1480854	19/32	0.5938	160	96	16	•
1480860	39/64	0.6094	160	96	16	•
1480877	5/8	0.6250	160	96	16	•

* Package Quantity: 1 per tube.

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
0705334	14.2	0.5591	72	140	15	•
0705340	14.3	0.5630	72	140	15	•
0705357	14.4	0.5669	72	140	15	•
0705363	14.5	0.5709	72	140	15	•
0705370	14.6	0.5748	75	140	15	•
0705386	14.7	0.5787	75	140	15	•
0705392	14.8	0.5827	75	140	15	•
0705408	14.9	0.5866	75	140	15	•
0705414	15.0	0.5906	75	140	15	•
0705420	15.1	0.5945	77	146	16	•

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
0705437	15.2	0.5984	77	146	16	•
0705443	15.3	0.6024	77	146	16	•
0705450	15.4	0.6063	77	146	16	•
0705466	15.5	0.6102	77	146	16	•
0705472	15.6	0.6142	80	146	16	•
0705489	15.7	0.6181	80	146	16	•
0705495	15.8	0.6220	80	146	16	•
0705500	15.9	0.6260	80	146	16	•
0705517	16.0	0.6299	80	146	16	•

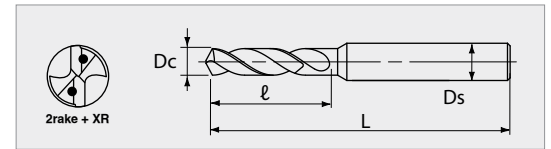
* Package Quantity: 1 per tube.

AQDEXOH3D

AQUA DRILL EX OIL HOLE 3D



Carbide AQ EX h7 135° 24° ~ 30° h6
 Material Coating Dia. Tol Point Angle Helix Shank Dia. Tol



L9605 Fractional Sizes Coolant Thru

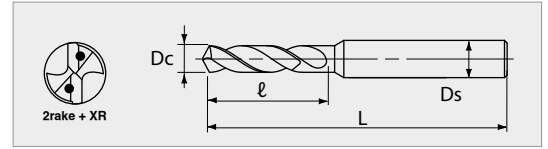
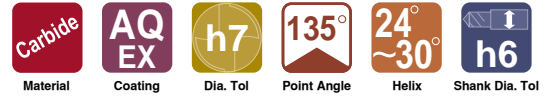
EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
1480883	1/8	0.1250	72	20	4	•
1480890	9/64	0.1406	72	22	4	•
1480905	5/32	0.1563	72	22	4	•
1482485	# 21 Wire	0.1590	80	27	5	•
1482491	#20 Wire	0.1610	80	27	5	•
1480911	11/64	0.1719	80	27	5	•
1480928	3/16	0.1875	80	27	5	•
1482507	#7 Wire	0.2010	82	27	6	•
1480934	13/64	0.2031	82	27	6	•
1482513	#3 Wire	0.2130	82	30	6	•
1480940	7/32	0.2188	82	30	6	•
1482520	#2 Wire	0.2210	82	30	6	•
1480957	15/64	0.2344	82	30	6	•
1480963	1/4	0.2500	88	32	7	•
1482536	Ltr. F	0.2570	88	35	7	•
1480970	17/64	0.2656	88	35	7	•
1482542	Ltr. I	0.2720	94	37	8	•
1482559	Ltr. J	0.2770	94	37	8	•
1480986	9/32	0.2813	94	37	8	•
1480992	19/64	0.2969	94	40	8	•
1481007	5/16	0.3125	94	40	8	•
1482565	Ltr. P	0.3230	100	42	9	•

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
1481013	21/64	0.3281	100	42	9	•
1482571	Ltr. Q	0.3320	100	45	9	•
1481020	11/32	0.3438	100	45	9	•
1481036	23/64	0.3594	106	47	10	•
1482588	Ltr. U	0.3680	106	50	10	•
1481042	3/8	0.3750	106	50	10	•
1481059	25/64	0.3906	106	50	10	•
1481065	13/32	0.4063	116	52	11	•
1481071	27/64	0.4219	116	55	11	•
1481088	7/16	0.4375	122	57	12	•
1481094	29/64	0.4531	122	60	12	•
1481100	15/32	0.4688	122	60	12	•
1481116	31/64	0.4844	128	62	13	•
1481122	1/2	0.5000	128	65	13	•
1481139	33/64	0.5156	134	67	14	•
1481145	17/32	0.5313	134	67	14	•
1481151	35/64	0.5469	134	70	14	•
1481168	9/16	0.5625	140	72	15	•
1481174	37/64	0.5781	140	75	15	•
1481180	19/32	0.5938	140	75	16	•
1481197	39/64	0.6094	146	77	16	•
1481202	5/8	0.6250	146	80	16	•

* Package Quantity: 1 per tube.

AQDEXOH5D

AQUA DRILL EX OIL HOLE 5D



L9606 Metric Sizes Coolant Thru

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		l	L	Ds	
0705523	3.0	0.1181	28	78	3	•
0705530	3.1	0.1220	32	86	4	•
0705546	3.2	0.1260	32	86	4	•
0705552	3.3	0.1299	32	86	4	•
0705569	3.4	0.1339	32	86	4	•
0705575	3.5	0.1378	32	86	4	•
0705581	3.6	0.1417	36	86	4	•
0705598	3.7	0.1457	36	86	4	•
0705603	3.8	0.1496	36	86	4	•
0705610	3.9	0.1535	36	86	4	•
0705626	4.0	0.1575	36	86	4	•
0705632	4.1	0.1614	40	98	5	•
0705649	4.2	0.1654	40	98	5	•
0705655	4.3	0.1693	40	98	5	•
0705661	4.4	0.1732	40	98	5	•
0705678	4.5	0.1772	40	98	5	•
0705684	4.6	0.1811	44	98	5	•
0705690	4.7	0.1850	44	98	5	•
0705706	4.8	0.1890	44	98	5	•
0705712	4.9	0.1929	44	98	5	•
0705729	5.0	0.1969	44	98	5	•
0705735	5.1	0.2008	44	100	6	•
0705741	5.2	0.2047	44	100	6	•
0705758	5.3	0.2087	44	100	6	•
0705764	5.4	0.2126	44	100	6	•
0705770	5.5	0.2165	44	100	6	•
0705787	5.6	0.2205	48	100	6	•
0705793	5.7	0.2244	48	100	6	•
0705809	5.8	0.2283	48	100	6	•
0705815	5.9	0.2323	48	100	6	•
0705821	6.0	0.2362	48	100	6	•
0705838	6.1	0.2402	52	109	7	•
0705844	6.2	0.2441	52	109	7	•
0705850	6.3	0.2480	52	109	7	•
0705867	6.4	0.2520	52	109	7	•
0705873	6.5	0.2559	52	109	7	•
0705880	6.6	0.2598	56	109	7	•
0705896	6.7	0.2638	56	109	7	•
0705901	6.8	0.2677	56	109	7	•
0705918	6.9	0.2717	56	109	7	•
0705924	7.0	0.2756	56	109	7	•
0705930	7.1	0.2795	60	118	8	•
0705947	7.2	0.2835	60	118	8	•
0705953	7.3	0.2874	60	118	8	•
0705960	7.4	0.2913	60	118	8	•
0705976	7.5	0.2953	60	118	8	•
0705982	7.6	0.2992	64	118	8	•
0705999	7.7	0.3031	64	118	8	•
0706003	7.8	0.3071	64	118	8	•
0706010	7.9	0.3110	64	118	8	•
0706026	8.0	0.3150	64	118	8	•
0706032	8.1	0.3189	68	127	9	•
0706049	8.2	0.3228	68	127	9	•
0706055	8.3	0.3268	68	127	9	•
0706061	8.4	0.3307	68	127	9	•
0706078	8.5	0.3346	68	127	9	•

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		l	L	Ds	
0706084	8.6	0.3386	72	127	9	•
0706090	8.7	0.3425	72	127	9	•
0706106	8.8	0.3465	72	127	9	•
0706112	8.9	0.3504	72	127	9	•
0706129	9.0	0.3543	72	127	9	•
0706135	9.1	0.3583	76	136	10	•
0706141	9.2	0.3622	76	136	10	•
0706158	9.3	0.3661	76	136	10	•
0706164	9.4	0.3701	76	136	10	•
0706170	9.5	0.3740	76	136	10	•
0706187	9.6	0.3780	80	136	10	•
0706193	9.7	0.3819	80	136	10	•
0706209	9.8	0.3858	80	136	10	•
0706215	9.9	0.3898	80	136	10	•
0706221	10.0	0.3937	80	136	10	•
0706238	10.1	0.3976	84	149	11	•
0706244	10.2	0.4016	84	149	11	•
0706250	10.3	0.4055	84	149	11	•
0706267	10.4	0.4094	84	149	11	•
0706273	10.5	0.4134	84	149	11	•
0706280	10.6	0.4173	88	149	11	•
0706296	10.7	0.4213	88	149	11	•
0706301	10.8	0.4252	88	149	11	•
0706318	10.9	0.4291	88	149	11	•
0706324	11.0	0.4331	88	149	11	•
0706330	11.1	0.4370	92	158	12	•
0706347	11.2	0.4409	92	158	12	•
0706353	11.3	0.4449	92	158	12	•
0706360	11.4	0.4488	92	158	12	•
0706376	11.5	0.4528	92	158	12	•
0706382	11.6	0.4567	96	158	12	•
0706399	11.7	0.4606	96	158	12	•
0706404	11.8	0.4646	96	158	12	•
0706410	11.9	0.4685	96	158	12	•
0706427	12.0	0.4724	96	158	12	•
0706433	12.1	0.4764	100	167	13	•
0706440	12.2	0.4803	100	167	13	•
0706456	12.3	0.4843	100	167	13	•
0706462	12.4	0.4882	100	167	13	•
0706479	12.5	0.4921	100	167	13	•
0706485	12.6	0.4961	104	167	13	•
0706491	12.7	0.5000	104	167	13	•
0706507	12.8	0.5039	104	167	13	•
0706513	12.9	0.5079	104	167	13	•
0706520	13.0	0.5118	104	167	13	•
0706536	13.1	0.5157	108	176	14	•
0706542	13.2	0.5197	108	176	14	•
0706559	13.3	0.5236	108	176	14	•
0706565	13.4	0.5276	108	176	14	•
0706571	13.5	0.5315	108	176	14	•
0706588	13.6	0.5354	112	176	14	•
0706594	13.7	0.5394	112	176	14	•
0706600	13.8	0.5433	112	176	14	•
0706616	13.9	0.5472	112	176	14	•
0706622	14.0	0.5512	112	176	14	•
0706639	14.1	0.5551	116	185	15	•

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
0706639	14.1	0.5551	116	185	15	•
0706645	14.2	0.5591	116	185	15	•
0706651	14.3	0.5630	116	185	15	•
0706668	14.4	0.5669	116	185	15	•
0706674	14.5	0.5709	116	185	15	•
0706680	14.6	0.5748	120	185	15	•
0706697	14.7	0.5787	120	185	15	•
0706702	14.8	0.5827	120	185	15	•
0706719	14.9	0.5866	120	185	15	•
0706725	15.0	0.5906	120	185	15	•

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
0706731	15.1	0.5945	124	194	16	•
0706748	15.2	0.5984	124	194	16	•
0706754	15.3	0.6024	124	194	16	•
0706760	15.4	0.6063	124	194	16	•
0706777	15.5	0.6102	124	194	16	•
0706783	15.6	0.6142	128	194	16	•
0706790	15.7	0.6181	128	194	16	•
0706805	15.8	0.6220	128	194	16	•
0706811	15.9	0.6260	128	194	16	•
0706828	16.0	0.6299	128	194	16	•

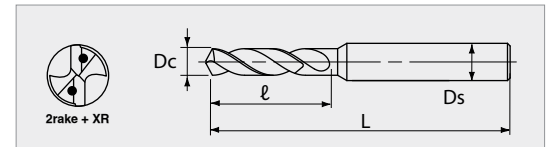
* Package Quantity: 1 per tube.

AQDEXOH5D

AQUA DRILL EX OIL HOLE 5D



Carbide
Material
AQ EX
Coating
h7
Dia. Tol
135°
Point Angle
24° ~ 30°
Helix
h6
Shank Dia. Tol



L9607 Fractional Sizes Coolant Thru

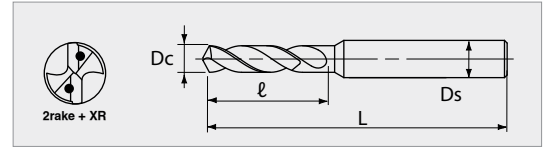
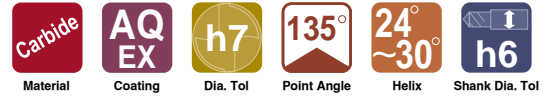
EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
1481219	1/8	0.1250	86	32	4	•
1481225	9/64	0.1406	86	36	4	•
1481231	5/32	0.1563	86	36	4	•
1482594	# 21 Wire	0.1590	98	40	5	•
1482600	#20 Wire	0.1610	98	40	5	•
1481248	11/64	0.1719	98	40	5	•
1481254	3/16	0.1875	98	44	5	•
1482616	#7 Wire	0.2010	100	44	6	•
1481260	13/64	0.2031	100	44	6	•
1482622	#3 Wire	0.2130	100	48	6	•
1481277	7/32	0.2188	100	48	6	•
1482639	#2 Wire	0.2210	109	52	7	•
1481283	15/64	0.2344	100	48	6	•
1481290	1/4	0.2500	109	52	7	•
1482645	Ltr. F	0.2570	109	56	7	•
1481305	17/64	0.2656	109	56	7	•
1482651	Ltr. I	0.2720	118	60	8	•
1482668	Ltr. J	0.2770	118	60	8	•
1481311	9/32	0.2813	118	60	8	•
1481328	19/64	0.2969	118	64	8	•
1481334	5/16	0.3125	118	64	8	•
1482674	Ltr. P	0.3230	127	68	9	•

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
1481340	21/64	0.3281	127	68	9	•
1482680	Ltr. Q	0.3320	127	72	9	•
1481357	11/32	0.3438	127	72	9	•
1481363	23/64	0.3594	136	76	10	•
1482697	Ltr. U	0.3680	136	80	10	•
1481370	3/8	0.3750	136	80	10	•
1481386	25/64	0.3906	136	80	10	•
1481392	13/32	0.4063	149	84	11	•
1481408	27/64	0.4219	149	88	11	•
1481414	7/16	0.4375	158	92	12	•
1481420	29/64	0.4531	158	96	12	•
1481437	15/32	0.4688	158	96	12	•
1481443	31/64	0.4844	167	100	13	•
1481450	1/2	0.5000	167	104	13	•
1481466	33/64	0.5156	176	108	14	•
1481472	17/32	0.5313	176	108	14	•
1481489	35/64	0.5469	176	112	14	•
1481495	9/16	0.5625	185	116	15	•
1480418	37/64	0.5781	185	120	15	•
1480424	19/32	0.5938	194	124	16	•
1480430	39/64	0.6094	194	124	16	•
1480447	5/8	0.6250	194	128	16	•

* Package Quantity: 1 per tube.

AQDEXOH8D

AQUA DRILL EX OIL HOLE 8D



L9608 Metric Sizes Coolant Thru

EDP #	Size	Decimal	Flute	Overall	Shank Dia.	Stock
	Dc	Equivalent	Length ℓ	Length L	Ds	
0706834	3.0	0.1181	33	81	3	•
0706840	3.1	0.1220	38	92	4	•
0706857	3.2	0.1260	38	92	4	•
0706863	3.3	0.1299	38	92	4	•
0706870	3.4	0.1339	38	92	4	•
0706886	3.5	0.1378	38	92	4	•
0706892	3.6	0.1417	44	92	4	•
0706908	3.7	0.1457	44	92	4	•
0706914	3.8	0.1496	44	92	4	•
0706920	3.9	0.1535	44	92	4	•
0706937	4.0	0.1575	44	92	4	•
0706943	4.1	0.1614	49	105	5	•
0706950	4.2	0.1654	49	105	5	•
0706966	4.3	0.1693	49	105	5	•
0706972	4.4	0.1732	49	105	5	•
0706989	4.5	0.1772	49	105	5	•
0706995	4.6	0.1811	55	105	5	•
0707000	4.7	0.1850	55	105	5	•
0707016	4.8	0.1890	55	105	5	•
0707022	4.9	0.1929	55	105	5	•
0707039	5.0	0.1969	55	105	5	•
0707045	5.1	0.2008	60	118	6	•
0707051	5.2	0.2047	60	118	6	•
0707068	5.3	0.2087	60	118	6	•
0707074	5.4	0.2126	60	118	6	•
0707080	5.5	0.2165	60	118	6	•
0707097	5.6	0.2205	66	118	6	•
0707102	5.7	0.2244	66	118	6	•
0707119	5.8	0.2283	66	118	6	•
0707125	5.9	0.2323	66	118	6	•
0707131	6.0	0.2362	66	118	6	•
0707148	6.1	0.2402	71	130	7	•
0707154	6.2	0.2441	71	130	7	•
0707160	6.3	0.2480	71	130	7	•
0707177	6.4	0.2520	71	130	7	•
0707183	6.5	0.2559	71	130	7	•
0707190	6.6	0.2598	77	130	7	•
0707205	6.7	0.2638	77	130	7	•
0707211	6.8	0.2677	77	130	7	•
0707228	6.9	0.2717	77	130	7	•
0707234	7.0	0.2756	77	130	7	•
0707240	7.1	0.2795	82	142	8	•
0707257	7.2	0.2835	82	142	8	•
0707263	7.3	0.2874	82	142	8	•
0707270	7.4	0.2913	82	142	8	•
0707286	7.5	0.2953	82	142	8	•
0707292	7.6	0.2992	88	142	8	•
0707308	7.7	0.3031	88	142	8	•
0707314	7.8	0.3071	88	142	8	•
0707320	7.9	0.3110	88	142	8	•
0707337	8.0	0.3150	88	142	8	•
0707343	8.1	0.3189	93	154	9	•
0707350	8.2	0.3228	93	154	9	•
0707366	8.3	0.3268	93	154	9	•
0707372	8.4	0.3307	93	154	9	•
0707389	8.5	0.3346	93	154	9	•

EDP #	Size	Decimal	Flute	Overall	Shank Dia.	Stock
	Dc	Equivalent	Length ℓ	Length L	Ds	
0707395	8.6	0.3386	99	154	9	•
0707400	8.7	0.3425	99	154	9	•
0707417	8.8	0.3465	99	154	9	•
0707423	8.9	0.3504	99	154	9	•
0707430	9.0	0.3543	99	154	9	•
0707446	9.1	0.3583	104	166	10	•
0707452	9.2	0.3622	104	166	10	•
0707469	9.3	0.3661	104	166	10	•
0707475	9.4	0.3701	104	166	10	•
0707481	9.5	0.3740	104	166	10	•
0707498	9.6	0.3780	110	166	10	•
0707503	9.7	0.3819	110	166	10	•
0707510	9.8	0.3858	110	166	10	•
0707526	9.9	0.3898	110	166	10	•
0707532	10.0	0.3937	110	166	10	•
0707549	10.1	0.3976	115	182	11	•
0707555	10.2	0.4016	115	182	11	•
0707561	10.3	0.4055	115	182	11	•
0707578	10.4	0.4094	115	182	11	•
0707584	10.5	0.4134	115	182	11	•
0707590	10.6	0.4173	121	182	11	•
0707606	10.7	0.4213	121	182	11	•
0707612	10.8	0.4252	121	182	11	•
0707629	10.9	0.4291	121	182	11	•
0707635	11.0	0.4331	121	182	11	•
0707641	11.1	0.4370	126	194	12	•
0707658	11.2	0.4409	126	194	12	•
0707664	11.3	0.4449	126	194	12	•
0707670	11.4	0.4488	126	194	12	•
0707687	11.5	0.4528	126	194	12	•
0707693	11.6	0.4567	132	194	12	•
0707709	11.7	0.4606	132	194	12	•
0707715	11.8	0.4646	132	194	12	•
0707721	11.9	0.4685	132	194	12	•
0707738	12.0	0.4724	132	194	12	•
0707744	12.1	0.4764	137	206	13	•
0707750	12.2	0.4803	137	206	13	•
0707767	12.3	0.4843	137	206	13	•
0707773	12.4	0.4882	137	206	13	•
0707780	12.5	0.4921	137	206	13	•
0707796	12.6	0.4961	143	206	13	•
0707801	12.7	0.5000	143	206	13	•
0707818	12.8	0.5039	143	206	13	•
0707824	12.9	0.5079	143	206	13	•
0707830	13.0	0.5118	143	206	13	•
0707847	13.1	0.5157	148	218	14	•
0707853	13.2	0.5197	148	218	14	•
0707860	13.3	0.5236	148	218	14	•
0707876	13.4	0.5276	148	218	14	•
0707882	13.5	0.5315	148	218	14	•
0707899	13.6	0.5354	154	218	14	•
0707904	13.7	0.5394	154	218	14	•
0707910	13.8	0.5433	154	218	14	•
0707927	13.9	0.5472	154	218	14	•
0707933	14.0	0.5512	154	218	14	•
0707940	14.1	0.5551	159	230	15	•

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
0707956	14.2	0.5591	159	230	15	•
0707962	14.3	0.5630	159	230	15	•
0707979	14.4	0.5669	159	230	15	•
0707985	14.5	0.5709	159	230	15	•
0707991	14.6	0.5748	165	230	15	•
0708006	14.7	0.5787	165	230	15	•
0708012	14.8	0.5827	165	230	15	•
0708029	14.9	0.5866	165	230	15	•
0708035	15.0	0.5906	165	230	15	•
0708041	15.1	0.5945	170	242	16	•

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
0708058	15.2	0.5984	170	242	16	•
0708064	15.3	0.6024	170	242	16	•
0708070	15.4	0.6063	170	242	16	•
0708087	15.5	0.6102	170	242	16	•
0708093	15.6	0.6142	176	242	16	•
0708109	15.7	0.6181	176	242	16	•
0708115	15.8	0.6220	176	242	16	•
0708121	15.9	0.6260	176	242	16	•
0708138	16.0	0.6299	176	242	16	•

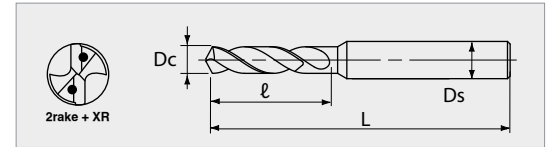
* Package Quantity: 1 per tube.

AQDEXOH8D

AQUA DRILL EX OIL HOLE 8D



Carbide
Material
AQ EX
Coating
h7
Dia. Tol
135°
Point Angle
24° ~ 30°
Helix
h6
Shank Dia. Tol



L9609 Fractional Sizes Coolant Thru

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
1480453	1/8	0.1250	92	38	4	•
1480460	9/64	0.1406	92	44	4	•
1480476	5/32	0.1563	92	44	4	•
1482702	# 21 Wire	0.1590	105	49	5	•
1482719	#20 Wire	0.1610	105	49	5	•
1480482	11/64	0.1719	105	49	5	•
1480499	3/16	0.1875	105	55	5	•
1482725	#7 Wire	0.2010	118	60	6	•
1480504	13/64	0.2031	118	60	6	•
1482731	#3 Wire	0.2130	118	66	6	•
1480510	7/32	0.2188	118	66	6	•
1482748	#2 Wire	0.2210	118	66	6	•
1480527	15/64	0.2344	118	66	6	•
1480533	1/4	0.2500	130	71	7	•
1482754	Ltr. F	0.2570	130	77	7	•
1480540	17/64	0.2656	130	77	7	•
1482760	Ltr. I	0.2720	142	82	8	•
1482777	Ltr. J	0.2770	142	82	8	•
1480556	9/32	0.2813	142	82	8	•
1480562	19/64	0.2969	142	88	8	•
1480579	5/16	0.3125	142	88	8	•
1482783t	Ltr. P	0.3230	154	93	9	•

EDP #	Size	Decimal Equivalent	Flute Length	Overall Length	Shank Dia.	Stock
	Dc		ℓ	L	Ds	
1480585	21/64	0.3281	154	93	9	•
1482790	Ltr. Q	0.3320	154	99	9	•
1480591	11/32	0.3438	154	99	9	•
1480607	23/64	0.3594	166	104	10	•
1482805	Ltr. U	0.3680	166	110	10	•
1480613	3/8	0.3750	166	110	10	•
1480620	25/64	0.3906	166	110	10	•
1480636	13/32	0.4063	182	115	11	•
1480642	27/64	0.4219	182	121	11	•
1480659	7/16	0.4375	194	126	12	•
1480665	29/64	0.4531	194	132	12	•
1480671	15/32	0.4688	194	132	12	•
1480688	31/64	0.4844	206	137	13	•
1480694	1/2	0.5000	206	143	13	•
1480700	33/64	0.5156	218	148	14	•
1480716	17/32	0.5313	218	148	14	•
1480722	35/64	0.5469	218	154	14	•
1480739	9/16	0.5625	230	159	15	•
1480745	37/64	0.5781	230	159	15	•
1480751	19/32	0.5938	242	170	16	•
1480768	39/64	0.6094	242	170	16	•
1480774	5/8	0.6250	242	176	16	•

* Package Quantity: 1 per tube.

AQDEXS

AQUA Drill EX Stub

LIST 9600
LIST 9601



Work Material		Cast Irons Carbon Steels		Alloy Steels (20~30 HRC)		Mold Steels Hardened Steels (30-40 Hrc)		Hardened Steels (40-50 Hrc)		Ductile Cast Irons		Stainless Steel (300-Series Stainless)		Nickel Alloys, Titanium Alloys, PH Stainless		Aluminum Alloys		
Speed (SFM)		260-270 SFM		210-220 SFM		110-120 SFM		80-90 SFM		180-190 SFM		100-105 SFM		80-90 SFM		275-300 SFM		
Drilling Diameter																		
Drill Dia. (mm/inches)	Metric	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)
	3	0.118	8500	0.003	7000	0.003	3700	0.003	2700	0.003	6000	0.003	3200	0.002	2900	0.002	9700	0.004
	4	0.157	6500	0.004	5200	0.004	2800	0.004	2100	0.003	4400	0.004	2400	0.002	2200	0.003	7300	0.005
	5	0.197	5100	0.005	4100	0.005	2200	0.005	1600	0.004	3600	0.005	1900	0.003	1750	0.003	5900	0.006
	6	0.236	4300	0.006	3500	0.006	1800	0.006	1300	0.005	2900	0.006	1600	0.004	1450	0.004	4900	0.007
	8	0.315	3200	0.008	2600	0.008	1400	0.007	900	0.007	2200	0.008	1200	0.005	1090	0.005	3700	0.009
	10	0.394	2600	0.010	2100	0.010	1100	0.009	800	0.008	1800	0.009	1000	0.006	870	0.006	2900	0.010
	12	0.472	2100	0.011	1700	0.011	950	0.010	700	0.009	1500	0.010	800	0.006	730	0.007	2200	0.013
	14	0.551	1800	0.011	1500	0.012	800	0.011	600	0.011	1300	0.011	700	0.007	620	0.008	1900	0.013
	16	0.630	1600	0.014	1300	0.013	700	0.012	500	0.011	1100	0.013	600	0.008	550	0.009	1700	0.015

AQDEXR

AQUA DRILL EX JOBBER LENGTH

LIST 9602
LIST 9603



Work Material		Cast Irons Carbon Steels		Alloy Steels (20~30 HRC)		Mold Steels Hardened Steels (30-40 Hrc)		Hardened Steels (40-50 Hrc)		Ductile Cast Irons		Stainless Steel (300-Series Stainless)		Nickel Alloys, Titanium Alloys, PH Stainless		Aluminum Alloys		
Speed (SFM)		260-270 SFM		210-220 SFM		110-120 SFM		80-90 SFM		180-190 SFM		100-105 SFM		80-90 SFM		275-300 SFM		
Drilling Diameter																		
Drill Dia. (mm/inches)	Metric	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)
	3	0.118	8500	0.003	7000	0.003	3700	0.003	2700	0.003	6000	0.003	3200	0.002	2900	0.002	9700	0.004
	4	0.157	6500	0.004	5200	0.004	2800	0.004	2100	0.003	4400	0.004	2400	0.002	2200	0.003	7300	0.005
	5	0.197	5100	0.005	4100	0.005	2200	0.005	1600	0.004	3600	0.005	1900	0.003	1750	0.003	5900	0.006
	6	0.236	4300	0.006	3500	0.006	1800	0.006	1300	0.005	2900	0.006	1600	0.004	1450	0.004	4900	0.007
	8	0.315	3200	0.008	2600	0.008	1400	0.007	900	0.007	2200	0.008	1200	0.005	1090	0.005	3700	0.009
	10	0.394	2600	0.010	2100	0.010	1100	0.009	800	0.008	1800	0.009	1000	0.006	870	0.006	2900	0.010
	12	0.472	2100	0.011	1700	0.011	950	0.010	700	0.009	1500	0.010	800	0.006	730	0.007	2200	0.013
	14	0.551	1800	0.011	1500	0.012	800	0.011	600	0.011	1300	0.011	700	0.007	620	0.008	1900	0.013
	16	0.630	1600	0.014	1300	0.013	700	0.012	500	0.011	1100	0.013	600	0.008	550	0.009	1700	0.015

Note:

- 1) Utilize the standard drilling conditions shown in the catalogs just a general guide when starting operation.
- 2) Adjust drilling conditions if required if any vibration or unusual sound occurs when cutting.
- 3) When using low speed machines, use the maximum speed and adjust the feed rate.
- 4) Use of water soluble cutting fluid is recommended.
- 5) In case of drying drilling - use Air blow and reduce feeds/speeds by 30%

Formulas: $RPM = \frac{SFM \times 3.82}{Drill\ Dia.}$ Feed rate (in/min) : $RPM \times IPR$

AQDEXOH3D

AQUA DRILL EX OIL HOLE 3D

LIST 9604
LIST 9605



Work Material		Cast Irons Carbon Steels		Alloy Steels (20~30 HRC)		Mold Steels Hardened Steels (30-40 Hrc)		Hardened Steels (40-50 Hrc)		Ductile Cast Irons		Stainless Steel (300-Series Stainless)		Nickel Alloys, Titanium Alloys, PH Stainless		Aluminum Alloys		
Speed (SFM)		325-330 SFM		330-335 SFM		255-265 SFM		160-165 SFM		320-330 SFM		255-265 SFM		100-110 SFM		280-320 SFM		
Drilling Diameter																		
Drill Dia. (mm/inches)	Metric	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)
	3	0.118	10700	0.004	10600	0.004	8500	0.004	5300	0.002	10600	0.004	8500	0.003	3200	0.002	10500	0.004
	4	0.157	8000	0.006	8000	0.005	6400	0.005	4000	0.003	8000	0.005	6400	0.004	2400	0.003	7500	0.006
	5	0.197	6300	0.007	6400	0.006	5100	0.005	3200	0.004	6400	0.006	5100	0.005	1900	0.004	6000	0.007
	6	0.236	5300	0.008	5300	0.007	4200	0.007	2700	0.005	5300	0.007	4200	0.006	1600	0.005	5000	0.007
	8	0.315	4000	0.011	4000	0.009	3200	0.009	2000	0.006	4000	0.009	3200	0.008	1200	0.006	3700	0.010
	10	0.394	3200	0.014	3200	0.010	2500	0.010	1600	0.007	3200	0.010	2500	0.009	900	0.008	2500	0.013
	12	0.472	2650	0.017	2700	0.010	2100	0.010	1300	0.009	2700	0.010	2100	0.009	800	0.009	2100	0.015
	14	0.551	2250	0.020	2300	0.011	1800	0.012	1100	0.009	2300	0.011	1800	0.010	700	0.008	1900	0.016
	16	0.630	2000	0.022	2000	0.012	1600	0.014	1000	0.010	2000	0.012	1600	0.012	600	0.010	1700	0.017

AQDEXOH5D

AQUA DRILL EX OIL HOLE 5D

LIST 9606
LIST 9607



Work Material		Cast Irons Carbon Steels		Alloy Steels (20~30 HRC)		Mold Steels Hardened Steels (30-40 Hrc)		Hardened Steels (40-50 Hrc)		Ductile Cast Irons		Stainless Steel (300-Series Stainless)		Nickel Alloys, Titanium Alloys, PH Stainless		Aluminum Alloys		
Speed (SFM)		325-330 SFM		330-335 SFM		255-265 SFM		160-165 SFM		320-330 SFM		255-265 SFM		100-110 SFM		280-320 SFM		
Drilling Diameter																		
Drill Dia. (mm/inches)	Metric	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)
	3	0.118	10700	0.004	10600	0.004	8500	0.004	5300	0.002	10600	0.004	8500	0.003	3200	0.002	10500	0.004
	4	0.157	8000	0.006	8000	0.005	6400	0.005	4000	0.003	8000	0.005	6400	0.004	2400	0.003	7500	0.006
	5	0.197	6300	0.007	6400	0.006	5100	0.005	3200	0.004	6400	0.006	5100	0.005	1900	0.004	6000	0.007
	6	0.236	5300	0.008	5300	0.007	4200	0.007	2700	0.005	5300	0.007	4200	0.006	1600	0.005	5000	0.007
	8	0.315	4000	0.011	4000	0.009	3200	0.009	2000	0.006	4000	0.009	3200	0.008	1200	0.006	3700	0.010
	10	0.394	3200	0.014	3200	0.010	2500	0.010	1600	0.007	3200	0.010	2500	0.009	900	0.008	2500	0.013
	12	0.472	2650	0.017	2700	0.010	2100	0.010	1300	0.009	2700	0.010	2100	0.009	800	0.009	2100	0.015
	14	0.551	2250	0.020	2300	0.011	1800	0.012	1100	0.009	2300	0.011	1800	0.010	700	0.008	1900	0.016
	16	0.630	2000	0.022	2000	0.012	1600	0.014	1000	0.010	2000	0.012	1600	0.012	600	0.010	1700	0.017

Note:

- 1) Utilize the standard drilling conditions shown in the catalogs just a general guide when starting operation.
- 2) Adjust drilling conditions if required if any vibration or unusual sound occurs when cutting.
- 3) When using low speed machines, use the maximum speed and adjust the feed rate.
- 4) Use of water soluble cutting fluid is recommended.
- 5) In case of drying drilling - use Air blow and reduce feeds/speeds by 30%

Formulas: $RPM = \frac{SFM \times 3.82}{Drill\ Dia.}$ Feed rate (in/min) : $RPM \times IPR$

AQDEXOH8D

AQUA DRILL EX OIL HOLE 8D

**LIST 9608****LIST 9609**

Work Material		Cast Irons Carbon Steels		Alloy Steels (20~30 HRC)		Mold Steels Hardened Steels (30-40 Hrc)		Hardened Steels (40-50 Hrc)		Ductile Cast Irons		Stainless Steel (300-Series Stainless)		Nickel Alloys, Titanium Alloys, PH Stainless		Aluminum Alloys		
Speed (SFM)		325-330 SFM		330-335 SFM		255-265 SFM		160-165 SFM		320-330 SFM		255-265 SFM		100-110 SFM		280-320 SFM		
Drilling Diameter																		
Drill Dia. (mm/inches)	Metric	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)
	3	0.118	10700	0.004	10600	0.004	8500	0.004	5300	0.002	10600	0.004	8500	0.003	3200	0.002	10500	0.004
4	0.157	8000	0.006	8000	0.005	6400	0.005	4000	0.003	8000	0.005	6400	0.004	2400	0.003	7500	0.006	
5	0.197	6300	0.007	6400	0.006	5100	0.005	3200	0.004	6400	0.006	5100	0.005	1900	0.004	6000	0.007	
6	0.236	5300	0.008	5300	0.007	4200	0.007	2700	0.005	5300	0.007	4200	0.006	1600	0.005	5000	0.007	
8	0.315	4000	0.011	4000	0.009	3200	0.009	2000	0.006	4000	0.009	3200	0.008	1200	0.006	3700	0.010	
10	0.394	3200	0.014	3200	0.010	2500	0.010	1600	0.007	3200	0.010	2500	0.009	900	0.008	2500	0.013	
12	0.472	2650	0.017	2700	0.010	2100	0.010	1300	0.009	2700	0.010	2100	0.009	800	0.009	2100	0.015	
14	0.551	2250	0.020	2300	0.011	1800	0.012	1100	0.009	2300	0.011	1800	0.010	700	0.008	1900	0.016	
16	0.630	2000	0.022	2000	0.012	1600	0.014	1000	0.010	2000	0.012	1600	0.012	600	0.010	1700	0.017	

Note:

- 1) Utilize the standard drilling conditions shown in the catalogs just a general guide when starting operation.
- 2) Adjust drilling conditions if required if any vibration or unusual sound occurs when cutting.
- 3) When using low speed machines, use the maximum speed and adjust the feed rate.
- 4) Use of water soluble cutting fluid is recommended.
- 5) In case of drying drilling - use Air blow and reduce feeds/speeds by 30%

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

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