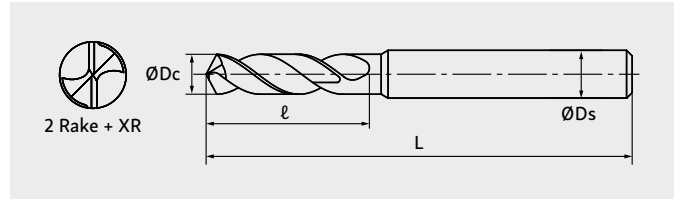


AQRVDR AquaREVO Drills Regular (5D)



VHM CARBIDE
REVO D
h7
135°
30°
h6
2.0 16.0

TOOL MATERIAL
POINT ANGLE
HELIX ANGLE

0.1 2 6 20 45 100

List: 9862

Article number	Dc	ℓ	L	Ds	Stock
9198620200	2.00	15	49	3	●
9198620205	2.05	18	49	3	●
9198620210	2.10	18	49	3	●
9198620215	2.15	18	49	3	●
9198620220	2.20	18	49	3	●
9198620225	2.25	18	49	3	●
9198620230	2.30	18	49	3	●
9198620235	2.35	18	49	3	●
9198620240	2.40	18	49	3	●
9198620245	2.45	18	49	3	●
9198620250	2.50	18	49	3	●
9198620255	2.55	20	49	3	●
9198620260	2.60	20	49	3	●
9198620265	2.65	20	49	3	●
9198620270	2.70	20	49	3	●
9198620275	2.75	20	49	3	●
9198620280	2.80	20	49	3	●
9198620285	2.85	20	49	3	●
9198620290	2.90	20	49	3	●
9198620295	2.95	20	49	3	●
9198620300	3.00	20	49	3	●
9198620305	3.05	25	60	4	●
9198620310	3.10	25	60	4	●
9198620315	3.15	25	60	4	●
9198620320	3.20	25	60	4	●
9198620325	3.25	25	60	4	●
9198620330	3.30	25	60	4	●
9198620335	3.35	25	60	4	●
9198620340	3.40	25	60	4	●
9198620345	3.45	25	60	4	●
9198620350	3.50	25	60	4	●
9198620355	3.55	28	60	4	●
9198620360	3.60	28	60	4	●

unit: mm

Article number	Dc	ℓ	L	Ds	Stock
9198620365	3.65	28	60	4	●
9198620370	3.70	28	60	4	●
9198620375	3.75	28	60	4	●
9198620380	3.80	28	60	4	●
9198620385	3.85	28	60	4	●
9198620390	3.90	28	60	4	●
9198620395	3.95	28	60	4	●
9198620400	4.00	28	60	4	●
9198620405	4.05	32	77	5	○
9198620410	4.10	32	77	5	○
9198620410-D	4.10	32	77	6	●
9198620415	4.15	32	77	5	○
9198620420	4.20	32	77	5	○
9198620420-D	4.20	32	77	6	●
9198620425	4.25	32	77	5	○
9198620430	4.30	32	77	5	○
9198620430-D	4.30	32	77	6	●
9198620435	4.35	32	77	5	○
9198620440	4.40	32	77	5	○
9198620440-D	4.40	32	77	6	●
9198620445	4.45	32	77	5	○
9198620450	4.50	32	77	5	○
9198620450-D	4.50	32	77	6	●
9198620455	4.55	39	77	5	○
9198620460	4.60	39	77	5	○
9198620460-D	4.60	39	77	6	●
9198620465	4.65	39	77	5	○
9198620470	4.70	39	77	5	○
9198620470-D	4.70	39	77	6	●
9198620475	4.75	39	77	5	○
9198620480	4.80	39	77	5	○
9198620480-D	4.80	39	77	6	●
9198620485	4.85	39	77	5	○

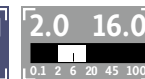
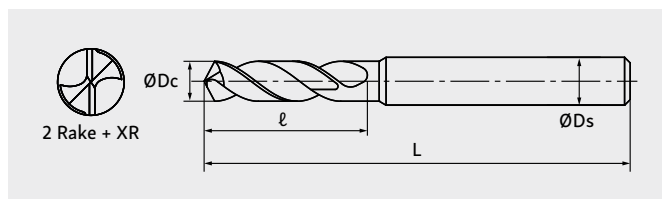
List: 9862

unit: mm

Article number	Dc	ℓ	L	Ds	Stock
9198620490	4.90	39	77	5	○
9198620490-D	4.90	39	77	6	●
9198620495	4.95	39	77	5	○
9198620500	5.00	40	77	5	○
9198620500-D	5.00	40	77	6	●
9198620505	5.05	40	82	6	●
9198620510	5.10	40	82	6	●
9198620515	5.15	40	82	6	●
9198620520	5.20	40	82	6	●
9198620525	5.25	40	82	6	●
9198620530	5.30	40	82	6	●
9198620535	5.35	40	82	6	●
9198620540	5.40	40	82	6	●
9198620545	5.45	40	82	6	●
9198620550	5.50	40	82	6	●
9198620555	5.55	42	82	6	●
9198620560	5.60	42	82	6	●
9198620565	5.65	42	82	6	●
9198620570	5.70	42	82	6	●
9198620575	5.75	42	82	6	●
9198620580	5.80	42	82	6	●
9198620585	5.85	42	82	6	●
9198620590	5.90	42	82	6	●
9198620595	5.95	42	82	6	●
9198620600	6.00	42	82	6	●
9198620610	6.10	43	84	7	○
9198620610-D	6.10	43	84	8	●
9198620620	6.20	43	84	7	○
9198620620-D	6.20	43	84	8	●
9198620630	6.30	43	84	7	○
9198620630-D	6.30	43	84	8	●
9198620640	6.40	43	84	7	○
9198620640-D	6.40	43	84	8	●
9198620650	6.50	43	84	7	○
9198620650-D	6.50	43	84	8	●
9198620660	6.60	44	84	7	○
9198620660-D	6.60	44	84	8	●
9198620670	6.70	44	84	7	○
9198620670-D	6.70	44	84	8	●
9198620680	6.80	44	84	7	○

Article number	Dc	ℓ	L	Ds	Stock
9198620680-D	6.80	44	84	8	●
9198620690	6.90	44	84	7	○
9198620690-D	6.90	44	84	8	●
9198620700	7.00	44	84	7	○
9198620700-D	7.00	44	84	8	●
9198620710	7.10	46	91	8	●
9198620720	7.20	46	91	8	●
9198620730	7.30	46	91	8	●
9198620740	7.40	46	91	8	●
9198620750	7.50	46	91	8	●
9198620760	7.60	47	91	8	●
9198620770	7.70	47	91	8	●
9198620780	7.80	47	91	8	●
9198620790	7.90	47	91	8	●
9198620800	8.00	47	91	8	●
9198620810	8.10	55	99	9	○
9198620810-D	8.10	55	99	10	●
9198620820	8.20	55	99	9	○
9198620820-D	8.20	55	99	10	●
9198620830	8.30	55	99	9	○
9198620830-D	8.30	55	99	10	●
9198620840	8.40	55	99	9	○
9198620840-D	8.40	55	99	10	●
9198620850	8.50	55	99	9	○
9198620850-D	8.50	55	99	10	●
9198620860	8.60	57	99	9	○
9198620860-D	8.60	57	99	10	●
9198620870	8.70	57	99	9	○
9198620870-D	8.70	57	99	10	●
9198620880	8.80	57	99	9	○
9198620880-D	8.80	57	99	10	●
9198620890	8.90	57	99	9	○
9198620890-D	8.90	57	99	10	●
9198620900	9.00	57	99	9	○
9198620900-D	9.00	57	99	10	●
9198620910	9.10	60	107	10	●
9198620920	9.20	60	107	10	●
9198620930	9.30	60	107	10	●
9198620940	9.40	60	107	10	●
9198620950	9.50	60	107	10	●

AQRVDR AquaREVO Drills Regular (5D)



TOOL MATERIAL

POINT ANGLE HELIX ANGLE

List: 9862

unit: mm

Article number	Dc	ℓ	L	Ds	Stock
9198620960	9.60	62	107	10	●
9198620970	9.70	62	107	10	●
9198620980	9.80	62	107	10	●
9198620990	9.90	62	107	10	●
9198621000	10.00	62	107	10	●
9198621010	10.10	68	116	11	○
9198621010-D	10.10	68	116	12	●
9198621020	10.20	68	116	11	○
9198621020-D	10.20	68	116	12	●
9198621030	10.30	68	116	11	○
9198621030-D	10.30	68	116	12	●
9198621040	10.40	68	116	11	○
9198621040-D	10.40	68	116	12	●
9198621050	10.50	68	116	11	○
9198621050-D	10.50	68	116	12	●
9198621060	10.60	70	116	11	○
9198621060-D	10.60	70	116	12	●
9198621070	10.70	70	116	11	○
9198621070-D	10.70	70	116	12	●
9198621080	10.80	70	116	11	○
9198621080-D	10.80	70	116	12	●
9198621090	10.90	70	116	11	○
9198621090-D	10.90	70	116	12	●
9198621100	11.00	70	116	11	○
9198621100-D	11.00	70	116	12	●
9198621110	11.10	73	123	12	●
9198621120	11.20	73	123	12	●
9198621130	11.30	73	123	12	●
9198621140	11.40	73	123	12	●
9198621150	11.50	73	123	12	●
9198621160	11.60	76	123	12	●
9198621170	11.70	76	123	12	●
9198621180	11.80	76	123	12	●

Article number	Dc	ℓ	L	Ds	Stock
9198621190	11.90	76	123	12	●
9198621200	12.00	76	123	12	●
9198621210	12.10	79	138	13	○
9198621210-D	12.10	79	138	14	●
9198621220	12.20	79	138	13	○
9198621220-D	12.20	79	138	14	●
9198621230	12.30	79	138	13	○
9198621230-D	12.30	79	138	14	●
9198621240	12.40	79	138	13	○
9198621240-D	12.40	79	138	14	●
9198621250	12.50	79	138	13	○
9198621250-D	12.50	79	138	14	●
9198621260	12.60	81	138	13	○
9198621260-D	12.60	81	138	14	●
9198621270	12.70	81	138	13	○
9198621270-D	12.70	81	138	14	●
9198621280	12.80	81	138	13	○
9198621280-D	12.80	81	138	14	●
9198621290	12.90	81	138	13	○
9198621290-D	12.90	81	138	14	●
9198621300	13.00	81	138	13	○
9198621300-D	13.00	81	138	14	●
9198621310	13.10	87	148	14	●
9198621320	13.20	87	148	14	●
9198621330	13.30	87	148	14	●
9198621340	13.40	87	148	14	●
9198621350	13.50	87	148	14	●
9198621360	13.60	90	148	14	●
9198621370	13.70	90	148	14	●
9198621380	13.80	90	148	14	●
9198621390	13.90	90	148	14	●
9198621400	14.00	90	148	14	●
9198621410	14.10	92	154	15	○

List: 9862

Article number	Dc	ℓ	L	Ds	Stock
9198621410-D	14.10	92	154	16	●
9198621420	14.20	92	154	15	○
9198621420-D	14.20	92	154	16	●
9198621430	14.30	92	154	15	○
9198621430-D	14.30	92	154	16	●
9198621440	14.40	92	154	15	○
9198621440-D	14.40	92	154	16	●
9198621450	14.50	92	154	15	○
9198621450-D	14.50	92	154	16	●
9198621460	14.60	94	154	15	○
9198621460-D	14.60	94	154	16	●
9198621470	14.70	94	154	15	○
9198621470-D	14.70	94	154	16	●
9198621480	14.80	94	154	15	○
9198621480-D	14.80	94	154	16	●

unit: mm

Article number	Dc	ℓ	L	Ds	Stock
9198621490	14.90	94	154	15	○
9198621490-D	14.90	94	154	16	●
9198621500	15.00	94	154	15	○
9198621500-D	15.00	94	154	16	●
9198621510	15.10	97	162	16	●
9198621520	15.20	97	162	16	●
9198621530	15.30	97	162	16	●
9198621540	15.40	97	162	16	●
9198621550	15.50	97	162	16	●
9198621560	15.60	99	162	16	●
9198621570	15.70	99	162	16	●
9198621580	15.80	99	162	16	●
9198621590	15.90	99	162	16	●
9198621600	16.00	99	162	16	●

●: German Stock | ■: DIN sizes

AQRVDS AquaREVO Drills Stub (3D)

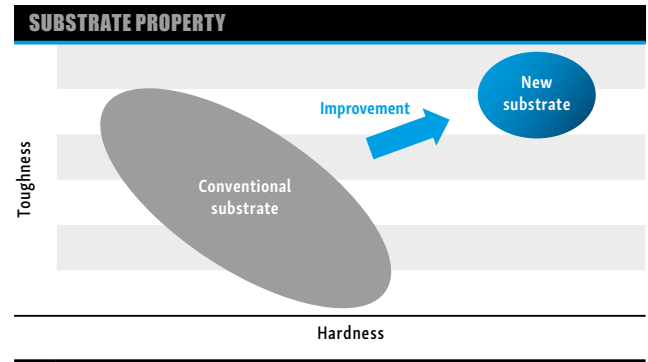
STANDARD CUTTING CONDITIONS												
Work Material	Structural Steels, Carbon Steels, Cast Irons St37-2, C50E		Alloy Steels, Heat-treated Steels 42CrMo4		Mold Steels, Hardened Steels 1.2344		Hardened Steels		Ductile Cast Irons GG/GGG	Stainless Steels 1.4301 1.4401		
	~200HB		20-30HRC		30-40HRC		40-50HRC			Rotation min ⁻¹	Feed mm/min	Rotation min ⁻¹
Drill Dia. mm	Rotation min ⁻¹	Feed mm/min	Rotation min ⁻¹	Feed mm/min	Rotation min ⁻¹	Feed mm/min	Rotation min ⁻¹	Feed mm/min	Rotation min ⁻¹	Feed mm/min	Rotation min ⁻¹	Feed mm/min
2.0	16000	1000	12700	800	7200	350	4800	190	12000	750	3200	140
3.0	10600	1100	8500	890	4800	390	3200	210	8000	830	2120	150
5.0	6400	1100	5100	890	2900	390	1900	210	4800	830	1280	150
8.0	4000	1100	3200	890	1800	390	1200	210	3000	830	800	150
10.0	3200	1050	2500	840	1400	380	1000	200	2400	800	640	150
12.0	2650	1000	2100	800	1200	350	800	190	2000	750	530	140
16.0	2000	890	1600	700	900	320	600	170	1500	660	400	120

AQRVDR AquaREVO Drills Regular (5D)

STANDARD CUTTING CONDITIONS												
Work Material	Structural Steels, Carbon Steels, Cast Irons St37-2, C50E		Alloy Steels, Heat-treated Steels 42CrMo4		Mold Steels, Hardened Steels 1.2344		Hardened Steels		Ductile Cast Irons GG/GGG	Stainless Steels 1.4301 1.4401		
	~200HB		20-30HRC		30-40HRC		40-50HRC			Rotation min ⁻¹	Feed mm/min	Rotation min ⁻¹
Drill Dia. mm	Rotation min ⁻¹	Feed mm/min	Rotation min ⁻¹	Feed mm/min	Rotation min ⁻¹	Feed mm/min	Rotation min ⁻¹	Feed mm/min	Rotation min ⁻¹	Feed mm/min	Rotation min ⁻¹	Feed mm/min
2.0	16000	900	12700	720	7200	320	4800	170	12000	680	3200	130
3.0	10600	1000	8500	810	4800	360	3200	190	8000	760	2120	140
5.0	6400	1000	5100	810	2900	360	1900	190	4800	760	1280	140
8.0	4000	1000	3200	810	1800	350	1200	190	3000	760	800	140
10.0	3200	960	2500	760	1400	340	1000	180	2400	720	640	130
12.0	2650	900	2100	720	1200	310	800	170	2000	680	530	130
16.0	2000	810	1600	650	900	290	600	150	1500	600	400	110

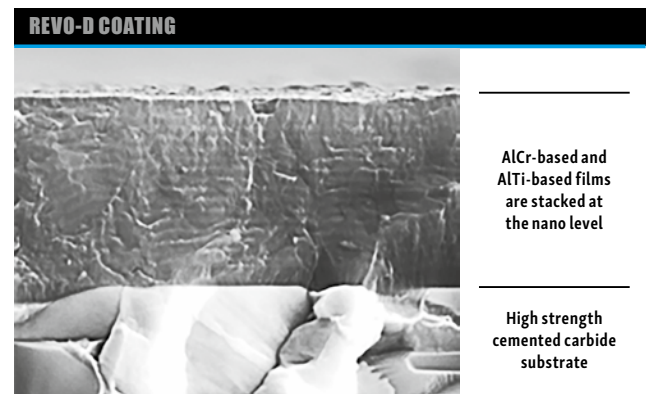
Improved Substrate

- ▶ A newly developed carbide substrate with enhanced hardness and toughness constitutes to a considerable improvement in wear- and chipping-resistance.



Newly developed Coating

- ▶ Newly developed REVO-D coating – suitable for drilling.
- ▶ AlCr-based and AlTi-based films are stacked at the nano level ensuring high oxidation resistance and wear resistance.
- ▶ Low friction and smooth chip evacuation by super smooth surface treatment.



APPLICABLE WORK MATERIALS														
Tool	Structural Steels	Carbon Steels	Alloy Steels, Heat-treated Steels	Mold Steels, Hardened Steels	Hardened Steels			Stainless Steels		Titanium Alloys	Nickel Alloys	Cast Irons	Aluminium Alloys	Copper Alloys
	St37-2	C45E	42CrMo4	30-40HRC	40-50HRC	50-57HRC	58-65HRC	1.4301/1.4401	1.4021			GG/GGG	AC/ADC	Cu
AquaREVO Drills Stub (3D)	•	•	•	•	•	○		○	○		•	•		
AquaREVO Drills Regular (5D)	•	•	•	•	•	○		○	○		•	•		

• Excellent | ○ Good

