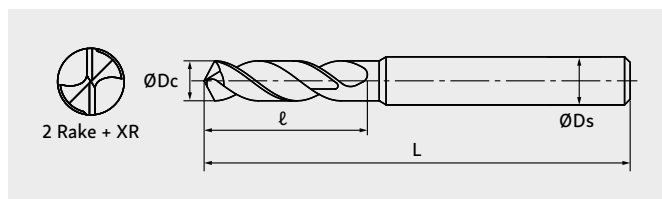


AQRVDS AquaREVO Drills Stub (3D)



List: 9860

Article number	Dc	ℓ	L	Ds	Stock
9198600200	2.00	9	45	3	●
9198600205	2.05	10	45	3	●
9198600210	2.10	11	45	3	●
9198600215	2.15	11	45	3	●
9198600220	2.20	11	45	3	●
9198600225	2.25	11	45	3	●
9198600230	2.30	11	45	3	●
9198600235	2.35	11	45	3	●
9198600240	2.40	11	45	3	●
9198600245	2.45	11	45	3	●
9198600250	2.50	11	45	3	●
9198600255	2.55	14	45	3	●
9198600260	2.60	14	45	3	●
9198600265	2.65	14	45	3	●
9198600270	2.70	14	45	3	●
9198600275	2.75	14	45	3	●
9198600280	2.80	14	45	3	●
9198600285	2.85	14	45	3	●
9198600290	2.90	14	45	3	●
9198600295	2.95	14	45	3	●
9198600300	3.00	14	45	3	●
9198600305	3.05	20	55	4	●
9198600310	3.10	20	55	4	●
9198600315	3.15	20	55	4	●
9198600320	3.20	20	55	4	●
9198600325	3.25	20	55	4	●
9198600330	3.30	20	55	4	●
9198600335	3.35	20	55	4	●
9198600340	3.40	20	55	4	●
9198600345	3.45	20	55	4	●
9198600350	3.50	20	55	4	●
9198600355	3.55	22	55	4	●
9198600360	3.60	22	55	4	●

unit: mm

Article number	Dc	ℓ	L	Ds	Stock
9198600365	3.65	22	55	4	●
9198600370	3.70	22	55	4	●
9198600375	3.75	22	55	4	●
9198600380	3.80	22	55	4	●
9198600385	3.85	22	55	4	●
9198600390	3.90	22	55	4	●
9198600395	3.95	22	55	4	●
9198600400	4.00	22	55	4	●
9198600405	4.05	24	62	5	○
9198600410	4.10	24	62	5	○
9198600410-D	4.10	24	62	6	●
9198600415	4.15	24	62	5	○
9198600420	4.20	24	62	5	○
9198600420-D	4.20	24	62	6	●
9198600425	4.25	24	62	5	○
9198600430	4.30	24	62	5	○
9198600430-D	4.30	24	62	6	●
9198600435	4.35	24	62	5	○
9198600440	4.40	24	62	5	○
9198600440-D	4.40	24	62	6	●
9198600445	4.45	24	62	5	○
9198600450	4.50	24	62	5	○
9198600450-D	4.50	24	62	6	●
9198600455	4.55	26	62	5	○
9198600460	4.60	26	62	5	○
9198600460-D	4.60	26	62	6	●
9198600465	4.65	26	62	5	○
9198600470	4.70	26	62	5	○
9198600470-D	4.70	26	62	6	●
9198600475	4.75	26	62	5	○
9198600480	4.80	26	62	5	○
9198600480-D	4.80	26	62	6	●
9198600485	4.85	26	62	5	○

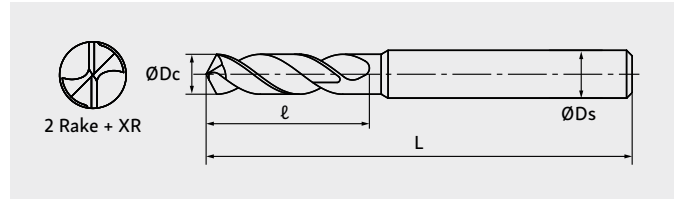
List: 9860

unit: mm

Article number	Dc	ℓ	L	Ds	Stock
9198600490	4.90	26	62	5	○
9198600490-D	4.90	26	62	6	●
9198600495	4.95	26	62	5	○
9198600500	5.00	26	62	5	○
9198600500-D	5.00	26	62	6	●
9198600505	5.05	26	66	6	●
9198600510	5.10	26	66	6	●
9198600515	5.15	26	66	6	●
9198600520	5.20	26	66	6	●
9198600525	5.25	26	66	6	●
9198600530	5.30	26	66	6	●
9198600535	5.35	26	66	6	●
9198600540	5.40	26	66	6	●
9198600545	5.45	26	66	6	●
9198600550	5.50	26	66	6	●
9198600555	5.55	28	66	6	●
9198600560	5.60	28	66	6	●
9198600565	5.65	28	66	6	●
9198600570	5.70	28	66	6	●
9198600575	5.75	28	66	6	●
9198600580	5.80	28	66	6	●
9198600585	5.85	28	66	6	●
9198600590	5.90	28	66	6	●
9198600595	5.95	28	66	6	●
9198600600	6.00	28	66	6	●
9198600610	6.10	32	74	7	○
9198600610-D	6.10	32	74	8	●
9198600620	6.20	32	74	7	○
9198600620-D	6.20	32	74	8	●
9198600630	6.30	32	74	7	○
9198600630-D	6.30	32	74	8	●
9198600640	6.40	32	74	7	○
9198600640-D	6.40	32	74	8	●
9198600650	6.50	32	74	7	○
9198600650-D	6.50	32	74	8	●
9198600660	6.60	35	74	7	○
9198600660-D	6.60	35	74	8	●
9198600670	6.70	35	74	7	○
9198600670-D	6.70	35	74	8	●
9198600680	6.80	35	74	7	○

Article number	Dc	ℓ	L	Ds	Stock
9198600680-D	6.80	35	74	8	●
9198600690	6.90	35	74	7	○
9198600690-D	6.90	35	74	8	●
9198600700	7.00	35	74	7	○
9198600700-D	7.00	35	74	8	●
9198600710	7.10	35	79	8	●
9198600720	7.20	35	79	8	●
9198600730	7.30	35	79	8	●
9198600740	7.40	35	79	8	●
9198600750	7.50	35	79	8	●
9198600760	7.60	38	79	8	●
9198600770	7.70	38	79	8	●
9198600780	7.80	38	79	8	●
9198600790	7.90	38	79	8	●
9198600800	8.00	38	79	8	●
9198600810	8.10	38	83	9	○
9198600810-D	8.10	38	83	10	●
9198600820	8.20	38	83	9	○
9198600820-D	8.20	38	83	10	●
9198600830	8.30	38	83	9	○
9198600830-D	8.30	38	83	10	●
9198600840	8.40	38	83	9	○
9198600840-D	8.40	38	83	10	●
9198600850	8.50	38	83	9	○
9198600850-D	8.50	38	83	10	●
9198600860	8.60	40	83	9	○
9198600860-D	8.60	40	83	10	●
9198600870	8.70	40	83	9	○
9198600870-D	8.70	40	83	10	●
9198600880	8.80	40	83	9	○
9198600880-D	8.80	40	83	10	●
9198600890	8.90	40	83	9	○
9198600890-D	8.90	40	83	10	●
9198600900	9.00	40	83	9	○
9198600900-D	9.00	40	83	10	●
9198600910	9.10	40	89	10	●
9198600920	9.20	40	89	10	●
9198600930	9.30	40	89	10	●
9198600940	9.40	40	89	10	●
9198600950	9.50	40	89	10	●

AQRVDS AquaREVO Drills Stub (3D)



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: 9860

Article number	Dc	ℓ	L	Ds	Stock
9198600960	9.60	43	89	10	●
9198600970	9.70	43	89	10	●
9198600980	9.80	43	89	10	●
9198600990	9.90	43	89	10	●
9198601000	10.00	43	89	10	●
9198601010	10.10	43	95	11	○
9198601010-D	10.10	43	95	12	●
9198601020	10.20	43	95	11	○
9198601020-D	10.20	43	95	12	●
9198601030	10.30	43	95	11	○
9198601030-D	10.30	43	95	12	●
9198601040	10.40	43	95	11	○
9198601040-D	10.40	43	95	12	●
9198601050	10.50	43	95	11	○
9198601050-D	10.50	43	95	12	●
9198601060	10.60	47	95	11	○
9198601060-D	10.60	47	95	12	●
9198601070	10.70	47	95	11	○
9198601070-D	10.70	47	95	12	●
9198601080	10.80	47	95	11	○
9198601080-D	10.80	47	95	12	●
9198601090	10.90	47	95	11	○
9198601090-D	10.90	47	95	12	●
9198601100	11.00	47	95	11	○
9198601100-D	11.00	47	95	12	●
9198601110	11.10	47	102	12	●
9198601120	11.20	47	102	12	●
9198601130	11.30	47	102	12	●
9198601140	11.40	47	102	12	●
9198601150	11.50	47	102	12	●
9198601160	11.60	50	102	12	●
9198601170	11.70	50	102	12	●
9198601180	11.80	50	102	12	●

unit: mm

Article number	Dc	ℓ	L	Ds	Stock
9198601190	11.90	50	102	12	●
9198601200	12.00	50	102	12	●
9198601210	12.10	50	102	13	○
9198601210-D	12.10	50	102	14	●
9198601220	12.20	50	102	13	○
9198601220-D	12.20	50	102	14	●
9198601230	12.30	50	102	13	○
9198601230-D	12.30	50	102	14	●
9198601240	12.40	50	102	13	○
9198601240-D	12.40	50	102	14	●
9198601250	12.50	50	102	13	○
9198601250-D	12.50	50	102	14	●
9198601260	12.60	52	102	13	○
9198601260-D	12.60	52	102	14	●
9198601270	12.70	52	102	13	○
9198601270-D	12.70	52	102	14	●
9198601280	12.80	52	102	13	○
9198601280-D	12.80	52	102	14	●
9198601290	12.90	52	102	13	○
9198601290-D	12.90	52	102	14	●
9198601300	13.00	52	102	13	○
9198601300-D	13.00	52	102	14	●
9198601310	13.10	53	107	14	●
9198601320	13.20	53	107	14	●
9198601330	13.30	53	107	14	●
9198601340	13.40	53	107	14	●
9198601350	13.50	53	107	14	●
9198601360	13.60	55	107	14	●
9198601370	13.70	55	107	14	●
9198601380	13.80	55	107	14	●
9198601390	13.90	55	107	14	●
9198601400	14.00	55	107	14	●
9198601410	14.10	55	110	15	○

List: 9860

Article number	Dc	ℓ	L	Ds	Stock
9198601410-D	14.10	55	110	16	●
9198601420	14.20	55	110	15	○
9198601420-D	14.20	55	110	16	●
9198601430	14.30	55	110	15	○
9198601430-D	14.30	55	110	16	●
9198601440	14.40	55	110	15	○
9198601440-D	14.40	55	110	16	●
9198601450	14.50	55	110	15	○
9198601450-D	14.50	55	110	16	●
9198601460	14.60	56	110	15	○
9198601460-D	14.60	56	110	16	●
9198601470	14.70	56	110	15	○
9198601470-D	14.70	56	110	16	●
9198601480	14.80	56	110	15	○
9198601480-D	14.80	56	110	16	●

unit: mm

Article number	Dc	ℓ	L	Ds	Stock
9198601490	14.90	56	110	15	○
9198601490-D	14.90	56	110	16	●
9198601500	15.00	56	110	15	○
9198601500-D	15.00	56	110	16	●
9198601510	15.10	56	114	16	●
9198601520	15.20	56	114	16	●
9198601530	15.30	56	114	16	●
9198601540	15.40	56	114	16	●
9198601550	15.50	56	114	16	●
9198601560	15.60	58	114	16	●
9198601570	15.70	58	114	16	●
9198601580	15.80	58	114	16	●
9198601590	15.90	58	114	16	●
9198601600	16.00	58	114	16	●

●: German Stock | ○: DIN sizes

AQRVDS AquaREVO Drills Stub (3D)

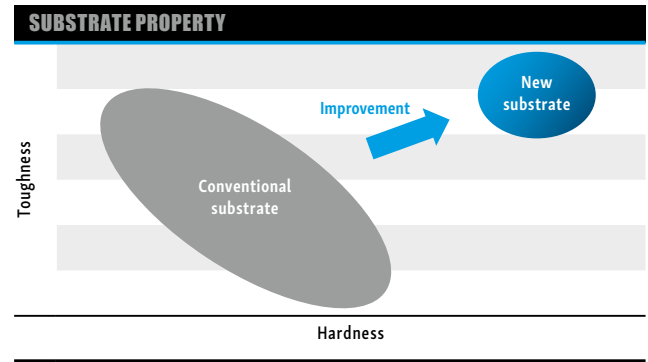
STANDARD CUTTING CONDITIONS												
Work Material	Structural Steels, Carbon Steels, Cast Irons St37-2, C50E		Alloy Steels, Heat-treated Steels 42CrMo4		Mold Steels, Hardened Steels 1.2344		Hardened Steels		Ductile Cast Irons GG/GGG	Stainless Steels 1.4301 1.4401		
	~200HB		20-30HRC		30-40HRC		40-50HRC			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

