

AQUALON

Waterjet Technology Sweden AB

ABRASIVE DIAMOND HEADS



Perfect Alignment

Cut Faster

No maintenance

Reduced operating cost



Level up with AQUALON Abrasive diamond heads

Aqualon Waterjet Abrasive Diamond Heads are cutting-edge tools designed for precision waterjet cutting applications. These heads incorporate **integrated diamond technology**, ensuring unmatched durability, cutting efficiency, and precision in the most demanding environments.

- Up to 50% faster cutting – No lost time due to constant changing of orifices
- From 10 to 20 times greater service life
- Superior edge quality due to perfect alignment every time.

Alignment

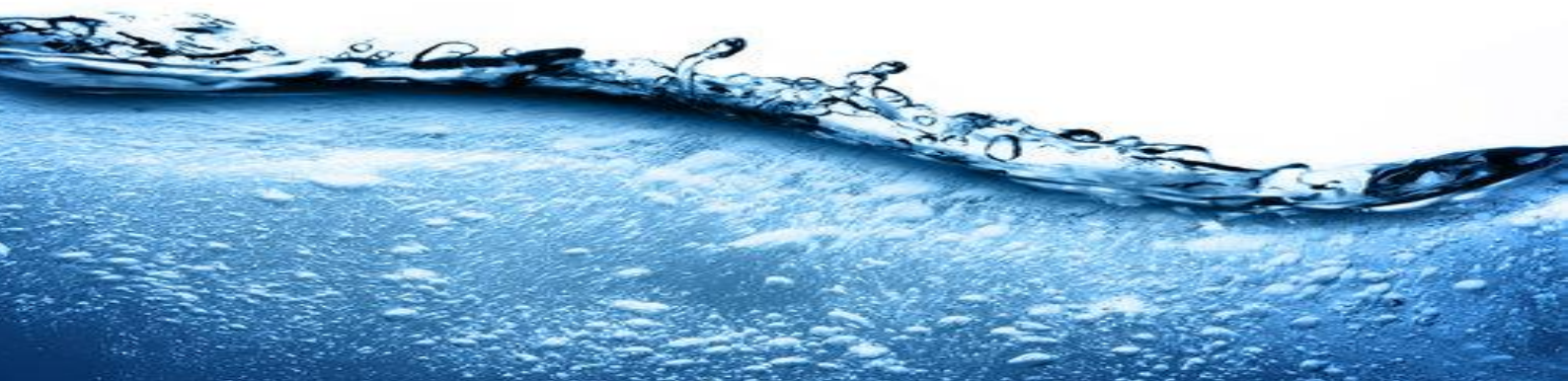
The diamond orifice is embedded, thus integral to the mixing chamber. The jet stream is precisely directed through the abrasive nozzle eliminating misalignment, Over-torquing and stack up errors.

Faster cutting speed

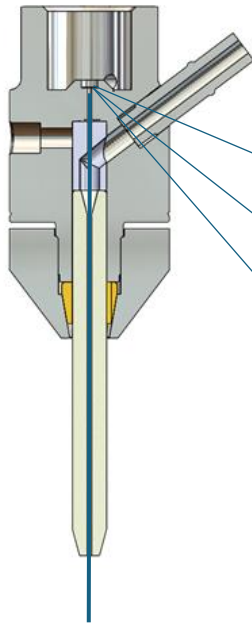
The perfect alignment between the diamond orifice and the “mixing chamber” means more power to be delivered to the cutting surface. This extends the nozzle life and **increases the cutting speed**.

Reduce operating cost

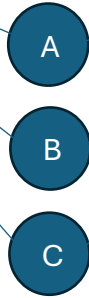
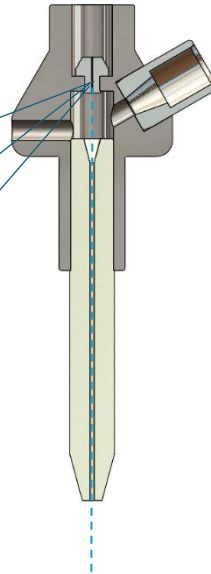
The Abrasive diamond head reduces operating costs with faster cutting, extended nozzle life and dramatically reduced downtime. That AQUALON Abrasive diamond head comes with a 500 cutting hours guarantee but most of our customers experience 1000+ hours of worry free cutting! This demands the use of a so-called short stop filter to stop debris from damaging the diamond.



Abrasive diamond head



Multiple component design



A – The AQUALON Abrasive diamond head is virtually indestructible and never needs replacing

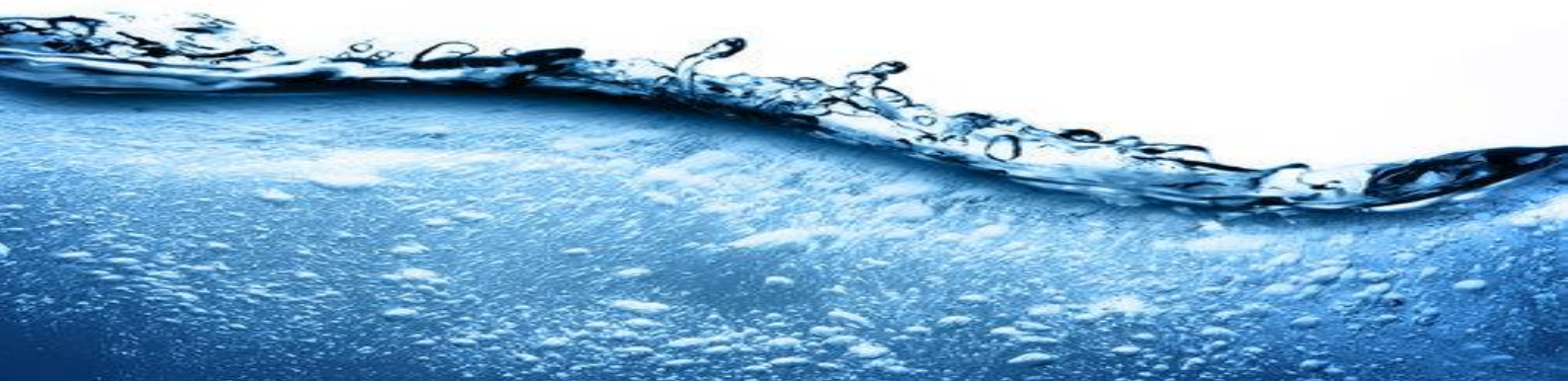
A-Sapphire and ruby orifices need to be changed every 30- 50 hours and this creates unwanted downtime.

B- The AQUALON Abrasive diamond head is integrated into the cutting head so there is 0% chance of mis-alignment. This means maximum accuracy and cutting quality.

B-Sapphire or Ruby orifice assemblies are separate from the cutting head causing mis-alignment and decreased accuracy and effectiveness

C- The AQUALON Abrasive diamond head has no orifice mount. This eliminates the need to change blown out orifices, and results in faster cutting, longer mixing tube life and superior edge quality.

C- Other waterjet designs require a separate orifice mount that needs constant replacing & is vulnerable to abrasive media; That results in shorter life for the mixing tube and slower cutting.



Choose the right size for your system!

Below chart helps you choose what Abrasive head is most suitable for your waterjet system.

Flow Rates *Water Jet Orifices* (liters / minute)

Diameter (mm)	Pressure (Bar)							
	500	1000	1500	2000	2500	3000	3500	4000
0.08	0.06	0.08	0.10	0.12	0.13	0.14	0.16	0.17
0.10	0.09	0.13	0.16	0.18	0.21	0.23	0.24	0.26
0.12	0.13	0.19	0.23	0.27	0.30	0.33	0.35	0.38
0.13	0.16	0.22	0.27	0.31	0.35	0.38	0.41	0.44
0.15	0.21	0.29	0.36	0.41	0.46	0.51	0.55	0.59
0.18	0.30	0.42	0.52	0.60	0.67	0.73	0.79	0.84
0.20	0.37	0.52	0.64	0.74	0.82	0.90	0.98	1.04
0.23	0.49	0.69	0.84	0.97	1.09	1.19	1.29	1.38
0.25	0.58	0.81	1.00	1.15	1.29	1.41	1.52	1.63
0.28	0.72	1.02	1.25	1.44	1.62	1.77	1.91	2.04
0.30	0.83	1.17	1.44	1.66	1.85	2.03	2.19	2.35
0.33	1.00	1.42	1.74	2.01	2.24	2.46	2.65	2.84
0.36	1.19	1.69	2.07	2.39	2.67	2.93	3.16	3.38

Formula :

$$Q(l / \text{min}) = D^2 \sqrt{P} \times 0.634 \times F$$



Product range:



KMT Style / 60K PSI / 4150 BAR (Replacing IDE II)

Part number	Description
11806 [20477959007]	Abrasive Diamond Head Assembly, 0,007" (0,18 mm)
11145 [20477959008]	Abrasive Diamond Head Assembly, 0,008" (0,20 mm)
10990 [20477959010]	Abrasive Diamond Head Assembly, 0,010" (0,25 mm)
11430 [20477959011]	Abrasive Diamond Head Assembly, 0,011" (0,28 mm)
11240 [20477959012]	Abrasive Diamond Head Assembly, 0,012" (0,30 mm)
11309 [20477959013]	Abrasive Diamond Head Assembly, 0,013" (0,33 mm)
11146 [20477959014]	Abrasive Diamond Head Assembly, 0,014" (0,35 mm)
12219 [20477959016]	Abrasive Diamond Head Assembly, 0,016" (0,40 mm)
12372 [20477959018]	Abrasive Diamond Head Assembly, 0,018" (0,45 mm)
12373 [20477959020]	Abrasive Diamond Head Assembly, 0,020" (0,50 mm)
11676 [20477950008]	Abrasive Diamond Head Assembly. Including SSF , 0,008" (0,20 mm)
11670 [20477950010]	Abrasive Diamond Head Assembly. Including SSF , 0,010" (0,25 mm)
11675 [20477950011]	Abrasive Diamond Head Assembly. Including SSF , 0,011" (0,28 mm)
11674 [20477950012]	Abrasive Diamond Head Assembly. Including SSF , 0,012" (0,30 mm)
11672 [20477950013]	Abrasive Diamond Head Assembly. Including SSF , 0,013" (0,33 mm)
11673 [20477950014]	Abrasive Diamond Head Assembly. Including SSF , 0,014" (0,35 mm)
11673 [20477950016]	Abrasive Diamond Head Assembly. Including SSF , 0,016" (0,40 mm)



FLOW/H2O Style / 60K PSI / 4150 BAR (Replacing IDE III)

Part number	Description
11497 [301329-1-9]	Abrasive Diamond Head Assembly, 0,009" (0,20 mm)
11479 [301329-1-10]	Abrasive Diamond Head Assembly, 0,010" (0,25 mm)
11498 [301329-1-11]	Abrasive Diamond Head Assembly, 0,011" (0,28 mm)
11499 [301329-1-12]	Abrasive Diamond Head Assembly, 0,012" (0,30mm)
11500 [301329-1-13]	Abrasive Diamond Head Assembly, 0,013" (0,33mm)
11501 [301329-1-14]	Abrasive Diamond Head Assembly, 0,014" (0,35mm)
12220 [301329-1-16]	Abrasive Diamond Head Assembly, 0,016" (0,40mm)
11685 [301329-1-9-SF]	Abrasive Diamond Head Assembly, 0,009" (0,20 mm), including SSF
11686 [301329-1-10-SF]	Abrasive Diamond Head Assembly, 0,010" (0,25 mm), including SSF
11687 [301329-1-11-SF]	Abrasive Diamond Head Assembly, 0,011" (0,28 mm), including SSF
11688 [301329-1-12-SF]	Abrasive Diamond Head Assembly, 0,012" (0,30 mm), including SSF
11689 [301329-1-13-SF]	Abrasive Diamond Head Assembly, 0,013" (0,33 mm), including SSF
11690 [301329-1-14-SF]	Abrasive Diamond Head Assembly, 0,014" (0,35 mm), including SSF
12236 [301329-1-16-SF]	Abrasive Diamond Head Assembly, 0,016" (0,40 mm), including SSF



KMT Style indexed / 90K PSI / 6200 BAR (Replacing IDE PRO)



Part number

Description

12049 [20481408]	Abrasive Diamond Head Assembly, 0,008" (0,20 mm)
12724 [20481409]	Abrasive Diamond Head Assembly, 0,009" (0,23 mm)
11903 [20481410]	Abrasive Diamond Head Assembly, 0,010" (0,25 mm)
11904 [20481411]	Abrasive Diamond Head Assembly, 0,011" (0,28 mm)
11909 [20481412]	Abrasive Diamond Head Assembly, 0,012" (0,30 mm)
11910 [20481413]	Abrasive Diamond Head Assembly, 0,013" (0,33 mm)
11911 [20481414]	Abrasive Diamond Head Assembly, 0,014" (0,35 mm)

*SFF = Short stop filter

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