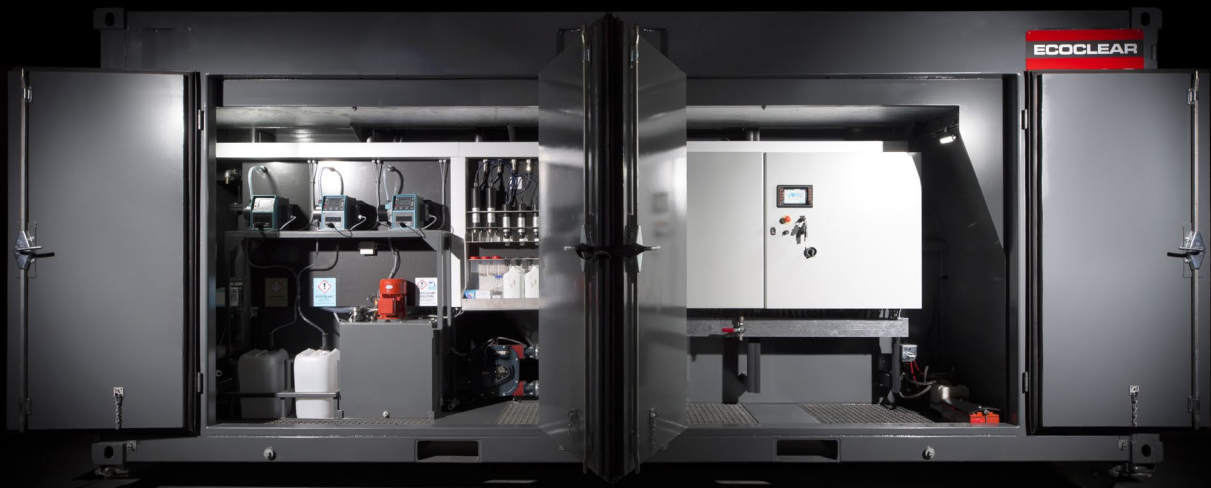


**ECOCLEAR<sup>®</sup>**

# Clean water – Clear conscience



**WATER TREATMENT SYSTEM**

**AQUAJET**



# Ecoclear

## WATER TREATMENT SYSTEM

# Green, lean, cleaning machine

The EcoClear is designed to work perfectly with our entire range of Aqua Cutter robots. It's capable of handling an impressive flow rate up to 20 m<sup>3</sup>/hour (706 ft<sup>3</sup>/hour).

With EcoClear you can neutralize elevated alkaline pH levels down to pH 6-9 while you have full control of the turbidity level down to 20-40 mg particles per liter. But that's not all. You can do all this without any kind of filters or an extra water reservoir. Perfect for your operation, amazing for the environment.

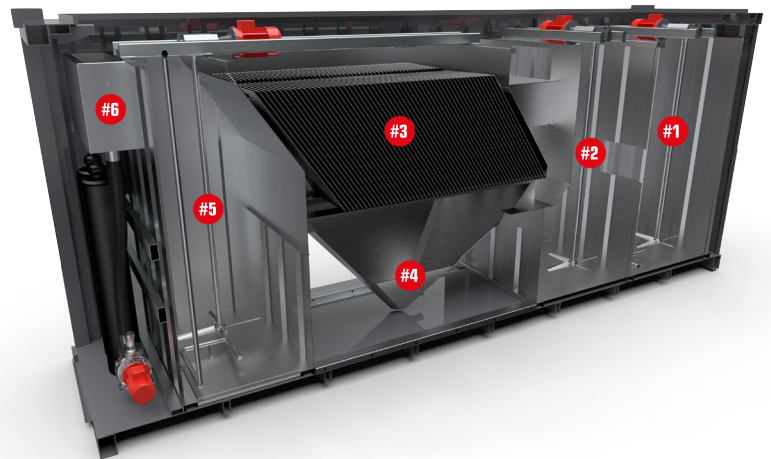
### Unique as every drop of water

The EcoClear consists of a number of water treatment chambers. In order to make this piece of water wonder work, the EcoClear uses flocculation technolo-

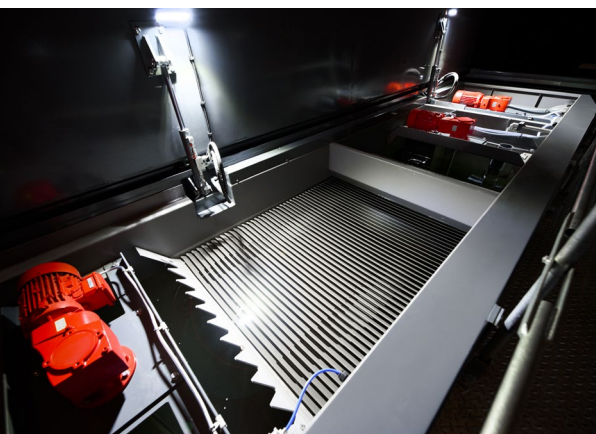
gy to remove the maximum amount of sludge from the water. The treatment unit is operator friendly, allowing you to take care of all particle sizes and weights. The whole process is easily monitored online and with the RECO control system. All in all, EcoClear is unique on the water treatment market, and truly state of the art. Imagine being able to present your customers with a print-out showing the quantity and quality of the water discharged into the environment during a contract. EcoClear makes that a reality.

## How the ecoclear works

- #1 Inlet chamber and flocculation**  
To improve the settlement characteristics, the blast water is pumped into the inlet chamber and mixed with a flocculating agent.
- #2 PH adjustment**  
Carbon dioxide, CO<sub>2</sub>, is automatically introduced via an internal diffuser to create micro bubbles in order to reduce the pH level of the blastwater.
- #3 Integrated lamella clarifier**  
Flocculated blast water passes through a clarifier where the suspended solids settle, leaving solid free water.
- #4 Sludge storage hopper**  
All settled solids are contained within the storage hopper. The solids are pumped out via an integrated pump.
- #5 Secondary pH adjustment**  
A second pH adjustment stage is often used to optimize the pH level.
- #6 Treated water monitoring tank**  
To ensure the desired pH level the treated water is continuously monitored before being discharged.



[Read more at www.aquajet.se](http://www.aquajet.se)





### The circle of water

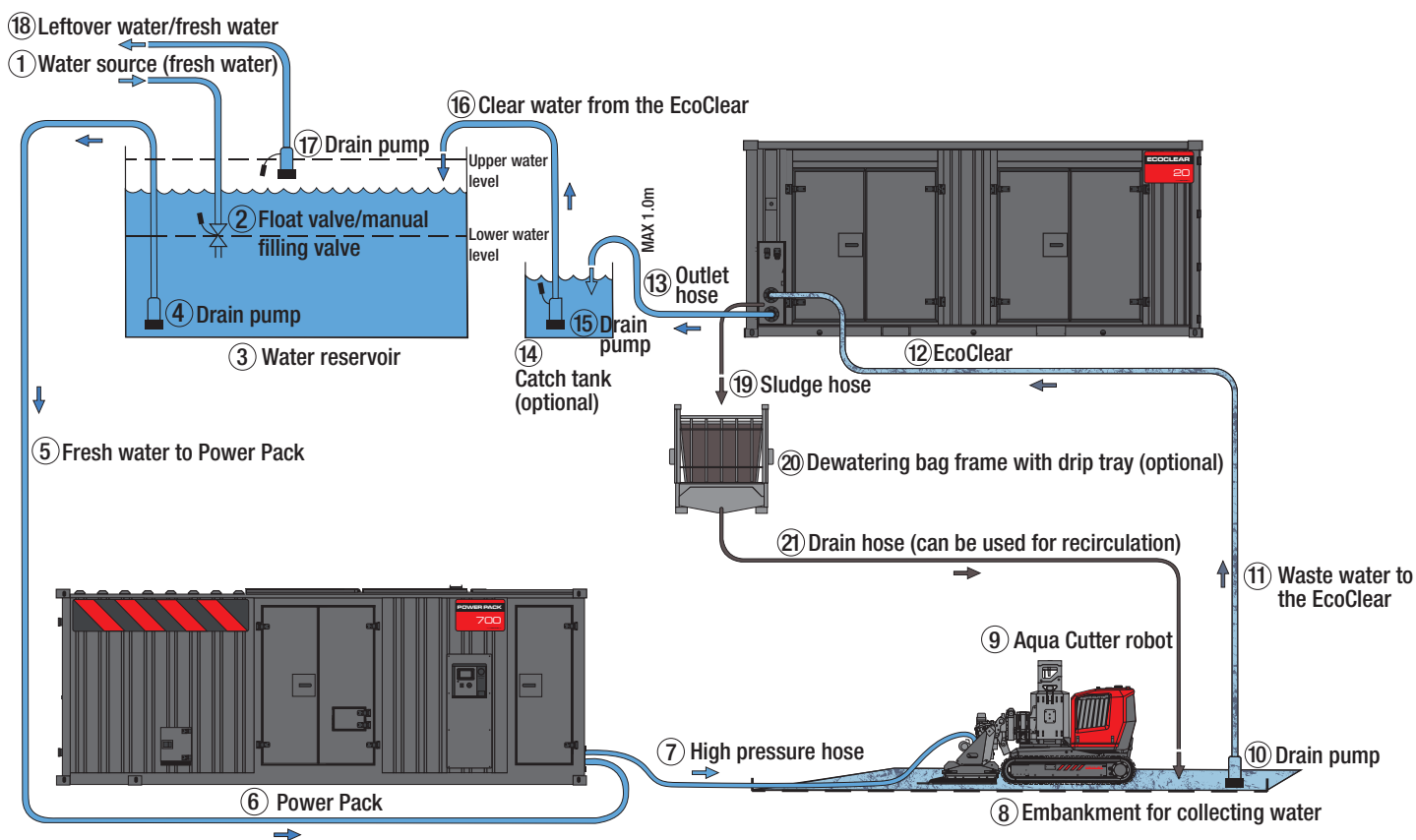
Aquajet's EcoClear water treatment system solves the problem of what to do with water used in the Hydrodemolition process. Treated water can be discharged into the environment or recirculated back to the high-pressure pump and the robot, eliminating the need for a constant fresh water source or a third-party contractor to collect and remove water.

#### Here's how it works.

The Hydrodemolition process starts with fresh water pumped into a tank. A drain pump in the tank transfers water to the Power Pack. From there, a high-pressure hose carries water to the Aqua Cutter robot that blasts away deteriorated concrete or other material. Dirty water is then collected in an embankment where another drain pump carries it to the EcoClear. Once the water is treated

and returned to a neutral pH level, it drains into a catch tank where it can be pumped back into the fresh-water tank, where the process starts over.

Some of the water evaporates during the Hydrodemolition process, but up to 90% can be collected, treated and recirculated. This results in significant cost savings compared to hiring a third-party contractor to collect and remove water, which can cost as much as \$50,000 for a one-week Hydrodemolition project.





**Ecoclear**

WATER TREATMENT SYSTEM

## Reco control system

Aquajet's RECO control system handles all monitoring and control of the EcoClear. With just a few settings, it controls and monitors everything and presents it to the operator on a clear and simple display.

Basically, you will not have to worry about water treatment, the RECO system will take care about it for you and clear the water day after day, week after week and tell you the result on the display.

### Full control

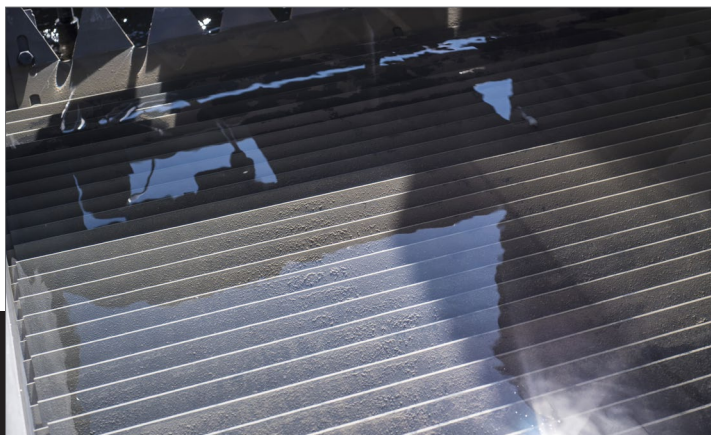
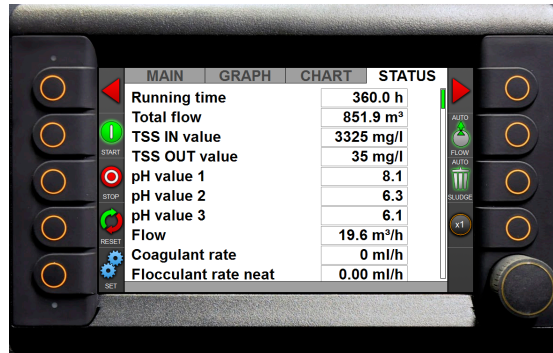
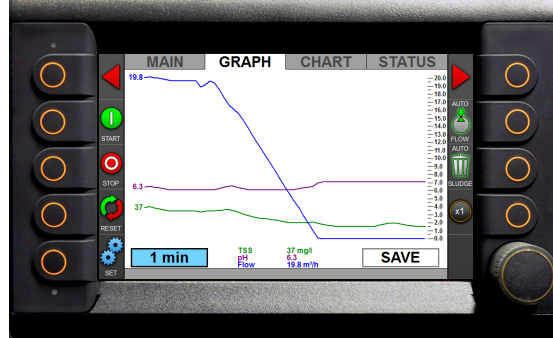
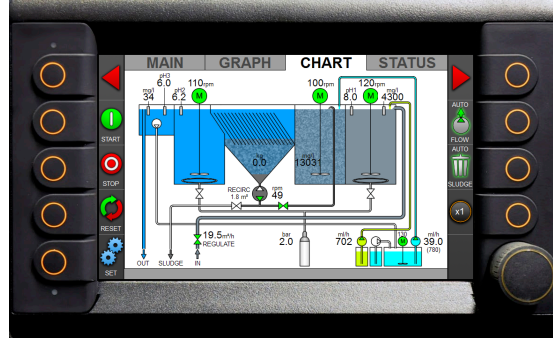
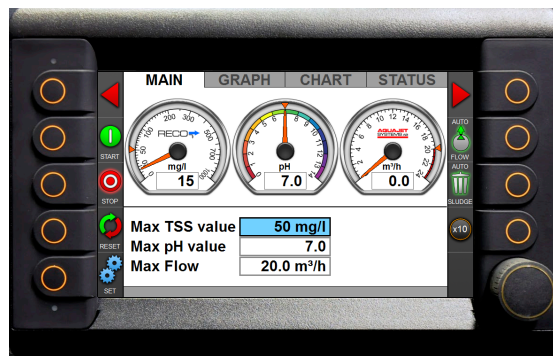
The RECO control system continuously monitors the pH levels and the turbidity levels of both the incoming and the outgoing water, making sure that the water is threaded in the most optimal way and that the discharged water fulfills the set levels.

All historical data of the outgoing water is documented and easily forwarded to third parties.

### Recognition

The graphic layout is well known from the Aqua Cutter robots and the Power Pack, making it easy to learn and recognize.

There are four different tabs where each is one step deeper into the system. The Main menu displays the most important information, but if more information is needed you can use Graph, Chart and Status menus.





### RECO control system

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### Automated pH adjustment

EcoClear uses a digital pH controller and a probe, specifically designed to monitor the incoming pH level of the Hydrodemolition blast water. If an alkaline pH is detected, the system automatically neutralizes the water to set pH value (preferably pH 6-9).

### Proportional chemical dosing

To ensure the correct dosage of chemicals, an advanced algorithm calculates the exact amount of chemicals needed for every drop of water pumped into the EcoClear. This improves the settlement characteristics of suspended solids whenever chemicals are introduced within the integrated reaction tanks.

### Insulated chemical storage

EcoClear features a frost protected waste tray for chemical spill, to contain accidental leakage. The insulated chemical storage removes the risk of any chemicals escaping from the system.

### Folding roof and integrated walkway

The folding roof and the walkway provide access for operators to safely inspect the system, whilst working on the ground or at heights.

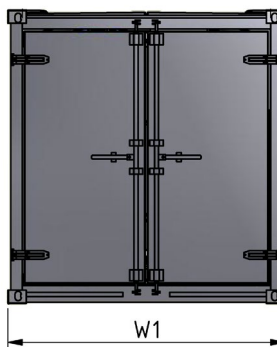
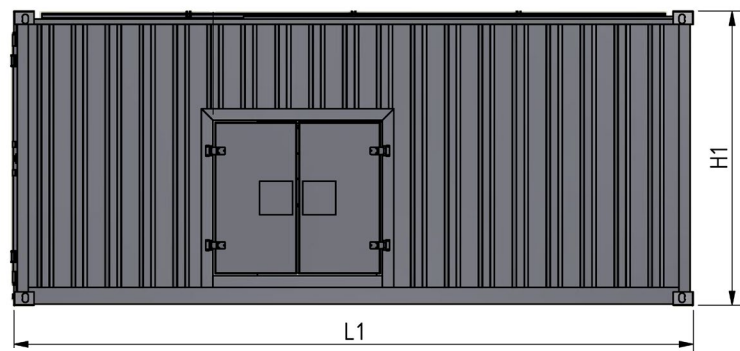
### Water quality monitoring & logging

Optical turbidity sensors and pH probes continuously monitor and record the water quality, ensuring only clear water is discharged back into the environment or recirculated back to the high-pressure pump.

If the water exceeds its required limit, the feed pump automatically shuts down to prevent dirty water from escaping. All information regarding outgoing water is stored and easily forwarded to a third party.



Capacity	20 m <sup>3</sup> /h (706 ft <sup>3</sup> /h)
pH outgoing water	6-9 pH
Turbidity outgoing water	20-40 mg/l
pH adjusters	Carbon dioxide (CO <sub>2</sub> )
Neat coagulation fluid	10-30 g/m <sup>3</sup> (0,01-0,03 oz/ft <sup>3</sup> )
Neat flocculation fluid	1,5 -3,0 g/m <sup>3</sup> (0,0015-0,003 oz/ft <sup>3</sup> )
Carbon Dioxide CO <sub>2</sub>	0,2-0,6 kg/m <sup>3</sup> (0,2-0,6 oz/ft <sup>3</sup> )
Length (L1)	6,058 m (ISO 20')
Width (W1)	2,438 m (ISO 8')
Height (H1)	2,591 m (ISO 8,5')
Approx. dry weight	8900 kg (19 621 lb)
Approx gross weight	19 900 kg (43 871 lb)
Process tank volume	12 m <sup>3</sup> (3 170 US gal)
Drive source	Electric 3-phase 15kW 400VAC 25A (Other on request)



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