

StM

Waterjet solutions

One Clean

The modular all-round system for the recycling and cleaning of abrasive and water for waterjet cutting systems.



Nobody cuts it better.

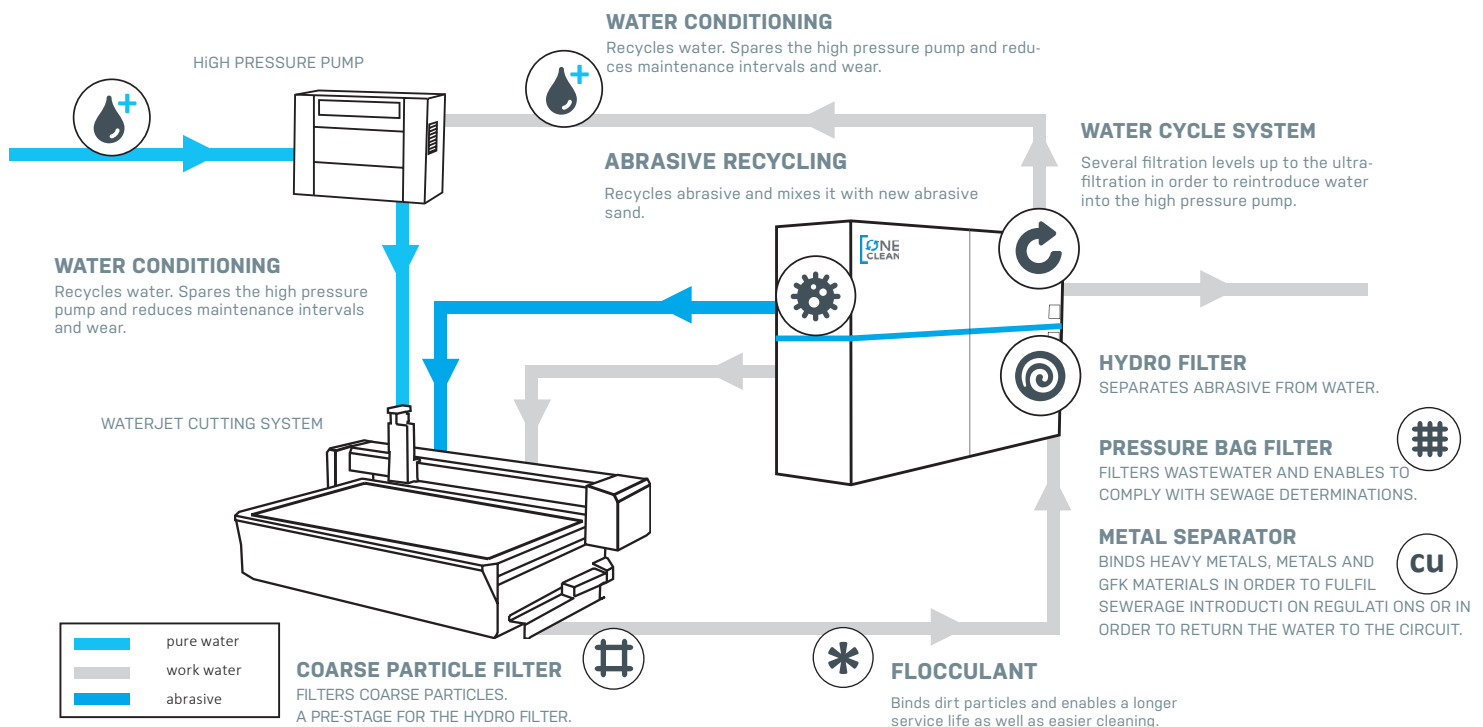
OneClean

The modular all-round system for the recycling and cleaning of abrasive and water for waterjet cutting.

Lower your operative costs and increase your profit. OneClean, the modular all-round system for recycling and cleaning abrasive and water enables even more a sustainable operation of your waterjet cutting system.

The basic idea of StM was to adjust waterjet cutting systems to the requirements of customers organically and modular, in order to our therefore cut even more economically and efficiently, is clear. The system can be put into operation with a small investment and be expanded as needed at any time.

Five correlated modules allow special adjustment of the system to individual requirements. All modules of the OneClean system are without exception high-quality brand components that StM has helped to develop. The continuous solid structure as well as a central stainless steel frame with an aluminium casing guarantee the highest wear resistance and capacity.



The modules of the OneClean system can, depending on the customer requirements, be combined and added individually. The modern process visualisation system with touch display informs about all processes at a glance.



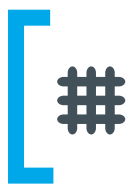
HYDRO FILTER

The OneClean Hydro Filter is the central part of the modular StM OneClean system. The module transports the water-abrasive mix out of the cutting tank using electrical pumps with highly wear-resistant coating and separates the used abrasive from the process water. Then water can subsequently be transported to the conduit with the OneClean pressure bag filter. The hydrofilter is switched automatically during the cutting process with abrasive and back off again after the cutting process at the end of a short follow-up time. The Hydro Filter sort-out separates the abrasive into the BigBag.



WATER CONDITIONING

Before the installation of StM system, the water values are analysed and compared with a specially developed stability index. With deviations, high pressure pump manufacturers recommend an appropriate treatment. The appropriate dose of the water additive is then added via the OneClean fresh water treatment.



PRESSURE BAG FILTER

The Pressure Bag Filter cleans the wastewater or serves as a pump lifting tool if the drain is not right next to the waterjet cutting system. Depending on the high pressure pump performance, approx. 100 – 200 litres of water per hour, are fed into the pressure bag filter for the cutting itself. The pressure bag filter can be integrated into the OneClean system or also used as a "stand alone" solution.



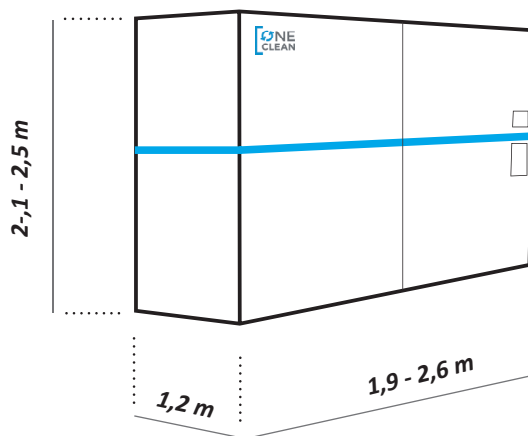
WATER CYCLE SYSTEM

The water cycle system cleans the process water so thoroughly that it can be fed into high pressure pump again without hesitation. The separation limit of less than 1 µm is achieved with the employed ultra-filtration system. There is an upstream cascade of sediment clarifiers and filters that are automatically cleaned and monitored with PLC. Water revitalisation and ultra-filtration round off the cleaning step. During the use of the water cycle system, only the water lost from evaporation needs to be replaced.



ABRASIVE RECYCLING

More than 50% of the consumed abrasive can be recycled depending on the abrasive used and on the cutting speed. That saves procurement, disposal and transportation costs. If approx. 50 tons of abrasive are being used we expect a payback period of 3-5 years approx. Recyclable portion of the used abrasive is filtered with a patented wet sifting process after the hydrofiltration stage and components that are too coarse and fine are removed. Recycling of the used abrasive is therefore quick and easy without interrupting the cutting process. The drying process is extremely energy efficient.





Waterjet solutions

OneClean Hydrofilter

- ▶ The used abrasive is separated from the process water
- ▶ Storage of the used abrasive in metal containers with removable BigBags
- ▶ Integrated weighing system shows the fill level of the Big Bags
- ▶ Can be replaced while the system is running
- ▶ Process visualisation system
- ▶ Flocculant to separate fine substances can be integrated
- ▶ Level control of the cutting tank can be integrated to water

OneClean Water Cycle System

- ▶ Liter capacity: 800 l/h
- ▶ Contamination level inlet 15 ml/l sett leable solids (equivalent to the limit value for the inlet)
- ▶ Cleaning level: up 1µm
- ▶ Controlled via central PLC
- ▶ Heavy metal separator module as well as module for glass, gypsum and plastic module possible
- ▶ Compressed air requirement: 50 l/min at 6 bar
- ▶ Low power consumption of: 2.5 kW

OneClean Water Conditioning

- ▶ Economical dosing
- ▶ Works only when water is consumed
- ▶ Efficient and inexpensive
- ▶ Without dangerous chemicals
- ▶ Without mechanical filter, no rinsing and no filter replacement

OneClean Abrasive Recycling

- ▶ More than 50% of the abrasive can be recycled
- ▶ Energy-efficient drying with 3-6 kW, quantity-controlled
- ▶ The used abrasive is mixed with new abrasive
- ▶ No dust development

StM is a leading provider of waterjet cutting systems with head offices in Eben in Pongau, Austria and Schweinfurt, Germany. For more than 25 years, the service specialist has been developing sustainable production solutions, especially for the metal, plastics, stone, composites and glass industries. Modular portal systems cover all currently possible cutting tasks in the 2D and 3D range and are characterised above all by their cost-effectiveness and flexibility. StM customers value ease of use and personal consulting. Particular emphasis is placed on cost optimisation and energy savings. The precise adjustment to customer requirements and their individual manufacturing processes enables StM to keep the total costs for the customer low.

Our solution:
Partnership, precision
and performance

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