

Information sheet

Modular filter unit

Concept

Autonomous, standardised water treatment module containing three pressure filters.

Standard filter module

Three coated steel pressure filters of 2.5m³ each, are grouped inside a standard 20ft container, with the possibility to flush the first filter automatically on timed intervals. A system of valves allows the operator to choose the order in which the filters are used. The filters can be used in series or in parallel or a combination of both.

Design capacity for the module is 10 m³/h for most contaminated waters.



Picture: standard filter module

The first filter can be flushed automatically on times intervals with both air and water, making it possible to use it as a sand filter. The other two filters can also be flushed, but not automatically.

Apart from the pump for the filters and the rinse pump for the first filter, the PLC in this module can also be used to control up to three extra pumps. All pumps are turned on and off depending on the levels in the downward and upward buffers.

A flow meter is built in to register the current flow and the total volume of water that has been treated.

Because the module is built into a 20ft container that can be locked, it is only accessible for authorized personnel, making the unit less susceptible for damage (e.g. due to weather, accidents or vandalism) and theft on exposed sites. The container will also contains small leaks should they occur.

The container is insulated, making it possible to heat it with a small heating element during winter periods.

Accessibility to the filters for maintenance or repair is assured by making it possible to open the side of the container (see picture) completely. A smaller door gives access to the PLC during normal operations.

Hatches are provided on top of the container and in the back to make the pressure filters accessible for filling and emptying.

Possible options

Since all three filters can be used in parallel, the maximum flow of the module can be increased to 30 m³/h for use as pressure filters (e.g. activated carbon) by changing the influent pump.

For use as a 30 m³/h sand filter unit, apart from the new pump, automatic valves will also have to be installed on all three filters instead of only the first. The standard filter with heavy pump can be used as a back-up for this adapted filter module, but only temporary because of the limited manual flushing of the second and third filter.

If the module is made for a specific purpose, the number of valves and piping can be reduced. This makes the module cheaper and easier to use, but reduces the flexibility compared to the standard filter module. The standard model can always be used to replace this adapted filter module.

Other adaptations like other material types for very corrosive water or a change in the PLC to include extra measurements are also possible, but restrict the interchangeability with the standard model.

Technical details

Design capacity: 10 m³/h (can be increased to 30 m³/h)

Volume filters: 2.5 m³ each

Influent pump: 4 kW, 10 m³/h at 5.5 bar

Flushing pump: 4 kW, 40 m³/h at 2.2 bar

Blower: 5.5 kW

Total installed power without extra pumps: +/- 14 kW

Weight: +/- 9 ton

Up to 8 buffers can be attached to this module.

Up to 3 extra pumps can be controlled by this module.