

# Principle of function of the *aquaPROFI* line

## Automatic self-cleaning fluid filters

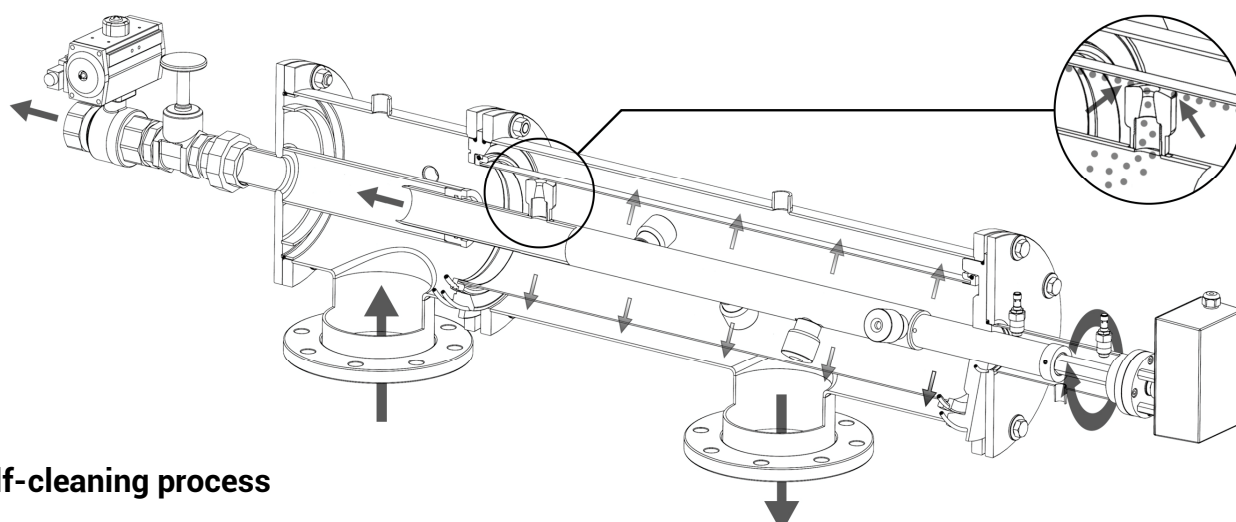
### Function

Our self-cleaning filters of the *aquaPROFI Line* function completely automatically. The filter is operated with a gear motor, driving the suction nozzle and shaft. Filter screens for this operation are available in numerous finenesses ranging from 2 to 1500  $\mu\text{m}$ .

### Filtration process

Raw water enters the filter housing through the raw water inlet and penetrates the filter screen from inside out. According to the installed screen fineness, dirt particles are held back and clean water leaves the

filter through the clean water outlet. With time, the remaining particles agglomerate on the filter screen forming a filter cake and causing a pressure drop over the filter. This differential pressure between the raw water inlet and the clean water outlet is monitored. The control unit, continuously measuring the differential pressure, triggers the self-cleaning process at any desired value. Usually the self-cleaning cycle is triggered at a pressure drop of 0.5 bars.



### Self-cleaning process

When the limit of the differential pressure is reached, the control unit triggers the self-cleaning process—the disposal of the filter cake. Alternatively, the self-cleaning cycle can be triggered by a time relay or manually on the control cabinet. The filtration process is not interrupted during the self-cleaning cycle and clean water is continuously provided.

The waste water valve opens with a certain delay after the self-cleaning process is started. The gear motor initiates and drives the suction shaft, causing the suction nozzles to rotate over the filter screen with a defined distance. Powered by the pressure difference between the operating pressure in the line and the environment behind the waste water valve, raw water streams into the suction nozzles, creates a vacuum and pulls the filter cake off the screen.

### Characteristics

- ▶ Continuous filtration without interruption during the self-cleaning process.
- ▶ Flow rates up to 350m<sup>3</sup>/h. (Depending on the configuration)
- ▶ Finenesses from 2 $\mu\text{m}$  to 500 $\mu\text{m}$ .
- ▶ Self-cleaning with a minimum operating pressure of 2.5 bar.
- ▶ **Completely automatic** triggering of the **self-cleaning process**.
- ▶ **A minimum of waste water**.
- ▶ **A modular system** enables individual adjustments and demands.
- ▶ Various **applications** like:  
Cooling water, process water, seal water, saltwater, surface water,

The filtration process is not interrupted and clean water is continuously provided!

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