

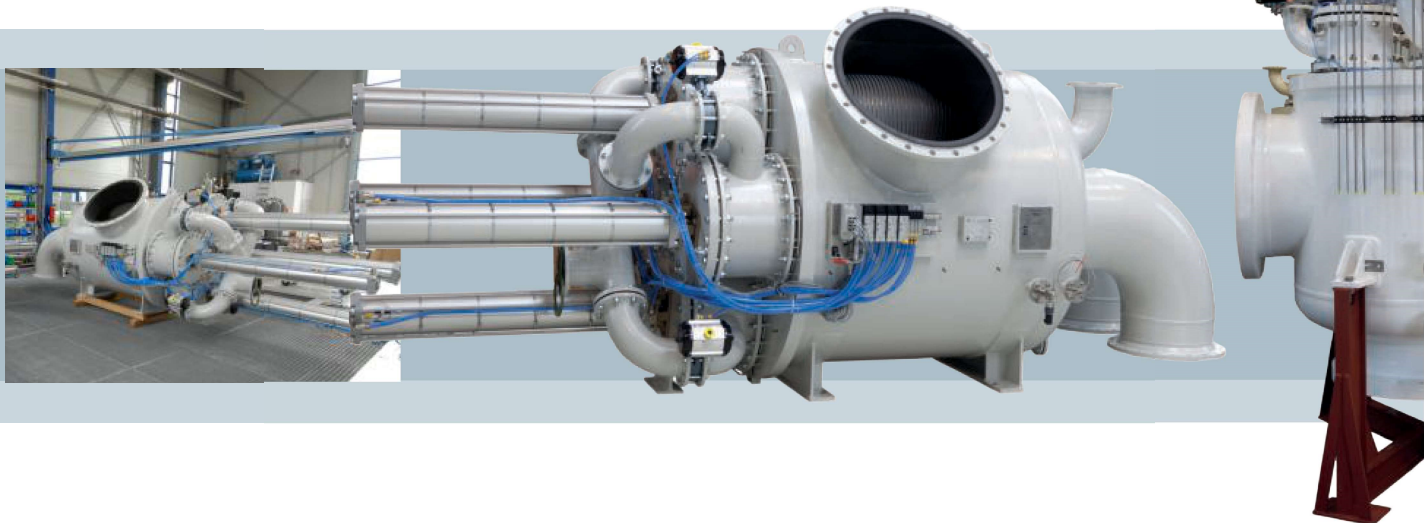
Self-Cleaning Automatic Filter F480

All industry is currently experiencing increasing needs for cooling and processing water. As a result, requirements have grown for greater efficiency in filtration and for protection of downstream plant equipment in general. This success of the F450 filters along with our continual product development has resulted in the patent protected F480 series which truly pushes the boundaries of liquid filtration. The state-of-the-art design delivers the highest available output rates up to 45,000 m³/h and connection series up to DN2000 (80") from a single compact filter.

The F480 protects your equipment from clogging, contamination and damage. Precisely controlled and fully automated, the F480 operates continuously without unplanned shutdowns. The F480 multiple Bernoulli type strainers are operated parallel in one casing, every strainer will backflush individually. This enables these filters to run at extremely low backflush rates and at mesh size down to 40 micron.

SAB offers you top quality German engineering with the accuracy and reliability of a Swiss clock - all thanks to the principle discovered by the Dutch engineer Daniel Bernoulli.

The improved electronic control unit supplied with the F480 is both easy to use and easy to monitor with an integrated touch screen that can be integrated into a distribution control system.



Self-Cleaning Automatic Filter F480

BENEFITS



- fully automatic with continuous monitoring of the operation
- cleaning of big particles and large pollution loads
- extremely high flow rates up to 45,000 m³/h
- protection against clogging and fouling
- filtration degree as low as 40 micron
- operational as low as 0,7 bar
- extremely low pressure drop
- higher pressure ratings
- less height, less footprint
- very low backflush rates
- less installation space
- lower piping costs
- easily serviceable



F480 CAST IRON

- first Bernoulli type filter for ballast water treatment
- down to 40 micron



Certification & Documentation

SAB has delivered filters to all industrial sectors. Due to our continued dedication in research and development, we are able to cover a tremendous range of applications. We have gained a good reputation for offering complete solutions to customer problems – regardless of their size.

Our business is built on quality and safety, and our work is governed by the use of the correct materials and monitored control of the manufacturing process. SAB is certified according to DIN EN ISO 9001; ISO 14001:2015 and holds membership in many national and international professional organisations.

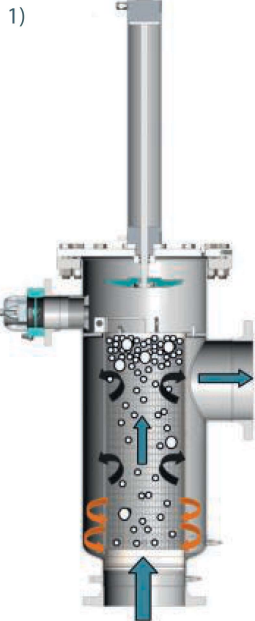
PROVEN QUALITY



INHOUSE RESEARCH & DEVELOPMENT

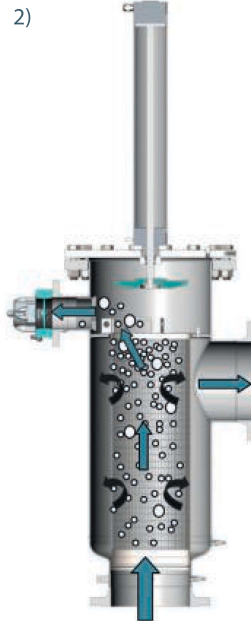


The Bernoulli - Principle



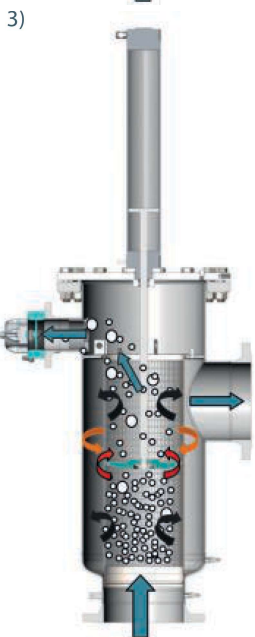
Filtration

As the fluid flows continually through the filter, particulate is trapped against the inner surface of the screen, from top to bottom. The duration of the filtration phase depends on the level of suspended solids in the fluid, the particle distribution and the flow.



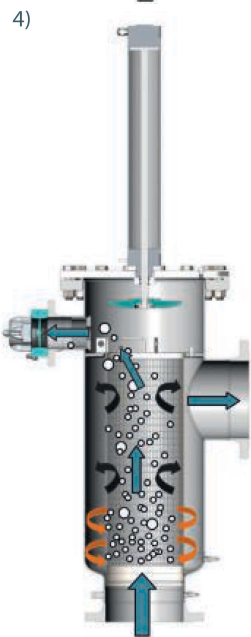
First back flush phase

Cleaning begins automatically according to a timed cycle, or after a high differential pressure signal, by the opening of the back flush valve. Flow is maintained through the filter which continues to clean the fluid, whilst at the same time a % of the fluid loosens larger and easy to remove debris from the surface of the screen and flushes this out of the filter through the back flush port.



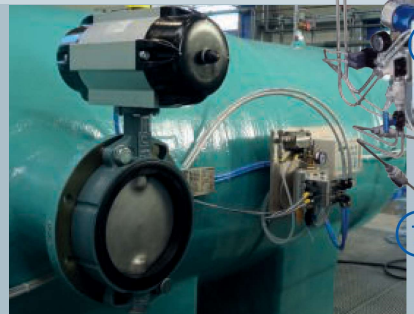
Second back flush phase

After the initial flush, the concentrated cleaning cycle begins when the flushing disc starts its travel down the inside of the filter screen. As the process fluid is forced to pass in the reduced gap between the inside of the screen and the edge of the disc, the velocity of the fluid increases (Bernoulli's principle). This increased velocity, as well as the reduced pressure drop caused by the back flush valve being open, results in a focused cleaning action as the debris is lifted off the screen and then flushed out of the filter.



Last back flush phase

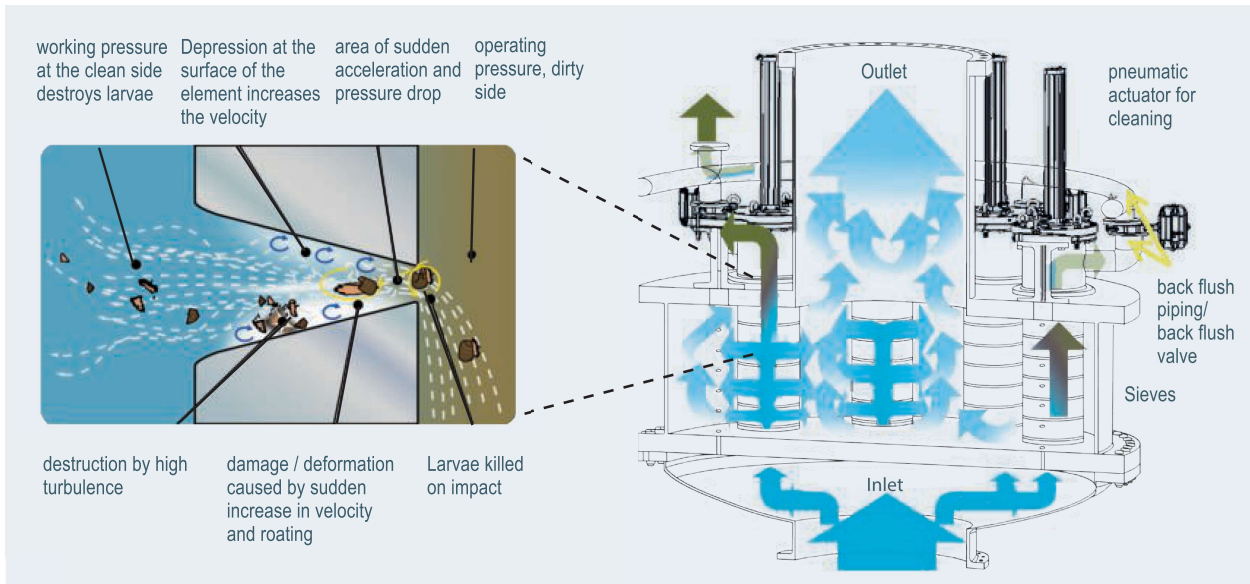
The last third of the screen is cleaned as the flushing discs begins its travel back up the filter. The disc creates a turbulence in the filter and an eddy flow as it travels back which removes any remaining debris. The flow through the filter and the filtration of particulate is maintained at all times and throughout the duration of each cleaning cycle.



F450 automatic filters for a 3 phase desalination/drinking water process

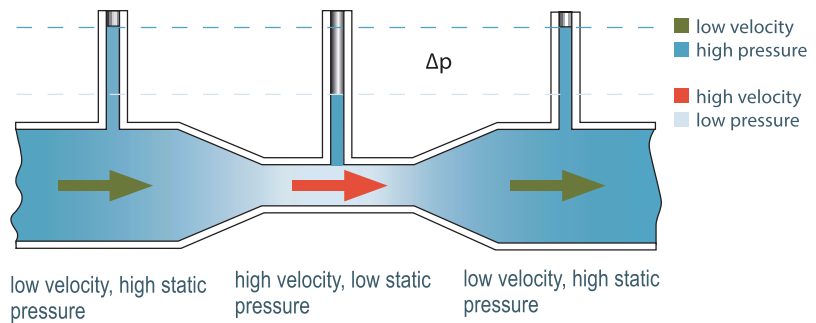
The Bernoulli - Principle

Destruction of mussels and larvae



The Bernoulli Principle:

states that for an inviscid flow, an increase in the speed of the fluid occurs simultaneously with a decrease in pressure or a decrease in the fluid's potential energy. The vertical capillary tube showing the difference Δp of the static pressure.



- 1 Inlet
- 2 Outlet
- 3 Local control panel
- 4 Back flush Valve
- 5 Pneumatic cylinder
- 6 Flushing disc
- 7 Differential pressure transmitter
- 8 Solenoid valve
- 9 Strainer
- 10 Housing



Customised solutions are our expertise

Our F450 and F480 filters can be adopted to your needs by our skilled engineers. We provide different materials for casings, customised control units, flange connections and mesh sizes. With the F480 customisation can be driven to the limit. You can choose pressure drop, backflush rate, orientation of flanges and even the sophisticated control options.



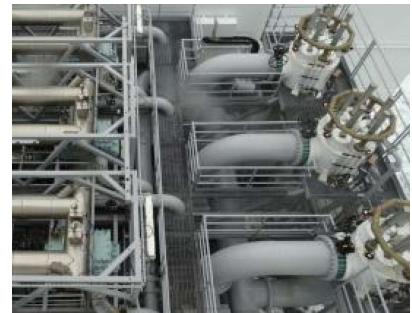
Desalination plants

SAB supplies protection for desalination plants throughout the world.



Offshore rigs

Minimum footprints make the F480 Filter the optimal solution for use on offshore rigs.



Shipbuilding

Filter systems in use for cleaning of sea and river water for onboard equipment – as well for exhausts.



Chemical industry

Protection of plate heat exchangers and in-line equipment against sand, algae, snails and mussels.



Power plants

Continuous cleaning of river and sea water for protection of plants and machinery.



Petrochemical industry

Filtration of sand, algae, snails, and mussels in all kind of waters.



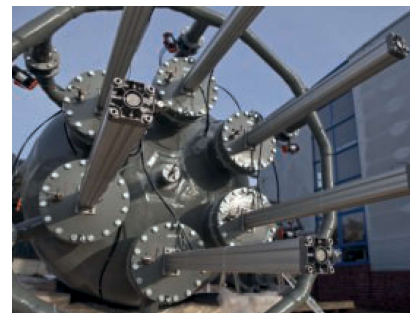
Fishfarming & Ballast water

Due to their small footprint and backflush rate F480 filters are in use on many ships.



Water treatment

The F450 is an extremely reliable filter designed for the harshest environmental conditions.



Refinery

F480 to supply cooling water into the refinery. Reliable, continuous, cost efficient, on smallest footprint.