





# FilBlue

**Backwashable self-cleaning filters**

**Model: FilBlue FBL4000**

## Backwashable self-cleaning filters **FilBlue FBL4000**

A self-cleaning filter is a type of filter specially designed to remove all suspended solids in surface waters (rivers, lakes, seas), wells and spring waters while automatically removing suspended solids inside the filter and guaranteeing:

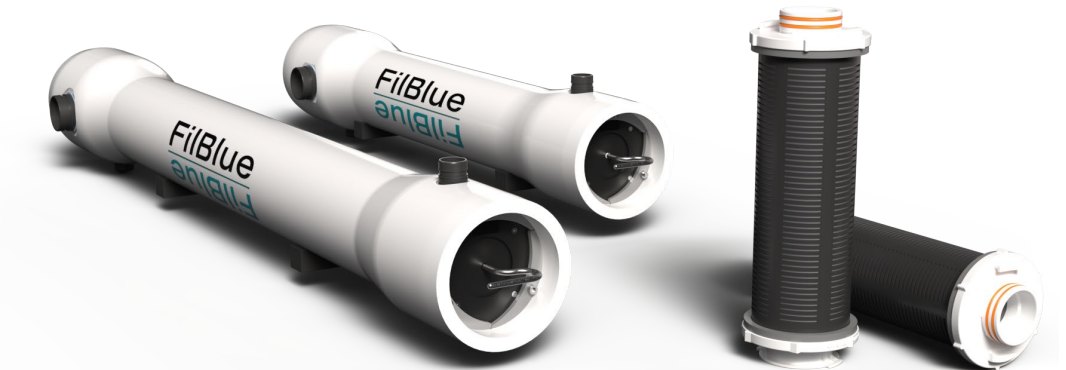
-  **Time saving**  
Eliminates or reduces the time needed to replace cartridges and filtering bags
-  **Cost saving**  
Eliminates or reduces the use of cartridges and filtering bags
-  **Reduction of investment costs**  
Self-cleaning filters are much cheaper than classical sand filters
-  **Reduced installation footprint**  
Self-cleaning filters take up less space compared to classical sand filters



The backwashable self-cleaning filters manufactured by Everblue, denominated **FilBlue FBL4000**, are used to remove particles with diameter between 800 and 50 micron inside fresh, brackish and sea water in quantities that don't exceed 100 ppm of TSS (Total Suspended Solids).

Depending on the applications, the functional limit parameters can be exceeded after verification and subsequent authorization by Everblue's technicians

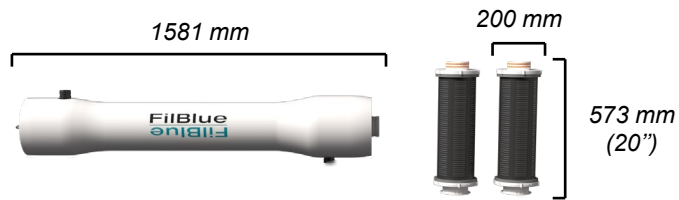
The peculiarity of Everblue backwashable self-cleaning filters is the ability, through a process called "regeneration", to rapidly clean themselves in complete autonomy using a very limited quantity of water.



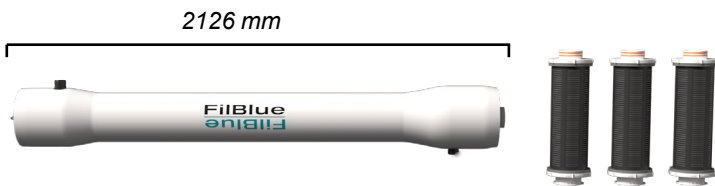
*the solutions technologically  
more advanced for the filtration  
with self-cleaning filters*

# Backwashable self-cleaning filters **FilBlue FBL4000**

**FilBlue FBL4000** backwashable self-cleaning filter are produced in different sizes:







**FilBlue FBL4000** 2x20"  
Contains 2 cartridges of 20"  
Flow rate up to 36 m<sup>3</sup>/h



**FilBlue FBL4000** 3x20"  
Contains 3 cartridges of 20"  
Flow rate up to 54 m<sup>3</sup>/h

Backwashable self-cleaning filters **FilBlue FBL4000** are made in 4 versions:

-  PVC heads (standard)  
Working pressure: 10 bar – PED
-  Stainless steel AISI 316 heads  
Working pressure: 20 bar – ASME X / ASME X STAMP
-  Double SAF 2205 heads  
Working pressure: 20 bar – ASME X / ASME X STAMP
-  Super Duplex SAF 2507 heads  
Working pressure: 20 bar – ASME X / ASME X STAMP

The main features of **FilBlue FBL4000** backwashable self-cleaning filter are:



## High Flow

*Products with lengths (2x20" e 3x20"), diameters (8"- 200mm) and connections (3"- DN80) such as to ensure flow rates from 36 m<sup>3</sup>/h to 54 m<sup>3</sup>/h*



## High pressure resistance

*Possibility to operate up to 10 bar (20 bar on request)*



## Absolute corrosion resistance

*Made with plastic (heads) and fiberglass (body) of absolute quality.*

# Why choose **FilBlue FBL4000**: structure

Backwashable self-cleaning filter **FilBlue FBL4000** are made of 3 main parts:

## 1 CARTRIDGES

The filter basket is the “operational” part of the filter, it is made entirely of plastic material (PVC) inside which there are two polypropylene drainage nets and a polyester filter net; this allows you to make the most of the entire filter surface of the basket. The filter basket retains water particles larger than 50 µm (0,05 mm) with a high efficiency of 90%.

## 2 FILTER BODY

Made of fiberglass (FRP) is perfectly compatible with all types of water. The filter body, together with the filter caps, contains the filter element (basket). The filter body ensures perfect pressure tightness (up to 10 bar).

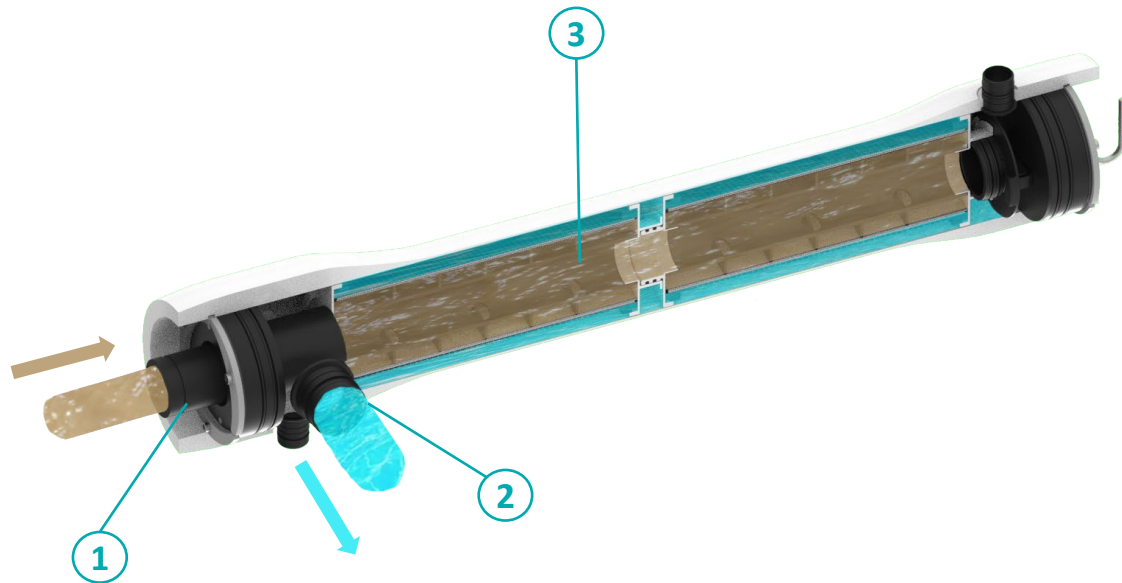
## 3 FILTER CAPS

Made of polyvinyl chloride (PVC-U) they are perfectly compatible with all types of water. The filter caps, together with the filter body, contain the filter element.



# FilBlue FBL4000 operation: work

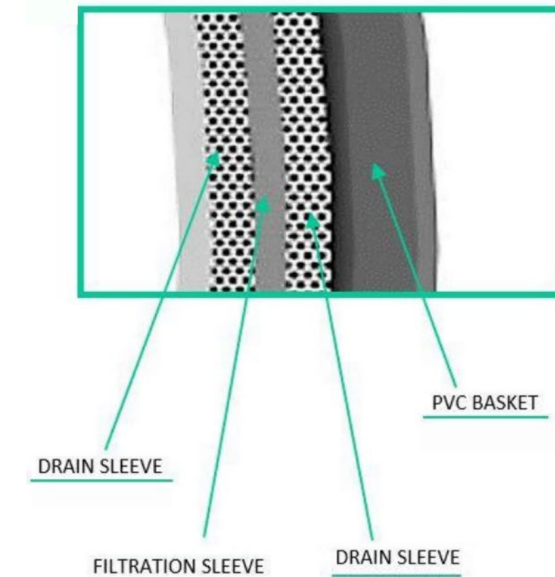
The water to be filtered enters through the inlet of the filter (1). It then filters from the internal part to the external part of the backwashable filter cartridge (3).



Foreign particles and suspended solids larger than the filtration degree of the cartridge are retained by the meshes of the filter cartridge net and accumulate progressively on it. The filtered water then comes out from the filter outlet (2).

The washable cartridge (3) consists of a micro-woven PVC basket supporting 3 different nets that allow effective and durable filtration.

- Polypropylene drainage net (placed between the PVC basket and the polyester filter net).
- Polyester filter net (carries out the filtration process)
- Spacer net (protects the filter net and maintains the correct distance between the filter net and the filter nozzle)

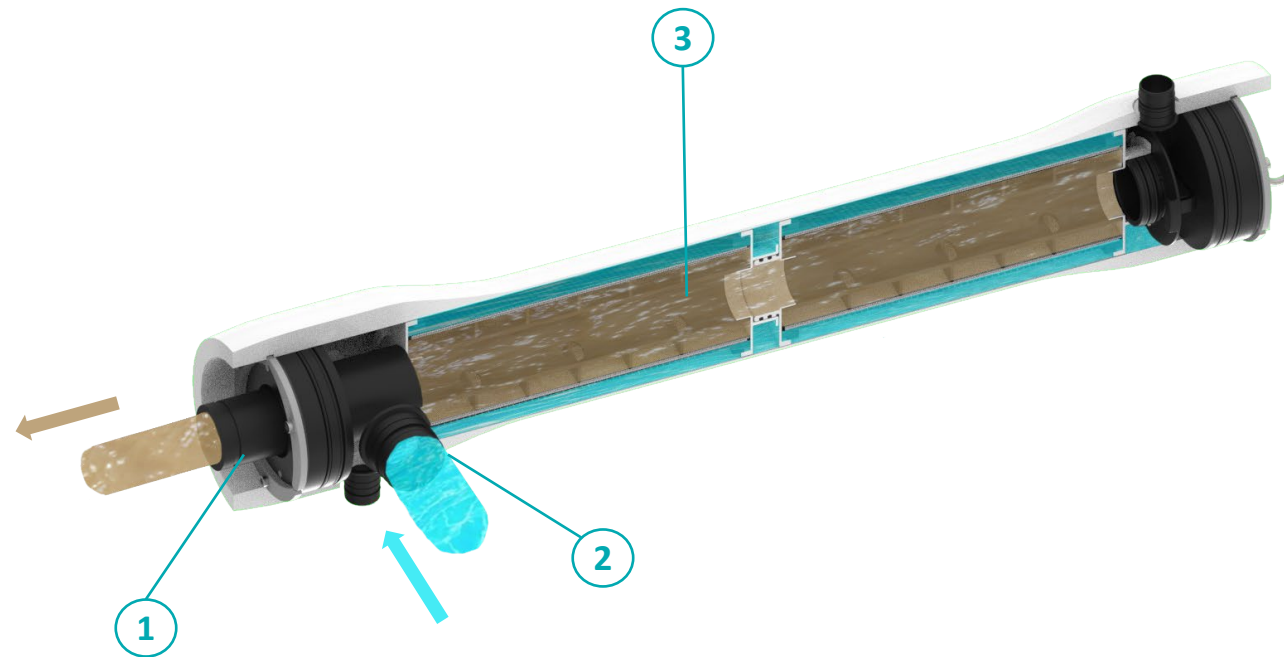


## FilBlue FBL4000 operating: backwash

The foreign particles and the suspended solids retained on the surface of the backwashable filter cartridge (3) progressively occlude the meshes of the net, increasing the pressure drop. Thus, a pressure difference ( $\Delta P$ ) will begin to exist between the inlet pressure gauge and the outlet pressure gauge. At a set value of  $\Delta P$  (variable between 0.3 ÷ 1 Bar) it is necessary to start the backwash cycle.

During this cycle, the backwash water enters first through the backwash inlet (1), then into the filter through the filter outlet (2). The flow of this water is distributed equally on the outside of the backwashable cartridge (3), then crossing it from the outside to the inside. The backwash water then comes out from the filter inlet (1).

This process causes foreign particles and suspended solids to detach from the surface of the backwash filter cartridge (3) and to be conveyed towards the backwash drain. The duration of this operation must be at least 10 seconds, at the flow rate and backwash pressure indicated in the technical data sheet of the backwashable filter. In any case, the effective duration of the backwash must be extended by a sufficient time to convey the backwash drain all the volume of water contained inside the pipeline between the filter outlet and the exhaust valve.

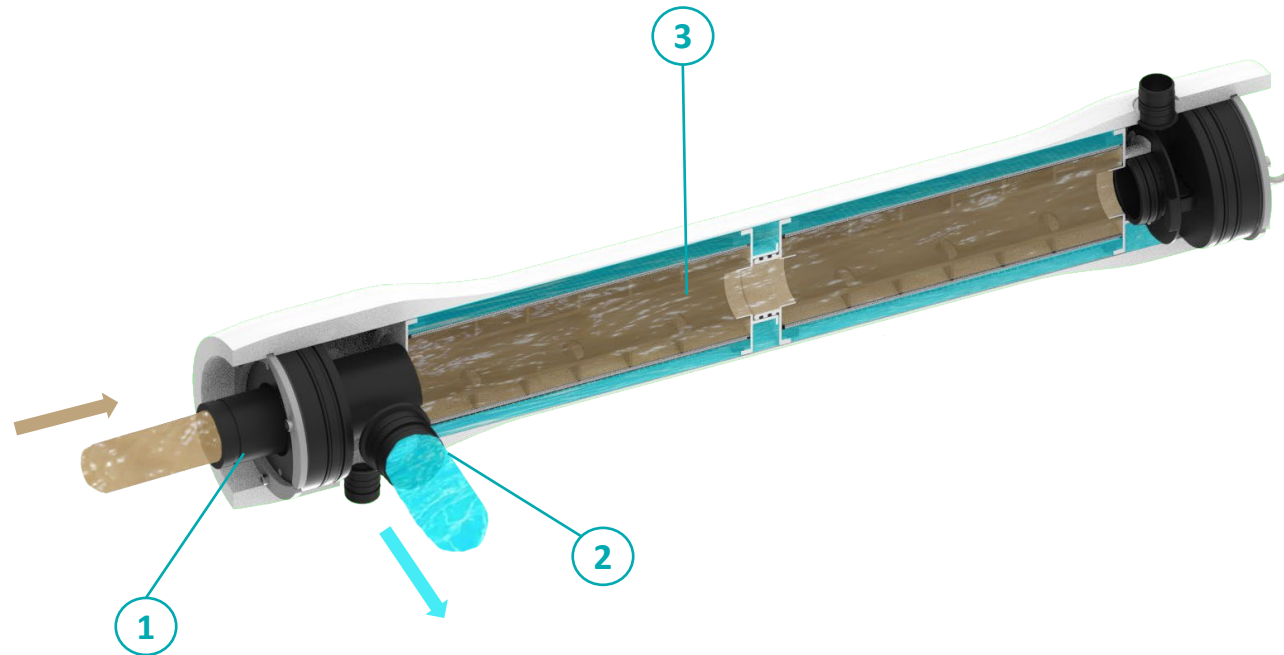


## FilBlue FBL4000 operating: rinsing

In order to avoid subsequent contamination of the filtered water downstream of the filter, it is always better to provide a rinsing phase.

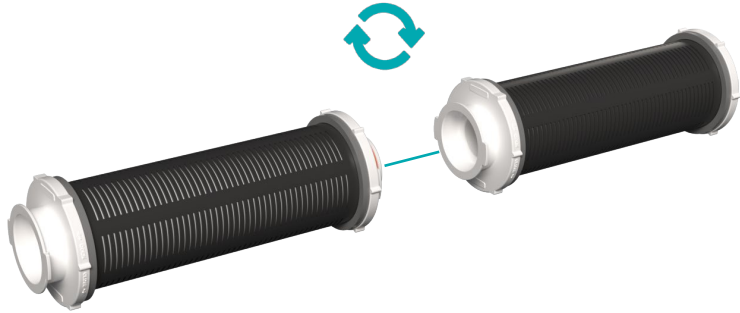
In this, the water to be filtered enters through the inlet of the filter (1). It is filtered by the backwashable filter cartridge (3) in the manner already described above. The water then exits from the filter outlet (2).

The rinsing duration must be performed at the flow rate and operating pressure of the backwashable filter. In any case, the actual duration of the described operation must be extended by a sufficient time to convey to the drain all the volume of water contained inside the pipe between the filter inlet (1) and the exhaust valve.



## Why choose **FilBlue FBL4000**: easy maintenance

- A** Insert the cartridges one on top of the other, then rotate clockwise all the way



- B** Insert the handle in the cartridges block, and turn it clockwise all the way



- C** Once the cartridges block is mounted with the appropriate handle, you can insert into the backwashable self-cleaning filter **FilBlue FBL4000**:



- D** Finally, insert the closure cap into the body of the backwashable self-cleaning filter **FilBlue FBL4000**. Lock the closing cap with the 3 tightening rings by fixing them with the respective screws:



*To remove the cartridge from the backwashable self-cleaning filter **FilBlue FBL4000** proceed in reverse with respect to installation. Inserting and removing cartridges is very easy and takes only couple of minutes.*

# Why choose FilBlue FBL4000?

## Uniqueness

Backwashable self-cleaning filters **FilBlue FBL4000** are **unique** products because:

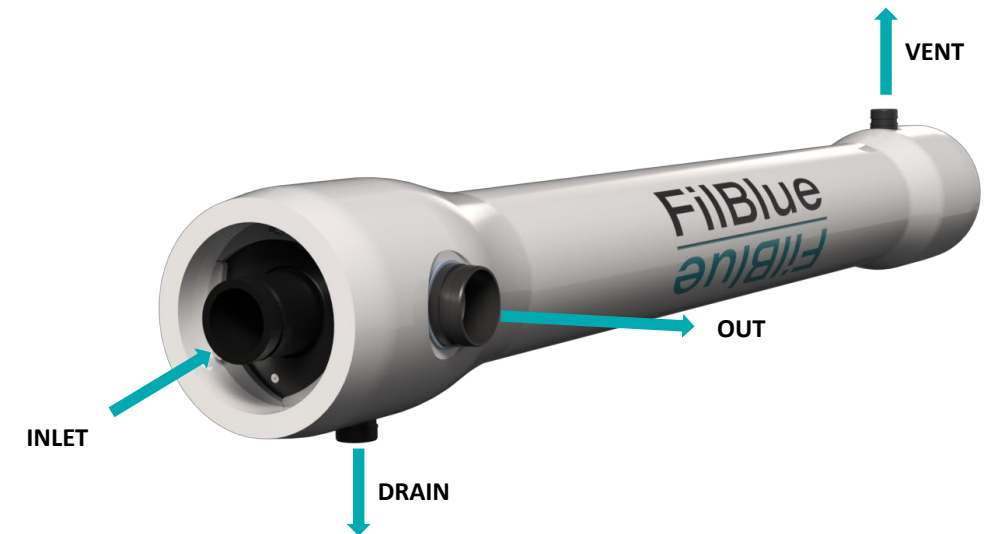
- They are the combination of the best technologies currently available on the market.
- They are produced in 2 different lengths that are easily assembled into batteries with special assembly kits (frame and manifolds).
- They are designed to accommodate a multi-layer cartridge that allows optimal filtration



## Simplicity

Backwashable self-cleaning filters **FilBlue FBL4000** are **easy** to use:

- A single operator opens and closes the **FilBlue FBL4000** container manually in a few minutes.
- The **FilBlue FBL4000** cartridges are inserted and removed quickly by coupling to one another thanks to the special bayonet mount.
- They have 4 different configurations, obtained by rotating the body and inverting the position of the caps.



# Why choose **FilBlue FBL4000**: modularity

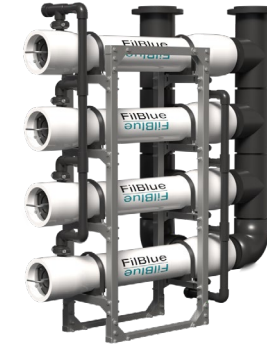
Backwashable self-cleaning filters **FilBlue FBL4000** allow the construction of ideal **modular** batteries to meet all flow rates at reduced costs.



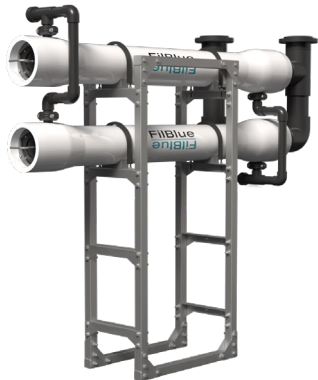
**FilBlue FBL4000**  
FBL4000-2-2RS  
Flow rate up to 72 m<sup>3</sup>/h



**FilBlue FBL4000**  
FBL4000-2-3RS  
Flow rate up to 108 m<sup>3</sup>/h



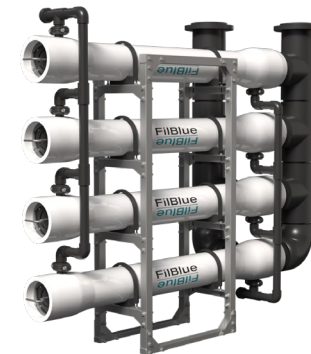
**FilBlue FBL4000**  
FBL4000-2-4RS  
Flow rate up to 144 m<sup>3</sup>/h



**FilBlue FBL4000**  
FBL4000-3-2RS  
Flow rate up to 108 m<sup>3</sup>/h



**FilBlue FBL4000**  
FBL4000-3-3RS  
Flow rate up to 162 m<sup>3</sup>/h



**FilBlue FBL4000**  
FBL4000-3-4RS  
Flow rate up to 216 m<sup>3</sup>/h

# More info



**Data Sheet**  
FBL4000



**Case History**  
FBL4000



**Technical Courses**

# Contact Us



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