

## Facts in detail:

### Technical Data

TYPE 6.18.2 BOLLFILTER Automatic / Automatic filter with filter medium backflush	
Area of application:	Filtration of water with high particle contamination
Volume flow:	9,000 m <sup>3</sup> /h max
Grade of filtration:	50 microns – 2 mm
Design pressure:	6 bar / 10 bar (higher pressure available on request)
Inlet/outlet:	DN 200, 250, 300, 350, 400, 500, 600, 700, 800, 900
Housing material:	Carbon steel or CrNi steel, fabricated
Backflush control:	Timer or differential pressure dependent
Filter elements:	Cylindrical filter candles, open at each end, with Hydrodynamic Element

## Overview and Product Selector:

### 6.18 Series BOLLFILTERS

The BOLL & KIRCH product range covers automatic backflush filters for water filtration ranging from the basic model TYPE 6.18/6.19 and the TYPE 6.18.2 Heavy Duty and TYPE 6.18.2 BWT versions through to numerous application-specific system solutions for special uses. Please note:

- TYPE 6.18/ 6.19 is suitable for all standard applications of water filtration and is more than adequate in terms of capacity, precision and reliability, even in demanding environments.
- TYPE 6.18.2 Heavy Duty represents a special solution only required in exceptional cases for extremely harsh conditions of use, such as filtration of water with very high particle contamination.
- TYPE 6.18.2 BWT is intended as a "single unit" solution exclusively for mechanical prefiltration of seawater to protect ballast water management systems on ships.

BOLL & KIRCH will be happy to help you select the best solution for your filtration requirements.



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**BOLLFILTER**  
Protection Systems

Industry & Environment

**Progress by Innovation**

**BOLLFILTER Automatic**  
**TYPE 6.18.2**

Heavy Duty



***Filtration of water with very high  
particle contamination***

# HIGH-PERFORMANCE FILTER FOR WATER TREATMENT

## The BOLLFILTER Automatic Type 6.18.2: A special filter for special applications

The new BOLLFILTER Automatic Type 6.18.2 is a back-flush filter that has been specially developed for filtering water under highly demanding conditions. Typical fields of application for this filter are **non-prefiltered river water and highly fibre-laden process water (white water) in paper manufacture.**

In order that the BOLLFILTER Automatic Type 6.18.2 can deliver optimum filtration, at very high levels of particle contamination, on contamination that is difficult to remove and at low working pressures, the proven principle of dual filtration (where cross and counterflow backflushing is generated) has been supplemented by an efficient dual backflush function. Rotating flushing arms are located both above and below the filter element assembly. The filter elements are flushed alternately (i.e. not simultaneously) with the filter medium from above and below, without any interruption to the operation. In addition, the newly developed Hydrodynamic Element results in an increase in the backflush velocity in the individual filter candle slots. Together with the dual backflush system, this results in particularly thorough flushing of the entire filter area.



Power stations,



steelworks and rolling mills,

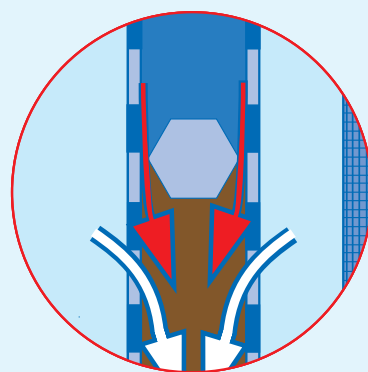


paper manufacture

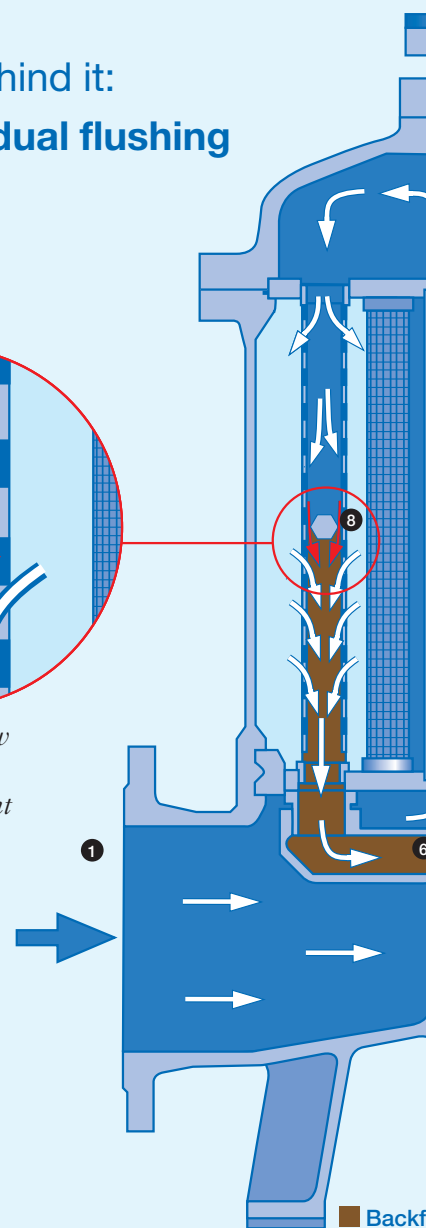


and the chemicals industry are typical areas where the BOLLFILTER Automatic 6.18.2 is used.

## The principle behind it: Dual filtration, dual flushing



*High-intensity crossflow flushing around the Hydrodynamic Element*

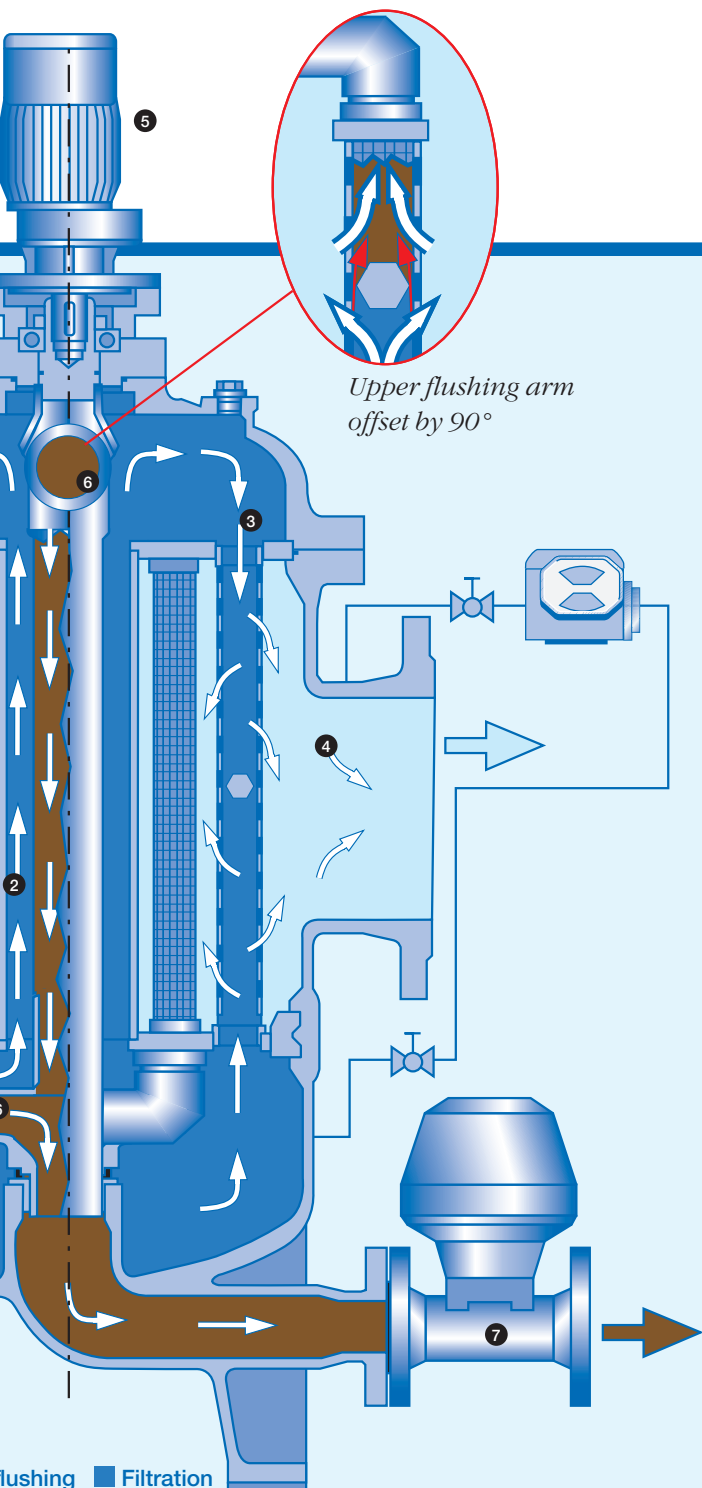


### Filtration

During filter operation, the water to be filtered enters the filter housing through the inlet flange ①. Some of the unfiltered water flow is fed via the riser ② in the filter element insert into the upper section of the filter and, as a result, into the filter elements ③ from above. This means that the water flows into the filter candle from both above and below. This results in organic and inorganic particles being captured in the inside of the filter candle. The clean water reaches the filter outlet ④ through the filter element slot.

### Backflushing

During the backflushing cycle, initiated by differential pressure and/or a timer, the filter elements, which are open



at both ends, are alternately flushed in sequence from above and below, without any interruption to the filtration operation. To achieve this, the gear motor 5 rotates the flushing arms 6 past the individual element openings. Simultaneously, the flushing valve 7 is opened. The resulting drop in pressure inside the element (system pressure to atmospheric) reverses the flow through the filter element, this flushes the captured organic and inorganic particles out of the elements. At the same time, the Hydrodynamic Element 8 located in the centre of the filter element causes the backflush velocity to increase further and disperse the backflush energy evenly over the element.

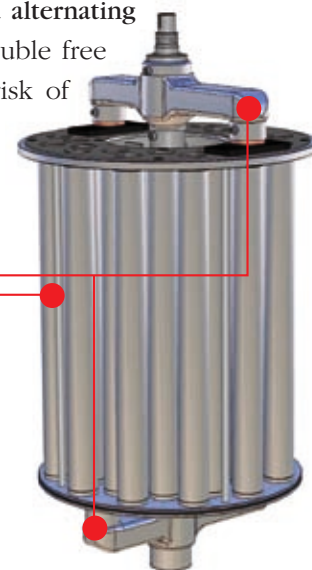
## Heavy-duty filter design: High performance for high particle contamination

The BOLLFILTER Automatic TYPE 6.18.2 impresses even under the most demanding conditions, due to its excellent precision and reliability. One of the main reasons for this is that it is equipped with specially stabilised duplex filter elements. These are open at both ends allowing the water for filtration to flow through from each end. Due to their length and increased diameter, their filter surface area is especially large. The **Hydrodynamic Element** located in the middle of the filter element results in additional increase in velocity, maximising the backflush effect. The maximised backflush effect provided by the Hydrodynamic Element and **alternating flushing function** ensure trouble free operation and reduce the risk of blocking.

Flushing arms offset by 90°

Filter elements open at both ends

*Flow simulation of dual flushing from alternate ends on a filter element with Hydrodynamic Element.*



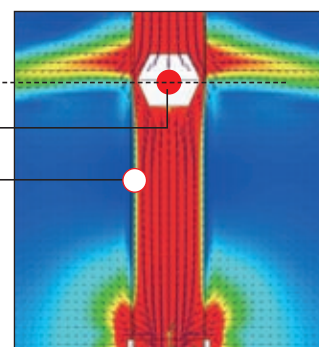
Filtration

Backflushing

Hydrodynamic Element

Filter element

*Filter element with duplex flushing device*



← Intensity of flush effect → +