

## Brackett Brieden<sup>™</sup> Automatic Backflushing Strainers

Continuous online filtration

### Key features & benefits

- ASME, Nuclear and other industry standards compliant
- Easy access for element replacement
- Automatic self-cleaning without interrupting filter flow
- Patented breathing element systems
- Suitable for remote and offshore applications

### How we create value

- Minimizing operation requirements
- Maximizing efficiency through continuous unmanned operation



# Brackett Brieden™ Automatic Backflushing Strainers

Developed and manufactured by Ovivo's specialist engineers, Brackett Brieden™ automatic backflushing strainers offer a comprehensive range of automatic industrial filters for diverse applications, ensuring a pure and reliable source of filtered fluids.

The Bracket Brieden strainer features a fully automatic self-cleaning cycle of operation for the continuous separation of impurities from water. Built to last, Bracket Brieden strainers require only simple maintenance and operation, delivering consistent performance even under difficult operating conditions. Thanks to rigorous testing and the highest quality manufacturing, Bracket Brieden strainers are suitable for the most demanding locations such as offshore platforms and remote refineries.

Ovivo's Brackett Brieden strainers comply with ASME regulations and other industry codes and standards. Filter body designs are generally based on ASME guidelines, but can also be adapted to incorporate requirements of design codes often associated with hazardous areas within Nuclear, Oil & Gas and other industries.

Filter bodies can be manufactured from carbon steel (with rubber or glass flake lining), stainless steel, or duplex / super duplex stainless steel. Filter bodies in other materials (such as titanium) can also be provided.

Filter elements are available with either Ovivo's patented breathing element design (using polypropylene wafers) or with fixed wedge wire V-gap elements. Since different process applications require different filtration techniques, Ovivo supplies separate guides for breathing and V-gap element filters. Breathing elements are generally more suited where fibrous or stick material would be difficult to backflush from wedge wire elements.

All Bracket Brieden strainers feature easy element access via a port on the top of a filter body which allows single elements to be replaced quickly and simply, eliminating the need for filter disassembly and loss of valuable operating time.



## Applications include:

- Nuclear industry
- Thermal power stations
- Pharmaceutical industry
- Offshore production platforms
- Plastics industry
- Paper processing
- Wastewater Treatment Plants (WWTPs)
- Automotive industry

## How it Works

The fluid to be filtered flows through the inlet connection into the lower half of the filter body, then upwards through the turntable (6) and into the filter elements. Flowing from the inside to the outside of the filter elements, the solids are retained within the filter candles (2). The clean fluid then leaves the filter body through the upper outlet connection.

The number of candles in each filter can be adjusted to present the maximum filtering area to the flow. This enables Brackett Brieden strainers to be applied with minimum headloss possible across the filter.

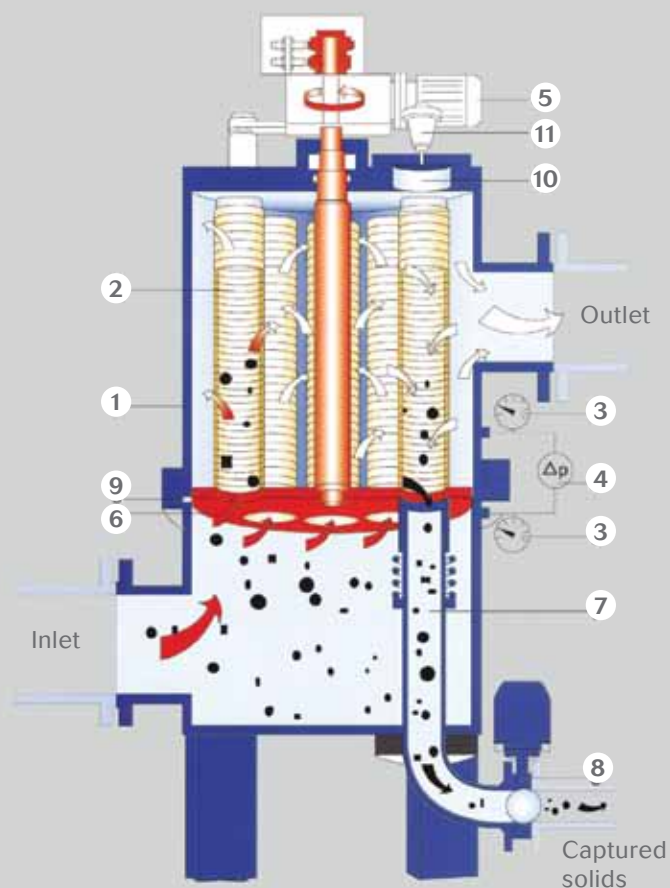
### Self-cleaning

Backflushing is triggered either by a timer or rising differential. Self-cleaning is a fully automatic process, and achieved without interrupting flow through the filter. The drive rotates the turntable and the backwash valve is opened. Each element in turn then moves across the backwash outlet pipe. The difference between atmospheric pressure and pressure inside the filter body produces a reverse flow through the filter elements, which removes any retained debris. After the backflush cycle is complete, the backwash valve then closes and the drive motor stops.

### Brackett Brieden<sup>™</sup> Strainer Key

- 1 Body
- 2 Candles
- 3 Pressure gauge
- 4 Differential pressure switch
- 5 Drive
- 6 Revolving turntable
- 7 Debris discharge pipe
- 8 Debris discharge valve
- 9 Turntable seal
- 10 Access cover
- 11 Automatic vent

### Cleaning Cycle



## Elements Guide

### Breathing Elements

Ovivo recommends breathing elements for applications in which difficult filtration problems are expected.

Extensive research and development into non-metallic elements has resulted in a patented design for polypropylene elements that has revolutionized filtration techniques.

Solids retained in the filtration elements are deposited inside the elements (Diagram 1, right).

When backflushing commences, the flow direction is reversed, with media traveling through the elements from the outside to the inside. Backflushing widens the filter gaps for a very short time – the breathing effect – allowing even the most persistent waste particles to be flushed out (Diagram 2, right).

### V-Gap Element

The traditional wedge wire filter element has also been fine-tuned to produce Ovivo's own V-Gap elements. V-Gap elements provide effective filtering for less clinging impurities, and are suitable for when coarser filtration (from 50 to 3000µm) is acceptable.

The advanced aperture shape of V-Gap elements helps to prevent media from causing blockages that are typical of standard wedge wire elements. V-Gap elements are particularly recommended for use when very high differential pressures are present.

Internal dimensions of V-Gap elements are matched to the required filtration aperture, and open in the direction of flow. This design (Diagram 1, below) means that solids and media requiring separation are received in front of the apertures. Backflushing is performed by reversing the flow and using the filtered fluid to clean the elements (Diagram 2, below).

Diagram 1. Filtration

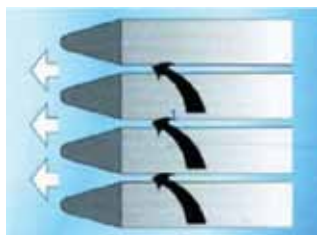


Diagram 2. Backwashing

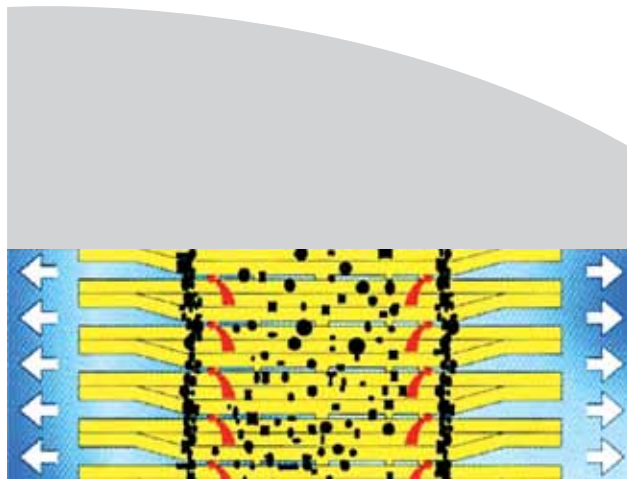
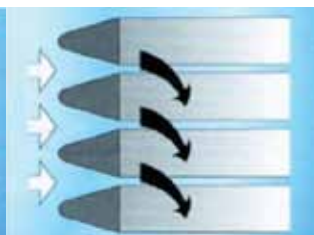


Diagram 1. The medium which is to be filtered flows through the 'breathing filter element' from the inside to the outside. All impurities with size greater than that of the selected grade of filtration are deposited inside the filter elements. The size of the gap is precisely fixed by appropriate spacers.

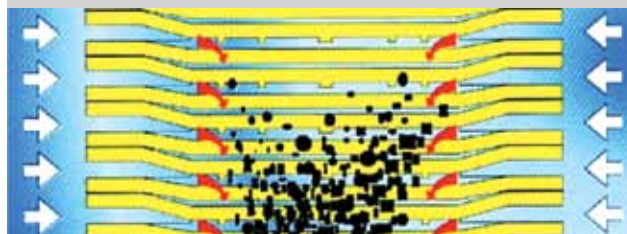


Diagram 2. The filtered medium flows through the 'breathing filter element' from the outside to the inside. The effect of this backwashing is to widen the filter gap, suddenly and for a brief period, (this is the 'breathing effect'). Even the most persistent of impurities can be backwashed and will not block the filter cartridge.