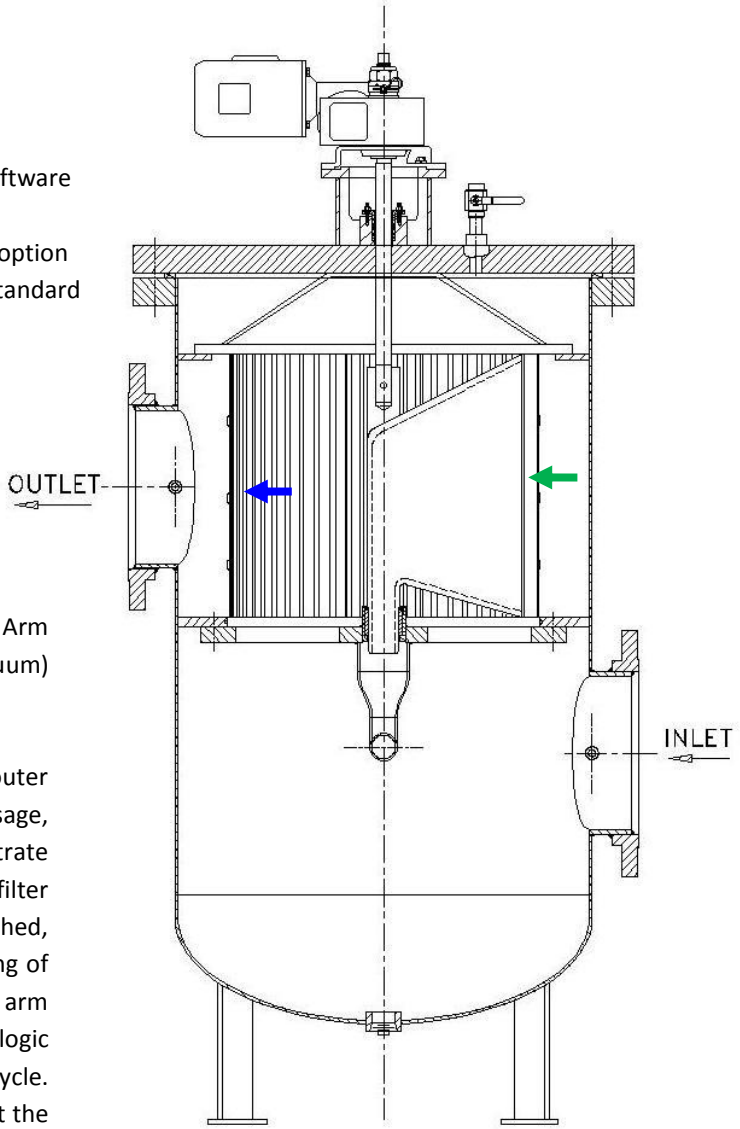
SUNGOV	BWF SERIES MODEL VABWF VACUUM ARM BACKWASH FILTER	DATASHEET: BWF-01

Features:

- For uninterrupted flow applications
- No servicing of filter element (clean in place design)
- Minimum wastage of fluid during backwash cycle
- Robust screen design with high collapse pressure
- Automated operation
- Vessel design as per ASME Sec VIII Div 1 as standard
- Vessel design by licensed Finglow™ Pressure Vessel Software
- ASME Code stamping (U Designator) as option
- Vessel design for full vacuum /steam out condition as option
- All welders qualified to ASME Sec IX latest edition as standard
- Simultaneous filtering and backwashing



Applications:

- Industrial applications like sea water, process water, cooling water, etc
- Agricultural applications like irrigation water

Mechanism:

The principle mechanism of the Automatic Vacuum Arm Backwash Filter is that of a negative pressure (vacuum) cleaning action.

During the filtering cycle, the fluid flow is from inner to outer (indicated thus ➔). The impurities, over a period of usage, clog the filter element slots gradually reducing the filtrate throughput and increasing the pressure drop across the filter element. After the stated allowable pressure drop is reached, the differential pressure switch signal actuates the opening of drain valve (to atmosphere) and rotating of the vacuum arm simultaneously. The automation is governed by the logic control on the control panel. Thus begins the backwash cycle. During the backwash cycle, due to the negative pressure at the vacuum arm (pressure differential between system pressure and atmosphere), the fluid flow is from outside to inside (indicated thus ➔).

This reverse flow dislodges the impurities clogging the filter element. Thus, an effective clean-in-place solution for clogged filter element is achieved.

A key feature of this model is that the filtering cycle is simultaneous with the backwash cycle i.e. online backwashing hence there is no interruption of flow.

Limitations:

- Mandatory wastage of fluid during backwash
- A system pressure of min. 6 bar required for efficient backwash
- Drain has to be open to atmosphere

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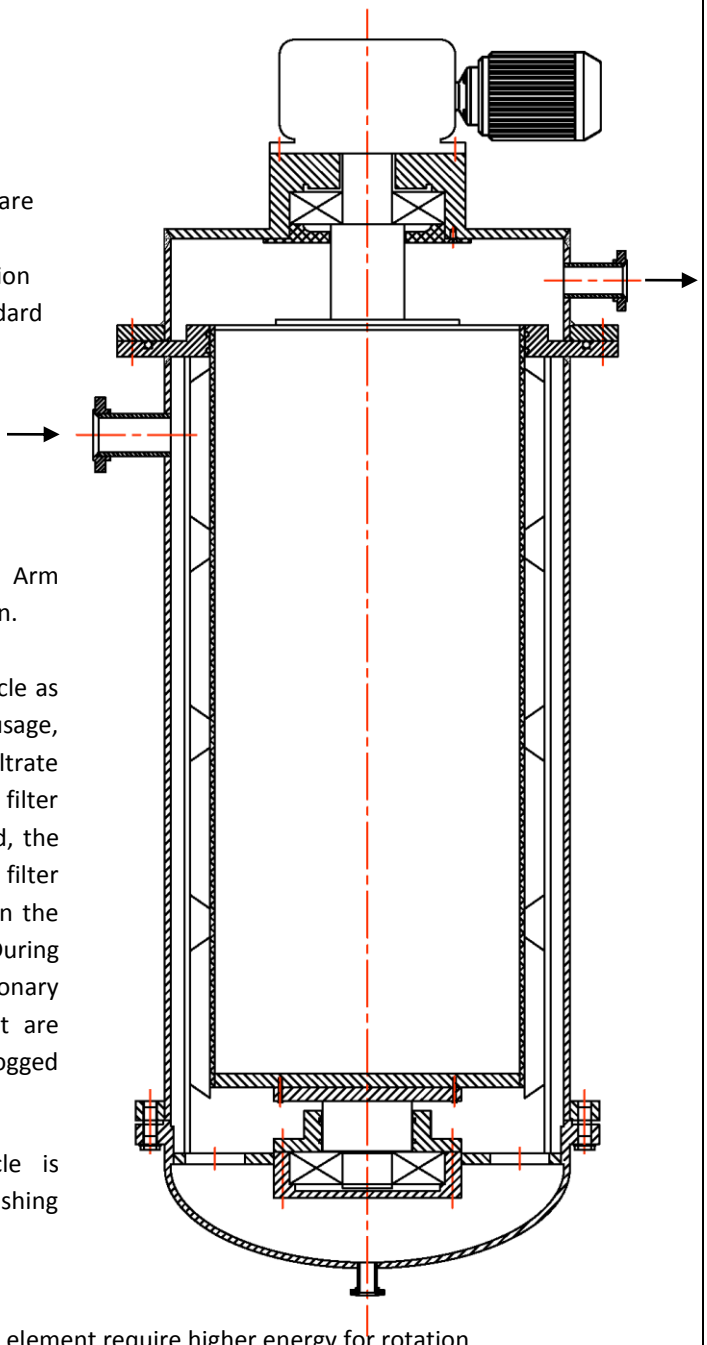
SUNGOV	BWF SERIES MODEL MABWF MECHANICAL ARM BACKWASH FILTER	DATASHEET: BWF-02

Features:

- For uninterrupted flow applications
- No servicing of filter element (clean in place design)
- No wastage of fluid during backwash cycle
- Robust screen design with high collapse pressure
- Automated operation
- Vessel design as per ASME Sec VIII Div 1 as standard
- Vessel design by licensed Finglow™ Pressure Vessel Software
- ASME Code stamping (U Designator) as option
- Vessel design for full vacuum /steam out condition as option
- All welders qualified to ASME Sec IX latest edition as standard
- Simultaneous filtering and backwashing



Applications:

- All industrial liquids with low/medium viscosity

Mechanism:

The principle mechanism of the Automatic Mechanical Arm Backwash Filter is that of a mechanical scraping cleaning action.

The fluid flow is from outer to inner for both the filtering cycle as well as the backwash cycle. The impurities, over a period of usage, clog the filter element slots gradually reducing the filtrate throughput and increasing the pressure drop across the filter element. After the stated allowable pressure drop is reached, the differential pressure switch signal actuates the rotation of the filter element. The automation is governed by the logic control on the control panel. Thus begins the backwash (cleaning) cycle. During the backwash cycle, due to the scraping action of the stationary mechanical arm, the impurities clogging the filter element are dislodged. Thus, an effective clean-in-place solution for clogged filter element is achieved.

A key feature of this model is that the filtering cycle is simultaneous with the backwash cycle i.e. online backwashing hence there is no interruption of flow.

Limitations:

- Scalability to large sizes are expensive as the heavier filter element require higher energy for rotation
- Spares inventory quantity as well as cost is higher as compared to other models

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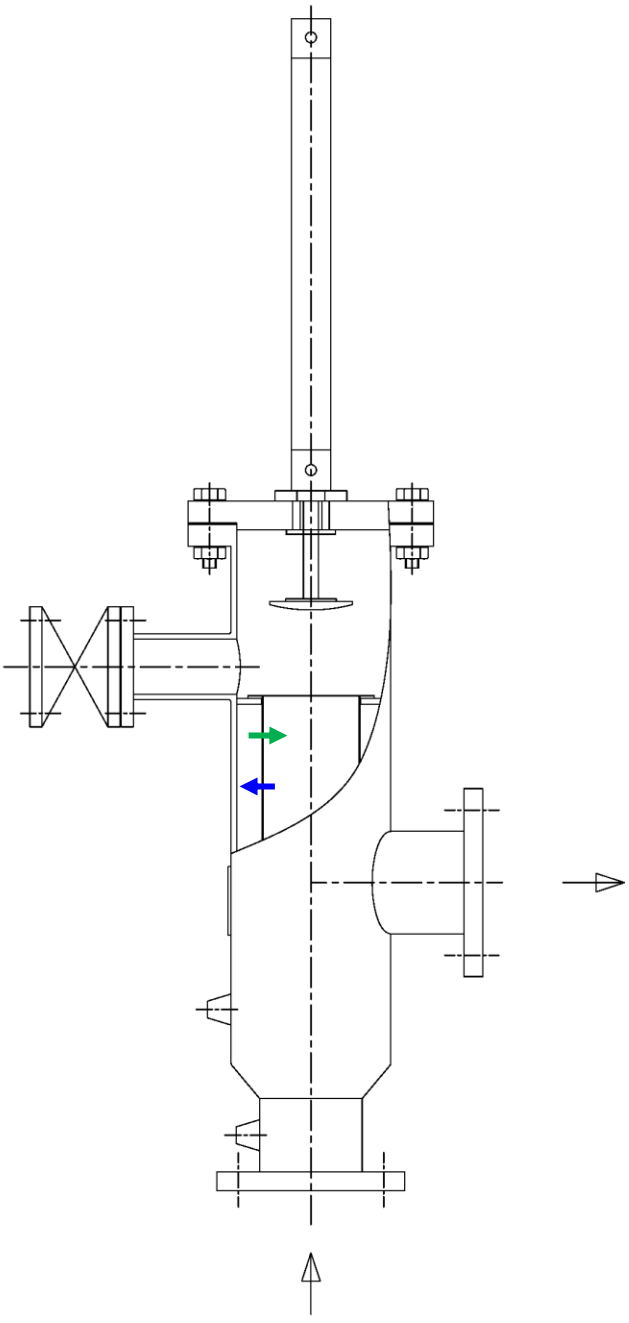
SUNGOV	BWF SERIES MODEL VDBWF VELOCITY DIFFERENTIAL BACKWASH FILTER	DATASHEET: BWF-03

Features:

- For uninterrupted flow applications
- No servicing of filter element (clean in place design)
- Minimum wastage of fluid during backwash cycle
- Robust screen design with high collapse pressure
- Automated operation
- Vessel design as per ASME Sec VIII Div 1 as standard
- Vessel design by licensed Finglow™ Pressure Vessel Software
- ASME Code stamping (U Designator) as option
- Vessel design for full vacuum /steam out condition as option
- All welders qualified to ASME Sec IX latest edition as standard
- Simultaneous filtering and backwashing



Applications:

- Industrial water applications
- Agricultural water applications

Mechanism:

The principle mechanism of the Automatic Velocity Differential Backwash Filter is that of a velocity differential induced negative pressure (vacuum) cleaning action.

During the filtering cycle, the fluid flow is from inner to outer (indicated thus ➡). The impurities, over a period of usage, clog the filter element slots gradually reducing the filtrate throughput and increasing the pressure drop across the filter element. After the stated allowable pressure drop is reached, the differential pressure switch signal actuates the opening of drain valve and plunging of the VIC disc. The automation is governed by the logic control on the control panel. Thus begins the backwash cycle. During the backwash cycle, a velocity differential created due to the plunging action in accordance with Bernoulli's principle and the Continuity equation, results in a negative pressure at the unclean side of the filter element. This negative pressure tends the fluid to flow from outside to inside (indicated thus ➡). This reverse flow dislodges the impurities clogging the filter element. Thus, an effective clean-in-place solution for clogged filter element is achieved.

A key feature of this model is that the filtering cycle is simultaneous with the backwash cycle i.e. online backwashing hence there is no interruption of flow.

Limitations:

- Mandatory wastage of fluid during backwash
- Scalability to large sizes expensive due to limitations of plunging length

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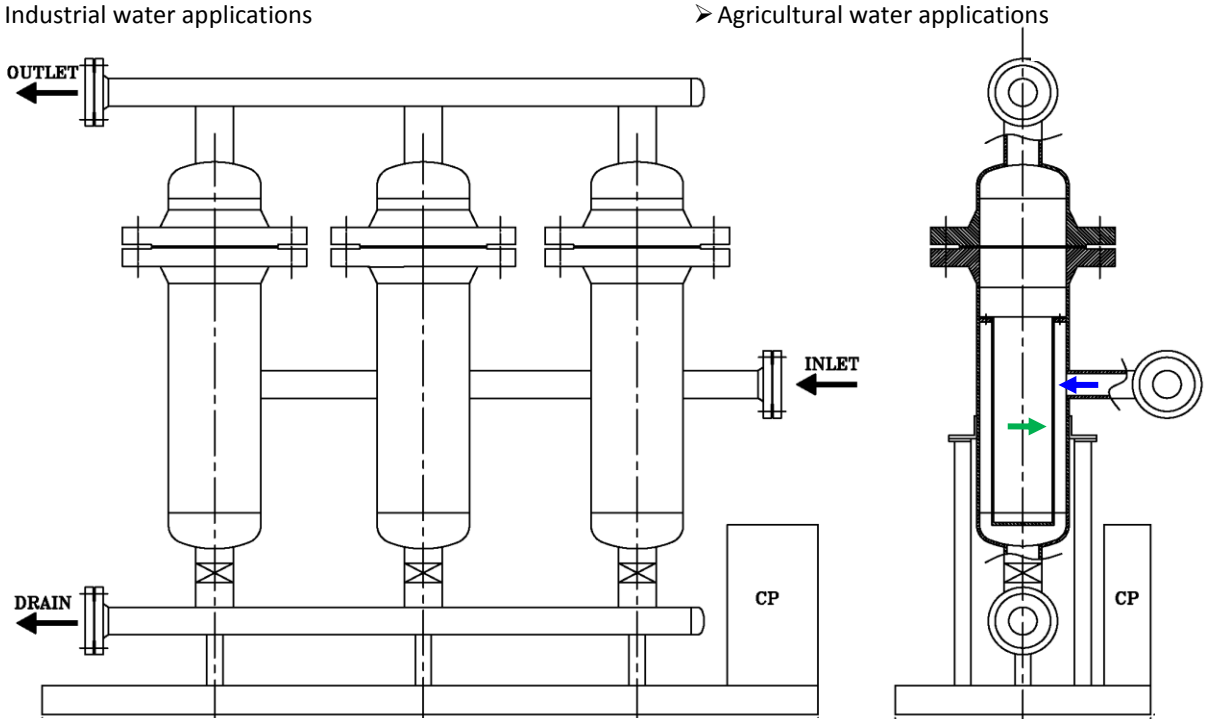
SUNGOV	BWF SERIES MODEL VDBWF ELEVATION DIFFERENTIAL BACKWASH FILTER	DATASHEET: BWF-04

Features:

- No servicing of filter element (clean in place design)
- Minimum wastage of fluid during backwash cycle
- Very low maintenance as there are no moving parts
- Robust screen design with high collapse pressure
- Automated operation
- Vessel design as per ASME Sec VIII Div 1 as standard
- Vessel design by licensed Finglow™ Pressure Vessel Software
- ASME Code stamping (U Designator) as option
- Vessel design for full vacuum /steam out condition as option
- All welders qualified to ASME Sec IX latest edition

Applications:

- Industrial water applications
- Agricultural water applications



Mechanism:

The principle mechanism of the Automatic Elevation Differential Backwash Filter is that of an elevation differential induced positive pressure cleaning action.

During the filtering cycle, the fluid flow is from outer to inner (indicated thus ➡). The impurities, over a period of usage, clog the filter element slots gradually reducing the filtrate throughput and increasing the pressure drop across the filter element. After the stated allowable pressure drop is reached, the differential pressure switch signal actuates the opening of drain valve, closing of the inlet and outlet valves simultaneously. The automation is governed by the logic control on the control panel. Thus begins the backwash cycle. During the backwash cycle, the fluid at the filter element is at a higher pressure than the fluid in the outlet header due to the elevation difference. The opening of the drain valve to atmosphere hence causes the fluid at the filter element to flow from inner to outer in a reverse direction (indicated thus ➡). This reverse flow dislodges the impurities clogging the filter element. Thus, an effective clean-in-place solution for clogged filter element is achieved. A key feature of this model is that there no moving or rotating parts hence it has a low capital cost as well as low operational cost.

Limitations:

- Mandatory wastage of fluid during backwash
- Backwashing and filtering is not simultaneous

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