

Automatic Backflush Filtration System (ABF System)

Specifically Designed for:

Atmospheric Residuum (ARDS)
Coker Gas Oils (CGO)
Vacuum Gas Oils (VGO)
Vacuum Residuum (VRDS)



Advanced Concept:

AES Automatic Backflush Filtration Systems (ABFS) are designed to produce a clean and filtered product for various types of fluids including ARDS, CGO, VGO, and VRDS to name a few. The systems are designed to work at very low flux, hence providing the best filtered product quality and very long period of time between backwashes. AES modular filter systems are fully automatic operating systems for the filtration of solid contaminants from incoming process fluids (hydrocarbons, amine, glycol, water, ...), system fluids and waste streams in production and treatment plants of the Oil, Gas and Chemical Industry. either from same filtered source, or an external source is forced under high flow and pressure back from the tube inside to the outside.

System Advantages:

- Low wastage due to backwash
- High productivity
- Low flux
- Wide filtration range from 10 micron to 200 microns
- Fully automatic
- Simple Operation
- Low number of automatic valves
- Low maintenance
- Low space requirements



Designed for filtration of liquids in the chemical, petrochemical, and refinery industries.

**Atmospheric Residuum (ARDS)
Coker Gas Oils (CGO)
Vacuum Gas Oils (VGO)
Vacuum Residuum (VRDS)**



How it works??

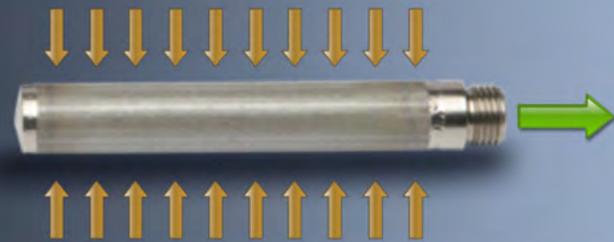


Service Mode

The medium to be filtered enters the filter vessel from the main inlet pipe header.

It distributes to individual cartridge elements. Each cartridge element contains multiple rounds or tubes that are either wire-mesh or wedge wire type.

The fluid flows from the outside to the inside of each tube. The dirt and solids collect on the outside of the tubes and clean fluid pass through the inside of the tube and to the clean outlet pipe header. Each element contains vast open area and will have high dirt collection capacity, so it will not require frequent backwash and wastage of precious fluid.

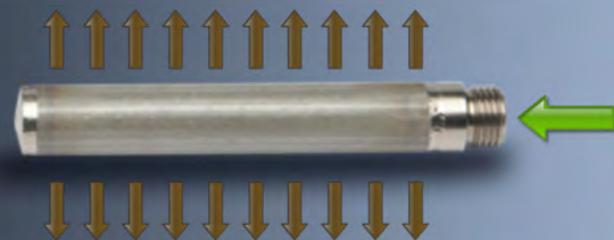


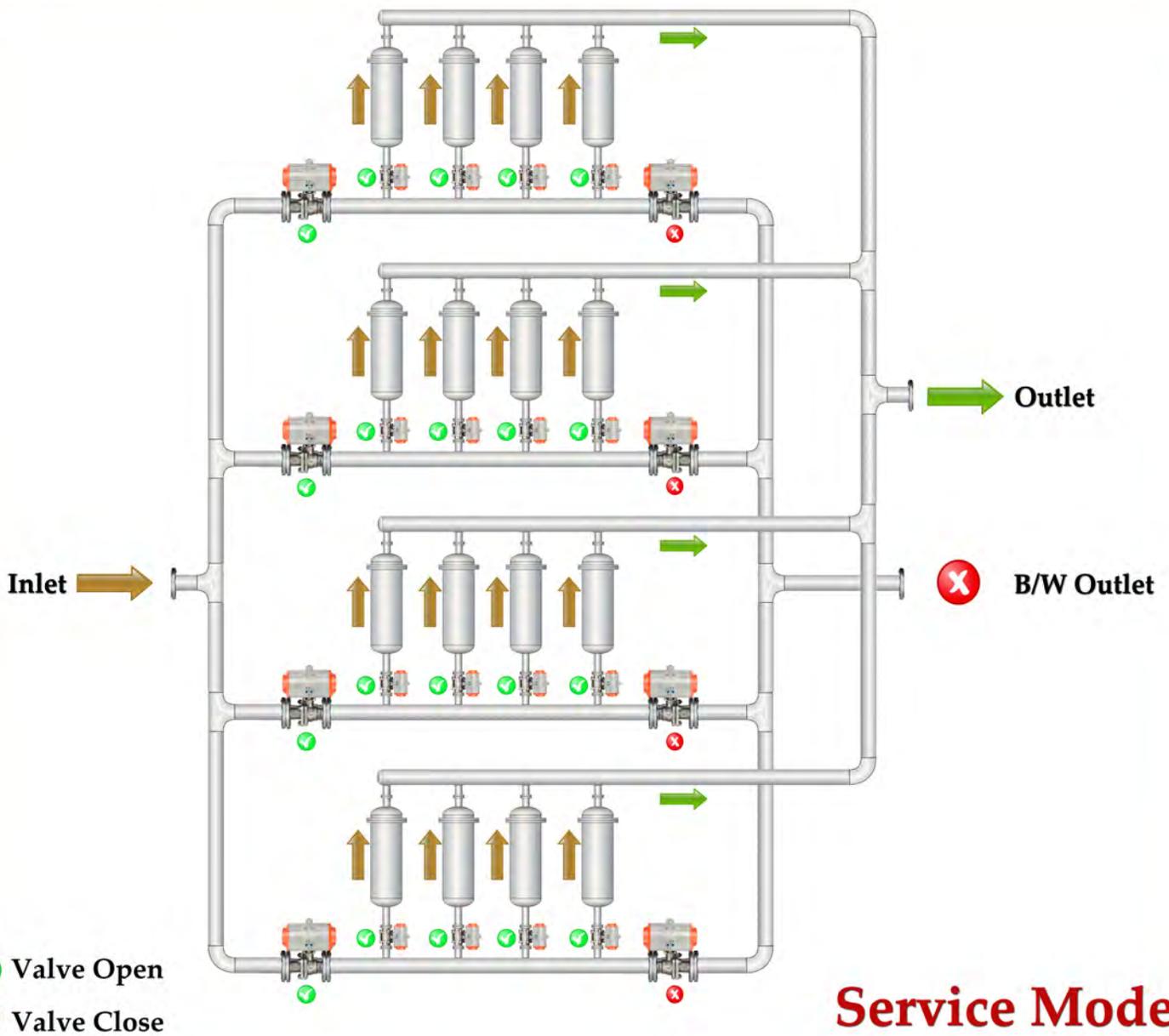
Backwash Mode

Clean fluid, either from same filtered source, or an external source is forced under high flow and pressure back from the tube inside to the outside.

The reverse flow will dislodge any trapped particles and dirt on the screen opening. The operation is done in very short period of time, normally few seconds.

And it may be repeated if necessary to attain the required pressure drop. Due to short period of the backwash cycle, only few liters of liquid is wasted.





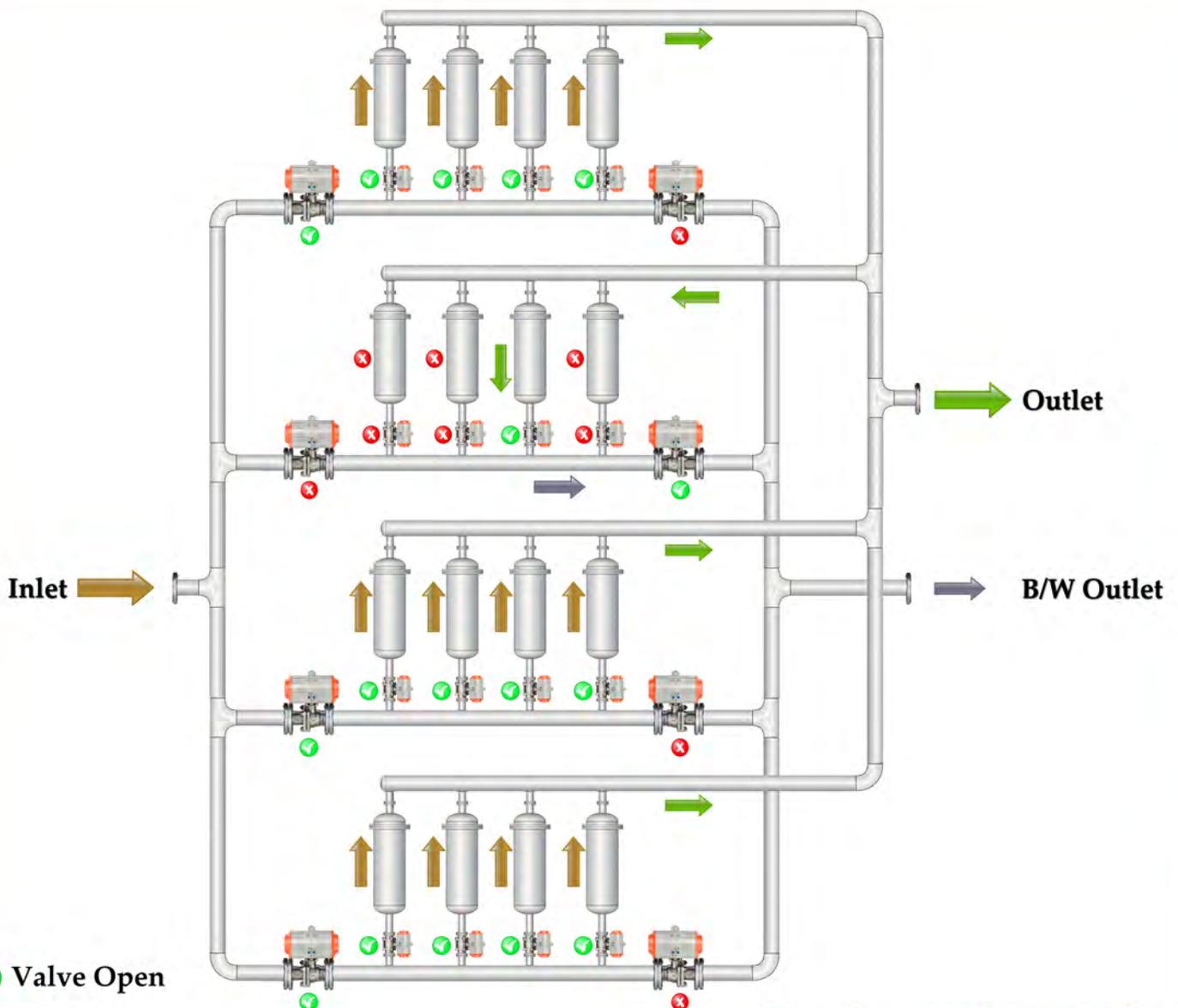
AES Backflush Filtration System consists of multiple banks of a single filter element vessels. Each bank is equipped with valves at the inlet and backwash outlet.

Filter banks run in parallel, with each bank handling an equal portion of the total process flow. Unfiltered liquid

enters each bank via the inlet main valve and is distributed evenly to each filter housing. The liquid flows from the outside of the element to the inside, collecting contaminants on the outside.

Clean liquid exits each bank via the outlet. As contaminants collect on the filter elements, the differential

pressure increases. When the pressure differential reaches a controlled set point a signal is generated and the system controller begins the backwash cycle.



- ✔ Valve Open
- ✘ Valve Close

Backwash Mode

As contaminants collect on the filter elements, the differential pressure increases. When the pressure differential reaches a controlled set point a signal is generated and the system controller begins the backwash cycle. Individual filter vessels are backwashed using filtered liquid. During the backwash process, the system operates without

interruption. A single filter bank is momentarily isolated from the feed flow. Then, each filter element on that bank is individually cleaned by clean fluid from other banks. Total backwash flow is directed to individual elements to ensure thorough cleaning.

The remaining banks are cleaned sequentially in the

same way. Complete element regeneration is the key to longer runs between cleaning cycles and greater productivity.

The entire cleaning cycle times is less than one minute per bank. With minimal number of valves to worry about maintenance and to save space.

Technical Details

Flanges:

In accordance to ASME B16.5 regulations

Filtration Elements:

A wide range of filter media, element sizes and filter grades are available. Please asks for details.

Module Material/Piping:

Carbon steel and 316 stainless steel in accordance to ASME regulations

Frame Material:

Epoxy painted carbon steel in accordance to ASME regulations.

Monitoring:

Differential Pressure Transmitter and PLC (Control)

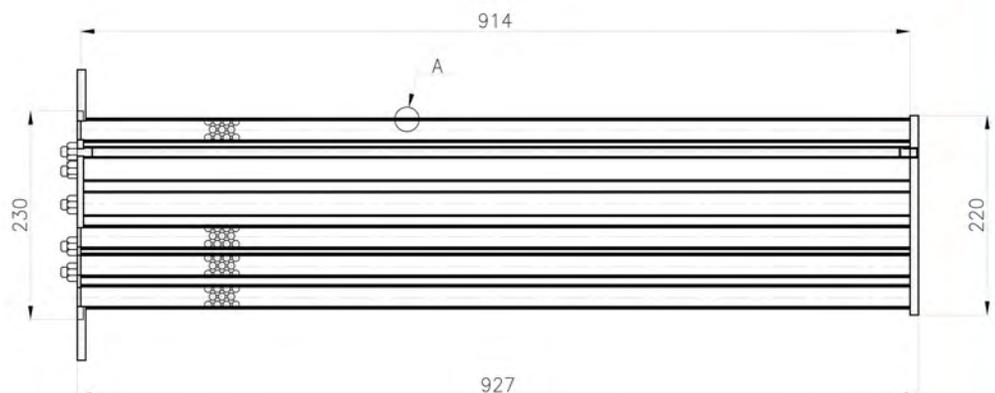
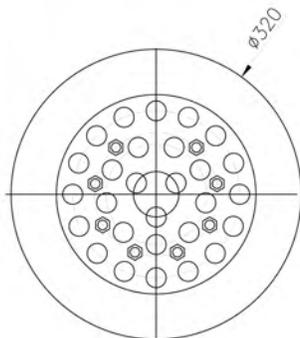
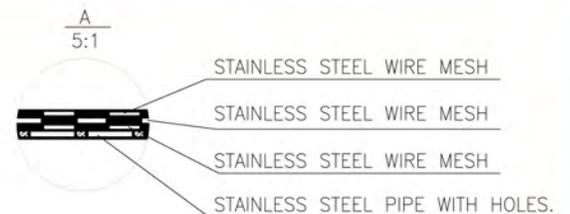
Utility Required:

AC or DC power supply and instrument air



Multiple units can be connected together to form a modular system. All connections are flanged according to ASME design

Cartridge elements are available in configurations with 28 individual, replaceable filter tubes offering media area of 22 ft² (2.0 m²). Elements are available in 10 to 200 micron woven wire or slotted wedge wire to meet varying particle retention and applications.



The Leaders in Innovation



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