

AUTOMATIC BACKWASHING FILTER SYSTEM

Automatic Backwashing Filtration System

There are many reasons customers are switching from standard filter housing to either our Auto-duplexes or Automatic Backwashing Systems.

- Reduces process/system downtime
- Reduces operator exposure
- Reduces maintenance cost
- Reduces labor costs
- Reduces filter element disposal and Replacement cost
- Increases productivity

Self-cleaning filters represent the ideal situation and provide the most productive and labor free solution. The ABW is unique because the patented technology backwashes with the lowest volume of liquid. This is achieved by using normal shop air (propane or nitrogen can also be used) to create the shear velocity needed to effectively clean the filter with only the clean liquid inside each housing.

Flexible and Versatile

Flow rates from less than a hundred to several thousand GPM can be easily accommodated. Also, to meet footprint or space requirements, we can configure the systems on one side of the headers for long narrow aisles or up against walls or place the housings on both sides of the headers for shorter, but broader areas. Combustible/ Explosive areas can take advantage of our state-of-the-art Air Logic control systems which are totally pneumatic and inherently safe. Micron ratings from 1 micron and larger are available in a variety of filter media including pleated cartridges (for fine filtration), bags, wedge wire, and sintered wire fibers. Continuous flow is maintained by taking only one station at a time off-line for cleaning - the rest of the housings continue filtering.



3 Dual Station Electroller

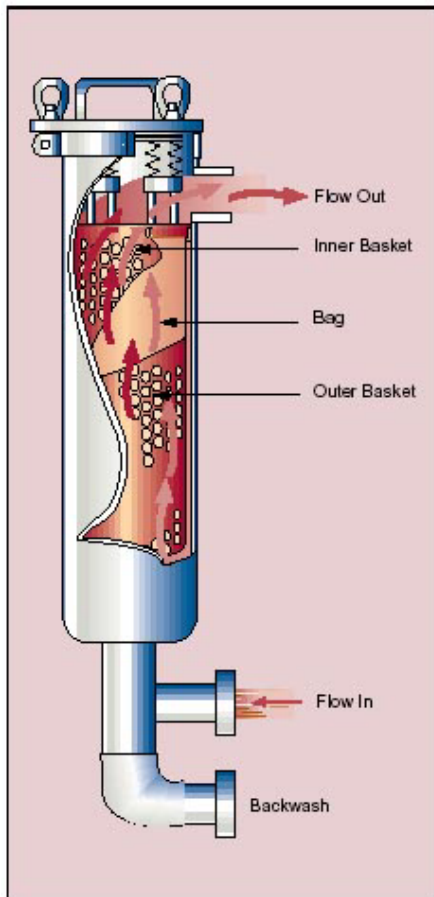
Turnkey Systems

Our systems have included air compressors, pumps, power distribution boxes, motor starters, climate controlled enclosures, heat trace and air dryers, all skid mounted and ready for installation.

How It Works

Fluid is introduced through the bottom of the filter housing. It is then forced through a filter element where the contaminant is captured on the outside surfaces of the filter. The clean fluid exits through the outlet. A controller monitors the differential pressure across the filter. When enough contaminant collects on the element and the differential pressure reaches a pre-selected point (ΔP), the backwash sequence is initiated. The backwash is accomplished by automatically shocking the filter with air or gas which lasts approximately 10 seconds. There is no introduction of additional fluids to contaminate the process, and the volume of liquid discharged is held to a minimum, reducing disposal costs. When the backwash operation is completed, the system returns on-line, the controller resets itself, and the whole process begins again.

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Single vs Dual Stations

On smaller systems with flow rates less than 400 GPM our standard is "single station" systems which means each housing is a station. Larger systems use a "dual station" approach which has two housings per station. The two housings share common manifold pipes which allow a fifty percent reduction in valves and, during backwash, two housings at a time (1 Dual Station) go off-line for cleaning. The picture on the previous page illustrates the "Dual Station" approach. Note that there are three stations, with each station having two housings on common manifold which is most visible below the housing. In the picture above, this Pneutroller system also has six housings in a "Single Station" configuration with each housing having separate valves.



7 Single Station Pneutroller

Applications

The ABW is being used in many industries throughout the USA as well as overseas in such places as Argentina, Taiwan, Chile and Venezuela.

Industries served include:

Automotive - Steel - Petroleum - Chemical - Pharmaceutical - Electronics - Nuclear Power - Superfund Sites - Groundwater & Soil Remediation - Commercial Laundries - Entertainment - Food - Mining - Detergents - Paper

Applications include:

Cooling Towers - Coolants - Membrane Protection - Sulfuric and other Acids - Harvesting Steroids - Oil Reclamation - Potable & DI Water - Bottling Plants - Food Processing - Recycling

AUTOMATIC BACKWASHING FILTER SYSTEM

Example: **ABW 8 - 30 - D - 2F - 1 - 4 - S - 150 - S - E - B - P - C**

AUTO BACKWASHING FILTER

MODEL NUMBER
8 = 8

BASKET DEPTH
30-inch (std.) = 30

STATION TYPE
Single = S
Dual = D

VALVE SIZE
2-inch 150 class ANSI flange = 2F
3-inch 150 class ANSI flange = 3F
4-inch 150 class ANSI flange = 4F

NUMBER OF STATIONS
One = 1
Two = 2
Three = 3
Four = 4
Five = 5
Six = 6
Seven = 7
Eight = 8
Nine = 9
Ten = 10

HEADER PIPE SIZE
2-inch = 2
3-inch = 3
4-inch = 4
6-inch = 6
8-inch = 8
10-inch = 10
12-inch = 12

ASME CODE STAMP

C = Code

CONTROL SYSTEM

P = Pneumatic
E = Electric

VALVE SEATS

B = Buna-N
M = Ethylene propylene
T = Teflon®
V = Viton®

COVER SEAL

B = Buna-N
E = Ethylene propylene
TEV = Teflon® Encapsulated Viton®
TSW = Teflon® (solid white)
V = Viton® Fluoroelastomer

HOUSING MATERIAL

C = Carbon Steel
S = 304 Stainless Steel
S316 = 316 Stainless Steel

PRESSURE RATING

150 = 150 psi (NPT or flanged)

HEADER PIPE STYLE

S = Single sided
D = Double sided

1. Flanges provided with the housing match the pressure rating of the vessel. Housings rated 150 psi have 150 class flanges. ANSI B16.5 Pressure-Temperature rating tables determine flange class for ASME housings.
2. Higher pressure ratings available. Consult factory.
3. Filter bags are ordered separately. See pages 106-112.

Stations and Headers

Rosedale offers both single and double-sided headers, as well as single and dual stations, to increase control and capacity. Header pipes have connections on one (single-sided) or both (double-sided) sides of the pipe. Each housing is still separately controlled, increasing capacity while maintaining a high-level of control. A station has one set of controls, while accepting either one filter housing per station (a single station), or two housings per station (a dual station). Capacity is again increased, but the number of controls are minimized. By minimizing those controls, great savings are realized. For example, everything else being equal, a single-sided header with three dual-stations accommodates the same six housings and flow as a double-sided header with six single-single stations. However, there are three less controls and pumps on the dual-station unit, greatly reducing costs, perhaps as much as \$15,000.

