

F-Series

For liquid filtering that requires unattended operation, maximum uptime, and solids removal from 2 to 1,700 microns, the Eaton F-Series delivers unbeatable performance.



Features/benefits

- Solids removal from 2 to 1,700 microns
- Single system flow rates up to 681 m³/h
- Smooth pipe and nozzle connection transitions to avoid dead spots in the fluid stream and minimize pressure drop
- Broad selection of filter media materials and retentions suitable for a wide range of applications
- Proprietary 3-way, full-ported valves allow fast, frequent sequencing and maximum cleaning force during backwashing
- Isolated top-to-bottom backwash flow ensures complete and efficient media cleaning while continuing to deliver filtered product downstream
- Numerous automated backwash options for operator-free service and minimal backwash effluent (<2% of system volume)
- Available AccuFlux[®] media dramatically increases filter surface area in the same footprint

Options

- Internal or external backwashing
- Media-cleaning diffusers for more effective cleaning at low operating pressures or volumes
- Drain header trap
- Quick coupler valve connectors for ease of body tube removal
- 304 stainless steel frame material
- ASME code vessels
- Inclined version available

Typical applications

- City water lines • Hot condensate • Chiller water
- Fresh water • White water/Shower water • CIP fluids
- Papermaking wet end starch • Pelletizer water • Single and duo tubular filters for a wide range of applications up to 69 bar and high viscosity applications

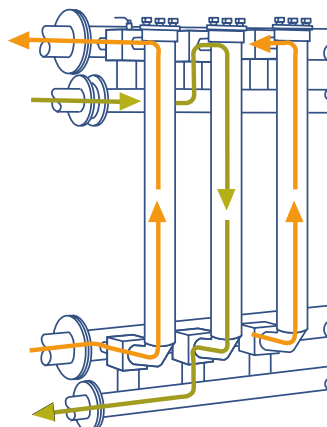
The key to the F-Series' versatility is its modular design that enables future capacity and configuration flexibility. F-Series systems can include 2 to 24 body tubes on a single framed skid and can be ordered with blank stations to allow low-cost expanded capacity.

The F-Series uses cleanable media. This further reduces life cycle costs and maximizes productivity by eliminating the labor, replacement, and disposal costs of bags and cartridges. Three types of elements are offered: single element with 2,348 cm² of surface area, the TRI-CLUSTER[®] with 3,290 cm² of surface area, or the AccuFlux 7 with 5,103 cm² of surface area.

The F-Series features 3-way ball valves, automated cleaning with direct mounted actuators and solenoids, and available blank stations for easy future expansion.

How the F-Series works

When cleaning is required, triggered by time or pressure differential, a single valve removes the tube to be backwashed from the incoming flow stream. The resulting pressure drop redirects a portion of the clean process flow downward, flushing the contaminants to the drain manifold. When process liquids are highly valuable or hazardous, an external backwash configuration, which uses a small amount of cleaning liquid introduced through a separate manifold, is recommended. External backwashing is also recommended when operating pressures are expected to be less than 3.1 bar.



External backwash system shown. Secondary header at the top of the unit introduces cleaning fluid, typically water, (green arrows) to loosen and discharge debris to the drain header at the bottom.



Powering Business Worldwide

F-Series Tubular Backwashing Filter

Specifications

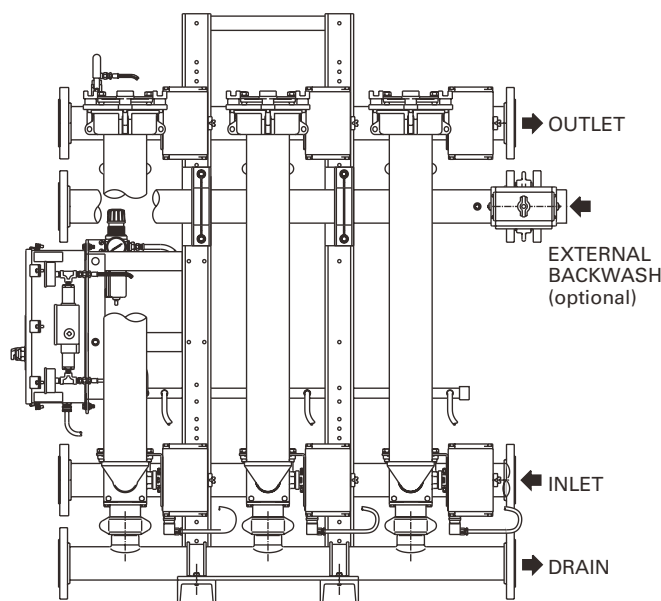
Body inlet/outlet size	3" (DN80)
Inlet/outlet header size ¹	3" (DN80), 4" (DN100), 6" (DN150), 8" (DN200), 10" (DN250), 12" (DN300)
Body diameter – in (mm)	4.5 (114.3)
Screen length – in (mm)	36 (914.4)
Element styles available ² – in (mm)	3.25 (82.8) dia. single, TRI-CLUSTER, AccuFlux 7
Pressure rating ³	17.2 bar
Temperature	177°C system maximum (determined by screen material and elastomer seals)
Air requirement-auto units	4.1–8.3 bar @ 5 cfm, for sequencing
Electrical requirement	110/220 V, 50/60 Hz, single phase
Backwash minimum flow	340 l/min for single and TRI-CLUSTER media; 567 l/min for AccuFlux media

¹ Drain header size 3" (DN80). Consult factory for custom sizes

² Consult media availability chart for specific retentions and types available

³ PTFE gaskets limit pressure maximum to 5.5 bar

ASME code units are limited to 10.3 bar

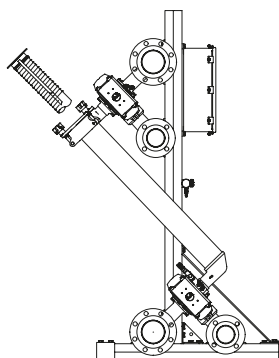


Inclined Design

The F-Series is optionally available in a 45° inclined design. This design offers a dual advantage. First, it improves ergonomics for maintenance personnel when removing filter elements. Second, it reduces the overall height of the system for use in spaces with limited ceiling clearance. (Available on request)

Header size	Removal height
3"	71 1/4" (1,810 mm)
4"	71 7/8" (1,826 mm)
6"	73 5/16" (1,862 mm)
8"	74 9/16" (1,894 mm)
10"	76" (1,930 mm)
12"	74 3/8" (1,894 mm)

Removal height of standard vertical F-Series is 89" (2,261 mm)



Dimensions of Standard Vertical F-Series

Model	Weight (dry) kg	Height mm	Footprint w x l mm	Volume liters	Configuration # of tubes
F202	204	1,575	725 x 1,145	68	2
F203	272	1,575	725 x 1,220	87	3
F204	340	1,575	725 x 1,600	114	4
F205	408	1,575	725 x 1,980	140	5
F206	544	1,575	725 x 2,360	246	6
F207	612	1,575	725 x 2,745	284	7
F208	680	1,575	725 x 3,125	322	8
F209	816	1,575	725 x 3,505	470	9
F210	885	1,575	725 x 3,885	522	10
F211	952	1,575	725 x 4,265	572	11
F212	1,089	1,575	725 x 4,650	625	12



3-way Ball Valves

To ensure positive sealing and maximum flow, our F-Series filters feature the industry's best 3-way ball valves. These important components—designed and manufactured by Eaton, exclusively for Eaton systems—were developed specifically for the demands of industrial filtration. Their full-ported design reduces pressure drop and requires no additional linkages for actuation.

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