



Technical Data Sheet

Light Commercial Filtration Systems

Atlas Filtri® light commercial filtration systems are available in the PP4FOS through PP22FOS series. These high-performance stainless steel systems are engineered for high-flow applications, providing effective sediment and scale reduction for piping systems, equipment, fixtures, valves, meters, commercial water heaters, tankless heating systems, and commercial boilers.

Constructed from durable 316 stainless steel, these housings can accommodate multiple filter cartridges to minimize pressure drop, supporting flow rates of up to 616 GPM.

Atlas Filtri melt blown sediment filters, available in 5 and 25-micron ratings, are manufactured from a polypropylene material. The patented ScaleArmor™ media is specifically formulated to reduce scale accumulation on heat exchanger coils, tanks, pipes, fixtures, and equipment.

The multi-cartridge housings are available in 12-round and 22-round configurations to meet a wide range of flow requirements. They have a working pressure of 150 psi (10 bar) and can operate at temperatures up to 300°F (149°C). Standard inlet and outlet connections are 3" or 4" flanges, and the housings feature a poly-coated finish over stainless steel for enhanced corrosion resistance and durability.

High-Flow Stainless Steel System Specifications

Models: PP4FOS1-316 through PP22FOS4-316

1) Verify Building Pipe Size to Match System Category

- PP4FOS1 through PP7FOS4 = 2" MPT
- PP12FOS2 through PP12FOS4 = 3" Flange
- PP22FOS3 through PP22FOS4 = 4" Flange

2) System Sizing Based on Water Hardness

Systems are rated for 15 grains of hardness for a 12-month service interval. Higher hardness levels require either a larger system or more frequent cartridge replacement.

Example Calculation:

- Rated Flow = 100 GPM Facility
- Actual Hardness = 25 grains
- Hardness Ratio: 15 grain rating ÷ 25 actual hardness = 0.60 (60%)
- Adjustment Factor: 100% – 60% = 40% increase (1.4 GPM)
- Adjusted Flow: 100 GPM × 1.4 = 140 GPM
- Recommended Model: PP5FOS4-316 (supports 140 GPM)
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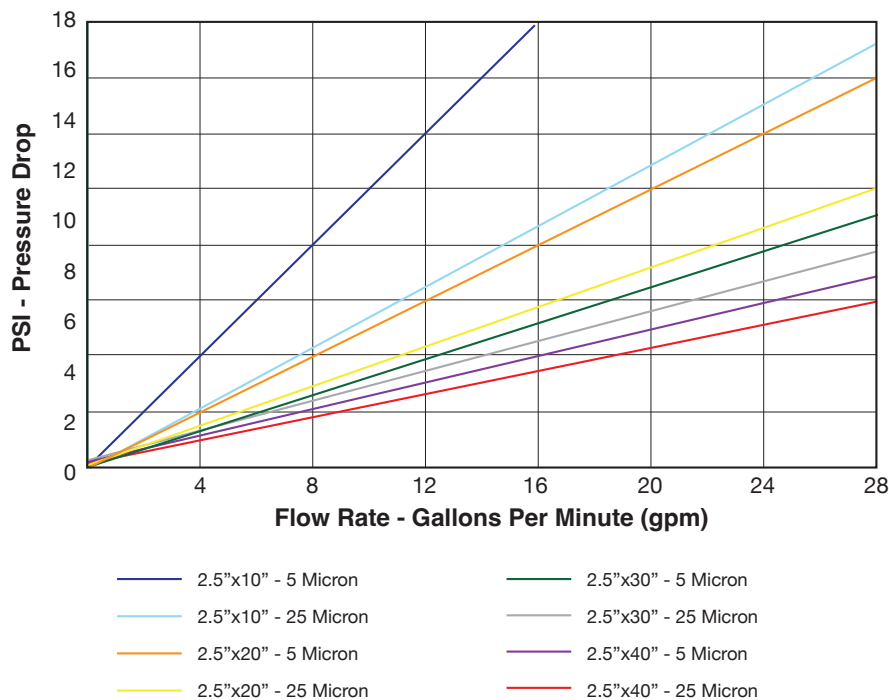
Current condition - Sizing Exercise

Buildings influent water flow rate 25 GPM

- The smallest unit is a PP4FOS1-316 flows at 28 GPM
- 25 GPM building influent \div 4 cartridges inside of unit = 6.25 GPM total flow rate is a 6PSI pressure drop
- PP4FOS1-316 has 4 - 10" cartridges at 5-micron with light purple color on the graph
- 28 GPM \div 25 GPM = 1.12% correction
- 25 \div 1.12 = 22.23 total flow rate
- 22.23 \div 4 = 5.56 GPM
- 5.56 GPM on the graph shows a = 5 PSI pressure drop in dark purple

To reach 4PSI pressure drop increase the size of the housing flow rate:

- The next size unit is a PP4FOS2-316 flows at 56 GPM
- 25 GPM building influent \div 4 cartridges inside of unit = 6.25 GPM total flow rate
- PP4FOS2-316 has 4 - 20" cartridges at 5-micron with light orange color on the graph
- 56 GPM \div 25 GPM = 2.24% correction
- 25 \div 2.24 = 11.16 total flow rate
- 11.16 \div 4 = 2.8 GPM
- 2.8 GPM on the graph shows a = 3 PSI pressure drop in light orange



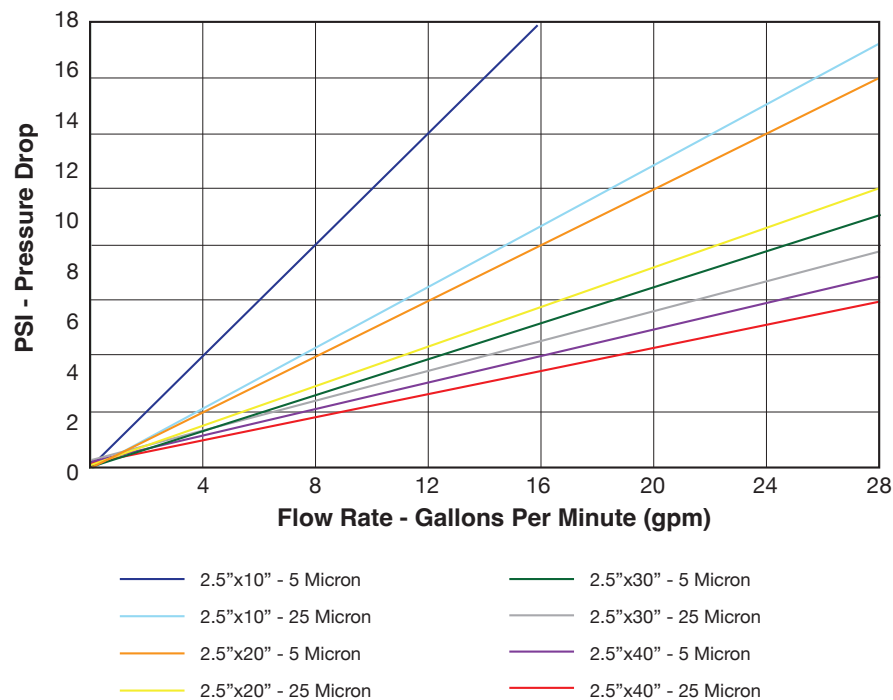
Current condition

Buildings influent water flow rate 200 GPM

- The smallest unit is a PP12FOS3-315-316 flows at 252 GPM
- $200 \text{ GPM building influent} \div 12 \text{ cartridges inside of unit} = 16.66 \text{ GPM total flow rate}$
- PP12FOS3-316 has 12 - 30" cartridges at 5-micron with light blue color on the graph
- $252 \text{ GPM} \div 200 \text{ GPM} = 1.28\% \text{ correction}$
- $200 \div 1.28 = 156 \text{ total flow rate}$
- $156 \div 12 = 13 \text{ GPM}$
- 13 GPM on the graph shows a = 4.5 PSI pressure drop in light blue

To reach 4PSI pressure drop increase the size of the housing flow rate

- The next size unit is a PP12FOS4-316 flows at 336 GPM
- $200 \text{ GPM building influent} \div 12 \text{ cartridges inside of unit} = 16.66 \text{ GPM total flow rate}$
- PP12FOS4-316 has 12 - 40" cartridges at 5-micron with purple color on the graph
- $336 \text{ GPM} \div 200 \text{ GPM} = 1.68\% \text{ correction}$
- $200 \div 1.68 = 119.05 \text{ total flow rate}$
- $112.35 \div 12 = 9.92 \text{ GPM}$
- 9.92 GPM on the graph shows a = 3.5 PSI pressure drop in purple



Commercial Scale Reduction Units

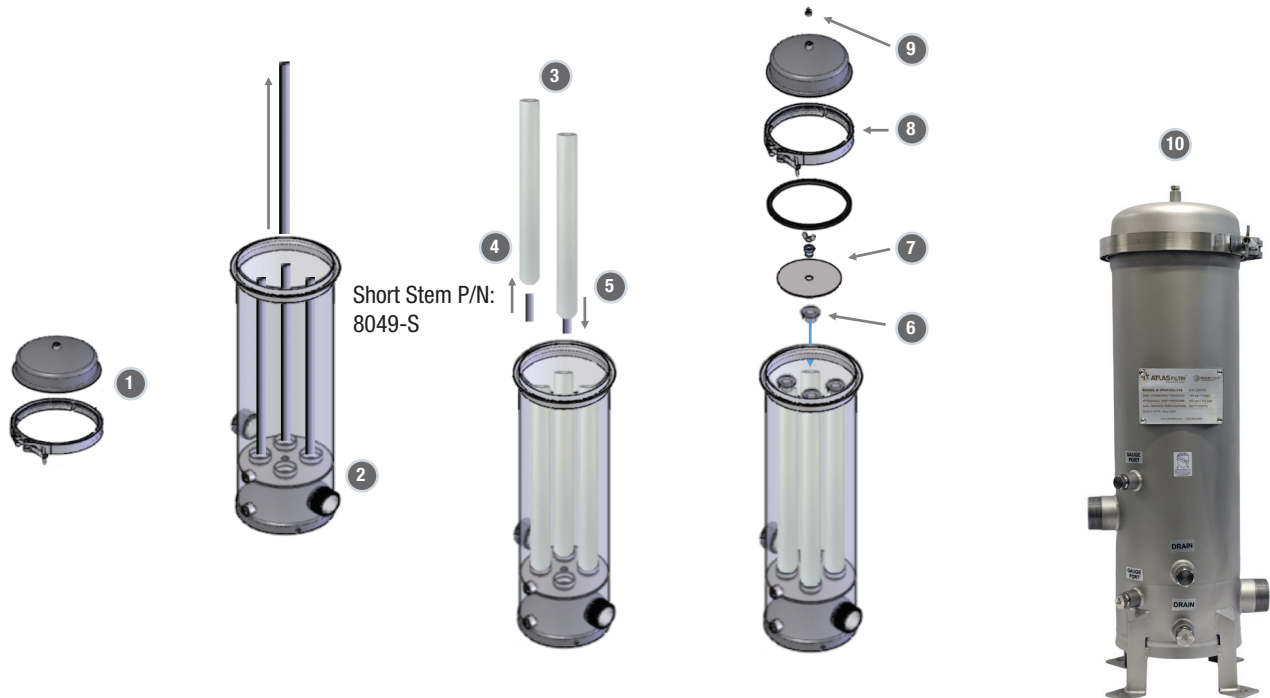
Stainless Steel PPFOS

Package includes:

- Stainless Steel Housing
- 4 filters, 20" with media inside
- 4 stems, 4" approximate length

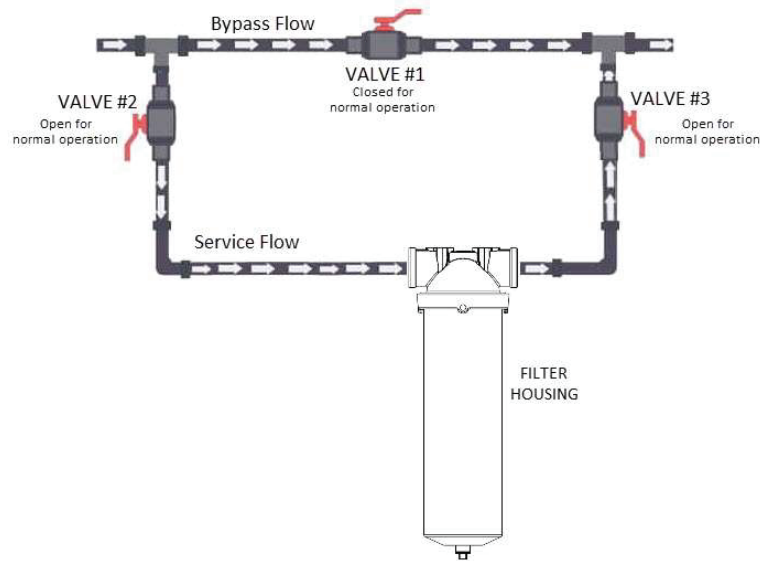
After plumbing the unit and securing it to the foundation and ensuring required straps for earthquake compliance, proceed as follows:

- 1) Remove top of stainless steel housing at the wing nut.
- 2) With gloves, remove 4 rods 20" in length from inside of unit and dispose
 - Remove by making a circular motion pulling upwards
 - Pliers may be required
- 3) Locate 4 stems that look like the rods that are approximately 4" long
- 4) Insert into the bottom of the filter
- 5) Insert the filter into the housing, stem first
- 6) Insert the 4 holding caps into the top of each filter
- 7) Place the holding plates over the filter group. Insert the centering fitting and wing nut
- 8) Lubricate O-ring thoroughly and place the o-ring in the groove. Locate the lid and strap and tighten the wing bolt until tightly secured
- 9) Insert pressure relief if previously removed
- 10) Unit is ready to place into service



FLOW BYPASS LINE

It is common to install a flow bypass line around the installed filter housing. This allows fluid flow to continue while filter cartridges are being replaced or the housing is otherwise being serviced. A typical arrangement is shown.



Electrical Grounding

Electrical grounding of steel filter housings is advised to reduce the possibility of static charge build-up, shock hazard, EMI/RFI interference, or violation of local electrical codes. In the case of a fault condition (such as a significant electrical short or stray current event), electrical current can travel through the structural welds if the vessel provides the lowest resistance path to ground, which can result in accelerated corrosion along the weld line. To add electrical grounding to a steel filter housing, follow these essential steps for a safe and effective grounding installation:

- 1) Most multi-cartridge and bag filter models have a hole drilled into a leg that allows insertion of a bolt to secure a grounding lug. If a bolt hole is not present, then a hole can be drilled for this purpose. Alternately, a grounding clamp can be used to secure the grounding wire to the housing.
- 2) Be certain the metal is clean and bare to assure good electrical conductivity.
- 3) Attach #6–#10 AWG grounding wire with a ring terminal and bolt, ensuring a tight connection.
- 4) Run the grounding wire to the facility ground bus, building steel, or a grounding rod per your local electrical code and safety requirements. Use appropriate clamps or connectors for secure contact.
- 5) Verify continuity with a multimeter or circuit tester. Properly grounded filter housings should show a direct path to earth with minimal resistance.
- 6) Ensure all electrical bonding/grounding follows applicable codes (NEC, NFPA, or local jurisdiction).

Check out all of Atlas Filtri's various solutions and kits to meet the application requirement for your filtration needs at atlasfiltri.com



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