

SCF Series Cartridge Filter Operating & Maintenance Manual

PEP's patented SCF series up-flow cartridge filter offers 100% saturation of the polyester wound filter cartridge. Liquid enters through the bottom of the filter where it is distributed by a diffuser disk. The process liquid flows upward into the vessel and through the cartridge filter(s). As filtered solids accumulate on the lower section of the cartridge, the filtered solids move progressively up the cartridge, thereby utilizing 100% of the available filter area. The filtered clean water exits through the center core stand pipe.

SCF filter vessels are constructed of stainless steel with a removable lid designed for easy cartridge replacement. The standard pressure rating of the filter vessel is 150 psig (1,034 kPa). A variety of cartridges are available to remove suspended particles from 100 micron to 0.5 micron. Vessels can also be fitted with activated carbon cartridges to remove taste, odor, and dissolved contaminants.

PEP's "PCF" cartridges have a spun wound design that yields a low pressure drop, greater suspended solids removal, and longer intervals between filter changes. The SCF series filter may be applied to a wide variety of applications for light to medium contaminant removal. PEP offers a variety of standard cartridge filters to meet liquid filtration from 0.5 micron to 100 micron. For special filtration needs, PEP offers custom filtration systems. Typical industries where cartridge filters are used include:

Food	Tobacco Production
Chemical	Rubber / Plastic Production
Petrochemical	Hospital / Medical Facilities
Amusement Parks	Industrial Equipment Manufacturing
Photography	Metal Finishing
Pharmaceutical	Beverage
Well / Ground water	Zoological
Fish Hatcheries	Aquarium

Installation

Place the SCF filter vessel on a flat surface. To minimize system pressure, the filter vessel should be located as near to the process as site conditions allow. Refer to the SCF drawing within this documentation. It is recommended to install a ball valve (not supplied) on the filter vessel inlet and outlet to isolate the SCF filter for servicing. Use ball valves appropriately sized to match the pipe diameter of the inlet and outlet fittings. After which, connect the process piping to the ball valves on filter vessel inlet and outlet. The inlet and outlet are the largest two fittings on the filter vessel. The outlet (filtered liquid discharge) is the *lower* of these two largest fittings. Connect the two small drain

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fittings (generally ½" (12.7 mm)) on the filter vessel, install a ball valve and run to drain. If the filter vessel is not equipped with drain fittings, it is recommended to install a tee between the filter vessel outlet fitting and outlet ball valve.

Connect a drain line (1/2" ~ 3/4" (12.7 ~ 19.05 mm) recommended) with a small ball valve to the bottom of the tee and run this line to a suitable drain.

Cartridge Replacement

Cartridge replacement is recommended when the pressure drop across the filter vessel inlet and outlet exceeds 10 to 12 psig (69 to 83 kPa). Before performing any service on the SCF filter, disconnect power from the pump motor at the main circuit breaker. Lock out and tag the circuit breaker.

Isolate the filter vessel from the pump and process by closing the inlet and outlet ball valves. Fully open the drain valve to vent any remaining pressure and to drain the filter vessel. Separate the vessel top lid from the vessel body and remove filter cartridge(s). Make sure that the vessel housing and all o-rings and sealing surfaces are cleaned before installing new cartridge filters. Install new cartridges and reassemble filter vessel lid. If so equipped, grease top lid studs and tighten in a "star" pattern until all are tightened to 12 ft.-lbs. (16.3 n-m). Close the drain valve and open the filter inlet and outlet valves. Return the SCF filter to service.

Specifications

Filter Tank: 304 stainless steel, 150 psig (1,034 kPa)

Process Water Temperature: up to 125 °F (65.6 °C)

Distribution system: PVC manifold and stand pipe

Filter Media: Wound polyester cartridge, 0.5 micron to 100 micron (customer specified)

Maximum operating pressure: 125 psig (862 kPa)

Options

Skid / Frame Assembly: A channel iron base is available to mount one or more filters, as well as the Pump: A system matched pump is available to circulate process liquid through the filter

High Temperature Operation: 300 °F (149 °C)



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Controls: For multiple unit operation: Automatic filter changeover from unit to unit

Filter Change Alarm Output: Dry contact closure; relay contacts rated at 5 Amp, 250 VAC

Cartridge Filter Elements – Polypropylene Filament Wound

Part Number	Description	Case Quantity
10" Long Cartridges (fits all PEP Cartridge vessels)		
I-PCF-1/2M-10-PP	½ Micron	30
I-PCF-1M-10-PP	1 Micron	30
I-PCF-3M-10-PP	3 Micron	30
I-PCF-5M-10-PP	5 Micron	30
I-PCF-10M-10-PP	10 Micron	30
I-PCF-20M-10-PP	20 Micron	30
I-PCF-25M-10-PP	25 Micron	30
I-PCF-30M-10-PP	30 Micron	30
I-PCF-50M-10-PP	50 Micron	30
I-PCF-100M-10-PP	100 Micron	30
30" Long Filter Cartridges (fits only 30" PEP Cartridge vessels)		
I-PCF-1/2M-30-PP	½ Micron	15
I-PCF-1M-30-PP	1 Micron	15
I-PCF-3M-30-PP	3 Micron	15
I-PCF-5M-30-PP	5 Micron	15
I-PCF-10M-30-PP	10 Micron	15
I-PCF-20M-30-PP	20 Micron	15
I-PCF-25M-30-PP	25 Micron	15
I-PCF-30M-30-PP	30 Micron	15
I-PCF-50M-30-PP	50 Micron	15
I-PCF-100M-30-PP	100 Micron	15

