

Product Description

The MPF filter series helps to prevent contamination problems by effectively removing suspended solids from process water from coarse particles down to very low levels (~1 mg/liter or 1 ppm). Highly effective metallic media and automated systems provide a constant supply of cleaned water up to very high flow rates of 800 liters/minute (210 gpm) as well as automatic backwashing with simultaneous forward filtration.

Applications

Treatment of process water in pulp and paper, mining and power generation plants, and refineries including:

- Water for pump seals and process water re-use
- Gland water, dust suppression and tailings water
- Protection for reverse osmosis systems and cooling tower blowdown
- Water for pump seals and quench systems

In addition, the MPF automated filter can be considered for optimizing any process where water is recycled and reused in support of regulations on zero liquid discharge (ZLD).

Design Features

- Simple, self-cleaning, automatic operation
- Automatic backflush according to user parameters with touch panel interface
- Control system runs, monitors and logs essential data
- Data acquisition for > 3 month (internal SD-card)
- Remote access and control via RJ45, TCP/IP
- Metallic wire fine-mesh filter enables function with dissolved hydrocarbons
- Scalable configuration to connect multiple units for higher flow rate

Operating Parameters

Process flow

Rate:	250 to 800 l/min
Temperature:	0° to 100°C/32° to 212°F
Minimum feed pressure (at filter inlet):	Typical 4 to 5 bar/58 to 72 psi
Maximum operating pressure:	16 bar/232 psi
Backflush trigger differential pressure:	Typical 2 to 3 bar/29 to 45 psi
Maximum differential pressure:	6 bar/87 psi
Maximum contamination level:	Typical 20 ppm
Options:	Level indicator Automatic water drain

Filtration

Area:	1124 cm ² /172.4 in ²
Rating:	25 µm @ 98% efficiency 50 µm @ 98% efficiency
Media:	25 µm stainless steel wire laminate 50 µm stainless steel slotted tube

Backflushing

Cycle time:	Adjustable, typical 20 seconds
Volume per cycle:	40 liters/10.6 gal
Minimum flow:	200 l/min (52 gal/min)
Backflush modes:	Continuous/discontinuous
Backflush media:	External source/filtrate reuse

System Characteristics

Physical

Height:	1364 mm/54"
Width:	816 mm/32"
Length:	781 mm/31"
Weight:	~180 kg/400 lbs
Volume:	~17 liters/4.5 gal
Inlet/Outlet diameter of feed/filtrate/swamp drain:	50 mm/2" thread
Inlet/Outlet diameter of backflushing:	25 mm/1" thread
Filter vessel standard:	ASME SEC. VIII DIV. 1 2019, PED (SEP) CE-Mark acc. Machine Directive & Low Voltage Directive
Protection class:	IP54/NEMA 3
Other standards:	REACH (EU), RoHS (EU), SCIP registration (EU): TQL983597-76 TSCA/EPA (USA), California Proposition 65
Filter vessel material:	Stainless steel 304
Seals in contact with process fluid:	PTFE, POM, nylon, NBR
Control system housing:	Coated carbon steel

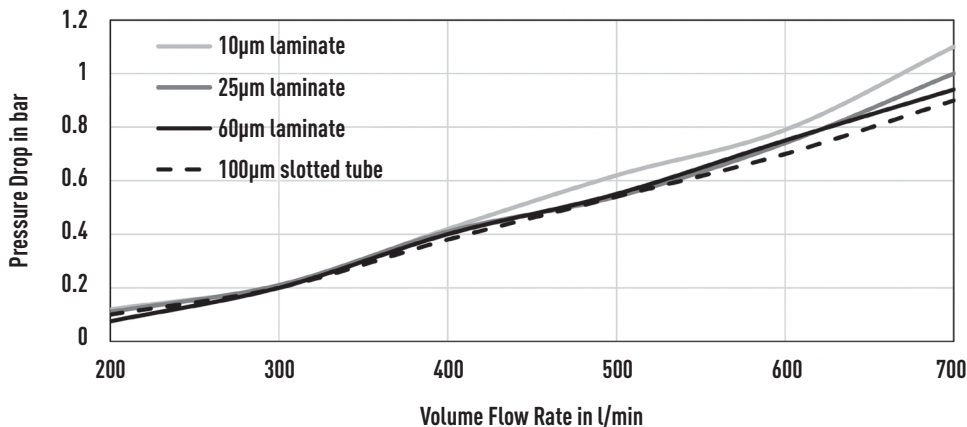
Operation

Operating voltage	3-phase 400 V 50 Hz 3-phase 480 V 60 Hz (on request)
Control voltage	24 V DC
Power consumption	Filtration mode: 300 W Backflush mode: 2,500 W
Power supply	400 V 50 Hz 480 V 60Hz (on request)
Pneumatic supply	6 bar/87 psi (can be connected by NW 7.2 coupling plug)

Available Options

- Up to four units connected in parallel (flow rate up to 3,200 l/min), all filters controlled by one master control system
- Additional sump drain valve for building a contamination discharge gate
- Flow measurement and control for recording and filter element wear status
- Remote control via PC/network (LAN)/external DCS
- Data acquisition from external system via OPC UA

RESULTS OF CLEAN WATER TESTS



North America
United States of America
Tel: 1-847-967-2400

Europe
United Kingdom
Tel: 44-1753-224000

Latin America
Brazil
Tel: 55-11-3371-2500

Middle East & Africa
United Arab Emirates
Tel: 971-481-27800

Asia Pacific
Singapore
Tel: 65-6518-1800

If the products featured will be used in a potentially dangerous and/or hazardous process, your John Crane representative should be consulted prior to their selection and use. In the interest of continuous development, John Crane Companies reserve the right to alter designs and specifications without prior notice. It is dangerous to smoke while handling products made from PTFE. Old and new PTFE products must not be incinerated. ISO 9001 and ISO14001 Certified, details available on request.