



FPF+

Front-Panel Mounting Fine Filter Series FPF®

Version FPF+

Special Features

- **Corrosion-resistant materials**
- **Large filter elements**
- **Great variety of filter element materials with different porosities available**
- **With connection for optional liquid alarm sensor LA3**
- **Medium and ambient temperature: max. +80 °C**
- **Low internal dead volume**
- **Straightforward filter element change without tools**
- **Universal usability**

Application

The solid contaminations occurring in analytical technology during gas filtration, in particular ultra-fine particles, are reliably separated by the M&C front-panel mounting filter. The large filter surface of the cylindrical, 75 mm long filter element guarantees reliable ultra-fine filtration and a long service life with low pressure loss.

The optionally integrated liquid alarm sensor LA3 is used in gas conditioning systems for monitoring gas cooling and condensate drains to protect downstream analysis equipment. This simple monitoring device reliably signals condensate ingress in the event of a defect in cooling equipment or condensate drains and prevents expensive downtime and high repair costs for analytical equipment.

In the event of alarm, the power for the sample gas pump or a solenoid valve is to be switched off in the gas sample conditioning system.

Corresponding tube connectors can be optionally supplied (see data sheet "Flexible and rigid tube fittings, plugs and connectors with barbed fitting").

The optionally integrated liquid sensor LA3 works according to the principle of electrical conductivity from a conductance value of 50 $\mu\text{S}/\text{cm}$. To prevent electrolytic effects on the sensor surface, the sensor is operated with alternating current.

The liquid sensor is located in the sample gas inlet in such a way that any liquid droplets in the sample gas flow are directly attracted to the sensor surface due to gravity and even the smallest liquid droplets trigger a safe and fast alarm.

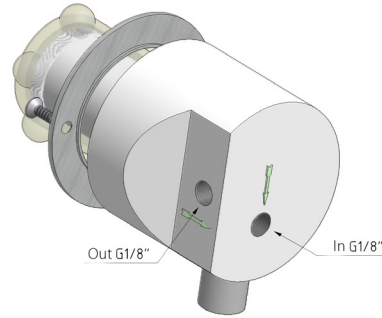
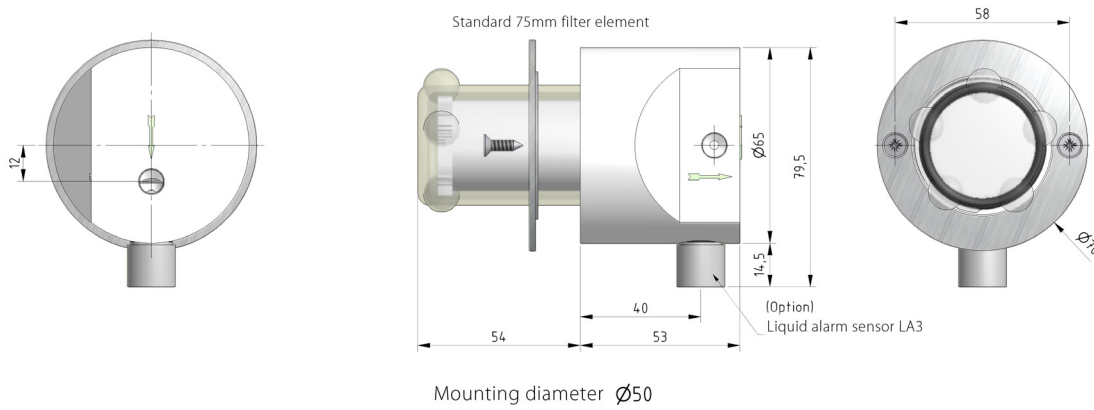
The required electronic controller LA-1 is available in various versions and is described in the separate data sheet "Electronic Controllers Series LA®".

Description

Special features of the M&C front-panel mounting filter FPF+ are the large filter surface, a great variety of different filter element materials and porosities, the integrable liquid alarm sensor LA3, low internal dead volume, simple construction and assembly as well as universal applicability.

The condition of the filter is immediately visible from the outside through the filter glass without opening the filter fitting. No tools are required for changing the filter element, whereby the optimum positioning of the O-ring always ensures a reliable sealing between the filter glass and the filter body.

The gas connections are located at the rear of the filter body. If no liquid sensor is used, the sample gas inlet at the front ring attachment can be rotated in 90° steps so that flexible adaptation to local conditions is possible during installation.



Dimensions in mm

Technical Data

Front-Panel Mounting Filter Series FP*	Version PPF+
Part No.	04F2100
Filter element	None, see options
Liquid alarm sensor	None, see options
Sample gas connections	G 1/8" female DIN ISO 228/1
Pressure	Max. 4 bar g
Sample temperature	Max. 80 °C [176 °F]
Ambient temperature	Max. 80 °C [176 °F]
Filter surface	70 cm ²
Internal dead volume	50 ml
Weight	330 g [≈ 0.7 lb] (without filter element, with liquid alarm sensor LA3)
Type of mounting	Front-panel mounting
Material of sample contacting parts	PTFE, glass, FKM

* The dimensions and designation of the screw-in threads correspond to the respective applicable standard. The tolerances of the thread standards are matched to metal threads and cannot be applied to plastic threads.
Appropriate fittings, see data sheet "Flexible and rigid tube fittings, plugs and connectors with barbed fitting"

Options

Part No.	Description
03E1300	Liquid alarm sensor type LA3**, for conductive media, for mounting in PPF+, material: SS 316Ti, PTFE, FKM
90F0002	Filter element type F-2T, length: 75 mm, material: PTFE, porosity: 2 µm
90F0004	Filter element type F-20T, length: 75 mm, material: PTFE, porosity: 20 µm
90F0003	Filter element type F-50T, length: 75 mm, material: PTFE, porosity: 50 µm
90F0005	Filter element type F-3G, length: 75 mm, material: glass, porosity: 3 µm
90F0011	Filter element type F-2GF, length: 75 mm, material: glass fiber, porosity: 2 µm. VE = 25 pcs. (for mounting 2 adapter rings Part No. 93S0050 required)
90F0016	Filter element type F-0,1GF, length: 64 mm, material: glass fiber, porosity: 0.1 µm (for mounting 2 adapter rings Part No. 93S0050 required)
90F0550	Filter element type F-0,05SiC, length: 75 mm, material: ceramic, porosity: 0.05 µm
90F0006	Filter element type F-2K, length: 75 mm, material: ceramic, porosity: 2 µm
90F0007	Filter element type F-20K, length: 75 mm, material: ceramic, porosity: 20 µm
90F0008	Filter element type F-3SS, length: 75 mm, material: SS 316L, porosity: 3 µm
90F0010	Filter element type F-20SS, length: 75 mm, material: SS 316L, porosity: 20 µm
90F0115	Spun glass cartridge FW-1 for universal filter, without filling, material: SS 316Ti
90F0117	Spun glass cartridge FW-2 for universal filter, without filling, material: PVDF
93S2083	Spec. spun glass, high temperature-resistant for spun-glass cartridge FW, content: 1000 g
93S0050	Adapter ring for filter element F-0,1GF and F-2GF, material: PTFE (1 pc.)

** Appropriate electronic controller see data sheet "Electronic Controllers Series LA®"