

# Instruction Manual

## Ultra-fine filter series FP<sup>®</sup>, Version FPF-0,1 for panel-mounting

### Introduction

The **M&C** panel-mounting filter **FPF-0,1** is equipped with an extra fine glass-fibre filter element with a filter fineness of 0,1 µm. This guarantees an optimised protection of the analysers against solids.

### Description

The filter **FPF-0,1** consists of the following components:

① filter glass, ② filter element holder, ③ filter element, ④ O-ring, ⑤ filter body, ⑥ hexagon screws and ⑦ front-ring.

At the back of the **FPF-0,1** filter the G1/8"i (*DIN ISO 228/1*) connections for gas in- and outlet are located. In- and outlet are marked accordingly. The filter element ③ is fixed with the filter element holder ② on the filter body ⑤. The filter glass ① is screwed in the filter body ⑤ and covers the filter area. The filter glass presses on the O-ring ④ which guarantees the tightness of the device. The front-ring ⑦ with it's hexagon screws fixes the filter **FPF-0,1** in the front panel.

### Function

The sample gas enters the filter via the gas inlet from the outer side of the filter element to the inner side and leaves the filter via the outlet connection.

### Maintenance

Before the maintenance work is carried out, it is necessary that the specific safety procedures pertaining to the system and operational process be observed! Maintenance intervals depend on the process conditions and have to be determined specifically. The maintenance work is focused on the check of the filter element respectively the change of the element.

### Change of the filter element

Please carry out the following steps:

- before changing the element shut off the gas way to the filter and if necessary sweep the filter with inert gas;
- unscrew by hand the filter glass anticlockwise (the direction is marked on the front-ring);
- unscrew by hand the filter element holder anticlockwise;
- dismantle the filter element;
- Check the right position of the o-ring before assembling the filter
- clean the filter housing respectively the filter glass if necessary and re-install the new filter element in the opposite turn

### Spare parts

Wear, tear and replacement part requirements depend on specific operating conditions.

The recommended quantities are based on experience and are not binding.

Ultra-fine filter version <b>FPF-0,1</b> (C) consumable parts, (R) recommended spare parts and (T) spare parts						
Article-No.	Description	V/E/T	Recommended quantity for operation [years]			
			1	2	3	
90 F 0009	Glass-fibre filter element <b>F-0,1GF 50</b> , fineness 0,1µm,	③	C	12	24	36
90 F 0097	Glass-fibre filter element <b>F-2GF 50</b> , fineness 2µm,	③	C	12	24	36
90 F 0096	Stainless steel filter element <b>F-3SS50</b> , 3µm*,	③	C	2	4	6
90 F 0118	Filter glass <b>F-45</b> ,	①	R	1	2	2
90 F 0043	O-ring of Viton <sup>®</sup> , <b>41</b> for FPF-0,1 until <b>5.93</b> ,	④	R	1	2	2
90 F 0044	O-ring of Viton <sup>®</sup> , <b>35</b> for FPF-0,1 from <b>6.93</b> ,	④	R	1	2	2
90 F 0095	PVDF filter element holder <b>FPF-GF</b> , for elements <b>0,1GF50 / 3SS 50</b>	②	S	-	1	1
90 F 0094	PVDF filter element holder <b>FPF-P</b> , for elements <b>2GF 50</b> *	②	S	-	1	1

\*Option

Installation, maintenance, monitoring and any repairs may only be done by authorised personnel with respect to the relevant stipulations.

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## Ultra-fine filter series FP<sup>®</sup>, Version FPF-0,1 for panel-mounting

### Application

The M&C front panel-mounting extra-fine filters reliably separate solids, in particular very fine particles, occurring in analysis techniques in gas filtration, using very fine, deep-acting filter elements. The large filter surface of the cylindrical filter element guarantees reliable extra-fine filtration and a long service life with low pressure drop.

The 19" front-plate mounting equipment requires flat-design equipment for which the FPF-0,1 extra-fine filter has primarily been developed.

### Description

Special features of the M&C FPF-0,1 front panel-mounting filter are flat design, low dead volume, simple construction and assembly as well as universal usability.

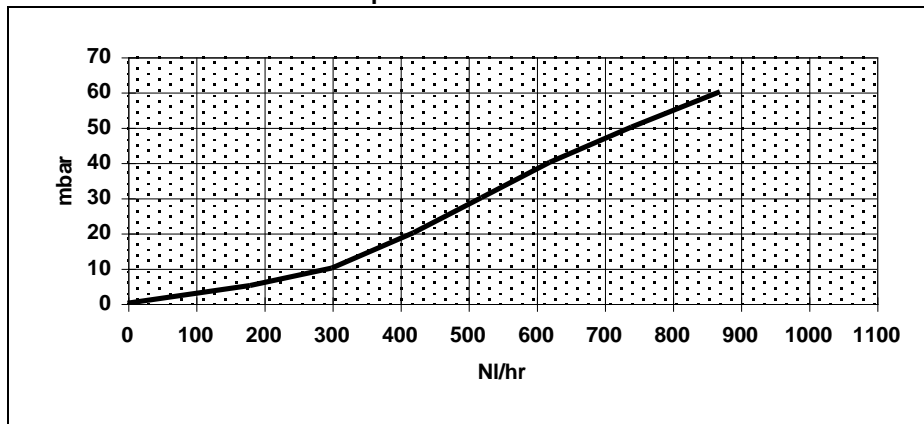
The condition of the filter can be seen immediately from outside through the filter glass without opening the filter fitting. No tools are needed for changing the filter element; here, the optimum positioning of the sealing O-ring always guarantees reliable sealing of the filter glass in respect of the filter body. The gas connections are located at the back in the filter body. The inlet of the measuring gas can be turned by 180° at the front ring attachment so that a flexible adjustment to local conditions is possible when assembling.

Corresponding tube connectors can be optionally supplied.

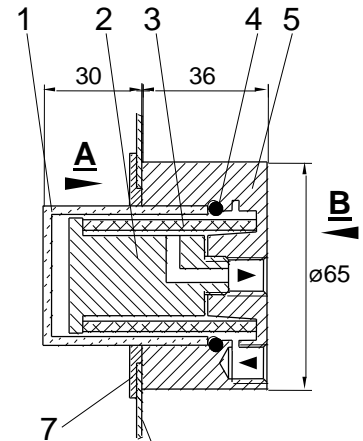
### Technical Data

<b>Front panel-mounting fine filter series FP<sup>®</sup></b>	<b>version FPF-0,1</b>
Part N°.	<b>04 F 1000</b>
Filter element	Glassfibre 0,1µm ( <i>others on request</i> )
Connections	G1/8" i DIN ISO 228/1
Pressure	max. 4 bar
Sample temperature	max. 80°C
Ambient temperature	max. 80°C
Filter surface	50 cm <sup>2</sup>
Dead volume	30 ml
Weight	280 g
Type of mounting	Front panel mounting
Material of sample contacting parts	PVDF, PTFE, glass, FPM

### Air flow in NI/hr and differential pressure in mbar with new filter element

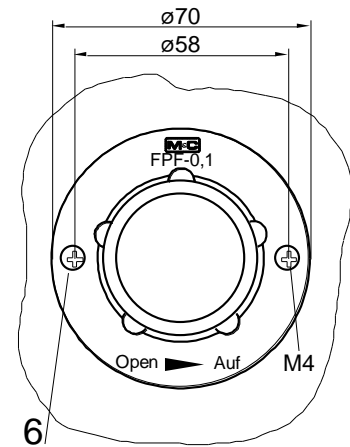


### Panel-mounting filter FPF-0,1

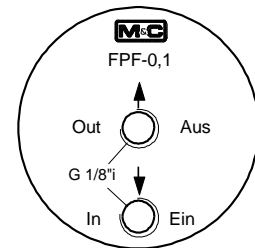


Drilling in front panel ø50

#### A



#### B



dimensions in mm.