



Universal Filter Series FP[®], FT[®]

Version FP, FT, FS, FSS

- **Universal in use**
- **Modular construction**
- **High variety of materials**
- **Deep-acting filter element**
- **Reliable separation of solids**
- **Wall mounting**
- **Easy maintenance**

Application

M&C Universal Filters reliably separate solids, in particular extremely fine particles, occurring in analysis techniques in gas filtration, using very fine, deep-acting filter elements. Thanks to their universal design, the filters can also be used as separators (without a filter element), liquid filters or, with adsorption cartridges, as an adsorption filter.

For ambient or medium temperatures up to 180 °C, a stainless steel version **FSS** or **FT-H** version can be offered.

Description

The modular construction of the filters and the compatibility of the mounting components – filter head, filter body and filter element – enable the ease of mounting, perfectly adaptable to local mounting situations of each particular process.

Filter elements of various materials and porosities are available. The extent of soiling and filtering condition of the element can be seen from outside, without the filter housing to be opened (except in the case of **FSS** filters).

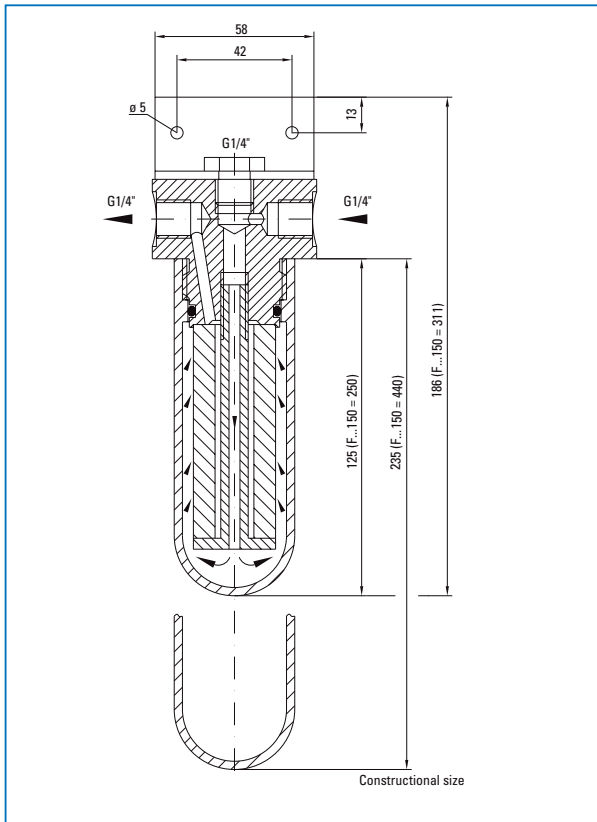
No tools are needed to replace the element and the optimum positioning of the o-ring always ensures that the filter body is reliably sealed with respect to the filter head.

The filters are designed so that only liquid free gas flows through the filter elements when condensation occurs.

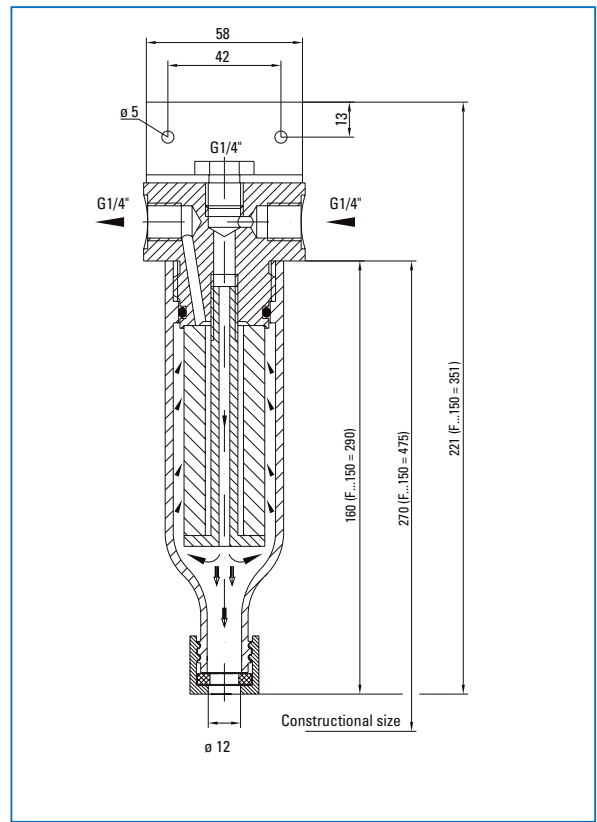
With the **F.../D** series, a condensate trap or a liquid in- and outlet can be turned 180° on the mounting bracket to achieve ease of mounting and flexible adaptation to local circumstances.

Dimensions

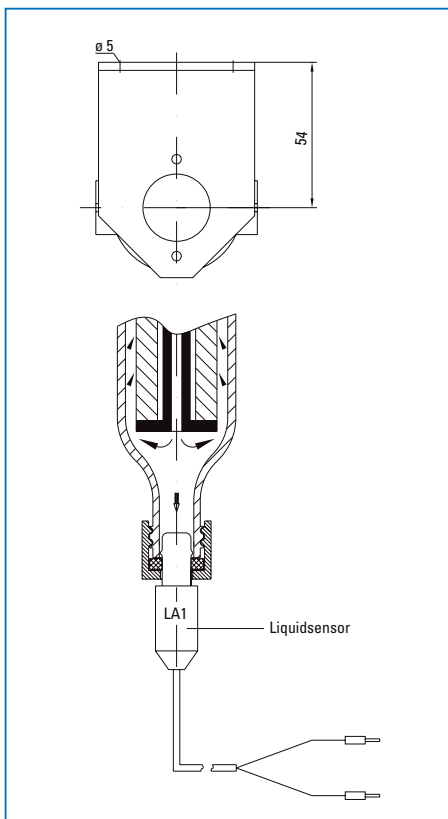
FP, FT, FS, FSS



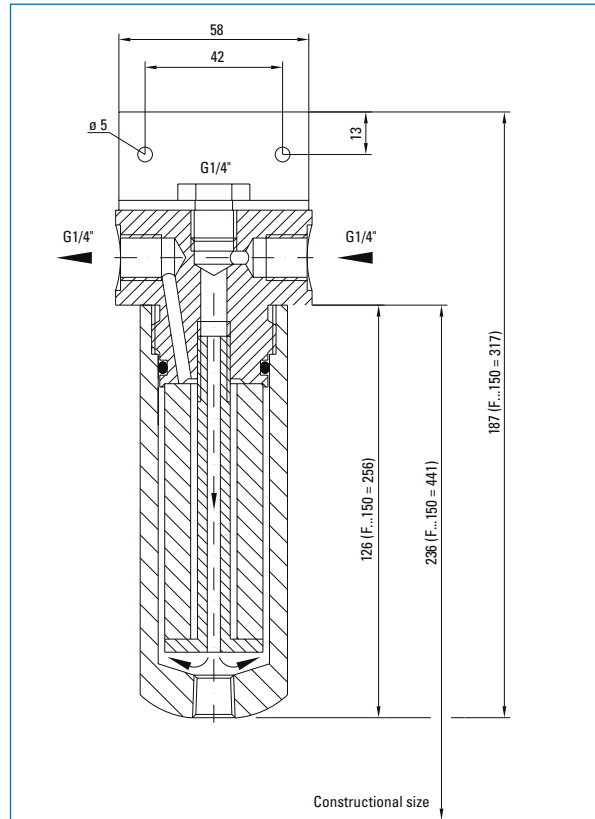
FP-D, FT-D, FS-D



FP-D, FT-D, FS-D with LA1



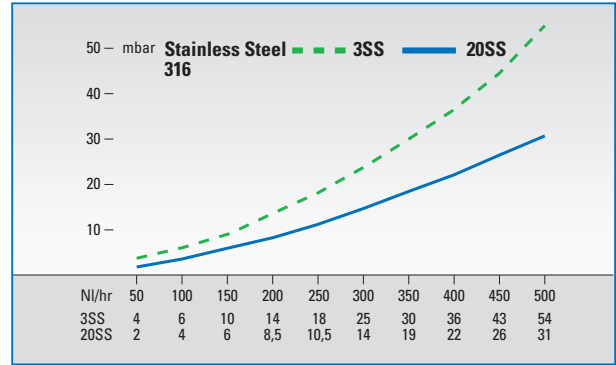
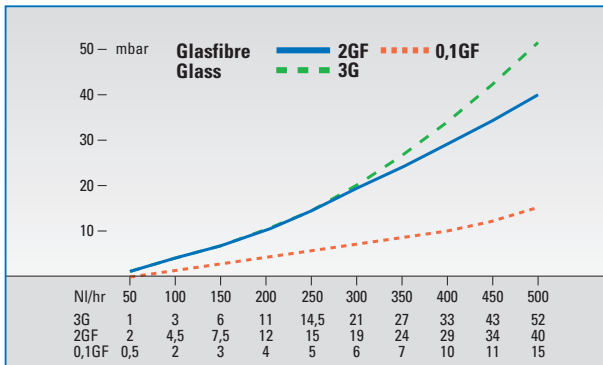
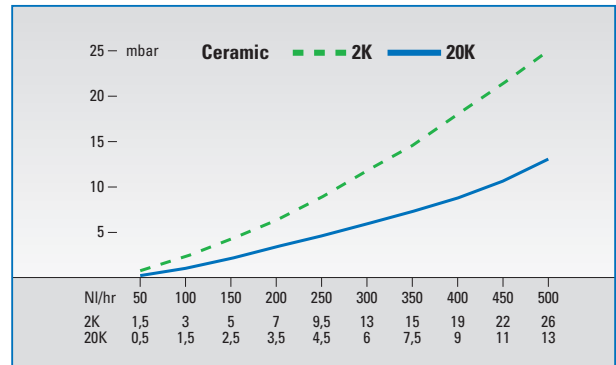
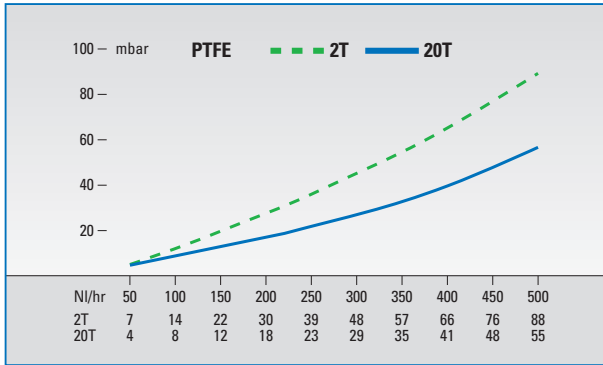
FSS-D



Dimensions in mm

2/4

Flow rate in NI/hr air and Differential pressure in mbar with clean filter elements.



Technical Data

	FP, FT, FT-H, FS	FP-D, FT-D, FS-D	FSS, FSS-D
Length of filter element	75 mm, Option: F...150 = 150 mm		
Sample connections: Gas inlet/-outlet	3x G1/4i (1x closed) DIN ISO 228/1 FS, FSS, FSS-D: optional NPT		
Condensate connection		GL25 - ø12 mm	FSS-D = G1/4i, optional NPT
Pressure at 20 °C	max. 5 bar abs.		max. 2 bar abs. 250bar*, F...150 = 200 bar*
Pressure with GL-connection adapter			5 bar abs.
stagnant space	65 cm ³ , F...150 = 180 cm ³		75 cm ³ , F...150 = 190 cm ³
Filter surface	70 cm ² , F...150 = 140 cm ²		40 cm ³ , F...150 = 70 cm ³
Materials: Filter head	PVDF, PTFE, PTFE-ko, stainless steel 316Ti		stainless steel 316Ti
Filter body	Glass		stainless steel 316Ti
Filter element	PTFE, glass, glass fibre, ceramic, stainless steel, wire cloth stainl. steel		
Seals: O-ring	FP/-D, FT-H, FS/-D = FPM, FT/-D = FEP		FPM
...-D-connection			PTFE/Silikon
Temperature of ambient or sample max.	80 °C PVDF, 100 °C PTFE, 180 °C PTFE-ko, stainless steel, glass (fibre), ceramics		
Method of mounting	Wall mounting		
Weight approx.	0,4-1,0 / F...150 = 0,5-1,2 kg		1,5 / F...150 = 2,0 kg

* at 180 °C, 50 bar

Universal-Filters

Filter-Elements	Filterhead	Filterbody	Filter-Type	P. N. F.-... F.-...-D	
PTFE F-2T, 2 µm F-20T, 20 µm F-50T, 50 µm	universal in use	PVDF	Glass	FP-2T /-D	01 F 1200 02 F 1000
		PVDF	Glass	FP-20T /-D	01 F 1400 02 F 1200
		PTFE	Glass	FT-2T /-D	01 F 2200 02 F 2000
		PTFE	Glass	FT-20T /-D	01 F 2400 02 F 2200
		st. Steel 316Ti	Glass	FS-2T /-D	01 F 4000 02 F 2650
		st. Steel 316Ti	Glass	FS-20T /-D	01 F 4100 02 F 2660
		st. Steel 316Ti	Glass	FS-50T /-D	01 F 1410
		st. Steel 316Ti	st. Steel 316Ti	FSS-2T /-D	01 F 7100 02 F 2665
st. Steel 316Ti	st. Steel 316Ti	FSS-20T /-D	01 F 7250 02 F 2670		
Glass (G) F-3G, 3 µm	universal in use	PVDF	Glass	FP-3G /-D	01 F 1850 02 F 1480
		PTFE	Glass	FT-3G /-D	01 F 2850 02 F 2050
		st. Steel 316Ti	Glass	FS-3G /-D	01 F 6500 02 F 2692
		st. Steel 316Ti	st. Steel 316Ti	FSS-3G /-D	01 F 7300 02 F 2675
Glassfibre (GF) F-2GF, 2 µm	for high dust loadings	PVDF	Glass	FP-2GF /-D	01 F 1900 02 F 1490
		PTFE	Glass	FT-2GF /-D	01 F 2900 02 F 2100
		st. Steel 316Ti	Glass	FS-2GF /-D	01 F 6600 02 F 2715
		st. Steel 316Ti	st. Steel 316Ti	FSS-2GF /-D	01 F 7200 02 F 2677
Glassfibre (GF) F-0, 1GF, 0,1 µm	for ultra fine filtration	PVDF	Glass	FP-0, 1GF /-D	01 F 1500 02 F 1500
		PTFE	Glass	FT-0, 1GF /-D	01 F 2950 02 F 2400
		st. Steel 316Ti	Glass	FS-0, 1GF /-D	01 F 6700 02 F 2710
		st. Steel 316Ti	st. Steel 316Ti	FSS-0, 1GF/-D	01 F 7150 02 F 2685
Ceramic F-2K, 2 µm F-20K, 20 µm	large separation at low differential pressure	PVDF	Glass	FP-2K /-D	01 F 1000 02 F 1300
		PVDF	Glass	FP-20K /-D	01 F 1100 02 F 1310
		PTFE	Glass	FT-2K /-D	01 F 2000 02 F 2300
		PTFE	Glass	FT-20K /-D	01 F 2100 02 F 2310
		st. Steel 316Ti	Glass	FS-2K /-D	01 F 5000 02 F 2550
		st. Steel 316Ti	Glass	FS-20K /-D	01 F 5100 02 F 2560
		st. Steel 316Ti	st. Steel 316Ti	FSS-2K /-D	01 F 7050 02 F 2690
		st. Steel 316Ti	st. Steel 316Ti	FSS-20K /-D	01 F 7060 02 F 2695
Stainless Steel 316L F-3SS, 3 µm F-20SS, 20 µm	for high pressure humid and trace gas measurement	PVDF	Glass	FP-3SS /-D	01 F 1600 02 F 1550
		PVDF	Glass	FP-20SS /-D	01 F 1800 02 F 1560
		PTFE	Glass	FT-3SS /-D	01 F 2600 02 F 2600
		PTFE	Glass	FT-20SS /-D	01 F 2800 02 F 2500
		st. Steel 316Ti	Glass	FS-3SS /-D	01 F 6000 02 F 2667
		st. Steel 316Ti	Glass	FS-20SS /-D	01 F 6010 02 F 2680
		st. Steel 316Ti	st. Steel 316Ti	FSS-3SS /-D	01 F 7000 02 F 2700
		st. Steel 316Ti	st. Steel 316Ti	FSS-20SS /-D	01 F 7010 02 F 2705
Wire cloth Stainless Steel 316L F-100SSG, 100 µm F-250SSG, 250 µm		st. Steel 316Ti	st. Steel 316Ti	FSS-100SSG	01 F 7015
		st. Steel 316Ti	st. Steel 316Ti		

All filter units are also available with double-size element F-3G 150, F-2K 150 and F-0,1GF 150, and types FS, FSS with NPT thread.

To avoid damage of gas analysers by faulty pre-installed gas drying systems **M&C** recommends a liquid alarm. Liquid sensors incl. electronics, on request see 5-5.1.1/5-5.1.2/5-5.3.

For special application see datasheet

Panel mounting filters 5-0.1, heated filters 5-2.1.1/5-2.1.5, separators 3-6.1.1/3-6.2.1/3-6.2.3, liquid filters 5-4.1, adsorption cartridges 5-1.10.1, washing bottles 5-1.10.3, fluid particle filters 5-1.10.7/5-1.10.8.

Option

Perspex cover type **PS** incl. threading PVDF and mounting on the filter glass F-120G Part No. **90F0032**

Perspex cover PS and thread adaptor piece PS 1

