



FT®, FSS®, FP®, FS®

Universal Filter Series FP®, FT®

Versions FP, FT, FS, FSS

Special Features

- Universal in use
- Modular design
- Large variety of materials
- Deep-acting filter element
- Reliable separation of solids
- Wall-mounting bracket
- 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 adsorption filters.

For ambient or medium temperatures up to 180 °C [356 °F], a stainless steel version FSS or FT-H version can be offered.

Description

The modular design of the filters and the compatibility of the fitting components filter head, filter body and filter element enable optimum adaptation to process conditions.

Elements of different materials and porosities are available and their degree of contamination and condition can be assessed from the outside without having to open the filter housings (not with FSS).

No tools are required for element replacement, and the optimum positioning of the O-ring always ensures a safe sealing between the filter body and the filter head.

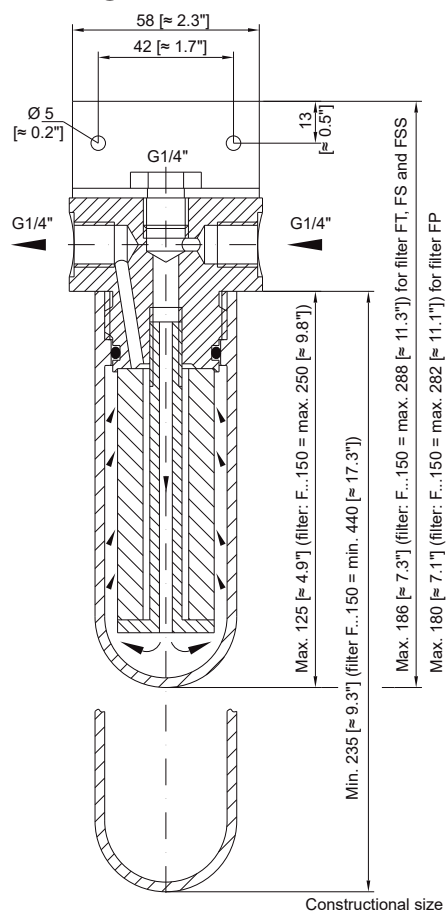
The filters are designed in such a way that only liquid-free gas flows through the filter elements when condensation droplets accumulate.

The versions FP-D, FT-D, FS-D and FSS-D can also be connected to a condensate trap or a liquid alarm sensor. Filter inlet and outlet can be rotated 180° on the mounting bracket so that flexible adaptation to local conditions is possible during installation.

Dimensions

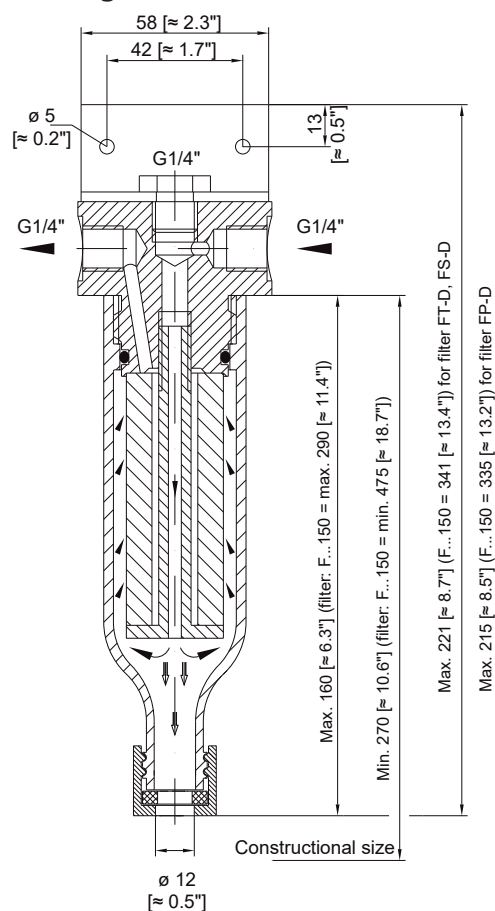
FP, FT, FS, FSS

(Drawing shows filter FT)

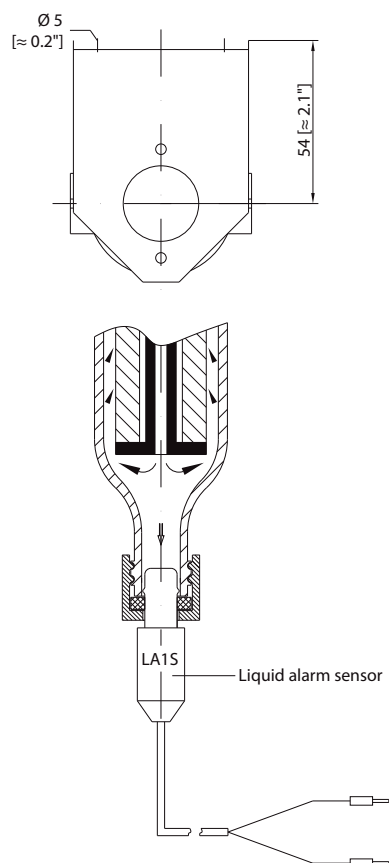


FP-D, FT-D, FS-D

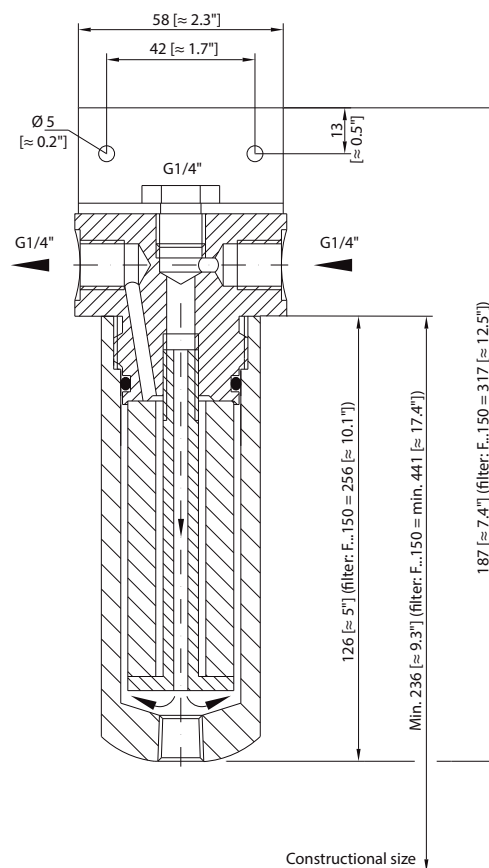
(Drawing shows filter FT-D)



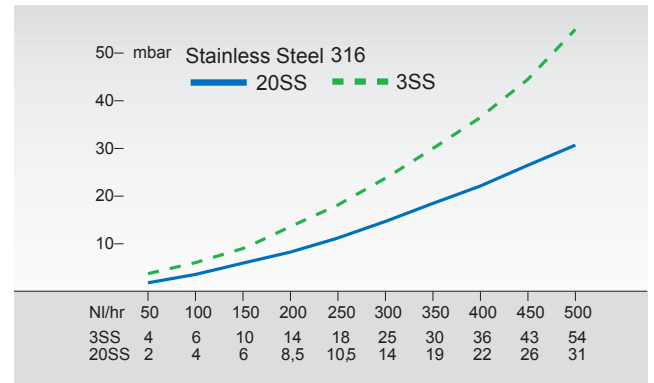
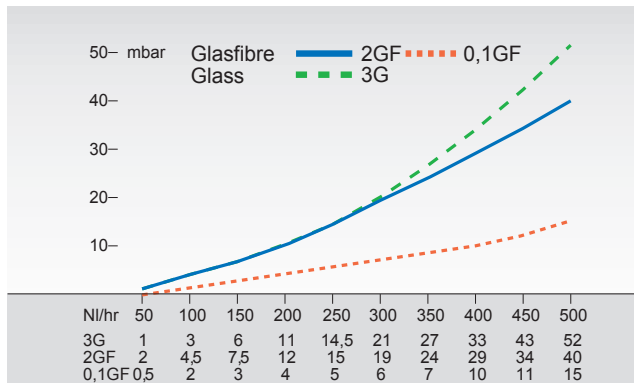
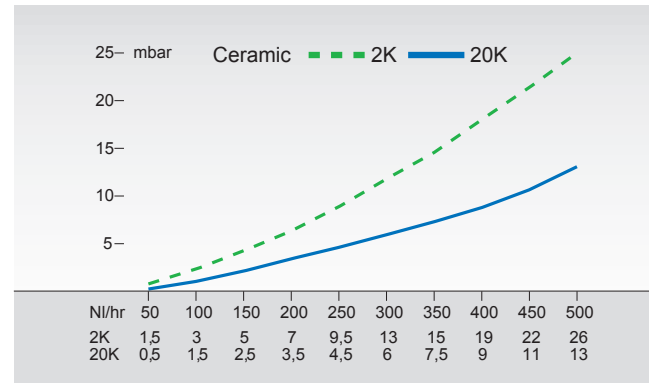
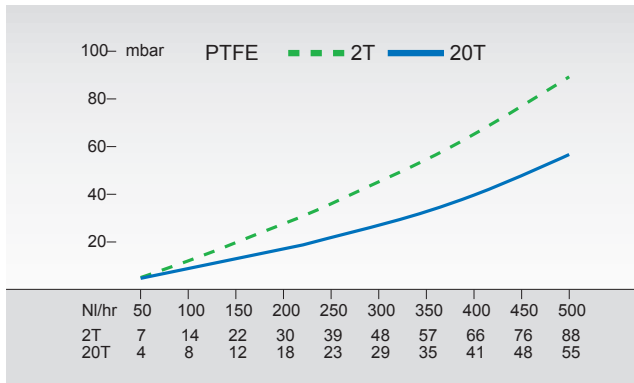
FP-D, FT-D, FS-D with LA1



FSS-D



Flow rate in NI/h 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 | 3 x G 1/4i (1 x closed) DIN ISO 228/1* FS, FSS, FSS-D: optional NPT | | |
| Condensate connection | | GL 25 - ø 12 mm | FSS-D = G 1/4 i, optional NPT |
| Pressure at 20 °C [68 °F] | Max. 5 bar abs. | Max. 2 bar abs. | 250 bar**, F...150 = 200 bar** |
| Pressure with GL connection adapter | | 5 bar abs. | |
| Internal dead volume | 65 cm ³ , F...150 = 180 cm ³ | 75 cm ³ , F...150 = 190 cm ³ | 40 cm ³ , F...150 = 70 cm ³ |
| Filter surface | 70 cm ² , F...150 = 140 cm ² | | |
| Materials: Filter head | PVDF, PTFE, PTFE-ko, stainless steel 316Ti | | Stainless steel 316Ti |
| Filter body | Glass | | Stainless steel 316Ti |
| Filter element | PTFE, glass, glass fiber, ceramic, stainless steel, wire cloth stainl. steel | | |
| Seals: O-ring | FP/-D, FT-H, FS/-D = FKM, FT/-D = FEP | | |
| ...-D-connection | PTFE/silicone | | FKM |
| Temperature of ambient or sample max. | 80 °C [176 °F] PVDF, 100 °C [212 °F] PTFE, 180 °C [356 °F] PTFE-ko, stainless steel, glass (fiber), ceramics | | |
| Method of mounting | Wall-mounting | | |
| Weight approx. | 0.4-1.0 / F...150 = 0.5 to 1.2 kg [≈ 1.1 to 2.7 lbs] | | 1.5/F...150 = 2.0 kg [≈ 4.4 lbs] |

* The thread lengths 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.

** At 180 °C [356 °F], 50 bar

Please note: NI/h and NI/min refer to the German standard DIN 1343 and are based on these standard conditions: 0 °C [32 °F], 1013 mbar.

Universal Filters



| Filter Elements | Filter Head | Filter Body | Filter Type | | Part No. F...-D | F...-D | |
|-------------------------------------------------------------------------|---------------------------------------------------|---------------------|---------------------|------------|--------------------|---------|---------|
| PTFE F-2T, 2 µm F-20T, 20 µm | universal in use | PVDF | Glass | FP-2T | /-D | 01F1200 | 02F1000 |
| | | PVDF | Glass | FP-20T | /-D | 01F1400 | 02F1200 |
| | | PTFE | Glass | FT-2T | /-D | 01F2200 | 02F2000 |
| | | PTFE | Glass | FT-20T | /-D | 01F2400 | 02F2200 |
| | | Stainl. steel 316Ti | Glass | FS-2T | /-D | 01F4000 | 02F2650 |
| | | Stainl. steel 316Ti | Glass | FS-20T | /-D | 01F4100 | 02F2660 |
| | | Stainl. steel 316Ti | Glass | FS-50T | /-D | 01F1410 | |
| | | Stainl. steel 316Ti | Stainl. steel 316Ti | FSS-2T | /-D | 01F7100 | 02F2665 |
| F-50T, 50 µm | universal in use | Stainl. steel 316Ti | Stainl. steel 316Ti | FSS-20T | /-D | 01F7250 | 02F2670 |
| | | PVDF | Glass | FP-3G | /-D | 01F1850 | 02F1480 |
| | | PTFE | Glass | FT-3G | /-D | 01F2850 | 02F2050 |
| | | Stainl. steel 316Ti | Glass | FS-3G | /-D | 01F6500 | 02F2692 |
| Glass (G) F-3G, 3 µm | universal in use | Stainl. steel 316Ti | Stainl. steel 316Ti | FSS-3G | /-D | 01F7300 | 02F2675 |
| | | | | | | | |
| | | PVDF | Glass | FP-2GF | /-D | 01F1900 | 02F1490 |
| | | PTFE | Glass | FT-2GF | /-D | 01F2900 | 02F2100 |
| Glass fiber (GF) F-2GF, 2 µm | for high dust levels | Stainl. steel 316Ti | Glass | FS-2GF | /-D | 01F6600 | 02F2715 |
| | | Stainl. steel 316Ti | Stainl. steel 316Ti | FSS-2GF | /-D | 01F7200 | 02F2677 |
| | | | | | | | |
| | | | | | | | |
| Glass fiber (GF) F-0, 1GF, 0,1 µm | for ultra fine filtration | PVDF | Glass | FP-0, 1GF | /-D | 01F1500 | 02F1500 |
| | | PTFE | Glass | FT-0, 1GF | /-D | 01F2950 | 02F2400 |
| | | Stainl. steel 316Ti | Glass | FS-0, 1GF | /-D | 01F6700 | 02F2710 |
| | | Stainl. steel 316Ti | Stainl. steel 316Ti | FSS-0, 1GF | /-D | 01F7150 | 02F2685 |
| Ceramic F-2K, 2 µm F-20K, 20 µm | large separation at low differential pressure | | | | | | |
| | | PVDF | Glass | FP-2K | /-D | 01F1000 | 02F1300 |
| | | PVDF | Glass | FP-20K | /-D | 01F1100 | 02F1310 |
| | | PTFE | Glass | FT-2K | /-D | 01F2000 | 02F2300 |
| | | PTFE | Glass | FT-20K | /-D | 01F2100 | 02F2310 |
| | | Stainl. steel 316Ti | Glass | FS-2K | /-D | 01F5000 | 02F2550 |
| | | Stainl. steel 316Ti | Glass | FS-20K | /-D | 01F5100 | 02F2560 |
| | | Stainl. steel 316Ti | Stainl. steel 316Ti | FSS-2K | /-D | 01F7050 | 02F2690 |
| Stainl. steel 316Ti | Stainl. steel 316Ti | FSS-20K | /-D | 01F7060 | 02F2695 | | |
| Stainless steel 316L F-3SS, 3 µm F-20SS, 20 µm | for high pressure humid and trace gas measurement | PVDF | Glass | FP-3SS | /-D | 01F1600 | 02F1550 |
| | | PVDF | Glass | FP-20SS | /-D | 01F1800 | 02F1560 |
| | | PTFE | Glass | FT-3SS | /-D | 01F2600 | 02F2600 |
| | | PTFE | Glass | FT-20SS | /-D | 01F2800 | 02F2500 |
| | | Stainl. steel 316Ti | Glass | FS-3SS | /-D | 01F6000 | 02F2667 |
| | | Stainl. steel 316Ti | Glass | FS-20SS | /-D | 01F6010 | 02F2680 |
| | | Stainl. steel 316Ti | Stainl. steel 316Ti | FSS-3SS | /-D | 01F7000 | 02F2700 |
| | | Stainl. steel 316Ti | Stainl. steel 316Ti | FSS-20SS | /-D | 01F7010 | 02F2705 |
| Wire cloth stainless steel 316L F-100SSG, 100 µm F-250SSG, 250 µm | | | | | | | |
| | | Stainl. steel 316Ti | Stainl. steel 316Ti | FSS-100SSG | | 01F7015 | |
| | | Stainl. steel 316Ti | Stainl. steel 316Ti | FSS-250SSG | | 01F7020 | |

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

To avoid damage of gas analyzers due to faulty pre-installed gas drying systems, M&C recommends a liquid alarm sensor.

Liquid alarm sensors incl. electronic controllers, upon request see data sheets 8.1/8.2/8.3.

For special applications see data sheets

Panel-mounting filters 7.2, heated filters 7.4, separators 6.9/6.12/6.13M, liquid filters 7.12, adsorption cartridges 7.6, washing bottles 7.9, fluid particle filters 7.7/7.8.

Option

Acrylic glass protection cover PS for standard filter glass type F-120 G, part No. 90F0032, threaded counterpart PS 1 for mounting PS, part No. 90F0018

Acrylic glass cover PS and thread adaptor piece PS 1

