FF, MF, SMF SERIES

Compressed Air Filters

FF, MF & SMF

Cross section of the Coalescing Depth Filter Elements

The FF, MF, and SMF Coalescing depth filter elements for the removal of water, oil aerosols and solid particles from compressed air and gases with absolute retention efficiency.

Aircel FF, MF, and SMF filter elements utilize a three-dimensional microfiber fleece media, which is made out of glass fibers. An integrated 1 µm prefilter media provides two-stage filtration. In addition, this media will capture and retain liquid aerosols and solid particles down 0.01 µm through direct impaction, sieving and diffusion.

FF, MF, SMF Features

- Expanded inner and outer stainless steel support sleeves for the retention of the filter medium
- Borosilicate glass fiber depth filter media
- Removal of liquid aerosols and solids particles down to 0.01 µm
- Large surface area, large void volume (>94%)

FF, MF, SMF Benefits

- No danger of corrosion – large openings ensure low differential pressure drop and high throughout
- Low differential pressure drop at high flow rate
- Validated retention efficiency
- High dirt holding capacity; long service lifetime

FF, MF, SMF Applications

- Chemical
- Petrochemical
- Pharmaceutical
- Plastics
- Paint
- Food
- Beverage
- General Machine Fabrication
- Air Conditioning Technology
- Instrumentation and Control Air

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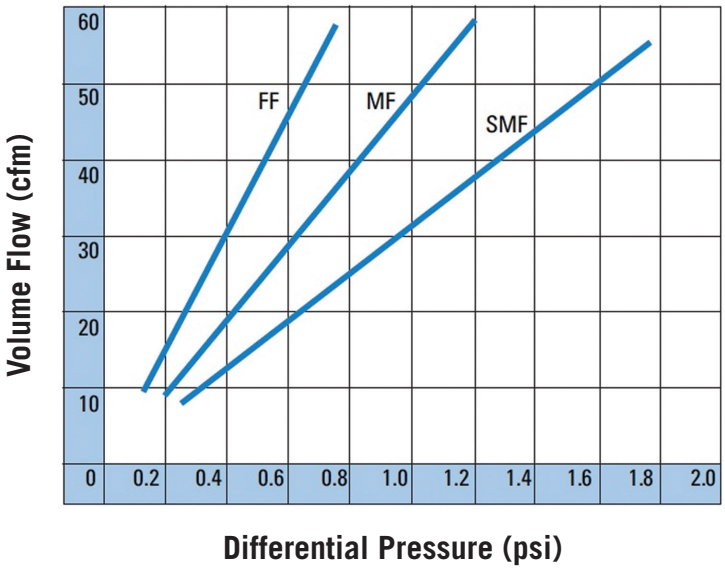
Compressed Air Performance

These curves define the flow of a 1030 filter element at standard conditions (14.7 psia; 68°F; R.H.= 70%)



The performance curve is based on 1030 element, or one ten inch equivalent (TIE), and the correction factor for filter surface Cf for a 1030 = 1.00.

FF, MF, SMF SERIES
TECHNICAL SPECIFICATIONS

FF, MF, SMF Model Comparison

Specifications

Validation: Validation of high-efficiency filters by Technical University Dresden

Maximum Differential Pressure: 72.5 psi at 68°F regardless of system pressure

Residual oil content at an inlet concentration of 3 ppm:
FF = 0.1 ppm
MF = 0.03 ppm
SMF = <0.01 ppm

Retention rate related to particles of 0.01 µm:
FF = 99.999%
MF = 99.99998%
SMF = 99.99999%

Initial Differential Pressure at Nominal Flow:
FF = 0.73 psi
MF = 1.20 psi
SMF = 1.70 psi

Materials

Pre- & After-Filter Media: Cerex
Filter Medium: Borosilicate
Outer Foam Socks: Blue polyurethane foam sock up to 176°F
HT/CR sock up to 248°F
HT/NX sock up to 356°F
Bonding: Polyurethane
End Caps: Aluminum
Two O-Rings: Perbunan – Siliconfree and free of parting compound (standard)
Support Sleeves: 304 Stainless steel (inner and outer)

Element-Type	Correction factor Filter surface CF
0205	0.08
0305	0.10
0310	0.12
0410	0.17
0420	0.19
0520	0.25
0525	0.32
0725	0.47
0730	0.68
1030	1.00
1530	1.55
2030†	2.10
3030†	3.20
3050†	5.65

† MF and SMF not available in 2030, 3030 and 3050

Example 1: Low Flow Single Element

Given: • Flow rate = 12 scfm • Pressure = 80 psig
• Using AG0002 (1–0205 MF Element)
1. Convert flow given from standard cubic feet per minute to actual cubic feet per minute
- 12 scfm x (14.7 psia / 94.7 psia) = 1.86 acfm (through the housing and element)
2. Divide by the correction factor
- 1.86 / 0.08 = 23.25 acfm (through each TIE)
3. Pressure drop through this element = 0.45 psid

Example 2: High Flow Multiple Element

Given: • Flow rate = 15,000 scfm • Pressure = 150 psig
• Using SH2200 (27 - 3030 SMF Element)
1. Convert flow given from standard cubic feet per minute to actual cubic feet per minute
- 15,500 scfm x (14.7 psia / 164.7 psia) = 1,383 acfm (through the housing)
2. Divide by number of elements
- 1,383 / 27 = 51.2 acfm (through each element)
3. Divide by correction factor
- 51.2 / 3.20 = 16 acfm (through each TIE)
4. Pressure drop through these elements = 0.52 psid

Due to a continuous program of product improvement, specification and dimensions are subject to change without notice.

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