

**Donaldson® P-FF, P-MF, and P-SMF coalescing depth filters are used for the removal of water, oil aerosols and solid particles from compressed air and gases with absolute retention efficiency.**

The coalescing filter uses a three dimensional micro fiber fleece made out of binderfree glass fiber. A 1 µm pre-filter medium is integrated and allows for effective two-stage filtration.

By using various filtration mechanisms such as impaction, sieving, and diffusion, liquid aerosols and solid particles down to the size of 0.01 µm are being retained in the filter.



**P-FF, P-MF, and P-SMF**

## APPLICATIONS

The P-FF, P-MF and P-SMF coalescing filters are used in the following industries:

- Chemical
- Petrochemical
- Pharmaceutical
- Plastics
- Paint
- General machine fabrication
- Food
- Beverage
- Instrumentation and control air

FEATURES	BENEFITS
Expanded inner and outer stainless steel support sleeves for the secure hold of the filter medium	No danger of corrosion – large openings ensure low differential pressure drop and high throughput
Binderfree depth filter medium made of borosilicate glass	Low differential pressure drop
Removal of liquid aerosols and solid particles down to 0.01 µm	Validated retention efficiency, high level of contaminant removal
Large media surface area	High dirt holding capacity, long service life

## SPECIFICATIONS

MATERIALS	
Filter Media	Borosilicate microfiber with polyurethane foam drainage layer
Pre- & After-Filter Media	Cerex®*
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	304 SS
O-Rings	Buna
Inner and Outer Support Sleeves	304 SS

\* Cerex® is a registered trademark of Cerex Advanced Fabrics, Inc.

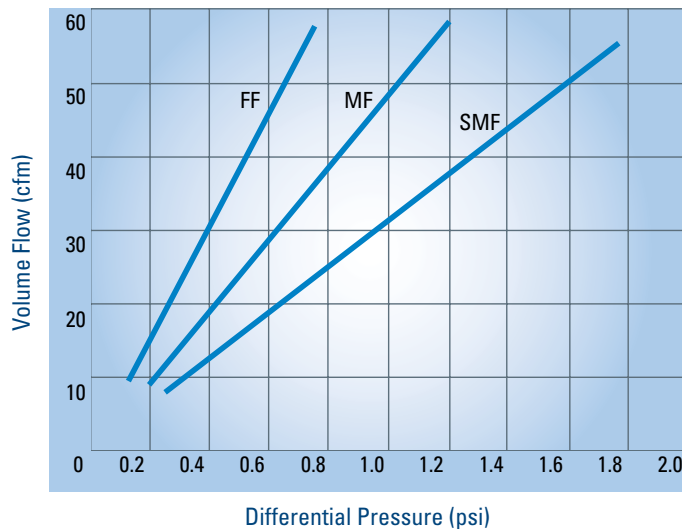
### Pressure Drop Calculations

Element Size	Correction Factor Filter Surface (C <sub>F</sub> )
03/10	0.12
04/10	0.17
04/20	0.19
05/20	0.25
05/25	0.32
07/25	0.47
07/30	0.68
10/30	1.00
15/30	1.55
20/30	2.10
30/30	3.20
30/50	5.65

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

Validation	Validation of high-efficiency filters by Technical University Dresden
Residual oil content at an inlet concentration of 3 mg/m <sup>3</sup>	FF = 0.1 mg/m <sup>3</sup> MF = 0.03 mg/m <sup>3</sup> SMF = <0.01 mg/m <sup>3</sup>
Retention rate related to particles of 0.01 µm	FF = 99.999% MF = 99.99998% SMF = 99.99999%
Maximum Differential Pressure	72.5 psi at 68°F regardless of system pressure
Initial Differential Pressure at Nominal Flow	FF = 0.73 psi MF = 1.20 psi SMF = 1.70 psi

### P-FF, P-MF, P-SMF Element Performance — Compressed Air



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

#### Important Notice

Many factors beyond the control of Donaldson can affect the use and performance of Donaldson products in a particular application, including the conditions under which the product is used. Since these factors are uniquely within the user's knowledge and control, it is essential the user evaluate the products to determine whether the product is fit for the particular purpose and suitable for the user's application. All products, specifications, availability and data are subject to change without notice, and may vary by region or country.



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#### F117025 (04/17) ENG P-FF, P-MF, P-SMF Coalescing Filter Elements

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