



# FF, MF, SMF ULTRAPLEAT™

## COALESCING FILTER ELEMENTS

fits Donaldson AG, SG, & HD housings

Process Filtration

**The FF, MF, and SMF coalescing depth filters use Ultrapleat™ media to remove water, oil aerosols and solid particles from compressed air and gases with absolute retention efficiency.**

The Ultrapleat technology optimizes the flow design of filtration media and pleat shape. With this new technology, high filtration efficiency is maintained while reducing the differential pressure and increasing the media surface area.

The filter element uses a three dimensional borosilicate microfiber, which is oleophobic and hydrophobic. By using various filtration mechanisms such as impaction, sieving, and diffusion, liquid aerosols and solid particles down to 0.01 µm are retained in the filter.

### APPLICATIONS

FF, MF, and SMF Ultrapleat coalescing depth filter elements are ideal in the following industries and applications:

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



**FF, MF, SMF ULTRAPLEAT™**

FEATURES	BENEFITS
Binderfree media	Binders are often used to support the media fiber; however, binders can block the airflow path and cause an increase in pressure drop. Donaldson media is binderfree, which reduces pressure drop across the element.
Optimized flow design	Allows for low pressure loss, saving on energy consumption
Expanded inner and outer stainless steel support sleeves	No danger of corrosion – large openings ensure low differential pressure drop and high throughput
All media – including coalescing layer – is secured within the expanded outer liner	There is no risk of the coalescing sleeve inflating past element dimensions
Removal of liquid aerosols and solid particles down to 0.01 µm	Validated retention efficiency, high level of contaminant removal
Pleated design allows for large media surface area	High dirt holding capacity and long service life compared to wrapped elements

# SPECIFICATIONS

MATERIALS	
Filter Media	Borosilicate
Coalescing Sleeve	Polyester
Inner and Outer Support Liner	304 Stainless steel
Bonding	Polyurethane
End Caps	Aluminum
Two O-Rings	Buna, silicone free and free of parting compound (standard)

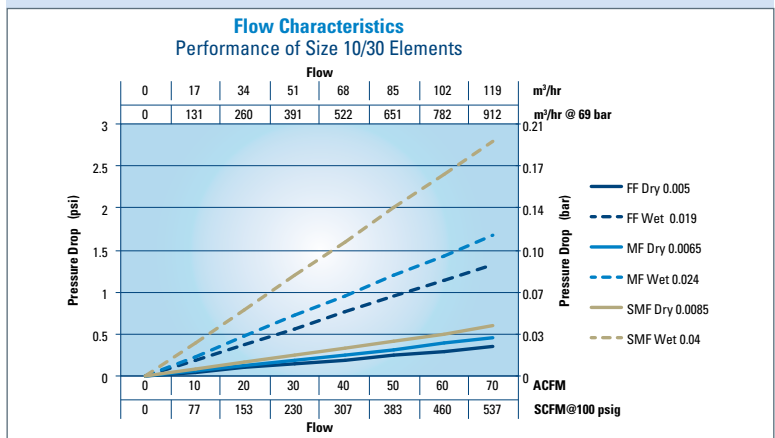
PERFORMANCE CHARACTERISTICS			
Oil removal efficiency (based on ISO12500-1)	FF = 99%	MF = 99.4%	SMF = 99.9%
Retention rate related to particles of 0.01 µm	FF = 99.999%	MF = 99.99998%	SMF = 99.99999%
Maximum Differential Pressure	5.0 bar at 20° C (72.5 psi at 68° F) regardless of system pressure		
Initial Differential Pressure at Nominal Flow (Housing with element)	FF = .035 bar (0.5 psi)	MF = .041 bar (0.6 psi)	SMF = .048 bar (0.7 psi)

## PRESSURE DROP CALCULATIONS

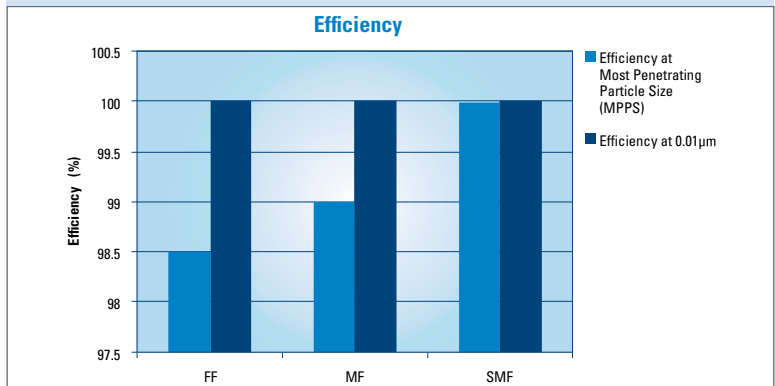
ELEMENT SIZE	CORRECTION FACTOR FILTER SURFACE (CF)
02/05	0.03
03/05	0.05
03/10	0.08
04/10	0.12
04/20	0.17
05/20	0.25
05/25	0.37
07/25	0.50
07/30	0.67
10/30	1.00
15/30	1.50
20/30	2.00
30/30	2.66
30/50	4.00

The flow characteristics chart is based on 10/30 element, or one ten inch equivalent (TIE). The scale of the x-axis can be modified to represent other element sizes by multiplying the flow values shown by the CF of the respective element size.

## FLOW CHARACTERISTICS



## RETENTION EFFICIENCY



**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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