



# FFP, MFP, SMFP ULTRAPLEAT™

## COALESCING FILTER ELEMENTS

fits Donaldson AG, SG, & HD housings

Process Filtration

**The FFP, MFP, and SMFP silicone-free 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

FFP, MFP, and SMFP Ultrapleat coalescing depth filter elements are ideal in the following industries and applications:

- Automotive
- Chemical
- Pharmaceutical
- Petrochemical/Plastics
- Paint
- PCB assembly
- CD manufacturing
- Surface finishing
- Machine building
- Plant engineering/construction
- Energy and power generation



**FFP, MFP, SMFP 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)                         | FFP = 99%  | MFP = 99.4%              | SMFP = 99.9%              |
| Retention rate related to particles of 0.01 µm                       | FFP = 99.999%  | MFP = 99.99998%          | SMFP = 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) | FFP = .035 bar (0.5 psi)   | MFP = .041 bar (0.6 psi) | SMFP = .048 bar (0.7 psi) |

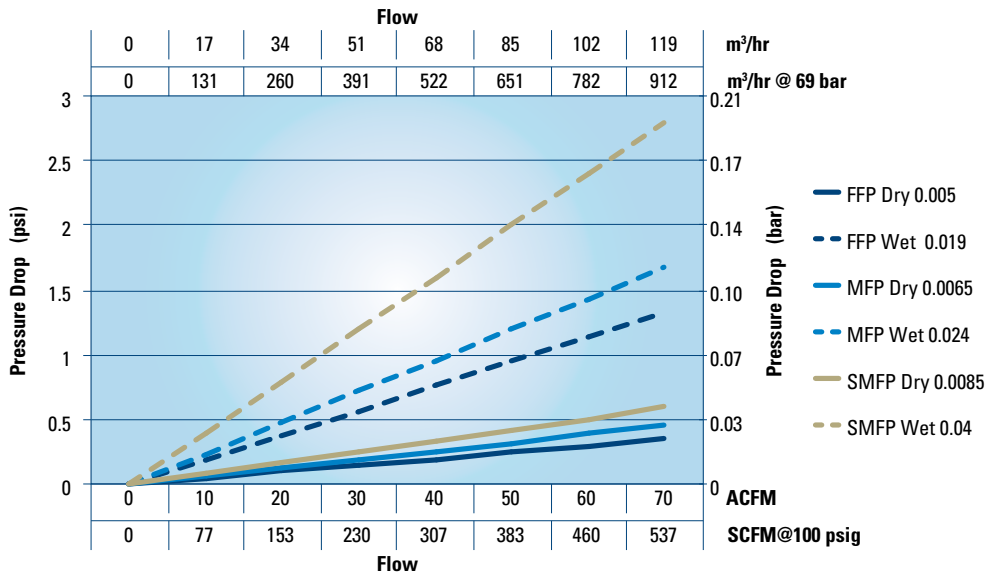
### PRESSURE DROP CALCULATIONS

| 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.

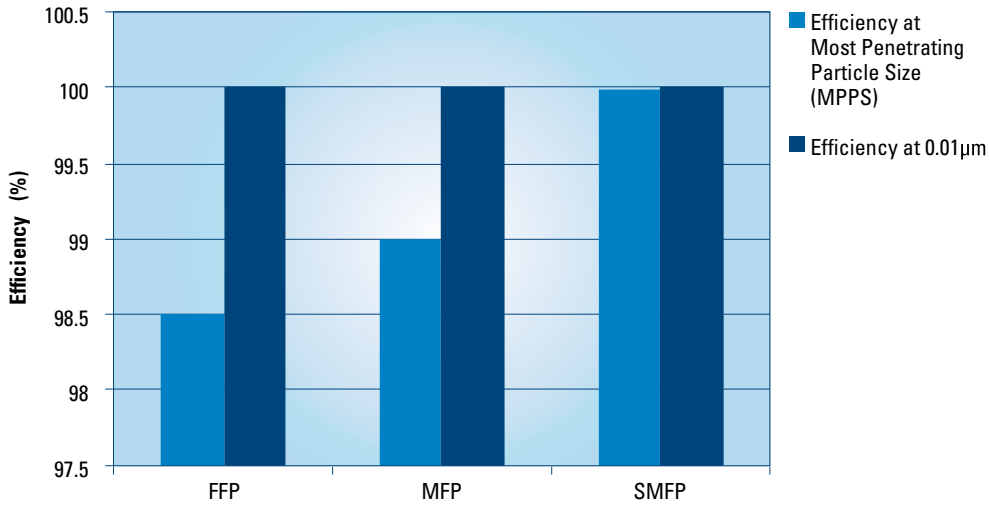
**FLOW CHARACTERISTICS**

Performance of Size 10/30 Elements



**RETENTION EFFICIENCY**

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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