



# DF-THREE SERIES

## THREE-STAGE FILTERS

fits Donaldson DF housings

Process Filtration

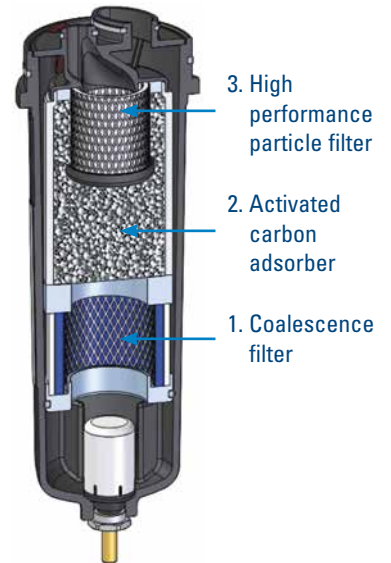
Donaldson® three-stage filters are a compact solution that combines the performance of three separate filters in a single unit.

1. Coalescence filter for the removal of oil/water aerosols and particles
2. Activated carbon adsorber (packed bed) for the removal of oil vapors and other hydrocarbons
3. High performance particle filter to achieve Class 1 quality according to ISO 8573-1: 2010

The three-stage filter is ideally suited as a final filter when the highest quality of compressed air is required. By combining several purification stages in only one filter housing, the DF-Three is a compact solution for a limited space requirement.

The Economizer is integrated into the DF-Three filter housing and signals when an element replacement is recommended. Monitoring of changes in differential pressure and service time ensure optimal performance of the DF-Three.

The three-stage filter can be used for applications up to 110 m<sup>3</sup>/hr (65 scfm) flow rate at 6.9 bar (100 psig).



DF-THREE

## APPLICATIONS

- Chemical & Pharmaceutical
- Food & Beverage
- Environmental
- Paint & Finish

FEATURES	BENEFITS
Combination of high performance coalescing filter, activated carbon adsorber and sub-micron filter.	Reliable achievement of Class 1 compressed air quality according to ISO 8573-1:2010
Three purification stages in one filter	Space savings of up to 60%. Reduced time and effort in installation and maintenance
Economizer	Reliable monitoring of the service lifetime of the filter element and differential pressure
Optimized flow design	Low differential pressure which leads to energy savings
Bayonet lock on housing	High safety during operation - the filter cannot be opened under pressure

### FILTER PERFORMANCE DATA AT NOMINAL FLOW RATE DEFINED BY THE FOLLOWING OPERATING CONDITIONS

Operating pressure	6.9 bar (100 psig)
Operating temperature <sup>1</sup>	20° C (68° F)
Content of oil aerosol at inlet	3 mg/m <sup>3</sup>
Moisture content	50% relative humidity, corresponds to a pressure dewpoint of approximately 10° C at 20° C (50° F at 68° F) operating temperature
Service lifetime of activated carbon stage	2000 operating hours
Compressed air quality class according to ISO 8573-1:2010 for oil	<0,003 mg/m <sup>3</sup> , class 1
Compressed air quality class according to ISO 8573-3:2010 for solid particles	Class 1
Differential pressure in new condition, dry	0.33 bar (4.8 psi)

1 The recommended maximum operating temperature is 30° C (86° F) because with rising temperature the service lifetime of the filter will be reduced at 30° C (86° F) the service lifetime for a mineral oil ISO 46 amounts to approx. 1000 operation hours).

# SPECIFICATIONS

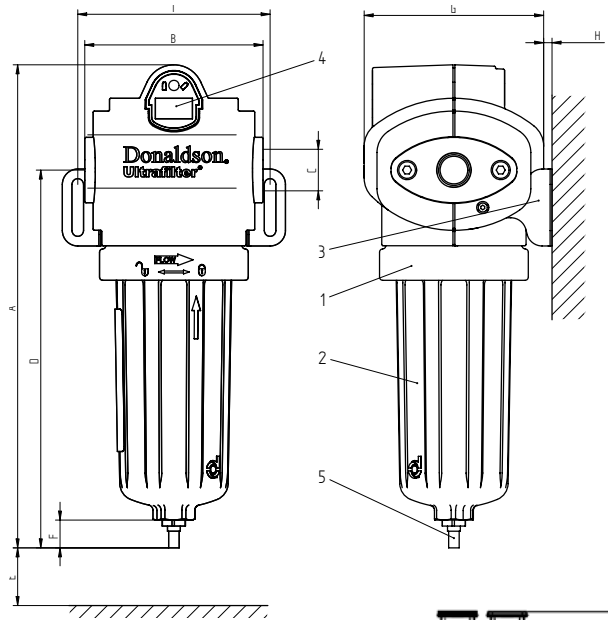
## MATERIALS – FILTER HOUSING

Filter Housing	Aluminum die cast
Differential Pressure	Economizer (polymer)
Float Drain	Polymer
Housing Bowl Seal	Buna

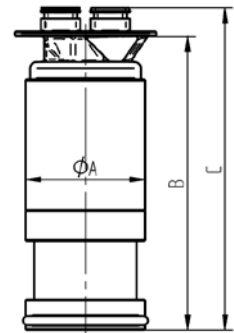
## MATERIALS – FILTER ELEMENT

Filter media coalescence filter and particle filter	Borosilicate fleece
Coalescence Sleeve	Polyester fleece
Activated Carbon Stage	Highly adsorptive coconut shell carbon
Support	304 SS 1.4301
End Caps	Fiber glass reinforced polymer, aluminum
Upper O-Rings	Buna, silicone free and free of compound
Lower O-Rings	Viton®*
Bonding	Buna

\* Viton is a registered trademark of DuPont PerformanceElastomers L.L.C.



No.	Qty	Description
1	1	Filter Head
2	1	Filter Bowl
3	2	Wall Bracket (optional)
4	1	Economizer
5	1	Drain KA 1/2



Size	Flow Rate (m³/hr)	Weight (kg)	Housing Type	Housing Dimensions (mm)									Element Dim. (mm)		
				A	B	C (FNPT)	D	E	F	G	H (min/max)	I	A	B	C
0050	49	1.0	0120	340	117	13	267	140	28	107	5 / 33	107	56	135	150
0080	80	2.0	0210	381	140	19	300	180	28	140	5 / 53	150	76	157	175
0110	117	2.2	0320	442	140	25	361	251	28	140	5 / 53	150	76	218	234

Size	Flow Rate (scfm)	Weight (lbs)	Housing Type	Housing Dimensions (inches)									Element Dim. (in.)		
				A	B	C (FNPT)	D	E	F	G	H (min/max)	I	A	B	C
0050	29	2.2	0120	13.4	4.6	1/2	10.5	5.5	1.1	4.2	.2 / 1.3	4.2	2.2	5.3	5.9
0080	47	4.4	0210	15.0	5.5	3/4	11.8	7.1	1.1	5.5	.2 / 2.1	5.9	3.0	6.2	6.9
0110	69	4.9	0320	17.4	5.5	1	14.2	9.9	1.1	5.5	.2 / 2.1	5.9	3.0	8.6	9.2

**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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