

INDUSTRIAL GASES

DF 0035 - 1450 Filter Housing for Compressed Air Applications



PRODUCT DESCRIPTION

The DF filters are intended for the processing of compressed air or other gases in different areas of applications. The intelligent overall concept of the filter unites the following characteristics: high performance, efficiency, compactness, easy of use, flexibility and safety.

Validated performance data acc. to ISO 12500-1, ISO 12500-2 and ISO 12500-3 for reliable achievement of compressed air quality suitable to the application acc. to ISO 8573-1.

Besides energy cost savings by the filter design, the use of the Economizer offers further saving achievements through timely replacement of the used filter elements. The most cost-effective replacement time for the filter element is calculated and LEDs then signal that the „filter exchange“ is necessary.

With 10 sizes the DF Filter covers the performance range from 35 to 1450 m³/h flow rate and hence conventional compressor capacities between 2 and 120 KW.

MAIN FEATURES AND BENEFITS

- Innovative filtration technology, high retention rate, low pressure loss
- Validated performance data acc. to ISO 12500-1, ISO 12500-2 and ISO 12500-3, reliable achievement of compressed air quality acc. to ISO 8573-1
- Intelligent overall concept meet requirements of industrial air purification
- Flow-optimized design, minimum pressure loss for economic compressed air purification (saving of energy costs)
- Compact, service friendly construction due to bayonet fixing, low space requirement and simply handling during exchange of filter element
- Unrivalled flexibility, changing the coding clip inside the filter bowl allows the change of the flow direction, combination of several filters possible due to an adapter

INDUSTRIES



- Chemical and pharmaceutical industry



- PCB assembly and CD manufacturing



- Surface finishing



- Machine building industry and plant engineering / construction

- Energy and power generation

PRODUCT DESCRIPTION

Three versions are available:

- Standard

Float condensate drain and Econometer /
with element A with plug, without Econometer.

- Plus

Float condensate drain and Economizer /
with element A with plug and Economizer.

- Superplus

Level-controlled condensate drain UFM-D and Economizer.

A selection of appropriate filter grades by filter element types S, M, V, B, A ensure that the right product for the filtration task is always available to the user.

The filter housing design allows an easy replacement of the filter element. The filter bowl is rotated slightly via a bayonet lock and can be removed together with the filter element.

For this a installation height of only a few centimetres of ground clearance is necessary.



Filter combination with adapter

The DF filter is designed and developed for the following applications:

- **Central compressed air processing:**

Pre-filter for the protection of fridge dryers, high performance coalescence filter for the removal of oil and water aerosols as well as particles

- **Downstream applications:**

Final filtration for control and process air

- **Adsorption dryers:**

Pre-filter to protect adsorption dryers (M), dust filter downstream adsorption dryers (M)

- **Automotive industry**

Purification of paint and lacquering finishing air

PRODUCT SPECIFICATIONS

FEATURES	BENEFITS
Validated performance data acc. to ISO 12500-1, ISO 12500-2 and ISO 12500-3	Reliable achievement of compressed air quality acc. to ISO 8573-1
Intelligent overall concept	Flow range, filtration grades, efficiencies and available options perfectly meet requirements of industrial air purification
Flow-optimised filter housing and filter element design	Low pressure losses, thereby saving of energy costs
Bayonet fixing between filter head and filter bowl; element can be removed together with filter bowl; filter head with integrated differential pressure indicator can be rotated	Easy to use construction - simplified filter replacement; simple installation and assembly
Little installation height for the filter element exchange, differential pressure indicator integrated in filter head	Compact, space-saving construction - installation within smallest space possible
Changing the coding clip inside the filter cover allows the filter element to be rotated and thus change the flow direction	High flexibility- filters can be either used as coalescence filters or particulate filters
Filter cannot be opened under pressure due to bayonet lock	High safety during operation
Filter housings immersion-laquererd on the inside and outside surface	Ensures long-term corrosion protection, also against aggressive condensates

PRODUCT SPECIFICATION

FILTER ELEMENTS (FOR DETAILED PERFORMANCE DATA SEE SEPARATE DATA SHEET)

B-filter Particle filter	Initial differential pressure: 0.12 bar (1450: 0.21 bar) Efficiency: 100% related to 25 µm	1
A-filter Activated carbon filter	Initial differential pressure: 0.13 bar (1450: 0.25 bar) Residual oil content (total): 0.003 mg/m ³	1 3
V-filter Coalescence filter / particle filter	Initial differential pressure: 0.11 bar (1450: 0.20 bar) Residual oil content (aerosols): < 0.2 mg/m ³	1 2
M-filter / Ultrapleat™ M Coalescence filter / particle filter	Initial differential pressure: 0.08 bar (1450: 0.12 bar) Residual oil content (aerosols): < 0.2 mg/m ³	1 2
S-filter / Ultrapleat™ S Coalescence filter / particle filter	Initial differential pressure: 0.10 bar (1450: 0.16 bar) Residual oil content (aerosols): < 0.01 mg/m ³	1 2
1 related to nominal performance at 7 bar, dry condition 2 related to an inlet connection of 3 mg/m ³ 3 when upstream connected to an M- or S-filter		

OPTIONS

DF -	S	0035	Z	U
		0035		
		0070	Z = Economizer	U = UFM-D03
		0120		
		0210	M = Econometer	K = UFM-P / KA 1/2
		0320		
		0450	P = Platte	S = Plug
		0600		
		0750		
		1100		
		1450		

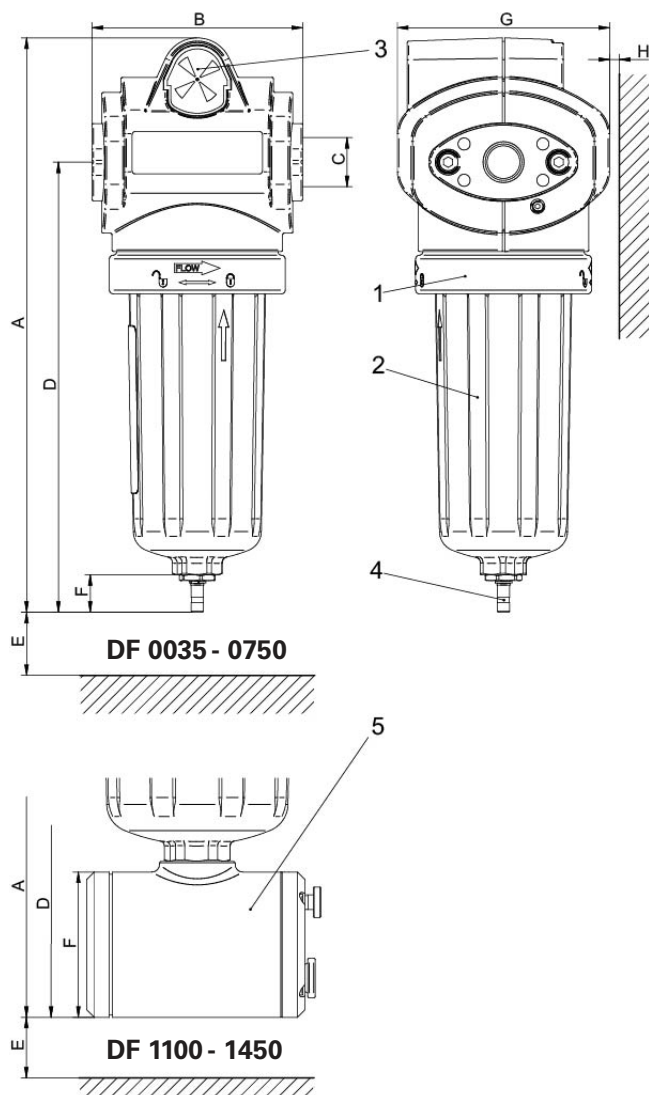
OPTIONS

Econometer	Mechanical differential pressure indicator
Economizer	Differential pressure indicator for the determination of the most economical time for replacement of the filter element; Possibility of remote data transmission
KA ½ / UFM-P	Float drain, pneumatically
UFM-D	Electronic level-controlled condensate drain without compressed air losses
UFZ	Time-controlled condensate drain
S	Plug
Filter elements	V / Ultrapleat™ M / Ultrapleat™ S (Coalescence filter / particle filter) B (Pre-filter / particulate filter) A (Activated carbon filter)
Wall bracket	Distance to the wall gradelessly adjustable (except DF-0035)
Connection adapter	Intelligent adapter solution for filter combination

MATERIALS / DIMENSIONS

STANDARD

Pos.	Pcs.	Description
1	1	Filter head
2	1	Lower housing bowl
3	1	Econometer
4 DF 0035- DF 0750	1	Internal automatic drain KA ½
5 DF 1100- DF1450	1	External automatic drain UFM-P



Materials Filter housing	
Filter housing	Aluminium, die cast
Econometer	Polymer
Float drain	Polymer / Brass aluminium mold cast
Sealings	Viton

Classification acc. to 2014 / 68 / EU for fluids of group 2	
DF 0035- DF 0320	Art. 4, par. 3
DF 0450- DF 1450	Cat. I
Max. operating pressure	16 bar
Test pressure	22.9 bar
Perm. operating temperature	+1°C / +65°C

Size housing/ element	Flow rate m³/h	Volume (l)	Weight** (kg)	A mm	B mm	C	D mm	E mm	F mm	G mm	H min. / max. mm	I mm
0035	35	0.20	0.5	253	76	G ¼	185.5	100	25	85	6.5	84
0070	70	0.40	0.9	296	103	G 3/8	221	115	25	107	4 / 33.5	107
0120	120	0.50	1.0	340	103	G ½	265	150	25	107	4 / 33.5	107
0210	210	1.15	2.0	381	139	G ¾	299	180	25	140	4 / 54	150
0320	320	1.50	2.2	441	139	G 1	359	250	25	140	4 / 54	150
0450	450	5	5.2	586	190	G 1 ¼	487	250	25	203	4 / 73	190
0600	600	5	5.2	586	190	G 1 ½	487	250	25	203	4 / 73	190
0750	750	5	5.2	586	190	G 2	487	250	25	203	4 / 73	190
1100	1100	6	7.2	763	190	G 2	665	250	101	203	4 / 73	190
1450	1450	6	7.2	763	248	G 2 ½	665	250	101	203	4 / 73	190

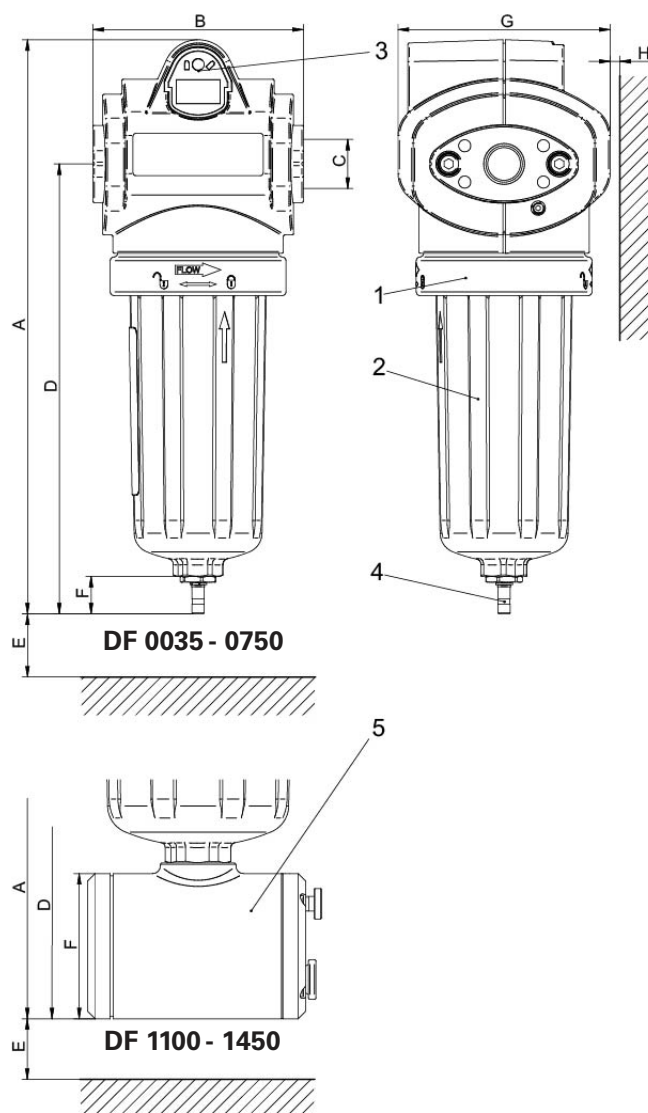
* Nominal flow at 7 bar g, m³/h related to 1 bar abs. and 20°C

**without filter element

MATERIALS / DIMENSIONS

PLUS

Pos.	Pcs.	Description
1	1	Filter head
2	1	Lower housing bowl
3	1	Econometer
4 DF 0035- DF 0750	1	Internal automatic drain KA ½
5 DF 1100- DF 1450	1	External automatic drain UFM-P



Materials Filter housing	
Filter housing	Aluminium die cast
Econimizer	Polymer
Float drain	Polymer / Brass aluminium mold cast
Sealings	Viton

Classification acc. to 2014 / 68 / EU for fluids of group 2	
DF 0035- DF 0320	Art. 4, par. 3
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0070	70	0.40	0.9	296	103	G 3/8	221	115	25	107	4 / 33.5	107
0120	120	0.50	1.0	340	103	G ½	265	150	25	107	4 / 33.5	107
0210	210	1.15	2.0	381	139	G ¾	299	180	25	140	4 / 54	150
0320	320	1.50	2.2	441	139	G 1	359	250	25	140	4 / 54	150
0450	450	5	5.2	586	190	G 1 ¼	487	250	25	203	4 / 73	190
0600	600	5	5.2	586	190	G 1 ½	487	250	25	203	4 / 73	190
0750	750	5	5.2	586	190	G 2	487	250	22	203	4 / 73	190
1100	1100	6	7.2	763	190	G 2	665	250	101	203	4 / 73	190
1450	1450	6	7.2	763	248	G 2 ½	665	250	101	203	4 / 73	190

* Nominal flow at 7 bar g, m³/h related to 1 bar abs. and 20°C

** without filter element

MATERIALS / DIMENSIONS

Pos.	Pcs.	Description
1	1	Filter head
2	1	Lower housing bowl
3	1	Economizer
4	1	Condensate drain UFM-D03

Materials Filter housing

Filter housing	Aluminium die cast
Economizer	Polymer
UFM-D	Aluminium / fiber-glass reinforced plastic
Sealings	Viton

Classification acc. to 2014 / 68 / EU for fluids of group 2

DF 0035 - DF 0320	Art. 4, par. 3
DF 0450 - DF 1450	Cat. I

Max. operating pressure	16 bar
Test pressure	22.9 bar
Perm. operating temperature	+1°C / +65°C

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0035	35	0.20	1.6	412.5	76	G ¼	344.5	100	188	85	6.5	84	183.5
0070	70	0.40	2.0	457	103	G 3/8	382	115	188	107	4 / 33.5	107	193 / 222
0120	120	0.50	2.1	501	103	G ½	426	150	188	107	4 / 33.5	107	193 / 222
0210	210	1.15	3.1	543	139	G ¾	461	180	188	140	4 / 54	150	210 / 248
0320	320	1.50	3.3	603	139	G 1	521	250	188	140	4 / 54	150	210 / 248
0450	450	5	6.7	748	190	G 1 ¼	649	250	188	203	4 / 73	190	242 / 310
0600	600	5	6.7	748	190	G 1 ½	649	250	188	203	4 / 73	190	242 / 310
0750	750	5	6.7	748	190	G 2	649	250	188	203	4 / 73	190	242 / 310
1100	1100	6	6.9	841	190	G 2	742	250	188	203	4 / 73	190	242 / 310
1450	1450	6	6.9	841	248	G 2 ½	742	250	188	203	4 / 73	190	242 / 310

*Nominal flow at 7 bar g, m³/h related to 1 bar abs. and 20°C

** without filter element

For more information please contact your Donaldson Sales Representative and visit our website at www.donaldson.com.

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SUPERPLUS

