Compressed Air Filtration

Ultra-Filter DF

MAIN FEATURES & 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-optimised 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

Version Superplus

INDUSTRIES

- Chemical and pharmaceutical industry

- PCB assembly and CD manufacturing

- Surface finishing

- Machine building industry and plant engineering / construction

- Energy and power generation

Donaldson Filtration Deutschland GmbH
Büssingstr. 1
D-42781 Haan
Tel.: +49 (0) 2129 569 0
Fax: +49 (0) 2129 569 100
E-Mail: CAP-de@donaldson.com
Web: www.donaldson.com

Donaldson® Ultrafilter

F119068_12_2020_ENG

Technical alterations reserved (12/2020)

PRODUCT DESCRIPTION

The filters Ultra-Filter DF 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
- effiency
- compactness
- easy of use
- flexibility
- 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 neccessary.

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

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.

Filter combination with adapter

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 clearence is neccessary.

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 lacqering finishing air

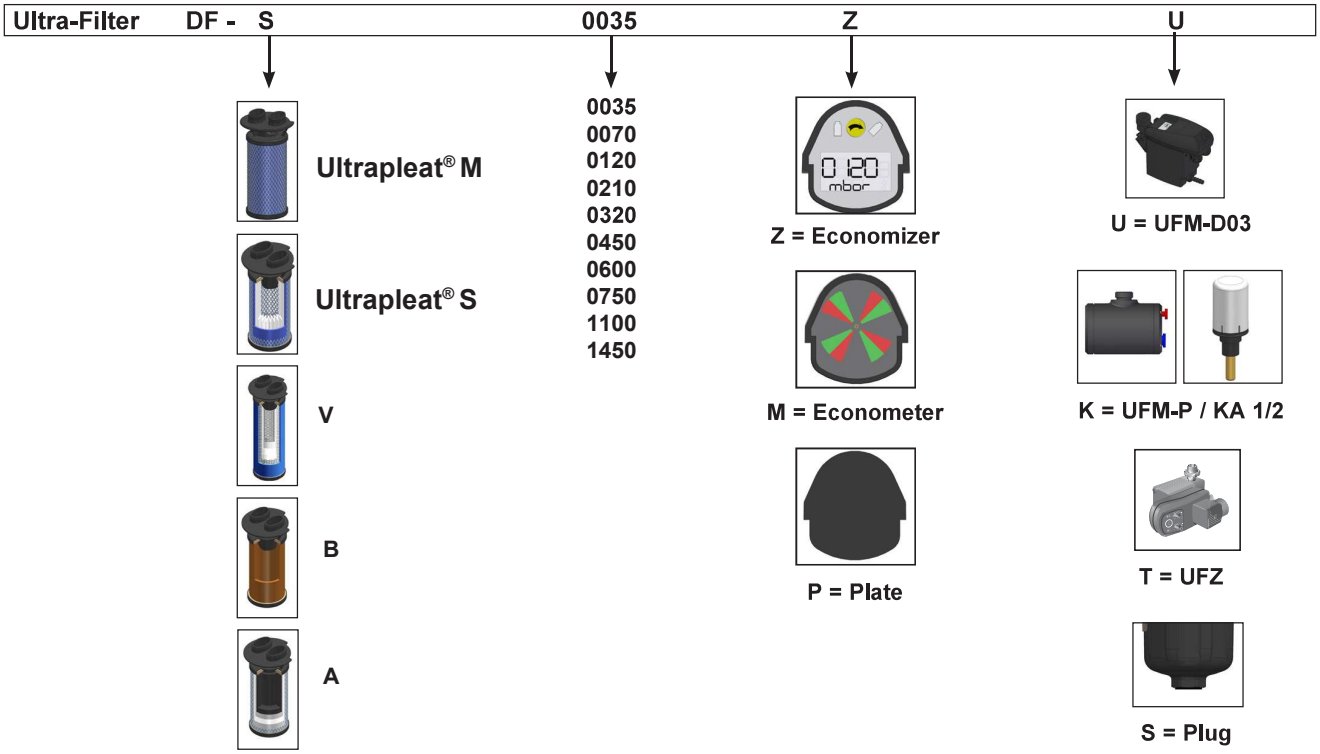
PRODUCT SPECIFICATIONS

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 coalescense 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

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% bezogen auf 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/m³	1 3
V-filter Coalescense filter / particle filter	Initial differential pressure : 0,11 bar (1450: 0,20 bar) Residual oil content (aerosols) : < 0,2 mg/m³	1 2
M-Filter / Ultrapleat® M Coalescense filter / particle filter	Initial differential pressure : 0,08 bar (1450: 0,12 bar) Residual oil content (aerosols) : < 0,02 mg/m³	1 2
S-Filter / Ultrapleat® S Coalescense filter / particle filter	Initial differential pressure : 0,10 bar (1450: 0,16 bar) Residual oil content (aerosols) : < 0,01 mg/m³	1 2

1 related to nominal performance at 7 bar, dry condition
2 related to a inlet concentration of 3 mg/m³
3 when upstream connected a M- or S-filter

OPTIONS



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 (Coalescense 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

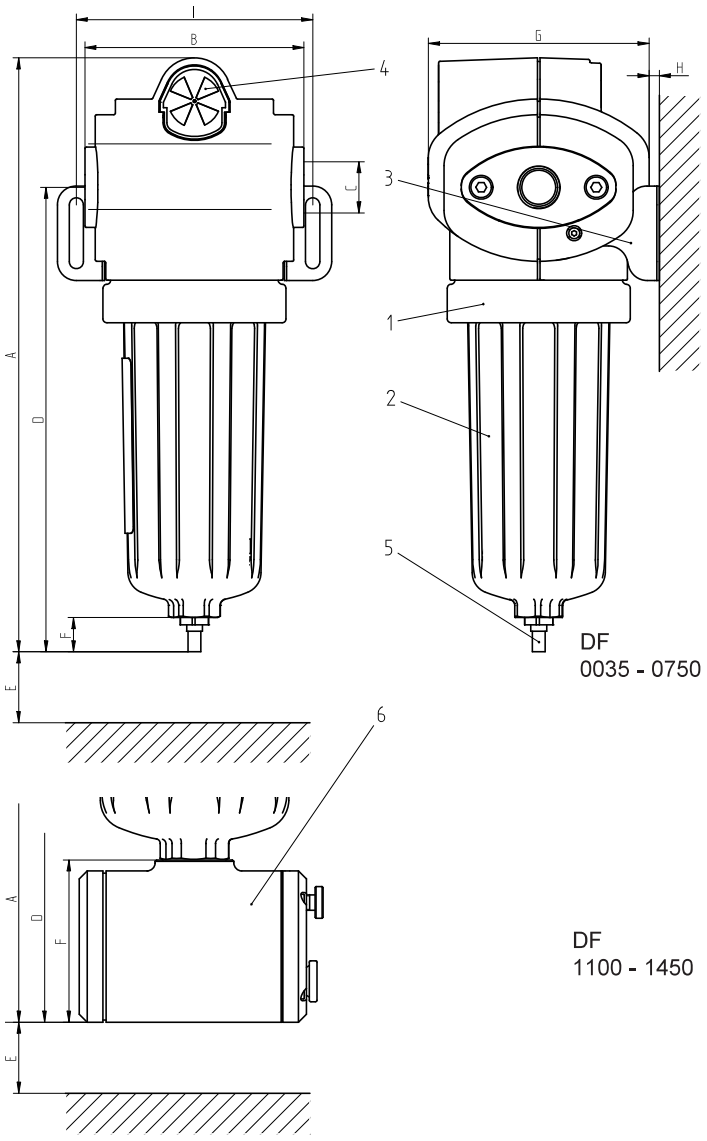
STANDARD

Pos.	Pcs.	Description
1	1	Filter head
2	1	Lower housing bowl
3	2	Wall bracket (option)
4	1	Econometer
5 DF 0035- DF 0750	1	Internal automatic drain KA 1/2
6 DF 1100- DF 1450	1	External automatic drain UFM-P

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

Classification acc. to 2014 / 68 / EU for fluids 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



DF
0035 - 0750

DF
1100 - 1450

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	255	76	G ¼	185	100	27	85	5	84
0070	70	0,40	0,9	297	103	G ⅜	222	115	27	107	5 / 34	107
0120	120	0,50	1,0	340	103	G ½	265	150	27	107	5 / 34	107
0210	210	1,15	2,0	382	139	G ¾	300	180	27	140	5 / 53	150
0320	320	1,50	2,2	442	139	G 1	360	250	27	140	5 / 53	150
0450	450	5	5,2	585	190	G 1¼	487	250	27	203	5 / 73	190
0600	600	5	5,2	585	190	G 1½	487	250	27	203	5 / 73	190
0750	750	5	5,2	585	190	G 2	487	250	27	203	5 / 73	190
1100	1100	6	7,2	765	190	G 2	665	250	103	203	5 / 73	190
1450	1450	6	7,2	765	248	G 2½	665	250	103	203	5 / 73	190

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

** without filter element

MATERIALS/ DIMENSIONS

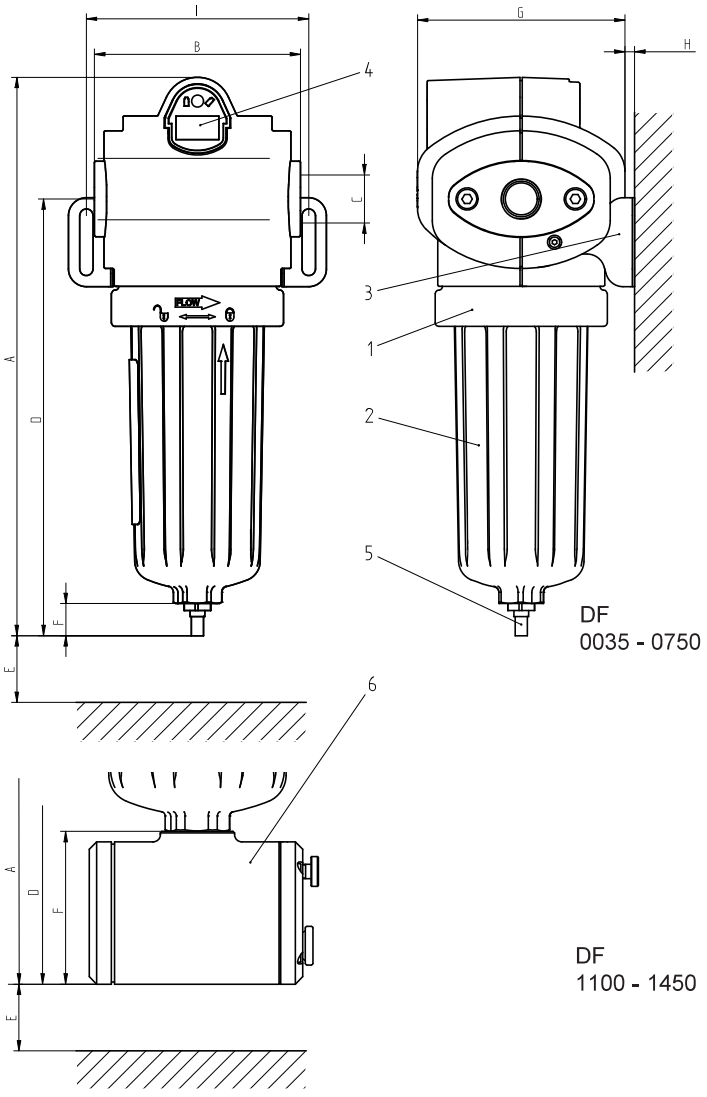
PLUS

Pos.	Pcs.	Description
1	1	Filter head
2	1	Lower housing bowl
3	2	Wall bracket (option)
4	1	Economizer
5 DF 0035-DF 0750	1	Internal automatic drain KA 1/2
6 DF 1100-DF 1450	1	External automatic drain UFM-P

Materials filter housing	
Filter housing	Aluminium die cast
Economizer	Polymer
Float drain	Polymer / aluminium mold cast
Sealings	Viton

Classification acc. to 2014 / 68 / EU for fluids 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



DF
0035 - 0750

DF
1100 - 1450

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	255	76	G ¼	185	100	27	85	5	84
0070	70	0,40	0,9	297	103	G ⅜	222	115	27	107	5 / 34	107
0120	120	0,50	1,0	340	103	G ½	265	150	27	107	5 / 34	107
0210	210	1,15	2,0	382	139	G ¾	300	180	27	140	5 / 53	150
0320	320	1,50	2,2	442	139	G 1	360	250	27	140	5 / 53	150
0450	450	5	5,2	585	190	G 1¼	487	250	27	203	5 / 73	190
0600	600	5	5,2	585	190	G 1½	487	250	27	203	5 / 73	190
0750	750	5	5,2	585	190	G 2	487	250	27	203	5 / 73	190
1100	1100	6	7,2	765	190	G 2	665	250	103	203	5 / 73	190
1450	1450	6	7,2	765	248	G 2½	665	250	103	203	5 / 73	190

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

** without filter element

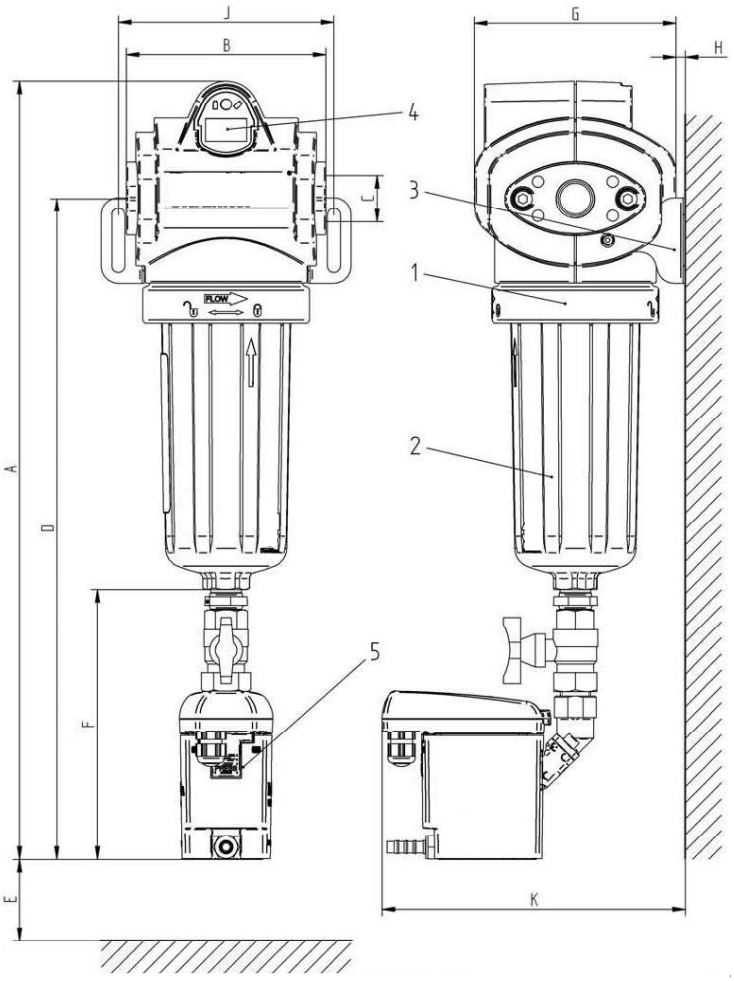
MATERIALS/ DIMENSIONS SUPERPLUS

Pos.	Pcs.	Description
1	1	Filter head
2	1	Lower housing bowl
3	2	Wall bracket (option)
4	1	Economizer
5	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 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	J mm	K mm
0035	35	0,20	1,6	405	76	G ¼	340	100	180	85	5	84	182
0070	70	0,40	2,0	450	103	G ⅜	375	115	180	107	5 / 34	107	193
0120	120	0,50	2,1	495	103	G ½	420	150	180	107	5 / 34	107	193
0210	210	1,15	3,1	535	139	G ¾	453	180	180	140	5 / 53	150	210
0320	320	1,50	3,3	595	139	G 1	513	250	180	140	5 / 53	150	210
0450	450	5	6,7	740	190	G 1¼	640	250	180	203	5 / 73	190	242
0600	600	5	6,7	740	190	G 1½	640	250	180	203	5 / 73	190	242
0750	750	5	6,7	740	190	G 2	640	250	180	203	5 / 73	190	242
1100	1100	6	6,9	840	190	G 2	740	250	180	203	5 / 73	190	242
1450	1450	6	6,9	840	248	G 2½	740	250	180	203	5 / 73	190	242

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

** without filter element