



Donaldson  
FILTRATION SOLUTIONS

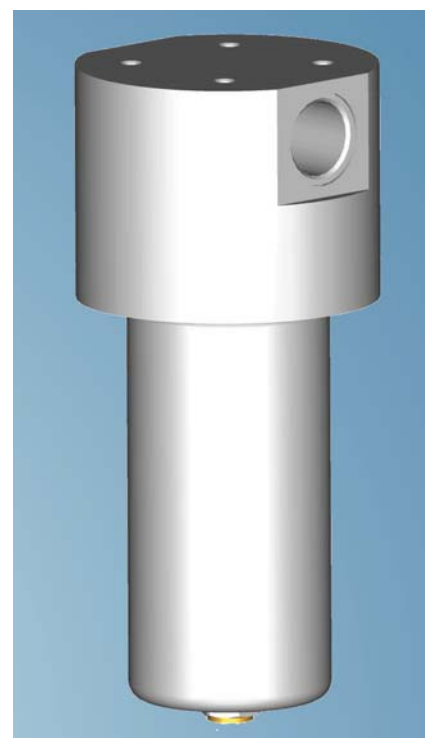
# Compressed Air Filtration

## Filter for high pressure

HD

### MAIN FEATURES & BENEFITS:

- Innovative Filtration technology, high retention rate, low pressure loss
- Filter housing made of aluminium resp. steel, designed for operating pressure up to 400 bar and operating temperatures from -10°C up to +80°C
- For the purification of compressed air and gases acc. to Pressure Equipment Directive 97/23/EG
- Flow-optimized design for low differential pressure (saving of energy costs)



### INDUSTRIES:



- Chemical and pharmaceutical industry



- Gas industry



- Environmental industry



- Machine building industry and  
plant engineering / construction

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Donaldson®  
Ultrafilter

## PRODUCT DESCRIPTION

HD high pressure housings are designed for the purification of compressed air and gases in industrial applications. The housings made out of two parts offer, due to an optimized construction, low differential pressures at high flow rates. A multitude of housings with different connections, allow to match the requirements of the application, e. g. the compressor size.

In this product series are 8 different housings available ranging from a volume flow of 90 m<sup>3</sup>/h to 8640 m<sup>3</sup>/h, in the pressure stages PN 25 to PN 400.

The HD high pressure housings conform to the requirements of the European directive 97/23/EC for pressure vessels.



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

- **Central compressed air processing:**  
High performance coalescence filter for the removal of oil and water aerosols as well as particles
- **Downstream applications:**  
Final filtration for high-pressure process air, incl. removal of oil vapours and hydrocarbons
- **Adsorption dryers:**  
Pre-filter to protect adsorption dryers, dust filter downstream adsorption dryers

## PRODUCT SPECIFICATIONS

Features:	Benefits:
Validated performance data acc. to ISO 12500-1 and ISO 12500-3	Reliable achievement of compressed air quality acc. to ISO 8573-1
Intelligent overall concept	Flow range, filtration grades, efficiencies as well as housing and element design meet requirements of compressed air purification and a multitude of technical gases
Fine thread connection between filter head and filter bowl with radial sealing-up O-ring	Very rugged construction with excellent sealing characteristics
Flow-optimized design	Low pressure losses, thereby saving of energy costs
Filter housing made of aluminium (anodised) resp. carbon steel (electroless nickel)	Ensures long-term corrosion protection against environmental influences

Technical Data	
<b>Max. operating pressure:</b>	PN 25 - PN 100: 25 bar/ 40 bar/ 64 bar/ 100 bar PN 100 - PN 400: 100 bar / 250 bar/ 400 bar
<b>Test pressure:</b>	PN 25 - PN 100: 36 bar/ 57,2 bar/ 92 bar/ 143 bar PN 100 - PN 400: 143 bar / 357,5 bar/ 572 bar
<b>Max. operating temperature:</b>	-10°C / +80°C

Filter Elements (for detailed performance data see separate data sheet)	
PE filter Particle filter	Initial differential pressure : 0,15 bar Efficiency : 100% related to 25 µm
SB filter Particle filter	Initial differential pressure : 0,12 bar Efficiency : 100% bezogen auf 25 µm
AK filter Activated carbon filter	Initial differential pressure : 0,13 bar Residual oil content (total) : 0,003 mg/m <sup>3</sup>
FF filter Coalescence filter / particle filter	Initial differential pressure : 0,11 bar Residual oil content (total) : < 0,2 mg/m <sup>3</sup>
MF filter Coalescence filter / particle filter	Initial differential pressure : 0,18 bar Residual oil content (total) : < 0,03 mg/m <sup>3</sup>
SMF filter Coalescence filter / particle filter	Initial differential pressure : 0,33 bar Residual oil content (total) : < 0,01 mg/m <sup>3</sup>
1 related to nominal performance at 7 bar, dry condition 2 related to a inlet concentration of 3 mg/m <sup>3</sup> 3 when upstream connected a M or S filter	

## PRODUCT SPECIFICATIONS

Aluminium Filter Housings					
Type	Connection	Flow Rates, nominal pressure			
HD	G	PN 25 m <sup>3</sup> /h*	PN 40 m <sup>3</sup> /h*	PN 64 m <sup>3</sup> /h*	PN 100 m <sup>3</sup> /h*
0003	1/4"	90	120	240	360
0006	3/8"	180	240	480	720
0012	1/2"	360	480	960	1440
0018	3/4"	540	720	1440	2160
0027	1"	810	1080	2160	3240
0036	1 1/4"	1080	1440	2880	4320
0048	1 1/2"	1440	1920	3840	5760
0072	2"	2160	2880	5760	8640

\* m<sup>3</sup>/h at 1 bar abs. and 20°C

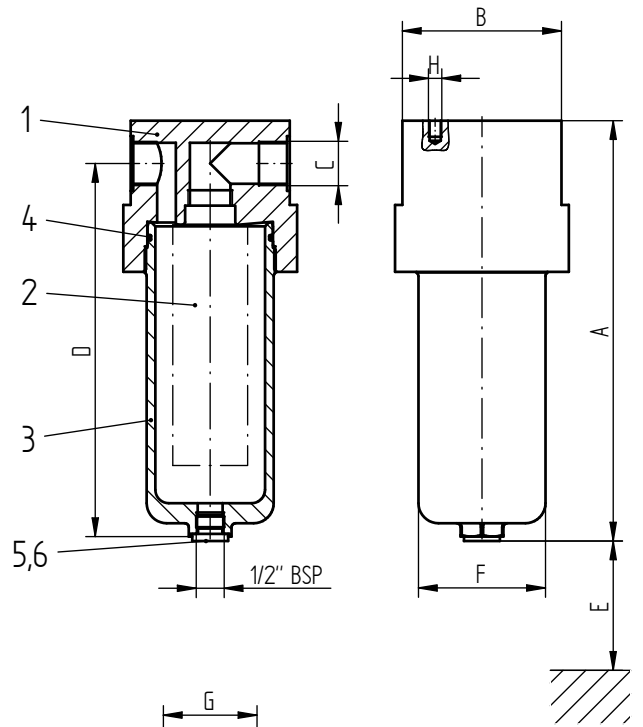
Steel Filter Housings				
Type	Connection	Flow Rates, nominal pressure		
HD	G	PN 100 m <sup>3</sup> /h*	PN 250 m <sup>3</sup> /h*	PN 400 m <sup>3</sup> /h*
0003	1/4"	360	360	360
0006	3/8"	720	720	720
0012	1/2"	1440	1440	1440
0018	3/4"	2160	2160	2160
0027	1"	3240	3240	3240
0036	1 1/4"	4320	4320	4320
0048	1 1/2"	5760	5760	5760
0072	2"	8640	8640	8640

\* m<sup>3</sup>/h at 1 bar abs. and 20°C

MATERIALS/ DIMENSIONS

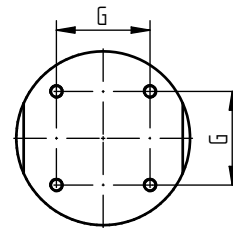
Aluminium Filter Housings

Pos.	Pcs.	Description
1	1	Filter head
2	1	Filter element
3	1	Filter bowl
4	1	Housing O-Ring
5	1	Screw plug
6	1	Sealing



Materials Filter housing	
Filter housing	Aluminium, anodized
Sealings	Perbunan, compound-free

Classification acc. to 97 / 23 / EG for fluids of group 2	
HD 0003 - 0036	Art. 3, par. 3
HD 0048 25 - 64 bar HD 0072 25 - 64 bar	Cat. I
HD 0048 100 bar HD 0072 100 bar	Cat. II



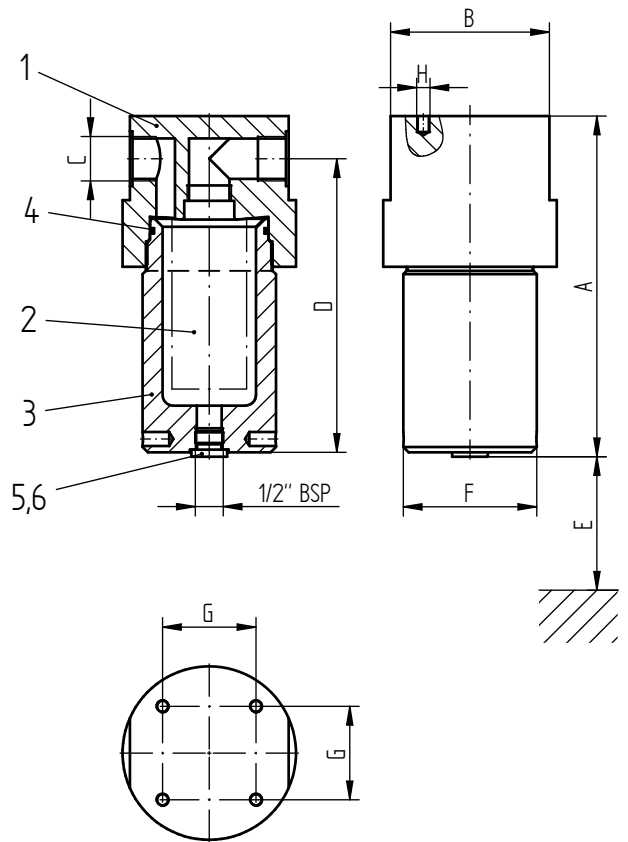
HD	Volume l	Weight kg *	Dimensions								Element
			A mm	B mm	C	D mm	E mm	F Ø mm	G mm	H	
0003	0,19	1,6	159	85	G 1/4	141	130	60	50	4xM8	03/05
0006	0,19	1,7	161	85	G 3/8	142	130	60	50	4xM8	03/10
0012	0,40	2,1	221	105	G 1/2	204	190	72	50	4xM8	04/20
0018	0,40	2,2	227	105	G 3/4	207	190	72	50	4xM8	05/20
0027	1,1	4,2	314	119	G 1	282	190	95	70	4xM10	05/25
0036	1,1	4,2	314	119	G 1 1/4	282	250	95	70	4xM10	07/25
0048	2,4	9,4	394	164	G 1 1/2	359	250	120	80	4xM12	07/30
0072	2,4	11,5	404	186	G 2	364	340	120	110	4xM12	10/30

\* without filter element

MATERIALS/ DIMENSIONS

Steel Filter Housings

Pos.	Pcs.	Description
1	1	Filter head
2	1	Filter element
3	1	Filter bowl
4	1	Housing O-Ring
5	1	Screw plug
6	1	Sealing



Materials Filter housing	
Filter housing	Carbon Steel, electroless nickel
Sealings	Viton

Classification acc. to 97 / 23 / EG for fluids of group 2	
HD 0003 - 0036	Art. 3, par. 3
HD 0048 100 bar	Cat. I
HD 0048 250 - 400 bar HD 0072 100 - 250 bar	Cat. II
HD 0072 400 bar	Cat. III

HD	Volume l	Weight kg *	Dimensions								Element
			A mm	B mm	C	D mm	E mm	F Ø mm	G mm	H	
0003	0,20	5	170	85	G 1/4	150	130	70	50	4xM8	03/05
0006	0,20	5	170	85	G 3/8	150	130	70	50	4xM8	03/10
0012	0,42	9	210	105	G 1/2	190	190	85	50	4xM8	04/20
0018	0,49	9,5	235	105	G 3/4	215	190	85	50	4xM8	05/20
0027	0,66	14,5	250	119	G 1	220	190	100	70	4xM10	05/25
0036	0,90	16	305	119	G 1 1/4	270	250	100	70	4xM10	07/25
0048	1,72	27,5	330	150	G 1 1/2	295	250	130	80	4xM10	07/30
0072	3,02	60	420	186	G 2	380	340	130	110	4xM12	10/30

\* without filter element

Technical Data Sheet

Subject to technical change without prior notice  
R06/2014/04/10