Compressed Air Filtration

AG / SG / HD

Depth Filter / Coalescence Filter / Particle Filter

CF

MAIN FEATURES & BENEFITS:

- Coalescence / particle filter for the retention of oil and water aerosols as well as particles from compressed air or gases in industrial applications
- Innovative filtration technology; wrapped depth filter medium with high dirt-holding capacity; achievement of high retention rates with low differential pressure
- Performance data acc. to ISO 12500; reliable achievement of compressed air quality acc. to ISO 8573-1
- Flow-optimised design, minimum pressure loss for economic compressed air purification (saving of energy costs)

Depth filter CF

INDUSTRIES

- Chemical and pharmaceutical industry

- PCB assembly and CD manufacturing

- Surface finishing

- Machine building industry and plant engineering / construction

- Energy and power generation

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Donaldson® Ultrafilter

F119125_11_2020_ENG

PRODUCT DESCRIPTION

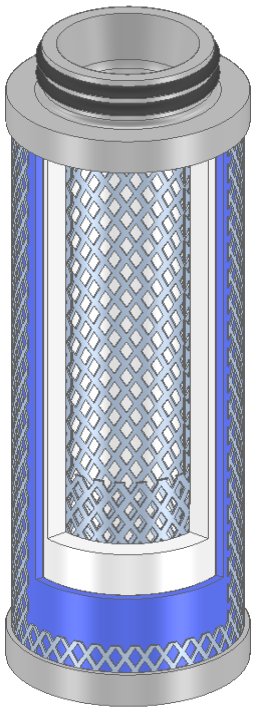
The filter elements type CF are designed for the processing of compressed air or gases in industrial applications.

Performance data acc. to ISO 12500-1 (oil aerosol retention) for reliable achievement of compressed air quality suitable to achieve ISO 8573-1 quality classes.

By a flow-optimised design of the filter element as well as by the assigned filter media and the advanced production technology, the differential pressure is minimized and a continuously high separation effiency is ensured.

The filter elements type CF possess the three-dimensional micro fibre fleece made of polyester, which works oleophobic and hydrophobic.

By utilising various filtration mechanisms such as retention by direct impact, sieve effect and diffusion effect, liquid aerosols and solid particles are being retained in the filter.



Cross section of the depth filter

The CF filter element is designed and developed for the following applications:

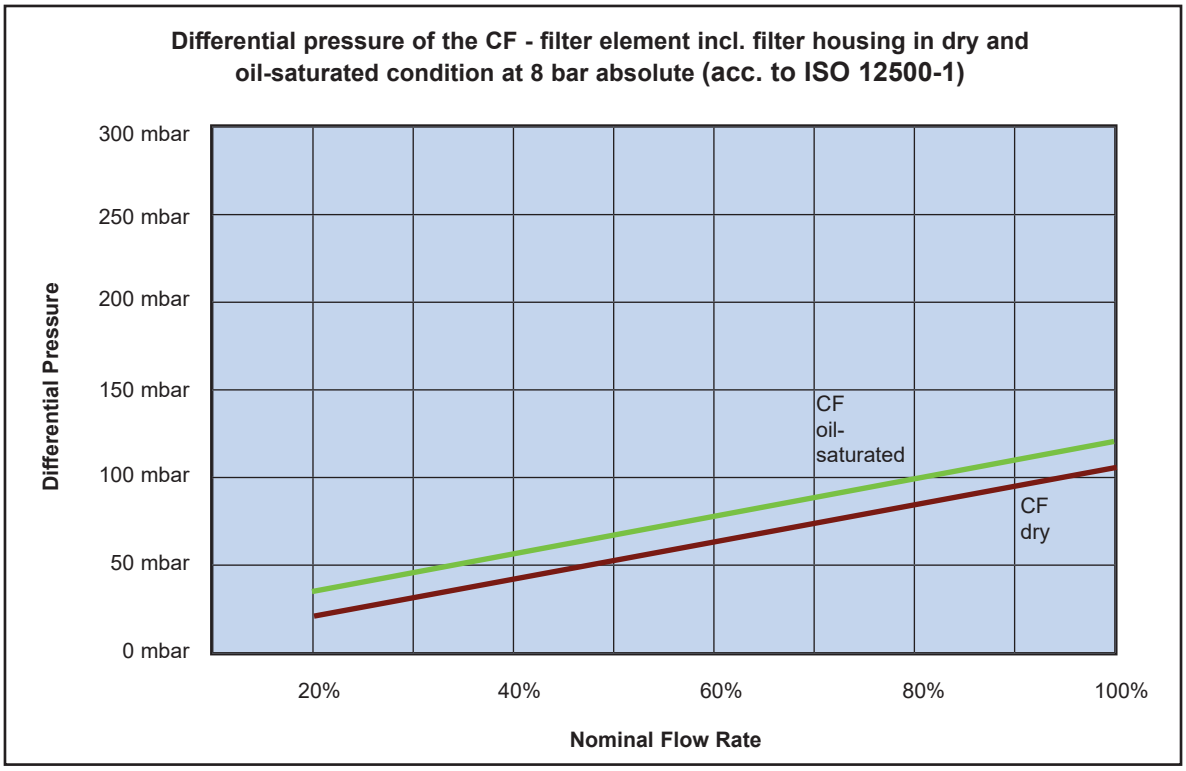
- **Central compressed air processing:**
  Prefilter for the protection of fridge dryers and adsorption dryers,
  applications with expected high particle intake
- **Downstream applications:**
  Final filtration for control and process air
- **Adsorption dryers / activated carbon adsorbers:**
  Particle filter for the retention of adsorbent abrasion
- **Automotive industry:**
  Purification of paint- and lacqering finishing air

PRODUCT SPECIFICATIONS

Features	Benefits
Performance data acc. to ISO 12500-1	Reliable achievement of the compressed air quality according to ISO 8573-1
Intelligent overall concept	Flow range, filtration grades, efficiencies and available options perfectly meet requirements of air purification
Flow-optimised Design	Minimum pressure losses, thereby savings of energy costs
Coalescence sleeve fixed by outside support liner	Flow area between element and housing guaranteed at any time; optimised drainage function by constant stabile structure of the coalescence sleeve
Support liner made of stainless steel stretch metal	Protection of the filter media against pressure shocks. Low pressure loss by a large free cross-sectional area
Use of stainless steel material in combination with aluminium	Optimal corrosion protection

Materials	
Filter media	Micro fibre polyester fleece
Coalescence sleeve	Polyester fleece
Inner and outer support liner	Stainless steel 1.4301 / 304
End caps	Aluminium
O-rings	NBR: silicone free and free of compound (Standard)
Bonding	Polyurethane

PERFORMANCE DATA



Operating pressure bar g	1	2	3	4	5	6	**7**	8	9	10	11	12	13	14	15	16
Conversion factor fp	0,25	0,38	0,50	0,63	0,75	0,88	**1,00**	1,13	1,25	1,38	1,50	1,63	1,75	1,88	2,00	2,13

Element Type	Nominal Flow Rate at 7 bar g m³/h*
02/05	20
03/05	40
03/10	60
04/10	90
04/20	120
05/20	180
05/25	270
07/25	360
07/30	480
10/30	720
15/30	1080
20/30	1440
30/30	1920
30/50	2880

Sizing example for pressure which deviates from nominal pressure

V_{nom} = 192 m³/h, operating pressure = 9 bar (g)

$$V_{corr} = \frac{V_{nom}}{fp}$$

$$V_{corr} = \frac{192\ m^3/h}{1,25} = 153,6\ m^3/h$$

Calculated size: Type 05/20

* m³ related to 1 bar abs. and 20°C

CERTIFICATE

Certificate of compliance with the order

according to
DIN EN 10204 2.2

Confirmation of Design and Performance Data with Test Report.
Results of the type test are listed below.

Filter type	CF	Filter size	02/05 - 30/50
Retention of oil aerosols acc. to ISO 12500-1			
Oil retention rate at 8 bar absolute and 10 mg/m³ inlet concentration			90%
Residual oil concentration at inlet concentration of		10 mg/m³	< 1,0 mg/m³
		3 mg/m³	< 0,30 mg/m³
Retention of particles acc. to ISO 12500-3			
Particle diameter [µm]		3	
Particle retention rate at 8 bar absolute [%]		100	

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