Compressed Air Filtration

DF
Pre-filter / Particle Filter P

MAIN FEATURES & BENEFITS:

- Pre-filter / 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; highly porous polyethylene filter medium with high dirt-holding capacity; achievement of high retention rates with low differential pressure
- Validated performance data; 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)

Pre-filter P

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

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PRODUCT DESCRIPTION

The Ultrapoly prefilter contains the high porous, sintered polyethylene filter medium.
It ensures the separation of raw solid and liquid particles.

By a flow-optimised design as well as by the assigned filter medium the differential pressure is minimized and achieves continuously high retention rates.

By utilising various filtration mechanisms – such as direct impact and sieve effect – liquid aerosols and solid particles down to the size of 25 µm are being retained in the filter.

Cross section of the pre-filter

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

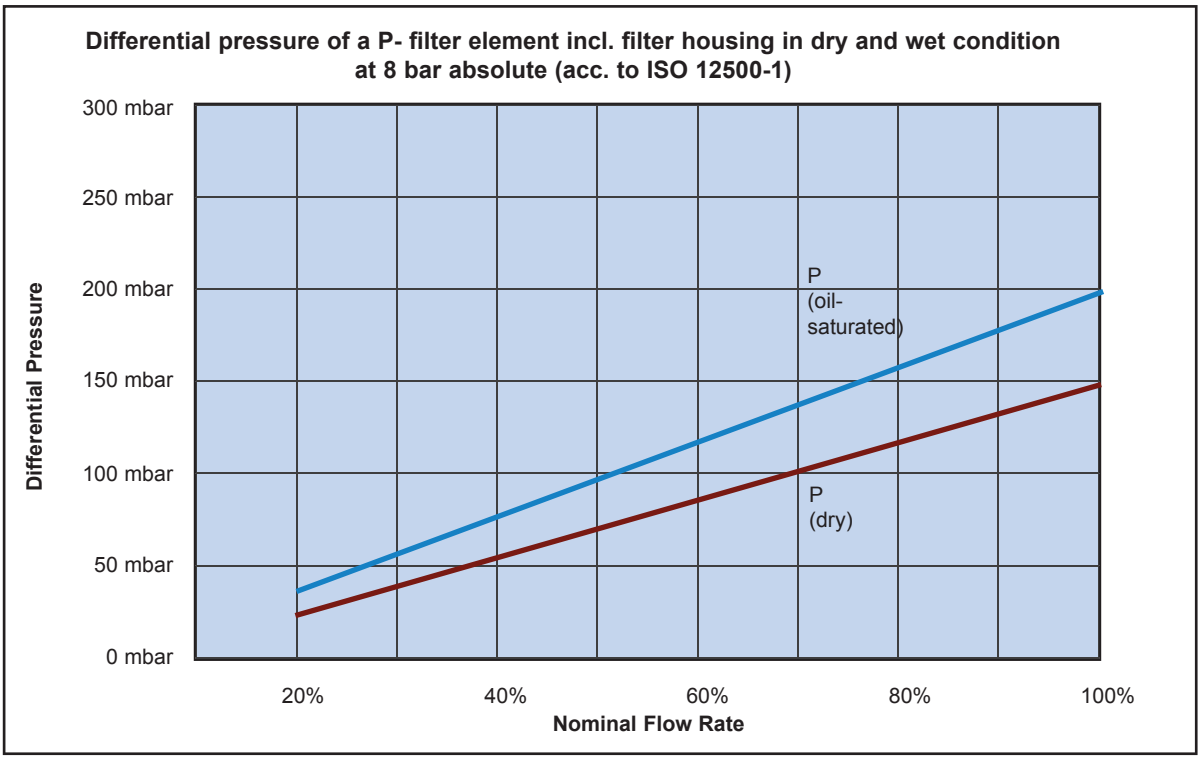
- **Central compressed air processing:**
  Particle filter downstream cyclone separators
  Removal of large condensate amount
  Prefilter for the protection of fridge dryers
  Prefilter upstream “M” and “S” filter stages
- **Cold regenerating adsorption dryers/ Activated carbon adsorbers**
  Particle filter for the retention of adsorbent abrasion
- **Automotive industry:**
  Purification of paint and lacqering finishing air

PRODUCT SPECIFICATIONS

Features	Benefits
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
Void volume: porosity grade 45%	High dirt holding capacity: lower differential pressure
Removal of contaminants up to 25 µm	Guaranteed retention grade

Materials	
Filter medium	Pure, high molecular Polyethylene
End caps	Glass fibre reinforced polymer
O-rings	Viton: 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*	Sizing example for pressure which deviates from nominal pressure
0035	35	V_{nom} = 350 m³/h, operating pressure = 9 bar (g) $V_{corr} = \frac{V_{nom}}{fp}$ $V_{corr} = \frac{350\ m^3/h}{1,25} = 280\ m^3/h$ **Calculated size: Type 0320**
0070	70	
0120	120	
0210	210	
0320	320	
0450	450	
0600	600	
0750	750	
1100	1100	

* 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 (validation) are listed below.

Filter type	P	Filter size	0035 - 1100
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 mg/m³
		3 mg/m³	≤ 0,3 mg/m³
Retention of particles			
Particle diameter [µm]		25	
Particle retention rate at 8 bar absolute [%]		100	

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