INDUSTRIAL GASES

UltraPleat™ S 0035 - 1450
Depth / Coalescence / Particle Filter



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 UltraPleat™ technology; pleated high performance filter media with special coating (oleophobic / hydrophobic) for reliable achievement of high retention rates with low differential pressure
- Validated 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)
- Unique ease of changing the flow directions as coalescence filter or particle filter by changing the position of the coding clip in the filter bowl

PRODUCT DESCRIPTION

The filter elements type UltraPleat™ S are designed for the purification of compressed air or gases in industrial applications. Validated performance data acc. to ISO 12500-1 (oil aerosol retention) and ISO 12500-3 (particulate retention) for reliable achievement of compressed air quality suitable to achieve ISO 8573-1 quality classes.

Due to a flow-optimised design of the filter element as well as 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 UltraPleat™ S are based on the three-dimensional micro fibre fleece made of coated borosilicate glass fibers, 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 down to the size of 0.01µm are being retained in the filter.

INDUSTRIES



- Chemical and pharmaceutical industry



- PCB assembly and CD manufacturing



- Surface finishing



- Machine building industry and plant engineering / construction



- Energy and power generation

Technical alterations reserved (01/2026)

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PRODUCT DESCRIPTION

The UltraPleat™ S filter element 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:**

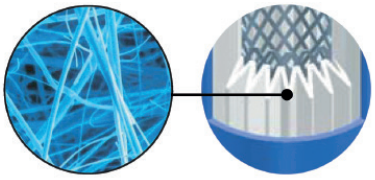
Final filtration for control and process air

- **Automotive industry:**

Purification of paint- and lacqering finishing air



Cross section of the depth filter



Cross section of the depth filter with SEM micrograph of the filter media

PRODUCT SPECIFICATIONS

Features	Benefits
UltraPleat™ technology	Reliable achievement of highest retention rate for oil and water aerosols as well as particles with lowest differential pressure
Validated performance data acc. to ISO 12500-1 and ISO 12500-3	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 compressed air purification
Flow-optimised Design	Minimum pressure losses, thereby savings of energy costs
Pleated filter media	High dirt retention capacity by enlarged filter surface with lowest pressure loss
Coalescence sleeve fixed by outside support liner	Flow area between element and housing guaranteed long term and at any time; optimised drainage function by constant stable 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 glass fiber reinforced polyamide	Optimal corrosion protection

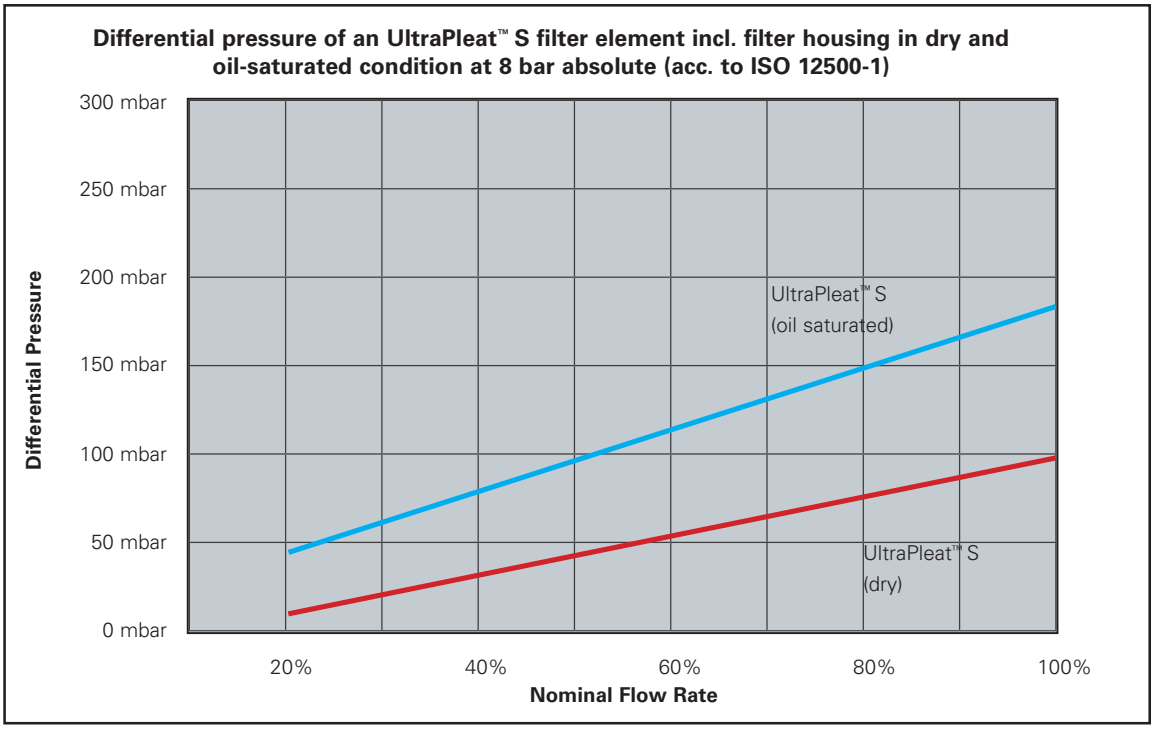
Donaldson FILTRATION SOLUTIONS

PRODUCT SPECIFICATIONS

Materials	
Filter media	Borosilicate glass fibre fleece
Coalescence sleeve	Polyester fleece
Inner and outer support liner	Stainless steel 1.4301 / 304
End caps	Glass fibre reinforced polymer
O-rings	Viton: silicone free and free of compound (Standard)
Bonding	Polyurethane
Validation	
Validation of high-effiency filters acc. to ISO 12500-1 and ISO 12500-3	

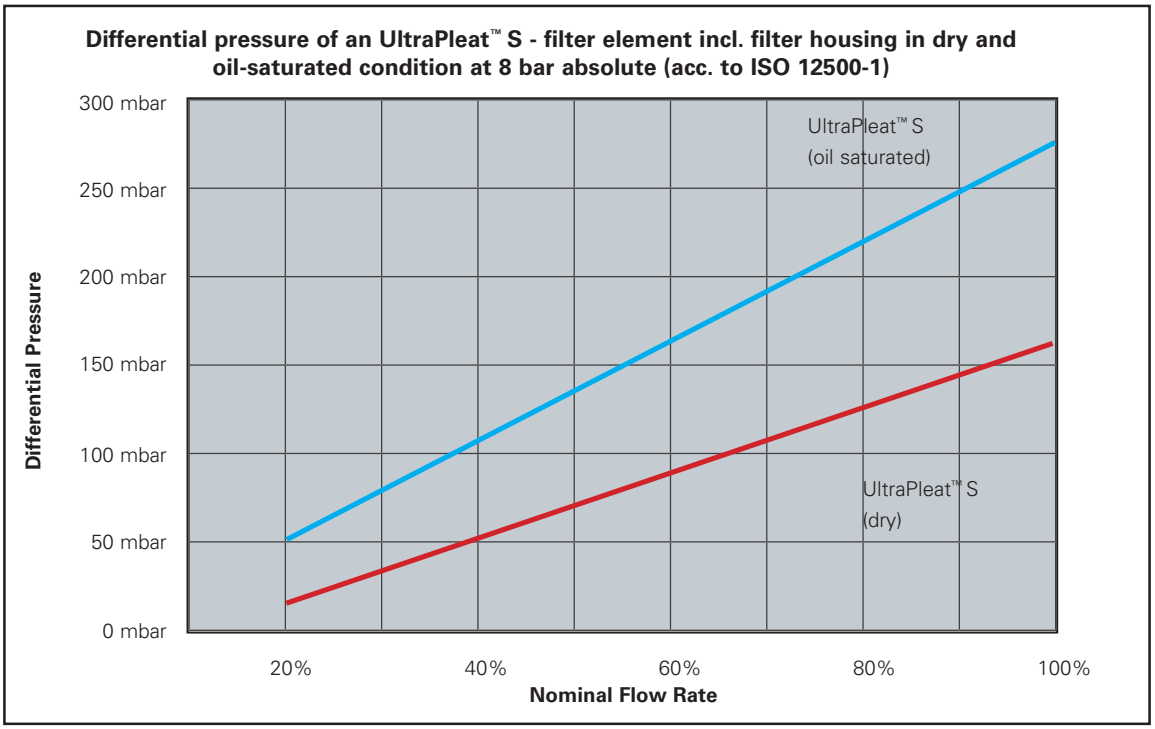
PERFORMANCE DATA

0035 - 1100



PERFORMANCE DATA

1450



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	
1450	1450	

* m³ related to 1 bar abs. und 20°C

CERTIFICATE

Compliance Certificate 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	UltraPleat™ S		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							99.90... 99.92%
Residual oil concentration at inlet concentration of						10 mg/m³	≤ 0.01 mg/m³
						3mg/m³	< 0.01 mg/m³
Retention of particles acc. to ISO 12500-3							
Particle diameter [µm]	lower	0.19	0.24	0.36	0.52	0.81	1.16
	upper	0.24	0.36	0.52	0.81	1.16	1.78
Particle retention rate at 8 bar absolute [%]		99.979	99.9952	99.999	99.998	99.996	---
Particle retention rate related to particle diameter **0.01** µm at 1 bar absolute					99.99999%		

Filter type	UltraPleat™ S	Filter size	1450
Retention of oil aerosols acc. to ISO 12500-1			
Oil retention rate at 8 bar absolute and 10 mg/m³ inlet concentration			99.8%
Residual oil concentration at inlet concentration of		10 mg/m³	≤ 0.02 mg/m³
		3 mg/m³	< 0.01 mg/m³
Retention of particles acc. to ISO 12500-3			
Particle diameter [µm]	0.50	0.30	0.20
Particle retention rate at 8 bar absolute [%]	100	100	99.882
Particle retention rate related to particle diameter **0.01 µm** at 1 bar absolute			99.99999%

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

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FILTRATION SOLUTIONS

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Technical Data Sheet No. F119073 EN (01/26) UltraPleat S Depth Filter / Coalescence Filter / Particle Filter.
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