

Depth Filter Type V

The depth filter for the removal of water, oil aerosols and solid particles from compressed air and gases with validated retention rate acc. ISO 12500-1 and ISO 5011.

Product description:

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

Validated performance data acc. to ISO 12500-1 for reliable achievement of compressed air quality suitable due to the application acc. to ISO 8573-1.

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 efficiency is ensured.

The filter elements type V possess the three-dimensional micro fibre fleece made of polyester, which works oil and water-rejecting.

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.

Applications:

The depth filter is for example being utilised in the following industries:

- Pre-filtration upstream fridge and adsorption dryers
- Pre-filter for the removal of larger amounts of liquids
- Applications with expected high particle intake
- After-filter downstream adsorption dryers



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Element Type	Flowrate at 7 bar g m ³ /h *
0035	0035
0070	0070
0120	0120
0210	0210
0320	0320
0450	0450
0600	0600
0750	0750
1100	1100

Sizing example for pressure which deviates from nominal pressure:
 $\dot{V}_{nom} = 350 \text{ m}^3/\text{h}$, operating pressure = 9 bar (g)

$$\dot{V}_{corr} = \frac{\dot{V}_{nom}}{f_p}$$

$$\dot{V}_{corr} = \frac{350 \text{ m}^3/\text{h}}{1.25} = 280 \text{ m}^3/\text{h}$$

Calculated Size: Type 0320

Operating Pressure bar g	Pressure conversion factor f_p
1	0.25
2	0.38
3	0.50
4	0.63
5	0.75
6	0.88
7	1.00
8	1.13
9	1.25
10	1.38
11	1.50
12	1.63
13	1.75
14	1.88
15	2.00
16	2.13

* m³/h related to 1 bar abs. and 20°C

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Features:	Benefits:
Validated performance data acc. to ISO 12500-1	Reliable reaching of the compressed air quality according to ISO 8573-1
Intelligent total 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 sleeve	No inflation of the coalescence sleeve; flow area between element and housing guaranteed at any time; optimised drainage function by constant stable structure of the coalescence sleeve
Support sleeve made of stainless steel meshed grid	Protection of the filter media against pressure shocks
Use of stainless steel material with glass fiber reinforced polyamide	Optimal corrosion protection

Materials:	
Filter media	Polyester fibre fleece
Coalescence sleeve	Polyester fleece
Inner and outer support sleeves	Stainless steel 1.4301 / 304
End caps	Glass fibre reinforced polymer
O-Rings	Perbunan: silicone free and free of compound (Standard)
Bonding	Polyurethane

Validation:
Validation of high-efficiency filters acc. to ISO 12500-1 (oil) and ISO 5011 (particles)

Particle retention rate related to ISO Finedust	Oil retention rate acc. to ISO 12500-1	Residual oil content at an inlet concentration of		
			10 mg/Nm ³	3 mg/Nm ³
$\eta (V) = 90\%$	$\eta (V) = 96\%$	$\dot{m}_{Oil} (V) [mg/Nm^3]$	< 0.5	< 0.2

