

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.

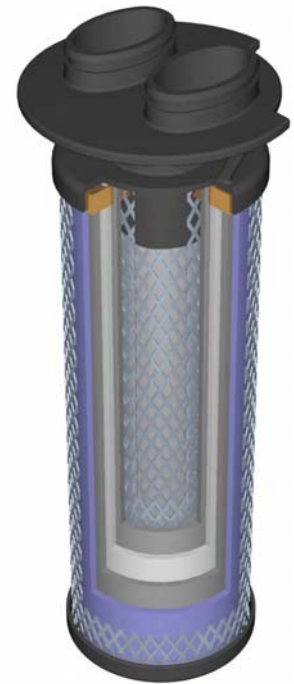
The filter elements type V possess the three-dimensional micro fibre fleece made of polyester, which works oil and water-rejecting.

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



Depth filter type V

| Element Type | Flowrate at 7 bar g m ³ /h * |
|--------------|--|
| 0035 | 35 |
| 0070 | 70 |
| 0120 | 120 |
| 0210 | 210 |
| 0320 | 320 |
| 0450 | 450 |
| 0600 | 600 |
| 0750 | 750 |
| 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

Depth Filter Type V

| 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 | Viton: 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 particles | | | Oil retention rate acc. to ISO 12500-1 | Residual oil content at inlet concentration | | |
|--|----------------|--------------|--|---|-----------------------|----------------------|
| ≥ 1 µm | ≥ 5 µm | ≥ 9 µm | | | 10 mg/Nm ³ | 3 mg/Nm ³ |
| η (V) = 99,65% | η (V) = 99,90% | η (V) = 100% | η (V) = 96% | $\dot{m}_{OI} (V)$ [mg/Nm ³] | < 0,5 | < 0,2 |

