

ZANDER paint-compatible filters are designed as high-capacity surface filters for the coarse separation of particles (VLV), coalescing depth filters for separation of liquid and solid particles (ZPLV, XPLV) and adsorption filter of activated carbon for the downstream adsorption of aerosol components with a simultaneous reduction of the oil vapour (ALV).

The core of the filters is the pleated and up to 4-layer filter fabric consisting of a coated borosilicate microfibre-fabric with a void volume of more than 96%, surrounded by another filter and support fabric made from polypropylene (ZPLV, XPLV). The drainage layer, comprising an innovative, ageing-resistant filter material with an improved performance, is already incorporated in the pleated filter fabric. As a result, any external foam sock is superfluous. The filter fabric is machine-produced and therefore of a consistently high quality. The machine pleating ensures that up to four times the filter surface is available compared with a wrapped element of the same installed size. The enlargement of the filter surface achieved by pleating results in a reduction of velocity through the filter fabric, and therefore in a reduction of differential pressure with simultaneous improvement of dirt holding capacity and separation behaviour.

The filter element cylinders consists of electrolytically polished stainless-steel mesh with large perforations as well as surface-reactively cleaned plastic endcaps with an option of aluminium or stainless steel. All materials, especially selected for applications within the paint-compatible range, undergo a special, multistage cleaning procedure and therefore guarantee the currently known requirements and specifications for paint-compatibility.

Basic technical data:

	VLV	ZPLV	XPLV	ALV
Filtration efficiency	99.99% (3µm)	99.9999% (1µm)	99.99999% (0.01µm)	---
MPPS^{*1}-filtration efficiency	---	99.99% (0.1-0.5µm)	99.9999% (0.1-0.5µm)	---
Residual oil content	—	≤0.5 mg/m ³ * ²	≤0.01 mg/m ³ * ²	≤0.003 mg/m ³ * ³
Differential pressure^{*4}	20 mbar	30 mbar	60 mbar	30 mbar

*1: in relation to MPPS particle size 0.1-0.5 µm (most penetrating particle size)

*2: in relation to 1 bar absolute, 20°C for an inlet concentration of 20 mg/m³

*3: in relation to 1 bar absolute, 20°C for an inlet concentration of 0.01 mg/m³

*4: differential pressure in new state, dry, at nominal capacity.

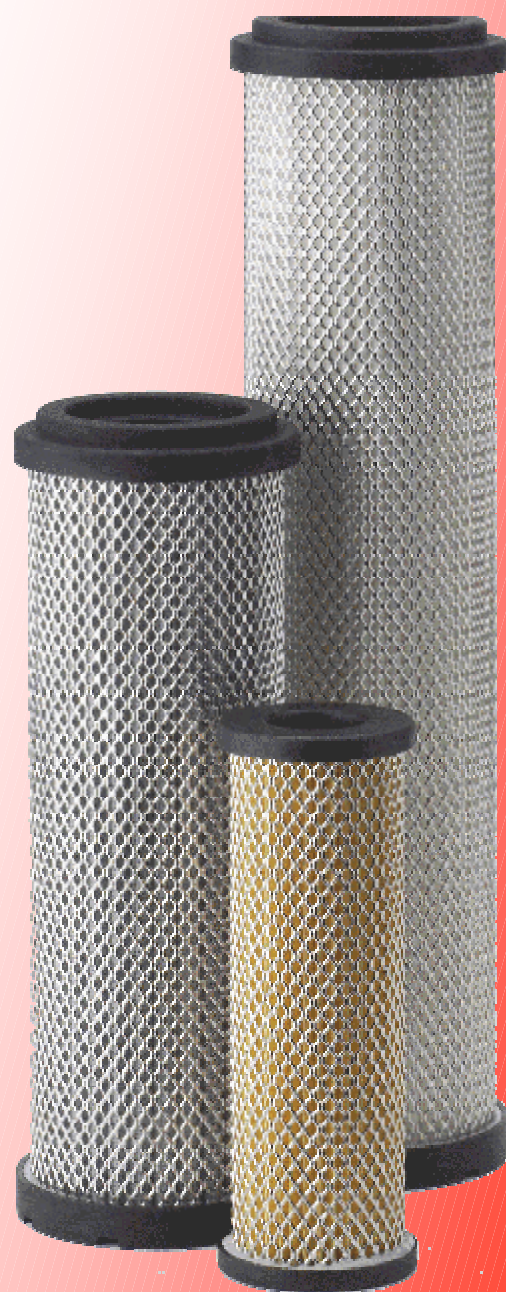
Capacity^{*5}:

Model	Nominal
1050	50 m ³ /h
1070	70 m ³ /h
1140	100 m ³ /h
2010	180 m ³ /h
2020	300 m ³ /h
2030	470 m ³ /h
2050	700 m ³ /h
3050	940 m ³ /h
3075	1450 m ³ /h
5060	1940 m ³ /h
5075	2400 m ³ /h

*5: capacity calculated at 1 bar absolute and 20°C at 7 bar working pressure



Paint compatible filter elements VLV, ZPLV, XPLV, ALV



**Comply with
L-025 and P-025
Specification for
paint-compatibility**



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**Specification
Paint compatible
filter elements**

Materials used

Filter fabric	Microfibre fabric, coated, stabilised (VLV) Borosilicate microfibre fabric with polypropylene homopolymer support-fabric, stabilised (ZPLV,XPLV) Microfibre fabric enriched with activated carbon, parafil-fibre fabric, stabilised (ALV)
Drainage layer	Parafil-fibre fabric incorporated in the filter fabric (ZPLV,XPLV)
Rib mesh	Stainless steel VA 1.4306, electrolytically polished, multiple surface-reactive cleaning
Endcaps	plastic endcaps polyamide modified, glass-fibre-reinforced (up to size 3075), optional aluminium (size 5060, 5075 standard) or stainless steel VA 1.4305, each cleaned in a multiple surface-reactive procedure
Sealing materials	FBM (Viton), silicone-free, conditioned
Bonding materials	Polyurethane adhesive, solvent-free, silicone-free, not fortifying

Temperature range

Nominal	+1°C to +80°C, except ALV +40°C only
Maximum (short-term)	+1°C to +100°C, except ALV use for temperatures > +60°C not adviseable

Differential pressures at nominal capacity	VLV	ZPLV	XPLV	ALV
Differential pressure in new state dry ^{*1}	0.02 bar	0.03 bar	0.06 bar	0.03 bar
Differential pressure saturated ^{*2}	0.07 bar	0.10 bar	0.15 bar	---
Bursting pressure filter element	approx. 5 bar	approx. 5 bar	approx. 5 bar	approx. 5 bar

*1: measured at 7 bar working pressure with model 1050 as example

*2: impact of test aerosols after 60 minutes with an inlet concentration of >20 mg/m³, measured at 7 bar working pressure, model 1050

Filtration efficiency	VLV	ZPLV	XPLV	ALV
Filtration efficiency at nominal capacity	99.99% (3µm)	99.9999% (1µm)	99.99999% (0.01µm)	---
MPPS ^{*3} filtration efficiency at nominal capacity	---	99.99% (0.1-0.5µm)	99.9999% (0.1-0.5µm)	---
Residual oil content at nominal capacity	---	≤ 0.5 mg/m ³ ^{*4} (1 bar a, 20°C)	≤ 0.01 mg/m ³ ^{*4} (1 bar a, 20°C)	≤ 0.003 mg/m ³ ^{*5} (1 bar a, 20°C)
Average residual oil content at nominal capacity attained on validation	---	---	0.0021 mg/m ³ ^{*4} (1 bar a, 20°C)	---

*3: most penetrating particle size –the particle size that is most difficult to separate

*4: in relation to 1 bar absolute, 20°C for an inlet concentration of 20 mg/m³

*5: in relation to 1 bar absolute, 20°C for an inlet concentration of 0.01 mg/m³

Direction of flow

Filtration of solid particles/liquid particles	from inside to outside
Filtration of pure solid particles	from inside to outside (standard) or from outside to inside

Capacity calculated at 1 bar absolute and 20°C at 7 bar working pressure

Model	Nominal
1050	50 m ³ /h
1070	70 m ³ /h
1140	100 m ³ /h
2010	180 m ³ /h
2020	300 m ³ /h
2030	470 m ³ /h
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3075	1450 m ³ /h
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5075	2400 m ³ /h

Production / quality assurance

Development, manufacture and quality assurance in accordance with DIN EN ISO9001, supplemented by ZANDER's own TQM (Total Quality Management)

Validation

performed by BIM – Biotechnologie-Gesellschaft Mittelhessen mbH