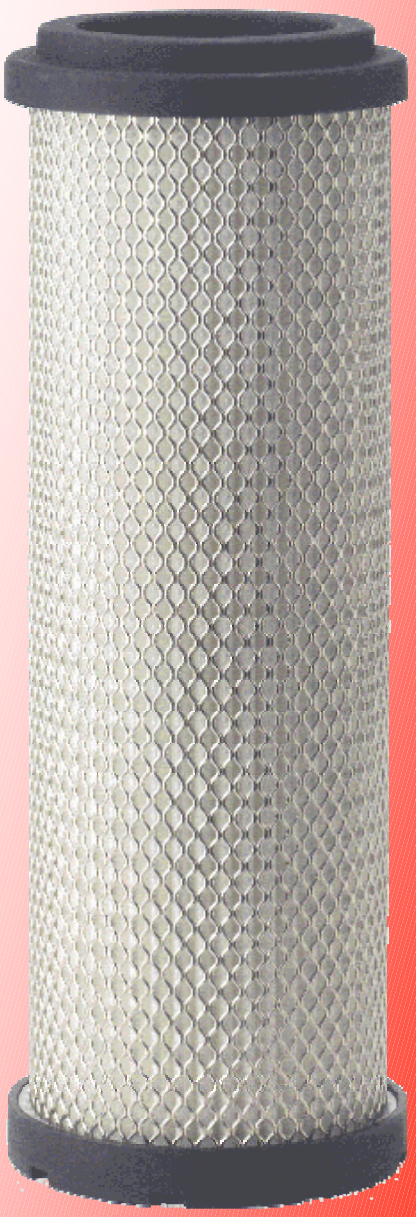
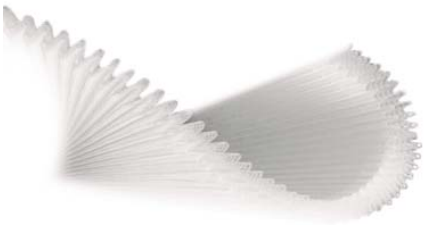
Filter elements ZP,XP,XP4-series



ZANDER high-capacity ZP,XP,XP4 filters are designed as coalescing depth filters and therefore reliably separate liquid and solid particles up to a size of 0.01µm with a filtration efficiency of greater than 99.99999% from compressed air and gas streams.

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. 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 to a wrapped element of the same 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 high-quality stainless-steel mesh with large perforations as well as plastic or optional aluminium or stainless-steel endcaps.

Basic technical data:

	ZP	XP	XP4
Filtration efficiency	99.9999%*1	99.99999%*2	≥ 99.99999%*2
MPPS filtration level	99.99%*3	99.9999%*3	≥ 99.9999%*3
Residual oil content*4	≤ 0.5 mg/m³	≤ 0.01 mg/m³	≤ 0.001 mg/m³
Differential pressure*5	30 mbar	60 mbar	120 mbar

*1: in relation to particle size 1µ
*2: in relation to particle size 0.01µ
*3: in relation to MPPS particle size 0.1-0.5 µm (most penetrating particle size)
*4: in relation to 1 bar absolute, 20°C with an inlet concentration of 20 mg/m³
*5: differential pressure in new state, dry, at nominal capacity.

Capacity*6:

Model	Nominal
1030	30 m³/h
1050	50 m³/h
1070	70 m³/h
1140	100 m³/h
2010	180 m³/h
2020	300 m³/h
2030	470 m³/h
2050	700 m³/h
3050	940 m³/h
3075	1450 m³/h
5060	1940 m³/h
5075	2400 m³/h

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

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Specification
ZP,XP,XP4
series

Materials used	
Filter fabric	Borosilicate microfibre fabric coated with polypropylene homopolymer support-fabric
Drainage layer	Parafil-fibre fabric incorporated in the filter fabric
Rib mesh	Stainless steel VA 1.4306
Endcaps	Plastic endcaps polyamide modified, glass-fibre-reinforced (up to size 3075), optional aluminium (size 5060, 5075 standard) or stainless steel VA 1.4305
Sealing materials	NBR (Perbunan), optional FPM (Viton)
Bonding materials	Polyurethane adhesive, solvent-free

Temperature range	
Nominal	+1°C to +80°C
Maximum (short-term)	+1°C to +100°C

Differential pressures at nominal capacity	**ZP**	**XP**	**XP4**
Differential pressure in new state dry *1	0.03 bar	0.06 bar	0.12 bar
Differential pressure saturated *2	0.10 bar	0.15 bar	0.28 bar
Bursting pressure filter element	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	**ZP**	**XP**	**XP4**
Filtration efficiency at nominal capacity	99.9999% (1µm)	99.99999% (0.01µm)	≥ 99.99999% (0.01µ)
MPPS*3 filtration efficiency at nominal capacity	99.99% (0.1-0.5µm)	99.9999% (0.1-0.5µm)	≥ 99.9999% (0.1-0.5µm)
Residual oil content at nominal capacity at an inlet concentration of 20 mg/m³	≤ 0.5 mg/m³ (1 bar a, 20°C)	≤ 0.01 mg/m³ (1 bar a, 20°C)	≤ 0.001 mg/m³ (1 bar a, 20°C)
Actually achieved average residual oil content during validation at nominal capacity and an inlet concentration of 20 mg/m³	-----	0.0021 mg/m³ (1 bar a, 20°C)	0.0006 mg/m³ (1 bar a, 20°C)

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

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**
1030	30 m³/h
1050	50 m³/h
1070	70 m³/h
1140	100 m³/h
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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