

The filter elements for the **S series Housings** are designed as high-capacity surface filters for coarse separation of particles (V*T), coalescing depth filters for separation of liquid and solid particles up to a size of 0.01 urn with a filtration efficiency of up to 99.99999% (ZP*T, XP*T), and activated carbon filters for additional adsorption separation of aerosol components with simultaneous reduction of oil vapor (A*T).

The core part of the filters is the pleated and up to 4 layer filter fabric consisting of a coated borosilicate microfiber-fabric with a void volume of more than 96%, sur-rounded by another filter and support fabric made from polypropylene (ZP*T,XP*T). The drainage layer, com-prising an innovative, aging-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 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 behavior.

The filter element cylinders consist of high-quality electropolished stainless-steel rib mesh with large perforations and stainless-steel endcaps. The filter elements are fixed in the stainless-steel housings with an integrated standard "click-lock" connection.

Technical Data:

	V*T	ZP*T	XP*T	A*T
Filtration	99.99%	99.9999%	99.99999%	---
MPPS*1 - Filtration	---	99.99%	99.999%	---
Residual Oil Content	---	≤0.5 p.p.m.*2	≤0.1 p.p.m.*2	≤0.003 p.p.m.*3
Differential	.29 PSI	.435 PSI	1.305 PSI	.435 PSI

*1: in relation to MPPS particle size 0.1-0.5µm (most penetrating particle size)
 *2: in relation to 14.5 PSIA and 68°F with an inlet concentration of 20 p.p.m.
 *3: in relation to 14.5 PSIA and 68°F with an inlet concentration of 0.01 p.p.m.
 *4: differential pressure in new state, dry, at nominal capacity

Capacity*5:

Model	Nominal
09	130 SCFM
13	295 SCFM
14	460 SCFM
18	865 SCFM
19	1,148 SCFM

*5: Capacity calculated at 14.5 PSIA and 68°F at 100 PSIG working pressure



Filter Elements V*T, ZP*T, XP*T, A*T





Specification Filter Elements

V*T, ZP*T, XP*T, A*T

Materials	
Filter fabric	Microfiber fabric, coated (V*T) Borosilicate microfiber fabric with polypropylene homopolymer support-fabric (ZP*T,XP*T) Microfiber fabric enriched with activated carbon, parafil-fiber fabric (A*T)
Drainage layer	Parafil-fiber fabric incorporated in the filter fabric (ZP*T, XP*T)
Rib mesh	Stainless steel VA 1 .4306, electropolished
Endcaps	Stainless steel VA 1 .4305
Sealing materials	EPDM (ethylene-propylene-dien)
Bonding materials	Polyurethane adhesive, solvent-free

Temperature range	
Nominal	+34°F to +248°F (V*T, ZP*T, XPT) +34°Fto+104°F(AT)
Maximum (short-term)	+34°F to +302°F (V*T, ZP*T, XPT) A*T use for temperatures >140°F not advisable because of high proportion of vapor

Differential pressures at nominal capacity	V*T	ZP*T	XP*T	A*T
Differential pressure in new state dry ^{*1}	.29 PSI	.435 PSI	1.31 PSI	.435 PSI
Differential pressure saturated ^{*2}	1.02PSI	1.45 PSI	3.19 PSI	—
Bursting pressure filter element	@ 73 PSI	@ 73 PSI	@ 73 PSI	@ 73 PSI

*1: measured at 100 PSI working pressure

*2: impact of test aerosols after 60 minutes with an inlet concentration of 20 p.p.m., measured at 100 PSI working pressure

Filtration efficiency	V*T	ZP*T	XP*T	A*T
Filtration efficiency at nominal capacity	99.99% (3um)	99.9999% (1µm)	99.99999% (0.01 µm)	--
MPPS ^{*3} filtration efficiency at nominal capacity	—	99.9999% (0.1-0.5 urn)	99.9999% (0.1-0.5 µm)	—
Residual oil content at nominal capacity	—	≤ 0.5 p.p.m. ^{*4} (14.5 PSIA, 68°F)	≤ 0.01 p.p.m. ^{*4} (14.5 PSIA, 68°F)	≤ 0.003 p.p.m. ^{*5} (14.5 PSIA, 68°F)
Average residual oil content at nominal capacity attained on validation	--	—	--	—

*3: Most Penetrating Particle Size - the particle size that is most difficult to separate

*4: in relation to 14.5 PSIA, 68°F with an inlet concentration of 20 p.p.m.

*5: in relation to 14.5 PSIA, 68°F with an inlet concentration of 0.01 p.p.m.

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

Capacity calculated at 14.5 PSIA and 68°F at 100 PSIG working pressure	
Model	Nominal
09	130 SCFM
13	295 SCFM
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18	865 SCFM
19	1,148 SCFM

Production / Quality Assurance
Development, manufacture and quality assurance in accordance with DIN EN ISO9001, supplemented by the TQM (Total Quality Management)

The right to make technical alternations is reversed (edition—US-S Series Housing—10/2001)