SMT-P

pleated PTFE membrane filters

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Product description

Introduction

SMT-P filters provide safe, reliable and efficient bioburden control and sterilization of oxidizing, corrosive and aggressive fluids used in Food & Beverage, Pharmaceutical and Chemical industries.

The filters effectively retain particles and micro-organisms through a single layer asymmetric, hydrophobic PTFE membrane, fully validated for bacterial retention. The filter media with support layers is integrated into a robust cage or housing making it suitable for nearly all operation, service and cleaning conditions.

Devices

SMT-P filters are available in a wide range of scalable, cartridges, that allow for fast and easy scale-up of your production. From laboratory-scale filters to production-scale assemblies, all filters incorporate the same media and identical materials of construction, eliminating the need to requalify filter units as processes are scaled up.

Compatibility

SMT-P filters are made from perfluoroalkoxy hardware utilizing thermal welding techniques to seal all the components thus optimizing device integrity, assuring chemical compatibility with a large number of very aggressive solvents, acids and bases. This construction with highly chemically resistant materials is designed for the most challenging applications. The construction guarantees a small extractable footprint.

Documentation

SMT-P filters are designed, developed and manufactured in accordance with a ISO 9001 certified Quality Management System. A Validation Guide is available for compliance with regulatory requirements.

All the materials used comply with the European Union Regulation (EC) No. 1935/2004 as well as the Regulation (EU) No. 10/2011. concerning plastic materials and articles intended to come into contact with foodstuffs. These guidelines for plastics allow the use in food and beverage applications. All materials used meet the requirements of the CFR Title 21.

Key features

Hydrophobic PTFE membrane, integrity testable (0,2µm)

- 100% all Fluoropolymer construction
- Validated bacteria retention (0,2µm version)
- High flow rate and low pressure drop

Applications

Thanks to its chemical compatibility SMT-P filters are widely used in Water Treatment, Pharmaceutical, Cosmetics and Chemical Industries.

- Sterilization of aggressive liquids
- High temperature applications
- Pre and final filtration of corrosive liquids
- Sterilization of oxidizing air and gas applications

Protecting process, products and people

Atlas Copco's process filters optimize your productivity while protecting your process, product and consumers. Our portfolio of cartridges and housings covers all your filtration needs. The products are made from proven, high quality materials from reputable suppliers and manufactured in a controlled environment subjected to strict QA/QC procedures.

Technical data

Micron ratings (µm)
0,05/0,22/0,45/1/3/5/10 µm

Cartridge length
10"/20"/30"/40"

Cartridge diameter
68mm

Effective filtration area (typical)
0,88m²

Material of construction

Filter media	Polytetrafluoroethylene (PTFE)
Core	Perfluoroalkoxy (PFA)
Cage	Perfluoroalkoxy (PFA)
End caps	Perfluoroalkoxy (PFA)
Seal	Polytetrafluoroethylene (PTFE)

Maximum operating temperature
170°C

Maximum differential pressure forward (cartridges)
4,0 bar @50°C, 3,0 bar @110°C, 1,5 bar @170°C

Maximum differential pressure reverse (cartridges)
Not recommended

Sterilization SIP (cartridges)
30 cycles for 30 mins @135°C, 0,3 bar dP

Sterilization Autoclave (cartridges)
30 cycles for 30 mins @130°C

Regulatory compliance

TOC/Conductivity @25°C

Autoclaved filter effluent meets USP<643> for Total Organic Carbon and USP<645> for Water Conductivity per WFI requirements after UPW flush of specified volume.

Particle shedding

Autoclaved filter effluent meets USP<788> for large volume injections.

Non-fiber releasing

Non-fiber releasing component materials meet the criteria for a "non-fiber releasing filter" as per 21 CFR 210,3(b)(6).

Bacterial endotoxin

Aqueous extraction of autoclaved filter contains <0,25 EU/ml as determined by Limulus Amebocyte Lysate (LAL), USP <85>.

Bacterial Retention to ASTM F838-05 (0,22 µm)
LRV >10^7 CFU/cm² of Brevundimonas diminuta (ATCC 19146)

Biosafety

Meets criteria of USP <88> Biological Reactivity Test for class VI-121°C plastics.

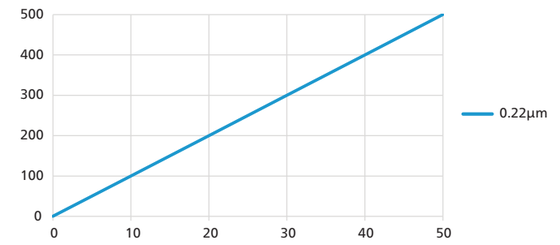
Indirect food additive

The product complies with food contact regulation 21 CFR §177 - 182 and (EC) No 1935/2004 and subsequent amendments.

Quality assurance

For each filter cartridge an electronic Certificate of Conformity is available, detailing relevant test data, biological safety information and product approvals against the specific batch number and part number for the filter. The filter cartridges are manufactured in a controlled clean room environment that generally meets the requirements for ISO 14644-1 Class 8 Cleanrooms.

Flow rate



Note: 10" cartridge tested with water @20°C, 1,005 cP (typical flow rate)

Integrity test data

Cartridge	0,22	Cartridge	0,22
Diffusion flow	0,8 bar	Water intrusion flow	2,5 bar
10″	< 0,16 ml/min	10″	< 0,38 ml/min
Bubblepoint	> 1,1 bar		

Product configuration

Cartridges

Series	Rating (µm)	Length	End cap	Seal
SMT-P	0,05	10″	C2 (2x226 O-ring + 2 tabs/flat)	T (PTFE)
	0,22	20″	C3 (2x222 O-ring/flat)	
	0,45	30″	C7 (2x226 O-ring + 2 tabs/fin)	
	1	40″	C8 (2x222 O-ring/fin)	
	3			
	5			
	10			

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