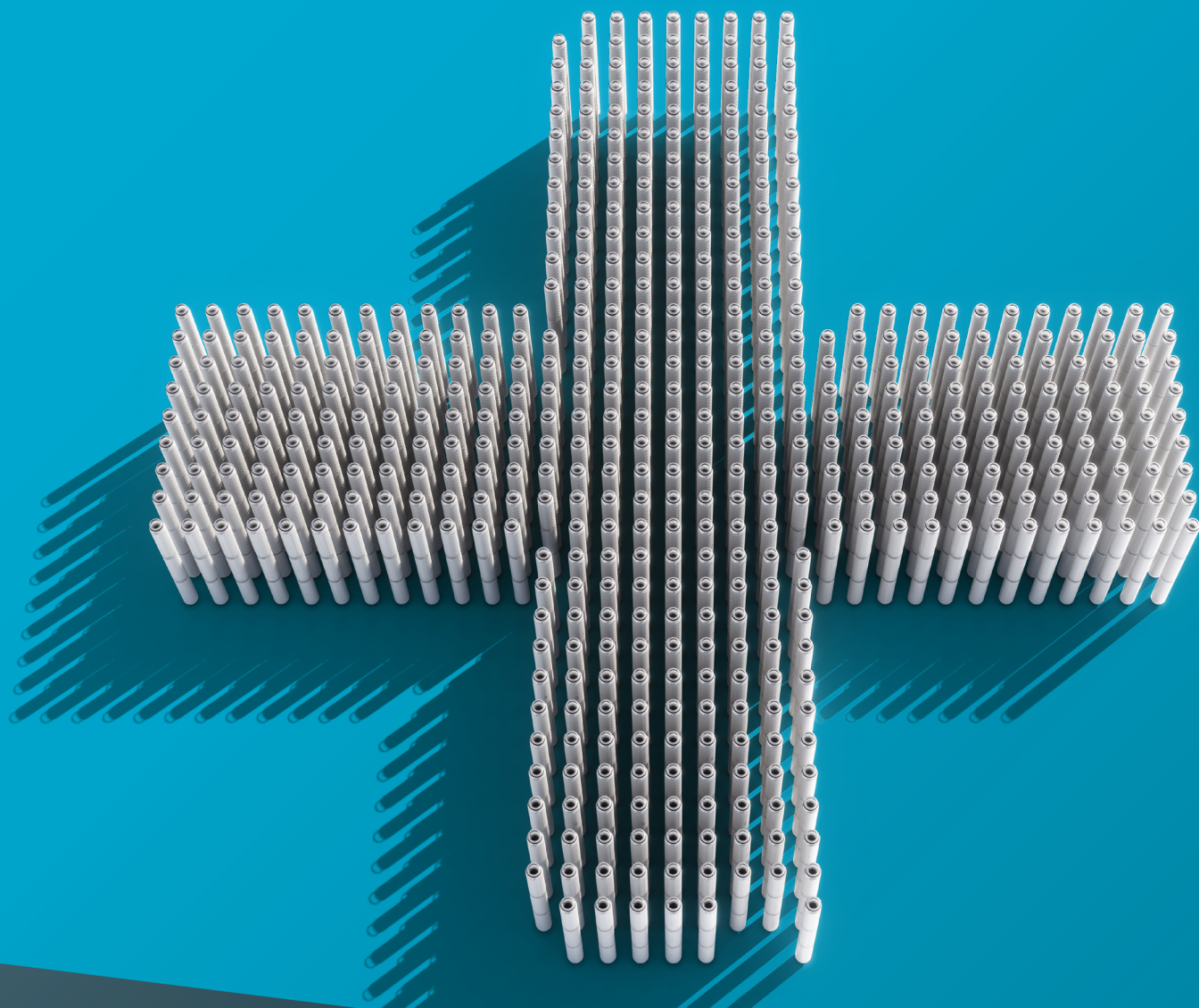




SME⁺

PLUS series pleated PES membrane filters

SME+ PLUS series pleated PES membrane filters

Product description

Introduction

The SME+ is the evolution of the Atlas Copco PES membrane family, available in standard and pharmaceutical grades. The series has been designed to provide safe, reliable and efficient bioburden control and sterilization of valuable liquids used in Food & Beverage and Chemical industries for the standard grade.

The filters effectively retain particles and micro-organisms through a single layer asymmetric, hydrophilic PES membrane characterized by low extractable and protein binding. The filter media is combined with PET support layers and the cage and core is sealed with nylon end supports, providing improved and superior wettability versus polypropylene alternatives. The cartridge is integrated into a robust cage making it suitable for nearly all operation, service and cleaning conditions with improved number of SIP cycles versus the SME.

Devices

SME+ filters are available in a wide range cartridges. All filters incorporate the same media and identical materials of construction, eliminating the need to requalify filter units as processes are scaled up.

Compatibility

SME+ filter’s hardware features polypropylene core and cage, with a combination of nylon end supports and PET support layers to aid wettability. Thermal welding techniques seal all the components therefore optimizing device integrity, as well as assuring a broad chemical compatibility with a large number of solvents, acids and bases. Polypropylene is a highly chemically resistant material, enabling the filters to be chemically regenerated. The construction guarantees a small extractable footprint.

Documentation

SME+ filters are designed, developed and manufactured in accordance with an ISO 9001 certified Quality Management System. A Technical Report 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 their use in food and beverage applications. All materials used meet the requirements of the CFR Title 21.



Key features

- Wide range of ratings and devices
- Increased number of SIP Cycles
- Improved wettability with hydrophilic materials
- 100% integrity tested & DI water flushed

Applications

Due to its chemical compatibility SME+ filters are designed for use in a wide range of food and beverage and general applications.

- Retention of particles and micro-organisms in liquids
- Bioburden control and sterilization
- Edible liquids: bottled water, beer, wine, spirits, juices, soft drinks, non-carbonated drinks, etc.



Protecting processes, 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)
0,1/0,22/0,45/0,65/0,8/1,2 µm

Cartridge length
10”/20”/30”/40”

Cartridge diameter
70mm

Effective filtration area (typical)
0,62 m² (10”)

Material of construction
Filter media: Polyethersulfone (PES)
Support Layers: Polyester
Core: Polypropylene
Cage: Polypropylene
End caps: Copolymer and SS support ring
Seal: Silicone, EPDM

Maximum operating temperature
82°C (cartridges)

Maximum differential pressure forward (cartridges)
5,0 bar @ 20°C, 1,8 bar @ 82°C

Maximum differential pressure reverse (cartridges)
3,4 bar @ 24°C

Sterilization SIP (cartridges)
≤ 100 cycles for 30 minutes @ 135°C, 0,3 bar dP

Sterilization Autoclave
≤ 200 cycles for 30 minutes @ 130°C

Hot water sanitization (cartridges)
≤ 50 cycles for 30 minutes @ 85°C

Chemical sanitization (cartridges)
≤ 50 cycles for 30 minutes @ 40°C with sodium hypochlorite (100ppm) or peroxyacetic acid (100ppm)

All sanitization based on test results and actual operating conditions may vary and impact number of cycles. We would recommend following all limits and guidelines of usage.

Regulatory compliance

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 USP <85> using the Method D (Chromogenic kinetic method).

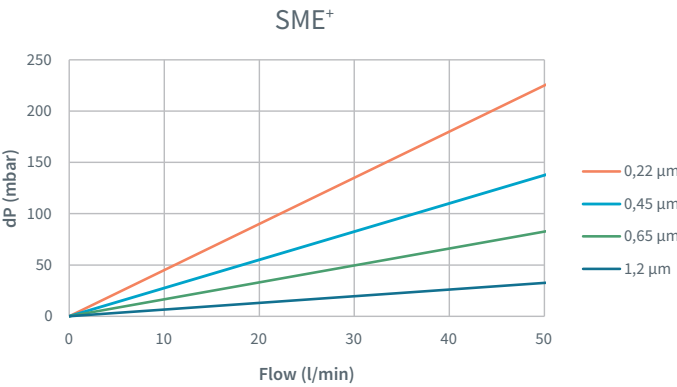
Bacterial Retention to ASTM F838-20 (0,22 µm)
LRV >10⁷ CFU/cm² of Brevundimonas diminuta (ATCC 19146)

Biosafety
Meets criteria 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 7 cleanrooms.

Flow rate



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

Integrity test data

Cartridge	0,1 µm	0,22 µm	0,45 µm	0,65 µm	0,8 µm	1.2 µm
Diffusion flow	2.8 bar	2,4 bar	1,7 bar	1,0 bar	0,8 bar	0,6 bar
5"	< 15 ml/min	< 12.5 ml/min	< 12.5 ml/min	< 12.5 ml/min	< 12.5 ml/min	< 12.5 ml/min
10"	< 30 ml/min	< 25 ml/min	< 25 ml/min	< 25 ml/min	< 25 ml/min	< 25 ml/min
	> 5,5 bar	> 3.1 bar	> 2.1 bar	> 1.2 bar	> 1.0 bar	> 0.8 bar

Product configuration

Cartridges

Series	Rating (µm)	Length	End cap	Seal
SME+	0,1	10"	C2 (2x226 O-ring + 2 tabs/flat)	E (EPDM)
	0,22	20"	C3 (2x222 O-ring/flat)	S (Silicone)
	0,45	30"	C7 (2x226 O-ring + 2 tabs/fin)	
	0,65	40"	C8 (2x222 O-ring/fin)	
	0,8		C28 (2x222 O-ring + 3 tabs/fin)	
	1,2		DOE (flat + gasket/flat + gasket)	

