PROVENT Plus Mini



- Intrinsecally Hydrophobic PTFE membrane
- High permeability versus air and gas
- Repeatedly steamable in situ
- Thermowelded construction
- FDA-listed materials per CFR21
- Bio-Safety per USP-Plastics
- Validation Guide available on request

PROVENT Plus Mini cartridge is specifically designed to be used as a vent filter installed on tanks to protect the contained products from the contamination by external agents. PROVENT Plus Mini can be used also for sterilizing filtration of air feeding to fermentors, on condition that the temperature does not exceed the operating conditions herebelow listed.
PROVENT Plus Mini are matching the request for air filters with increased flow capacity at lower pressure drop to assure longer service life and reduce the total energy consumption for more economical air filtration.
PROVENT Plus Mini is manufactured within a controlled environment and each cartridge is integrity tested and is validated for bacterial retention correlated to microbiological challenge test.
The retention is checked on regular sampling.

MATERIALS OF CONSTRUCTION

Filter media	PTFE membrane
Upstream supports	polypropylene
Downstream supports	polypropylene
Internal Core	polypropylene
External Cage	polypropylene
End caps / Adapters	polypropylene

FOOD-SAFETY

PROVENT Plus Mini filter elements meet regulation (EC) 1935/2004 for indirect food contact.

BIO-SAFETY

Filter media and components pass USP Biological Reactivity and Chemical-Physical tests for CLASS VI plastics.
The filter meets USP "Water for injection" requirements for particle release and the effluent is Non-Pyrogenic per USP Bacterial Endotoxins (< 0,25 EU/ml).

QUALITY STANDARDS

Produced under a certified Quality System certified to guarantee traceability of manufacturing records and integrity testing results.

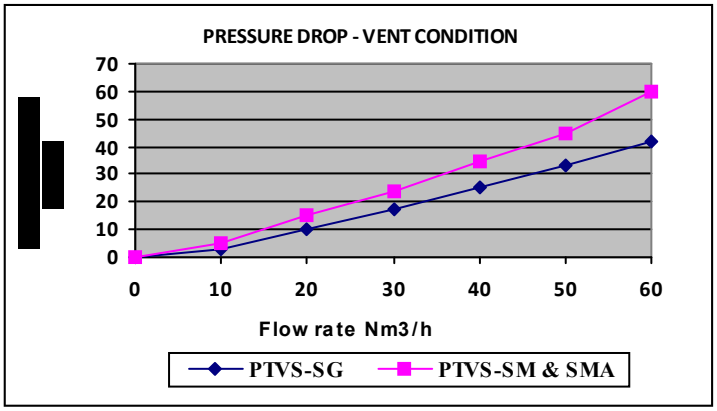
OPERATING CONDITIONS

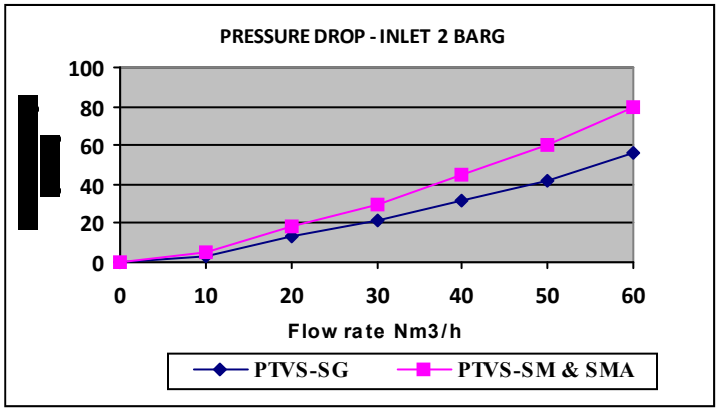
- max. continuous temperature	70 °C (150 °F)
- max. cumulative time of steam sterilization	100 cycles of 60 minutes at 140 °C
- sanitization with chemicals	can be sanitized by standard chemical agents
- max. differential pressure	5,0 bar at 25 °C (73 PSI at 77 °F)
- recommended change out differential pressure	2,0 bar at 25 °C (29 PSI at 77 °F)

CODE	ABSOLUTE FILTRATION RATING	3) BACTERIAL RETENTION $>10^7$ CFU/cm^2	ACCEPTABLE LIMIT FOR INTEGRITY TEST
SM	0,2 µm	Brevundimonas diminuta in liquid	1) ≤ 7 ml/min @ 0,8 bar
	0,2 µm	Bacteriophage T1 in aerosol	1) ≤ 7 ml/min @ 0,8 bar
SMA	0,2 µm	Brevundimonas diminuta in liquid	2) ≤ 8 Nml/10min @ 2,5 bar

Note:
1– The integrity is verified by DIFFUSION TEST using an aqueous solution of isopropyl alcohol (IPA 50/50 V/V) as wetting liquid.
2– The integrity is verified by WATER FLOW INTRUSION TEST.
3– Cartridges are validated for retention of the microorganism reported in the table according to ASTM F838

AIR FLOW RATE





PROVENT Plus Mini ORDERING INFORMATION

PTVS - 100 1 - SM - PH - SB - ☐

END FITTING	CODE
SOE: single open end with internal O-Ring 2.116	**100**
SOE: single open end with threaded 1/2"	**120**

ABSOLUTE FILTRATION RATING micron	CODE
0,2	**SM***
0,2	**SMA****
0,45	**SG ++**

* Integrity by IPA diffusion test
**Integrity by water intrusion Test
++ Integrity test value and procedure on request

CODE	PACKING TYPE
SB	Single box

GASKETS		CODE
Standard	Silicone	**No code**

CODE	NOMINAL LENGTH
1	135 mm
05	142 mm Threaded end included

CODE	PRODUCT GRADE
BG	Biological Grade;
PH	Non-pyrogenic Grade. Quality Certification in the box.
PHH	Non-pyrogenic Grade. Quality Certification, with serial number, in the box.

The data are informative and subject to change without notice. User is responsible for determining whether the product is fit for particular purpose and suitable for User's method of application.

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