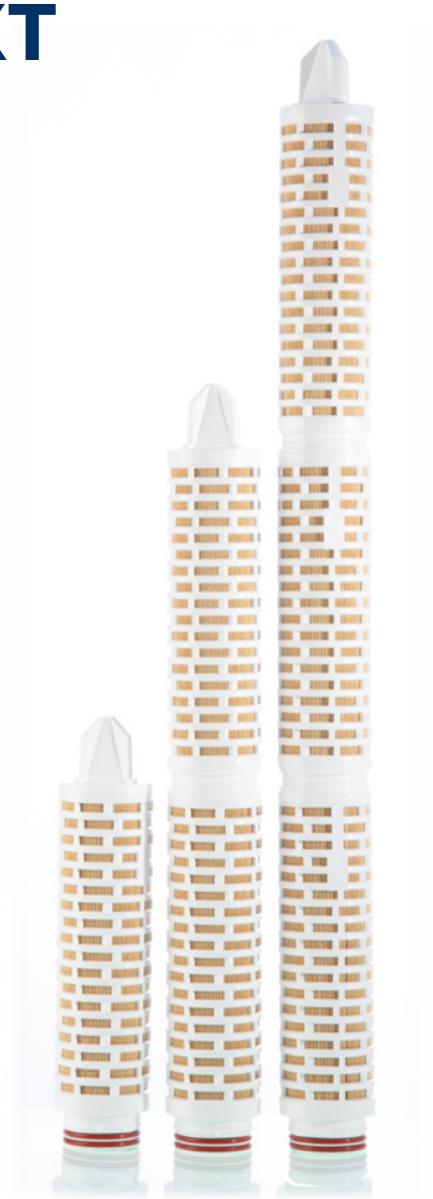
HIGH FLOW TETPOR XT

Sterilizing Grade Filters



HIGH FLOW TETPOR XT gas sterilization filter cartridges provide unrivalled performance in pharmaceutical and biopharmaceutical industry applications where continuous cartridge operation of up to 100°C is a requirement.

Applications include high inlet air temperatures and heated vent filters on storage tanks whose contents are at elevated temperatures >80 °C, e.g. WFI tanks.

HIGH FLOW TETPOR XT cartridges utilize a proven inherently hydrophobic, expanded PTFE membrane. The filters are validated as sterilizing grade in liquid in accordance with the current version of ASTM F838 demonstrating the complete removal of all bacteria. Furthermore, the membrane has been shown to be effective for the retention of viruses and bacteriophage. Specifically designed polyphenylene sulfide (PPS) membrane support layers and heat stabilized polypropylene hardware facilitate continuous operation at temperatures up to 100°C.

Features and Benefits

Heat stabilized construction:

- Long service life even at temperatures up to 100°C.
- Steam sterilizable up to 142°C.

Large bore end-caps and stainless steel core:

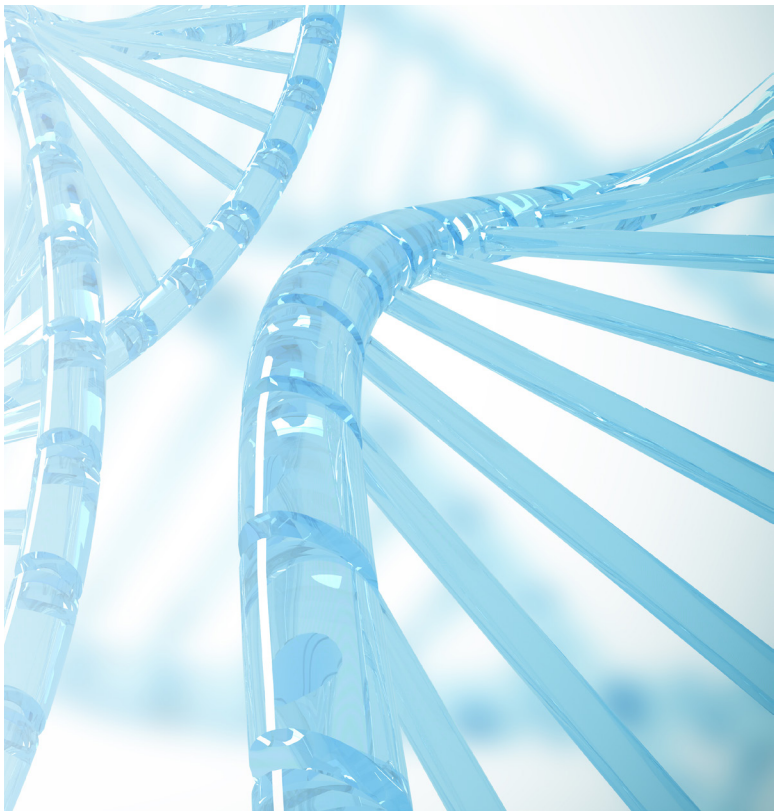
- High flow rates with low pressure drop.
- Robust to high pressure and temperature.

Retention validated in accordance with current version of ASTM F838 liquid bacterial challenge using *Brevundimonas diminuta*:

- Evaluation of retention in worst case conditions.
- Sterility assurance from absolute rated filtration.

Integrity testing parameters correlated to complete bacterial retention:

- Effective and fast non-destructive test to confirm filter will provide sterilizing filtration.



Applications

High inlet air temperatures and heated vent filters on storage tanks whose contents are at elevated temperatures

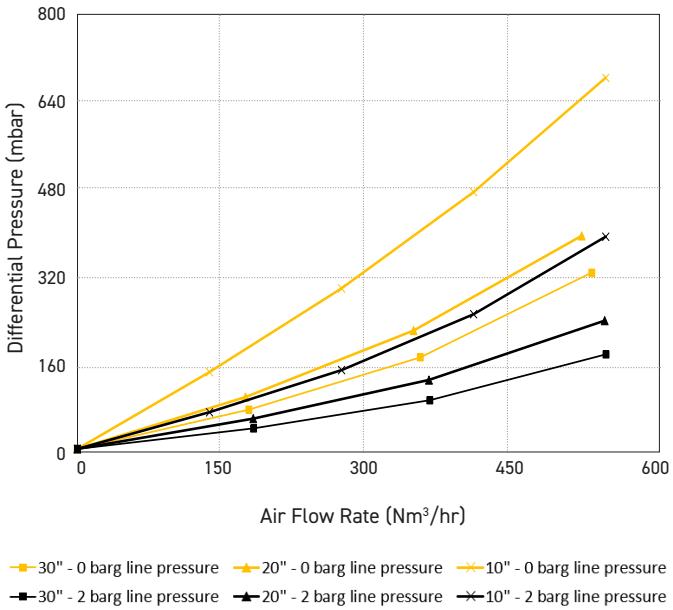
Specifications

Filtration Membrane	Expanded PTFE
Upstream Support	Polyphenylene sulfide
Downstream Support	Polyphenylene sulfide
Inner Support Core	316L Stainless Steel
Outer Protection Cage	Heat stabilized polypropylene
Endcaps	Heat stabilized polypropylene
Endcap Inserts (fully encapsulated / non-contact)	50% GF reinforced polyarylamide
Standard O-rings	Silicone

Recommended Operating Conditions

Maximim Operating Temperature	100°C
Maximum Operating Differential Pressure (direction of flow outside to in)	3.0 barg at 60°C 2.5 barg at 90°C

Air Flow Rates



Steam Sterilization (SIP)

HIGH FLOW TETPOR XT cartridges can be in situ steam sterilized for up to 120 cycles at 142°C.

Maximum Number of cycles	120 x 30 min
Maximum dP in forward direction	0.3 barg at 142°C

Biological Safety

Polyphenylene sulfide support materials conform to USP <87> Biological Reactivity Tests, In Vitro.

Other construction materials in HIGH FLOW TETPOR XT conform to current USP <88> Plastics Class VI - 121 °C.

Bacterial Retention Characteristics

HIGH FLOW TETPOR XT cartridges have been fully validated as sterilizing grade filters for compressed air and gas applications. They provide sterile filtrate when challenged with a liquid bacterial culture in accordance with current revision ASTM* F838.

** ASTM American Society for Testing and Materials*

Effective Filtration Area (EFA)

0.7m² per 10" filter

Integrity Test Data

Every filter cartridge is integrity tested prior to despatch using the diffusional flow test method after wetting with 60:40 Isopropanol:Water.

Minimum Bubble Point Pressure	All sizes	1.0 barg
Diffusional FLow Test Pressure	All sizes	0.8 barg
Maximum Diffusional Flow	10" 20" 30"	12.2mL/min 24.4mL/min 36.6mL/min

Product Assurance

Each lot of expanded PTFE membrane is tested to demonstrate conformity to specification. Product is packaged and sealed in a protective polyethylene bag within a controlled manufacturing environment. Every filter device is integrity tested and flushed with purified water.

Ordering Information

ZHXT / [ ] [ ] - [ ]

Code	Length (nominal)
1	10” (250 mm)
2	20” (500 mm)
3	30” (750 mm)

Code	Endcap
C	Fin/226 Bayonet

Code	O-ring
E	EPDM
P	FEP encapsulated Silicone
S	Silicone
V	Viton™

Reference: DS_GF_012 Revision: 4 Date of Issue: 04/26
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