



Graver Technologies

Filtration | Separation | Purification

# ZTEC™-E Polyethersulfone Membrane Cartridge Filters

## Pleated Polyethersulfone (PES) Membrane for Final Filtration of Ultrapure Water

ZTEC-E microelectronics grade cartridges represent Graver Technologies latest development in ultrapure water filtration technology. The filters are inherently hydrophilic and contain no added surfactants or wetting agents that could contaminate pure and ultrapure water streams. The PES membrane offers superior flow characteristics, high contaminant capacity and consistent removal of sub-micron particles. The cartridges exhibit rapid rinse-up to 18 MΩ-cm resistivity and single digit ppb levels of TOC.

### Filter Features-Benefits

- Manufactured, flushed, tested and packaged, in an ISO Class 7 Cleanroom Environment.
- Filters are 100% flushed with 18 MΩ-cm DI water and integrity tested.
- Resistivity rinse-up to 18 MΩ-cm and single digit ppb TOC levels in less than 30 minutes at 3 gpm per 10-inch element.
- Available in a variety of end cap/adaptor configurations to fit all industry-standard housings.
- Pore size, lot and serial number are stamped on each filter element for identification and traceability.

### Filter Specifications

Media:	Asymmetric Polyethersulfone membrane
Inner core, end caps, cage:	Polypropylene
Support layers:	Spunbonded Polypropylene
Gaskets/O-Rings:	Buna-N, EPDM, Silicone, Viton, Teflon Encapsulated Viton O-Rings
Micron ratings:	0.03 μm, 0.1 μm, 0.2 μm, 0.45 μm
<b>Dimensions and Operating Parameters</b>	
Nominal lengths:	9.75" 10" 20" 30" 40" (24.7, 25.4, 50.8, 76.2, 101.6 cm)
Outside diameter:	2.7" (6.9 cm)
Inside diameter:	1.0" (2.54 cm)
Surface area:	7.7 ft <sup>2</sup> (0.7 m <sup>2</sup> ) per 10-inch element
Maximum differential pressure:	60 psid @ 80°F (4.14bar @ 27°C) 30 psid @ 160°F (2.07 bar @ 71°C) 15 psid @ 203°F (1.03 bar @ 95°C)
Maximum reverse differential pressure:	40 psid @ 70°F (2.8 bar @ 21°C)
Recommended change-out pressure:	40 psid (2.76 bar)



### Performance Specifications

#### Hot DI Water

Filter cartridge will withstand temperatures of 203°F (95°C) for up to 30 consecutive minutes.

#### Cleaning/Sanitization

Compatible with most common chemical cleaning, sanitizing and sterilizing agents and with pH range from 1-14. Consult factory for specific compatibility information.

#### Rinse-Up Volumes

- Resistivity rinse-up to 18 MΩ-cm: <30 minutes at a flow of 3 gpm per 10-inch element.
- Rinse-up to single digit ppb TOC in <120 minutes at a flow of 3 gpm per 10-inch element.

#### Integrity Test Specifications

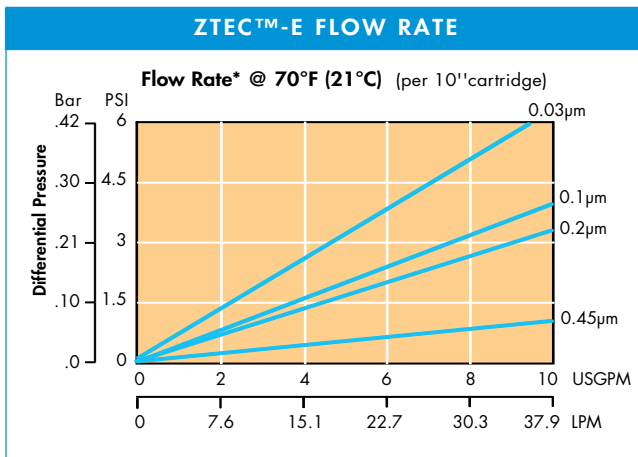
Maximum Diffusive Air Flow (per 10-inch cartridge) values for ZTEC-E filters wet with water:

0.03 μm:	≤ 50 cc/min @ 45 psig (3.1 bar)
0.1 μm:	≤ 50 cc/min @ 40 psig (2.8 bar)
0.2 μm:	≤ 20 cc/min @ 30 psig (2.1 bar)
0.45 μm:	≤ 20 cc/min @ 20 psig (1.4 bar)

## ZTEC-E Nomenclature Information

<p><b>ZTEC-E</b></p> <p><b>Filter Type</b> ZTEC-E Series Filters</p>	<p><b>0.45</b></p>	<p><b>-30</b></p> <p><b>Nominal Length (inches)</b> -9.75 -10 -20 -30 -40</p>	<p><b>P8</b></p>	<p><b>T</b></p> <p><b>Gasket or O-Ring</b>  <b>S</b> Silicone  <b>B</b> Buna-N  <b>E</b> EPDM  <b>V</b> Viton  <b>T</b> Teflon encap.                  Viton (O-Rings only)</p>
<p><b>Retention Rating (microns)</b>                  0.03                  0.1                  0.2                  0.45</p>			<p><b>End Configuration</b>  <b>P</b> Double Open End  <b>P2</b> 226/Flat Single Open End  <b>P3</b> 222/Flat Single Open End  <b>P7</b> 226/Fin Single Open End  <b>P8</b> 222/Fin Single Open End  <b>AM</b> Single open end, internal O-Ring</p>	

Example: ZTEC-E 0.45-30 P8T



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