

## Tec Pleat - EDX

### Positively charged Nano Alumina filter media for endotoxin removal applications

Our Tec Pleat-EDX product uses a composite filter media combining extremely fine filaments of borosilicate glass with Nano Alumina fibres to produce a non-woven material with a very high positive zeta potential of >50mV, which is not discharged by contact with water or alcohol. The combination of conventional mechanical entrapment by the glass fibre media with electrostatic attraction of the Nano Alumina fibres makes these filters particularly suitable for the removal of negatively charged contaminants such as endotoxins, whilst retaining the traditional high flow with low pressure drop characteristics associated with glass fibre media.

The base filter media has been independently tested and found to reduce Endotoxin levels to <0.05 EU/mL under laboratory conditions, and actual tests on an Endoscope Washer Disinfector artificially spiked with 196ml of Endotoxin into a 120L tank resulted in 'None Detected' cfu/100ml post filtration.

The filter media has been tested and demonstrated a Log Reduction Value (LRV) of >6.0 for E Coli, >5.0 for Brevundimonas Diminuta and 1.7 with a single layer for MS2 virus, increasing to 5.4 with a multilayer pleat pack.

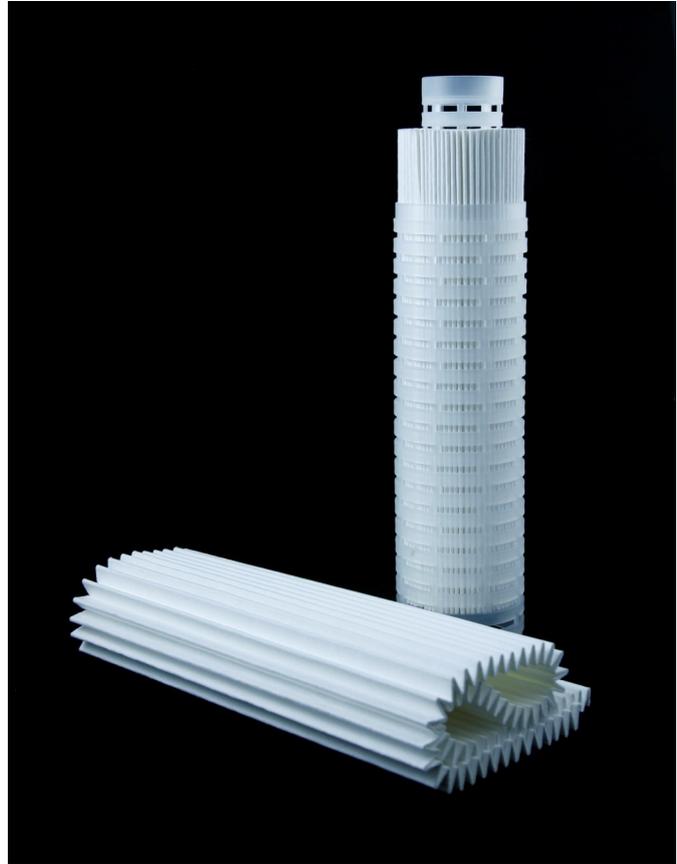
The filter media has been tested and demonstrated an LRV of 4.6 when challenged with Legionella bacteria.

Media surface area 0.35m<sup>2</sup> per 10" module.

Filter media complies with NSF42, all polymeric and elastomer components meet the requirements for food contact as laid down in FDA CFR Title 21.

Media tests have also shown significant reductions in the levels of heavy metals such as Lead, Tin, Iron and Copper.

As the filtration efficiency relies largely on electrostatic attraction by positively charged fibres in a relatively open structure, the flow characteristics are much better than would be expected from a traditional membrane offering similar performance. Flow rates are high, clean pressure drops low, and the dirt holding capacity of the pleat pack is significantly higher than seen in comparable products.



#### Recommended Operating Conditions

|                                |                |
|--------------------------------|----------------|
| Maximum operating temperature: | 80°C           |
| Maximum ΔP, forward flow:      | 4 bar @ 20°C   |
| Maximum ΔP, reverse flow:      | 2.5 bar @ 20°C |
| Recommended changeout ΔP:      | 2 bar @ 20°C   |

#### Materials of Construction

|                |  |
|----------------|--|
| Filter media:  | Borosilicate glass with NanoAlumina fibres |
| Media support: | Polypropylene                              |
| Cage and core: | Polypropylene                              |
| End caps:      | Polypropylene                              |
| Gaskets:       | Silicone, EPDM, Viton or Nitrile           |

#### Sterilisation and Sanitisation

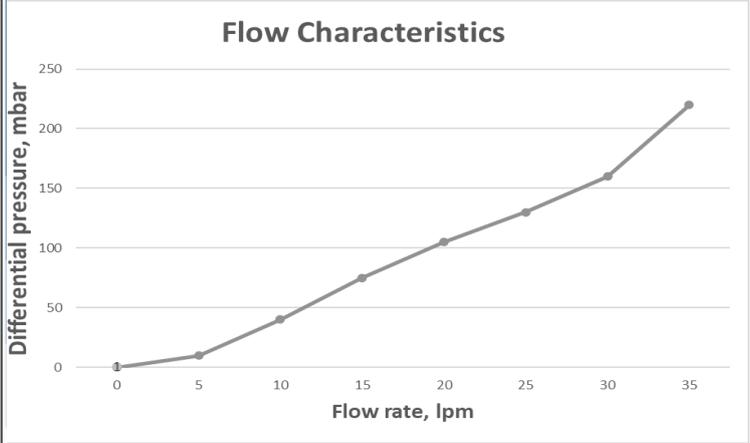
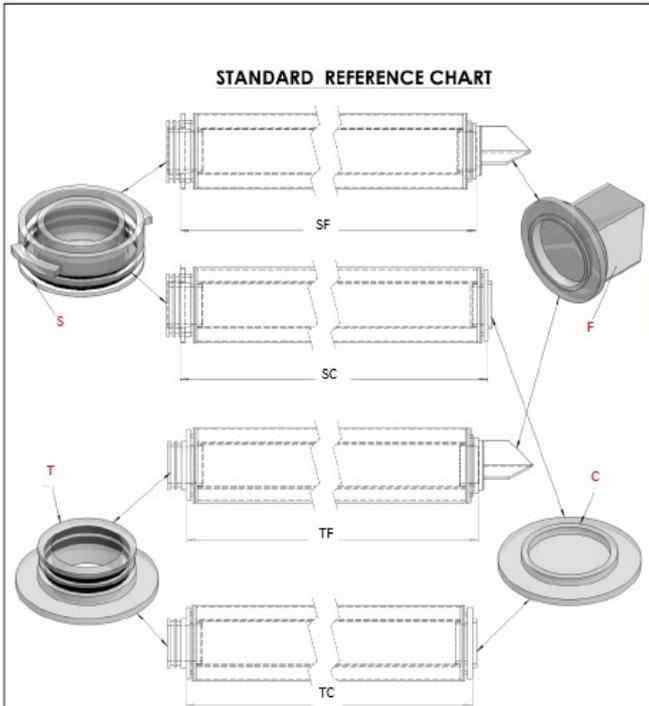
|            |                      |
|------------|----------------------|
| Steam:     | 121°C for 15 minutes |
| Hot water: | 90°C for 30 minutes  |

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| Module | CAGE (QTY) |     | LENGTH (mm) |      |     |     | END CAP 1 | END CAP 2 | O-RINGS |   |   |   |   |
|--------|------------|-----|-------------|------|-----|-----|-----------|-----------|---------|---|---|---|---|
|        | 237        | 245 | SF          | SC   | TF  | TC  |           |           | E       | N | S | T | V |
| 10"    | 1          |     | 257         | 257  | 252 | 252 | S=226     | F=FIN     |         |   |   |   |   |
| 20"    | 1          | 1   | 500         | 500  | 495 | 495 | T-222     | C-Closed  |         |   |   |   |   |
| 30"    | 2          | 1   | 745         | 745  | 740 | 740 |           |           |         |   |   |   |   |
| 40"    | 2          | 2   | 1000        | 1000 | 995 | 995 |           |           |         |   |   |   |   |

Use 226 - E (Encapsulated) for UAP

**Suitable Applications**  
 Water treatment, including heavy metal reduction.  
 Endotoxin control in washer/disinfectant systems.  
 Legionella removal in cooling systems, LRV 4.6.  
 Pre-filtration to prevent colloidal fouling of RO membranes

**Ordering Information**

|   |                         |  |   |  |
|---|-------------------------|--|---|--|
| <b>TP</b>                                   | <b>EDX</b>              | <b>20</b>                                | <b>SF</b>   | <b>E</b>   |
| <b>Media</b>                                | <b>Micron Rating</b>    | <b>Length</b>                            | <b>End Cap</b>  | <b>Seal Material</b>   |
| Glass fibre media with Nano Alumina fibres. | Endotoxin removal grade | 5"<br>9 7/8"<br>10"<br>20"<br>30"<br>40" | DO- DOE<br>CG - 213 (internal)<br>TC- 222/Closed<br>TF - 222/Fin<br>SF - 226/Fin<br>SC - 226/Closed<br>AZ - 224 | E - EPDM<br>N - Nitrile<br>S - Silicon<br>T - FEP<br>V - Viton |

Example: TECEDX20SFE  
 Tec Pleat-EDX Nano Alumina Fibre, Endotoxin removal grade, 222/fin (code 8) endcaps with EPDM O-rings

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