

# BREW FREE PES

Asymmetric membrane in hydrophilic polyethersulfone

## Technical characteristics

- Hydrophilic polyethersulfone membrane with asymmetric pore structure, with no electric charge
- Absolute porosity 0.45µm, the microbiological criteria are defined with specific microorganisms
- Membrane integrity testable multiple times
- Wide compatibility with regenerating and sanitizing products
- Food grade
- Configuration suitable for frequent chemical regeneration

## Microbiological retention

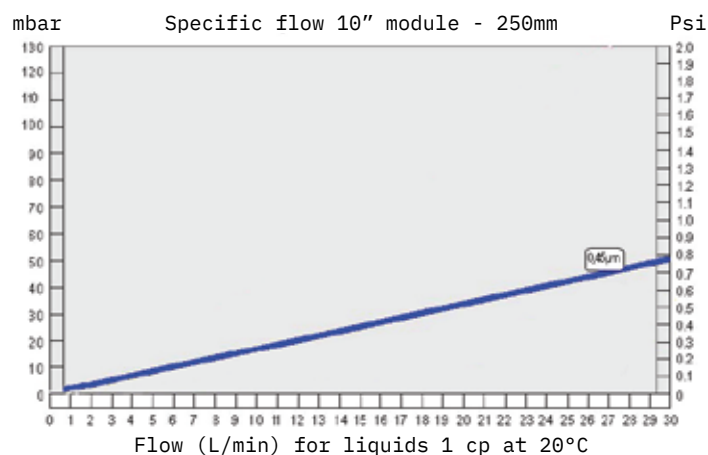
Logarithmic reduction (LRV) is calculated as follows:

$$LRV = \log_{(10)} \frac{\text{Number of microorganisms upstream of filter}}{\text{Number of microorganisms downstream of filter}}$$

The Health Industry Manufacturers Association (HIMA) considers as sterile for a given microorganism, filters that have LRV equal to or greater than 7.

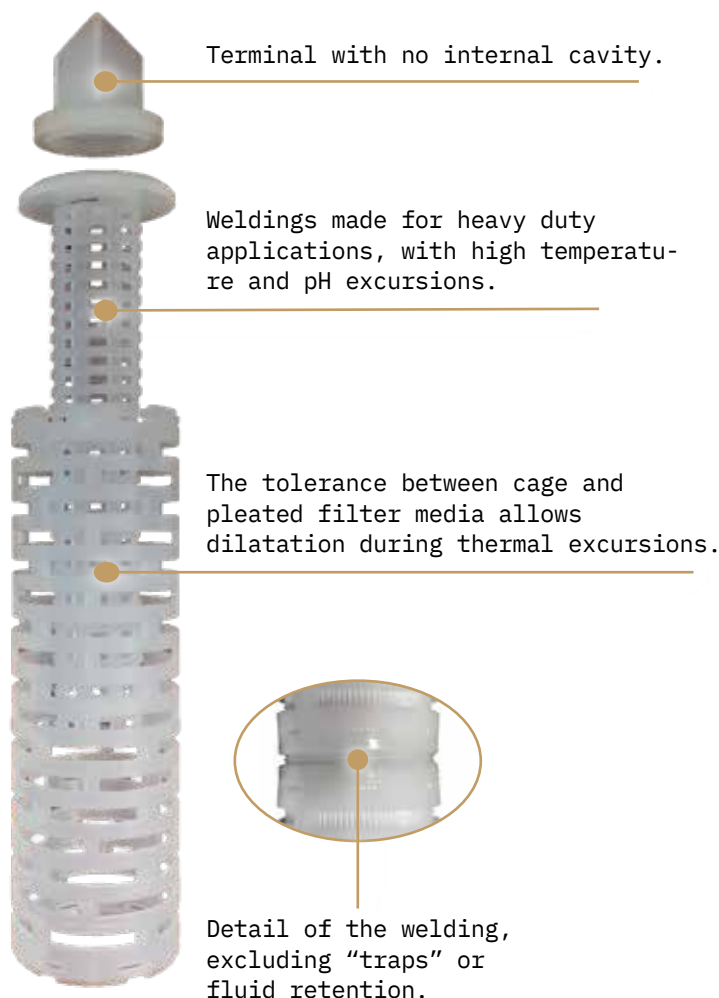
## Validation

- The membranes used in **BREW FREE PES** cartridges are tested and validated.
- All **BREW FREE PES** cartridges are subjected to a double integrity test: every single module before assembly; the entire filter element assembled before delivery.
- This exclusive DANMIL validation system ensures the absolute integrity of the filter element.



■ 0,45µm

# BREW FREE PES



## Construction materials

|                             |   |
|-----------------------------|---|
| Filter membrane             | Asymmetric hydrophilic polyethersulfone |
| Support and drainage layers | Polyester                               |
| Internal and external cage  | Polypropylene                           |
| Standard 'O' rings          | Silicone                                |
| Terminal supports           | Nylon                                   |
| Reinforcing ring            | Stainless steel aisi 316L               |
| Material coupling           | Thermo welding                          |
| Filter pleat coupling       | Thermo welding                          |

## Operational data

|                            |                                  |
|----------------------------|----------------------------------|
| Filter surface             | 0,8 m² for a 250 mm module (10") |
| Max operating temperature  | 80°C                             |
| Max Δp operating at 20°C   | 5 Bar (72,5 psi)                 |
| Max Δp at 121°C with steam | 0,3 Bar (4,3 psi)                |

## Regeneration and hygienization

- **BREW FREE PES** cartridges can be repeatedly regenerated with hot water (max 80°C), sterilized with steam up to 121°C. They can also be used in hot caustic cycle, even with peroxide.
- DANMIL technical office can provide compatibility technical details but above all validations for complete work cycles.

## Integrity test

|   |        |         |
|---|--------|---------|
|   |        | 0,45 µm |
| BUBBLE POINT                              | bar    | 1.7     |
|   | psi    | 24      |
| PRESSURE TEST                             | bar    | 1.4     |
|   | psi    | 20      |
| MAX. DIFFUSION FLOW FOR MODULE (NITROGEN) | ml/min | 29      |

**BREW FREE PES FILTER ELEMENTS ARE PACKAGED IN A CLEAN ROOM. THE RIGID CARDBOARD PACKAGE HAS ANTI-SHOCK TERMINAL PARTICULARS.**



Filter elements are flushed with extra pure water and then dehydrated with hot and sterile air flow.

The stainless steel ring is a reinforcement used to maintain the size of the attachment. It can be removed for disposal purposes.

