

PSK45 Cartridge

(Pleated Polysulfone Membrane Filter)

Excellent performance of a long filtration life in removing microorganisms and fine particles from drinks

Features

1. High-performance micro-porous structure

The micro-porous structure of the polysulfone filter is asymmetric as a whole and contains a dense layer (see photo). This structural characteristic with larger pore sizes both on the inlet and outlet sides has improved the filtration ability.

2. Excellent particle removal and retention performance

The dense layer and sharp pore size distribution inside the filter enable reliable retention and high-precision filtration of fine particles and microorganisms.

3. Low initial pressure loss and a long filtration life

The high porosity rate of 80%, characteristic asymmetric membrane structure, and large filtration area of the filter ensure a low initial pressure loss and a long filtration life.

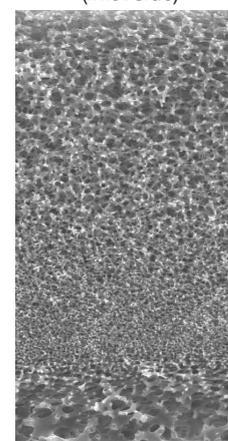
4. High pressure-resistance

Because of basing on PSE cartridge, optimization of number of pleats, and due to the use of high stiffness non-woven fabric, the pressure-resistance of the cartridge in the forwardflow direction has been improved

5. Possibility of alkali CIP

The resistance to alkali CIP has been increased due to the use of high stiffness non-woven fabric leading to an effective filtration life

(Inlet side)



(Outlet side)

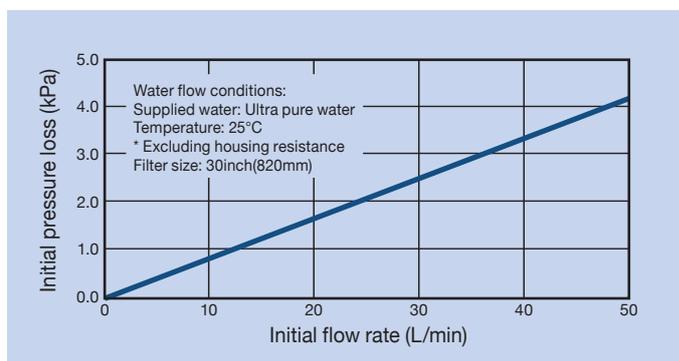
An electron microscope cross-sectional photograph of the polysulfone membrane

Performance Characteristics

Parameter		Performance
Size	Length	820 mm
	Outer diameter	φ70 mm
Maximum pressure difference	25°C Forward pressure	0.54 MPa
	25°C Back pressure	0.34 MPa
	90°C Forward pressure	0.20 MPa
	90°C Back pressure	0.15 MPa
Heat resistance (max.)		90°C
Capture efficiency (bacterial removal rate)		LRV ≥ 7 *
Applicable pH region		1 to 14

* Biological indicator: *Lactobacillus brevis*
Pediococcus damnosus

Initial pressure loss and initial flow rate



Chemical Resistance

The data presented below were obtained from 24-hour immersion tests at room temperature. Please check the chemical compatibility with respect to your actual operating conditions before use.

Chemicals	Compatibility
Ethanol 98%	○
Phosphoric acid 85%	○
Sodium hydroxide 32%	○
Hydrogen peroxide 30%	○
Sodium hypochlorite	○

Sterilization Processing

It is possible to carry out repeated sterilization treatment of the cartridge.

Sterilization at specified intervals is required for reliable bacterial removal and maintaining filtration performance.

Hot water sterilization : 90°C

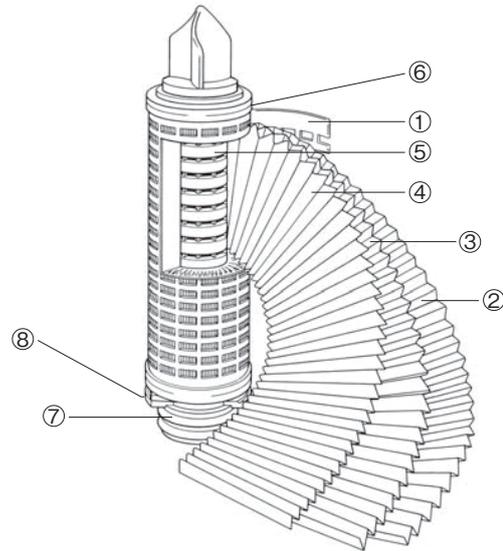
Chemical sterilization

- Hydrogen peroxide : 5%
- Sodium hypochlorite : 10ppm (Chlorine water)
- Sodium hydroxide : 0.5%

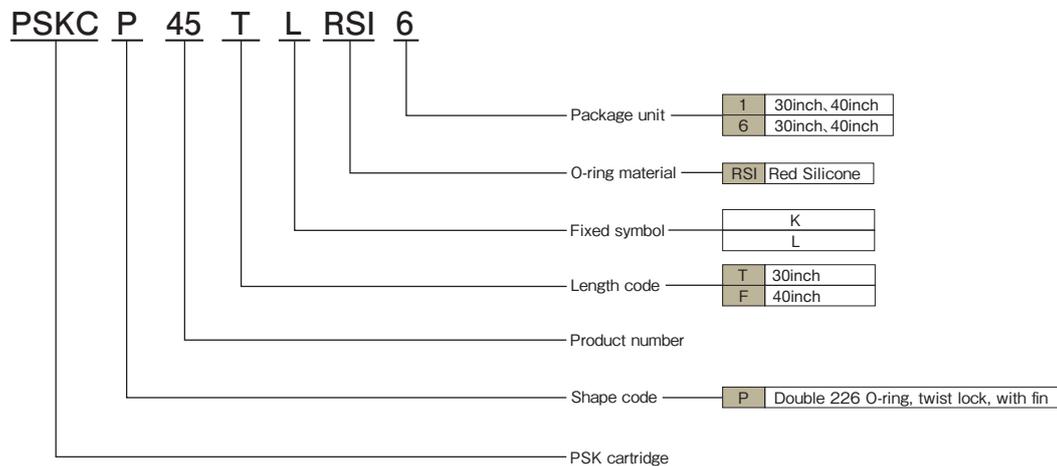
Construction and Materials

The polysulfone membrane is formed into pleats along with the polypropylene filter support and integrated into the cartridge structure by the thermal fusion bonding method.

- (1) Guard — Polypropylene
- (2) Filter support (Inlet side) — Non-woven polypropylene fabric
- (3) Membrane filter — Polysulfone
- (4) Filter support (Outlet side) — Non-woven polypropylene fabric
- (5) Core — Polypropylene
- (6) End caps — Polypropylene
- (7) O-ring — Silicone
- (8) Reinforcing ring — Polysulfone



Ordering Information



FUJIFILM

FUJIFILM Corporation

<https://www.fujifilm.com/global/en/business/manufacturing-process/microfilter>

TEL: +81-3-6271-3008