

ADVANTEC®

PES MEMBRANE CARTRIDGE FILTERS

TCS-G Type (For Food & Beverage)

PES MEMBRANE CARTRIDGE FILTER



TCS-G TYPE

ADVANTEC TOYO KAISHA, LTD.

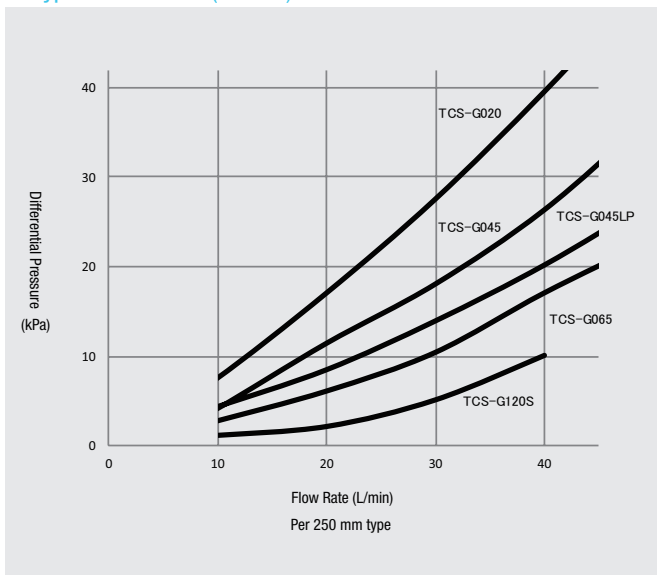
PES MEMBRANE CARTRIDGE FILTER

Substantially improved flow rate, filtration life, and hydrothermal resistance compared with existing products. Optimal for filter sterilization for food and beverages as well as general particle-removing filtration.

Features

- **Low resistance, long filtration life**
Increased the effective filter area to 1.65 times that of existing products (TCS Type), achieving low resistance and long life.
- **Excellent hydrothermal resistance**
Can perform hydrothermal sterilization at 85°C for 30 minutes repeated 100 times (50 cumulative hours), with an O-ring seal with an H, K, or J shape code.
- **Excellent hypochlorous acid resistance**
A type with high hypochlorous acid resistance is available.(TCS-G R Type)
- **Applicable for use in food and beverage plants**
Product conforms to compositional standards for food, food additives, etc. specified by the Ministry of Health and Welfare Notification No.370, 1959, and specification tests for apparatus or packaging.
- **High reliability**
The high reliability of our cartridge filters is proven through integrity testing for all products.

Typical Flow Rate (WATER)



Conditions Piping: 3/4 inch Housing: 1TWA-1S-FS Water Temperature: 20°C

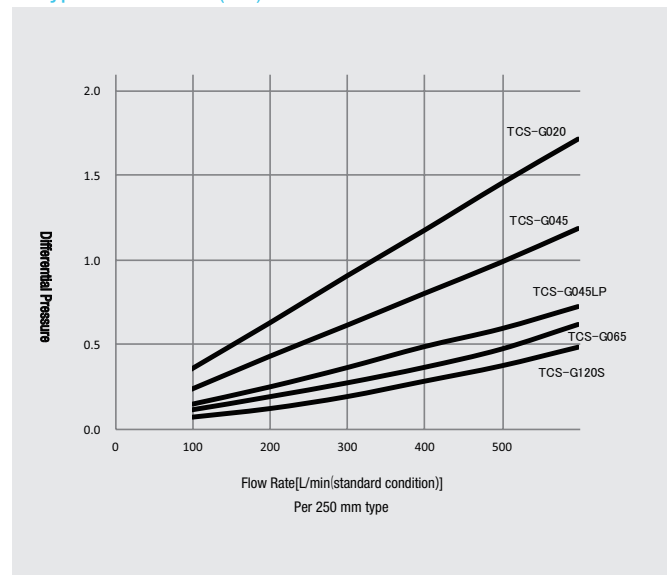


TCS-G Type

Applications

- Sterilization of water for manufacturing of food industry products, and other products
- Finishing filtration for beer, wine, and sake
- Filter sterilization for mineral water
- Filtration of cleaning solvent for low-concentration hypochlorous acid (TCS-G R Type)

Typical Flow Rate (AIR)



Conditions Piping: 3/4 inch Housing: 1TWA-1S-FS Supply air: 0.49 MPa

PES MEMBRANE CARTRIDGE FILTER

Specifications

Ordering Information	TCS-G020	TCS-G045	TCS-G045LP	TCS-G065	TCS-G120S
Pore Size (μm)	0.20	0.45	0.45	0.65	1.20
Effective Filter Area	6,600 cm ² /250 mm Type				7,500 cm ² /250 mm Type
Log Reduction Value (LRV)*1 (Challenge Organism)	≥LRV7 (<i>P. diminuta</i>)	≥LRV7 (<i>S. marcescens</i>)	≥LRV7 (<i>L. brevis</i>) ≥LRV3 (<i>S. marcescens</i>)	≥LRV7 (<i>S. cerevisiae</i>) ≥LRV3 (<i>L. brevis</i>)	≥LRV3 (<i>B. bruxellensis</i>)
Maximum Differential Pressure*2	25°C	0.39MPa			
	80°C	0.20MPa			
Maximum Operating Temperature*2	80°C				
Integrity Test Diffusion Flow Rate (mL/min) Water at 23°C per 250 mm	≤55 (at 0.326MPa)	≤53 (at 0.206MPa)	≤32 (at 0.166MPa)	≤40 (at 0.100MPa)	≤40 (at 0.0528MPa)
Sterilization Method	Hydrothermal sterilization at 85°C for 30 minutes 100 times (50 cumulative hours) (with an O-ring seal with an H, K, or J shape code)				

*1: LRV (Logarithmic Reduction Value) = $\log_{10} \frac{\text{Number of colonies in challenge fluid}}{\text{Number of colonies in the filtrate fluid}}$

*2: Maximum differential pressure and maximum operating temperature are set based on the results of tests conducted with water. These may differ depending on the combination of chemicals, differential pressure, temperature, and time; therefore, we recommend testing before use.

- Membrane filters may become hydrophobic when the cartridge filter used dries. In this case, dampen with isopropyl alcohol or ethanol before using, then wash with clean water to use.
- This product is made of plastic and may deteriorate over time. In particular, long-time exposure to fluids containing oxidizing agents such as chlorine may cause oxidative aging of filters and support media, resulting in degradation in strength. The level of aging may differ depending on the conditions of temperature and pressure, and type of chemicals. Please ensure the periodic replacement of filters when using the product under severe conditions.

Ordering Information

TCS-G [Pore Size] - [Code] [Length] [Code] [Cartridge Filter Shape] [Code] [Gasket/O-ring Polymer]

Pore Size	Code	Length (mm)	Code	Cartridge Filter Shape	Code	Gasket/O-ring Polymer
0.20	S	250	F	Please check photos below for details of the shape of each cartridge filter.	E*	Ethylene Propylene
0.45	D	500	M		D	EPDM
0.45 LP	T	750	H		N	Chloroprene
0.65	Q	1,000	R		B	NBR
1.20 S			K		S (standard)	Silicone
			P		V	FPM
			J			

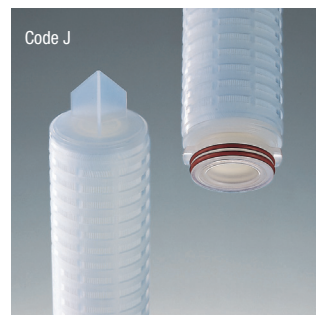
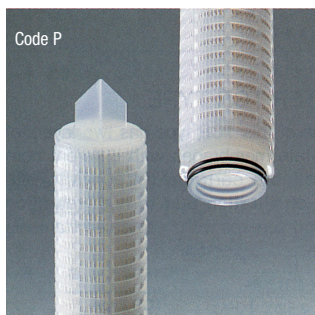
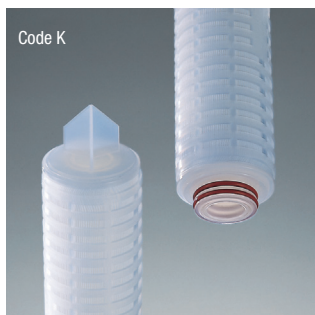
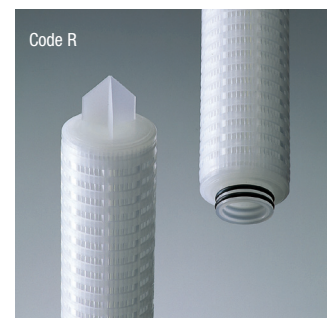
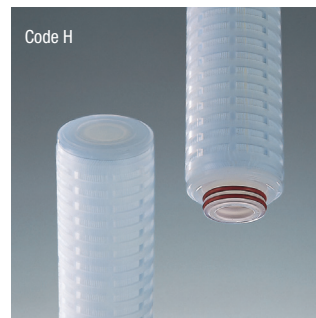
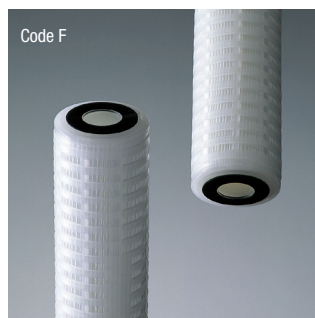
*Avoid selecting ethylene propylene for the material of gaskets and O-rings if using for food or beverages.

TCS-G [Pore Size] **R**-[Code] [Length] [Code] [Cartridge Filter Shape] [Code] [Gasket/O-ring Polymer]

Pore Size	Code	Length (mm)	Code	Cartridge Filter Shape	Code	Gasket/O-ring Polymer
0.20	S	250	F	Please check photos below for details of the shape of each cartridge filter.	E*	Ethylene Propylene
0.45	D	500	M		D	EPDM
0.65	T	750	H		N	Chloroprene
	Q	1,000	R		B	NBR
			K		S (standard)	Silicone
			P		V	FPM
			J			

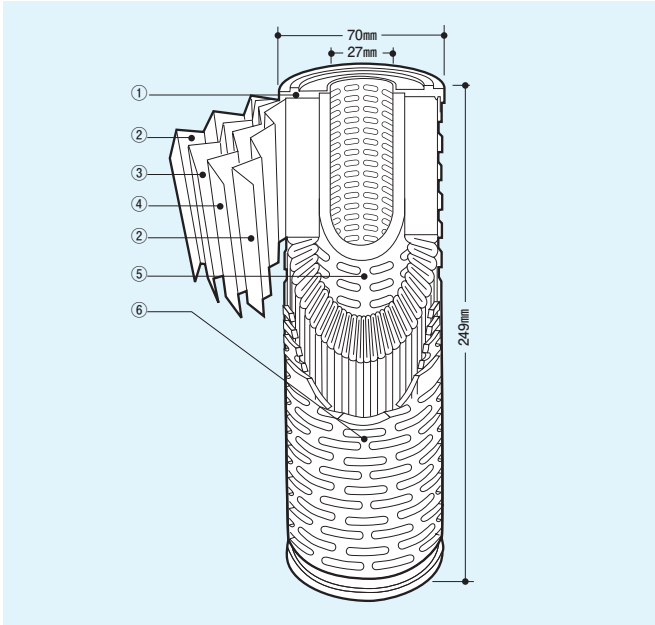
*Avoid selecting ethylene propylene for the material of gaskets and O-rings if using for food or beverages.

Cartridge Filter Shape



PES MEMBRANE CARTRIDGE FILTER

■ Composition

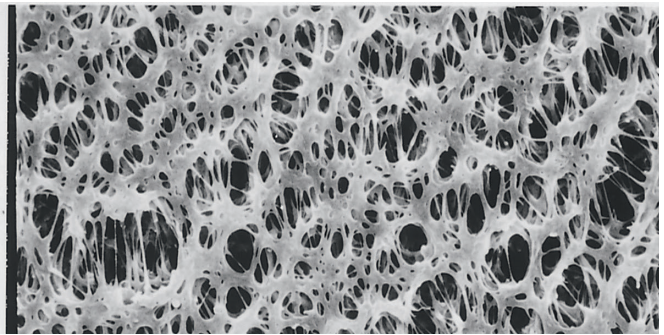


■ Materials

- ① Endcap: Polypropylene
- ② Support Media: Polypropylene
- ③ Pre-Membrane Filter: Polyether Sulfone
- ④ Main Membrane Filter: Polyether Sulfone
- ⑤ Core: Polypropylene
- ⑥ Protector: Polypropylene

*The TCS-G120S has no pre-membrane filter.

■ Surface of the filtering layers (Electron Micrography)



● Specifications listed in this brochure are subject to change without notice.

● ADVANTEC is a trademark / registered trademark that belongs to Toyo Roshi Kaisha, Ltd. And its group companies in Japan and other countries.

Toward the Future of Science
ADVANTEC[®]

ADVANTEC TOYO KAISHA, LTD.

Overseas Trade Division
Hibiya-Kokusai BLDG, 2-2-3, Uchisaiwaicho,
Chiyoda-ku, Tokyo, 100-0011 Japan
Phone +81-3-5521-2181
Fax +81-3-5521-2182
E-mail atk-otd@ADVANTEC.cp.jp
URL <https://www.ADVANTEC.co.jp/en/>

ADVANTEC[®]
MFS, Inc.

ADVANTEC MFS, INC.

6723 Sierra Court, Suite A
Dublin, California 94568 U.S.A.
Phone (800)334-7132
+1-925-479-0625
Fax +1-925-479-0630
E-mail sales@advantecmfs.com
URL <https://www.advantecmfs.com>