

ADVANTEC®

PTFE MEMBRANE CARTRIDGE FILTER

Polyethylene Hardware



TCF Type

Advantec Toyo Kaisha, Ltd.

PTFE MEMBRANE CARTRIDGE FILTER

Polyethylene Hardware

Ideal for photoresist, functional resins, organic solvents and gas applications

Features

- In order to reduce extractables for the resist filtration process in semiconductor applications, the hardware material has been changed from PP to HDPE.
- Available pore sizes are 0.05, 0.1, 0.2, 0.5, 1.0 and 3.0 μm . These are suitable for micro filtration of chemical applications as well as pre filtration for nano filters.
- PTFE membranes are surfactant free and the seals are heat welded for cleanliness.
- All products are quality controlled using the integrity test method.

Applications

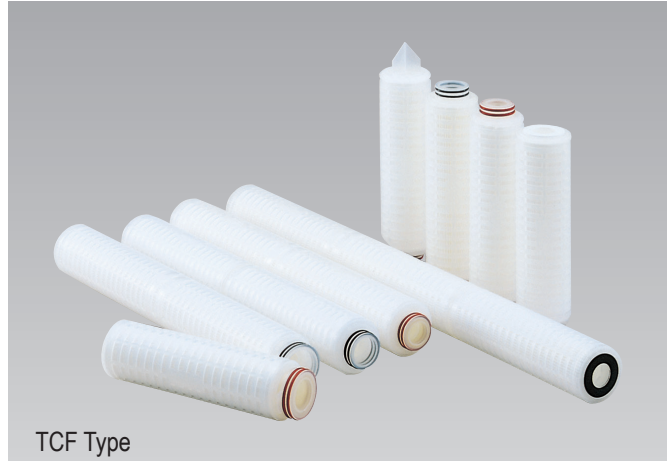
- Resist filtering of LC and semiconductor
- Washing solution filtering of CMP
- Etching liquid filtering

Specifications

	TCF-005	TCF-010	TCF-020	TCF-020L	TCF-050	TCF-100	TCF-300
Pore Size (μm)	0.05	0.10	0.20	0.20	0.50	1.00	3.00
Filtration Area (cm ² /250mm)	12,000		16,400	12,000	7,000		
Maximum Operating Differential Pressure*	0.25MPa (25°C)						
Maximum Operating Temperature*	40°C						
Integrity Test (Bubble Point (MPa) Isopropyl alcohol, 23°C)	≥ 0.280	≥ 0.147	≥ 0.078	≥ 0.049	≥ 0.021	≥ 0.009	

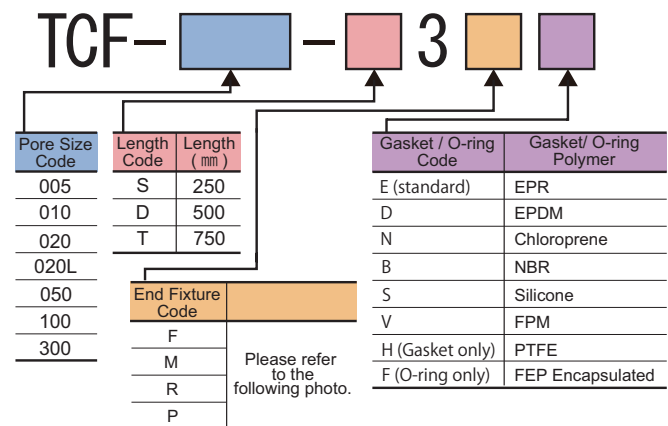
* The maximum operating differential pressure and temperature are determined by a water test. The maximum operating differential pressure and temperature are dependent on conditions such as temperature, pressure, and liquid filtered. It is recommended to verify conditions before use.

- PTFE membrane is hydrophobic and not for use with liquids with a surface tension $\geq 32\text{mN}$. Prewetting the membrane with isopropyl alcohol or ethyl alcohol will allow filtration of aqueous solutions.
- The plastic cartridge housing can degrade over time, especially a long exposure to fluids containing oxides like Chloric can also degraded the filter and support media. Conditions such as temperature, pressure, and the liquid filtered can all affect the level of degradation. Regular replacement is recommended.



TCF Type

Ordering Information



End Fixture Code F



End Fixture Code M



End Fixture Code R

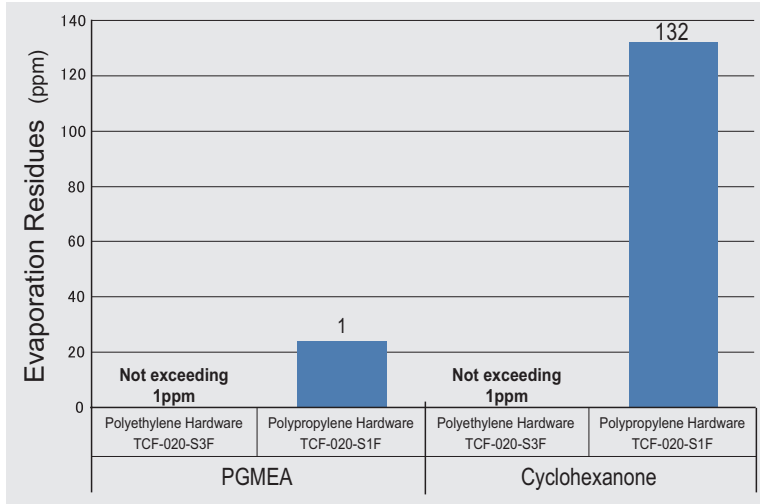


End Fixture Code P

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Extractable



- Detected extractable of octadecene and octadecyl vinyl ether in PGMEA
- Detected extractable of octadecene and octadecyl vinyl ether in cyclohexanone

« Test Conditions »

Sample: 250mm, End Fixture Code F

Test Liquid:

- Propylene glycol monomethyl ether acetate (PGMEA)
- Cyclohexanone

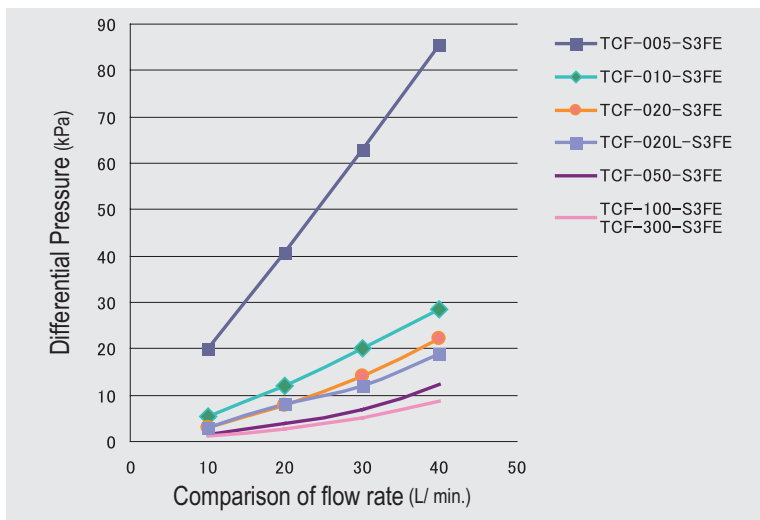
Liquid Measure : 1.6L

Immersion Time : 72h

Test Device : GC/ MS

Detection Limit : Not exceeding 1ppm

Typical Water Flow Rate



« Test Conditions »

Sample : 250mm, End Fixture Code F

Pipe Dia. : 3/4 in.

Housing : 1TWA-1S-FS

Water temp. : 20°C

Particle Retention (Standard)

		Particle Collection Efficiency (%)					
		Particle size (μm)					
		0.05	0.10	0.20	0.50	1.00	3.00
Polyethylene Hardware	TCF-005	99.99					
	TCF-010		99.99				
	TCF-020			99.99			
	TCF-020L			99.99			
	TCF-050				99.99		
	TCF-100					99.93	
	TCF-300						99.99
Polypropylene Hardware	TCF-005	99.78					
	TCF-010		99.77				
	TCF-020			99.99			
	TCF-050				99.99		
	TCF-050L		82.00	99.95	99.99		
	TCF-100					99.92	

« Test Conditions »

Sample: 250mm, End Fixture Code F

Test Liquid :

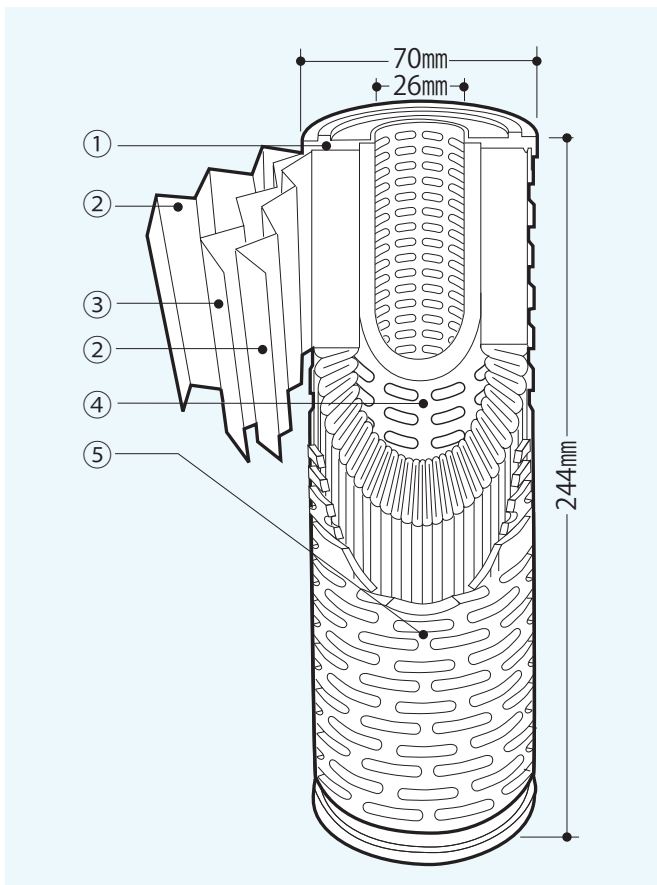
Polystyrene Latex Particle Dispersion

Housing : 1TWA-1S-FS

Flow Rate : 10L/ min.

PTFE MEMBRANE CARTRIDGE FILTER

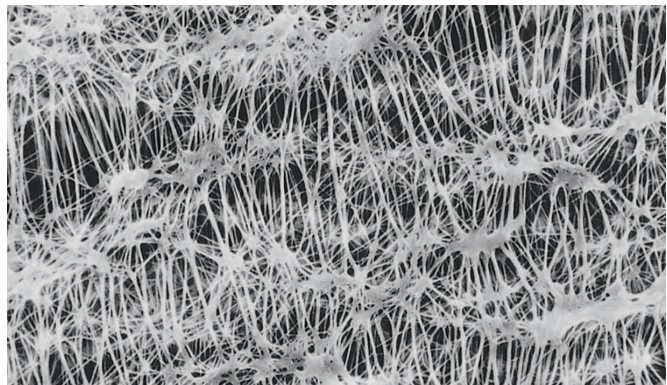
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Materials

- ① End Cap: HDPE
- ② Support Media: HDPE
- ③ Membrane: PTFE
- ④ Core Tube: HDPE
- ⑤ Outer Sleeve: HDPE

SEM image of filter surface



 Do not incinerate	 CAUTION
	● Do not incinerate the product. When you dispose of this product, follow corresponding regulations.

- Specifications listed in this catalog represent values in effect at the time of printing and are subject to change without notice.
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