ABSOLUTE RATED POLYTETRAFLUORO-ETHYLENE PLEATED MEMBRANE FILTER CARTRIDGE

KAREI™ PTFE Series

DESCRIPTIONS

PTFE membrane cartridge filters are made of GORETEX® expanded Polytetrafluoro-Ethylene (ePTFE) media manufactured by DUPONT and supported with 100% pure Polypropylene material parts.

Inert Teflon and PP construction provides excellent chemical compatibility.

Expanded hydrophobic with high void volume properties of **PTFE** provides superior flow rate, low pressure drops and great retention capability. Make it the ideal choice for broad range of liquid and bulk air filtrations.

All parts are thermally welded without surfactants, additives and binders eliminate extractable.

3-Dimentional bonded continuous fibrils provide fixed pore structure. Eliminates shedding and particles unloading.

Excellent retention capability of micro-fine particles and bacteria (In specific pore sizes).

100% integrity tested to ensure product consistency.

PTFE is pre-rinsed with 18MΩ-cm D.I. water (Optional).

Available in a wide range of absolute pore size of 0.05, 0.1, 0.2, 0.45, 0.7 and 1 micron

Manufacture in Class 10K clean room environment minimizes contamination.

Comply with FDA Code Of Federal Regulation Title 21 for food and beverage use.

Meet USP Class VI-121°C Plastic reactivity test for Biosafety.

Removal rating of >99.9999% at 0.03 um particles.

A guaranteed quality product (ISO 9001 certified).

Cartridges will be rinsed-up to 18 MΩ-cm D.I. water with a

SPECIFICATIONS

ABSOLUTE MICRON RATING
0.05, 0.1, 0.2, 0.45, 0.7 and 1.0 micron

FILTRATION AREA/ 10" FILTER CARTRIDGE
0.05, 0.1 & 0.2 um : 1 m^2 (10.8 ft^2)
0.45 um : 0.85 m^2 (9.2 ft^2)
0.7 & 1.0 um : 0.7 m^2 (7.6 ft^2)
Note: For double layer of 0.05, 0.1, 0.2 & 0.45 micron, filtration area : 0.7 m^2 (7.6 ft^2)

NOMINAL LENGTH
125, 250, 500, 750, 1000 mm or
127, 254, 508, 762, 1016 mm

NOMINAL INNER/OUTER DIAMETER (ID/OD)
Standard : 30/ 68 mm or BB : 28/ 114 mm
Note: 28mm inner diameter is available upon request.

MEDIA MATERIAL
i) HB : Hydrophobic Expanded PTFE membrane (For gases applications)
ii) HL : Hydrophilic Expanded PTFE membrane (For liquid applications)

SUPPORTING MATERIAL
Pure Polypropylene & Polyethylene Microfiber or PTFE

INNER CORE, CAGE AND END ADAPTOR MATERIAL
i) Standard : High Strength Pure Polypropylene
ii) RPG : Reinforced Polypropylene With Glass
iii) HPE : High Density Polyethylene
iv) PTFE : PTFE

SEALING TECHNIQUE
Thermal Bonding

END STYLE
1) DOE : Double Opened End
2) SOE : Single Opened End
i) S2C : SOE, 222 O-Ring With Closed End
ii) S2F : SOE, 222 O-Ring With Finned End
iii) S6C : SOE, 226 O-Ring With Closed End
iv) S6F : SOE, 226 O-Ring With Finned End
Note: Extended adaptor for SOE filter cartridge is available upon request.

GASKET AND O-RING MATERIAL
1) Standard : EPDM 2) V : Viton
3) S : Silicone 4) T : Teflon
5) FEP : Teflon Encapsulated Viton

OPERATING CONDITIONS

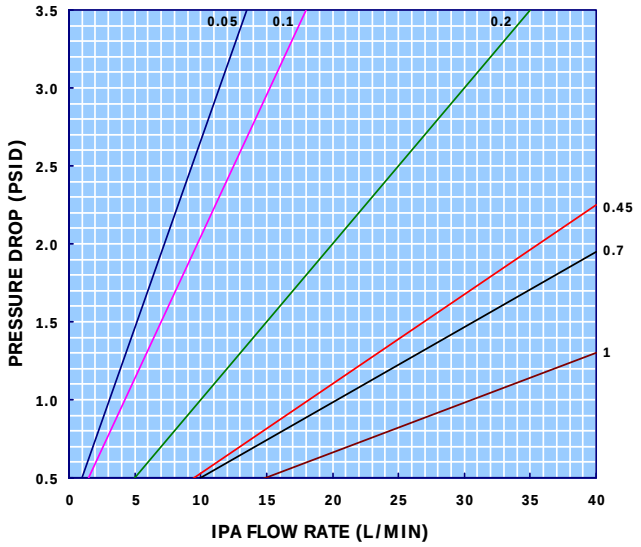
MAX. FORWARD DIFFERENTIAL PRESSURE
2.1 Bar (30 PSI) At 95°C, 4.8 Bar (70 PSI) At 25°C

MAX. REVERSE DIFFERENTIAL PRESSURE
3.4 Bar (50 PSI) At 25°C

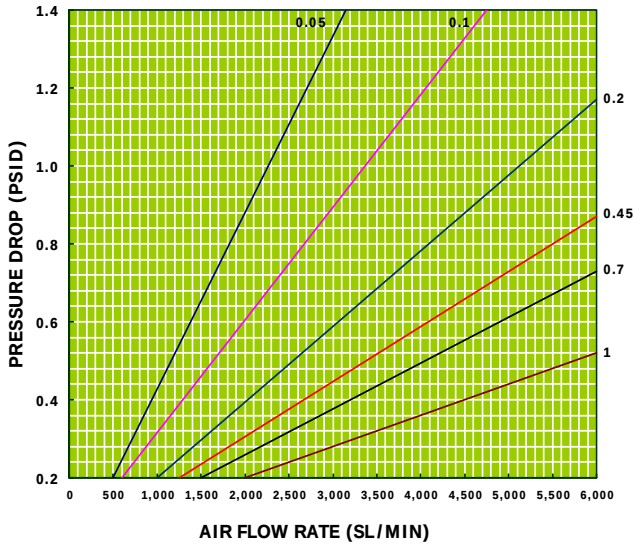
MAX. OPERATING TEMPERATURE
90°C at 2.1 Bar (30 PSI)

CHANGE OUT DIFFERENTIAL PRESSURE
2.4 Bar (35 PSID)

IPA FLOW RATE (10 INCHES CARTRIDGE)-PTFE



AIR PRESSURE DROP (10 INCHES CARTRIDGE)-PTFE



Air Temperature: 24 °C, Inlet Pressure: 15 PSID (1 Bar)

STERLILIZATION AND SANITIZATION METHODS

Chemicals	Peracetic acid, chlorinated alkaline products, bleach, sulfur dioxide (SO_2) and hydrogen peroxide at typical sanitization temperatures and concentrations.
Autoclave	125 °C (257°F) for 30-45 minutes at maximum differential pressure of 7 PSI (0.5 Bar).
In-line Stream	140 °C (284°F) for 45-60 minutes at 2 PSID (0.14 Bar) ΔP.
Hot Water	88 °C (190°F) at 5 PSI (0.3 Bar) up to 50 minutes.

KAREI-PTFE can be subjected to multiple sterilization cycles while maintain its integrity.

TYPICAL APPLICATIONS

Chemicals Industries	Process Gases	Food & Beverage Industries	Pharmaceutical Industries
Rinses And Solvents, Concentrated Acids & Bases, Ozonated D.I. Water, Etchants, Photo Resists, Wet-Etch System, Developers, Strippers, Polymer Filtration.	Bulk And Point-Of-Use Gases, Compressed Air	Sterile Venting Of Holding Tanks, Sterile CO_2 Filtration, Microbial Control Of Inlet Air For Bio-Processing Of Foods, Water Process With UV, etc.	Tank Vents, Filtration Of Compressed Gases, Filtration Of Solvents, Extraction Of Chemicals, Re-Crystallization Of Chemicals.

INTEGRITY TEST – MINIMUM BUBBLE POINT (IPA)

Micron	0.05	0.1	0.2	0.45	0.7	1.2
BAR	>2.4	>1.7	>1.4	>0.6	>0.4	>0.3
PSIG	>35	>25	>20	>9	>6	>5.5
Log Retention Value Of Bacteria	-	-	≥7	≥7	≥7	-
Bacteria	-	-	Brevundimonas Diminuta	Serratia Marcescens	Sacch. Cerevisiae	-

CHEMICAL COMPATIBILITY GUIDE

Acids	Acetic Acid, Glacial	R	**Glycol**	Ethylene Glycol	R
	Acetic Acid, 90%	R		Grycerine	R
	Acetic Acid, 30%	R		Propylene Glycol	R
	Boric Acid	R	**Hydrocarbons**	Benzene	LR
	Hydrochloric Acid, Conc.	R		Toluene	LR
	Hydrochloric Acid, 6N	R		Xylene	LR
	Hydroflouric Acid, 6N	R		Carbon Tetrachloride	LR
	Nitric Acid, Conc.	R		Chloroform	LR
	Phosphoric Acid, Conc.	R		Freon TF	R
	Sulfuric Acid, Conc.	R		Methylene Chlorine	LR
	Sulfuric Acid, 6N.	R		Tetrachloroethylene (Perchloroethylene)	LR
Bases	Ammonium Hydroxide, 3N.	R		Trichloroethylene	LR
	Ammonium Hydroxide, 6N.	R	**Ketones**	Acetone	R
	Potassium Hydroxide, 3N.	R		Cyclohexanone	R
	Sodium Hydroxide, 3N.	R		Methyl Ethyl Ketone	R
	Sodium Hydroxide, 6N.	R		Methyl Isobutyl Ketone	R
Alcohols	Amyl	R	**Oils**	Lubrication Oil	R
	Benzyl	R		Cottonseed Oil	R
	Butyl	R		Peanut Oil	R
	Ethyl	R		Sesame oil	R
	Isopropyl	R		White Petroleum	R
	Methyl	R		Lanolin	R
Esters	Amyl Acetate	R	**Organic Solvents**	Dimethyl Formamide	R
	Butyl Acetate	R		Dimethyl Sulfoxide	R
	Cellulose Acetate	R		Formaldehyde	R
	Ethyl Acetate	R		Gasoline	LR
	Isopropyl Acetate	R		Phenol Liquid	R
	Methyl Acetate	R		Pyridine	R
Ethers	Diethyl Ether	R		Turpentine	R
	Dipropyl Ether	R		Nickel Sulfate	R
	Dioxane	R		Pentane	R
	Tetrahydrofuran	R	**Gases**	Helium	R
				Hydrogen	R
				Ozone	R
				Methane	R
				Nitrogen	R

R –Recommended **LR –Limited Recommended** **NR –Not Recommended**

This chemical compatibility table is intended for use as a guide only.
Recommendations are based upon static condition of 48 hours at 25°C and 1.0 atmosphere pressure.

ORDERING GUIDE: KAREI – PTFE – (A) – (B) – (C) – (D) – (E) – (F)

(A)	**MICRON**	005=0.05, 01=0.1, 02=0.2, 04=0.45, 07=0.7, 1=1 um
(B)	**TYPE**	HB=Hydrophobic membrane, HL=Hydrophilic membrane HLA= ALL PTFE Filter Cartridge
(C)	**LENGTH**	125, 250, 500, 750, 1000 or 127, 254, 508, 762, 1016 mm
(D)	**END STYLE**	None=Double Opened End (DOE) S2C=222 & Closed End, S2F=222 & Finned End, S6C=226 & Closed End, S6F=226 & Finned End Note: For SOE with extended adaptor, please include the code of 'EX'.
(E)	**GASKET/ O-RING MATERIAL**	None=EPDM, V=Viton, S=Silicone, T=Teflon, FEP=Teflon Encapsulated Viton Note : For SOE with stainless steel reinforcement ring, please include the code of 'R'.
(F)	**PARTS MATERIAL**	None=Polypropylene, RPG=Reinforced PP With Glass, HPE=High Density PE

EXAMPLE:

1) KAREI-PTFE-01HB-250-DOE (PTFE, 0.1 um, Hydrophobic PTFE, 250mm, DOE, EPDM Gasket, P.P. parts material)
2) KAREI-PTFE-02HLA-508-S2C (PTFE, 0.2 um, ALL PTFE filter cartridge, 508mm, SOE, 222 Teflon O-Ring, Closed end)
3) KAREI-PTFE-01HL-250-S2C-EX-VR-RPG (PTFE, 0.1 um, Hydrophilic PTFE for liquid application, 250mm, SOE, 222 Viton O-Ring with extended adaptor and stainless steel reinforcement ring, Closed end, Reinforced P.P. with glass parts material)