KOCH MEMBRANE SYSTEMS

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ROMIPRO 1” HOLLOW FIBER CARTRIDGES

1” Diameter Hollow Fiber Ultrafiltration Cartridges for Pharmaceutical Applications

PRODUCT DESCRIPTION

Membrane Polymer: Polysulfone
Housing Construction: Polysulfone
Seal/Potting Material: Proprietary Epoxy Compound
Storage Solution: Glycerin
Options:
Membrane Type: PM10, PM30, PM100, or PM500

Regulatory and Quality Information:

All cartridge components in contact with the process fluid have passed USP Class VI test guidelines.
Certificate of quality is included with each cartridge.
Change control notification procedures apply.

PRODUCT SPECIFICATIONS

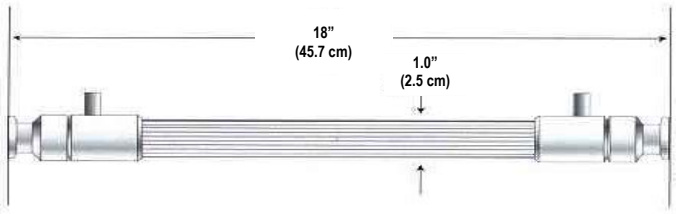
Koch Part Number	Model	Membrane Type	MWCO (Daltons)	Membrane Area [ft² (m²)]	Fiber Diameter [mil (mm)]
0721034	1018-1.0-43-PM10	PM10	10,000	1.0 (0.1)	43 (1.1)
0721039	1018-1.0-43-PM30	PM30	30,000	1.0 (0.1)	43 (1.1)
0721036	1018-1.0-43-PM100	PM100	100,000	1.0 (0.1)	43 (1.1)
0721045	1018-1.0-43-PM500	PM500	500,000	1.0 (0.1)	43 (1.1)

OPERATING AND DESIGN INFORMATION*

Maximum Inlet Pressure: 40 psi (2.8 bar)
Maximum Transmembrane Pressure: 35 psi (2.4 bar)
Maximum Operating Temperature (at pH 6.0): 140°F (60°C)
Maximum Permeate Side Back Pressure: 20 psi (1.4 bar)
Maximum Differential Pressure Feed Side: 30 psi (2.1 bar)
Allowable pH: 1.5 – 13.0 @ 130°F (54°C)
Maximum Total Chlorine (During Cleaning): 200 ppm @ pH 10-10.5, 130°F (54°C), 0 ppm @ pH < 9.5

* Consult KMS Process Technology Group for specific applications.

NOMINAL DIMENSIONS



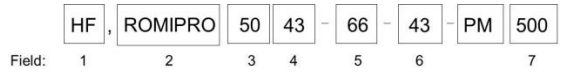
Model	Permeate Connection	Process Connection
1018	⅜” hose	¾” T/C

ROMIPRO 1” HOLLOW FIBER CARTRIDGES

Membrane Characteristics

- ROMIPRO cartridges should be selected for filtration of pharmaceutical water and intermediates when the required separation is in the range of 10,000 to 500,000 daltons. The ROMIPRO cartridges provide stable productivity, ease of cleaning and reliable operation.
- ROMIPRO cartridges are crossflow-type filters, in which the feed solution is pumped across the cartridge to minimize solids cake buildup on the membrane. Crossflow filters provide efficient filtration at low operating pressure, allowing long process runs while reducing cleaning time, cleaning frequency, and labor costs.

Product Nomenclature



Field 1: HF – Hollow fiber cartridge

Field 2 (optional field): Market or application designation

Field 3: Cartridge diameter times 10 in inches

Field 4: Cartridge length in inches

Field 5: Active membrane area in ft^2

Field 6: Fiber diameter in mils (1000 mil = 1 inch)

Field 7: Molecular Weight Cutoff divided by 1000 in Daltons

The example shown above describes a 5-inch diameter by 43-inch long hollow fiber cartridge for pharmaceutical filtration, utilizing fibers with diameter of 43 mil and 500,000 Dalton. The active membrane area of this cartridge is 66 ft^2.

Operating Limits

- **Operating Pressure:** Maximum operating pressure for a ROMIPRO cartridge is 40 psi (2.8 bar) or 100 psi (if permeate side is pressurized). Actual operating pressure is dependent upon type of feed stream, recovery and temperature conditions.
- **Permeate Pressure:** Permeate pressure should not exceed 20 psi (1.4 bar) pressure at any time, including backflush.
- **Differential Pressure:** Maximum differential pressure limit is 30 psi (2.1 bar) per cartridge.
- **Temperature:** Maximum operating temperature is 140°F (60°C) and maximum cleaning temperature is 130°F (54°C).

Water Quality for Cleaning

- **pH:** Allowable range for cleaning is 1.5 to 13.0.
- **Guidelines:** Please refer to the “KMS Water Quality Guidelines” for more detailed information

Exposure to Chemical Oxidants

While not recommended for use on a daily basis, exposure to chemical oxidants for thorough cleaning and sanitization may prove necessary and useful.

Potassium metabisulfite (without catalyst such as cobalt) is the preferred chemical to eliminate residual chlorine or similar oxidizers prior to processing process liquid.

Lubricants

For cartridge installation, use only water or glycerin to lubricate seals. The use of petroleum or vegetable-based oils or solvents may damage the cartridge and will void the warranty

Service and Ongoing Technical Support

Koch Membrane Systems, Inc. has an experienced staff of professionals available to assist end-users and OEMs for optimization of existing systems and support the development of new applications.

KMS Capability

KMS is the leader in crossflow membrane technology, manufacturing reverse osmosis, nanofiltration, microfiltration, and ultrafiltration membranes and membrane systems. The industries served include food, dairy and beverage, pharmaceutical, biotechnology, water and wastewater, semiconductors, automotive, chemical and general manufacturing. KMS adds value by providing top quality membrane products and by sharing its experience in the design and supply of thousands of crossflow membrane systems worldwide.

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