



ROMIPRO™ 5" HOLLOW FIBER CARTRIDGES

5" 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:
Lumen size: 20 mil (0.5 mm) or 43 mil (1.1 mm)
Membrane Type: PM10, 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

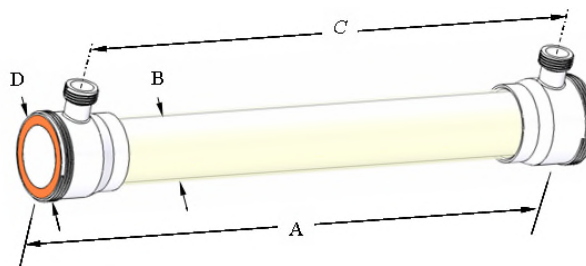
| Koch Part Number | Model | Membrane Type | MWCO (Daltons) | Membrane Area [ft ² (m ²)] | Fiber Diameter [mil (mm)] |
|------------------|------------------|---------------|----------------|---------------------------------------------------|---------------------------|
| 0721074 | 5043-132-20-PM10 | PM10 | 10,000 | 132 (12.3) | 20 (0.5) |
| 0721163 | 5043-66-43-PM10 | PM10 | 10,000 | 66 (6.1) | 43 (1.1) |
| 0721164 | 5043-66-43-PM100 | PM100 | 100,000 | 66 (6.1) | 43 (1.1) |
| 0721195 | 5043-66-43-PM500 | PM500 | 500,000 | 66 (6.1) | 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



| A | B | C | D | Permeate Connection | Process Connection |
|-------------|-------------|--------------|-------------|---------------------|--------------------|
| inches (mm) | inches (mm) | inches (mm) | inches (mm) | | |
| 43 (1092) | 5.0 (127) | 38 5/8 (981) | 6.0 (152) | 1 1/2" NPSM | 6" NPSM |

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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.

Exposure to Oxidants

- While not recommended for use on a daily basis, exposure to 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.

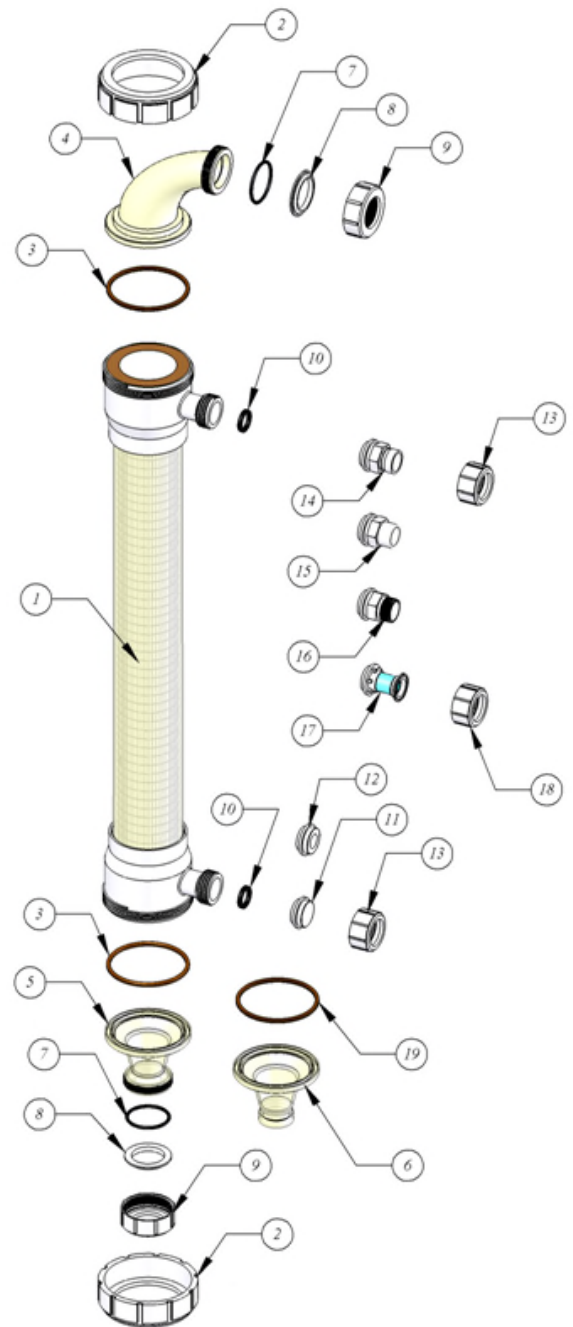
5" Hollow Fiber Cartridge Hardware

| Item | Part Description | | KPN |
|------|----------------------------------------|------|---------|
| 1 | 5" HF Cartridge | | 072XXXX |
| 2 | Process Cap Nut | | 0040364 |
| 3 | Cartridge Gasket | EPDM | 0090443 |
| | | BUNA | 0090444 |
| 4 | Cartridge Reducing Elbow | | 0040365 |
| 5 | Cartridge Straight adapter (threaded) | | 0040376 |
| 6 | Cartridge Straight adapter (Victaulic) | | 0213000 |
| 7 | Manifold Gasket | EPDM | 0090439 |
| | | BUNA | 0090432 |
| 8 | Cartridge Backup Ring | | 0040368 |
| 9 | Manifold Cap Nut | | 0040367 |
| 10 | Permeate Port Gasket | EPDM | 0090447 |
| | | BUNA | 0090446 |
| 11 | Permeate Plug | | 0040375 |
| 12 | Permeate Adapter 3/4" | NPTF | 0040372 |
| 13 | Permeate Cap Nut (for 14, 15, 16) | | 0040370 |
| 14 | Permeate Adapter (Victaulic) | | 0213076 |
| 15 | Permeate Adapter Plain | | 0213093 |
| 16 | Permeate Adapter NPT | | 0213077 |
| 17 | Permeate Adapter Sanitary | | 0211787 |
| 18 | Permeate Cap Nut (for part 17) | | 0040377 |
| 19 | Cartridge Seal | | 0211094 |

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.

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11/12 Rev 12-1