

**PCI Membranes**

Ultrafiltration Modules Parallel Flow Arrangement



# Micro 240 & 960

The MICRO 240 & 960 is designed for the economic, short term evaluation of membrane processes for separation and concentration at laboratory bench-scale.

This inexpensive module may be fitted, by the user, with samples of any of PCI Membranes' wide range of tubular Reverse Osmosis, Nanofiltration or Ultrafiltration membranes. Constructed in 316 stainless steel, the module has termination points allowing easy connection by flexible or welded couplings to existing equipment.

Larger modules and ancillary components are available if required.

"Reverse osmosis (RO) is a membrane separation method that removes many types of large molecules and ions from solutions by applying pressure to the solution when it is on one side of a selective membrane. The result is that the solute is retained on the pressurized side of the membrane and the pure solvent is allowed to pass to the other side. To be "selective," this membrane should not allow large molecules or ions through the pores (holes), but should allow smaller components of the solution (such as the solvent) to pass freely."

**PROVEN MEMBRANES**

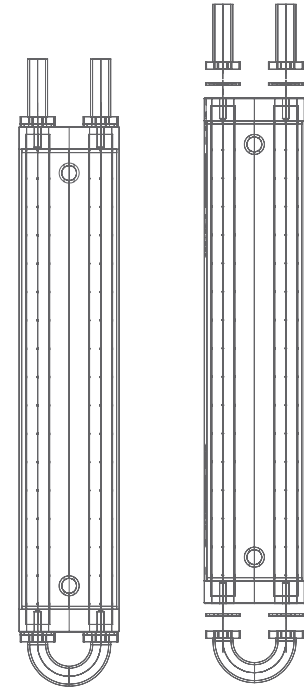
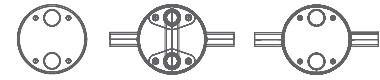
With applications in the food, beverage chemical, MBR and pharmaceutical industries.

**COMPACT MODULAR DESIGN**

Quick and easy plant construction.

**TUBULAR MODULE**

Minimal prefiltration required, suited to viscous liquids and high levels of suspended solids.



| Dimensions                      |                                                   |                                                    |
|---------------------------------|---------------------------------------------------|----------------------------------------------------|
|                                 | Micro 240                                         | Micro 960                                          |
| Length (m)                      | 2 off 1.25cm dia x 30cm tubes connected in series | 2 off 1.25cm dia x 1.2cm tubes connected in series |
| Membrane Area (m <sup>2</sup> ) | 240 cm <sup>2</sup> (0.024m <sup>2</sup> )        | 960 cm <sup>2</sup> (0.096m <sup>2</sup> )         |

| Connection                    |                                                                                |
|-------------------------------|--------------------------------------------------------------------------------|
| Permeate Flow                 | 5-50 ml/min                                                                    |
| Recommended Pressure          | 40 Bar for RO; 4 Bar for UF                                                    |
| Recommended Recycle Flowrate  | 18 l/min for RO, equivalent to 2.5m/s;<br>30 l/min for UF, equivalent to 4m/s; |
| Pressure Drop (Water) at 2m/s | 0.15bar (2 psi)                                                                |
| Pressure Drop (Water) at 4m/s | 0.5bar (7 psi)                                                                 |

| Additional Details      |                                                                                    |                                                                                    |
|-------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|                         | Micro 240                                                                          | Micro 960                                                                          |
| Operating Pressure      | 55 Bar at 70°C; Bar at 20°C max                                                    | 55 Bar at 70°C; Bar at 20°C max                                                    |
| Tubeside Volume         | 75ml                                                                               | 228ml                                                                              |
| Permeate Volume (full)  | 750ml (Approx)                                                                     | 912ml (Approx)                                                                     |
| Permeate Volume (empty) | 50ml (Approx)                                                                      | 200ml (Approx)                                                                     |
| Construction            | 316 Stainless Steel with Nitrile rubber seals.<br>(Other seal materials available) | 316 Stainless Steel with Nitrile rubber seals.<br>(Other seal materials available) |