Designed to meet the highest levels of strictly enforced quality within the pharmaceutical industry, the OSMO PHARMA Series of membrane elements provides USP purified water for pharmaceutical and health-care water applications.

Sanitary confidence is a fundamental prerequisite for sensitive applications. OSMO PHARMA membrane elements are equipped with GE’s innovative Full-Fit™ outer wrap (see below) and a 316L stainless steel permeate tube. In addition, OSMO PHARMA elements are NSF Standard 61 certified and pass USP Class VI 121 C Tests.

OSMO PHARMA-8 and OSMO PHARMA-4 membrane elements provide high sodium chloride rejection and high flux with a low operating pressure at 200 psig. The unique ability to combine high performance with a low energy requirement makes OSMO PHARMA the element of choice for maximum efficiency.

Features and Benefits

> Durable Construction
> Dependability
> 100% Wet Test Quality Assurance
> Energy Saving Full-Fit Design
> NSF Standard 61 Compliance
> Pass USP Class VI 121 C Tests
> Certification of Conformance provided with each element

Full-Fit Advantage

OSMO PHARMA elements incorporate GE’s unique solution-oriented Full-Fit design. While standard construction of membrane elements satisfies many applications, our Full-Fit design serves pharmaceutical manufacturers best without the use of a brine seal. Dead space that is conducive to bacterial growth and adhesion is eliminated. Full-Fit also allows for quick and complete cleaning. Furthermore, pressure drop across elements using Full-Fit design is significantly less than with standard construction, which may lead to substantial energy savings.

These OSMO PHARMA membrane elements are tested and certified by NSF International against ANSI/NSF Standard 61 for material requirements only.
**PHARMA Specifications**

<table>
<thead>
<tr>
<th></th>
<th>OSMO PHARMA-8</th>
<th>OSMO PHARMA-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outer Cover Material</td>
<td>Full-Fit</td>
<td>Full-Fit</td>
</tr>
<tr>
<td>Part Number</td>
<td>1233035</td>
<td>1233036</td>
</tr>
<tr>
<td>*Average Salt rejection (NaCl)</td>
<td>99%</td>
<td>99%</td>
</tr>
<tr>
<td>Active Membrane Area (sq. ft.)</td>
<td>365</td>
<td>83</td>
</tr>
<tr>
<td>Flow (GPD)</td>
<td>9,600</td>
<td>2,200</td>
</tr>
<tr>
<td>Minimum Feed Flow</td>
<td>20 GPM</td>
<td>8 GPM</td>
</tr>
</tbody>
</table>

Specifications are based on 2,000 mg/L NaCl solution at 225 psig operating pressure, 77º F, pH 7.5, and 15% recovery, after 24 hours. Individual flux may vary +25%/-15%.

**Operating and Design Parameters**

- Membrane Type — Thin-Film Membrane (TFM®)
- Typical Applied Pressure — 200 psi (13.8 bar)
- Typical Operating Process Flux — 10-20 GFD
- Maximum Applied Pressure — 600 psi (41.4 bar)
- Maximum Feed Water Temperature — 122ºF (50°C)
- Recommended Operating pH Range — 4.0-11.0
- Cleaning pH Range — 2.0-11.5
- Chlorine Tolerance — 1,000 ppm-hours, Dechlorination recommended
- Recommended Single Element Recovery — ≤15%
- SDI — <3
- Feed Turbidity — <1 NTU

*Minimum salt rejection (NaCl) for OSMO PHARMA-8 and OSMO PHARMA-4 is 98%.*