



TRISEP® HPR OX

High Pressure

Industrial Membrane Elements

The TRISEP® HPR OX series has a maximum operating pressure of 83 bar (1,200 psi) and is intended for use in challenging industrial environments where membranes can be subject to extreme pH and high operating pressure. These elements are suitable for use applications such as leachate, metal finishing, minimum-liquid discharge, and high salt concentrations. TRISEP membrane is available in numerous strong and durable spiral-wound element designs that may be customized to meet customer requirements.

MEMBRANE CHARACTERISTICS

Membrane	Membrane Type	Stabilized Solute Rejection (%)	Solute
XN45	Polypiperazine NF	96.0%	MgSO ₄
NP030	Polyethersulfone (PES) NF	77-95%	Na ₂ SO ₄

DESIGN INFORMATION

Model	Membrane Area m ² (ft ²)	Feed Spacer Thickness (mil) ^a
TRISEP® HPR OX 4040-XN45-31	7.0 (75)	31
TRISEP® HPR OX 4040-NP030-31	6.0 (65)	31

^a All models on this sheet have a fiberglass outer wrap and diamond-shaped feed spacers. All models on this sheet include anti-telescoping devices (ATDs) attached to the ends of the element and one brine seal. All 4040 and 8040 models on this sheet include one interconnector.

OPERATING PARAMETERS

Maximum Operating Pressure	83 bar (1,200 psi)
Maximum Operating Temperature	80°C (176°F)
Operating pH Range	3.0 - 14.0
Cleaning pH Range ¹	3.0 - 14.0
Chlorine Tolerance ²	< 0.1 ppm
Maximum Pressure Drop at 30°C	1 bar (15 psi) per element; 4 bar (60 psi) per housing

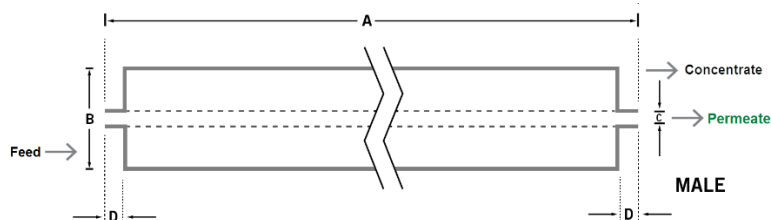
¹ Refer to temperature and pH limits in our Membrane Cleaning Guides.

² Pretreatment is recommended for the removal of free chlorine and other oxidizing agents to prevent damage to membranes. Oxidizing agents, such as free chlorine, in contact with polyamide membranes may result in shortened operating life or membrane failure. Such oxidation damage is excluded from warranty. Refer to Membrane Operating Guide - Recommendations for Water Purification (TSG-O-012).

PHYSICAL DIMENSIONS

Model	Element Weight kg (lb) ^b	Dim. A mm (inches)	Dim. B mm (inches)	Dim. C mm (inches)	Permeate Tube ^d
TRISEP® HPR OX 4040-XN45-31	4 (9)	1,016 (40.0)	101.6 (4.0)	19.1 (0.75)	Male
TRISEP® HPR OX 4040-NP030-31	4 (9)	1,016 (40.0)	101.6 (4.0)	19.1 (0.75)	Male

^b Shipping weight is dependent on packaging material and quantity shipped.



IMPORTANT INFORMATION

- Start-up:** MANN+HUMMEL Water & Fluid Solutions recommends flushing elements for 30 minutes at low pressure and discarding permeate during the flush prior to operation. For a more detailed start-up procedure, please see Element Start-Up Guide – System Start-Up (TSG-O-005).
- Cleaning:** TRISEP® membrane elements must be cleaned periodically to ensure proper operation and to prevent membrane damage. Please see our Membrane Cleaning Guides.
- Storage:** TRISEP membrane elements must be stored appropriately to ensure proper operation and to prevent membrane damage. Please see Element Storage Guides (TSG-O-009 & TSG-O-010).

CUSTOMIZABLE SPECIALTY ELEMENTS

MANN+HUMMEL Water & Fluid Solutions offers a full range of membranes and element designs for challenging water and process applications. Technologies include low-fouling RO, submerged UF, continuous high temperature, ultra-high pressure, unique sanitary designs and more. Contact us to customize a product that satisfies your specific requirements.

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