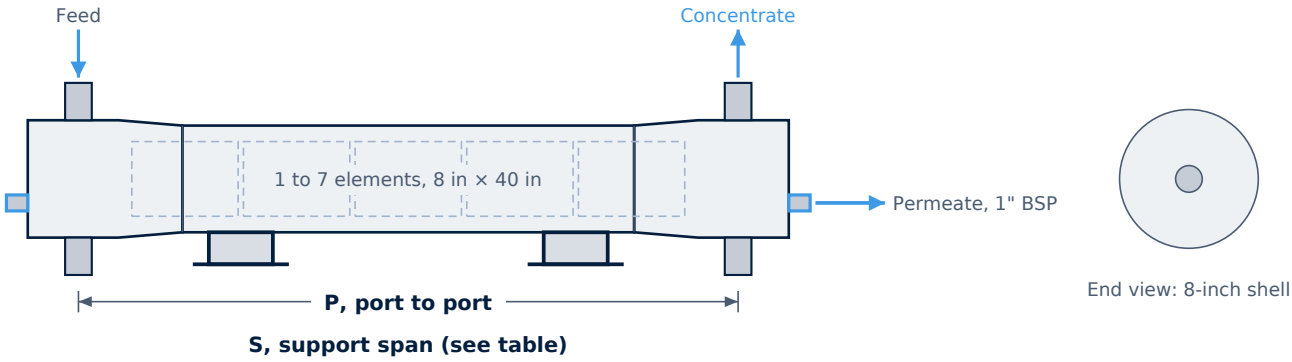
mail@thewaymembranes.com
www.thewaymembranes.com
Chennai, India

Armaflux 80-450-SP

8-inch RO pressure vessel, 450 psi, side port · Datasheet

FRP pressure vessel for 8-inch spiral-wound RO and NF elements, Armaflux series. Design pressure 450 psi (31.0 bar), side entry, for 1 to 7 elements of 40-inch length. Side ports on flat sealing faces let vessels be connected port to port, which cuts manifold pipework. For brackish water and industrial reuse.



Rating

Design (maximum operating) pressure	450 psi (31.0 bar)
Factory hydrostatic test	675 psi (46.5 bar), 1.5 × design
Burst (qualification) pressure	2,700 psi (186 bar), 6 × design
Operating temperature	−7 to 65 °C
pH, continuous	3 to 11
pH, cleaning, under 30 minutes	2 to 12
Design basis	ASME Boiler and Pressure Vessel Code, Section X

Dimensions and connections

Elements	1 to 7 × 8 in × 40 in
Shell inside diameter	202.2 ± 0.1 mm
Feed and concentrate	1.5-inch grooved side ports
Permeate	1-inch BSP female, both ends
Outline dimensions	General arrangement drawing issued with each quotation

Materials

Shell	Filament-wound epoxy/glass composite; head-locking grooves wound in, not machined
Bearing plate	Aluminium alloy, hard anodised
Sealing plate, port nut, thrust ring, adapter	Engineering thermoplastic
O-rings and seals	EPDM

Materials (continued)

Saddles	Engineering thermoplastic
Straps	SS304 with cushion
Exterior	White high-gloss polyurethane, RAL 9003

* General-use limits. A project design may set more conservative values for the best performance and the longest service life.

Armaflux 80-450-SP lengths

Model	Elements	S, recommended span
80-450-SP-1	1	676
80-450-SP-2	2	1,656
80-450-SP-3	3	2,674
80-450-SP-4	4	1,845 × 2
80-450-SP-5	5	2,355 × 2
80-450-SP-6	6	2,865 × 2
80-450-SP-7	7	3,300 × 2

Theway Membranes · 29 Yadaval Street, SIDCO Industrial Estate, Ambattur, Chennai 600 098, India
mail@thewaymembranes.com · +91 44 48502060 · www.thewaymembranes.com
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Installation and operation

• Mount the vessel centred on level supports at the span in the table, with the saddles and straps supplied. Tighten straps lightly; the shell must be free to grow under pressure.

• Connect feed, concentrate and permeate with flexible grooved couplings or hoses. Do not hang manifolds or valves from the vessel ports.

• Tighten the permeate port by hand, then no more than one further turn.

• Fit overpressure protection set at no more than 105 % of the design pressure. The vessel is not for vacuum service.

• Release all pressure before opening a head. Check that each retaining ring is fully seated before start-up.

• Flush with permeate before a long shutdown, and inspect heads and seals at every element change.

General notes

• Each vessel is supplied with heads, seals, element adapters and thrust ring for the element specified, plus two saddles and two straps (three for 4-element and longer vessels).

• Permeate side of the head is rated for 125 psi (8.6 bar) internal pressure. Design pressure applies at the maximum operating temperature.

• State with the order: model, number of elements, element make and model, and port configuration.

• Theway standard limited warranty applies to vessels used within the stated pressure, temperature and pH limits and installed as described here.

Theway Membranes believes the information here to be accurate and offers it in good faith. Conditions of use are outside our control, and the user is responsible for checking that the product suits the application. This datasheet is not a contract specification; the order acknowledgement and drawings issued with it govern.

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Important information

Armaflux 80-450-SP RO pressure vessel datasheet. Read with every page of this document.

DOCUMENT	VERSION	RELEASED	PAGES	ISSUED BY
TWM-DS-ARMAFLUX-80-450-SP	**1.0**	**November 2026**	**3**	**Theway Membranes**

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