



PRODUCT MANUAL

RO Membrane Housing

2025

Shanghai CM Environmental Technology Co., Ltd.

About CM RO Housing

The 2.5-inch end-port single-element product series covers operating pressures of 300PSI and 1000PSI.

The 4-inch end-port and 4-inch side-port product series cover an operating pressure range of 300PSI-1200PSI, and can accommodate **1 to 4** membrane elements.

The 8-inch side-port and 8-inch end-port product series cover an operating pressure range of 300PSI-1200PSI, and can accommodate **1 to 8** membrane elements.

The product is compatible with a wide range of internationally standardized membrane elements including those from DOW, HYDRANAUTICS, OSMONICS, KOCH, TORAY, CSM, VONTRON and BDX.

Manufactured in compliance with ASME standards, it can withstand more than 100,000 cycles of hydraulic pressure testing and a burst pressure of over 6 times the designed pressure.

It has obtained multiple certifications including ISO9001, ISO14001, EU CE certification and sanitary approval. Suitable for various complex medium environments, its standard color is white with other color options available.

Features of CM RO Housing



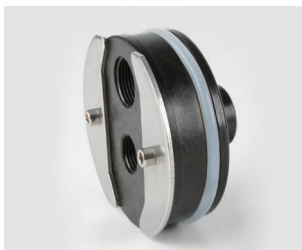
Mirror-smooth inner wall of the membrane housing

- ▶ CM's membrane shell molds are custom-fabricated with special processes, featuring a nitrided and chrome-plated surface that delivers high gloss and hardness.
- ▶ The mirror-smooth inner wall of the membrane shell facilitates the assembly and disassembly of membrane elements while ensuring zero leakage – a key differentiator that sets our membrane shells apart from comparable products.



Sealing Plate/Adapter

- ▶ Through mechanical research and design, multiple reinforcement and thickening treatments have been applied to the sealing plate, which significantly improves the pressure resistance of the pressure-bearing plate.
- ▶ Both the sealing plate and the adapter are entirely made of a specially developed modified alloy ABS material, featuring enhanced strength, toughness, wear resistance and water resistance, thus ensuring greater stability and reliability of the product.



Features of Pressure-Bearing Heads

- ▶ The threaded ports are manufactured with a special process. Specifically, multiple locations are rationally thickened in the design, which ensures a more secure connection of the pressure-bearing heads and prevents thread slipping.
- ▶ The pressure-bearing heads are entirely made of a specially developed modified alloy ABS material, featuring enhanced strength, toughness, wear resistance and water resistance.

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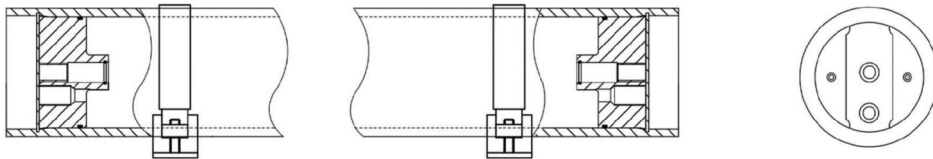
RO Membrane Housing - 2.5" End Port



Accessories-Low Pressure-300Psi



Accessories-High Pressure-1000Psi



	2.5" End Port / Low Pressure	2.5" End Port / High Pressure
Model	W25E300	W25E1000
Design Pressure	300Psi	1000Psi
Cyclic Test	100,000 times	100,000 times
Burst Pressure	6 times	6 times
Elements Quantity	2514 / 2521 / 2540	2514 / 2521 / 2540
Operating pH Range	pH 3-11	pH 3-11
Operating Temperature	-10 °C -66 °C (14 °F - 150 °F)	-10 °C -66 °C (14 °F - 150 °F)
Feed/Concentration Port	1/4" NPT 1/4" BSP	1/4" NPT 1/4" BSP
Permeate Port	1/4" NPT 1/4" BSP	1/4" NPT 1/4" BSP

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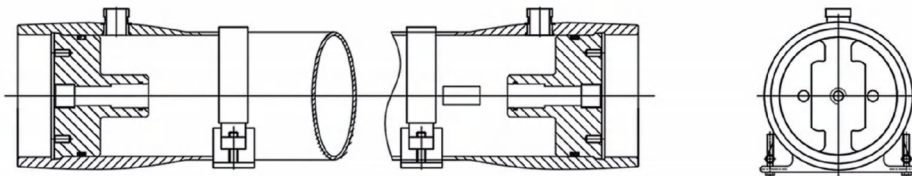
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RO Membrane Housing - 4" Side Port


Accessories-Low Pressure-300Psi

Accessories-High Pressure-1000Psi


	4" Side Port / Low Pressure	4" Side Port / High Pressure
Model	W40S300/450	W80S600/1000/1200
Design Pressure	300Psi / 450Psi	600Psi / 1000Psi / 1200Psi
Cyclic Test	100,000 times	100,000 times
Burst Pressure	6 times	6 times
Elements Quantity	1-4	1-4
Operating pH Range	pH 3-11	pH 3-11
Operating Temperature	-10 °C -66 °C (14 °F - 150 °F)	-10 °C -66 °C (14 °F - 150 °F)
Feed/Concentration Port	1"	1"
Permeate Port	3/4" NPT	1/4" NPT 1/2" BSP

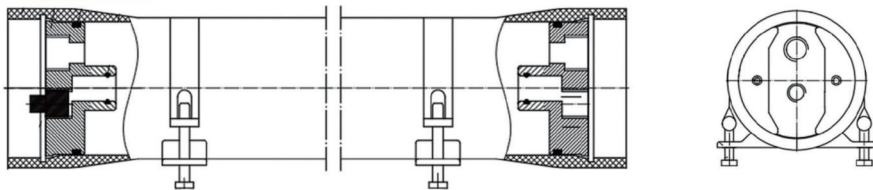
RO Membrane Housing - 4" End Port



Accessories-Low Pressure-300Psi



Accessories-High Pressure-1000Psi



	4" End Port / Low Pressure	4" End Port / High Pressure
Model	W40E300/450	W40E600/1000/1200
Design Pressure	300Psi / 450Psi	600Psi / 1000Psi / 1200Psi
Cyclic Test	100,000 times	100,000 times
Burst Pressure	6 times	6 times
Elements Quantity	1-4	1-4
Operating pH Range	pH 3-11	pH 3-11
Operating Temperature	-10 °C -66 °C (14 °F - 150 °F)	-10 °C -66 °C (14 °F - 150 °F)
Feed/Concentration Port	3/4" NPT 1/2" BSP	RC 3/4"
Permeate Port	1/2" NPT 1/2" BSP	1/4" NPT 1/2" BSP

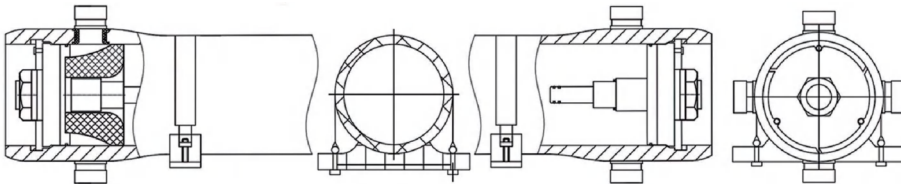
RO Membrane Housing - 8" Side Port



Accessories-Low Pressure-300Psi



Accessories-High Pressure-1000Psi



	8" Side Port / Low Pressure	8" Side Port / High Pressure
Model	W80S300/450/600	W80S1000/1200/1500/1800/2000
Design Pressure	300Psi / 450Psi / 600Psi	1000Psi / 1200Psi / 1500Psi / 1800Psi / 2000Psi
Cyclic Test	100,000 times	100,000 times
Burst Pressure	6 times	6 times
Elements Quantity	1-8	1-8
Operating pH Range	pH 3-11	pH 3-11
Operating Temperature	-10 °C -66 °C (14 °F - 150 °F)	-10 °C -66 °C (14 °F - 150 °F)
Feed/Concentration Port	1.5" / 2" / 2.5" / 3"	1.5" / 2" / 2.5" / 3"
Permeate Port	1" NPT-F 1"BSP	1" NPT-F 1"BSP

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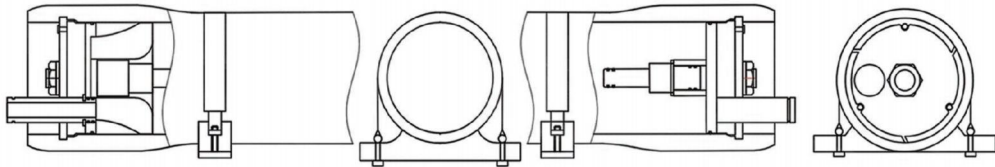
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RO Membrane Housing - 8" End Port


Accessories-Low Pressure-300Psi

Accessories-High Pressure-1000Psi


	8" End Port / Low Pressure	8" End Port / High Pressure
Model	W80E300/450/600	W80E1000/1200
Design Pressure	300Psi / 450Psi / 600Psi	1000Psi / 1200Psi
Cyclic Test	100,000 times	100,000 times
Burst Pressure	6 times	6 times
Elements Quantity	1-8	1-8
Operating pH Range	pH 3-11	pH 3-11
Operating Temperature	-10 °C -66 °C (14 °F - 150 °F)	-10 °C -66 °C (14 °F - 150 °F)
Feed/Concentration Port	1.5" / 2" / 2.5" / 3"	1.5" / 2" / 2.5" / 3"
Permeate Port	1" NPT-F 1"BSP	1" NPT-F 1"BSP