

E-Series Ultra

High Brackish E-Series 50/60 Hz Reverse Osmosis Machine 5 gpm (1.14 m³/h)¹



Figure 1: E-Series Ultra²

The E-Series Ultra is a high brackish water reverse osmosis (RO) capable of handling TDS from 3,500-35,000 ppm with variable flow rates. The E-Series Ultra is designed for high quality product water production, easy installation and simple control.

¹The flow rate decreases as chlorides increase

²P&IDs and General Arrangement drawings available upon request.

General Properties

Typical Applications

- Process ingredient water
- Rinse water
- Food ingredient water
- Drinking water
- Boiler feedwater
- Ion exchange pre-treatment

Features

- 1-micron pre-filter
- Automatic inlet shut-off valve
- Permeate and concentrate flow meters
- Remote machine on/off capability
- Pre-filter, post-filter, primary, and final pressure gauges
- Auto-flush system
- Low inlet pressure switch
- Digital conductivity meter with programmable relay
- Alarms: Low Inlet Pressure and Motor Starter Overload

Table 1: Operating Parameters

Max Operating Pressure	80 bar (1160 psig)
Recommended Recovery	25-45%
Nominal Rejection	99.6%
Max Design Operating Temp	86° F (30° C)
Min Recommend Inlet Pressure	2 bar (30 psig)
Design Temperature	68° F (20° C)

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Table 2: Materials of Construction

Frame	Painted Carbon Steel
Membrane Elements	AD-90
Membrane Housing	FRP (ROPV or BEL)
Inlet Plumbing	Schedule 80 PVC
High Pressure Plumbing	Reinforced rubber hose
Permeate/Concentrate Tubing	Polyethylene, NSF approved
Control Enclosure	NEMA 1
Motor Starters	NEMA 4X
Cartridge Filter	RO.Z 01-20, 1236262

Table 3: Pump and Motor

Pump Manufacturer ³	Danfoss
Pump Type	Positive displacement
Materials	Duplex 2205 SST shell/housing,
Castings	Duplex 2205 SST
Motor	3-phase, TEFC, 380VAC/50Hz 7.5 Hp

³Pump shipped loose for field installation

Table 4: E-Series Ultra Specifications: 50 Hz/60 Hz

Typical Specifications	Ultra 6
E-Series Ultra Part Number	50Hz = Part #3057250 60 Hz = Part #3058412
Typical Recovery:	25% to 45%
Permeate Rate:	2 to 5 gpm (0.45 to 1.14 m ³ /h)
Concentrate Rate:	6.1 gpm (1.39 m ³ /h)
Pump Model	APP2.5
Motor: KW (HP)	5.6 (7.5)
Quantity of Membranes	6
Array Configuration	2-2-2
Inlet: cm (inch)	0.75 inch (1.9 cm) FNPT
Permeate: cm (inch)	0.75 inch (1.9 cm) FNPT
Concentrate: cm (inch)	0.75 inch (1.9 cm) FNPT
Height:	62 inch (157 cm)
Width:	26.4 inch (67 cm)
Depth:	29 inch (74 cm)
Shipping Weight Estimate:	700 lb (317.5 kg)