



8400C Reverse Osmosis System



Shown here is the 8400C-144K RO producing 100 GPM

Standard Systems With Energy Saving Options

Mar Cor Purification is a leading provider of water treatment systems and services. The 8400C Series RO's are complete, pre-engineered proven designs that produce consistent high quality water in flowrates up to 600 gpm (2271 lpm). The systems feature simple, user-friendly controls; rugged construction; and easy access for maintenance and installation. All systems are built to exacting standards under ISO 9001:2008.

The systems can be supplied with several options that will help reduce energy, reduce the amount of water required for operation and even provide for water recycling. Some of these options are:

- Low energy membranes (100-150 psi)
- High water recovery operation (depending on feed quality)
- Output controlled operation with variable speed drive
- Reject water recovery and reuse systems

Typical Applications

- Automotive Manufacturing
- Colleges and Universities
- Beverage Production
- Hospitals (Central Systems)
- Parts Washing
- Microelectronics
- Pharmaceutical
- Chemical Processing
- Boiler Feed Water
- Humidification Systems

Standard Features

- 1.0 - μ m FiberFlo microfiber pre-filter
- Automatic inlet shut-off valve
- Multi-stage centrifugal pump, TEFC
- Three flowmeters (36k to 144k models)
- Adjustable reject recirc (36k to 144k models)
- Programmable auto-flush feature
- PLC system control
- Clean-In-Place ports

Materials of Construction

- Frame: Powder Coated Steel
- Membrane Elements: TF Polyamide
- ASME Membrane Housing: FRP
- Low Pressure Pipe: PVC
- High Pressure Pipe: Stainless Steel
- Control Enclosure: NEMA 4/12
- Pump: Stainless Steel

Operating Parameters

- Operating Pressure: < 300 psig (2068 KPA)
- Maximum Recovery: 60 - 75%
- Nominal Rejection: 95-99%
- Operating Temperature: 2-35° C (35-95° F)
- Minimum Inlet Pressure: 30 psig (210 KPA)
- Design Temperature: 16° C (61° F)

Technical Data

Product Specifications

8400C System Specifications for 60 hZ @ 16°C (61°F)

Model Number	Stock Number	Permeate gpm (lpm)	Concentrate gpm (lpm)	Motor hp	Elements (array)	Inlet in (mm)	Permeate in (mm)	Concentrate in (mm)	Operating Weight lbs
8400C-36K	3HC828B-3A	25 (95)	17 (64)	20	6 (2:1)	2 (50.8)	1.5 (38.1)	1.5 (38.1)	2500
8400C-72K	3VC828B-3A	50 (189)	17 (64)	20	12 (2:1)	2 (50.8)	1.5 (38.1)	1.5 (38.1)	3500
8400C-144K	6VC828B-3A	100 (379)	23 (129)	30	24 (4:2)	3 (76.2)	3 (76.2)	2 (50.8)	5500
8400C-216K	6YC828B-3A	150 (568)	50 (189)	50	36 (4:2)	4 (101.6)	3 (76.2)	3 (76.2)	7550
8400C-288K	8YC828B-3B	200 (757)	67 (254)	50	48 (5:3)	4 (101.6)	3 (76.2)	3 (76.2)	9000
8400C-432K	12YC828B-3B	300 (1,135)	100 (379)	50 x 2	72 (8:4)	6 (152.4)	4 (101.6)	4 (101.6)	13600
8400C-649K	18YC828B-3B	450 (1,703)	150 (568)	60 x 2	108 (12:6)	8 (203.2)	6 (152.4)	4 (101.6)	18200
8400C-864K	24YC828B-3B	600 (2,271)	200 (2,271)	50 x 4	144 (18:8)	8 (203.2)	6 (152.4)	5 (127)	26200

Note: All weights and dimensions are approximate.

Feed Water Requirements

Feed Water Source	Potable Tap
Maximum Silt Density Index	< 5
Maximum Chlorine	< 1 ppm
Operating Temperature Range	< 0.01 ppm
Operating pH Range	< 0.02 ppm
Total Dissolved Solids	< 1.0 ppm
Softened or Langelier Index	< 0.5 ppm
Iron / Manganese	4 - 11

*If any of the feed water parameters are not within the limits given, consult one of our application specialists for assistance.

System Dimensions

Systems	Dimensions (L x W x H)
36K	130" x 61" x 75"
72K - 144K	206" x 61" x 75"
216K - 288K	286" x 61" x 89"
432K - 864K	286" x 96" x 89"
864K Pumping Skid	90" x 96" x 72"

Additional Options

Feed Water ORP
Feed Water pH
Clean in Place (CIP) Unit
Product Pressure Switch
Clean in Place Port Isolation Valves
Product Divert Valves

Optional VFD on the 8400-36K, 8400-72K & 8400-144K models VFD standard on all other models.

Ordering Information

8400C Part Number Matrix

8	Y	C	8	8	B	-	3	A
Number of RO Housings								
3 ^{1,2} , 6 ² , 8, 12, 18, 24								
Number of Elements per Housing								
H - 21 V - 42 Y - 6								
Application Type								
C - Commercial / Industrial								
Element Type								
8 - Standard								
Electrical Requirements ³								
8 - 460/3/60 9 - 575/3/60								
Pump Type								
B - 316SS								
Panel Options								
3 - PLC controller								
Additional Options								
A - None B - Variable Speed Drive (Standard on 288K to 863K) ⁴								

¹ 2 elements per housing is only available in the 3 housing configuration.

² 4 elements per housing is only available in the 3 and 6 housing configurations.

³ Depends on RO size source voltages (may not be available)

⁴ A VFD can make your system much more efficient. Energy savings up to 50% can be achieved, lowering impact on the environment and saving money.

Installation Considerations

For proper serviceability, there should be 48" of end clearance and 18" for the front and back.

The system should be installed on a firm, level surface and have a drain with suitable capability to handle concentrate.

Minimum dynamic operating pressure of 30 psig is required for proper system operation. The max pressure is 90 psig



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