

# PRO Series 50 Hz

## Reverse Osmosis Machines 11-102 m<sup>3</sup>/hr (50-450 gpm)

### Basic Features (BAS)

- Allen-Bradley PanelView 300  
7.6 cm monochrome display  
Primarily text operating screens  
Compact keypad terminal
- Allen-Bradley MicroLogix 1200  
Communication: DH485  
Analog outoput: 2 points
- 4-20 mA instruments displayed on instrument center
- UL 508 listed

### Premium Features (PRE)

- Allen-Bradley PanelView Plus 700  
16.5-inch color display  
Text and pictorial operating screens  
Keypad and touchscreen controls
- Allen-Bradley SLC 5/04  
Communication: DH+  
Analog outoput: 4 points
- 4-20 mA instruments on PanelView
- Primary & final pressure transmitters
- RO permeate flush on shutdown
- UL 508 listed

### Instrumentation

Flow Meters..... Permeate, concentrate  
 Conductivity .....Permeate, (PRE Feature =  
 .....Added Feed Sensor)  
 pH .....Feed  
 Pressure.....Pre-filter, post-filter, primary,  
 .....final, permeate, concentrate,  
 ..... pump discharge  
 Pressure Switch.....Feed, permeate, concentrate  
 ORP .....Feed  
 Instrument Center..... Thornton 770 Max



### Options Available

- GE Fanuc Control Package
- Vortex flow meters
- Soft Starters
- Variable Frequency Drives
- SCADA: 75 pt trending package with desktop PC
- PRO Multi-Media filters
- PRO Clean-in-Place units
- PRO chemical feed systems
- Transfer pumps and storage tanks

### Documentation Included

- Operation and maintenance manual included and also available online at [www.gewater.com](http://www.gewater.com)
- Drawings: piping and instrumentation, electrical and general dimensional

### Operating Parameters

Recovery .....65-85%  
 Design temp. .... 15.6°C (60°F)  
 Operating range..... 1.6 to 29.4°C (35 to 85°F)  
 Nominal rejection.....97-99%  
 Minimal inlet pressure .....2.1 bar (30 psi)



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## Materials of Construction

High-pressure piping..... Stainless Steel, Sch. 10  
 Low-pressure piping..... Sch. 80, PVC  
 Frame..... Painted blue carbon steel  
 Enclosure..... NEMA 12 (painted blue)  
 Clamps/fittings..... Zinc-plated

## Membrane Elements and Housings

Membrane Model.....OSMO PRO 365  
 Style.....Spiral-wound elements  
 Manufacturer..... GE  
 Membrane type..... TFC (Polyamide)

## Membrane Elements and Housings cont.

Average membrane flux.....16-18 GFD  
 Membrane rejection..... 99.6%  
 Manufacturer.....GE  
 Housing material.....FRP or 316L Stainless Steel  
 Housing closure type.....Ring and plate style closure

## Cartridge Filtration

Housing model..... GE HX-0740-3.0-V316  
 Housing material.....316 Stainless Steel  
 Cartridge filter..... 1-micron nominal, ROsave.Z\*s

## GE Water & Process Technologies PRO Models

MODEL	PRO-50	PRO-100	PRO-150	PRO-200	PRO-300	PRO-450
Permeate rate:	11.4 m <sup>3</sup> /hr (50 gpm)	22.7 m <sup>3</sup> /hr (100 gpm)	34 m <sup>3</sup> /hr (150 gpm)	45.4 m <sup>3</sup> /hr (200 gpm)	68.1 m <sup>3</sup> /hr (300 gpm)	102.2 m <sup>3</sup> /hr (450 gpm)
Concentrate Rate:	3.8 m <sup>3</sup> /hr (17 gpm)	7.5 m <sup>3</sup> /hr (33 gpm)	11.4 m <sup>3</sup> /hr (50 gpm)	15.2 m <sup>3</sup> /hr (67 gpm)	22.7 m <sup>3</sup> /hr (100 gpm)	34 m <sup>3</sup> /hr (150 gpm)
Feed Rate:	15.2 m <sup>3</sup> /hr (67 gpm)	30.2 m <sup>3</sup> /hr (133 gpm)	45.4 m <sup>3</sup> /hr (200 gpm)	60.6 m <sup>3</sup> /hr (267 gpm)	90.0 m <sup>3</sup> /hr (400 gpm)	136.3 m <sup>3</sup> /hr (600 gpm)
Pumps and Motors						
Model:	SS12516	SS24013	SS24016	AS40412	SS24016	AS40415
Manufacturer:	Osmonics/Tonkaflor	Osmonics/Tonkaflor	Osmonics/Tonkaflor	Osmonics/Tonkaflor	Osmonics/Tonkaflor	Osmonics/Tonkaflor
Quantity:	1	1	1	1	2	2
Motor HP and type:	22.4kW (30HP) TEFC	37.3 kW (50 Hp) TEFC	45 kW (60 Hp) TEFC	45 kW (60 Hp)TEFC	45 kW (60 Hp)TEFC	56 kW (75 Hp)TEFC
Design Flow Rate:	18.2 m <sup>3</sup> /hr (80 gpm)	34 m <sup>3</sup> /hr (150 gpm)	45.4 m <sup>3</sup> /hr (200 gpm)	68.1 m <sup>3</sup> /hr (300 gpm)	45.4 m <sup>3</sup> /hr (200 gpm)	68.1 m <sup>3</sup> /hr (300 gpm)
Design boost pressure:	20.0 Bar (300 psig)	19.3 Bar (280 psig)	20.0 Bar (290 psig)	16.5 Bar (240 psig)	20 Bar (290 psig)	22 Bar (320 psig)
Membrane Elements and Housings						
Membranes quantity:	12	24	36	48	72	108
Memb. housing style:	4 element long, 4 port	4 element long, 4 port	6 element long, 4 port	4 element long, 4 port	6 element long, 4 port	6 element long, 4 port
Banking Arrangement:	1→1→1	3→2→1	3→2→1	6→4→2	6→4→2	9→6→3
Cartridge Filtration						
Housing Model:	HX-0740-3.0-V-316	HX-0740-3.0-V-316	HX-0740-3.0-V-316	HX-0740-3.0-V-316	HX-0740-3.0-V-316	HX-0740-3.0-V-316
Cartridge Filter:	ROZs01-40XK	ROZs01-40XK	ROZs01-40XK	ROZs01-40XK	ROZs01-40XK	ROZs01-40XK
Filter Length:	102 cm (40")	102 cm (40")	102 cm (40")	102 cm (40")	102 cm (40")	102 cm (40")
Filter Quantity:	7 per housing, 7/change out	7 per housing, 7/change out	7 per housing, 14/change out	7 per housing, 14/change out	7 per housing, 21/change out	7 per housing, 28/change out
Installation and Utility Requirements						
Inlet:	5.1 cm (2") flange	7.6 cm (3.0") flange	7.6 cm (3.0") flange	10.2 cm (4.0") flange	10.2 cm (4.0") flange	15.2 cm (6.0") flange
Permeate:	3.8 cm (1.5") flange	7.5 cm (3.0") flange	7.6 cm (3.0") flange	7.6 cm (3.0") flange	10.2 cm (4.0") flange	10.2 cm (4.0") flange
Concentrate:	2.5 cm (1.0") flange	3.8 cm (1.5") flange	3.8 cm (1.5") flange	5.1 cm (2.0") flange	5.1 cm (2.0") flange	7.6 cm (3.0") flange
Inlet Water Pressure:	2.1 bar (30 psig), min.	2.1 bar (30 psig), min.	2.1 bar (30 psig), min.	2.1 bar (30 psig), min.	2.1 bar (30 psig), min.	2.1 bar (30 psig), min.
Air Pressure:	6.9 bar, oil-free	6.9 bar, oil-free	6.2 bar, oil-free	6.2 bar, oil-free	6.9 bar, oil-free	6.9 bar, oil-free
Drain to be Sized for:	15.2 m <sup>3</sup> /hr (67 gpm)	30.2 m <sup>3</sup> /hr (133 gpm)	45.4 m <sup>3</sup> /hr (200 gpm)	60.6 m <sup>3</sup> /hr (267 gpm)	90.8 m <sup>3</sup> /hr (400 gpm)	136.3 m <sup>3</sup> /hr (600 gpm)
Power:	190/380 VAC, 3-phase, 50Hz	190/380 VAC, 3-phase, 50Hz	190/380 VAC, 3-phase, 50Hz	190/380 VAC, 3-phase, 50Hz	190/380 VAC, 3-phase, 50Hz	190/380 VAC, 3-phase, 50Hz
Control Circuit:	220 VAC, 1-phase, 50Hz	220 VAC, 1-phase, 50Hz	220 VAC, 1-phase, 50Hz	220 VAC, 1-phase, 50Hz	220 VAC, 1-phase, 50Hz	220 VAC, 1-phase, 50Hz
Skid						
Height:	193 cm (76")	193 cm (76")	193 cm (76")	193 cm (76")	193 cm (76")	251 cm (99")
Width:	117 cm (46")	117 cm (46")	117 cm (46")	203 cm (80")	203 cm (80")	203 cm (80")
Depth:	493 cm (194")	493 cm (194")	696 cm (274")	493 cm (194")	696 cm (274")	696 cm (274")
Shipping Weight Estimate:	1542 kg (3400 lb)	2040 kg (4500 lb)	2720 kg (6000 lb)	3175 kg (7000 lb)	4305 kg (9500 lb)	6350 kg (14,000 lb)

