

# PRO Series 60 Hz

## Reverse Osmosis Machines

50-450 gpm (11.4-102.2 m<sup>3</sup>/hr)

### Basic Features (BAS)

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

### Premium Features (PRE)

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

### Instrumentation

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



### Options Available

- GE Fanuc Control Package
- 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.           | 60°F (15.6°C)              |
| Operating range        | 35 to 85°F (1.6 to 29.4°C) |
| Nominal rejection      | 97-99%                     |
| Minimal inlet pressure | 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 continued

|                       |                              |
|-----------------------|------------------------------|
| 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 Infrastructure Water & Process Technologies PRO Models

| MODEL                                 | PRO-50                           | PRO-100                           | PRO-150                           | PRO-200                           | PRO-300                           | PRO-450                            |
|---------------------------------------|----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|------------------------------------|
| Permeate rate:                        | 50 gpm (11.4 m <sup>3</sup> /hr) | 100 gpm (22.7 m <sup>3</sup> /hr) | 150 gpm (34 m <sup>3</sup> /hr)   | 200 gpm (45.4 m <sup>3</sup> /hr) | 300 gpm (68.1 m <sup>3</sup> /hr) | 450 gpm (102.2 m <sup>3</sup> /hr) |
| Concentrate Rate:                     | 17 gpm (3.8 m <sup>3</sup> /hr)  | 33 gpm (7.5 m <sup>3</sup> /hr)   | 50 gpm (11.4 m <sup>3</sup> /hr)  | 67 gpm (15.2 m <sup>3</sup> /hr)  | 100 gpm (22.7 m <sup>3</sup> /hr) | 150 gpm (34 m <sup>3</sup> /hr)    |
| Feed Rate:                            | 67 gpm (15.2 m <sup>3</sup> /hr) | 133 gpm (30.2 m <sup>3</sup> /hr) | 200 gpm (45.4 m <sup>3</sup> /hr) | 267 gpm (60.6 m <sup>3</sup> /hr) | 400 gpm (90.0 m <sup>3</sup> /hr) | 600 gpm (136.3 m <sup>3</sup> /hr) |
| Pumps and Motors                      |                                  |                                   |                                   |                                   |                                   |                                    |
| Model:                                | SS8512                           | SS12512                           | SS24009                           | AS40407                           | AS40409                           | AS40409                            |
| Manufacturer:                         | Osmonics/Tonkaflor               | Osmonics/Tonkaflor                | Osmonics/Tonkaflor                | Osmonics/Tonkaflor                | Osmonics/Tonkaflor                | Osmonics/Tonkaflor                 |
| Quantity:                             | 1                                | 1                                 | 1                                 | 1                                 | 1                                 | 2                                  |
| Motor HP and type:                    | 20HP (14.9 KW) TEFC              | 40 Hp (30 KW) TEFC                | 60 Hp (45 KW) TEFC                | 60 Hp (45 KW) TEFC                | 75 Hp (56 KW) TEFC                | 75 Hp (56 KW) TEFC                 |
| Design Flow Rate:                     | 75 gpm (17 m <sup>3</sup> /hr)   | 150 gpm (30.2 m <sup>3</sup> /hr) | 200 gpm (45.4 m <sup>3</sup> /hr) | 300 gpm (68.1 m <sup>3</sup> /hr) | 400 gpm (90.9 m <sup>3</sup> /hr) | 600 gpm (136.3 m <sup>3</sup> /hr) |
| Design boost pressure:                | 240 psig (16.5 Bar)              | 260 psig (17.9 Bar)               | 270 psig (18.6 Bar)               | 220 psig (15.2 Bar)               | 250 psig (17.2 Bar)               | 290 psig (20.0 Bar)                |
| 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:                        | 40" (102 cm)                     | 40" (102 cm)                      | 40" (102 cm)                      | 40" (102 cm)                      | 40" (102 cm)                      | 40" (102 cm)                       |
| 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:                                | 2.0" flange                      | 3.0" flange                       | 3.0" flange                       | 4.0" flange                       | 4.0" flange                       | 6.0" flange                        |
| Permeate:                             | 1.5" flange                      | 3.0" flange                       | 3.0" flange                       | 3.0" flange                       | 4.0" flange                       | 4.0" flange                        |
| Concentrate:                          | 1.0" flange                      | 1.5" flange                       | 1.5" flange                       | 2.0" flange                       | 2.0" flange                       | 3.0" flange                        |
| Inlet Water Pressure:                 | 30 psig, minimum                 | 30 psig, minimum                  | 30 psig, minimum                  | 30 psig, minimum                  | 30 psig, minimum                  | 30 psig, minimum                   |
| Air Pressure:                         | 100 psig, oil-free               | 100 psig, oil-free                | 100 psig, oil-free                | 100 psig, oil-free                | 100 psig, oil-free                | 100 psig, oil-free                 |
| Drain to be Sized for:                | 67 gpm (15.2 m <sup>3</sup> /hr) | 133 gpm (30.2 m <sup>3</sup> /hr) | 200 gpm (45.4 m <sup>3</sup> /hr) | 267 gpm (60.6 m <sup>3</sup> /hr) | 400 gpm (90.9 m <sup>3</sup> /hr) | 600 gpm (136.3 m <sup>3</sup> /hr) |
| Power:                                | 230/460 VAC, 3-phase, 60Hz       | 230/460 VAC, 3-phase, 60Hz        | 230/460 VAC, 3-phase, 60Hz        | 230/460 VAC, 3-phase, 60Hz        | 230/460 VAC, 3-phase, 60Hz        | 230/460 VAC, 3-phase, 60Hz         |
| Control Circuit:                      | 120 VAC, 1-phase, 60Hz           | 120 VAC, 1-phase, 60Hz            | 120 VAC, 1-phase, 60Hz            | 120 VAC, 1-phase, 60Hz            | 120 VAC, 1-phase, 60Hz            | 120 VAC, 1-phase, 60Hz             |
| Skid                                  |                                  |                                   |                                   |                                   |                                   |                                    |
| Height:                               | 76" (193 cm)                     | 76" (193 cm)                      | 76" (193 cm)                      | 76" (193 cm)                      | 76" (193 cm)                      | 99" (251 cm)                       |
| Width:                                | 46" (117 cm)                     | 46" (117 cm)                      | 46" (117 cm)                      | 80" (203 cm)                      | 80" (203 cm)                      | 80" (203 cm)                       |
| Depth:                                | 194" (493 cm)                    | 194" (493 cm)                     | 274" (696 cm)                     | 194" (493 cm)                     | 274" (696 cm)                     | 274" (696 cm)                      |
| Shipping Weight Estimate:             | 3400 lb (1542 kg)                | 4500 lb (2040 kg)                 | 6000 lb (2720 kg)                 | 7000 lb (3175 kg)                 | 9500 lb (4305 kg)                 | 14,000 lb (6350 kg)                |

