

# Osmo\* PRO NA Series

## 60 Hz Reverse Osmosis Machines from 50 to 450 gpm



### Specific Basic Features (BAS)

- GE Fanuc QuickPanel 6.0-inch monochrome display Touch screen controls
- GE Fanuc Versamax Micro Communication: RS232
- 4-20 mA instruments displayed on instrument center
- UL/cUL Electrical Panel

### Specific Premium Features (PRE)

- GE Fanuc Quickpanel, 12.0-inch color display Text and pictorial operating screens, Touch screen controls
- GE Fanuc Versamax, Communication: Ethernet
- 4-20 mA instruments on QuickPanel
- Primary and final pressure transmitters
- RO permeate flush on shutdown
- UL / cUL Electrical Panel
- pH Meter on RO Feed

### Instrumentation

Flow Meters..... Permeate & Concentrate  
 Conductivity..... Permeate  
 Pressure.....Pre & Post Cartridge Filter  
 RO Feed , Pump Outlet, Interstage (x2)  
 Concentrate & Permeate  
 Pressure Switch.....Feed, Permeate, Concentrate  
 pH (Optional).....Feed  
 ORP (Optional).....Feed  
 Instrument Center (BAS).....GF Signet 8900 Multimeter

### Options Available

- Allen Bradley CompactLogix PLC Control Package
- Membrane Options:
  - 400 Square Foot Elements
  - High Rejection Elements
- Motor Starter
- Variable Frequency Drive
- ORP Meter
- pH Meter (Option for basic)

### PRO NA Accessories

- PRO Multi-Media filters
- PRO Activated Carbon and Softeners
- PRO Clean-in-Place units
- PRO Chemical Feed Systems
- Transfer Pumps and Storage Tanks

### Operating Parameters

Design Recovery<sup>1</sup>.....80%  
 Design Temperature.....60°F (16°C)  
 Operating Temperature Range.....35-85°F (2-29°C)  
 Nominal rejection.....97-99%  
 System Inlet Pressure.....30-60 PSI  
<sup>1</sup>Recovery Rate can vary +/- 5%

### Materials of Construction

High-pressure piping..... 316 Stainless Steel, Sch. 10  
 Low-pressure piping..... PVC, Sch. 80  
 Frame..... Painted blue carbon steel  
 Enclosure.....Nema 4  
 Clamps/fittings..... Zinc-plated

### Membrane Elements and Housings

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



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## Membrane Elements and Housings continued

Average membrane flux .....16-17 gfd<sup>1</sup>  
 Membrane rejection..... 99.0 to 99.5%  
 Manufacturer ..... GE  
 Housing material.....304 Stainless Steel or FRP  
 Housing Pressure Rating .....450 psi  
<sup>1</sup> Flux can be reduced by using 400-sqft membranes.

## Cartridge Filtration

Housing model..... GE HX-0740-80-V316  
 Housing material..... 316 Stainless Steel  
 Cartridge filter ..... 1-micron nominal, ROsave.Z\*s

## PRO NA Models

MODEL	PRO-50-NA	PRO-100-NA	PRO-150-NA	PRO-200-NA	PRO-300-NA	PRO-450-NA
Permeate Rate <sup>2</sup> :	50 gpm (11 m <sup>3</sup> /hr)	100 gpm (23 m <sup>3</sup> /hr)	150 gpm(34 m <sup>3</sup> /hr)	200 gpm (45 m <sup>3</sup> /hr)	300 gpm (68 m <sup>3</sup> /hr)	450 gpm(100 m <sup>3</sup> /hr)
Concentrate Rate:	13 gpm (3 m <sup>3</sup> /hr)	25 gpm (6 m <sup>3</sup> /hr)	38 gpm (8.5 m <sup>3</sup> /hr)	50 gpm (11 m <sup>3</sup> /hr)	75 gpm (17 m <sup>3</sup> /hr)	113 gpm (26 m <sup>3</sup> /hr)
Concentrate Recycle:	10 gpm (2.3 m <sup>3</sup> /hr)	10 gpm (2.3 m <sup>3</sup> /hr)	NA	15 gpm (3.4 m <sup>3</sup> /hr)	NA	NA
Feed Rate:	63 gpm (14 m <sup>3</sup> /hr)	125 gpm (28.5 m <sup>3</sup> /hr)	188 gpm (43 m <sup>3</sup> /hr)	250 gpm (57 m <sup>3</sup> /hr)	375 gpm (85 m <sup>3</sup> /hr)	563 gpm (128 m <sup>3</sup> /hr)
<b>Pumps and Motors</b>						
Model:	SS8516	SS12512	SS24009	AS40407	AS40409	AS40409
Manufacturer:	GE/Tonkaflo	GE/Tonkaflo	GE/Tonkaflo	GE/Tonkaflo	GE/Tonkaflo	GE/Tonkaflo
Quantity:	1	1	1	1	1	2
Motor Power and type:	25HP (18.6 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
Installed Power:	18.6 KW	30 KW	45 KW	45 KW	56 KW	112 KW
Design Flow Rate:	73 gpm (17 m <sup>3</sup> /hr)	135 gpm (31 m <sup>3</sup> /hr)	188 gpm (43 m <sup>3</sup> /hr)	265 gpm (60 m <sup>3</sup> /hr)	375 gpm (85 m <sup>3</sup> /hr)	563 gpm(128 m <sup>3</sup> /hr)
Design boost pressure:	330 psig (23 Bar)	275 psig (19 Bar)	280 psig (19.3 Bar)	240 psig (16.5 Bar)	260 psig (18 Bar)	300 psig (20.7 Bar)
<b>Membrane Elements and Housings</b>						
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
<b>Cartridge Filtration</b>						
Housing Model:	HX-0740-30-V-316	HX-0740-30-V-316	HX-0740-30-V-316	HX-0740-30-V-316	HX-0740-30-V-316	HX-0740-30-V-316
Housing Quantity:	1	1	2	2	3	4
Cartridge Filter Model:	ROZs01-40XK	ROZs01-40XK	ROZs01-40XK	ROZs01-40XK	ROZs01-40XK	ROZs01-40XK
Cartridge Filter Length:	40-inch (120 cm)	40-inch (102 cm)	40-inch (102 cm)	40-inch (102 cm)	40-inch (102 cm)	40-inch (102 cm)
Cartridge Filter Qty:	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
<b>Installation and Utility Requirements</b>						
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	6.0" flange
Concentrate:	1.0" flange	1.5" flange	1.5" flange	2.0" flange	2.0" flange	3.0" flange
Inlet Water Pressure:	30-60 psig	30-60 psig	30-60 psig	30-60 psig	30-60 psig	30-60 psig
Air Pressure:	80 psi, oil-free	80 psi, oil-free	80 psi, oil-free	80 psi, oil-free	80 psi, oil-free	7 bar, oil-free
Drain to be Sized for:	67 gpm (15 m <sup>3</sup> /hr)	133 gpm (30 m <sup>3</sup> /hr)	200 gpm (45 m <sup>3</sup> /hr)	267 gpm (61 m <sup>3</sup> /hr)	400 gpm (91 m <sup>3</sup> /hr)	600 gpm (136 m <sup>3</sup> /hr)
Power:	460-480 VAC, 3-phase, 60Hz	460-480 VAC, 3-phase, 60Hz	460-480 VAC, 3-phase, 60Hz	460-480 VAC, 3-phase, 60Hz	460-480 VAC, 3-phase, 60Hz	460-480 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
<b>Skid</b>						
Height:	79" (200 cm)	79" (200 cm)	79" (200 cm)	79" (200 cm)	79" (200 cm)	102" (259 cm)
Width:	46" (117 cm)	47" (119 cm)	47" (119 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)	276" (701 cm)
Skid Shipping Weight Estimate Without Membranes:	3454 lb (1567 kg)	4408 lb (2000 kg)	5712 lb (2591 kg)	6966 lb (3160 kg)	8624 lb (3912 kg)	13736 lb (6231 kg)
Membranes Shipping Weight Estimate:	420 lb (191 kg)	840 lb (381 kg)	1260 lb (572 kg)	1680 lb (762 kg)	2520 lb (1143 kg)	3780 lb (1715 kg)
Operating Weight Estimate:	4300 lb (1951 kg)	5650 lb (2563 kg)	7550 lb (3425 kg)	9400 lb (4264 kg)	12000 lb (5443 kg)	19600 lb (8890 kg)

<sup>2</sup> Maximum permeate rate listed at design temperature. Permeate rate can be reduced by up to 15%.

