

PRO-AP Series 60Hz

Reverse Osmosis Machines; 11-102 m³/hr

Features

- GE Fanuc Quick Panel 6"; 6-inch display; Primarily text operating screens; Touchscreen controls
- GE Fanuc Micro VersaMax; Communication: RS232/DH485; Analog output: 2 points
- 4-20 mA instrument display on instrument center

Instrumentation

Flow Meters.....	Permeate, concentrate
Conductivity.....	Permeate
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

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)



Options Available

- PRO Multi-Media filters
- PRO Clean-in-Place units
- PRO chemical feed systems
- Transfer pumps and storage tanks
- Allen Bradley or Siemens control package

Documentation Included

- Operation and maintenance manual
- Drawings: piping and instrumentation, electrical and general dimension

Operating Parameters

Recovery	65-85%
Design temp.....	16°C
Operating range.....	1.6 to 29.4°C
Nominal rejection	97-99%
Minimal inlet pressure	2.1 bar

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FS1375EN Mar-08

Membrane Elements and Housings

Membrane Model.....OSMO PRO 365
 Style.....Spiral-wound elements
 Manufacturer.....GE
 Membrane type.....TFC (Polyamide)
 Average membrane flux..... 28-29 l/mh (16-18 gfd)
 Membrane rejection.....99.5%
 Manufacturer.....GE
 Housing material.....FRP
 Design TDS Basis..... 2500 ppm

Cartridge Filtration

Housing model..... 7 Rounds, 102cm (40")
 Housing material.....316 Stainless Steel
 Cartridge filter..... 1-micron nominal, ROsave.Z*s

PRO Models

MODEL	PRO-11-AP-60	PRO-23-AP-60	PRO-34-AP-60	PRO-45-AP-60	PRO-68-AP-60	PRO-102-AP-60
Permeate rate:	11.4 m ³ /hr	22.7 m ³ /hr	34 m ³ /hr	45.4 m ³ /hr	68.1 m ³ /hr	102.2m ³ /hr
Concentrate Rate:	3.8 m ³ /hr	7.5 m ³ /hr	11.4 m ³ /hr	15.2 m ³ /hr	22.7 m ³ /hr	34 m ³ /hr
Feed Rate:	15.2 m ³ /hr	30.2 m ³ /hr	45.4 m ³ /hr	60.6 m ³ /hr	90.0 m ³ /hr	136.3m ³ /hr
Pumps and Motors						
Manufacturer:	Tonkaflø	Tonkaflø	Tonkaflø	Tonkaflø	Tonkaflø	Tonkaflø
Model:	SS8516KZC	SS12512KZE	SS24009KZE	AS40407KZE	AS40409KTE	AS40409KTE
Quantity:	1	1	1	1	1	2
Motor HP and type:	18.6KW (25HP) TEFC	37.3 kW (40 Hp) TEFC	45 kW (60 Hp) TEFC	45 kW (60 Hp) TEFC	56 kW (75 Hp) TEFC	56 kW (75 Hp) TEFC
Design Flow Rate:	18.2 m ³ /hr	34 m ³ /hr	45.4 m ³ /hr	68.1 m ³ /hr	90.8 m ³ /hr	68.1m ³ /hr
Design boost pressure:	20.0 Bar	19.3 Bar	20.0 Bar	16.5 Bar	16.9 Bar	22 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						
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:	2" ANSI flange	3" ANSI flange	3" ANSI flange	4" ANSI flange	4" ANSI flange	6" ANSI flange
Permeate:	1.5" ANSI flange	3" ANSI flange	3" ANSI flange	3" ANSI flange	4" ANSI flange	4" ANSI flange
Concentrate:	1" ANSI flange	1.5" ANSI flange	1.5" ANSI flange	2" ANSI flange	2" ANSI flange	3" ANSI flange
Inlet Water Pressure:	2.1 bar min.	2.1 bar min.	2.1 bar min.	2.1 bar min.	2.1 bar min.	2.1 bar 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 ³ /hr	30.2 m ³ /hr	45.4 m ³ /hr	60.6 m ³ /hr	90.8 m ³ /hr	136.3m ³ /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						
Approx. Height:	193 cm	193 cm	193 cm	193 cm	193 cm	251 cm
Approx. Width:	117 cm	117 cm	117 cm	203 cm	203 cm	203 cm
Approx. Depth:	493 cm	493 cm	696 cm	493 cm	696 cm	696 cm
Approx. Shipping Weight :	1542 kg	2040 kg	2720 kg	3175 kg	4305 kg	6350 kg

