

EM Pure

RePAK* Series

Integrated Tertiary UF/RO Reuse Package Plant:
50-100 m³/hr (220-440 gpm) Effluent (50/60 Hz)



Features

- Single compact multifunctional Tank: Break, UF backwash, UF CIP, RO CIP.
- HMI: Allen Bradley Panelview plus, 12.0-inch color display Text and pictorial operating screens, Touch screen controls
- PLC: Allen Bradley Compact Logix, Communication: Ethernet
- 4-20 mA instruments
- RO permeate flush on shutdown
- UF backwash/CIP pump, RO feed pump (skid mounted)

Instrumentation

Flow Meters: UF Feed, UF CIP/BW, RO Permeate, RO concentrate
 Conductivity Meter: RO Feed, RO Permeate
 pH Meter UF CIP, RO Feed (2 sample points)
 Pressure Transmitters UF Feed, UF Permeate, RO Primary, RO Final
 Pressure Switch UF Feed / Backwash, RO Feed, RO Permeate, RO Concentrate
 Chlorine Meter UF CIP, RO Feed (2 sample points)
 Temperature UF Feed, Tank
 Turbidity Meter UF Permeate
 Level Transmitter Tank
 Temperature Transmitter UF Feed, Tank

Available Options

- UF Feed Pump or UF Flow Control Valve
- UF Feed turbidity Meter
- Aeration Blower
- 500 micron automated pre-screen
- RO membrane options (AG, LF,DS)
- Chemical Feed Systems

System Operating Parameters

Max Overall Design Recovery¹ 70%
 Design Temperature 20°C (68°F)
 Operating Temperature Range 15-30°C (59-86°F)²
 Nominal RO rejection 97-99%
 System Inlet Pressure 0-10 bars (10-145 PSIG)
 UF average membrane flux 30 gfd
 RO average membrane flux 11 gfd
¹UF recovery of 90% and RO recovery of 78%. Recovery rate can vary 65-74% depending on water quality.
²Wider temperature ranges possible depending on TDS

Materials of Construction

High-pressure piping 316 Stainless Steel, Sch. 10
 Low-pressure piping PVC, Sch. 80
 Frame Painted blue carbon steel
 Enclosure IP65
 Clamps/fittings Zinc-plated

Membrane Elements and Housings

RO Membrane GE AG8040-400³
 Style Spiral-wound elements, TFC (polyamide)
 Membrane rejection 99.0 to 99.5%
 RO Membrane Housing GE, FRP
 Housing Pressure Rating 300 psi
 UF Membrane Model GE ZW1500
 UF Membrane Surface 550 ft² (51 m²)
³Low Fouling and Duraslick* membranes optional

Cartridge Filtration

Housing model Mey 22x40 0.6MPa
 Housing material 316 Stainless Steel
 Cartridge filter ROSave.Zs* 1micron



RePAK Models

MODEL	RePAK-50	RePAK-100
RO Permeate Rate*:	50 m ³ /hr (220 gpm)	100 m ³ /hr (440 gpm)
RO Concentrate Rate:	14-27 m ³ /hr (62-119 gpm)	28-54 m ³ /hr (124-237 gpm)
UF Feed Rate:	73-93 m ³ /hr (321-410 gpm)	145-186 m ³ /hr (638-819 gpm)
RO HP Pump Model:	CRN64	CRN64
Manufacturer:	Grundfos	Grundfos
Quantity:	1	2
Motor Power and type:	45 kW (60hp) TEFC	45 kW (60hp) TEFC
Installed Power:	45 kW	90 kW
Design Flow Rate:	67 m ³ /hr (295 gpm)	67 m ³ /hr (295 gpm) each
Design boost pressure:	18.4 Bar (267 psid)	18.4 Bar (267 psid)
RO Booster Pump Model:	CL20709	CL40707
Manufacturer:	Grundfos	Grundfos
Quantity:	1	1
Motor Power and type:	11 kW (15hp) TEFC	22 kW (30hp) TEFC
Installed Power:	11 kW	22 kW
Design Flow Rate:	67 m ³ /hr (295 gpm) each	134 m ³ /hr (590 gpm)
Design boost pressure:	3.3 Bar (48 psid)	3.3 Bar (48 psid)
UF CIP/Backwash Pump Model:	CL30707	CL40707
Manufacturer:	Grundfos	Grundfos
Quantity:	1	1
Motor Power and type:	15 kW (20hp) TEFC	30 kW (40hp) TEFC
Installed Power:	15 kW	30 kW
Design Flow Rate:	63.5-95.5 m ³ /hr (280-420 gpm)	127-191 m ³ /hr (560-841 gpm)
Design boost pressure:	3.3 Bar (48 psid)	3.3 Bar (48 psid)
Maximum UF modules:	28	56
RO Membranes Quantity:	42 + 28	84 + 56
RO Membranes Housing Style:	7 element long, 4 port	7 element long, 3 port
Banking Arrangement:	6 →4	12 →8
Housing Model:	MEY 22x40	MEY 22x40
Housing Quantity:	1	2
Cartridge Filter Model:	Hytrex* 1 micron 40-inch	Hytrex 1 micron 40-inch
Cartridge Filter Length:	40-inch (101 cm)	40-inch (101 cm)
Cartridge Filter Qty:	22 per housing, 22/change out	22 per housing, 44/change out
Tank Size:	6,000 Liters (1585 gallons)	12,000 Liters (3170 gallons)
Tank Material:	HDPE	HDPE
Tank Style:	Dome Top, Cone Bottom	Dome Top, Cone Bottom
UF Inlet:	4.0-inch (10.1 cm) Victaulic Coupling	8.0-inch (20.3 cm) Victaulic Coupling
UF Airscour Inlet:	3.0-inch (7.6 cm) Victaulic Coupling	6.0-inch (15.2 cm) Victaulic Coupling
RO Permeate:	3.0-inch (7.6 cm) flange	6.0-inch (15.2 cm) flange
RO Concentrate:	1.5-inch (3.8 cm) flange	3.0-inch (7.6 cm) flange
UF Waste:	4.0-inch (10.1 cm) Victaulic Coupling	8.0-inch (20.3 cm) Victaulic Coupling
Inlet Water Pressure (to UF Membrane):	0-380 kPa (0-55psig)	0-380 kPa (0-55psig)
Air Pressure (Actuated Valve Feed):	7 Bar (100 psig)	7 Bar (100 psig)
Aeration:	140ACFM @ 10 psig	279ACFM @ 10 psig
Drain to be Sized for:	420gpm (95m ³ /hr)	841gpm (191m ³ /hr)
Power:	380 VAC, 3-phase, 50Hz 400 VAC, 3-phase, 60hz	380 VAC, 3-phase, 50Hz 400 VAC, 3-phase, 60hz
Control Circuit:	220 VAC, 1-phase, 60Hz / 50 Hz	220 VAC, 1-phase, 60Hz / 50 Hz
Membrane Skid Height x Width x Length	2,550mm x 1,500mm x 8,850 mm 100 in x 60 in x 350 in	2,550mm x 2,650mm x 8,850 mm 100 in x 104 in x 350 in
Pump Skid Height x Width x Length	2400mm X 2000mm x 2100mm 95 in x 79 in x 83 in	2,600mm x 2,300mm x 2,460mm 103 in x 91 in x 97 in
Tank Height x Diameter	4,800 mm x 1,800 mm 190 in x 71 in	4,800mm x 2,200mm 190 in x 87 in

*Maximum permeate rate listed at design temperature within water quality parameters



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