

# RePAK\* Series

## Integrated Tertiary UF/RO Reuse Package Plant: 50-100 m<sup>3</sup>/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 Recovery<sup>1</sup> ..... 70%  
 Design Temperature ..... 20°C (68°F)  
 Operating Temperature Range ..... 15-30°C (59-86°F)<sup>2</sup>  
 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  
<sup>1</sup>UF recovery of 90% and RO recovery of 78%. Recovery rate can vary 65-74% depending on water quality.  
<sup>2</sup>Wider 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 AG8040-400<sup>3</sup>  
 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 ft<sup>2</sup> (51 m<sup>2</sup>)  
<sup>3</sup>Low Fouling and Duraslick\* membranes optional

### Cartridge Filtration

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



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## RePAK Models

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

