

Mobile Combination Unit

Prefiltration/RO/Polishing Unit for "Low Flow" Applications

Description and Use



GE Mobile Combination Unit provides prefiltration (multi-media), Reverse Osmosis (RO), and optional mixed bed polishing all in an ISO Container. The units are designed to produce water at flow rates up to 200 GPM (45 m³/hr.) in single pass mode and up to 100 GPM (23 m³/hr.) in double pass mode. The unit is capable of producing mixed bed quality water when using the optional mixed bed de-ionization, a plug in silica analyzer and inlet pressure control valve.

General Properties

Features

- Up to 200 GPM (45 m³/hr) in single pass mode and up to 100 GPM (23 m³/hr.) in double pass mode.
- Unit can be mounted on mobile chassis or off-loaded to operate on ground level
- Able to combine with other GE Mobile units to enhance system capability
- Rejection rates of 95 - 99%
- Removes not only dissolved ions, but also bacteria, pyrogens, organics, particles, colloids, color and oxidizing agents at up to 99.9%
- Canadian Standards Assoc. (CSA) approved electricals and controls

- Two multi-media filtration vessels (anthracite, garnet, sand)
- Cartridge filters
- Five chemical injects with two inline static mixers
- Mixed-bed polishing vessels as needed (internally or externally mounted)

Table1: Unit Specifications

Dimensions	
Unit Length	40 ft (12.2 m)
Unit Height	9 ft, 6 in. (2.9 m)
Unit Height w/ chassis	13 ft, 6 in. (4.1 m)
Unit Width	8 ft (2.4 m)
Shipping Wt.	@ 50,000 lb (22,680kg)
Operating Wt.	@ 60,000 lb (27,215kg)
System on Board	
Single Pass	Up to 200 gpm (45 m ³ /h)
Double Pass	Up to 100 gpm (23 m ³ /h)
Recovery	75%
Rejection	95 - 99% ¹
Membrane	GE High Rejection polyamide membranes
Max. Water Temp.	85° F (29° C)
Min. Water Temp.	35° F (1.6° C)
Nom. Water Temp.	35° - 85°F (1.6° - 29°C)
Max. Inlet Pressure	90 psig (6.2 bar)
Min. Inlet Pressure	60 psig (4.1 bar)
Turbidity (maximum)	50 NTU
TSS (maximum)	50 ppm
Connections (Stainless Steel)	
Connection type	Victaulic/Flange
Inlet	4-in. (101 mm)
Outlet (Permeate)	4-in. (101 mm)
Waste (Concentrate)	4-in. (101 mm)
Clean In Place Inlet	3-in. (76 mm)
Clean In Place Outlet	1.5-in. (38mm)



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Table1: Unit Specifications (continued)

Instrumentation	
PLC	GE Fanuc PLC
Customer tie-in	Analog (4-20 mA) and/or discrete tank level for automatic shut down
Electrical	
Power requirements	One drop of 225 amp 3-phase power (460 VAC)
Breaker size	250 Amp 3-Phase
Installed KVA	160 KVA
Motor HP and type	75 Hp (56kW) TEFC
HVAC	
The Combination unit is climate controlled with an electric HVAC unit.	
Chemicals	
GE will provide all chemicals required to operate the unit.	

¹ Average rejection rate dependent on influent TDS, ionic composition, and maintenance.

Monitored Parameters	Inlet	MMF (Raw H2O)	MMF Waste (Drain)	Outlet MMF (Filtered H2O)	Inlet RO (Raw H2O)	Waste RO (Concentrate)	Outlet RO (Permeate)	Outlet MB Bottles (product H2O)
Pressure		X	X	X	X	X	X	
Conductivity		X			X		X	X
Free Chlorine		X		X				
Flow		X	X	X	X	X	X	X
Turbidity				X				
SiO2								X