



Akiki Engineering Est.

*Water & Steam Experts*



## 1.4. Reverse Osmosis Catalogue

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## Commercial AE 25 Series



### Applications:

- Humidification
- Kidney Dialysis
- Animal Feed
- Hatcheries
- Greenhouses
- Wastewater Treatment
- Boiler Water
- Battery Water
- Semiconductor production
- Hemodialysis

### Design Parameters

- Based upon feed water: SDI  $\leq$  3, 1000 ppm TDS, pH 2-11 and temperature 380F to 950F.

### Package Features

- 2.5" x 40" low-energy TFC membranes, FILMTEC LP-2540
- FRP membrane housing
- Vertical Centrifugal High Pressure Pump
- Polypropylene 5 - micron cartridge filter (1/2")
- 24 volt operation for all controls, switches, and solenoid valves
- SS 304 stainless steel skid
- Pretreatment lockout
- Low pressure switch
- Product & Concentrate flow meters
- Product TDS meter
- Automatic Concentrate flush
- Prefilter, Pump Discharge & Concentrate Pressure gauges
- Sample valves for each membrane housing
- Polypropylene face piping

### Pretreatment Options:

- The RO feed water must be pretreated in order to prevent membrane damage and/or fouling. Proper pretreatment is essential for reliable operation of any RO system.
- Pretreatment requirements vary depending on the nature of the feed water. Pretreatment equipment is sold separately. The most common forms of pretreatment are Media Filter, Water Softener, Carbon Filter, Chemical Injection.
- Optional: Up to 80

### Operating Specifications:

- Prefilter (5 micron cartridge): 10"
- Electrical Requirement: 380 V / 50 HZ / 3 pH

## Commercial AE 40 Series



### Applications:

- Humidification
- Kidney Dialysis
- Animal Feed
- Hatcheries
- Greenhouses
- Wastewater Treatment
- Boiler Water
- Battery Water
- Semiconductor production
- Hemodialysis

### Design Parameters

- Based upon feed water: SDI  $\leq$  3, 1000 ppm TDS, pH 8 and temperature 25C.

### Package Features

- 4" x 40" low-energy TFC membranes, FILMTEC TW30 - 4040
- FRP Pressure Vessels
- Stainless Steel Panel
- Vertical Centrifugal High Pressure Pump
- Polypropylene 5 - micron cartridge filter (1")
- 24 volt operation for all controls, switches, and solenoid valves
- SS 304 stainless steel skid
- Pretreatment lockout
- Low pressure switch
- Product & Concentrate flow meters
- Product TDS meter
- Automatic Concentrate flush
- Prefilter, Pump Discharge & Concentrate Pressure gauges
- Sample valves for each membrane housing
- Polypropylene face piping

### Pretreatment Options:

- The RO feed water must be pretreated in order to prevent membrane damage and/or fouling. Proper pretreatment is essential for reliable operation of any RO system.
- Pretreatment requirements vary depending on the nature of the feed water. Pretreatment equipment is sold separately. The most common forms of pretreatment are Media Filter, Water Softener, Carbon Filter, Chemical Injection.

### Operating Specifications:

- Prefilter (5 micron cartridge): 20" BB
- Electrical Requirement: 380 V / 50 HZ / 3 pH

## Commercial AE 80 Series



### Pretreatment Options:

- The RO feed water must be pretreated in order to prevent membrane damage and/or fouling. Proper pretreatment is essential for reliable operation of any RO system.
- Pretreatment requirements vary depending on the nature of the feed water. Pretreatment equipment is sold separately. The most common forms of pretreatment are Media Filter, Water Softener, Carbon Filter, Chemical Injection.

### Operating Specifications:

- Electrical Requirement: 380 V / 50 HZ / 3 pH

### Applications:

- Humidification
- Kidney Dialysis
- Animal Feed
- Hatcheries
- Greenhouses
- Wastewater Treatment
- Boiler Water
- Battery Water
- Semiconductor production
- Hemodialysis

### Design Parameters

- Based upon feed water: SDI  $\leq$  3, 2000 ppm TDS, pH 4 - 11 and temperature 20C.

### Package Features

- 8" x 40" low-energy TFC membranes, FILMTEC BW30LE - 4040
- FRP Pressure Vessels
- Stainless Steel Panel
- Vertical Centrifugal High Pressure Pump
- SS 304 housing 5 micron cartridge filter (1")
- 24 volt operation for all controls, switches, and solenoid valves
- SS 304 stainless steel skid
- Pretreatment lockout
- Low pressure switch
- Product & Concentrate flow meters
- Product TDS meter
- Automatic Concentrate flush
- Prefilter, Pump Discharge & Concentrate Pressure gauges
- Sample valves for each membrane housing
- Polypropylene face piping

## Sea Water Series



35,000 gpd System With Level  
Control and Pump Controls

Sea Water RO Systems are a reversal of the natural process of osmosis: a process by which a dilute, or lighter solution passes spontaneously through a semi-porous membrane into a more concentrated solution. For example, fresh water will flow through an osmotic membrane to mix with heavier brackish or sea water solution. In reverse osmosis, this process is reversed by applying external pressure to the saline solution, through the membrane into the pure water side if the external pressure applied to the saline solution exceeds the osmotic pressure.

Akiki Engineering Sea Water Commercial Reverse Osmosis are available with capacities ranging from 1 m<sup>3</sup>/day to 30 m<sup>3</sup>/day and from 70 m<sup>3</sup>/day to 420 m<sup>3</sup>/day. These systems can be ordered as completely assembled or unassembled.

### Applications:

- Humidification
- Kidney Dialysis
- Animal Feed
- Hatcheries
- Greenhouses
- Wastewater Treatment
- Boiler Water
- Battery Water
- Semiconductor production
- Hemodialysis

### Options:

- Feed and/or Product pH/ORP Controller
- R/O systems are designed with complete pretreatment units by Akiki Engineering
- System design for special applications
- Pre-treatment systems

### Features:

- Stainless Steel Skid
- Pressure relief valve & pulsation dampener
- PVC coated stainless steel or cartridge filter housing
- Electric actuated butterfly valve
- Stainless steel high pressure piping
- PVC low pressure piping
- Sample valves for each membrane housing
- Low & high pressure switch
- Product & Concentrate flow meters
- Pressure gauges

### Features:

- TFC spiral wound sea water membranes, 2.5" / 4" / 8" :Dx40" :L
- FRP membrane housing with 1000 psi max operating pressure
- Stainless steel globe valve on concentrated line for plunger type pumps and on concentrated and feed lines for centrifugal pumps
- Auto flushing system contains stainless, steel pump, polyethylene fresh water tank, level switches, automatic valves and skid
- Product conductivity controller
- Product TDS controller