

## STANDARD REVERSE OSMOSIS SYSTEM with PRETREATMENT 1,500GPD - 12,000GPD



### Benefits :

- \* Fully Assembled in Malaysia
- \* Wide Selection of Skid Material - Stainless Steel, Powder Coated Aluminium and Carbon Steel
- \* Fully Equipped and Customizable
- \* Expandable and Skid Mounted
- \* Components Easily Accesible
- \* Pre-Plumbed Wired and Assembled
- \* Individual Tested and preserved
- \* Low Maintenance Costs
- \* Easy Maintenance and Servicing
- \* 1 Year Limited Warranty

# STANDARD FEATURES

## System Design

The Operation Of The Proposed Water Treatment System Is Fully Automatic Base On Tank Level And Water Demands.

### RO Guard Filter

BWRO 1500, 3000

Housing - 2.75" x 20" (Plastic)

Cartridge Filter - 2.75" x 20", 5 Micron

BWRO 4500, 6000

Housing - Stainless Steel 304 Multi Cartridge

Cartridge Filter - 2.75" x 10", 5 Micron

BWRO 9000, 12000

Housing - Stainless Steel 304 Multi Cartridge

Cartridge Filter - 2.75" x 20", 5 Micron

### Membrane Elements and Housing

RO Membrane Brand : LG Chem

RO Membrane Model : 4" - BW 4040R / ES, 8" - BW 400R Dura

RO Housing Brand : Pureline / Codeline

RO Housing Material : 4" - Stainless Steel # 304 Seamless  
8" - FRP

### Feed & RO Booster Pump

Brand : G-Pump

Type : Horizontal / Vertical Multistage Centrifugal Pump

Material : all wetted parts Stainless Steel 304

### Instrumentation

- \* Flowmeter - Permeate, Concentrate
- \* Pressure Gauge - Feed Water, RO Pump, Concentrate
- \* Pressure Switch - Feed Water
- \* Solenoid Valve - Feed Water, Flushing

### Material of Construction

- \* Frame - Stainless Steel, Powder Coated Aluminium, Powder Coated Carbon Steel
- \* Control Box - IP54 (Powder Coated Aluminium)
- \* High Pressure Piping - UPVC (SCH.80)
- \* Low Pressure Piping - UPVC (SCH.80)

### RO Programme Controller

Features : -

- i) 6 Channels Signal Detection(Dry Contact Input)
  - Raw Water (no water protection)
  - Low Pressure Protection
  - High Pressure Protection
  - Pure Water Tank High Level
  - External Control Mode Signal
  - Running Reset
- ii) 5 Channels Control Port (Dry Contact Output)
  - Raw Water Pump
  - Inlet Valve
  - High Pressure Pump
  - Flush Valve
  - Conductivity Over Limit Drainage Valve
- iii) Conductivity Detection  
Measurement Range : 0.5 - 2,000ppm
- iv) Temperature Detection : 0 - 50°C

### Switch and Control Panel

Telemecanique Relay Control

Accessories :

- a. Main Circuit Breaker
- b. Control Circuit Booster and High Pressure Pump, Isolating Transformer
- c. Overload Relay
- d. Shutdown Circuit For : -
  - i) Dry Run
  - ii) Motor Overload
    - Hand Off Auto Selector Switch
    - Plant Running Indicating Lamp

### Documentation

- \* Operation and Maintenance Manual
- \* Electrical Diagram
- \* RO Programme Controller Manual

### Main RO Unit Feed Water Condition Requirement

Minimum Raw Water Pressure	29 PSI (2.0 bar)	Silt Density Index	SDI < 5
Maximum Raw Water Pressure	72 PSI (5.0 bar)	Iron (Fe <sup>3+</sup> )	< 0.1mg/L
Maximum Feed Water TDS	< 1500ppm	Free Chlorine (Cl <sup>-</sup> )	Undetectable
Raw Water pH Range (Continuous)	4 - 9	Manganese (Mn)	< 0.05mg/L
Oil	Free	Organics Substance	< 1mg/L
Hardness	< 50mg/L (Count as CaCO <sub>3</sub> )	Maximum Feed Temperature	35°C
Turbidity	< 1NTU	Minimum Feed Temperature	5°C

# SPECIFICATION

## Main RO Unit (BWRO Series)

	BWRO 1500	BWRO 3000	BWRO 4500	BWRO6000	BWRO 9000	BWRO 12000A	BWRO 12000B
Feed Water TDS	<1500ppm	<1500ppm	<1500ppm	<1500ppm	<1500ppm	<1500ppm	<1500ppm
Nominal Perm. Rate	0.25m <sup>3</sup> /Hr	0.5m <sup>3</sup> /Hr	0.75m <sup>3</sup> /Hr	1.0m <sup>3</sup> /Hr	1.5m <sup>3</sup> /Hr	2m <sup>3</sup> /Hr	2m <sup>3</sup> /Hr
Approx. Conc. Rate	0.12m <sup>3</sup> /Hr	0.25m <sup>3</sup> /Hr	0.3m <sup>3</sup> /Hr	0.4m <sup>3</sup> /Hr	0.6m <sup>3</sup> /Hr	1.2m <sup>3</sup> /Hr	1.2m <sup>3</sup> /Hr
Approx. Conc. Recycle Rate	1.1m <sup>3</sup> /Hr	0.8m <sup>3</sup> /Hr	0.8m <sup>3</sup> /Hr	0.6m <sup>3</sup> /Hr	0.6m <sup>3</sup> /Hr	0.8m <sup>3</sup> /Hr	0.8m <sup>3</sup> /Hr
Approx. Feed Rate	0.38m <sup>3</sup> /Hr	0.7m <sup>3</sup> /Hr	1.0m <sup>3</sup> /Hr	1.5m <sup>3</sup> /Hr	2.2m <sup>3</sup> /Hr	2.8m <sup>3</sup> /Hr	2.8m <sup>3</sup> /Hr
Recovery Rate	50-75%	50-75%	60-75%	60-75%	60-75%	65-75%	65-75%
<b>PUMP &amp; MOTOR</b>							
Brand	G-Pump	G-Pump	G-Pump	G-Pump	G-Pump	G-Pump	G-Pump
Model	SVM2-110	SVM2-130	SVM2-150	SVM2-180	SVM2-220	SVM4-160	SVM4-160
Motor	1.1kW	1.5kW	1.5kW	2.2kW	2.2kW	3.0kW	3.0kW
Wet Contact Material	SS 304	SS 304	SS 304	SS 304	SS 304	SS 304	SS 304
<b>MEMBRANE ELEMENTS AND HOUSING</b>							
Membrane Dimension (Ø x L)	4" x 40"	4" x 40"	4" x 40"	4" x 40"	4" x 40"	2E x 4" x 40"	8" x 40"
Membrane Quantity	1	2	3	4	6	8	2
Membrane Housing Array	1	1→1	1→1→1	2→1→1	4→2	2→1→1	1→1
Membrane Housing Arrangement	Vertical	Vertical	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal
<b>INSTALLATION CONNECTION</b>							
Inlet	3/4"	3/4"	3/4"	1"	1 1/2"	1 1/2"	1 1/2"
Permeate	1/2"	1/2"	1/2"	1"	1"	1"	1"
Concentrate	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"
<b>MAIN RO UNIT DIMENSION</b>							
Approx. Height	1605mm	1605mm	1610mm	1610mm	1610mm	1700mm	1600mm
Approx. Width	500mm	500mm	1530mm	1530mm	1530mm	2600mm	2350mm
Approx. Depth	550mm	550mm	700mm	700mm	700mm	850mm	850mm

## Pretreatment Unit (PRE Series)

	PRE100	PRE100	PRE200	PRE200	PRE400	PRE600	PRE600
<b>PUMP &amp; MOTOR</b>							
Brand	G-Pump	G-Pump	G-Pump	G-Pump	G-Pump	G-Pump	G-Pump
Model	SHM2-30	SHM2-30	SHM2-40	SHM2-40	SHM4-40	SHM4-40	SHM4-40
Motor	0.37kW	0.37kW	0.55kW	0.55kW	0.75kW	0.75kW	0.75kW
Wet Contact Material	SS 304	SS 304	SS 304	SS 304	SS 304	SS 304	SS 304
<b>SAND FILTER</b>							
FRP Tank Size	1054	1054	1354	1354	1665	1865	1865
Digital Automatic Control Valve	Runxin F71B1	Runxin F71B1	Runxin F67B1	Runxin F67B1	Runxin 67B1	Runxin 75B1	Runxin 75B1
<b>ACTIVATED CARBON FILTER</b>							
FRP Tank Size	1054	1054	1354	1354	1665	1865	1865
Digital Automatic Control Valve	Runxin F71B1	Runxin F71B1	Runxin F67B1	Runxin F67B1	Runxin 67B1	Runxin 75B1	Runxin 75B1
<b>SOFTENING FILTER</b>							
FRP Tank Size	1054	1054	1354	1354	1665	1865	1865
Digital Automatic Control Valve	Runxin F65B1	Runxin F65B1	Runxin F63B1	Runxin F63B1	Runxin 63B1	Runxin 74B1	Runxin 74B1
<b>BRINE TANK</b>							
PE Tank Size	70L	70L	100L	100L	140L	140L	140L
<b>PRETREATMENT UNIT DIMENSION</b>							
Approx. Height	1670mm	1670mm	1670mm	1670mm	1900mm	1900mm	1900mm
Approx. Width	930mm	930mm	1150mm	1150mm	1350mm	1800mm	1800mm
Approx. Depth	550mm	550mm	700mm	700mm	700mm	800mm	800mm

\* Design and Specifications subject to change without prior notice.

## STANDARD REVERSE OSMOSIS SYSTEM with PRETREATMENT



**CAPACITY:**  
4,500GPD ( 0.75m<sup>3</sup>/Hr )  
- 9,000GPD ( 1.5m<sup>3</sup>/Hr )



**4" MEMBRANE**

**8" MEMBRANE**

**CAPACITY: 12,000GPD ( 2m<sup>3</sup>/Hr )**



**CAPACITY:**  
1,500GPD ( 0.25m<sup>3</sup>/Hr ) - 3,000GPD ( 0.5m<sup>3</sup>/Hr )

### Applications :

- \* Drinking Water
- \* Food & Beverage
- \* Electroplating
- \* Power Plant
- \* Preparation of Medicine
- \* Petrochemical Industry
- \* Eyeglass
- \* Waste Water Reuse
- \* Metallurgy
- \* Pretreatment of EDI or Mixed Bed