

# REVERSE OSMOSIS



## BLS SERIES, 3,000 TO 9,000 GPD COMMERCIAL RO SYSTEMS

The BLS Series RO Systems are engineered to economically produce high purity water while providing the flexibility to choose system features to meet your application specifications. BLS systems are manufactured using the highest quality components and materials for exceptional performance and reliable operation.



**BLS 3000**



**BLS 6000**



**BLS 9000**

### **BLS 3000-9000 Features**

- Energy Saving, High Flow Membrane Elements
- Stainless Steel Membrane Pressure Vessels
- High Pressure Booster Pumps
- 230V, 60Hz, 1-Phase
- Automatic Feed Water Shutoff Valve
- 20 inch, 5 Micron, Big Blue Sediment Pre-Filter
- Low Inlet Pressure Protection Switch
- System Operating Pressure Gauge
- Storage Tank Float Control Connection
- One Year Limited Warranty

### **Econo Models Include**

- Mini-Trol WQ Microprocessor Based Controller
- Fixed Reject Water Control (50% Recovery)
- Manual Membrane Flush
- Reject Water Recirculation Loop
- Pre-Treatment Lockout Connection

### **Standard Models Include**

- S-150 Microprocessor Based Controller
- Inlet & Outlet Pre-Filter Gauges
- Adjustable Reject Water Control Valve
- Product & Reject Water Flow Meters
- Manual Membrane Flush
- Product Water Check Valve
- Reject Water Recirculation Loop
- Pre-Treatment Lockout Connection

### **Optimum Models Include**

- S-150 Microprocessor Based Controller
- Inlet & Outlet Pre-Filter Gauges
- Adjustable Reject Water Control Valve
- Product & Reject Water Flow Meters
- Automatic Membrane Flush
- Manual Feed Water Shutoff Valve
- Product Water Check Valve
- Post-Membrane Pressure Gauge
- Reject Water Recirculation Loop
- Pre-Treatment Lockout Connection

### **Optional Features Include**

- Stainless Steel Pump and/or Frame
- Clean-In-Place (CIP) Connection Ports
- Product Water Pressure Switch with Relief Valve\*
- 220V, 50Hz, 1-Phase
- High Rejection Membrane Elements
- Nanofiltration Membrane Elements

\* NOTE: When ordering a BLS Series RO System, the customer must choose between a product water pressure switch (for water storage in a pressurized tank) or a water level float kit (for water storage in an atmospheric tank). See BLS Series Price List (Form 1259).

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## BLS SERIES, 3,000 TO 9,000 GPD COMMERCIAL RO SYSTEM SPECIFICATIONS

	BLS 3000	BLS 6000	BLS 9000
<b>Operating Specifications</b>			
Flow Capacity, GPD *	3,000	6,000	9,000
Flow Capacity, GPM *	2.08	4.17	6.25
Flow Capacity, LPD *	11,356	22,712	34,068
Flow Capacity, LPM *	7.8	15.8	23.7
Typical Recovery	70%	70%	70%
Design Rejection Rate	95 to 99%	95 to 99%	95 to 99%
Typical Operating Pressure	165 PSI (11.3 Bar)	165 PSI (11.3 Bar)	165 PSI (11.3 Bar)
Nominal Feed Water Flow During Operation	3.15 GPM (11.9 LPM)	6.30 GPM (23.8 LPM)	9.45 GPM (35.7 LPM)
Nominal Feed Water Flow During System Flush	10 GPM (37.8 LPM)	13 GPM (49.2 LPM)	16 GPM (60.5 LPM)
Maximum Product Water Back Pressure	50 PSI (3.4 Bar)	50 PSI (3.4 Bar)	50 PSI (3.4 Bar)
<b>Feed Water Parameters</b>			
Temperature Range, °F	40 to 90°F	40 to 90°F	40 to 90°F
Temperature Range, °C	5 to 30°C	5 to 30°C	5 to 30°C
Minimum Pressure	20 PSI (1.3 Bar)	20 PSI (1.3 Bar)	20 PSI (1.3 Bar)
Maximum Pressure	85 PSI (5.8 Bar)	85 PSI (5.8 Bar)	85 PSI (5.8 Bar)
Maximum TDS	2,000 PPM	2,000 PPM	2,000 PPM
Maximum Chlorine Tolerance	0.1 PPM	0.1 PPM	0.1 PPM
Maximum Hardness	10 GPG (171 PPM)	10 GPG (171 PPM)	10 GPG (171 PPM)
Maximum Iron, Dissolved	0.0 PPM	0.0 PPM	0.0 PPM
Maximum Oil Tolerance	0.0 mg/l	0.0 mg/l	0.0 mg/l
Maximum Silt Index	5	5	5
Maximum Turbidity	1 NTU	1 NTU	1 NTU
pH Range	3 to 10	3 to 10	3 to 10
Minimum Pre-Filtration	5 Micron	5 Micron	5 Micron
<b>Design Specifications</b>			
Dimensions, Inches	21D x 25W x 61H	21D x 25W x 61H	21D x 25W x 61H
Weight, Lbs.	200	250	300
Feed Water Inlet, Inches	3/4" FPT	3/4" FPT	3/4" FPT
Reject Water to Drain, Inches	1/2" FPT	1/2" FPT	1/2" FPT
Product Water to Storage, Inches	1/2" FPT	1/2" FPT	1/2" FPT
Filter Housing, Inches	20" Big Blue	20" Big Blue	20" Big Blue
Membrane Housings, Inches	(1) 4 x 40 SS	(2) 4 x 40 SS	(3) 4 x 40 SS
Membrane Elements, Inches	(1) 4 x 40 XLE	(2) 4 x 40 XLE	(3) 4 x 40 XLE
Pump, 60 Hz	High Pressure Booster	High Pressure Booster	High Pressure Booster
Pump, 50 Hz	High Pressure Booster	High Pressure Booster	High Pressure Booster
Motor, 60 Hz	3/4 HP, 1 Ph	1 HP, 1 Ph	1-1/2 HP, 1 Ph
Motor, 50 Hz	1-1/2 HP, 1 Ph	2 HP, 1 Ph	2 HP, 1 Ph

\* System production may vary depending upon incoming water temperature and chemistry. Based on feed water with 500 mg/L NaCl and temperature of 77°F (25°C).

**NOTE:** If the RO system is used with chlorinated water, a carbon filter is required. BLS systems are designed for use on potable water sources only.

**Low Feed Water Pressure Switch:** System shuts down at 15 PSI (1.0 Bar) decreasing pressure.

**Product Water Pressure Switch:** System shuts down at 45 PSI (3.1 Bar) and starts at 25 PSI (1.7 Bar).

**Max. System Operating Pressure:** 175 PSI (12.1 Bar)