

# REVERSE OSMOSIS



## BLS SERIES, 400 TO 2400 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 400



BLS 800



BLS 950



BLS 1900



BLS 2400

### BLS 400 – 2400 Features

- Energy Saving, High Flow Membrane Elements
- Stainless Steel Membrane Pressure Vessels
- Brass Rotary Vane Pump
- 115V, 60Hz, 1-Phase
- Automatic Feed Water Shutoff Solenoid Valve
- 20 inch, 5 Micron, Slimline Sediment Pre-Filter
- Low Inlet Pressure Protection Switch
- System Operating Pressure Gauge
- One Year Limited Warranty

### Econo Models Include

- On/Off Control
- Fixed Reject Water Control (50% Recovery)
- Manual Membrane Flush
- Reject Water Recirculation Loop

### Standard Models Include

- Mini-Trol Microprocessor Based Controller
- Inlet & Outlet Pre-Filter Gauges
- Adjustable Reject Water Control Valve
- Product & Reject Water Flow Meters
- Manual Membrane Flush
- Storage Tank Float Control Connection
- Reject Water Recirculation Loop
- Product Water Check Valve
- Pre-Treatment Lockout Connection

### Optimum Models Include

- Mini-Trol WQ Microprocessor Based Controller
- Inlet & Outlet Pre-Filter Gauges
- Adjustable Reject Water Control Valve
- Product & Reject Water Flow Meters
- Automatic Membrane Flush
- Storage Tank Float Control Connection
- Reject Water Recirculation Loop
- Product Water Check Valve
- Pre-Treatment Lockout Connection

### Optional Features Include

- 20 inch, 10 Micron, Carbon Pre-Filter
- Stainless Steel Pump and/or Frame
- Product Water Pressure Switch with Relief Valve\*
- Product Water Pressure Gauge
- 220V, 50Hz, 1-Phase (except BLS 2400)
- 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, 400 TO 2400 GPD COMMERCIAL RO SYSTEM SPECIFICATIONS

	BLS 400	BLS 800	BLS 950	BLS 1900	BLS 2400
<b>Operating Specifications</b>					
Flow Capacity, GPD *	400	800	950	1,900	2,400
Flow Capacity, GPM *	0.28	0.56	0.66	1.32	1.67
Flow Capacity, LPD *	1,514	3,028	3,596	7,192	9,085
Flow Capacity, LPM *	1.05	2.10	2.50	4.99	6.31
Typical Recovery	50%	50%	50%	50%	50%
Design Rejection Rate	95 to 99%	95 to 99%	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)	165 PSI (11.3 Bar)	165 PSI (11.3 Bar)
Nominal Feed Water Flow During Operation	0.56 GPM	1.12 GPM	1.32 GPM	2.64 GPM	3.33 GPM
Nominal Feed Water Flow During System Flush	2.10 GPM	2.10 GPM	4.33 GPM	4.33 GPM	5.33 GPM
Maximum Product Water Back Pressure	50 PSI (3.4 Bar)	50 PSI (3.4 Bar)	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	40 to 90°F	40 to 90°F
Temperature Range, °C	5 to 30°C	5 to 30°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)	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)	85 PSI (5.8 Bar)	85 PSI (5.8 Bar)
Maximum TDS	2,000 PPM	2,000 PPM	2,000 PPM	2,000 PPM	2,000 PPM
Maximum Chlorine Tolerance	0.1 PPM	0.1 PPM	0.1 PPM	0.1 PPM	0.1 PPM
Maximum Hardness	10 GPG (171 PPM)	10 GPG (171 PPM)	10 GPG (171 PPM)	10 GPG (171 PPM)	10 GPG (171 PPM)
Maximum Iron, Dissolved	0.5 PPM	0.5 PPM	0.5 PPM	0.5 PPM	0.5 PPM
Maximum Oil Tolerance	0.0 mg/l	0.0 mg/l	0.0 mg/l	0.0 mg/l	0.0 mg/l
Maximum Silt Index	5	5	5	5	5
Maximum Turbidity	1 NTU	1 NTU	1 NTU	1 NTU	1 NTU
pH Range	3 to 10	3 to 10	3 to 10	3 to 10	3 to 10
Minimum Pre-Filtration	5 Micron	5 Micron	5 Micron	5 Micron	5 Micron
<b>Design Specifications</b>					
Dimensions, Inches	14D x 17W x 35H	14D x 17W x 35H	18D x 18W x 60H	18D x 18W x 60H	18D x 18W x 60H
Weight, Lbs.	80	90	100	110	110
Feed Water Inlet Connection	3/8" FPT	3/8" FPT	1/2" FPT	1/2" FPT	1/2" FPT
Reject Water to Drain Connection	3/8" Tube	3/8" Tube	1/2" FPT	1/2" FPT	1/2" FPT
Product Water to Storage Connection	3/8" Tube	3/8" Tube	1/2" FPT	1/2" FPT	1/2" FPT
Filter Housing, Inches	20" Slimline	20" Slimline	20" Slimline	20" Slimline	20" Slimline
Membrane Housings, Inches	(1) 2.5 x 21 SS	(1) 2.5 x 21 SS	(1) 2.5 x 40 SS	(1) 2.5 x 40 SS	(1) 4 x 40 SS
Membrane Elements, Inches	(1) 2.5 x 21 XLE	(1) 2.5 x 21 XLE	(1) 2.5 x 40 XLE	(1) 2.5 x 40 XLE	(1) 4 x 40 XLE
Pump, 60 Hz	Rotary Vane	Rotary Vane	Rotary Vane	Rotary Vane	Rotary Vane
Pump, 50 Hz	Rotary Vane	Rotary Vane	Rotary Vane	Rotary Vane	N/A
Motor, 60 Hz	1/3 HP, 1 Ph	1/3 HP, 1 Ph	3/4 HP, 1 Ph	3/4 HP, 1 Ph	3/4 HP, 1 Ph
Motor, 50 Hz	1/3 HP, 1 Ph	1/3 HP, 1 Ph	3/4 HP, 1 Ph	3/4 HP, 1 Ph	N/A

\* 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)