

BT-Series Reverse Osmosis Systems

BT-Series Reverse Osmosis Systems are designed for overall high performance, high recovery rates, minimal energy consumption and offer great savings with low maintenance and operation costs.

BT-Series Reverse Osmosis Systems feature a space saving expandable design, exceptional pre-filtration, quality components and allow for many options and upgrades to suit most applications.

BT-Series Reverse Osmosis Systems have been engineered for capacities ranging from 1500 – 2000 gallons per day.

BT-2000
Reverse Osmosis System
Front



Benefits

- Fully Equipped and Customizable
- Expandable and Lightweight Design
- Compact Space Saving Design
- Components Easily Accessible
- Pre-Plumbed, Wired and Assembled
- Factory Tested and Preserved
- Low Operation Costs
- Low Maintenance Costs
- Easy Maintenance and Servicing
- CE Compliant
- 1-Year Limited Warranty
- Made in the U.S.A.

FLEXEON BT-Series Reverse Osmosis Systems

Standard Features

- Manual On and Off Control Switch
- White Powder Coated Aluminum Frame
- AXEON® 5 Micron Sediment Pre-Filter
- AXEON® 10 Micron Carbon Block Pre-Filter
- AXEON® by Pentek Single O-Ring Filter Housings
- Fluid-O-Tech™ Brass Rotary Vane High Pressure Pump
- ODP High Efficiency Carbonator Motor
- AXEON® HF1 Low Energy Membranes
- AXEON® PVC Membrane Housings
- AXEON® Permeate Flow Meter
- AXEON® Concentrate Flow Meter
- Feed Low Pressure Switch
- Feed Solenoid Valve
- AXEON® 316 Stainless Steel Concentrate Valve
- AXEON® 0-300 psi Pump Pressure Gauge
- AXEON® 0-100 psi Pre-Filter Pressure Gauges
- John Guest® Push/Pull Fittings with Locking Safety Clips



Options and Upgrades

- AXEON® HF4 Extra Low Energy Membranes
- AXEON® NF3 Nanofiltration Membranes
- AXEON® NF4 Nanofiltration Membranes
- AXEON® Stainless Steel Membrane Housings
- Concentrate Recycle Valve with Flow Meter
- HM Digital™ PS-100 TDS Controller
- HM Digital™ PS-200 Dual TDS Controller
- HM Digital™ PSC-150 TDS/Conductivity Controller
- Fluid-O-Tech™ Stainless Steel Rotary Vane Pump
- Minitrol Computer Controller
- Minitrol IF Computer Controller with Feed Flush
- S150 Computer Controller with Feed Flush
- High Pressure Tank Switch
- Chemical Pump Outlet
- Blending Valve
- Permeate Flush with Pressure Tank
- Permeate Flush with Atmospheric Tank
- Permeate Flush with Mechanical Float
- Permeate Sample Ports
- Single Wood Crate

Reverse Osmosis System Packages

Models	BT-1500 / BT-1800 / BT-2000		
	STANDARD (S)	ADVANCED (A)	PREMIER (P)
Frame			
White Powder Coated Aluminum Frame	✓	✓	✓
Controls			
Manual On/Off Control Switch	✓		
Minitol Computer Controller		✓	
Minitol IF Computer Controller			✓
Pre-Treatment Lockout		✓	✓
Tank Level Input		✓	✓
LED Controller Display		✓	✓
Feed Solenoid Valve	✓	✓	✓
Concentrate Recycle Valve		✓	✓
Feed Low Pressure Switch 1.5-30 psi	✓	✓	✓
Instrumentation			
AXEON® Permeate Flow Meter	✓	✓	✓
AXEON® Concentrate Flow Meter	✓	✓	✓
Concentrate Recycle Flow Meter		✓	✓
AXEON® 316 Stainless Steel Concentrate Valve	✓	✓	✓
AXEON® 0-100 psi Pre-Filter In Pressure Gauge	✓	✓	✓
AXEON® 0-100 psi Pre-Filter Out Pressure Gauge	✓	✓	✓
AXEON® 0-300 psi Pump Pressure Gauge	✓	✓	✓
HM Digital™ PS-100 Permeate TDS Controller		✓	
HM Digital™ PS-202 Dual Permeate & Feed TDS Controller			✓
Features			
Feed Flush			✓
AXEON® 5 Micron Sediment Pre-Filter	✓	✓	✓
AXEON® 10 Micron Carbon Block Pre-Filter	✓	✓	✓
AXEON® by Pentek Single O-Ring Filter Housings	✓	✓	✓
AXEON® HF1 Low Energy RO Membranes	✓		
AXEON® HF4 Extra Low Energy RO Membranes		✓	✓
AXEON® PVC Membrane Housings	✓	✓	✓
Fluid-O-Tech™ Brass Rotary Vane High Pressure Pump	✓	✓	
Fluid-O-Tech™ Stainless Steel Rotary Vane Pump			✓
ODP Carbonator Motor	✓	✓	✓

Note 1: All 50Hz systems come standard with AXEON HF4 Extra Low Energy RO Membranes.

Note 2: BT-1800 RO Systems come standard with the Concentrate Recycle Valve and Flow Meter options in order to achieve a higher recovery rate.

Naming Matrix

- **B** = Frame Style
- **T** = Feed Water Type - Top Water (T), Brackish Water (B), Sea Water (S)
- **XXXX** = Rated Production in Gallons Per Day Based on Standard Test Conditions
- **S, A, P** = System Package Identifiers

FLEXEON BT-Series	Standard (S)	Advanced (A)	Premier (P)
FLEXEON BT-1500	BT-1500S	BT-1500A	BT-1500P
FLEXEON BT-1800	BT-1800S	BT-1800A	BT-1800P
FLEXEON BT-2000	BT-2000S	BT-2000A	BT-2000P

FLEXEON BT-Series Reverse Osmosis Systems

Specifications

Models	BT-1500	BT-1800	BT-2000
Design			
Configuration	Single Pass	Single Pass	Single Pass
Feed Water Source***	TDS <2000 ppm	TDS <2000 ppm	TDS <2000 ppm
Standard Recovery Rate†	41%	30%	63%
Recovery with Concentrate Recycle	Up to 75%	Up to 75%	Up to 75%
Rejection and Flow Rates			
Nominal Salt Rejection %	98.5	98.5	98.5
Permeate Flow* gpm (lpm)	1.04 (3.93)	1.25 (4.73)	1.38 (5.22)
Minimum Feed Flow gpm (lpm)	2.04 (7.72)	4.25 (16.10)	2.35 (8.89)
Maximum Feed Flow gpm (lpm)	6.00 (22.70)	14.00 (53.00)	6.00 (22.70)
Minimum Concentrate Flow gpm (lpm)	1.00 (3.78)	3.00 (11.36)	1.00 (3.78)
Connections			
Feed inch	1 FNPT	1 FNPT	1 FNPT
Permeate inch	3/8 Tube	3/8 Tube	3/8 Tube
Concentrate inch	3/8 Tube	3/8 Tube	3/8 Tube
Membranes			
Membrane(s) Per Vessel	1	1	1
Membrane Quantity	2	1	3
Membrane Size	2540	4040	2540
Vessels			
Vessel Array	1:1	1	1:1:1
Vessel Quantity	2	1	3
Pumps			
Pump Type	Rotary Vane 601 Brass or 611 SS	Rotary Vane 1001 Brass or 1011 SS	Rotary Vane 1001 Brass or 1011 SS
Motor HP	3/4	3/4	3/4
RPM @ 60 (50 Hz)	1725 (1465)	1725 (1465)	1725 (1465)
Electrical			
Standard Voltage	110V, 60Hz, 1 PH, 11.0A	110V, 60Hz, 1 PH, 11.0A	110V, 60Hz, 1 PH, 11.0A
Voltage Options	220V, 60Hz, 1 PH, 5.6A 220V, 50Hz, 1 PH, 5.6 A	220V, 60Hz, 1 PH, 5.6A 220V, 50Hz, 1 PH, 6.6A	220V, 60Hz, 1 PH, 5.6A 220V, 50Hz, 1 PH, 6.6A
Systems Dimensions **			
L x W x H inch (cm)	19 x 23 x 46 (48 x 58 x 116)	19 x 23 x 46 (48 x 58 x 116)	19 x 23 x 46 (48 x 58 x 116)
Weight lb. (kg)	105 (47.63)	105 (47.63)	115 (52.16)

* Product Flow rates and recovery are based on equipment test parameters.

** Does not include operating space requirements.

*** Treatment ability of the RO system is dependent on feed water quality. Performance projections must be run for each installation.

Operating Limits

Maximum Feed Temperature °F (°C)	85 (29.00)	Maximum Free Chlorine ppm	0
Minimum Feed Temperature °F (°C)	40 (4.44)	Maximum TDS ppm	2000
Maximum Ambient Temperature °F (°C)	120 (48.89)	Maximum Hardness gpg††	0
Minimum Ambient Temperature °F (°C)	40 (4.44)	Maximum pH (Continuous)	11
Maximum Feed Pressure psi (bar)	85 (5.86)	Minimum pH (Continuous)	5
Minimum Feed Pressure psi (bar)	45 (3.10)	Maximum pH (Cleaning 30 Min.)	12
Maximum Operating Pressure psi (bar)	150 (10.34)	Minimum pH (Cleaning 30 Min.)	2
Maximum SDI Rating SDI	<3		
Maximum Turbidity NTU	1		

Test Parameters: 550 TDS Filtered (5 Micron), De-Chlorinated, Municipal Feed Water, 65 psi (4.50 bar) Feed Pressure, 150 psi (10.34 bar) Operating Pressure, 77 Degrees F (25 Degrees C). Recovery as stated, 7.0 pH. Data taken after 60 minutes of operation.

† Low temperatures and high feed water TDS levels will significantly affect systems production capabilities. Computer projections should be run for individual applications which do not meet or exceed minimum and maximum operating limits.

†† Scale prevention measures must be taken to prolong membrane life.