PRODUCT SPECIFICATIONS

FALCON Whole House Reverse Osmosis System

Compact, dependable whole-house purification for city water or private wells. The FALCON arrives assembled and tested, with commercial-grade components and accessible controls designed to simplify installation and routine maintenance.



KEY BENEFITS

- **Ready for Immediate Delivery** – Ships pre-assembled and pre-tested to reduce installation time
- **Compact Design** – Fits tight spaces without compromising performance
- **Simple to Maintain** – Front-access controls, gauges, and filters streamline service and monitoring
- **Lower Lifetime Cost** – Built to last with durable components and efficient water recovery
- **Peace of Mind** – Backed by a 1-Year Limited Warranty and assembled in the U.S.A.

FEATURES

- **High-Efficiency Membranes**
  Delivers up to 2,000 GPD of purified water subject to water quality and configuration
- **Steel-Reinforced Fittings**
  Prevents common cracking and splitting of fittings for ultimate durability
- **Membrane Flush System**
  Extends membrane life and reduces scaling
- **Flexible Storage Tank Options**
  Water storage tanks available in various capacities and dimensions
- **Pre-Treatment Integration** – Supports chemical injection, backwashing filtration, and UV disinfection
- **Professional Grade Rotary Vane Pump**
  Delivers commercial style pressure and flow in a quiet, compact, and efficient design
- **Fully Customizable**
  Available in multiple build configurations; adapts to unique residential or light commercial applications
- **Modular Steel Frame**
  Black powder-coated, corrosion-resistant, and pre-drilled for accessory mounting
- **Double O-Ring Pre-Filter**
  5 micron sediment filter ensure system is protected
- **Simple Control System**
  Manages tank level input, automatic operation, quality indication, and membrane flushing cycle

SPECIFICATIONS TABLE

Models	224-FALWH-1000	224-FALWH-2000
Configuration	Single Pass	Single Pass
Feed Water Source	City or Well Water	City or Well Water
Standard Recovery Rate	48%	58%
Recovery with Concentrate Recycle	Up to 75%	Up to 75%
Vessel Array	1:1:1	1:1:1
Vessel Quantity	3	3
Nominal Salt Rejection %	98.5	98.5
Permeate Flow* gpm (lpm)	.69 (2.61)	1.39 (5.26)
Min Feed Flow gpm (lpm)	1.69 (6.40)	2.39 (9.05)
Max Feed Flow gpm (lpm)	2.69 (10.18)	3.39 (12.83)
Max Concentrate Flow gpm (lpm)	1.00 (3.79)	1.00 (3.79)
Pump Type	Rotary Vane	Rotary Vane
Motor HP (kW)	3/4 (0.56)	3/4 (0.56)
RPM @ 60 (50Hz)	1725 (1425)	1725 (1425)
Feed Inch	1" FNPT	1" FNPT
Permeate Inch	3/8" Tubing	3/8" Tubing
Concentrate Inch	3/8" Tubing	3/8" Tubing
Voltage	110V 60Hz 1PH	110V 60Hz 1PH
Voltage Amp Draw	10.9/4.9/9.8/4.9	10.9/4.9/9.8/4.9
Membrane Quantity	3	3
Membrane Size	2.5" x 21" (2521)	2.5" x 40" (2540)
L x W x H Inch	21 x 29.25 x 47.5 with UV 21 x 23.25 x 47.50 without UV	21 x 29.25 x 47.5 with UV 21 x 23.25 x 47.50 without UV
Weight with Scala and Pulsar UV (lbs)	120	160

Performance Testing Conditions: Performance data is based on testing with municipal feedwater that is dechlorinated, filtered to 5 microns, and contains approximately 550 ppm TDS. Operating conditions included a feed pressure of 65 psi (4.5 bar), system pressure of 100 psi (6.9 bar), water temperature of 77°F (25°C), pH of 7.0, and recovery rate as specified. Measurements were taken after 60 minutes of continuous operation.

A. System output and recovery rates are heavily influenced by water temperature and feedwater chemistry. Lower temperatures or elevated TDS levels can significantly reduce performance. Custom system projections are required for applications outside the normal operating range.
B. Flow rates and recovery estimates are valid only under the conditions specified above. Do not exceed the rated permeate flow to avoid damage or premature wear.
C. Power draw may vary based on the specific motor supplied.
D. Dimensions shown are system only and do not account for required clearance for installation or maintenance.

OPERATING LIMITATIONS

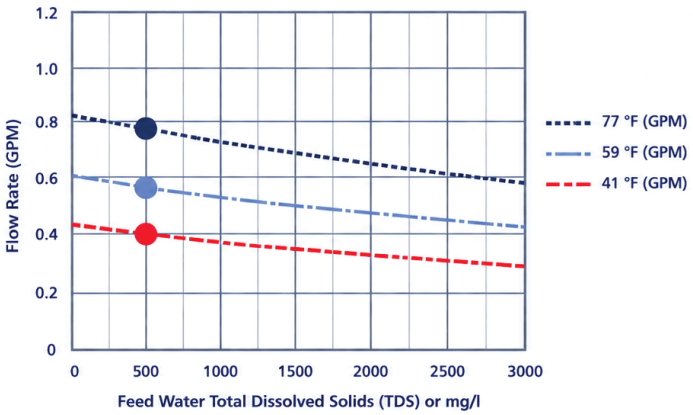
Max/Min Temperature °F (°C)	105 (40.96) / 40 (4.44)	105 (40.96) / 40 (4.44)
Max/Min Ambient Temperature °F (°C)	120 (48.89) / 35 (1.66)	120 (48.89) / 35 (1.66)
Max/Min Feed Pressure psi (bar)	85 (5.86) / 35 (2.41)	85 (5.86) / 35 (2.41)
Maximum Operating Pressure psi (bar)	150 (10.34)	150 (10.34)
Maximum SDI Rating	< 3	< 3
Maximum Turbidity NTU	1	1
Maximum Free Chlorine ppm	0	0
Maximum TDS ppm	1000	2000
Maximum Hardness gpg	< 1	< 1
Max/Min pH (Continuous)	11pH / 3pH	11pH / 3pH

TEMPERATURE CORRECTION CHART

Temperature °F	Correction Factor	Corrected Flow (1000 GPD / 2000 GPD)	Temperature °F	Correction Factor	Corrected Flow (1000 GPD / 2000 GPD)
50	1.711	584.5 / 1168.9	69	1.164	859.1 / 1718.2
51	1.673	597.7 / 1195.5	70	1.144	874.1 / 1748.3
52	1.642	609.0 / 1218.0	71	1.120	892.9 / 1785.7
53	1.605	623.1 / 1246.1	72	1.101	908.3 / 1816.5
54	1.576	634.5 / 1269.0	73	1.078	927.6 / 1855.3
55	1.541	648.9 / 1297.9	74	1.056	947.0 / 1893.90
56	1.511	661.8 / 1323.6	75	1.038	963.4 / 1926.8
57	1.480	675.7 / 1351.4	76	1.017	983.3 / 1966.6
58	1.449	690.1 / 1380.3	77	1.000	1000.0 / 2000.0
59	1.422	703.2 / 1406.5	78	0.982	1018.3 / 2036.7
60	1.391	718.9 / 1437.8	79	0.968	1033.1 / 2066.1
61	1.366	732.1 / 1464.1	80	0.951	1051.5 / 2103.0
62	1.337	747.9 / 1495.9	81	0.937	1067.2 / 2134.5
63	1.313	761.6 / 1523.2	82	0.921	1085.8 / 2171.6
64	1.285	778.2 / 1556.4	83	0.905	1105.0 / 2209.9
65	1.258	794.9 / 1589.8	84	0.892	1121.1 / 2242.2
66	1.236	809.1 / 1618.1	85	0.877	1140.3 / 2280.5
67	1.210	826.4 / 1652.9	86	0.862	1160.1 / 2320.2
68	1.189	841 / 1682.1	87	0.776	1288.7 / 2577.3

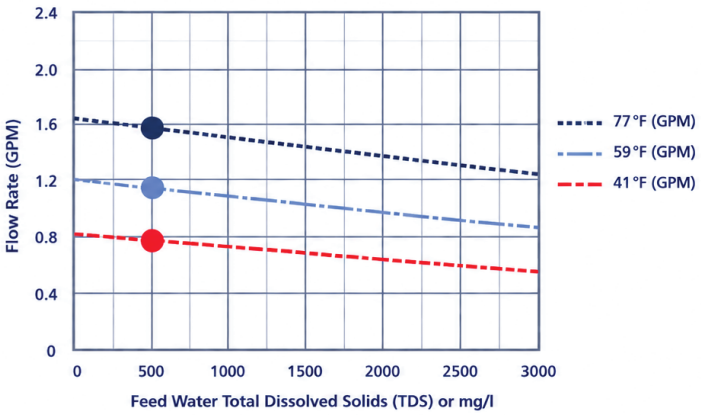
Corrected Flow Rate = Rated Flow Rate (2000 GPD per membrane) / (Correction Factor @ Feed Water Temp.)

MEMBRANE COMPENSATED PERFORMANCE CURVE
FALCON 1000 (2521 MEMBRANES)



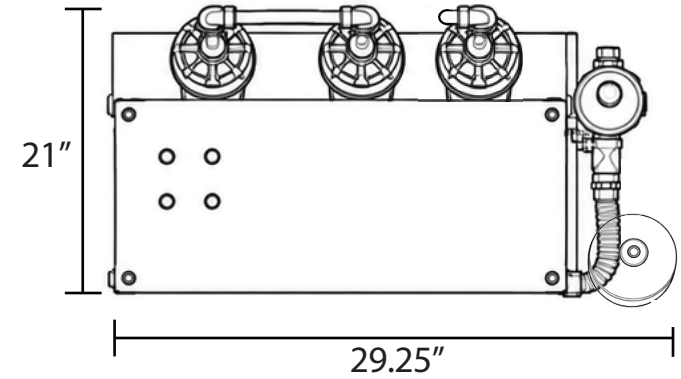
*Flow rates calculated under the following conditions: 35 psi influent water pressure, 0 psi backpressure on the permeate line, 2521 membranes, 150 psi test pressure. Membranes rated at 500 TDS feed. Actual performance may vary based on water quality and operating conditions.

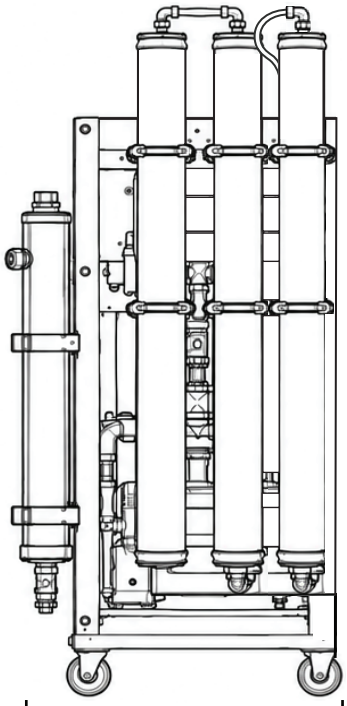
MEMBRANE COMPENSATED PERFORMANCE CURVE
FALCON 2000 (2540 MEMBRANES)

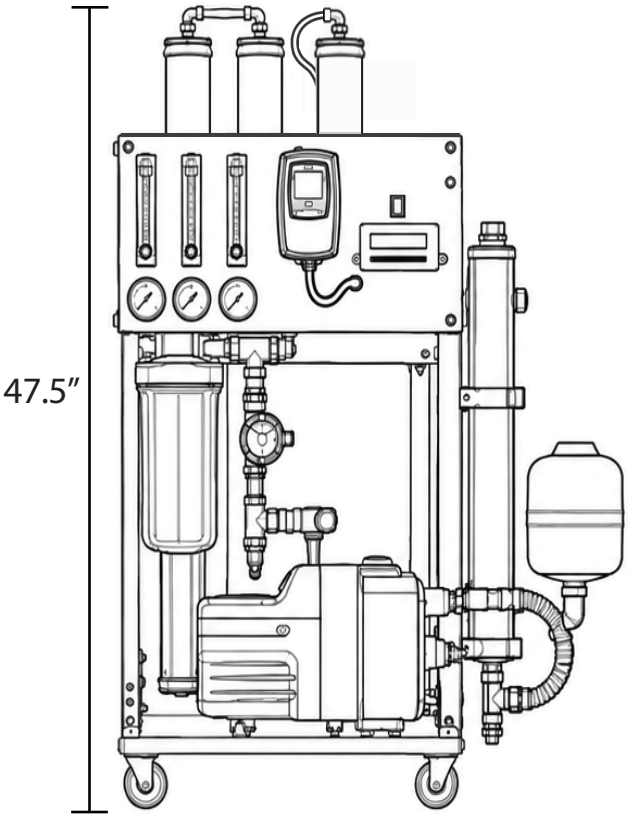


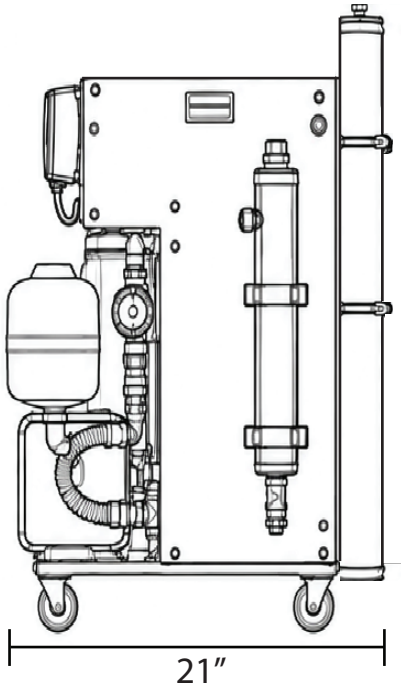
*Flow rates calculated under the following conditions: 35 psi influent water pressure, 0 psi backpressure on the permeate line, 2540 membranes, 150 psi test pressure. Membranes rated at 500 TDS feed. Actual performance may vary based on water quality and operating conditions.

FALCON REVERSE OSMOSIS SYSTEM
SPEC SHEET AND DIMENSION









CAUTION: Recycle is not always recommended. If the system is on well water, check with our technical support team first to verify water quality is within operating limits permitting recycle.

Adjust the system to the designed flow rates without exceeding 150 PSI on the pump / membrane pressure gauge. This adjustment is system and site specific. The concentrate valve, concentrate recycle valve, and the throttle valve on the pump will need to be balanced so the RO meets the designed flow rates for each stream without exceeding 150 PSI on the System Pressure Gauge.

ADJUSTING THE RO SYSTEM FLOW RATES					
System Size	Targeted Permeate Flow	Concentrate Flow (No Recycle)	Concentrate Flow (With Recycle)	Concentrate Recycle Flow	Maximum System Pressure
1000	0.69 GPM	1 GPM	0.23 GPM	0.77 GPM	150 PSI
2000	1.39 GPM	1 GPM	0.46 GPM	0.54 GPM	150 PSI

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FALCON REVERSE OSMOSIS SYSTEM
SPEC SHEET AND DIMENSION









CONTENT SPECS

1. Flow Meters
2. Pressure Gauges
3. UV Controller
4. TDS Monitor
5. 5-Micron Sediment Filter
6. 1" NSF Composite Solenoid Valve
7. Pump Bladder
8. Scala1 Distribution Pump
9. Pulsar Ultraviolet Disinfection System
10. Stainless Steel Membrane Housing
11. Black Steel Frame, powder coated