



Sumo Softening System

Design Specifications

Flow Rate @ 15 psid	9 gpm
Flow Rate @ 30 psid	10.5 gpm
Pressure Range	25 – 125 psi
Temperature Range	35 – 120 °F
Free Chlorine	≤ 1.0 mg/L
Compensated Hardness	≤ 20 gpg
Iron (ferrous).....	< 0.5 mg/L
Iron (ferric).....	< 0.01 mg/L

System Components

Media Vessel (Qty.) Size	(1) 7" x 13"
Media Vessel Construction	Wrapped Polyethylene
Empty Bed Volume	0.22 ft ³
Media Type	Non-Solvent, Fine Mesh Cation Resin
Media Volume (per tank)	0.22 ft ³
Total Bed Depth	13"
Free Board	None
Riser Tube.....	1.05" ABS
Upper Distributor	0.007" Slots, Cone Type
Lower Distributor	0.007" Slots, Cone Type
Regeneration Control	Volumetric
Service Flow.....	Upflow
Regeneration Flow	Downflow
Regeneration Type	Countercurrent
Hard Water By-pass During Regeneration	Automatic
Salt Capacity (Pellet)	50 lb.
System By-pass	Push/Pull

Connections

Inlet / Outlet Connections	Custom Adapter
Drain Connection.....	0.5" Quick Connect Tubing
Brine Line Connection	0.375" Quick Connect Tubing
Brine Tank Overflow	0.625" Tubing Barb
Power	None

Part Numbers

Sumo, Including External By-pass	15301
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Dimensions and Weight

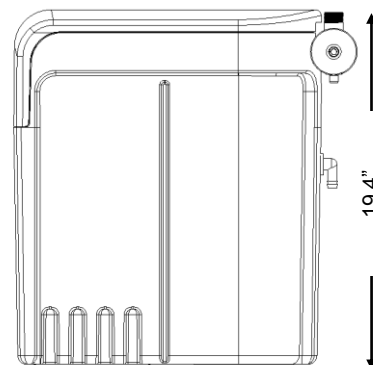
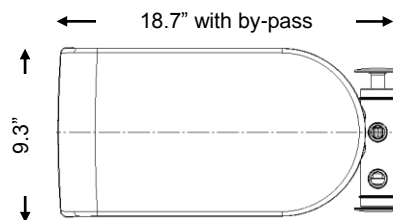
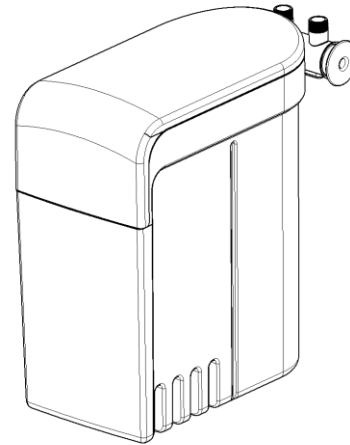
Height.....	19.4"
Width.....	9.3"
Depth with By-pass.....	18.7"
Shipping Weight	33 lbs.
Operating Weight.....	66 lbs.

Regeneration Specifications at 35 psi

Offline Time during Regen Cycle	11 minutes
Total Regen Cycle Time	12 minutes
Total Regen Volume	6.6 gal.
Salt Used per Regen	0.45 lbs.
Salt Dose.....	2 lbs. /ft ³ resin
System Capacity.....	1,800 grains
Backwash Flow Rate	1.0 gpm

Meter Adjustability

Dial Setting/Hardness.....	Gallons Between Regeneration
A / 4 gpg	395 gal.
B / 6 gpg	260 gal.
C / 10 gpg	172 gal.
D / 12 gpg	125 gal.
E / 15 gpg.....	99 gal.
F / 20 gpg	73 gal.
G / ---	47 gal.
Minimum Gallon Adjustment.....	5.2 gal.



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Operating Profile

The softener shall remove hardness to less than 1 grain per gallon as CaCO_3 when operated in accordance with the operating instructions. The system shall provide soft water using a simplex (single tank) configuration. System regenerations shall be initiated based on gallons processed. The adjustable meter shall allow regenerations to be set within 5.2 gallon increments.

Regeneration Control Valve

The regeneration control valve shall be top mounted (top of media tank), and manufactured from non-corrosive materials. Control valve shall not weigh more than 4.4 lbs. Control valve shall operate using a minimum pressure of 25 psi. Pressure shall be used to drive all valve functions. Control valve shall incorporate five operational cycles including; service, brine draw, slow rinse, fast rinse and brine refill. Service cycle shall operate in an upflow direction. The brine cycle shall flow downflow, providing countercurrent regeneration. Control valve shall contain a fixed orifice eductor nozzle and a backwash flow control. The control valve will allow the by-pass of untreated water to service during the regeneration cycle.

Media Tanks

The tanks shall be designed for a maximum working pressure of 125 psi and hydrostatically tested at 300 psi. Tanks shall be made of polyethylene and reinforced with a fiberglass wrapping. Tank shall have a 2.5 inch threaded top opening. Tank shall be NSF/ANSI 44 approved. Upper and lower distribution system shall be of a cone slot design. Distribution system shall provide even distribution of regeneration water and the collection of processed water.

Conditioning Media

Each softener shall use strong acid, high capacity cation resin having a minimum exchange capacity of 30,000 grains/ft³ when regenerated with a salt dose of 15 lbs./ft³ of media. The media shall be solid, of a proper particle size and shall contain no plates, shells, agglomerates or other shapes that might interfere with the normal function of the water softener.

Brine System

A combination salt storage and brine production tank shall be manufactured of corrosion resistant, rigid polypropylene with an acrylic lid. The brine tank shall have an internal brine well chamber to house the brine valve assembly. The brine float assembly has one fixed salt setting and shall provide for a shutoff to the brine refill. The brine tank shall include a safety overflow connection to be plumbed to a suitable drain.