Design Specifications

Service Flow Rate ............................................. 9 gpm
Pressure Range ............................................. 20 – 120 psig
Temperature Range .......................................... 35 – 110° F
Free Chlorine .................................................. ≤ 2 mg/L
Compensated Hardness ..................................... ≤ 100 gpg
Iron .................................................................. If ≥ 10 mg/L, consult Technical Service

System Components

Media Vessel (qty) Size ..................................... (1) 10” x 40”
Media Vessel Construction ................................... Wrapped Polyethylene
Empty Bed Volume ........................................... 1.54 ft³
Media Type ..................................................... High Capacity Cation Resin
Media Volume (per tank) ................................... 1.0 ft³
Under Bedding Volume ...................................... none
Total Bed Depth .............................................. 22”
Free Board ...................................................... 15”
Riser Tube ....................................................... 1.05” ABS
Upper Distributor .............................................. 0.012” Slots, Engineered Plastic
Lower Distributor .............................................. 0.012” Slots, ABS
Regeneration Control ........................................ Metered Regeneration Type ........................................ Co-current, 4 Stage
By-pass During Regeneration .................................. Yes
Water Used for Regeneration .................................. Raw Water
Recommended Brine Tank Size .................................. 1.0” x 35”
Salt Capacity .................................................. 250 pounds
Maximum Brine Dosing ...................................... 15 pounds per cubic foot
* Freeboard may vary due to settling.

Connections

Inlet / Outlet Connections ...................................... ¾” – 1” In/Out Adapters
Drain Connection .............................................. 1” FNPT
Brine Line Connection ......................................... 3/8” Tubing
Power, Valve ...................................................... 120 VAC

Regeneration Specifications (at minimum dose)

Sequence ........................................ Flow ........ Time ........ Volume
Blackwash ........................................ 2.00 gpm .... 10 minutes ........ 20 gallons
Brine/Slow Rinse 0.56 gpm .................. 85 minutes ........ 47.6 gallons
Rapid Rinse ........................................ 2.00 gpm .... 6 minutes .......... 12 gallons
Brine Tank Refill 0.125 gpm .................. 9 minutes .......... 1.1 gallons
Total .................................................. 110 minutes ........ 80.7 gallons

Salt Dose Setting ........................................ 3 lbs/ft³ ........ 10 lbs/ft³ ........ 15 lbs/ft³
System Capacity ........................................... 14.3 Kgr .................................. 27.8 Kgr .................................. 33.4 Kgr
Salt Used ........................................ 3.6 pounds ........ 11.1 pounds ........ 16.7 pounds

Dimensions and Weight System

Overall Height ............................................. 49”
Overall Width ............................................. 30”
Overall Depth ............................................. 12”
Tank Width .................................................. 10”
Brine Tank Width .......................................... 18”
Brine Tank Height .......................................... 35”
Shipping Weight .......................................... 85 pounds
Operating Weight .......................................... 115 pounds

Valve

Height ......................................................... 9”
Width ......................................................... 12.5”
Depth ......................................................... 12”
Tank Thread .................................................. 2.5” UN
Riser Tube (OD) ............................................ 1.05”
Valve Weight .................................................. 10 pounds

System Part Numbers

PS3500M ............................................................ 15619

In / Out Adapters

¾” Male NPT, Plastic ...................................... 13120
¾” Female NPT, SS ......................................... 13121
½” Sweat ......................................................... 13122
1” Male NPT, Plastic (included with system PN) .... 13123
1” Female NPT, SS ......................................... 13124
1” Sweat ......................................................... 13125

System Accessories

Brine Tank (Included with system PN) .............. 13139
PL By-pass Valve (Included with system PN) .... 13119

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Operating Profile
The softener removes hardness to less than 2 grains per gallon when operated in accordance with the operating instructions. The system provides soft water using a simplex (single tank) configuration. System regenerations are initiated based on the time of day and water usage. The programmable timer allows regenerations to be programmed over a 12-day period.

Regeneration Control Valve
The regeneration control valve is top mounted (top of media tank), and manufactured from non-corrosive materials. The control valve does not weigh more than 10 lbs. and operates using a minimum pressure of 20 psi. The control valve incorporates four regeneration cycles including: backwash, brine/slow rinse, rapid rinse and brine tank refill. The service cycle operates in a downflow direction and the brine cycle flows in downflow, providing co-current regeneration. The control valve contains a fixed orifice eductor nozzle and a backwash flow control. The control valve allows the by-pass of hard water to service during the regeneration cycle.

Media Tanks
The tanks are designed for a maximum working pressure of 120 psi and are hydrostatically tested at 300 psi. Tanks are made of polyethylene and reinforced with a fiberglass wrapping. Tanks have a 2.5” threaded top opening. The upper and lower distribution systems are a slotted design. The distribution system provides even distribution of regeneration water and the collection of processed water.

Conditioning Media
Each softener uses strong acid, high capacity cation resin with a minimum exchange capacity of 30,000 grains removed per cubic foot of media when regenerated with a dose of 15 lbs. of salt per cubic foot of media. The media is solid, of a proper particle size and doesn’t contain 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 are manufactured of corrosion resistant, rigid polyethylene. The brine tank has an internal brine well chamber to house the brine valve assembly. The brine tank includes a safety overflow connection that can be plumbed to a suitable drain.