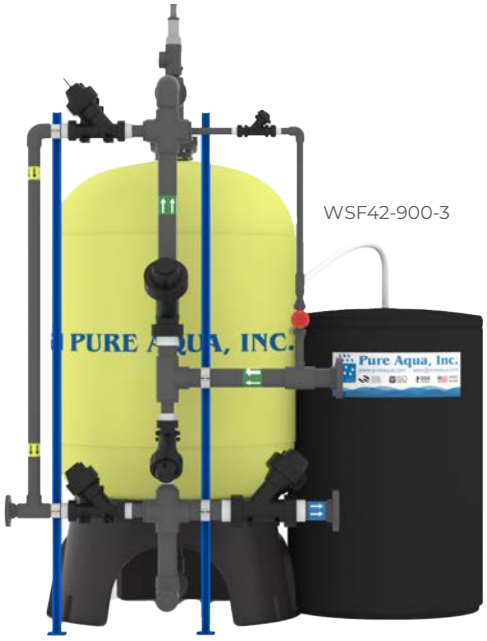
Industrial Water Softeners

FRP Tanks: 14” to 63” Diameter

SF-110F SERIES

Pure Aqua’s water softeners treat the water by removing hardness using resin. The resin replaces the hardness in the water with salt which is regenerated periodically. The softened water can then pass through an RO system to remove the salt without the risk of scaling. Softeners can be used in commercial, industrial and municipal applications.



Standard Features

- Electrical: 120VAC, 1-Phase, 60 Hz, 5 Amp
- FRP tank with 150 psi rating
- Schedule 80 PVC face piping
- 1”-2” Noryl diaphragm valves or butterfly valves for 3’’ or larger
- Vent and drain ports
- Digital stager for softeners using diaphragm valves or PLC for butterfly valves
- Fully automatic units with timer control, that initiates regeneration at any pre-determined time
- Regeneration cycle is fully adjustable and features up to 15 programmable timed regeneration cycle
- A premium high capacity, cation exchange resin that will deliver 30,000 gr/ft³ when brined at a rate of 15 lbs./ft³
- Polyethylene brine tank assembly
- 1/4” tubing between stager and valves
- PP/PVC sch 80 internal piping and distributor to evenly distribute water and prevent resin loss

Available Options

- Duplex, triplex or multi units
- Skid mounted, plumbed and wired
- PLC control system
- Steel resin tanks
- ASME coded tanks for 18” and up
- Butterfly control valves
- 240V/1ph/50Hz power requirement
- Brine pump systems
- Unistrut channel supports
- Inline hardness monitor
- Stainless steel, galvanized iron or CPVC face piping
- Meter regeneration starts based on the total gallons used

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Industrial water softeners are of vital importance to modern industries. They prevent scale buildup, optimizing energy efficiency and extending equipment lifespan. By maintaining water quality, they enhance process performance and ensure product consistency. Water softeners minimize downtime, reduce chemical usage, and improve the efficiency of water heaters. With environmental benefits like reduced waste and lower water consumption, these systems play a crucial role in sustainable practices. Industrial water softeners are an essential tool for industries to achieve cost savings, operational efficiency, and environmental responsibility.

Sizing an industrial water softener involves determining the appropriate capacity and flow rate based on the specific needs of the application. Here's a general guide on how to size an industrial water softener:

1. Determine water demand and hardness level.
2. Calculate desired softening level.
3. Calculate softener capacity based on daily hardness removal.
4. Consider regeneration frequency and flow rate.
5. Account for system efficiency and safety factors.

It's important to note that the sizing process may vary depending on the specific industrial application and water quality parameters.

Water Hardness Scale

mg/L & ppm	0-17	17-60	60-120	120-180	>180
	Soft	Slightly Hard	Moderately Hard	Hard	Very Hard
Grains/gal	<1	1-3.5	3.5-7	7-10	>10


WSF24-300-2-T


WSF16-120-1

PURE AQUA, INC.®

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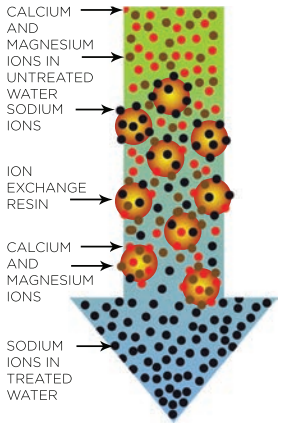
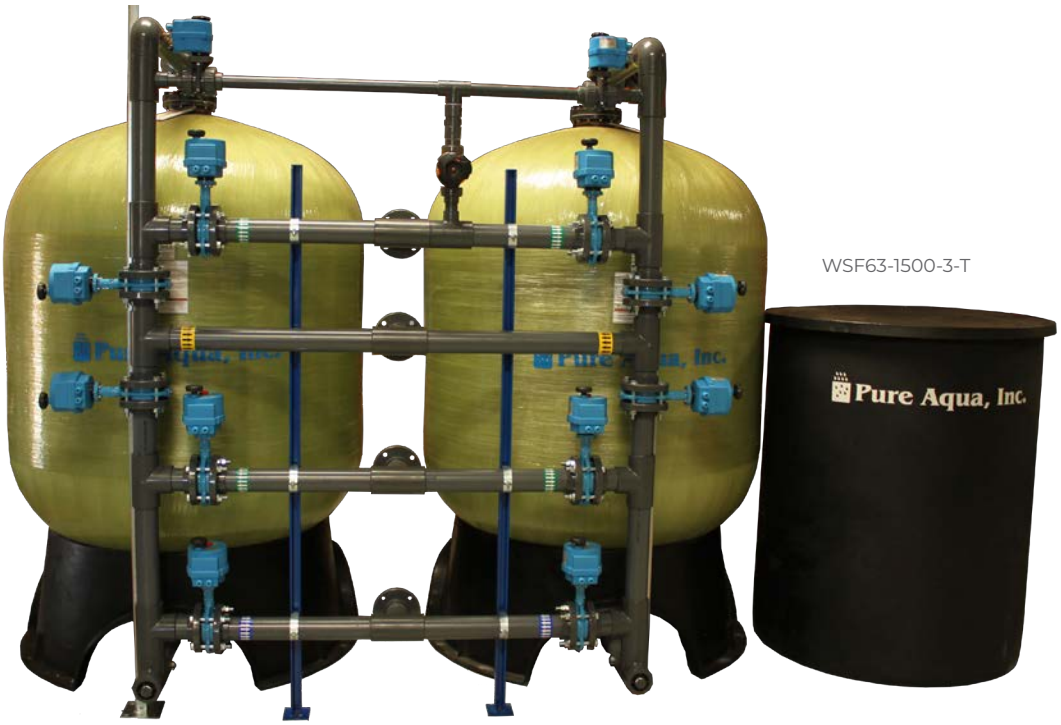
Operating Specifications

- Operating pressure: 30-100 psi
- Operating temperature: 2-38°C (35-100°F)
- Influent TDS: 0-3000 PPM
- Pathogenic bacteria: 0 CFU
- Influent water hardness: 0-90 gpg
- pH range: 5-14
- Free chlorine: 0–0.5 mg/l
- Chloramine: 0-0.5 mg/l
- Turbidity: 0–5 NTU
- Suspended solids: < 5ppm



Exchange capacity depends upon the amount of ion exchange resin in the softener and quantity of salt used for resin regeneration. Maximum flow rate is an important datum in case of non-continuous water delivery and is measured in gallons per minute (GPM).

Pure Aqua supplies a full line of standard and fully customizable water softening systems, all of which are engineered using advanced 3D computer modeling software for accurate and customized solutions.



WSF63-1500-3-T

Applications

- Apartments/condominiums
- Car washes
- Boiler feedwater
- Hospitals
- Laundries
- Groundwater remediation
- Cooling tower
- RO pre-treatment
- Contact process water

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Hardness Monitor

The hardness monitor continuously monitors water systems to provide an alarm when total hardness exceeds a pre-set limit.

Digital Stager

The digital stager can use air or water to actuate the control valves. PLC control is optional.

Vacuum Breaker

The vacuum breakers protect the tank and face piping during operation by preventing negative pressure in the tank.

Model#	Exchange Capacity @ 15lb/cu.ft. Grain	Flow Rate (GPM)			Valve and Pipe size	Resin Qty (ft^3)	Tank Size (Inch)		Salt Storage (lbs)	Approx. Weight (lbs)
		Service		Backwash						
		Cont.	Peak				Softener	Brine		
WSF14-90-1	90,000	15	25	6	1"	3	14 x 65	24 x 50	900	400
WSF16-120-1	120,000	16	27	7	1"	4	16 x 65	24 x 50	900	450
WSF18-150-1.5	150,000	25	40	9	1.5"	5	18 x 65	24 x 50	900	575
WSF21-210-1.5	210,000	30	50	12	1.5"	7	21 x 65	24 x 50	900	650
WSF24-300-1.5	300,000	40	60	16	1.5"	10	24 x 72	24 x 50	900	985
WSF24-300-2	300,000	65	120	16	2"	10	24 x 72	24 x 50	900	1,000
WSF30-450-1.5	450,000	40	70	25	1.5"	15	30 x 72	30 x 50	1,400	1,470
WSF30-450-2	450,000	65	120	25	2"	15	30 x 72	30 x 50	1,400	1,490
WSF36-600-2	600,000	65	120	35	2"	20	36 x 72	30 x 50	1,400	1,910
WSF36-600-3	600,000	120	270	35	3"	20	36 x 72	30 x 50	1,400	1,980
WSF42-900-2	900,000	65	120	48	2"	30	42 x 72	30 x 50	1,400	2,800
WSF42-900-3	900,000	120	270	48	3"	30	42 x 72	30 x 50	1,400	2,835
WSF48-1200-2	1,200,000	65	120	63	2"	40	48 x 72	50 x 60	4,500	3,650
WSF48-1200-3	1,200,000	120	270	63	3"	40	48 x 72	50 x 60	4,500	3,670
WSF63-1500-3	1,500,000	120	300	119	3"	50	63 x 86	50 x 60	4,500	4,170

* All softeners require periodic regeneration and backwashing to dispose of the accumulated debris and re-activate the resin media. This is accomplished by backwashing clean water through the unit and then starting the brine suction. To avoid interruption during regeneration, Pure Aqua can offer twin alternating or triplex water softeners to supply continuous softened water without interruption.

- Continuous operation at flow rates greater than the service flow rate may affect capacity and efficiency performance.
- The manufacturer reserves the right to make product improvements which may deviate from the specifications and descriptions stated herein, without obligation to change previously manufactured products or to note the change.

Pure Aqua also supplies: Custom Engineered Solutions, Multimedia Pretreatment, Activated Carbon Pretreatment, Water Conditioning, Chemical Dosing Systems, Ultraviolet (UV) Sterilizers and Ozonation Systems.

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