

# Industrial Water Softeners

Steel Tanks: 24" to 84" Diameter

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.

The image to the right is a computer generated render of WS-30-300 twin softener with PVC face piping and Noryl diaphragm valves.

**SF-100S**

**SERIES**



## Standard Features

- The SF-100S series softeners are designed as fully automatic units with timer or meter control. The timer control initiates softener regeneration at any predetermined time - on any or every day. The metered models start regeneration based on the total gallons used.
- The automatic regeneration controller features a 7 or 12 day calendar wheel.
- Time of regeneration and length of time for each regeneration cycle are fully adjustable.
- The steel mineral tank is engineered for a 100 psi working pressure and is tested to 150 psi, It is equipped with a manhole in the upper dome.
- The interior of the tank is coated with epoxy for protection against rust and corrosion. The exterior has a rust inhibiting primer coat.
- A premium grade sulfanated nonphenolic polystyrene type resin is contained in the mineral tank.
- The resin will deliver 30,000 grains per cubic foot when brined at a rate of 15 lbs. per cubic foot.
- The brine tank is a combination of high density polystyrene brine measuring tank and a brine valve, including an air eliminator valve and a safety brine refill shut off to prevent tank overflow.
- The under drain utilizes either a hub & lateral or a header & lateral system to evenly distribute water and prevent resin loss, and to insure minimal pressure drop at peak flow rates.

## Available Options

- Duplex, triplex or multi units
- Skid mounted, plumbed, wired systems
- ASME code stamped resin tanks
- PLC control system
- Alternate water meter types
- Brine pump systems
- PVC or CPVC face piping
- Stainless steel face piping
- Stainless steel internal distribute piping
- Butterfly control valves
- Inline hardness monitor
- Unistrut channel supports

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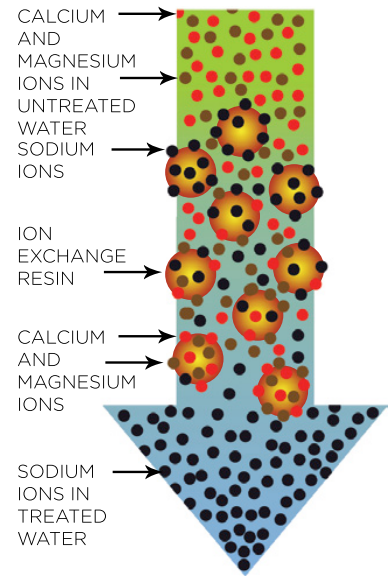
## Softener Sizing

A softener is sized on the basis of two different parameters, i.e. exchange capacity, which is the quantity of water delivered between regenerations, and maximum flow rate, which is the maximum quantity of water required at any peak usage period.

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.

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## Operating Specifications

- Inlet Pressure: 30-100 psi
- Temperature: 35-110°F
- Feed water should not exceed 3,000 ppm TDS, the softeners performance decreases with increasing TDS as salt exchange becomes less effective

## Materials of Construction

- Carbon steel resin tank with blue outer coating
- NSF rated interior epoxy coating
- Face piping: PVC/CPVC or galvanized steel
- Internal distributors: PVC/CPVC
- Control valves: Noryl or steel
- Brine Tank: Polyethylene, plastic internals

## Applications

- Apartments/Condominiums
- Car Washes
- Boiler Feedwater
- Hospitals
- Laundries
- Apartments/Condominiums
- Car Washes
- Boiler Feedwater
- Hospitals

Model #	Exchange Capacity		Flow Rate (GPM)			Pipe Size		Resin Qty. (ft <sup>3</sup> )	Tank Size (inch)		Salt Storage (lbs)
			Service		Back-wash	Serv.	Drain		Softener	Brine	
	Max	Min	Cont.	Peak							
WS24-240-1.5	240,000 120/120	160,000 48/48	64	86	15	1.5"	1"	8	24x54	24x50	600
WS24-240-2			80	110		2"	1"				
WS24-240-2.5			115	160		2.5"	1"				
WS30-300-1.5	300,000 150/150	200,000 60/60	68	92	20	1.5"	1"	10	30x54	24x60	600
WS30-300-2			92	125		2"	1"				
WS30-300-2.5			140	190		2.5"	1"				
WS30-300-3			165	230		3"	1"				
WS30-450-1.5	450,000 225/225	300,000 90/90	68	92	20	1.5"	1"	15	30x60	30x60	1,000
WS30-450-2			92	125		2"	1"				
WS30-450-2.5			140	190		2.5"	1"				
WS30-450-3			165	230		3"	1"				
WS36-600-1.5	600,000 300/300	400,000 120/120	72	94	30	1.5"	1.5"	20	36x60	39x60	1,700
WS36-600-2			110	125		2"	1.5"				
WS36-600-2.5			140	190		2.5"	1.5"				
WS36-600-3			175	250		3"	1.5"				
WS36-750-2	750,000 375/375	500,000 150/150	110	125	30	2"	1.5"	25	36x72	39x60	1,700
WS36-750-2.5			140	190		2.5"	1.5"				
WS36-750-3			175	250		3"	1.5"				
WS42-900-2	900,000 450/450	600,000 180/180	112	133	45	2"	2"	30	42x60	42x60	1,900
WS42-900-2.5			150	218		2.5"	2"				
WS42-900-3			188	279		3"	2"				
WS42-1050-2	1,050,000 525/525	700,000 210/210	112	133	45	2"	2"	35	42x72	50x60	2,300
WS42-1050-2.5			150	218		2.5"	2"				
WS42-1050-3			188	279		3"	2"				

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Model #	Exchange Capacity		Flow Rate (GPM)			Pipe Size		Resin Qty. (ft <sup>3</sup> )	Tank Size (inch)		Salt Storage (lbs)
			Service		Back-wash	Serv.	Drain		Softener	Brine	
	Max	Min	Cont.	Peak							
WS48-1200-2	1,200,000 600/600	800,000 240/240	112	133	60	2"	2"	40	48x72	52x60	2,600
WS48-1200-2.5			160	220		2.5"	2"				
WS48-1200-3			215	300		3"	2"				
WS48-1200-4			310	410		4"	2"				
WS54-1500-2	1,500,000 750/750	1,000,000 300/300	112	133	80	2"	2"	50	54x72	66x46	3,300
WS54-1500-2.5			165	191		2.5"	2"				
WS54-1500-3			225	308		3"	2"				
WS54-1500-4			405	600		4"	2"				
WS60-1950-2	1,950,000 975/975	1,300,000 390/390	112	133	100	2"	2.5"	65	60x72	60x66	4,000
WS60-1950-2.5			168	193		2.5"	2.5"				
WS60-1950-3			235	325		3"	2.5"				
WS60-1950-4			445	650		4"	2.5"				
WS66-2400-2.5	2,400,000 1,200/1,200	1,600,000 480/480	175	199	120	2.5"	3"	80	66x72	66x72	5,800
WS66-2400-3			245	340		3"	3"				
WS66-2400-4			480	690		4"	3"				
WS66-2400-6			650	940		6"	3"				
WS72-3000-3	3,000,000 1,500/1,500	2,000,000 600/600	255	355	140	3"	3"	100	72x72	82x60	6,000
WS72-3000-4			500	720		4"	3"				
WS72-3000-6			700	1050		6"	3"				
WS78-3600-3	3,600,000 1,800/1,800	2,400,000 720/720	260	360	165	3"	3"	120	78x72	82x60	6,000
WS78-3600-4			520	748		4"	3"				
WS78-3600-6			750	1100		6"	3"				
WS84-4200-3	4,200,000 2,100/2,100	2,800,000 840/840	265	365	190	3"	3"	140	84x72	90x60	7,500
WS84-4200-4			540	760		4"	3"				
WS84-4200-6			780	1130		6"	3"				

\*All filters require periodic backwashing to dispose of the accumulated debris. This is accomplished by backwashing clean water through the unit and then disposing of the effluent. During this phase, the different sizes of media separate into layers, preparing the filter bed for service. Because backwashing generally occurs at higher flow rates than those seen in service, oftentimes a proper backwash flow rate is not possible because the systems are designed for required service flow rates. However, by utilizing smaller double or triple unit systems, the optimum backwash flow rate is lower; therefore, these systems operate at higher service flow rates.

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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