

Products and Services

Ion Exchange Equipment, Filters & Degasifiers

- Commercial/Industrial Softening Systems
- Two-bed/Mixed-bed Demineralizing Systems
- Primary-Polishing Softening Systems
- Bulk Ion Exchange Resin Regeneration Plants and Equipment
- Mobile/Portable Softeners, Demineralizers and Filter Systems
- Multi Media, Activated Carbon, Sand and Anthracite Filtration Systems

Membrane Technology

- Brackish Reverse Osmosis Systems
- Seawater Reverse Osmosis Systems
- Hollow Fiber, Spiral Wound Ultrafiltration Systems
- Ultrapure Hyperfiltration Systems
- Reverse Osmosis, Ultrafiltration Replacement Membranes

Other Products & Services

- Welded Carbon and Stainless Steel ASME Code and Non-code Pressure Vessels
- Fiberglass Bulk Brine Storage Tanks and Systems
- Waste Treatment and Neutralization Systems
- Field Technical and Repair Services
- Ion Exchange and Filtration Replacement Media
- Solid State and Electromechanical Industrial Controls
- Custom Piping Systems - Welded Steel, Stainless Steel, Plastic

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WATER SOFTENERS Commercial and Industrial Lined Steel Vessel Series

HIGH QUALITY WATER SOFTENING SYSTEMS FOR COMMERCIAL AND INDUSTRIAL PROCESSES

AATech designs and manufactures a complete line of fully automatic and manual operated Commercial and Industrial water softeners for your selection. Each softener system is engineered to meet your exacting requirement, whether your choice is from our large standard line of equipment or tailored to meet your specific requirement. To help you with your choice, our water softeners are offered to meet two basic types of service.

Commercial: This type of softener is designed to handle a wide range of flows, from low to very high peak flows during periods of high demand. They are characterized by the use of small softener vessels coupled with a larger manifold pipe and valve size. Commercial softeners are more flow dependent than capacity dependent and produce soft water containing less than 1 grain (17.1 ppm) hardness utilizing a 6 lb per cu.ft. salt dosage.

Industrial: This type of softener is designed to produce extremely high quality, low hardness soft water for critical soft water applications.

Industrial softeners are generally designed for continuous flow applications which are not subject to extreme flow variations.

They are characterized by their larger softener vessel sizes to accommodate the larger capacities required to meet the constant demand coupled with an smaller exterior size manifold pipe and valving sufficient to meet the continuous flow demands.

Industrial Softeners flowing at relative continuous flows can produce extremely high quality soft water containing less than 0.1 grains (2 ppm or less) during most of their normal service cycle.



Whether Commercial or Industrial equipment is selected you can be assured that all of AATech's systems are designed and manufactured offering features and quality far exceeds other manufacturers' standards. This assures the user of years of trouble-free life.

For standard equipment available, use the Design Data & Dimension" chart as a guide in designing a custom system to meet your specific requirement.

For assistance in helping you with specific requirement, any one of our highly qualified technicians will be available.

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PACKAGED SOFTENERS

Applications:

Commercial Softeners are commonly used by hotels, motels, laundries, restaurants and institutional facilities.

Industrial Softeners are generally used for high pressure boiler feed water makeup, product blending and cleaning processes by manufacturing firms in the aeronautic, elec-tronic, chemical, petroleum, industrial manufacturing, and food processing industries, etc. Many commercial, indus-trial and service operations will find these water softeners both practical and economic for their use.

User Benefits:

Air Conditioners and Cooling Towers work more efficiently, don't plug up with hard water deposits.

Boilers and Water Heaters cost less to run, heat more efficiently, have less down time, last longer.

Plumbing Systems operate at full flow, get fewer leaks, have longer life.

Stops Hard Water Scale in heating and plumbing systems.

Eliminates Hard Water Deposits from finished products, process reactions, rinsing and cleaning operations.

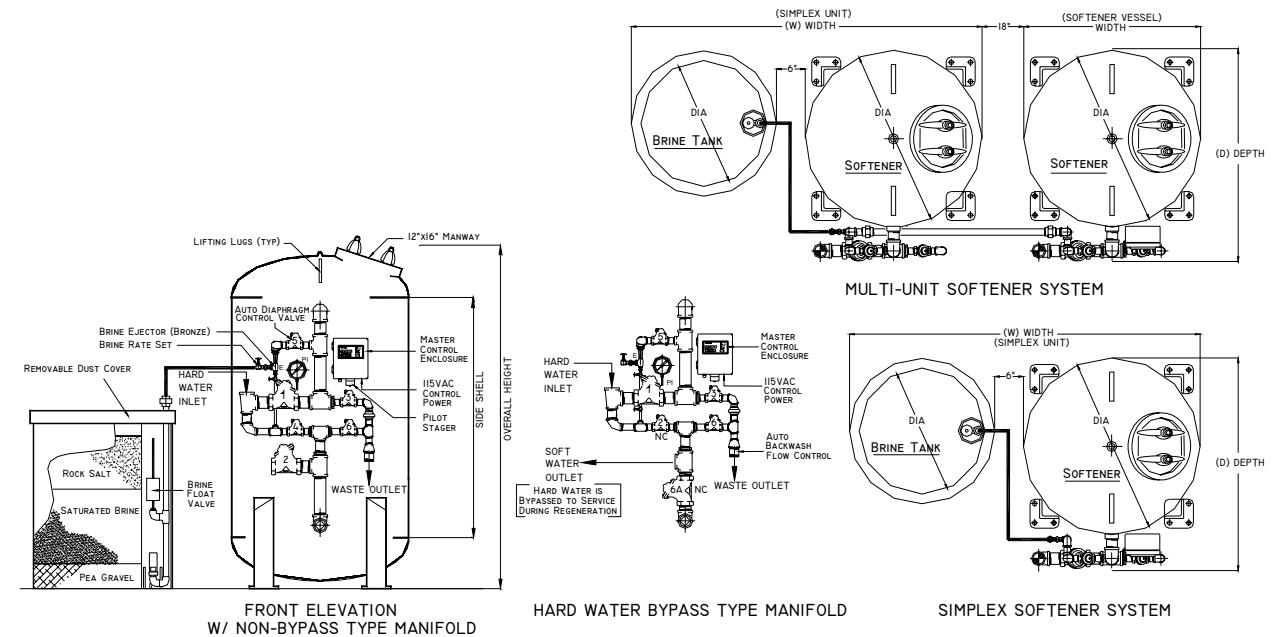
Standard Features Offered:

- Fully Automatic (or Manual) Controls in water tight enclosures.
- Individual Diaphragm Valve Nest Type or Single Multi-Port Valve Type
- 100 psi Welded Steel Tank with Internal Epoxy Coating.
- Schedule 40 Galvanized Threaded Piping.
- Non-Corrosive Screened Schedule 80 PVC Underdrain for Uniform Water Collection.
- Heavy Wall Non-Corrosive Brine Tank with Weather Cover.
- Automatic Pressure Compensating Backwash and Flush Flow Controller.
- High Capacity Industrial Grade Resins.
- Pre-assembled and Ready for Installation.

Optional Features Available:

- Throughput Meter or Hardness Initiated Controls.
- Multi-Unit Parallel or Alternating Controls with Interlocks.
- Softener Tank ASME Code Construction; Stamped.
- Internal Tank Coatings: Baked Phenolic, Rubber, FDA Approved.
- Piping Systems: Welded Steel, Copper, Stainless or PVC.
- Control Valves: Pneumatic, Hydraulic or Electric Actuated.

DESIGN DATA & DIMENSIONS



HOW TO SELECT THE RIGHT MODEL

- Determine your water hardness in grains per gallon as CaCO3** (17.1 ppm equals 1 grain per gallon). If hardness is unknown check with your local water supplier or send us a 1qt. sample).
- Determine or estimate the average number of gallons you wish to soften per day.** If unknown-Read your water meter in the morning and compare with reading in the evening. This will give you the total water per day used.
- Determine your Daily grain thru-put capacity requirements.** Multiply the above hardness (1) in grains per day by the average number of gallons per day (2) to equal your daily capacity in grains.
- Determine your normal & maximum peak flow demands** and make sure the unit selected falls within these flow ranges. "See Design Data" under "Flow Rate- Normal/Peak Commercial & Industrial".

- Select Softener Size based on calculated Capacity (3) and Flow Requirements.** See Design Data under "Capacity Low/High" and "Flow Rate Normal/Peak". Select a softener system which falls in the range of both capacity and flow.

Other Factors to be Considered:

If a constant 24 hour soft water supply is required you should consider a multi-unit system to eliminate being off-line during a regeneration of one unit. (Option: If soft water is not critical during regeneration, a hard-water bypass can be supplied during regeneration). **Size Drain** properly to dispose of waste water. See Design Data under "Waste Flow" and make sure the drain size is adequate to handle this flow. **Location Access** should be considered. Check door openings to see if they are large enough to permit delivery of unit to proposed location. Check available floor space and head room at the proposed location. **Utilities-** Check for adequate water supply and power. Most units will require a dedicated 115 Vac 5 amp curcuit.

Standard Softener Specifications

SIZE (IN)	MODEL NO.	RESIN (1) VOLUME (CU FT)	CAPACITY (1000 GRAINS)				FLOW RATE-NORMAL/PEAK (3) (4)				SALT TANK (5) MIN DIA @ 6# MAX DIA AT 15#	WASTE FLOW (6) (GPM)	SPACE REQUIRED	WEIGHT SHIP/OPERATE (LBS)
			LOW	SALT #	HIGH	SALT #	COMMERCIAL (GPM)	PIPE SIZE	INDUSTRIAL (GPM)	PIPE SIZE				
20x48	WS201	6	120	36	180	90	30-65	1.1/2	18-35	1	20/24	10	46x26x65	950/2000
20x60	WS203	7.5	150	45	225	113	38-65	1.1/2	23-35	1.1/2	20/30	10	50x26x77	1100/2450
24x48	WS241	9	180	54	270	135	45-95	1.1/2	27-48	1.1/2	24/30	15	54x30x66	1300/2800
24x60	WS243	11	220	66	330	165	55-95	1.1/2	33-48	1.1/2	24/36	15	54x30x78	1400/3000
24x72	WS245	13	260	78	390	195	65-95	2	39-49	1.1/2	24/36	15	54x30x90	1700/3500
30x48	WS301	12	240	72	360	180	60-150	2	36-75	1.1/2	24/36	25	60x36x69	1900/3800
30x60	WS303	16	320	96	480	240	80-150	2	48-75	1.1/2	30/42	25	66x36x81	2100/4600
30x72	WS305	20	400	120	600	300	100-150	2.1/2	60-75	2	30/48	25	66x36x93	2450/5200
30x84	WS306	24	480	144	720	360	120-150	2.1/2	72-75	2	36/48	25	72x36x105	2700/6100
36x60	WS363	23	460	138	690	345	115-210	2.1/2	69-105	2	30/48	35	78x42x85	3120/6783
36x72	WS365	28	460	168	840	420	140-210	3	84-105	2	36/54	35	78x42x97	3550/7500
36x84	WS366	32	640	192	960	480	160-210	3	96-105	2	36/54	35	84x42x109	3900/8800
42x60	WS423	32	640	193	960	480	160-290	3	96-150	2	36/54	50	90x48x87	4100/9300
42x72	WS425	38	760	228	1140	570	190-290	3	114-150	2.1/2	42/60	50	90x48x99	4700/10200
42x84	WS426	44	880	264	1320	660	220-290	3	132-150	2.1/2	42/72	50	96x48x111	5100/11750
48x60	WS483	42	840	252	1260	630	210-375	3	126-190	2.1/2	42/72	60	96x54x90	5400/11300
48x72	WS485	50	1000	300	1500	750	250-375	4	150-190	3	48/72	60	102x54x102	5800/13000
48x84	WS486	58	1160	348	1740	870	290-375	4	174-190	3	48/84	60	108x54x114	6650/15200
54x60	WS543	53	1060	318	1590	795	265-480	4	159-240	3	48/72	80	108x60x93	7550/15800
54x72	WS545	64	1280	384	1920	960	320-480	4	192-240	3	54/84	80	108x60x105	8150/17200
54x84	WS546	75	1500	450	2250	1125	375-480	4	225-240	3	54/84	80	114x60x117	8750/19500
60x60	WS603	66	1320	396	1980	990	330-600	4	198-300	3	54/84	100	126x68x95	9300/19600
60x72	WS605	80	1600	480	2400	1200	400-600	4	240-300	3	60/96	100	126x68x107	10700/22000
60x84	WS606	94	1880	564	2820	1410	470-600	6	282-300	4	60/96	100	126x68x119	12200/24300
72x72	WS725	114	2280	684	3420	1710	570-840	6	342-425	4	72/Bulk	140	150x80x112	15250/31500
72x84	WS726	132	2640	792	3960	1980	660-840	6	396-425	4	72/Bulk	140	162x84x124	17250/37300
72x96	WS727	150	3000	900	4500	2250	750-840	6	425-425	6	84/Bulk	140	162x84x136	18350/39500
84x72	WS845	154	3080	924	4620	2310	770-1150	6	462-575	6	84/Bulk	190	174x92x117	21540/44600
84x84	WS846	180	3600	1080	5400	2700	900-1150	6	540-575	6	84/Bulk	190	174x92x129	23000/47600
84x96	WS847	206	4120	1236	6180	3090	1030-1150	6	575-575	6	96/Bulk	190	186x96x141	24650/53842
96x72	WS965	200	4000	1200	6000	3000	1000-1500	6	600-1300	6	96/Bulk	250	198x104x120	26800/57500
96x84	WS966	235	4700	1410	7050	3525	1175-1500	6	705-1300	6	96/Bulk	250	210x108x132	29500/65600
96x96	WS967	270	5400	1620	8100	4050	1350-1500	8	810-1300	6	Bulk	250	210x108x144	31000/69000

- 1) Resin Volume is based on 50% freeboard
- 2) Capacities listed are based on softening to a 1 grain endpoint (17.1 ppm). Minimum capacity is based on 6# salt dosage/cu.ft. (best quality 4 ppm). Maximum capacity is based on 15# salt dosage/cu.ft. (best quality 0.6 ppm). For operating at best quality endpoints, multiply capacity listed by 0.80.
- 3) Commercial flows listed are based on continuous flow @ 5 gpm/cu.ft. Peak flow is based on lesser of 30 gpm/sq.ft. or 25 psid. Industrial flow listed are based on continuous flow of 3gpm/cu.ft. Peak flow is based on lesser of 15 gpm/cu.ft. or 15 psid. System operation at continuous flow will deliver best quality soft water. Peak flow should be limited to 10 minutes or less.
- 4) Pipe sizes listed is minimum recommended for flows listed. For other flows use: 1.5" - 55 gpm, 2" - 95 gpm, 2.5" - 135 gpm, 3" - 220 gpm, 4" - 400 gpm, 6" - 900 gpm (These flows are based on an operating system pressure drop not exceeding 12 psid).
- 5) Salt Tank height is 60". Minimum size is based on utilization of 6# salt dosage. Maximum size is based on 15# salt dosage. Liquid capacity is based on 40% void volume at maximum draw of 42". Bulk denotes recommendation of 40 ton Bulk Salt Storage Tank (see separate bulletin).
- 6) Waste flow is based on maximum flow to drain. Drain receptacle should be sized to handle this rate at atmospheric pressure.