

TANKS

System Feed		Flow Configuration	Alternating Duplex
Volume	Minimum 200 Gallons	Regeneration	Countercurrent

SKID MOUNTED COMPONENTS

Feed Pump		Waste Flow	2 gpm
		Cycle Time	42 minutes

Number	One (1)	Cation Exchangers	
Horsepower	1.0 HP	HCl per Cycle	1 gallon
Material	316 SS	Waste per cycle	55 gallon

Bag Filters		Grains Capacity	18,000
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Number	One (1)	Anion Exchangers	
Filter Rating	5-micron	NaOH per cycle	0.85 gallon

Cation & Anion Exchangers		Waste per Cycle	62 gallons
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Number	Two (2) of each	Grains Capacity	16,200
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Vessel Size	8" x 40"	UTILITIES	
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Construction	PE Lined Fiberglass	Electrical Voltage	208-230/460
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Cation Resin	Strong Acid	Full Load Amps	10/5
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Anion Resin	Strong Base	Make-up Water	5 gpm
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Volume per Vessel	0.9 ft ³	PHYSICAL DATA	
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Controls		Footprint (LxWxH)	43" x 28" x 70"
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Controller	Click PLC	Shipping/Operating Wgt	650/900 lbs
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Drum Low Level Sensors	One (1) of Each	Frame/Coating	304SS/Polyurethane
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OPERATING SPECIFICATIONS		Piping	Schedule 80 PVC
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Feed Water Quality			
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Temperature	40°F-110°F		
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pH	3-10 SU		
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TSS	<5 mg/L		
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TDS	<450 mg/L		
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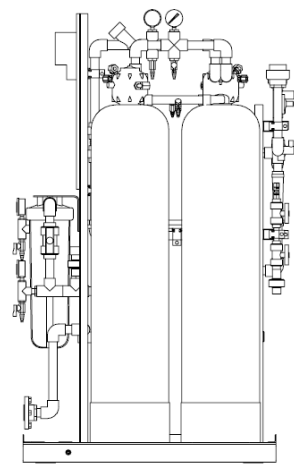
Chlorine	<2 mg/L		
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Product Water Quality			
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TDS	<2 mg/L		
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Conductivity	<5 uS		
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System Flow	5 gpm		
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Meter Disc Number

Operating Capacity	1	2	3	4	5	6	7	8
Loading in mg/l	50	100	150	200	250	300	350	400
Regen. Frequency	5,800	2,900	1,933	1,450	1,160	967	829	725

Operating Profile Removes ions from tap water through a two-stage, separate bed ion exchange process. A water quality > 3 TDS will be achieved when the equipment is operated within parameters as listed. The deionizer shall provide a near continuous flow of deionized water through the use of a duplex (two tank) configuration. This duplex configuration shall operate with 50% of the resin in reserve or in regeneration. System regenerations shall be initiated by measuring the feed water quality and flow rate, to accumulate the total loading on the system. Once the accumulated load surpasses the system's operating capacity setpoint, a regeneration is initiated.

System Pump The system shall use a 1.0-HP multi-stage centrifugal pump to pressurize water to the proper operating pressures and flow for the deionizer. The pump is designed to draw water from an atmospheric source. A return loop is used to provide a continuous flow of water pass the pump during operation, preventing low flow conditions. Pump construction shall be 316 stainless steel.

Bag Filter There is one (1) bag filter housing rated for 15-gpm flow with isolation valves allowing filter change-out. The housing is constructed of reinforced polypropylene with nominal 5-micron filter bags

Regeneration Valve One is used with each set of cation and anion vessels, providing service and regeneration control. Inlet and outlet ports accept a 3/4" quick connect, double O-ring sealed adapter made of PVC. The valve requires a minimum inlet operate pressure of 60 psi, to drive valve functions. The valve controls the counter-current regeneration process including acid draw opposite the service flow and rinsing employing a fixed-flow eductor.

Media Tank The tanks shall measure 8" in diameter and 40" tall. A total of two each cation and anion tanks will be used with one tank of each in service at all times. Tanks made of fiberglass reinforced polyester with a 2.5" threaded top opening are designed for a maximum working pressure of 125 psi and hydrostatically tested at 300 psi. Tanks. The upper and lower distribution system shall be of a slot design providing even distribution of regeneration water.

Deionization Media Each Cation deionizer includes 0.9-ft³ per tank of 10% cross-linked high-capacity, strong acid resin with an exchange capacity of >20,000 grains/ft³ when regenerated with 4-lbs. of hydrochloric acid. Each anion deionizer also includes 0.9-ft³ of high-capacity strong base anion resins with an exchange capacity of >18,000 grains/ft³ when regenerated with 6-lbs of NaOH. Inert plastic beads shall be used to pack the resin tanks, while still allowing the resin minimum space for expansion.

System Skid All system components are skid mounted and prewired. Installation hook-ups shall be limited to plumbing and electrical connections. Skid construction shall be from 304 grade stainless steel. Finish shall include cleaning and sandblasting. Skid dimensions shall not exceed 43" L x 28" W x 70" H. Skid design shall include anchoring feet for securing skid to foundation and grounding lugs for properly grounded electrical components.

System Controls Operation, monitoring, and control of the integrated system utilizes a click PLC. The system shall use an integrated controller that measures the resistivity of the process water. The controller will divert water not meeting an adjustable set point through a purge valve and send it to drain. Water above the adjustable set point will be directed to the process outlet of the system. System operations and alarms can be set at the integrated system controller.

