



Simplex Softener Filter

## VANTAGE® PRE-TREATMENT - INDUSTRIAL (PTI) SERIES SOFTENERS

### HIGH FLOW SYSTEMS

Vantage® Pre-Treatment – Industrial (PTI) series softeners by Evoqua Water Technologies offer a flexible, reliable and feature-rich way to reduce hardness in your feed water. PTI systems are available in Simplex, Duplex or Triplex configurations, and these preengineered, pre-assembled and factorytested units minimize installation and startup time. Each configuration is controlled by a main control panel with solenoid panels on the other vessels. Softeners are available in either PVC or 316L Stainless Steel face piping and internals. Vessel diameters range from 72" to 120" for high flow systems. Each softener contains cation resin shipped in sodium form.

Vantage PTI High Flow Softeners come in three models:

- **Plus (P)** - Controlled by Evoqua PLC and user friendly touch screen HMI, PVC face piping and internals
- **Deluxe (D)** - Controlled by Evoqua PLC and user friendly touch screen HMI, 316L SS face piping and PVC internals
- **Select (S)** - Controlled by Evoqua PLC and user friendly touch screen HMI, 316L SS face piping and internals; hardness monitor comes standard with this model.

A brine pump skid is included with all high flow systems. A separate brine hub and radial for brine injection is part of each unit. The regeneration of the cation resin is accomplished via a co-current process through the separate brine hub and radial.

### Features

- Separate source backwash option
- Adjustable drain line flow control
- 2006 IBC Seismic rating for anchorage
- Hardness monitor option on Plus & Deluxe models
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- Thermal pressure relief valve
- Available in ASME code or non-code vessels
- Largest 120" system meets highway transportation requirements
- Larger 14" x 18" man way
- 96" and 120" vessels have a 14" x 18" man way on the side sheet
- 3" sluice port
- Carbon Steel – epoxy lined and coated vessels
- Common control available in either Siemens® or Allen-Bradley® PLC/HMI

### Benefits

- Fully automated co-current process for maximum regeneration of resin and minimization of hardness leakage
- Automated vent for easy start up
- Sight glass on drain line to minimize water usage and resin loss
- Fast delivery to meet demanding schedules
- Titanium Grundfos pumps to minimize rust and corrosion

The brine pump skid requires a customer-provided brine source, and the regeneration process is fully automated via the main control panel. Pumps for this skid are titanium to minimize rust and corrosion.

**The Plus, Deluxe and Select models** are available in five operational flow configurations depending on the number of vessels:

- **Simplex Operation** – single vessel operation
- **Duplex Alternating** – one vessel on, one vessel in standby
- **Parallel** – all vessels working together
- **2 + 1** – two vessels working and one vessel in stand by for back wash support
- **Pro Flow** – Duplex 1+1 or Triplex 1+1+1. One vessel will be active, and the second vessel (Duplex configuration) and third vessel (Triplex configuration) are in standby. When flow set points are reached, the additional vessel(s) will come on line, and as the flow drops the vessel(s) will revert to standby mode. These set points are configurable.



Brine Pump Skid

### SPECIFICATIONS PLUS, DELUXE AND SELECT HIGH FLOW MODELS

	Width (in)	Depth (in)	Height (in)	Ship Height (in)	Operating Weight Deluxe & Select (lb)	Operating Weight Plus (lb)
72x72	73	92	148	128	16,450	16,273
84x84 *	84	106	163	106	25,483	24,976
96x96 *	108	113	178	113	7,964	36,278
120x96 *	128	146	188	146	10,696	55,007

\* Vessels Shipped on Side

### VANTAGE® PRE-TREATMENT - INDUSTRIAL (PTI) SERIES SOFTENERS HIGH FLOW SYSTEMS\*

	Pipe Size PVC	Pipe Size SS	Min. Flow Rate @ 2 gpm/sqft	Recommended Max Flow Rate @ 20 gpm/sqft	Flow Rate @ 3 gpm/cuft	Flow Rate @ 5 gpm/cuft	Flow Rate @ 7 gpm/cuft	Tank Diameter (in)	Tank Shell Height (ft)	Area (sqft)	% Media Free-board	Active Media Depth (in)	Actual Media per vessel (cuft)	Backwash Flow @ 7.5 gpm/sqft @ 85°F
PTISxxx72x72	6	4	57	565	297	495	565	72	6	28.3	54%	42	99	212
PTISxxx84x84	6	6	77	770	471	770	770	84	7	38.5	56%	48	159	289
PTISxxx96x96	6	6	101	1,005	700	1,005	1,005	96	8	50.3	57%	56	236	377
PTISxxx120x96	8	8	157	1,571	1,104	1,571	1,571	120	8	78.5	57%	56	368	589

\* For Duplex systems, double flows / quantities; for Triplex systems, triple flows / quantities

#### CONVERSION FACTORS:

1" = 2.54 cm

1 gpm = 3.79 liters per minute

1 gpm = .2271 meters<sup>3</sup> per hour



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