Product Description/Equipment Specifications
Vantage™ PTC Softeners
Model PTCS

General Description:
PTC water softeners reduce the hardness in feed water using ion exchange resin. The water softener vessel(s) contains high quality cation resin in the sodium form that removes hardness. Hardness will create scale on reverse osmosis membranes, water heaters, boilers and other equipment if not removed. Calcium, magnesium and other cations removed by the resin are replaced with sodium ions. The resin has a fixed capacity based on the pounds of salt used per cubic foot of resin during regeneration. Flow rate, Total Dissolved Solids (TDS), and other factors will dictate the actual capacity of the resin. When the capacity is exceeded, the resin will allow the hardness ions to pass through the unit, which is also called leakage. Before the capacity is exceeded, the unit is removed from service and regenerated with a solution of sodium chloride (brine). Completion of the regeneration steps allows the water softener to be returned to the service mode or to standby, depending on the configuration of the system.

Three trim packages are available: Economy, Plus and Deluxe.

Mechanical Description:
The vessel is a corrosion resistant composite, constructed of a polyethylene shell wound with continuous fiberglass fibers. The shell height is designed to allow for expansion of the resin during the regeneration cycle. The top vessel opening is used for resin loading and connection for the multiport control valve.

Each softening unit is supplied with high capacity cation exchange resin and a gravel support bed (14” diameter tank and larger). The inlet diffuser evenly distributes influent water, collects backwash water and introduces the brine regenerant solution. The lower hub and lateral, or single point distributor depending upon tank size, collects effluent and regeneration water as well as distributes the backwash water.

Each vessel is fitted with a top-mounted (or side-mounted for certain 36 to 48” vessels) multi-port control valve to accomplish the operational steps of the service and wash cycle. The control valve includes fixed and self-adjusting flow regulators to control flow rates during each operational cycle. The steps of the wash cycle are accomplished with the movement of a hydraulically balanced piston. The piston is the only wetted moving part in the main control valve.

One salt storage tank (brine tank) will be supplied per softening vessel (except for System Type 07 which will only have one brine tank). This tank is constructed of corrosion resistant polyethylene. The brine tank is equipped with an automatic air-eliminator safety valve. The brine line and the safety valve are housed within a protective chamber inside the brine tank to prevent damage during salt loading. The brine valve will automatically open to educt the brine into the softener tank, close to prevent suction of air, and allow the brine tank to be refilled with the proper amount of water regardless of the salt level in the tank.

For brine silo operation (requires Deluxe Trim), the brine day tank option can be selected from the softener ordering matrix. This option will include one brine day tank, control panel, level switch, brine draw valve and fittings depending on the system of operation and the number of softener vessels configured. The brine solution will be supplied from a brine silo, either by a brine pump or by gravity. The brine silo and pump will need to be provided by others as they are not included in the PTC Softener offering.

The Simplex tank configuration provides softened water during service and provides non-softened water during the regeneration process in order to maintain a continuous flow of water to downstream equipment. This is accomplished with an internal by-pass within the multiport valve which allows raw water to bypass the softener during the regeneration cycle.

Duplex, Triplex, and Quadplex systems (Deluxe trim package only) continuously provide softened water. The valves are configured with a No Hard Water Bypass piston. These systems consist of one control valve, one resin tank, one brine tank for each softening unit in addition to the required resin and a gravel support bed (14" diameter tank and larger).

The Economy trim package consists of a Simplex unit with a Series 7000 Fleck valve (composite valve) with an SXT controller. This valve is a "hard water bypass" configuration. The Plus trim package consists of a simplex unit with a lead free brass bodied Fleck valve (2750, 2850S, 2900, or 3900) with a mechanical time clock controller. Water is available during the regeneration cycle due to the hard water bypass configuration. The Deluxe trim package consists of Simplex, Duplex, Triplex, or Quadplex configuration with a lead free brass bodied Fleck valve (2750, 2850S, 2900, or 3900) with an NXT controller. The Simplex unit is "hard water bypass" configuration, while the Duplex, Triplex, and Quadplex are "no hard water bypass" systems.

When ordering the Deluxe trim package, flow meters are utilized to totalize the flow, initiate regeneration, and to monitor the flow rate. Flowmeters can be selected from the ordering matrix based on the system type chosen.

Proper engineering of the total flow requirements must be taken into account when sizing the system. All flows required, including backwash for the softener and any other requirements for downstream equipment must be considered.

Electrical Description:
Economy Package: The control function is performed by an SXT programmable controller. This controller features a power backup system that continues to keep time for a minimum of 48 hours in the event of a power failure. The system configuration is stored in a non-volatile memory so it will be maintained indefinitely, with or without power. Regeneration is based on either time or the volume of water treated depending on the SXT program setup. The time option can be set either to "time clock" with an operation of up to 99 days or to "day of week". "Day of the week" operation is initiated by a seven (7) day cycle timer that can be set on any hour within a 24-hour period and initiated on any or all days in the 7-day period. The operator can manually initiate a regeneration at any time.

Plus Package: The control function is performed by a mechanical time clock controller. The softener will regenerate based on time and is initiated by a twelve (12) day cycle timer that can be set on any hour within a 24-hour period and initiated on any or all days in the 12-day period. The operator can manually initiate regeneration at any time.

Deluxe Package: The control function is performed by an NXT programmable controller. The softener will regenerate based on either the volume of water treated, an external initiation (i.e. hardness monitor, a PLC), or time and initiate as programmed. The operator can manually initiate a regeneration at any time. On Simplex units, hard water is available during the regeneration cycle due to the hard water bypass configuration. Duplex, Triplex, and Quadplex systems will continue to provide softened water to the downstream equipment.

Operational Description:
PTC softeners have three modes of operation; service, standby, and regeneration. The service mode delivers softened water to equipment downstream. The standby mode is utilized with the System Type 09 and 14 configurations (see below). Regeneration is comprised of five steps; backwash, brine introduction, slow rinse, fast rinse and brine tank refill. The backwash step removes trapped material and reclassifies the bed. The brine introduction step

strips hardness from the resin and converts the resin into the sodium form. The rinse steps displace the brine with water and prepares the bed for the service mode. The brine tank refill step adds the proper amount of water back into the brine tank to dissolve the precise amount of salt for the next regeneration cycle. The brine saturation point (fully dissolved salt) is reached after four or five hours.

Economy and Plus units operate in a System Type 00 Simplex configuration. Deluxe units can operate in a System Type 04, 05, 07, 09, or 14 configurations. A summary of all system types and descriptions has been included below for your convenience.

System Type	Technology	Operation
System 00 (Single Unit System)	Softener	Single Valve
		SXT Controller/Time Clock
System 04 (Single Unit System)	Softener	Single Valve
		NXT Controller
		Remote Signal Regen Start
		Metered
System 05 (Parallel Units System)	Softener	Multiple (2-4) Valves
		1 Meter per Valve Required
		Parallel Operation
		Capacity Set for Each Unit
System 07 (Duplex Alternating system)	Softener	2 Valves
		Duplex Alternating
		1 Meter Required only
		One Unit in Regen/Standby
System 09 (One in Standby)	Softener	2 or 3 online, 1 in standby
		1 Meter per Valve Required
		Capacity Set for Each Unit
System 14 (Demand or Progressive flow System)	Softener	Multiple (2-4) Valves
		Demand flow Operation
		Remote Signal Regen Start
		Regen Controlled from Primary Valve
		1 flowmeter per valve required

System 00 - Simplex - This system is utilized for all Economy and Plus trim package Simplex softeners. During regeneration, hard water bypasses the softener. The Economy trim package is controlled by a SXT controller while the Plus package is controlled by a mechanical time clock. System 00 will not be shown in SXT or Time Clock controller – it is just a name provided to differentiate the Economy and Plus trim packages from the Deluxe package for Simplex operation.

System 04 - Simplex - This system is utilized for all Deluxe trim packaged simplex softeners. During regeneration, hard water bypasses the softener. The system uses either a time clock or a volume initiated regeneration depending on the trim package selected.

System 05 – Parallel - This system is available for use on all Deluxe trim packaged Duplex, Triplex, and Quadplex softeners operating in parallel. All softeners will be in the service mode until regeneration is initiated (when the preset volume of water has been treated). At that time, one unit will perform regeneration while the remaining units will be maintained in a service mode. At the completion of the regeneration, the unit will return to service mode. The flow meter is reset to zero when the softener initiates regeneration. Operating in this mode requires one flow meter per softening vessel.

System 07 – Duplex Alternating - This system is utilized for Deluxe trim packaged softeners operating in a duplex alternating fashion. One softener will be in the service mode at any given time. When the preset volume of water has been treated the active softener will begin the regeneration mode and the standby softener will begin the service mode. The flow meter totalizer is reset to zero when each softener initiates a regeneration. Operating in this mode only requires one flow meter installed in the common product header. Softener tanks with a single piston valve (i.e., 1'' – 2750 & 1.5'' – 2850S) require a diaphragm solenoid valve for

their operation. This valve will be automatically included in the BOM when a System 07 is selected. Additional information is provided at the end of this document as a guide.

System 09 – One in Standby - This system is utilized for Deluxe trim package Triplex and Quadplex softeners having one unit in regeneration or standby at all times. All but one of the softeners will be in the service mode until a regeneration is initiated when the preset volume of water has been treated. At that time, the unit in standby will go into service mode as the unit calling for a regeneration will go into regeneration mode. Upon completion, the regenerated unit will go into standby until the next unit requires a regeneration. The flow meter is reset to zero when the softener initiates a regeneration. Operating in this mode requires one flow meter per softening vessel. Softener tanks with a single piston valve (i.e., 1'' – 2750 & 1.5'' – 2850S) require a diaphragm solenoid valve for their operation. This valve will be automatically included in the BOM when a System 09 is selected. Additional information is provided at the end of this document as a guide.

System 14 – Demand flow system – This system is utilized for Deluxe trim package Duplex, Triplex, and Quadplex softeners. One unit will be in service mode at all times. The remaining units will be activated if the flow demand increases and will return to standby mode when the flow demand reduces. When the preset volume has been treated the corresponding unit will go in to regeneration mode while other units will be in service mode or offline mode as per the demand flowrate. The flow meter is reset to zero when the softener initiates regeneration. This System will require one flowmeter per valve for its operation. Softener tanks with a single piston valve (i.e., 1'' – 2750 & 1.5'' – 2850S) require a diaphragm solenoid valve for their operation. This valve will be automatically included in the BOM when a System 14 is selected. Additional information is provided at the end of this document as a guide.

Product Offering Overview:

Trim Package	Configuration	Model Number	Media Volume (cuft)	Minimum Flow, GPM (min)**	Nominal Flow @ 3GPM/Cuft (GPM)***	Nominal Flow @ 6 GPM/Cuft (GPM)***	Service Flow (GPM) @ 15 psi^^	Maximum Temporary Service(GPM) Flow @ 25 psi^^	Capacity (Kgrains) *****
ECONOMY	Simplex	PTCSSE_10X54T_A^	1.5	1.09	4.50	9.00	23.00	31.00	45.00
		PTCSSE_12X52T_A	2	1.57	6.00	12.00	23.00	31.00	60.00
		PTCSSE_14X65T_A	3	2.14	9.00	18.00	23.00	31.00	90.00
		PTCSSE_16X65T_B	4	2.79	12.00	24.00	28.00	38.00	120.00
		PTCSSE_18X65T_B	5	3.53	15.00	30.00	28.00	39.00	150.00
PLUS & DELUXE*	Simplex	PTCSS_10X54T_A^	1.5	1.09	4.50	9.00	22.00	30.00	45.00
		PTCSS_12X52T_A	2	1.57	6.00	12.00	22.00	30.00	60.00
		PTCSS_14X65T_A	3	2.14	9.00	18.00	22.00	30.00	90.00
		PTCSS_16X65T_A	4	2.79	12.00	24.00	22.00	30.00	120.00
		PTCSS_14X65T_B	3	2.14	9.00	18.00	56.00	75.00	90.00
		PTCSS_16X65T_B	4	2.79	12.00	24.00	56.00	75.00	120.00
		PTCSS_18X65T_B	5	3.53	15.00	30.00	60.00	82.00	150.00
		PTCSS_21X62T_B	7	4.81	21.00	42.00	60.00	82.00	210.00
		PTCSS_24X72T_B	10	6.28	30.00	60.00	60.00	82.00	300.00
		PTCSS_18X65T_C	5	3.53	15.00	30.00	90.00	120.00	150.00
		PTCSS_21X62T_C	7	4.81	21.00	42.00	90.00	120.00	210.00
		PTCSS_24X72T_C	10	6.28	30.00	60.00	90.00	120.00	300.00
		PTCSS_30X72T_C	15	9.82	45.00	90.00	90.00	124.00	450.00
		PTCSS_30X72F_C	15	9.82	45.00	90.00	90.00	124.00	450.00
		PTCSS_36X72T_C	20	14.14	60.00	120.00	92.00	126.00	600.00
		PTCSS_36X72F_C	20	14.14	60.00	120.00	92.00	126.00	600.00
		PTCSS_30X72F_D	15	9.82	45.00	90.00	185.00	250.00	450.00
		PTCSS_36X72F_D	20	14.14	60.00	120.00	185.00	250.00	600.00
		PTCSS_42X72F_D	28	19.24	84.00	168.00	185.00	250.00	840.00
		PTCSS_48X72F_D	37	25.13	111.00	222.00	185.00	250.00	1110.00
		PTCSS_36X72P_D	20	14.14	60.00	120.00	170.00	225.00	600.00
		PTCSS_42X72P_D	28	19.24	84.00	168.00	170.00	225.00	840.00
		PTCSS_48X72P_D	37	25.13	111.00	222.00	170.00	225.00	1110.00

* Deluxe Systems Offer Duplex, Triplex, and Quadplex systems. Multiple the flow rates by the respective number of active vessels(Do not include standby vessels).

**Min Design Flow/cuft of media based on 2.0 gpm/sqft.

*** Recommended for higher feed water hardness(TDS = 500 ppm)

*****Based on 30 Kgrain/cuft of resin (regenerated @ 15# / ft^3 NaCl dosage).

^^ Recommended for lower feed water hardness(TDS = 100 ppm)

A = 1" valve, B = 1.5" valve, C = 2" valve, D = 3" valve

^ For 10x54T tank, 2 Cuft of media will be ordered but fill only 1.5 Cuft of Media(1.5bags)

Nominal Design Parameters:

Configuration	Simplex, Duplex, Triplex and Quadplex
Inlet Pressure	30 psig minimum
Inlet Temperature	65°F
Sizing	3 gpm / ft^3 , 6 gpm / ft^3 & flux rates based on 15 psi dp
Bed Depth*	30 to 38 inches of Evoqua Water Technologies C-211 strong acid cation resin.
Freeboard*	25 to 38% of tank volume
Capacities	30 Kgrains / ft^3
Free Chlorine	0.5 ppm
Regeneration	15 lb. NaCl / ft^3

Recommended Operating Limits:

Feed Pressure	30 – 100 psig
Feed Temperature	40 – 85°F
Sizing (gpm/ft^3)	2 to 5 gpm / ft^3 for 500 ppm TDS @ feed water 6 gpm / ft^3 or Flux rates based on 15 psi dp for TDS – 100 ppm @ feed water

Parameters Not to Exceed*:

Feed Pressure	100 psig
Feed Temperature*	<35°F and >100°F
Maximum Inlet Turbidity	6 NTU
Sizing (gpm/ft^3)	6 gpm / ft^3 for 500 ppm TDS @ feed water Flux rates based on 25 psi dp for TDS – 100 ppm @ feed water
Free Chlorine	0-3 ppm (Shorter resin life from 1 to 3 ppm)
Iron	0.2 ppm
Manganese	0.1 ppm
TDS	500 ppm as $CaCO_3$, 100 ppm as $CaCO_3$

***** If any of the operating conditions are not within the limits given, consult the factory for the appropriate recommendation and application assistance.

General Specifications:

Pressure Vessels:	
Materials	Composite polyethylene and fiberglass
Rating	150 psig
Support	Free standing
Access Openings	
For 1” Valve Units	(1ea) 2½” threaded minimum
For 1½” Valve Units	Economy - (1ea) 2-1/2” threaded minimum Plus, Deluxe - (1ea) 4” threaded
For 2” Valve Units	(1ea min) 4” threaded
For 3” Valve Units	(1ea) 6” Top flanged for Top Mounted (1ea) 6” Top & Bottom flanged for Side Mounted
Process Connections	Threaded brass, Flanged
Distribution Systems:	
Upper	Single row PVC hub and Schedule 80 PVC slotted radials for 3” deluxe valve (side mount option only)
Lower (under drain)	
10” diameter through 16”	PVC basket strainer for economy valve and 1” plus, deluxe valves

14” diameter through 16”	Single row PVC hub and Schedule 80 PVC slotted radials for 1.5” plus and deluxe valve
18” diameter through 48”	Single row PVC hub and Schedule 80 PVC slotted radials
Top Mount or Side Mount Valve:	
1” - Top Mount only	Economy – Fleck model 7000 fiber reinforced polymer construction Plus, Deluxe - Fleck model 2750 brass construction
1½” - Top Mount only	Economy – Fleck model 7000 fiber reinforced polymer construction Plus, Deluxe - Fleck model 2850S brass construction
2” - Top Mount only	Plus, Deluxe - Fleck model 2900 brass construction
3” - Top Mount or Side Mount options available	Plus, Deluxe - Fleck model 3900 brass construction
Applicable Standards	Fleck – Pentair Valves - NSF/ANSI Standard 61 & 372 for brass - NSF/ANSI Standard 44 & 372 for composite - ROHS for all valves and / or WQA for all valves
Resin Layer:	
C-211 Resin	8% cross-linked gel strong acid cation resin in bead form. The resin has a high exchange capacity, excellent stability at elevated temperatures, and good chemical resistance over a wide pH range.

Controls Specifications:

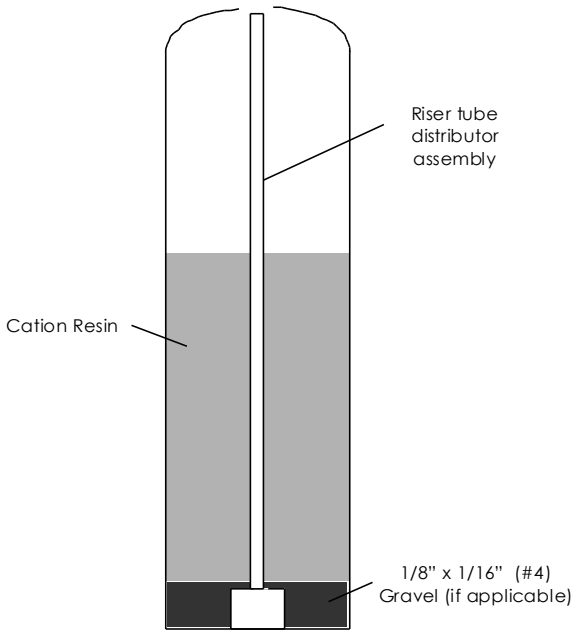
Enclosure	NEMA 3R or NEMA 3R Equivalent
Controller	Economy – SXT Plus – Mechanical Time Clock Deluxe – NXT
Output – 1 (“Pretreat Lockout”)	Contact closure indicates unit is in regeneration
NXT Interlock	Deluxe – Cat 5 cable to interlock NXT valves
Power cord / transformer - Fleck Valve	Transformer, 120V / 24 V / 40VA / US
Voltage / Frequency - Fleck Valve	24V AC / 60 Hz

Documentation Package:

Documents	Operations and Maintenance manual with storage, installation and operating instructions, spare parts list; Control valve Service Manual, Pipe & Instrumentation Diagram, Media List, Installation Reference Drawing
Quality Documents	Inspection Data Report check list / pick list

Media List:
The following table shows the list of resin media used in the Softener. The list includes details like SAP number, layer type and the description.

SAP Number	Layer Number	Media Description
W2T124144	Resin Layer	RESIN,IX USF C-211B CATION CF BAG (Strong Acid Cation)
W2T126734	Support Layer	QUARTZ #4



Qty	SAP Part Number	Catalog Part #	Description
1	W3T333112	PTCSTD14-30X72TZCZBCXXX	VANTAGE PTC, 30 X 72 TRIPLEX DEMAND FLOW WATER SOFTENING SYSTEMS w/ ONE 39" X 48" BRINE TANK.
1	W3T82124	No Cat PN Available	ASSY, 39x48' BRINE TANK,250G,HDPE

Detailed Specifications:

			Connections (inches)		Brine System					Media Quantities (ft^3)		Utility Requirements	Physical Dimension** (Inches)					Weight (lbs)***		
Trim Package	Configuration	Model Number	Inlet/Outlet	Backwash / Drain Line	Injector Size/Color	Brine Tank Refill Flow Controller (gpm)	Brine Tank Size D x H (in)	NaCl per Regen (lbs)	Max Tank Salt Capacity (lbs)	Support, No. 4 Quartz	C-211 Resin	Electrical	Minimum Drain Capacity (gpm)*	Maximum Diameter (Greater of Tank OD or Support Base)	Overall Depth "A"	Overall Width "B"	Overall Height "C"	Shipping Weight	Operating Weight	Brine Tank Worst Case Weight (Tank Fully Loaded w/ Salt & H2O)
ECONOMY	Simplex	PTCSSE_10X54T_A^^^	1" mpt	0.5" HB	1/W	0.25	18 x 40	22.5	340	0.00	1.50	110V, 1 Ph, 60 HZ	4.0	14.00	18	38	63	131	185	674
		PTCSSE_12X52_A	1" mpt	0.5" HB	1/W	0.25	18 x 40	30	340	0.00	2.00		6.0	15.15	18	43	61	163	239	674
		PTCSSE_14X65_A^	1" mpt	0.5" HB	2/B	0.25	24 x 40	45	605	0.40	3.00		7.0	16.41	24	45	74	288	442	1197
		PTCSSE_16X65_B	1.5" mpt	1" mpt	2/B	0.25	24 x 40	60	605	0.60	4.00		10.0	17.15	24	47	74	368	525	1197
		PTCSSE_18X65_B	1.5" mpt	1" mpt	2/B	0.25	24 x 40	75	605	0.70	5.00		12.0	20.08	24	50	75	459	679	1197
PLUS	Simplex	PTCSSP_10X54_A	1" fpt	0.5" fpt	2/B	0.5	18 x 40	22.5	340	0.00	1.50		4.0	13.00	18	37	61	133	187	674
		PTCSSP_12X52_A	1" fpt	0.5" fpt	2/B	0.5	18 x 40	30	340	0.00	2.00		5.0	13.45	18	37	60	165	241	674
		PTCSSP_14X65_A	1" fpt	0.5" fpt	2/B	0.5	24 x 40	45	605	0.40	3.00		10.0	14.81	24	45	72	290	444	1197
		PTCSSP_16X65_A	1" fpt	0.5" fpt	2/B	0.5	24 x 40	60	605	0.60	4.00		10.0	16.30	24	47	72	370	527	1197
		PTCSSP_14X65_B	1.5" fpt	1" mpt	2/B	0.5	24 x 40	45	605	0.40	3.00		10.0	15.00	24	45	73	296	450	1197
		PTCSSP_16X65_ B	1.5" fpt	1" mpt	2/B	0.5	24 x 40	60	605	0.60	4.00		10.0	16.30	24	47	73	376	533	1197
		PTCSSP_18X65_B	1.5" fpt	1" mpt	5C/W	2.0	24 x 40	75	605	0.70	5.00		12.0	20.08	24	50	73	467	687	1197
		PTCSSP_21X62_B	1.5" fpt	1" mpt	5C/W	2.0	24 x 40	105	605	1.00	7.00		15.0	22.00	24	52	74	629	893	1197
		PTCSSP_24X72_B	1.5" fpt	1" mpt	5C/W	2.0	30 x 48	150	700	1.80	10.00		25.0	24.30	25	55	82	943	1285	2256
		PTCSSP_18X65_C	2" fpt	1" mpt	5C/W	2.0	24 x 40	75	605	0.70	5.00		12.0	20.08	24	50	78	487	707	1197
		PTCSSP_21X62_C	2" fpt	1" mpt	5C/W	2.0	24 x 40	105	605	1.00	7.00		15.0	22.00	24	52	80	649	913	1197
		PTCSSP_24X72_C	2" fpt	1" mpt	5C/W	2.0	30 x 48	150	700	1.80	10.00		25.0	24.30	25	55	82	963	1305	2256
		PTCSSP_30X72T_C^	2" fpt	1" mpt	6C/R	2.0	30 x 48	225	700	2.50	15.00		36.0	30.40	31	67	91	1403	2008	2256
		PTCSSP_30X72F_C^	2" fpt	1" mpt	6C/R	2.0	30 x 48	225	700	2.50	15.00		36.0	30.40	31	67	91	1409	2014	2256
		PTCSSP_36X72T_C^^	2" fpt	1" mpt	6C/R	2.0	39 x 48[1]	300	1968	3.50	20.00		52.0	36.50	39	82	96	1856	2776	3918
		PTCSSP_36X72F_C^^	2" fpt	1" mpt	6C/R	2.0	39 x 48[1]	300	1968	3.50	20.00		52.0	36.50	39	82	96	1856	2776	3918
		PTCSSP_30X72F_D	3" fpt	2" mpt	6/W	5.0	30 x 48	225	700	2.50	15.00		36.0	30.40	31	67	94	1463	2068	2256
		PTCSSP_36X72F_D	3" fpt	2" mpt	6/W	5.0	39 x 48[1]	300	1968	3.50	20.00		52.0	36.50	39	82	99	1910	2830	3918
		PTCSSP_42X72F_D	3" fpt	2" mpt	7/B	5.0	42 x 60[1]	420	2972	5.00	28.00		70.0	42.25	43	91	92	2588	3663	5676
		PTCSSP_48X72F_D^	3" fpt	2" mpt	8/Y	5.0	50 x 60[1]	555	3863	7.00	37.00		95.0	48.30	50	100	101	3422	4882	7912
		PTCSSP_36X72P_D	3" fpt	2" mpt	6/W	5.0	39 x 48[1]	300	1968	3.50	20.00		52.0	36.50	39	111	103	1910	2830	3918
		PTCSSP_42X72P_D	3" fpt	2" mpt	7/B	5.0	42 x 60[1]	420	2972	5.00	28.00		70.0	42.25	45	118	102	2588	3663	5676
		PTCSSP_48X72P_D^	3" fpt	2" mpt	8/Y	5.0	50 x 60[1]	555	3863	7.00	37.00		95.0	48.30	51	129	104	3422	4882	7912
DELUXE****	Simplex	PTCSSD_10X54_A^^^	1" fpt	0.5" fpt	2/B	0.5	18 x 40	22.5	340	0.00	1.50		4.0	13.00	18	37	61	146	200	674
		PTCSSD_12X52_A	1" fpt	0.5" fpt	2/B	0.5	18 x 40	30	340	0.00	2.00		5.0	13.45	18	37	60	178	254	674
		PTCSSD_14X65_A	1" fpt	0.5" fpt	2/B	0.5	24 x 40	45	605	0.40	3.00		10.0	14.81	24	45	72	303	457	1197
		PTCSSD_16X65_A	1" fpt	0.5" fpt	2/B	0.5	24x 40	60	605	0.60	4.00		10.0	16.30	24	47	72	383	540	1197
		PTCSSD_14X65_B	1.5" fpt	1" mpt	2/B	0.5	24 x 40	45	605	0.40	3.00		10.0	15.00	24	45	73	304	458	1197
		PTCSSD_16X65_B	1.5" fpt	1" mpt	2/B	0.5	24 x 40	60	605	0.60	4.00		10.0	16.30	24	47	73	384	541	1197
		PTCSSD_18X65_B	1.5" fpt	1" mpt	5C/W	2.0	24 x 40	75	605	0.70	5.00		12.0	20.08	24	50	73	475	695	1197
		PTCSSD_21X62_B	1.5" fpt	1" mpt	5C/W	2.0	24 x 40	105	605	1.00	7.00		15.0	22.00	24	52	74	637	901	1197
		PTCSSD_24X72_B	1.5" fpt	1" mpt	5C/W	2.0	30 x 48	150	700	1.80	10.00		25.0	24.30	25	55	82	951	1293	2256
		PTCSSD_18X65_C	2" fpt	1" mpt	5C/W	2.0	24 x 40	75	605	0.70	5.00		12.0	20.08	24	50	78	494	714	1197
		PTCSSD_21X62_C	2" fpt	1" mpt	5C/W	2.0	24 x 40	105	605	1.00	7.00		15.0	22.00	24	52	80	656	920	1197
		PTCSSD_24X72_C	2" fpt	1" mpt	5C/W	2.0	30 x 48	150	700	1.80	10.00		25.0	24.30	25	55	82	970	1312	2256
		PTCSSD_30X72T_C^	2" fpt	1" mpt	6C/R	2.0	30 x 48	225	700	2.50	15.00		36.0	30.40	31	67	91	1410	2015	2256
		PTCSSD_30X72F_C^	2" fpt	1" mpt	6C/R	2.0	30 x 48	225	700	2.50	15.00		36.0	30.40	31	67	91	1416	2021	2256
		PTCSSD_36X72T_C^^	2" fpt	1" mpt	6C/R	2.0	39 x 48[1]	300	1968	3.50	20.00		52.0	36.50	39	82	96	1863	2783	3918
		PTCSSD_36X72F_C^^	2" fpt	1" mpt	6C/R	2.0	39 x 48[1]	300	1968	3.50	20.00		52.0	36.50	39	82	96	1863	2783	3918
		PTCSSD_30X72F_D	3" fpt	2" mpt	6/W	5.0	30 x 48	225	700	2.50	15.00		36.0	30.40	31	67	94	1485	2090	2256
		PTCSSD_36X72F_D	3" fpt	2" mpt	6/W	5.0	39 x 48[1]	300	1968	3.50	20.00		52.0	36.50	39	82	99	1932	2852	3918
		PTCSSD_42X72F_D	3" fpt	2" mpt	7/B	5.0	42 x 60[1]	420	2972	5.00	28.00		70.0	42.25	43	91	92	2610	3685	5676
		PTCSSD_48X72F_D^	3" fpt	2" mpt	8/Y	5.0	50 x 60[1]	555	3863	7.00	37.00		95.0	48.30	50	100	101	3444	4904	7912
		PTCSSD_36X72P_D	3" fpt	2" mpt	6/W	5.0	39 x 48[1]	300	1968	3.50	20.00		52.0	36.50	39	111	103	1932	2852	3918
		PTCSSD_42X72P_D	3" fpt	2" mpt	7/B	5.0	42 x 60[1]	420	2972	5.00	28.00		70.0	42.25	45	118	102	2610	3685	5676
		PTCSSD_48X72P_D^	3" fpt	2" mpt	8/Y	5.0	50 x 60[1]	555	3863	7.00	37.00		95.0	48.30	51	129	104	3444	4904	7912

* Based on attainable backwash flow at 85°F.

** See the following sheet for details. Dimensions are approximate and do not include maintenance access, field installed piping or operating space.

*** Weight based on heaviest option.

**** For duplex, triplex, and quadplex, multiply the weights, media quantities, and length in the table above by 2, 3, or 4, respectively.

^ Actual OD may be larger. Support bases may also be larger.

[1] The quantities of gravel are provided for the referenced brine tank kit; 39x48 - 3.0 ft^3, 42x60 - 3.25 ft^3, 50x60 - 4.5 ft^3.

^ Recommended for normal temperature operation(60°F to 70°F) during Backwash operation.

^^ For the tank 36x72 with 2"Vlv(2900), it is recommended to perform the backwash at lower temperature and lower flowrates for longer backwash duration

^^^ For 10x54T tank, 2 Cuft of media will be ordered but fill only 1.5 Cuft of Media(1.5bags)

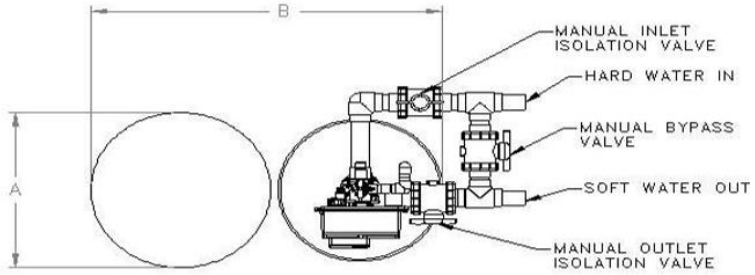
A = 1" Valve, B= 1.5" Valve, C= 2" Valve, D= 3" Valve

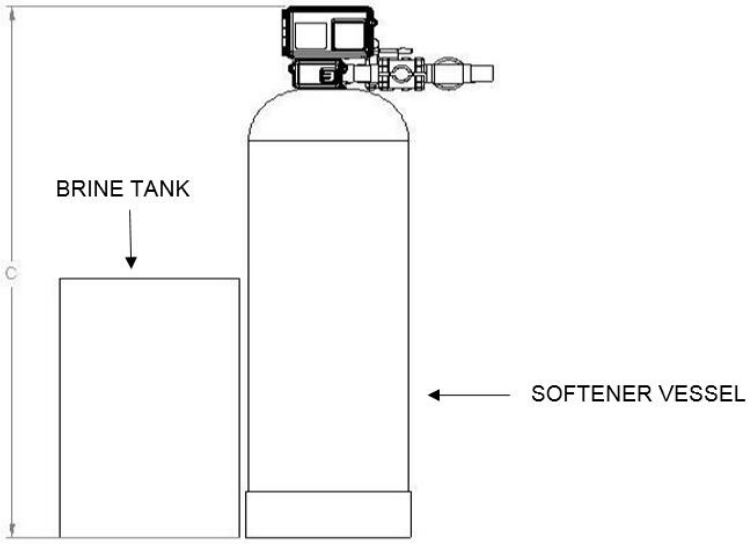
Notes:

1. Piping shown here is for reference only. Refer to control valve service manual for proper installation guidelines.

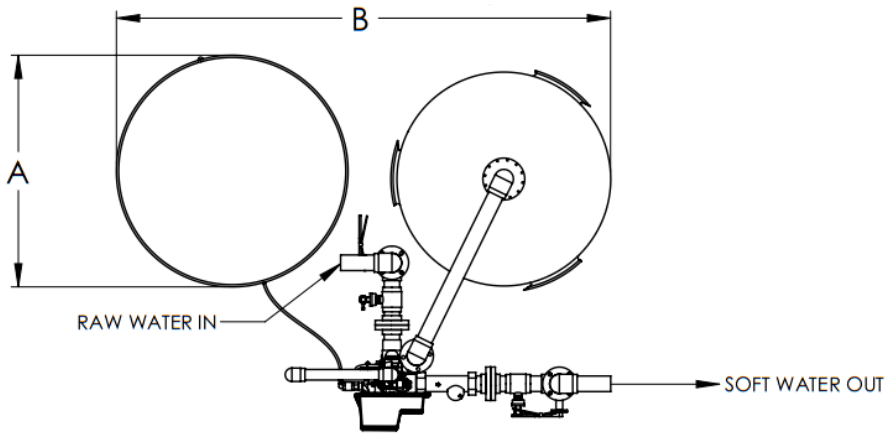
2. All piping, fittings and isolation/Bypass valves shown are not supplied by Factory.

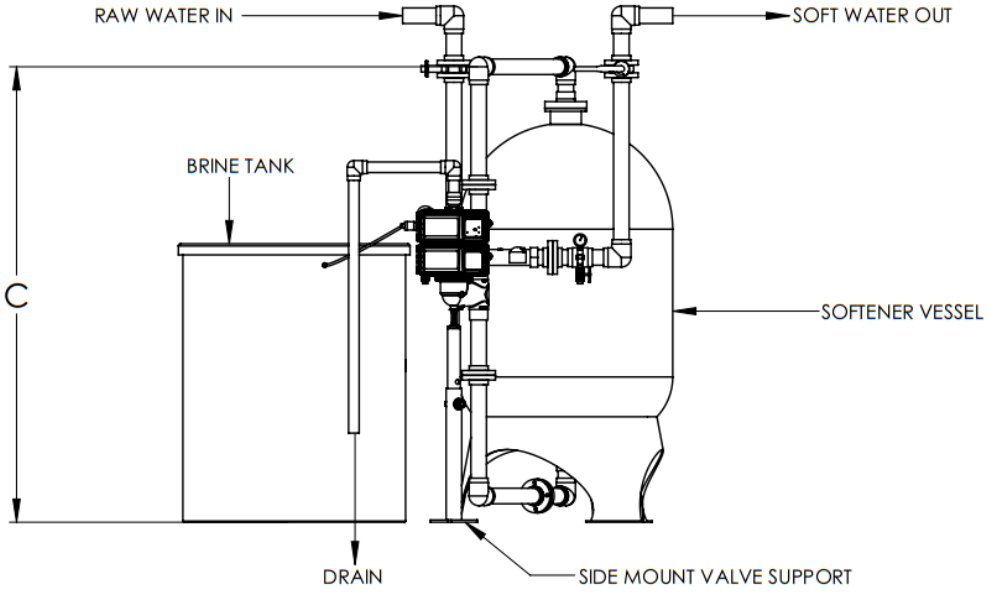
Top Mount Configuration:





Side Mount Configuration:





Approximate Pressure Losses*:

Trim Package	Model	Valve	Normal Service Flow Operation									
			Minimum Flowarate @ 2GPM/Sqft	Press.Drop, PSI	Flowarate @ 3GPM/Cuft	Press.Drop, PSI	Flowarate @ 6GPM/Cuft	Press.Drop, PSI	Flowrate @ 15 PSI	Press.Drop, PSI	Flowrate @ 25 PSI	Press.Drop, PSI
Econo Sftnr	PTCSSE_10X54_A	7000	1.1	2.0	4.5	2.4	9.0	3.9	23.0	15	31.0	25
	PTCSSE_12X52_A		1.6	1.8	6.0	2.7	12.0	5.3	23.0	15	31.0	25
	PTCSSE_14X65_A^		2.1	2.1	9.0	4.0	18.0	9.9	23.0	15	31.0	25
	PTCSSE_16X65_B		2.8	2.2	12.0	4.4	24.0	11.4	28.0	15	38.0	25
	PTCSSE_18X65_B		3.5	2.2	15.0	5.6	30.0	15.7	28.0	15	39.0	25
Plus and Deluxe Sftnr	PTCSS_10X54_A	2750	1.1	2.0	4.5	2.5	9.0	4.0	22.0	15	30.0	25
	PTCSS_12X52_A		1.6	1.9	6.0	2.7	12.0	5.5	22.0	15	30.0	25
	PTCSS_14X65_A		2.1	2.1	9.0	4.1	18.0	10.5	22.0	15	30.0	25
	PTCSS_16X65_A		2.8	2.2	12.0	5.9	24.0	17.1	22.0	15	30.0	25
	PTCSS_14X65_B	2850S	2.1	2.0	9.0	2.4	18.0	3.4	56.0	15	75.0	25
	PTCSS_16X65_B		2.8	2.1	12.0	2.7	24.0	4.5	56.0	15	75.0	25
	PTCSS_18X65_B		3.5	2.0	15.0	2.7	30.0	5.0	60.0	15	82.0	25
	PTCSS_21X62_B		4.8	2.0	21.0	3.4	42.0	7.8	60.0	15	82.0	25
	PTCSS_24X72_B		6.3	2.1	30.0	5.1	60.0	14.2	60.0	15	82.0	25
	PTCSS_18X65_C	2900S	3.5	2.0	15.0	2.3	30.0	3.4	90.0	15	120.0	25
	PTCSS_21X62_C		4.8	1.9	21.0	2.6	42.0	4.7	90.0	15	120.0	25
	PTCSS_24X72_C		6.3	2.1	30.0	3.5	60.0	7.8	90.0	15	120.0	25
	PTCSS_30X72T_C^		9.8	2.3	45.0	5.2	90.0	14.4	90.0	15	124.0	25
	PTCSS_30X72F_C^		9.8	2.3	45.0	5.2	90.0	14.4	90.0	15	124.0	25
	PTCSS_36X72T_C^		14.1	2.3	60.0	7.4	120.0	23.1	92.0	15	126.0	25
	PTCSS_36X72F_C^^		14.1	2.3	60.0	7.4	120.0	23.1	92.0	15	126.0	25
	PTCSS_30X72F_D	3900	9.8	2.2	45.0	2.9	90.0	5.1	185.0	15	250.0	25
	PTCSS_36X72F_D		14.1	2.1	60.0	3.3	120.0	7.2	185.0	15	250.0	25
	PTCSS_42X72F_D		19.2	2.0	84.0	4.5	168.0	12.2	185.0	15	250.0	25
	PTCSS_48X72F_D^		25.1	2.2	111.0	6.5	222.0	20.0	185.0	15	250.0	25
Plus & Deluxe(Side Mount option)	PTCSS_36X72P_D		14.1	2.1	60.0	3.6	120.0	8.3	170.0	15	225.0	25
	PTCSS_42X72P_D		19.2	2.1	84.0	5.0	168.0	14.3	170.0	15	225.0	25
	PTCSS_48X72P_D^		25.1	2.3	111.0	7.4	222.0	23.6	170.0	15	225.0	25

Notes:

* Based on Nominal Flow, negligible elevation losses, interconnection piping and flow meter losses (if applicable) not included.

^^ From the above results table, for the tank 36x72 with 2"vlv(2900)- system pressure drop is too high during the backwash at normal temperature, so it is recommended to perform the backwash at lower temperature and lower flowrates for longer backwash duration

^ Recommended for normal temperature operation(60°F to 70°F) during Backwash operation.

Regeneration Sequence and Flows:

Economy Chart

Economy			Flow Rate (gpm)					
Step	Tank Diameter / Valve	Duration (min)	<40°F	40°F to 50°F	50°F to 60°F	60°F to 70°F	70°F to 80°F	80°F to 90°F
Backwash	10_A	10	2.5	3.0	3.0	3.5	4.0	4.0
	12_A	10	3.0	3.5	4.0	4.5	5.0	6.0
	14_A	10	4.5	5.0	5.0	6.0	7.0	7.0
	16_B	10	5.0	7.0	7.0	8.0	9.0	10.0
	18_B	10	8.0	8.0	9.0	10.0	12.0	12.0

Brine In/ Slow Rinse*		Brine			Slow Rinse			Total
		Time (min)	Flow Rate (gpm)	Conc. Brine (gal)	Time (min)	Flow Rate (gpm)	Slow Rinse (gal)	Time (min)
	10	30	0.30	9.0	22	0.60	13.2	52
	12	40	0.30	12.0	27	0.60	16.2	64
	14	33	0.55	18.2	28	0.80	22.4	61
	16	44	0.55	24.2	35	0.85	29.8	79
	18	55	0.55	30.3	44	0.85	37.4	99

Fast Rinse	All	10 minutes at Same Flow Rate As Backwash

Brine Refill		Flow Rate (gpm)	Time (min)
	10	0.25	36
	12	0.25	48
	14	0.25	74**
	16	0.25	97**
	18	0.25	123**

* Based on 30-40 psi dynamica feed pressure. Dynamic pressures higher than this may allow for a reduced rinse time.

** Brine Refill time is more than 1 hour.

A = 1" valve, B = 1.5" valve, C = 2" valve, D = 3" valve

Plus & Deluxe Chart

Plus and Deluxe			Flow Rate (gpm)					
Step	Tank Diameter / Valve	Duration (min)	<40°F	40°F to 50°F	50°F to 60°F	60°F to 70°F	70°F to 80°F	80°F to 90°F
Backwash	10_A	10	2.5	3.0	3.0	3.5	4.0	4.0
	12_A	10	2.0	3.5	3.5	3.5	5.0	5.0
	14_A	10	3.5	5.0	5.0	5.0	5.0	10.0
	16_A	10	5.0	5.0	5.0	5.0	10.0	10.0
	14_B	10	3.5	5.0	5.0	5.0	5.0	10.0
	16_B	10	5.0	5.0	5.0	5.0	10.0	10.0
	18_B	10	7.4*	9.0	9.0	9.0	12.0	12.0
	21_B	10	9.0	12.0	12.0	12.0	15.0	15.0
	24_B	10	12.0	15.0	15.0	15.0	15.0	25.0
	18_C	10	7.4*	9.0	9.0	9.0	12.0	12.0
	21_C	10	9.0	12.0	12.0	12.0	15.0	15.0
	24_C	10	12.0	15.0	15.0	15.0	15.0	25.0
	30_C	10	21.0	24.0	27.0	27.0	34.0	36**
	36_C	10	27.0	34.0	37**	40**	49**	52**
	30_D	10	21.0	24.0	27.0	27.0	34.0	36.0
	36_D	10	27.0	34.0	37.0	40.0	49.0	52.0
	42_D	10	40.0	45.0	50.0	55.0	65.0	70.0
	48_D	10	50.0	60.0	70.0	75.0	85.0	95.0

Brine In/Slow Rinse		Brine			Slow Rinse			
		Time (min)	Flow Rate (gpm)	Conc. Brine (gal)	Time (min)	Flow Rate (gpm)	Slow Rinse (gal)	Total Time (min)
	10	23	0.40	9.2	16.00	0.80	12.8	39
	12	30	0.40	12.0	20.00	0.80	16.0	50
	14	46	0.40	18.4	28.00	0.80	22.4	74
	16	60	0.40	24.0	37.00	0.80	29.6	97
	18	14	2.20	30.8	12.00	3.10	37.2	26
	21	20	2.20	44.0	16.00	3.10	49.6	36
	24	28	2.20	61.6	22.00	3.10	68.2	50
	30_C	41	2.20	90.2	30.00	3.80	114.0	71
	30_D	25	3.65	91.2	21.00	5.50	115.5	46
	36_C	55	2.20	121.0	40.00	3.80	152.0	95
	36_D	33	3.65	120.5	28.00	5.50	154.0	61
	42	30	5.50	165.0	28.00	7.00	196.0	58
	48	35	6.00	210.0	26.00	10.50	273.0	61

Fast Rinse		
	All	10 minutes at Same Flow Rate As Backwash

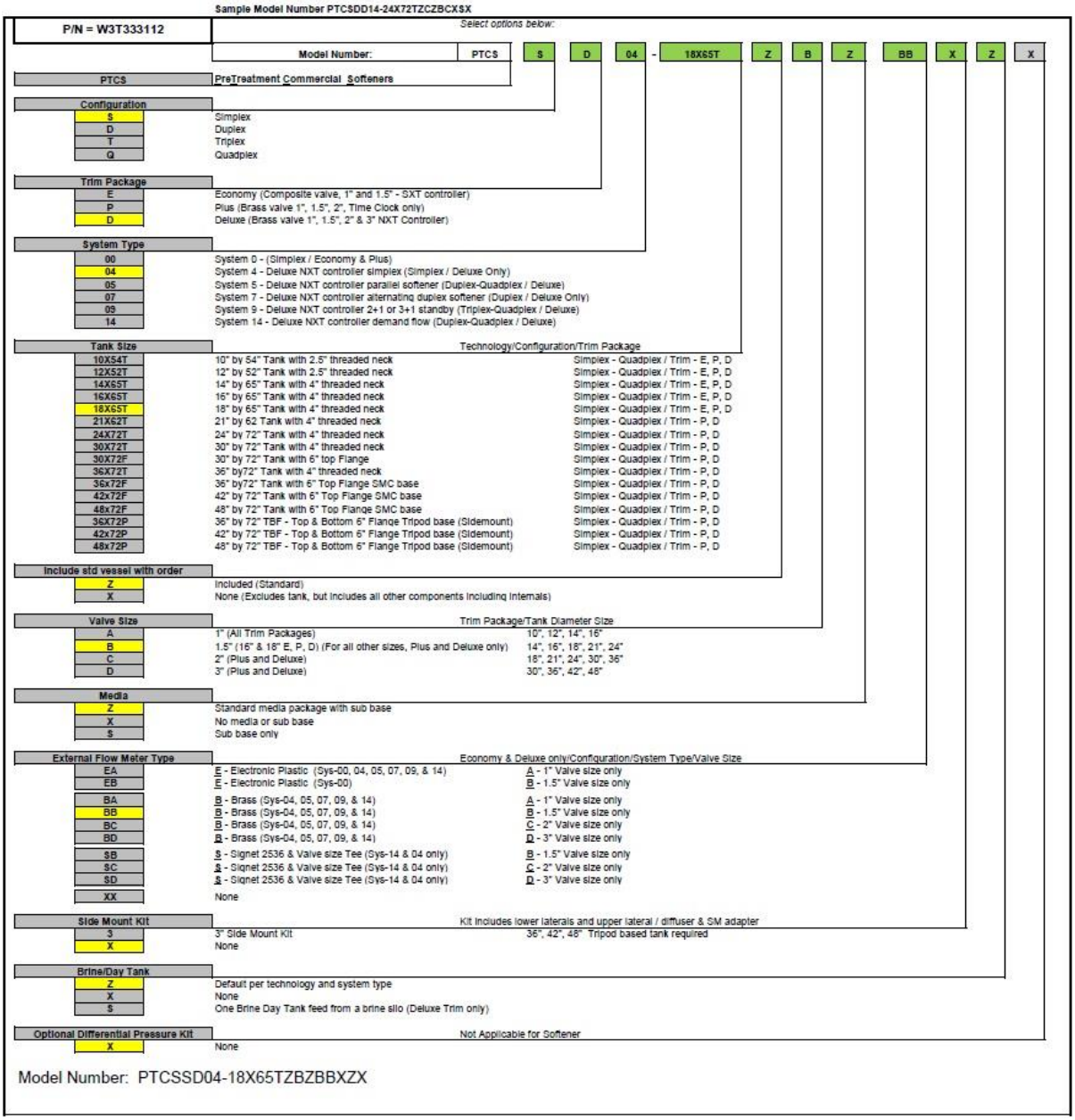
Brine Refill		Flow Rate (gpm)	Time (min)
	10	0.5	18
	12	0.5	24
	14	0.5	37
	16	0.5	48
	18	2.0	15
	21	2.0	22
	24	2.0	30
	30_C	2.0	45
	30_D	5.0	18
	36_C	2.0	60
	36_D	5.0	24
	42	5.0	33
	48	5.0	42

* Use closest DLFC in kit and verify resin is not backwashed out of unit.

** Use largest DLFC in kit and increase backwash duration to compensate for a less expanded bed. Greater than 25 psid will be developed through valve. Inlet pressure may need to be higher to ensure adequate

A = 1" Valve, B= 1.5" Valve, C= 2" Valve, D= 3" Valve

Standard Product Ordering Information:



Notes:

1, Tank Size abbreviations: T = Thread, F = 6" Flange Top, P = Flange top & bottom w/ tripod base
2, External Flow Meter abbreviations for "Z" = A TO D (A- 1"; B- 1.5", C- 2"; D- 3") which depends on selected Valve size.

Qty	SAP Part Number	Catalog Part #	Description
1	W3T333112	PTCSTD14-30X72TZCZBCXXX	VANTAGE PTC, 30 X 72 TRIPLEX DEMAND FLOW WATER SOFTENING SYSTEMS w/ ONE 39" X 48" BRINE TANK.
1	W3T82124	No Cat PN Available	ASSY, 39x48' BRINE TANK,250G,HDPE

Diaphragm Solenoid Valve Information:

The Diaphragm Solenoid Valve is included in the product package when a System 07, 09, or 14 is selected by the user (Deluxe trim package ONLY). One kit per tank is included based on the selected valve size.

For 1" (2750) Valves
Part Number: W3T81715 LSK, PTC 1" SOL VLV ISLTN 24VDC

This product isolation kit includes:
- 1 ea 1" Aquamatic diaphragm valve with 24VDC solenoid
- 2 ea 1" Aquamatic union valve adapters
- 25 ft ¼" polyethylene tubing to plumb Aquamatic actuation relief to drain

For 1.5" (2850S) Valves
Part Number: W3T81716 LSK, PTC 1.5" SOL VLV ISLTN 24VDC

This product isolation kit includes:
- 1 ea 1.5" Aquamatic diaphragm valve with 24VDC solenoid
- 2 ea 1.5" Aquamatic union valve adapters
- 25 ft ¼" polyethylene tubing to plumb Aquamatic actuation relief to drain

For 2" (2900S) and 3" (3900) Valves
A diaphragm solenoid valve is not required

Flow Meter Information:

Flow meters are required for Deluxe trim package (Systems 05, 07, 09, and 14) softening units. Otherwise, flow meters are optional only and are included in the softener ordering sheet.

The composite flow meter is available in 1" and 1.5" npt connections and is ideally utilized on the 1" and 1.5" valve configurations. The brass flow meters and the Signet paddle wheels (with PVC flow tee) or Signet paddle wheels (with PVC saddle) are available in 1", 1.5", 2", 3", 4" & 6". See below for capacity information.

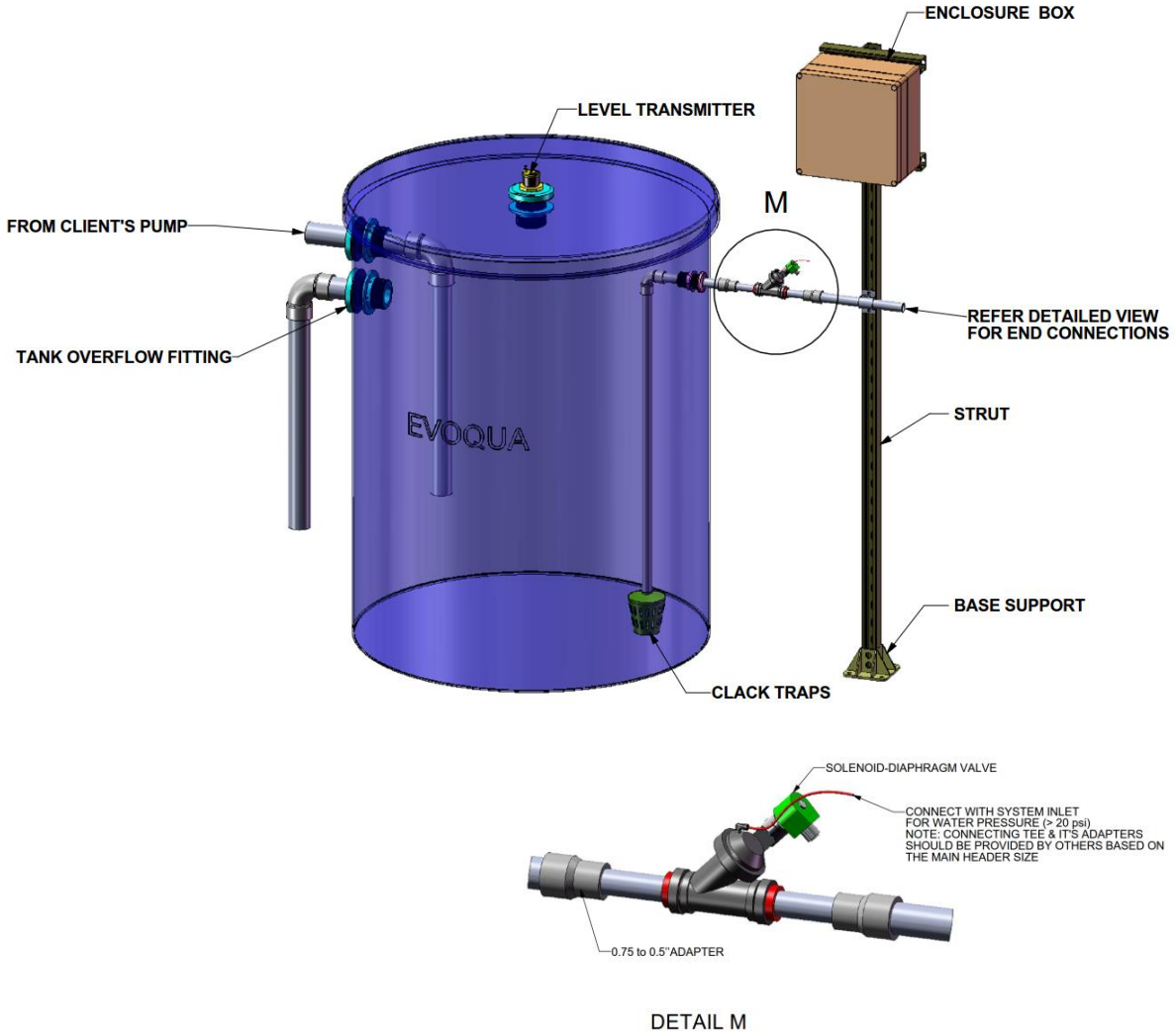
Description	Size / Connection Type	Min Flow Rate (gpm/lpm)	Maximum Flow Rate (gpm/lpm)
Fleck Composite Electronic	All up to 1.5" mpt	1 / 3.8	50 / 189
Fleck Brass Electronic	1" fpt x mpt	0.7 / 2.6	40 / 151.4
	1.5" fpt x mpt	1.5 / 5.7	75 / 284
	2" fpt x mpt	3.0 / 11.4	150 / 567
	3" mpt x mpt	7.0 / 26.5	300 / 1135
Signet Paddle Wheel with PVC Flow Tee	1" socket	1.0 / 3.8	50 / 189
	1.5" socket	1.9 / 7.2	125 / 473
	2" spigot	3.2 / 12.1	209 / 791
	3" spigot	7.0 / 26.5	460 / 1741
Signet paddle wheels (with PVC saddle)	4"	10.8 / 40.7	716.8 / 2713
	6"	24.4 / 92.3	1625 / 6150

Brine Day Tank for Silo Operation:

The brine day tank is an optional kit that can be selected in the softener ordering matrix (requires Deluxe trim). A brine day tank is a holding tank which contains a brine solution that was prepared and transferred from a Brine Silo (whereas a brine tank is a storage tank where the salt and water will be added to prepare a brine solution).

The selection of Option S will include the below items,

- One (1) Brine Day Tank
- One (1) Distributor basket
- One (1) Solenoid diaphragm valve
- One (1) Level transmitter
- Pipe & Hose fittings (adapters, couplings, bushings etc - according to the selected valve & configuration)
- Junction box with bolt able support frame (with a transformer, a power supply and its enclosure)



Overall arrangement of Brine Day tank and its connections.

Refer to SU5333-056ZXXX for the Electrical Schematic and control panel drawing

The brine day tank is made of a durable and chemically resistant high density polyethylene. A brine transfer pump is required to transfer the brine solution from a brine silo (located at the client site) to the brine day tank. The brine transfer pump is not provided with Option S as it needs to be customized to the client's site conditions.

The distributor basket will be fitted with a 0.75'' pipe which will prevent any dirt from entering the Fleck/Pentair valve.

A solenoid diaphragm valve, when actuated, allows the brine solution to pass to the softener vessel calling for regeneration.

An ultrasonic level transmitter is used to monitor the brine solution level in the day tank. The level transmitter will start the pump when the low level pre-set value is reached and stops the pump when the brine solution reaches the high level pre-set value. The power supply will supply 24 VDC to the level transmitter.

The junction box is a halogen free enclosure made of impact resistant polycarbonate material that holds the transformer and the power supply (with its fuses, cable glands, and terminal boxes). The whole enclosure is fitted using four (4) polycarbonate brackets and four (4) M3 self-tapping screws making it easily field-installable. The junction box can also be fitted with a strong, light weight, and highly chemical resistant fiberglass support structure. This support structure can be bolted to the floor and is able to hold the weight of the solenoid valve and the associated pipe fittings.

The transformer is an Impervitran Series 2 style with a NEMA/EEMAC TYPE 4, 4X, 12, 13 class rating that supplies 24 VAC to one (1) solenoid valve and up to four (4) Fleck/Pentair valves. It is CSA approved, has a temperature rating of 130°C, and comes with the primary fuse block rating of class "CC".

Brine Day Tank Operational Description:
The brine day tank is operated during the softener regeneration mode. Only one (1) Brine Day Tank is needed for a softener vessel configuration (Simplex – Quadplex).

When a softener vessel goes in to regeneration mode, the valve controller signals the solenoid diaphragm valve to open. The brine solution is drawn from the brine day tank and passes through a filter at the bottom of the tank, a pipe, and the solenoid diaphragm valve before reaching the softener vessel during the brine introduction step. Once required volume of brine solution is introduced, the controller signals the solenoid diaphragm valve to close stopping the brine injection.

The level transmitter in the brine day tank is used to maintain the required amount of brine by providing a signal to the brine pump when the level of brine solution reaches the low and high thresholds in the brine day tank. The level transmitter can be configured using a FOB USB adapter (included with the level transmitter) and Webcal software (free download online). Refer to the Webcal manual for settings and set-up instructions.

Brine Day Tank Product Offering Overview:
The following table shows the brine day tank size recommended for the various softeners depending on their vessel and valve sizes. The brine day tank assembly automatically gets included in the BOM once the brine silo option is selected in the ordering matrix.

Si.No:	System	Valve Size, In	Brine Day Tank Size, in	Tank Brine Holding Capacity, Gal	Applicable Tank Sizes										
					10''	12''	14''	16''	18''	21''	24''	30''	36''	42''	48''
1	Simplex/ Duplex/ Triplex/ Quadplex	1	24 x 48	95	X	X	X	X	X						
2		1.5	24 x 48	95			X	X	X	X	X				
3		2	30 x 48	145					X	X	X	X	X		
4		3	30 x 48	145								X			
5			39 x 48	250									X	X	X

The table below shows the required volume of brine solution and the brine solution draw rate for one regeneration of a softener vessel. The brine day tank should be filled in less than 10 minutes.

Si.No:	Parameters	Softener Tanks										
		10''	12''	14''	16''	18''	21''	24''	30''	36''	42''	48''
1	Max Brine Required, Gallon	9	12	18.2	24.2	30.8	44	61.6	91.2	121	165	210
2	Max Brine Flow Rate, GPM	0.4	0.4	0.4	0.4	2.2	2.2	2.2	3.65	3.7	5.5	6

Brine Day Tank Nominal Design Parameters:

Configuration	ALL
Inlet Pressure	30 psig minimum
Inlet Temperature	65°F
Sizing(gpm)	95, 145, 250
Regeneration Solution	Sodium Chloride solution
Brine Fill Time	Refer the above table

Brine Day Tank Recommended Operating Limits:

Feed Pressure	30 – 100 psig
Feed Temperature	40 – 85°F

Brine Day Tank Parameters Not to Exceed*:

Feed Pressure	100 psig
Feed Temperature*	<35°F and >100°F
Sizing (gpm)	95 gpm for 24x48 tank 145 gpm for 30x48 tank 250 gpm for 39x48 tank

Brine Day Tank General Specifications:

Brine Day Tank:	
Material	High Density Polyethylene
Pressure Rating	Atmospheric pressure
Support	Free standing
Filter Systems:	
Filter type	PVC basket strainer
Material	High impact ABS plastic
Compliance	FDA compliant
Slot Size	0.010 to 0.013 inches
Solenoid-Diaphragm Valve	
Size	0. 5”
Material	Casing – Noryl, Internal parts – Noryl / PVC
Maximum Temperature Rating	60°C(140° F)
Maximum Pressure Rating	125 psi (8.6 bar)
Level Transmitter	
Transmitter type	Ultrasonic
Model Number	EchoPod DL14 Multi-Function Ultrasonic Transmitter
Maximum working range	1.25m; 48’’
Maximum working pressure	30 PSI (2 bar)
Maximum working temperature	60°C(140° F)
Mounting connection	1” NPT
Enclosure Material	Polycarbonate

Brine Day Tank Controls Specifications:

Enclosure	NEMA/EEMAC TYPE 4, 4X, 12, 13
Power Supply	24VDC, 1.3A, 100-240VAC, 30W, 1PH
Transformer	120/240 VAC; 24 VAC
Solenoid Diaphragm Valve	24VAC/60HZ
Level Transmitter	Supply voltage: 24 VDC Contact type: SPST relays, 1A Power consumption: 0.5W

Brine Day Tank Regulations and Standards:

Electrical	NEMA 4 Equivalent
Level Transmitter	CE, RoHS

Brine Day Tank Documentation Package:

Documents	Brine day tank Assembly Aid Drawing (Installation Drawing Aid), Level transmitter configuration manual (Webcal manual)
Quality Documents	Inspection Data Report check list / pick list

Optional Installation Kit:

The optional installation kit (ordered separately) is selected based on valve size. A separate kit is provided for side mount 3'' valves. The respective W3T part numbers will be multiplied based on the selected configuration (Simplex – Quadplex).

For 1" Valve – Simplex configuration

SAP PART NUMBER	QTY	DESCRIPTION
W3T357588	**1**	**INSTALLATION KIT, PTC-1" VALVE**
W2T126097	2	VALVE,BALL TU FULL PT LEV 1" PVC BDY;
W2T219990	2	TEE,PIPE RED BRANCH 1"x0.5"SOC PVC SCH80
W2T219449	4	BUSHING,PIPE 0.5"X0.25"M SLIPXFPT PVC;
W2T355797	2	ELBOW,PIPE 90 DEG 0.25" MPTxHB PE
W2T123166	2	VALVE,BALL STD PT LEV 0.25" PVC MPTXFPT;
W2T356661	2	UNION,PIPE 1" SOC PVC SCH80
W2T831178	2	TEE,PIPE 0.5" SPIG X SOC PVC SCH80;
W2T812250	2	GAUGE,PRESS 0.25"MPT 316SS 160PSI LM;

For 1.5" Valve – Simplex configuration

SAP PART NUMBER	QTY	DESCRIPTION
W3T357589	**1**	**INSTALLATION KIT, PTC-1.5" VALVE**
W2T126099	2	VALVE,BALFULL PT LEV 1.5" PVC SW TU;
W2T441360	2	TEE,PIPE RED BRANCH 1.5"x0.5"SOC PVC;
W2T219449	4	BUSHING,PIPE 0.5"X0.25"M SLIPXFPT PVC;
W2T355797	2	ELBOW,PIPE 90 DEG 0.25" MPTxHB PE
W2T123166	2	VALVE,BALL STD PT LEV 0.25" PVC MPTXFPT;
W2T77973	2	UNION,PIPE 1.5" SOC PVC/EPDM SCH80
W2T831178	2	TEE,PIPE 0.5" SPIG X SOC PVC SCH80;
W2T812250	2	GAUGE,PRESS 0.25"MPT 316SS 160PSI LM;

For 2" Valve – Simplex configuration

SAP PART NUMBER	QTY	DESCRIPTION
W3T357590	**1**	**INSTALLATION KIT, PTC-2" VALVE**
W2T394949	2	VALVE,BFLY LUG LEV 2" CI BDY EPDM;
W2T356589	2	TEE,PIPE RED 2" X 0.5" SW SCH80 PVC
W2T219449	4	BUSHING,PIPE 0.5"X0.25"M SLIPXFPT PVC;
W2T355797	2	ELBOW,PIPE 90 DEG 0.25" MPTxHB PE
W2T123166	2	VALVE,BALL STD PT LEV 0.25" PVC MPTXFPT;
W2T220113	8	FLANGE,VANSTON 2" CL150 FFxSOC SCH80 PVC
W2T831178	2	TEE,PIPE 0.5" SPIG X SOC PVC SCH80;
W2T812250	2	GAUGE,PRESS 0.25"MPT 316SS 160PSI LM;
W2T405586	2	GASKET,FLG 2x0.13" CL150 EPDM

For 3” Valve – Simplex configuration

SAP PART NUMBER	QTY	DESCRIPTION
W3T357611	**1**	**INSTALLATION KIT, PTC-3" VALVE**
W2T500073	2	VALVE,BFLY LUG LEV 3" CI BDY EPDM;
W2T202690	2	TEE,PIPE RED BRANCH 3"x1" SOC PVC SCH80
W2T126294	2	BUSHING,PIPE 1"X0.5" SPIGXSOC SCH80 PVC;
W2T219449	4	BUSHING,PIPE 0.5"X0.25"M SLIPXFPT PVC;
W2T355797	2	ELBOW,PIPE 90 DEG 0.25" MPTxHB PE
W2T123166	2	VALVE,BALL STD PT LEV 0.25" PVC MPTXFPT;
W2T126313	8	FLANGE,VNSTN 3" CL150 FFxSOC PVC SCH80
W2T831178	2	TEE,PIPE 0.5" SPIG X SOC PVC SCH80;
W2T812250	2	GAUGE,PRESS 0.25"MPT 316SS 160PSI LM;
W2T77264	2	GASKET,FLG 3x0.13" CL150 EPDM

For 3” Valve, Side mount option – Simplex configuration

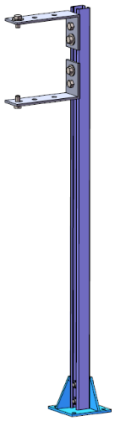
SAP PART NUMBER	QTY	DESCRIPTION
W3T357612	**1**	**INSTALLATION KIT, PTC-3" SM VALVE**
W2T500073	2	VALVE,BFLY LUG LEV 3" CI BDY EPDM;
W2T202690	2	TEE,PIPE RED BRANCH 3"x1" SOC PVC SCH80
W2T126294	2	BUSHING,PIPE 1"X0.5" SPIGXSOC SCH80 PVC;
W2T219449	4	BUSHING,PIPE 0.5"X0.25"M SLIPXFPT PVC;
W2T355797	2	ELBOW,PIPE 90 DEG 0.25" MPTxHB PE
W2T123166	2	VALVE,BALL STD PT LEV 0.25" PVC MPTXFPT;
W2T126313	16	FLANGE,VNSTN 3" CL150 FFxSOC PVC SCH80
W2T831178	2	TEE,PIPE 0.5" SPIG X SOC PVC SCH80;
W2T812250	2	GAUGE,PRESS 0.25"MPT 316SS 160PSI LM;
W2T77264	6	GASKET,FLG 3x0.13" CL150 EPDM

Optional Side Mount Valve Support Kit:

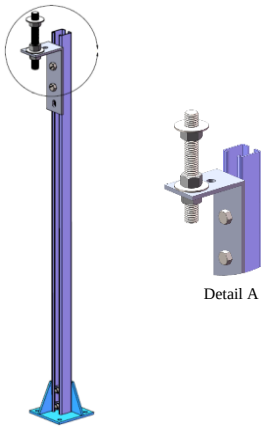
Due to the position and weight of the 3” side mount control valve, it is recommended that the valve be supported to prevent excess loading on the system piping. An optional kit has been developed to support the 3” side mount control valve. If desired, the kit must be ordered separately from the PTC unit with at a quantity of one kit per valve.

Part Number: W3T365735 – KIT, PTC 3" SIDE MOUNT VALVE SUPPORT
Drawing Number: W3T365735 – VALVE SUPPORT ASSY – 3 INCH SIDE MOUNT CONFIGURATION ASSEMBLY ARRANGEMENT DRAWING

Depending on the valve configured with the system, the side mount valve support kit will be assembled in one of two ways:



Configuration 1



Configuration 2

Note that for both assembly configurations a unistrut frame is required but is not provided as part of the kit.