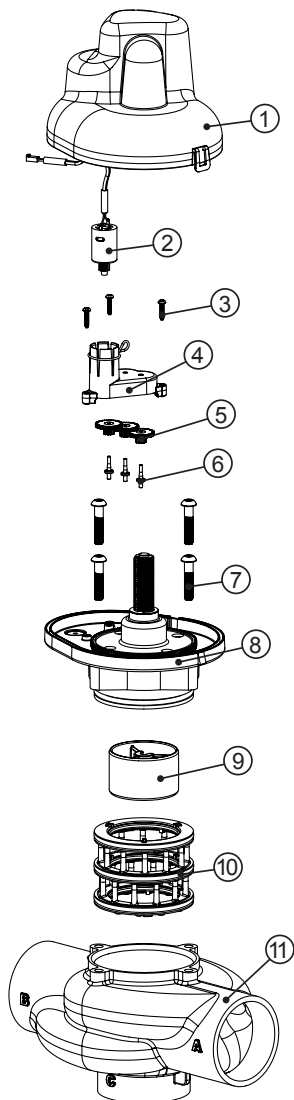
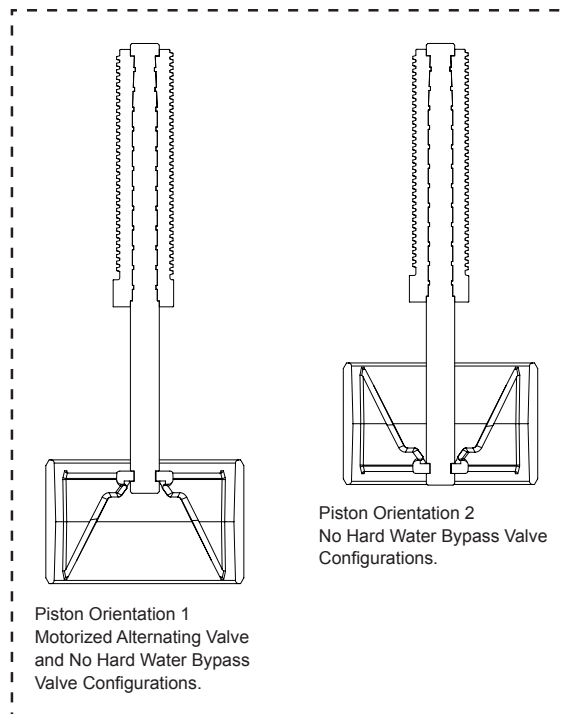


**Order No. V3083 • Description: MOTOR ALT VLV 3 NPT or
Order No. V3083BSPT • Description: MOTOR ALT VLV 3 BSPT**

Drawing No.	Order No.	Description	Quantity	
			V3083	V3083BSPT
1	V3696	WS3 MAV COVER	1	1
2	V3476	WS MOTOR ASY 8 FT	1	1
3	V3592	SCREW #8-1 PHPN T-25 SS	3	3
4	V3262-01	WS 1.5&2ALT/2BY REDUCGEARCVASY	1	1
5	V3110-01	WS1 DRIVE REDUCING GEAR PLAIN	3	3
6	V3264	WS2 BYPASS REDUCTION GEAR AXLE	3	3
7	V3789	SCREW 3/8-16 X 1.75 BHCS SS (7/32" hex allen wrench required)	4	4
8	V3085	WS3 MAV DRIVE CAP ASY	1	1
9	V3695-01	WS3 MAV PISTON	1	1
10	V3084	WS3 MAV STACK ASY	1	1
11	V3693-01	WS3 MAV BODY NPT	1	N/A
	V3693BSPT-01	WS3 MAV BODY BSPT	N/A	1
Sold Separately	V3475-12	WS2H/WS3 SYSTEM CONNECTION CORD 12 FOOT RED	One must be used for twin tank operation.	
	V3475-24	WS2H/WS3 SYSTEM CONNECTION CORD 24 FOOT BLUE		
	V3475-36	WS2H/WS3 SYSTEM CONNECTION CORD 36 YELLOW		



•Operating Pressures:
20 PSI Minimum / 125 PSI Maximum
•Operating Temperatures:
40°F Minimum / 110°F Maximum



**Order No. V3083 • Description: MOTOR ALT VLV 3 NPT or
Order No. V3083BSPT • Description: MOTOR ALT VLV 3 BSPT**

Clack Item Number	Software Minimum Rev Level	Before using V3083 or V3083BSPT with WS2H or WS3 control valves, press and hold the ▲ and ▼ buttons to enter the first level of diagnostics, then press the ▲ and ▼ buttons again to enter the valve history screens. Screen #4 will show the main board software level and screen #5 will show the system board software level.
V3242-01BOARD (Main PC Board)	215.04	
V3243-01BOARD (System PC Board)	1.11	

HYDROCARBONS SUCH AS KEROSENE, BENZENE, GASOLINE, ETC., MAY DAMAGE PRODUCTS THAT CONTAIN O-RINGS OR PLASTIC COMPONENTS. EXPOSURE TO SUCH HYDROCARBONS MAY CAUSE THE PRODUCTS TO LEAK. DO NOT USE THE PRODUCT(S) CONTAINED IN THIS DOCUMENT ON WATER SUPPLIES THAT CONTAIN HYDROCARBONS SUCH AS KEROSENE, BENZENE, GASOLINE, ETC.

OPERATING PRESSURES: 20 PSI MINIMUM / 125 PSI MAXIMUM • OPERATING TEMPERATURES: 40°F MINIMUM / 110°F MAXIMUM

Service or Installation of Motor: Do not lubricate the motor or the gears. To install the motor, move the spring clip loop to the right and hold. Gently turn the motor while inserting so that the gear on the motor meshes with the gears under the drive gear cover. Release the spring clip loop and continue to rotate the motor until the wires are horizontal and the motor housing engages the small plastic bulge inside the drive bracket motor retainer. Reconnect the motor plug to the two-pronged jack on the PC board labeled "BYPASS". If the motor will not easily engage with the drive gears when reinstalling, lift and slightly rotate the motor before reinserting.

If the control valve manual does not include instructions for setting up the software for No Hard Water Bypasses (NHWB), Separate Source (SEPS), or Twin Tank Operation (ALT A and ALT b) please contact your local equipment supplier for current copies of the instructions.

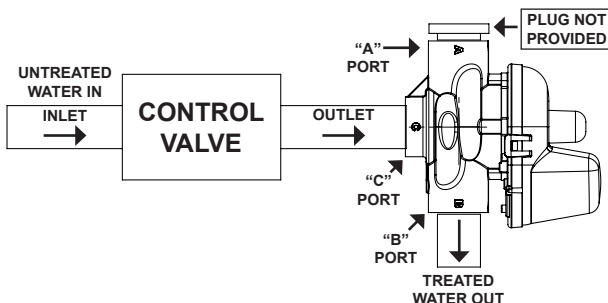
Approximately 1' of cable length should be allowed for weaving a cable through a back plate. Try to allow sufficient slack in cables so cables may be zip tied to plumbing lines to prevent the cables from being accidentally pulled. No more than two cables may be woven through one back plate slot. To help prevent damage to cables, allow solder joints to cool or solvent cement joints to cure after completing the various service, drain and regenerant plumbing connections. Thread the various cables through the appropriate back plate(s) and connect as described in the bullet points below.

- For twin tank operation, the communication cable (sold separately) must be threaded through the back plates and connected to the four pin connector labeled master/slave on both the ALT A and ALT b control valves. The communication cable is not used for single tank systems requiring No Hard Water Bypass (NoHbP) or Separate Source (SEP In) operation. If a single external meter is to be used, the wire connection for that meter needs to be connected to Unit 2's PC Board three pin connection labeled "FLOW." Also when a single external meter is to be used, in System Setup Screens under system setup 10 "System Pulses" needs to be selected and then the proper meter pulses for the external meter needs to be set in the next screen.
- The 8' alternator valve motor cable must be threaded through the back plate and connected to the two pin connector labeled "BYPASS" on the control valve board (for twin tank operation with only (1) MAV connect to ALT b).
- The 15' water meter cable must be threaded through the back plate and connected to the three pin connection labeled "FLOW" on the control valve board. NOTE: A meter must be used for twin tank operation, meters are recommended but not required for "NoHbP" or "SEP In" operation. If using the Motorized Alternating Valve with a meter on each control, it is necessary to connect each meter to the PC Board.
- The 15' AC Adapter or power cable must be threaded through the back plate of all control valves. The AC adapter should be installed to a properly grounded (not switched) outlet.

Note: Reference software manual for meter options.

No Hard Water Bypass:

The MAV will be driven closed before the first regeneration cycle that is not FILL or SOFTENING or FILTERING, and be driven open after the last regeneration cycle that is not FILL. If the control valve enters into an error state during regeneration mode, the MAV will remain in its current state until the error is corrected and reset.

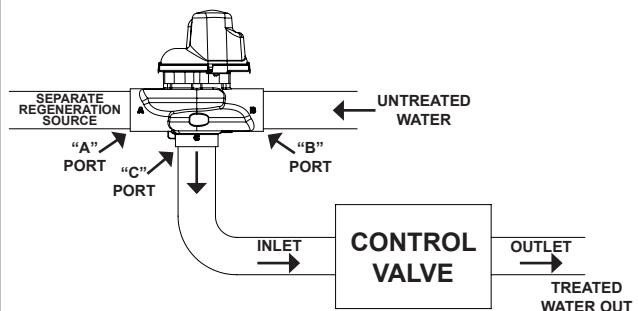


Caution:

No Hard Water Bypass installation prevents water from entering the downstream plumbing. If a downstream plumbing device or local code requires an uninterrupted water supply, design the installations to accommodate.

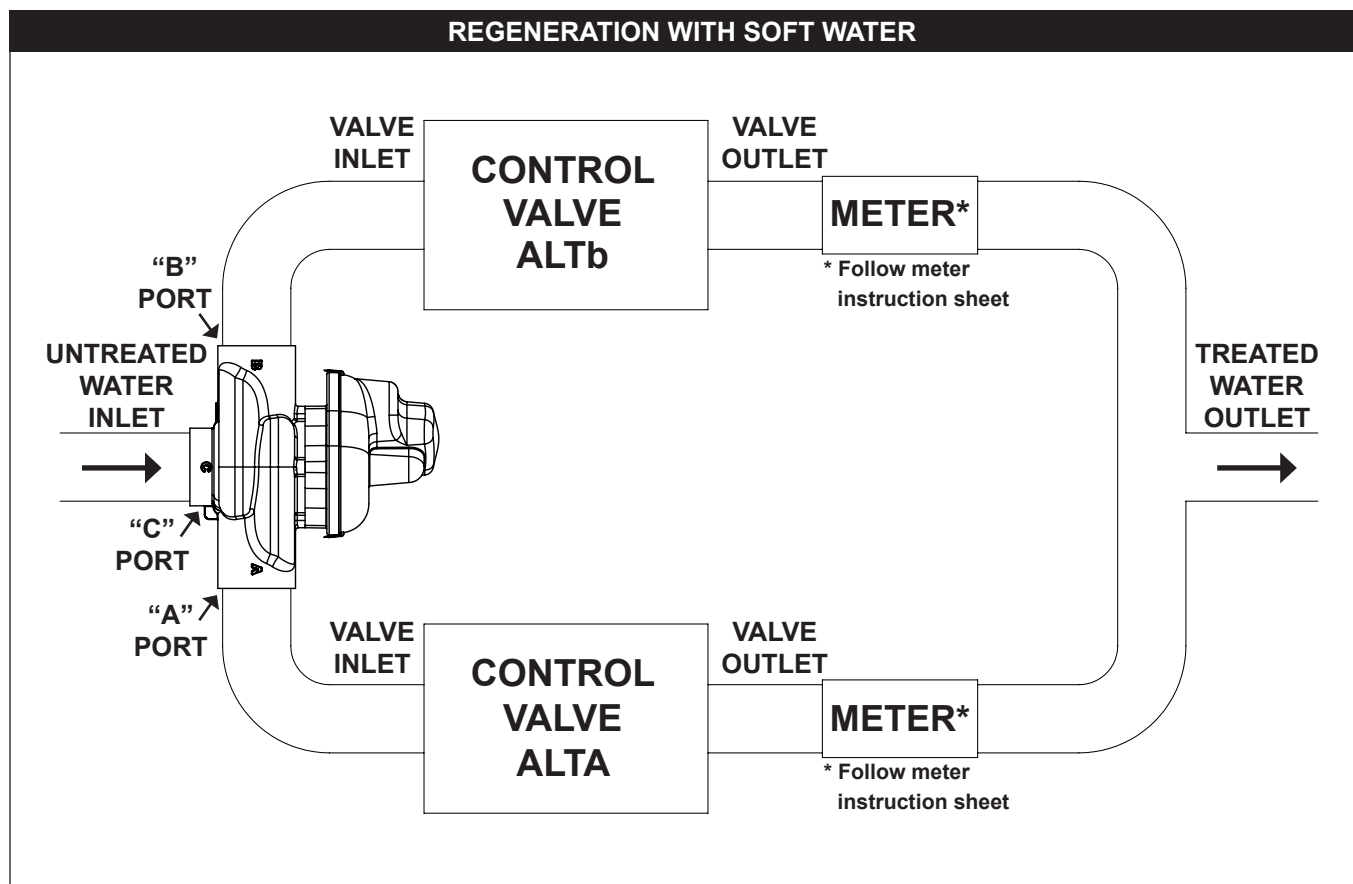
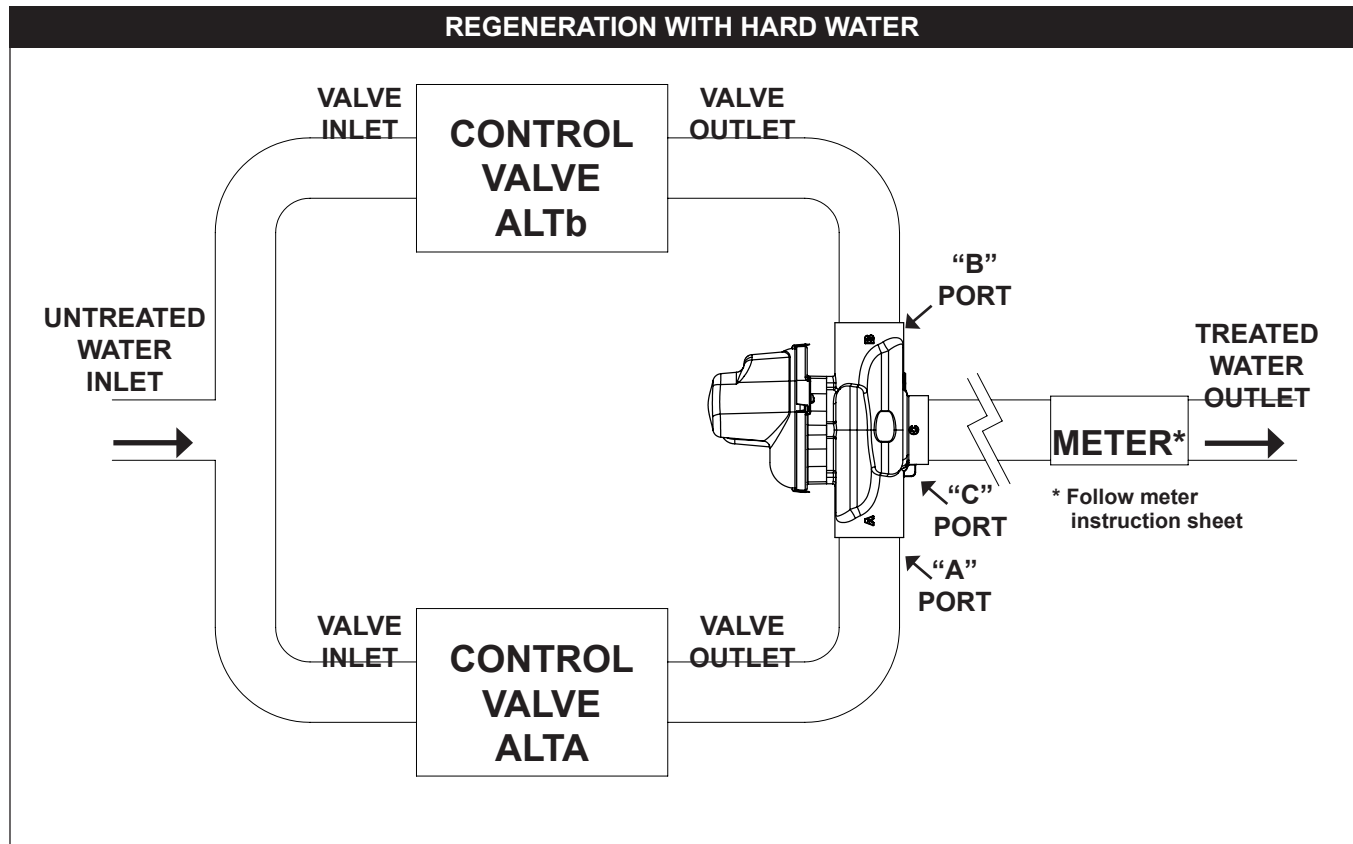
Separate Source Regeneration: Requires additional System PC Board

The MAV will be driven closed (i.e. let water flow from A port to C port) before the first regeneration cycle, and be driven open (i.e. let water flow from B port to C port) after the last regeneration cycle. If the control valve enters into an error during regeneration mode, the MAV will remain in its current state until the error is corrected and reset. Note: If separate source regeneration water can not be allowed to bypass during regeneration install additional MAV on outlet for No Hard Water Bypass.

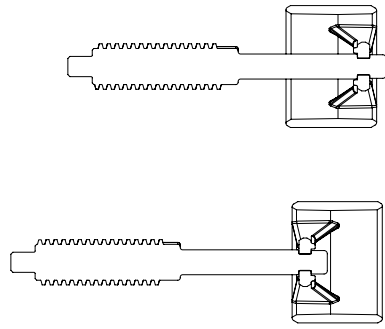


Twin Tank Alternator:

If the control valve manual does not include instructions for setting up the software for No Hard Water Bypasses (NHWB), Separate Source (SEPS), or Twin Tank Operation (ALT A and ALT b) please contact your local equipment supplier for current copies of the instructions. If the control valve is in an error state during regeneration mode, the MAV will close the B port and keep open the A port until the error is corrected and reset.



Motorized Alternating Valve & No Hard Water Bypass Valve Configurations



Plumbing Connections			Piston Orientation		Software Selection		Piston/Valve Position Flow	
Port A	Port B	Port C	1	2	Control Valve 1	Control Valve 2	Up	Down
From Control Valve 1	From Control Valve 2	To Outlet	Use	Not Applicable	ALTA	ALTb	Flows from Port B to Port C	Flows from Port A to Port C
From Control Valve 2	From Control Valve 1	To Outlet	Use	Not Applicable	ALTb	ALTA	Flows from Port B to Port C	Flows from Port A to Port C
From Regeneration Source	From Normal Source	To Control Valve	Use	Not Applicable	SEPS		Flows from Port B to Port C	Flows from Port A to Port C
Plugged	To Outlet	From Control Valve	Use	Not Applicable	nHbP		Open: Flows from Port B to Port C	Closed
To Outlet	Plugged	From Control Valve	Not Applicable	Use	nHbP		Open: Flows from Port A to Port C	Closed
Plugged	To Outlet	From Control Valve	Use	Not Applicable	nHbP		Open: Flows from Port C to Port B	Closed

Twin Tank Alternator Operation

Separate Source Operation

No Hard Water Bypass Operation

•Operating Pressures: 20 PSI Minimum / 125 PSI Maximum •Operating Temperatures: 40°F Minimum / 110°F Maximum