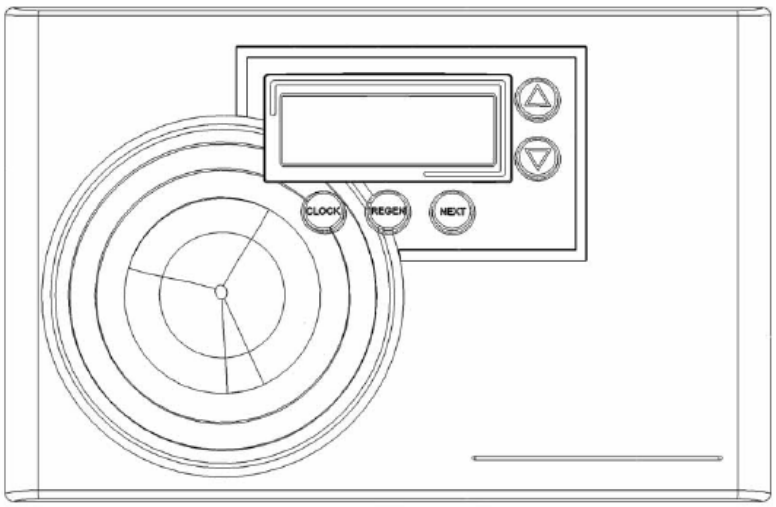
MASTER
Water Conditioning Corp
www.masterwater.com

Installation and Operation Manual



MP-MCA RESIDENTIAL ANION UNITS

January 2019

Installation and Operating Instructions for MCA CONTROL VALVE Top Mount Anion Resin Unit

Model #:

____	MP-MCAD-30T	1.0 CF Dealkalizer
____	MP-MCAD-45T	1.5 CF Dealkalizer
____	MP-MCAD-60T	2.0 CF Dealkalizer
____	MP-MCAN-30T CS	Crawl Space Nitrate Removal
____	MP-MCAN-30T	1 CF Nitrate Removal
____	MP-MCAN-45T	1.5 CF Nitrate Removal
____	MP-MCAN-60T	2.0 CF Nitrate Removal
____	MP-MCAT-30T	1.0 CF Tannin Removal
____	MP-MCAT-45T	1.5 CF Tannin Removal
____	MP-MCAT-60T	2.0 CF Tannin Removal
____	MP-MCAU-30T	1 CF Uranium Removal
____	MP-MCAU-45T	1.5 CF Uranium Removal
____	MP-MCAU-60T	2.0 CF Uranium Removal

Shipping Carton Description / unit:

# of cartons	Contents	Description
1	Mineral tank	Distributor pipe installed
1	Brine tank	***NOTE:** MCA valve is shipped in brine tank.
1	MP MCA control valve	MP MCA timer and backwash flow control and bypass with tail piece kit

NOTE: THIS ANION UNIT IS NOT INTENDED TO BE USED FOR TREATING WATER THAT IS MICROBIOLOGICALLY UNSAFE OR OF UNKNOWN QUALITY WITHOUT ADEQUATE DISINFECTION WHETHER BEFORE OR AFTER THE SYSTEM

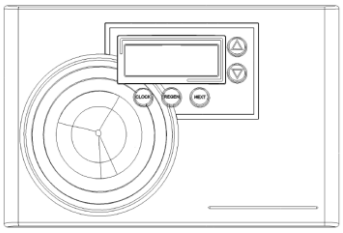
Anion Unit Positioning:

1. Place Anion unit in desired position, far enough from walls and other obstructions to allow for servicing the unit.
2. Place the Anion unit within reasonable access to a grounded 115V/60 HZ circuit and a legal drain line connection.

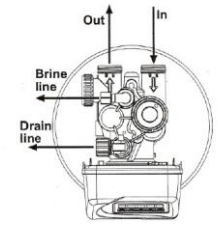
MP-MCA Control Valve:

1. When facing the front of the MP-MCA timer, the inlet connection is located on the right and the outlet connection is on the left. The control valve's inlet and outlet connections are either 1” copper or PVC equipped with split ring and nut.

Control Valve



Front View

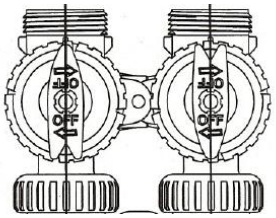


Top View

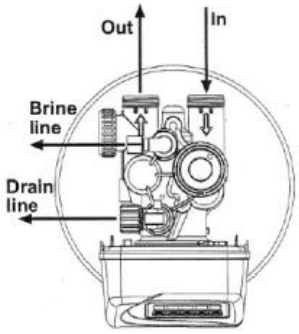
2. Turn the control valve upside down and ensure that the control valve distributor o’ring is in place. Use silicone lubricant on the o'ring.

****DO NOT USE PETROLEUM!****
****USE ONLY SILICONE ****

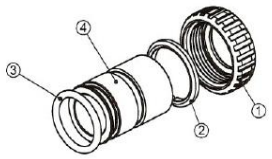
3. Connect the D1255-03 strainer onto the control valve.
4. Place the control valve onto the distributor pipe and into the tank opening.
5. Thread the control valve hand tight . Do not overtighten.
5. Locate the bypass valve assembly that is packaged with the control valve. The bypass valve has two red handles that indicate flow direction, two threaded connections for the tail piece kit and two o’ring seal connections with nuts for the control valve. Align the insert connection ends with o’ring seals and nuts to the inlet and outlet connections of the control valve. Hand tighten the nuts. **DO NOT OVERTIGHTEN THE NUT!**



Bypass Valve



Control Valve

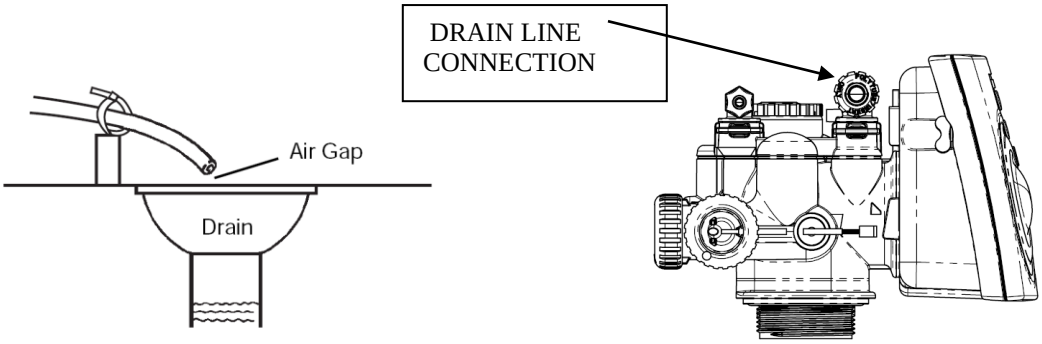


Tail piece assembly

6. Locate the tail piece kit that is packaged with the control valve. Align a tail piece assembly to the bypass valve threaded inlet and Outlet until the nut can be tightened. Hand tighten because excessive tightening will damage the assembly. **REPEAT THE PROCEDURE FOR THE OUTLET CONNECTION.**

Service and Drain Piping:

1. Pipe water combination unit into the service lines .The inlet and outlet connections of the control valve are located on the back of the valve body. As you face the timer the inlet is on the right and the outlet is on the left. Always follow local plumbing codes when installing our water treatment equipment.
2. If sweat fittings are used, be sure soldering is done in such a manner as not to allow heat to reach the control valve or bypass. (If Schedule 80 PVC is used make sure to follow the proper primer and solvent instructions.)
3. The drain line connection is 5/8" OD or ¾" npt and is located on the top left of the valve as you face the timer. It is recommended you install a ¾" union on the drain line for servicing if not using 5/8 OD. The drain line must be of adequate size to allow for full regeneration flow.



- The control valve drain connection is 3/4" npt.
- Never decrease the drain piping size to below the drain connection size.
- Maximum drain line length is 30 feet with proper sloping the entire length.
- Maximum drain line height is 6 feet above the control valve.
- The drain line must be piped to an open air gap (See Figure above)
- Always follow local plumbing codes.

UNDER NO CIRCUMSTANCES SHOULD THERE BE A DIRECT CONNECTION WITH SANITARY SEWAGE FACILITIES.

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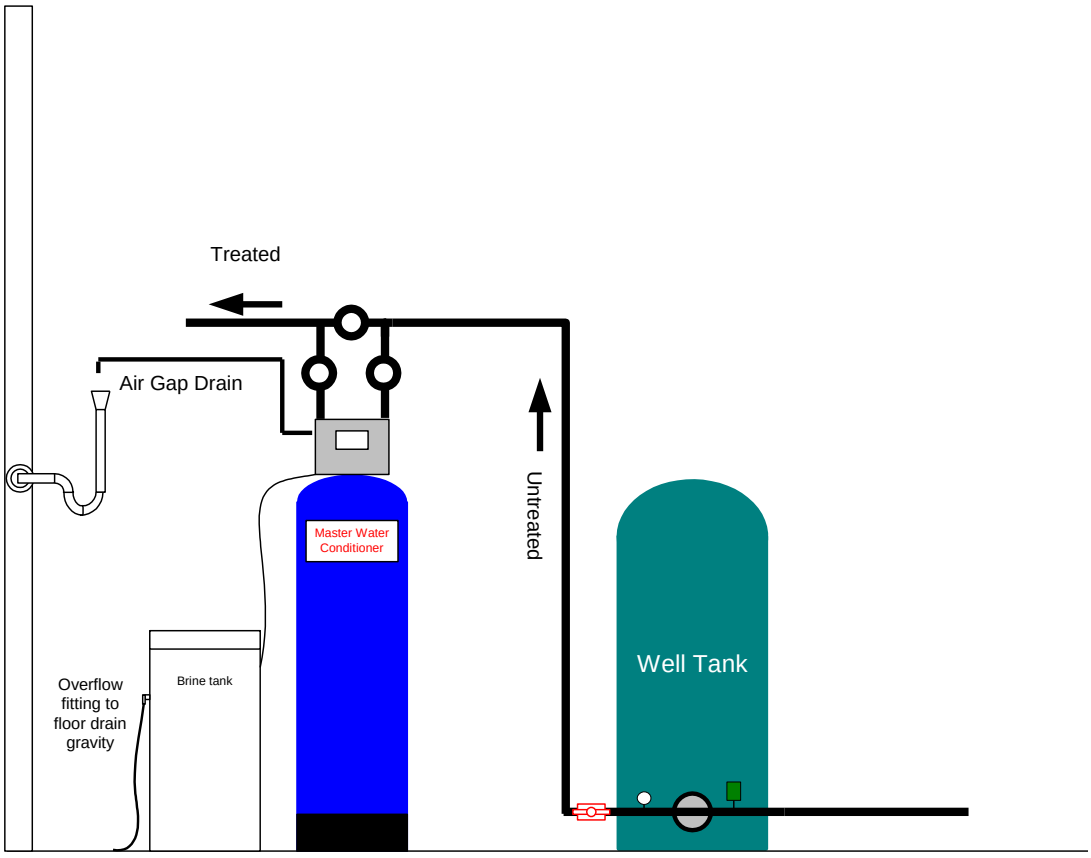


NOTE: *All Master Water Conditioners must be installed after the well tank or water meter if its public water supply.*

Model #	Service GPM	Backwash GPM	Salt Required per regeneration	Salt Storage	Height	Diameter
MP-MCAN-30T CS	5-7.5	1.3	15 lbs.	300 lbs.	30.0”	10.0"
MP-MCAN-30T	5-7.5	1.3	15 lbs.	300 lbs.	48.0"	10.0"
MP-MCAN-45T	7.5-11.25	1.3	22.5 lbs.	400 lbs.	62.0”	12.0”
MP-MCAN-60T	10-15	1.7	30 lbs.	400 lbs.	56.0”	16.0”
MP-MCAU-30T	5	1.3	15 lbs.	300 lbs.	48.0"	10.0"
MP-MCAU-45T	8	1.3	22.5 lbs.	400 lbs.	62.0”	12.0”
MP-MCAU-60T	10	1.7	30 lbs.	400 lbs.	56.0”	16.0”

Electrical Requirements*:*

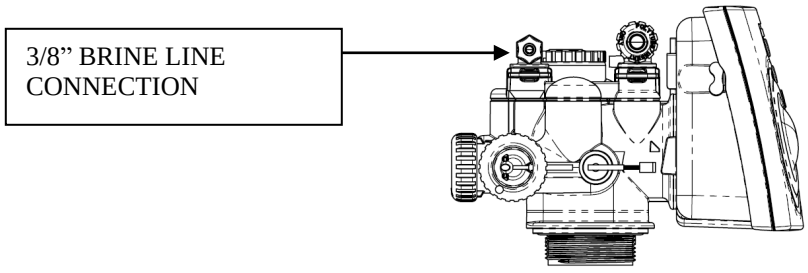
Always follow all local electrical codes when installing our water treatment equipment.

1. Provide an 115v/60Hz properly grounded dedicated electrical outlet. (It's very important that the polarity be correct)
   Avoid using outlets that are switch controlled.
2. Maximum amperage required is 5 amps.
3. Make sure the electrical service provides power 24 hours per day. We recommend installing a **surge protector** to protect unit from power surges, which are not covered by warranty.

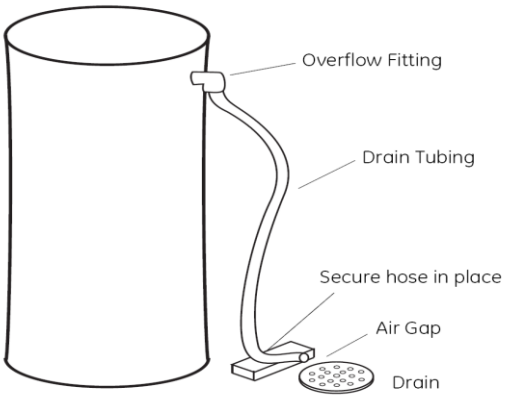
Brine Tank:

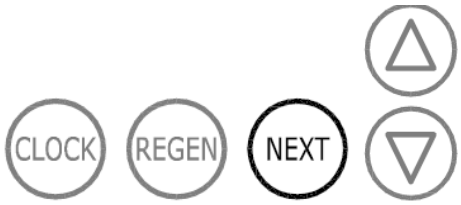
1. The brine tank should be located directly beside the water Anion unit mineral tank.
2. Connect the 3/8" poly tubing to the 3/8" black elbow quick-connect fitting located on the top left side of the MCA control valve.
3. Place 2 gallons of water directly into the brine tank.

See Figure Below.



The brine tank is equipped with a shutoff valve, the float height was preset at the factory.





Filling Anion unit with Water:

1. Connect the MP-MCA control valve transformer into the electrical outlet provided.
2. Press and hold the REGEN button until the drive motor starts. When the drive motor stops, the display will read “BACKWASH” position.
3. Open the inlet ball valve a ¼ turn of its full open position to allow water to enter the Anion unit mineral tank slowly. The water is going to enter the tank from the bottom of the distributor pipe and leave the tank from the top. This will slowly purge all the air from the tank.
   IF WATER ENTERS THE TANK TOO FAST, ALL THE CATION RESIN WILL BE FLUSHED TO DRAIN DURING START UP.
4. When only water is running to the drain, open the inlet and outlet ball valves fully.
5. Press the REGEN again until the drive motor starts. When the drive motor stops, the display will read “BRINE” position.
6. Press and hold the REGEN button until the drive motor starts. When the drive motor stops, the display will read “RINSE” position. The fast rinse position will rinse the combination unit tank.
7. The control valve will automatically advance to the brine refill position where the brine tank will fill with the proper amount of water. The display will read “FILL”.

NOTE: THE TIMER WILL AUTOMATICALLY ADVANCE TO THE SERVICE POSITION AND THE DISPLAY WILL READ THE CAPACITY REMAINING, IN GALLONS.

MP-MCA Control Valve Timer Settings*:*

Note: The control valve is set at the factory. You only need to set the time of day , hardness and regeneration time if required, which is preset at 2 am.

Time of Day Setting

1) Press the CLOCK button. The screen will show the Time of Day and the hours will be blinking.
2) To change the hour, use the UP and DOWN arrows to set the Hour.
3) To change the Minutes, press CLOCK, use the UP and DOWN arrows to set the Minutes
4) Press the CLOCK button.

Hardness Setting (the factory default is 10)

1) Press the NEXT and UP arrow simultaneously for 3 seconds. The screen will show the Hardness as grains per gallon in blinking numbers.
2) To change the number, use the UP or DOWN arrows.
3) Press the NEXT button.

   Note: 1 ppm tannin = 1 gpg of hardness.
   5 ppm of Nitrate = 1 gpg of hardness.
   5 ppm of Uranium = 1 gpg of hardness.

Regeneration Day Override Setting (the factory default is 7)

1) The screen will show the Regeneration Day Override in blinking numbers.
2) To change the number, use the UP or DOWN arrows.
3) Press the NEXT button.

Time of Regeneration Setting (the factory default is 2 AM)

1) The screen will show the Time of Regeneration in blinking numbers.
2) If Regeneration time change is desired, use the UP and DOWN arrows to set the Hour.
3) To change the Minutes, press NEXT, use the UP and DOWN arrows to set the Minutes
4) Press the NEXT button.

NOTE: SALT SETTING AND CAPACITY ARE PRESET AT THE FACTORY.

Final Check:

1. Fill the brine tank with Solar Salt and the Res-Up Feeders with Res-Up (one quart is provided).
2. Make sure the drain line connection meets all plumbing codes and that the drain line size can handle the backwash flow rate of the Tannin unit.
3. Make sure the Inlet and Outlet on the bypass valve are open.
4. Make sure the control valve timer is plugged into an electrical outlet with power 24 hours per day.
5. Check all piping for leaks.

IMPORTANT NOTE:

The treated water alkalinity level will be slightly reduced by the Anion unit which decreases the pH level of the water.
You should consider installing pH control after this unit; it could be an acid neutralizer or chemical feed system.
We include a mixing valve to assist in blending treated and untreated water to achieve the water quality desired and simultaneously increase the alkalinity and pH. The mixing valve may have to remain closed because of the severity of the water condition. In that case, if pH is too low, then treatment would be required.

Manual Regeneration:

Note: For Anion units, if brine tank does not contain salt, fill with salt and wait at least 2 hours before regeneration.

To initiate manual regeneration immediately, press and hold the "REGEN" button for three seconds. The system will begin to regenerate immediately. **The request cannot be cancelled.**

To initiate a manual regeneration at the preset delayed regeneration time, when the regeneration time option is set to "NORMAL" or "NORMAL + on 0", press and release "REGEN". The words "REGEN TODAY" will flash on the display to indicate that the system will regenerate at the preset delayed regeneration time. If you pressed "REGEN" in error, pressing the button again will cancel the request. **Note: If the regeneration time option is set to "on 0" there is no set delayed regeneration time so "REGEN TODAY" will not activate if "REGEN" button is pressed.**

Power Loss

If the power goes out for less than two hours, the system will automatically reset itself. If an extended power outage occurs, the time of day will flash on and off which indicates the time of day should be reset. The system will remember the rest.

Error Message

If the word "ERROR" and a number are alternately flashing on the display, contact a service technician for help. This means the valve is unable to function properly.

BYPASS VALVE OPERATION

Figure 1

NORMAL OPERATION

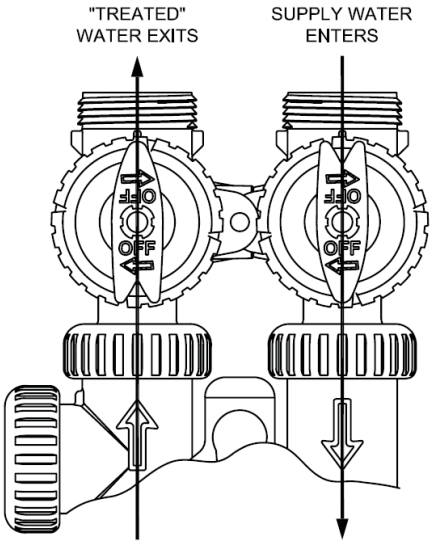


Figure 2

BYPASS OPERATION

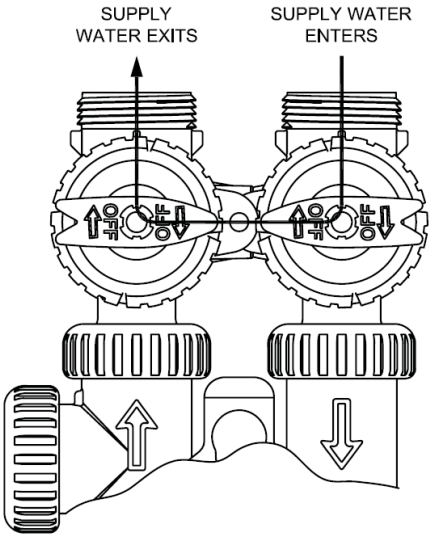


Figure 3

DIAGNOSTIC MODE

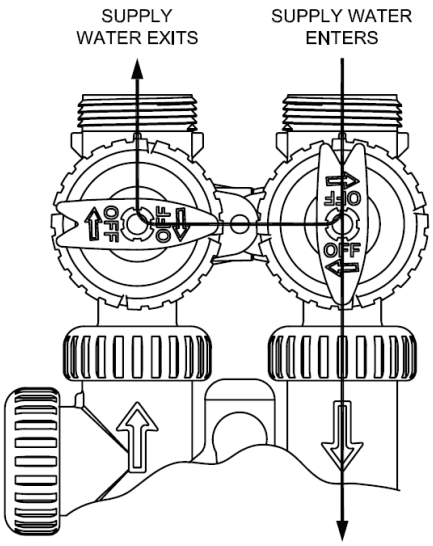
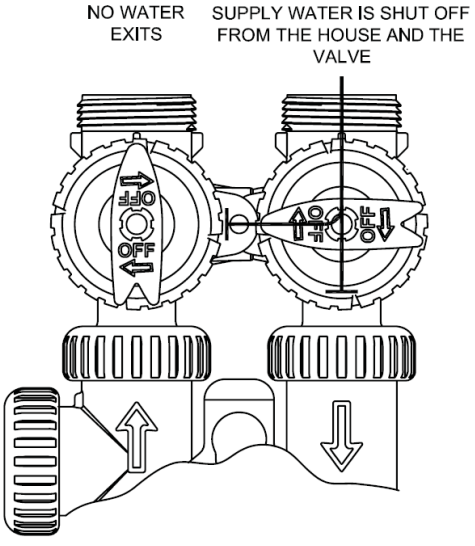


Figure 4

SHUT OFF MODE



ERROR CODES

ERROR DESCRIPTIONS

(V3890MP-02 BOARD with 5800.0 Software)

101	UNABLE TO START. Control not sensing valve movement with motor output energized.
102	#1 MAV/Stager #1 MOTOR STALLED. Unable to find proper park position.
103	#1 MAV/Stager #1 MOTOR RAN TOO LONG. Unable to find proper park position.
104	#1 MAV/Stager #1 VALVE HOMING. Control unable to find the HOME position of the valve
106	#2 MAV/Stager #2 MOTOR RAN TOO LONG. Unable to find proper park position.
107	#2 MAV/Stager #2 MOTOR STALLED. Unable to find proper park position.
109	INVALID MOTOR STATE Control can no longer operate due to the detection of an invalid motor state.
116	#3 MAV/Stager #3 MOTOR RAN TOO LONG. Unable to find proper park position.
117	#3 MAV/Stager #3 MOTOR STALLED. Unable to find proper park position.
126	#4 MAV/Stager #4 MOTOR RAN TOO LONG. Unable to find proper park position.
127	#4 MAV/Stager #4 MOTOR STALLED. Unable to find proper park position.
201	INVALID REGEN STEP Control can no longer operate due to the detection of an invalid regeneration cycle step (Internal software error)
402	POWER DOWN MEMORY Control can no longer operate due to a check sum error for the operational data and status section memory
403	PROGRAM MEMORY Control can no longer operate due to a check sum error for the programming section memory
404	DIAGNOSTIC MEMORY Control can no longer operate due to a check sum error for the diagnostic section memory
405	HISTORY MEMORY Control can no longer operate due to a check sum error for the history section memory
406	CONTACT MEMORY Control can no longer operate due to a check sum error for the contact screen section memory.

407	STATUS RAM MEMORY FAILURE Control can no longer operate due to corrupted data detected in the operational and status section. Once generated the error mode is not entered nor an error display viewed. Instead previous (<6 hours) data is used
408	DIAGNOSTIC RAM MEMORY FAILURE Control can no longer operate due to corrupted data detected in the diagnostic section. Once generated, the error mode is not entered nor an error display viewed. Instead previous (<6 hours) data is used.
410	CONFIG DOWNLOAD Configurator file downpoaded to the control was not originally uploaded from another control with the identical software.

Troubleshooting

Problem: Water conditioner fails to regenerate.

Possible Cause	Solution
Power supply to MP-MCA control has been interrupted.	Determine reason for power interruption and correct. Reset time of day.
Water pressure lost.	Restore water pressure.
Corrupted programming of MP-MCA timer.	Reprogram timer assembly.
Defective MP-MCA timer.	Replace timer assembly.
No salt in brine tank.	Add salt and regenerate.
Manual bypass valve is open.	Close manual bypass valve.
Leak at riser pipe seal.	Insure that riser pipe is properly sealed at o'ring seal. Inspect pipe for cracks.
Insufficient brine.	Check brine float height and clean assembly if necessary. Check flow rate capabilities of safety float and air check assembly.
Plugged injector or injector screen.	Inspect and clean injector and/or injector screen.

Problem: No Brine Draw

Possible Cause	Solution
Plugged injector or injector screen.	Inspect and clean injector and/or injector screen.
Insufficient water pressure.	Increase water pressure above 25 psig (172kPa) minimum.
Corrupted programming of MP-MCA timer.	Reprogram timer assembly.
Defective MP-MCA timer.	Replace timer assembly.
Obstructed drain line.	Remove obstruction.

Problem: Insufficient brine draw

Possible Cause	Solution
Partially clogged injector or injector screen.	Inspect and clean injector and/or injector screen assembly.
Restricted flow rate in brine line.	Check flow rate capabilities of the safety float/aircheck assembly.
Insufficient water pressure.	Increase water pressure above 25 psig (172kPa) minimum.
Excessive back pressure on injector due to elevated drain line.	Reduce drain line elevation to height of valve.
Damaged valve disk.	Replace all valve disks.
Partially restricted drain line.	Remove restriction.

Problem: Insufficient Refill to Brine Tank

Possible Cause	Solution
Brine refill control	Remove and clean
Restricted flow rate in brine line.	Check flow rate capabilities of the safety float/aircheck assembly.

Problem: Excessive Water in Brine Tank

Possible Cause	Solution
Plugged drain line flow control.	Clean flow control.
Plugged injector and/or injector screen	Inspect and clean injector and/or screen.

Problem: Loss of Media to Drain

Possible Cause	Solution
No flow control installed in drain line.	Install drain line flow control.

Problem: Leak to Drain

Possible Cause	Solution
No flow control installed in drain line.	Install drain line flow control.
Insufficient water pressure.	Increase water pressure above 25 psig (172kPa) minimum.
Damaged valve disk or obstruction in valve disk.	Inspect and if damaged, replace all valve disks or remove obstruction.

Problem: Loss of Water Pressure

Possible Cause	Solution
Fouled resin bed due to iron accumulation.	Clean control valve and mineral bed with cleaner.
Slots in riser pipe or laterals are filled with resin fines.	Inspect and clean distributor pipe slots as needed.

Problem: Salt in Water to Service after Regeneration

Possible Cause	Solution
Injector is too small for system size.	Install correct injector
Brine draw time excessively long due to low water pressure.	Increase water pressure above 25 psig (172 kPa) minimum.
Restricted drain line.	Remove drain line restriction.
Insufficient rinse volume.	Increase slow rinse time, fast rinse time, or both.
Damaged valve disk.	Replace all valve disks.
Plugged injector and/or injector screen.	Inspect and clean injector and/or injector screen.

Problem: Timer does not display time of day

Possible Cause	Solution
AC Adapter unplugged	Connect power
No electric power at outlet	Repair outlet or use working outlet
Defective AC Adapter	Replace AC Adapter
Defective PC Board	Replace PC Board

Problem: Timer does not display correct time of day

Possible Cause	Solution
Switched outlet	Use uninterrupted outlet
Power Outage	Reset time of day
Defective PC Board	Replace PC Board

Problem: Control Valve regenerates at wrong time of day

Possible Cause	Solution
Power Outages	Reset control valve to correct time of day
Time of day not set correctly	Reset to correct time of day
Time of regeneration incorrect	Reset regeneration time

Problem: Control valve stalled in regeneration

Possible Cause	Solution
Motor not operating	Replace motor
No electric power at outlet	Repair outlet or use working outlet
Defective AC adapter	Replace AC adapter
Defective PC board	Replace PC board
Broken drive gear or drive cap assembly	Replace drive gear or drive cap assembly
Broken piston retainer	Replace piston retainer
Broken main or regenerate piston	Replace main or regenerate piston

Problem: Control valve does not regenerate automatically when UP and DOWN buttons are held and depressed

Possible Cause	Solution
AC adapter unplugged	Connect AC adapter
No electric power at outlet	Repair outlet or use working outlet
Broken drive gear or drive cap assembly	Replace drive gear assembly
Defective PC board	Replace PC board

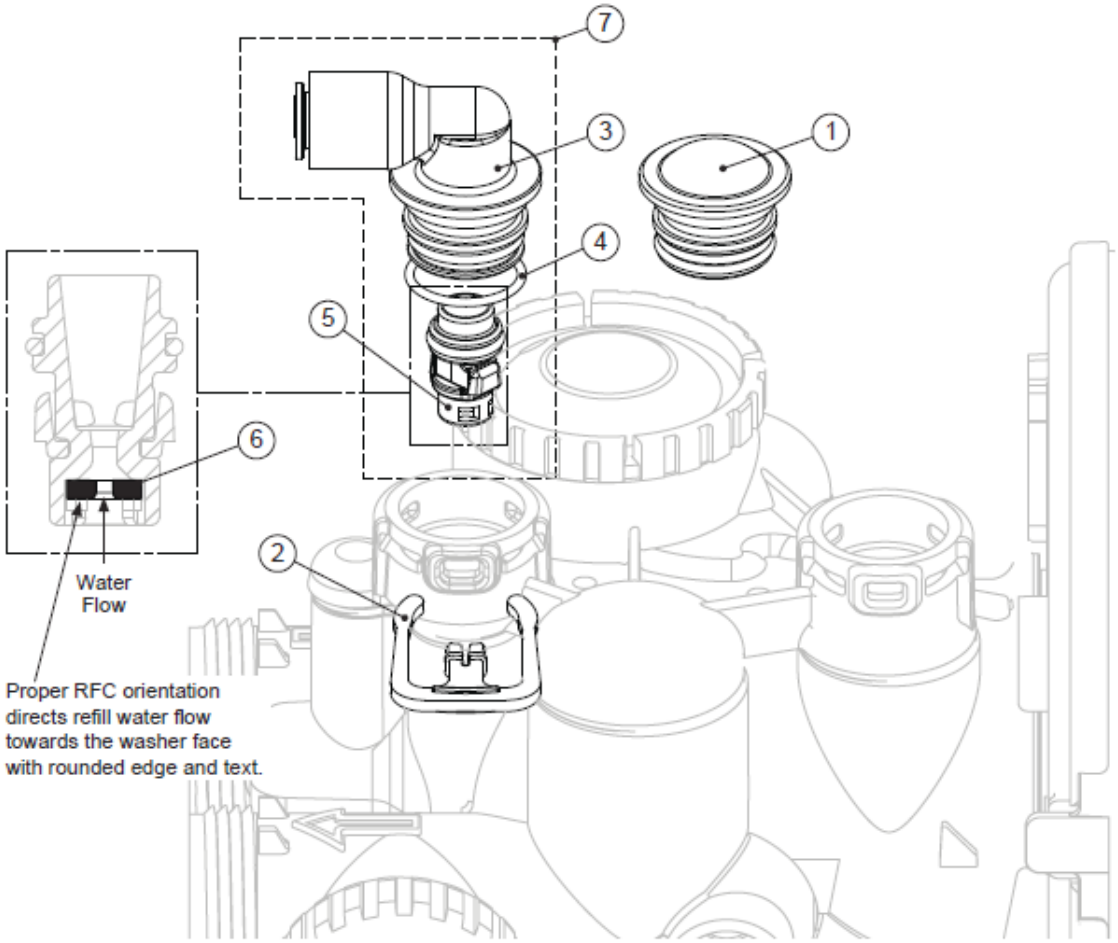
Problem: Control valve does not regenerate automatically but does when UP and DOWN buttons are depressed and held

Possible Cause	Solution
Defective PC board	Replace PC board
Set-up error	Check control valve set-up procedure

Refill Flow Control Assembly and Refill Port Plug

Drawing No.	Order No.	Description	Quantity
1	V3195-01	WS1 Refill Port Plug Asy	This part is required for backwash only systems
2	H4615	Elbow Locking Clip	1
3	H4628	Elbow 3/8" Liquifit	1
4	V3163	0-ring 019	1
5	V3165-01*	WS1 RFC Retainer Asy (0.5 gpm)	1
6	V3182	WS1 RFC	1
7	V4144-01	Elbow 3/8 Liquifit Asy w/RFC	1
Not Shown	V3552	WS1 Brine Elbow Asy w/RFC	Option
Not Shown	H4650	Elbow ½" with nut and insert	Option

*Assembly includes V3182 WS1 (0.5 gpm) RFC.

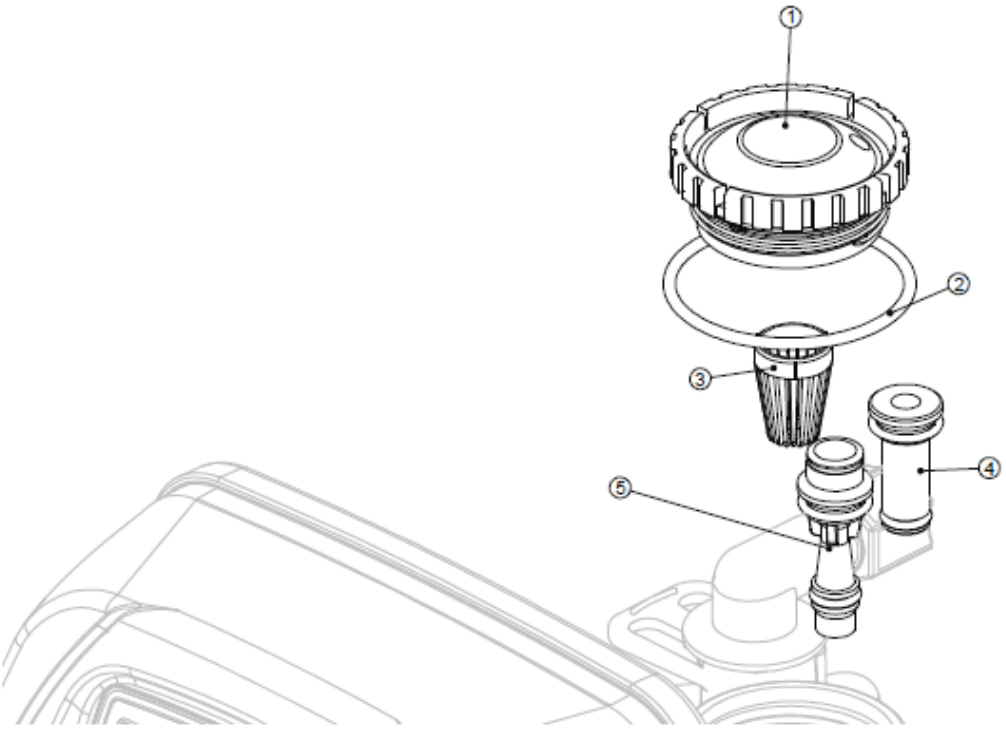


Injector Cap, Injector Screen, Injector, Plug and O-Ring

Drawing No.	Order No.	Description	Quantity
1	V3176	INJECTOR CAP	1
2	V3152	O-RING 135	1
3	V3177-01	INJECTOR SCREEN CAGE	1
4	V3010-1Z	WS1 INJECTOR ASY Z PLUG	1
5	V3010-1A	WS1 INJECTOR ASY A BLACK	1
	V3010-1B	WS1 INJECTOR ASY B BROWN	
	V3010-1C	WS1 INJECTOR ASY C VIOLET	
	V3010-1D	WS1 INJECTOR ASY D RED	
	V3010-1E	WS1 INJECTOR ASY E WHITE	
	V3010-1F	WS1 INJECTOR ASY F BLUE	
	V3010-1G	WS1 INJECTOR ASY G YELLOW	
	V3010-1H	WS1 INJECTOR ASY H GREEN	
	V3010-1I	WS1 INJECTOR ASY I ORANGE	
	V3010-1J	WS1 INJECTOR ASY J LIGHT BLUE	
	V3010-1K	WS1 INJECTOR ASY K LIGHT GREEN	
Not Shown	V3170	O-RING 011	*
Not Shown	V3171	O-RING 013	*

* The injector plug and the injector each contain one 011 (lower) and 013 (upper) o-ring.

Note: For upflow position, injector is located in the up hole and injector plug is in the other hole.
WS1 and WS1.25 upflow bodies are identified by having the DN marking removed.
Upflow option is not applicable to EE, EI, or TC control valves.
For a filter that only backwashes, injector plugs are located in both holes.



MP Front Cover and Drive Assembly

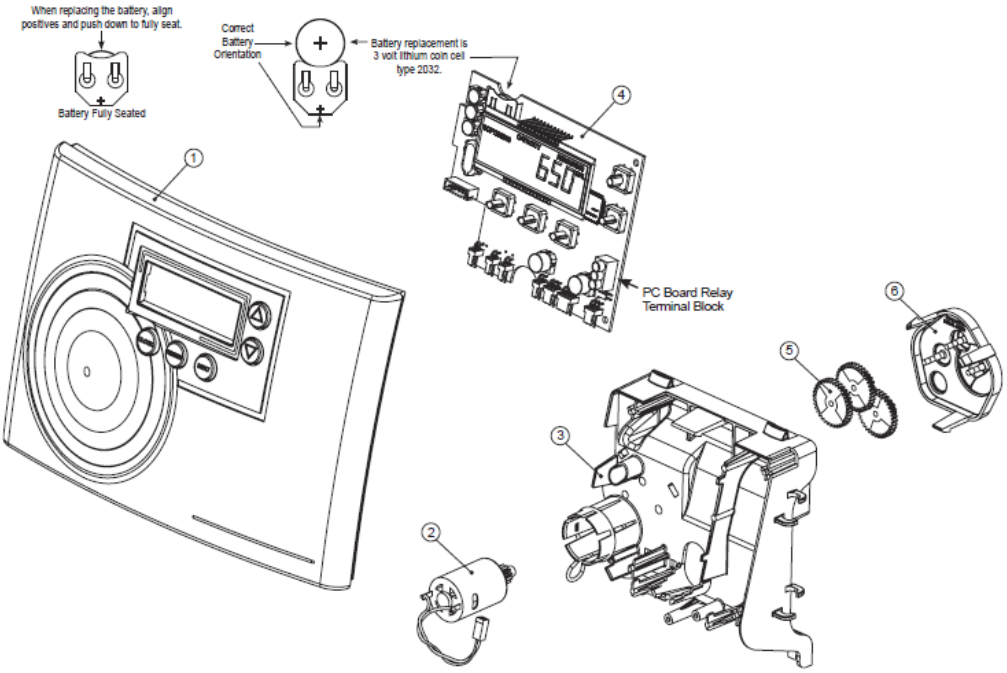
Drawing No.	Order No.	Description	Quantity
1	V3371-01	WS1MR FRONT COVER ASSEMBLY	1
2	V3107-01	WS1 MOTOR	1
3	V3106-01	WS1 DRIVE BRACKET & SPRING CLIP	1
4	V3890MP-02BOARD	WS1THRU2L/2 MP PCB XMEGA REPLACE	1
5	V3110	WS1 DRIVE REDUCING GEAR 12X36	3
6	V3109	WS1 DRIVE GEAR COVER	1
NOT SHOWN	V3186	WS1 AC ADAPTER 120V-12V	1
	V3186-01	WS1 AC ADAPTER CORD ONLY	
NOT SHOWN	V3372	WS1MR DRIVE BACK PLATE	1
NOT SHOWN	V3463	WS1MR QUARTER TURN FASTENERS	2
NOT SHOWN	V3466	O-RING 008	2

Refer to Control Valve Service Manual for other drawings and part numbers.

AC Adapter	U.S.
Supply Voltage	120 V AC
Supply Frequency	60 Hz
Output Voltage	12 V AC
Output Current	500 mA

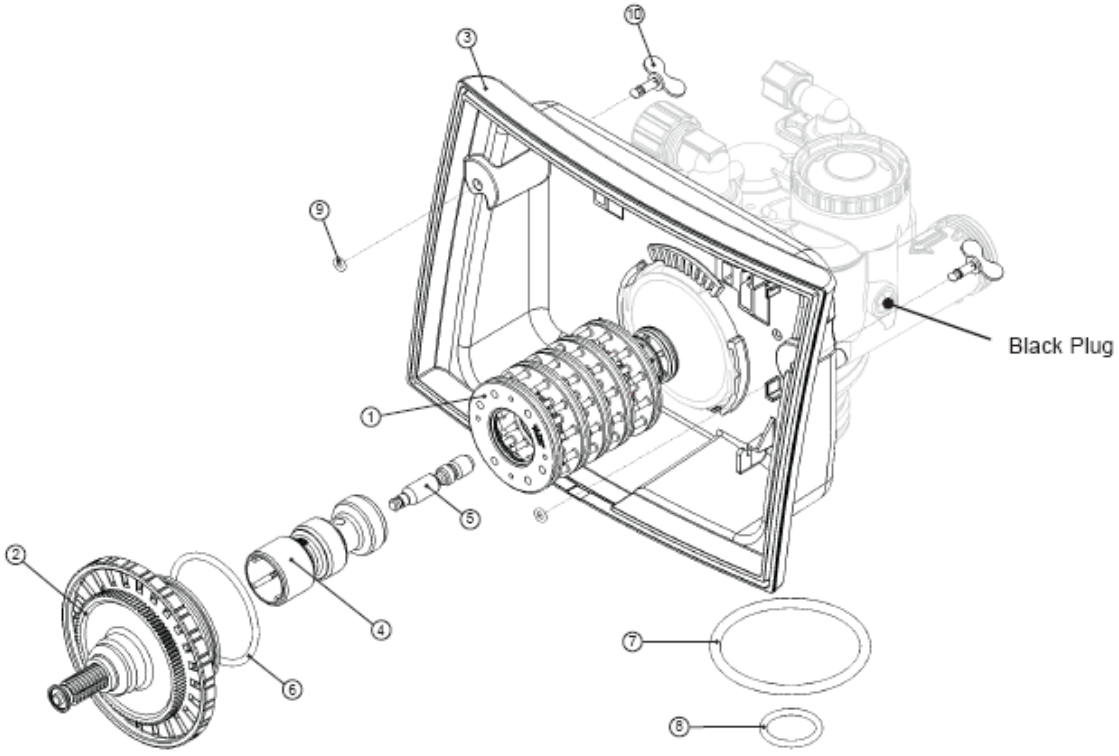
Relay Specifications: 12V DC Relay with a coil resistance not less than 80 ohms. If mounting the relay under the cover check for proper mounting location dimensions on the backplate.

Wiring For Correct On/Off Operation	
PC Board Relay Terminal Block	Relay
RLY 1	Coil -
V +	Coil +
RLY 2	Coil -



Drawing No.	Order No.	Description	Quantity
1	V3005	WS1 Spacer Stack Assembly	1
2	V3004	Drive Cap ASY	1
3	V3372	WS1MR Drive Back Plate	1
4	V3011	WS1 Piston Downflow ASY	1
5	V3174	WS1 Regenerant Piston	1
6	V3135	O-ring 228	1
7	V3180	O-ring 337	1
8	V3105	O-ring 215 (Distributor Tube)	1
9	V3466	O-ring 008	2
10	V3463	WS1MR Quarter Turn Fasteners	2
Not Shown	V3001	WS1 Body ASY Downflow	1
	V3001-02	WS1 Mixing Valve Body ASY	
	V3001UP	WS1 Body ASY Upflow	
	V3001-02UP	WS1 Mixing Valve Body Upflow ASY	
Not Shown	V3013	WS1 Mixing Valve ASY	1

Note: The regenerant piston is not used in backwash only applications.



Water Meter, Meter Plug and Mixing Valve

Drawing No.	Order No.	Description	Quantity
1	V3151	WS1 Nut 1" QC	1
2	V3003*	WS1 Meter ASY	1
3	V3118-01	WS1 Turbine ASY	1
4	V3105	O-ring 215	1
5	V3003-01	WS1 Meter Plug ASY	1
6	V3013	Mixing Valve	Optional

* Order number V3003 includes V3118-01 WS1 Turbine Asy and V3105 O-ring 215.

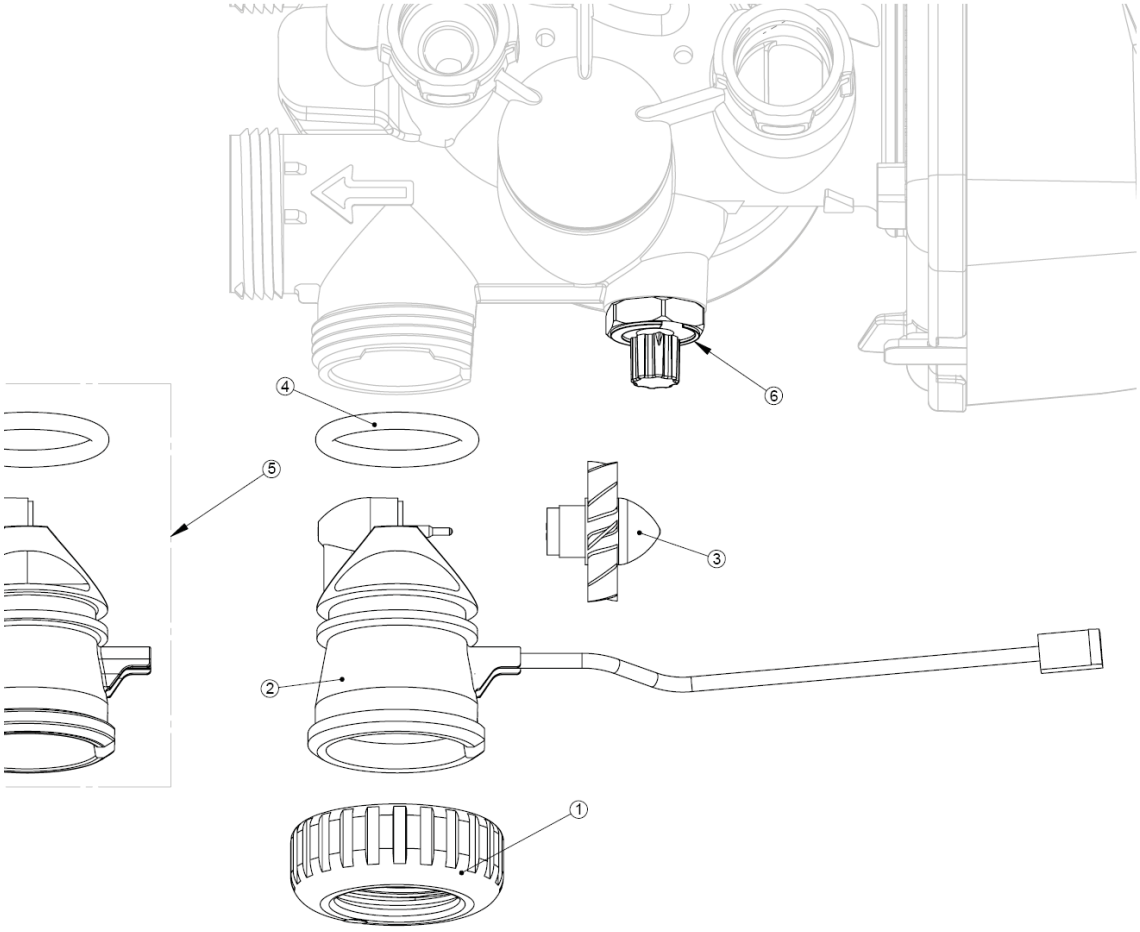
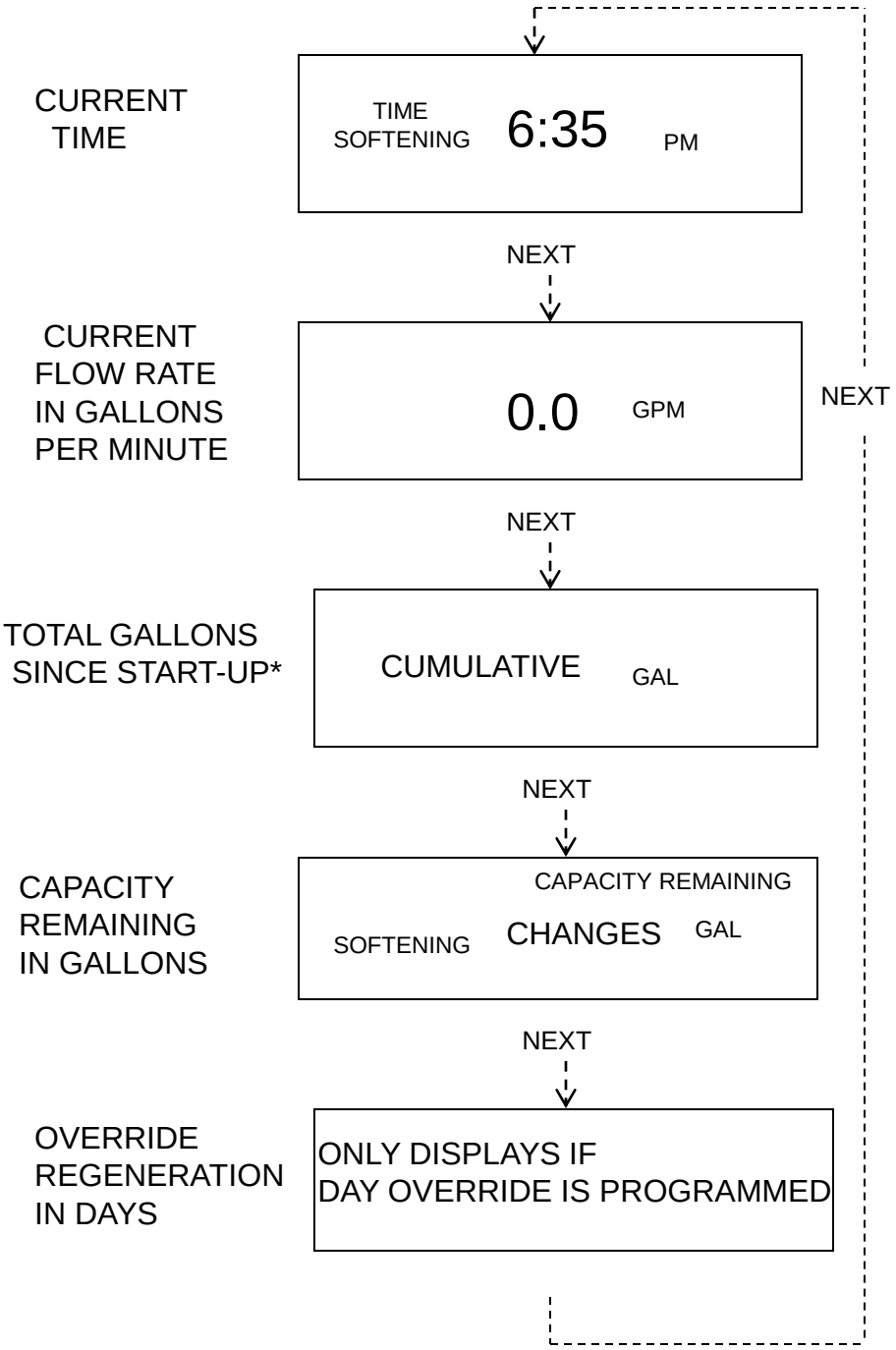


Table of Contents

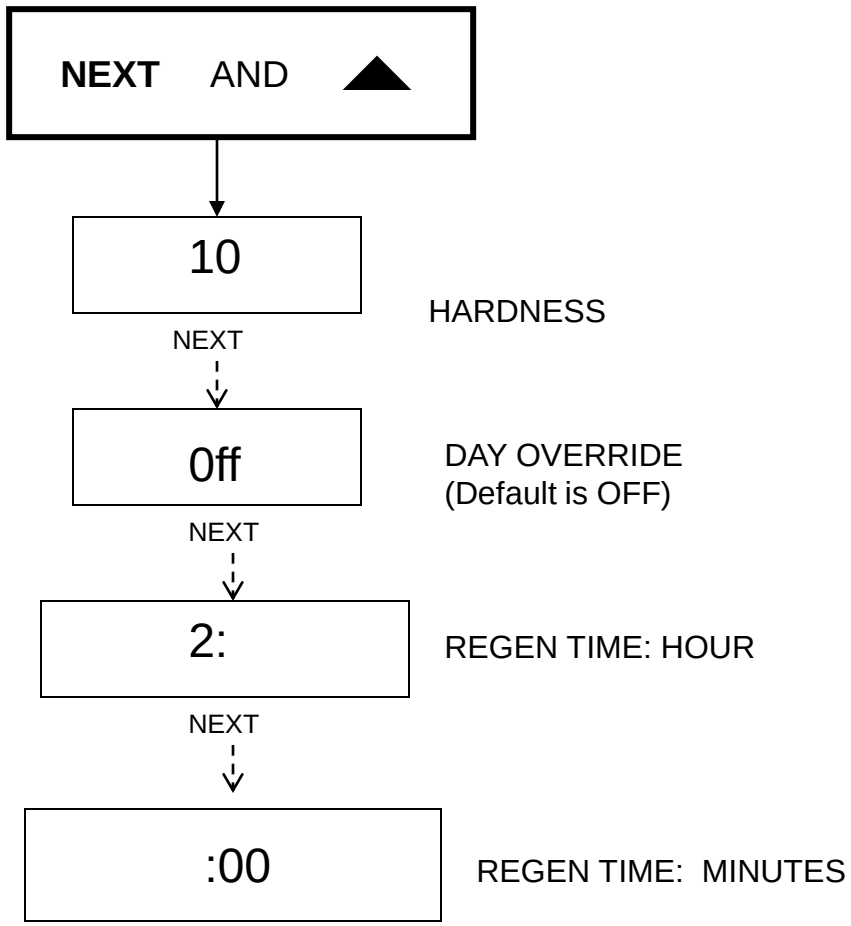
MP-MCA ANION

NORMAL VIEW

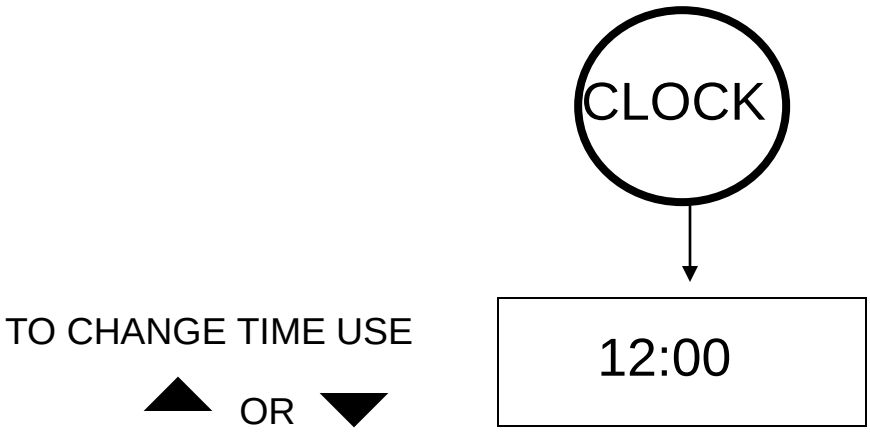


*RESET TO “0” BY PRESSING “**CLOCK**” AND “**REGEN**” FOR 3 SECONDS

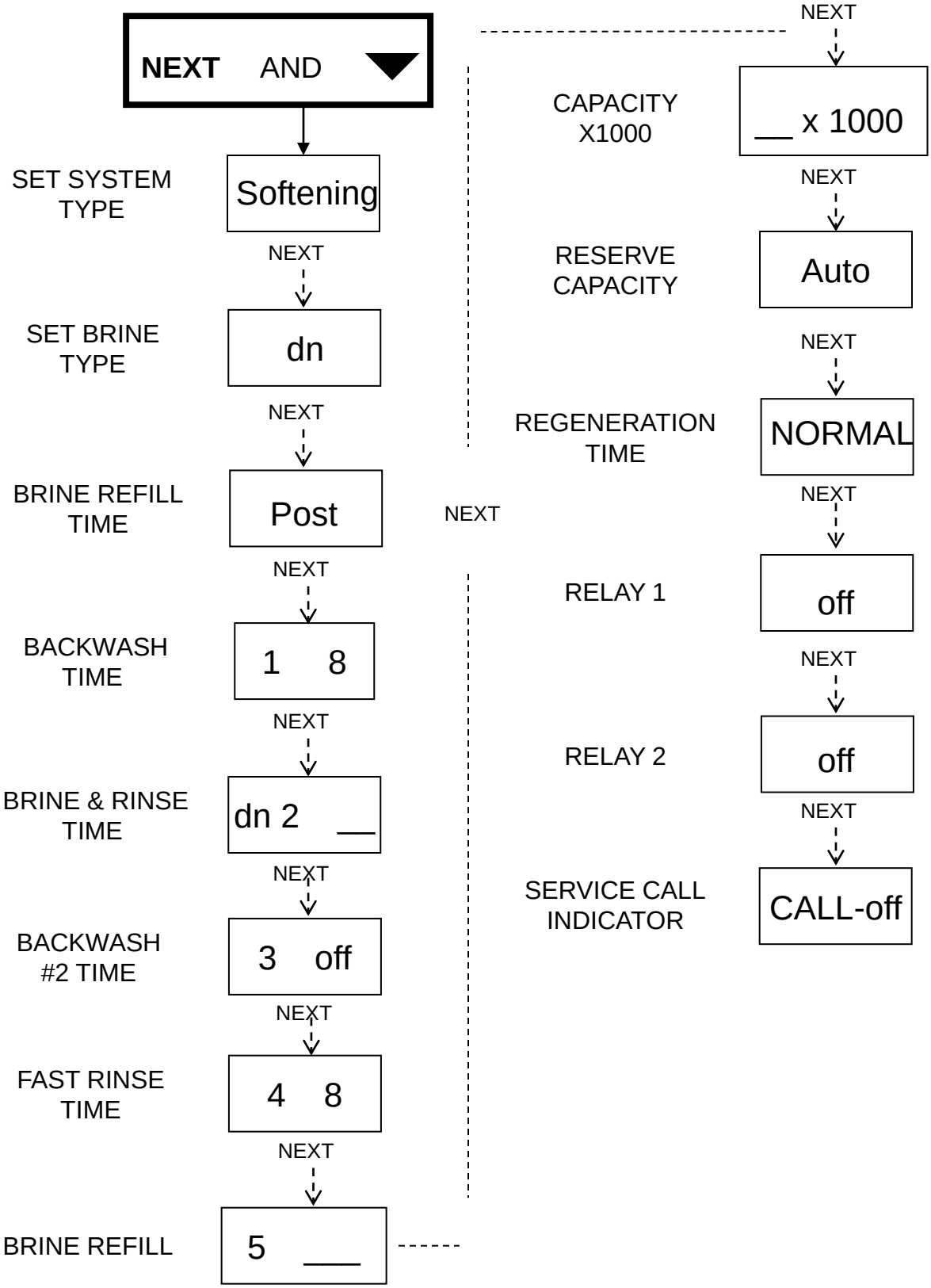
INSTALLER SETTINGS



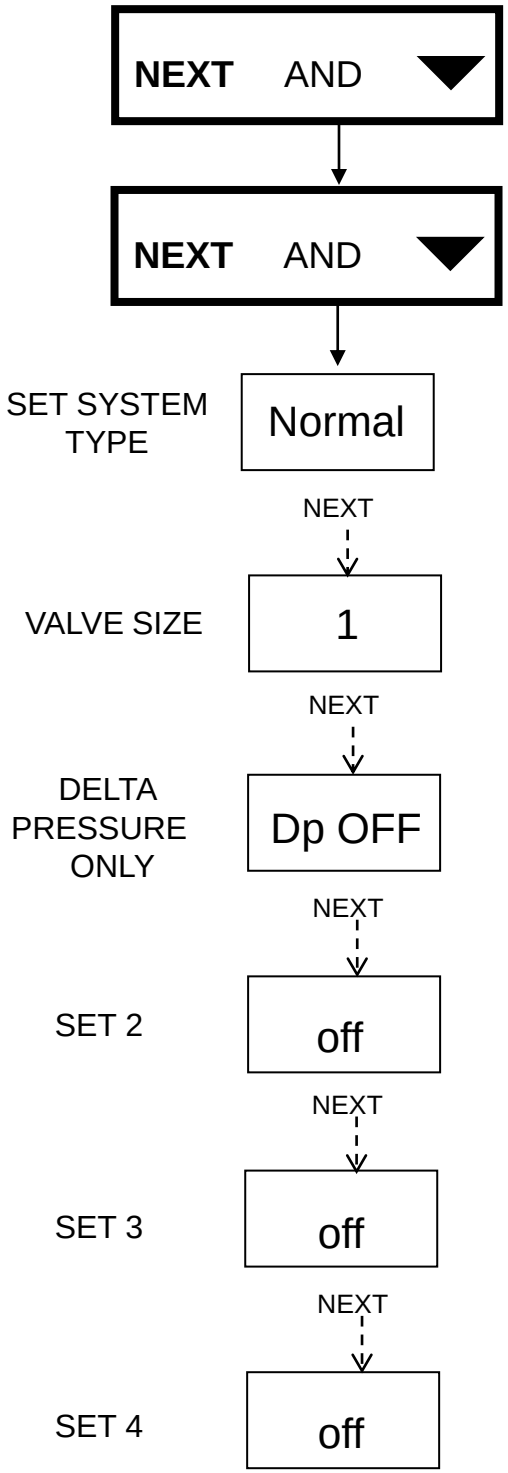
SET TIME CLOCK



REFERENCE ONLY
VALVE PROGRAMING



REFERENCE ONLY
VALVE PROGRAMING



MANUAL REGENERATION

REGEN

PRESS ONCE FOR NEXT REGEN TIME
PRESS AGAIN TO CANCEL REGENERATION
PRESS AND HOLD FOR 3 SECONDS FOR IMMED
PRESS IN REGEN TO ADVANCE TO NEXT CYCLE

LOCKING SETTINGS

AFTER SETTING A VALUE…

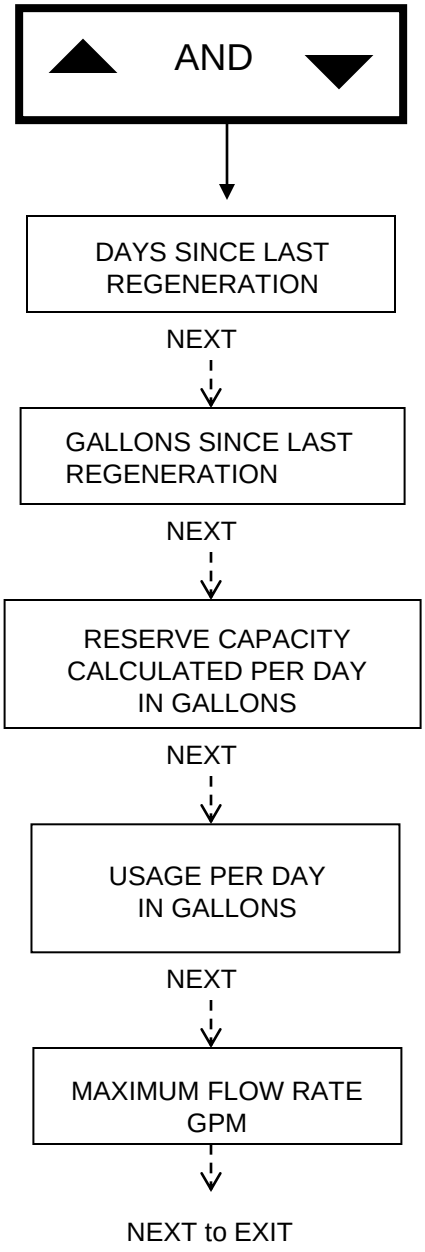
LOCK/UNLOCK:

▼ NEXT REGEN ▲

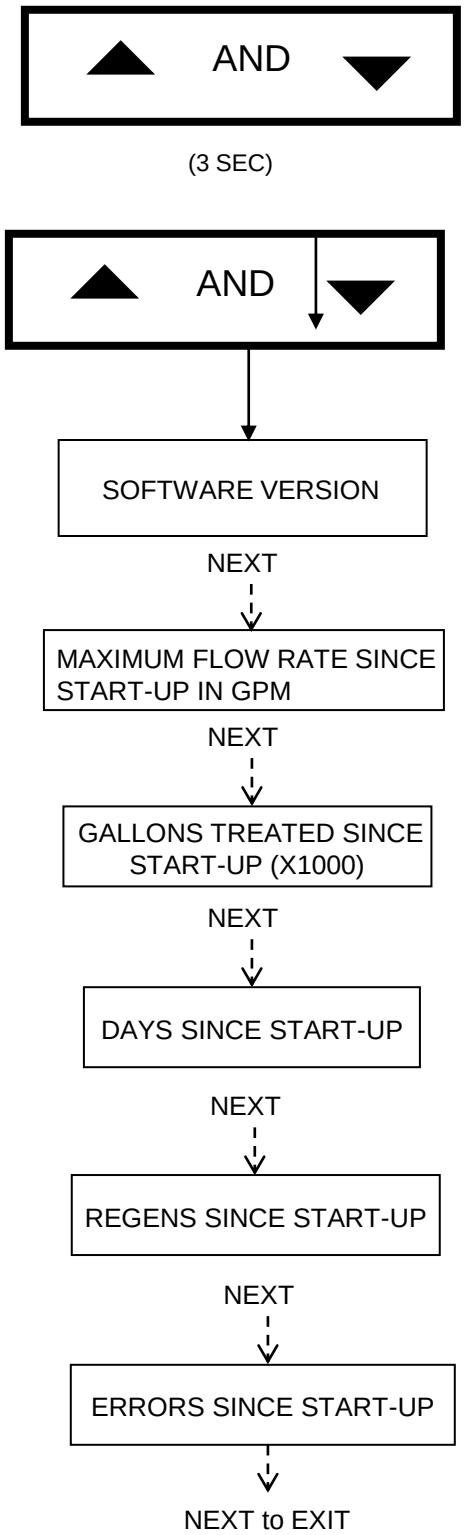
(IN SEQUENCE)

MCA BOARD

DIAGNOSTICS



VALVE HISTORY



ERROR CODES

ERROR DESCRIPTIONS

(V3890MP-02 BOARD with 5800.0 Software)

101	UNABLE TO START. Control not sensing valve movement with motor output energized.
102	#1 MAV/Stager #1 MOTOR STALLED. Unable to find proper park position.
103	#1 MAV/Stager #1 MOTOR RAN TOO LONG. Unable to find proper park position.
104	#1 MAV/Stager #1 VALVE HOMING. Control unable to find the HOME position of the valve
106	#2 MAV/Stager #2 MOTOR RAN TOO LONG. Unable to find proper park position.
107	#2 MAV/Stager #2 MOTOR STALLED. Unable to find proper park position.
109	INVALID MOTOR STATE Control can no longer operate due to the detection of an invalid motor state.
116	#3 MAV/Stager #3 MOTOR RAN TOO LONG. Unable to find proper park position.
117	#3 MAV/Stager #3 MOTOR STALLED. Unable to find proper park position.
126	#4 MAV/Stager #4 MOTOR RAN TOO LONG. Unable to find proper park position.
127	#4 MAV/Stager #4 MOTOR STALLED. Unable to find proper park position.
201	INVALID REGEN STEP Control can no longer operate due to the detection of an invalid regeneration cycle step (Internal software error)
402	POWER DOWN MEMORY Control can no longer operate due to a check sum error for the operational data and status section memory
403	PROGRAM MEMORY Control can no longer operate due to a check sum error for the programming section memory
404	DIAGNOSTIC MEMORY Control can no longer operate due to a check sum error for the diagnostic section memory
405	HISTORY MEMORY Control can no longer operate due to a check sum error for the history section memory
406	CONTACT MEMORY Control can no longer operate due to a check sum error for the contact screen section memory.

407	STATUS RAM MEMORY FAILURE Control can no longer operate due to corrupted data detected in the operational and status section. Once generated the error mode is not entered nor an error display viewed. Instead previous (<6 hours) data is used
408	DIAGNOSTIC RAM MEMORY FAILURE Control can no longer operate due to corrupted data detected in the diagnostic section. Once generated, the error mode is not entered nor an error display viewed. Instead previous (<6 hours) data is used.
410	CONFIG DOWNLOAD Configurator file downpoaded to the control was not originally uploaded from another control with the identical software.